



CITY OF
TEA TREE GULLY
Naturally Better

2020 Transport Asset Management Plan

Asset management plans (AMPs) are used to guide the planning, construction, maintenance and operation of our infrastructure.

These plans are key components of our Long-Term Financial Plan and include detailed information about each asset and define which services will be provided, how they will be provided and what funding is required to cost-effectively deliver them over a 10-year period.

For more information call 8397 7444
or visit cttg.sa.gov.au/amp

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Introduction

The City of Tea Tree Gully's transport assets provide valuable services that are part of our community's everyday life. They have been established over a long period of time and must be properly maintained and developed to ensure continued community benefit.

The primary purpose of our transport network is to aid movement across the City of Tea Tree Gully and to connect people to places in a safe and easily accessible way.

This asset management plan is used to guide the planning, construction, maintenance and operation of Council's transport infrastructure.

It details our approach to managing our transport assets, future demand and risk, and our compliance with regulatory requirements. It also identifies the estimated capital expenditure necessary to provide transport infrastructure and associated services to the community over a 10-year period.

Our goal in managing our transport assets is to meet the required service levels in the most cost-effective manner for present and future customers. This means timing infrastructure renewals before unplanned maintenance costs become excessive, but not so soon that assets are renewed before it is really needed.

Our transport assets include roads, kerbs, footpaths, car parks, bridges, public transport infrastructure and traffic control devices. The total current replacement cost of these assets is about \$683 million.

While community satisfaction with transport assets and associated service delivery continues to increase, there is still room for improvement.

Approximately \$14.72 million is required each year to maintain, operate and renew our transport infrastructure assets in accordance with our current service levels.

Actual annual expenditure will vary from year to year as we acquire more assets, build new assets and undertake major renewal works.

This asset management plan should be read in conjunction with Council's key strategic management, planning and policy documents, including our Asset Management Policy, Long-Term Financial Plan and Annual Business Plan and Budget.

Collectively, these plans support the achievement of our vision for our City – *A thriving community that enjoys a quality lifestyle that values its people and natural environment.*

This plan is reviewed annually, with a full update completed every four years.

We incorporate community feedback into our Asset Management Plans through information provided via our annual community survey, the review of common customer requests, and formal community engagement.

Visit cttg.sa.gov.au/amp to view all of our asset management plans.



Transport profile

Asset quantity

590 km
Sealed roads

6
Road bridges

1,229 km
Kerbs and gutters

128
Pedestrian bridges

560 km
Sealed footpaths

578
Bus stops

107.2 km
Unsealed footpaths

247
Bus shelters



- Roads - \$377.2 million
- Kerb and gutter - \$161.6 million
- Footpaths - \$96.8 million
- Traffic control devices - \$27.4 million
- Car parks - \$10.3 million
- Pedestrian bridges - \$4.4 million
- Bus stops and shelters - \$3.8 million

Service levels

The current transport asset service levels are driven by Council's strategic plan and vision for the City, legislative requirements and community research.

Service level drivers

Community insight

Our annual Community Survey along with customer request data allows us to understand resident satisfaction with our asset management program and provides guidance for continuous improvement.

While suggested improvements may not directly relate to the maintenance or renewal of an asset, they can influence the use of an asset, which can impact its serviceable life.

Strategic and organisational goals

Our vision for a thriving community with a quality lifestyle that values its people and natural environment is the foundation of our strategic and organisational goals.

Council's Strategic Plan 2025¹ articulates the vision and aspirations for our community, and details objectives for these aspirations. The objectives listed below are linked directly to the Transport Asset Management Plan.

Community

- People feel a sense of belonging, inclusion and connection with places, spaces and the community.
- Our services are accessible to all and respond to changing community needs.

Environment

- The carbon footprint of our city is reduced through the collective efforts of community and Council, including business.

- Our consumption of natural resources is minimised by reducing, reusing and recycling products and materials, and using renewable resources.
- We are resilient to climate change and equipped to manage the impact of extreme weather events.

Places

- Streets, paths, open spaces and parks are appealing, safe and accessible.
- Neighbourhoods are easy to move around and are well connected with pedestrian and cycle paths that offer alternative to cars
- Infrastructure and community facilities are fit for purpose, constructed using sustainable practices and well maintained.

Leadership

- Planning considers current and future community needs.
- Decision making is informed, based on evidence, and consistent.
- Major strategic decisions are made after considering the views of our community.

Legislative requirements

There are many legislative requirements relating to the management of transport assets. These include:

- *Local Government Act 1999*
- *Disability Discrimination Act 1992*
- *Environment Protection Act 1993*
- *Occupational Health, Safety and Welfare Act 1986*
- *Heritage Act 1993*

¹ Strategic Plan 2025 - cttg.sa.gov.au/strategicplan

- *Road Traffic Act 1961*
- *South Australian Public Health Act 2011*
- *Disability Standards for Accessible Public Transport 2002*
- Australian Standards, AustRoads Publications, Code of Technical Requirements for the Installation of Traffic Control Devices.

Service level performance

The performance of our assets are measured in two ways:

Customer service levels

How the customer receives or experiences the service. The measures used in this asset management plan are quality, function and safety.

Technical service levels

What we do to deliver the service.

The current transport asset service levels are driven by Council's Strategic Plan 2025 and vision for the City, legislative requirements, community research and resources available within the current Long-Term Financial Plan.

