Transport Asset Management Plan 2023-2033

Strathfield Council

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Document Control

Document History

Version	Date	Status	Author	Summary of changes
1.0	18/11/2022	Draft	iinSights P/L	Initial draft TAMP
1.1	21/11/2022	Draft	iinSights P/L	Updated post review

Definitions

Explanation of definitions and acronyms used in this plan.

Term/Acronym	Definition
AASB	Australian Accounting Standards Board
AM Strategy	Asset Management Strategy
AMSC	Asset Management Steering Committee
Backlog	The quantum of assets that meet the levels of service reflected in the modelling rule base and hence due for a capital treatment, however, funding is not enough to treat these assets. The current hypothetical cost of recouping this backlog (i.e. funding required to bring every asset in condition state 5, Very Poor, back to a condition state 1, being Very Good) by immediate capital renewal.
TAMP	Transport Asset Management Plan
Condition or Service State	The service state involves the use of a single integer between 1 and 5 to describe the ability of the asset in question to fulfill its function; where 1 is very good and 5 is very poor.
IIMM	International Infrastructure Management Manual
ISO55000	55000 Series, International Suite of Asset Management Standards
LTFP	Long-Term Financial Plan
Net Strategy Cost	Total cost lifecycle scenario strategy. Calculation; Total Capital Cost over 20 Years + Total Maintenance & Operational Cost over 10 Years – Backlog Movement Over 20 Years.
Non-current assets	Physical and intangible infrastructure assets, including information and communication technology (ICT) assets, controlled by the organisation
SAM	Strategic Asset Management

1 Executive Summary

1.1 The purpose of the Plan

The purpose of this Transport Asset Management Plan (TAMP) is to inform Strathfield Council's (Council) commitment to best practice asset management and provide principles for sound Transport infrastructure asset investment decision making. The transport assets consist of Roads, Footpaths, Kerbs and LATM.

The TAMP documents the overall integrated planning framework to guide and improve Council's long-term strategic asset management of its Transport assets in order to cater for the community's required levels of service into the future as detailed in Section 3.6 Level of Service. The TAMP defines the state of Council's Transport assets as at the 2022 Financial Year, the 10-year funding required to achieve Council's adopted asset performance targets and planned asset management activities over a 10-year planning period.

This TAMP is to be read in conjunction with Council's Asset Management Strategy.

1.2 Current State of Council's Assets

The value of Transport assets covered by this TAMP is estimated at $224.9M as at 30th June 2022 and summarised in the table below:

Asset Type	Replacement Cost	Accumulated Depreciation	Current Value
Road Base	*$86,236,761*	*$14,372,486*	*$71,864,275*
Road Surface	*$35,118,185*	*$13,014,733*	*$22,103,452*
Roads	**$121,354,946**	**$27,387,218**	**$93,967,727**
Footpath	$41,239,515	$9,400,340	$31,839,174
Kerbs	$44,504,115	$10,112,273	$34,391,842
LATM	$17,828,293	$4,138,833	$13,689,460
Transport Total	**$224,926,868**	**$51,038,665**	**$173,888,203**

Table 1 - Assets Valuations as at 30th June 2022[1]

The following dashboard provides a high-level overview of the current condition (service state) of all Transports owned and maintained by Council. The service state is a numerical score assigned to each major Transport component (asset) to represent its current performance (i.e. where is the asset on its lifecycle path). Utilising

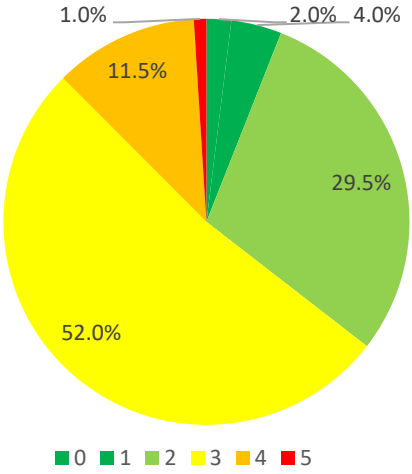
[1] Source: External Council Revaluations as at 30 June 2022,

predictive modelling software and techniques, Council is able to simulate each asset's degradation (the way it moves from one condition state to another throughout its lifecycle) to predict when assets will fail and require future treatment intervention.

Refer to Table 7 – Asset Condition Rating Guidelines for condition definitions.

$138.6M[2] Asset Value Modelled	**Roads: 99km, 639 Segments** **Footpath: 179km, 1,229 Segments** **Kerbs: 194,11m, 1,289 Segments** **LATM: 743 Assets, 3km Barrier**	**$17.3M Backlog Value[3]**	**2.70 out of 5 Average Condition (Service State)**

All Transport Asset Component Condition Distribution



Component Condition Distribution by Replacement Value

Figure 1 – Transport (Roads, Footpaths, Kerbs and LATM) State of Assets Snapshot as at FY2022

The following diagram provides a condition snapshot of Council's Transport assets by asset function.

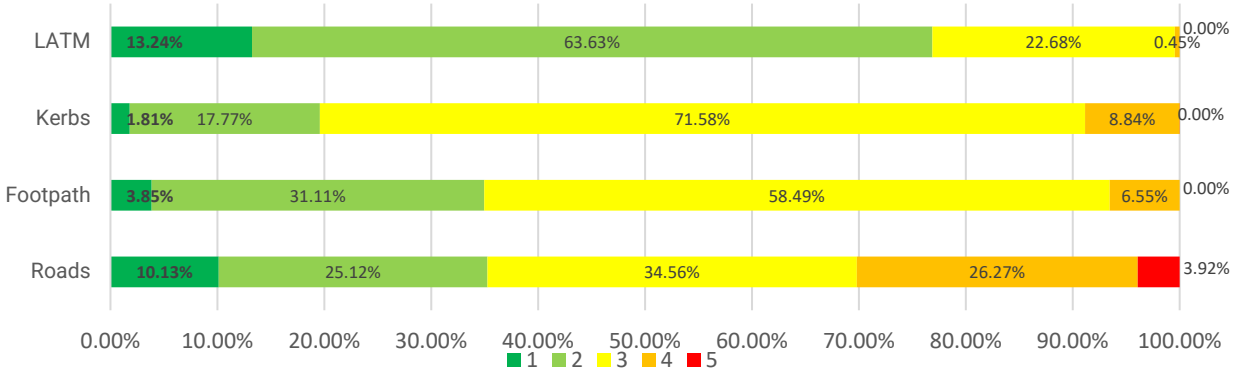


Figure 2 – Component Condition Distribution by Asset Class & Replacement Cost as at FY2022

[2] Asset value excludes road pavement in the modelling

[3] Backlog value is derived from the sum of assets that are in condition 4 (poor) and 5 (very poor)

1.3 Asset Funding Levels

The Financial Summary in this TAMP recognises that Council has considered multiple strategic predictive modelling scenarios in the process of deriving its 10-year long-term financial budget, in line with the guiding principles of best practice asset management.

Presently, there are plans to spend some $39.4M over the next 10 years to deliver Council's transport network. The current levels of funding reflected in Council's Long-Term Financial Plan (LTFP), relative to Council's existing Transports asset portfolio, have been determined as follows:

- Capital Renewal: $39.4M; and
- Maintenance & Operations: $10.7M or $1.7M on average per annum.

The total capital funding is $39.4M. This is the recommended funding option, which is expected to be sufficient to enable the Transport portfolio to achieve its current useful lives through capital and maintenance activities, thereby achieving the level of service targets.

Council has **recommended** the following LTFP figures to be adopted for its renewal strategy 2023-2033

Asset Class	Footpaths	Kerb & Gutter	LATM	Sealed Roads
23/24 ($,000)	5,957	244	320	2,600
24/25 ($,000)	29	245	320	2,600
25/26 ($,000)	14	243	320	2,600
26/27 ($,000)	130	244	330	2,600
27/28 ($,000)	30	269	330	2,600
28/29 ($,000)	134	270	380	2,600
29/30 ($,000)	69	270	550	2,600
30/31 ($,000)	174	270	550	2,600
31/32 ($,000)	109	270	570	2,600
32/33 ($,000)	90	270	573	2,600
Grand Total ($,000)	**6,735**	**2,593**	**4,242**	**26,000**

Table 2 – Recommended 10-Year Funding Strategy

The summary average condition and PVP (Poor and Very Poor Condition) based on the recommended funding is set out below:

Asset Class	Replacement Value	Total Recommended Exp	Avg Recommended Annual Exp	Avg Condition Year 0	Avg Condition Year 10	PVP Year 0	PVP Year 10
Footpaths	$41.24M	$6.7M	$0.67M	2.68	1.38	6.55%	0.00%
Kerb & Gutter	$44.46M	$2.6M	$0.26M	2.87	2.73	8.84%	5.02%
LATM	$17.83M	$4.2M	$0.42M	2.1	1.73	0.45%	0.00%
Sealed Roads	$35.12M	$25.9M	$2.59M	2.81	2.07	30.19%	9.02%

Table 3 –10-Year Funding & Resulting Average Condition and PVP

A summary of funding options considered is provided in the table below Further financial option details are detailed in the Financial Summary Section. It is envisaged the financial projections will be improved as further information becomes available on the desired levels of service, asset dataset and current asset performance.

	Initial Backlog ($,000)	Initial Condition	Backlog at Yr 10 ($,000)	Condition at Yr 10	Total Lifecycle Cost ($,000)	Change in Backlog ($,000)	Net Strategy Cost ($,000)
Sealed Roads							
Option 1 - Current Budget	$10,601	2.80	$15,199	3.24	$12,347	$4,598	$16,945
Option 2 - Desired LOS	$10,601	2.80	$8,282	2.59	$21,334	-$2,320	$19,014
Option 3 - Zero PVP Target	$10,601	2.80	$0	1.87	$54,109	-$10,601	$43,508
Option 4 - 50% of Zero PVP Target	$10,601	2.80	$3,169	2.07	$28,955	-$7,432	$21,524
Kerb & Gutter	$0		$0		$0	$0	$0
Option 1 - Current Budget	$3,932	2.87	$4,824	2.96	$1,008	$891	$1,899
Option 2 - Desired LOS	$3,932	2.87	$2,230	2.72	$3,580	-$1,702	$1,878
Option 3 - Zero PVP Target	$3,932	2.87	$0	2.58	$5,779	-$3,932	$1,847
Footpath	$0		$0		$0	$0	$0
Option 1 - Current Budget	$2,701	2.68	$846	1.44	$11,410	-$1,855	$9,555
Option 2 - Desired LOS	$2,701	2.68	$84	1.31	$11,905	-$2,617	$9,288
Option 3 - Zero PVP Target	$2,701	2.68	$0	1.38	$11,600	-$2,701	$8,899
LATM	$0		$0		$0	$0	$0
Option 1 - Current Budget	$80	2.10	$4,239	2.80	$1,932	$4,159	$6,091
Option 2 - Desired LOS	$80	2.10	$0	1.73	$6,021	-$80	$5,941
Option 3 - Zero PVP Target	$80	2.10	$0	1.74	$6,009	-$80	$5,930

Table 4 –10-Year Funding & Strategy Results - Funding Option

1.4 Monitoring and Improvement Program

The improvement action items identified can be found in the Plan Improvement and Monitoring Section.

2 Asset Class Information

2.1 Background

The Transport asset portfolio of Strathfield Council (Council) provides a vital service to the local community. Council is widely known for its culturally diverse, and socially cohesive community. Council owns and maintains a network of Transport assets (such as Roads, Footpaths. Kerb & Gutter, and LATM assets) that support the local community and attract people from the wider Sydney region.

New and upgrade Transport asset needs, and project candidates are identified in the 'Strathfield 2035 Long Term Financial Plan. This strategy provides an assessment of community asset needs based on a range of indicators (such as stakeholder engagement, capacity & utilisation and traffic studies) to identify priorities for existing and future community Transport asset needs from current to 2035.
Changing patterns of use and demand with differing maintenance practices and techniques have resulted in a complex network of Transports in varying conditions.

As the responsible authority for the provision and maintenance of this infrastructure asset base, Council recognises the need to ensure the management of this valuable asset portfolio, to ensure that the current and future benefit to the community is delivered at a cost that the community can afford.

