



STRATEGIC ASSET MANAGEMENT PLAN

BRIDGES

1.0 INTRODUCTION

1.1 Purpose:

To provide strategic guidance on management and renewal of Council owned or managed bridge infrastructure for a **10-year period**. Bridge infrastructure includes; vehicle bridges, pedestrian bridges and bridge-sized culverts.

This asset management plan communicates the requirements for the sustainable delivery of services through management of assets, compliance with regulatory requirements, and required funding to provide the appropriate levels of service over the long-term planning period.

This strategic asset management plan is to be read with the West Coast Council planning documents. Including the; *West Coast Council Asset Management Policy* and *West Coast Community Plan 2025*. This plan may also be supplemented by an Asset Management Plan which would provide more detail on engineering, maintenance and financial projections. The Asset Management Plan, if required will be created, maintained and monitored by the Works and Operations Department.

1.2 Background

Bridges are an important asset class with key risks if not managed correctly, including collapse or economic impacts from weight restrictions or diversion requirements. Bridges are expensive to maintain, with increasing weight and safety expectations and renewal represent a significant portion of Council's available capital expenditure budget.

Currently West Coast Council have a total of seventy (70) bridge assets made up of:

Bridge Type	Number	Value (as at 2018-2019)
Concrete Bridges	7	\$1,960,613
Timber Bridges	14	\$2,327,864
Steel/Aluminum Bridges	14	\$2,115,706
Bridge size culverts	35	\$4,379,125

The West Coast Council currently uses a contracting company to conduct routine inspections to provide advice on asset condition, maintenance requirements, renewal requirements and safety requirements.

Condition of bridges measured using a 1 – 5 grading system (1 = very good and 5 = very poor). Most of the Council's bridges are currently within 1-2 (very good – good). However, at present there is a backlog of renewals pending based on the useful life records. Additionally, the current allocated annual funding is not enough to maintain the current service levels of bridges as the move through their expected life cycle, and therefore service levels are expected to deteriorate which in turn could lead to;

- increasing risk
- increasing future financial liability for Council
- increasing deferred maintenance costs
- decreasing customer satisfaction

Bridge deterioration can happen rapidly, and previous experience indicates that renewals and proactive maintenance are currently not enough to prevent unexpected safety measures including weight limitations being required.

1.3 Strategic Assessment

Our present funding levels are insufficient to continue to provide existing services at current service levels in the medium term. Therefore, with no change in budget allocation or levels of infrastructure the following will occur:

- The bridge conditions will deteriorate over time
- Increasing safety risks causing potential road closures
- Restricted access will disrupt the traffic patterns
- Doesn't meet the expectations of users

We currently do not allocate enough budget to sustain these services at the desired standard or to provide all new services being sought. Works and services that cannot be provided under present funding levels are:

- The replacement of all the bridges and culverts that require renewal.
- The building new bridges in the West Coast region in the next 10 years.

1.4 Strategic Aims:

The following strategic aims provide the basis for the strategic asset management plan:

- Ensuring adequate access for emergency services vehicles, including alternative access where feasible.
- Ensuring adequate access for resident and business vehicles, including appropriate weight limitations.
- Alignment of bridge infrastructure levels with current and projected future need.
- Minimizing ongoing maintenance costs by using operationally cost-effective bridge design and reducing service levels where viable.
- Spreading bridge renewals over the period to minimise the impact in any one financial year.
- Providing enough forward projections to facilitate grant funding applications.
- Continuously improving asset management plans and register to better inform Council planning.

1.5 Strategic Solutions:

To implement these aims the strategic asset management plan adopts the following practices where possible:

- The replacement of timber bridges with concrete structures or culverts where possible.
- The replacement of vehicle bridges with foot bridges, or disposal of bridges where excess capacity exists.
- Upgrade of bridges to allow higher load rating across freight paths.
- Decisions to extend the planned life of bridges where assessment allows including through partial replacement.
- A conservative approach to safety and lifespan of bridges which are on singular access routes.
- Use of weight limitations on some bridges to monitor usage and control lifespan.

