Roads Asset Management Plan

2025

WAVERLEY
COUNCIL

Contents

1. Purpose and Scope

The Roads Asset Management Plan (AMP) outlines Waverley Council's approach to managing of Roads infrastructure to meet Council's asset management objectives in risk mitigation, community service level achievement, long term financial and environmental sustainability, legislative and regulatory compliance, and continuous improvement.

The Roads AMP establishes:

- **Current asset inventory, valuation, and types of assets** within the roads asset class.
- **Current condition** of road assets, and how it is measured.
- **Community engagement outcomes,** methodology, and its influence on Council's targets.
- **Asset levels of service,** current state and its implications.
- **10+ Year financial forecast** for OPEX and CAPEX required for road assets.
- **Maintenance, operations, and renewals** required for road assets.
- **Risk minimisation approach and critical assets** within the roads asset class.
- **Continuous improvement** and operational efficiency opportunities for road assets.

2. Asset Class Summary

Waverley Council owns and maintains a diverse $580 million portfolio of roads assets that represent 40% of Council's total infrastructure asset portfolio value. The Roads asset class provides essential services for the community through transportation, connectivity and safety. They ensure that residents, businesses and visitors within the Waverley Local Government Area (LGA) can move efficiently and effectively within and around the local government area by supporting accessibility, public safety and sustainable transport options.

The Roads asset portfolio is identified as an ageing long-lived infrastructure profile. The assets have been maintained in alignment with condition service levels, represented by an asset consumption ratio of 39%. Council acknowledges a need to continue to prioritise the maintenance and renewal of roads assets to prevent accelerated asset degradation in the 10+ year period ahead. A total MoRUN expenditure of $19 million per year is required to ensure that the asset management objectives are achieved for this crucial asset class.

3. Asset Inventory and Valuation

As of the 30th of June 2024, the Roads asset portfolio has a calculated replacement cost of $580.3 million, and a depreciated value of $355.8 million that is attributed to the age and deterioration of the assets.

Table RD1: Valuation and Quantity of Asset Types - Roads Asset Class

ASSET CATEGORY	ASSET TYPE	CURRENT REPLACEMENT COST (CRC)	DEPRECIATED VALUE (NET CARRYING AMOUNT)	QUANTITY OF UOM	UOM	COUNT OF ASSETS
Kerb and Gutter	Kerb and Gutter	$119,950,868	$83,403,857	246,976	length(m)	2,744
Parking Infrastructure	Outdoor Car Park	$81,748	$38,149	1,242	area(m2)	1
Parking Infrastructure	Parking Meter	$2,301,426	$1,438,391	270	No.(each)	270
Sealed Roads	Road Pavement Base	$109,147,526	$55,007,266	941,713	area(m2)	1,070
Sealed Roads	Road Pavement Sub Base	$127,062,672	$62,833,142	841,338	area(m2)	968
Sealed Roads	Road Pavement Wearing Course	$123,383,801	$84,987,522	1,074,222	area(m2)	1,203
Street Footpaths	Street Footpath Base	$4,282,847	$2,227,860	51,788	area(m2)	208
Street Footpaths	Street Footpaths	$81,318,887	$56,172,906	364,864	area(m2)	2,220
Transport Infrastructure	Pedestrian Refuge	$1,628,799	$1,259,338	43	No.(each)	43
Transport Infrastructure	Roundabout	$1,587,816	$1,012,519	20	No.(each)	20
Transport Infrastructure	Speed Humps and Thresholds	$6,035,811	$4,767,822	144	No. (each)	144
Transport Infrastructure	Traffic Island	$3,513,273	$2,698,637	3,567	area (m2)	201
	Total	**$580,295,473**	**$355,847,411**			**9,092**

The current replacement cost and depreciated value is measured for each of the 9,092 individual assets within Council's asset register that constitute the Roads asset class.

The current replacement cost represents the full estimated expenditure that would be incurred by Council to replace the existing assets with new like-for-like assets. This is measured by a variety of evidence-based cost inputs detailed within Council's unit rate register.

The depreciated value represents the estimated remaining value of the assets that have deteriorated from the value of the assets since construction. It is a representation of the expected remaining useful life of the asset.

Waverley Council schedules a comprehensive revaluation for its Roads asset class at least once every four years in line with requirements from AASB 13, The NSW Office of Local Government, and NSW Treasury. The comprehensive revaluation constitutes a review of asset condition, useful life, and unit rates within the asset class. Interim revaluations take place annually between comprehensive revaluations and typically constitute a desktop review with the application of published indices onto unit rates.

Table RD2: Revaluation Schedule - Roads Asset Class

FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Comprehensive Revaluation	Interim Revaluation	Interim Revaluation	Interim Revaluation	**Comprehensive Revaluation**	Interim Revaluation

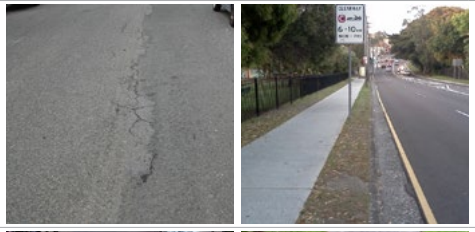
A comprehensive revaluation for the Roads asset class was last completed on the 30th of June 2023 and the next comprehensive revaluation is scheduled to take place on 30th June 2027.

4. Asset Condition and Current State

Waverley Council adopts a 1 to 5 asset condition rating model/matrix to support its asset fair valuation, maintenance planning, and renewal planning.

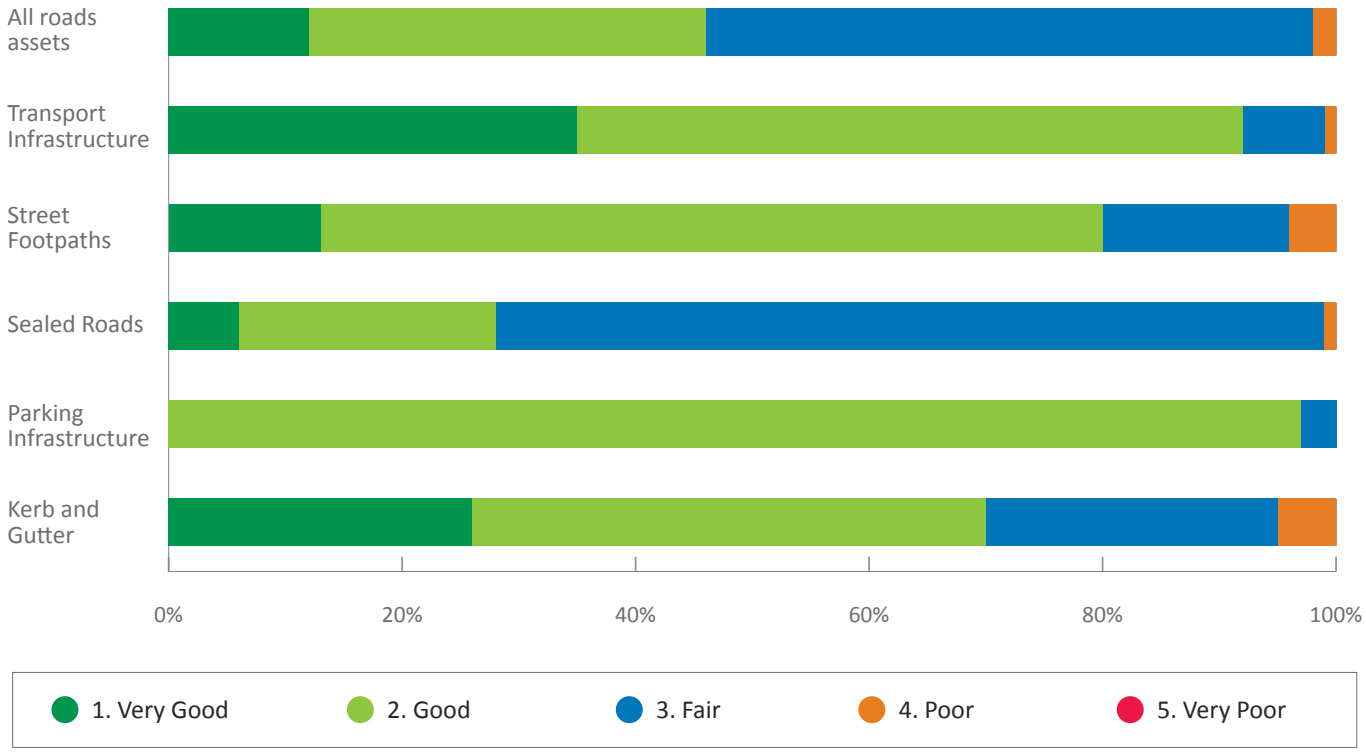
In line with Council's Fair Valuation Methodology and the Office of Local Government's Code of Accounting Practice and Financial Reporting, asset conditions are assessed at least once every four years, and prior to the comprehensive revaluation year allocated.