These service levels will be used to:

- Clarify the level of service customers expect
- Identify the work required to meet these service levels
- Identify the costs and benefits of the services offered
- Enable Council and customers to analyse the quality, function and safety of transport assets based on the existing service levels
- Determine the impact (primarily financial) of increasing or decreasing the service levels.

Technical service levels

Supporting the customer service levels are operational or technical measures of performance. These technical measures relate to the allocation of resources to best achieve the desired customer outcomes and demonstrate effective performance.

Technical service measures are linked to the activities and annual budgets covering:

- **Operations** – the regular activities to provide services (e.g. street sweeping, pavement marking, etc.)
- **Maintenance** – the activities necessary to retain an asset as near as practicable to an appropriate service condition. Maintenance activities enable an asset to provide service for its planned life (e.g. road patching, unsealed road grading, footpath repair)
- **Renewal** – the activities that return the service capability of an asset up to that which it had originally (e.g. road resurfacing and pavement reconstruction, bus shelter replacement)
- **Upgrade/New** – the activities to provide a higher level of service (e.g. widening a bridge, sealing an unsealed car park) or a new service that did not exist previously (e.g. a new footpath or bus stop).

Service and asset managers plan, implement and control technical service levels to influence the customer service levels.

Currently, a review of technical service levels for transport assets is being undertaken, and as such, has not been included into this review of the Transport Asset Management Plan.

Customer service levels

Roads, kerbs and car park service levels

Performance measure	Service level	Performance measure process	Current performance	Performance target
Quality <i>How good is the service, including its condition and quality</i>	Provide road surfaces and pavement at an appropriate standard free of defects	Overall condition rating scores compiled following audit in 2019	Measured through Customer Request Management system	Minimum condition 3 (fair condition) Desirable network average 2 (good condition) (on 1 to 5 scale)
	Provide kerbs at an appropriate standard for function and visual impact	Overall condition rating scores compiled following audit in 2019	Renewing poor condition kerbing when reconstructing or resurfacing the road	Provide kerbing at a standard where it performs and looks as intended
Function <i>How suitable is the service for its intended purpose</i>	Meets user requirements for accessibility	Number of customer service requests relating to accessibility	Measured through Customer Request Management system	Reduction in customer requests over time
	Provide road surfaces and kerbing that effectively transfers stormwater to stormwater infrastructure	Number of requests relating to water ponding	Measured through Customer Request Management system	Reduction in customer requests over time
Safety <i>How safe is the asset for users of the service</i>	Reduce hazards due to road surface defects Increase safety	Inspect and assess 3rd party reinstatements against Council technical specifications	Measured through Customer Request Management system, cross checked with DBYD requests	Reduction of poor and unsafe reinstatements from 3rd party organisations Develop quality standards when working in Council area
	Minimising traffic congestion on local roads (including parking)	Complaints about traffic volume, speeding vehicles and parking congestion	Measured through Customer Request Management system	Reduction in customer requests over time through greater mitigation of issues

Footpaths, pedestrian bridges and bus infrastructure service levels

Performance measure	Service level	Performance measure process	Current performance	Performance target
Quality <i>How good is the service, including its condition and quality</i>	Quality service in provision of footpaths and pedestrian bridges	Annual customer satisfaction survey	Satisfaction level of 56%	Satisfaction level of 60%
Function <i>How suitable is the service for its intended purpose</i>	Meets user requirements for footpath accessibility	Number of customer service requests relating to footpath accessibility	Measured through Customer Request Management system 59 – 2016 92 – 2017 87 – 2018 64 – 2019	Reduction in customer requests over time e.g. < 60 by end of 2020
	Compliance with <i>Disability Discrimination Act (DDA)</i> requirements to be inclusive for all	Compliance requirements and legislative requirements, Disability Standards for Accessible Public Transport 2002	Footpath program includes the provision of constructing DDA kerb ramps DDA bus stop upgrade program currently being implemented across the City	Bus stop compliance: 90% by the end of 2020 (achieved). 100% by end of 2022 Continue to construct DDA kerb ramps in conjunction with street / footpath upgrades
	Ensure the bus infrastructure assets meet user's needs (e.g. shelters to protect users from inclement weather)	Number of customer service requests relating to bus infrastructure functionality	Request for a new shelter 5 - 2016 15 - 2017 13 - 2018 21 - 2019	Reduction in customer requests over time e.g. < 10 by end of 2020
Safety <i>How safe is the asset for users of the service</i>	Reduce hazards due to footpath surface defects (e.g. cracking, trip hazards).	Insurance claims received per annum.	7 claims in 2018 1 claim in 2019	Reduction of claims by 2020
	Maintain quality and safe pedestrian bridge structures over Council's watercourses	Inspect and assess the quality and safety of pedestrian bridges on a three-yearly cycle	Inspection last performed in October 2017	Continue to inspect and assess pedestrian bridge structures on a three-yearly cycle (next due in 2020)

Traffic control devices service levels

Performance measure	Service level	Performance measure process	Current performance	Performance target
Quality <i>How good is the service, including its condition and quality</i>	Quality appearance of landscaped traffic islands (roundabouts and traffic medians)	Condition / Visual assessment of landscaped traffic islands	Assessed sample size of traffic islands every 2 years	As per current performance, and addition of better maintenance remediation required
Function <i>How suitable is the service for its intended purpose</i>	Services provided from Traffic Control Devices (TCDs) having it's intended outcome	Number of customer service requests relating to the service of or construction of TCD's	Measured through Customer Request Management system	Reduction in customer requests over time
Safety <i>How safe is the asset for users of the service</i>	Line marking and signage renewed frequently	Number of customer service requests relating to faded line marking or poor signage	Line marking refreshed on a three-year cycle. Signage type and condition currently being collected	As per current performance plus see a reduction in customer requests over time



STOP
57
BAYVIEW RD
Ottawa

Future demand

Population growth, social and technology changes can impact community demand for services. This section looks at these trends and examines the strategies required to address them.