1.6 Contents

This Strategic Asset Management Plan has the following sections:

- Operations and Maintenance Plan
- Renewal, Acquisition and Disposal Plan
- Risk Management Plan
- Financial Impact Assessment
- Continuous Improvement and Review Plan

2.0 OPERATIONS AND MAINTENANCE PLAN

2.1 Introduction

Operations include regular activities to provide services. Examples of typical operational activities include cleaning, street sweeping, asset inspection, and utility costs.

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating. Examples of typical maintenance activities include pipe repairs, asphalt patching, and equipment repairs.

2.2 Inspections

Through the planning period it is expected that Council will continue to use a contract service provider to conduct the required inspections and to advise on reactive and safety maintenance requirements.

The periodic inspections assist Council in understanding reactive maintenance required, safety measures (including weight limits) required, and verify the renewal/disposal schedules by providing updates on the condition of bridge assets.

2.3 Current operations and maintenance

Current budget allocation (2019-2020) is \$22,935 p.a.

Council's operational expenditure is mainly spent on the bridge inspections at present and very limited budget is allocated to the maintenance works. Current approach is reactive maintenance, which is based on works requests, incident reports, etc. Forecast operations suggests increasing budget requirements to allow more sustainable maintenance program and improve the Council's asset register data through a better inspection regime. With the current level of allocation service levels will tend to deteriorate. It should be noted that if assets are disposed of in accordance with this plan the forecast operation and maintenance costs are expected to decrease.

To address this, it is recommended that operational funding for bridges and culverts **increase by \$16,000 p.a.** With the total increasing by CPI. This funding will primarily be used for deck surface maintenance, structural component renewal and corrosion prevention.

In addition to the additional funding Council will proactively use weight limitations to protect bridges that are in areas they provide the only access. While these limitations will not be used to prevent economic activity, they will allow Council to have greater awareness of the tonnages crossing bridges and to update the expected remaining life based on that.

3.0 RENEWAL, DISPOSAL AND ACQUISITION

3.1 Renewal Plan

Renewal is major capital work which does not significantly alter the original service provided by the asset, but restores, rehabilitates, replaces or renews an existing asset to its original service potential. Work over and above restoring an asset to original service potential is an acquisition resulting in additional future operations and maintenance costs.

Assets requiring renewal are identified from one of two approaches in the Lifecycle Model.

- The first method uses Asset Register data to project the renewal costs (current replacement cost) and renewal timing (acquisition year plus updated useful life to determine the renewal year), or
- The second method uses an alternative approach to estimate the timing and cost of forecast renewal work (i.e. condition modelling system, staff judgement, average network renewals, or other).

The typical useful lives of assets used to develop projected asset renewal forecasts are shown in Table 3.1. Asset useful lives were last reviewed on 2018/19.¹

Table 3.1: Useful Lives of Assets

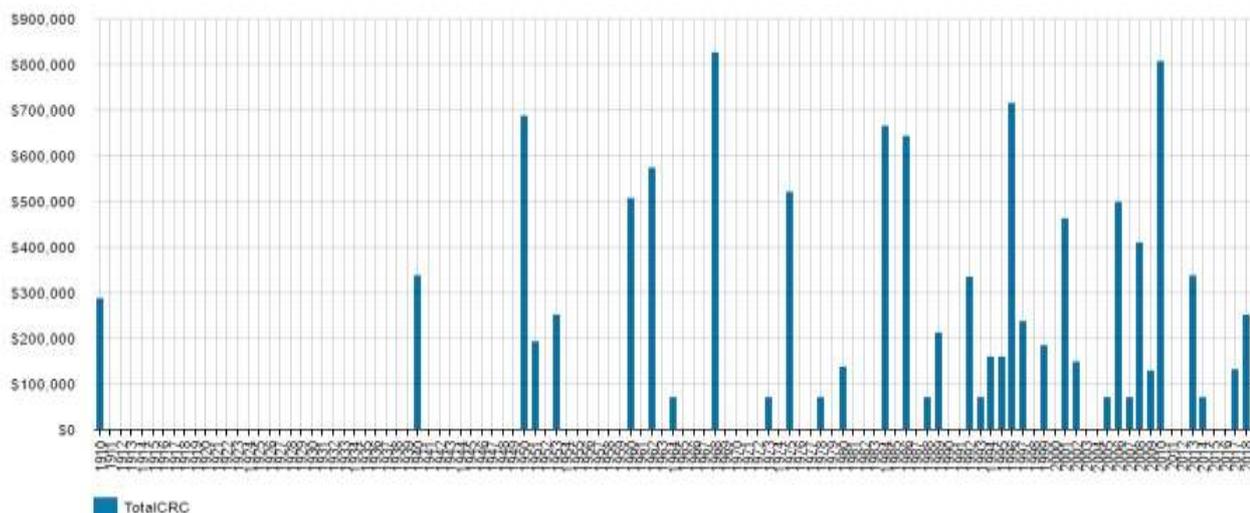
Asset (Sub)Category	Typical Useful life
Concrete Bridges	80
Timber Bridges	20-60
Steel/Aluminium Bridges	70-80
Bridge size culverts	70-80

