Land Transport Asset Management Plan 2021-2031

Queenstown Lakes District Council

Date: December 2020

QUEENSTOWN LAKES DISTRICT COUNCIL

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Budgets (QLDC & NZTA) are at 01.07.21, QLDC LTP21 adoption date. (N.B. Budgets are subject to change through reforecast and annual plan cycles). The 'AMP at a glance' document will provide updated information but for most up to date budgets, please refer to QLDC council minutes on the QLDC website.

FOREWORD

This Activity Management Plan was undertaken with a view to the need for a better approach to tackling the big issues facing our region's future transportation requirements.

"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.

Queenstown has experienced rapid growth in population and visitor numbers. This trend is forecast to continue (post COVID-19) and, by 2048, modelling indicates that approaching 200,000 people could be in Queenstown on the busiest days. This level of growth is far greater than experienced or forecast in any other urban area in New Zealand and is placing increasing pressure on the transport network.

While COVID-19 has undoubtedly had an significant impact on visitor numbers, this is a temporary phenomenon with Queenstown projected to be back to pre-COVID-19 visitor numbers by 2024, and actually provides the opportunity to address well-known transport challenges at a time when they are less acute, meaning that construction would have less overall impact on the transport network, and put Queenstown in a good place for the projected full return of visitors by 2024.

The district has an extensive cycle trail network which is being progressively built out to link all of the key trip origins and destinations to one another which is attracting increased usage. The implementation of a new bus network in November 2017 saw rates of patronage growth almost unprecedented anywhere in the world. We need to encourage more efficient use of our transportation services and provide in a timely way for future demand thereby helping Queenstown to grow.

Providing serious alternatives that encourage mode shift away from sole passenger, private vehicles will be a particular challenge that will require integrated delivery across all transportation organisations operating in our District.

To improve the efficiency of our provision the operations and maintenance programmes of our local roading network have been built 'bottom up' based on improved data practices. This has been complimented by a previous retendering of the roading maintenance contract to better understand latest market conditions and the true costs of operating our networks, leveraging the newly available field condition survey data and computer modelling.

This plan signals an increased investment in both planned capital works and operational budgets. On the surface this may appear challenging and there are practical issues to be considered. However, we believe that setting out the business case in this plan, supported by robust evidence, represents an important step in providing the information to engage the wider community and our business partners for the next stages.

Peter Hansby
General Manager, Property and Infrastructure
Queenstown Lakes District Council

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1. EXECUTIVE SUMMARY

QLDC's vision for land transport is:

"To provide a safe, resilient, efficient transport system that supports modal choice and addresses current and future demand for economic and social opportunities."

1.1. WHAT WE PROVIDE

QLDC provide a transport system to our customers that enables people and goods to move through and around the district. Our district is made up of the two main towns of Queenstown and Wānaka, with emerging communities such as Frankton and Arrowtown which are becoming much more urbanised and settlements in their own right. There are a number of smaller, remote communities which play an integral part in our Community and QLDC is focused on strengthening their connection to the main centres particularly through active travel and public transport.

Our District is in a state of transition in how it operates its transportation network; as QLDC becomes more urbanised, it faces many issues similar to a small city. In 2020, QLDC installed its first set of local road traffic signals, by the end of the 2021-24 NLTP, we are projected to have five local road signalised intersections. Congestion, unreliable and unacceptable travel times and lack of alternative routes all combine to reduce the liveability of our district. These impacts are exacerbated by our key challenges of climate change, technology, economic and geopolitics, alongside our unknown changing demand.

1.2. KEY ISSUES/CHALLENGES

QLDC faces many challenges and these have been discussed throughout our Activity Management Plan. Our Transport Programme has been developed to address these challenges and the problems they bring.

CLIMATE CHANGE	THE BIGGEST ENVIRONMENTAL CHALLENGE OF OUR TIME
TECHNOLOGY	LONG LIFE ASSETS IN A FAST CHANGING TECHNOLOGICAL WORLD
DEMAND	IMPACT OF CHANGES IN DEMAND AND GROWTH
ECONOMIC	IMPACT OF THE ECONOMY ON OUR COMMUNITY
GEOPOLITICAL	HOW OUR PHYSICAL LANDSCAPE INFLUENCES DECISION MAKING

1.3. OUR STRATEGY

QLDC seeks to address these issues using non-traditional approaches, as we cannot build ourselves out of our issues. In alignment with the Government Policy Statement for Transport, to provide 'A transport system that improves wellbeing and liveability', QLDC is providing better transport options. Investment is being focused on providing a safe and accessible multimodal network that is aligned with our Net Zero Carbon 2050 objective and supports economic prosperity. This is achieved by working with our Way to Go Partners (Waka Kotahi and Otago Regional Council).

Way to Go has developed a Mode Shift Plan which clearly sets out how we will encourage customers to move from their cars to active modes.

- Provide urban public transport (PT) services; this is supported by better public transport infrastructure; bus stops and shelters; information technologies, Bee cards, provisions to carry, prams, bikes and skis and trialling new services such as water ferries. The conversation around mass rapid transport become key solutions which are being explored.
- Active Travel; PT can only offer part of the solution; the first and last part of people's journeys (between home and the PT services and work) are likely to be made by foot or bike, so Active Travel is a key part of the solution.
- Shaping Urban form; working with planners and developers early in the process to shape a transport system that supports multi modal approach.

1.4. OUR PROGRAMMES

Our Transport Programme consists of the Continuous Programme, indicating how we will Maintain, Operate and Renew our network, as well as our Improvement Programme which addresses key gaps in levels of service.

The QLDC Transport Programme for the 2021-31 LTP has been developed to maximise delivery of benefits clearly aligned with the GPS for Transport within a constrained funding environment. The financial impact of the post-COVID-19 environment on our district cannot be underestimated. QLDC have lost a number of non-rate related revenue streams and are very cognitive that we must minimise the impact on our ratepayers and as such have limited rates increase to under 6%. This has resulted in a rethink on the priorities within our corporate investment programme. QLDC's Long Term Plan process has undergone rigorous review across our organisation and takes into account the needs across all investment portfolios (i.e. transport, three waters, waste management and community services). There are a number of non-transport major projects that QLDC deems crucial to the district's well-being and this has resulted in a transport investment programme that looks different to our original plans. Given the environmental pressures QLDC's network face, priority has been given to protect our current network investment, so maintenance and renewals local investment has been sustained.

QLDC have had an intensive review of the timing of the programme, a number of improvement projects have been pushed beyond years 1-3, whilst others have been pushed later into the 21-31 investment cycle or beyond.

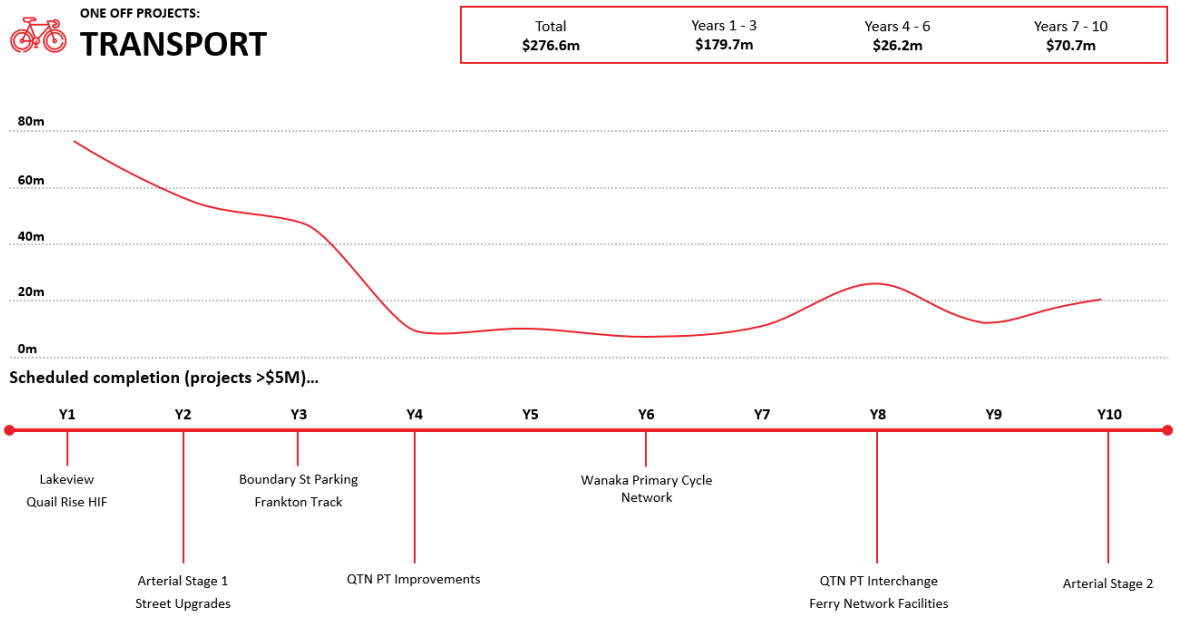
1.5. WHAT IT WILL COST

Table 1: Overview of the NLTP 21-24 Submission

Description	$ 2018/21	$ Proposed 2021/24	$ Change	% Change
Three-year total allocation				
a. Operations & Maintenance excl. Renewals	23,711,200	32,536,244	8,825,044	37.22%
b. Renewals	17,132,500	27,688,678	10,556,178	61.61%
c. Capital Improvements	90,076,075	158,416,041.00	68,339,966	75.87%
Total	130,919,775	218,640,962	87,721,187	67.00%

The figure below demonstrates the improvement projects and their timings over the next ten years.

Figure 1 Transport Improvement Projects and Timings



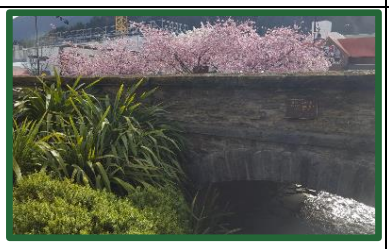
1.6. CONTINOUS IMPROVEMENT

QLDC are committed to Continuous Improvement; in order to effectively plan, manage, operate and deliver the transport network. QLDC have focused investment in processes, data collection, condition and demand monitoring, modelling and analysis. As our programme moves into a large delivery stage, attention is moving to network and benefits realisation. Our AMP Improvement Plan captures key actions and these are tracked and updated regularly.

We are confident that the programmes presented will benefit our Community and deliver the expected outcomes and we thank our co-investors Waka Kotahi, Otago Regional Council and Central Government.

1.7. QLDC AT A GLANCE

QLDC aims to provide a safe, resilient and efficient transport system that supports modal choice and addresses current and future demand for economic and social opportunities. This AMP addresses the assets we use, the activities we undertake, the challenges we face and the programmes proposed.

 The Crown Range road is the highest public road with an altitude of 1121m	 11.9 km of new roads added 2019/2020.	 We have 880km of road (345km of unsealed roads)
 96% of Footpaths are in average or above condition	 Four bridges are listed as historic, the oldest one is 138 years old	 On average we have 13 serious crashes per year over 3 years
 Our transport assets are valued at over $900,000,000.	 We maintain 128 bus stops	 We had 357 kids go through our bike ready programme

2. INTRODUCTION

2.1. PLAN PURPOSE & FRAMEWORK

This activity management plan (AMP) details QLDC's approach for delivering transportation services, cost-effectively to achieve long-term strategic goals and delivering the level of service desired by the community.

The scope of the AMP demonstrates QLDC's role in supporting the transportation system to meet the community's wellbeing's by enabling the efficient movement of people, goods and services. QLDC is actively working to ensure the transport system supports a multi-modal approach to movement around the district, which reflects the Ministry of Transports Outcomes Framework.

The principal outputs from this AMP are:

- An overview of the land transportation assets, activities and intended outcomes;
- Presentation of the governing framework;
- Strategic assessment of the problems and opportunities that face our transport system;
- Discussion on the balance of demand, levels of service and cost;
- A proposed investment programme for the next 10 years;
- Identification and prioritisation of opportunities continuous improvement.

The AMP has been prepared internally based on the principles of maintaining, renewing and improving our multi modal transport system whilst considering a cost effective 'whole of life' approach. Any changes in funding levels required by the community through the Long Term Plan (LTP) process, will be captured in the LTP and used to inform subsequent annual revisions of the AMP.

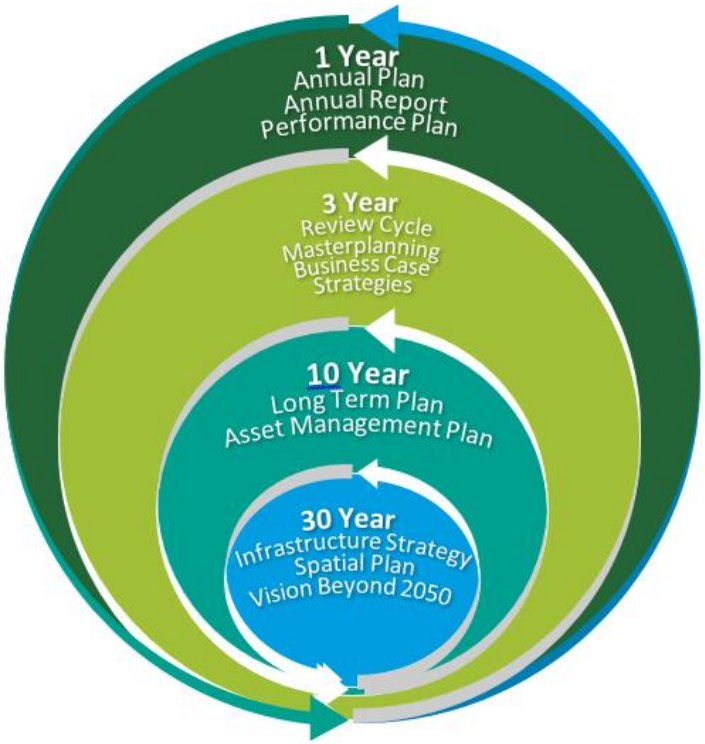
Changes to the planned investment programmes will be documented and described in alignment with QLDCs Risk Management Framework. This process will ensure the implications of changes in funding (increases or decreases) are clearly understood and captured in a consistent method, each year.

2.2. PLANNING HORIZON

QLDC's vision and community outcomes are set through consultation with the community. This informs future planning and future decision making. The development of the 30 Year Infrastructure Strategy along with the Spatial Plan draws a high level picture of potential investment requirements. The activity management plans then take the 10 year view and delves into more detail to provide intervention programmes for improvements and continuous (maintenance, operations and renewals) programmes. These are refreshed through the 3 yearly review cycle supported by the annual planning and reporting processes. The review cycle considers the entire governing, operational and asset management framework.

The figure below shows the target of the 30 year planning horizon with the review cycles wrapping around that target.

Figure 2 Planning Horizon

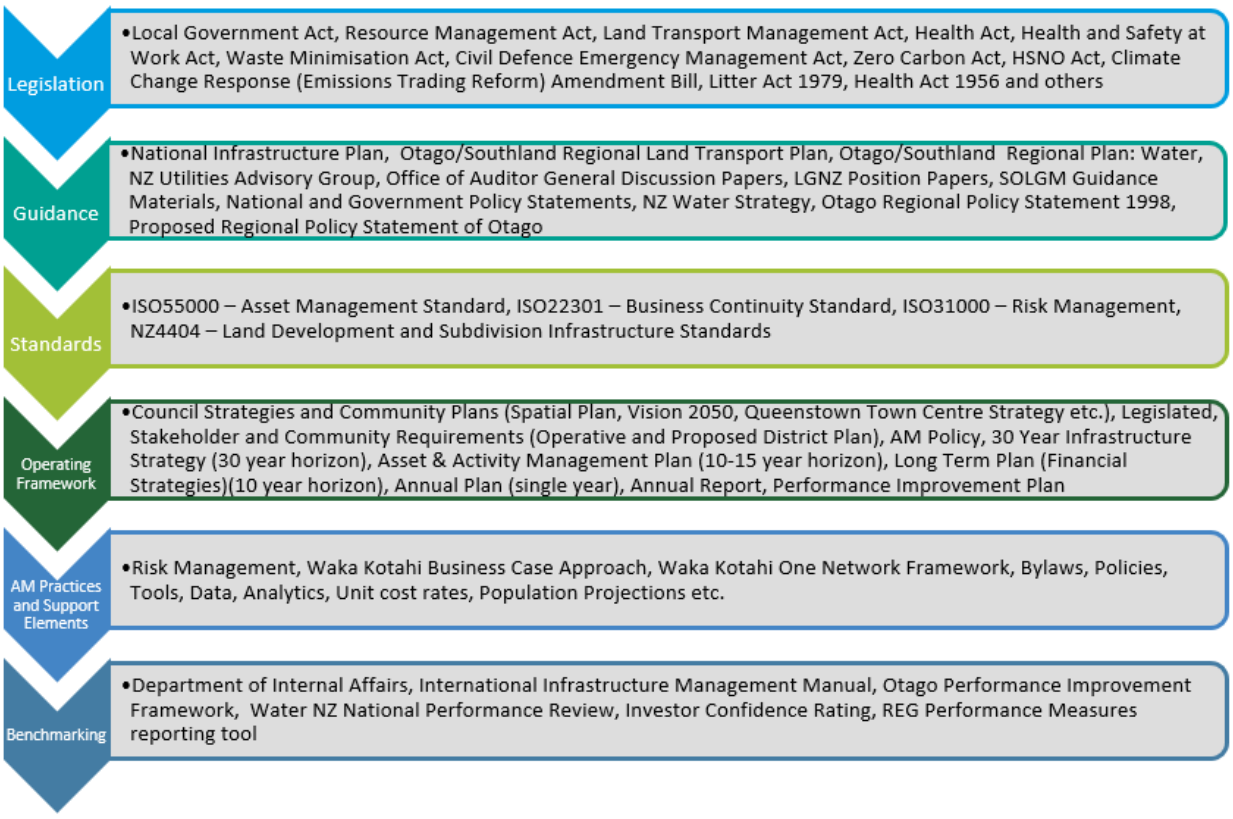


Annual Plan	The first year of the LTP programme is revised immediately prior to the planned year of implementation through an annual public consultation process to become the Implementation Plan (Annual Plan) for delivery
Annual Report	QLDC reports on the progress and success of its investment and service delivery annually in its Evaluation Plan (Annual Report), which is published late in each calendar year
Performance Improvement Plan	Improvement opportunities identified through all aspects of this process are captured in the Performance Improvement Plan and are used to inform the programmed continuous improvement actions within the AM Activities
Review Cycle	The 3 year review cycle resets the 10 and 30 year forward planning
Master Planning, Business Case & Strategies	Strategies, masterplans and business cases continuously review the long and medium term approach
Long Term Plan	Sets out how QLDC and the community intend to balance competing priorities while delivering desired community benefits. The LTP outlines the strategic direction and responses (investments plans) for 10 years. The LTP is reviewed on a three year cycle
Activity Management Plan	Sets out the ten year programme
30 Year Infrastructure Strategy	Identifies emerging issues for service delivery over the longer term
Spatial Plan	Establishes an integrated, long-term, collaborative strategy that will guide new approaches and central government support to help address the demand challenges in the Queenstown Lakes

2.3. GOVERNING AND OPERATIONAL FRAMEWORK

A fundamental aspect of asset management is that it must align with the legislation and central government guidance of the day. Figure 3 illustrates QLDC's hierarchy of operational frameworks.

Figure 3 Governing Framework



2.4. SIGNIFICANCE & ENGAGEMENT POLICY

QLDC considers the roading network as a whole to be a strategic asset in terms of the Local Government Act 2002 Section 90(2). Strategic assets are those assets that are important to the long-term goals of Council, a failure of one of those assets will be detrimental to realising those goals. QLDC lists its strategic assets in the Significance & Engagement Policy.

The following will trigger the Special Consultation Process:

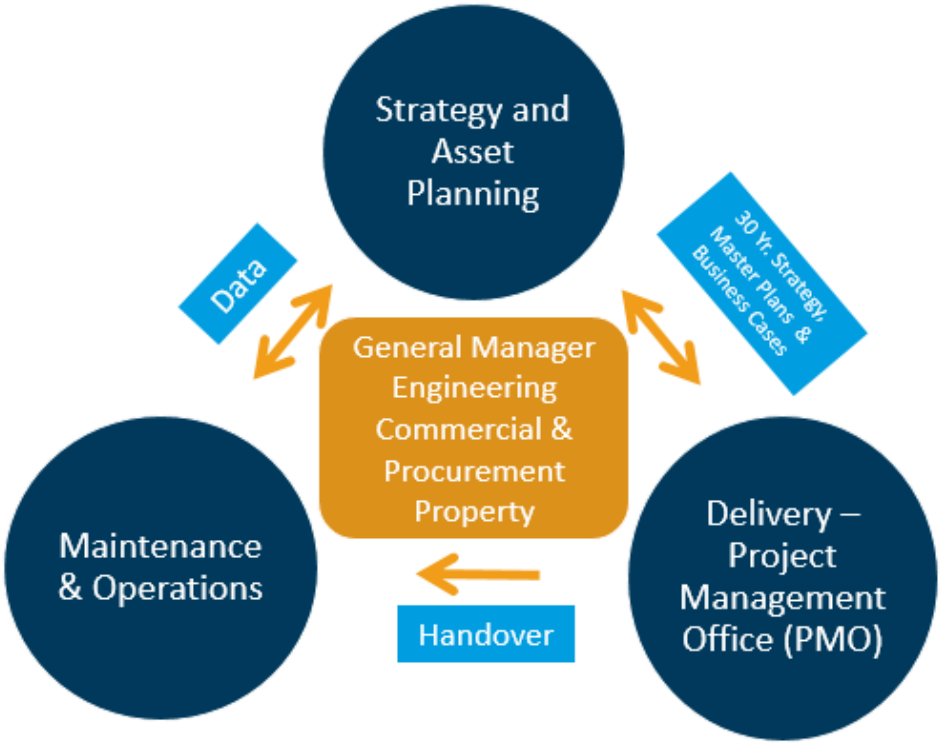
- Any decision that transfers or changes ownership or control of strategic assets to or from the Council is a significant matter;
- The sale or transfer of shareholding of any of the listed assets will trigger the Special Consultation Process;
- Long term lease of strategic assets (other than land).

QLDC is currently reviewing its Significance and Engagement Policy for inclusion in the 2021/31 LTP, this review is expected to be completed by late 2020.

2.5. QLDC ORGANISATIONAL STRUCTURE

In 2014 QLDC introduced an activity based matrix approach, partly in response to a 2013 Office of the Auditor General report, in which QLDC were cited as an example of bad asset management. It was identified that planning and asset management need to improve, and this lead to a restructure within Property and Infrastructure which brought together staff who undertook similar roles across different disciplines. Over the ensuing years, this approach has enabled cross pollination and sharing of ideas and skills between disciplines, with a key focus in removing planning staff away from operational and reactive works. This has freed up staff to spend time focusing on forward thinking and planning. Contract management is another key area where this has seen benefits; there has been a move to using a standardised contract form NZS3917 across all contracts, which assists better contract management across all portfolios as staff can build better understanding and skills around the contract form.

Figure 4 QLDC Property & Infrastructure Structure



2.6. ASSET MANAGEMENT ENABLERS

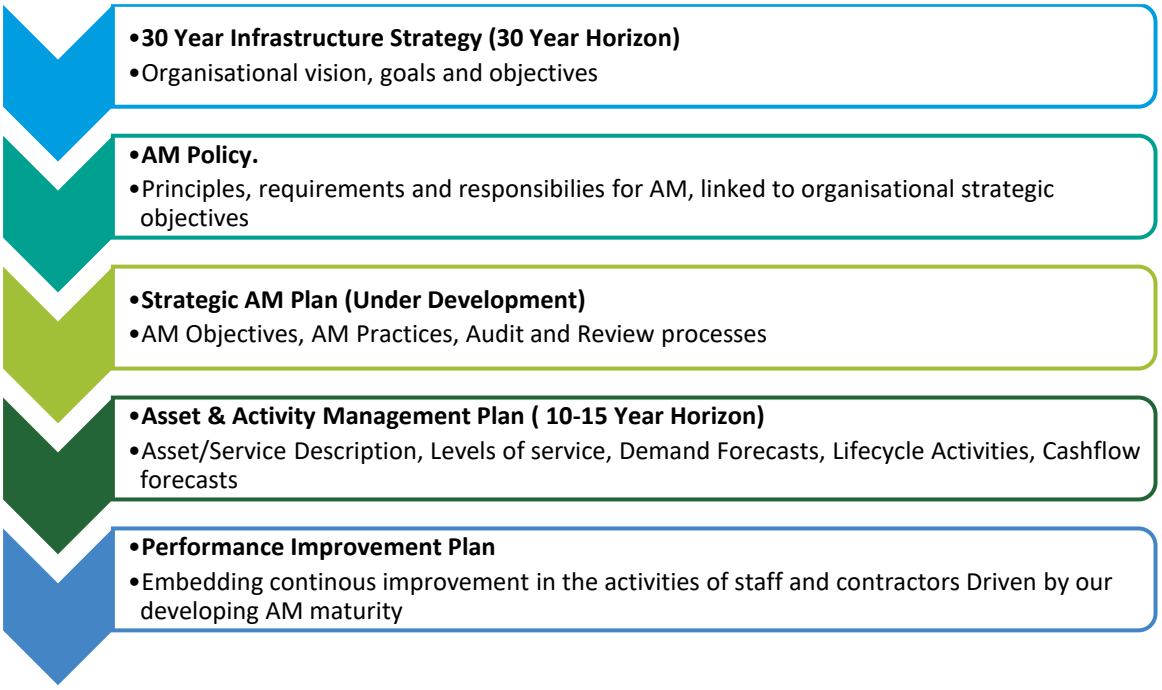
The AMP will be presented to the Property & Infrastructure Management Team, including the Property and Infrastructure General Manager, the Chief Engineer, the Manager of Maintenance and Operations, and the Strategy and Asset Planning Manager. As key stakeholders, these managers have been engaged through the development of the AMP.

A key element in obtaining the approval for the AMP has been the early engagement with key internal and external stakeholders. Rather than a document that sits on a shelf, the AMP has been driven as a working document to support the case for funding, delivering real investment in QLDC transport activities.

2.7. ASSET MANAGEMENT FRAMEWORK

QLDC's Asset Management (AM) approach has been developed to meet key legislative and business requirements and support robust AM practices. Along with the International Infrastructure Management Manual (IIMM) principles, QLDC incorporate its AM practices and supporting elements (tools, systems and procedures) to deliver effective and efficient AM.

Figure 5 Asset Management Framework



2.7.1. ASSET MANAGEMENT POLICY

QLDC's Asset Management Policy provides the overall direction to guide the sustainable management of QLDC's asset portfolio. A copy of the policy is appended.

2.7.2. ASSET MANAGEMENT SYSTEMS

Critical to the management of assets, and therefore service delivery to consumers, is the need to capture and update data on the network. Information is fundamental for establishing systems models, their calibration and planning future options.

Primary responsibility for maintaining and updating the asset register lies with QLDC. The authority for maintaining and updating assets has been delegated to the maintenance contractor. The contractor can update asset data, expired assets, relocate assets and add new assets.

2.8. ASSET MANAGEMENT OBJECTIVES

QLDC's vision for Asset Management is:

"To deliver best practice asset management that supports the wellbeing of an evolving community, whilst balancing levels of service and cost efficiency."

QLDC is currently developing its Strategic Asset Management Plan (SAMP) which will demonstrate integration of the asset management objectives with Community Outcomes and key strategies:

Figure 6 Asset Management Objectives

Asset Management Objective
To deliver more efficient use and maintenance of existing infrastructure assets
To best manage demand for new assets with better integration with the district plan, urban design and other non- infrastructure approaches
To regularly measure and advance the maturing of our asset management practices
To continuously develop the capacity and capability of our staff in asset management and risk management
To progressively improve the transparency and robustness (effectiveness) of investment decision making through evidence based investment (better business case approach)

The following summarises particular objectives and philosophies as to how QLDC manages its infrastructure assets:

- **Replacement of existing assets**: With the exception of critical assets (as identified under the QLDC Risk Management Framework) all assets will be operated under a run to fail model as they can likely be replaced with generic or off the shelf replacement parts with only minor disruption to customer services.
- **Response to change in demand:** QLDC will measure, update and confirm demand for services on an annual basis to ensure future projections for services are based on best available information, and is able to take into account effectiveness of demand management programmes.

- **Allowance for planned increases (or decreases) in service levels:** QLDC will research, test and engage on the setting of service levels to best balance service efficiency and effectiveness, customer expectations, legal requirements and community affordability. Any significant service level change will be consulted on through the provisions of the Local Government Act (LGA).
- **Provision of resilience of infrastructure assets by identifying and managing risks:** As outlined in the NIP, QLDC has completed a natural hazard assessment across the district. This has been combined with latest generation asset criticality assessments. QLDC has a balanced programme of asset reinforcement, relocation and de-risking supporting its insurance and other financial provisions for risk management.
- **Optimisation:** As much as practicable, optimise and extend the effective life / capacity of existing infrastructure to reduce investment in new infrastructure. (I.e. make best use of what is already in place).

2.9. COLLABORATION

QLDC believes that collaboration facilitates an important approach in achieving our desired outcome, this is done by working closely with our partners, stakeholders and wider regional peers.

- Closer relationships are being developed between State Highway Operations and QLDC. Regular operational liaison meetings, Waka Kotahi providing advice and guidance through RAPTs and transport meetings. Early engagement and continued close working with Waka Kotahi Investment advisors and has been fundamental to building our Activity Management Plan;
- The REG programme with its regional workshops provide excellent support and shared learning;
- We have developed a shared contractual approach to Street Lighting Maintenance and contract manage this for State Highways;
- Corridor Management and skill sharing is being explored between QLDC, CODC and State Highways;
- QLDC is working with Waka Kotahi to develop joint workshops and training for utility operators under the Corridor Access process;
- QLDC are working with CODC, DCC and Waka Kotahi to develop a nationally recognized touring route between Queenstown and Dunedin via Central Otago. A couple of routes have been identified through the Wakatipu basin for tourists between the Crown Range Rd intersection and Queenstown;

- Way2Go Partnership (QLDC, Waka Kotahi, ORC);
- Wakatipu Transport Programme Alliance - QLDC is working with Waka Kotahi to set up the Wakatipu Transport Programme Alliance. This alliance will deliver several crucial projects including the Town Centre Street Upgrades, Stage 1 of the Arterial, the NZ Upgrade Programme, and part of the Active Travel Network. The alliance model means we can achieve the best possible integration and customer focus to ensure the successful delivery of these projects.
- Lifelines – this is a collaboration of infrastructure companies within Otago to make sure people

keep moving when there is a significant event. The group covers members from Local Authorities (3 Waters, Roading and Transport), Electricity Companies, and Telecommunications, Emergency Services (St John, Fire, and Police) who meet regulatory. There is also a dedicated Queenstown group - Queenstown Lakes Utilities & Lifelines (QUELL) which includes air and water access.

- With the Department of Conservation having taken its place as a Road Controlling Authority, QLDC are keen to support and work with them to address the issues our district faces. There are already existing maintenance agreements in place for some of the unsealed roads accessing DoC destinations and the new DoC carpark at Roy's Peak on the Wānaka -Mount Aspiring Road is a great example of this collaborative working. Looking forward there will be a particular area of interest between our organisations and QLDC explore the strategic case for the access to crown estates.
- Internally within Property and Infrastructure, QLDC are working closer with 3Waters and Waste Management, particularly around developing storm water work programmes, coordination of timelines for renewals monitoring of reinstatements and undertaking asset criticality/vulnerability assessments.
- QLDC has created a Forward Works Viewer, this allows Council to map the districts projects and in future will combination with Private Development projects. This will provide oversite of what is going on within the district, and have an impact on Utilities, Events etc. A time slider/play button allows for an interactive visual representation.
- The work on the spatial plan has resulted in much closer engagement with our Planning and Development team to address the requirements of the National Policy Statement on Urban Development 2020
- Across Council collaboration has focus on reviewing the Land and Subdivision code of practice and this has resulted in tangible improvements to the vesting process.
- QLDC are approaching the local supply chain early in the procurement process to find the most appropriate method to get the best value for projects. I.e. packages of works and timings.
- QLDC has a strong relationship with the Districts business community and is building its relationship with Iwi (Ngai Tahu).
- Industry Engagement – QLDC shows a commitment to the Industry and our peers. With senior management holding industry roles as NAMS committee member, board member of the NZUAG, member of Traffinz, and Safety Committee QLDC has a commitment to REG through the QLDC CEO being on the REG Governance Group and key staff heavily engaged with the REG programme and a strong support towards peer learning with Conference attendance.
- Central Government Crown Infrastructure Partnership - Council has taken advantage of the opportunity to advance several transport / public realm projects that were already being considered in the improvements programme. Direct Central Government grants have injected $85M to the local programme managed by QLDC and a further $90M into State Highways. Further opportunities will be actively sought by QLDC with an intention to keep infrastructure projects "race ready".

2.10. ASSET MANAGEMENT MATURITY – IIMM 2020

Benchmarking is a method by where local authorities can compare their performance to industry-accepted practice, standards or other guidelines. This helps gain context of how well a particular local authority is performing relative to its peers or the wider industry. Having a performance measurement process such as benchmarking for the operational performance of Council services is a fundamental part of public accountability.

As part of the continuous improvements in AM practices, QLDC again undertook an Asset Management Maturity Assessment – based on the NAMS IIMM guidelines. The review includes the activities of Transport, Three Waters, and Waste Management. This was completed in September 2020, with the previous assessment held in November 2018. A further review is scheduled for May 2022.

The 2020 review included achievements and key areas of strength and opportunities for improvement for each activity.

It is recommended that Council:

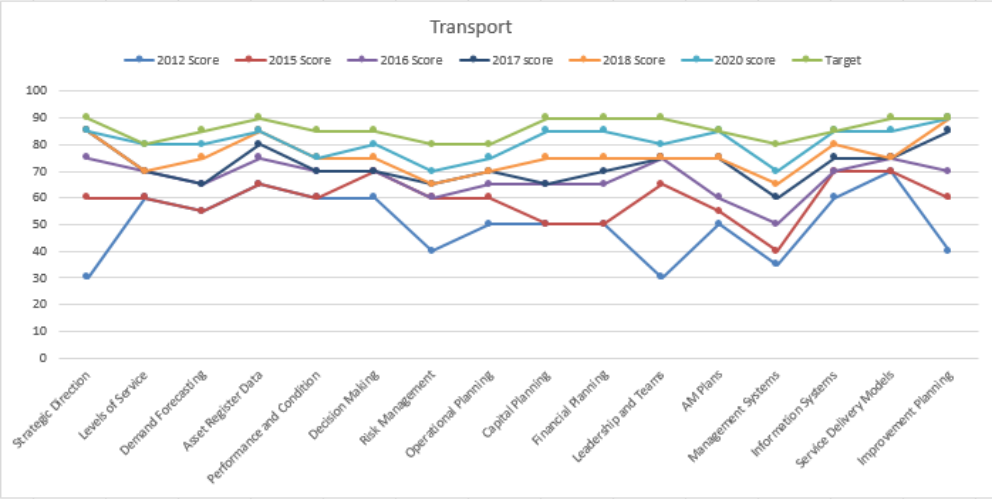
- Review the AM Improvement Plan (Performance Plan) to check it includes all tasks identified to address maturity gaps and to review timeframes and priorities for improvement projects with consideration of allocated funding in the 2020 Long Term Plan budgets.
- Expand the scope of the AM Improvement Plan monitoring to post-project completion, to monitor the transition of new processes into business-as-usual.
- Establish measures to demonstrate the effectiveness of AM maturity development and optimisation of lifecycle processes alongside this overall maturity assessment process3.
- Establish a formal monitoring and reporting process to the appropriate Council Committee for the implementation of the AM Improvement Plan and these supporting measures.
- Review the overall timing of outcomes and strategic reviews, growth strategies and Asset Management Planning / Infrastructure Strategy development over the next three years (with a view to earlier completion of strategic planning work to information asset management plans).
- Establish a Council-wide AM Group that supports and coordinates an integrated and consistent approach to AM planning and improvement across all asset-based activities.

Key areas of focus in relation to the infrastructure activities of transport are:

- Further development of multi-mode transport modelling and the Network Operating Framework to support a robust road investment programme with a better understanding of alternative transport responses.
- Complete the implementation of a number of key initiatives aimed at improved optimisation of transport asset maintenance and renewal, including the Maintenance Intervention Strategy, formalised condition and performance assessment programme and ongoing data improvements to support asset deterioration modelling and renewal analysis.

Figure 7 illustrates the historical trends since 2012 to date for each AM function in Transport:

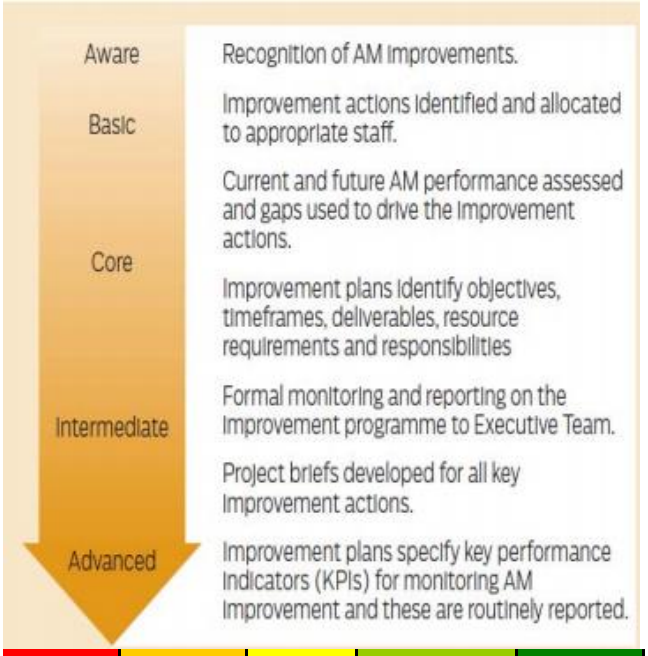
Figure 7 2012 to 2020 Transport Asset Management Assessment Average Scores



2.11. ASSET MANAGEMENT IMPROVEMENT PLAN

QLDC's Asset Management Improvement Plan is a detailed plan of the improvement actions identified to enhance the asset management planning process within QLDC. Implementing this Improvement Plan will align QLDC's Transport AM practices to the higher end of the "Intermediate-Advanced" level as represented in the IIMM 2015 guidelines.

Figure 8 International Infrastructure Management Manual (IIMM) AM Maturity Index (2015)



Aware	Basic	Core	Intermediate	Advanced
0-20	21-40	41-60	61-80	81-100

Actions are identified following external reviews such Waka Kotahi Audits, LTP Audits, maturity assessments and internal processes and to align with REG Action Learning Plans. Timelines for completion are assigned to the actions based on priority. The key focus is on process and data integrity; ensuring that the process to

deliver the AMP programme is defined, understood, implemented and resourced to deliver with the appropriate capability and asset information is robust, repeatable and reliable

QLDC's Performance Improvement Plan is monitored and updated on a six-weekly cycle, and regularly reported on to the Property and Infrastructure Management Team. The Improvement Plan is available on request from QLDC.

2.12. ISO 55000

A high level assessment of QLDC's compliance with the requirements of the International Standard, ISO 55000, was carried out during the 2020 AM Maturity Assessment.

Working towards ISO 55000 is being considered as a medium to long term goal, however, seeking full accreditation is likely to be resource intensive and unwarranted unless legislation or regulation imposes the requirement.

QLDC is, however, seeking to align AM practices with ISO 55000 requirements. To achieve this alignment, significant focus to is being given to the following areas:

- Documentation of processes and 'system interactions'
- Internal audit, review and improvement processes to be incorporated as 'business as usual' activities
- More detailed understanding of the asset management context and external and internal drivers, and how these translate into AM objectives ('line of sight' from corporate objectives to operational activities)

2.13. INVESTOR CONFIDENCE RATING (ICR)

The Treasury is committed to robust and transparent stewardship of public funds. Owning the right assets, managing them well, funding them sustainably, and managing risks to the Crown balance sheet are all critical to public services being cost effective and high quality. The ICR is a two-yearly assessment of the performance of investment-intensive agencies in managing investments and assets that are critical to the delivery of NZ government services. The ICR provides an indication of the level of confidence that investors can have in an agency's ability to realise a promised investment result if funding was committed.

Following consultation with Treasury QLDC undertook an ICR self-assessment for 3-Waters and Transport and obtained a Confidence Rating of C. This indicates that QLDC is a maturing investor, but still needs to further develop some processes. QLDC are in discussions with Treasury to investigate how Local Government could formalise benchmarking through this scheme in the future.

QLDC are on 3 year review cycle for the ICR. The next review is expected to take place in 2021.

2.14. LGNZ ROAD CONTROLLING AUTHORITY REPORT

The RCA report has been created by LGNZ and REG to provide better transparency on the Road Controlling Authorities to the transport sector, enabling open conversation to be had and to support investment decision making.

2.15. AUDITS

2.15.1. WAKA KOTAHI AUDITS

TECHNICAL AUDIT 2019:

The latest technical audit of QLDC was undertaken by the Waka Kotahi Performance Monitoring unit in October 2019.

The report stated that QLDC's road network is in good condition. Given the region's high cost of living, the maintenance cost per lane kilometre of $6,386 compared to the national average of $5,636 presents as value for money. There were some issues identified around features within some developments that do not meet agreed standards and guidelines for lighting, drainage and pedestrian facilities. QLDC have recently undertaken a number of reviews of our Land and Subdivision Code of Practice to improve the quality of assets vested as well as addressing the systems and process around vested dated.

The recommendations regarding the management of the road network were identified in the Audit Review Technical Report and can be found in Appendix 11.7.1.

Figure 9 Waka Kotahi Technical Audit 2019

Subject Areas		Rating Assessment*
1	Network Condition and Management	Some Improvement Needed
2	Activity Management Planning	Effective
3	Data quality	Some Improvement Needed
4	Road Safety	Some Improvement Needed
Overall Rating		Some Improvement Needed

INVESTMENT AUDIT 2020:

The latest investment audit of QLDC was undertaken by the Waka Kotahi Performance Monitoring unit in July 2020. The recommendations regarding the management of the road network were identified in the Investment Audit Review Report and can be found in Appendix 11.7.2

Figure 10 Waka Kotahi Investment Audit 2019 vs 2020

Audit Rating Assessment 2019/2020 Comparison		
	2019	**2020**
Previous Audit Issues	N/A	N/A
Financial Management	Effective	Effective
Procurement	Some Improvement Needed	Effective
Contract Management	Some Improvement Needed	Effective
Professional Services	Effective	Effective

Overall Rating	Some Improvement Needed	Effective

2.15.2. LONG TERM PLAN (LTP) AND ANNUAL REPORT AUDITS

QLDC uses external auditors (Deloitte on behalf of the Office of the Auditor General) to evaluate the quality and reliability of financial information reported in the Long Term Plan and Annual Reports. The next audit for the draft LTP is scheduled for early 2021.

2.16. INTERNATIONAL INFRASTRUCTURE MANAGEMENT MANUAL (IIMM)

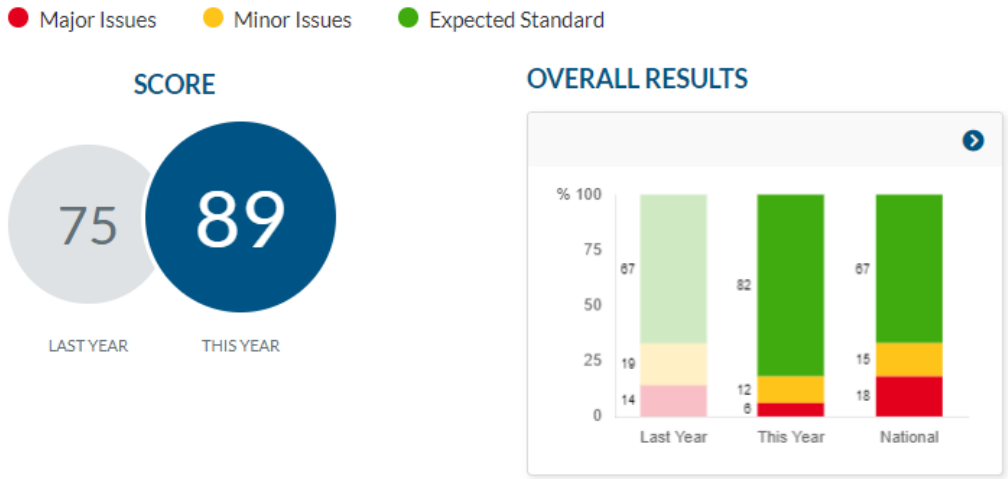
QLDC uses the International Infrastructure Management Manual (IIMM) rating system for data confidence.

The data in the RAMM database is regularly audited by Waka Kotahi in their capacity as co-sponsor of the council investment programme. However, with the change to the One Network Framework (ONF) system being rolled out by Waka Kotahi it has become apparent that the quality and quantity of information held with the databases will need to improve to meet the new evidence based investment decision' model which the ONRC requires. It is understood that the move to the ONRC approach, and not the current quality of the data which will have the greatest effect on the roading investment programme moving forward.

2.17. REG DATA QUALITY PROJECT

The REG data quality report for 2019/20 provides an overview of the data used by the ONRC Performance Measures Reporting Tool. Since the data quality reports were introduced, QLDC has seen a huge increase from 64% in 17/18 to 89% in 19/20.

Figure 11 Overall REG Data Quality 2019/20



2.18. METADATA STANDARDS

Land Information New Zealand is leading the development of national metadata standards for how we capture, describe and store data. These standards will mitigate inefficiencies in local government operations and decision making brought about by inconsistent data, low quality data, and non-capture of data across New Zealand.

Metadata Standards will increase transparency on infrastructure performance and ultimately influence investment levels nationally.

Metadata is data about data. It is structured information that describes, explains, locates, or otherwise makes it easier to retrieve, use, or manage data resources and knowledge. Therefore allowing the assessment of data confidence.

It is intended QLDC will be adopting these standards after review of the guidance material.

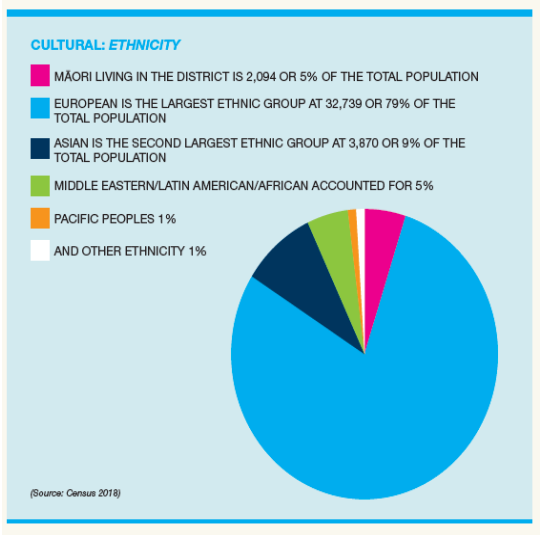
3. STRATEGIC CONTEXT

3.1. OUR PEOPLE – KA TAKATA

Our district is made up of the two main towns of Queenstown and Wānaka, with emerging communities such as Frankton and Arrowtown which are becoming much more urbanised and settlements in their own right. There are a number of smaller remote communities which play an integral part in our Community and QLDC is focused on strengthening their connection to the main centres particularly through active travel and public transport.

Queenstown Lakes District is part of Ngāi Tahu Iwi, which straddles both the Murihiku and Ōtākou Rūnanga. Our relationship with Murihiku has been traditionally strong, but our relationship with Ōtākou was less developed. However, at the beginning of 2017, the Mayor, Chief Executive and executive team undertook a hīkoi to Dunedin. The visit symbolically expressed the Council's desire and intention to develop our relationship with the rūnanga of Ōtākou further. Subsequently, in August 2017 Mayor Boult signed a Memorandum of Understanding with Ōtākou to join Te Rōpū Taiao Otago. This was a key milestone and a significant step forward.

Figure 12: Ref. Queenstown Lakes District COVID-19 Recovery Intelligence Report



3.1.1. DEMAND AND GROWTH

Monitoring demand and growth forecasts is a key response to the challenges that QLDC face and is explored further in our Strategic Assessment (Section 5). This section identifies key areas of growth and demand, the impact of these changes in demand on the transportation network, and how Council proposes to deal with these.

Factors that influence customer demand on the transportation network include:

- Population growth and decline
- Economic growth and decline
- Dwelling growth
- Demographic change
- Visitor numbers
- Changes in land use
- Modal change
- Development of recreational areas
- Future customer expectations

Figure 13: Ref. Queenstown Lakes District COVID-19 Recovery Intelligence Report

The extent and speed of this growth means the community is facing numerous opportunities but is also faced with challenges. Prior to COVID-19, the district was experiencing its third population growth spurt of over 7% per annum, with predictions of 7+% per annum for the next 7 to 10 years. An increase in productivity meant a thriving economy however; this also leads to lack of affordable housing, education and health facilities at capacity. Transport is at the heart of accessing and delivering these services across the District and region and increased population leads to traffic growth, changes in land use and urbanisation has increased our asset base which is putting pressure on QLDCs current capacity to maintain the network.
While the pandemic has created uncertainty about the future, the underlying drivers of demand to live or visit the Queenstown Lakes remain and growth is likely to return in the future.

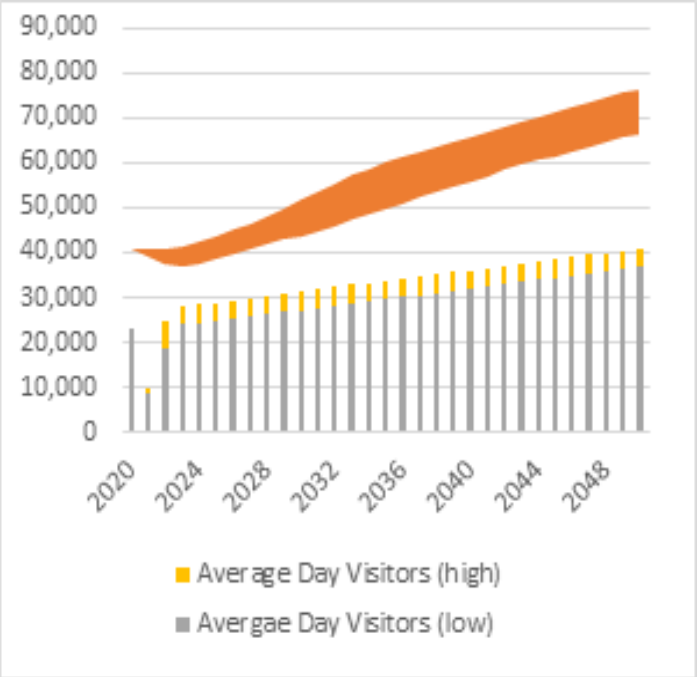
Growth has had benefits and caused some challenges. The economy has performed very strongly, with GDP growth over double the NZ average and there has been very low unemployment. Residents enjoy access to more and better services, supported by a larger population and more visitors. However, investment in infrastructure and housing has not been able to keep up with the rate of growth, there are problems with housing affordability and congestion is worsening. The number of visitors before the COVID-19 pandemic was putting pressure on both the environment and community.

Following the pandemic, demand to live in or visit the Queenstown Lakes is likely to return in the future. Current forecasts estimate the number of residents, visitors and jobs will approximately double over the next 30 years.

The consequences of changes in demand and growth are one of our biggest challenges and summarised below in specific areas. Further analysis can be seen in our Strategic Assessments in Section 5.

3.1.2. POPULATION / DEMOGRAPHIC

Figure 14: QLDC estimated resident population and visitors 2020-2050

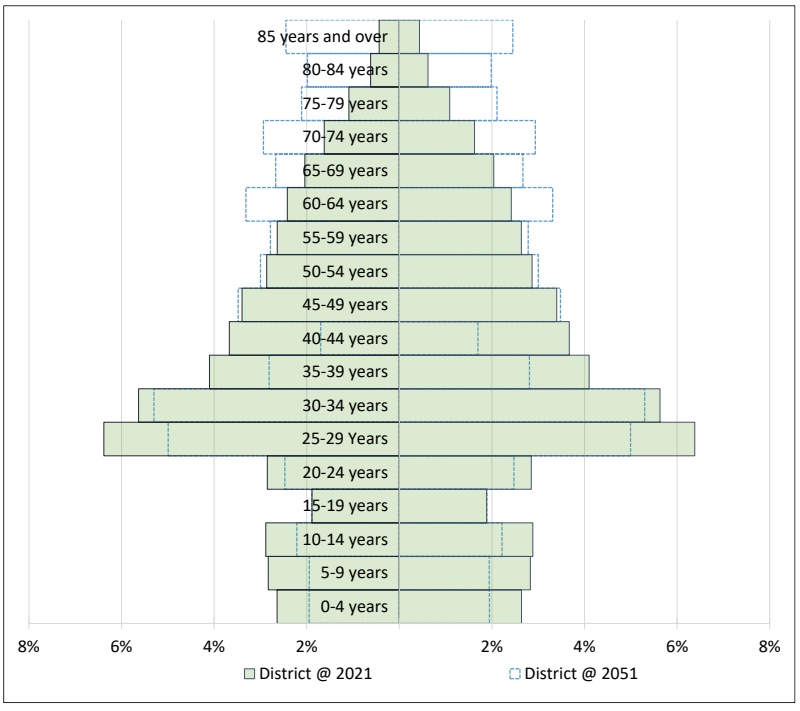


Huge increases in residential growth, alongside large visitor numbers had led to pressures on our transport system. With a relatively small number of ratepayers supporting ever increasing visitor numbers. QLDC strives to address the issues stemming from rapid growth whilst protecting the liveability of our district.

The consequences of changes in demand and growth are one of our biggest challenges and summarised below in specific areas. Further analysis can be seen in our strategic assessments.

Over the past 30 years, the Queenstown Lakes has grown steadily from 15,000 residents to its current population of 42,000, alongside significant growth in visitors to the area. Migration, both from overseas and within New Zealand, has been the key driver of population growth. Auckland, Southland and other parts of Otago were the key sources of internal migrants. This growth has been driven by the attractive scenery and climate, clean environment, outdoor lifestyle, strong economic opportunities and improved national and international connectivity.