Demand drivers

Drivers affecting demand include:

- Population change
- Demographic change
- Customer preferences and expectations
- Economic factors
- Seasonal factors
- Vehicle ownership rates
- Technological change
- Environmental awareness.

Demand forecasts

Demographics

The median age of City of Tea Tree Gully residents is 41 years. The median age has increased from 39 in 2011 and 37 in 2006. In addition to an aging population, we have also seen a slight decrease in couples with children and an increase in couples with no children.

In order to accommodate the needs of people with a range of mobility levels, there is a need to plan and provide for these needs.

This has been addressed through the development of a Disability Access and Inclusion Plan (DAIP) 2020-2024.

The DAIP was developed to support and enhance our ongoing commitment to providing inclusive and equitable access to our services and facilities to people living with disabilities, their families and carers. The key themes of the DAIP are:

1. Inclusive communities for all
2. Leadership and collaboration

3. Accessible communities

4. Learning and employment

The themes from this plan will be integrated in Council's decision making processes similar to existing strategic and organisational goals.

Population

The City of Tea Tree Gully's population is forecasted to grow to 101,648 by 2030 (in 2016 – the last census year – the population was 99,153). Long-term, this rise in population may result in increased transport asset usage, which may shorten the useful life of our assets and increase maintenance costs.

Infill development (where two or three dwellings are built on an existing allotment) has also started to occur. This activity is primarily happening in the central east, Modbury, Modbury North, and Holden Hill zones, which were originally developed in the 1960s and 1970s.

While this activity offers a greater choice in housing and affordability, it will also see an increase in vehicle traffic on our roads, more demand for public transport, and greater use of footpaths and bicycle paths.

Consumer preferences and expectations

As the City continues to grow and delivers infrastructure and services to achieve our strategic goals, a new standard of service delivery will need to develop over time. From previous state government contributions, new footpaths have been constructed throughout the City with a primary focus on providing a footpath down every street. This has equated to over 60 km of footpath constructed over the last decade. From this, community expectations have risen and the demand for more services, such as new footpaths or streetscape upgrades, grows.

Economic factors

Rate capping, if it were to occur, also has the potential to affect the way City of Tea Tree Gully delivers services to the community. If there is a funding shortfall to manage existing assets to the agreed levels of service, the level of service will likely need to decrease or priorities be re-established. A shortfall could also result in the inability to provide new assets or upgrades desired by the community.

Demand management plan

Demand for new services will be met through the management of existing assets, the upgrade and renewal of assets, the provision of new assets and demand management practices.

Asset types	Demand driver	Demand management plan
Roads / Traffic control devices	Road safety	Continue city-wide traffic investigations to identify underlying issue and implement traffic management devices as appropriate.
Roads / Footpaths / Bus infrastructure	Planning	Increase development densities to reduce length of road per capita of residents. The 'Activating Modbury' project is an example of structure planning and Development Planning Approval driving desire for higher density living. Solutions might include provision of wider footpaths, inclusive and accessible use for non-vehicle travel etc.
Footpaths	New footpaths	Managed by means of our criteria-based, city-wide footpath plan that has developed a vision for new footpaths within the City.
Bus infrastructure	Legislation requirements	Continue to upgrade bus stops to achieve 100% DDA compliancy by end of 2022. Be aware of any proposed changes to legislation, or introduction to new legislation that may impact bus infrastructure assets.
All	Renewal or upgrade of assets	Use hierarchy information that prioritises renewal activities that align with strategic network significance.
Roads / Car parks / Footpaths / Bridges	Environmental sustainability	Continue to use and investigate the use of recycled materials for transport assets, in expectation of reducing the environmental impact of disposed materials, e.g. using recycled asphalt seals for roads and recycled plastic for bridge decking etc.

Asset programs to meet demand

Growth

Urban development in the City of Tea Tree Gully has reached the boundary of the Hills Face Zone. With most of the urban area now fully developed, large developments are unlikely to occur. This reduces the likelihood of the need to extend our transport network and transport assets being handed over to Council to manage.