Table RD3: Asset Condition Examples - Roads Asset Class

ASSET CONDITION RATING	PHOTO	DESCRIPTION	REMAINING USEFUL LIFE
1 - Very Good		New asset. Only normal maintenance required.	95%
2 - Good		Minor defects only. Minor maintenance required.	72.5%
3 - Fair		Maintenance is required for asset to remain in accepted level of service. Significant maintenance required.	50%
4 - Poor		Significant defects and approaching end of life. Full or partial renewal and/or upgrade is required.	27.5%
5 - Very Poor		Significant defects and asset end of life reached. Full replacement is required.	5%

As of the 30th of June 2024, Council maintains an asset portfolio with 98% of Roads infrastructure (by valuation) in condition 3 - Fair or better.

Graph RD4: Condition by Asset Category - Roads Asset Class



The majority of concrete road pavements as well as road pavement bases (macadam) and sub bases (sandstone) that Waverley Council manages were constructed between the 1920s and 1940s.

Unlike the road pavement wearing course, the pavement bases and sub bases are not visible to the eye and require expensive and intrusive investigation to obtain condition ratings such as falling weight deflectometer structural testing and core drill material sampling. As such, the pavement base and sub base are assumed to be condition 3 – Fair in line with useful life degradation. The detailed condition assessments are conducted during scoping of resheeting, heavy patching, and road reconstruction to ensure the most sustainable capital works renewal is delivered.

Known road pavement reconstructions are given a condition 1 – Good upon capitalisation and will deteriorate in line with their design life over time.

5. Community Consultation

Between November 2024 and January 2025, Waverley Council conducted a series of community consultation activities to gather feedback on priorities and satisfaction levels regarding infrastructure assets.

SAMP Deliberative Panel Workshops (5th and 7th Nov 2024): Council representatives provided an overview of its infrastructure asset portfolio. The 26 randomly selected residents provided feedback to inform Council's asset management resourcing prioritisation and service levels.

Issues Workshop (13th Nov 2024): Council representatives provided an overview of the challenges and issues that Waverley Council faces. The maintenance of public infrastructure and local centre upgrades was discussed with 49 community participants who provided their feedback, their high importance assets, and their satisfaction levels.

SAMP Online Budgeting Tool (12th Nov 2024 to 31st Jan 2025): An online budgeting tool was made available to the community via Council's Have Your Say website. A total of 18 people provided a submission where they ranked and prioritised a limited funding budget to Council's asset classes.

Council has identified the below opportunities through the three community consultation activities.

- **Service Levels and Prioritisation:** Road assets were identified as an important asset class, and the community expects at least a quarter of total asset funding to be allocated to road assets. The roads asset class was ranked 2nd highest priority for maintenance but 3rd lowest for renewal. Council strives to continue funding a large portion of its budget to the operations and maintenance of road assets while investigating opportunities to direct asset renewals to other high priority asset classes such as open space and recreational assets and public domain infrastructure.

  Community satisfaction was high for kerb and gutter and transport infrastructure assets. Council will consider lowering the service levels for these assets, while increasing the service levels and investment into the street footpaths, sealed roads, and street cycleways asset categories.
- **Design and Construction**: Road congestion and pedestrian safety were raised as concerns, while the community supported the use of resilient and cost-effective recyclable materials for renewals. Waverley Council continues to seek and implement the most appropriate sustainable materials for its road asset renewals, while incorporating upgrade and expansion opportunities for additional traffic calming devices and speed humps.

  Council faces the challenge of high density within limited space. As community members expect wider roads, wider footpaths, and more parking space on already fully built and fully utilised public land, Council strives to strike a balance between these competing priorities in alignment with its Walking Strategy and Bike Plan.

5.1. SAMP Deliberative Panel Workshops

In November 2024, Waverley Council engaged residents to inform the Strategic Asset Management Plan. An external agency was engaged to independently recruit a demographically diverse panel of 26 interested participants. The selection of participants was designed to reflect the diverse mix of the community within the Waverley LGA. This included location, age, gender, housing tenure, language spoken at home, ability, and whether the participant was a First Nations person.

Through a mixture of online Zoom call presentations and physical asset information packs, Council provided an overview of the Roads asset class, including its current condition, maintenance, and renewal programs. Participants used Mentimeter (an interactive online polling tool) to provide feedback on their satisfaction levels and future priorities. The feedback identified road quality and congestion to be major concerns, especially during peak hours and events. Improving road conditions and traffic flow was also a high priority for participants.

Waverley Council obtained the below key insights from participants regarding the Roads asset class.

- **Satisfaction levels:** On average, the participants were not satisfied with the condition and maintenance of street footpaths, while more satisfied with kerb and gutter and transport infrastructure. Sealed roads and street cycleways were provided a neutral satisfaction rating.
- **Resourcing:** Some participants felt that resourcing to road assets maintenance and renewal was already adequate noting the trade-off between additional resources and higher rates. Other participants indicated that road assets are a key piece of infrastructure, and that maintenance should remain a high priority to keep the community safe. Of the 6 asset classes discussed, roads were identified as the 2nd highest priority for maintenance resource allocation, and 4th for renewal resource allocation.
- **Traffic congestion and safety:** A desire for better road quality, more traffic calming devices (e.g. speed humps), and improved conditions for motorbike riders. There were also concerns about roads being too narrow to accommodate for vehicles, buses, and parking. Some participants raised that the current condition was not acceptable, and that as the LGA becomes more dense, the safety risk would continue to increase.
- **Footpath safety:** A desire for wider footpaths and a way to manage obstacles like share bikes.
- **Cycling safety:** Some participants advocated for more protection for cyclists, while others suggested that cyclists ride too fast and cause safety hazards when they ride on footpaths.
- **Recyclable materials:** Participants were supportive of the use of recyclable materials when renewing road assets, so long as the materials selected are affordable and of high quality.

Figure RD5: Satisfaction levels using Mentimeter Platform - Roads Asset Class
(1 = Strongly Disagree, 5 = Strongly Agree).

Figure RD6: Asset Class Prioritisation Ranked by Residents for Maintenance Resourcing

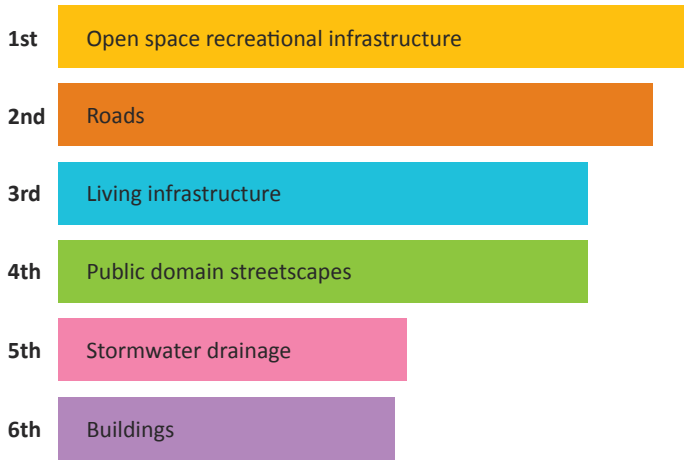
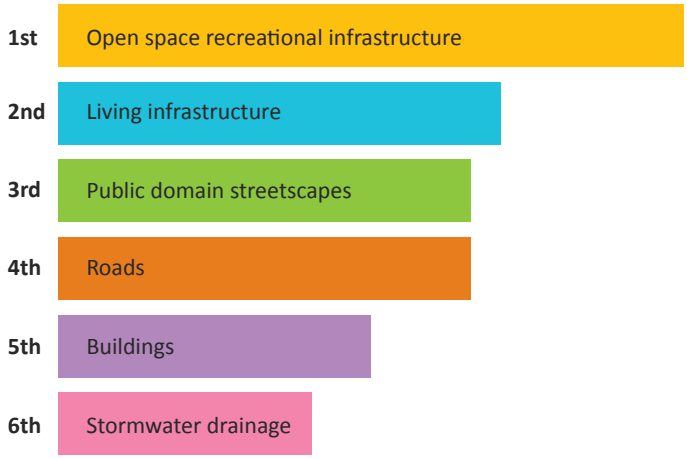


Figure RD6: Asset Class Prioritisation Ranked by Residents for Renewal Resourcing



5.2. Issues Workshop

In November 2024, Waverley Council hosted an Issues Workshop at the Bondi Pavilion, where 49 residents provided feedback on public infrastructure maintenance and local centre upgrades, amongst other important topics. Participants registered via the Have Your Say website.