Figure 15: Queenstown Lakes age pyramid – portion and number of residents



3.1.3. POST COVID-19 DEMAND AND GROWTH

The Queenstown Lakes has been amongst the hardest-hit areas of New Zealand due to the economic impacts of COVID-19**.** While the impacts are uncertain, the underlying drivers of demand to live or visit the Queenstown Lakes remain and growth is likely to return in the future.

Following the COVID-19 pandemic it has being assumed there will be a slowdown in international / national migration in the first ten years but long-term growth by 2051 will remain the same as predicted in the previous 2018-48 Infrastructure Strategy, which is the district would nearly double in size over the next 30 years. To put that into context, it would see the total population grow from a city the size of Napier to a city the size of Lower Hutt or Dunedin.

The QLDC 2020 Demand Projections has highlighted the scenario of "sticking to our 2018 projections – change the path" as the approach. That by 2050 QLDC will have the same growth as indicated by 2018 projections.

Figure 16: ref: QLDC 2020 Demand Projections

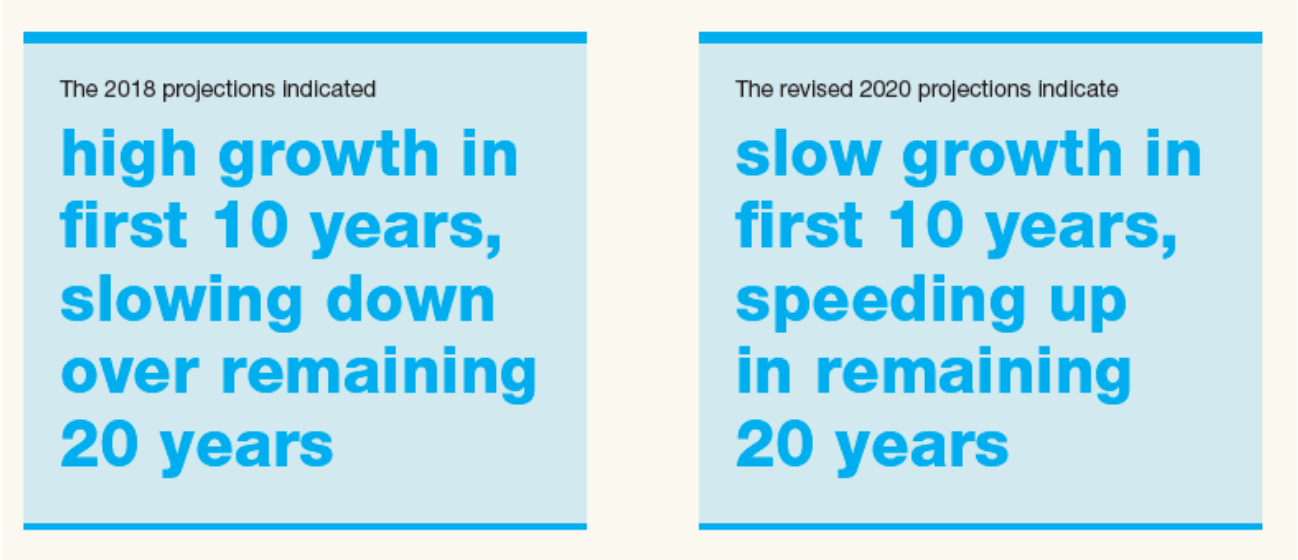


Table 2: Summary of assumptions 2020 QLDC Demand Projections

Short-term assumptions	Medium/long-term assumptions	The story
Oct-2018		
Residents migration = +17,000 over 10 years *Migration at 1,600 - 1,000 p.a.* Visitors = +6,000 over 10 years Houses = +8,000 over 10 years	Residents migration = +18,000 over 20 years *Migration at 600 p.a.* Visitors = +7,000 over 20 years Houses = +9,000 over 20 years	High growth for first 10 years. Slowdown in international/national migration = long term slow down over later 20 years.
Recommended – scenario sticking to our 2018 projections – change the path		
Residents migration = +9,500 over 10 years *Migration; lose 2,000 and then grow at 1,000 – 1,600 p.a.* Visitors = +3,000 over 10 years – drop off in numbers followed by steady recovery Houses = +4,000 over 10 years	Residents migration = +18,750 over 20 years *Migration at 1,600 (5 yrs) - 1,000 (15 yrs) p.a.* Visitors = +9,000 over 20 years Houses = +13,500 over 20 years	Next 10 years is COVID-19 recovery. Longer term migration and visitor view is more optimistic, e.g. NZ and Queenstown Lakes District are more attractive places to live, work, and play.

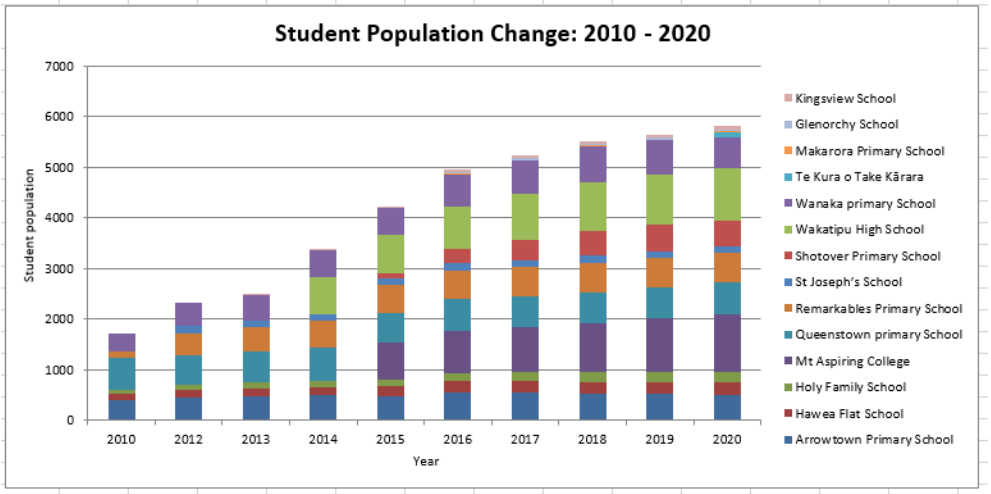
The key changes from the previous 2018 projections are:

- Strong resident population growth, increasing to nearly 77,500 people by 2051. This is near doubling of the projected 2021 starting point.
- Continued growth in the number of houses, increasing to over 39,300 houses by 2051. The overall increase of nearly 17,000 houses is similar to the previous projections.
- The increase in visitor numbers takes the average day total population to nearly 120,000 people.

While the demand projections are indicative of what QLDC's strategic decision making is based on, it is with awareness that the projected change may take shorter or longer than 30 years. The projections are reviewed regularly and adjusted if required. More details of population growth, projections and demand for services are given in https://www.qldc.govt.nz/community/population-and-demand

3.1.4. SCHOOL GROWTH

Figure 17: Student Population Change 2010:2020



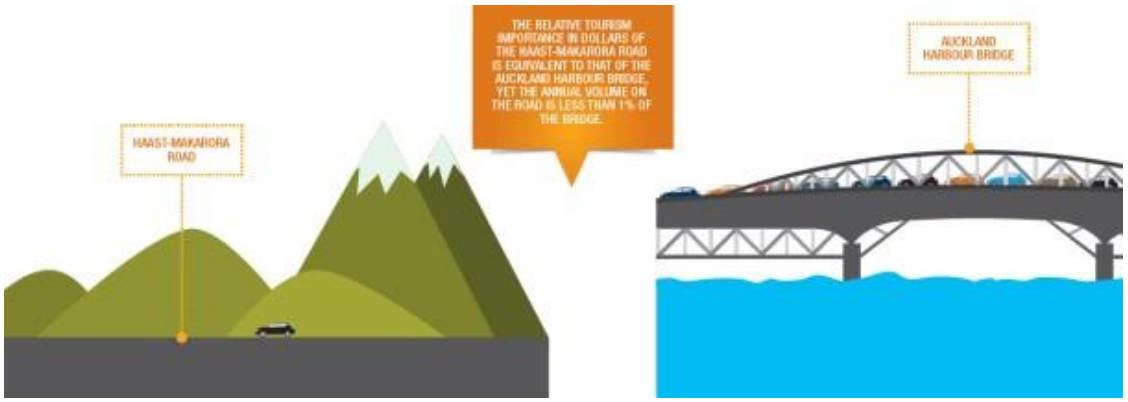
Another significant age change is residents under the age of 5 years. In 2016 the District had the fastest growing population aged zero to 5 years in New Zealand. Schools are reaching capacity, in response; the Ministry for Education (MOE) has announced major/increased investment in the region for new schools. The MOE nationally aims for school occupancy at 85%, this 85% does not count rooms built by schools from their own funds. Remarkables School currently sits at 89% capacity within a year of opening.

The Queenstown Lakes District is at least 97% capacity. Wānaka's Mt Aspiring College is sitting at 103%. Increases in preschool and childcare facilities are increasing. Uptake in pre-school and the number of childcare facilities are increasing which indicates primary school capacity will take the follow on. These increasing numbers create challenges around the schools to manage congestion and road safety which can impact on active travel choices such as biking and walking. Increases in developments such as the HIF where potentially 2,000 houses will be constructed near Ladies Mile and will be in the zone for Shotover Primary. Strong advice suggesting these will be taken up by young families (as seen at Lake Hayes Estate and Shotover Country), this will undoubtedly have a large effect on growth patterns at nearby schools and may result in the need for more schools being built. Increased numbers of children leads to greater numbers driving (the ratio is often around 65% in higher traffic areas), leading to congestion, reduced visibility and sightlines, illegal parking, making it difficult for children to cross roads safely and for kids to walk/bike to school.

There is definitely a link between increased traffic volume and discouraging walking/cycling. Perceptions of safety (for parents) change and they feel it is less safe and do not want children to walk/cycle. Conversely separated shared path infrastructure that is continuous and connected between home and school will result in greater walking/cycling numbers especially if the children are aged 9+. http://www.radionz.co.nz/news/national/292717/schools-pushed-to-limit-by-roll-growth

The MOE is working alongside the QLDC Spatial Plan team to provide indicative capacity and timing of new schools in the Wakatipu and Upper Clutha catchments. Provisions for new schools will be released with the Spatial Plan in 2021.

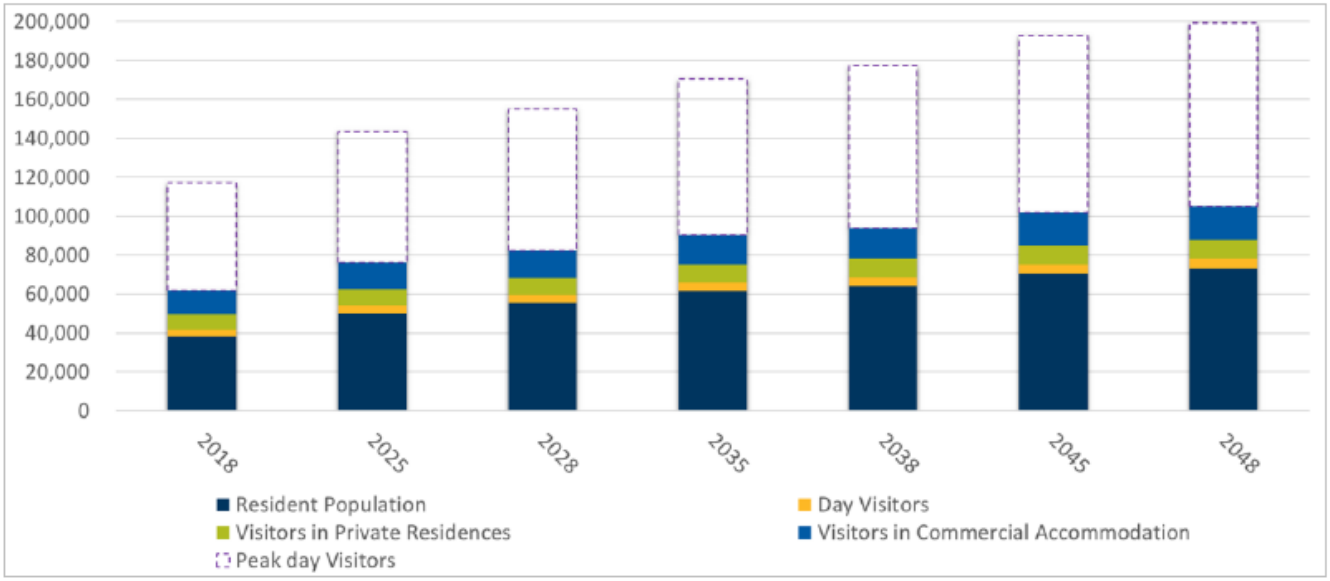
3.1.5. VISITOR DEMAND



Queenstown's economy is heavily dependent on the tourism market, within which there has been significant recent growth. This growth has stimulated an increase in resident population, which is forecast to continue growing at a rate of 3.6% to 2028, then 2.1% to 2048 (pre COVID-19).

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

Figure 18: Queenstown Resident Population and Visitor Forecast shows forecast growth in residents and visitors.



3.1.6. POST COVID-19 VISITOR DEMAND

Airport passenger movements are often used as a proxy for the health of the tourism industry in Queenstown, and airport numbers clearly show the impacts of COVID-19. Despite a busy school holiday period, movements in June 2020 were down 75% from the previous year, including a complete cessation of international travel. It is unlikely that international visitors will return in the short term, and the domestic market is largely restricted to school holidays.

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

Comparison for pre and post lock down shows that during school holidays, domestic visitors were 30% higher than in 2019, however these were on par with 2019 when Auckland was in Alert Level 3.

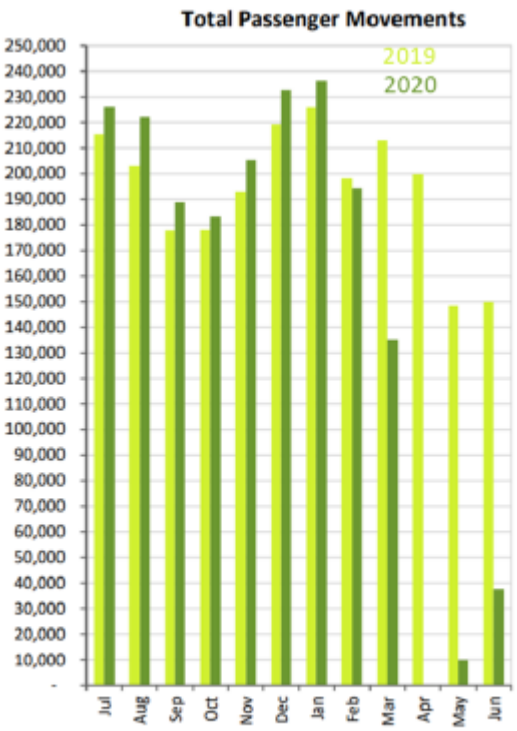
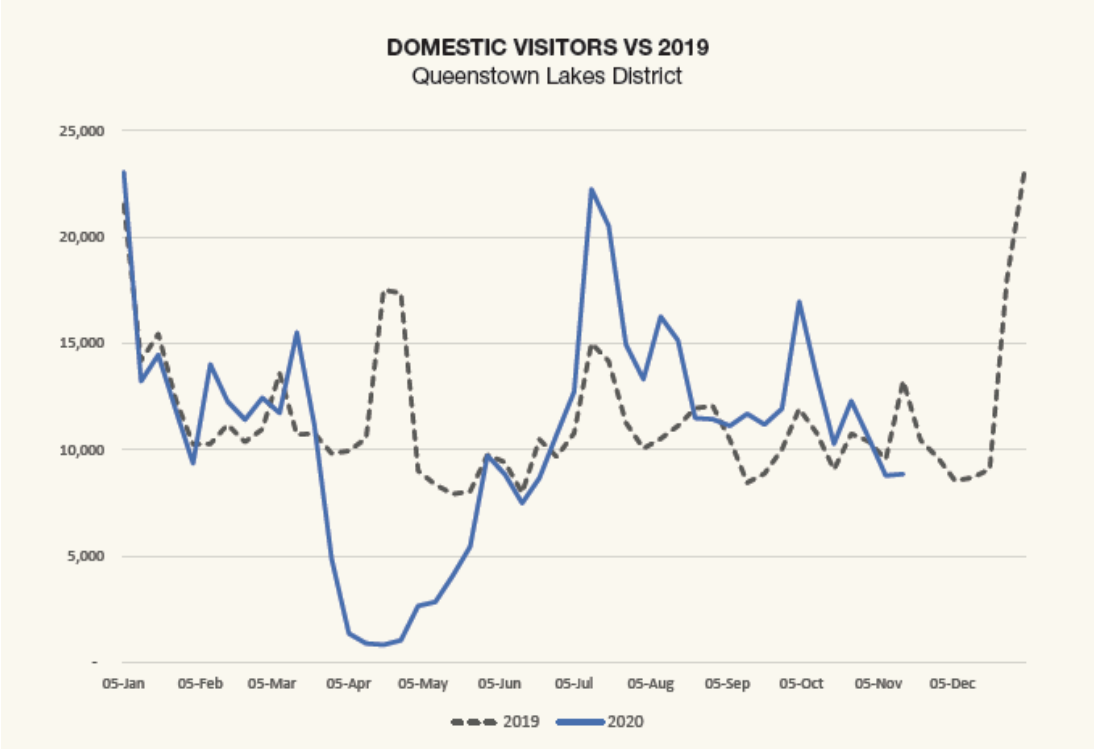


Figure 6: Queenstown Airport Passenger Movements Year to July 2020

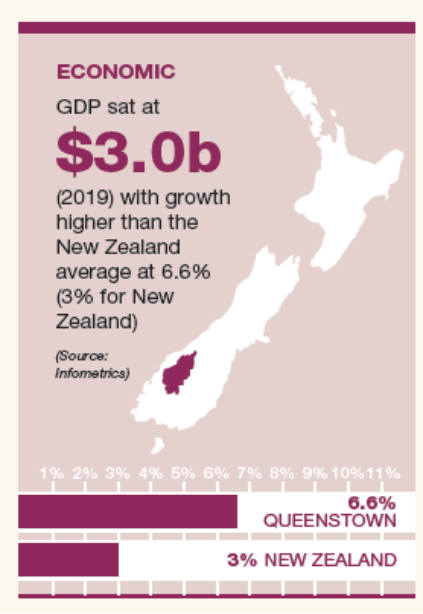
Figure 19: Ref. Queenstown Lakes District COVID-19 Recovery Intelligence Report



3.1.7. ECONOMIC DEMAND

Queenstown Lakes has been the fastest growing part of the country over recent years, both from a population and employment growth perspective. Pre-COVID-19, QLDC's contribution to the National GDP at 6.6%.

Figure 20: Ref. Queenstown Lakes District COVID-19 Recovery Intelligence Report



Tourism contributed $1.7b out of a total $3.062b in 2019, more than half our district's GDP and 63.5% of jobs (seven times higher than the NZ average of 9%). However, it does highlight our lack of diversification.

Figure 21: Ref. Queenstown Lakes District COVID-19 Recovery Intelligence Report

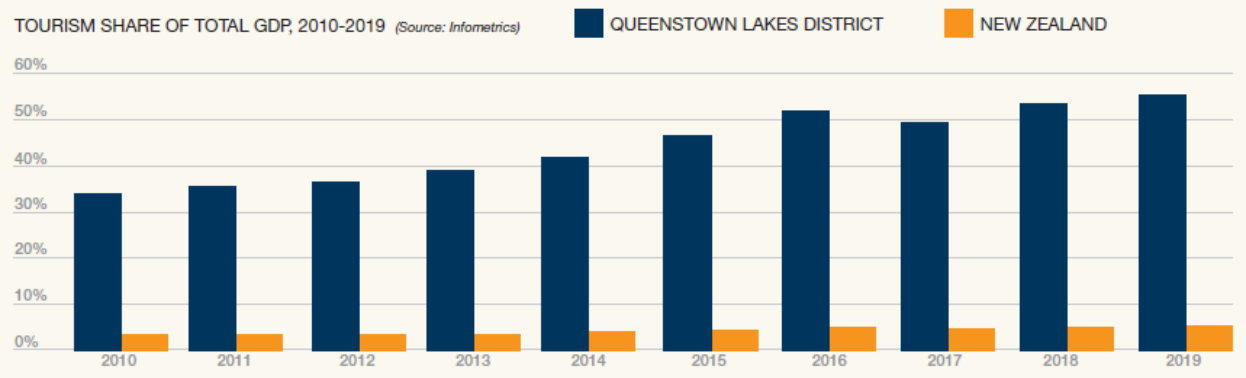
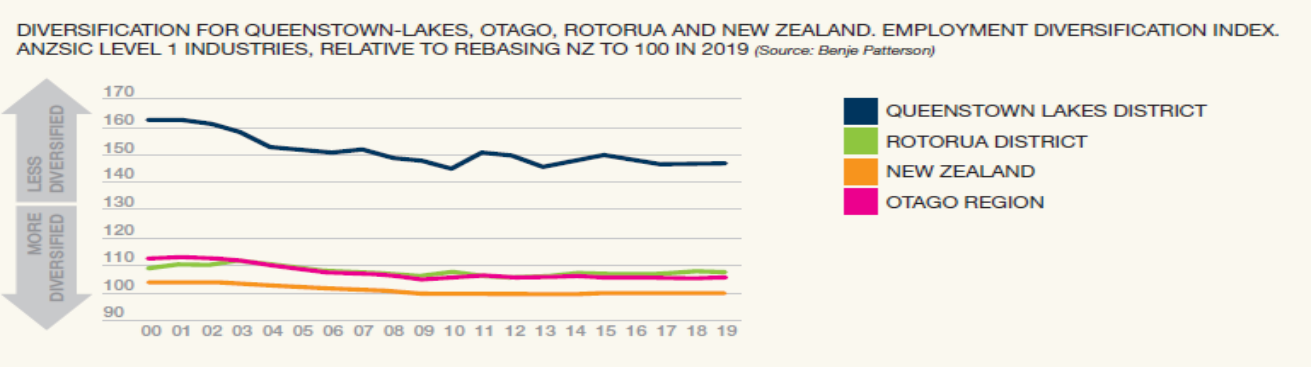


Figure 22: Ref. Queenstown Lakes District COVID-19 Recovery Intelligence Report



Productivity has been held down by tourism's large share of the local economy. This lower productivity is reflected in poor wages, but household incomes sit higher than national averages due to more multi-income households, and earnings from investments and self-employment.

The concentration of economic activity on the international visitor market left Queenstown Lakes more exposed to the economic fallout from COVID-19 than the rest of New Zealand.

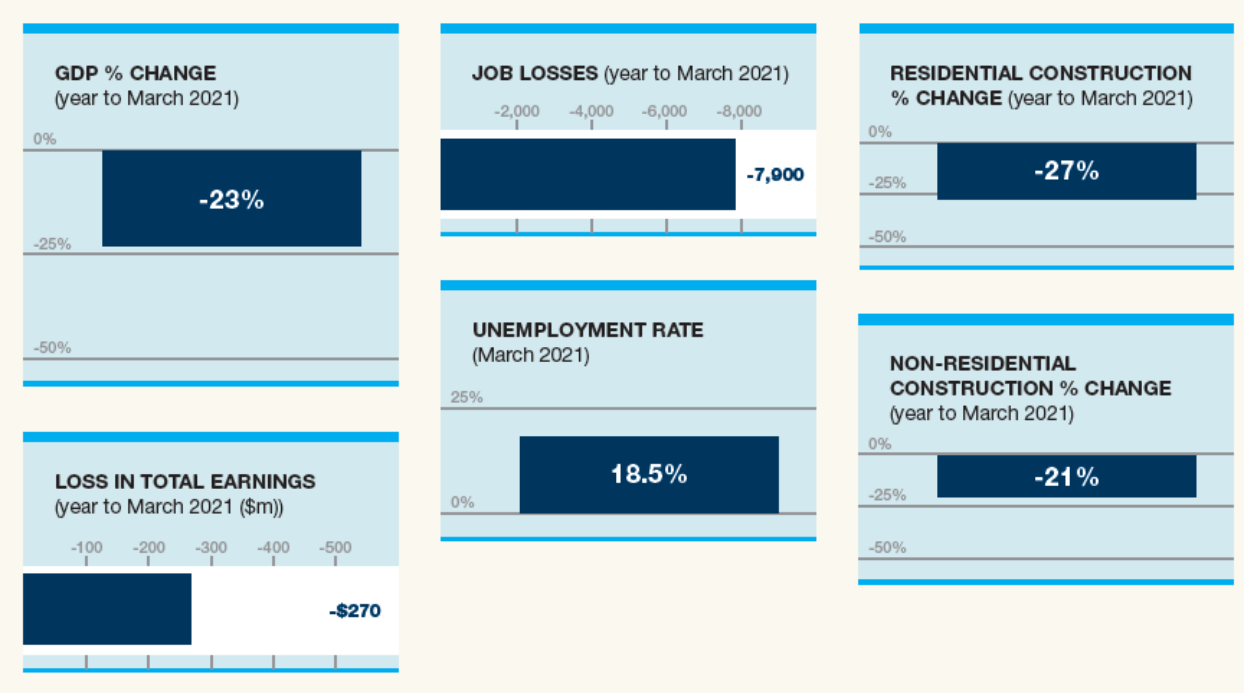
3.1.8. POST COVID-19 ECENOMIC DEMAND

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

Early assessments of the effects of COVID-19 on the Queenstown Lakes economy make for sobering reading. Infometrics June 2020 Quarterly Economic Monitor confirmed that the district suffered the country's sharpest decline in economic activity. Provisional estimates pointed to a 26% decline in June 2020 quarter GDP from a year ago, compared to an estimated 12.6%pa quarterly decline nationally.

The following summarises the Infometrics report, 'Economic Impacts of COVID-19 on the Queenstown Lakes Economy – Early Estimates' May 2020. These numbers demonstrate a 'do nothing' scenario and can be adjusted to capture the impact of a trans-tasman bubble, as well as a greater share of domestic tourism.

Figure 23: Ref. Queenstown Lakes District COVID-19 Recovery Intelligence Report



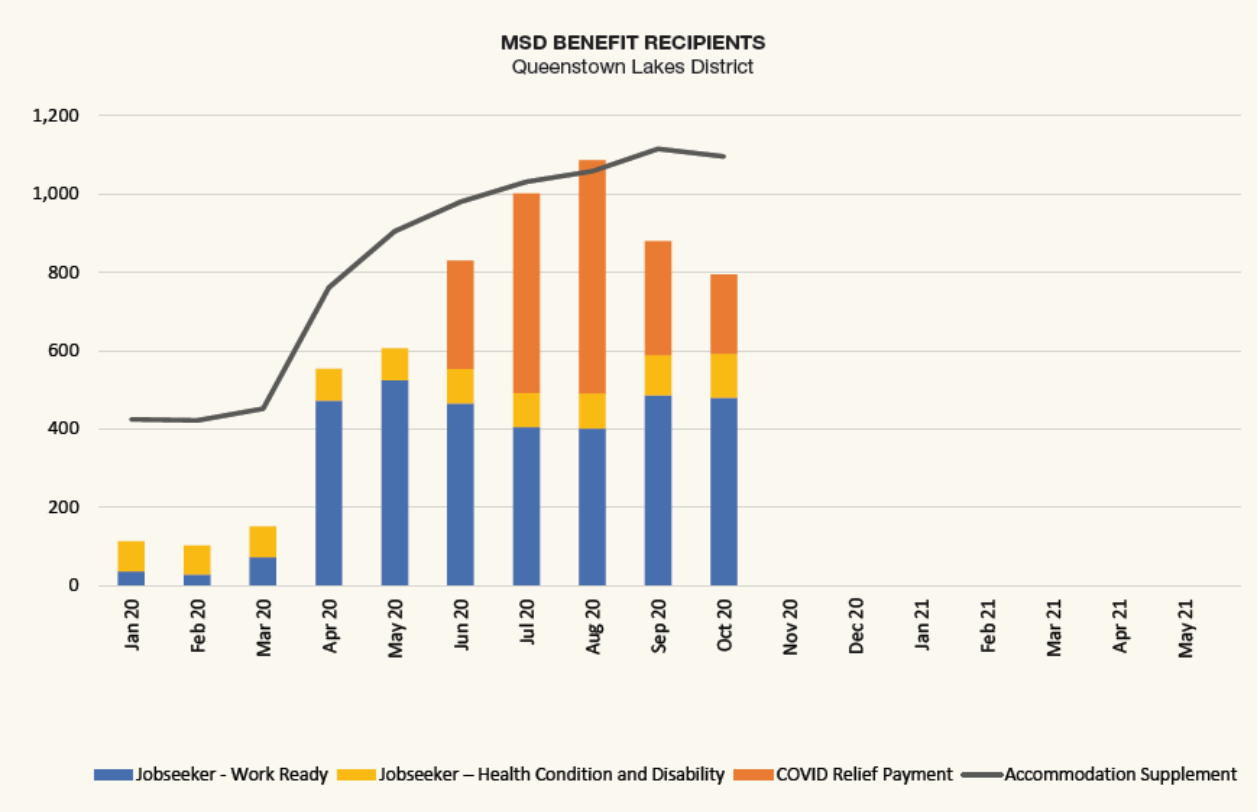
The socioeconomic consequences of this decline have been stark, with 1,001 people in the district receiving Jobseeker Support and COVID-19 Income Relief Payments from the Ministry of Social Development (MSD) in July 2020, compared to just 151 people on such support in March 2020. But things could have been worse had it not been for a sharp lift in domestic visitation and resilient levels of building consents. Although these two factors are likely to carry less strength over the year ahead as New Zealand's ongoing economic malaise weighs on demand, they at least point to the ongoing appeal of Queenstown as a great place to live, work and visit.

Further analysis on the economy on the transport network can be seen in our Strategic Assessments in Section 5.

Pre-COVID-19, unemployment sat at 1% and is based upon job seeker numbers from the MSD. Using the figures presented for September 2020, unemployment now sits at 3%. This figure does not take into account job seekers who are migrant workers. Following a survey of migrant workers who applied for welfare during the Alert Level 4 Lock-down period, we estimate the total unemployment rate to be around 6%.

The graph shows a continued reduction in people receiving COVID-19 Income Relief Payments and Job Seeker Work Ready. However, there was a slight increase of ten extra recipients for Jobs Seeker - Health Condition and Disability.

Figure 24: Ref. Queenstown Lakes District COVID-19 Recovery Intelligence Report



3.1.9. QLDC COVID-19 EMERGENCY MANAGEMENT RECOVERY

QLDC Emergency Management was activated as part of the National response to COVID-19. QLDC's response included early formulation of a Recovery Team, which was tasked to focus on social and economic wellbeing and recovery. The team collated and monitored data metrics, lobbied central government in regards to community support and economic stimulus packages.

The below summarises the key areas of focus for the Response team as their projects move into Business as Usual.

- **Workforce** – The District's workforce has a high reliance on people who enter the country on a work visa of some sort. COVID-19 highlighted that those on work visas have no (government-funded) social safety net, and thus introduces a certain fragility into the workforce that is exposed in times of economic volatility. While the highest concentration of (low paid) migrant workers are in the hospitality industry, the infrastructure industry also has a component of its workforce that is visa-tied. We need to be careful that central government desire to transition to a lower dependency on migrant labour does not restrict our ability to attract and retain moderate-highly skilled people from other countries into positions in infrastructure.

- **Diversification**: More broadly than workforce, COVID-19 highlighted the economy's significant exposure to the tourism industry - 55% of GDP and 63% of jobs are tied somewhat directly to tourism. As a result, Queenstown Lakes is the most undiversified economy in New Zealand. While the Council had a program of diversification initiatives pre-COVID-19, the need to diversify in order to create economic stability is now ever more palpable. The significant investment in infrastructure signaled in QLDC's 2018 LTP has already created a degree of diversification through the growth in engineering and construction firms in the district. It is important that this is recognised, and actions taken to preserve and increase this diversification of the economy. Further, opportunities to expand up the infrastructure value chain to "smart" infrastructure should be done, as much as possible, in a way that goes beyond procurement of products and services to encouraging investment by firms in building smart tech capability in the district.
- **International reputation**: Notwithstanding the need to increase the diversification of the economy, the reality is that the outstanding natural beauty and entrepreneurial spirit of the district will always attract a significant number of international visitors and thus be a central component of Brand NZ Inc. The reputation of Queenstown is thus synonymous with the reputation of the country. This places a high expectation on the quality of local infrastructure insofar as it impacts the core values of that brand, especially environmental performance.

The following summarises the short to medium term goals for COVID-19 recovery in the district. The initiatives to support these goals are listed below.

Figure 25: Ref. Queenstown Lakes District COVID-19 Recovery Intelligence Report

Investment in the transport system is seen as a key tool to support economic diversification. Central Government's economic stimulus package was able to build on all the transport business case and planning work in the district. As QLDC's programmes of work were considered to be 'Shovel Ready', funding applications were successful and enabled many parts of the transport programme to be funded through the Crown Infrastructure Partnership; Arterials Phase 1 and Queenstown Streetscapes.

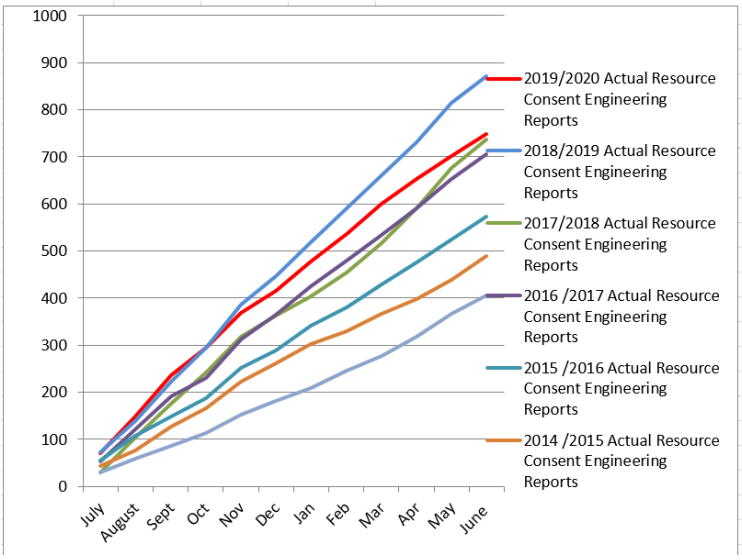
With a pre-COVID-19 programme that was focused on addressing the large gaps in level of service left by growth, QLDC has had to review the current appropriateness of that programme and how it would be funded.

3.1.10. SUBDIVISION DEMAND

Subdivision demand has been strong over the last few years and has a big impact on our transport network. It increases our asset inventory and with urbanisation comes a more complex network. Development in Queenstown and surrounding area has also seen urbanisation on terrain that is steeper and harder to access. This has impacts on our operational network management and associated costs.

The impact of COVID-19 on the direction of development in our district is still not understood. QLDC are tracking the metrics they can, to monitor the situation. There is an assumption that NZ will probably look quite attractive for Development investors (both domestic and foreign) over the next 10-20 years, but what this will look like is unknown.

Figure 26: Resource Consent Engineering Reports by financial year



Numbers of Resource Consent Engineering reports has increased in the 19/20 year, and QLDC has seen peak monthly numbers coming in. See highlighted peak in Figure 27 below.

Figure 27: Peak numbers of resource consents 2019-20 (peaks in yellow)

Month	Calendar Year - Graph below on Month by Month basis												
	January	February	March	April	May	June	July	August	September	October	November	December	
2012	21	19	33	27	25	22	43	28	33	38	43	28	360
2013	22	31	25	37	33	41	29	30	27	28	38	30	371
2014	27	37	32	41	48	39	43	33	51	40	56	38	485
2015	42	26	37	31	42	51	55	52	42	39	63	38	518
2016	53	39	49	45	50	48	53	69	69	56	65	52	648
2017	62	53	56	56	63	52	50	53	71	68	76	44	704
2018	40	52	61	**74**	**86**	**61**	**73**	65	85	**71**	**93**	**59**	820
2019	**73**	**71**	**71**	70	84	57	71	**77**	**89**	57	75	46	841
2020	62	60	64	52	48	47	58	55	61	50	53		610

Figure 28: Building Consent by financial year

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	83	161	279	384	533	666	786	896	1002	1144	1243	1339
2015	93	187	291	436	568	721	852	961	1077	1236	1414	1527
2016	100	247	358	463	638	829	999	1171	1316	1453	1583	1692
2017	85	233	420	563	747	931	1105	1289	1448	1596	1765	1905
2018	109	254	376	551	747	896	1083	1263	1424	1609	1792	1927
2019	97	269	423	568	776	911	1075	1207	1372	1568	1734	1891
2020	114	270	428	555	684	820	980	1103	1236	1351	1493	

There has been a slowdown in the numbers of building consents issues, and the numbers are similar to those from 2015.

The number of corridor access requests has also risen, which is indicative of our construction market. The decline in TMP numbers is due to the fact that TMP's have been increasingly coming through in the CAR system and so are included in the CAR Application numbers.

Figure 29: No. of processed Corridor Access and TMPs

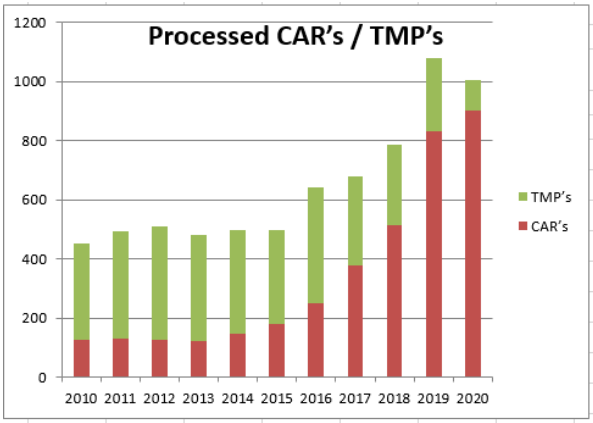
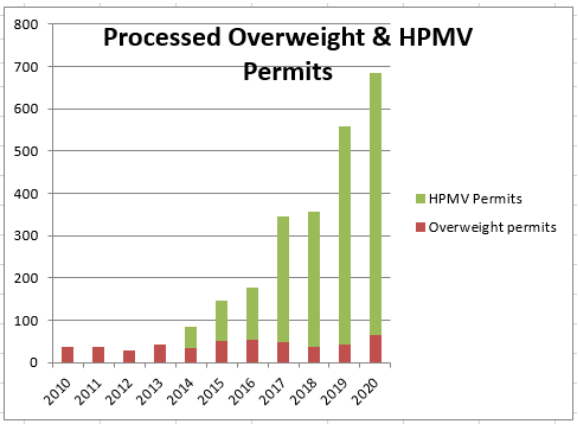


Figure 30: No. of processed overweight permits and HPMV



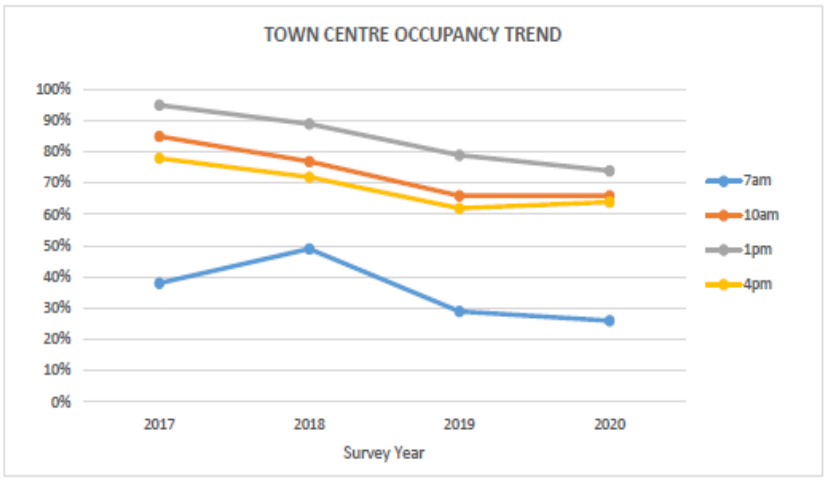
3.1.11. TRAFFIC DEMAND AND MODE SHIFT

The growth in population and visitor numbers is supported by traffic count evidence from the Waka Kotahi. Pre COVID-19, on key State Highway corridors, there has been an up to 25% increase on the number of vehicles visiting the District in the past 2 years. Evidence of traffic growth can be found in numerous sources. This rate of growth was potentially leading to a doubling of traffic every 5 years. When considering the historic response to growth the new capacity of any upgraded corridors could be consumed well before physical works are actually completed. In line with population growth and growth in visitor numbers, it is anticipated that there will be an increase in freight task over time, particularly growth in the movement of manufactured and retail goods, construction materials and waste. The Frankton Business Park will likely provide the hub for the construction and commercial activities to support Queenstown's future growth, and remain the focus for heavy vehicle movements into Queenstown. This has led to an increase in customer concerns around congestion, travel time reliability and safety.

COVID-19 provided the District with some breathing space, although capacity issues still remain and these must be addressed.

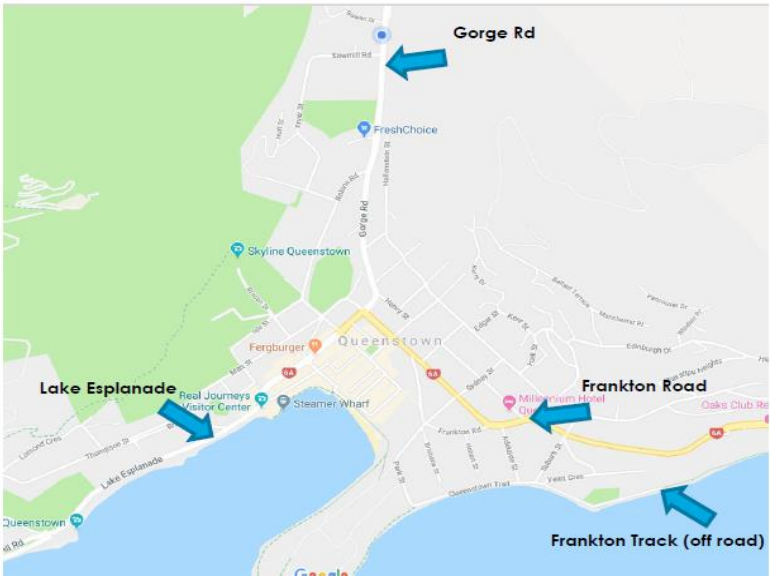
Demand for Parking Occupancy in Queenstown Town Centre.

Figure 31: Percentage Occupancy of Queenstown's Town Centre by Year



Average parking occupancy has decreased by 17% across all time periods since 2017. The original decrease in parking occupancy was due to the $2 bus service and increased parking fees that were introduced in November 2017. The duration changes removed all day free parking from the CBD (such as Queenstown Gardens), overnight parking, weekly parking permits, and reduced many time restricted zones.

Figure 32: Queenstown Modal Split Survey - Map of Survey Locations



Modal Split – Queenstown.

Modal split counts were undertaken to capture traffic traveling into the Queenstown town centre via four (4) major routes. Traffic quantities were divided into seven categories in an effort to provide additional insight into Queenstown's transport modes. The categories are split into the following: car, heavy vehicle, taxi, commercial coach, public transport bus, bicycle, and pedestrian. The survey is a continuation of the annual series that has been running since 2009.

Figure 33: Modal survey Traffic Volume and Rolling Average Growth

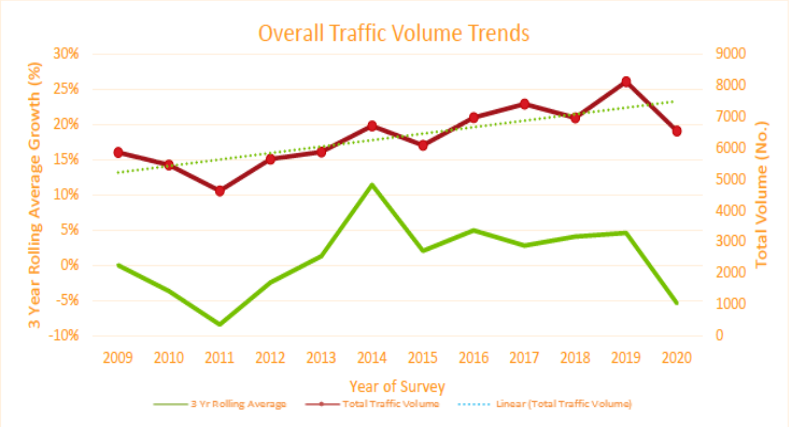


Figure 33, shows there appears to be an increasing linear trend (dotted blue line) in total traffic volume each year since the beginning of the survey (averaging 4% p.a.). In 2018, there was a decrease in total overall traffic volume; however, the upward trend returned in 2019. 2020 saw a return to 2015 levels. The three-year average has been above 0% since 2013 though has returned below 0% due to the 2017 and 2020 results.

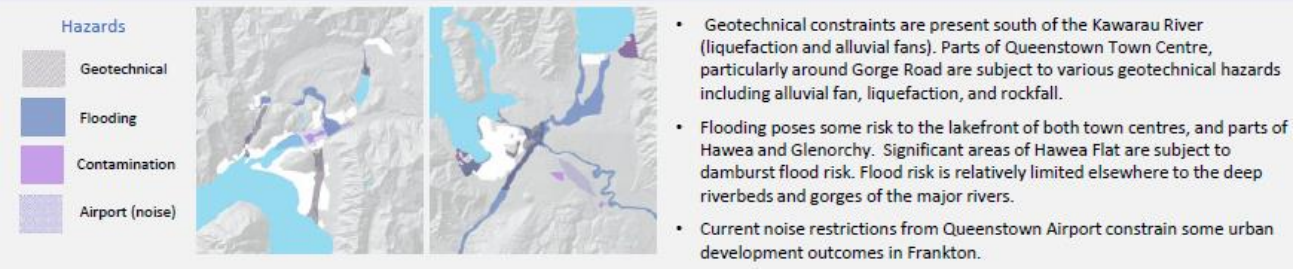
3.2. OUR LAND – OUR NATURAL ENVIRONMENT

The dramatic landscape and environment that draws people to the District, provides challenges in delivering transport services. The constraining nature of our physical landscape (valleys, gorges, lakes and mountains) limits viable alternative options to avoid congestion at peak times as well as impacting the types of travel modes. The topological relief of the District is often steep and winding and with a climate of extreme temperatures and weather patterns provides challenges to users and maintenance activities on the network. The risk and consequences of natural disasters hugely impacts our resilience and ability to respond.

A major part of our Districts economy is reliant upon the transport network being accessible, resilient and safe during and quickly after snowfall, ice and wet weather events. Some of the New Zealand's premier winter activities are in our district; Treble Cone, Cardrona, Coronet Peak, and The Remarkables ski fields.

Geopolitics is about how our environment influences our decision-making and in QLDC many of the transport issues facing our network are exacerbated by the form of our natural environmental and have been explored further in our Strategic Assessments. Acknowledging the impact of geopolitics on our strategic responses and as we developed both our continuous and improvement programmes. With the increasing risk of climate change, QLDC have made a bold commitment to the QLDC Climate Action Plan to seek to understand how this will impact our community and our infrastructure, with the transport system playing a key part.

- **Topography**: The Queenstown Lakes District covers a total area of 9,357 km² and includes a number of significant lakes (Lake Hāwea, Lake Wakatipu, and Lake Wānaka). The District is world-renown for its unspoiled natural environment and commerce-oriented tourism, especially adventure and ski tourism and has New Zealand's highest public sealed alpine pass. The natural environment of the Lakes District consists of a variety of systems including rivers, lakes, basins, wetlands, bush remnants, uplands and shorelines. The hilly nature of parts of the district and urbanisation is leading to much more asset density.
- **Settlements**: Wānaka and Queenstown. Other towns in the district include Arrowtown, Kingston, Glenorchy, Lake Hawea, Cardrona, Makarora and Luggate.
- **Geology:** Queenstown Lakes District is a geologically unstable area given the proximity to the Alpine Fault and various other (moderate) faults through the District situated within the Southern Alps, part of the Pacific Ring of Fire. Uplift has been most rapid during the last 5 million years, and the mountains continue to be raised today by tectonic pressure, causing earthquakes on the Alpine Fault and other nearby faults.
- **Climate:** The climate is cold with snow and ice year-round at the highest points, as one of the coldest places in New Zealand with an average temperature of 10.7°C ranging from - 10°C to 35°C with ground frosts over 130 days per year. The clear winter days have a low average rainfall of 636mm per year and create a unique climate within New Zealand. It is expected the climate will become less predictable, winters and summers may become colder and warmer. Average temperatures have increased by 0.7°C over the past 50 years and are expected to increase by 0.9°C within the next 30 years. It is expected that soils will dry out and irrigation will be less effective. The District is a semiarid climate (all day sun, good drainage and little traffic) to lake side/swamp (damp, poor drainage, little sun, heavy frosts, heavy traffic).



3.3. OUR TRANSPORT SYSTEM

As custodian of such a pristine and national treasures, we aim to provide a transport network which supports movement of people and goods across our network, this provides a key social and economic benefit for the district. We are focussed on exploring alternative modes to mitigate congestion, minimise the footprint on the planet and provide a positive experience in our district.

General Traffic	Currently the majority of movements within the District are general traffic - people and goods in private cars.
Active Travel	QLDC alongside Waka Kotahi have developed a Mode Shift Plan. The active travel network is being developed as a priority Active Travel Network – part of overall mode shift programme for travel demand management and addressing the congestion issues
Public Transport	Queenstown has an urban bus network provided by ORC. Although not under the control of QLDC, the public transport network is a key activity within the district that forms part of our transport network. Way2Go enables a collaborative approach to use PT to address traditional transport issues. QLDC is investing in PT infrastructure by increasing the number and quality of bus stops and shelters, consideration is given to support the use of PT as part of an active travel journey by providing facilities to carry or secure cycling facilities. There is a long term view that Mass Rapid Transit may provide solutions and these are being explored through the Queenstown Detailed Business Case. Some outlying townships are connected via commercial operators, such as Intercity bus. Between Queenstown and Milford Sound, tourist buses have operated in high numbers at the beginning and end of each day. These types of commercial/tourist focused connections may present an opportunity to facilitate public transport in the future. Ferry services in Queenstown remain commercially operated at this stage.
Shaping Urban form	Where, how and when urban developmenti takes place can have an enduring impact on the ways people choose to meet their travel needs. Development has frequently been developer led, via plan changes and ad hoc resource consents, often resulting in land use development that is not always integrated with existing or planned transport infrastructure. The proximity of households to the places we regularly go for work, school, shopping and recreation can be a key determinant of whether we choose to walk, bike, bus or drive.
Airports	International and regional flights operate out ofQueenstown. Wānakaprovides a small local airport. Access to these airports is via the road network, and only the Queenstown airport is serviced by public transport. In mid-2020 Christchurch Airport announced the purchase of land in the small farming settlement of Tarras on the southern side of Lindis Pass, with the intention of developing a new international airport. Timing and details of this development are not known. Should this project eventuate there are likely to be consequences for the transport network.

4. STRATEGIC DIRECTION

4.1. QLDC TRANSPORTATION STRATEGIC FRAMEWORK

QLDC has created a Transportation Strategic Framework (TASF), which is an overview of the national, regional and local drivers as well as the strategic priorities for QLDC. The TASF demonstrates the linkages from these drivers through to QLDC's Continuous and Improvement Programmes. These strategic drivers are crucial in defining the required outcomes for our customers.

The TASF shows the linkage of the investment programmes to the national priorities as identified in the GPS and Waka Kotahi's Arataki, including the ONF. Following through to regional drivers seen through the Otago Regional Transport Committee (ORTC) objectives and encompassing QLDC's strategic and community outcomes. The overview of the programmes developed in response to the various drivers sit on the right hand side of the TASF – demonstrating a holistic line of sight. The TASF can be read by clicking on the link below.

https://qldc-my.sharepoint.com/:f:/r/personal/kelly_campbell_qldc_govt_nz/Documents/Transport%20Asset%20Management%20Plan%202021-2031%20Appendices?csf=1&web=1&e=kE7O47

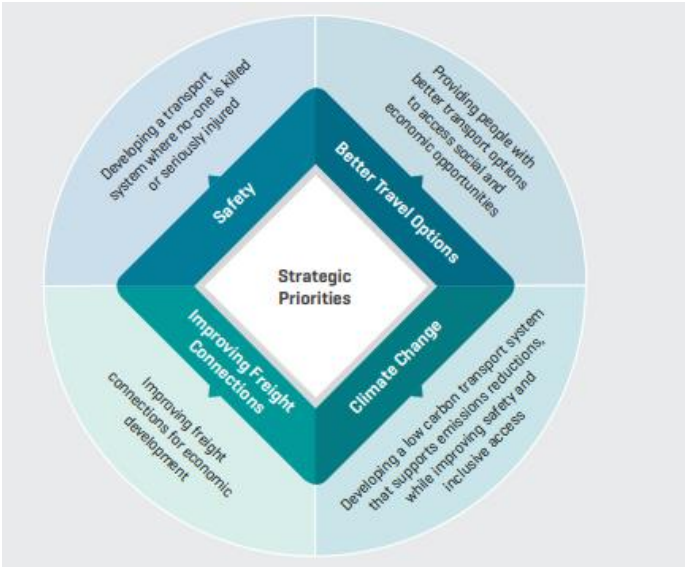
4.2. NATIONAL DRIVERS

4.2.1. GOVERNMENT POLICY STATEMENT FOR TRANSPORT

The Government Policy Statement (GPS) is the Government's primary tool to communicate what it wants to achieve in land transport, and how it expects to see funding allocated across the likes of road policing, road safety promotion, State Highways, local roads and public transport.

The GPS on Land Transport 2021 builds on the direction set in GPS 2018 and continues the Government's commitment to safety within the transport system. The Policy Statement also prioritises better travel options in our towns and cities, and supports investments for improving freight connectivity through rail and coastal shipping. By including Climate Change as a strategic priority, the GPS highlights the Government's commitment to reducing greenhouse gas emissions in the transport system.

Figure 34: GPS 2021 Key Strategic Priorities



The GPS signals Waka Kotahi will play a more proactive role in accelerating mode shift across the New Zealand; the GPS specifically highlights Queenstown as one of the high growth urban areas in New Zealand.

The GPS places a much stronger emphasis on improving the integration of land use and transport planning as a way to ensure regions are prepared for change. This has occurred as growth in some areas has resulted in transport networks inadequately prepared and underdeveloped to respond to changing need. Dispersed and disconnected communities are difficult to serve effectively with transport choice. In some parts of the combined regions, unplanned urban growth and development is creating capacity issues, putting pressure on existing infrastructure. The rate of growth in Queenstown and Wānaka has outstripped the speed at which housing and infrastructure could be planned and built, with these towns experiencing significant growing pains, with a spatial planning process only recently underway.