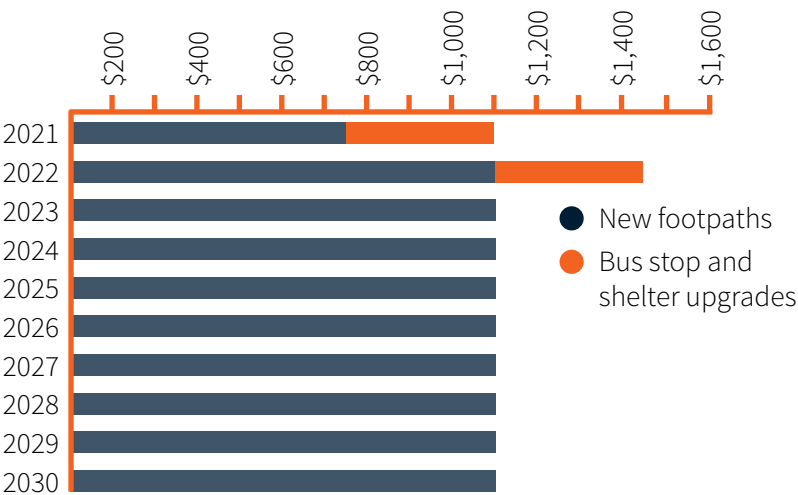
Community expectation

There is substantial community demand for footpaths and Council’s commitment to the install of new footpaths can be planned and budgeted for.

The provision of other transport assets such as car park upgrades, the installation of school koala crossings and roundabouts are generally initiated through community requests. These largely unplanned projects have been delivered mostly through grant funding.

The acquisition of new assets will increase Council’s operation, maintenance and renewal costs over the life of the asset. These future costs are forecasted and included in the development of our Long-Term Financial Plan.

Upgrade and new assets to meet demand





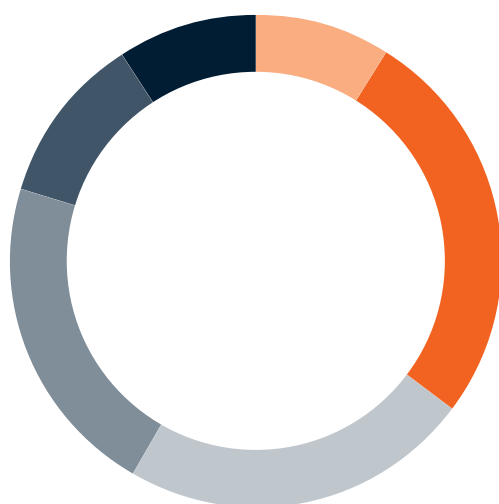
Lifecycle management

This section outlines asset performance and condition information, and uses asset management principles to develop broad strategies and specific work programs to achieve the agreed service levels.

The assets covered by this plan include:

- Roads (surface, pavement and formation)
- Road bridges (including two heritage listed road bridges)
- Kerbs (roads and car parks)
- Car parks (sealed and unsealed)
- Footpaths (sealed and unsealed)
- Pedestrian bridges
- Bus stops and shelters
- Traffic control devices (signals, traffic islands, guard rails)

Asset age profile by decade
(% based on asset cost)



1910 - 0%	1980 - 23%
1920 - 0%	1990 - 21%
1960 - 9%	2000 - 11%
1970 - 26%	2010 - 9%

Asset capacity and performance

To achieve the desired service levels we have developed a set of guiding design principles, which account for a variety of factors such as usage, location and environment.

Kerbs deterioration

Damaged sections of kerb obstruct stormwater runoff and cause water ponding and road safety hazards. Leading causes are tree root damage to the kerbing and soil movement creating vertical displacements.

Bus stop DDA compliance

A number of bus stops are not compliant to Disability Standards for Accessible Public Transport 2002 – 100% of bus stops are to be compliant by the end of 2022.

Footpath widths

Footpaths widths in the initial development of the southern sections of the Council area, have a standard width of 1.2 m. Through construction of new footpaths, the standard width is 1.5 m as detailed in the Footpath Policy.

Road surface

Road surface failures generally occur from pavement failures as well as poor material and older application methods. A key failure defect is linear cracking. Further extent of the defect can be mitigated by crack-sealing the road surface to prevent pavement failure. However, this is seen as not the most aesthetically pleasing maintenance method.

Road pavement

Road pavement can be damaged through soil movement, failure of the road surface or heavy vehicles travelling on roads not designed to carry the load. Its primary cause of failure is due to a failed road surface, where stormwater is not transferred to the kerb water table, and seeps through the surface and into the pavement layers, causing potholes and depressions.

Asset condition

The regular collection of condition data allows us to make informed decisions and mitigate risk when formulating forward capital works programs. Asset condition is usually determined through field observations of defect parameters.

Asset conditions are measured using a 1-5 rating system where 1 relates to an asset that is 'as new' and 5 relates to an asset that is at the end of its useful life.

Condition grading

1. Very good

New or like new, only planned maintenance required.

2. Good

Minor maintenance required, plus planned maintenance.

3. Fair

Significant maintenance required.

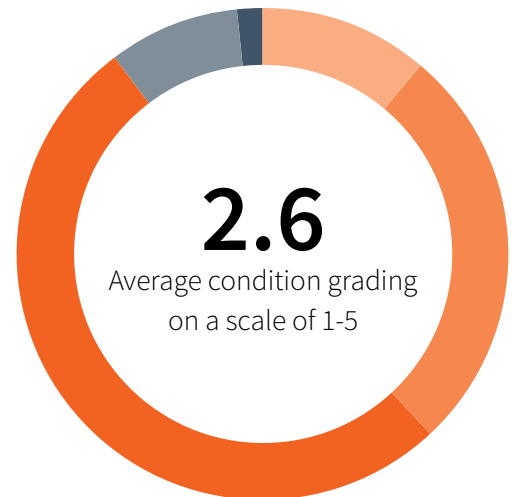
4. Poor

Significant renewal/rehabilitation required.