2.1.1 Transports Included in this AM Plan

The transport assets considered in this TAMP, are described as including all assets directly associated with the road and located within the road reserves or carparks, where Strathfield is the responsible road authority. However, due to offering a similar service, some of the assets such as pathways may be located within the parks but categorised under the roads and transport assets.

Strathfield does not own and is not responsible for the management of Declared State Roads such as Parramatta Road, Centenary Drive, Homebush Bay Drive, Roberts Road, Punchbowl Road, Liverpool Road, Coronation Parade and The Boulevarde. These roads are managed by the State road authority for NSW; Roads and Maritime Services (RMS) and include the pavement, surface, kerb and gutter and signs.

The asset types covered by this TAMP are set out in Table 5 – Transport Quantity by Asset Type. This TAMP covers all Transport assets which are owned or controlled by Council.

Asset Type	Quantity
Roads	99,767 m 1,036,321 m2 639 Segments
Footpath	1,229 Segments 179km
Kerbs	194,11m 1,289 segments
LATM[4]	3,000M Barrier 743 LATM Assets

Table 5 – Transport Quantity by Asset Type

A detailed list of all Transport assets for which Council has included in this TAMP is recorded in Council's Asset Register.

2.1.2 Transport Asset Class Exclusions

The TAMP excludes Transport assets which are owned and maintained by the Roads and Maritime Services (RMS) and other private organisations.

Bridges are classified within a separate asset portfolio entitled "Bridges" and are managed via Council's Bridges Asset Management Plan.

2.2 Current State of the Assets

The distribution of Council's Transport asset portfolio by Current Replacement Cost is illustrated below in Figure 3.

[4] LATM stands for local area traffic management

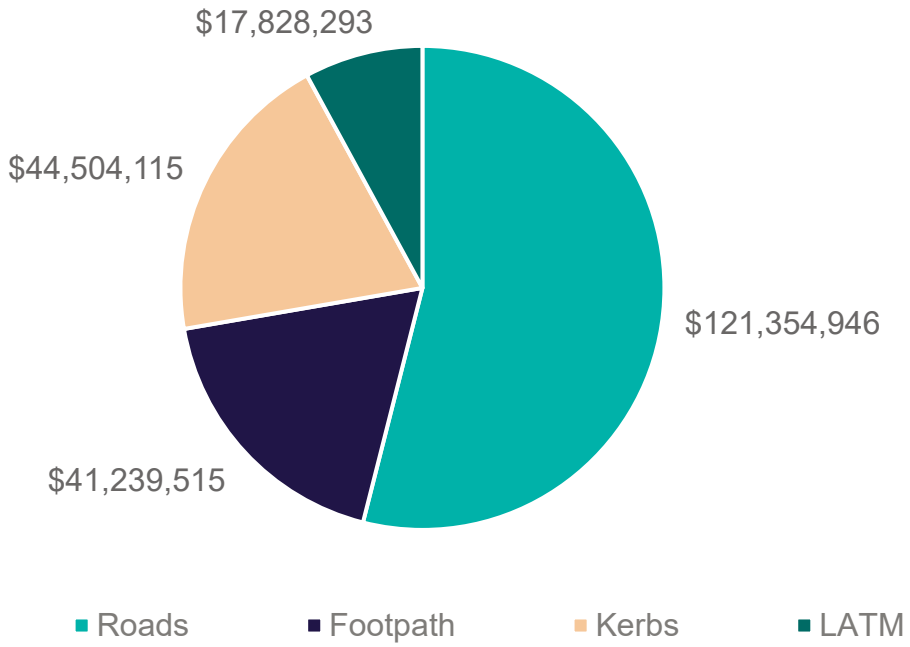


Figure 3 – Distribution of Transport Assets by Class by Current Replacement Cost

At present, 54% of the asset portfolio is comprised of Roads, which equates to $121.3M of the total $224.9M replacement cost. All footpaths, kerbs and LATM assets are modelled and for roads only the surface component ($35.12M) has been modelled and included in the long-term financial renewal requirements of this TAMP.

Asset Type	Replacement Cost	Accumulated Depreciation	Current Value
Road Base	*$86,236,761*	*$14,372,486*	*$71,864,275*
Road Surface	*$35,118,185*	*$13,014,733*	*$22,103,452*
Roads	**$121,354,946**	**$27,387,218**	**$93,967,727**
Footpath	$41,239,515	$9,400,340	$31,839,174
Kerbs	$44,504,115	$10,112,273	$34,391,842
LATM	$17,828,293	$4,138,833	$13,689,460
Transport Total	**$224,926,868**	**$51,038,665**	**$173,888,203**

Table 6 - Assets Valuations as at 30th June 2022[5]

Table 6 identifies the valuation of Council's Transport assets as at 30th June 2022.

[5] Source: External Valuation as at 30 June 2022, noting that annual depreciation has been estimated from source dataset

2.2.1 Current Replacement Modelling Costs

The total modelled value of Transport asset portfolio for which Council is responsible for is currently estimated at $138.6M. The break-up of the asset class by estimated model replacement value is illustrated in Figure 4.

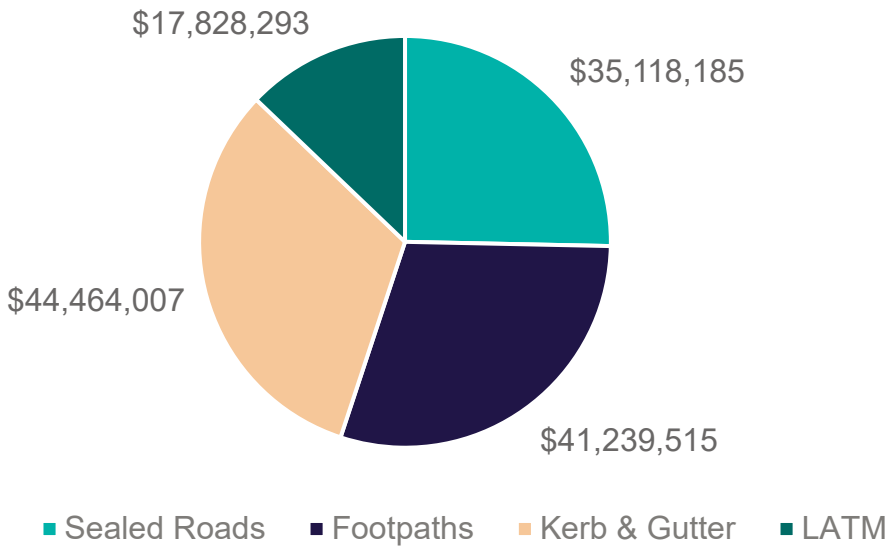


Figure 4 – Distribution of Transport Asset Estimated Model Replacement Values by Class

2.2.2 Transport Information Management

All information pertaining to asset type and function, location, constructed year and condition of these Transport and structure assets are recorded and stored in Council's Asset Register which at present is a series of varied databases in MS Excel.

In 2022, Council engaged an external contractor to inspect its Transport portfolio and perform visual inspections at the Transport component level. At the time of preparing this TAMP, it is estimated that Council's Asset Register is 98% complete with regards to the Transports list and around 90% up to date.

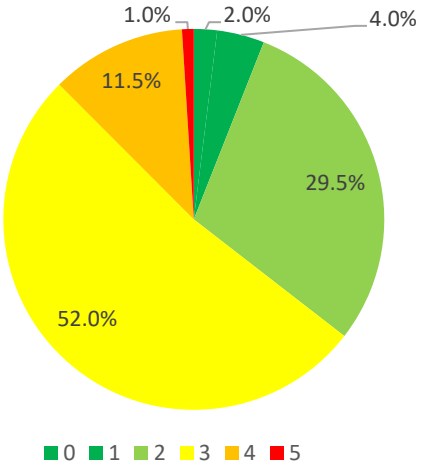
2.2.3 Current Asset Performance

The following dashboard provides a high-level overview of the current condition (service state) of all Transport assets owned and maintained by Council. The condition state is a numerical score assigned to each major Transport component (asset) to represent its current performance (i.e. where is the asset on its lifecycle path), with condition state 1 representing an excellent condition and condition state 5 representing a very poor condition.

Refer to Table 7 – Asset Condition Rating Guidelines for condition definitions.

$138.6M **Asset Value Modelled**	**Roads: 99km, 639 Segments** **Footpath: 179km, 1,229 Segments** **Kerbs: 194,11m, 1,289 Segments** **LATM: 743 Assets, 3km Barrier**	**$17.3M** **Backlog Value**	**2.70 out of 5** **Average Condition (Service State)**

All Transport Asset Component Condition Distribution



Component Condition Distribution by Replacement Value

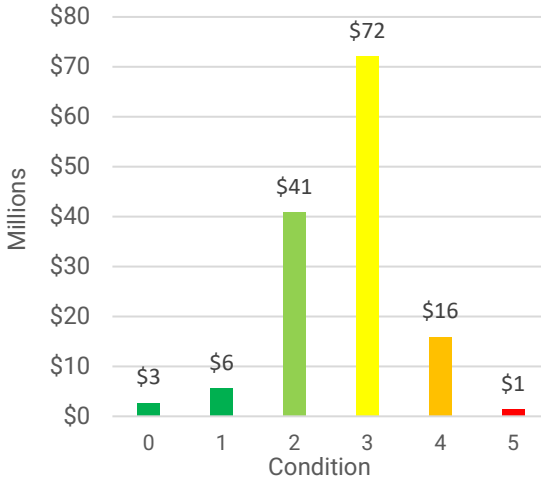


Figure 5 – State of Assets Snapshot as at FY2022

Transport asset condition audits and inspections were carried out by Council contractors in 2022 for sealed roads, kerbs, and road traffic control devices with asset data for footpaths yet to be updated within the Asset Register.

Council's Transport assets as shown in Figure 5 shows that over 35% in very good and good condition and 12.5% in poor and very poor condition. The average network portfolio condition is 2.70 out of 5.

Figure 6 below provides a condition snapshot of Council's Transport network by asset class. The figure shows that LATM assets have 0.45% in PVP (poor or very poor condition). Kerbs have 8.84% in PVP, footpaths have 6.55% in PVP and sealed road surfaces have 30.19% in PVP.

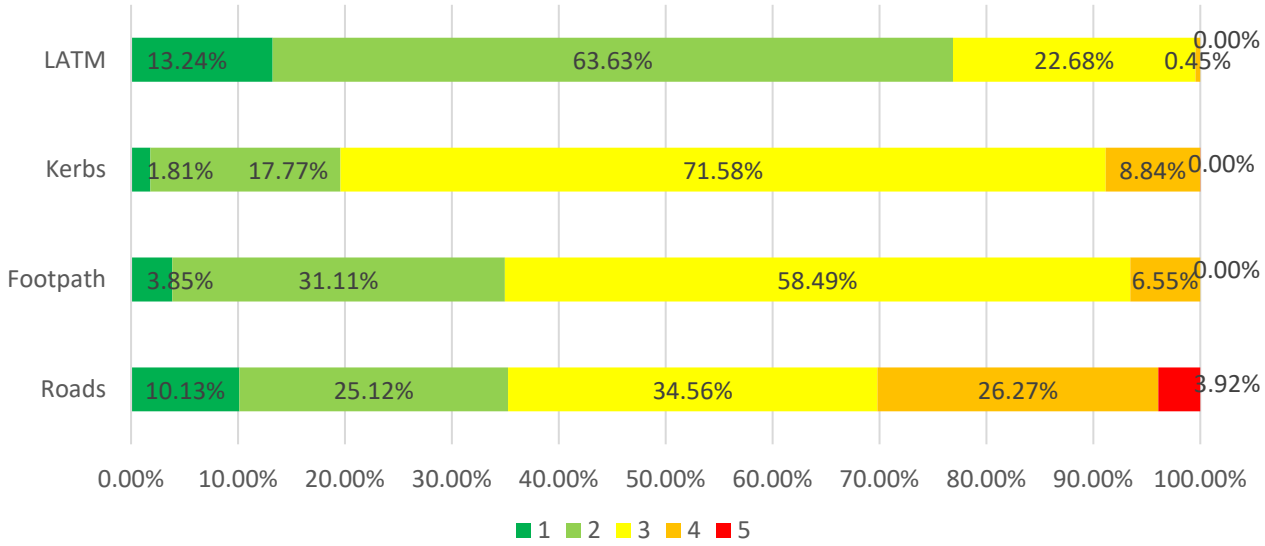


Figure 6 –Condition Distribution by Asset Class as at FY2022

Changing patterns of use and demand with differing maintenance practices and techniques have resulted in a complex network of Transports in varying conditions.