The estimates for renewals in this plan are based on the asset register, with renewals scheduled to occur at the end of the expected useful life, modified by condition modeling and assessments.

The age profile for bridge assets is shown in Figure 3.1

¹ West Coast Council BMS 19 dated 24.06.2019

Figure 3.1 – Age Profile of Bridge Assets



3.2 Renewal ranking criteria

Asset renewal is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (e.g. replacing a bridge that has a 5 t load limit), or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. condition of a playground).⁶

It is possible to prioritise renewals by identifying assets or asset groups that:

- Have a high consequence of failure,
- Have high use and subsequent impact on users would be significant,
- Have higher than expected operational or maintenance costs, and
- Have potential to reduce life cycle costs by replacement with a modern equivalent asset that would provide the equivalent service.²

The ranking criteria used to determine priority of identified renewal proposals is detailed in Table 3.3.

Table 5.3.1: Renewal Priority Ranking Criteria

Criteria	Weighting
Condition (Structural and physical condition)	30%
Road/footpath Hierarchy (importance and usage)	25%
Risk	25%
Financial benefits (reductions in maintenance works)	20%

Forecast renewal costs are projected to increase over time if the asset stock increases. If assets decrease, then forecast renewal cost will also decrease.

² Based on IPWEA, 2015, IIMM, Sec 3.4.5, p 3|97.

3.3 10 Year Renewal Program

An overview of the ten-year renewal, disposal and acquisition plan is at **Appendix A**.

This plan was developed based on the above asset information, the strategic aims and the strategic solutions in sections 1.4 and 1.5. The plan identifies several assets for renewal either at current levels of service or lower levels of service. The plan includes a number of asset disposals bringing the overall proposed expenditure to feasible levels.

3.4 Acquisition Plan

Acquisition reflects are new assets that did not previously exist or works which will upgrade or improve an existing asset beyond its existing capacity. They may result from growth, demand, social or environmental needs. Assets may also be donated to the West Coast Council.

Council is aware of the current difficulty in funding the existing bridge network, both maintenance and renewals, and therefore endeavours to prioritise renewal projects over the creation of new assets or upgrading existing assets. In relation to the upgrade of assets, Council focuses on upgrading the safety features associated with bridges such as barrier rails and approach rails. These acquisitions should be funded by an **additional \$15,000 p.a.** made available as soon as possible.

It is recommended that this **additional \$15,000 p.a.** be made available as soon as possible for safety works including improved signage and barriers, and additional safety requirements that are expected to be mandated through the 10-year planning period.

It is possible that future developments may require additional bridges, or bridges with a higher capacity within the 10-year planning period. Where that is the case Council will seek to secure funding from the developer of other sources to provide the acquisition costs.

3.5 Disposal Plan

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. Any costs or revenue gained from asset disposals will be included in the long-term financial plan.

In considering assets for disposal Council has undertaken an assessment of the asset service levels currently provided. Particularly in Queenstown there is an over service of bridges when compared to the strategic aims of 1.5, particularly in light of the current ability to fund renewals and ongoing maintenance costs. Currently many areas are serviced by more than two bridges, providing additional convenience but at a significant cost. Additionally, there are a high number of pedestrian bridges. The current bridge infrastructure in Queenstown is shown in **Appendix B**.

In line with the strategic aims in sections 1.5 and 1.6 Council will reduce that infrastructure to that shown in **Appendix C**. These disposals will be scheduled to occur at the end of useful life when maintenance costs tend to increase. Overall, this will result in a reduction in vehicle and pedestrian bridges in Queenstown.