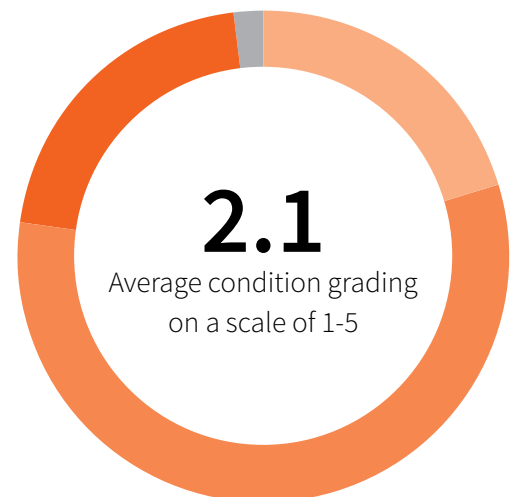
5. Very poor

End of useful life and/or beyond rehabilitation.

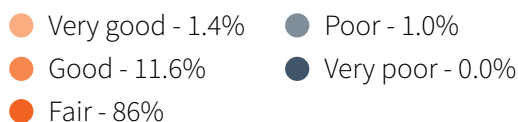
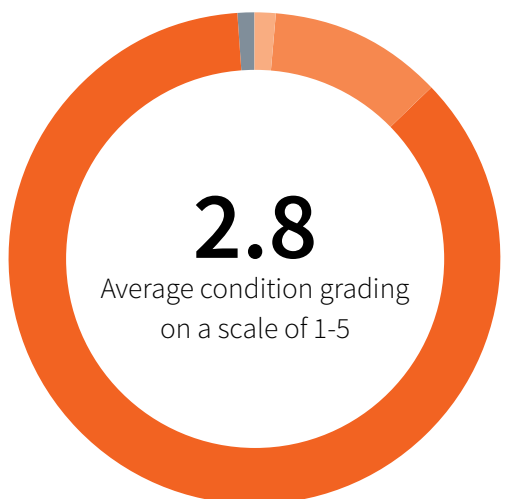
Road surface condition



Road pavement condition



Kerb condition



Operations and Maintenance Plan

To improve the usability and amenity of our transport assets, we regularly undertake operational activities such as street sweeping, the cleaning of bus shelters and pavement marking. While this work will not change the condition of the asset, it will help prolong its useful life.

We also undertake regular maintenance work including pothole repair, the replacement of cracked footpath sections and minor replacement of timber bridge decking. This work will improve the condition and functionality of the asset and is necessary to keep them operational.

Maintenance works are classified as planned and reactive:

Reactive maintenance

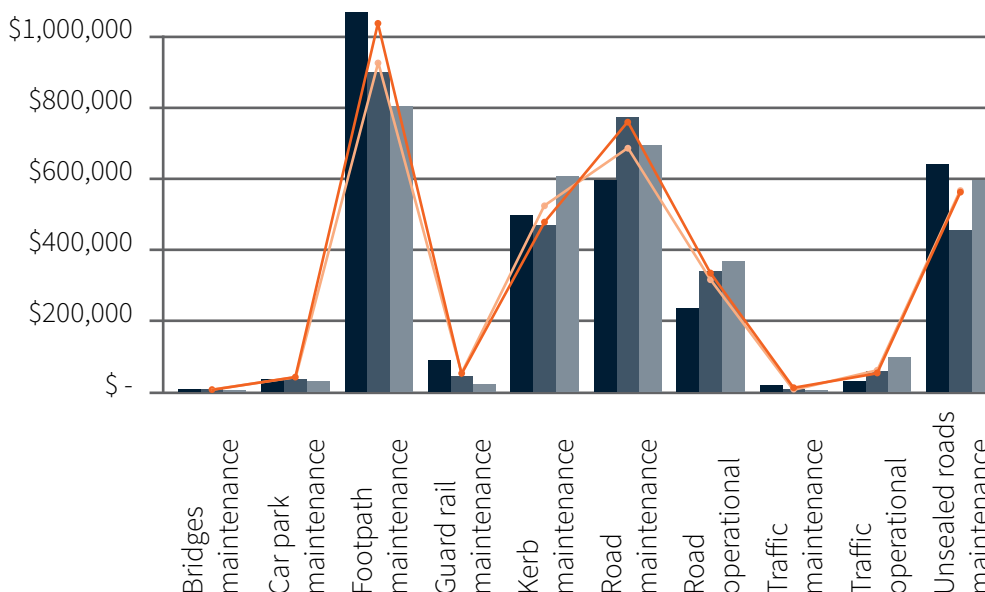
Reactive maintenance is undertaken in response to customer requests or when assets fail and need immediate repair.

Planned maintenance

Planned maintenance relates to repair work that arises from proactive activities such as inspections and condition assessments, where actioning repair work is then prioritised, scheduled and reviewed against previous maintenance history.

While future operations and maintenance expenditure is forecast to trend in line with previous years' spend and budgets, footpath maintenance is decreasing and road operational costs are increasing.

Previous maintenance and operational expenditure



Renewal plan

Renewal is the process of restoring an existing asset to its original service potential. This does not usually increase the functionality or usability of the asset.