The framework documented in Council's Asset Management Policy, and the Strategies documented in the Asset Management Strategy and supported by this TAMP will place Council in a good position to address the asset issues currently faced.

2.2.4 Condition Assessment

Council will formally document a detailed Transport condition assessment manual that has been used to assess the Transport network condition. The Transport Service Framework will provide further information on the methodology for rating and assessing the condition/performance of these assets.

Typically, network wide condition assessments are undertaken on a 4-year cycle (coinciding with the financial revaluations) and used to identify where Transport asset components are within their defined useful lives at any given point in time. The latest condition audit covering all Transports that Council is responsible for was undertaken in 2022 and is estimated to be completed in early 2023.

The condition rating system is summarised in Table 7 – Asset Condition Rating .

Condition	Condition Score	Description
Good	1	**Very Good:** free of defects, only planned and/or routine maintenance. Only Normal Maintenance Required
	2	**Good:** minor defects, increasing maintenance required plus planned maintenance. Minor Maintenance Required.
Fair	3	**Fair:** defects requiring regular and/or significant maintenance to reinstate service. Significant Maintenance Required to Return to Acceptable Service Level.
Poor	4	**Poor:** significant defects, higher order cost intervention likely. Significant Renewal/Upgrade Required.
	5	**Very Poor:** physically unsound and/or beyond rehabilitation, immediate action required. Asset / Component Requires Replacement.

Table 7 – Asset Condition Rating Guidelines

2.3 Lifecycle Management

Life Cycle Management is an essential component of any good asset management plan. This section of the TAMP identifies the processes required to effectively manage, maintain, renew and upgrade Council's Transport assets.

2.3.1 Operations & Maintenance Plan

Operations activities can be described as activities that are delivered on a day-to-day basis necessary to meet levels of service delivery requirements. Operational activities can include service delivery items such as street sweeping and roadside mowing. Operational activities also include proactive and reactive inspections, undertaken by in-house technical staff and/or specialist contractors. Operations activities do not improve the condition of assets.

Over time, minor faults can occur within the Transport portfolio. Council addresses the repairs and maintenance of these faults (e.g. trip hazards) on the basis of defined intervention levels and response times. The intervention level defines the condition, state or risk level associated with an asset/component, i.e. the point in time at which the asset is considered to be below an acceptable level of service. Maintenance is scheduled as soon as the asset reaches this point.

Operations and maintenance activities do not improve the condition of the Transport, but rather enable the Transport network to deliver its service levels as related to its Transport function.

For the Levels of Service delivered on a day-to-day nature (i.e. responding to customer requests for maintenance faults and responding to localised asset failures), these intervention levels[6] are currently documented in Council's maintenance management system. At present, Council considers that these current operations and maintenance service levels meet the community's needs and expectations.

The Improvement Plan identifies that Council will undertake a formal review of these operations and maintenance activities which will be formally documented in a Transport Service Framework.

2.3.2 Renewal/Replacement Plan

Activities such as renewal, rehabilitation, reconstruction and replacement will return the degraded service of the asset back to its original condition. Renewal activities such as renewal of the road's surface, replacement of a footpath segment will return the degraded service capability of the asset back to its original designed capability or modern-day equivalent.

Renewal and replacement strategies are based on the most current asset condition inspections available to Council at the time of developing the forward works programs. The rule bases which reflect the policy decisions that Council will employ to determine when they will select assets for inclusion in their capital works program will be documented in a Transport Service Framework.

The built nature of new, upgrade and renewed Transport assets will always be provided in accordance with Council's design standards, relevant Australian Standards and industry guidelines / best practices.

2.3.3 Upgrade/Expansion Plan

Upgrade and expansion works are associated with improving service levels beyond the originally designed capability or modern-day equivalent. Additionally, expansion works include activities that extend the capacity of an existing asset, to provide higher levels of service and/or meet changes in asset resilience requirements. Upgrade/expansion is different to renewal/replacement which only improves the degraded service capability within the boundaries of the original designed capability.

[6] Intervention level incorporates the Transport Service Area, activity or defect and response time to attendance or repair.

Transport upgrades are usually undertaken where an asset has been identified as deficient with regards to providing its intended function such as being fit for use and fit for purpose.

Typically upgrade/expansion works are identified from a combination of methods which include Councillor and/or community requests, project candidates identified via Council's Community Asset Needs Strategy or identified via other Strategic Plans and/or Transport condition audits.

2.3.4 Creation/Acquisition Plan

New works are those works that create a new asset that did not previously exist. Council can acquire existing built assets or new assets from developers or new assets via capital projects to meet community needs. Typically, new Transport asset candidates are identified from a combination of methods which include Councillor and/or community requests, project candidates can also be identified via other Strategic Plans and/or from Transport condition audits.

2.3.5 Disposal Plan

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition, relocation, or transfer of ownership. At present, there are no plans to dispose of any Transport assets.

2.4 Leadership and Accountability

Council's Asset Management Policy adopted in June 2021 defines at a high level, the roles and responsibilities within Council for asset management.

The Improvement Plan recognises that Council should establish an Asset Management Steering Committee (AMSC), drawn from across Council administration to coordinate asset management related matters.

The development of an Asset Management Responsibility Assignment Matrix which details the organisational relationships and lines of responsibility regarding asset management over the asset lifecycle, has also been included in the Improvement Plan.

3 Levels of Service

3.1 Social Infrastructure Planning

A service centric approach starts with determining what services we need and then connecting assets to those services. It ensures that our assets are in the most appropriate locations for future community use, that they are functionally adequate for future demographics and take into account demand and Council's vision. It also ensures that there is a clear prioritisation of capital and maintenance based on criticality of the service and considers repurposing, redundancy or relocation of services when balancing future budgets.

Council is currently preparing a Social Infrastructure Strategy (SIS) to plan for the future of open space, parks, sports fields and community facilities in the Strathfield Local Government Area. The SIS will identify the need for new and improved community facilities and connectivity networks which will be incorporated into future TAMP revisions.

In addition, Council is also putting together a review and set of recommendations for planning in the municipality, as part of the work on the Councils' Local Strategic Planning Statements. This will ensure the community's assets are being properly managed and protected for the long-term best interests of the community.

3.2 Customer Research and Expectations

Council undertakes customer surveys to understand and identify community priorities for the Strathfield LGA and identify the community's overall level of satisfaction. The most recent customer satisfaction survey[7], which was conducted in late 2021 and early 2022 offers Council a long-term measure of how they are performing.

The results of the survey indicated that generally, residents highly rated the importance and their experiences of community safety ('feeling safe') and access to transport ('reliable and efficient public transport experiences'). Strathfield LGA's overall liveability was rated at 67.2 and when benchmarked performed above Australia (65.2), NSW (65.3), Greater Sydney (66.4), and Middle Suburbs (66.9).

Managing traffic, parking and connected transport systems including public transport,

[7] 2021 Community Satisfaction Survey – Conducted by

walking and cycling was one of the top 10 community issues, as well as ensuring Street and public spaces are attractive and well maintained. The community is generally satisfied with the provision of these services.

Figure 7a – Strathfield Community Survey Satisfaction Overall Performance illustrates the satisfaction with Council's overall performance between 2017 to 2021.

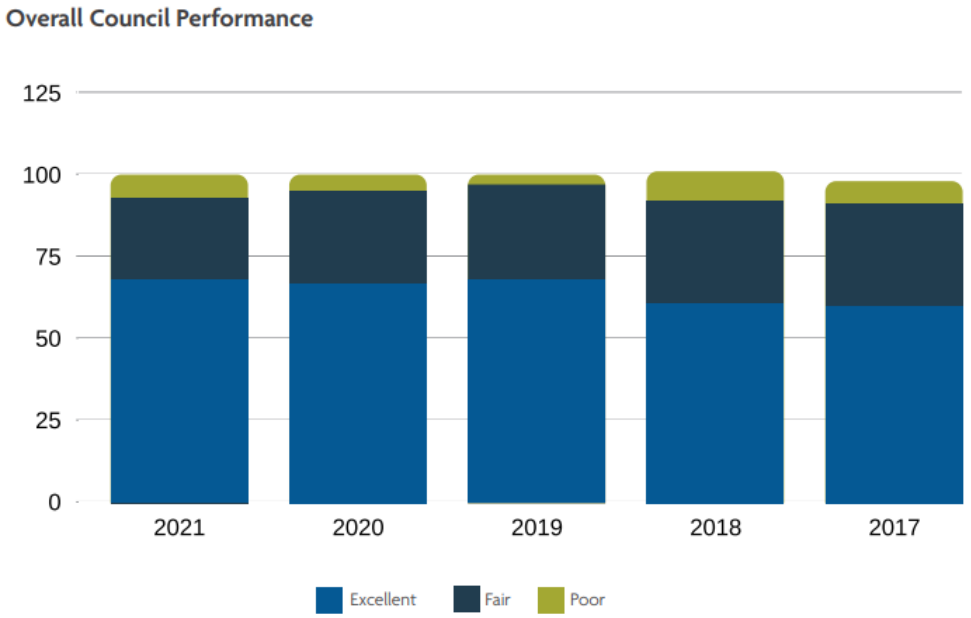


Figure 7a – Strathfield Community Survey Satisfaction Overall Performance

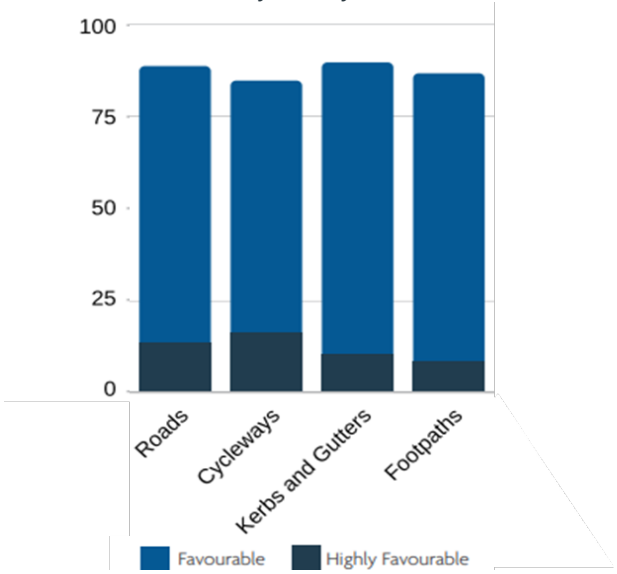


Figure 8b – Strathfield Community Survey Satisfaction Transport Network Performance 2021

The survey results identify that since 2017, community satisfaction has been performing consistently and as at 2021, the community is on average satisfied with the current levels of service delivered by Council in these service areas. The survey assessed local road infrastructure for quality and condition and almost all

respondents gave favourable ratings (Excellent, Good or Fair) 89% for roads, 90% for kerb & gutter and drainage, and 87% for footpaths. [8]

Residents want to be better informed and consulted on key local issues with the ability to influence Council's decision making. Good communication and transparency with residents about decisions Council has made in the community's interest is of importance, however the community is on average not very satisfied. Improvement in his area provides the greatest opportunity to drive up the overall opinion of Council's performance.

3.3 Strategic and Corporate Goals Alignment

This TAMP is prepared and aligned with Council's vision, mission, goals, and objectives and has been aligned to deliver cost-effective, transparent, realistic and affordable service levels in accordance with community expectations.

Relevant Council goals identified in the Community Strategic Plan 2035 (CSP) and how these are addressed in this TAMP are detailed in Table 9.