A summary of QLDC's Spatial Plans is below. Consideration to the GPS priorities can be found throughout this AMP. QLDC's entire transport programme has been developed in response to these strategic priorities.

4.2.2. MINISTRY OF TRANSPORT OUTCOMES FRAMEWORK

The Ministry of Transport (MoT) Transport Outcomes Framework defines a set of outcomes for New Zealand's transport system, and explains how government should work toward these outcomes through a guiding principle of mode neutrality. It states that the purpose of the transport system is to improve people's wellbeing, and the liveability of places. It does this by contributing to five key outcomes, represented in the diagram below. QLDC has incorporated the intent of these well-beings into the 2021 30 Year Infrastructure Strategy to ensure that these are embedded into our planning horizons.

4.2.3. ROAD TO ZERO: A NEW ROAD SAFETY STRATEGY FOR NEW ZEALAND

Waka Kotahi's Road to Zero Strategy and Action Plan articulates the MoT's vision, guiding principles for how we design the road network and how we make road safety decisions, as well a setting targets and outcomes for 2030. Road to Zero sets a target to reduce deaths and serious injuries on New Zealand's roads, cycleways and footpaths by 40 percent over the next 10 years.

It sets out the five areas we want to focus on over the next decade, and a framework for how we will hold ourselves to account. QLDC fully support this approach and develops its programme accordingly, more detail on safety can be found in our Assets and Activities – Lifecycle Management Section 7.

- Infrastructure improvements and speed management
- Vehicle safety
- Work-related road safety
- Road user choices
- System management.

4.2.4. WAKA KOTAHI ARATAKI

Arataki is Waka Kotahi's 10-year view of what is needed to deliver on the government's current priorities and long-term objectives for the land transport system. Arataki outlines the context for change, current and future pressures on the land transport system, how these pressures will shape the land transport system and the challenges and opportunities that Waka Kotahi and its partners need to consider and respond to.

Arataki is made up of place-based summaries (1 national, 3 pan-regional and 14 regional) that tell a land transport system story. These are framed by five step changes where we see there is a need for change. These step changes are in response to six key drivers which are trends that influence the choices we make today and in the future. All of these inform what we need to do across six levers, either directly or in partnership with others to deliver the government's objectives for the land transport system.

Arataki V2 reflects initial findings on the impact of COVID-19 on the land transport system. By understanding these impacts we are better able to respond in the right way, at the right time and consider any new opportunities that may arise.

The South Island Pan regional summary which includes QLDC is in strategic alignment with our AMP and covers key points aligned with our strategic assessments as well as in the post COVID-19 context.

- The South Island is expected to be impacted harder compared with other pan-regions, because of the economic reliance on international tourism and expected slowdown in population growth from reduced international migration.
- Tourism and a rapidly growing population were key drivers of the Queenstown economy prior to the COVID-19 pandemic.
- The transport system in the South Island is shaped by the geography, particularly the mountain ranges that run the length of the island. Transport networks tend to be long and narrow, with few alternate options in many places.
- The South Island's population is concentrated in urban centres, with much of the land area sparsely populated and either used for rural production or in the conservation estate. These rural communities rely on the transport network as lifelines to access essential services and to transport products.
- There are some pressure points, particularly around Christchurch and Queenstown, which were expected to increase as the result of forecast growth in population and freight movements. Reductions in visitor numbers and an expected slowing of population growth post-COVID-19 are expected to soften/reduce transport demand in these centres in the short to medium-term.

4.2.5. THE ROAD EFFICIENCY GROUP

The Road Efficiency Group (REG) was established as a response to the Road Maintenance Task Force Report in 2012. REG aims to deliver increased efficiencies in roading management and to provide confidence to Central Government they are receiving value for money. REG's response fall into four main categories, all of which QLDC seeks to embed as shown within this AMP:

- Smart procurement;
- Increased sector capability;
- Advanced asset management and improved data;
- One Network Road Classification (ONRCONF).

QLDC strives for excellence and the ONF and Business Case approach is providing the opportunity to ensure evidence based investments are focused on customer outcomes and they are effective and efficient in delivering those outcomes.

- QLDC are focusing its investment on providing transportation outcomes, rather than on the traditional approach of focusing on inputs that prioritised the achievement of asset condition;
- QLDC are reconsidering what levels of service are fit-for-purpose for each classification, based on the ONF nationwide guidelines;
- QLDC will assess the provision of transportation services based on the outcomes they enable our customers to achieve.

4.2.6. NATIONAL POLICY STATEMENT ON URBAN DEVELOPMENT 2020 (NPS)

The NPS enables central government to prescribe objectives and policies for matters of national significance, which are relevant to achieving the sustainable management purpose of the Resource Management Act 1991 (RMA). In particular; ensuring urban environments can meet demand and provide choices to meet the needs of people, communities and future generations for a range of dwelling types, locations, working environments and places to locate businesses; robust evidence processes to inform planning decisions; and urban environments that can respond to the changing needs of people, communities and future generations. This NPS stipulates that closer working relationships between planning and infrastructure providers occur. To this end QLDC, has formulated the QLDC NPS Project Team across the organisation, including Planning and Development, Property and Infrastructure, Corporate Services and Finance to ensure that requirements are met.

Central Government's response to address the need for urbanisation and land use was to introduce spatial planning to all high growth Councils.

QLDC has been named as a Tier 2 Authority (Gazetted August 2020) which has detailed requirements for Council in the preparation of the Future Development Strategy. This Future Development Strategy is required to inform the 2024 LTP and 30 Year Infrastructure Strategy, and must also be jointly prepared with the Otago Regional Council, as they are also a Tier 2 Authority that share jurisdiction over the urban environment of Queenstown.

Within QLDC, understanding the importance of the transport system on the ability to effect land use change The QLDC transport system is a key piece of infrastructure essential to driving infrastructure led development.

4.2.7. NATIONAL POLICY STATEMENT FOR FRESHWATER MANAGEMENT (NPS)

The NPS for Freshwater Management provides direction on how local authorities should carry out their responsibilities under the RMA for managing fresh water. The Government has announced a plan to improve New Zealand's waterways so that 90% are 'swimmable'by 2040. At the moment, 72% are considered safe to swim in, most of the time. Improving our lakes and rivers will take time and there is more we need to do in the years ahead to make it happen. The Clean Water package is an important step in achieving our goal of better water quality for New Zealanders. Transport has a role to play in ensuring that any run off does not impact the quality of our lakes and rivers.

4.2.8. THE RESOURCE MANAGEMENT REVIEW - 2019

The New Directions for Resource Management in New Zealand is the most significant, broad ranging and inclusive review to take place within the system since the (RMA) came into force in 1991.

The reform of the resource management system is critical to the continued well-being of New Zealand. It addresses significant pressures on both the natural and built environments. Urban areas are struggling to keep pace with population growth, water quality is deteriorating, biodiversity is diminishing and there is an urgent need to reduce carbon emissions and adapt to climate change.

The review process was an opportunity to design a new system for resource management in New Zealand that delivers better outcomes for our environment, society, economy, and culture. The Panel has come up with a large number of recommendations that will reorient the system to focus on delivery of specified outcomes, targets and limits in the natural and built environments.

The key recommendations are to replace the RMA with two major new pieces of interrelated legislation:

- The repeal of the RMA Act 1991 and its replacement with new legislation we have suggested be named the Natural and Built Environments Act (NBEA). This would have a substantially different approach but would incorporate some of the key principles of the RMA that remain appropriate
- New legislation which we have called a Strategic Planning Act

4.2.9. THREE WATER REFORMS

Whilst Three Water reforms does not directly impact the delivery of Transport, QLDC acknowledges this may impact how infrastructure services are delivered within the district.

In July 2020, the Government announced a funding package of $761 million to support reform of local government water delivery. The Government has indicated an intention to establish public multi-regional entities for water service delivery to realise the benefits of scale. Design of the proposed new arrangements will be informed by discussion with the local government sector.

The reform funding is split into a local allocation to each Council and a regional allocation. The regional allocation is to encourage territorial authorities to have collaborative three waters investment conversations with their neighbouring councils, and to advance collective participation by councils in the reform programme.

There is a strong argument that Territorial Authorities (TA's) are unlikely to sway the government to abandon the move to regional water service delivery. Instead the opportunity lies in the ability for Otago and Southland TA's to influence the scope and commercial design of the entity, the role TAs will play in its future, and a managed transition to the new model.

To this end the Otago and Southland Mayoral Forums have agreed to invest $2 million of the allocated funds from Central Government to Otago and Southland TA's to be used to set up a Lower South Island Water Secretariat. The Secretariat would be staffed by 1-3 people with the job of progressing Otago and Southland's joint Three Waters reform interests. The Water Secretariat would report to a Three Waters Joint Committee, who would make recommendations to Otago and Southland councils on how to deliver water and wastewater services under the Government's new (multi) regional delivery model.

Establishing a Lower South Island Water Secretariat demonstrates serious commitment from Otago and Southland TAs, and puts us in the best possible position to influence the future of the water industry both regionally and nationally.

4.3. REGIONAL DRIVERS

4.3.1. REGIONAL POLICY STATEMENT REVIEW 2020

The Otago Regional Council have an agreement with the minister to notify the new Regional Policy Statement by November 2020 to inform new Land and Water Plan (2023). This will provide clarity of direction and purpose and align with partially Operative Regional Policy Statement 2019.

4.3.2. REGIONAL TRANSPORT COMMITTEE & REGIONAL LAND TRANSPORT PROGRAMME

QLDC is a member of the Otago Regional Transport Committee, which works in alignment with Environment Southland to provide a joint Regional Land Transport Program (RLTP).

The RLTP sets out the strategic direction for land transport in Otago and Southland, and list activities for the next three years (by Waka Kotahi and local authorities) which are recommended for funding from the National Land Transport Fund.

QLDC has been involved throughout the consultation process run by the joint RTC's to establish the strategic direction of this RLTP for the region.

Regional Land Transport Plan – 30-year vision

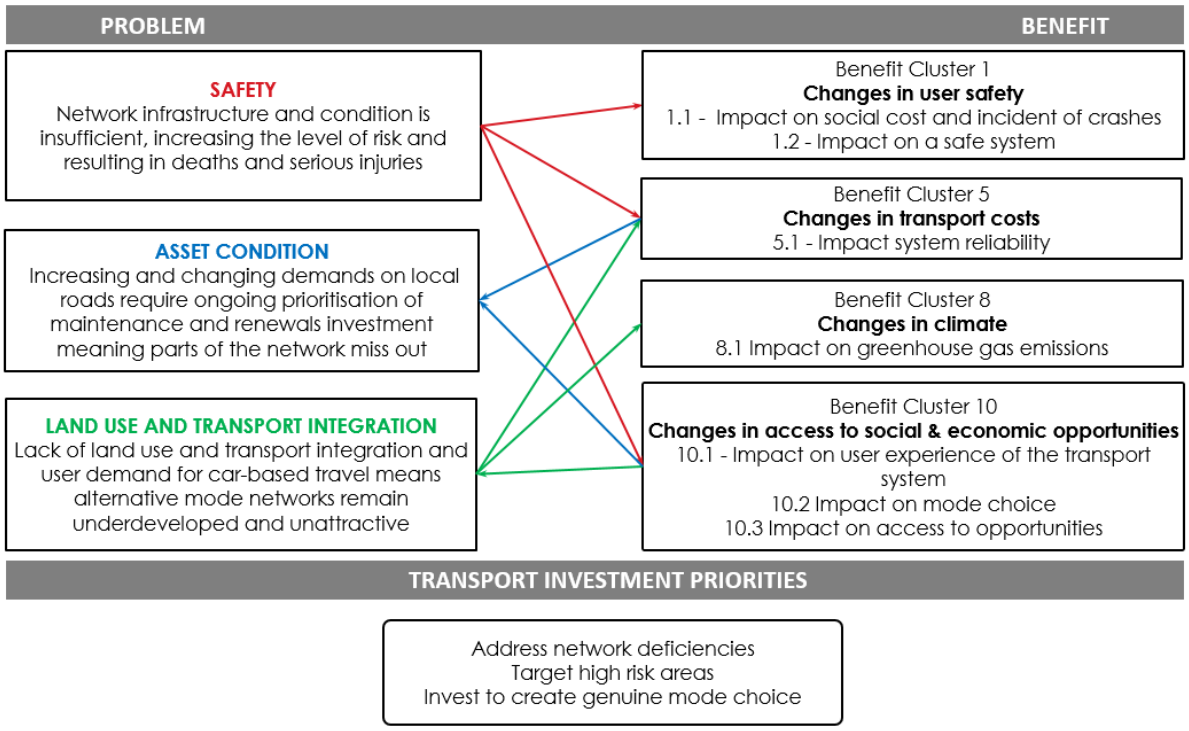
A transport system providing integrated, quality choices that are safe, environmentally sustainable and support the regions wellbeing and prosperity

To achieve this vision, the RTC's have established long-term strategic objectives, short-term (10 year) investment priorities, and agreed a policy framework that will help guide and deliver this RLTP.

4.3.2.1. RLTP PROBLEMS AND BENEFITS

To understand the focus for investment, the combined RTC used an Investment Logic Mapping (ILM) process to identify the immediate problems faced by the regions, benefit alignment and investment priorities. The ILM map is in Figure 35.

Figure 35: ILM Map



In addition to addressing the priority problems, the Otago and Southland RTC also identified four opportunities they wish to pursue:

- take a South-Island wide approach to transport planning in conjunction with South Island RTC Chairs group
- advocate for better mode integration and mode shift
- support tourism and the regional dispersal of tourism benefits
- encourage the creation of a network of cycle rides and cycling facilities throughout and between the regions

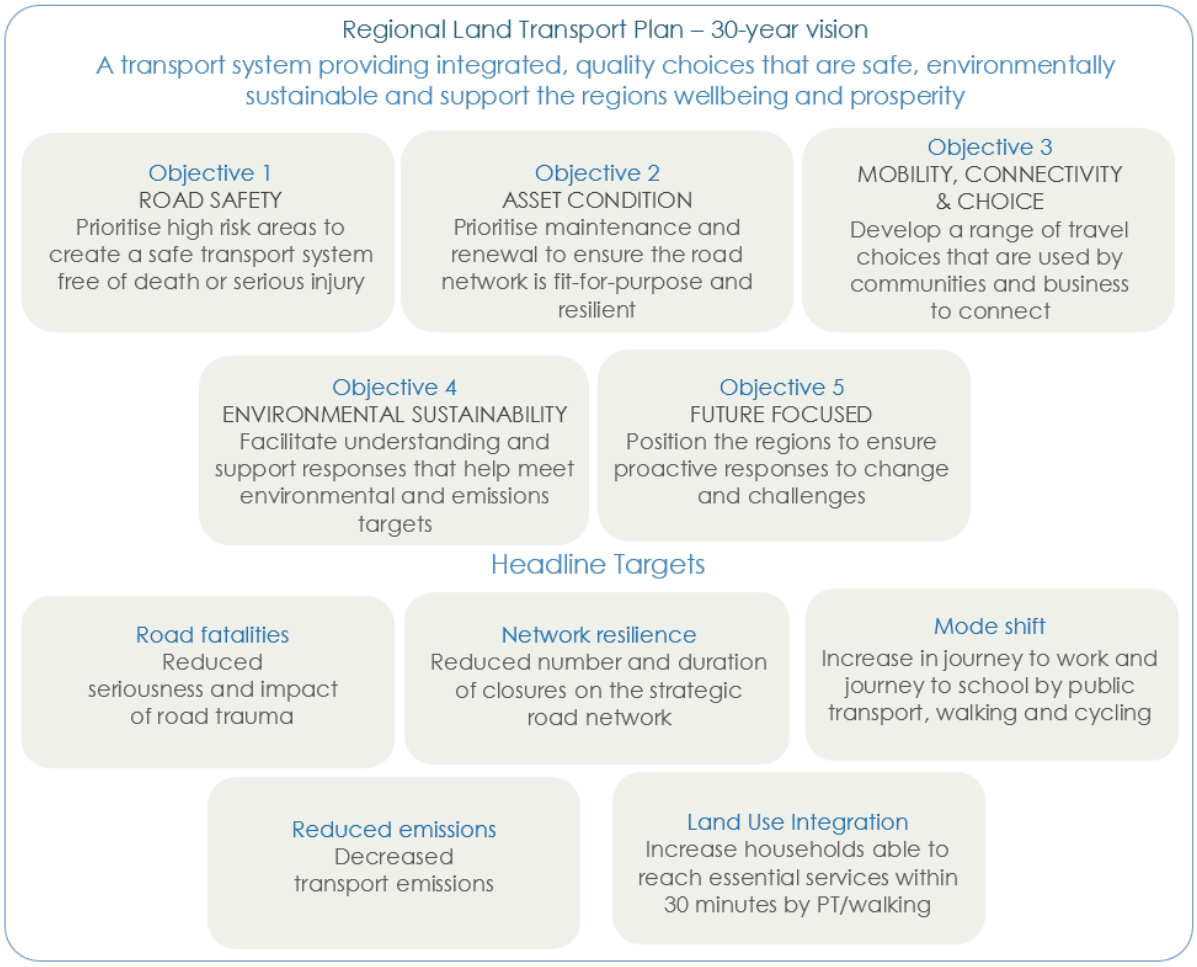
The main benefits of realising these opportunities are:

- improved performance and capability of the transport network and network resilience
- regional economic development, productivity, and connectivity
- increased customer voice on connectivity, accessibility and modality shifts
- greater value for money

4.3.2.2. RLTP STRATEGIC OBJECTIVES

The figure below shows the relationship between the government's transport outcomes and this RLTP's strategic framework.

Figure 36 – RLTP 30 Year Vision



QLDC is confident our proposed investment transport programmes aligns with the RLTP to address the regional problems identified.

4.3.3. OTAGO REGIONAL COUNCIL PUBLIC TRANSPORT PLAN 2014

The Plan sets out the priorities and needs for public transport services and infrastructure in Otago. The Wakatipu Basin Public Transport Addendum (2017) sets out a new network structure for the Wakatipu Basin in alignment with the legislative need to put in place a public transport contract for the area.

It covers the establishment of a subsidised network of bus routes and frequencies, fare structures and partnerships with QLDC, Waka Kotahi, Ministry of Education and Queenstown Airport. The plan acknowledges that future changes will be needed to respond to community needs in line with outcomes from further investigation with strategic partners, specifically noting that the system needs to deliver:

- An affordable and convenient transport option
- Integration with land use to achieve compact centres that promote sustainable transport
- Ease of transferring for diverse travel patterns
- Priority measures to ensure bus travel times are competitive with cars
- Improved energy efficiency.

Public Transport is key to delivering our Mode Shift Plan. Our AMP Section 4 on Public Transport discusses our collaborative working around Public Transport Infrastructure and Services with Waka Kotahi and Otago Regional Council through the Way to Go Partnership.

4.4. LOCAL DRIVERS

4.4.1. VISION BEYOND 2050

Vision Beyond 2050 was developed in partnership with our community, providing eight defining principles for how we live, work, and play. A diverse group of thinkers were convened to reflect the many voices in the district and key concepts, including tākata whenua, the rich heritage of the area, today's diverse communities, and the business and tourism perspectives. Perspectives were sought from disabled people, voices from the elderly, iwi, farming, community support and development services, ethnic minorities, and representation from Central Government.

Further community engagement delivered the resulting community vision - titled **'A Unique Place. An Inspiring Future | He Wāhi Tūhāhā. He Āmua Whakaohooho'**. In March 2019, the Council unanimously agreed to commit to the vision as a guiding document to inform future planning and decision-making.

Figure 37: Vision 2050 Defining Principles

4.4.2. DISTRICT PLAN

The new transport chapter of the District Plan was notified in November 2017 and the new rules came into legal effect with the release of decisions on submissions in March 2019 following the 2018 hearings. A number of appeals to these decisions are before the Environment Court seeking to amend the provisions relating to high traffic generating activities and public transport. Mediation has concluded and although negotiations between the parties is ongoing, a number of matters are unresolved and a hearing is timetabled for early 2021. The timing of final decisions will depend on the Court.

4.4.3. 30 YEAR INFRASTRUCTURE STRATEGY

The purpose of the 30-year Infrastructure Strategy is to identify significant infrastructure challenges for QLDC over the next 30 years, and to identify the principal options for managing those challenges and the implications of those options. The Strategy gives effect to Council's Asset Management Policy. This document is designed to meet the requirements of section 101B of the Local Government Act 2002.

To deliver the community vision and outcomes, the Council needs to focus its infrastructure investments wisely. The following four challenges and contributing factors are the most significant matters driving infrastructure matters for the Council to address. From the key challenges we have defined four outcomes, five goals and twelve strategic objectives.

There are some key external factors coming out of the 30 year strategy that will directly impact our transport system) these have been drawn out in detail in our strategic assessments.

Figure 38: Infrastructure Strategic Framework 2020

CONTRIBUTING FACTORS	KEY CHALLENGES	OUTCOMES WE ARE SEEKING
Legislative requirements/changes Historic undervaluing of wellbeing Inherently risky services Disjointed approach to service planning	MISSING OPPORTUNITIES TO IMPROVE THE HEALTH AND SAFETY OF THE PEOPLE WE SERVE	ALL PEOPLE CAN LIVE HEALTHY LIVES
Tourism-dominated economy High costs of living Geographic challenges Demand outstripping capacity Risk of rising attrition and reduced attraction	AFFORDABILITY AND A VULNERABLE ECONOMY AT HIGH RISK OF ECONOMIC CONTRACTION RISKS THE ONGOING DESIRABILITY OF OUR DISTRICT	THE ECONOMY IS STABLE AND OUR PEOPLE PROSPER
Location/condition of critical assets High natural risk level Unknown risk exposure Unclear and inconsistent definition/expectations of resilience	LOW CONFIDENCE IN THE CONTINUITY OF OUR SERVICES FOLLOWING A SUDDEN EVENT WOULD PLACE THE SAFETY AND RECOVERY OF OUR DISTRICT AT RISK	COMMUNITIES ARE RESILIENT TO SUDDEN NATURAL EVENTS
We create contaminants/emissions Entrenched behaviours Legacy decisions/practices Climate change Unique natural environment	ANY ENVIRONMENTAL DAMAGE CAUSED BY OUR SERVICES WOULD BE INCONSISTENT WITH OUR RESPONSIBILITIES AS GUARDIANS	THE NATURAL ENVIRONMENT'S MAURI IS RESPECTED AND ENHANCED

4.4.4. LONG TERM PLAN (LTP) | HE MAHERE KAHURUTAKA

The LTP aligns to our Community Outcomes – Vison Beyond 2050 and sets out how QLDC and the community intend to balance competing priorities while delivering desired community benefits. The LTP outlines the strategic direction and responses (investments plans) for 10 years and is reviewed on a three-year cycle.

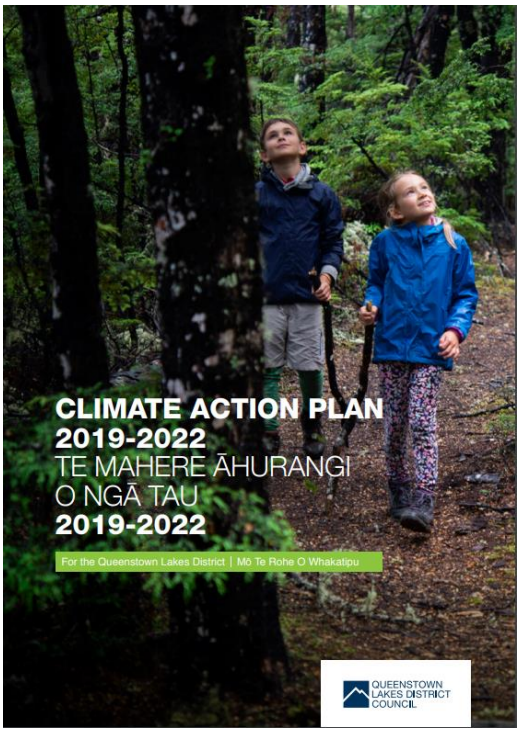
These outcomes influence QLDC's short, medium and long-term priorities, along with the measures set to assess the performance of QLDC. QLDC issues its Annual Report in October each year; this is where QLDC and the community can monitor progress towards achieving Community Outcomes.

4.4.5. CLIMATE ACTION PLAN

QLDC released the first draft of our Climate Action Plan (CAP) in June 2019, the first of many for our District. It starts to identify ways in which we can reduce emissions and sets a strategic direction for addressing climate change impacts.

Its purpose is to help QLDC rise to meet the challenge of the climate change emergency and to:

- Invigorate a network of partners and working groups who will collaborate to deliver the CAP
- Ensure our community understands and is prepared for the variety of different climate change impacts
- Build momentum and demonstrate leadership locally, regionally and nationally
- Measure success through effective monitoring and evaluation
- Change the way we work, across all activities
- Underpin the integrity of New Zealand's global climate change action reputation.



> "Let's be aspirational in our thinking and in our doing. 'The benchmark for sustainable tourism' and 'Aotearoa New Zealand's hub of public transport innovation' are sentiments that would look good on our district. They would attract values-driven newcomers and visitors whilst enhancing life in the Queenstown Lakes District for our communities" **QLDC Mayor Jim Boult**

The Emissions Master-plan will identify pathways to achieving our target of net-zero carbon by 2050, with the Sequestration Plan outlining how we capture carbon through activities such as tree planting.

Ongoing community engagement on the Climate Action Plan will take place in 20/21.

4.4.6. SPATIAL PLAN - WHAIORA

The Spatial Plan is being based around the phrase 'Grow Well' or 'Whaiora' in Te Reo Māori which translates to "in the pursuit of wellness". The first-ever joint Crown-District Council-Iwi Spatial Plan for the Queenstown Lakes establishes an integrated, long-term, collaborative strategy that improves community wellbeing, protects the environment and maintains a world-class visitor experience. The Spatial Plan will guide new approaches and central government support to help address the challenges in the Queenstown Lakes.

The Queenstown Lakes Spatial Plan will:

- Provide one picture of where the Queenstown Lakes is heading and highlighting significant areas of growth and change;
- Guide and align investment decisions at local, regional and central government level;
- Identify the key issues facing the area and the priorities that need to be advanced to address these.

Both Council and the Partnership will adopt this plan in June 2021.

Three principles and five spatial outcomes guide the direction of the Spatial Plan and address the challenges and opportunities facing the Queenstown Lakes District. The Spatial Plan also identifies strategies and key initiatives to achieve the outcomes; these were developed and tested in collaboration with the community.

Figure 39: Whaiora Goals, Outcomes & Principles

4.4.7. CODE OF PRACTICE

As a high growth district, the level of development has expanded and changed our infrastructure, including the transportation system. QLDC understand the importance of providing clear expectations around infrastructure that will be funded by council. QLDC have adopted and superseded NZS 4404 Land and Subdivision Code of Practice with a number of district specific amendments. Stages 1 and 2 were adopted by Council in 2020, with the 3rd stage entering the review process early 2021. This next stage will consider bigger changes in light of climate change, stormwater and technology changes.

4.4.8. DISABILITY POLICY

QLDC aims to support and advocate for a more inclusive and diverse community that removes barriers for disabled people, and ensures full participation in our community. QLDC has developed a Disability Policy which it adopted in March 2018. The aim of this policy is to guide QLDC and our community to be consistently responsive to the needs of those less able living in and visiting our district. Goals include working towards QLDC public infrastructure and facilities being increasingly accessible to disabled people.

4.5. QUEENSTOWN AND WĀNAKA AIRPORT

Queenstown Airport is one of the main gateways into the District. There are a number of considerations going forward around the future of both Queenstown Airport and Wānaka Airport QLDC has entered into a long-term lease and management arrangement with QAC, which is a council controlled trading organisation. QAC is in the process of developing a Master Plan and Strategy to meet the rapidly developing needs of the community, tourism operators, scheduled airlines and the Wānaka Warbirds airshow and museum.

The magnitude of COVID-19's impact on the aviation industry is not yet known. International services at Queenstown Airport are now suspended and it is not yet known when these services will resume. This represents a major challenge for QAC and the other businesses represented at Queenstown and Wānaka airports. QAC's overarching mission during this pandemic is to safeguard the core capability to operate airports in the Southern Lakes region. The immediate focus is to understand the impact of COVID-19, stabilise the business, operate in the new "normal" environment and plan for recovery.

QAC will not complete its long-term development planning for either Queenstown or Wānaka airports in FY21. Nor will it undertake any spending on capital projects until it has revised its business strategy.

The recent announcement by Christchurch Airport of their investment into a land purchase in Tarras for a potential airport raises further questions on the future transport system in the region.

5. STRATEGIC ASSESSMENT

5.1. KEY STRATEGIC ISSUES AND RESPONSES

The programmes that QLDC invests in are based on understanding our strategic context and addressing any gaps in levels of service.

It is QLDC's responsibility to manage the community infrastructure assets in an efficient and effective way to best support a resilient community where environmental sustainability and low impact living is highly valued. Good custodianship of these assets requires that QLDC monitors and understands the implications of changes in its business environment.

The Strategic Assessments that follow focus on key factors and challenges that have been identified through our AMP and 30 Year Infrastructure Strategy. These focus on the factors that directly impact our transport system and capture the problems, benefits, consequences as well as our strategic responses and programmes to addressing our gaps in level of service.

Addressing these issues requires a strategic approach and QLDC have identified some overarching strategic responses which then lead to our specific programmes:

- Master Planning Business Cases approach
- Network Operating Frameworks and Plans
- Spatial planning alongside central government

5.1.1. DEMAND CHANGES

Understanding demand and usage is a key challenge for QLDC; fluctuations, whether increases or declines impacts on many parts of QLDC's assets and activities. Demand drives a huge number of our responses and programmes, many of which were developed to address gaps in level of service arising from our recent rapid growth. The key strategic response for QLDC is monitoring and understand demand and usage of our assets and being agile to the impacts.

Demand						
	Growth or decline in demand / usage					
Issues	Population demand	High visitor demand	Traffic growth	Active travel demand	Construction growth	Land use change and urbanisation
Unknowns	Will growth increase or decrease?					
Consequences	Demographic change at both ends of age scale – a growing elderly population and growing pre-school to high school age students	Visitors are less familiar with the network, driving conditions, misconception over NZ journey times with a focus on the destination rather than the challenges of the journey	Increasing congestion and travel time reliability issues	Recreational growth for outdoor activities such as cycling leading to more vulnerable road user interaction	Construction growth and development is placing pressure on QLDC as an organisation (continuity, capability and capacity of resourcing)	Land use change and urbanisation leads to changing demographics and therefore changing customer expectations
	Increased development of retirement villages may need supporting public transport services and will see an increase in families making visitor journeys	Perceived safety issue with visitor drivers and their interactions with other road users	Network capacity is consumed before infrastructure can be constructed	Visitor experience may be decreased due to tension with locals stemming from road use interaction	Increased construction traffic is placing more heavier vehicles on the network	Affordability reduces options for employment and changes in residential choice of location
	Demographic change-under 5's increasing: growing pressures on school transport and out of school activities along with more demand for walking and cycling facilities	Growth in tourism, specifically self-drives and improving tourist routes through the visitor driving programme and the use of wayfinding e.g. signs, lines etc.	An increased risk of discharge and contaminants off the road into stormwater and potentially water supplies	Increased congestion during drop-off and pick-up locations and increased safety risks in schools zones can discourage walking and cycling		Urbanites moving into rural parts of our district have differing expectations of the implications of unsealed roads, e.g. dust
	More demand for public transport as customers require multi modal choices	Provision of more and differing styles of traffic facilities i.e. signs, line markings, barriers may have to increase to support visitor drivers	Dissatisfaction with liveability	Safety concerns for vulnerable users amongst general traffic		Increasing asset base for maintenance purposes
		Visitor experience may be decreased due to tension with locals stemming from road use interaction				
		High profile destination for events brings short periods of intense visitation i.e. marathons, triathlons, War Birds				
Strategic Response	Monitoring and reviewing change in demand, especially population and visitor Spaital planning and masterplanning					
Prgramme Responses		Target road safety promotion at visitors and provide cross regional advice on amenity stops and facilities to support safe and enjoyable travel decisions	Develop non-infrastructure solutions such as demand management and behaviour change initiatives	Way to Go working on a Mode Shift Plan with Waka Kotahi	Policy chages throigh the CoP	Spatial Plan
		Developing a strategic road safety programme	Expanding a multimodal transport network			

5.1.2. CLIMATE CHANGE

Climate change is the biggest environmental challenge of our time. It is already affecting our communities, businesses, native ecosystems, infrastructure, health, and biosecurity, and if left unchecked, will have broad and ongoing implications for all New Zealand. The most recent Intergovernmental Panel on Climate Change (IPCC) special report SR15 (2018) confirms we must target 1.5°C with 'no or limited overshoot', and underscores the need for urgent and transformative climate action as climate impacts increase in scale, frequency, and intensity.

The Climate Change Response (Zero Carbon) Act 2019 was recently adopted in New Zealand. The purpose of this Act is to provide a framework by which New Zealand can develop and implement clear and stable climate change policies that limit the global average temperature increase to 1.5°C. The Climate Change Commission (CCC) was also established and has the role of providing the government with independent advice from experts on achieving targets set in the Zero Carbon Act, as well as monitoring them.

The CCC will recommend the first three, 5-yearly carbon budgets, out to 2035, by mid-2021, and this will highly likely require steep reductions across all sectors. QLDC have declared a Climate Emergency and adopted our own Climate Action Plan in response.

Climate Change							
Issues	World 'Carbon budget' will be used up in 8 years. (Intergovernmental Panel on Climate Change (IPCC) special report SR15 (2018))	Changing weather patterns which may be less predictable	Drier landscapes with higher drought or wildfire risk.	Extreme rainfall events are likely to increase in intensity due to more moisture being held in a warmer atmosphere.	Precipitation that would previously have fallen as snow and been stored in the snowpack will instead be more likely to fall as rain and contribute more immediately to variability in river flows and lake levels.	A considerable reduction in mountain snow-packs and resultant water storage, with snowmelt occurring earlier in each season, leading to a reduction in the volume of water from snow-melt being available through the spring melt season.	The targets for waste diversion that are set within the Waste Minimisation Strategy are not met, increasing the value of carbon credits due.
Consequences	"In a 1.5°C world, the projection for 2090 is that nearly 700 million people (9% of world population) will be exposed to extreme heat waves at least once every 20 years in a 1.5°C world, but more than 2 billion people (28.2%) in a 2°C world" – IPCC (2018).	i.e. projected increases in the frequency and size of storm events, daytime temperatures, increased wind and decreases in snow days.	Quicken the set-in speed and intensity of droughts.	Higher intensity extreme rainfall events caused by extreme rainfall, snowfall or snowmelt runoff may lead to increased likelihood of landslides and flooding which may increase the potential for greater damage to bridges and roads and stretch the capacity of stormwater infrastructure.		A reduction in the number of winter frost days is likely to see a reduced hazard from ice and snow, but may consist of more frequent ??	Dangerous trees – species chosen for their autumnal colours such as poplars, but vulnerable to internal rot, not visible to the eye, risk of failure in high winds.
		Dryer conditions may result in higher risk for wild fire events.		Sections of the network are impacted by thermal variation.			
Impact	The 2019 Greenhouse Gas (GHG) Community inventory showed that road transport is the largest contributor of GHG emissions for the District - at 37%. This is then followed by Agriculture, Forestry and Other Land Use (AFOLU) with 31%.	Weather pattern changes are likely to create additional costs to mitigate their impacts, such as improving protection of critical infrastructure or increased maintenance costs.		Lake level and valleys prone to flooding and alluvial re-direction i.e. Kinloch.		Roads may undergo more freeze thaw cycles, leading to rpessure of the pacement layers.	
Strategic Response	Bodeker Scientifc 'Climate change Implications for the Queenstown Lakes District'. Climate Action Plan, target of Zero net carbon by 2050, supported by Emissions Masterplan, Sequestration Plan. QLDC leading by example by reducing their own emissions, for example from their transport fleet, energy consumption, wastewater treatment and landfill operations .QLDC will need to integrate carbon reduction into all decisions regarding infrastructure						
Responses	Climate Action Plan, target of Zero net carbon by 2050, supported by Emissions Masterplan, Sequestration Plan.	Adaptations and mitigations into Land Development & Subdivision Code of Practice					Carbon credits will be effectively managed in accordance with the Emissions Trading Scheme.

5.1.3. GEO-POLITICS

Geopolitics is how our physical landscape influences our decisions making. The unique setting of QLDC in an extreme geological and climatic landscape, its attraction as a tourist and residential location and the implications of a remote market has huge impacts on how we operate, our decision-making and our costs. These are all important elements that we respond to in both our improvement and continuous programmes.

Geopolitics									
How our physical landscape influences our decision making (governance/politics)									
	Topology			Climate			Geology		Economic
Issues	Limitations on travel choice to our network (mountains and lakes)	Enticing destination for residents and visors (both international and domestic) .... Exacerbates issues	Remote settlements – accessibility and increased costs	Extremes of temperatures	A constrained seasonal period for construction can increase costs, reduce construction/treatment options and require more coordination	Variabity of climate across the district (semi arid to alpine to rainforest)	Geologically unstable	A high degree of geological variability in ground conditions	Distance from markets
Consequenses	-Physical restrictions of landscape due to mountains, valleys and lakes limits usable land, alternative routes are limited, narrow lanes and limited passing lanes/opportunities		Increased costs (e.g. labour, transportation of goods and materials)	Pressure on infrastructure e.g. pavement through freeze thaw cycles		different physical infrastructre requirements for different area in a small area	Network vulnerability due to natural hazards such as the seismic activity from the Alpine fault, (from Lifelines) Cardrona and land instability such as landslides and rock falls		Increased costs (e.g. labour, transportation of goods and materials)
	Limited resilience, restricting permanent and temporary alternative route options	Increased urbanisation and growth may deteriorate the natural environment		Customers unable to complete journeys leading to economic and reputational impacts on the seasonal tourist activities (e.g. snow sports, biking and hiking) and local business		Increased complexities in programming of reactive works i.e. environmental and winter maintenance		Varying degree of aggregate quality	
	Lake level and valleys prone to flooding and alluvial re-direction i.e. Kinloch	An increasing issue with discharge and contaminants off the road into stormwater and potentially water supplies							
Strategic Response	High level programme supporting multi modal activities	Understand demand projections	Investment in Resilience Master Planning	Treatment selection to protect - drainage investment				Appropriate treatment selection	
Responses	Provision of communication and education to help customers make sensible decisions about travel plans (use of print, QLDC webpage, email, radio, social media, chain fitting courses) planned web cams			Increase rates of deterioration of our road surfaces, reducing their longevity i.e. freeze/thaw issues resulting in short pavement lives				Increase rates of deterioration of our road surfaces, reducing their longevity i.e. freeze/thaw issues resulting in short pavement lives	
	Customers unable to complete journeys leading to economic and reputational impacts on the seasonal tourist activities (e.g. snow sports, biking and hiking) and local business		Increased costs (e.g. labour, transportation of goods and materials).						
Unknowns		An international destination, when will numbers return?							

5.1.4. TECHNOLOGY

Technology is making rapid changes to the way people connect and travel, and the range of transport choices is increasing. QLDC strive towards providing an integrated and multi modal transport system, and technology is a key player. Technology provides opportunities to address our transport issues in new ways. Understanding the impact and opportunities that disruptive technology bring, such as micro mobility and Mobility as a Service (MAAS) will help us achieve our outcomes. Pre-COVID-19 QLDC were working with Lime Scooter to run a trial and QLDC was an early MAAS trial in the app Choice.

QLDC is working with the New Zealand Electric Vehicle Club "Leading the Charge". We have installed one fast charger in Ardmore Street (Wānaka) with two dedicated Electric Vehicle (EV) charging parking stalls, and two fast chargers in Athol Street (Queenstown) car park with two dedicated EV charging parking stalls. Council is looking to increase this with another four charging stalls that could be serviced by the two charges. Glenorchy has installed a fast charger on Ngai Tahu property, which QLDC helped facilitate. A number of privately installed charging facilities that are available for the public to use services the district and this in itself demonstrates once of the challenges of technology, as a variety of people are installing and providing this technology with varying approaches.

As an organisation, QLDC is delivering on the Zero Carbon Communities principle of Vision Beyond 2050, and will replace most of its existing vehicle fleet with 100% EV's. Currently 13 EV's are in the Council fleet, once current leases expire, all vehicles aside from trucks and utes will be swapped out, resulting in 30 EVs in QLDC's fleet between now and mid-2022.

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

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

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

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

Technology				
	Long life assets in a fast changing digital environment			
Issues	Quickly redundant/obsolete	Interdependencies between systems (physical infrastructure and digital/IT Solutions)	Traditional infrastructure isn't digitally compatible	Lack of standardisation and future proofing for compatability
Unknowns	What is future technology, what does it look like? i.e (Artificial Intelligence). A.I.			
	Non compatibiltiy between different organisations leading to duplication and redundancy of effort			
Consequences	Investing in the wrong thing	what leads investment - the digital or physical?	autonomous vehicles can't operate on our infrastructure	
	Inconsistencies in solutions i.e. duplication / omissions			
Strategic Response	Digital Masterplan development			
Programme Responses	Agile and open data standards	Establishment of a traffic operations centre (QToC)	Exploring / understandin / futureproofing through the BC system	Working to national data standards e.g. AMDS
			Queenstown Detailed Busines Case	

5.1.5. ECONOMIC

QLDC's pre-COVID-19 thriving economy brought many opportunities for our District, however the high growth also highlighted and exacerbated many challenges. With a large pre-COVID-19 programme that was focused on addressing the large gaps in level of service left by growth, QLDC has had to review the current appropriateness of that programme and its affordability. With an economy and many livelihoods founded heavily in tourism, the impact of border closures is unprecedented. QLDC's ability to fund our programmes has been reduced through the loss of tourist related revenue streams, QAC dividends, and development contributions, alongside a decision to acknowledge the community struggles by limiting rates increases. This highlights how our economy drives many of the behaviours, activities and opportunities, and indicates the strategic importance of our economy to achieving our outcomes.

The post COVID-19 economic situation has highlighted the vulnerability of the economy in our district, although a previously known risk; the reality of COVID-19 has caused the district to make significant changes and strategies. The QLDC Emergency Management Recovery Team purpose has been to address the fallout from social-economic situation and to drive Community led initiatives for a more resilient economy.

Economic							
AFFORDABILITY AND A VULNERABLE ECONOMY AT HIGH RISK OF ECONOMIC CONTRACTION RISKS THE ONGOING DESIRABILITY OF OUR DISTRICT							
Issues	Heavy reliance on the tourist economy (est over 60% of population is directly or indirectly employed by the tourism industry)	Additional lending in a post covid environment. The Council's external funding requirements are not met. This could result in changes to operational expenditure due to increased lending rates.	Escalating business costs due to market demand		Productivity has been held down by tourism's large share of the local economy	A difference between the Council's forecast future value of assets and the actual valuation in the future, which may impact on the assets operating cost	Affordability of prpgrammes is not sustainable
Unknowns	When will the borders open, how will our economy withstand the downturn						
Consequences	Employment decimated by the drop in visitor numbers caused by travel restrictions. Unemployment rise to 11% with almost 20,000 welfare requests received by 12 June 2020.				This lower productivity is reflected in poor wages, but household incomes sit higher than national averages due to more multi-income households, and earnings from investments and self-employment.	Estimates have been made in relation to the revaluation of infrastructural assets beginning in 2021 and continuing on a two-yearly cycle. The revaluation amount is based on an adjustment made to asset values for movements in costs for opening infrastructural values and capital additions made during intervening years.	
	More exposed to the economic fallout from COVID-19 than the rest of New Zealand.						
Strategic Response	Build diversity and capability inot the districts economy	Student debt levels are maintained to mitigate risk for financial institutions. Relationships are maintained with the various funding institutions and the Council regularly monitors credit markets.		Sustain market spend to support and strengthen th dsitrict's economy			Provide high quality affordable services
Responses		Council revalues infrastructure assets every 3 years, this used for insurance purposes. BERL price adjustors are preferred indicators of price in Ten Year forecast process and used to indicate future infrastructure asset values.		Through procurement and local economicis development inviatives -led by the recovery tema and busiens development manager.			Council reviews its budget annually in the Ten Year Plan/Annual Plan process, may adjust work programmes & budgets to smooth any fluctuations in the Ten Year Plan revaluation amounts.

5.2. STRATEGIC ASSESSMENT – CONTINUOUS PROGRAMME

A detailed assessment was carried out specific to the Continuous Programmes. Refer to the Continuous Programme Business Case Section 9.

This identified some key problem statements:

- A growing asset base is requiring more resources to maintain our network.
- The escalating cost of doing business is reducing the affordability of our programme of works
- Our network knowledge needs to be maintained and improved otherwise our ability to make robust evidence based decisions is reduced.
- Moving from a holiday town to an international city means network use is changing as well as increasing

The Continuous Programme has a specific strategic response.

- Collect data and information to identify, optimise and socialise Levels of Service policy settings developed through the BCA (i.e. trading affordability, customer expectations and benchmarking);
- Identify, understand, apply and socialise current best practice for optimising life of assets;
- Long term growth predictions are determined and considered in the BCA for all activities.

Throughout these assessments there may be different responses required dependent on the Levels of Service lead by the road classification, current best practice and accounting for growth.

6. DEFINING AND MEASURING LEVELS OF SERVICE

There are a number of ways that QLDC defines and measures our level of service (LOS) within our transportation network. From nationally set measures, regional and local frameworks.

6.1. NATIONAL LEVELS OF SERVICE AND PERFORMANCE MONITORING

6.1.1. DEPARTMENT OF INTERNAL AFFAIRS (DIA) MEASURES

In 2010, the Local Government Act 2002 was amended to require the Secretary for Local Government to make rules specifying non-financial performance measures for local authorities to use when reporting to their communities. The aim was to help the public to contribute to discussions on future levels of service for their communities and to participate more easily in their local authority's decision-making processes. The Department of Internal Affairs (DIA) was tasked with developing these measures. The performance measures cover the following key aspects of service delivery:

- How safe are the local roads?
- What is the overall condition of sealed roads in the local road network?
- Is the sealed roads network being maintained adequately?
- Are the footpaths that form part of the local road network being maintained adequately?
- Does the local authority responsible for the service provide a timely response if there is a problem?

DIA KPI: The change from the previous financial year in the number of fatalities and serious injury crashes on the local road network expressed as a number.

Year	Result	Target	Commentary
2019-20	11	<20 (the total number reported in 2018-19)	There was one fatality and 10 serious injury crashes on local roads in 2019-20. The number of serious injuries has reduced from 2018-19.
2018-19	20	<16 (the total number reported in 2017-18)	

DIA KPI: Average quality of ride on a sealed local road network, as measured by the Smooth Travel Exposure Index.

Year	Result	Target	Commentary
2019-20	96%	>80%	The district is significantly above the benchmark set by the DIA. This has been consistent for the last three years, demonstrating the high quality of the local road network.
2018-19	94%		
2017-18	94%		

DIA KPI: Percentage of sealed network that is resurfaced annually

Year	Result	Target	Commentary
2019-20	5.40%	<10%	The district is within the benchmark set by the DIA, demonstrating an effective, controlled and well-managed resurfacing programme.
2018-19	5.15%		
2017-18	9.25%		

DIA KPI: Percentage of local footpath network that is part of the local road network that falls within the Level of Service (LOS) or service standards for the condition of footpaths.

Year	Result	Target	Commentary
2019-20	95.77%	>95%	The footpath condition surveys for the 2019-20 year were not undertaken due to the COVID-19 lockdown. The calculation includes the condition rating for 2018-19 with the addition of any new vested asset. QLDC still remain above the target value footpaths. The 2018-19 result remains consistent with a slight increase due to vested assets.
2018-19	96.4%		

KPI: Percentage of external contractor and internal Request for Service resolved within specified timeframe (three waters, solid waste, roading and footpaths).

Year		Result	Target	Commentary
2019-20	3 Waters	94%	>95%	**3 Waters** 94% of 3 Waters RFS were resolved on time in 2019-20. There were 2,453 RFS received in total for 3 Waters, of which 149 went overdue. This is an improvement on the previous year and nearly achieved the target set. **Solid Waste** 76% of 3 Solid Waste RFS were resolved on time in 2019-20. In total 5,444 Solid Waste RFS were received, of which 1302 went overdue. There has been a dramatic increase in RFS numbers this year as a result of the changes to the service which has put pressure on both the contractor and the internal team. The contractor's performance has improved over the course of the year. **Roading** 83% of RFS were resolved on time in 2019-20. It should be noted that this result does not reflect a full reporting year, with four months of contractor data unable to be reported on. This is due to an error in the contractor's RAMM system where each time the dispatch was updated by the contractor in RAMM, the expected completion date field was zeroed. A work-around was created for April - June 2020, however the December - March 2020 data was unable to be recovered.
	Solid Waste	76%		
	Roading	83%		
2018-19	3 Waters	90%		
	Solid Waste	83%		
	Roading	78%		
2017-18	3 Waters	86%		
	Solid Waste	82%		
	Roading	82%		

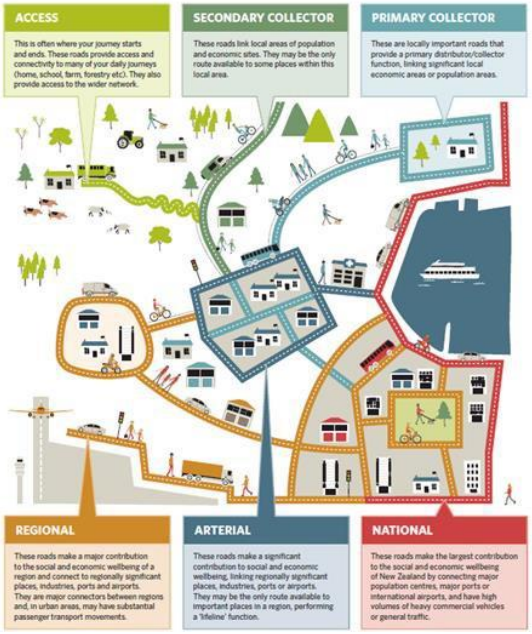
6.1.2. ONE NETWORK ROAD CLASSIFICATION (ONRC)

The ONRC is the primary tool developed through REG to enable operational and culture change in road activity management. It facilitates a customer-focused, business case approach to budget bids for the National Land Transport Programme. The One Network Road Classification (ONRC) is a classification system, which divides New Zealand's roads into six categories based on how busy they are, whether they connect to important destinations, or are the only route available.

This approach to classification reflects a more customer focused approach to service delivery. The ONRC framework will help local government and the Waka Kotahi to plan, invest in, maintain and operate the road network in a more strategic, consistent and affordable way throughout the country. The ONRC also defines the nationally expected fit for purpose LoS for each road classification to better enable delivery of value for money.

The ONRC is providing an opportunity to benchmark QLDC against the rest of New Zealand. QLDC are seizing the chance to showcase the region as an innovative leader in the provision of transportation solutions by taking a proactive and challenging approach to implementation.

Figure 40: ONRC Road Classifications



6.1.3. ONRC PERFORMANCE FRAMEWORK

The ONRC performance measures allow QLDC's performance and costs of providing outcomes to be more readily compared against peer networks and the country as a whole. Providing visibility to elected members and the community can assess the need for and appropriateness of the investment proposed.

Significant changes to the LGA 2002 came into effect on December 5, 2012. The role of local government is now to: 'Meet the current and future needs of communities for good quality local infrastructure, local public services, and performance of regulatory functions in a way that is most cost-effective for households and businesses.'

Local authorities must provide a certain and defined level of service to their customers for a specified cost ensuring "value for money". Specifically we need to be able to answer "are we delivering the right level of service at the right cost?" It is in the interest of local authorities to offer adequate services to the community because it increases the understanding and hence the willingness of the various consumers to pay for them. As such, transparent cost recovery of transportation services cannot be achieved without a certain guaranteed service level.

The ONRC Performance Framework consists of:

Figure 41: ONRC Performance Framework

These measures are reported for each road classification throughout New Zealand to compare (over the short and long term) how well the Customer Outcomes are being delivered and at what cost. QLDC are continuing to develop and improve these measures, improvement actions sit within our Improvement Plan.

A summary of these outputs from this tool can be found online and provides an overview of how QLDC has performed. There are some input measures which are not currently collected and these have been noted in in our Improvement plan.

6.1.4. ONRC CLASSIFYING OUR NETWORK

As the ONRC has developed QLDC has been continuously updating and reviewing our traffic counts to provide improved evidence to help us classify our network. QLDC have undertaken additional traffic counts, more regular (annual) updates to the traffic estimates and exploring new technologies and different types of movements on out network, e.g. pedestrians and cyclists. We undertake annual updates to our traffic estimation due to the changing demand on our network. COVID-19 has a big impact on our traffic numbers, particularly from visitor drivers, but it is expected that demand will return within 3-5 years.

6.1.5. SUB-CLASSIFICATION OF ACCESS AND LOW VOLUMES ACCESS ROADS

QLDC has 345km of unsealed roads within the Access and Low Volume Access classifications. Due to the sizable network percentage in these categories, QLDC has adopted the approach taken by Central Otago, Dunedin City Council and Waitaki in utilising a further sub classification of the Access and Low Volume Access Roads. This will enable further prioritisation and management and Level of Service realisation and are realised within our unsealed road asset management strategy.

Some of QLDC's unsealed network is increasing in traffic volumes, particularly areas which access Crown Estate land such as Department of Conservation (DoC) National Parks. This raises questions on the QLDC strategy for dealing with these roads as in some areas (DoC) do not want to increase the capacity at the end of the road or they want the access roads to reflect the 'back country' nature of the environment. However there are safety issues which need to be addressed and this sub-classification will hopefully assist with understanding the LoS issues.