There will also be replacement of bridges with lower cost alternatives (culverts etc.) where feasible, these are not likely to lesson service level and therefore will not be classed as a disposal.

4.0 RISK MANAGEMENT PLAN

The purpose of infrastructure risk management is to document the findings and recommendations resulting from the periodic identification, assessment and treatment of risks associated with providing services from infrastructure, using the fundamentals of International Standard ISO 31000:2018 Risk management – Principles and guidelines.

Risk Management is defined in ISO 31000:2018 as: ‘coordinated activities to direct and control with regard to risk’³.

An assessment of risks associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a ‘financial shock’, reputational impacts, or other consequences. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, and the consequences should the event occur. The risk assessment should also include the development of a risk rating, evaluation of the risks and development of a risk treatment plan for those risks that are deemed to be non-acceptable.

4.1 Critical Assets

Critical assets are defined as those which have a high consequence of failure causing significant loss or reduction of service. Critical assets have been identified and along with their typical failure mode, and the impact on service delivery, are summarised in Table 4.1. Failure modes may include physical failure, collapse or essential service interruption.

Table 4.1 Critical Assets

Critical Asset(s)	Failure Mode	Impact
Bridges/culverts	Failure of structural component and collapse	Potential road closure
Guardrails/safety components	Weather/ vehicle Impact damages	Restrictions and temporary bridge/footpath closures

By identifying critical assets and failure modes an organisation can ensure that investigative activities, condition inspection programs, maintenance and capital expenditure plans are targeted at critical assets.

4.2 Risk Assessment

The risk management process used is shown in Figure 6.2 below.

It is an analysis and problem-solving technique designed to provide a logical process for the selection of treatment plans and management actions to protect the community against unacceptable risks.

The process is based on the fundamentals of International Standard ISO 31000:2018.

³ ISO 31000:2009, p. 2

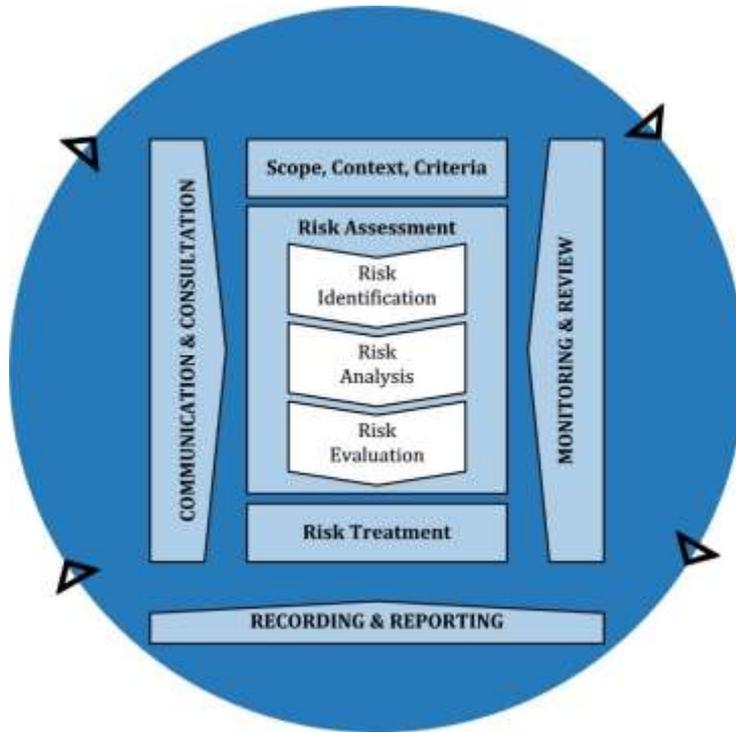


Figure 4.2 Risk Management Process – Abridged Source: ISO 31000:2018, Figure 1, p. 9

The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, development of a risk rating, evaluation of the risk and development of a risk treatment plan for non-acceptable risks.

An assessment of risks associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a ‘financial shock’, reputational impacts, or other consequences.

Critical risks are those assessed with ‘Very High’ (requiring immediate corrective action) and ‘High’ (requiring corrective action) risk ratings identified in the Infrastructure Risk Management Plan. The residual risk and treatment costs of implementing the selected treatment plan is shown in Table 4.2. It is essential that these critical risks and costs are reported to management and the West Coast Council.