[8] Strathfield community survey 2021

CSP Goal	Key Community Issues	How Goal is addressed in this TAMP
1.1 Sustainable growth supported by well-planned and accessible infrastructure and services.	Impact of population growth and increased development must be supported by well-planned infrastructure and services which support liveable, healthy and active lifestyles.	Provision of a connected transport network that incorporates the ESG considerations and demand management factors to ensure delivery of well-planned transport infrastructure.
1.2 All areas of Strathfield LGA are connected by integrated and safe transport networks	1.2.1 Ensure transport networks are integrated and connected and offer efficient and safe movement to, from and around Strathfield LGA	Provision of traffic facilities that are fit for use and purpose, accessible, safe and well maintained and connect transport network
	1.2.2 Ensure local transport infrastructure, networks and services are connected, safe and well-maintained across the Strathfield LGA	Ensure transport infrastructure is designed and built to accommodate growth, diverse needs and future flexibility.
3.1 Enticing, vibrant and safe centres blending services and social connectivity	3.1.1 Plan and deliver vibrant attractive and safe town and village centres and commercial areas	Incorporate levels of services into planning frameworks. Levels of service allow Council to better define its service requirements and ensure they are met by new developments. Provision of 10-year capital improvement programs to reduce asset renewal gap and to ensure that assets are fit for the purpose they were intended for.
5.2 Council is effectively and responsibly managed and responds to community needs	5.2.1 Prepare and implement plans and strategies to deliver and resource efficient and accountable services, programs and infrastructure	Planning and reporting frameworks endorsed and supported by management. Transport AMP is reviewed and updated annually

Table 8 - Council's Goals and how these are addressed in this Plan

3.4 Key Stakeholders

Assets controlled by Council are utilised by a broad cross-section of the community. It is critical that assets are maintained and renewed based on need and fit for purpose. Asset users are key stakeholders of this TAMP.

Table 10 identifies stakeholders where consultation is necessary when Council seeks input in relation to the determination of Levels of Service and intervention levels.

Stakeholder Group	Role or Involvement
Internal Stakeholders	
Elected Council	Custodian of the asset, with Councillors representing the residents and setting strategic direction as per the Corporate & Operational Plans.
Executive Team	To ensure that the Asset Management policy and strategy are being implemented as adopted, and to ensure that long-term financial needs to sustain the assets for the services they deliver are advised to Council for its strategic & financial planning processes.
Managers of the various Transport assets	As the designated Strategic Custodian of Transport assets, responsible for the overall management of the assets from planning, design, maintenance, capital works and monitoring and updating the plan and ensuring its outcomes are realised to achieve the levels of service being required from utilisation of the assets;
Engineering Department	Maintaining Council's asset registers and performing strategic predictive modelling analysis works to inform Council's Long Term Financial Plans and Capital Works Program. Responsible for coordinating the development and implementation of asset management processes and frameworks within the Council.
Finance Department	Ensuring that the asset valuations are accurate. Development of supporting policies such as capitalisation and depreciation. Preparation of asset sustainability and financial reports incorporating asset depreciation in compliance with current Australian accounting standards, AM, GIS support and admin.
Maintenance Department (Internal)	To ensure provision of the required/agreed level of maintenance services for asset components.
Information Technology Managers	To ensure that the relevant IT systems are functioning and that any data within the systems are secure, and its integrity is not compromised.
Risk Managers	To ensure that risk management practices are conducted as per Council policy and assist operations managers with advice on risk issues.
Internal Auditors	To ensure that appropriate policy practices are carried out and to advise and assist in improvements
External Stakeholders	
Community	General users of the various transport assets.
Community User Groups	Users of transport network that have been dedicated to the provision of a specific service (e.g. Cyclists, Heavy vehicles and local groups).
Maintenance Personnel (contractors)	To ensure provision of the required/agreed level of maintenance services for asset components.

Stakeholder Group	Role or Involvement
Utility Service Providers	Agencies that provide utility services such as electricity, gas, water, sewerage and telecommunications necessary to facilitate services and typically constructed/located within the road reserve.
State & Federal Government Depts	Periodic provision of advice, instruction and support funding to assist with management of the transport network.
Council's Insurer	Insurance and risk management issues.

Table 9 – Key Stakeholders

3.5 Legislative Requirements

There are many legislative requirements relating to the management of Council assets. Legislative requirements that impact the delivery of Council Transport services include:

Legislation	Requirement
Local Government Act 1993	Sets out the role, purpose, responsibilities and powers of local governments. The purposes of this Act are as follows: (a) to provide the legal framework for an effective, efficient, environmentally responsible and open system of local government in New South Wales, (b) to regulate the relationships between the people and bodies comprising the system of local government in New South Wales, (c) to encourage and assist the effective participation of local communities in the affairs of local government, (d) to give councils: • the ability to provide goods, services and facilities, and to carry out activities, appropriate to the current and future needs of local communities and of the wider public • the responsibility for administering some regulatory systems under this Act • a role in the management, improvement and development of the resources of their areas, (e) to require councils, councillors and council employees to have regard to the principles of ecologically sustainable development in carrying out their responsibilities. The land management provisions of the Act require that Council prepare plans of management for all community land. The plan of management identifies the management objectives for the land category, performance indicators and performance measures to meet the objectives identified.
Local Government Amendment (Planning and Reporting) Act 2009	Local Government Amendment (Planning and Reporting) Act 2009 includes the preparation of a long-term financial plan supported by asset management plans for sustainable service delivery.
Local Government Act – Annual Reporting Section 428(2)(d)	A report of the condition of the public works (including public Transports, public roads and water sewerage and drainage works) under the control of Council as at the end of that year; together with

Legislation	Requirement
	• An estimate (at current values) of the amount of money required to bring the works up to a satisfactory standard; and • An estimate (at current values) of the annual expense of maintaining the works at that standard; and • The Council's programme for maintenance for that year in respect of the works.
Disability Discriminations Act, 1992	The Disability Act establishes a framework for providing support and services to people with disabilities throughout New South Wales.
Transport Act 1993 & Transport Regulations 2018	The Act sets out the legal framework for the regulation of construction of Transports, Transport standards and maintenance of specific Transport safety. The Regulations are derived from the Act and contain, amongst other things, the requirements relating to Transport permits, Transport inspections, records of maintenance inspections and service & repair works for essential safety, occupancy permits, and enforcement of the Regulations and maintenance of Transports. The Regulations call up the BCA as a technical reference that must be complied with.
Road Transport (Safety and Traffic Management) Act 1999	Facilitates the adoption of nationally consistent road rules in NSW, the Australian Road Rules. It also makes provision for safety and traffic management on roads and road related areas including alcohol and other drug use, speeding and other dangerous driving, traffic control devices and vehicle safety accidents.
Transport Code of Australia (BCA)	A uniform set of technical provisions for the design and construction of Transports and other structures. It is fully performance based and allows for state variations to provide additional requirements or cater for specific community expectations. A performance based approach defines the way of achieving a specified outcome without prescribing a particular method. This code has direct relevance for Transport maintenance, renewals and upgrades.
Work Health & Safety Act 2011	Sets out roles and responsibilities to secure the health, safety and welfare of persons at work and covering injury management, emphasising rehabilitation of workers particularly for return to work. Council is to provide a safe working environment and supply equipment to ensure safety.
Environmental Planning and Assessment Act 1979	An Act to institute a system of environmental planning and assessment for the State of New South Wales. Among other requirements the Act outlines the requirement for the preparation of Local Environmental Plans (LEP), Development Control Plans (DCP), Environmental Impact Assessments (EIA) and Environmental Impact Statements.
Environmental Protection Act 1994	This act sets out requirements with respect to environmental protection.
Public Works and Procurement Act 1912	Sets out the role of Council in the planning and construction of new assets.
Heritage Act 1977	Provides for the protection and conservation of places and objects of cultural heritage significance and the registration of such places and objects.

Legislation	Requirement
Strathfield Development Control Plans	The primary purpose of a Development Control Plan (DCP) is to guide development according to the aims of the corresponding Local Environmental Plan (LEP).
Residential Tenancies Act 2010	This legislation defines the roles, responsibilities and obligations of landlords and tenants with respect to lease and hire of Transports.

Table 10: Legislation Relevant to Management of Transport Assets

Regulations, Standards & Guideline requirements that impact the delivery of Council's Transport services are outlined below.

Regulation / Standard / Guide	Requirement
Integrated Planning and Reporting (IP&R) framework	All councils in NSW are required to work within the IP&R framework to guide their planning and reporting activities. IP&R provides a pathway for elected representatives to: • work directly with their community to identify long-term priorities for local identity, growth and lifestyle; • understand the range of services the community wants, the service standards they expect and the infrastructure that will be required; • report to the community on their success in achieving these goals; and • be assured that their council is meeting planning, consulting and reporting requirements under other laws.
Environmental Planning and Assessment Regulation 2000	Fire safety systems are required in commercial, industrial & public transport to ensure the safety of occupants in the event of a fire or emergency. The Act includes provisions relating to fire safety and matters concerning the Transport Code of Australia (Part 9).
ISO 55000 Suite, 2014	The International Organization for Standardization's *ISO 55000:2014 Asset Management* (ISO 55000) provides a global guide to better practice in asset management, including asset information management. ISO 55000 specifies that entities should align information requirements to asset management needs and risks, along with requirements for collecting, managing, evaluating, and ensuring consistency and availability of information for asset management decision-making.
Australian Accounting Standards Board (AASB)	Provides direction and guidance on the financial and reporting expectations of entities, to ensure a consistent approach to accounting records. The following regulations apply to Council: AASB 116 Property, Plant & Equipment – prescribes requirements for recognition and depreciation of property, plant and equipment assets. AASB 136 Impairment of Assets – aims to ensure that assets are carried at amounts that are not more than their recoverable amounts. AASB 1021 Depreciation of Non-Current Assets – specifies how depreciation is to be calculated. AAS 1001 Accounting Policies – specifies the policies that an organisation is to have for recognition of assets and depreciation.

Regulation / Standard / Guide	Requirement
	AASB 1041 Accounting for the reduction of Non-Current Assets – specifies the frequency and basis of calculating depreciation and revaluation basis used for assets; and AAS 1015 Accounting for the acquisition of assets – method of allocating the value to new assets on acquisition.
All other relevant Australian Standards	AS/NZ Standards such as Risk Management Standard.
All Local Laws and relevant policies of the Organisation	Construction standards, Maintenance contracts, etc.
International Infrastructure Management Manual, Sixth Edition, IPWEA, V6.0, 2020	The IIMM has been developed with public and private sector industry input from Australia, New Zealand, the United States Canada, South Africa and the United Kingdom to promote best asset management practice for all infrastructure assets.

Table 11: Regulations & Standards Relevant to Management of Transport Assets

The following is a summary of policies relevant to this asset class. Many of these policies are available from Council.

Policy	Requirement
Asset Accounting Policy	To define Strathfield Council's asset classes and associated methodologies in capturing and recording asset related information, guided by relevant accounting and industry standards as well as legislation.
Asset Management Policy 2022	The Policy acknowledges Council's commitment to asset management and provides a consistent asset management approach with clear principles and guidelines in order to manage Council's assets for the current and future community. It establishes a framework to ensure a structured, coordinated, cost effective and financially sustainable approach to asset management across the organisation.
Risk Management Policy 2021	The Policy acknowledges that Council will adopt a structured and disciplined approach to risk management by developing and implementing cost effective measures to reduce litigation, claims and the cost of losses in accordance with International Standard AS/NZS ISO 31000-2018 and the principles of Enterprise Risk Management (ERM).

Table 12: Policies Relevant to Management of Transport Assets

3.6 Level of Service

In developing the levels of service as documented in this TAMP, Council has given due regard to the strategic goals in the Community Strategic Plan 2035, which sets out the

strategic direction of Council to implement its Community Plan over the following ten years.

Council's major challenge like many other urbanised communities is the task of servicing an increasing population within a highly urbanised area, with finite resources. It is always a challenge to strike a balance between the needs and desires of residents and what can realistically be achieved.