Table 3: Sub-classification of Access and Low Volume Access Roads

ONRC	Traffic Volume	Sub classification	Sub Classification Definition	QLDC roads - example	Length (km)
Access Road	>50 vpd	Major	More than 50 vehicles per day and have a higher than normal percentage of heavy vehicles or higher use alternative through routes. Significant tourist route.	Skippers Rd	
		Intermediate	Through roads which form part of a route which services an area, service significant horticultural, farming or industrial activities, are higher volume gravel roads in lifestyle block areas, are part of school bus routes, or other activity of importance to the community.		
Access Road Low Volume	<50 vpd	Minor	Provide access to more than three houses or are used as an alternative through route by a number of properties.	End of Skippers Rd, Branches Rd	
		Lane	Provide access to three or less houses. While these roads may be a through route there are alternative higher classification routes available and they are generally only used as access to farmland or by residents of three or less houses.		
		Track	Back Country Tracks service land use beyond dwellings and buildings and provide high country access.	Macetown Road	
		Total			**357**

6.1.6. ONE NETWORK FRAMEWORK (ONF)

The One Network Road Classification (ONRC) system has become a core element of the New Zealand land transport management system over the past eight years, providing a consistent and well-understood classification baseline for a wide range of planning processes. The project to evolve the ONRC to a new One Network Framework (ONF) aims to align the ONRC more closely with the Government's outcomes focus areas. It recognises the value of integrated land and transport planning for creating greater liveability and prosperity, and acknowledges the distinct geographical challenges of our country's transport network.

Introducing a more granular 'Movement and Place' approach will allow us to better consider different mode priorities, surrounding land use, community wellbeing, economic activity and growth aspirations for the future.

It will also provide an easy-to-understand common language that all transport, land use and urban planners can share, and help make the classification system more localised and applicable

QLDC have been working with REG to be an early adopters of the ONF. This has consisted on working through the early stages of the framework to test its application. QLDC undertook trial classification of the ONF classification in both the Queenstown Town Centre and in the Greenfield site known as Ladies Mile which is currently undergoing master planning.

6.2. REGIONAL LEVELS OF SERVICE AND PERFORMANCE MONITORING

6.2.1. REGIONAL LAND TRANSPORT PLAN

At the point of writing this AMP, the RLTP measures had not been confirmed.

6.3. LOCAL LEVELS OF SERVICE AND PERFORMANCE MONITORING

6.3.1. LONG TERM PLAN MEASURES

QLDC has reviewed its current performance measurement framework by referencing a range of measures used across New Zealand so that a more direct comparison of our performance with that of other local authorities can be made.

Local authorities are required to incorporate mandatory performance measures developed by the Department of Internal Affairs (DIA) (see Section 6.11) in the development of their LTP's. QLDC have adopted the DIA measures for infrastructure and have developed additional measures QLDC specific (below).

Targets for all performance measures are be set for the first three years, and are based upon current or 'baseline' performance. The QLDC measures will be confirmed late 2020 for inclusion in the 2021-31 LTP. The table below provides details of the measures.

KPI: Improved traffic flows on arterial routes.

Year	Result	Target	Commentary
2019-20	2.8 mins	Maintain/Improve	The annual average travel time over all three chosen locations is 2.8 minutes. Three of our main arterial routes were monitored over a 24 hour period every quarter to record traffic flow times. Analysis of the years data highlights that there was a decrease in Quarter 3 across all three main arterial routes but the other quarters remained consistent in travel time. This is an improvement on the previous year and meets the target to maintain/improve on the previous years result.
2018-19	3.1 mins		

KPI: Percentage of residents and ratepayers who are satisfied with the bus service (cost, reliability accessibility).

Year		Result	Target	Commentary
2019-20	Cost	57%	>45%	As stated in the Quality of Life Survey 2019, respondents mostly agreed that the bus service in the district was affordable, with 57% indicating they either agreed (29%) or strongly agreed (28%). This met the target to be above 40%, however was a decrease in 2% compared to the previous year. Reliability (25%), Accessible (38%) and Accessible for my needs (31%) results did not meet the target and have all decreased compared to the previous year.
	Reliability	25%		
	Accessible	38%		
	Accessible for my needs	31%		

KPI: Percentage of capital works completed annually, including renewals, against the annual budget adopted by the Council for three waters and roading.

Year	Result	Target	Commentary
2019-20	66%	>80%	There has been a $40.2m spend against a year to date budget of $61.2m. A significant number of budgets were deferred in the November 2019, March 2020 and May 2020 reforecasts which were adjusted for in December, April and June. Timing changes affected a broad range of projects, including transport projects awaiting NZTA approval, joint venture agreement for Project Manawa and Project Connect, various stages of HIF (Housing Infrastructure Fund), Lakeview developer agreements, land agreement and consenting process for 3 waters projects and bundled approach to 3 waters delivery. Minor delays to construction activities also occurred.
2018-19	52%		

KPI: Increased use of alternative modes of transport.

		2018-19	2019-20 - Work	2019-20 – Spare time	Target	Commentary
Bus	Daily	4%	2%	1%	Improve on the previous year	This KPI has been split out into work and spare time in the September 2019 Quality of Life Survey. E-bike or scooter has been added as a new mode of transport. Walking was the most used alternative method for both work and spare time. Seventy seven percent of respondents indicated they used walking as an alternative measure during their spare time either daily (36%), weekly (34%), or monthly (7%), while 35% indicated that they opted for walking to work daily (18%), weekly (13%), or monthly (4%).
	Weekly	9%	6%	7%		
	Monthly	10%	4%	8%		
	Infrequently	29%	16%	25%		
	Never	48%	72%	59%		
Walk	Daily	30%	18%	36%		
	Weekly	28%	13%	34%		
	Monthly	10%	4%	7%		
	Infrequently	19%	11%	11%		
	Never	13%	54%	13%		
Bike	Daily	8%	5%	7%		
	Weekly	20%	10%	25%		
	Monthly	12%	4%	12%		
	Infrequently	24%	16%	18%		
	Never	36%	65%	38%		
Water taxi	Daily	0%	1%	1%		
	Weekly	1%	1%	1%		
	Monthly	2%	1%	1%		
	Infrequently	15%	6%	13%		
	Never	82%	91%	84%		
E-bike or scooter	Daily		1%	2%		
	Weekly		3%	5%		
	Monthly		1%	2%		
	Infrequently		3%	5%		
	Never		92%	86%		

An additional measure will be added from 2021. At the time of writing this is in draft pending adoption of the 2021 LTP by Council.

KPI: Transport Data Quality

Good quality data is necessary to effectively and efficiently deliver services and manage our assets. The intention of this measure is to identify opportunities for improvement. It is a National KPI that measures the way both an individual RCA and the sector collects, manages and uses data to support our investment planning and decision-making processes.

Targets	2020	2021/22	2022/23	2023/24
	89	92	95	97

6.3.2. QLDC BENEFITS REALISATION (BENEFITS & MEASURES)

QLDC are developing a Benefits Realisation Framework. This will draw on the Waka Kotahi Framework and will pick up the Benefits and Measures selected against our Activity Management Programme (in TIO).

QLDC will be selecting some achievable measures to track our performance and how we monitor the benefits of our investment. The QLDC benefits framework will cover both continuous and improvement areas of investment and will clearly align with the One Network Framework Service and Outcomes Performance (SOAP) and with QLDC's Long Term Plan measures.

6.3.3. CLIMATE ACTION PLAN MEASURES

The Climate Action Plan measures a number of Transport related inputs and these relate to the Keystone Action 2: Queenstown Lakes has a low-carbon transport system.

This aims to develop transformational options for net-zero emissions public transport. QLDC will partner with the Otago Regional Council to identify options for net-zero emissions public transport. Opportunities to trial innovative ideas will be explored with a view to wider implementation.

https://www.qldc.govt.nz/media/yftlhq5z/4a-climate-action-plan.pdf

6.3.4. ONRC EXPECTED CUSTOMER LEVELS OF SERVICE

For each road classification within each ONRC outcome QLDC customers can expect a varying level of service. It is expected that these levels of service will change over time as QLDC develops a better understanding of the outcome and how we can deliver it.

<table>
<tr><th colspan="3">REGIONAL ROADS</th></tr>
<tr><td colspan="2">Urban Example: Frankton Road (BP Roundabout?)
  </td><td>Rural Example: Kawarau
  </td></tr>
<tr><td>Purpose</td><td colspan="2">The only Regional Roads in Queenstown Lakes District are State Highways which are the responsibility of the Waka Kotahi. The State Highway forms the backbone of the District’s transport network, proving the main entry points to the District. Connecting international and domestic visitors to Queenstown Airport and the connecting the South to Invercargill, Te Anau Milford via SH6 and North to Christchurch via SH8A/8.
As the key corridors, these Regional Roads make a major contribution to the social and economic wellbeing of a region and connect to regionally significant places, industries, ports or airports. They are also major connectors between regions and in urban areas may have substantial passenger transport movements.</td></tr>
<tr><td>What can you expect?</td><td colspan="2">Width: At least two lanes, some areas of four lane
Surface: Sealed
Signage & Markings: Line marking (centerline and edge marking) likely to be present. Clear directional signing of key routes

Bridges: minimal single lane bridges (e.g. Luggate Red bridge, Albert Town bridge)</td></tr>
<tr><td>O u</td><td>Safety</td><td>Road standards should be fairly consistent although they may need to adjust between urban and rural in topography and alignment, neighboring access etc. Footpaths may be in urban areas, but road users may have to share the road space with others such as cyclists. Higher speeds will be in place, depending on assessed level of risk. Lower if mixed use, high intersection density, schools, shopping, and concentrations of active road users. In urban areas travel speeds depend on assessed level of risk and recognize mixed use, schools, shopping strips and concentrations of active road users.</td></tr>
</table>

	Resilience	These routes generally have a high level of resilience, but, may be unavailable during severe weather events or emergencies. These roads will have a moderate priority for addressing once higher class road are open. A high priority for QLDC Clearance of incidents affecting road users will have a high priority. Road users may be advised of issues and incidents.
	Accessibility	Direct land use is allowed from Primary Collectors and will be common in rural areas.
	Amenity	Users can expect high level of comfort, infrequent roughness. Aesthetics of adjacent road environment reflects journey experience needs of both through traffic and active road users. Amenity outcomes of active road users are mostly provided with additional space in urban areas and in some rural areas.
	Reliability	Generally consistent travel times with some exceptions in urban heavy peak times, holidays during major events or during moderate weather events

REGIONAL ROADS

ARTERIAL ROADS

Example: Lucas Place, Frankton	Example: Lake Esplanade, Queenstown
	

Purpose	QLDC have a number of these roads which predominantly perform a link function between places. These roads make a significant contribution to social and economic wellbeing, link regionally significant places, industries, ports or airports and may be the only route available to some places within the region (i.e. they may perform a significant lifeline function). In urban areas they may have significant passenger transport movements and numbers of cyclists and pedestrians using the road.	
What can you	**Width**: 5-9 m, **Surface**: Sealed **Signage & Markings**: Line marking (centerline and edge marking) likely to be present.	
Outcome expectations	Safety	Most of the roads have a speed limit of 100 km/h. Travel speeds are assessed on level of risk, and a range of reduced speed limits are in place, particularly in urban areas and the small communities located throughout the corridors where there is mixed use, high intersection density, schools, shopping, and concentrations of active road users. Long stretches of road providing passing opportunities.
	Resilience	Highest priority is given to these roads. Route is nearly always available except in major weather events or emergency event and where no other alternatives are likely to exist. Clearance of incidents affecting road users will have a high priority.
	Accessibility	Some land use access restrictions for road users, both urban and rural. Traffic on higher classification roads has priority over lower classification roads.
	Amenity	Good level of comfort, occasional areas of roughness, but may notice longer areas of roughness, potholes or cracking compared to Regional. Aesthetics of adjacent road environment reflects journey experience needs of both road users and land use. Urban roads reflect urban fabric and contribute to local character. Some separation of road space for active road users for amenity outcomes in urban areas. Aesthetic issues such as litter, roadside vegetation and graffiti will be addressed.
	Reliability	Generally consistent travel times with some exceptions in urban heavy peak times, holidays during major events or during moderate weather events

<table>
<tr><th colspan="3">PRIMARY COLLECTOR ROADS</th></tr>
<tr><td colspan="2">Urban Example: Camp Street, Queenstown
  </td><td>Rural Example: Crown Range Road
  </td></tr>
<tr><td>Purpos</td><td colspan="2">These are locally important roads that provide a primary distributor/collector function, linking significant local economic areas or areas of population. They may be the only route available to some places within the region and in urban areas they may have moderate passenger transport movements and numbers of cyclists and pedestrians using the road.</td></tr>
<tr><td>What can you expect?</td><td colspan="2">Width: 5-9 m Surface: Sealed
Signage & Markings: Line marking (centerline and edge marking) likely to be present. Safety guidance will be provided at high-risk locations.</td></tr>
<tr><td rowspan="5">Outcome expectations</td><td>Safety</td><td>Drivers should be aware that road standards may be variable and they may need to adjust to topography, weather, alignment, neighboring access etc. Footpaths may be in urban areas, but due to potentially narrower widths, road users should be prepared to share the road space with others such as cyclists. Travel speeds depend on assessed level of risk and recognise mixed use, schools, shopping strips and concentrations of active road users.</td></tr>
<tr><td>Resilience</td><td>Route is nearly always available except in major weather events or emergency event and where no other alternatives are likely to exist. These roads will have a moderate priority for addressing once higher class roads are open. A high priority for QLDC.

The Crown Range, a key Primary Collector provide resilience for the SH6.</td></tr>
<tr><td>Accessibility</td><td>Direct land use is allowed from Primary Collectors and will be common in rural areas.</td></tr>
<tr><td>Amenity</td><td>Moderate level of comfort and surface faults will be addressed where they could compromise the pavement, asset life, of safety. In rural areas this could mean more roadside vegetation where it does not compromise safety.

Aesthetics of adjacent road environment reflects journey experience needs of all road users and adjacent land use. Urban roads reflect urban fabric and contribute to local character. Similar to arterials, aesthetic issues such as litter, roadside vegetation and graffiti will be minimized, but in general, the road corridor will reflect the landscape. Specific provision where active road users present - clean, safe and secure [lighting, reasonable cycle numbers, accessible parking facilities].</td></tr>
<tr><td>Reliability</td><td>Generally consistent travel times except where affected by other road users (all modes) or weather conditions.</td></tr>
</table>

<table>
<tr><th colspan="3">SECONDARY COLLECTOR ROADS</th></tr>
<tr><td colspan="2">Urban Example: Ardmore Street, Wānaka
  </td><td>Rural Example: Gladstone Road, Hawea
  </td></tr>
<tr><td>Purpose</td><td colspan="2">Similar to Primary Collectors, these roads provide a secondary distributor/collector function, linking local areas of population and economic sites and may be the only route available to some places within this local area. They typically link communities with populations of between 250–2000 people.</td></tr>
<tr><td>What can you expect?</td><td colspan="2">Width: 5-9 m
Surface: Sealed pavement surface
Signage & Markings: Line marking (centerline and edge marking) can be expected to assist customers to navigate the network. Variation may occur between urban and rural primary collectors.</td></tr>
<tr><td rowspan="5">Outcome expectations</td><td>Safety</td><td>Road users will need to be vigilant on these roads. Variable road standards and alignment. Urban areas will often be of mixed-use environments including pedestrian and cyclists. Rural environments will likely be dark at night without any street lighting. Road user safety guidance (signage, markings hazard identification) will be provided at high risk locations, but otherwise rural roads will often be without any, markings of edge marker posts. In certain cases, roads will be single lane and opposing traffic will need to cooperate to share the road space. Travel speeds depend on assessed level of risk and recognise mixed use, schools, shopping strips and concentrations of active road users.</td></tr>
<tr><td>Resilience</td><td>These routes generally have a high level of resilience; Route is nearly always available except in major weather events or emergency event and alternatives may exist. These roads will have a moderate priority for addressing once higher class road are open. A high priority for QLDC.</td></tr>
<tr><td>Accessibility</td><td>Direct land use is allowed from Primary Collectors and will be common in rural areas.</td></tr>
<tr><td>Amenity</td><td>Moderate level of comfort, longer areas of roughness. Surface faults will be addressed where they could compromise the pavement, asset life, of safety. In rural areas this could mean more roadside vegetation where it does not compromise safety. Aesthetics of adjacent road environment reflects journey experience needs of all road users and adjacent land use.</td></tr>
<tr><td>Reliability</td><td>Travel times may vary as a result of other road users (all modes), weather conditions or the physical condition of the road.</td></tr>
</table>

<table>
<tr><th colspan="3">ACCESS ROADS</th></tr>
<tr><td colspan="2">Urban Example: Cedar Drive, Kelvin Heights
  </td><td>Rural Example: Glenorchy-Paradise Road, Glenorchy Access)
  </td></tr>
<tr><td>Purpose</td><td colspan="2">This is where your journey will begin and end. These are the lowest classifications of road and their primary purpose is to connect the network to a place. To provide access and connectivity to your daily journeys (home, school, store, neighbors). Residential streets and rural roads. A large proportion of the network by length</td></tr>
<tr><td>What can you expect?</td><td colspan="2">Width: 3-7 m
Surface: Sealed or unsealed- Lower traffic likely to be unsealed
Signage & Markings: Line marking (centerline and edge marking) may or not be present. Safety guidance will only be provided at high-risk locations.
Urban Speed Limits: Normally 40kph</td></tr>
<tr><td rowspan="5">Outcome expectations</td><td>Safety</td><td>Road users will need to be vigilant on these roads. Variable road standards and alignment. Urban areas will often be of mixed-use environments including pedestrian and cyclists. Rural environments will likely be dark at night without any street lighting. Road user safety guidance (signage, markings hazard identification) will be provided at high risk locations, but otherwise rural roads will often be without any, markings of edge marker posts. In certain cases, roads will be single lane and opposing traffic will need to cooperate to share the road space.</td></tr>
<tr><td>Resilience</td><td>Weather events may make routes unavailable and use of access roads will be restored once other priority roads have been attended to first. Alternatives may not exist.

Road user information will have a lower priority.</td></tr>
<tr><td>Accessibility</td><td>The main function of these roads is to provide access to properties and connectivity to the wider network.</td></tr>
<tr><td>Amenity</td><td>These roads will typically offer the lowest level of comfort compared to all higher classifications. This could include rough roads and unsealed surfaces. Road side amenity will be maintained primarily for safety. E.g. sight lines maintained (if present) and edge markers visible (if present). Aesthetics of adjacent road environment strongly reflects land use and place function.</td></tr>
<tr><td>Reliability</td><td>Travel times may vary as a result of other road users (all modes), weather conditions or the physical condition of the road.</td></tr>
</table>

<table>
<tr><th colspan="3">LOW VOLUME ROADS</th></tr>
<tr><td colspan="2">Urban Low Volume Example: Churchill Street Kingston
  </td><td>Rural Low Volume Example: Coal Pitt Road, Gibbston
  </td></tr>
<tr><td>Purpose</td><td colspan="2">This is where your journey will begin and end. These are the lowest classifications of road and their primary purpose is to connect the network to a place. To provide access and connectivity to your daily journeys (home, school, store, neighbors)</td></tr>
<tr><td>What can you expect?</td><td colspan="2">Width:3-7 m
Surface: Sealed or unsealed Low volume likely to be unsealed otta
Signage & Markings: Line marking (centerline and edge marking) may or not be present. Safety guidance will only be provided at high-risk locations.
Urban Speed Limits: Normally 40kph</td></tr>
<tr><td rowspan="5">Outcome expectations</td><td>Safety</td><td>Road users will need to be vigilant on these roads. Variable road standards and alignment. Urban areas will often be of mixed-use environments including pedestrian and cyclists. Rural environments will likely be dark at night without any street lighting. Road user safety guidance (signage, markings hazard identification) will be provided at high risk locations, but otherwise rural roads will often be without any, markings of edge marker posts. In certain cases, roads will be single lane and opposing traffic will need to cooperate to share the road space.</td></tr>
<tr><td>Resilience</td><td>Weather events may make routes unavailable and use of access roads will be restored once other priority roads have been attended to first. Alternatives probably do not exist.
Low volume road user information will have the lowest priority.</td></tr>
<tr><td>Accessibility</td><td>The main function of these roads is to provide access to properties and connectivity to the wider network.</td></tr>
<tr><td>Amenity</td><td>These roads will typically offer the lowest level of comfort and may include extended areas of roughness and unsealed surfaces (on rural roads). This could include rough roads and unsealed surfaces. Road side amenity will be maintained primarily for safety. E.g. sight lines maintained (if present) and edge markers visible (if present). Aesthetics of adjacent road environment strongly reflects land use and place function.</td></tr>
<tr><td>Reliability</td><td>Travel times may vary as a result of other road users (all modes), weather conditions or the physical condition of the road.</td></tr>
</table>

6.3.5. QLDC CUSTOMER FOCUS - LEVELS OF SERVICE

QLDC is becoming a more customer focused organisation, to this end we are striving to understand the requirements of the Community to provide robust evidence in decision making. This is achieved through better consultation with the community, and engagement with ratepayers and customers.

6.3.6. ENGAGEMENT AND CONSUTLATION

QLDC's stakeholders are 'any party having an interest in anything at all that QLDC is or isn't doing relating to the provision and management of an effective and efficient network of roads in, and the provision of sufficient public transport works for, the Queenstown Lakes District.'

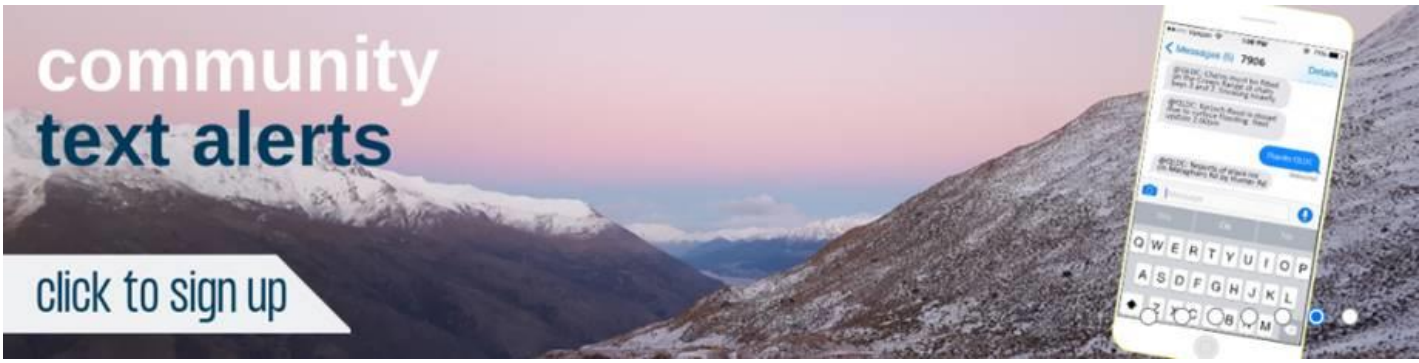
Table 4: Key Stakeholders

Stakeholder	Philosophy of Engagement
Waka Kotahi – System Design & Delivery (SD&D) & State Highways	As a co-investor Waka Kotahi plays an important role in the management and direction of the roading network. QLDC collaborates with Waka Kotahi to achieve a customer-focused delivery across one transportation network.
Senior Management and Elected Members	Working to ensure QLDC has accurate data for evidence based decision making as well as leading a committed and coordinated effort across all sections of an organisation in terms of AM.
Internal Staff	QLDCs approach is to co-ordinate the education, communication, and awareness of asset management processes in the transportation sector.
Supply Partners and Service Providers	Strong relationships are formed on a shared philosophy of delivering value for money for our customers. Specifically, professional services that are focused on developing investment programmes that increase productivity for our customer. Physical works providers that are delivering fit for purpose LoS and are innovating. Continuing to build awareness and understanding of AM processes across QLDC's external partners.
Automobile Association (AA)	Engage with AA to further foster the customer and journey oriented approach
Collaborative Partners	Partnership with delivering services such as neighboring, regional and local councils, emergency (NZ Police/Fire/Ambulance) and emergency management authorities, and Department of Conservation. Working with other network providers that utilize the roading corridor for service provision such as electricity, gas, telecommunications and water.
Customers	Engage with customers to communicate the cost to deliver services and where the k focus of spending should be and how can achieve required outcomes including a safe, resilient, reliable, and environmentally aesthetic network. Customers include: All road users All adjoining property owners Local ratepayers and residents associations Local businesses
NZ Film Association	Permits for filming to support the arts
Wakatipu Transport Programme Alliance	This alliance between QLDC, Waka Kotahi, Beca, Downer, Fulton Hogan and WSP will deliver a number of cornerstone transport projects and allows for optimal programme delivery and integration with suppliers and partners.

6.3.7. COMMUNICATING WITH STAKEHOLDERS

QLDC has adopted a combination of email, social media, radio messaging and websites to inform the travelling public about changing road conditions which may disrupt their travel plans. Disruptions include snow and ice in winter; storm damage; road works; crashes and police operations. QLDC has also relaunched its text alert system. Specific channels are:

- Road report email list (5,801 recipients, sent daily 6.30am in winter and as required at any time);
- QLDC Facebook page (28,513 followers);
- QLDC Twitter feed (3,514 followers);
- Community text alerts (list of 29,000);
- Community Facebook pages, chosen to match the location of the disruption);
- Breakfast radio – The Hits, More FM, Radio Wānaka, Radio Glenorchy;
- QLDC website;
- Queenstown traffic web cameras (link to Stanley St and Ballarat St signals via Waka Kotahi website);
- Crown Range weather station and webcam.



6.3.8. QLDC ANNUAL QUALITY OF LIFE SURVEY

QLDC strives to deliver an affordable LTP with a strong focus on efficiency and value. QLDC demonstrates accountability by seeking annual feedback from residents about their performance over that year. Since 1995, QLDC has been conducting annual satisfaction surveys as a way to assess residents' needs and satisfaction with Council services.

In 2018, QLDC opted to base their research around determining how residents in the district view their quality of life. To this, QLDC wants to draw relevant data which will help them and other community partners to improve the quality of life throughout the district.

This is the second year that the Quality of Life Survey has been completed. The primary objectives guiding this were to:

- Understand the impact of the increasing population and tourist numbers in the district
- Determine measures of overall quality of life within the district
- Understand what role QLDC and their partners could play in helping to improve residents quality of life within the district

Findings from the 2019 survey:

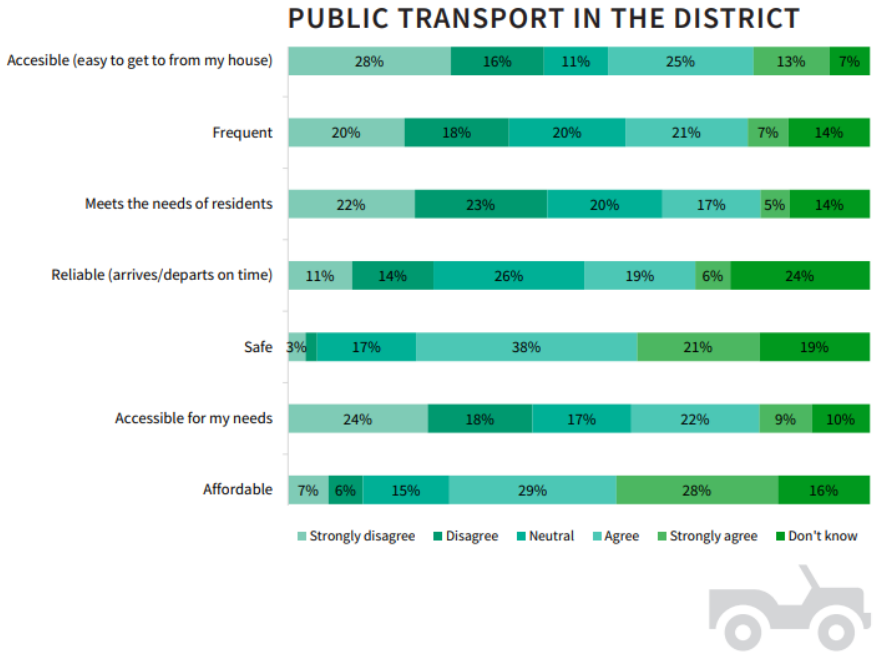
The overarching concerns highlighted throughout the 2019 survey can be categorised into three interrelated themes:

- The financial pressures of living in the district
- The growth and subsequent development in the district
- The effects of the increase in tourist numbers on the district's communities

Transport

This section focused on the transport patterns throughout the region, and highlights the modes of transport used by residents, the regularity of transport methods used, and the different attributes of varying town centres in the District. The key findings of this section showed that while some residents are being well catered for in terms of public transport, there is a growing need or desire amongst other residents or areas to be better serviced.

The table below shows resident satisfaction with public transport in the district:

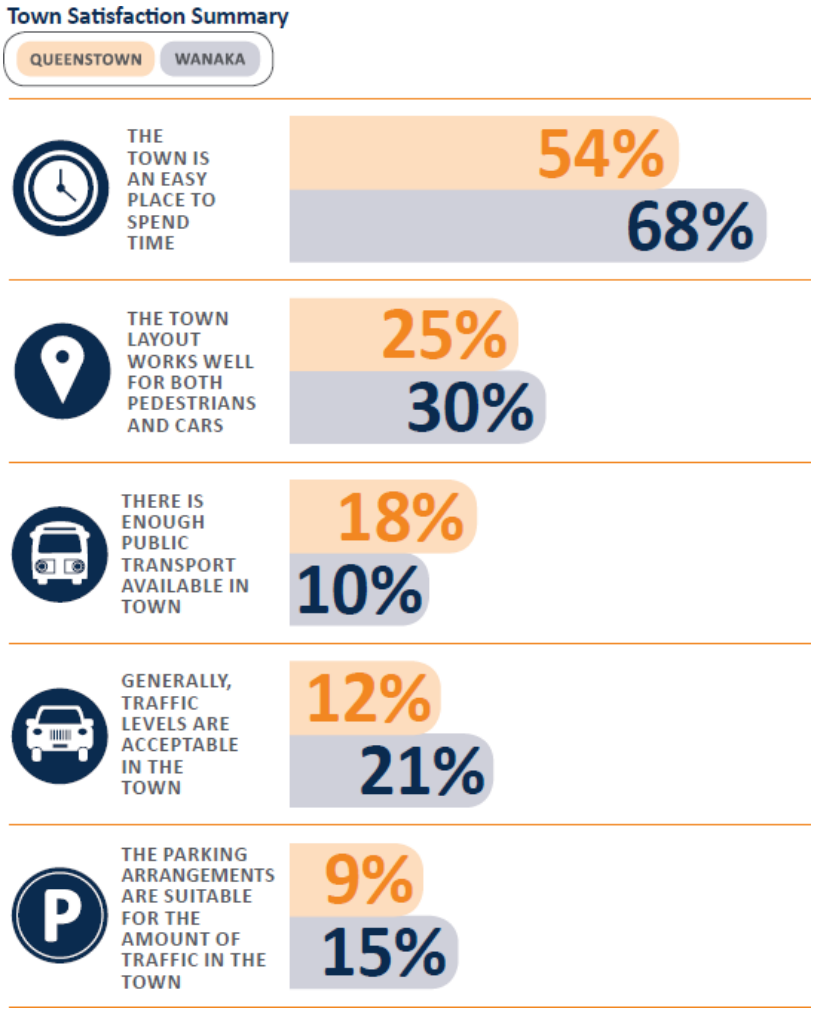


Town Centres

Most respondents who visited our town centres agreed that town was safe at night, and parking arrangements and public transport were an issue for all towns in the District.

TOWN CENTRE CHARACTERISTICS*	WANAKA 2018	WANAKA 2019	QUEENSTOWN 2018	QUEENSTOWN 2019	FRANKTON 2019**
Layout works for cars and pedestrians	26%	25%	26%	25%	39%
Easy place to spend time	65%	61%	53%	64%	60%
Parking arrangements suitable for amount of traffic	12%	12%	9%	12%	49%
Enough public transport is available	6%	4%	47%	53%	47%
Traffic levels are acceptable	18%	35%	13%	17%	28%
Meets the needs of residents and tourists	N/A	31%	N/A	25%	54%
Safe at night	N/A	80%	N/A	55%	71%
Alcohol and drug related antisocial behavior is under control	N/A	58%	N/A	36%	59%

Overall, 80% of respondents rated their quality of life as either good or extremely good. Results showed that 4% of respondents felt their quality of life was either poor or extremely poor.



6.3.9. CUSTOMER REQUESTS FOR SERVICE (RFS)

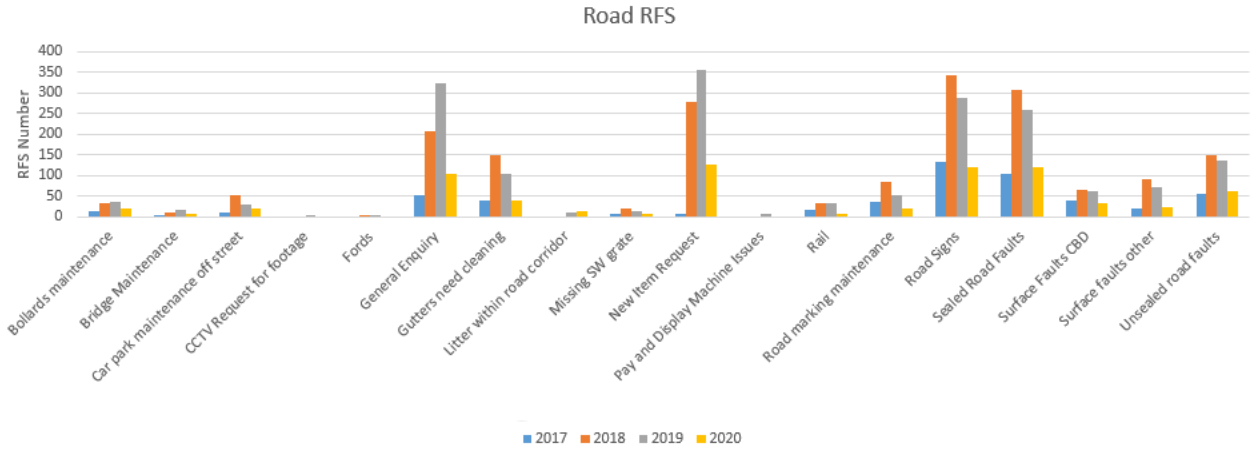
Customer interaction is key metric on how we are delivering the community outcomes. Interaction with customers are largely recorded through our Customer Management System (TechOne). Request for Service are recorded, actioned and monitored at a corporate level and a councillor level.

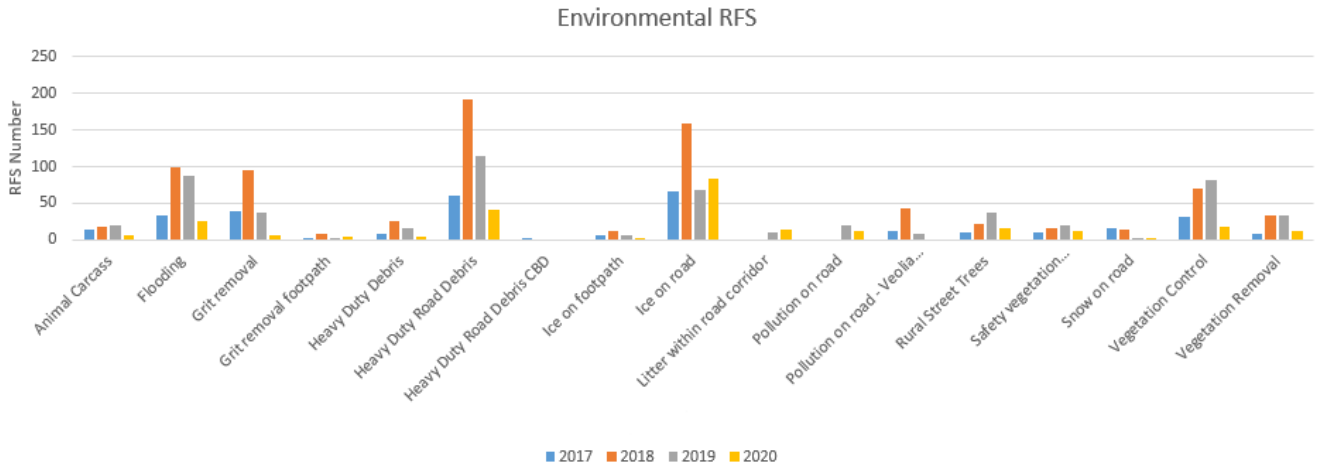
QLDC have worked to integrate the Customer Service System with our RAMM asset management system, which enables the roading contractors to receive almost immediate notification of requests from TechOne into RAMM and to be able to provide response and action back to the customer service team.

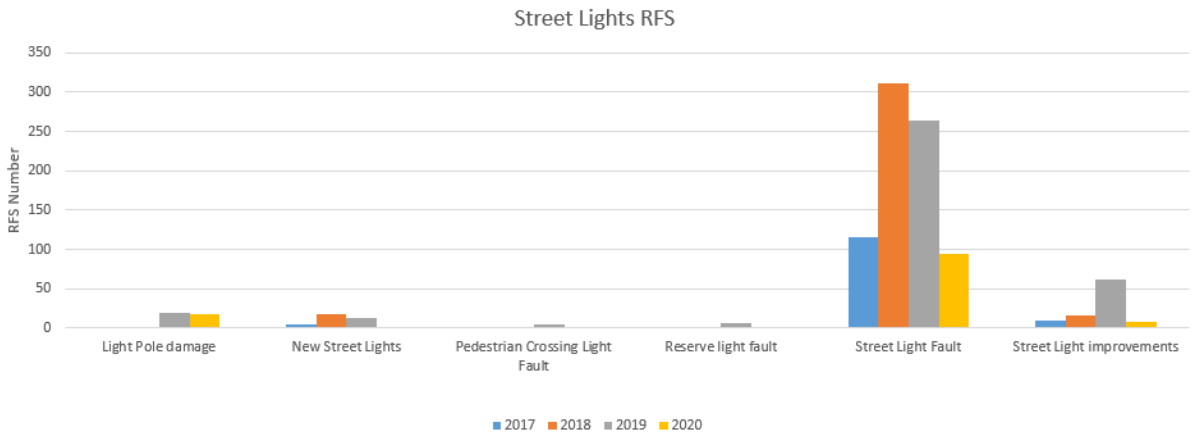
The District has seen major changes in the last few years, QLDC are receiving more requests for traffic calming, line marking, additional lighting in black areas, increased parking charges and requests to assist with congestion. QLDC are working through a central business district master plan which will not delivered resolutions. Internal teams have also been working together to resolve issues line marking issues around new subdivisions.

The charts below shows an overview the Request For Service (RFS) received between 2017-2020 (2020 incomplete).

Figure 42: Overview of total RFS Count







Note: 2017 is for 1 July to 31 December. 2020 is from 1 January to 30 June

7. ASSETS AND ACTIVITIES – LIFECYCLE MANAGEMENT

Lifecycle asset management is about considering all activity management options and strategies to deliver the agreed level of service and to inform decision-making for asset renewal, replacement, upgrades and disposal. With a move to activity management rather than just asset management this now includes focusing on the outcomes and benefits achieved through this planning. Effective lifecycle planning is about making the right investment at the right time to ensure that the asset delivers the desired level of service over its full-expected life, at the minimum total cost.

7.1. ASSET REGISTER AND STATISTICS

The QLDC transportation network consists of range of assets that support a safe and multi modal network. The delivery of these assets and activities support key national, regional and local priorities which are reflected in our Transportation Activity Strategic Framework. TASF

The QLDC network is a mixture of urban and rural roads with the majority of higher classification (collector and above) roads classed as rural which provide links between places or townships. The lower classification roads are largely urban, representing the access and 'place' function and there is a developing active travel network, mostly within the urban areas which will utilise our footpaths and cycleways. Entry to the district is via three key entry points; on state highway 6 and 8, and the airport. Our local roads connect the community to residential, commercial or visitor destinations enabling customers to make their journeys.

This activity management plan programme business case has been developed around our assets and activities and how they link to the current NZTA funding category's to deliver our customer outcomes.

This PBC intends to show the journey we have started on and how we intend to increase our capability and capacity to deliver our services. Our generational approach to our AMP development will show further integration of these activities as we more directly understand the linkages between assets, outcomes and funding categories. The following sections provide an overview of our assets and activities, and further information can be found in the relevant appendices.

Table 43: ONRC Classification by Length and Demand

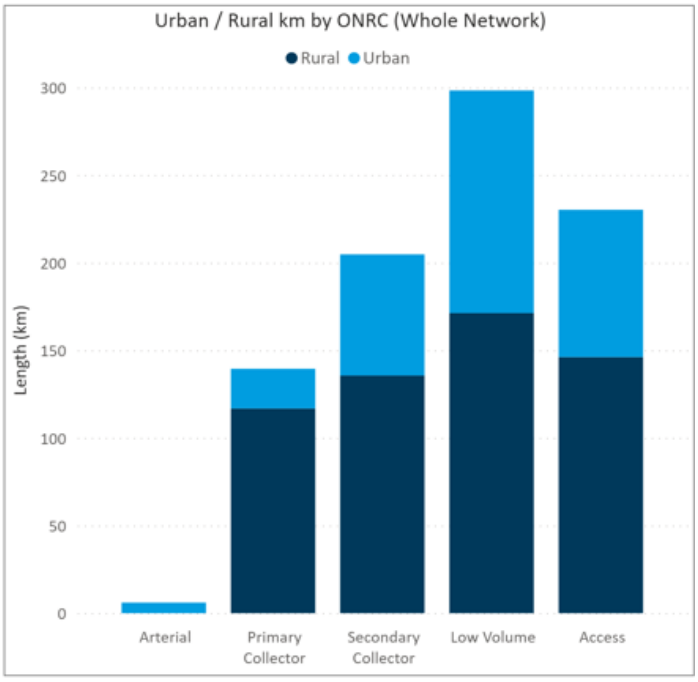
ONRC	Urban (Km)	Rural (Km)	Total Length(Km)	Lane (Km)	Urban Journeys (M VKT)	Rural Journeys (M VKT)	Annual Total JourneysTravelled (M VKT)	Percentage of length
Regional					0.6		0.6	0%
Arterial	6		6	14	23.9		23.9	1%
Primary Collector	23	116	140	281	41.6	130.5	172.1	16%
Secondary Collector	64	140	204	406	56.4	41.8	98.2	23%
Access	83	147	230	377	20.0	14.5	34.5	26%
Low Volume	129	175	303	433	8.6	9.8	18.4	34%
Not Required								0%
Unclassified								0%
TOTAL NETWORK	305	578	883	1,510	151.2	196.5	347.7	

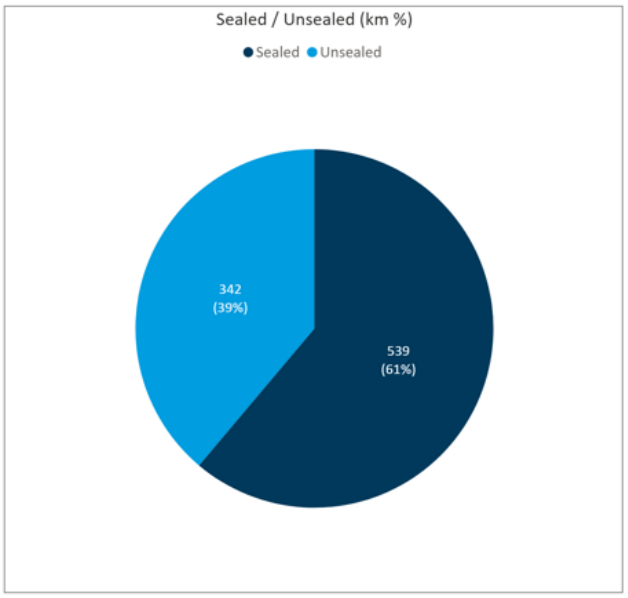
Table 1: Network Statistics for network length (km) and journeys travelled (Million vehicle km) by ONRC Class

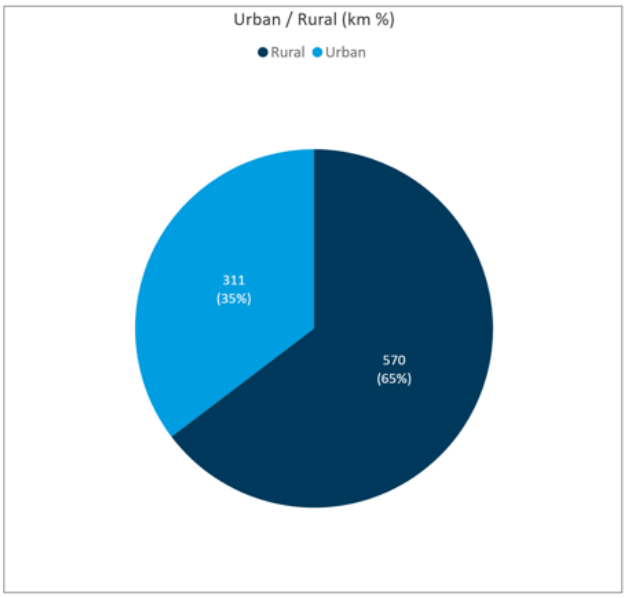
Table 44: Asset Details

Type	Total
Sealed Road (Km) **Unsealed Road (Km)**	534 345
	880
Bridges and Structures (no)	100
Drainage Culverts (No) Catch pit and Sumps (No)	 4,870 4,634
	9,504
Storm water Channels (Km)	1,629
Footpaths (Km)	312
Marking (Km)	7,478
Railing (m)	40,125
Sign (No)	11,708
Streetlight (No)	4,592
Traffic Facilities (No) **(Edge marker posts only)**	5,299
Parking Meters	37

Table 45: Urban rural Network







7.2. SEALED ROADS

The majority of QLDC's customers make their journeys on the sealed road network. Entry to the district is via three key entry points; on state highway 6 and 8, and the airport. Our local roads connect the community to residential, commercial or visitor destinations enabling customers to make their journeys. Management of the sealed roads makes up about 30% of the Continuous programme investment.

7.2.1. SEAL PAVEMENT PERFORMANCE MODELLING

In 2019 QLDC engaged Elke Beca from WSP to run dTims. In total, 621km of the network was modelled (approximately 70% of the full QLDC road network), of this, urban roads account for almost 50%. Nearly 65km of unsealed OTTA surfaced pavements were included in the analysis. High class routes (Regional, Arterial and Primary Collector) make up around one quarter, medium classes (Secondary Collector) one third and the remainder of the network is low ONRC class (Access & Low Volume). The QLDC network contains a significant portion of higher cost surfacing with over 35% currently surfaced in asphalt or slurry. While much of this higher cost surfacing is relatively new, introduced through new residential developments, these surfaces will require renewal in the future and investment must be provisioned.

Condition data on the network is good including; historical roughness, three years of high speed rutting and texture data on over 50% of the network, historical maintenance cost, visual condition data through Downer 'All Faults' and extensive pavement strength data.

- From a ride comfort perspective, the network is smooth when compared regionally and nationally and all classes are stable to improving.
- Surface condition, specifically cracking, has been stable to improving since 2017 based on Downer 'All fault' inspection data.

Overall, the QLDC network appears to be in good condition and with relatively stable trends. While the data indicates the network is performing well, the accelerating traffic growth and extreme climatic conditions reduce the risk threshold of the network to condition deterioration. This is evidenced by the seal life analysis, which has indicated an unusually short seal cycle on the network, particularly on the predominate 2CHIP surfaces. Additionally, the new roads built over the past 7 years will have improved network level condition, however, will be coming due for first renewal within the next 5 to 10 years.

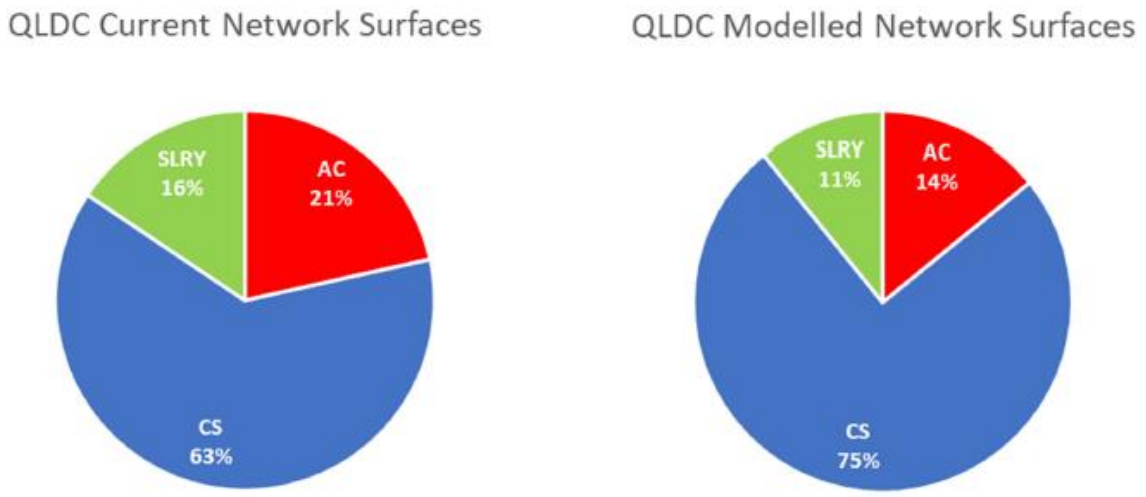
7.2.2. SEAL TREATMENT POLICY AND FRAMEWORK

QLDC have developed a Seal Treatment Policy to provide transparency and clarity on the treatment section for the QLDC reseal program. There has been a large drive from NZTA to provide an appropriate and cost efficient level of service. The seal treatment policy aims to:

- Align QLDC road sealing treatments with technical best practice
- Provide an evidence based framework for decision making to provide clarity to stakeholders on road seal treatment selection.
- Indicate how QLDC will progressively implement a change in level of service on the network to align with the New Zealand Transport Agency (NZTA) One Network Road Classification (ONRC).

The seal treatment policy was utilised in our deterioration modelling and as such QLDC will see a clear transition in the network surfaces, with the percentage of chip seal increasing by 12% over the modelled period of 20 years.

Figure 46: Impact of Seal Treatment Policy on Seal Type Percentage



SEALED PAVEMENT MAINTENANCE

QLDC work closely with the road maintenance contractor to improve programming and develop a robust Maintenance Management Plan (MMP) and Maintenance Intervention Strategy which is closely linked to the FWP. Utilising Downer's Information Management Maintenance System (IMMS) and collaboratively developing MMP specific to our contract and network. Following Waka Kotahi's RAPT process has supported this move.

There has been a conscious increase in preventative / proactive maintenance; the programme of crack sealing, seal patching has substantially increased over last couple of years. Better focus has also been placed ensuring patch repairs have second coats.

QLDC have been applying a strategy of increased heavy maintenance regime to prolonging asset life. There are concerns that this is not working in extreme parts of the network, but is successful as a whole. However, this strategy does not work well in the higher risk parts of our network, particularly in alpine and frost prone areas. There is increased focus on drainage maintenance and renewals 113 because QLDC believe that addressing drainage deficiencies in our network will lead to longer achieved pavement and surface lives.

7.2.3. PAVEMENT CLASSIFICATION AND INTERVENTION STRATEGY

QLDC have adopted a Pavement Classification based on the Downer IMMS approach (IMMS Section 3.1). This is a sub segmentation of our carriageway network which considers ONF as the initial classification, but then segments and aligns further into pavement classifications depending on how those sections would be treated going forward. It aligns sections based on similar performance, environmental factors, and construction. These classifications form the basis of our f-groups for dTIMs and are based on the Downer IMMS Section 3.1. “The road classification (hierarchy) articulates the expected LoS, however it is in the classification of the pavements where we articulate the risk.”

To be able to manage an asset through its life cycle we need to understand the context within which it exists including the inputs that affect performance and therefore the operational risk. How we apply a pavement strategy and associated tactical responses will depend on the operational risk of the pavement section. It is an expectation that to meet the funding cap, more risk will be taken where that risk can be suitably managed with little impact on customers. We will use pavement classification risk as a factor in deciding strategy assignment, treatment timing and treatment selection for “renewals and routine maintenance activities.”

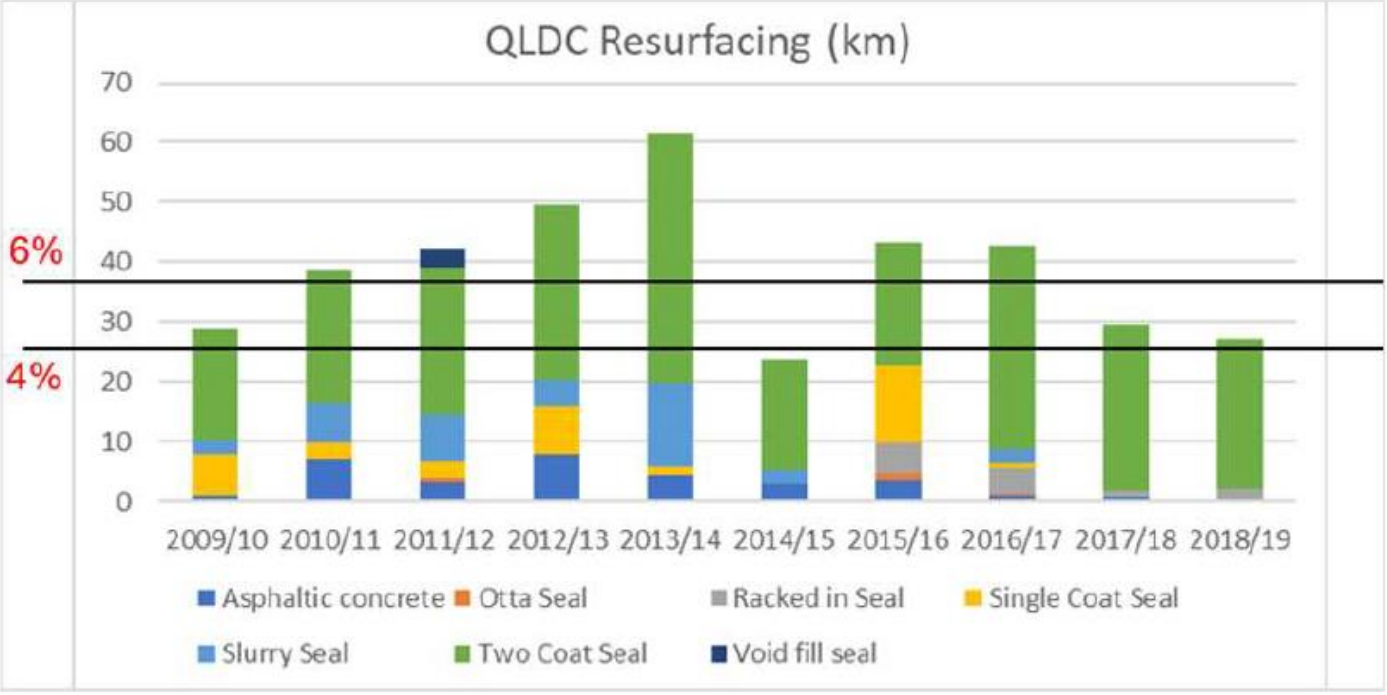
7.2.4. SEALED ROAD RESURFACING

Historically, QLDC had some high renewals rates particularly around 2011-13. Although this was addressing a previous under investment there has been a lot of criticism. For the last two NLTP cycles, QLDC has concentrated on improving data inputs and processes around the forward works programme for sealed roads. Developing data collection, (High Speed data, SCRIM, FWD, surface defects (Downer All faults)), improving the dTIMs (developing policy documents, future predictions, understanding deterioration and treatment selection better) and working closely with Waka Kotahi RAPT tours, building internal capability. QLDC have been working with Downer, our Road Maintenance Contractor and utilising their IMMS to identify gaps in process and how to fill those gaps. Developing use/skills in Juno viewer for analysis and field validation.