Assets requiring renewal or replacement are identified using the following methods:

- **Aged based approach**
Using acquisition year and useful life to determine the renewal year
- **Condition based approach**
Using condition predictive modelling systems
- **Manual based approach**
Using a combination of visual inspections and maintenance history to determine the remaining useful life of the asset.

Renewal plan methods by asset type

Type of asset	Renewal/Replacement method
Roads (surface and pavement)	Condition-based
Kerbs and gutter	Condition-based
Car parks	Age-based and manual-based
Footpaths	Condition-based and aged-based
Bridges (road and pedestrian)	Condition-based
Bus stops and shelters	Condition-based and manual-based
Traffic control devices	Age-based and manual-based

Renewal prioritisation drivers

Asset renewal and replacement is typically undertaken in accordance with two major community expectations in mind:

Reliability

The asset can reliably deliver the service it was constructed to do so (e.g. renewing kerb and gutter, so water is properly transferred to drainage systems).

Quality

The asset is of sufficient quality to meet the target service levels (e.g. evenness and slope of a footpath).

Renewal prioritisation

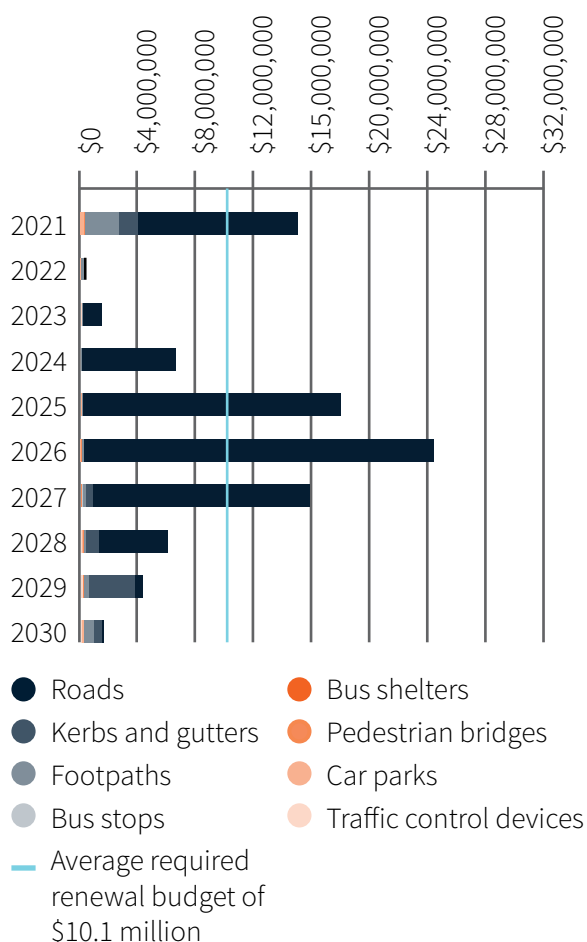
The renewal of an existing asset is prioritised using the following criteria:

- **Risk**
The consequence of asset failure is high
- **Consumer usage**
The asset is highly used and the subsequent impact on users would be greatest
- **High cost asset**
Total value represents the greatest net value to the organisation
- **Age profile**
The asset is close to the end of its useful life
- **Maintenance**
The asset has high operational or maintenance costs
- **Community expectations**
Asset renewal would provide better service levels.

Future renewal and replacement expenditure summary

Projected future renewal and replacement expenditures are shown in the below graph.

Projected capital renewal and replacement expenditure



The projected capital renewal expenditure shows peaks in years one, five, six and seven, which is attributed mainly to roads and associated kerb and gutter, with an average required renewal budget of \$10.1 million.

In the short-to-medium term (next 4-5 years), budgeted expenditure from the Long-Term Financial Plan can accommodate the projected capital renewal expenditure in this period. Within the next 2 years, Council endeavours to undertake another condition assessment of road infrastructure that will enhance the knowledge and information used in condition-based renewal forecasting. This will help verify and/or change Council's assumptions used in predictive modelling.

Below is the projected capital renewal expenditure over the 10-year planning period for each asset type.

Renewal expenditure by asset type

Type of asset	Renewal expenditure
Roads	\$83,814,520
(surface and pavement)	
Kerb and gutter	\$12,426,000
Footpaths	\$4,356,218
Car parks	\$638,400
Traffic control devices	\$293,014
Bridges	\$183,590
(road and pedestrian)	
Bus stops	\$103,500
Bus shelters	\$48,000
Total	\$101,863,242

Assets identified for renewal and/or replacement may be deferred in capital works programs if the cost is not able to be funded. This can be the case when there is a backlog of assets to be renewed, higher priority projects are required for other assets classes, or upgrade/new works have been committed based on consumer preferences, e.g. strategic projects.

Deferring the renewal of an asset may not impact its short-term performance. If work is deferred for a prolonged period of time, the cost of renewal may increase as the asset deteriorates.

Creation/Acquisition/Upgrade plan

The creation of a new asset or works that improves an asset beyond its current capacity may result from growth, social or environmental needs. These additional assets are considered in the future demand section of this plan.

The upgrade or expansion of existing assets are identified from various sources such as community or Elected Member requests, proposals identified from strategic plans or partnerships with other organisations. Project proposals are investigated to verify the need and to develop a preliminary budget estimate. Project proposals that are approved are ranked by priority and available funds and scheduled in future works programs.