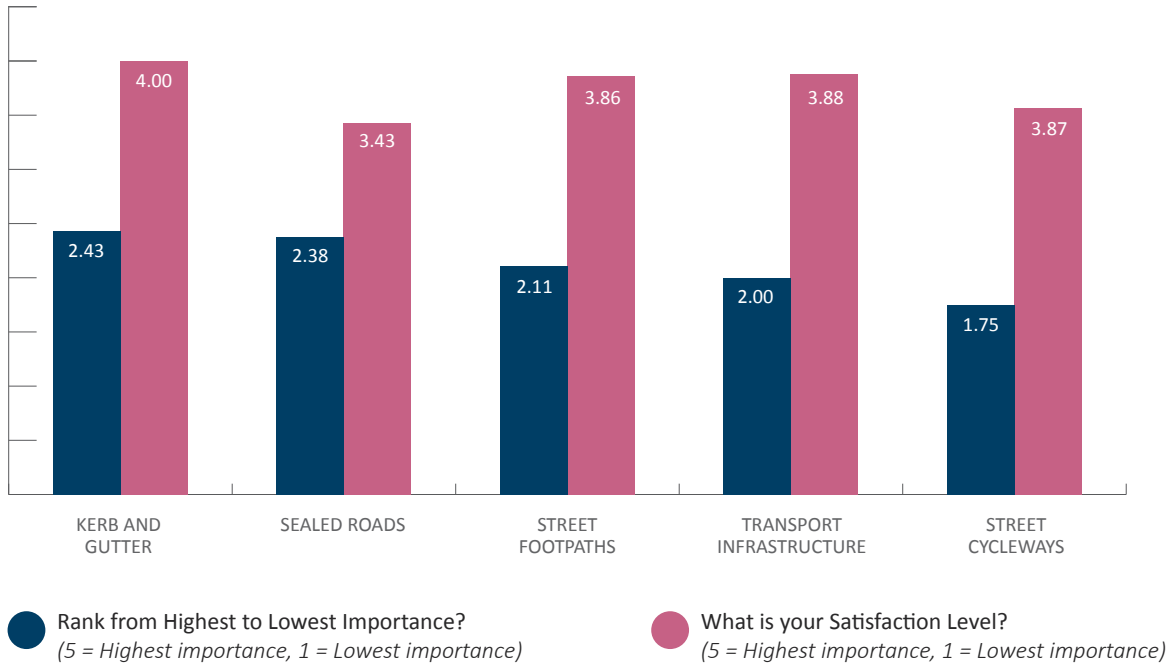
The issues workshop covered all infrastructure assets, and Council obtained the below key insights regarding the Roads asset class.

Traffic congestion and parking: Participants suggested a range of opportunities for improvement including parking enforcement, and a desire for more space on roadways and improved bicycle facilities.

Footpath safety: Participants raised concerns about the impact of fig tree roots resulting in cracked or raised footpaths.

Satisfaction levels: The roads asset class was given an average satisfaction score of 3.75 out of 5 which was higher than the average score of 3.5 out of 5 across all asset classes. Participants provided a score of average satisfaction for Council's sealed roads and street cycleways, and scored high satisfaction rates for kerb and gutter, transport infrastructure, and street footpaths.

Graph RD8: Asset Categories Ranked for Importance and Satisfaction - Roads Asset Class

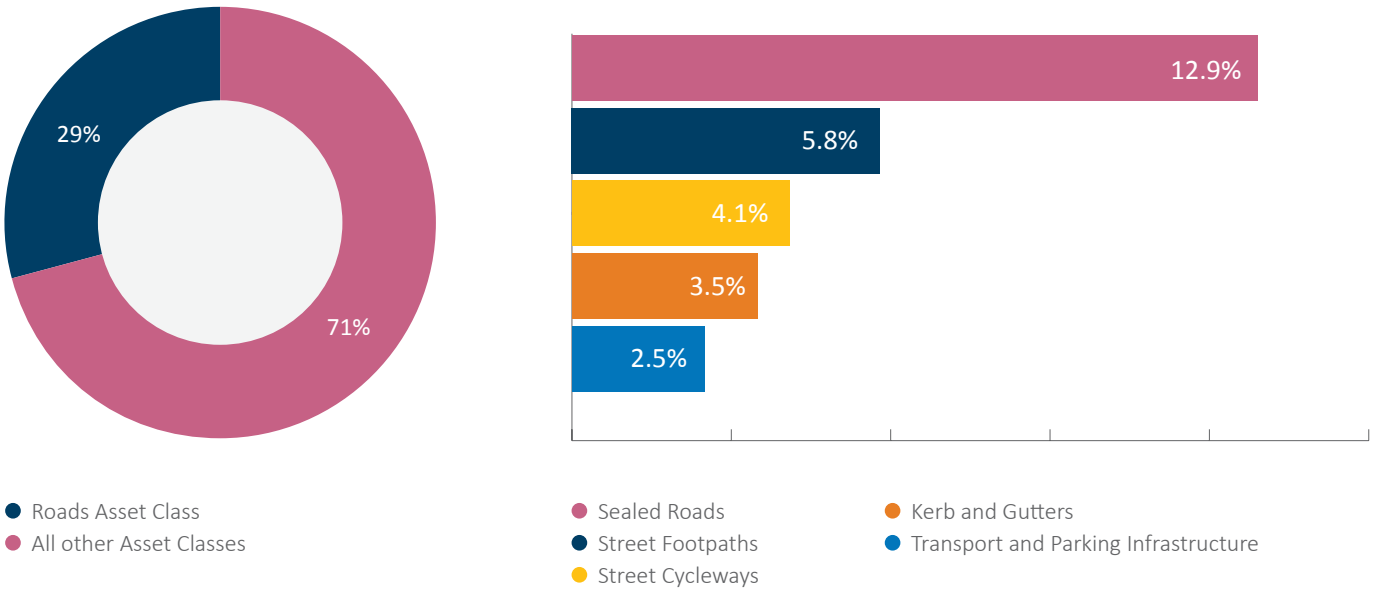


5.3. SAMP Online Budgeting Tool

Waverley Council opened an online budgeting tool on its Have Your Say website between 12th November 2024 and 31st January 2025. This tool provided flexibility for all members of the community to complete online, and in their own time. Participants were given a hypothetical budget of $100 that they could distribute across 20 asset categories using a sliding scale. Council received a total of 16 submissions through this tool.

On average, participants chose to allocate 28.8% ($28.8 of the total $100) of Council's asset renewal budget to roads assets.

Graph RD9: Residents' Prioritisation of Renewals Budget – Roads Asset Class



6. Asset Levels of Service

Waverley Council monitors five key measures of asset service levels to ensure alignment and success with its asset management objectives and principles.

6.1. Asset Condition and Performance

Asset condition and performance is assessed based on the structural condition (1 – Very Good to 5 – Very Poor) for each road asset type and category. The service levels are maintained through the delivery of effective asset maintenance schedules and renewal programs, ensuring that assets remain above the minimum condition standard.

These service levels are designed to minimise risk to the community, meet community expectations for infrastructure performance, and ensure long-term financial and environmental sustainability. The target performance for asset condition is determined through a combination of optimised financial maintenance and renewal intervention points, safety risk assessments to reduce hazards, and community feedback from the asset satisfaction and importance surveys.

Waverley Council strives to enhance the asset condition and quality service levels through the below improvements.

- Defining a more quantitative, parameter-driven and granular model to calculate road asset conditions.
- Using benchmarked and empirical data to refine asset degradation profiles and aligning financial depreciation to these profiles.
- Identifying optimal maintenance and renewal intervention points and methodologies using benchmarked and data-driven financial and engineering models.
- Expanding community survey sample sizes to improve the reliability and consistency of satisfaction and importance surveys.
- Using these insights to model funding scenarios to strike a balance between engineering best practices, financial sustainability, and community expectations.

This streamlined approach to defining and achieving minimum condition standards ensures cost-effective infrastructure upkeep and higher service reliability for the community through evidence-based asset management decisions.

Table RD10: Preferred Minimum Structural Condition - Roads Asset Class

PERFORMANCE MEASUREMENT	ASSET TYPE / CATEGORY	TARGET PERFORMANCE	PERFORMANCE AS AT 30/06/2024
Council's asset condition assessments and asset register	Road Pavement Wearing Course	80% in condition 1 and 2 100% in condition 1, 2, and 3	79% in condition 1 and 2 98% in condition 1, 2, and 3
	Road Pavement Base	100% in condition 1, 2, and 3	100% in condition 1, 2, and 3
	Street Footpaths	80% in condition 1 and 2 100% in condition 1, 2, and 3	84% in condition 1 and 2 96% in condition 1, 2, and 3
	Parking Infrastructure	80% in condition 1 and 2 100% in condition 1, 2, and 3	97% in condition 1 and 2 100% in condition 1, 2, and 3
	Transport Infrastructure	80% in condition 1 and 2 100% in condition 1, 2, and 3	92% in condition 1 and 2 99% in condition 1, 2, and 3
	Kerb and Gutter	60% in condition 1 and 2 100% in condition 1, 2, and 3	71% in condition 1 and 2 95% in condition 1, 2, and 3

6.2. Asset Availability and Response Time

The asset availability and response time service level is assessed based on Council's ability to respond to and resolve infrastructure-related customer requests within the timeframes set by Council's Customer Charter. This service level is designed to ensure that infrastructure issues are addressed promptly, meeting community expectations while minimising risks associated with road asset defects.