Table 4.2: Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk *	Treatment Costs
Bridges and culverts (Condition rating of 4 or 5)	Critical structural failure	High	Renewal Reduce load limit Engineering design for strengthening/ upgrades	Low	Up to \$550,000 Annually \$1,000 \$20,000

Bridge network	Underfunding leading to poor conditions and safety of users	High	Seek external funding (grants) and train staff to improve application quality Engineering designs and estimates to improve budget forecasts and allocations	Low	\$5,000 \$20,000
Bridge network	Poor condition of non-structural components causing traffic and pedestrian hazards (guardrails, deck surface, approaches and walkway surfaces)	High	Incorporate inspection and maintenance/upgrade work routines to the annual maintenance program Desktop study and prioritise locations based on works requests/ complaints	Low	Up to \$20,000 Annually

Note * The residual risk is the risk remaining after the selected risk treatment plan is implemented.

4.3 Infrastructure Resilience Approach

The resilience of our critical infrastructure is vital to the ongoing provision of services to customers. To adapt to changing conditions we need to understand our capacity to ‘withstand a given level of stress or demand’, 1 and to respond to possible disruptions to ensure continuity of service. Resilience is built on aspects such as response and recovery planning, financial capacity, climate change and crisis leadership. We do not currently measure our resilience in service delivery. This may be included in future iterations of the asset management plan.

4.4 Service and Risk Trade-Offs

The decisions made in adopting this Plan are based on the objective to achieve the optimum benefits from the available resources.

What we cannot do. There are some operations and maintenance activities and capital projects that are unable to be undertaken within the next 10 years. These include:

- Further structural engineering assessments (Level 3 inspection) for the back log of sites that require intervention
- Adaptation of a detailed routine maintenance program is not possible with the current budget allocation

Where there is forecast work (operations, maintenance, renewal, acquisition or disposal) that cannot be undertaken due to available resources, then this will result in service consequences for users. These service consequences include:

- General deterioration of the wearing components and impact on rider comfort levels

The operations and maintenance activities and capital projects that cannot be undertaken may sustain or create risk consequences. These risk consequences include:

- Potential road closures due to failure of safety/structural components
- Congestions in local streets in case of detours and affect local roads due to heavy vehicle access
- Isolation of local community groups/ residents
- Impact on council’s reputation

These actions and expenditures are considered and included in the forecast costs, and where developed, the Risk Management Plan.

4.5 Climate Change and Adaption

The impacts of climate change can have a significant impact on the assets we manage and the services they provide. In the context of the Asset Management Planning process climate change can be considered as both a future demand and a risk.

How climate change will impact on assets can vary significantly depending on the location and the type of services provided, as will the way in which we respond and manage those impacts.

As a minimum we should consider both how to manage our existing assets given the potential climate change impacts, and then also how to create resilience to climate change in any new works or acquisitions.

Opportunities identified to date for management of climate change impacts on existing assets are shown in Table 4.3.

Table 4.3 Managing the Impact of Climate Change on Assets

Climate Description	Change	Projected Change	Potential Impact on Assets and Services	Management
Rainfall events		Frequent and high intensity	Flash flooding causing overtopping	Maintenance works to improve freeboard and outfalls
Temperature difference		Cold winters and warmer summers	Affect the useful lives of deck materials due	Consider resilient materials for overlays and resurfacing

Additionally, the way in which we construct new assets should recognise that there is opportunity to build in resilience to climate change impacts. Buildings resilience will have benefits:

- Assets will withstand the impacts of climate change
- Services can be sustained
- Assets that can endure may potentially lower the lifecycle cost and reduce their carbon footprint Table 4.4 summarises some asset climate change resilience opportunities.

Table 4.4 Building Asset Resilience to Climate Change

New Asset Description	Climate Change impact These assets?	Build Resilience in New Works
Concrete substructure	Extreme flood events can cause flood/impact damages to the structure	Renewal bridge designs to consider increased rainfall flood events and impact damages

The impact of climate change on assets is a new and complex discussion and further opportunities will be developed in future revisions of this asset management plan.