A big achievement in the last NLTP cycle was the change in our Code of Practice to ensure that developers are covering the cost of their second coat seals.

Developing in-house ownership of the FWP process has led to less reliance on professional services. The culmination of the above improvement meant that QLDC were able to reduce the quantum down to about baseline of 6% and lower. QLDC need to understand if this is sustainable, potentially not reflective of long-term expectation – all being monitored.

Figure 48: Resurfacing profile over time



7.2.5. SEALED ROAD PAVEMENT REHABILIATION

Rehabilitation needs to be based on pavement condition and economic analysis. It is not appropriate to judge rehabilitation through benchmarking. The budget for rehabilitation work has declined substantially in recent years and is being held at the reduced level QLDC have made a concerted effort to pull back on rehabilitation spending over last few years, QLDC need to ensure is sustainable, currently on a 50 year return basis which base preservation of under 2%. QLDC are working to develop a better rehab programmes through an improved dTIMs (collecting a better understanding of pavement strength by collecting network FWDs, exploring MSD) . Working with Geosolve and Opus to align and improve dTIMs and Geosolve's mechanistic model.

7.2.6. SEAL AGE

The following figure shows the benchmarking for chipseal achieved life for is sitting below our peers in all road classes apart from Secondary Collectors. QLDC are aware of our seal ages achievements are trying to address the root cause and required actions. In 2019 WSP undertook a detailed study of achieved lives and this highlighted some data inconsistency which are being addressed, but further investigation and future mitigations are required. This may be due to the fact AC is often used in a more challenging environments such as the Crown Range which is steep and undergoes extreme winter weather events and freeze / thaw. QLDC recognise these lives are not ideal and will be exploring the data in more detail to understand any underlying issues and to ensure appropriate treatments are undertaken. There are other comparable networks such as the Lewis Pass and Lindis Pass which have high frequency sealing.

Figure 49: Chipseal – Average Life Achieved 2019/2020

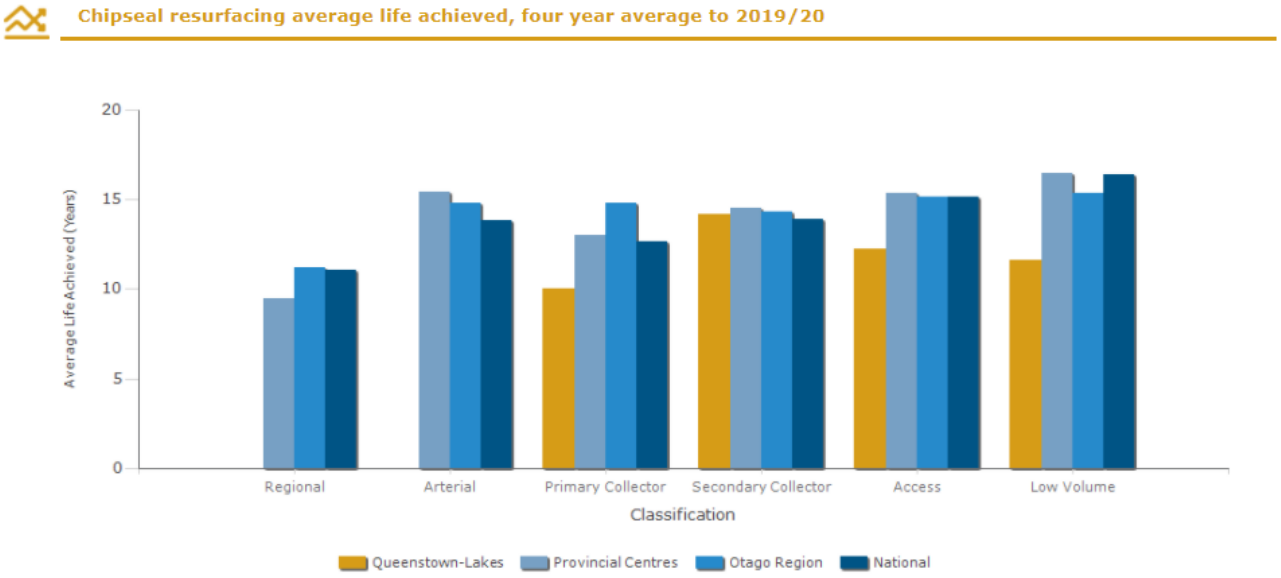
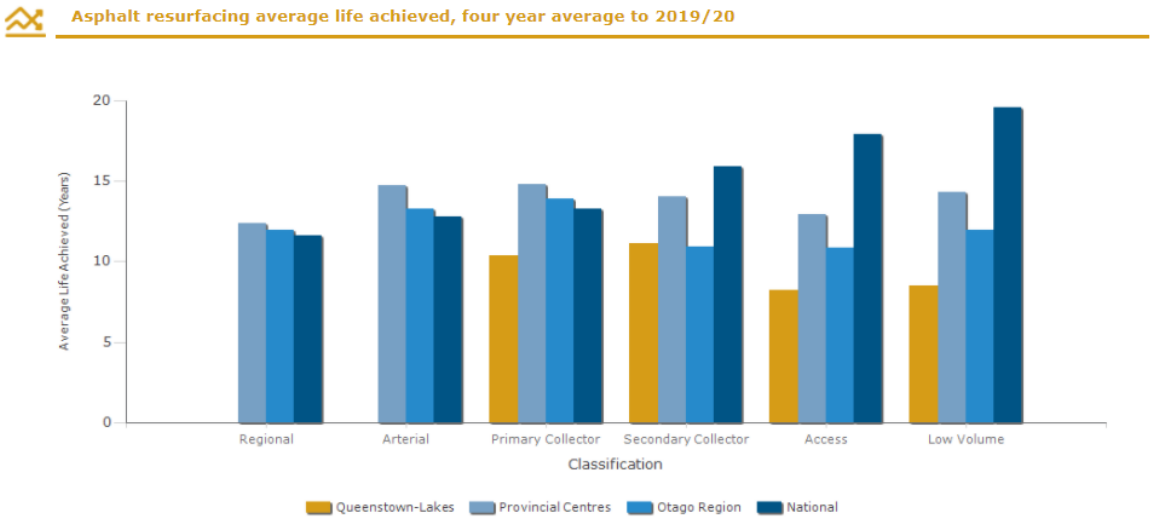
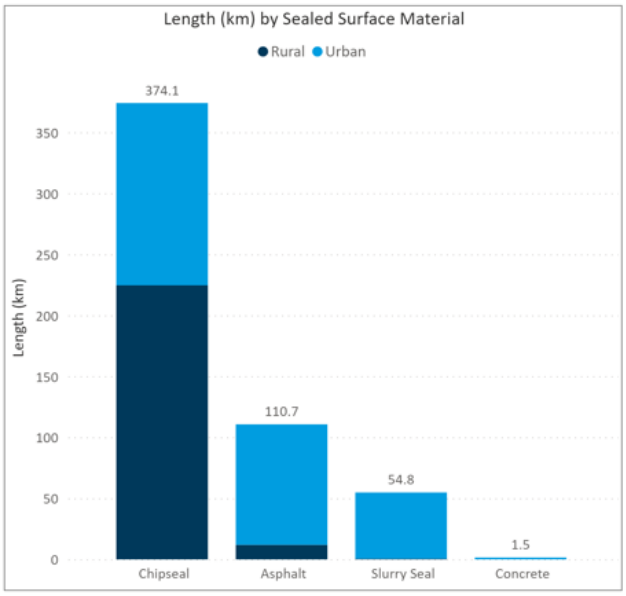
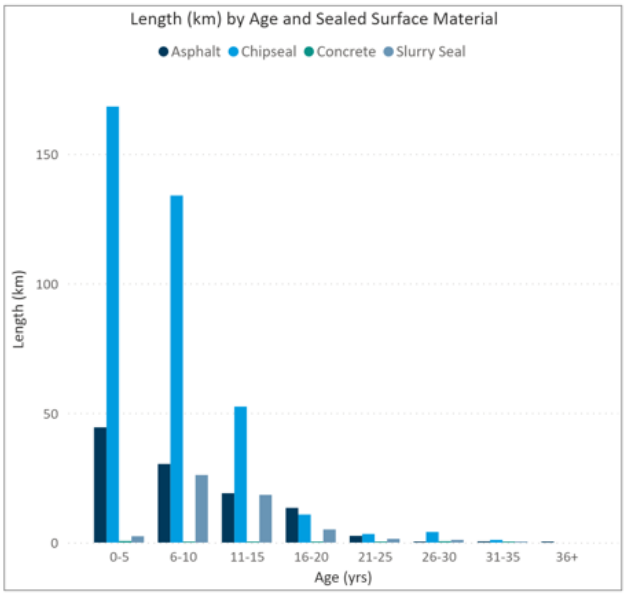


Figure 50: Asphalt – Average Life Achieved 2019/2020

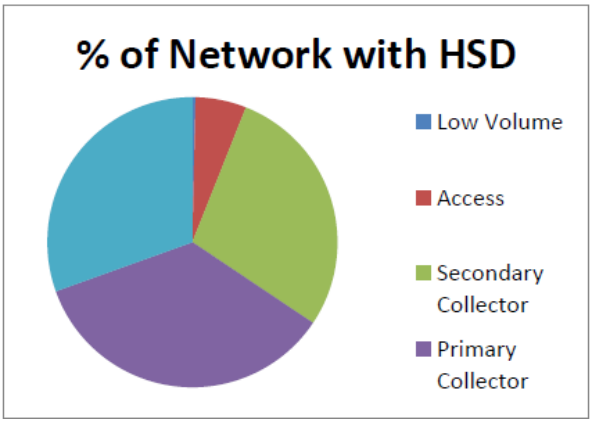


investigation Our growth can be seen in our surface age profile how a large number of our seals are young.





7.2.7. SKID RESISTENCE



As part of QLDC's HSD collection process it was important to collect data to assist with safety levels of service, including skid resistance data. To achieve this, QLDC were keen to utilise NZTA's agreement with WDM which included SCRIM. We aligned with the state highway survey contract and our first survey was in March 2016 and in February 2020 completed our fourth run. The HSD survey was targeted by ONRC classification, covering our arterial, Primary and the majority of our secondary collector roads. In addition we took a risk based approach and included areas where we thought there may be skid resistance issues on steep or known crash sites. Aligning with NZTA's T10, we undertook a desktop survey and a field validation, ensuring the high risk sites were included in our FWP. Our process improved with our second survey in 2017 and we were better able to audit/track the outcomes from the post survey review. There were sites where the SCRIM result influenced our decision to bring or push roads in the FWP.

7.3. UNSEALED ROADS

QLDC has a large proportion of unsealed roads 345km (39%) and they are predominantly used to access areas of Crown Estate, tourist areas or for agricultural purposes. Many of our unsealed roads access areas of outstanding natural landscapes and are very popular tourism attractions, this has led to a high traffic demand – with many of these road achieving a high ADT of 497 (12% Heavy) Accessing Great Walks such as the Mt Aspiring National Park Routeburn Track or to key tourist attractions such as Skippers Canyon.

7.3.1. SEAL EXTENSIONS

Following a period of seal extension between 2000-2010, the unsealed network is now relatively stable in length. The policy to invest in seal extensions changes over time depending on the community and the elected Council. Sealing of the roads has significant consequences in the long term because of maintenance and asset deterioration issues. The decision to extend the seal is therefore not one that can be confidently forecast. In 2009/10 the NZTA changed the funding policy for seal extensions so they will only gain funding where there are specific safety benefits that account for over 50% of the projects benefits. Hence, QLDC has largely discontinued its seal extension programme.

7.3.2. BALLANTYNE ROAD SEAL EXTENSION

In 2020 QLDC commenced its first seal extension in 10 years on Ballantyne Road, Wanaka. This project addresses a number of safety issues such as inconsistent surfacing, limited driver sight lines, a lack of road markings and narrow roadways.

Ballantyne Road seal extension is a prime example of the continual pressure from our community to seal the more urban unsealed. QLDC faces a rising number of issues on our unsealed network as it becomes more urbanised, alongside rapid private development, there have been as expansion of its urban growth boundaries which changes people expectations around levels of service; whether it is sealing, safety, dust suppression, or multi modal (cycling and walking) provisions.

QLDC's unsealed network has the following characteristics:

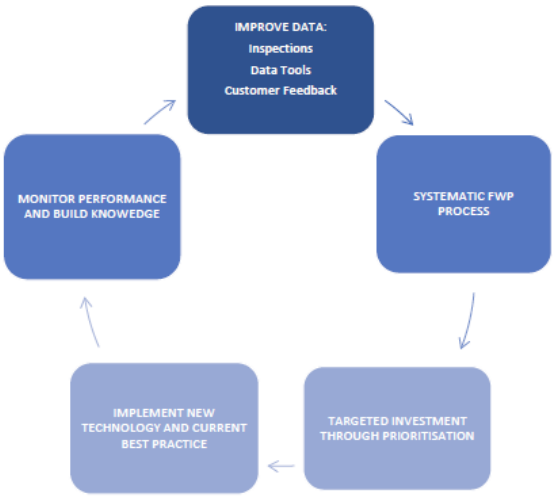
- Mixture of roads across open flat terrain through to alpine pass style routes;
- Generally high quality subgrades comprising of minor silts, sands and gravels. Minimal clay soils present;
- High tourist volumes on key unsealed subnetworks (Mount Aspiring, Gibbston Valley, Glenorchy – various), providing access to Crown estates/DoC land;
- Minor heavy vehicles volumes when compared with other territorial authorities such as Gisborne who deal with logging as a major generator of heavy vehicle movements;
- Clean sandy gravel aggregate sources not conducive to binding in an unsealed road situation;
- Increasing numbers of residential properties alongside unsealed roads leading to dust nuisance complaints;
- Extreme climatic conditions - Unsealed pavements are exposed to freeze thaw cycles in winter and arid conditions in summer.

7.3.1. UNSEALED ROAD AM STRATEGY

QLDC have developed an unsealed road asset management strategy, and reflects QLDC's maturing approach to evidence based planning and operations on the unsealed network.

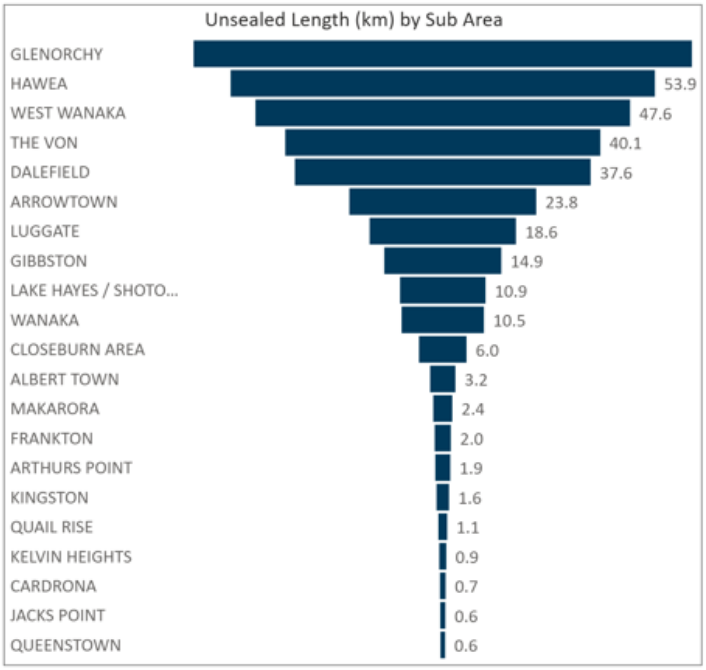
The document aims to deliver:

- Overarching strategic approach to managing the unsealed network;
- Key strategic outcomes;
- An approach to Level of service (LoS) that reflects customer outcomes and function/demand;
- Key activities to be undertaken;
- Prioritisation tools and systems to implement the strategy at an operational level.



Unsealed Roads - What we do and why we do it?	
Grading	Restoring the driving surface of a gravel or natural surface road to a desired smoothness and shape by removing irregularities such as corrugations and pot holes and redistributing gravel. 
Metalling	Adding aggregate to the unsealed roads
Dust Suppression	Work is also undertaken for environmental reasons to mitigate the impacts of dust on residences. The extent of this is managed by Council's Roading Policy which provides for 100m of dust suppression where a house is within 100m of the road.

The figure below shows the Communities with unsealed roads.



Unsealed Improvements - QLDC have been assessing our agregate sources and quality. Samples have been tested against Paige Green which indicates the poor quality. We have been looking into some clay blending trials

Figure 51: Aggregate Performance

Evidence – Local Aggregate - Unsealed Roads		
The aggregate sources in our district are of variable quality.		
WARD	**Aggregate Source**	**Performance**
Wakatipu	• Scope Resources • Rees Pit, • Von Fan • Fairlite	Wakatipu has a lack of clay bound aggregate. Aggregate source from the Shotover River will not be acceptable as M4/AP40 basecourse material without specific prior approval. Shotover River aggregate from COUNCIL consented site only may be used on Skippers Road
Wanaka	• Sawyer Burn (Meads road) • CMH McKay Road Pit • Powers Pit • Matukituki River, Wishbone • Wanaka Airport • Scurrs Pit (CV rd)	Wanaka has more options for aggregate and better clay content

7.4. BRIDGES AND STRUCTURES

Bridges & Structures are a key link in QLDC land transport system. We acknowledge the resilience link to structures & bridges which is being further developed with our work on network criticality. Resilience is a key national, regional and local priority GPS Priority – "A land transport system that is resilient": RLTP – "Sections of the network are increasingly vulnerable to closure from adverse events resulting in economic and social disruptions"

QLDC structures include not only the more obvious bridges that convey vehicular traffic, but also tunnels, subways and culverts, stock underpasses, and a growing number of cycle and pedestrian footbridges.

The nature of these assets means they are high risk, high value assets which require proactive inspection and replacement. When properly designed and managed however, they have a useful life that generally exceeds that of other road assets. Bridges and structures provide access at key points in the transport system to ensure a safe and resilient network. Mobility and accessibility with the QLDC transport system is integral to supporting the local economy, particularly through tourism.

Access for heavy vehicles is important to enable access to remote communities and to support primary industry. Key communities vulnerable to lack of resilience; Glenorchy, Von, Kinloch – Makarora & Kingston (dependant on the state highway) Steep relief high aggregate flows means bridges are prone to high rock fall/debris flow from their own catchments Although a large number of bridges are on high deltas, the bridge is higher than the flood plain, which protects our structures.

QLDC's investment in active travel has an impact on key structures such as Edith Cavell where the current level of service is not appropriate. Ensuring that people can safely use our structure in their transport choice – walking or cycling is a key part in QLDC's strategy.

The typography of particularly Queenstown town centre means a relatively high number of retaining walls especially in areas such as Fernhill, Queenstown Hill, and the Crown Range. There are even historic retaining walls along the Macetown Road and in Skippers.

Figure 52: Age Profile by Bridge Type

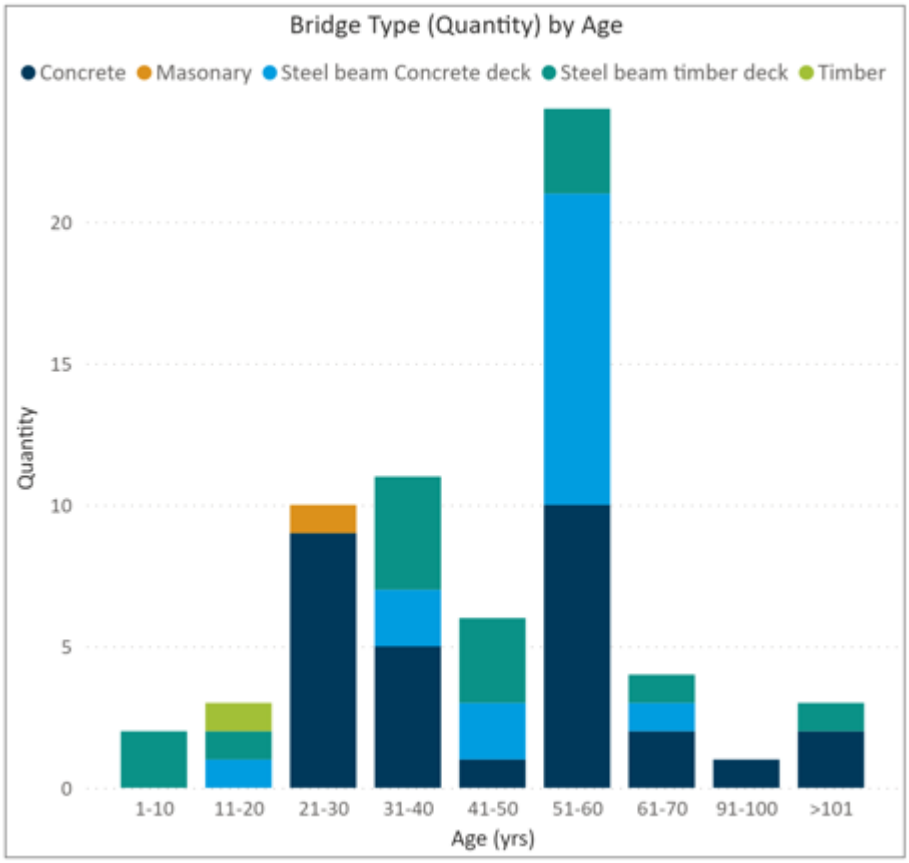


Figure 53: Bridge types

7.4.1. RETAINING WALLS

The nature of the landscape in QLDC means that retaining walls play a key role in enabling access in parts of our district. As areas particularly in Queenstown become more urbanised, retaining walls play an increasing role.

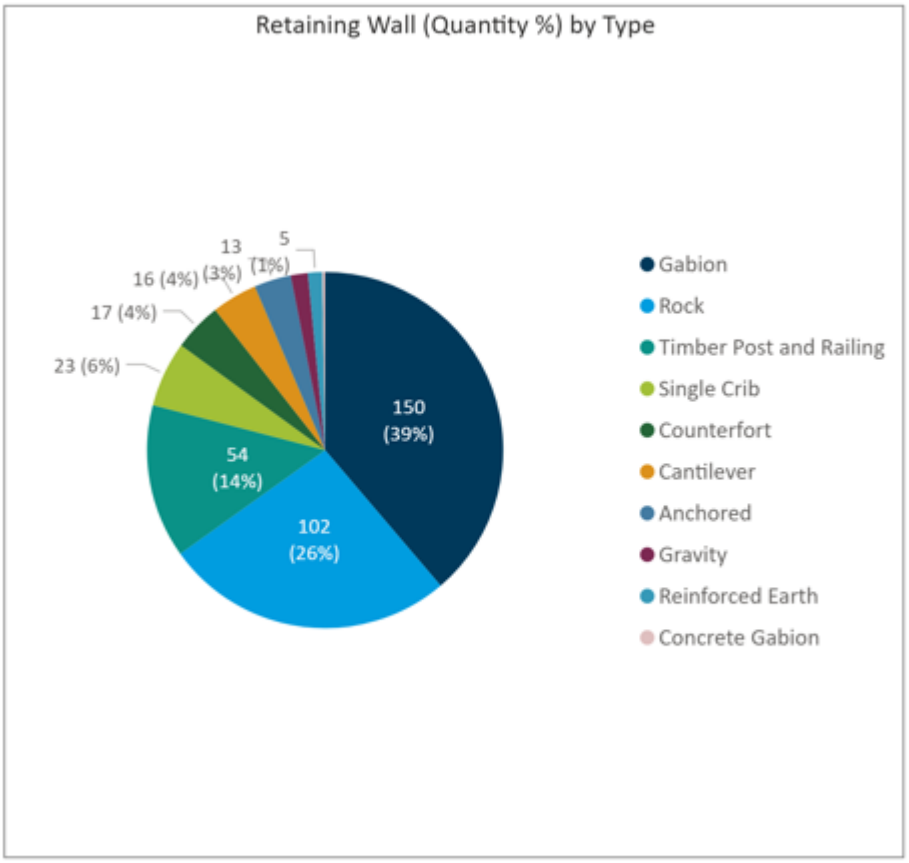
Retaining walls prevent down slope movement or erosion and provide support for vertical or near-vertical grade changes and are key to our resilience. The accuracy of asset data for retaining structures is not complete. Ownership must be addressed Last inspection report was 2013. The Contractor and council staff will be undertaking a review of the asset data and condition rating retaining walls.
Current retaining wall issues:

- Result of historic development decisions, issues with LTO's Licence to Occupy – data lost
- Historic retaining walls in Arrowtown: Butlers Green, Macetown Road
- Cuttings, netting on Crown Range.
- Skippers –Devil's elbow

Part of Macetown Road contains historic retaining walls, but not all are public roads. Mace town Road is not actively maintained, but remain reactive to certain events

In the 2021-24 NLTP, QLDC will be improving the management of these key assets. Until now, the inspection process of these assets has not been robust. A new structural assessment and asset planning contract has been designed to address this gap. All retaining walls will be assessed and a risk appropriate inspection level of service will be developed.

Figure 54: Number of retaining walls



7.4.2. STRUCTURES MAINTENANCE

QLDC have a robust structures inspection programme in accordance with Waka Kotahi S6. Maintenance is undertaken under the Road Maintenance Contract (who also undertake visual inspections). Some issues in procuring hardwood members and decking planks. Emerging issue is to look at proactive / preventative maintenance – steel members (painting over waterways (ORC consent issues) i.e. water blast/sand blast are not within current budget scope

Lack of completeness around ownership of minor structures in the road reserve, i.e. retaining walls, access bridges. Increased liability on structural engineering for retaining walls. Issues around cattle stop cleaning.

7.4.3. STRUCTURES COMPONENT REPLACEMENTS

Robust inspection programme for structures, however this has not previously driven renewals. This is a key risk and we are working to develop it following awarding the new structures assessment contract in 2021.. Increased focus required for minor structures e.g. guardrails where we are seeing increased level of strikes to guard railing – repair/replace not within current budget scope. Current issue with the majority of guard railing on Crown Range requiring lifting/re-founding. Potentially some issues with cattle stop renewals.

7.4.4. REPLACEMENT OF BRIDGES AND OTHER STRUCTURES

Looking at the options for addressing demands on Edith Cavell Bridge duplication bsusines cases are underway., Glenorchy Narrows Half Bridges are in the next 10 year plan and active travel network will need a number of structures to be delivered.

7.4.5. BRIDGE POSTINGS

QLDC has 13 posted structures. For some of the bridges heavy vehicles are able to use a ford during low flows, or there is an alternative route available. In some cases there is no ford available, and there is no detour which increases the risk of overloading on the bridge. The postings have been implemented due to the condition and calculated capacity of the structure.

Figure 55: Bridge Postings

Bridge No.	Bridge waterway Name	Road Name	ONRC	Gross Vehicle Weight (% Class 1)	Axle Limit (kg)	Speed Limit (km/hr
2	Sawyer Burn	Hunter Valley Road	Low Volume	100%		10
3	Bee Burn	Hunter Valley Road	Low Volume	80%		10
4	Timaru Creek	Timaru River Road	Low Volume	80%		10
5	Johns Creek	Timaru River Road	Low Volume	40%		10
6	Grandview Creek	Gladstone Road	Secondary Collector	80%		
22	Precipice Creek	Rees Valley Road	Low Volume	100%	8000	10
25	Invincible	Rees Valley Road	Low Volume	65%		10
35	Deep Creek	Skippers Road	Access	40%		10
36	Skippers	Skippers Road	Access	3000 kg	1500	15

54	Matukituki	West Wanaka Road	Access	13600 kg	8200	
55	Motatapu River	Motatapu Road	Access	9000 kg	5000	15
56	South Von	Von Road	Access	3100 kg	2460	10
102	Larch Hill Place	Larch Hill Place	Low Volume	2500kg	1500	10

QLDC is monitoring Bridge Access for 50 Max and High-Productivity Motor Vehicles (HPMVs) is not a major area for concern currently, the majority of restrictions are on minor low volume or access roads.

7.5. ACTIVE TRAVEL NETWORK - FOOTPATHS & CYCLEWAYS

QLDC has over 308kms of footpaths and 9km of shared footpath/cycleway, these form our active travel network; enabling movement for both pedestrians and cyclists. As growth continues in the District and QLDC becomes more congested and travel time more unreliable, the active travel network provides huge opportunities for mode shift and alternative travel demand management. Active travel routes, especially those aimed at commuters will grow the transport network considerably, already seen in the Wakatipu Active Travel programme. QLDC have commenced work to adopt the One Network Framework as it strongly aligns with QLDC's strategic response to understand multi modal movement of people and our Network Operating framework/plan approach.
Investment in active travel network clearly aligns to our Maintenance and Operations problem statements and to our general strategic direction around developing a multi modal network. There is strong community will to see investment in the Wānaka active travel network, in the short-term there is further investigation work needed to understand the future transport requirements in Wānaka. A Network Optimisation and Mode Shift Single Stage Business Case is planned to look into this. The Queenstown Integrated transport strategy (QITS) identified a need to achieve 60% mode shift to active travel Frankton to Queenstown.

The recent approval of the Wakatipu Active Travel Network looks to invest $10-15 million over next 3 years, $70 million over 10 years. The first stage across the Wakatipu Basin has already been endorsed by the Way to Go partners through the Wakatipu Active Travel Network business case and will see a 30km network built. A phased approach to delivery of the network is already underway, with initial routes currently in detailed design and due for construction from 2021. Subsequent tranches are anticipated to follow in the 2021-24 investment period. The delivery of this network has been integrated with the ongoing work of the Queenstown Trails Trust.

Figure 56: Preferred Wakatipu Basin Active Travel Network

Figure 57: Proposed LoS for Wakatipu Pedestrian Network

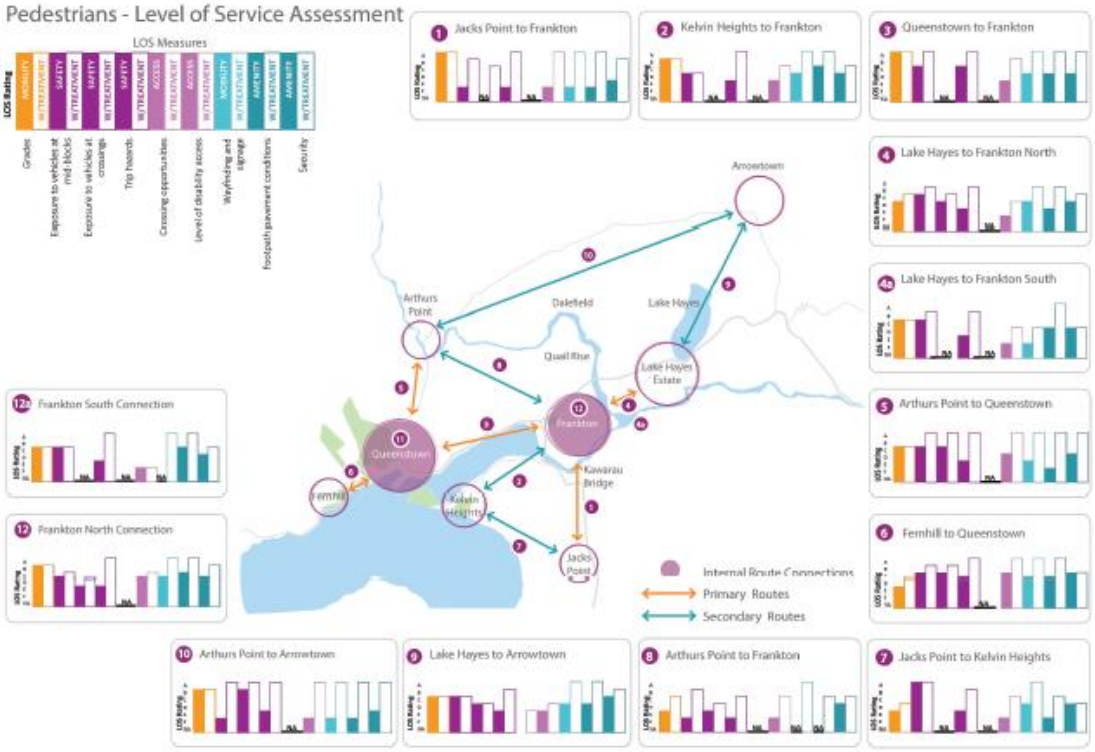


Figure 2: Proposed Level of Service for Pedestrians

Figure 58: Proposed LoS for Wakatipu Cycle Network

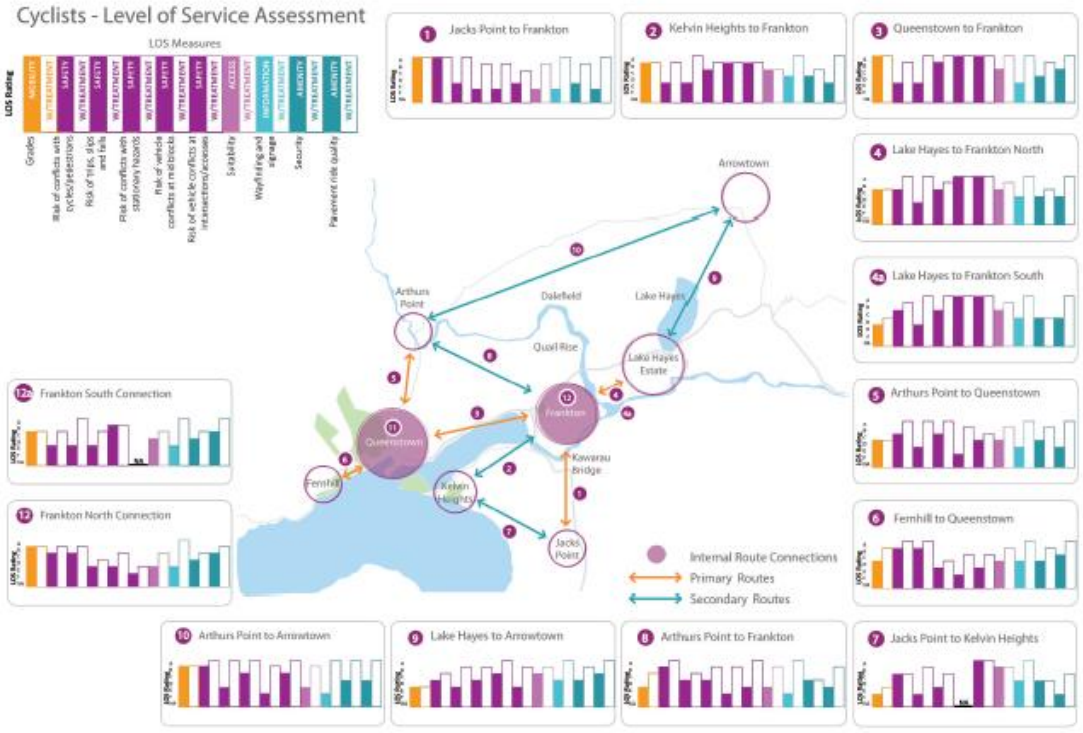
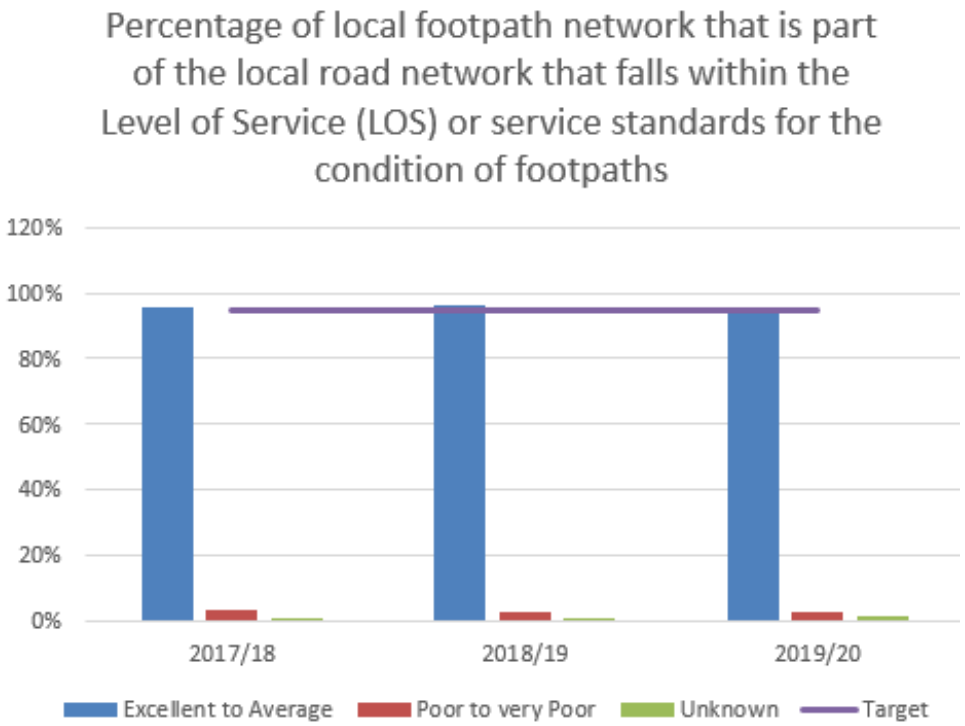


Figure 3: Proposed Level of Service for Cyclists

Figure 59: Indicative Active Travel Routes

7.5.1. FOOTPATH CONDITION

Figure 60: Footpaths LoS



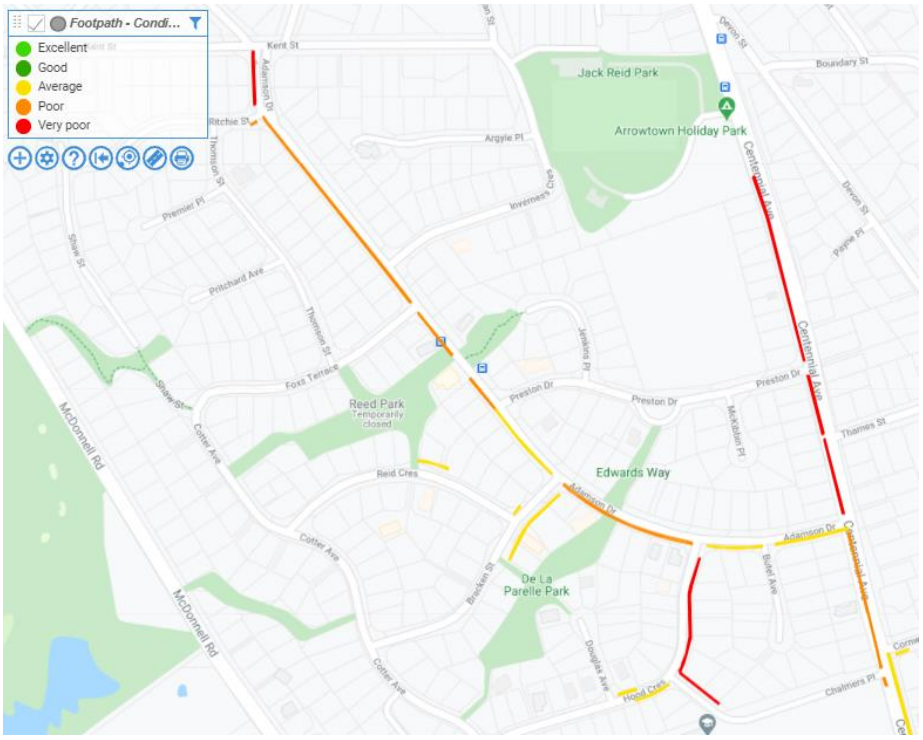
QLDC undertake annual footpath condition surveys which pick up high priority faults, rate the footpath sections and feed into a forward works programme.

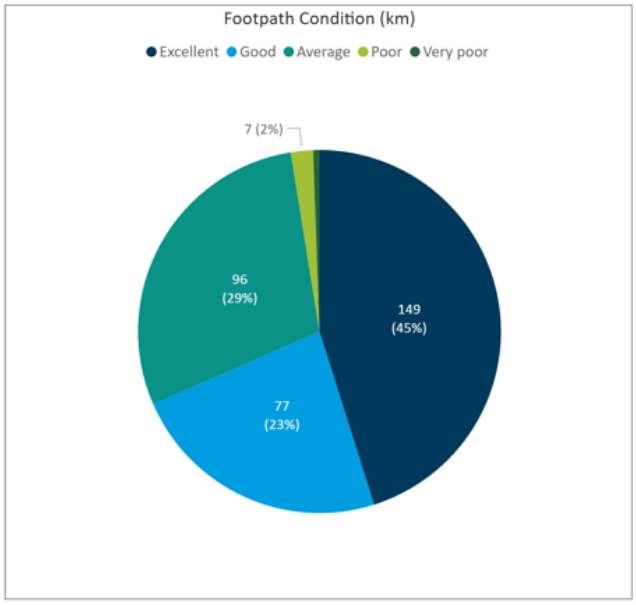
Figure 60 shows that the LoS is fairly static. It should be noted that a reasonable number of new footpath being vested each year which keeps the overall percentages up.

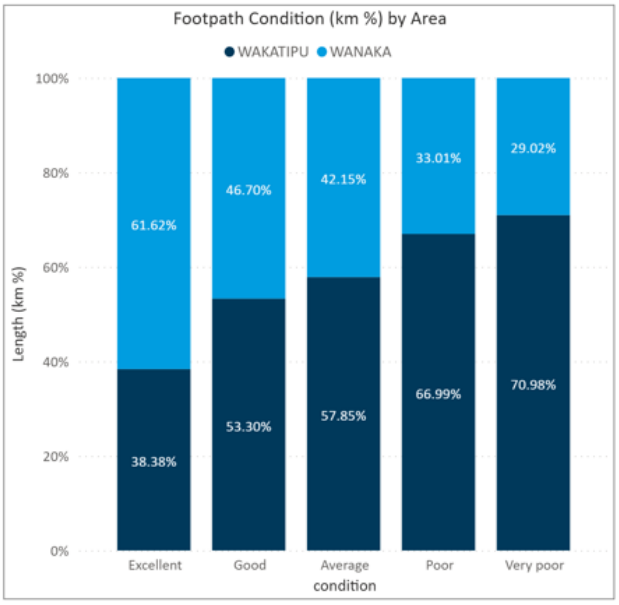
The Footpath FWP is in early development, and will feed into our footpath renewals programme. There are areas of our footpath network that has been historically under invested in, Arrowtown is an example where the footpaths need renewing before the whole of life costs escalates. Many of the current footpath seals are coming up to an end of life and the bitumen is very brittle. If these are not addressed, the treatments will become much higher.

QLDC are developing a better understanding of how our active travel network operates and with the arrival of the One Network Framework and QLDC's use of Network Operating Frameworks, we should see some advancement over the next few years.

Figure 61: Condition of Arrowtown Footpaths







7.6. DRAINAGE

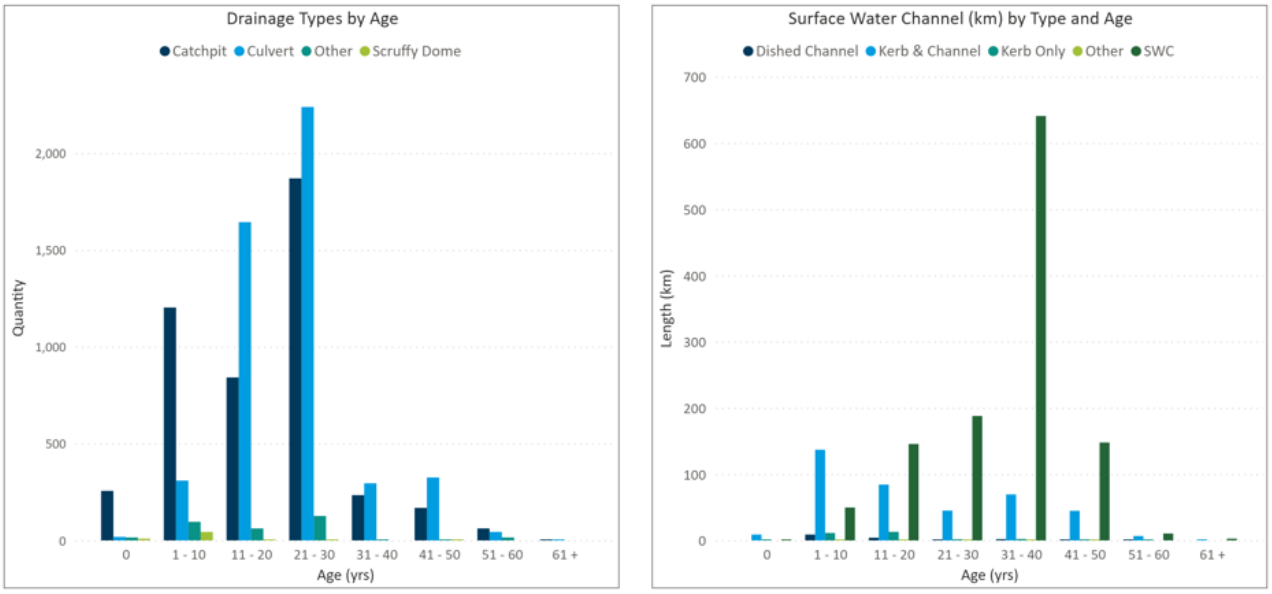
Drainage in QLDC consists of a variety of types and materials. Our urban network utilises kerb and channel, apart from Arrowtown which retains a historic approach to drainage. With growing urbanisation, our drainage is also changing. The number of natural drainage is increasing and we are seeing water gardens and other features appearing on the network. Our rural drainage is mostly surface water channels. Historically some culverts were undersized and is causing some issues with our stormwater systems

QLDC is taking a holistic approach to drainage and surfacing road renewals. QLDC has traditionally been very reactive in terms of drainage renewals and are now developing a forward works programme approach to drainage. This consists of an asset data review, taking a treatment length (TLs) approach to the drainage asset which allows a more targeted treatment programme. These TLs will be condition rated and will undergo an algorithm which assesses the environment (rainfall, soil type) and various defect data (all faults, MSD and HSD deterioration curves). Prioritisation will look at risk and consequences, using ONRC, pavement classification groups. QLDC are trying to develop annual length of drainage renewals. Local State Highways are around 7% in Southland and 3-4% for Central Otago so QLDC is likely to sit somewhere in the middle.

Drainage condition rating is something that needs to be developed further in order to better inform renewals programme. Work with our Contractor is underway to improvement network monitoring.

Our 3-waters teams are beginning to focus on stormwater, so we will be working with them to get better drainage outcomes for our network.

Figure 62: Drainage



7.7. STREET LIGHTING

The Queenstown Lakes District is internationally renowned for its outstanding landscape. Outdoor lighting contributes to the appreciation of this landscape by night and enhances the safe enjoyment of the District. The quality of the environment is an important factor in supporting economic growth within the district.

The District is a recognised tourism destination which supports economic growth across the southern part of the South Island. As growth has increased new developments have transformed previously dark rural areas into bright urban areas and it has been recognised a consistent approach is required to support best practice.

The district's growth is moving from a rural district to a number of urban townships and in Queenstown itself, a small city. It is important that lighting and urban design changes are reflected in our lighting network.

7.7.1. SOUTHERN LIGHT STRATEGY

QLDC manages our approach to street lighting through the Southern Light Strategy. For further detail, please refer to the Southern Light Strategy http://www.qldc.govt.nz/council-online/council-documents/strategies-and-publications/southern-light-strategy/

Historically there has been a disparate approach to the implementation of street and amenity lighting infrastructure due to a lack of clear and up to date technical specifications. This has resulted in a large variety of outdated lighting infrastructure which has led to high and complicated on-going maintenance costs. This has partly been addressed through our roll out of LED lighting on our standard P-Cat luminaires, but there still remains a large number of decorative and V-Cat luminaires which need to be updated.

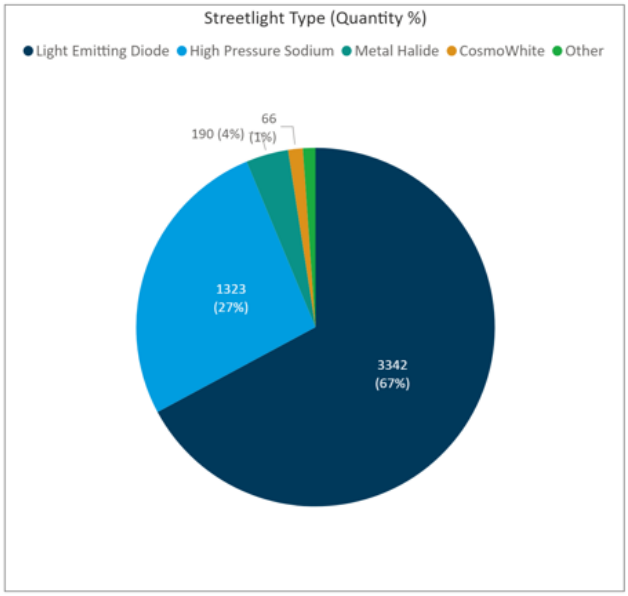
7.7.2. LED ROLL OUT

QLDC commenced a roll out of LED's in Kingston in 2017. This was then extended across the rest of the district in 2018-19. QLDC is installing warmer light (3000 Kelvin) LED luminaires rather than the slightly more efficient colder (4000 Kelvin) luminaires being installed in most other districts. The warmer lights meet the criteria required for communities to become accredited by the International Dark Sky Association. Developers of new subdivisions are being required to install LED street lights and they luminaires must be on Waka Kotahis' M30 list. QLDC will be creating an approved luminaire list at the next update of Southern Light (Due early 2021). The installation of LED's is expected to reduce costs in the maintenance and energy, however QLDC are facing rising energy and power network costs which will negate some of the assumed savings.

In 2019 Council took the Street Lighting Maintenance Contract to market, this saw a new contractor engaged to operation and maintain the streetlights across the district (including the NZTA streetlights for maintenance). The new contract has seen the costs escalate as the previous contract has been in place for an extended period. The new contract has also led to an increase in the Level of Service provided to the community, along with being pro-active and their ability to manage the customers' expectations.

The figures below show the percentage split of luminaire types and the energy load on the network. It is interesting to note that the High Pressure Sodium luminaires account for 27% of the network, but represent 49% of the annual electricity costs in the unmetered load. This shows the value of the LED replacement programme and QLDC will look to continue LED roll out.

Figure 63: Luminaire type and Est annual Load



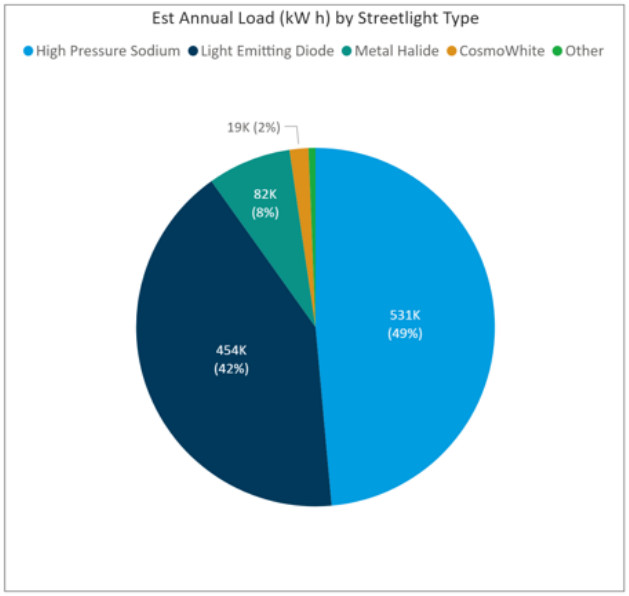
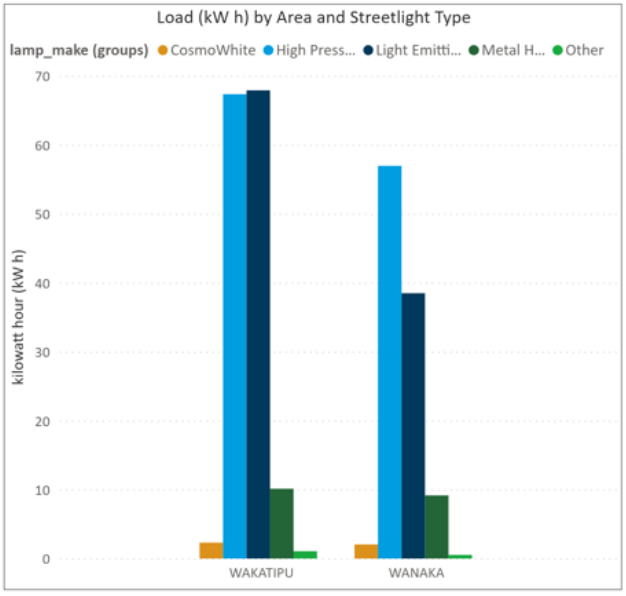
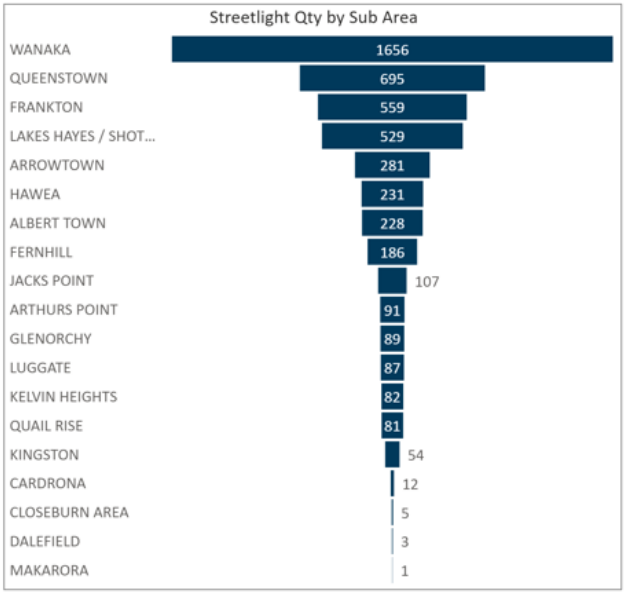


Figure 64: Townships showing number of Council-owned Streetlights





7.8. RESILIENCE (ENVIRONMENTAL MAINTENANCE)

Queenstown Lakes' reputation as a visitor and residential destination relies in part on its transport systems providing safe and reasonable access around the district. There is a continuing importance of tourism to our local economy and the criticality of providing welcoming, uncongested, safe, clean, environmentally attractive and well signposted and delineated roads for visitors. Facilitating the journeys and retaining access to important services such medical, schools and businesses is important, especially in winter by ensuring the roads are usable during and quickly after snowfall, cold weather and ice events.