To improve service delivery, Waverley Council strives to achieve the following improvements.

- Defining response time targets for infrastructure related enquiries for initial inspections and triaging to ensure that resources are allocated efficiently.
- Creating a defect classification register, mapping different road asset defect types to predefined rectification work orders to ensure appropriate resolution methods and timeframes are allocated.
- Implementing risk-based resolution times such that work orders are allocated due dates and prioritised based on the criticality of asset locations and defect classifications.
- Establishing an integrated system for customer requests, asset information, and work order management to centralise and streamline the approach to acceptance of request, prioritisation of request, triaging of issue, and resolution of issue.
- Establishing performance monitoring dashboards to track and report response time metrics, improving accountability and service resilience.

This structured response and works management system will enable Waverley Council to deliver higher service reliability, reduce risks, and meet community expectations efficiently. It ensures that road infrastructure issues are addressed in a timely manner based on asset criticality, defect and location risk, and community needs.

PERFORMANCE MEASUREMENT	ASSET TYPE / CATEGORY	TARGET PERFORMANCE
Council's Customer Request Management System (Merit)	All roads infrastructure asset types.	90% of requests are responded to and resolved within Council's customer charter.

6.3. Community Satisfaction

Waverley Council measures community satisfaction service levels through community engagement surveys and asset satisfaction reports. These surveys assess whether infrastructure services align with community expectations and ensure that Council's asset management activities effectively address public needs.

The community satisfaction surveys enable Council to understand and evaluate public perception of asset quality, maintenance, and response times. It identifies gaps in service delivery and areas for improvement and resource prioritisation to refine service levels and infrastructure planning. Feedback sessions, satisfaction trends, and community concerns enable Council to assess resource adequacy in meeting service expectations in maintenance schedules, renewal priorities, and response times.

By continuously engaging with the community, Waverley Council ensures a responsive and community centric approach to asset management.

PERFORMANCE MEASUREMENT	TARGET PERFORMANCE
Community satisfaction report	Attaining a 'High' or 4 out of 5 satisfaction score.

6.4. Financial Sustainability

The financial sustainability of Waverley Council's road assets is assessed based on asset condition, renewal expenditure, and the rate of asset depreciation. By achieving these service levels, Council ensures that infrastructure assets are sufficiently funded to maintain their minimum required condition now, and into the future. Capital expenditure is strategically allocated to the most critical assets at the most financially viable intervention points.

Waverley Council uses four key financial ratios to evaluate funding sufficiency and renewal efficiency:

- **Asset Consumption Ratio:** This ratio measures the extent to which an assets useful life has been consumed. The ratio is important for long-term distribution of renewal demand and financial sustainability. A position below the target would indicate that Council is overspending and renewing assets too early. A position above the target would indicate that assets are not meeting minimum asset condition expectations from the community, and that Council is accumulating unsustainable backlog.

$$\text{CONSUMPTION RATIO} = \left(\frac{\text{ACCUMULATED DEPRECIATION}}{\text{TOTAL ASSET REPLACEMENT COST}} \right) \times 100$$

The roads asset class consists of long-lived assets that deteriorate over time due to traffic loads, weather conditions, and material aging. To maintain an optimal balance between serviceability and financial sustainability, Waverley Council targets an Asset Consumption Ratio of 30% to 50%. This ensure that road assets are neither renewed too early and too frequently, nor are they underfunded and resulting in increased risk and backlog to Council.

Council strives to ensure that the consumption ratio is appropriately designated across different road asset types and locations based on criticality and optimal renewal intervention points. A well distributed asset consumption across the LGA ensures financial sustainability and a balanced distribution of asset renewal intervention points year-on-year over the long term.

- **Annual Renewal Funding Ratio:** This ratio measures how effectively Council has funded road asset renewals and replacements when compared with the depreciation of the assets. This measure provides insight into whether the assets are renewed at a sustainable rate each year.

$$\text{RENEWAL FUNDING RATIO} = \left(\frac{\text{ACTUAL RENEWAL EXPENDITURE}}{\text{DEPRECIATION EXPENSE}} \right) \text{X } 100$$

To meet minimum asset performance targets, road assets are maintained, refurbished, or reconstructed to at least Condition 3 – Fair. Assets that reach Condition 4 – Poor (72.5% consumption) must be renewed to prevent safety and reputational risks to Council.

Most road assets such as sealed roads, kerb and gutter, and transport infrastructure will be scheduled for a full renewal as they approach Condition 4. In circumstances where asset damage is localised (e.g. isolated pavement failures), partial renewals may be undertaken. However, in most cases, full renewal is the preferred treatment for full intersection-to-intersection road sections. Full renewal is understood to be more cost effective as it minimises site preparation and establishment costs including traffic control, as well as project management overheads. In addition, full renewal reduces impact to residents by reducing the number of disruptive construction visitations.

As a result, Council typically renews assets when they reach 27.5% remaining useful life, which is consistent with maintaining minimum asset condition levels that align with community expectations. Council avoids running assets to complete failure and deterioration to Condition 5 – Very Poor (100% consumption), as failed road assets would pose significant safety and reputation risk to Council and the community.

Council sets its Renewal Funding Ratio target between 110% and 130% as road assets are typically fully renewed as they approach 72.5% consumption, and very rarely are the assets run to 100% consumption before full renewal.

- **10+ Year Long-Term Funding Ratio:** This ratio is similar to the Renewal Funding Ratio. However, rather than measuring the previous year's renewal expenditure, it assesses whether Council's 10+ Year planned renewal expenditure is adequate in supporting the services and expectations of Council's existing infrastructure and the forecasted depreciation expense.

$$\text{LTFR} = \left(\frac{\text{PLANNED ASSET RENEWAL EXPENDITURE (10+YRS)}}{\text{ACCUMULATED DEPRECIATION EXPENSE (10+YRS)}} \right) \text{X } 100$$

As with the targets set for the Renewal Funding Ratio, Council sets its 10+ Year Long-Term Funding Ratio target between 110% and 130% as road assets are typically fully renewed as they approach 72.5% consumption, and very rarely are the assets run to 100% consumption before full renewal.

- **Backlog Ratio:** This ratio measures the proportion of infrastructure assets that are in Condition 4 – Poor and Condition 5 – Very Poor that require renewal. The backlog ratio allows Council to assess the extent of deferred renewal, renewal funding adequacy, and risks to community service levels.

$$\text{BACKLOG RATIO} = \left(\frac{\text{TOTAL ASSET BACKLOG REPLACEMENT COST}}{\text{TOTAL ASSET REPLACEMENT COST}} \right) \text{X } 100$$

Council aims to achieve a backlog ratio of less than 2% to demonstrate that renewal programs are prioritised to deteriorating assets as to prevent decline into poor condition and to minimise risks to the community.

Table RD11: Financial Sustainability Service Level Performance - Roads Asset Class

PERFORMANCE MEASUREMENT	ASSET TYPE / CATEGORY	TARGET PERFORMANCE	PERFORMANCE AS AT 30/06/2024
Asset Consumption Ratio	All roads infrastructure asset types.	Between 30% and 50%	39%
Annual Renewal Funding Ratio	All roads infrastructure asset types.	Between 110% and 130%	93%
10+ Year Long-Term Funding Ratio	All roads infrastructure asset types.	Between 110% and 130%	125%
Backlog Ratio	All roads infrastructure asset types.	Less than 2%	1.9%

6.5. Safety

Waverley Council prioritises safety in the quality, design, and usage of its road infrastructure, as well as in the services that it provides to the community. The safety service level is assessed based on a commitment to continuous improvement in reducing traffic accidents and safety incidents within the LGA. Waverley Council ensures that road assets are constructed and maintained in compliance with Australian Standards and regulatory requirements to minimise risks for all road users.

Table RD12: Safety Service Level Performance - Roads Asset Class

PERFORMANCE MEASUREMENT	ASSET TYPE / CATEGORY	TARGET PERFORMANCE
Annual inspections, operational reports and safety audits	All roads infrastructure asset types.	Three-year annual average traffic accidents are decreasing
Compliance and customer surveys	All roads infrastructure asset types.	Compliance with relevant Australian Standards and regulatory requirements

7. Long Term Financial Plan and Sustainable Funding Scenario

In December 2024, Waverley Council engaged external financial and asset management consultants to assess Council's long term financial sustainability and advise on the development of Council's Asset Management Strategy. A sustainable funding scenario was developed based on the technical levels of service, which were used to calculate the funding that would be required to sustainably treat and manage the assets.