5.0 FINANCIAL SUMMARY

This section contains the financial requirements resulting from the information presented in the previous sections of this asset management plan. The financial projections will be improved as the discussion on desired levels of service and asset performance matures.

5.1 Current Service Levels

These infrastructure assets have significant replacement cost estimated at \$11,452,206.

Estimated available funding for this period is \$2,220,000 or \$222,000 on average per year as per the long-term financial plan or budget forecast. This is 62.69% of the cost to sustain the current level of service at the lowest lifecycle cost.

The anticipated planned budget leaves a shortfall of -\$132,112 on average per year of the forecast lifecycle costs required to provide current services compared with planned budget currently included in the Long-Term Financial Plan.

However, this Plan proposes to reduce the renewal costs by electing to dispose of assets rather than replace which will reduce this shortfall.

The best available estimate of the value of assets included in this Asset Management Plan are shown below. The assets are valued at fair value at cost to replace service capacity.

Current (Gross) Replacement Cost	\$11,452,206
Depreciable Amount	\$11,697,694
Depreciated Replacement Cost	\$5,914,399
Depreciation	\$169,917

5.2 Operational and Maintenance Cost Projections

It is proposed to increase the operational and maintenance costs by approximately \$16,000 p.a. plus an inflation increase. These figures are estimates and become less certain over the ten-year period. This is detailed in Table 5.1.

Table 5.1 Operational Cost Projections

Financial Year Beginning	Forecast Operation	Forecast Maintenance	Total
2019	\$22,955.00	\$16,000.00	\$40,974.00
2020	\$22,970.00	\$16,007.50	\$40,997.50
2021	\$22,985.00	\$16,015.00	\$41,021.00
2022	\$23,000.00	\$16,022.50	\$41,044.50
2023	\$23,015.00	\$16,030.00	\$41,068.00
2024	\$23,030.00	\$16,037.50	\$41,091.50
2025	\$23,045.00	\$16,045.00	\$41,115.00
2026	\$23,060.00	\$16,052.50	\$41,138.50
2027	\$23,075.00	\$16,060.00	\$41,162.00
2028	\$23,090.00	\$16,067.50	\$41,185.50

5.3 Renewal, Acquisition and Disposal Costs

These figures are estimates, details can be found in **Appendix A**. This is also detailed below in Table 5.2.

Table 5.1 Acquisition, Renewal and Disposal Cost Projections (figures removed from public version)

Financial Year Beginning	Forecast Acquisition (Safety upgrades)	Forecast Capital Costs (replacement/disposal)
2019	\$0.00	
2020	\$15,000.00	
2021	\$15,000.00	
2022	\$15,000.00	
2023	\$15,000.00	
2024	\$15,000.00	
2025	\$15,000.00	
2026	\$15,000.00	
2027	\$15,000.00	
2028	\$15,000.00	
2029	\$15,000.00	

5.4 Funding Strategy

The proposed funding for assets is outlined in the West Coast Council’s budget and long-term financial plan.

The financial strategy of the West Coast Council determines how funding will be provided, whereas the asset management plan communicates how and when this will be spent, along with the service and risk consequences of various service alternatives.

5.5 Valuation Forecasts

Asset values are forecast to remain approximately the same over the life of this strategic plan. Additional assets are added in the form of safety upgrades, and the value of assets may increase as they are renewed. This will be offset by asset disposal.

5.6 Key Assumptions Made in Financial Forecasts

In compiling this Plan, it was necessary to make some assumptions. This section details the key assumptions made in the development of this Plan and should provide readers with an understanding of the level of confidence in the data behind the financial forecasts.

Key assumptions made in this asset management plan are:

- The current operations and maintenance budgets have been used and have been increased by a fix variable. There has been no accounting for variation in assets over the life of the plan as this is subject to Council approval.
- Renewal forecasts have been made by professional judgement and are subject to approval by Council
- Current day dollars and does not include contingencies for ancillary works in relation to renewals.
- No additional contingency has been added for the increase in cost above and beyond current low levels of inflation.