Asset disposal plan

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. For transport assets, City of Tea Tree Gully has no proposal to decommission any services.

However, in recent history the Department of Planning, Transport and Infrastructure has restructured some public transport services, which has resulted in some bus stops constructed by Council no longer being required.



Risk management

Effective risk management is integral to all aspects of Council business including how infrastructure assets risks are identified and managed.



The risk assessment process which is aligned to the Risk Management Standard ISO 31000:2018 – Guidelines provides the logical approach for the identification, assessment and management of risks in order to protect Council’s assets and to minimise risks to the community.

Once risks have been assessed and rated, for the most significant risks (those rated as high or extreme), treatment options must be considered and implemented. Risks identified as moderate or low are monitored and reviewed to determine if circumstances change.

The following risk management principles have been applied to our transport infrastructure assets:

- Integration of risk management in all decision making and business processes
- Applying a systematic and structured approach to manage risks
- A tailored risk management approach to suit the context

- Applying an evidence-based approach in assessing and mitigating risks
- Determining the Council’s risk tolerance
- Applying a transparent and inclusive approach in the management of risks
- Applying risk management practices to continuously improve City of Tea Tree Gully’s operations.

Risk identification

For transport assets, risks can be identified from a number of sources:

- Minor operational routine inspections
- Major condition/defect inspections
- Customer requests
- History of performance
- Stakeholder advice.

Risk analysis

The City of Tea Tree Gully uses a risk assessment matrix (as pictured below) that is designed to define the level of risk by combining the consequence and the likelihood to arrive at a risk rating.

Consequence	Likelihood				
	Rare	Unlikely	Possible	Likely	Almost certain
Critical	High	High	Extreme	Extreme	Extreme
Major	Medium	Medium	High	High	Extreme
Moderate	Medium	Medium	Medium	High	High
Minor	Low	Low	Medium	Medium	Medium
Insignificant	Low	Low	Low	Low	Low

Risk treatment

All risks that have been assessed as having an extreme or high risk rating require the implementation of mitigation strategies and/or risk treatment options (controls). The residual risk rating and treatment cost post implementation of treatment/controls is shown in the table on the next page.

Critical risks and treatment strategies

Service or asset at risk	What can happen	Risk rating	Risk treatment strategies/control	Residual risk *	Treatment costs
Roads in poor condition	Road displacement, failed sections that can result in vehicle collisions and personal injury	High	Repair or reconstruct affected roads segments, including damaged sections of kerbing	Low	\$760,000 per annum (road maintenance budget) \$480,000 per annum (kerb maintenance budget)
Road renewal	Exclusion of residents accessing community or vital services and exclusion of transport vehicles accessing destination	High	Roads renewed in a timely manner and in consultation with local community – if access is to be restricted, to meet local needs and relevant community plans	Low	Roads to Recovery funding and Long Term Financial Plan funding derived from Road Management Strategy Report
Footpaths in poor condition	Injury to the public	High	Undertake footpath condition audit to determine footpath defect extent Continue to repair footpaths occurring from customer requests	Low	\$60,000 to undertake audit from external contractor \$1,000,000 per annum (footpath maintenance budget)
Footpath Construction Program	Unable to meet construction program deadlines	High	Amend contract documentation to include controls against project overrun	Low	To be determined
Bus stops	Non-compliance to legislation by Dec 2022 resulting in potential litigation or penalty	High	Monitor progress toward the milestone dates in 2017 & 2022 and report progress annually as part of the budget bid process	Low	\$150,000 - \$200,000 per annum until Dec 2022

Service or asset at risk	What can happen	Risk rating	Risk treatment strategies/control	Residual risk *	Treatment costs
Bus stops & bus shelters	Cannot plan future needs/requirements for bus infrastructure assets (service run by State Government)	High	Work with the State Government to ensure that it makes provision for the construction of new DDA compliant bus stops	Medium	Approximately \$3,500-\$4,500 per stop and \$8,000 per shelter
Pedestrian bridges	Poor structural integrity that can cause asset failure which can result in personal injury	High	To ensure structural integrity is maintained and safe for users Undertake Level 1 and 2 inspections bi-annually	Low	Approximately 2 weeks of staff time
Car parks condition	Unevenness and unsealed surfaces that can cause potholing and result in vehicle damage	High	Monitor condition of car parks through regular horticulture scheduled visits, and report issues through Customer Request system	Low	Car park maintenance budget – \$40,000 per annum
Signage	Signage in poor condition and loss of reflectivity resulting in vehicle accidents	High	Regularly review sign condition, replace signs where necessary and update the signage map database.	Low	Staff time – yearly commitment to collecting signage data as part of everyday tasks Sign replacement budget – \$120,000 per annum
Pavement marking	Vehicle accidents as a result of poor visibility of pavement marking	High	To ensure road users have adequate notification of traffic conditions, refresh pavement marking in the City on a maximum three-year cycle	Low	\$200,000 per annum (pavement marking budget)



Financial summary

This section contains the financial requirements resulting from all the information presented in the previous sections of this asset management plan.

Asset valuations

The value of our transport assets as at 30 June 2019 is shown below.