The technical levels of service model guides service delivery through the MoRUN framework: Maintenance and Operations, Renewal, Upgrade and New. The scenario prioritises asset renewal and replacement to maintain service levels, acknowledging that the construction of new and upgraded infrastructure results in higher ongoing maintenance and operations costs.

Table RD13: Average Annual Funding Requirement based on Sustainable Funding Scenario - Roads Asset Class

ASSET CATEGORY	CURRENT REPLACEMENT COST (CRC)	ANNUAL O&M COST REQUIREMENT AS A PERCENTAGE OF CRC	ANNUAL O&M COST REQUIREMENT	ANNUAL CAPITAL RENEWAL REQUIREMENT	ANNUAL CAPITAL NEW & UPGRADE REQUIREMENT
Kerb and Gutter	$119,950,868	0.80%	$959,607	$1,891,306	$582,825
Parking Infrastructure	$2,383,174	5.00%	$119,159	$238,317	$-
Sealed Roads	$359,593,999	0.80%	$2,876,752	$4,053,883	$1,779,150
Street Footpaths	$85,601,734	3.00%	$2,568,052	$2,506,294	$429,450
Transport Infrastructure	$12,765,698	1.50%	$191,485	$614,626	$481,350
Total	**$580,295,473**	**1.2%**	**$6,715,055**	**$9,304,425**	**$3,272,775**

The Sustainable Funding Scenario equates to a full OPEX and CAPEX program of about $193 million over the next 10-Years, while the current Long Term Financial Plan Projection comprises about $198 million over the same period. This 2.6% variance is attributed to existing Upgrade & New project demand and commitments.

Table RD14: Sustainable Funding Scenario Versus LTFP Projection - Roads Asset Class

SCENARIO	ANNUAL O&M FUNDING REQUIREMENT	ANNUAL CAPITAL RENEWAL FUNDING REQUIREMENT	ANNUAL CAPITAL UPGRADE & NEW FUNDING REQUIREMENT	ANNUAL TOTAL	10-YEAR TOTAL
Sustainable Funding Scenario	$6,715,055	$9,304,425	$3,272,775	$19,292,255	$192,922,554
LTFP Projection	$6,766,423	$9,427,500	$3,604,673	$19,798,596	$197,985,962
Variance	0.8%	1.3%	10.1%	2.6%	2.6%

In developing Council's asset renewals plans, consideration is given to the target service levels in each asset category and the current condition of the asset inventory. Council's overall strategy for asset renewal is to initially ensure that the overall network condition is maintained. This will be achieved by renewing assets at the optimum point of their life cycle to maximise Council's renewal expenditure and achieve the desired service level. As such, Council's renewal strategy will be a bottom-up approach to asset renewals.

Using the asset's remaining useful life, condition and intervention level, Council has generated an asset-based renewals plan for the roads infrastructure.

It should be noted that Council is planning to spend more on asset renewals than the current depreciation amount for the combined asset class. This is intended to initially maintain asset condition and to then address the assets that currently do not meet the current service levels for the asset categories.

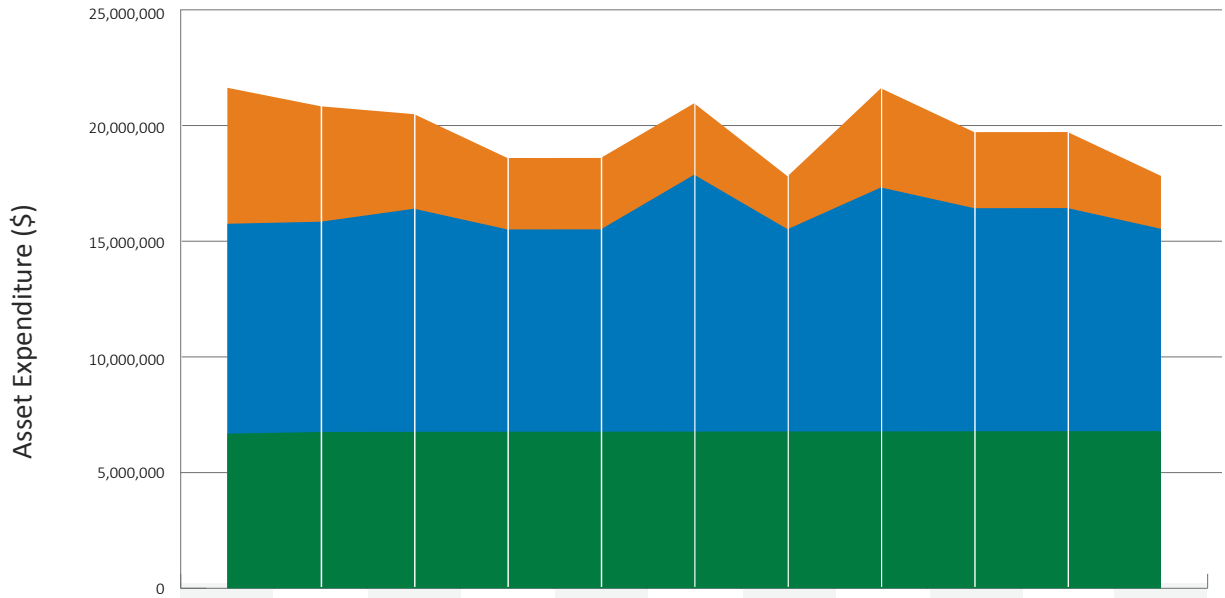
Table RD15: Planned 11 Year LTFP CAPEX Program - Roads Asset Class

LTFP 7 CAPITAL WORKS PROGRAM	GRANT FUNDING	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	TOTAL PROPOSED COSTS
Road Infrastructure	**$36,321,274**	$15,954,300	$15,463,765	$15,551,036	$13,786,031	$14,130,681	$17,448,464	$13,918,292	$19,020,993	$17,059,712	$17,486,205	$15,363,191	**$175,182,670**
SAMP Renewal - Kerb and Gutter	**$2,879,364**	$900,000	$1,285,043	$1,317,169	$1,350,098	$1,383,850	$1,418,446	$1,453,908	$1,490,255	$1,527,512	$1,565,700	$1,604,842	**$15,296,822**
SAMP Renewal - Parking Infrastructure	**$610,308**	$-	$87,023	$-	$-	$-	$2,964,516	$-	$-	$-	$-	$-	**$3,051,538**
SAMP Renewal - Sealed Roads	**$11,396,251**	$2,500,000	$4,606,043	$4,721,194	$4,839,223	$4,960,204	$5,084,209	$5,211,314	$5,341,597	$5,475,137	$5,612,016	$5,752,316	**$54,103,253**
SAMP Renewal - Street Footpaths	**$3,445,040**	$1,000,000	$1,537,500	$1,575,938	$1,615,336	$1,655,719	$1,697,112	$1,739,540	$1,783,029	$1,827,604	$1,873,294	$1,920,127	**$18,225,199**
SAMP Renewal and Upgrades - Transport Infrastructure	**$922,122**	$311,500	$411,538	$421,826	$432,372	$443,181	$454,260	$465,617	$477,257	$489,189	$501,418	$513,954	**$4,922,112**
Bike Plan Implementation	$-	$-	$-	$-	$-	$-	$-	$-	$-	$-	$-	$-	**$-**
Walking Strategy Implementation	**$350,935**	$152,800	$156,620	$160,536	$164,549	$168,663	$172,879	$177,201	$181,631	$186,172	$190,826	$195,597	**$1,907,474**
Commercial Centres & Streetscape Upgrades	**$14,995,878**	$10,090,000	$6,355,000	$6,303,750	$4,307,563	$4,415,252	$4,525,633	$4,638,774	$9,509,486	$7,310,417	$7,493,178	$5,120,338	**$70,069,390**
Curlewis St Streetscape Upgrade	**$3,000,000**	$4,490,000	$-	$-	$-	$-	$-	$-	$-	$-	$-	$-	**$4,490,000**
Charing Cross Streetscape Upgrade SP1	$-	$5,000,000	$-	$-	$-	$-	$-	$-	$-	$-	$-	$-	**$5,000,000**
Charing Cross Streetscape Upgrade SP2	**$656,000**	$-	$3,280,000	$-	$-	$-	$-	$-	$-	$-	$-	$-	**$3,280,000**
Road Safety and Traffic Calming Program	**$1,721,377**	$1,000,000	$1,025,000	$1,050,625	$1,076,891	$1,103,813	$1,131,408	$231,939	$237,737	$243,681	$249,773	$256,017	**$7,606,883**
Safety by Design in Public Places	**$1,262,038**	$800,000	$820,000	$840,500	$861,513	$883,050	$ 905,127	$-	$-	$-	$-	$-	**$5,110,189**

Graph RD16: Council's Planned 11 Year LTFP Expenditure - Roads Asset Class

Note: 1.2% of each year's Capital Upgrade & New value is added to the required Operations and Maintenance expenditure the following year.