5.7 Forecast Reliability and Confidence

The forecast costs, proposed budgets, and valuation projections in this Plan are based on the best available data. For effective asset and financial management, it is critical that the information is current and accurate. Data confidence is classified on a A - E level scale⁴ in accordance with Table 5.3

Table 5.3: Data Confidence Grading System

Confidence Grade	Description
A. Highly reliable	Data based on sound records, procedures, investigations and analysis, documented properly and agreed as the best method of assessment. Dataset is complete and estimated to be accurate \pm 2%
B. Reliable	Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate \pm 10%
C. Uncertain	Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated \pm 25%
D. Very Uncertain	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete, and most data is estimated or extrapolated. Accuracy \pm 40%
E. Unknown	None or very little data held.

The estimated confidence level for and reliability of data used in this Plan is shown in Table 5.4.

Table 5.4: Data Confidence Assessment for Data used in this Plan

Data	Confidence Assessment	Comment
Demand drivers	C	Historical observations and professional judgements
Growth projections	B	From Strategic Plan and Professional Judgement
Acquisition forecast	D	Professional judgement
Operation forecast	B	Based on Long-Term Financial Plan
Maintenance forecast	B	Based on Long-Term Financial Plan

⁴ IPWEA, 2015, IIMM, Table 2.4.6, p 271.

Renewal forecast - Asset values	B	Based on Long-Term Financial Plan
- Asset useful lives	C	Generic estimated in the Asset Register
- Condition modelling	C	Generic estimated in the Asset Register
Disposal forecast	D	Professional judgement

The estimated confidence level for and reliability of data used in this Plan is considered **Medium**.

6.0 PLAN IMPROVEMENT AND MONITORING

6.1 Status of Asset Management Practices⁵

6.1.1 Accounting and financial data sources

This asset management plan utilises accounting and financial data. The source of the data is West Coast Council accounting and financial system.

6.1.2 Asset management data sources

This asset management plan also utilises asset management data. The source of the data is AusSpan BMS reports on the asset register.

6.2 Improvement Plan

It is important that an entity recognise areas of their asset management plan and planning process that require future improvements to ensure effective asset management and informed decision making. The improvement plan generated from this asset management plan is shown in Table 6.1.

Table 6.1: Improvement Plan

Task	Task	Responsibility	Resources Required	Timeline
1	Reassess the Asset register data and update disposal plans/ remove duplicates and validate	AusSpan/ Works & Ops Manager	WOP's staff	1 year
2	Review asset condition data and validate useful life	AusSpan/ Works & Ops Manager (MWO)	WOP's staff	1 year
3	Infrastructure resilience plan	AusSpan	GM/WOP manager	Before next revision
4	Customer consultation to improve customer service level expectations	MWO	WOP/Media/field staff	Before next revision
5	Include Bridge components useful life and expand the register data to reflect main components (Substructure, Deck, Super structure, etc.)	AusSpan/ MWO	WOP staff	Before next revision
6	Improve the funding strategy for budgeting operations, maintenance and renewals	GM/MWO/Finance (Account teams)	Finance team and staff	Before next revision
7	Review risk and treatment plan for current service levels and update	GM/MWO/ AusSpan	WOP staff	Before next revision

⁵ ISO 55000 Refers to this the Asset Management System

6.1 Monitoring and Review Procedures

This Plan will be reviewed and updated annually to ensure it represents the current service level, asset values, forecast operations, maintenance, renewals, upgrade/new and asset disposal costs and proposed budgets. These forecast costs and proposed budget are incorporated into the long-term financial plan or will be incorporated into the long-term financial plan once completed.

The Plan will be revised every five years, or when there are significant changes in underlying data or circumstances.

Progress against Strategic Asset Management Plans will be reported to Council annually.

8.4 Performance Measures

The effectiveness of this asset management plan can be measured in the following ways:

- Actual Renewals aligning with Forecast Renewals
- The Asset Renewal Funding Ratio achieving the Organizational target (1.0).
- Progress against the improvement plan
- Reduction in Reactive Maintenance Costs

Progress against Strategic Asset Management Plans will be reported to Council annually.