Council is managing these challenges by ensuring that all future works and planning for assets is consistent with the framework of this TAMP and ensuring that the natural environment, economic development, and community well-being, are all considered in the decision making process.

The levels of service delivered by Council's Transport assets have been documented considering the expectations of Council's transport network. This has required a clear understanding of customer needs, expectations and preferences that will be explored in this Section and continually reviewed and updated as required in future TAMP iterations.
The levels of service defined are intended:

- to inform customers and Council of the proposed type and level of service to be offered;
- to enable customers and Council to assess suitability, affordability and equity of the services offered;
- to measure the effectiveness of the services provided by Council; and
- to identify the costs and benefits of the services offered.

Council has defined two tiers of levels of service, which are based on:

Community Levels of Service – what Council expects to provide in terms of key customer outcomes based on perceptions of expected quality and future financial allocations:

- Appropriateness of service;
- Accessibility to users 24 hours a day, 7 days a week;
- Affordability – acknowledging that Council can only deliver what it can afford; and
- Relevance of the service being provided – in terms of demand characteristics, future demographics, current backlogs and where the pressure points are.

Technical Levels of Service – which relates to the outputs the customer receives:

- What Council will do in real terms, i.e. reliability, functionality and adequacy of the services provided. Typically, this TAMP has documented Council's standards – i.e. at what point will Council repair, renew or upgrade to meet the customer outcomes listed in the strategic levels; and
- Technical Levels of Service have been defined for each of the following:
    - New Asset – If Council provides new Transport assets, then what design and maintainability standards shall apply to make them meet Council's strategic outcomes;
    - Upgraded or Reconstructed Asset to original standard - If Council upgrades or reconstructs Transports, what design and maintainability standards shall apply to make them meet Council's strategic outcomes; and
    - Maintenance – When will Council intervene with a maintenance repair and what will be Council's responsiveness in terms of customer requests for maintenance faults.

The levels of service that have been adopted are considered reasonable as demonstrated by industry standards and benchmarks.

3.6.1 Customer Levels of Service

Council's Customer Levels of Service that have been adopted for this TAMP are detailed as follows:

Key Performance Measure	Level of Service	Performance Measure	2022 Performance
COMMUNITY LEVELS OF SERVICE			
Safety	Legislative Compliance Ensure all Council Transport assets comply with all relevant regulatory requirements	Regular Compliance Audits	Data to be collected.
Safety	Transport assets are routinely inspected for hazards and risk	No. of reportable incidents due to asset defects per year <= 2	Data to be collected.
Quality	Well maintained and suitable Transport Network	<1000 requests per annum in relation to maintenance requests.	Data to be collected.

Key Performance Measure	Level of Service	Performance Measure	2022 Performance
		<100 requests per annum in relation to renewal and maintenance requests.	Data to be collected.
Availability and Accessibility	Transport assets will be available and accessible during normal operating business hours	95% Compliance. Where a road is closed to users for reasons such as maintenance, upgrading, renewal or a Council related public event or non-Council events, then appropriate notification shall be given to relevant users in accordance with Council's public information policy.	Data to be collected.
Customer Satisfaction	Transport assets meet community needs	>=65% community survey satisfaction score	75%
Responsiveness	Response time to customer requests.	> 70% of all requests adequately responded to within target.	Data to be collected.

Table 13 - Customer Levels of Service

Over time these standards and levels of service will be further enhanced.

3.6.2 Technical Levels of Service

Supporting the community service levels are technical measures of performance. Technical service measures are linked to annual budgets covering operations, maintenance, renewal and upgrade activities as defined in the Lifecycle Management Section.

Key Performance Measure	Level of Service	Performance Measure	2022 Performance
TECHNICAL LEVELS OF SERVICE			
Accessibility	Transports comply with relevant minimum accessibility standards relative to Transport function	Compliance of available facilities with current standards relative to Transport function	Baseline audit is yet to be undertaken.
Condition	Condition assessment of Transport network every 4 years	Average network condition <= 2 out of 5 and with < 5% of stock in condition state 5.	2.7 out of 5 1% in condition state 5

Table 14 - Technical Levels of Service

4 Future Demand

This section identifies the effect of expected growth and consequent demand on Council's Transport network. Forecasting future demand is essential in determining lifecycle management for assets. The management of Transport assets is directly affected both by growth in the number of assets and growth in the resident as well as visiting populations.

4.1 Demand Drivers

Drivers affecting Transport assets demand include factors such as population change, changes in demographics, technological changes and environmental changes. Transport assets within the Council area must serve both the local resident population's needs as well as the commuter and visitor's needs.

4.2 Demand Forecasts

The present position and projection for demand drivers due to population growth that may impact future service delivery and utilization of assets are identified and documented in Table 16 - Demand Factors, Projections and Impact on Services.

Some of the major challenges for the Strathfield LGA include population and housing growth, changing environment and climate change, transport, and the social cohesiveness of an increasingly diverse community.

Demand Factor
Population

Demand Factor
Environment

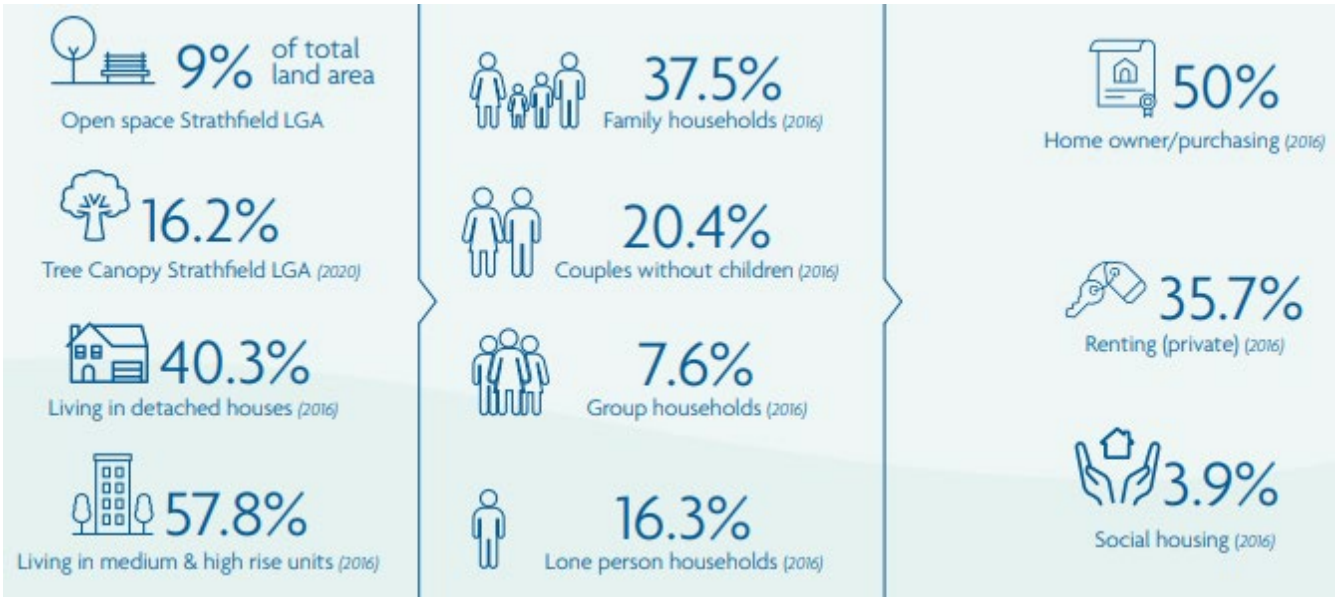


Table 15 - Demand Factors, Projections and Impact on Services

Strathfield Council's estimated residential population is 47,705 (2021). The LGA is experiencing a significant and steady increase in population, primarily in response to greater housing supply in the form of new unit developments located near major transport hubs and along Parramatta and Liverpool Roads. The NSW Governments population target for Strathfield LGA is 82,500 people by 2041 residing in around 30,000 dwellings. The population is expected to increase by roughly 73%.

The emerging needs of the population growth suggests that demand for local transport infrastructure will need to cater for its increasing demand over the following 10 years as illustrated in Table 17.

Demand Driver	Impact on Services
Increase of population and population density.	General increase in demand for all Transport services.
	Use of appropriate signage wherever practical, to make safe critical intersections or alignments instead of complete re-design and reconstruction.
Growing number of families in the area.	Improvement/widening of existing arterial roads and collector roads instead of introducing new roads
Climate change will see an increased risk of extreme weather events including storm events,	There will be an increase in structural damage caused by extreme events and an increase in deterioration rates of Transport assets.

Demand Driver	Impact on Services
heatwaves, floodings, sea-level rises and fire events.	Introducing climate risk assessments will determine the impact on Transport performance and useful lives.

Table 16 – Demand Drivers, Projections and Impacts on Services

Access and availability of transport networks are key attractors and of high value to the Strathfield community. However with increasing population, demand for transport services will increase adding pressure to the capacity of existing transport services. Increasing ownership and use of private vehicles will increase demand for parking and add to the level of traffic congestion. The LGA requires an integrated transport network within the LGA and to neighbouring LGAs.

4.3 Changes in Technology

Council is continuously monitoring new asset treatments that may be available to increase the life of its assets. Table 18 details technology changes that are forecasted to affect the delivery of services covered by this plan.

Technology Change	Effect on Service Delivery
Improvement in techniques and materials	Changes in methodology, longer life materials and better rehabilitation techniques enable Transport assets to be maintained and managed more cost effectively, with a potentially longer useful life.
Vehicle safety	Improved vehicle design and quality will mean that the road condition will become less important as the vehicles will be able to accommodate minor shape loss/deformations better.
Bitumen quality	Bitumen manufacturers are constantly developing new products to suit modern day applications to cope with increased traffic volumes, increased solar radiation and environmental cracking. These improvements may mean roads have a longer useful life and require less maintenance over their life.
Trenchless Technologies	Using trenchless methodologies will have a better impact on Council's assets as the soundness of the road and footpath pavements is not compromised when installing new services within the road reserve.
Low energy design	Increased efficiencies of low energy design therefore certain new Transport designs for example lights can incorporate energy efficient and sustainable practices.
Sustainability	Introducing new sustainability technology when renewing and upgrading Transports will ensure that ratepayers' dollars go further meaning the cost savings can be put towards improving additional Transports.
Asset Information System	Improved information systems for mapping, recording information and managing assets. Adjustment of the Transport inspection regime to match the amount of public usage and deterioration on certain components for example kitchen and toilet fitouts and floor coverings.

Technology Change	Effect on Service Delivery
Recycled Materials	Exploring the option of using recycled materials will have a dual impact in terms of reduction in greenhouse gas emissions and reduction in initial asset construction costs, thereby enabling more assets to be renewed with the same allocation of annualised funds.
New transport solutions	New transport solutions will provide opportunities for active transport proposals to expand footpaths and cycleways to facilitate walk and cycling

Table 17 – Changes in Technology and Forecast on Service Delivery

These technological factors need to be assessed in determining the scoping requirements for maintenance works, renewal, upgrade and new Transport projects. There will be changes to asset management technology, in particular the monitoring and data collection roles. These upgrades in technology may require consideration of modifications to service levels as and when appropriate.

4.4 New Assets from Growth

At present, Council does not have a clear indication of how many new assets will be gifted as a result of development. It is considered however, that because much of the new growth will result from urban redevelopment, that less than 0.5 km of roads, footpaths and 1 kms of kerbs will be gifted during the following 4 years. This is considered to have a minimal impact on the current asset portfolio in the vicinity of less than $1 million on an asset base worth over $1 billion.

As additional information becomes available with regards to new growth and development areas, Council will continue to identify the transport infrastructure needs, which will be included in future revisions of this TAMP.

It is important to note that when new assets are acquired, or assets are expanded or upgraded, this results in an increase in commitment of annual operational and maintenance funding to ensure continued service delivery of the asset over its lifecycle.

4.5 Demand Management Plan

The demand on the transport network at Council will increase proportionally with the predicted population growth and predicted demographic changes. This is also in line with the community expectation where the provision of footpaths is of importance to the community.