11-Year Plan CAPEX & OPEX for Road Infrastructure (No Indexation - Present Value 01/07/2025)



	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36
Capital Upgrade & New	$5,877,400	$4,987,400	$4,087,400	$3,087,400	$3,087,400	$3,087,400	$2,287,400	$4,287,400	$3,287,400	$3,287,400	$2,287,400
Capital Renewal	$9,069,210	$9,089,280	$9,642,870	$8,742,870	$8,742,870	$11,101,050	$8,742,870	$10,542,870	$9,642,870	$9,642,870	$8,742,870
Operations and Maintenance	$6,684,303	$6,754,832	$6,760,816	$6,765,721	$6,769,426	$6,773,131	$6,776,836	$6,779,581	$6,784,726	$6,788,671	$6,792,615

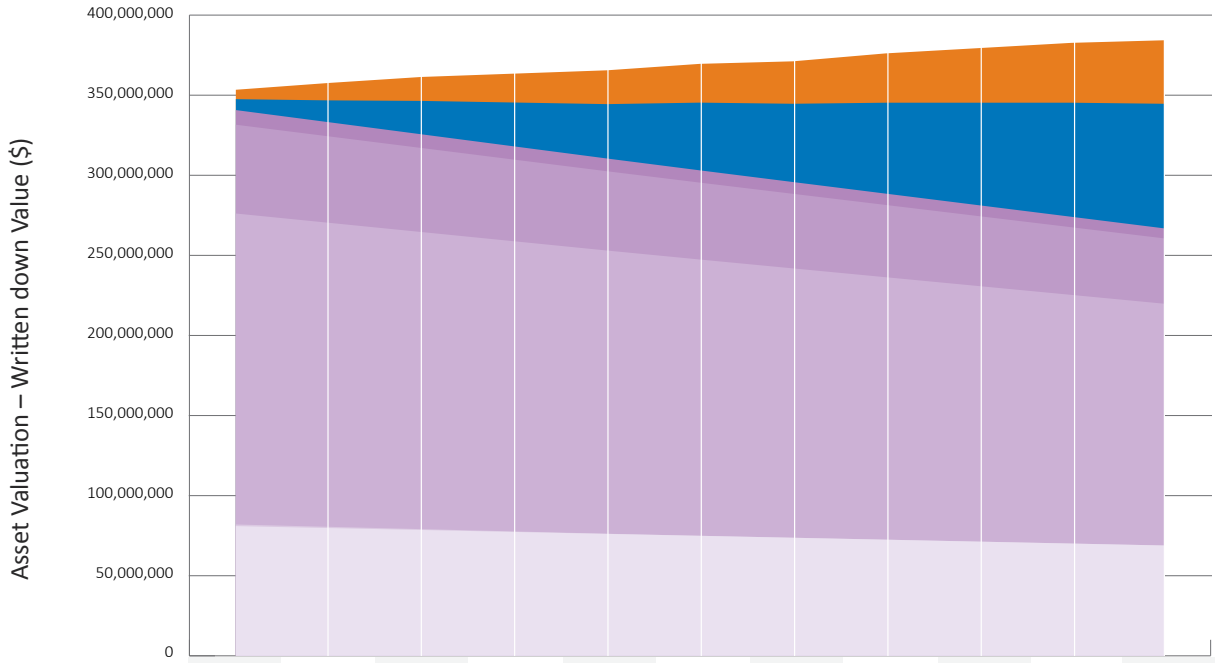
The roads asset class experiences an annual depreciation expense of $7,570,879 each year. This means that without any capital works taking place, the roads asset class would deteriorate from 59% to 46% in the 11-years between FY2025/26 and FY2035/36. The implementation of the current LTFP will improve asset health to 55% in FY2035/36.

This projected asset health assumes 100% of Capital Upgrade & New is capitalised as an addition to existing asset valuation, and 75% of Capital Renewal is capitalised as an addition to existing asset valuation. This is because capital renewals will typically replace assets that are at about 25% asset health.

Graph RD17: Asset Value Depreciation and Capitalisation over 11 Years - Roads Asset

Note: This graph demonstrates the projected Written Down Value of Road Assets as they depreciate annually. It also demonstrates the impact of the LTFP capital upgrades, new, and renewals on the asset valuation.

Asset Value Depreciation and Capitalisation over 11 Years - Road Infrastructure (No Indexation - Present Value 01/07/2025)



	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36
Accumulated Capital Upgrade & New	$5,877,400	$10,864,800	$14,952,200	$18,039,600	$21,127,000	$24,214,400	$26,501,800	$30,789,200	$34,076,600	$37,364,000	$39,651,400
Accumulated Capital Renewal	$6,801,908	$13,618,868	$20,851,020	$27,408,173	$33,965,325	$42,291,113	$48,848,265	$56,755,418	$63,987,570	$71,219,723	$77,776,875
Transport Infrastructure	$9,137,148	$8,837,392	$8,537,637	$8,238,827	$7,940,018	$7,644,757	$7,350,679	$7,066,343	$6,792,139	$6,517,934	$6,243,729
Street Footpaths	$55,431,938	$53,947,523	$52,463,134	$50,978,745	$49,494,356	$48,009,967	$46,557,626	$45,115,967	$43,674,309	$42,232,650	$40,790,992
Sealed Roads	$194,149,960	$189,811,854	$185,473,831	$181,135,820	$176,797,809	$172,459,798	$168,147,222	$163,843,786	$159,540,410	$155,237,442	$150,934,475
Parking Infrastructure	$1,010,805	$777,938	$545,070	$312,203	$79,335	$19,075	$16,350	$13,625	$10,900	$8,175	$5,450
Kerb and Gutter	$80,981,312	$79,770,040	$78,558,767	$77,349,324	$76,139,907	$74,930,490	$73,721,073	$72,511,656	$71,302,239	$70,092,821	$68,883,404

8. Maintenance, Operations and Renewals

Waverley Council operates a periodic and preventive maintenance program for its Roads Infrastructure, while also delivering capital renewal programs, and responding to reactive maintenance requests. Periodic and preventive maintenance takes place to uphold the safety and structural integrity of its Roads infrastructure, while also preventing further deterioration of aged assets.

Council used the Modelve funding scenario software to visualise the impact of various funding scenarios on the asset health of each Roads asset category.

8.1. Kerb and Gutter

Waverley Council manages a variety of kerb and gutter assets, primarily made from concrete, bluestone, and sandstone. These assets are vital for controlling road drainage and enhancing public safety by providing a barrier that prevents vehicles from leaving the roadway. Council maintains a total of 247km of kerb and gutter.

A 0.8% factor is applied to the current replacement cost of the kerb and gutter asset category to estimate the operations and maintenance costs for below activities on an annual basis.

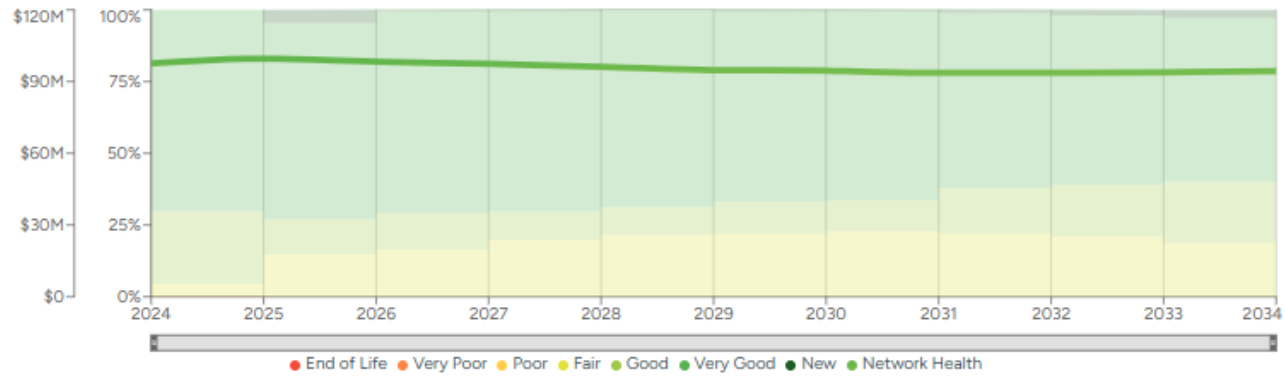
- Street sweeping and cleaning to remove debris
- Making safe and minor patching of small sections that are damaged
- Making safe and resetting of dislodged kerb segments

When planning for kerb and gutter asset replacements, the asset health is projected to improve over the 10 years in the Sustainable Funding Scenario.