Resilience is a key national, regional and local priorities, the ONRC defines resilience as– "The availability and restoration of each road when there is a weather or emergency event, whether there is an alternative route available and the road user information provided."

QLDC acknowledge the complexity of resilience across all of its infrastructure portfolio and are working on an approach for our long term investment in infrastructure that incorporates a resilience lens that is understood and is consistent across the organisation, as well as helping to develop the roadmap for building resilience in our infrastructure.

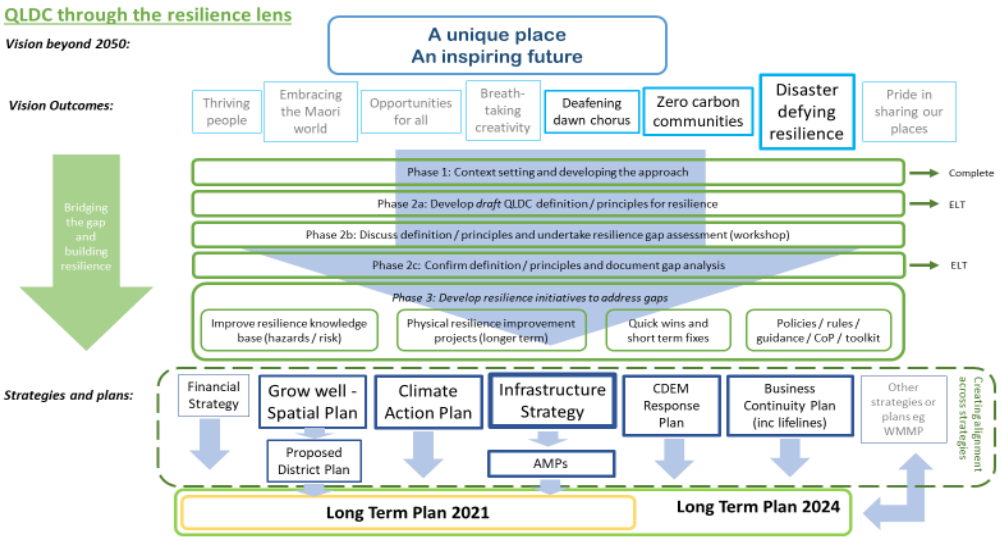
7.8.1. DEVELOPING INFRASTRUCTURE RESILIENCE

Our infrastructure is an increasingly complex system of systems, and is subject to a range of possible foreseeable and unforeseeable hazards and failures. QLDC continues to improve our awareness and understanding of the significant earthquake/ liquefaction risk and the potential impact on the region. Additionally, climate change is predicted to exacerbate flood and drought related hazards, and these will occur with increasing frequency and intensity over time.

Our community largely expects uninterrupted, increasing level of service. Rising standards set by central government for services under our control (including through our infrastructure), will put further pressure on our infrastructure investment. Unprecedented growth in our region has further exacerbated the pressure on our existing infrastructure.

Like all districts, the need for investment in infrastructure is greater than our capacity to fund it.

Figure 65: Approach to Resilience



7.8.2. INVESTMENT IN TRANSPORT RESILIENCE

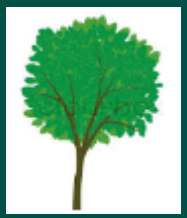
QLDC's transport network resilience knowledge is growing, there are key parts on the network we consider to be high risk. These are the Crown Range Road, Glenorchy-Queenstown Road as well as Skippers Road and Kinloch. There are a number of work programmes aimed to address resilience risk.

- As part of our Network and Asset Management improvements we are adopting Slope Check to monitor geotechnical slope stability. We have completed the first year of this and will look to repeat and understand change. This provides an H&S tool for risk assessment on site for Contractors and well and tracking the slope stability risk.
- Otago Regional Council's approach to the Head of the Lake natural hazard strategy
- Corridor studies specific to high risk corridors such as the Crown Range and Glenorchy-Queenstown Road.
- Edith Cavell bridge duplication Business Case
- Review on how Skippers Road is managed
- Dangerous Tree programme
- Rees Bridge Gravel Extraction

7.9. ENVIRONMENTAL MAINTENANCE

The management of the environmental aspects of our network is key to providing a safe and resilient network which supports safety and economic growth. This is delivered through winter maintenance, vegetation control, land stability and dangerous trees. Environmental activities are often difficult to predict and reliant on the seasons, therefore QLDC are focusing on building better data and forecasting.

What we do and why we do it?	
Winter Maintenance 	Ensures the roads are usable during and quickly after snowfall, cold weather and ice events. The Crown Range is the district's main Alpine Pass and provides the most direct link between the two largest towns (Queenstown and Wānaka) as well as access to several large tourist winter activity providers; Department of Conservation (DoC), Cardrona and Snow Park ski areas as well as the Southern Hemisphere Proving Grounds for the automobile industry. Weather and crash events can impact access to these activities. The Crown Range also provides resilience for State Highway 6, recent examples include a vehicle crash in March 2017 and a major winter weather event in 2016. The Wakatipu Basin is heavily impacted by ice and certain tourist routes are particularly vulnerable such as Glenorchy-Queenstown Road and Arthurs Point to Arrowtown.

What we do and why we do it?	
Dangerous / High Risk Trees 	The Queenstown Lakes District has a large number of tree species which are vulnerable to rotting of their cores and have a history of failures. These are: • Willow (Salix spp.) - • Poplar (Populus spp.) • Southern Beech (Nothofagus spp.) Due to tree types, local weather conditions, a number of near misses and one unfortunate fatal event in 2009 involving a tree falling on a vehicle, it was identified that we needed to address the risk posed by our tree stock. Previously, surveys had been carried out, but only after issues had occurred and not on the entire road network. A more proactive approach was required to understand the risk. QLDC also changed its approach to communications during high wind weather events to informs customers of the risk.
Vegetation Control	Vegetation management is important for safety by providing visibility sight lines. It includes spraying, mowing and trimming of trees/bushes. Spraying includes (noxious spraying, spraying of vegetation in urban areas, kerb and channel spraying, edge crack spraying).

	There is a register for recording areas where residents have requested a no-spray zone. QLDC has different growth patterns across the seasons and a variety of vegetation species.
Street Cleaning 	Provides a clean environment to support the liveability of the area for locals, visitors and tourist activities. Keeps detritus from entering the reticulated Stormwater system. Street cleaning involves litter removal, sweeping of the kerb and channel and general detritus removal
Emergency Repairs 	QLDC is making financial provision for emergency reinstatement. Unforeseen short, major events that damage assets or close roads can be considered as emergency events and any associated activities will be funded through the emergency reinstatement budget where possible. These events are difficult to predict and are therefore often dealt with by emergency works funding. Minor events: Up to 100k Major events: Over 100k
Land Stability 	Certain parts of the district are very susceptible to land instability issues due to the climate and topography. The last RLTP saw an investment on the Crown Range Land stability above the road. There are still issues below the road on the Crown range which will need to be explored. Glenorchy-Queenstown Road has also been identified as a high risk area and there are repeated slips on Skippers and Mace town Road.
Storm/Flood Damage 	If a storm/flood event occurs, QLDC's share of the road repair costs is covered by deferring other proposed work and the emergency reinstatement budget. Shoulder seasons requirements include road access during heavy rainfalls. Dart river flooding of the Kinloch Road Fords on low volume and access roads are vulnerable to flooding e.g. Wānaka Mt Aspiring Road.

WINTER MAINTENANCE	Key factor in the district as major factor in supporting local economy through resilience and safety. Crucial to understand environmental assumptions (Strategic Assessment section 2.7.2). Largest proportion of 121 is on winter maintenance. Peer group benchmarking shows QLDC as a high cost TLA however when the comparisons look at environmental conditions this is not so extreme. When looking at high cost winters, this is directly related to number of frost days recorded by NIWA. New contract KPI which is based on type of winter assists with delivery and target cost in a difficult situation. Cost of CMA is increasing as explore reduced grit usage. QLDC are developing knowledge and use of technology such as investing in Crown Range weather station.

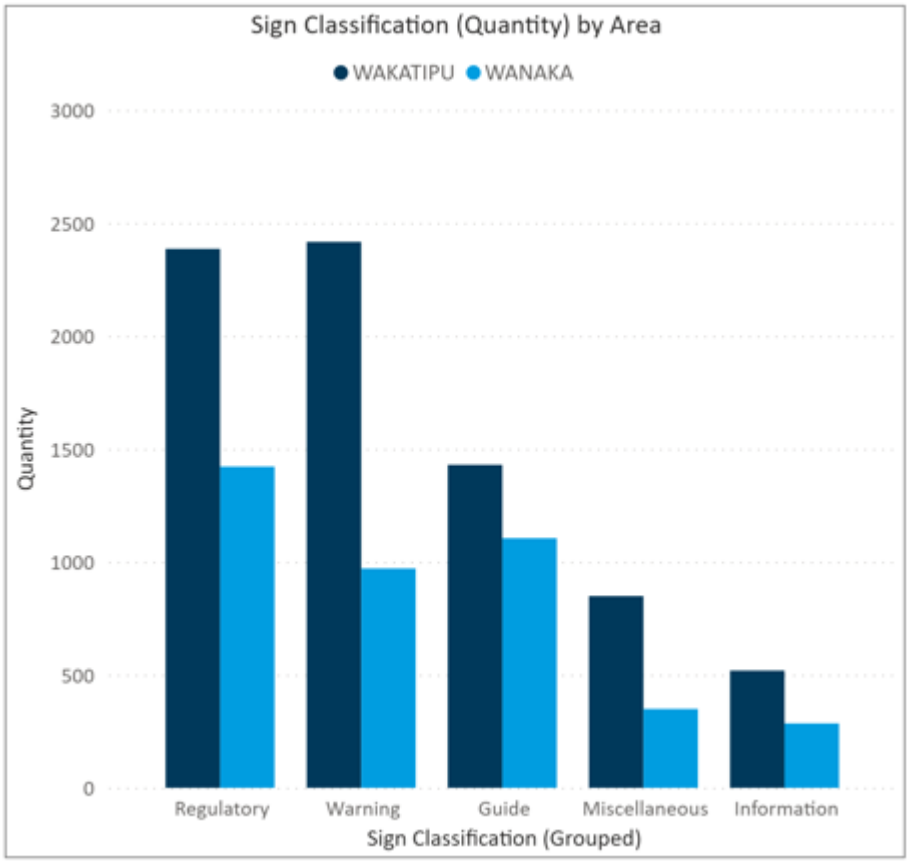
VEGETATION MAINTENANCE	Important element in customer safety and visibility of hazards. New contract has new sub- contractor. Increased focus on data collection and management Exploring potential move of urban vegetation management to Parks & Reserves Contract. Community feedback has shown a desire to increase LoS in regards to urban and rural roadside litter removal.
ENVIRONMENTAL RENEWALS	Renewal of catch fences provide for protection of the carriageway, that Renewal of any special treatment of run-off from the road to maintain water quality. This is an emerging issue due to NPS Freshwater Management.

7.10. TRAFFIC SERVICES - SIGNS, MARKINGS, GUARDRAILS AND RAILINGS

Delivery of Traffic Services is a fundamental part on how we communicate with and guide our customers. This often takes the form of way finding, warning of risks and mitigating risks to provide a safe environment through our network.

The geography and typology of our district has a key impact on our management of traffic services. From the impact of gritting on the life of line markings, the need for guardrails on our mountain and lake edges and directional and way marking signs to support our locals and visitors find their way around the district.

Figure 66: Traffic Services



7.10.1. MANAGEMENT OF TRAFFIC SERVICES

Impact of line marking from winter maintenance especially gritting, means having to replace markings more regularly. Currently re-marking urban and all arterials bi-annually and remaining network annually. This is still not achieving the required standards. Contract is exploring roading marking data processes to capture existing data and new. With urbanisation there is a growing trend for increased as well as more complex markings. The growing public transport network means bus stop markings increased, pedestrianisation brings controlled intersections with more complex markings.

Sign replacement manufacturers recommended every 7 years, but with intense ultraviolet light in the district, signs often lose their reflectivity before then.

7.11. NETWORK AND ASSET MANAGEMENT (NAM)

7.11.1. INTRODUCTION – NAMS STRATEGY

QLDC is committed to following best practice and undertaking evidence based decision making. This translates into investment in Network and Asset Management (NAMS). Our constrained and increasingly urbanised network faces many problems seen in more metro networks. Benchmarking the costs of network and asset management shows QLDC to higher than the peer group and is more comparable to networks which that are fully urban. In order to effectively manage and operate our network QLDC have focused investment in data collection, condition and demand monitoring, modelling and analysis.

The pace of growth has been substantial, pre-cCOVID-19 QLDC was about 7 years ahead of where we thought we would b, and this is particularly reflected in our traffic numbers. We have had to invest in evidence and data to understand the impact this demand has and will have and to ensure our programmes meet appropriate levels of service.

Our investment in NAMS is clearly aligned to our strategic assessments and our Continuous Programme problem statements. Changes in demand, our growing asset base, urbanisation, our challenging and constrained environment within escalating costs means we need to ensure our network knowledge is continuously maintain and improved.

Growth has changed our network, the number of developments is consistently increasing our network (12km in 2019/2020). This along with urbanisation and asset densification has increased asset numbers, and the network is becoming more complex. Traditional asset management has shown us that we need to understand assets and their condition, QLDC approach is maturing as our network grows and looking to better understand demand and usage. This includes investment into growth projections, spatial planning, master planning, modelling, network operating frameworks, customer engagement, more frequent data collection, traffic and multi modal counts, condition assessments. The move towards the One Network Framework will also make additional demands on data inputs. As our renewal programming and modelling improves, and expands into our asset classes, our data inputs must improve as well.

The move to the business cases process and the increasing number of capital projects has meant that asset management data and processes have been under pressure to support data collection and evidence capture.

Building baselines on key aspects such as parking occupancy, modal splits, multi modal movement monitoring, congestion, and travel time have all been built into our data collection process –alongside traditional asset and condition data. There has not been a lot of provision from the capital projects, , so our operational budgets have taken the burden. QLDC have also been supporting the State Highways data monitoring through Way to Go collaboration. The State Highways have been unable to contribute the existing travel time monitoring, so QLDC have been providing the operational inputs. QLDC Road maintenance contract overheads are held against NAMS and recent contract escalations have seen cost escalations.

One of the biggest impacts on NAMS work category in the 2021-24 NLTP is the cost of delivering the QLDC Roading Business Unit. The actual cost of delivering our service is well above the previously subsidised value, so QLDC have put forward the actual costs based on the 2019-2020 financial year.

7.11.2. DEVELOPING OUR EVIDENCE BASE

Part of QLDC's approach is to develop our knowledge of our network and how it is being used. Over the last 2-3 years QLDC have made some major improvements in data collection and updating of its asset register (RAMM). This is evidenced by the significant increase in the 2019/20 REG Data Quality score. Further items of improvements are noted in the improvement plan

- Large effort to improve data inputs and processes and document these processes.
- Move from visual surveys to repeatable machine surveys i.e. High Speed Data (HSD), SCRIM, Network FWDs, MSDs and better oversight of Inspection data (All Faults).
- Commenced audit of historic records i.e. rehabs, reseals, new developments, historic FWD and test pits
- Drawing on Waka Kotahi RAPT process for better field validation of programmes.
- Utilising Downer IMMS to identify gaps in process and how to fill those gaps.
- Developing use/skills in Juno viewer for analysis and field validation.
- Commencement of discussions with 3Waters to receive test pit data where currently, good records are not held.
- The HSD is now being used for multiple activities showing good value for money. Two years of surveys is creating deterioration curves to be used in dTIMs and drainage renewals. Geometry is being used to review no passing lane marking and curve warning signs and to undertake slope corrections on our steep roads. Also utilising videos for asset data updates for signs and lines.

7.11.3. TRAFFIC COUNT PROGRAMME

QLDC have developed a traffic counting strategy and an updated traffic counting programme to ensure that we are undertaking the appropriate level of traffic data collection needed to support business processes and providing value for money. The strategy has a mix of core monitoring (including three permanent and seasonal) and rotational sites. In response to our changes in growth and demand, QLDC update our traffic estimates annually.

We are exploring a number of different technologies and multi modal demand and usage data collection.

- Radar trial on Hawthorne Drive
- Trialling video analytical surveys with our CCTV Contractor.

- QLDC are exploring the use of video cameras along with artificial intelligence software for capturing and analysing traffic and pedestrian movements. An initial exercise is being carried out to provide evidence for a local business case and the methodology is being developed to explore potential for wider counting. QLDC have had discussion with Waka Kotahi to try and maximize the video technology being used by Waka Kotahi and adapt it to the Queenstown Town Centre.
- We now have a rolling cycle and pedestrian count programme in Wānaka on footpaths – in addition to counts on tracks and trials.

7.11.4. TRAVEL TIME MONITORING

QLDC along with Waka Kotahi have invested in a system called Blip Track which picks up blue tooth sensors from cars. These sensors are at various locations along some parts of our network, both Local Roads and the State Highway. They use an anonymised algorithm to calculated journey times as well as look at origin and destinations - we can use this to understand journey choice.

The difference in journey time has been calculated from actual journeys made before and after the changes.

Potentially this information can be linked up to a Variable Message Sign (VMS) and provide customer with real travel time information such as time to the airport, or warning of traffic incidents which may cause delay.

Figure 67: Blue tooth monitoring

7.11.5. INTELLIGENT TRANSPORT SYSTEMS (ITS)

The Ministry of Transport's Statement of intent envisages that Intelligent Transport Systems (ITS) are revolutionising transport globally, and these technologies offer some of the best prospects for improvements in safety, efficiency and environmental outcomes. Options are explored in the Intelligent Transport Systems Technology Action Plan 2014-18.

The Transport Agency Position Statement on Intelligent Transport Systems identifies specific investment areas for ITS and QLDC are striving to explore these methodologies. High priority ITS investment areas include:

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

QLDC are exploring options for broader ITS management through the QITS programme and the Queenstown Master Planning. This is looking at options including an operations centre which monitors CCTV, webcam, traffic, parking and will be used for optimisation of the network. This will include feeds into and from the Wellington Traffic Operation Centre (WToC) which currently monitors Traffic Lights on the state highway and shortly the local road traffic lights.

As part of the Alliance a version of the Queenstown Traffic Operations Centre will be initiated, in the first instance to management the temporary traffic management required during the Queenstown Centre Street upgrade, arterials and NZ Upgrade programme of works.

7.11.6. DEVELOPING AND TRAILING NEW TREATMENTS/MATERIAL SELECTIONS

QLDC is exploring the availability of developing and different treatment and technology's. A range of options are being explored

- Unsealed road clay blending trials
- Dust suppression options
- Snow and ice treatment such as CMA / NAC instead of the traditional grit. –Successful trials in Arrowtown in winter 2020. Being expanded to a wider Wakatipu basin.
- SCRIM solutions
- Bitumen rejuvenators

7.11.7. CROWN RANGE WEATHER STATION AND WEBCAM

QLDC installed a meteorological weather station and webcam at the summit of the Crown Range Road. This filled a significant gap in timely and accurate weather information for the Crown Range and follows the One Network philosophy by adopting the approach used by State Highways. Increased user numbers and the need to ensure safe winter access across the Crown Range to Cardrona, Wānaka, and local commercial operators requires improved information for making safe and timely calls for travel planning and ensuring the road stays accessible.

Accurate data recording and graphing of precipitation, temperature, humidity, wind speed and direction is now common practice in alpine zones for public safety. This information enables administrators and technicians to make road and public safety decisions with accuracy beyond "seat of pants" methods by watching trends and responding to rapid changes.

The combination of local expertise, regional Met Service forecast and accurate local mountain information will provide public, road management and crews with the assurance they have the highest level of decision-making possible. The addition of the camera will allow road users to access visual data in making travel decisions. This has already been proven to be of significant benefit on the Milford Road. This has proved very popular with social media.

Weather Station Benefits: Multiple user access to the weather station and camera would enable each user group to make pro-active decisions and avoid bottle-necks through an early warning capacity.

Technical Benefits: Weather data trends are one of the most beneficial tools especially with temperature change for road icing and wind for inclement driving in snow-storm conditions.

Emergency use: The value of having a network of weather station information through the region is vital for emergency services such as helicopter responses to mountain incidents both from Queenstown, Wānaka and Dunedin for urgent patient response.

Figure 68: Image from the Crown Range Web Camera

7.12. IMPROVING OPERATIONAL ASSET MANAGEMENT

Following a Road Maintenance Contract Review in 2020, QLDC are working closely with the road maintenance contractor to improve operational asset management and thus service delivery. This has focused on reviewing the Maintenance Interventions Strategy and Maintenance Management Plan.

Utilising technology to assist in network management, developing IT solutions to assist with network management

- Integrating RAMM with our Enterprise RFS system TechOne enables 'Requests for Service' to be entered by QLDC Customer Service team, entered in the corporate system and the data is automatically transferred to RAMM where it can be almost instantly received by the maintenance contractor. This also works in reverse, so once RFS have been addressed, any actions can be sent back to TechOne.
- Integrating RAMM with our Enterprise Finance system. Monthly maintenance contract claims are entered into RAMM and can now be easily transferred to the QLDC finance system.
- Exploring options to more easily access RAMM data by having a seamless link into our Corporate GIS system.

7.13. PUBLIC TRANSPORT

The public transport network is a key activity within our transport network, although not directly under the control of QLDC The Way2Go collaboration enables an approach that directly brings Otago Regional Council together with Waka Kotahi and QLDC to use the public transport network to address traditional transport issues.

Along with ORC, QLDC is investing in public transport infrastructure and has put aside $500k per annum (subject to approval) to deliver design and construction of bus stops and shelters, these are focused on connecting the wider Wakatipu Basin such as Lake Hayes Estate and Hanley Farm into Queenstown. . A key part of this investment is to ensure that active modes are enabled through the provision of this infrastructure e.g. making sure that buses and stops can carry bikes so people can start or finish their journeys. Solar panel trails will be undertaken in the winter of 2021 on bus stops in Arthurs Point and Arrowtown to provide light in the dark spots on the network, increasing customer sense of safety and security

The Way to Go partnership has subsidised bus fares to encourage behavioural change through incentivising the use of bus services.

The conversation within QLDC is not just limited to land transportation, in January this year QLDC announced that we are another step closer to potentially having a long-term subsidised water ferry in Queenstown. The Otago Regional Council was looking to amend its regional plan to enable a ferry to be added to the public transport network in the Wakatipu. Contingent on planning and funding support, they were looking to launch this in 2021 but this has been put on hold due to the COVID-19 pandemic and will be reviewed in the future.

Introducing Mass Rapid Transit is seen as a potential longer term solution to the capacity issues in QLDC and is being explored through our business case process.

7.13.1. THE BEE CARD

In September 2020, QLDC joined Dunedin to represent Otago with eight other regions in the Bee Card scheme. This electronic smart card makes using public transportation in these regions much easier. It is a tag-on tag-off system that is easy to use, gets you boarding faster, and for most trips is cheaper than using cash.

Usage of Public Transport in the district has seen some big increases, demonstrated by the figure below.

Figure 69: Wakatipu PT usage

The QLDC Quality of life survey shows that there has been an increased use of alternative modes of transport.

Figure 70: Quality of Life Modal transport

		2018-19	2019-20 - Work	2019-20 – Spare time	Target	Commentary
Bus	Daily	4%	2%	1%	Improve on the previous year	This KPI has been split out into work and spare time in the September 2019 Quality of Life Survey. E-bike or scooter has been added as a new mode of transport. Walking was the most used alternative method for both work and spare time. Seventy seven percent of respondents indicated they used walking as an alternative measure during their spare time either daily (36%), weekly (34%), or monthly (7%), while 35% indicated that they opted for walking to work daily (18%), weekly (13%), or monthly (4%).
	Weekly	9%	6%	7%		
	Monthly	10%	4%	8%		
	Infrequently	29%	16%	25%		
	Never	48%	72%	59%		
Walk	Daily	30%	18%	36%		
	Weekly	28%	13%	34%		
	Monthly	10%	4%	7%		
	Infrequently	19%	11%	11%		
	Never	13%	54%	13%		
Bike	Daily	8%	5%	7%		
	Weekly	20%	10%	25%		
	Monthly	12%	4%	12%		
	Infrequently	24%	16%	18%		
	Never	36%	65%	38%		
Water taxi	Daily	0%	1%	1%		
	Weekly	1%	1%	1%		
	Monthly	2%	1%	1%		
	Infrequently	15%	6%	13%		
	Never	82%	91%	84%		
E-bike or scooter	Daily		1%	2%		
	Weekly		3%	5%		
	Monthly		1%	2%		
	Infrequently		3%	5%		
	Never		92%	86%		

Lacking and inconsistent datasets make it difficult to fully understand the demographics of people using Queenstown's transport network. Privacy concerns limit the ability to collect detailed origin and destination data, while the commercial sensitivity of industries like car rentals and aviation means businesses are unwilling to share granular data on customer numbers and movements.

The potential ultimate public transport service network for the Wakatipu Basin is shown in the figure below.

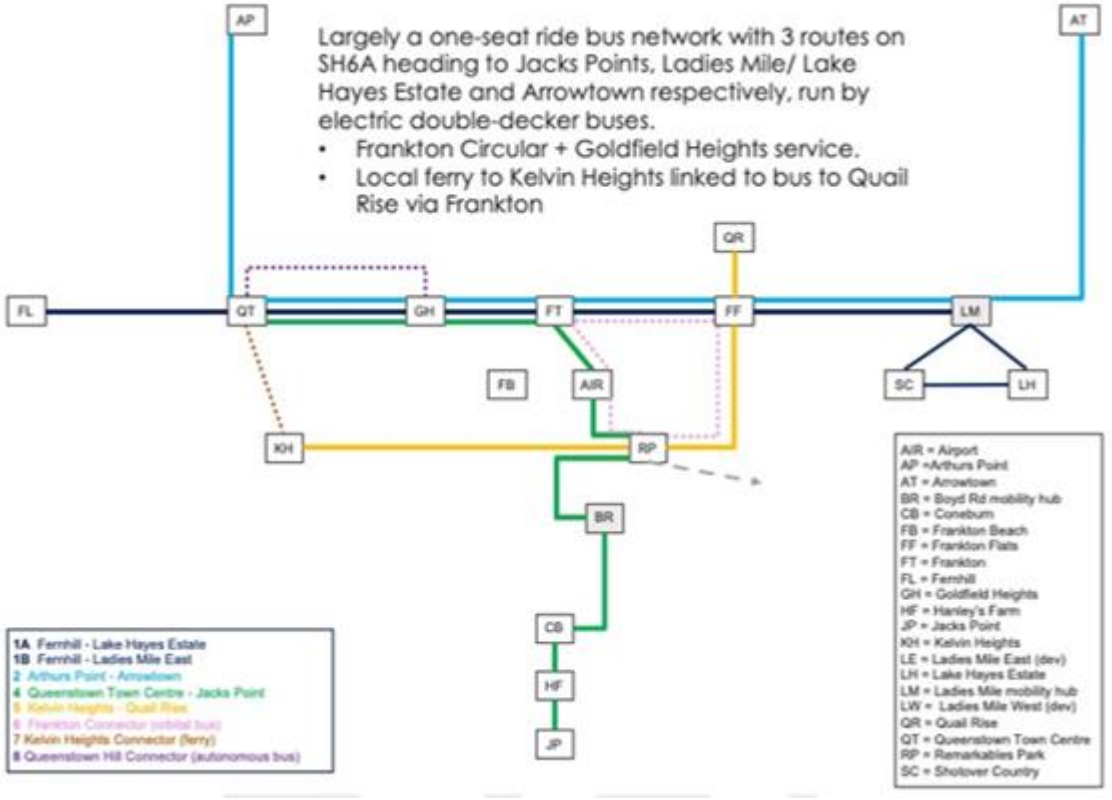


Figure 71: Potential long-term bus network for the Wakatipu Basin

The government $90 million investment includes bus lanes on State Highway 6 between Frankton's BP roundabout and the Kawarau Falls bridge which should expedite travel time for this PT journey.

7.14. SAFETY - ROAD TO ZERO

Safety outcomes are a key driver for QLDC, and there is a clear line of sight from our strategic drivers (GPS, MoT outcomes, RLTP and the QLDC 30 Year Infrastructure Strategy) through to how we manage our assets and activities.

QLDC are taking a coordinated approach to delivering the Road to Zero outcomes and integrating the five aspects into our programme development where appropriate. Combing safety related programme; Road safety Education and Promotion, travel demand and speed management alongside physical works. Working closely with the Safe Network Programme

7.14.1. ROAD SAFETY PROMOTION AND EDUCATION

QLDC has no dedicated Road Safety Officer and the road safety promotion and the education programme is partially outsourced to consultants to deliver various safety aspects across the district.

As well as continuation of our existing programme discussed in the tables below, a number of new initiatives are planned for the 2021/24 programme:

- Micro mobility: e-scooter training for children
- Cycling: eBike training for older riders

Externally Delivered Programme:

Cycling	Programme is delivered to Grades 1 and 2 school children (including those children who sit outside the MoE system ie. home schooling groups) Using the Bike Ready cycling system, current best practice in training and cycle skills. Our instructors are BikeReady certified. Due to the districts seasonal weather fluctuations, programmes are delivered in Terms 1 and 4 only. This programme also includes the Bus Ready programme.
Walking	The programme is delivered in conjunction with New Zealand Police School Community Officer (SCO) to the junior school students (year 0-2 in all schools + year 3-4 in some schools). The programme involves a classroom based interactive video session before a practical group walk around the local school area to put key learning points into context. In each class group 2-4 parent helpers are also involved which helps manage the large groups and reinforce the messages being taught at home.
Elderly Driving Workshops	The aim of the workshop is to build the confidence of senior road users and increase their knowledge of road code changes, safe driving practices and other transport options. The workshops host a number of different experts to present different topics in ORC for PT, local medical practitioners, Plunket, NZ Police, Age Concern

Internally Co-ordinated Programme:

Driver licencing/training	High school driver training programmes including Street Smarts which provides training for not just the students but also their guardians and mentors. Funding for Right Track with ICC ($2300 per student). Supporting (Drive to Survive) local expos and workshops run by the high schools and local youth trusts. Partner and support REAP in both the Wakatipu ward and differing Wanaka ward (Clutha) for the two REAP agencies. In conjunction with local Police, FENZ and LINZ, aligning with the Winter Driving Expo, using local exhibitors to workshop and train attendees in chain fitting, deliver advice around general vehicle safety.
Speed	Advertising campaigns - targeting various ages/demographics & the impacts on all roads users
Alcohol	Supporting SAAD in partnership with Police, SDHB and QLDC to raise awareness about safer driving.
Motor Cycling	Promote safer riding via ACC RideForever and discounts for riders completing accredited RideForever courses.
Cycling/Walking	Driver awareness of conflicting travel modes
Fatigue	Work with NZ Police, agencies and Lions/Community Clubs to create driver awareness at fatigue stops

7.14.2. COMMUNITIES AT RISK REGISTER

The Communities at Risk Register provides insight into identifying communities of road users that are over-represented in terms of road safety risk. The register highlights personal risk to road users by ranking communities by local authority area based on the Safer Journeys areas of concern.

QLDC's relatively low number of serious and fatal crashes can make it statistically unreliable to pick up trends in crash type or locations. The tables and commentary below show regional analysis of the Communities at Risk categories for QLDC's highest risk areas, in these instances of Cyclists, young drivers – 16-24 years and older road users, 75+ QLDC risk have fluctuated considerably from 2009-2019.

QLDC alongside Waka Kotahi have developed a Mode Shift Plan. The active travel network is being developed as a priority for travel demand management and addressing the congestion issues. Hence the increase in volume for cyclists of all ages on our roads and trails. QLDC is committed to deliver you cyclist training in schools as well as education programmes to raise awareness to all road users.

Our Young Drivers are also seeing an upward trend. QLDC has been working with NZ Police and other agencies to bring together various campaigns. Our 2019 Winter Driving Expo aimed at young and visitor drivers to the district was unfortunately called off due to COVID-19, it is intended to run this in 2021

The risk register has highlighted that we may have a potential trend developing in 'Older Road users 75+'. QLDC ran a pilot "Elderly Driving" workshop in Wānaka in early 2019, another in the Wakatipu with a refresh being completed in November 2020 in both Wānaka and Wakatipu. With the objective being to build the confidence of senior road users and increase their knowledge of road code changes, safe driving practices and other transport options.

CYCLISTS involved (D&SI/mhrs)									
	CDC	CODC	DCC	QLDC	WDC	GDC	ICC	SDC	MEAN
2009	47	59	20	18	31	60	8	50	No data
2011	63	53	4	20	35	60	14	57	19
2013	63	34	5	24	37	64	20	70	45
2014	64	30	5	20	45	65	18	70	18
2015	55	21	14	13	58	63	6	70	32
2017	58	42	17	8	44	65	1	69	18
2018	52	53	21	10	40	66	7	69	31
2019	51	60	27	15	31	65	7	44	32

Risk	V/low 0	V/Low 12	Med 50	Med 38	V/Low 10	V/low 0	High 62	V/low 0	

YOUNG DRIVERS – 16 to 24 years									
	CDC	**CODC**	**DCC**	**QLDC**	**WDC**	**GDC**	**ICC**	**SDC**	**MEAN**
2009	48	7	2	20	35	56	1	5	
2011	16	13	4	15	37	11	1	20	37
2013	12	9	2	11	24	48	3	19	31
2014	17	8	4	5	21	60	16	23	29
2015	24	26	1	34	38	60	19	20	33
2017	8	56	2	33	27	60	26	6	31
2018	12	10	9	29	27	57	21	14	28
2019	5	6	14	63	34	20	8	18	32
Risk	High 55	High 55	V/high 87	Med 31	Low 18	V/low 14	V/High 65	Med 50	

OLDER ROAD USER 75+									
	CDC	CODC	DCC	QLDC	WDC	GDC	ICC	SDC	MEAN
2009	No data	No data	No data	No data	No data	No data	No data	No data	No data
2011	23	70	3	33	15	67	5	34	31
2013	4	64	3	44	31	70	16	48	30
2014	5	68	3	41	42	71	2	57	33
2015	7	69	2	9	39	66	5	58	33
2017	16	70	1	8	24	67	14	34	33
2018	40	57	1	13	24	64	8	36	30
2019	43	56	2	36	33	64	15	38	34
Risk	Med 44	V/low 0	V/High 70	Low 28	Low 19	V/low 0	High 61	V/Low 2	

7.14.3. SAFE NETWORK PROGRAMME (SNP)

The Safe Network Programme is a Waka Kotahi collaborative initiative that aims to save up to 160 deaths and serious injuries every year across New Zealand's highest risk state highways and local roads.

QLDC has been worked with Waka Kotahi to address safety concerns through the SNP. A number of initiatives are in progress and or in planning. QLDC have submitted the majority of Road to Zero projects in the Low Cost Low Risk Activity Class.

QLDC are looking to have a more strategic approach to addressing safety. This will take a programme approach to ensure that all identified projects- whether through SNP or QLDC Points of Entry are assessed and considered in alignment to our strategic outcomes. QLDC continue to deliver minor safety projects through our operational team.

7.14.3.1. SPEED MANGEMENT

Speed management is a key tool in making our transport systems safer, speed increases both the likelihood of crashes and the severity of crash outcomes, regardless of what causes a crash. A small change in speed makes a big difference, especially when cyclists or pedestrians are involved. Most crashes are caused by a number of contributing factors, but even when speed doesn't cause the crash, it is most likely to determine whether anyone is killed, injured, or walks away unharmed.

QLDC undertook a speed management review in 2019. Council adopted various speed changes throughout this bylaw process, notably the largest being the reduction of all urban speed areas from 50 km/h to 40 km/h.

It should be noted that whilst Council approved the reduction of speed on the following 5 high benefit corridors, they recommended delaying implementation of the speed limit reductions until the state highway network was reviewed by NZTA.

Road	**Current permanent speed limit (km/h)**	**Recommended permanent speed limit (km/h)**
Queenstown - Glenorchy Road (Sunshine Bay to Glenorchy township)	100	80
Queenstown - Glenorchy Road (From One Mile roundabout to Sunshine Bay)	100	60
Crown Range Road (Small section of 80km after first zigzag from Arrowtown side then Cardrona side of summit)	100	80
Crown Range Road (From SH6 Junction to Cardrona side of summit (small 80km section as above)	100	60
Malaghans Road (From Lake Hayes Road junction through to speed change East of Coronet peak turn off)	100	80
Cardrona Valley Road (From distillery and ski field turn off to Wanaka township)	100	80
Wanaka-Mount Aspiring Road (sealed and unsealed)	100	80

7.14.4. SAFETY INFRASTRUCTURE IMPROVEMENTS

Physical safety improvements will be delivered through the low cost low risk programme and through road improvement categories.

7.14.4.1. SCHOOLS PHYSICAL WORKS

The Speed Limit Bylaw adopted by QLDC in 2019 includes permanent speed limit reductions of 30 km/h speed limit around schools district wide. This change is aligned with the Ministry of Transport's Tackling Unsafe Speeds Programme and aims to improve safety for vulnerable road users. The implementation of 30 km/h speed limit around school zones requires a rule change from Waka Kotahi and we understand this is currently being progressed.

QLDC has undertaken consultation with all schools to understand their road safety concerns and identify specific issues from the schools. Next steps are to undertake site visits to all schools, to understand the current traffic environment and investigate traffic calming improvements to complement the proposed speed limit reduction to 30 km/h.

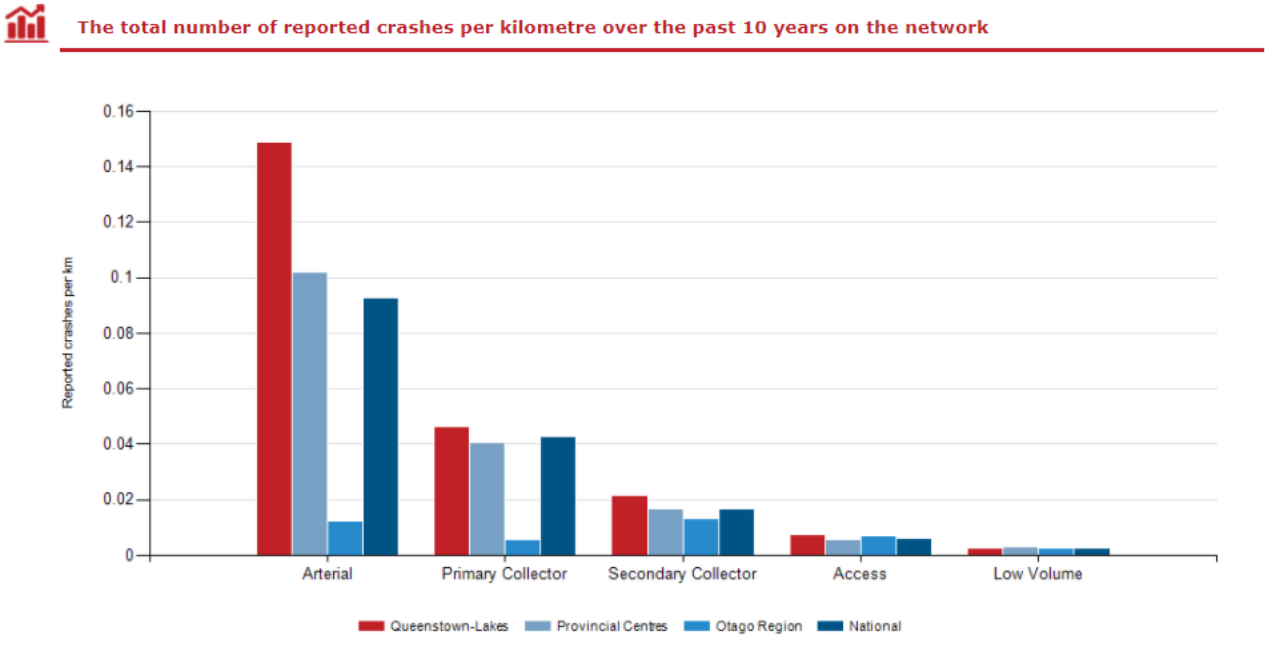
The above outputs are expected to be reported to Council in 2021. Any agreed improvements will be prioritised and funded throughout the Annual Plan process.

7.14.4.2. SAFETY PERFORMANCE REPORTING

An overview of QLDC's PMRT reporting can be found in the Appendix. However some of the safety related graphs are shown here. QLDC crash numbers are not high, so when reviewing the more detail graphs, the quantum must be considered.

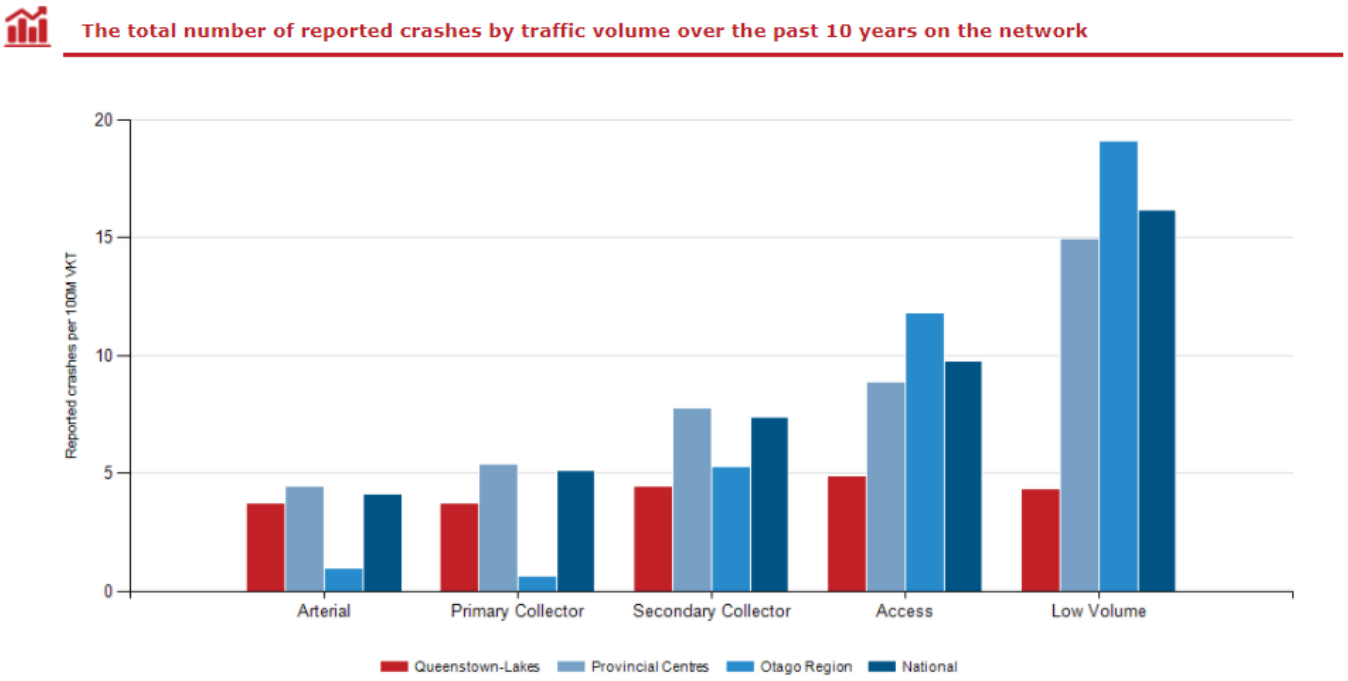
The PMRT benchmarking shows that QLDC's Collective risk is comparable on our lower class roads. The highest is on our arterial roads, which is a statistically short section which skews the results.

Figure Safety Customer Outcome 2 Comparative – Collective Risk



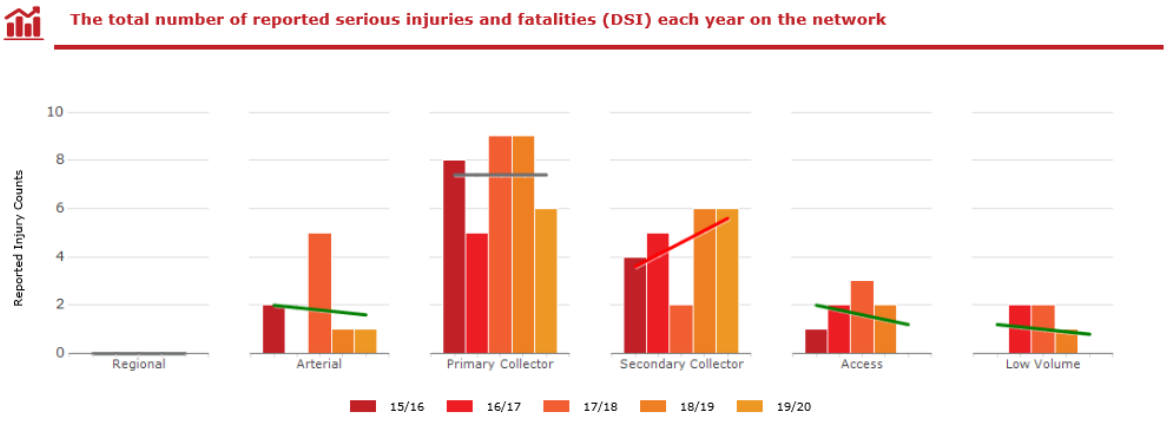
When looking at Personal Risk, QLDC's performance is improved. Personal risk is reliant on dividing the number of fatal and serious injuries by the vehicle kilometres travelled which is calculated from the traffic estimates. QLDC has not recently had confidence in its traffic estimate data, so have been undergoing the process of improving traffic count data. This includes updating Traffic estimates and improving our traffic count programme.

Safety Customer Outcome 3 Comparative – Personal Risk

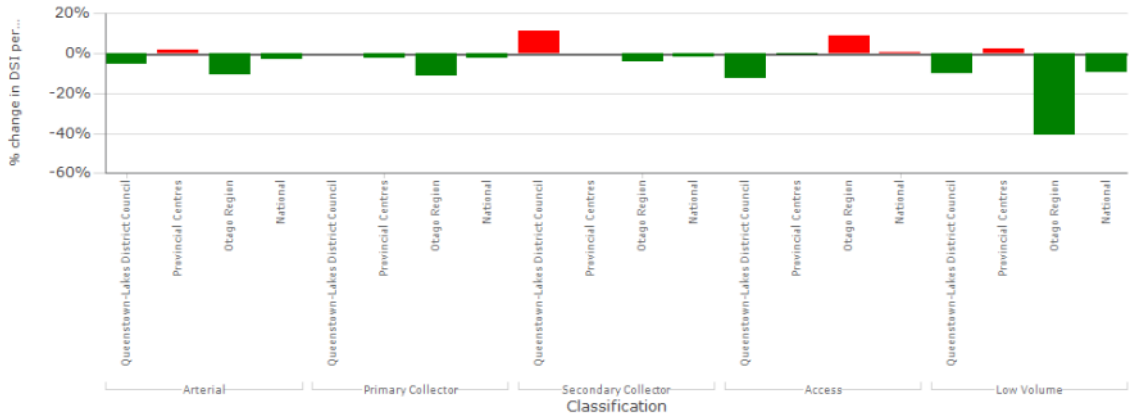


QLDC are monitoring the changes in number of fatalities, the numbers are generally low, and however, there is an increasing concern that the numbers of minor crashes are a lead indicator for the more serious.

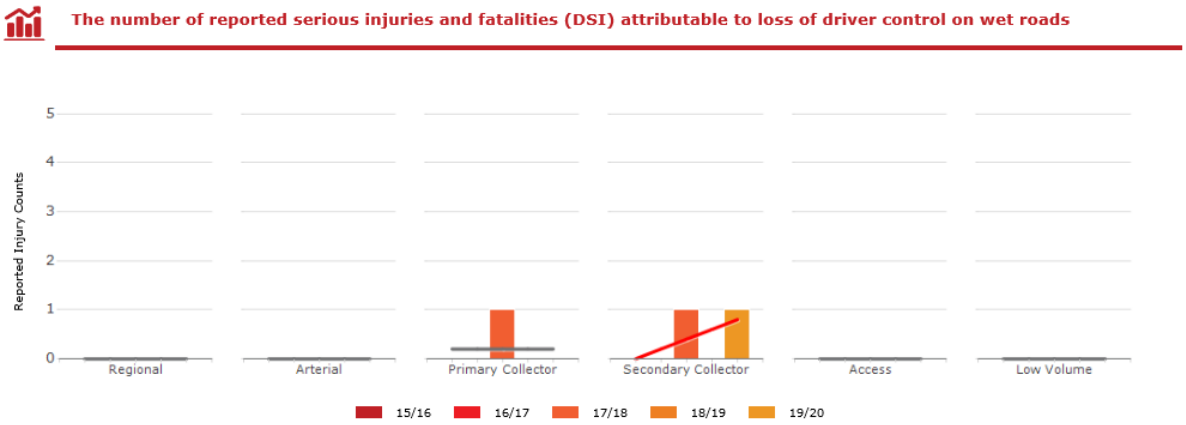
Safety Customer Outcome 1 – Serious Injuries and Fatalities



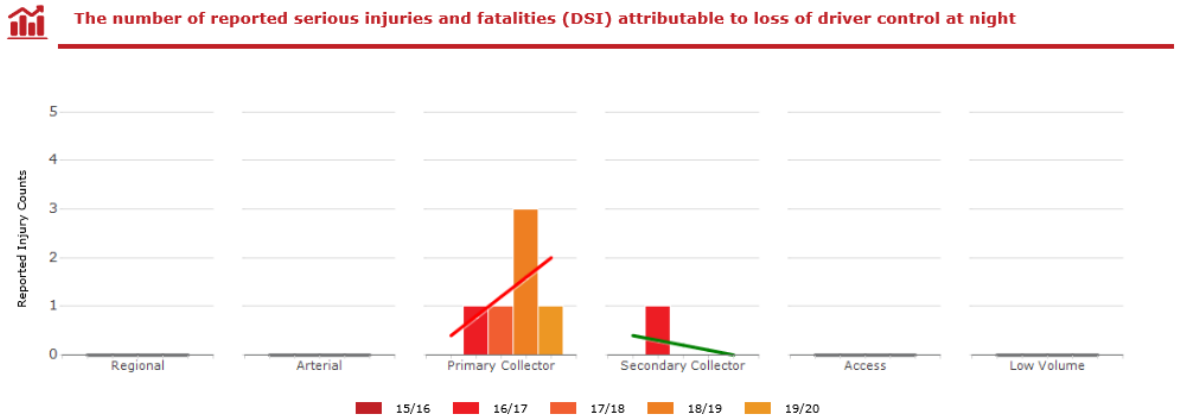
Comparative trend in reported serious injuries and fatalities (DSI) over a five year period



Safety Technical Output 4 – Loss of Control on Wet Roads



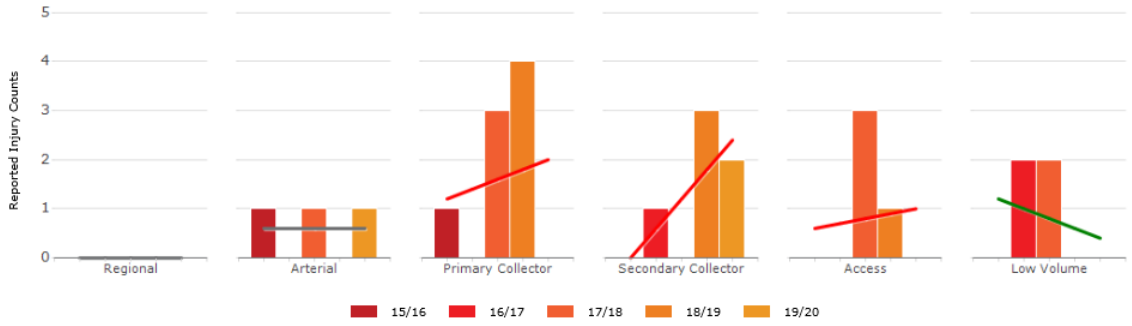
Safety Technical Output 5 – Loss of Driver Control at Night



Intersections are a growing concern and there have been some identified in the Safe Network Programme and QLDC will investigate these in more detail.