Demand for new services will be managed through a combination of managing existing assets, upgrading existing assets and providing new assets to meet demand and demand management. Demand management practices include non-asset solutions, insuring against risks and managing failures. Opportunities identified to date for demand management are shown in Table 19. Further opportunities will be developed in future revisions of this TAMP.

Service Activity	Demand Management Plan
Improved access to services required	• Upgrade existing Transport network over time and ensure new or upgraded Transports are accessible/compliant.
Increased need for maintenance and renewal costs	• Review and document levels of services after consultation with the Service Managers and the community. • Incorporate total asset lifecycle costings into asset management. • Procure large services contracts to get better economies of scale to minimise costs.
Changing service needs and changing Transport requirements, particularly relating to accessibility.	• Plan new projects to incorporate best practice and review compliance and accessibility needs for existing sites. Prioritise upgrade projects which have the most positive impact.
Community expectations	• Monitor community expectations through annual and targeted community surveys or deliberative engagement.

Table 18 - Demand Management Plan Summary

5 Risk Management Planning

5.1 Asset Criticality / Hierarchy

No Road Authority can deliver everything, all the time. In fact, in line with good practice and affordable service delivery, it may not be practical or cost-effective to deliver the same level of service across the entire asset portfolio. Therefore Council has a road and transport asset hierarchy that classifies the Transportation system/network into appropriate groups based on the appropriate levels of service.

In accordance with the International Infrastructure Management Manual, Council acknowledges that the primary purpose of an asset hierarchy is to ensure that appropriate management, engineering standards and planning practices are applied to the asset based on its function. It also enables more efficient use of limited resources by allocating funding to those assets that are in greater need and the costs are better justified.

Without an adequate road and transport hierarchy, there may be inefficient allocation of resources, user expectations may vary and the scheduling of road and transport works and priorities made more difficult.

The Transport hierarchy has yet to be incorporated by Council into this TAMP. Future iterations of the TAMP will take into account the varying risk and service levels associated with the Transport asset portfolio.

An example of transport hierarchy is provided below in Table 18.

Transport Hierarchy	Description
S1-Regional	For car and truck movements on roads designated as part of the regional road network. Roads significant to the Region.
S2-Distributor	Not part of the regional network. Major routes for cars and trucks with local origin or destination.
S3-Collectors	Collector routes for cars and trucks with local origin or destination.
S4-Local Urban	For movement of cars and trucks in urban areas, from higher hierarchies for access to residences or businesses within the LGA.
S5-Local Rural	For movement of cars and trucks in rural areas, from higher hierarchies for access to residences or businesses within the Shire.
S6-Car parks	For parking of cars and trucks.

Table 19 - Asset Criticality / Hierarchy for Transports

5.2 Risk Management Plan

Council has recognised the need to develop a corporate Risk Management Policy which sets the overall framework for addressing risk within the context of International Standard ISO31000-2018, Risk management – Principles and Guidelines.

Risk Management is defined in ISO31000:2018 as: 'coordinated activities to direct and control with regard to risk'.

The development and adoption of this Policy outlines Council's commitment to manage its resources and responsibilities in a manner which is intended to minimise harm or loss. The elements of this framework are illustrated in Figure 9.

Figure 9 – Strathfield Council Enterprise Risk Management Framework, Source: Council Risk Management Policy 2021

5.3 Risks Assessment

Council has developed an asset criticality, giving higher importance to risk assessment and the appropriate levels of inspection and maintenance for each classification as documented in Table 20.

Critical assets are those which have a high consequence of failure causing significant loss or reduction of service. Similarly, critical failure modes are those which have the highest consequences. By identifying critical assets and failure modes, investigative

activities, condition inspection programs, maintenance and capital expenditure plans can be targeted at the critical areas. Activities may include items such as increased inspection frequency and higher maintenance intervention levels.

5.3.1 Risk Plan

As a result of this TAMP revision, an assessment of risks associated with service delivery from Council's Transport assets has identified the critical risks that will result in significant loss, 'financial shock' or a reduction in service.

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 cost after the selected treatment plan is implemented is shown in Table 21.

Service or Asset at Risk	What can Happen	Risk Rating	Risk Treatment Plan	Residual Risk	Treatment / Costs
Footpaths	Trip Hazard	High	Implement proactive inspections of the footpath network in line with Council's proactive inspection regime and undertake remedial works as per the response times in Council's maintenance levels of service.	Medium	Routine maintenance and inspections are carried out. Reactive maintenance requests are reviewed and actioned within appropriate time frames.
Footpaths	Disabled pedestrians are not able to cross the roadway at a designated pram RAMP and hence may end up in the middle of the roadway or not able to get off the footpath.	High	Implement a proactive program over the following 5 years, whereby all footpath intersections which comprise of the footpath network are assessed for both construction of a pram crossing and compliance with the current Disability Discrimination Act.	Medium	Undertake audit and develop PRAMP Upgrade program if required. Cost to be determined
Roads	Vehicles being damaged as a result of road defects	High	Implement proactive inspections of the footpath network in line with Council's proactive inspection regime and undertake remedial works as per the response times in Council's maintenance levels of service.	Medium	Routine maintenance and inspections are carried out. Reactive maintenance requests are reviewed and actioned within appropriate time frames.
All Transport	Structural Failure	High	Adopt a systematic inspection regime to regularly assess the structural integrity of critical Transport elements.	Medium	Undertake Transport asset inspections every 3 to 5 years. Costs to be determined.
All Transport	Flooding	High	Identify Transports that are impacted by severe flooding and plan for remediation works where possible and/or prepare evacuation plans.	Medium	Undertake analysis of critical impacts, Transport RLs and areas. Costs to be determined.

Table 20 – Critical Risks and Treatment Plan

6 Financial Summary

The provision of adequate financial resources ensures that Council's Transport network is appropriately managed and preserved. This section contains the financial requirements resulting from all the information presented in the previous sections of this TAMP. The financial projections will be improved as further information becomes available on desired levels of service and current and projected future asset performance

6.1 Forecasted Funding Requirements

The objective of this Section has been to model the deterioration of Council's Transport assets portfolio, by developing a simulation model using predictive modelling software.

This process typically involves setting up lifecycle paths for each Transport asset / component, along with their inspected condition, identifying the appropriate treatments and unit rates to deliver these treatments and configuring the treatment rule base (matrices based on selected condition criteria that when matching will drive a treatment based on the condition).

By utilising the above process and setting up the criteria and logic within the predictive modelling software, it is possible to model the future costs of Council's Transport asset portfolio renewal requirements and to predict the future condition of these assets under varying funding scenarios.

6.2 Funding Scenarios

The 2022 strategic modelling analysis predicts the deterioration of Council's Transport asset portfolio by calculating the results of different funding options, utilising a core dataset that is current as at 2022. The length of time predicted for each funding option is for a period of 10 years until the year 2033. The results of the analysis have been graphed in Figure 10.

The condition graphs in Figure 10, illustrate the predicted results of the Transport asset portfolio modelling analysis for each of the different funding options. These funding options are described in Table 22 – Predictive Modelling Funding Options.

The current average condition[9] as at 2022 for the entire Transport asset portfolio is an average condition of 2.7 out of 5. Refer to Table 7 – Asset Condition Rating Guidelines for condition descriptions.

9 The sum average of every Transport component within Council's Transport portfolio.

Financial Option	Description
Option 1: Current Budget	This funding option models how the Transport asset portfolio condition would improve or deteriorate and the resulting maintenance funding needs, if Council were to fund the current proposed capital works financial allocation over the following 10 years.
Option 2: Desired Budget	This funding option identifies and models the current Transport asset portfolio at the necessary funding levels each year in order to provide desired levels of service over the 10-year model period.
Option 3: Zero PVP	This funding option identifies and models the current Transport asset portfolio at the necessary funding levels each year to ensure there are no assets in poor and very poor condition in year 10.
Option 4: 50% Zero PVP	This funding option only applies to the surface component of the sealed road asset class. It models the 50% of the required funding of Option 3 (ensure there are no assets in a poor and very poor condition in year 10), approx. $2.3M per annum.

Table 21 – Predictive Modelling Funding Options

The net strategy comparison outcomes of the financial options that have been modelled are detailed in Table 23 – Predictive Modelling Funding Options - Net Strategy Comparison.

	Initial Backlog ($,000)	Initial Condition	Backlog at Yr 10 ($,000)	Condition at Yr 10	Total Lifecycle Cost ($,000)	Change in Backlog ($,000)	Net Strategy Cost ($,000)
Sealed Roads							
Option 1 - Current Budget	$10,601	2.80	$15,199	3.24	$12,347	$4,598	$16,945
Option 2 - Desired LOS	$10,601	2.80	$8,282	2.59	$21,334	-$2,320	$19,014
Option 3 - Zero PVP Target	$10,601	2.80	$0	1.87	$54,109	-$10,601	$43,508
Option 4 - 50% of Zero PVP Target	$10,601	2.80	$3,169	2.07	$28,955	-$7,432	$21,524
Kerb & Gutter	$0		$0		$0	$0	$0
Option 1 - Current Budget	$3,932	2.87	$4,824	2.96	$1,008	$891	$1,899
Option 2 - Desired LOS	$3,932	2.87	$2,230	2.72	$3,580	-$1,702	$1,878
Option 3 - Zero PVP Target	$3,932	2.87	$0	2.58	$5,779	-$3,932	$1,847
Footpath	$0		$0		$0	$0	$0
Option 1 - Current Budget	$2,701	2.68	$846	1.44	$11,410	-$1,855	$9,555
Option 2 - Desired LOS	$2,701	2.68	$84	1.31	$11,905	-$2,617	$9,288
Option 3 - Zero PVP Target	$2,701	2.68	$0	1.38	$11,600	-$2,701	$8,899
LATM	$0		$0		$0	$0	$0
Option 1 - Current Budget	$80	2.10	$4,239	2.80	$1,932	$4,159	$6,091
Option 2 - Desired LOS	$80	2.10	$0	1.73	$6,021	-$80	$5,941
Option 3 - Zero PVP Target	$80	2.10	$0	1.74	$6,009	-$80	$5,930

Table 22 – Predictive Modelling Funding Options - Net Strategy Comparison

6.3 Forecast 10-Year Capital Renewal Funding

Council is presented with multiple options for the 10-year capital renewal across sealed roads, footpaths, kerbs and LATM.

Funding the budget levels detailed in the current LTFP (Option 1) will result in Council delivering reduced levels of service into the future. It is predicted that there will be a decrease in the average condition state for sealed roads from 2.80 to 3.24, however the other transport classes will maintain or slightly increase the level of service delivered. This equates to an increase in backlog from $17M to $25M by year 2033.

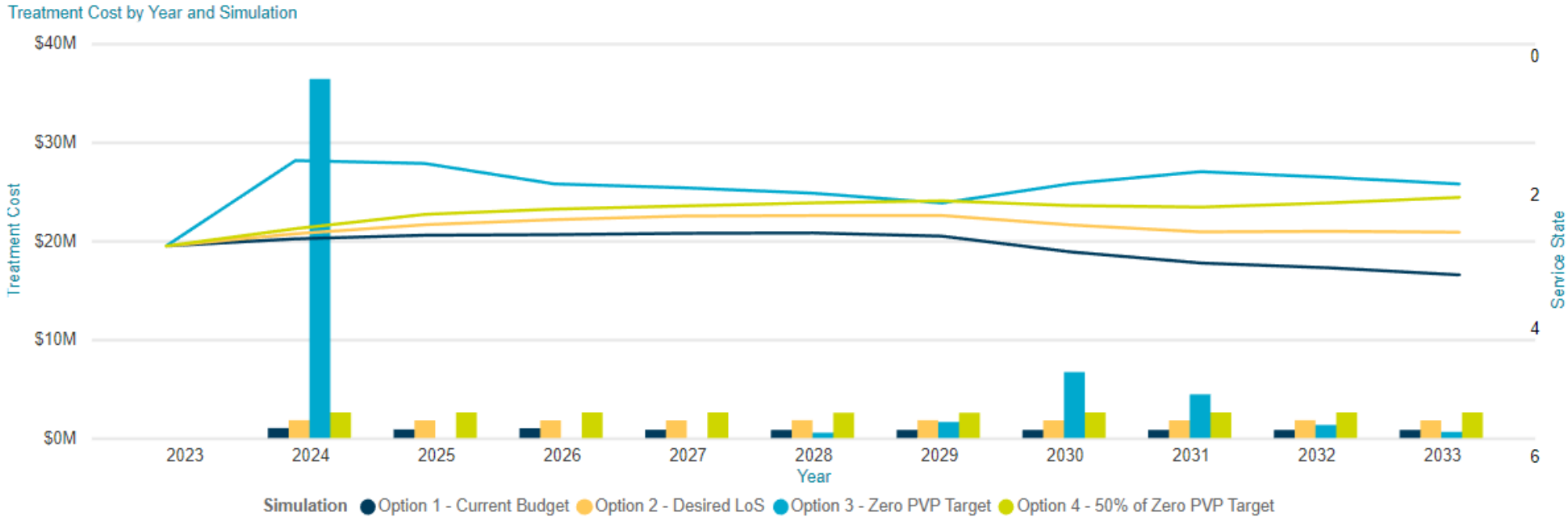
The funding strategy (Option 2) predicts that to deliver the desired LoS into the future, that current funding levels should be increased over the following 10 years. It is predicted that by adopting this funding option, that the average transport portfolio condition state of 2.7 will improve to 1.9 by year 2033. This funding strategy also predicts that there will be a reduction in backlog from $25M to $10.5M by year 2033.