Table RD18: Kerb and Gutter Health and Value over 10-Year period

ELEMENT	SUSTAINABLE FUNDING SCENARIO
Capital Renewal Expenditure	$18,913,057
Capital New & Upgrade Expenditure	$5,828,250
Total Scenario Cost	**$24,741,307**
Asset Health as at 2024	69.53%
Asset Health estimated by 2034	78.60%
Current Worth as at 2024	$83,403,857
Projected Worth estimated by 2034	$94,281,382
Change of worth	**$10,877,525**

Figure RD19: Kerb and Gutter Network Health – Sustainable Funding Scenario (Modelve Software)



8.2. Sealed Roads

Waverley Council manages two types of sealed roads: concrete and asphalt. The asphalt roads are constructed using a minimum of 30% recycled materials, reflecting the Council's commitment to sustainability.

These roads provide safe and efficient transportation for vehicles, cyclists and public transport while also supporting stormwater management to reduce the risk of flooding. In addition, they enhance accessibility for emergency services and business, reduce traffic noise and contribute to the overall aesthetes of the community.

Council maintains 125km of sealed road across over 1 million square metres of pavement (excluding dedicated street cycleways).Furthermore, Waverley Council manages 8.3km of dedicated street cycleways across 12,500m2 of pavement. These cycleways are dedicated to bicycle users and allow for connections between cycling, walking, and access to public transport within the local government area. The cycleways support greenhouse gas emission reduction targets, while improving road traffic congestion through promoting bicycle use as a means of transportation within the local government area.

A 0.8% factor is applied to the current replacement cost of the sealed roads asset category to estimate the operations and maintenance costs for below activities on an annual basis.

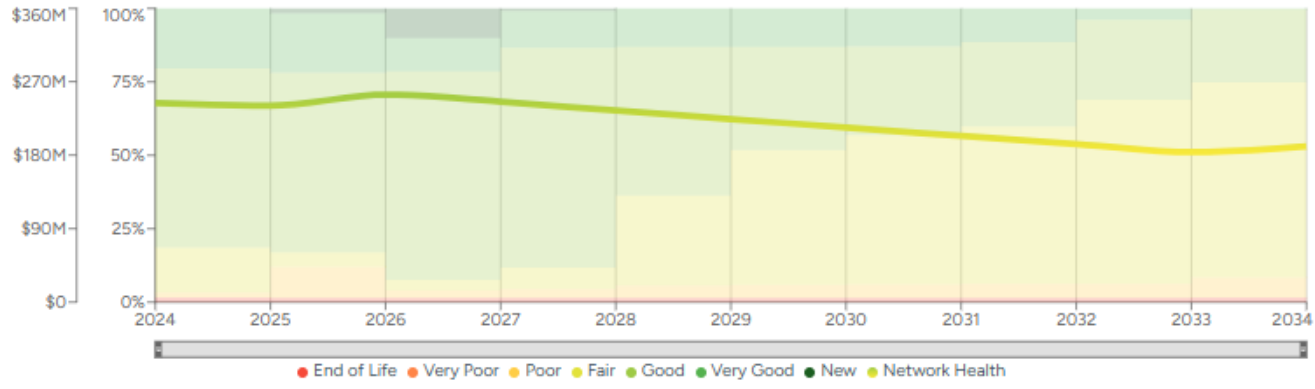
- Regular inspections and condition assessments
- Pothole patching and pavement damage make safe
- Crack sealing
- Street sweeping and cleaning to remove debris
- Line marking repainting
- Making safe and restoring utility cuts

When planning for sealed roads asset resheeting, rehabilitation and reconstructions, the asset health is projected to slightly deteriorate over the 10 years in the Sustainable Funding Scenario. A 3% reduction in asset health is expected due to the ageing pavement base and sub base.

Table RD20: Sealed Roads Health and Value over 10-Year period

ELEMENT	SUSTAINABLE FUNDING SCENARIO
Capital Renewal Expenditure	$40,538,826
Capital New & Upgrade Expenditure	$17,791,500
Total Scenario Cost	**$58,330,326**
Asset Health as at 2024	56.40%
Asset Health estimated by 2034	53.07%
Current Worth as at 2024	$202,827,930
Projected Worth estimated by 2034	$208,628,035
Change of worth	**$5,800,105**

Figure RD21: Sealed Roads Network Health – Sustainable Funding Scenario (Modelve Software)



8.3. Street Footpaths

Waverley Council manages a variety of street footpaths, primarily made of concrete, paving and asphalt. These footpaths play a vital role in providing community and park visitors with the opportunity to travel, exercise, and enjoy Waverley's parks and coastal reserves.

Street footpaths enhance the visual appeal of public spaces and attract both locals and visitors. They encourage walking and cycling, support local business through increased foot traffic, and are built with durable materials.

Council maintains 417,000m2 of street footpath.

A 3% factor is applied to the current replacement cost of the street footpaths asset category to estimate the operations and maintenance costs for below activities on an annual basis.

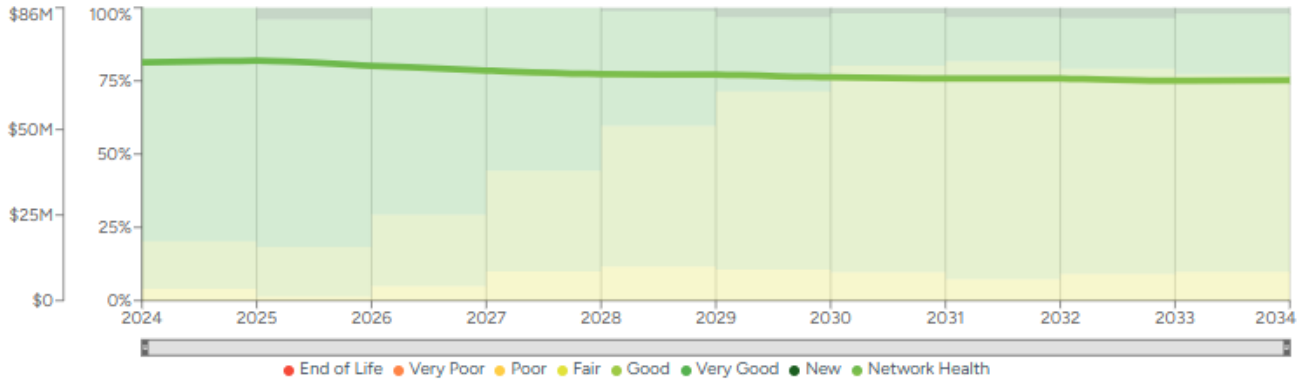
- Regular safety inspections and condition assessments
- Making safe trip hazards and removal of path obstructions
- Rectifying raised slabs by grinding or laying asphalt ramps
- Replacing broken pavers, patching and minor slab replacements

When planning for street footpath replacements, the asset health is projected to improve over the 10 years in the Sustainable Funding Scenario.

Table RD22: Street Footpath Health and Value over 10-Year period

ELEMENT	SUSTAINABLE FUNDING SCENARIO
Capital Renewal Expenditure	$25,062,939
Capital New & Upgrade Expenditure	$4,294,500
Total Scenario Cost	**$29,357,439**
Asset Health as at 2024	68.22%
Asset Health estimated by 2034	75.27%
Current Worth as at 2024	$58,400,767
Projected Worth estimated by 2034	$64,432,425
Change of worth	**$6,031,658**

Figure RD23: Street Footpath Network Health – Sustainable Funding Scenario (Modelve Software



8.4. Transport Infrastructure

Waverley Council manages a range of transport infrastructure assets, including pedestrian refuges, roundabouts, speed humps and traffic islands. These assets are deigned to facilitate the safe and efficient movement of both vehicles and pedestrians within the community.

Transport infrastructure plays a critical role in improving road safety by controlling traffic flow and providing safe crossing points for pedestrians. These assets reduce the risk of accidents, promote safe driving speed, and improve the road network.

Council maintains 43 pedestrian refuges, 20 roundabouts, 144 speed humps, and 201 traffic islands within the transport infrastructure category.

A 1.5% factor is applied to the current replacement cost of the transport infrastructure asset category to estimate the operations and maintenance costs for below activities on an annual basis.