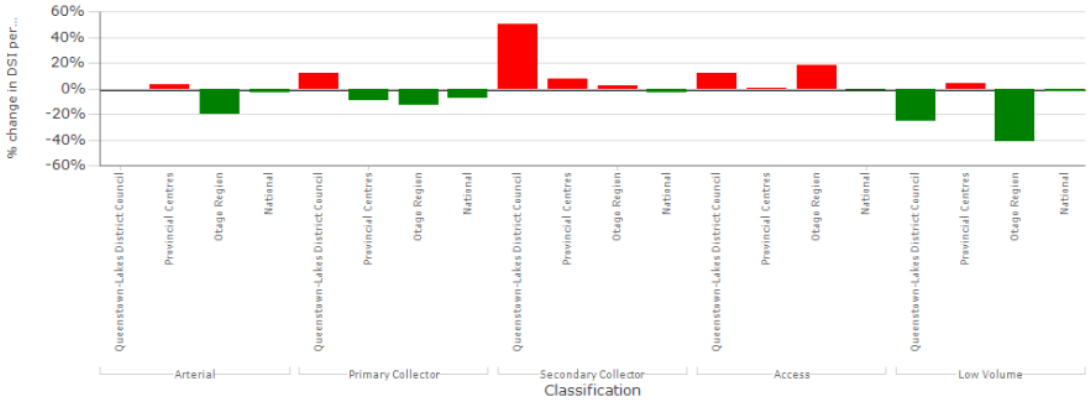
Safety Technical Output 6 – Intersections

The number of reported serious injuries and fatalities (DSI) at intersections each year on the network



Comparative trend in reported serious injuries and fatalities (DSI) at intersections

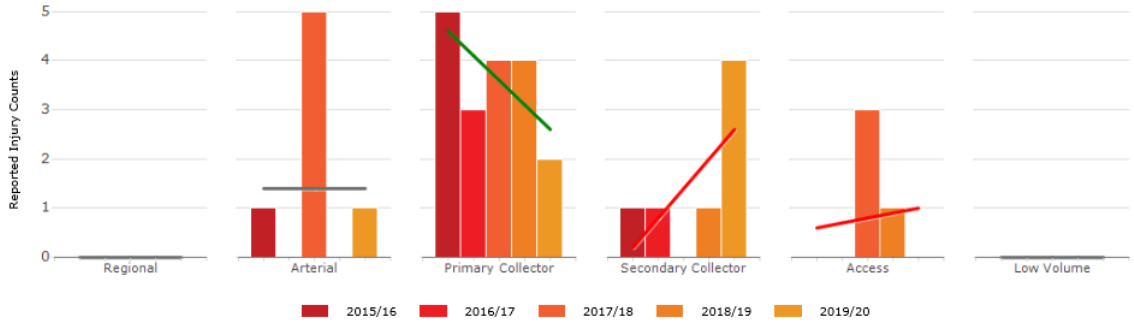
This graph shows the trend in serious injuries and fatalities over the last five years as a percentage of the average. Worsening trends are shown in red, improving trends in green.



With our move towards a more active travel approach and increase in active travel. It is important to QLDC that users feel safe. Programmes are being developed to segregate users where possible and will address key points of interactions between general traffic and those more vulnerable.

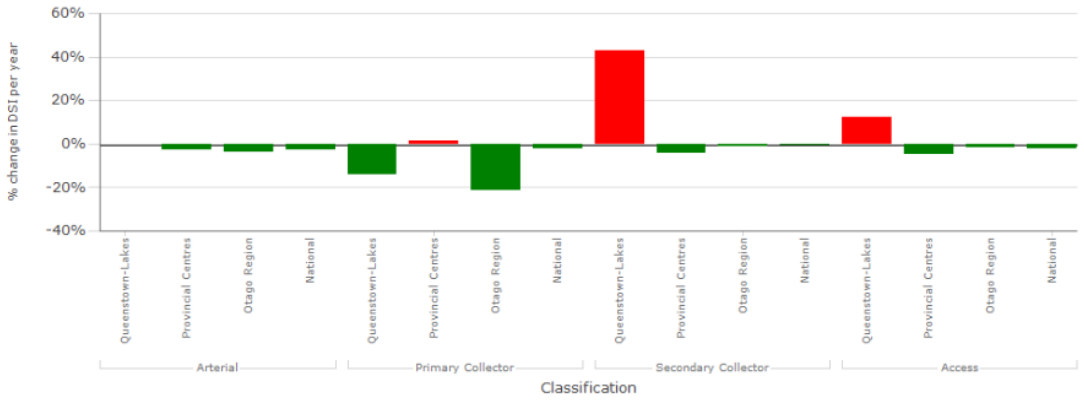
Safety Technical Output 9 – Vulnerable Users

The number of reported serious injuries and fatalities (DSI) involving vulnerable users on the network



Comparative trend in reported serious injuries and fatalities (DSI) involving vulnerable users on the network

This graph shows the trend in serious injuries and fatalities over the last five years as a percentage of the average. Worsening trends are shown in red, improving trends in green.



7.15. CRITICAL AND HIGH-RISK ASSETS

QLDC has reviewed and updated its Corporate Risk Management Framework (RMF) in accordance with ISO 31000. The RMF has been rolled out across QLDC at a corporate level and is in the process of being embedded at an operational level. The RMF provides guidance on the process that QLDC has adopted for the effective identification, analysis, evaluation and treatment of risk. The RMF also details the responsibilities that are associated with risk management governance, risk ownership and risk treatment. QLDC's Audit and Risk Committee provides governance over the effectiveness of the QLDC's RMF, internal controls, legislative and regulatory compliance, external audits and financial reporting.

QLDC has developed a risk register containing a set of strategic and operational risks, each of which have been assessed for their likelihood and consequences both before and after the mitigations and controls in place are considered. This list provides guidance to the organisation as to the materiality of key risks and the importance of mitigations and co0ntrols.

QLDC is moving to better integrate formal risk assessments into its asset decision making. The end result of this integration will be each investment decision being based on a consistent, robust and quantitative assessment of risk.

To mitigate risk, QLDC will:

- Establish and deliver maintenance and renewal service standards that preserve critical assets, mitigate risk and meet the desired service outcomes based on this RMF;
- Not accept the transfer of third party assets, unless minimum acceptable quality standards are met as set out in the QLDC Land Development and Subdivision Code of Practice;
- Prioritise and proactively inspect and protect its assets and their performance;
- Insure all critical assets for loss, damage and public indemnity;
- In the event that an asset can no longer be maintained in a safe condition, it shall be retired from service and any foreseeable hazards to the community are mitigated;
- Perform hazard loss modelling.

7.15.1. CRITICAL ASSETS

Critical assets can be defined as those that "are especially significant to societal wellbeing and therefore merit priority attention by utilities in emergency response and recovery" they are also defined as those which have a "high consequences of failure" for example, a transport route may be critical because it carries high volume of traffic, or if it is the only route to a hospital.

While there are a variety of frameworks for assessing criticality in different asset classes and industries, it is generally understood that a critical asset is one whose consequences of failure, or interruption of service, are very high. While a focus on assets is important, we also need to consider the events that lead to interruption of service (which may occur across a group of assets). Importantly for QLDC's criticality assessment, the Corporate Risk Management Framework contains guidance on how to assess the consequence of a particular event.

In the roading context, criticality is an important component of a key level of service: resilience. While resilience is the ability of the network to recover following an event, the criticality of the assets in question will drive the level of desired resilience (Hughes and Healy, 2014).

QLDC recently began its application of a first generation criticality assessment to its roading infrastructure. This approach is involves working closely with Waka Kotahi and contractors and the process is intended to be generational, inevitably, there will be endless opportunities for future refinements, but our near-term objective is to apply a credible framework and obtain some experience in using it for decision making, rather than perfecting the framework.

7.16. HERITAGE ASSETS AND PROTECTED FEATURES IN THE DISTRICT PLAN

Waka Kotahi are in the process of reviewing the Heritage Asset Management Guidelines. Although this is an early draft it is QLDC's intentions to adhere where possible to these guidelines.

QLDC have identified Heritage assets in the District Plan, examples of transportation heritage assets are:

Table 5: Heritage Assets

Skippers Road	The Mace Town Road
Edith Cavell Bridge	Albert Town Bridge James Horn Plaque
Horne Creek Bridge	Kawarau Falls Bridge
Kawarau Gorge Suspension Bridge	Skippers Bridge
Old Shotover Bridge	Luggate Red Bridge
Domain Road Historic Hedge	Arthur Thomas Monument
Lombardy Poplar	King Edward VII Memorial Lamp
Chard Road	Hotops Rise
Ballarat Street Bridge	Victoria Bridge Supports
Studholme Nursey Plaque Cardrona	

Figure 72: Arthur Thomas Memorial

Figure 73: King Edward VII Memorial Lamp

Figure 74: Edith Cavell Bridge

7.17. CONSENTS

QLDC must meet its requirements under the Resource Management Act. For transportation purposes, QLDC holds consents in the areas:

- To extract gravel for roading purposes;
- To apply CMA to the roads during winter;
- To install and maintain flood protection works;
- Maintaining bridges and culverts.

Consent compliance is maintained as follows:

- The Council shall comply with the RMA and the conditions of resource consents that apply;
- The Council is responsible for applying for new resource consents that are due to expire. In some instances a new resource consent may be applied for well in advance of the expiry date where current and projected demands require an increase in the rate of abstraction and/or an alteration to an existing designation;
- The Council shall gather and collect data required by the resource consent conditions and complete reports as required;
- The Council shall report the monitoring results to Otago Regional Council to demonstrate compliance with resource consent conditions.

A number of consents have recently expired and are underway to be replaced. will be expiring within the next NLTP period, and QLDC will also be reviewing the longer term approach to aggregate resourcing, ensure sustainable access to suitable aggregate, with a view to minimising risk and future costs. A list of these consents can be found in Appendix 11.1.4.

8. EFFICIENTLY AND EFFECTIVELY PROCURE AND MANAGE

Delivering our intended outcomes to our community is essential; effective service delivery through procurement and management of our contracts enables us to deliver our programmes.

8.1. PROCUREMENT

8.1.1. QLDC (PROPERTY & INFRASTRUCTURE) PROCUREMENT

All procurement is supported by a Procurement Plan that addresses the entire project or service. It is intended that a short-form procurement plan be developed for simple procurements (low cost/low value) and a more detailed plan for complex procurements with higher costs, risk and/or high customer or community profile.

QLDC intends to utilise a variety of supplier selection methods as defined in each specific procurement plan. These may include direct appointment, lowest price conforming, price quality and quality based. QLDC has identified the use of advanced components being contemplated in multiple scenarios, including Supplier Panel – Engineering and Specialist Support Services Panel, Supplier Panel – Minor Works, and Way to Go – Quality Based and Shared Risk.

Contractors are QLDC workers too - to fulfil our duties under the Health and Safety at Work Act when engaging contractors WorkSafe expects that at minimum, we will:

- Be a health and safety leader;
- Set clear health and safety expectations and incorporate these into contracts with contractors;
- Work with designers to eliminate risks so far as is reasonably practicable, or minimise risks if they cannot be eliminated;
- Choose the best contractors for the job using pre-qualification, not simply choosing them based on cost;
- Check health and safety records of potential contractors;
- Put clear and effective reporting procedures in place so they can be confident all duties are being met;
- Set up a clear framework for information sharing for the duration of the project.

Contractors are classified based on the frequency of engagement and the risk profile of the work ahead. They are either Low, Medium or High risk contractors and each requires a different level of tender assessment, induction, monitoring and post contract evaluation.

To help in engaging contractors for or on behalf of QLDC and to ensure that the contractor has suitable safety systems and appropriate training in place QLDC requires contractors to undergo pre-qualification before being engaged to perform work. At QLDC our recommended supplier to do this is SiteWise. Contractors must attain SiteWise Green Status. SiteWise is a pre-qualification system that grades a contractor's health and safety capability and publishes that grade in a database that can be viewed by main contractors and principal organisations. We can also accept other pre-qualification systems that are of an equivalent or higher standard, but you must involve the HS Manager in this process to ensure that the system meets QLDC requirements.

Way to Go is the collaborative partnership between Waka Kotahi, QLDC, and Otago Regional Council. It operates under a MoU signed by parties in December 2018, and recognises the unique transport challenges faced by QLDC and is committed to working collaboratively to provide residents, visitors and ratepayers with an enduring, affordable, safe transport system.

QLDC's Procurement Policy sets out how goods and services should be purchased. It is based on two complementary principles – value for money, and open and effective competition. It is applied to all purchases made by the QLDC including all goods, services, plant and equipment, civil construction and real property.

The QLDC will undertake regular reviews of the quality and quantity of information to enable it to monitor progress against its own procurement goals. The performance of QLDC's maintenance contracts is tracked through monthly and quarterly KPI reporting, and the application of this strategy will be monitored annually by reviewing the past year's procurement processes.

8.1.2. WAKATIPU TRANSPORT PROGRAMME ALLIANCE

QLDC has worked with Waka Kotahi to set up the Wakatipu Transport Programme Alliance. This alliance between QLDC, Waka Kotahi, Beca, Downer, Fulton Hogan and WSP will deliver a number of cornerstone transport projects including the Town Centre Street Upgrades, Stage 1 of the Arterial, the NZ Upgrade Programme, and part of the Active Travel Network. The alliance model allows for optimal programme delivery and integration with suppliers and partners, and customer focus can be achieved to ensure the successful delivery of these projects. Residents and visitors to Queenstown will benefit from safer, more accessible places and real travel choice.

8.2. SERVICE DELIVERY

8.2.1. CONTRACTING ARRANGEMENTS

Contract management is a key area where QLDC has focused on improving over the last six years. With a team dedicated to managing operational and maintenance contracts across all disciplines (Transport, 3-Waters, Solid Waste), contract and knowledge and skills have increased. Contract form is now standardised (NZS390/7) across all contracts, which assists better contract management as staff can build better understanding of the contract form.

The majority of the continuous programme is delivered under a traditional contract framework, however there is a collaborative intent and relationship with suppliers and partners which is key to delivering the desired outcomes. An example of this can be seen in our reseals forward works programme where we follow the Waka Kotahi RAPT process to ensure a collaborative and robust FWP.

8.2.2. CONTINUOUS PROGRAMME DELIVERY MECHANISMS

CONTRACT	SUMMARY	END DATE
Road Maintenance Contract	QLDC's Roading Physical Works Contract covers delivery of roading maintenance, renewals and a portion of low cost low risk projects. The contract commenced in October 2016 and is a 4+3+3 and it in its 4th year, the first extension has been approved. Target cost	31 March 2021 (+ Extension)
Low Cost Low Risk Projects	There is a now a pre-approved panel for small low cost low risk projects	

CONTRACT	SUMMARY	END DATE
Street Lighting Maintenance	The Street Lighting Maintenance Contract commenced in May 2019. Part of the contract delivers the maintenance of the State Highway lights within the district on behalf of Waka Kotahi.	31 March 2024 (Extension to 2027)
Reseals	This is for the resealing of urban and rural roads within the district. QLDC are monitoring the performance of the contractor regarding an extension. A separate AC reseal contract for the Crown Range was tendered in 2020.	31 March 2021 (potential for Extension to 2023)

8.2.3. IMPROVEMENT PROGRAMME DELIVERY MECHANISMS

CONTRACT	Summary
Project Management Office	The Majority of QLDC projects are delivered through the Property and Infrastructure, Project Management Office

8.2.4. STRATEGY FOR PROCUREMENT OF LAND TRANSPORT ACTIVITIES

QLDC has an approved Strategy for the Procurement of Transport Infrastructure which is attached in the appendices. The strategy outlines the QLDC's intentions for the procurement of transport infrastructure services and works. A strategic approach to procurement enables QLDC to better increase its chances of obtaining value for money. The strategy has been endorsed by Waka Kotahi. QLDC's primary infrastructure procurement objective is to deliver the right infrastructure, to the right standard, at the right time, at best value.

The QLDC delivers transportation services through third party contracts for professional services, maintenance & operations, renewals and capital projects.

Where appropriate QLDC generally utilises the following supplier selection methods (more detail can be found in the appended Strategy):

- Direct appointments for low value, low risk projects
- Closed tenders
- Open tenders

8.2.5. SMART BUYER ASSESSMENT

The draft Investment Prioritisation Method (IPM) will replace the IAF for the 2021-24 NLTP. It requires QLDC to outline their procurement and smart buyer behaviour. QLDC's approach to procurement in the AMP is covered through our organisational structure, our asset management enablers and our procurement strategy.

QLDC acknowledge that to deliver efficient and effective programmer it is crucial to be a smart buyer of services and strive to adhere to the 'three Es'.

- **Economy** – through securing (or supporting) the provision of products, materials and expertise at the quality, in the volumes and at the times and locations required, at the lowest price;
- **Efficiency** – through the processes used, including standard documentation and contracting forms selected for achieving best cost / quality and outcomes; and knowledge of the product / materials and supplier market applied;
- **Effectiveness** – taking opportunities for changing from traditional products and materials by maintaining support for innovation in the nature and characteristics of products and materials, and for a strong supplier market.

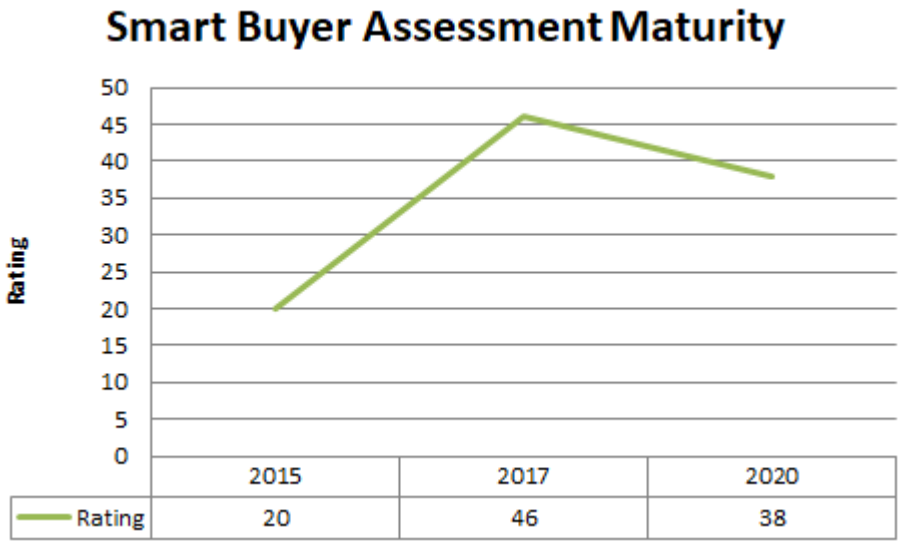
QLDC has undertaken the REG Smart Buyer self-assessment for 2020, this follows the 2015 and 2017 self-assessments. The 2020 assessment has been based at the Property and Infrastructure Department level of the organisation and will be actioned bi-annually with improvements included in the Performance Plan and results published in future AMPs.

QLDC's organisational change and approach to continual improvement and external audits is facilitating a much 'smarter' way of working. These improvements are reflected throughout the AMP, captured through our responses and our Performance Plan. These include:

- A more collaborative working with Waka Kotahi, Otago Regional Council, our RCA peers and other transport providers (QAC);
- Better understanding of our costs, aligning and changing contract delivery models to more collaborative styles with high level governance engagement and enhancing understanding of non-price attributes;
- Better asset and data management and robust forward works programmes for whole of life value for money and clearer risk management.

To achieve the projected 2019 desired future state QLDC intend to work towards the goals indicated in the AMP and work through the Performance Plan act.

Figure 74: Smart Buyer Assessment Maturity



9. PROGRAMME BUSINESS CASE

9.1. INTRODUCTION

This AMP Programme Business Case provides context for the QLDC Transport Programme, this consists of the Continuous Programme, indicating how we will Maintain, Operate and Renew our network, as well as our Improvement Programme which addresses some of the key gaps in level of service on our network.

9.2. CONTEXT OF 2021-31 PROGRAMME

The QLDC Transport Programme for the 2021-31 LTP has been developed to maximise delivery of benefits clearly aligned with the GPS for Transport within a constrained funding environment. The financial impact of the post-COVID-19 environment on our District cannot be underestimated. QLDC have lost a number of non-rate related revenue streams and are very cognitive that we must minimise the impact on our ratepayers and as such have limited rates increase to under 6%. This has resulted in a rethink on the priorities within our corporate investment programme. QLDC's LTP process has undergone rigorous review across our organisation and takes into account the needs across all investment portfolios (i.e. transport, three waters, waste management and community services). There are a number of non-transport major projects that QLDC deems crucial to the District's well-being and this has resulted in a transport investment programme that looks different to our original plans. Given the environmental pressures QLDC's network face, priority has been given to protect our current network investment, so maintenance and renewals local investment has been sustained.

QLDC have had a major review of the timing of the programme, a number of improvement projects have been pushed beyond years 1-3, whilst others have been pushed later into the 21-31 investment cycle or beyond.

As Waka Kotahi have signalled a preference to deliver projects under Low Cost Low Risk work category where possible, QLDC have spent time developing opportunities to utilise Low Cost Low Risk funding to invest in enabling projects.

Whilst the reduction on capital spend is a necessary hiatus, project and programme planning will continue as funds and resources allow. This will ensure that projects can be advanced quickly, should funding opportunities re-emerge. Essential background work on monitoring programmes and data collection will also continue to ensure that QLDC remain in an informed position to identify trigger points for new projects.

9.3. INTEGRATION AND PARTNERING TO DELIVER TRANSPORT OUTCOMES

With so many programmes of work within our District, there has been a lot of consideration towards ensuring we have an optimised and integrated approach towards our programmes and our transport outcomes. This is demonstrated in both the for planning and delivery phases.

QLDC have partnered with ORC and Waka Kotahi, into a collaborative entity called Way To Go which facilitates integrated planning. This move has been made to ensure alignment, streamline approvals and ensure land use is integrated with transport.

In addition to the NLTP funded programmes, QLDC, alongside partner investment from Waka Kotahi and Central Government will deliver significant transport projects as part of the Crown Infrastructure Partnership economic stimulus package and the New Zealand Upgrade Programme. These additional programmes will deliver key elements of the wider transport programme and becomes key enablers for, or additions to a wider integrated approach to addressing the constraints in our district. It should be noted that the local share required for these projects, combined with QLDC's capacity to fund and deliver, constrains the remainder of the improvement programme. Further detail can be found in Section 8 around the integrated and optimised delivery through our Wakatipu Transport Alliance.

Table 6 Overview of Investment Programme

Description	$ 2018/21	$ Proposed 2021/24	$ Change	% Change
Three-year total allocation *				
a. Operations & Maintenance excl. Renewals	23,711,200	32,536,244	8,825,044	37.22%
b. Renewals	17,132,500	27,688,678	10,556,178	61.61%
c. Capital Improvements	90,076,075	158,416,041.00	68,339,966	75.87%
Total	130,919,775	218,640,962	87,721,187	67.00%

*$ To be Confirmed

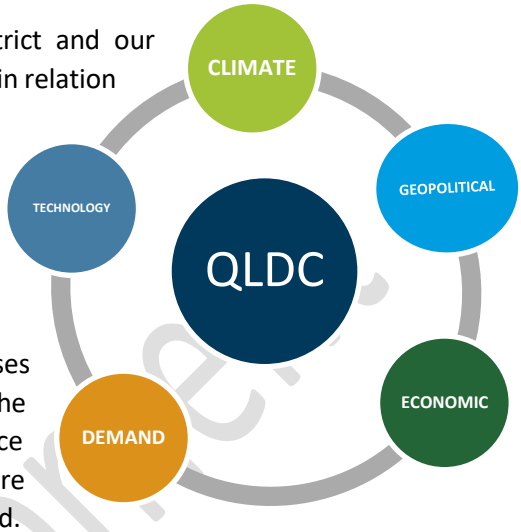
9.4. CONTINUOUS PROGRAMME

The objective of the Local Road Maintenance Programme is to support delivery of transport services to QLDC customers at the lowest possible whole of life cost whilst providing for unprecedented growth and demand whilst meeting GPS objectives. QLDC is building data and systems to better understand the challenges of the district and look to optimise network management and delivery through application of best practice and considering growth predictions in all activities and providing a value for money service.

The majority of the continuous programme is delivered under a traditional contract framework (see Section 8), however the intent is to build strong collaborative relationship with suppliers and partners is key to delivering the desired outcomes. This approach is demonstrated with our reseal renewals programme which has a joint RAPT to review and agree our forwards works programme.

Since the 2018-21 AMP, QLDC are striving to show better alignment between our work programme and the activities.

9.5. WHAT ARE THE PROBLEMS FOR MAINTENANCE, OPERATIONS AND RENEWALS?

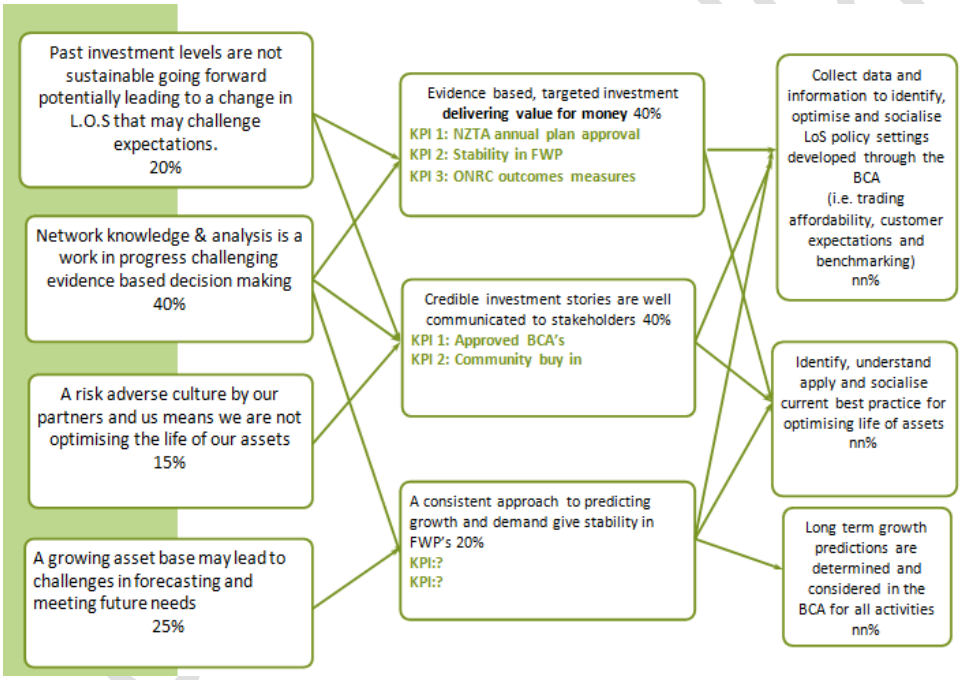


Our Strategic Assessment (Section 5) identified key issues our District and our network face. Further work was undertaken to consider the key issues in relation to the continuous programmes.

QLDC undertook an ILM style workshop, facilitated by external consultant Chris Olsen and involved key programme stakeholders: Waka Kotahi, QLDC (Asset Planning, Maintenance & Operations, Strategy & Performance), Downer (Maintenance Contract Manager, Reseals Contractor, National Asset Engineer).

The workshop identified problem statements, benefits and responses required to deliver a robust M,O & R programme for the District. The outputs from the detailed workshop sessions, along with QLDC evidence and analysis can be found through this document. These issues were captured in four problem statements and strategic responses developed.

Figure 75: Investment Logic Map for the Continuous Programme



The tables below explore the Continuous problem statements in more detail and reflect the responses and changes to the programmes from the 2018-21 programmes.

Problem 1 - A growing asset base is requiring more resources to maintain our network.

Although post-COVID-19, growth has slowed and the border closures mean there are less visitors; there are still capacity issues on the network due to the historic under investment. Peak visitor days still show this – as was seen in Queenstown during the 2020 marathon. Recent figures show that growth in subdivisions is still high and increasing, so the risk that we don't address our growing asset base needs to be monitored.

Problem 1 - A growing asset base is requiring more resources to maintain our network. 30%		
Key Responses	**Summary of Issues**	**Proposed Programme BC adjustments**
Continued monitoring of demand. Enhanced strategic transport planning, better alignment with planning and land use with developed of masterplans, network operating plans. Collaboration with central government on Spatial Plan. Better connections with regional transport partners; State Highways, Otago Regional Council, Queenstown Airport Corporation and neighbouring Authorities. Development of Queenstown Integrated Transport Strategy and now the creation of 'Way to Go'. This is creating joint programmes to tackle problems with Traffic demand management and physical works. Key activities include: • Making public transport an attractive and viable alternative to the private car through improvements to service provision and the introduction of bus priority, park and ride and a Mass Rapid Transit corridor between Queenstown and Frankton exploring Mass Rapid Transport options such as light rail, gondola • Altering cost, provision and management of parking across the area to support the goals of reducing private vehicle usage, and encouraging greater use of public transport • Completing key infrastructure projects for vehicular and active modes, including a new town centre arterial to facilitate economic	Many issues around growth for M&O • Congestion –TTM issues, timings of works increasing costs. Increase and change of heavy vehicle usage. • Increasing RFSs and social media complaints – higher complaints, not meeting expectations - needs further investigation. • Changes to types of infrastructure supported/maintained i.e. operational TM, active travel massively increasing (knowledge/skills required for different work types, demand monitoring and funding requests for different categories. Capex impact on Opex • Increase in heavies – servicing retail and construction e.g. Camphill road • Higher visitor numbers on higher risk road – unsealed roads, access to crown estates – more safety infrastructure required (edge markers, signs, line delineation, drainage, ottas) on unsealed roads (many would meet previous seal extension criteria. Often in more vulnerable roads for resilience (Skippers/Glenorchy) so emergency money increases • Heaps of developments being vested – impacting lump sums in contracts • Number of journeys impacted?	• Focus on network and asset management to monitor data on condition and demand. • Demand data capture is moving to more multi modal. Investment in monitoring active modes (cycling and pedestrians) • Benefits realisation is expanding • Focusing on programming for maintenance and renewals. • Focus expanding from sealed pavements into unsealed, footpaths and structures. • Look for opportunities around modelling (unsealed roads, footpaths, structures) • Still pressure on existing assets from previous growth, so need current investment levels. • We have better knowledge of assets being vested, better control and remedials if required. Money for second coats.

growth, better provision for public transport and access for pedestrians, and removing unnecessary vehicle movements in the most congested areas of the town centre		

Problem 2 - The escalating cost of doing business is reducing the affordability of our programme of works by 30%

The post-COVID-19 economy with all the current issues is still reflecting high costs and impacting the affordability of our programme. This is also impacting now by the capacity of the market, as the economic stimulus packages place supply and demand pressures on the market.

Problem 2 - The escalating cost of doing business is reducing the affordability of our programme of works 30%		
Key Responses	**Summary of Issues**	**Proposed Programme BC adjustments**
• Focus on more mature procurement and supply chain engagement. Now have a procurement manager who is looking at procurement mechanisms - panels, early engagement with suppliers to give the market signals of upcoming work and to try and align timings. • Now have a Transport panel as well and a panel for specific low cost low risk projects. • Continue to model i.e. Dtims to understand long term impact of changes	There is clear evidence that the cost of doing business is increasing. This results in not being able to do as much work for the same funding as previously. • Seen nationwide, but exacerbated in QLDC due to growth • Nature of network and isolation, costs more to get goods in and waste out. • Network constraints; landscape and limited journey choices in and out the district. • Competition -not just capital investment by QLDC/ NZTA but also private market (developments) • Sub-contractors are busy with private works – more competition and better pay rates • Skills shortage increasing cost. Contractors are struggling to get skilled staff, therefore pay a premium. • Cost of congestion. Network is busier, it takes longer to get around • Cost of compliance CopTTm, has increased costs and created more paperwork, NTE 037 v2 from Downers to QLDC • Regulatory costs NEW Cost of compliance – a new statement?	• Some escalations, especially where TTM a large portion (e.g. sealed pavements) • More evidence driven and focus on programme development. Business case approach and internal challenges – all projects go through Engineering Challenge Group and Project Challenge Group. • Changing work practices to look for efficiencies –Environmental maintenance saw successful trial in Arrowtown – with increased CMA – now applying to a wider Wakatipu basin. • Changing network needs different focus – reducing some unsealed investment to areas where LoS is needed .i.e. take more risk (amenity on unsealed roads - otta seals

Problem 2 - The escalating cost of doing business is reducing the affordability of our programme of works 30%		
Key Responses	**Summary of Issues**	**Proposed Programme BC adjustments**
	• Valuation unit rates review saw a big increase in some rates. Requests for minor equipment	

Problem 3 - Our network knowledge needs to be maintained and improved otherwise our ability to make robust evidence based decisions is reduced 20%

Understanding our network post-COVID-19, is more important than ever. Monitoring the changes in demand, growth and usage is crucial to being agile with our programmes. This support our decision making

Problem 3 - Our network knowledge needs to be maintained and improved otherwise our ability to make robust evidence based decisions is reduced 20%		
Key Responses	**Summary of Issues**	**Proposed Programme BC adjustments**
Focus on building and retaining knowledge in house through process mapping, asset data improvements. Investment of time and money into: Tools: dtims, Junorviewer, RAMM, GHD dashboard, REG Dashboard, Process mapping (Promapp),Bliptrack Data: • Asset data capture, particularly newly vested data has undergone a huge focus in the process (both P&I & P&D), specifying data requirements and formats and tracking the process. • Data quality development, using DQ tools as BAU, amending processes • Focusing on multi modal demand/use data, seal analysis. Travel time, origin and destination. Cycle/pedestrian counting, investigating other methods for all counting. People: • additional roles in focussed on asset management in both client and contractor structure, more training in tools and data	QLDC historically had limited internal knowledge of the network, partly resulting from a high turnover of staff and reliance on consultants. Internal understanding of data quality was questionable or non-existent. This was a big focus through 2018-21. It is important to maintain and improve our practices, but the weighting of this statement did decrease from 18-21.	• Definitely less of an issue than 2018-21 - achievements (DQ reports). • Have focused on pavements/ surfacing, now developing in other asset categories. • 21-24 will see a step change is structural asset management – building on current good practice for bridges, and aligning retaining walls assessments. • Unsealed roads management increase inspections as carry out less work.

Problem 4 - Moving from a holiday town to an international city means network use is changing as well as increasing

Post-COVID-19 stimulus investment is advancing the complexities in our network, this is important to support the economy, but it does mean that the urbanisation, landuse change and network complexities such as controlled intersections are still relevant issues.

Problem 4 - Moving from a holiday town to an international city means network use is changing as well as increasing 20%		
Key Responses	**Summary of Issues**	**Proposed Programme BC adjustments**
• Improve monitoring of multi modal demand and usage. • Trying to understand impact through economic modelling – infometrics, recovery team analysis.	• Growth and urbanisation is changing the use of existing network. • Pressures on alternative routes as people try to avoid congestion • Increase demand on rural roads. seeing more edge break as vehicles using more roads. • Lots of unknowns about economy and tourist industry and what impact recovery will have on us.	• Focus on Network and asset management • Operational traffic management increasing over the next 3-5 years • Maintaining and supporting active mode network (increase in footpath and cycle paths maintenance and renewals.) • Programmes will likely be delayed, at this point, still benefits in progressing preparation for projects, but construction will take delay. • QLDC has been playing catch up with infrastructure, so need to find a balance point.

9.6. CONTINUOUS PROGRAMME BUDGET DEVELOPMENT

Throughout the ILM process various ideas were discussed and explored:

- More analysis is required to get a better understanding of LoS at each classification level;
- Where should we focus funding on the network;
- Understanding investment level by asset – it was identified that the value of our footpath asset was very substantial, and this is potentially not being given suitable priority;
- Identifying LoS discrepancies/ gaps to prove the case for funding;
- Ensuring the BCA AMP aligns with maintenance activities and doesn't become a paper weight, but instead becomes a living document providing a continuing perspective on our network and direction on what we want for the district;
- Historically, all assets (with the exception of the sealed pavement network) have been run to failure, i.e. not for optimal asset preservation. This is a strategy that QLDC wants to understand and address where appropriate;
- Budgets have been driven by contract not outputs;

QLDC has progressed and matured considerably from where they were 3 to 6 years ago, but still have a long way to go. This AMP signals an overall request for an increase in the budgets for the Local Roads Maintenance Programme.

The increase in local roads is due to a number of things. QLDC have worked hard to understand our network need and there is now a strategic response to protect our current investment – i.e. bring our rehabs and reseals back to an acceptable level, invest in our changing network, from an operational traffic management perspective, and a multi modal network, as well as claim back subsidisable business costs.

We believe that setting out the business case in this plan, supported by robust evidence, represents an important step in developing our programmes and meeting the needs of our wider community and our business partners.

The investment level of the Continuous Programme has been developed based on:

- Our Strategic Assessment (Section 5) indicates the impact on our network in the economic context of our market place.
- The Consumer Price Index(CPI). The procurement of the roading maintenance contract reflects market place increases. QLDC have budgeted for a CPI, growth and maintenance escalation increases over the term of the contract, however the contract has been written so that the Contractor's option to take this increase may impact on possible contract extensions.
- Some efficiencies through an innovative contractor. Placing more responsibility and self-determination on the contractor with significant Key Performance Indicators (KPI), encourages the Contractor to deliver efficiencies through best practice. Renewals are not included in the Maintenance contract and not guaranteed to the maintenance contractor, this is seen as a motivation to do well in operations.
- Other efficiencies through a collaborative approach with the contractor using a Target Cost Contract. When implemented in 2016+, the road maintenance contract saw significant savings and efficiencies achieved through moving to a Target Cost contract form and through improved collaboration with the Contractor. The commencement combination of the Target Cost plus Provisional Sum has delivered significant saving since the previous NEC Contract. NZTA do not directly see the savings as this has been absorbed through the unsubsidised expenditure.
- What the network is costing to run. Previously a large amount of Network and Asset Management Business Unit costs have been unsubsidised and QLDC are reallocating to reflect actual costs. This also reflects that the staff numbers dealing with transport have increased with the huge programmes of works which have been in planning. Staff time is tracked as per the internal Service Level Agreement.
- Operational Traffic Management shows a big increase.
- Some extra funding in new categories such as making provision for emergency works and for operational maintenance shows a maturing network as traffic signals, web cams and weather stations are introduced as well as exploring CCTV for traffic counting.
- Better and increasing understanding of the network and its needs - the asset management approach is maturing and now provides more data driven escalation. Network and Asset Management is certainly under more demand and it is anticipated these costs should reduce once knowledge of the network and its demands are better understood.
- QLDC's unprecedented growth has resulted in massive physical growth and in actual demand on the network. Section Five – Strategic Assessment Demand explores the issues, problems and consequences that growth brings as well as responses being undertaken and planned
- Better alignment of claims with NZTA categories. Improved transparency and better understanding of the claim process and where money should be allocated.
- A re-adjustment of where costs are allocated. This is especially seen in Network and Asset Management which now includes the contract network management costs e.g. routine inspections and patrols, joint inspections, programming, reporting, plans implementation and compliance. Previously this was allocated as a percentage split across the asset categories.
- A significant increase in QLDC's capability and capacity to deliver programmes to meet budgets.

The programme case aims to show that the balance of activity within the budget bid is optimal for the objectives set out in the strategic case. The following table outlines the main work categories.

Local road maintenance - Local Roads NLTP Comparison					
Expenditure Reporting Lines	**Work Category**	**Description**	**2018-2021**	**2021-2024**	**Percentage Change**
Maintain	111	Sealed pavement maintenance	3,150,000	3,323,800	6%
	112	Unsealed pavement maintenance	1,600,000	2,069,358	29%
	113	Routine drainage maintenance	1,601,500	1,432,632	-11%
	114	Structures maintenance	410,000	339,999	-17%
	124	Cycle path maintenance	108,000	259,030	140%
	125	Footpath maintenance		671,745	
	140	Minor events	61,000	370,908	508%
Operate	121	Environmental maintenance	4,450,000	6,339,422	42%
	122	Network service maintenance	2,234,000	3,887,641	74%
	123	Network operations	91,000	190,176	109%
	151	Network and asset management	5,171,000	7,130,157	38%
Renew	211	Unsealed road metalling	3,817,000	4,466,350	17%
	212	Sealed road resurfacing	4,787,000	6,181,800	29%
	213	Drainage renewals	1,419,000	1,622,722	14%
	214	Sealed road pavement rehabilitation	2,365,000	7,260,000	207%
	215	Structures component replacements	348,000	570,000	64%
	216	Bridge and structures renewals		0	
	221	Environmental renewals	360,000	450,000	25%
	222	Traffic services renewals	594,000	710,907	20%
	224	Cycle path renewal		60,000	
	225	Footpath renewal		2,250,000	
Road safety promotion	432	Safety promotion, education and advertising	442,000	693,907	57%
		TOTAL	**33,008,500**	**50,280,554**	**152%**

Local Road Maintenance - Crown Range SPR NLTP Comparison					
Expenditure Reporting Lines	**Work Category**	**Description**	**2018-2021**	**2021-2024**	**Percentage Change**
Maintain	111	Sealed pavement maintenance	300,000	367,199	22%
	112	Unsealed pavement maintenance		0	
	113	Routine drainage maintenance	156,000	165,549	6%
	114	Structures maintenance	28,000	28,653	2%
	124	Cycle path maintenance		-	
	125	Footpath maintenance		-	
	140	Minor events	76,500	185,454	142%
Operate	121	Environmental maintenance	1,036,000	1,206,000	16%
	122	Network service maintenance	128,000	146,446	14%
	123	Network operations	190,200	197,385	4%
	151	Network and asset management	459,000	698,031	52%
Renew	211	Unsealed road metalling		-	
	212	Sealed road resurfacing	1,046,800	339,999	-68%
	213	Drainage renewals	189,700	213,000	12%
	214	Sealed road pavement rehabilitation		800,000	
	215	Structures component replacements	189,700	260,000	37%
	216	Bridge and structures renewals		-	
	221	Environmental renewals	360,000	240,000	-33%
	222	Traffic services renewals	21,400	60,000	180%
	224	Cycle path renewal		-	
	225	Footpath renewal		-	
		TOTAL	4,181,300	4,907,716	17%

Local Road Maintenance - Local Roads NLTP Comparison					
Expenditure Reporting Lines	**Work Category**	**Description**	**2018-2021**	**2021-2024**	**Percentage Change**
Maintain	111	Sealed pavement maintenance	333,000	424,999	28%
	112	Unsealed pavement maintenance	171,000	229,221	34%
	113	Routine drainage maintenance	171,000	193,834	13%
	114	Structures maintenance		82,527	
	124	Cycle path maintenance		-	
	125	Footpath maintenance		6,000	
	140	Minor events	210,000	185,454	-12%
Operate	121	Environmental maintenance	550,000	791,000	44%
	122	Network service maintenance	141,000	181,466	29%
	123	Network operations		-	
	151	Network and asset management	443,000	738,249	67%
Renew	211	Unsealed road metalling	195,000	30,900	-84%
	212	Sealed road resurfacing	95,000	256,545	170%
	213	Drainage renewals	159,000	185,454	17%
	214	Sealed road pavement rehabilitation	300,000	800,000	167%
	215	Structures component replacements		600,000	
	216	Bridge and structures renewals		-	
	221	Environmental renewals	360,000	240,000	-33%
	222	Traffic services renewals	525,900	75,000	-86%
	224	Cycle path renewal		-	
	225	Footpath renewal		16,000	
		TOTAL	**3,653,900**	**5,036,649**	38%

9.7. CONTINUOUS PROGRAMME - OPTIONEERING

With the post COVID-19 financial constraints, QLDC have undertaken a number of option appraisals within the Continuous programmes. The collaborative workshops with our Contractor and Operational teams enabled us to challenge certain practices and to see where we can take risk around our levels of service.

The following tables provide a summary of the high-level optioneering. Further detail can be found in Appendix 11.6 or is available on request.

Figure 78 Continuous Programme Investment Scenarios.

Options	Description	Operations	Renewals	Road Safety Promotion	Cost (3yr)	Co
Baseline / Status Quo Programme	Continue with current practice - based on 18-21 submission adjusted for 21-24 figures.	24,006,207	17,675,161	456,100	42,137,468	142,136
Do Minimum Programme	Reduced preferred programme	30,492,337	24,578,827	543,907	55,615,071	189,580
Preferred Programme	Programme meets evidenced based requirements to meet accepted LoS	31,842,337	27,688,678	693,907	60,224,921	202,699
Aspirational Programme	Enabling a step change in some areas	32,320,472	28,070,468	843,907	61,234,847	206,347

Figure 79 Response and consequences of Continuous Programme Investment Scenarios.

Options	Strategy Response	Programme Response	Network Risk	Consequences of funding level
Baseline / Status Quo Programme	[1] Programme Adjustment [2] Change Risk Profile [3] Policy Approach [4] Challenge Level of Sevice	[1,2,3,4] Decrease LoS on all roads [1,4] Reprioirtisation of work categories to fund operational traffic management. [3,4] Decrease LoS on Low class & unsealed roads [4] Decrease amenity LoS (environemtanl maintenance) [2,4] Defer Renewals (esp. footpaths, cycleways, structures) [1,2,3] Reduce programmes of physical works to counter rising contract, growth and TTM costs	HIGH RISK	* Condition of network will deterioate, especially in high risk/alpine areas. * Not able to address safety deficencies will deterioate personal and collective safety risk. * Can't carry out works within acceptable TTM levels. * Won't be able to meet urbanisation challenges ie can't deliver the required operational traffic management -new controlled intersections. * Doesn't meet our new active mode strategy - footpaths adn cycleways will deterioate * Whole of life costs will rise as defering renewals will add costs.
Do minimun Programme	[1] Programme Adjustment [2] Change Risk Profile [3] Policy Approach [4] Challenge Level of Sevice	[1] Maintain LoS on High Class & High Risk Roads [4] Remove partial grader resource (overflow grader) [1,3] Expand CMA vs grit trial- cost savings. [4] Reduce mowing on verges - strict on verge policy LoS. [2] Reduction in Road Safety Promotion. [7] Reduce renewals and protect maintenance [6] Defer scooter training and advertising campaigns [2,3,4] Decrease LoS on Low class & unsealed roads [7] Remove cycle way renewal - use maintenance budgets [7] Reduce footpath reneawls Drop to $500k per year - risk is more cost by defferring e.g. Arrowtown	MEDIUM RISK	* Some parts of network will deterioate, but will be minimised to lower class roads.. *Unsealed roads - metalling (211)- reduce $145 -10% risk as also dropped opex for unsealed and rates are pretty good currently - price could go up next contract. * 432 -Reduction in scooter training and advertising campaigns *Reduce 221 - to $50k per year *Reduced renewals will place pressure on already constrained maintenance budgets *Risk to the community for low LoS on active travel assets. * Whole of life costs will rise as defering renewals will add costs.
Preferred Programme	[1] Programme Adjustment [2] Change Risk Profile [3] Policy Approach [4] Challenge Level of Sevice	[1] Maintain LoS on High Class & High Risk Roads [1,3] Expand CMA vs grit trial- cost savings. [7] Undertake renewals at reccomended timings for optimal WoL [2,3,4] Maintain LoS on Low class & unsealed roads [3] Continue with key data collection and asset management maturity [2] Address key safety defienceis	MEDIUM / LOW RISK	*Whole of life costs minimised as renewals undertaken at the right time- protecting current investment *Reduce risk to the community for collective adnpersonal safety risk *Network condition maintained *Safety outcomes supported
Aspirational Programme	[1] Programme Adjustment [2] Change Risk Profile [3] Policy Approach [4] Challenge Level of Sevice	*[4] Improve LoS on high class and high risk assets, esepcially pavement renewals [2] Address key safety defienceis [3] Deliver explemplar benefits and network monitoring	LOW RISK	*Preserve and improve safety deficencenies *Safety outcome Reduce risk to the community for collective adnpersonal safety risk

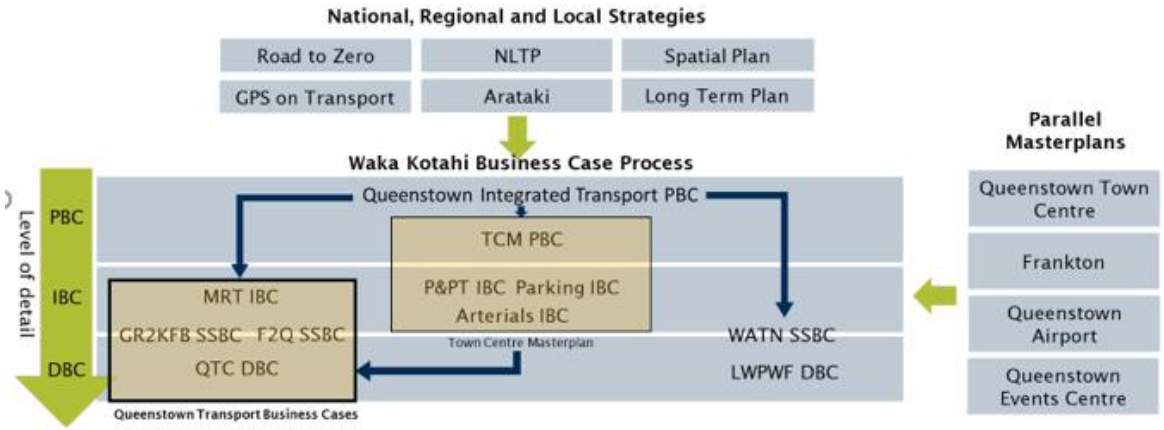
9.8. IMPROVEMENT PROGRAMME

The Improvement Programme Business Case reflects the proactive approach QLDC is taking to address a step change in the LoS bought about by our historic rapid level growth. A history of car-oriented development and dispersed land use has led to a lack of travel options, while the ability to provide additional capacity, cost-effectively, is restricted by the area's challenging terrain. The existing transport network is beginning to show signs of strain, unable to maintain an adequate level of service for the unprecedented number of users, which is negatively impacting the liveability of the town for residents and degrading the visitor experience.

The evidence demonstrated in this AMP, and within the relevant strategies and business cases, shows how the implementation and delivery of this programme will bring transformative change to our transportation system. These programmes show how QLDC and investment partners are aligning to support the objectives of the GPS for Transport, to meet Waka Kotahi's Arataki as well as align with QLDC's own strategic framework.

The figure below demonstrates the relation between the strategic drivers and QLDC's Strategic documents and processes.

Figure 80: Relationship between Strategic documents



9.8.1. IMPROVEMENT PROGRAMME OVERVIEW

The District's historically reactive approach to transport planning has allowed land use to lead infrastructure development to address growth rather than a forward thinking, integrated programme of planned infrastructure leading the direction and locations of development and land use change. However, between 2018 and 2021 QLDC has built on the previous strategic review of transport planning to complete the Masterplan / Programme Business Case layer for its main urban centres and will continue to progress strategic planning through the Detailed Business Case stages. The Wakatipu Active Travel Network, (joint investment of QLDC and Waka Kotahi of over $130,000,000) is now successfully past this stage and being delivered in phases.

The approach to transport planning has been refocussed, by closer integration with land use planning, to create a more combined and coordinated outcome. With external influences such as the Queenstown Lakes Spatial Plan also applying a strategic layer to the "Master" level, individual project level

interventions can be identified (although these can be significant sized project) for delivery / implementation.

QLDC have also advanced its planning practice to ensure that new requirements are accommodated immediately, such as the revised NZTA Point of Entry processes, in order to continue to have projects 'race' ready. This allows us to take advantage of any funding opportunities with Waka Kotahi, and potentially from elsewhere, as the success from the NZ Upgrade Programme ($90,000,000) and Crown Infrastructure Partners ($85,000,000) has demonstrated. QLDC will continue to actively submit on policy documents (Arataki, RLTP, RPTP, GPS, NPS UD, etc.) that relate to transport, to ensure ongoing alignment with local, regional and national funding plans.

QLDC is now looking to improve its "toolkit" now that the strategic layer is being completed, but looking to join several Network Operating Frameworks (Frankton, Southern Corridor and Wānaka) into a District Wide Network Operating Plan. We will look to create and then improve our Benefits Realisation programme, to confirm that our strategic direction is producing the anticipated results.

QLDC are also acknowledging the changing direction in transport planning, to incorporate more "soft" measures such as Travel Demand Management, Behaviour Change and the requisite Mode Shift Plan (required as we are a high growth area). This will see optimisation of existing infrastructure wherever possible, although some elements of "hard infrastructure" will still be required. QLDC's approach is very much as a network approach, inclusive of all modes and so individual interventions must be accepted as part of the District wide approach.

9.8.2. QUEENSTOWN PROGRAMME

QLDC have optimised the remainder of the programme to maximise the available local funding and deliver essential and high-benefit projects. Some projects will be staged over multiple years. Prioritised projects include:

- QLDC-funded elements of the Queenstown Transport Business Case
- Key corridors of the Wakatipu Active Travel Network, namely Lake Hayes Estate to Queenstown and Arthurs Point to Queenstown
- Increased Low Cost Low Risk programmes to address gaps and deliver improvements to the:
    - Wider public transport network
    - Active travel network

QLDC is working on a number of programmes in partnership with Waka Kotahi and ORC, through Way to Go. The focus of these transport strategies is to address the identified problems within each strategic area, in an integrated manner.

Table 7 Queenstown Integrated Transport Strategy (QITS)

Queenstown Integrated Transport Strategy (2017)	
Lead: Waka Kotahi The Queenstown Integrated Transport Strategy and Programme Business Case provides a strategic direction for transport in the Wakatipu Basin.	
Problems / opportunities	➢ The significant growth in visitors, residents and vehicles, leads to increasing trip unreliability and worsening customer experience across the network. ➢ Car dominance and associated congestion is affecting the liveability and attractiveness of the area.
Benefits	➢ Improved network performance and customer experience for all modes ➢ Improved liveability and visitor experience
Queenstown Integrated Transport Strategy (QITS)	

Preferred programme	The recommended programme seeks to address problems through a mix of infrastructure, public transport and behavior change measures. Key activities include: ➢ Making public transport an attractive and viable alternative to the private car through improvements to service provision and the introduction of bus priority, park and ride and a Mass Rapid Transit corridor between Queenstown and Frankton exploring options such as light rail, gondola ➢ Altering cost, provision and management of parking across the area to support the goals of reducing private vehicle usage, and encouraging greater use of public transport ➢ Completing key infrastructure projects for vehicular and active modes, including a new town center arterial to facilitate economic growth, better provision for public transport and access for pedestrians, and removing unnecessary vehicle movements in the most congested areas of the town centre.
Sub-projects	➢ Queenstown Transport Business Case ➢ Queenstown Parking Strategy ➢ Wakatipu Active Travel Network ➢ Wakatipu Ferry Services ➢ Wakatipu Park and Ride ➢ Arthurs Point Crossing

Figure 81 Queenstown Integrated Transport Strategy Study Area

Queenstown Town Centre Masterplan	
Lead: QLDC The Queenstown Town Centre Masterplan developed an integrated land use and transport programme for the town centre aimed at achieving the vision: *"Supporting a thriving heart to Queenstown, now and into the future"*	
Queenstown Town Centre Masterplan	
Problems/ Opportunities	➢ Limited cultural & historic references, ad hoc development & poor maintenance undermines both the aesthetic appeal, and people's experience, of the town centre. ➢ As the town rapidly grows, town centre amenities increasingly focus on visitors,thus undermining the feeling of authenticity, and locals' sense of belonging. ➢ Limited options to easily access the town centre across a range of transport modes is creating congestion & frustration for visitors, & stopping residents coming to town. ➢ Unconstrained growth in visitor numbers is placing demands on town infrastructure, with negative flow-on impacts on locals and the environment.
Benefits	➢ People enjoy spending time in town, because the built environment complements the natural environment, referencing local history & culture. ➢ Queenstown has a liveable, thriving & authentically NZ town centre, where visitors and locals freely mix. ➢ Improved access to the town centre for all. ➢ Increased commercial activity, without major negative impact on the environment or residents' enjoyment.
Preferred Programme	➢ New town center arterials from Melbourne Street to One Mile Roundabout, which enables the town centre to grow, public and passenger transport to have better access and town centre parking to be developed around the town centre fringes. ➢ Improved parking supply and management through the introduction of new parking buildings on the town centre fringes, expansion of the town centre paid parking area, development of new park and ride facilities, introduction of parking management technology and demand management to optimise occupancy levels. This project supports greater uptake of public transport. ➢ A new 6-8 bay public transport hub on Stanley Street, which supports the growth in bus services and forecast passenger increases, while supporting improved arrangements for passenger transport (which includes coaches, tourist operations and taxis). ➢ Development of wharf facilities to support waterborne transport. ➢ A programme of public realm improvements that aim to enhance the visitor and local experience in the town centre through enhancing streets and lanes, improving connections between attractions and celebrating Queenstown's unique heritage and culture. ➢ Introduction of technology to better manage and connect people with public transport and parking options. ➢ Improved walking and cycling routes and facilities in the town centre, supporting the uptake of active transport and integrating with wider networks. ➢ Marketing communications campaigns to better educate people on transport options.