The Charts in Figure 10 (a-d) depict the 10-year capital funding analysis and average condition by Year for each asset class and scenario modelled within this TAMP.

Council has recommended the following budgeting options are be adopted for its renewal strategy 2023-2033:

Asset Class	Renewal Strategy
Footpaths	Option 3 Zero PVP
Kerb & Gutter	Option 2 Desired LoS
LATM	Option 2 Desired LoS
Sealed Roads	Option 4 50% Zero PVP

Figure 10a) Sealed Road Asset Class - Forecast 10-Year Capital Funding Analysis and Average Condition by Year

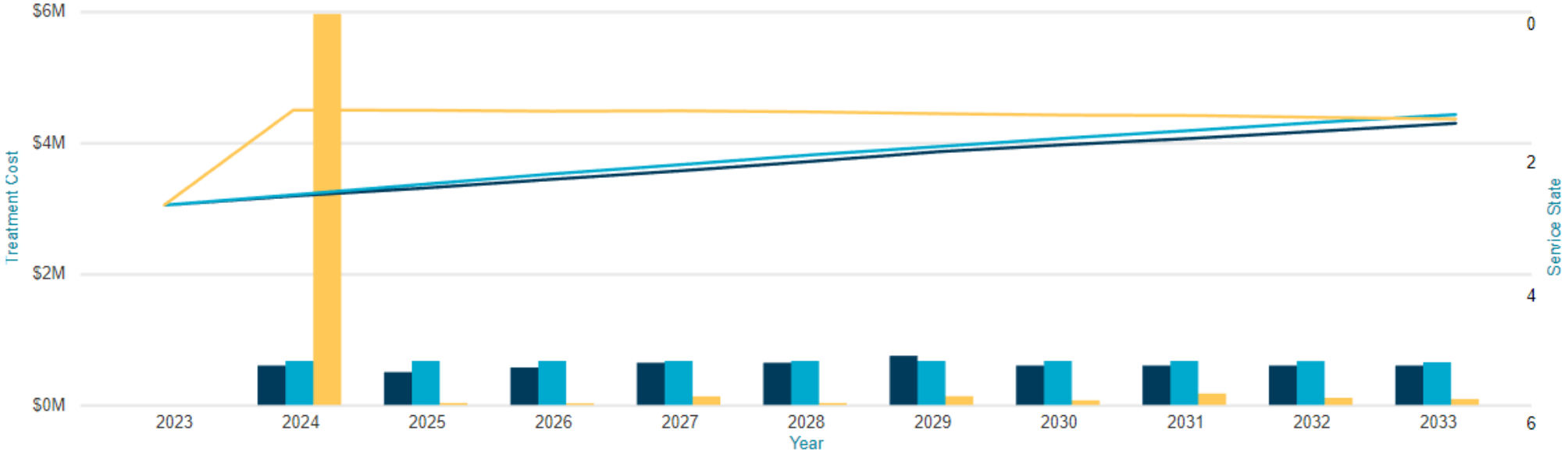


Total Cost and Service Index Score by Year and Simulation

Simulation	Option 1 - Current Budget		Option 2 - Desired LoS		Option 3 - Zero PVP Target		Option 4 - 50% of Zero PVP Target	
Year	Cost ($)	Index Score	Cost ($)	Index Score	Cost ($)	Index Score	Cost ($)	Index Score
2023	$0	2.80	$0	2.80	$0	2.80	$0	2.80
2024	$1,004,640	2.69	$1,799,760	2.62	$36,381,305	1.51	$2,594,160	2.54
2025	$862,720	2.64	$1,793,680	2.48	$0	1.56	$2,588,465	2.32
2026	$985,200	2.63	$1,789,585	2.40	$0	1.87	$2,595,225	2.25
2027	$840,720	2.61	$1,787,335	2.35	$0	1.92	$2,597,075	2.20
2028	$821,960	2.61	$1,799,520	2.34	$527,665	2.01	$2,553,130	2.15
2029	$814,000	2.65	$1,799,005	2.34	$1,616,225	2.15	$2,557,870	2.12
2030	$814,880	2.89	$1,791,920	2.49	$6,685,050	1.86	$2,594,400	2.19
2031	$823,240	3.06	$1,797,840	2.59	$4,414,820	1.68	$2,591,560	2.22
2032	$822,800	3.13	$1,798,760	2.58	$1,325,330	1.77	$2,592,720	2.15
2033	$821,880	3.24	$1,796,360	2.59	$610,080	1.87	$2,590,880	2.07
Total	**$8,612,040**	**2.81**	**$17,953,765**	**2.51**	**$51,560,475**	**1.91**	**$25,855,485**	**2.27**

Figure 10b) Footpath Asset Class - Forecast 10-Year Capital Funding Analysis and Average Condition by Year

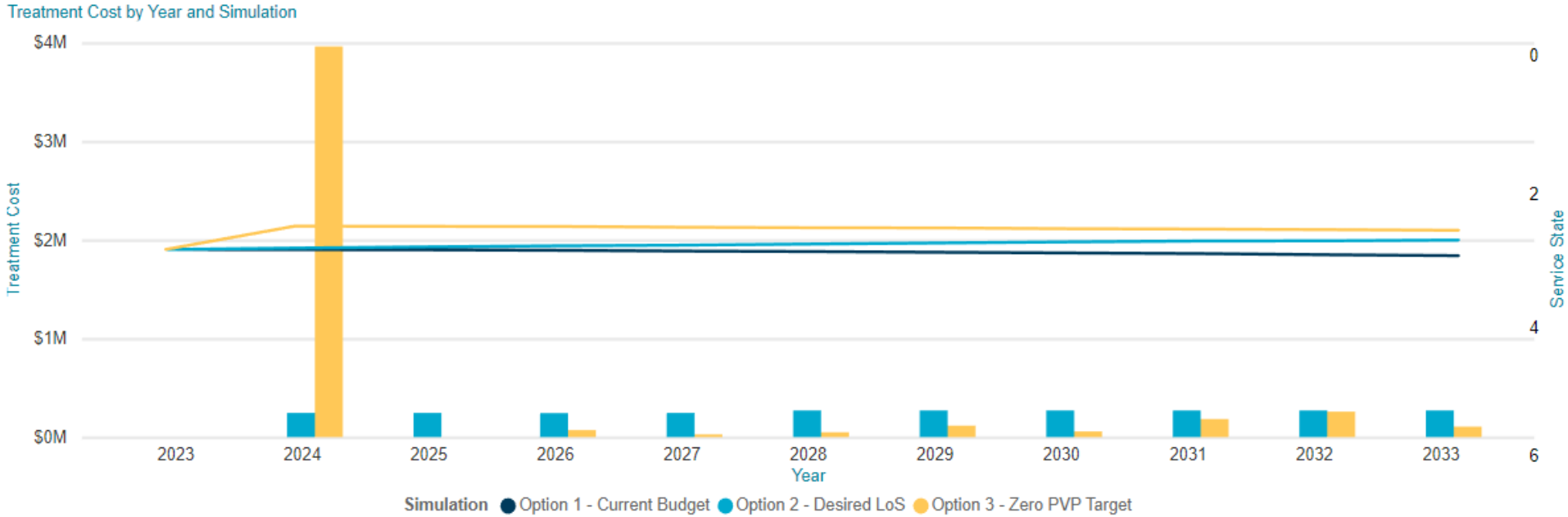
Treatment Cost by Year and Simulation



Total Cost and Service Index Score by Year and Simulation

Simulation	Option 1 - Current Budget		Option 2 - Desired LoS		Option 3 - Zero PVP Target	
Year	Cost ($)	Index Score	Cost ($)	Index Score	Cost ($)	Index Score
2023	$0	2.68	$0	2.68	$0	2.68
2024	$599,629	2.54	$669,962	2.52	$5,957,239	1.24
2025	$499,694	2.42	$669,820	2.36	$29,116	1.24
2026	$569,936	2.29	$669,737	2.21	$13,767	1.26
2027	$641,792	2.16	$669,723	2.07	$129,878	1.25
2028	$642,332	2.02	$669,949	1.92	$30,098	1.27
2029	$749,396	1.87	$669,702	1.79	$133,639	1.29
2030	$599,390	1.76	$669,757	1.66	$68,918	1.32
2031	$599,687	1.66	$669,602	1.54	$174,162	1.32
2032	$599,576	1.55	$668,528	1.42	$108,924	1.35
2033	$599,267	1.44	$649,226	1.31	$89,680	1.38
Total	**$6,100,698**	**2.04**	**$6,676,006**	**1.95**	**$6,735,422**	**1.42**

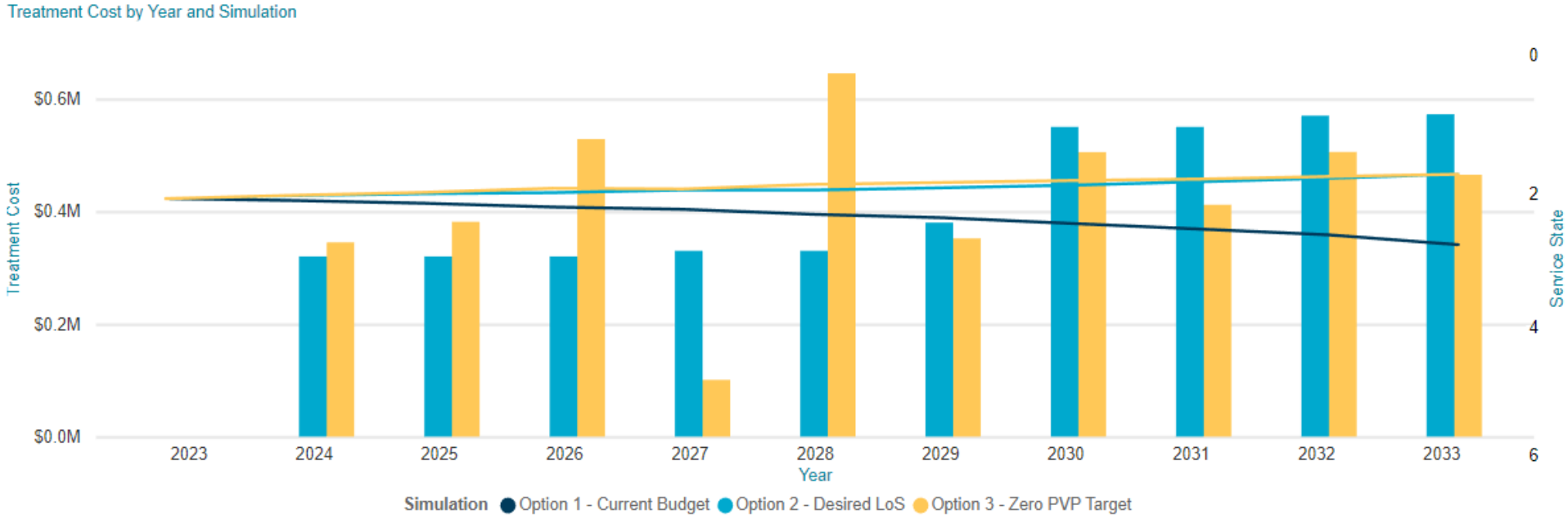
Figure 10c) Kerb Asset Class - Forecast 10-Year Capital Funding Analysis and Average Condition by Year