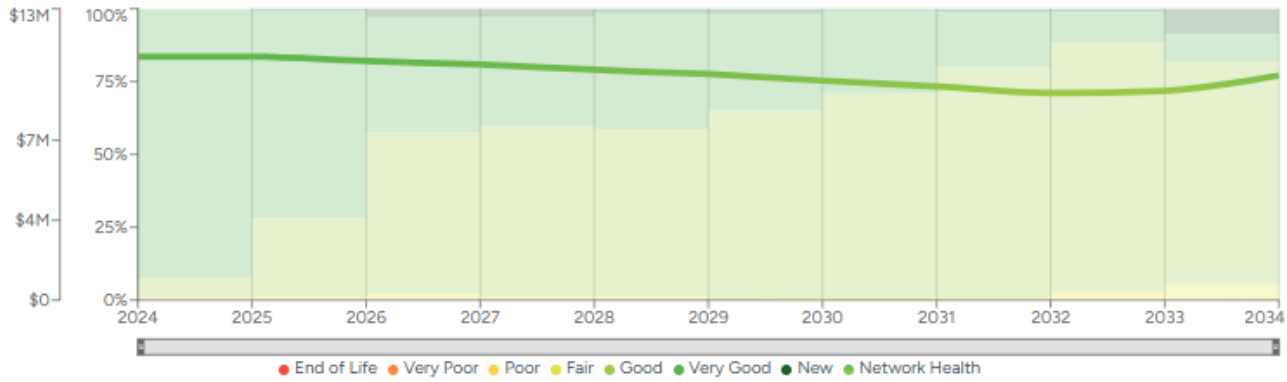
- Regular safety inspections and condition assessments
- Making safe and minor patching of small sections that are damaged

When planning for transport infrastructure replacements, the asset health is projected to improve over the 10 years in the Sustainable Funding Scenario.

Table RD24: Transport Infrastructure Health and Value over 10-Year period

ELEMENT	SUSTAINABLE FUNDING SCENARIO
Capital Renewal Expenditure	$6,146,256
Capital New & Upgrade Expenditure	$4,813,500
Total Scenario Cost	**$10,959,756**
Asset Health as at 2024	76.29%
Asset Health estimated by 2034	77.08%
Current Worth as at 2024	$9,738,316
Projected Worth estimated by 2034	$9,839,800
Change of worth	**$101,484**

Figure RD25: Transport Infrastructure Health – Sustainable Funding Scenario (Modelve Software)



8.5. Parking Infrastructure

Waverley Council manages 270 parking meters and payment machines, as well as the 1,242m2 outdoor carpark at Victoria Street, Waverley. Note that other outdoor parking areas are captured under the sealed roads asset category. The assets are designed to ensure adequate and secure parking for locals and visitors.

A 5% factor is applied to the current replacement cost of the parking infrastructure asset category to estimate the operations and maintenance costs for below activities on an annual basis.

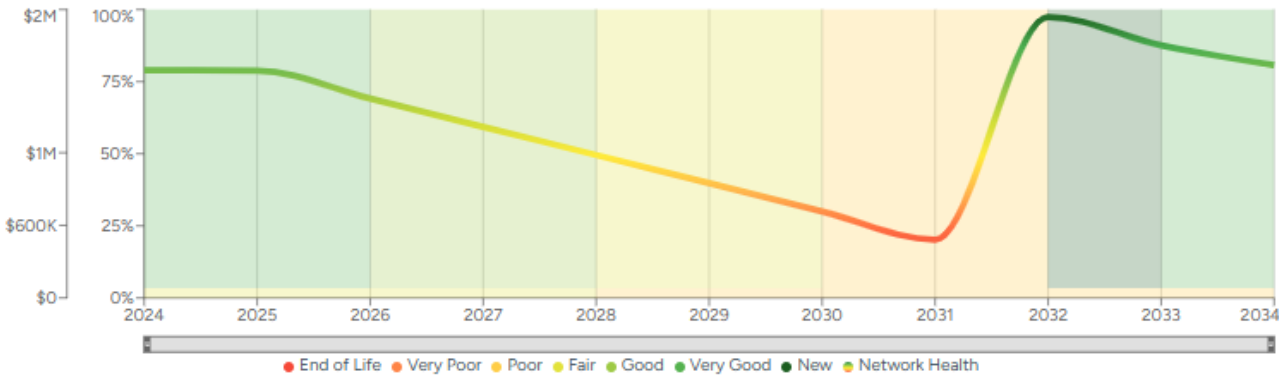
- Vandalism and damage repairs
- Hardware repairs and software debugging

When planning for parking infrastructure replacements, the asset health is projected to improve over the 10 years in the Sustainable Funding Scenario.

Table RD26: Parking Infrastructure Health and Value over 10-Year period

ELEMENT	SUSTAINABLE FUNDING SCENARIO
Capital Renewal Expenditure	$2,383,174
Capital New & Upgrade Expenditure	$0
Estimated Operations & Maintenance	$8,224,649
Estimated Depreciation	$2,908,197
Total Scenario Cost	**$13,516,020**
Asset Health as at 2024	61.96%
Asset Health estimated by 2034	80.69%
Current Worth as at 2024	$1,476,541
Projected Worth estimated by 2034	$1,922,983
Change of worth	**$446,443**

Figure RD27: Parking Infrastructure Health – Sustainable Funding Scenario (Modelve Software)



9. Minimising Risks to Community and Council

In line with its asset management objectives, Waverley Council is committed to the mitigation of risks associated with its roads infrastructure and services. The safety and wellbeing of the community, visitors and Council staff is paramount to roads asset management planning and delivery. Asset prioritisation decisions are made through the determination and application of risk prevention approaches that consider severity, likelihood, criticality and resilience across communities, infrastructure assets, and services. Waverley Council considers the below risk areas when prioritising roads maintenance, operations, renewal, and upgrade activities.

- Safety and wellbeing impacts
- Reputational impacts
- Financial impacts
- Regulatory compliance and legal risks
- Service delivery and asset availability risks
- Environmental impacts
- Loss of corporate knowledge, data loss, and risks to resilience and continuity

9.1. Critical Assets

Waverley Council has identified critical road assets based on their strategic importance, accessibility impact, and redundancy within the LGA's transport network. The critical road assets are selected based on the below factors.

- Location and network connectivity, whereby main roads that serve as primary access routes into and out of the LGA are prioritised.
- Availability of alternative routes, whereby roads that have limited alternative access points in the event of disruptions and emergencies within the LGA are prioritised.
- Proximity to core locations, whereby roads that provide direct access to high density locations, such as the Bondi Junction train station and Westfields, as well as other commercial precincts are prioritised.

The following road asset locations have been identified as critical assets within the roads asset class.

- Grafton Street, between Grosvenor Street and Newland Street
- Grosvenor St, between Oxford Street and Grafton Street
- Newland St between Oxford Street and Grafton Street.

Mitigation plans are currently in the planning stage and will be developed as per the improvement actions of this plan.

10. Continuous Improvement and Operational Efficiency

In line with its asset management objectives, Waverley Council strives to be proactive in enhancing the operational efficiency of its asset management processes, and in pursuing continuous improvement. The development and delivery of Council's Asset Management Improvement plan is crucial to ensuring that Council's asset management objectives are achieved in the most sustainable, resilient, and efficient manner.

Table RD28: Asset Management Improvement Plan – Roads Asset Class

STRATEGY COMPONENT	TASK	DESCRIPTION OF REQUIREMENTS	TIMEFRAME AND PRIORITY
Asset Information Management System	Define Data Attribute Requirements	Define data attribute requirements for informed decision making and implement into the Asset Information Management System.	12 months (High Priority)
Asset Financial Planning	Develop Asset Maintenance and Operations Plans	Develop asset maintenance and operations plans whereby reactive maintenance demand is accurately costed and based on historic annual requests. Routine and preventive maintenance demand is accurately costed and based on agreed levels of service. Identify resourcing requirements.	18 months (High Priority
Work Order Management System	Define Work Orders and Defects	Define routine and reactive maintenance work orders and defect types. Configure and implement into the Work Order Management System.	18 months (High Priority)
Asset Management Culture	Asset Management Education	Conduct annual workshops with all asset stakeholders to understand the roads asset lifecycle management approach.	12 months (Medium Priority)
Asset Financial Planning	Asset Useful Life and Depreciation	Review asset useful lives based on the actual life of assets achieved by the Council. Consider applying different useful lives to locations and assets based on projected utilisation, wear, and tear. Consider applying asset depreciation models to different roads asset categories based on data, evidence and/or studies.	24 months (Medium Priority)
Asset Operations	Asset Condition Assessments and Defect Capture	Develop detailed roads asset condition assessment and defect capture manual. Ensure that operations and maintenance teams capture asset conditions and defects in the works management system.	24 months (Medium Priority)
Risk Management Approach	Develop Asset Criticality Matrix	Use demand data including foot traffic visitation and AADT on roads to develop a criticality matrix and scoring method for all Roads assets to guide maintenance frequencies and response times, as well as renewal investment prioritisation.	24 months (Medium Priority)

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