Sub-projects	➢ Queenstown Transport Business Case ➢ Wakatipu Park and Ride

Figure 82: Queenstown Town Centre Masterplan scope area

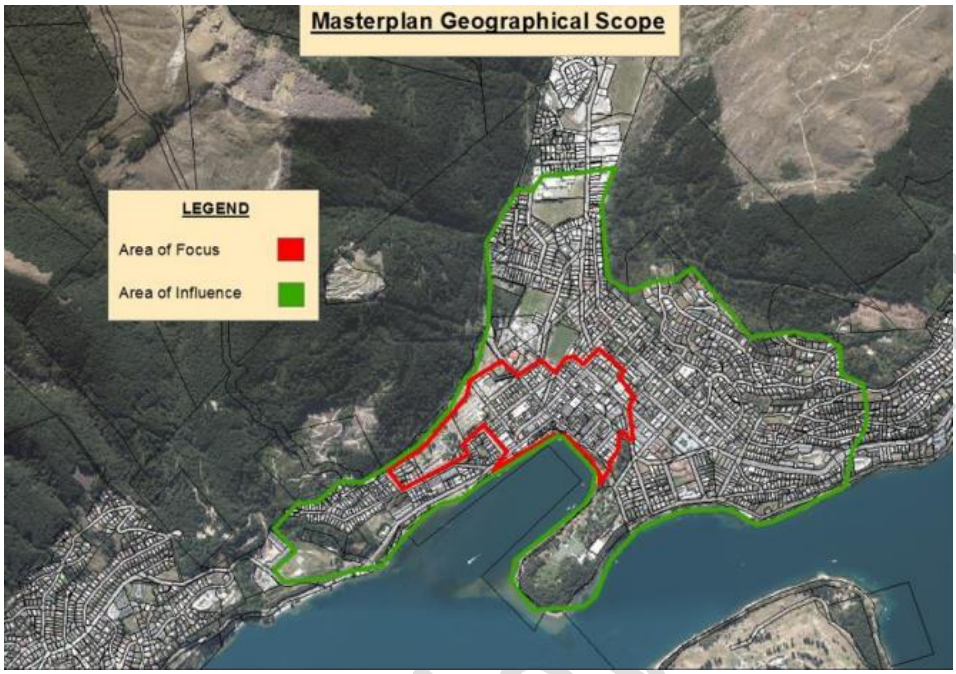


Table 8 Frankton Masterplan

Frankton Masterplan	
Lead: QLDC The Frankton Masterplan and Integrated Transport Programme Business Case demonstrate how to integrate land use and transport, setting out a vision, spatial framework and transport programme.	
Frankton Masterplan	
Problems / Opportunities	➢ The current transport system favors travel by private vehicle that leads to severance and adversely affects inclusive access, safety, environmental sustainability, and a sense of place for Frankton. ➢ Current and future land use patterns coupled with infrastructure constraints and significant growth in the movement of people and goods leads to congestion and increasing travel times for all road users.
Objectives	➢ Reduce severance, transport effects on the environment, and improve the liveability and attractiveness of Frankton ➢ Improve access to and use of multi-modal transport options for people of all ages and abilities ➢ Provide safe transport choices and improve safety perception ➢ Improve active mode network connectivity and comfort ➢ Improve transport system reliability and maintain travel times
Preferred Pogramme	The preferred programme has a focus on: ➢ Short-term public transport improvements, including bus priority ➢ Minor active mode improvements ➢ Long term high capacity public transport (bus and trackless tram or gondola)
	➢ Queenstown Transport Business Case ➢ Wakatipu Active Travel Network ➢ Wakatipu Park and Ride ➢ Wakatipu Ferry Services

Figure 83: Frankton Masterplan study area

9.8.3. WANAKA PROGRAMME

The key issue to be addressed is provision of active travel infrastructure. Given the constrained funding environment, QLDC will deliver early implementations and quick wins for the Wānaka active travel network under Low Cost Low Risk.

The Wānaka Network Optimisation business case (designed to advance the wider Masterplan) has been deprioritised as many of the issues identified will become more urgent only in the mid to long term (five to ten years). QLDC are planning to deliver elements of the wider programme, including the Primary Cycle Network, in the 2024-27 NLTP.

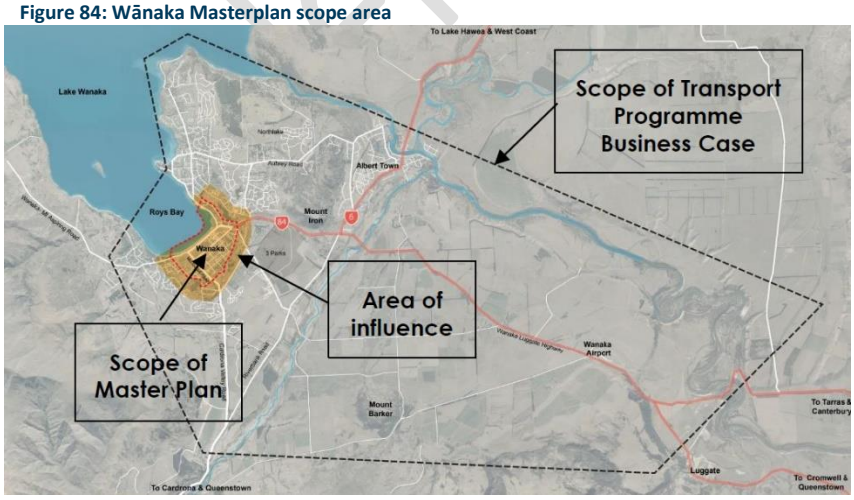
QLDC would like to emphasise that there is still work to be done prior to the final submissions and will continue to engage with Waka Kotahi through that process. The QLDC AMP continues to be updated to reflect our investment story and the commentary above indicates the highlights of that document.

Table 9 Wānaka Masterplan

Wānaka Masterplan	
Lead: QLDC The Wānaka Town Centre Masterplan and Integrated Transport Programme Business Case established a collective community vision for the future of the town centre and an integrated transport programme.	
Problems/ Opportunities	Problems ➢ Rapid population growth and the current approach to influencing new development is making it difficult to plan for the future, leading to disjointed infrastructure and creating barriers to accessing key destinations for residents and visitors. ➢ Growth in travel demand and limited options for accessing key activities by different modes results in over-reliance on certain routes, eroding levels of service on those routes and creating severance and conflict. Opportunities: ➢ Proactively preparing for future growth ➢ Connecting Great Rides ➢ Improved visitor and community satisfaction ➢ Protect character of Wānaka

	➢ Increase active transport participation
Objectives	➢ Transport infrastructure supports connectivity and access to key destinations in response to ongoing development for residents and visitors ➢ Increase non-motorised mode share from 20% to x% by 20xx ➢ Maintain traffic flow at key intersections at LOS E or better by 2048 ➢ Improve safety for all modes from 24 DSI crashes in 2013-18 to xx DSI crashes by 20xx
Preferred Programme	The preferred option provides a proactive plan for the future that allows for anticipated growth in travel demand as population and visitor numbers in Wānaka continue to grow. The programme includes: ➢ Slow speed, high quality urban realm in the town centre ➢ Intersection and corridor upgrades, including proposed bypasses ➢ Active travel network ➢ Parking management strategy Future public transport
Sub-projects	Wānaka Network Optimisation and Mode Shift

Figure 84: Wānaka Masterplan scope area



9.8.4. LOOKING FORWARD

Looking forward, as future strategies are identified or reviewed, QLDC will strive to look for innovative approaches, and will acknowledge and provide for new technologies and behaviours as they emerge. QLDC is committed to being an innovator in its transport planning approach. New improvement projects on the horizon are:

Table 10 Improvement Programme Overview

Queenstown Transport Business Case
Addresses congestion, safety, amenity and resilience issues for Ladies Mile, Frankton, the Frankton to Queenstown corridor and Queenstown Town Centre, with a step change in public transport and amenity improvements.
Wakatipu Active Travel Network
The Wakatipu Active Travel Network aims to provide an integrated, safe active travel network linking the main settlements of the Wakatipu Basin.
Queenstown Parking Strategy
The Queenstown Parking Strategy describes how parking should be managed in Queenstown.
Arthurs Point Crossing
Improvements to the crossing of the Shotover River in Arthurs Point, to improve active travel, capacity and resilience.
Wakatipu Park and Ride
Development of park and ride services for the Wakatipu Basin to improve access to public transport, including facilities and service changes.

9.8.5. ECONOMIC STIMULUS PACKAGE - CROWN INFRASTRUCTURE PARTNERSHIP

As part of the government's COVID-19 Response and Recovery Fund, $3bn has been allocated to infrastructure projects nationally, including $708m for transport. Of this fund, $85m is committed for Queenstown, namely for town centre streetscape improvements ($35m) and Stage One of the Queenstown Arterial Route ($50m).

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

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

9.8.6. HOUSING INFRASTRUCTURE FUND

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

- Kingston
- Quail Rise South
- Ladies Mile

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

9.8.7. THE NZ UPGRADE PROGRAMME

Figure 14), announced while this business case was underway, was born out of a surplus in the central government budget of $12bn. Queenstown received $90m in funding to build on the recent success of the new bus service, with new public transport projects across the network. The package of investments was heavily influenced by the emerging findings of this business case.

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

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

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

Figure 14: New Zealand Upgrade Programme Queenstown

9.9. ASSESSMENT OF TRANSPORT PROGRAMMES

9.9.1. INVESTMENT PRIORITISATION METHOD (IPM)

QLDC have developed their land transport activities to align with Waka Kotahi's draft Investment Prioritisation Method (IPM).

The IPM gives effect to both the GPS for Transport and to the Land Transport Management Act. At the time of writing, some further sections of the IPM are still under review.

The Investment Prioritisation Method for 2021–24 NLTP has three factors:

- GPS Alignment
- Scheduling
- Efficiency

QLDC's activities and documents will be updated to reflect further changes when they are available.

The IPM looks for a good evidence and alignment with the GPS, Regional Transport Plan, Council's LTP and AMP's to support the business case for investment. QLDC has developed its TASF to show alignment between all the strategic drivers and the AMP provides an assessment of the results alignment and Cost-Benefit Appraisal of transport-related problems and opportunities for Queenstown Lakes District Council.

QLDC are confident that appropriate programmes have been put forward to address network needs.

9.9.2. ANTICIPATED RESULTS – CONTINUOUS PROGRAMME

Waka Kotahi proposes to assign continuous programmes ratings of HHM, priority order 4, as the 'starting point' for investment prioritisation, reflecting the importance of such programmes to maintaining ongoing levels of service.

QLDC have clearly demonstrated in our activity management plan:

- The complexities and challenges that QLDC face.
- The proposed programme identifies and prioritises gaps that align with and contribute to GPS strategic priorities
- Our decision-making framework for our high priority continuous programmes; providing clarity on how we optimise our programmes and activities.
- Our performance over the last NLTP; highlighting our improvements made and those in our improvement plan
- Our efficiency in our last technical audit demonstrated that we are a value for money network and whilst benchmarking indicates that some areas we are a high cost network. this is justified due to the nature of our network, our remotes ness and our market costs.
- As demonstrated in the most recent Investment and Procedural audits, QLDC is shown to be a valued partner with sound financial and procurement supporting practices

QLDC believe that the Continuous Programme reflects High-Very High GPS Rating.

Table 85 IPM and the Continuous Programme

GPS Alignment	HIGH. Rating is considered to be high as it demonstrates clear lines of sight to national, regional and local strategic drivers. This is required to continue to meet appropriate customer levels of service and the proposed programme addresses opportunities in delivering the right level of service to support the priority areas in the GPS. QLDC has high costs due to a combination of factors which create a complex network: geographic isolation, a challenging environment and intense growth. The Waka Kotahi Arataki identified the struggles QLDC face and as a key contributor to the National economy, supporting levels of service in QLDC is fundamental to delivering key GPS priorities and in delivering a number of ONRC customer outcomes, safety, resilience, accessibility, travel time reliability and amenity. With high population and visitor growth forecasts, the function of the network will be not able to meet expected demand. This inability to meet future traffic demands could have significant effects on the local environment and constrain the economic development of the region
Scheduling Alignment	MEDIUM-HIGH. Due to the physical constraints and complexities of our network, the success in the delivery of our improvement programme is reliant on the successful delivery of our continuous programmes. Keeping multimodal transport options open to move customers through the district.
Efficiency	MEDIUM based on the cost efficiencies displayed in the ONRC summary report that are supported by the efficiencies displayed in the Programme Business Case. Cost reflect our challenging and complex operating environment.

9.9.3. ANTICIPATED RESULTS – IMPROVEMENT PROGRAMME

For GPS Alignment, the new Very High rating criteria directly link to specific results in the GPS.

Table 11 IPM and the Improvement Programme

GPS Alignment	HIGH ALIGNMENT - An assessment of the relevance and significance of Queenstown's current transport-related problems with the Government Policy Statement's transport objectives indicate a high GPS alignment and strong case for investment. Queenstown's transport network is struggling to meet current demand, with poor travel time reliability on key corridors. Congestion compromises the ability of public and private enterprises, (that rely on the road network to function) to operate efficiently. With high pre COVID-19 population and visitor growth forecasts, the function of the network will be not able to meet expected demand. This inability to meet future traffic demands could have significant effects on the local environment and constrain the economic development of the region. The Queenstown Lakes area is a high growth urban area with its combined resident and visitor population exceeding 30,000. QLDC has been identified in Araktaki as a high growth area and in the NPS for Urban Development.
Scheduling Alignment	HIGH – There is strong interdependencies between many of the projects submitted in our improvement programme. The integrated planning of our programme through Way to Go and then to delivery through the new Wakatipu Transport alliance reflects these. The reprioritisation post COVID-19, has meant many LCLR projects are key enables for future investment.
Efficiency	MEDIUM – Majority of recent Business Cases reflect the efficiency of our programme and achieve high BCRs.

10. FINANCIAL MANAGEMENT

10.1. INTRODUCTION

At point of submission (Dec 2020) the Capital Investment Programme is subject to the complexities of multi-agency and multi-programme overlaps. Due to the economic impacts of COVID-19 and potential funding constraints it brings (for both QLDC and Waka Kotahi), there are delays in finalising QLDC's Long Term Plan investment programme. Expected agreement from Council on the LTP financials is expected after the 18th December 2020. A further update to this section of the AMP will be submitted after this point.

QLDC's NLTP submission has been made based on the assumption that QLDC, through its LTP 2021 will approve all local share.

Over the next 10 years and beyond, QLDC continues to face its largest and compounding complex infrastructure capital works programme. In addition to the transport programme, QLDC is reacting to growth pressures across multiple services, and the issues described in this AMP are relevant across all of council's infrastructure portfolios and include:

- $120m million to bring water supply quality up to standard over the next 10 years;
- $93 million for increased wastewater treatment capacity and increase level of service;
- Stormwater treatment and Network upgrades $32 million;
- Waste minimisation and management;
- Property e.g. Performing Arts Centre - $45m;
- Delivery of HIF projects in Quail Rise and Kingston;
- Internal projects such as Project Manawa (One Council building);
- Crown Infrastructure Projects (CIP);
- NZ Upgrade Programme (NZUP);

The enormity of the programme places immense pressure on QLDC from a financial perspective and a capacity to deliver, as well as coordinating with external agencies and stakeholders, e.g. Waka Kotahi, ORC and QAC.

It is worth noting that the CIP and NZUP budgets do not cover the full cost of the arterials and street upgrade programmes, so FAR will still be requested at 51%.

Pressure on market capacity and the supply chain constrains the regional ability to deliver not just the QLDC programmes, but a carry on impact in neighbouring areas. This has led to substantial cost escalation, which in turn limits ability to deliver the programme to budget and on time.

From a transport perspective, the 3 years of the last LTP 18-28 focused on enablers to facilitate delivery such as consents, land purchase and scoping and design. With the recent approval of the Wakatipu Active Travel Network, and counterpart activity expected in Wānaka in the short and medium term, additional routes will be added, and existing routes improved. Active travel routes, especially those aimed at commuters will grow the transport network considerably.

The LTP 21-31 transport focuses are on delivering transport infrastructure to Lakeview and Quail Rise (HIF), Arterial Stage 1 and 2, parking, Queenstown Public Transport improvements and Wānaka Primary Cycle Network.

QLDC are exploring options and mechanisms to address the risk around the capacity of the market to deliver our intended programmes.

- Approaching the supply chain early in the procurement process to find the most appropriate method to get the best value for projects. I.e. packages of works and timings;
- Grouping similar projects together to incentivise the supply chain by increasing potential value. i.e. a programme around multiple 3-waters reservoirs;
- Reviewing the Build, Operate, Manage, Transfer models;
- Maximising good rates by having longer contract periods and potential extensions.

The Local Road Maintenance Programme may see some minor amendments however, QLDC deems this will deliver the outcomes as outlined in this AMP.

10.2. FINANCIAL IMPACT OF COVID-19

COVID-19 has had a significant reduction on QLDC's financial health, which in turn impacts the affordability of our programme:

- There was a total revenue budget reduction of $17.9m in the 20/21 financial year with 42.5% of this figure directly impacting Rates;
- Tourism Related revenues down by at least 50% - $4.7m;
- The previously forecast QAC Dividend $5.8m will not be paid (used 100% to repay debt);
- Other user fees down by 20% $2.9m;
- Development Contribution income down $4.5m;
- For noting QLDC borrowing's capacity is largely restricted by its Total Revenue;
- Debt repayments were also suspended to keep the current financial years rates increase down to an acceptable level which was acknowledge at the time as a one-off temporary position.

QLDC is currently working through its draft 2021 LTP and is mindful of the District's continuing difficult economic conditions and is attempting to keep the future rates increases to a reasonable level. Indicative average rates increases across the 10 year period is 5.2% (after growth).

10.3. FUNDING SOURCES

QLDC sources around 50% of its funding for transportation projects and expenditure from Waka Kotahi. Through the National Funding Assistance Review (FAR), Waka Kotahi have confirmed the reduced funding for Special Purpose Roads from 100% to 51% will take effect in Year 1 of the Long Term Plan 2021/31. It is possible that the LoS (i.e. quality of roads or acceptable levels of congestion) will have to change as QLDC seeks to deliver its roading programme with reduced Waka Kotahi funding.

Table 12: Roading Funding

Activity	Economic Benefit Assessment			Funding Targets		Funding Mechanism	
	Private	Public	Exacerbator	Private	Public	Private	Public
Roading	50%	20%	30%	45%	55%	NZTA Subsidy / Petrol Tax	Roading CV Rate

Other Funding Sources

QLDC will look at different options for alternative funding arrangements including:

- Absorbing the additional cost as a District wide strategy for important tourist routes;
- Exploring Waka Kotahi targeted enhanced funding rates e.g. for Glenorchy and Precipice Bridge, (South Wairarapa example);
- Liaising with local stakeholders for a supported rate (ski fields, DoC);
- Possibilities of toll roads;
- Efficient use of collaboration for funding opportunities e.g. Way To Go, Alliance, ORC for public transport costs
- Changing LoS to reduce demand/costs/risks. This could include restricting opening hours of the road, lower winter maintenance, reverting surface type. As LoS is not well understood, the continued monitoring and analysis will be undertaken.
- Central Government partnerships and grants, i.e. HIF, CIP, NZUP and TIF
- We will foster strategic partnerships with existing and new funders, establish alliances where possible, and engage frequently to ensure planning and investment programmes are aligned and expectations are managed.

The costs are recorded under the headings listed, and funded from the sources shown, in Table 13.

Table 13: Funding Sources

WORK	QLDC (in addition to Waka Kotahi subsidy)
MAINTENANCE	• After any available user charges and/or operating revenue by two targeted rates levied differentially in Queenstown / Wakatipu / Arrowtown Wards and in Wānaka • Petrol Tax • ORC Grants • Parking Meters Receipting • Traffic Management Notices
RENEWALS	The depreciation provision and then by two targeted rates levied differentially in Queenstown/Wakatipu/Arrowtown Wards and in Wānaka
GLENORCHY SPECIAL PURPOSE ROAD	By two targeted rates levied differentially in Queenstown/Wakatipu/Arrowtown Wards and in Wānaka
CROWN RANGE SPECIAL PURPOSE	By two targeted rates levied differentially in Queenstown / Wakatipu / Arrowtown Wards and in Wānaka

NEW CAPITAL	The full cost of growth, if possible by Development Contributions. If not possible the balance and other works by loan (external or internal) and/or then by two targeted rates levied differentially in Queenstown/Wakatipu/Arrowtown Wards and in Wānaka. Also the value of vested assets
MANAGEMENT OVERHEADS	By two targeted rates levied differentially in Queenstown / Wakatipu / Arrowtown Wards and in Wānaka.

10.4. REVENUE AND FINANCING POLICY

Section 102(4) (a) of the Local Government Act 2002 requires each council to adopt a Revenue and Financing Policy. This Policy states QLDC's policies in respect of the funding of both capital and operational expenditure. Further information can be found in QLDC's Revenue and Financing Policy.

10.5. WARDS AND SPECIAL PURPOSE ROADS

The District's assets are managed within four Waka Kotahi Wards:

Table 14: Waka Kotahi & QLDC Ward Structure

WARD	Description
Wānaka	based on electoral boundary
Wakatipu	based on electoral boundary
Glenorchy Special Purpose Road:	Defined in the NZ Gazette 18 June 1992 as '*The section of public highway from Twelve Mile Creek on the Queenstown Glenorchy Road through Glenorchy and over the Dart River to Routeburn'*. It has a total length of approximately 63 kilometres.
Crown Range Special Purpose Road:	Defined in the NZ Gazette 18 June 1992 as '*the section of public highway previously part of No 89 State Highway from its conjunction with Crown Terrace Road at Route Position 0/4.78 at the foot of the Crown Range to the Cardrona Hotel at Route Position 16/9.71 in the Cardrona Valley*'. It has a total length of approximately 21 kilometres.

10.6. SPECIAL PURPOSE ROADS – TRANSITION TO LOCAL ROADS

Glenorchy Road and Crown Range Road became Special Purpose Roads (SPRs) in the early 1990's. The key function of SPRs was intended to provide access to tourist destinations such as Mt Aspiring National Park, acknowledging that Crown Estate does not pay rates. The high funding assistance rates reflected their previous status when they were 100% funded by Central Government. Under the 2014 Funding Assistance Review, Waka Kotahi decided to do away with SPRs. Tables 15 shows the lowering of the funding assistance rate from 2020-21 to match the standard Local Road FAR of 51%. QLDC have concerns over the decrease of the SPR due to a low rate payer base in these as well as both SPRs are sitting in challenging environments. QLDC will be focusing on minimising the risk of future maintenance costs through the transition process. Corridor studies are being undertaken on both SPRs to understand the current state and to develop potential programmes.

Table 15: Waka Kotahi Funding Assistance Rates - Local Roads and Special Purpose Roads 2020-26

	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27

Local Roads (Wakatipu & Wānaka)	51%	51%	51%	51%	51%	51%	51%
Glenorchy Special Purpose Road	100%	51%	51%	51%	51%	51%	51%
Crown Range Special Purpose Road	100%	51%	51%	51%	51%	51%	51%

With funding for Special Purpose Roads reducing, QLDC may review its separate ward and combine it with Wakatipu.

QLDC is also looking at other options whereby the ownership of special purpose roads such as the Crown Range and the road to Glenorchy would be moved from QLDC to Waka Kotahi. Although this would save QLDC money in maintenance, it may also result in changes to the LoS (i.e. quality of roads or number of closure days) on those roads.

10.7. FUNDING RISKS

QLDC has identified several financial challenges that are explained in and managed in its Risk Register. The significant risks are:

- Insufficient Waka Kotahi or QLDC funding to meet the levels of service;
- Changing central government priorities;
- Changing Waka Kotahi priorities
- Availability of revenue (rates and NLTF) due to events such as COVID-19;
- Funding sources for the repair of damage caused to roads by natural hazard events (including climate change).

Other financial risks that QLDC is managing (or may potentially need to manage in future) are:

- Fraud and corruption;
- Inadequate management of contract retentions and of potential claims for cost escalation or other contract variations;
- Excessive tender prices (or no tenders submitted);
- Contractor non-performance (or company failure);
- A 'sensitive expenditure ' issue occurs;
- Substantially increased QLDC liabilities due to reduced Emergency works FAR;
- Poor project cost estimation;
- Poor forward financial forecasting/budget formulation;
- Poor general financial management;
- FAR rates for SPR's reducing and impact on levels of service (reducing spend to maintain local share.

10.8. AMP FINANCIAL ASSUMPTIONS

The following general assumptions have been made in preparing the AMP forecast:

- The extent to which Waka Kotahi will subsidise QLDC road costs will be as forecasted;
- Subdividers and developers will contribute towards QLDC's costs by paying development contributions at the levels and times forecasted;
- The depreciation provision will be as forecasted;
- QLDC will fund depreciation only relating to its share of roading funding. The component attributable to the Waka Kotahi is excluded;
- An extraordinary major event such as a natural hazard will not occur;
- Government legislative, regulatory, or policy changes will not cause higher QLDC costs;
- Actual project costs will be as forecasted on a cumulative basis;
- Minimal costs will be carried forward from year to year – all projects will be paid for in the year in which they are programmed;
- No unforeseen significant asset failures will occur (or other unexpected costs be incurred);
- QLDC will be able to obtain all designations for new or widened roads (and acquire all necessary properties), and all required resource consents, in a timely manner;
- The extent to which new transportation assets will be vested in QLDC will be as forecasted;
- Low maintenance and construction cost escalation.

10.9. ASSET VALUATION

Transport assets are valued every three years for QLDC's financial statements in accordance with the Public Benefit Entity International Public Sector Accounting Standard 17, Property Plant and Equipment (PBE IPSAS 17). The transportation asset information for the 2020 valuation has been complied in a fixed asset register for financial reporting purposes.

Table 16 summarises the assets as valued by WSP NZ Limited (WSP) as at 30 June 2020.

Table 16: QLDC Valued Road Assets

Asset	Asset Description
Bridges and Bridge Culverts	Bridges and large culverts (area >3.4m^2) classified as bridges.
Drainage	Culverts, flumes, catchpits, subsoil drains, soakhole and headwalls.
Footpath	Roadside footpaths and pedestrian accessways.
Minor Structure	Roadside furniture and utilities including bus shelters.
Railing	Includes all railing types and use.
Retaining Wall	Constructed walls.
SW Channel	Kerb and channel, concrete channels.
Sign	Includes all signage associated with guiding the flow of traffic.
Street Light	Street light poles, brackets and lanterns.
Traffic Facility	Paint markings and road markers.
Pavement Formation	Road platform including shoulders.
Pavement Sealed Layers	The pavement granular layers including: Subbase and basecourse used to form the road carriageway, where the surface is sealed.
Pavement Unsealed Layers	The pavement granular layers including: Subbase and basecourse used to form the road carriageway, where the surface is unsealed.
Pavement Surface	The pavement material (chip seal, asphalt concrete) that forms the running surface on the road.

The movement percentage between the 2019 valuation and the 2020 valuation can be seen in Table 17.

Table 17: QLDC Asset Valuation Comparison 30 June 2019 to 30 June 20

	30-Jun-20			30-Jun-19			Difference					
Asset Type	ORC	ODRC	AD	ORC	ODRC	AD	$ ORC	$ ODRC	$ AD	% ORC	% ODRC	% AD
Bridges and Bridge Culverts	$59,254,400	$29,132,067	$557,262	$56,064,356	$27,989,769	$527,770	$3,190,043	$1,142,298	$29,492	5.7%	4.1%	5.6%
Drainage	$37,697,174	$26,538,924	$511,379	$33,374,760	$21,827,327	$551,622	$4,322,414	$4,711,597	-$40,243	13.0%	21.6%	-7.3%
Footpath	$65,422,757	$34,002,346	$2,280,011	$53,854,442	$27,438,814	$1,914,703	$11,568,316	$6,563,532	$365,308	21.5%	23.9%	19.1%
Minor Structure	$5,202,096	$1,772,013	$164,486	$4,100,809	$1,450,837	$127,238	$1,101,287	$321,177	$37,248	26.9%	22.1%	29.3%
Railing	$9,183,251	$2,915,394	$506,071	$7,502,538	$2,137,838	$421,164	$1,680,713	$777,556	$84,907	22.4%	36.4%	20.2%
Retaining Wall	$83,635,391	$69,261,251	$1,174,979	$20,617,169	$16,674,632	$339,709	$63,018,221	$52,586,619	$835,271	305.7%	315.4%	245.9%
SW Channel	$80,211,791	$57,483,625	$1,071,533	$65,761,512	$46,133,262	$879,032	$14,450,279	$11,350,363	$192,500	22.0%	24.6%	21.9%
Sign	$5,744,379	$1,630,777	$360,360	$5,080,203	$1,337,792	$323,598	$664,176	$292,986	$36,763	13.1%	21.9%	11.4%
Street Light	$23,194,124	$11,564,592	$858,193	$16,994,160	$7,795,057	$606,952	$6,199,964	$3,769,535	$251,241	36.5%	48.4%	41.4%
Traffic Facility	$136,609	$14,178	$13,510	$121,929	$23,994	$12,136	$14,680	-$9,815	$1,374	12.0%	-40.9%	11.3%
Pavement Formation	$204,001,856	$204,001,856	$0.00	$184,422,221	$184,422,221	$0.00	$19,579,635	$19,579,635	$0.00	10.6%	10.6%	0.0%
Pavement Sealed Layers	$250,951,594	$188,949,513	$2,585,767	$133,690,105	$101,254,914	$1,371,101	$117,261,490	$87,694,600	$1,214,666	87.7%	86.6%	88.6%
Pavement Unsealed Layers	$10,730,489	$8,002,058	$285,190	$9,910,533	$7,406,276	$274,558	$819,957	$595,781	$10,633	8.3%	8.0%	3.9%
Pavement Surface	$64,710,683	$26,786,471	$4,736,487	$55,023,360	$23,967,100	$3,997,633	$9,687,323	$2,819,371	$738,854	17.6%	11.8%	18.5%
Total	$900,076,594	$662,055,067	$15,105,229	$646,518,098	$469,859,832	$11,347,215	$253,558,496	$192,195,235	$3,758,014	39.2%	40.9%	33.1%

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10.10. EXCLUSIONS

The following were specifically excluded from the valuation:

The effect of the relevant provisions of the RMA or other legislation on any asset replacement.

- Service utility assets including pipes, poles or cabling servicing QLDC assets;
- Assets identified as privately owned and not owned by QLDC;
- Land under roads;
- Stormwater pipes and catch pits/sumps leads (valued separately as part of QLDC storm water assets);
- Intangible assets.

10.11. DEPRECIATION (LOSS OF SERVICE POTENTIAL)

Depreciation is the extent to which QLDC's assets decrease in value each year - due to their use, age, obsolescence through technological and market changes, change in use, or neglect.

10.12. DEPRECIATION PROVISION

Operational assets with the exception of land, are depreciated on a straight-line basis to write off the asset to its estimated residual value over its estimated useful life.

Infrastructural assets, with the exception of land under roads, are depreciated on a straight-line basis to write off the fair value of the asset to its estimated residual values over its estimated useful life.

For Roading the estimated useful lives used in the calculation of depreciation is in the range of 1.68% - 10%.

On Revaluation Infrastructural assets, other than land under roads, are stated at fair value less accumulated depreciation and any impairment losses recognised after the date of revaluation.

The useful lives and associated depreciation rates of the various classes of assets have been estimated generally based upon the New Zealand Infrastructure Asset Valuation & Depreciation Guidelines – Version 2. In specific cases these have been modified for reasons explained in the valuation report.

The depreciation rates are applied at the component level and the depreciation sum is calculated on the remaining useful life of each component. Where the age or condition is unknown it is assumed the asset is half way through its useful life.

The residual value and useful life of an asset is reviewed, and adjusted if applicable, each financial year end.

10.13. CONFIDENCE

The depreciation confidence is as recorded for the revaluation. QLDC uses the International Infrastructure Management Manual (IIMM) rating system for data integrity and confidence.

The overall confidence rating for the 2020 valuation is A-B. Confidence assessments are provided in the following table:

Table 18: Confidence Grading for Roading Assets

Confidence Grading				
Asset	**Quantity**	**Unit Cost**	**Age/Life**	**Overall**
Bridges and Culverts	A	A	B	A
Drainage	C	A	B	B
Footpath	A	A	A	A
Minor Structure	B	A	B	B
Railing	A	A	B	A
Retaining Wall	B	A	B	B
SW Channel	A	A	A	A
Sign	B	A	B	B
Street Light	B	A	B	B
Traffic Facility	B	A	B	B
Pavement Formation	A	A	-	A
Pavement Sealed Layers	A	A	C	B
Pavement Unsealed Layers	A	A	C	B
Pavment Surface	A	A	B	A
OVERALL				**A-B**

A	*Highly Reliable Data based on sound records, procedures, investigations and analysis, which is documented properly and recognised as the best method of assessment.*
B	*Reliable Data based on sound records, procedures, investigations and analysis, which is documented properly but has minor shortcomings, for example the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation.*
C	*Uncertain Data based on sound records, procedures, investigations and analysis, which is incomplete or unsupported, or extrapolation from a limited sample for which grade A or B data is available.*
D	*Very Uncertain Data based on unconfirmed verbal reports and/or cursory inspection and analysis. Dataset may not be fully complete and most data is estimated or extrapolated.*
N/A	*Data does not exist or is not relevant.*

10.14. BACKLOG (DEFERRED MAINTENANCE AND DEFERRED RENEWALS)

Backlog is the value of maintenance and renewal work that has not been done when it should have been – in order to meet the prescribed levels of service.

If maintenance and renewal work is not carried out at the optimum time in the asset lifecycle:

- The assets will deteriorate further;
- The repair, renewal or replacement work that will have to be done later may be more extensive than it would have been if it had been carried out at the optimum time;
- The cost of doing the work later may be more expensive (in real terms) than it would have been if the work had been carried out at the optimum time. A delay in road maintenance of 3 to 5 years can increase the required repair costs by more than six times;
- (Until it is done) the annual cost of maintaining the asset may be more expensive than it would have been if the work had been done at the optimum time (e.g. the higher cost of repairing the road as more and more potholes appear as the road further deteriorates);
- The asset may not be able to continue to perform to its original design capacity or performance standard, or to deliver the specified levels of service, and, if the work continues to be delayed, may ultimately be unable to provide the required service altogether (e.g. the necessity to close a bridge because the lack of maintenance resulted in it now being structurally unsafe).

10.15. MONITORING THE BACKLOG TRENDS

The sufficiency of QLDC's annual maintenance and renewal budget is determined by comparing the depreciation provision (the extent to which the assets are being 'consumed' or continuing to wear out every year) with the annual renewals and replacement expenditure.

If the two are 'in sync' over time the current state of the network is being maintained. If there is a gap the network is continuing to deteriorate (and the 'backlog' will have increased). If the renewals expenditure exceeds the depreciation provision the network is being improved.

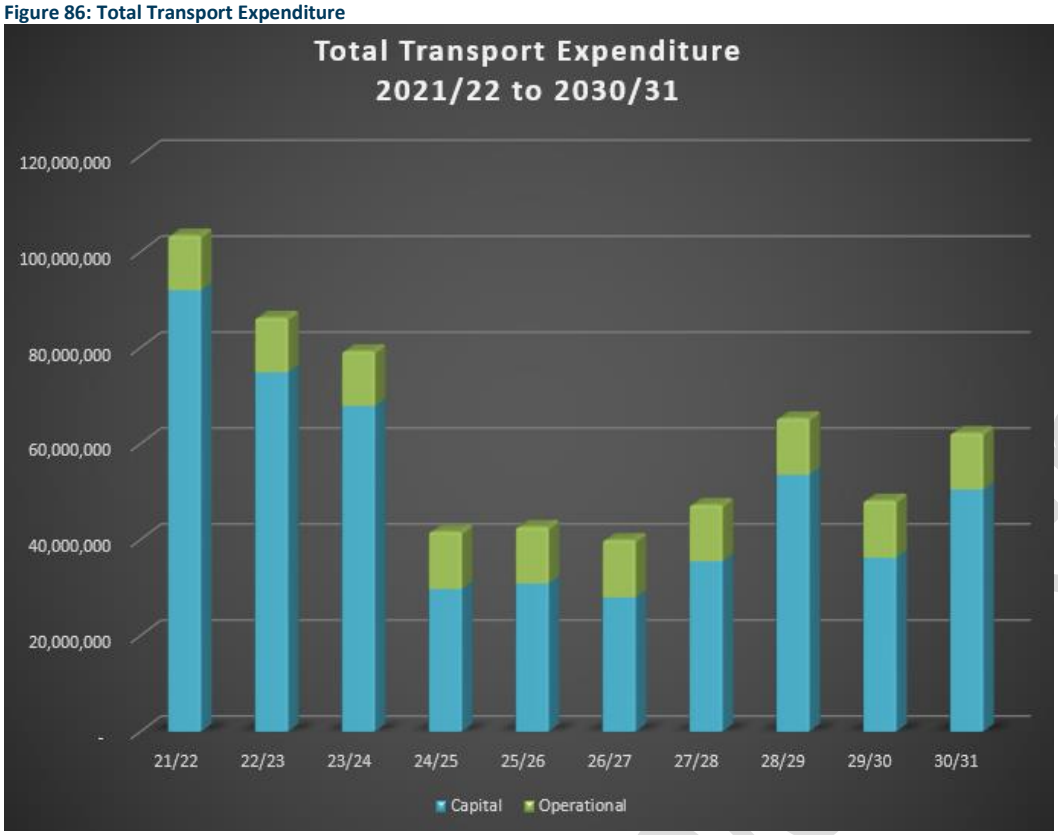
Another way of ensuring a sustainable network (after any deferred maintenance and deferred renewals have been eliminated) is to require that not less than the annual depreciation provision (after taking into account the share of the cost of renewals that is funded by the Waka Kotahi) be funded annually and the proceeds be set aside and used only for renewals. This is the approach adopted by QLDC.

10.16. TOTAL EXPENDITURE

The graphs below provide a high level overview of the QLDC Capital Investment Programme, all financials have been drawn from Tech One, QLDC's Enterprise Financial system. All capital and operational expenditure in this document is inflated to funding year.

In addressing the key strategic issues, QLDC has a multi-million dollar Investment Programme on new and replacement infrastructure between 2021/22 and 2031/32.

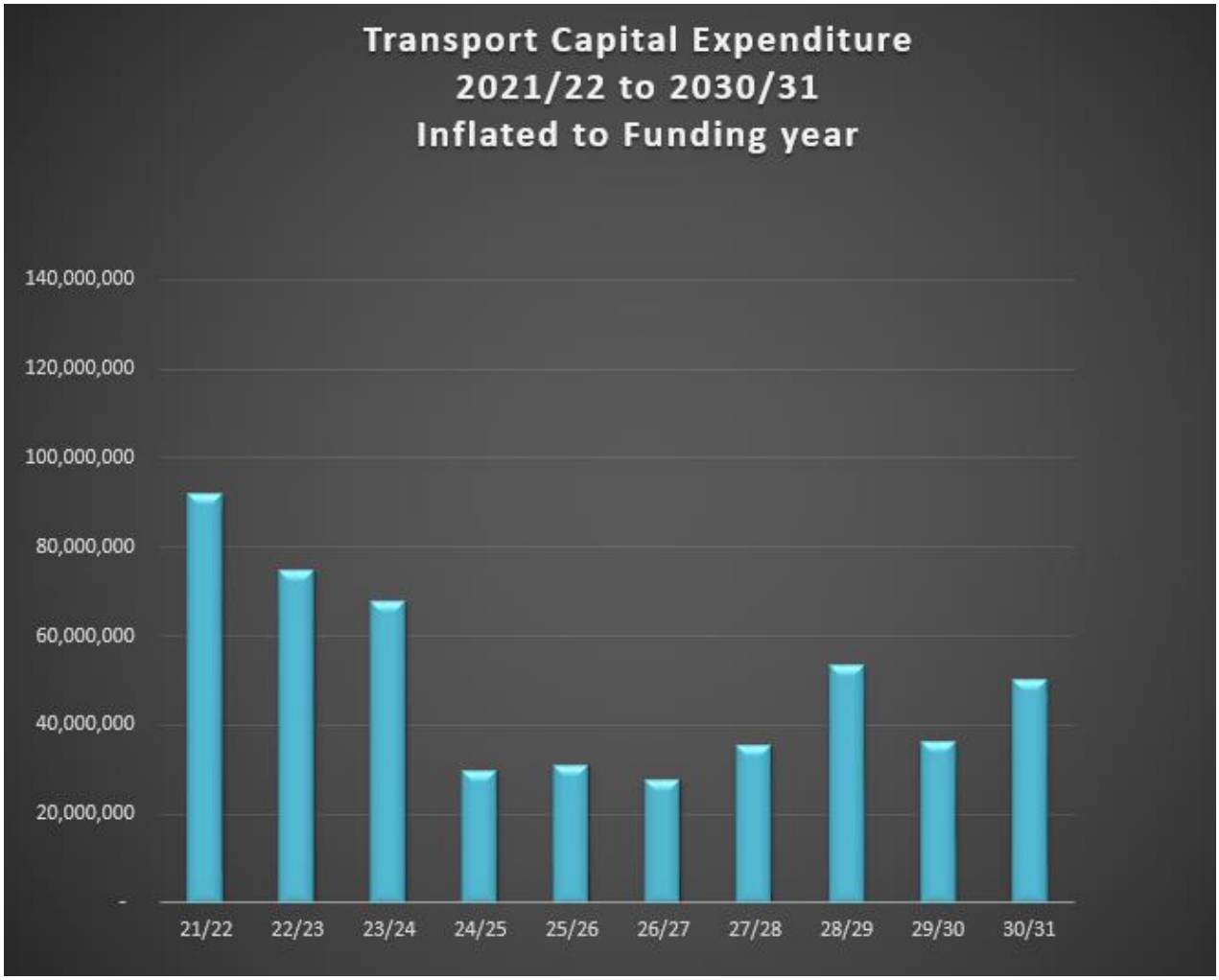
Figure 86: Total Transport Expenditure



10.17. CAPITAL EXPENDITURE

Figure 111 shows the expected expenditure inflated to funding year, year-on-year up to 2031. It is important to note, due to the size of the programme the years 1 to 3 is being developed in detail, the majority of the $'s in the remaining years are being developed as part of the Queenstown Detailed Business Case and the Wānaka Master planning process.

Figure 87: Transport Capital Expenditure Projections



The below chart presents the capital expenditure by cost driver, it highlights the growth driver is addressing previous high growth in the last LTP cycle. FAs expected finding for renewal is remaining constant over the ten years.

Figure 88: Transport Capital Expenditure Drivers

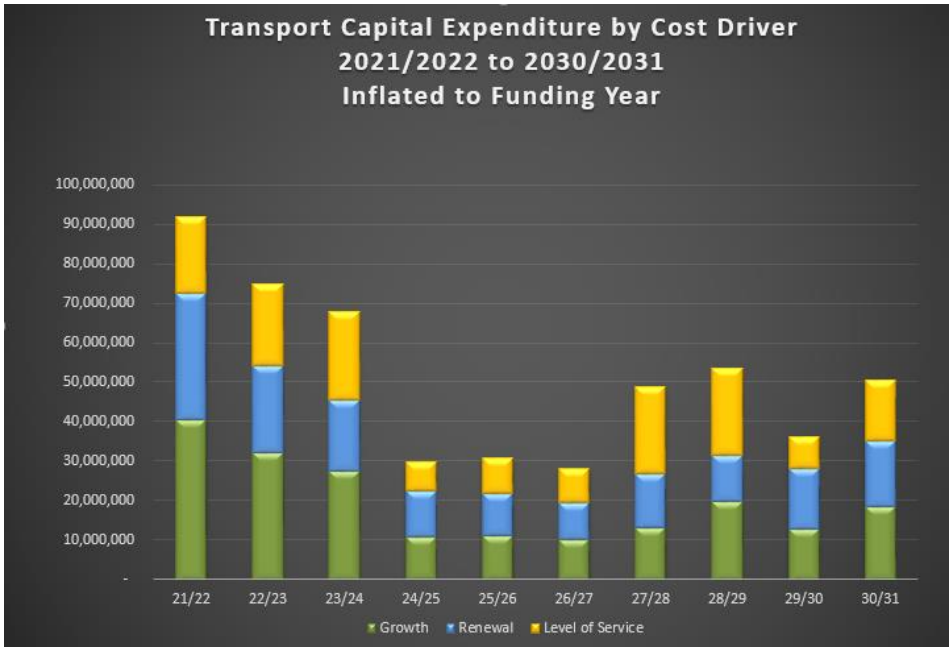


Table 19 shows the current capital investment programme (subsidised and unsubsidised) for the next 30 years for transportation projects with a values of over $5M.

Table 19: Transportation Projects over $5M

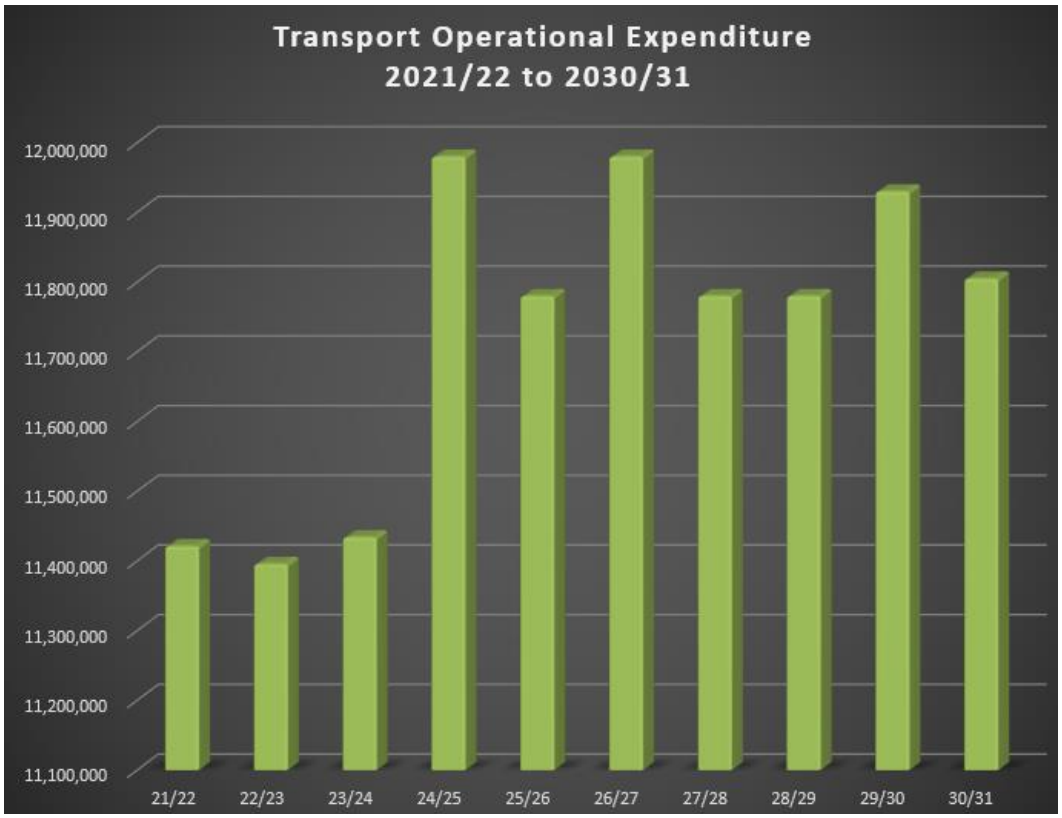
Project Name	Total 10 Year cost 21/22-30/31	Project Start Year	Project Completion Year
Arthurs Point Road Crossing (TR) (previously known as Shotover Bridge (AP) duplication)	$39.6M	2020/21	2031/32
Shotover Park Limited Land Exchange	$6.4M	2039/40	2041/42
Wakatipu Walking/Cycling Improvements	$49.2M	2018/19	2035/36
Queenstown Parking Improvements	$48M	2018/19	2023/24
Queenstown Town Centre Pedestrianisation	$49.5M	2018/19	2025/26
Queenstown Town Centre Arterial	$148.8M	2018/19	2023/24
Hansen Road to Hawthorne Drive link	$38.3M	2035/36	2036/37
Water taxi/ferry network infrastructure	$6.1M	2018/19	2024/25
PT Improvements Stage 2 - Hubs	$25.5M	2019/20	2022/23
Wānaka Parking Improvements	$11.3M	2019/20	2023/24
Public Realm Upgrades	$15.9M	2020/21	2032/33
HIF Quail Rise to Hawthorne Drive	$7.8M	2018/19	2020/21
HIF Ladies Mile	$6.3M	2018/19	2020/21
Improved access Lake Hayes reserve (Widgeon Place)	$18.9M	2026/27	2038/39
Travel Management Queenstown	$5.5M	2018/19	2023/24
Lakeview Development - Road & Public Realm	$5.9M	2018/19	2021/22

Civic Heart	$10.9M	2018/19	2020/21
Wānaka Town Centre Masterplan	$26.6M	2021/22	2037/38
Queenstown Street Upgrades (TR) CIP	$46.2m	2021/22	2022/23
Arterial - Stage One (TR) CIP	$43.5m	2021/22	2023/24
Boundary St Parking Building (TR)	$30m	2018/19	2023/24
Arterial - Balance of Route (TR)	$27.8m	2015/16	2033/34
QTN Public Transport Interchange (TR)	$20.3m	2027/28	2028/29
QTN Public Transport Improvements (TR)	$16.2	2021/22	2024/25
Wānaka Primary Cycle Network (TR)	$15.9m	2024/25	2026/27
Arthurs Point Bridge - Road Crossing (TR)	$11m	2029/30	2032/33
Lakeview Dev - Road & Public Realm (TR) (unsub)	$8.6m	2018/19	2022/23
Wakatipu Active Travel LCLR (TR)	$6.5m	2021/22	Ongoing
Wakatipu Public Transport LCLR (TR)	$6.5m	2018/19	Ongoing
Frankton Track Improvement (TR)	$6m	2022/23	2023/24

10.18. OPERATIONAL EXPENDITURE

Operational expenditure consists of maintenance and operational activities for the management of our network. These $'s have not been inflated and excludes depreciation, interest and overheads.

Figure 89: Transport Operational Expenditure



10.19. KEY ASSUMPTIONS, CONFIDENCE AND RELIABILITY

Improvements to public transportation patronage and use of cycle trails, combined with education programmes could go some way to ensuring QLDC's roads continue to deliver current levels of service. Diversification of transport options is a key tool in managing congestion (user demand) at peak times of the day. Other options such as increases to local funding may also provide an alternative, however this solution would need to be well understood and consulted on with the community ahead of any such decision.

There is a degree of uncertainty around the conditions that may be placed on the resource consents for any new roading project and the levels of investment in stormwater treatment that might be required in the future. This may impact on future costs and revised timings for scheme delivery. It is important that QLDC put forward robust arguments during consenting processes to ensure that the construction and operation of a new road best balances environmental outcomes with community affordability.

11. APPENDICES

11.1. QLDC POLICIES, STRATEGIES AND SUPPORT ELEMENTS

11.1.1. ASSET MANAGEMENT POLICY

11.1.2. STRATEGY FOR PROCUREMENT OF LAND TRANSPORT ACTIVITIES

11.1.2.1. WAKA KOTAHI ENDORSEMENT LETTER

11.1.3. SMART BUYER ASSESSMENT

11.1.4. ACTIVE CONSENTS RELATING TO TRANSPORT

11.1.5. QLDC STRATEGIC ASSESSMENTS

11.1.6. QLDC LAND DEVELOPMENT AND SUBDIVISON CODE OF PRACTICE

https://www.qldc.govt.nz/services/resource-consents/land-developments-and-subdivisions

11.1.7. QLDC LAKES SPATIAL PLAN

https://www.qldc.govt.nz/your-council/major-projects/queenstown-lakes-spatial-plan

11.1.8. QLDC TRANSPORTATION STRATEGIC FRAMEWORK (TASF)

11.1.9. QLDC TRANSPORT STRATEGIES

https://www.qldc.govt.nz/services/transport-and-parking/transport-strategies

11.2. NETWORK MANAGEMENT PLANS – MAINTENANCE, OPERATIONS, RENEWALS PBC

11.3. ONRC MEASURES AT A GLANCE

11.4. LGNZ RCA 2019-2020 REPORT

https://www.nzta.govt.nz/assets/Road-Efficiency-Group/docs/rca-reports/2018-19-RCA-Report-Queenstown-Lakes-District-Council.pdf

11.5. REG DATA QUALITY REPORT

11.6. PROGRAMME BUSINESS CASE TABLES

11.7. AUDIT RESULTS

11.7.1. WAKA KOTAHI TECHNICAL AUDIT 2019

11.7.2. WAKA KOTAHI INVESTMENT REPORT 2020

11.8. GLOSSARY OF TERMS