Total Cost and Service Index Score by Year and Simulation

Simulation	Option 1 - Current Budget		Option 2 - Desired LoS		Option 3 - Zero PVP Target	
Year	Cost ($)	Index Score	Cost ($)	Index Score	Cost ($)	Index Score
2023	$0	2.87	$0	2.87	$0	2.87
2024	$0	2.87	$244,450	2.85	$3,962,218	2.51
2025	$0	2.87	$244,641	2.83	$0	2.52
2026	$0	2.88	$242,792	2.81	$70,294	2.52
2027	$0	2.89	$243,716	2.80	$25,898	2.53
2028	$0	2.90	$269,152	2.78	$48,790	2.54
2029	$0	2.91	$269,614	2.77	$115,153	2.54
2030	$0	2.92	$269,634	2.75	$56,651	2.55
2031	$0	2.93	$269,801	2.74	$182,165	2.56
2032	$0	2.95	$269,801	2.74	$256,894	2.57
2033	$0	2.96	$269,845	2.72	$105,441	2.58
Total	**$0**	**2.90**	**$2,593,447**	**2.79**	**$4,823,503**	**2.57**

Figure 10d) LATM Asset Class - Forecast 10-Year Capital Funding Analysis and Average Condition by Year



Total Cost and Service Index Score by Year and Simulation

Simulation	Option 1 - Current Budget		Option 2 - Desired LoS		Option 3 - Zero PVP Target	
Year	Cost ($)	Index Score	Cost ($)	Index Score	Cost ($)	Index Score
2023	$0	2.10	$0	2.10	$0	2.10
2024	$0	2.13	$319,993	2.06	$344,948	2.05
2025	$0	2.17	$319,954	2.03	$381,446	2.01
2026	$0	2.23	$319,919	2.01	$528,267	1.95
2027	$0	2.26	$329,984	1.97	$100,815	1.96
2028	$0	2.34	$329,934	1.97	$645,244	1.89
2029	$0	2.39	$379,992	1.94	$351,927	1.86
2030	$0	2.48	$549,941	1.90	$505,206	1.83
2031	$0	2.56	$549,955	1.85	$411,749	1.81
2032	$0	2.65	$569,903	1.80	$505,528	1.77
2033	$0	2.80	$572,602	1.73	$465,214	1.74
Total	**$0**	**2.38**	**$4,242,177**	**1.94**	**$4,240,344**	**1.91**

Council has **recommended** the following LTFP figures to be adopted for its renewal strategy 2023-2033

Asset Class	Renewal Strategy	23/24 ($,000)	24/25 ($,000)	25/26 ($,000)	26/27 ($,000)	27/28 ($,000)	28/29 ($,000)	29/30 ($,000)	30/31 ($,000)	31/32 ($,000)	32/33 ($,000)	Grand Total ($,000)
Footpaths	Zero PVP	$5,957	$29	$14	$130	$30	$134	$69	$174	$109	$90	$6,735
Kerb & Gutter	Desired LoS	$244	$245	$243	$244	$269	$270	$270	$270	$270	$270	$2,593
LATM	Desired LoS	$320	$320	$320	$330	$330	$380	$550	$550	$570	$573	$4,242
Sealed Roads	50% Zero PVP	$2,600	$2,600	$2,600	$2,600	$2,600	$2,600	$2,600	$2,600	$2,600	$2,600	$26,000

Table 23 – Recommended 10-Year Funding Strategy

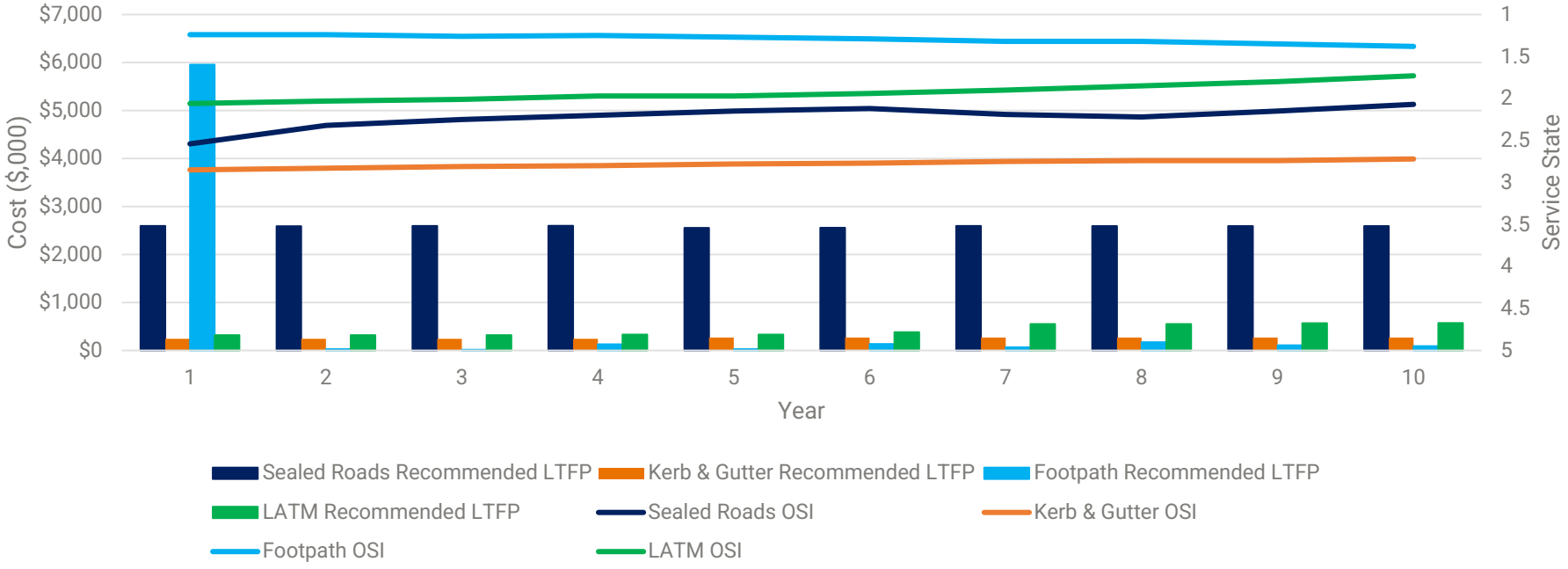


Figure 10e – Forecast 10-Year Capital Funding Analysis and Average Condition by Year recommended for LTFP renewal strategy

There are several studies and investigations being undertaken which may identify additional funding needs to acquire new and upgrade existing Transport assets to meet required service levels, over the following 10 years.

6.4 Financial Ratios

Asset management ratios provide insight into an organisation's performance and success in managing its assets. Council's asset management ratios for its asset portfolio calculated as at 30 June 2022 are shown in Table 25 – Key Asset Management Ratios.

Ratio	Description	Calculation	Target	Performance
Asset Renewal Funding Ratio	The extent with regards to how the organisation is funding their capital works program when comparing allocated capital works expenditure with the desired expenditure which has been derived from prediction modelling and/or service level agreements.	Funded capital expenditure on renewals divided by the planned/desired capital expenditure.	>75%	125%
Remaining Service Index Ratio	The overall health of the organisation's asset stock in terms of measuring past asset consumption, via the amount of accumulated depreciation. The lower this ratio is, the more the asset stock has been consumed, which also indicates that not enough capital expenditure has been allocated to the asset.	Written down value (Current Value of the portfolio) divided by the total current replacement value.	>70%	77%
Maintenance Sustainability Ratio	Measures the level of maintenance funding spent per annum, as a % of asset replacement value on the asset portfolio.	Total maintenance funding per annum / Total Replacement Value, expressed as a percentage.	>2%	1%

Table 24 – Key Asset Management Ratios

7 Plan Improvement and Monitoring

This section outlines how Council will measure its asset management performance. The identified action items in Table 27 will enable Council to improve its asset management capability, enhance asset value and deliver more for stakeholders while balancing cost, risk and performance.

7.1 Assumptions

The key assumptions made in this TAMP and risks that these may change are shown below.

Key Assumption	Risk of Change to Assumption / Impact to Model
Transport asset and component conditions reflect the assets current condition as at 2022.	Low
The allocation of renewal funds have been based on the asset replacement costs developed as part of the valuations in June 2022.	Medium to Low
Maintenance funding levels will be progressively increased to represent as a minimum, 3% of the asset base replacement value or at the very least maintained at current levels.	Medium
The funding needs for new &/or upgrade Transport assets will be identified via studies, masterplans and funding sought from grants and/or developer contributions. As identified, these will be incorporated into future TAMP revisions.	Medium
Capital renewal treatments are like for like and do not account for additional costs to upgrade and/or utilise new technologies and materials.	Medium to Low
Current Levels of Service are considered appropriate and meet community needs.	Medium
Existing Essential Safety inspections and maintenance contracts will not change.	Medium
Asset register currency pertaining to asset quantities.	Low
Network strategic condition inspections will be funded on a 3–4-year cyclic basis and incorporated into the Operational budget.	Low
Current human resource plan will not change in the near future.	Low

Table 25 – Key Assumptions made in TAMP and Risks of Change

7.2 Improvement Plan

The Asset Management Improvement Plan which is set out in Table 27 below details the key improvement tasks. Completion of these tasks will improve Council's asset management capabilities for this asset class.

Task No	Improvement Items	Responsibility	Timeline
1.	Setup an Asset Management Steering Committee.	Cathy E/Param	June 2023
2.	Develop a Transport responsibility matrix with a view to identify and streamline roles and responsibilities.	Cathy E/Param	June 2023
3.	Formally document the rule bases which reflect the policy decisions that Council employs to determine when they will select Transport assets for inclusion on their capital works program.	Param /Fred	June 2023
4.	Review and formally document the current operations and maintenance Levels of Service with regard to all Transport assets owned or maintained by Council. These activities should take into account the Transport function, legislative requirements and utilisation needs when documenting activities and response times.	Param	December 2023
5.	Review and formally document Council's Transport condition assessment manual methodology framework. Review should incorporate an assessment of Transport assets to assist with long-term strategic planning outcomes.	Param	December 2023
6.	Develop and implement an asset handover process to enable 100% asset data capture of new Transport assets gifted or constructed by others and those renewed, to be captured in Council's asset register on an annual basis.	Param	December 2023
7.	Review and formally document the criticality framework which will be incorporated into the asset register and second-generation prediction models.	Param	June 2024
8.	Ensure that new asset needs identified strategies, reports and other studies are reflected in future TAMP and the LTFP.	Param	June 2026
9.	Implement and schedule network wide Transport condition assessments on a 4-year cycle, to coincide with Council's Transport revaluation requirements.	Param	On-going

Task No	Improvement Items	Responsibility	Timeline
10.	Review financial forecasts annually as better data becomes available, update and submit any supporting budget bids.	Param/Francis	On-going
11.	Review resourcing plan to ensure adequate human resources are available to deliver this TAMP.	Cathy E/Param	On-going

Table 26 – Improvement Actions

7.3 Monitoring and Review Procedures

The TAMP has a planning horizon of 10 years, and it is based on details documented within the Asset Management Strategy. The TAMP will be reviewed and updated in the year following Council Local Government elections.

This TAMP will be reviewed and amended to recognise any changes in service levels, needs arising from strategies, studies and master plans and/or resources available to provide those services as a result of the budget decision process.

7.4 Performance Measures

The effectiveness of this TAMP will be measured and monitored on the basis of annual strategic Council indicators as follows:

- The performance of Council against the Levels of Service documented in this TAMP; and
- Performance against the Asset Management Ratios.