7.0 APPENDICES

Appendix Renewal Forecast Summary (figures removed from public version)

Replacement Financial Year	No. (Appendix B)	Asset Location	Type	Current Condition (Rating 1 to 5)	Options	Estimated Budget (Approximation in 2019/2020 Australian Dollars)	Details
2019/20	Not shown	Trial Harbour Road – Trial Harbour	Timber vehicle bridge	4	Replace – Concrete vehicle bridge		Single Access Point.
2020/21	No. 1	Wilsdon Street – Queenstown	Timber vehicle bridge	5	Replace – Single lane vehicle bridge with no separate pedestrian access		5t Load Limit currently installed. Next Reduction will be Closure. Closure of vehicle access and foot traffic will leave one access to around sixty houses, via Bachelor Street.
	Not shown	Lowana Road – Strahan	Timber vehicle bridge	5	Replace – Concrete vehicle bridge		Current 10t Load Limit. This will impact: eight properties, Wilderness Railway service and Forestry.
2021/22	No. 7	King Street – Queenstown	Timber footbridge (former vehicle bridge).	5	Closure and removal at end of life.		This will result in loss of a pedestrian crossing. Downgraded to footbridge in 2016.

2022/23	No. 16	Off Murray Street – Pillinger Street Queenstown	Pedestrian bridge	3	Closure and removal at end of life.		This will result in loss of a pedestrian crossing.
	No. 5	Tramway Street – Queenstown	Vehicle bridge	3	Replace with concrete vehicle bridge.		Service maintained.
2023/24	No. 17	Off Murray Street – Queenstown	Pedestrian bridge	3	Replace with pedestrian bridge		Service maintained.
	No. 8	Off King Street – Queenstown	Pedestrian bridge (former vehicle bridge)	3	Replace with pedestrian bridge		Service maintained.
2024/25	Not shown	Granville Harbour Road – Granville Harbour	Timber vehicle bridge	2	Replace with concrete vehicle bridge		15t Load limit currently installed. Reduction of load limit to 10t may be required to preserve bridge until Financial Year 2024/25. Load limits will restrict emergency access and economic activity. Only access for three shack owners.
2025/26	No. 20	Cemetery Road – Queenstown	Timber vehicle bridge	2	Replace with concrete vehicle bridge.		Service maintained.
2026/27	Not shown	Park Road – Rosebery	Timber vehicle bridge	2	Replace with concrete vehicle bridge.		Service maintained.

2027/28	Not shown	Walking Track Stitt River – Rosebery	Pedestrian bridge	2	Replace to same service level.		Service maintained.
2028/29	No. 19	Hall Street – Queenstown	Timber vehicle bridge	2	Replace with concrete vehicle bridge.		Service maintained.
2029/30	No. 6	Off Esplanade – Queenstown	Pedestrian bridge	4	Replace with pedestrian bridge.		Current service level maintained.

Scheduled for removal at end of life, but predicted end of life outside of period to 2029/2030

Replacement Financial Year	No. (Appendix B)	Asset Location	Type	Current Condition (Rating 1 to 5)	Options	Estimated Budget (Approximation in 2019/2020 Australian Dollars)	Details
2030/31	No. 12	Esplanade - Driffield Street Queenstown	Pedestrian bridge	Not Assessed	Closure and Removal at end of life.	Not yet estimated.	Loss of pedestrian access convenience.

Appendix B – Queenstown Bridges



KEY:

- Bridge not planned for replacement/removal
- Bridge planned for removal
- Bridge planned for replacement

Bridge:

- No. 1** Wilsdon Street Vehicle/pedestrian
- No. 2** Wilsdon Street Vehicle/pedestrian
- No. 3** Wilsdon Street Vehicle/pedestrian
- No. 4** Mary Street Pedestrian
- No. 5** Tramway Street Vehicle
- No. 6** Esplanade/Railway Reserve Pedestrian
- No. 7** King Street Pedestrian
- No. 8** King Street/Esplanade Pedestrian
- No. 9** Preston Street Vehicle Culvert
- No. 10** Arthur Street Vehicle Culvert
- No. 11** Esplanade Vehicle/pedestrian
- No. 12** Esplanade/Driffield Street Pedestrian
- No. 13** Urquhart Street Vehicle/pedestrian

Appendix B – Queenstown Bridges



Bridge:

- No. 14** Lambert Street Pedestrian
- No. 15** Braddon Street Vehicle/pedestrian
- No. 16** Pillinger Street Pedestrian
- No. 17** Elliott/Murray Street Pedestrian
- No. 18** Conlan Street Vehicle/pedestrian
- No. 19** Hall Street Vehicle/pedestrian
- No. 20** Cemetery Road Vehicle