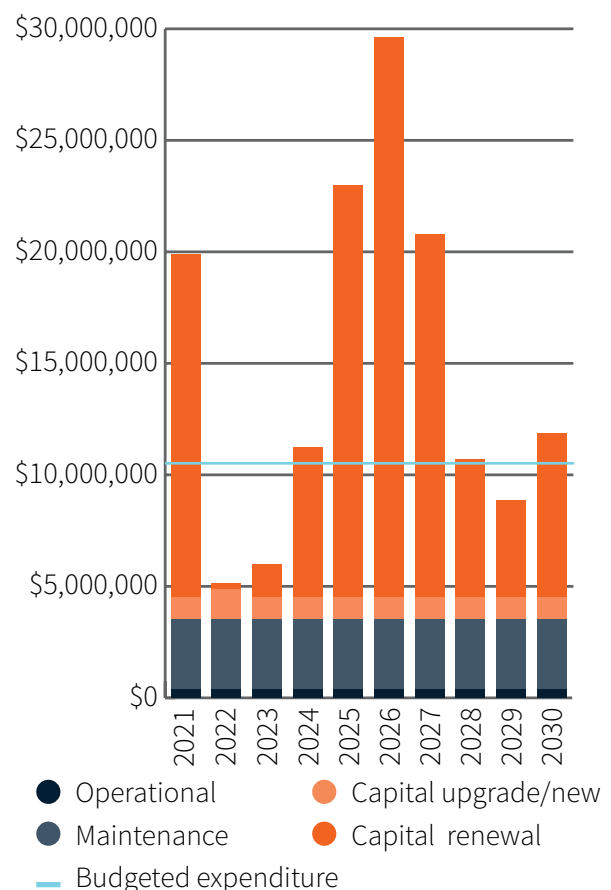
Asset type	Current replacement cost	Depreciated replacement cost	Accumulated depreciation	Depreciation expense
Roads (Inc road bridges)	\$377,107,970	\$345,645,358	\$31,462,611	\$3,677,257
Kerbs	\$161,631,190	\$121,148,533	\$40,482,657	\$1,111,946
Footpaths	\$98,568,949	\$79,679,344	\$18,889,605	\$1,156,807
Car parks	\$10,250,686	\$9,239,951	\$1,010,735	\$153,175
Pedestrian Bridges	\$4,453,340	\$3,992,746	\$460,594	\$42,613
Bus stops And shelters	\$3,779,416	\$2,667,816	\$1,111,600	\$63,377
Traffic control devices	\$27,357,938	\$20,235,384	\$7,122,554	\$628,894

Financial projections

This plan sets out the projected operations, maintenance and capital renewal expenditure required to provide the agreed service levels to the community over a 10-year period in a sustainable manner and informs our Long-Term Financial Plan.

The projected operations, maintenance and capital renewal expenditure required over the 10-year planning period is \$14.72 million on average per year.

Estimated (budget) operations, maintenance and capital renewal and upgrade/new funding is \$11.37 million on average per year giving a 10-year funding shortfall of \$3.35 million per year.



Asset renewal funding ratio

The Asset renewal funding ratio (Long-Term Financial Plan renewal budget/Projected capital renewal and replacement expenditure) indicates that over the next 10 years of forecasting that we expect to have 67.1% of the funds required for the optimal renewal and replacement of assets.

Knowing the extent and timing of any required increase in expenditure and knowing the service level consequences if funding is not available will assist in providing services in a financially sustainable manner.

A key tool in financial forecasting will be modelling the predictive behaviour of assets. Testing and verifying the intervention variables will determine if an increase in funding is required, or whether the serviceability of assets is decreased due to the budget allocation from the Long-Term Financial Plan.

Key assumptions made in financial forecasts

Key assumptions made in this asset management plan are:

- Asset values are based on valuations data performed by APV Valuers and Asset Management.
- The required renewal expenditure assumes that the community is content with the current levels of service across the entire asset class. Should these levels of service be refined through future community consultation, it could have a significant impact on the intervention levels used and funding required.
- The Long-Term Financial Plan is grouped by asset type, and is based upon the depreciation expense values.
- Replacement works will be valued based on actual costs of work, e.g. predictive modelling of roads determines the treatment cost input into the modelling software, and not the current replacement cost.
- The assumed useful lives of assets will be achieved.
- All assets with the same construction/material

type will deteriorate at the same rate regardless of locational or environmental considerations.

- It is understood that the Long-Term Financial Plan funding values are subject to change year upon year based upon expenditure in other sections of Council, not just asset management related expenditure.

Forecast reliability and confidence

The expenditure and valuation projections in this plan are based on best available data.

The estimated confidence level of this data is considered to be reliable (level B), using the five level scale below.

A. Highly reliable

Data based on sound records, procedures, investigations and analysis, documented properly and agreed as the best method of assessment. Dataset is complete and estimated to be accurate $\pm 2\%$.

B. Reliable

Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate $\pm 10\%$.

C. Uncertain

Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete (up to 50% is extrapolated data) and estimated to be accurate $\pm 25\%$.

D. Very uncertain

Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete and most data is estimated or extrapolated. Accuracy $\pm 40\%$.

E. Unknown

None or very little data held.



Plan improvement & monitoring

The figures within this plan will be reviewed annually as part of our Long-Term Financial Plan review process and will be amended to recognise any changes in service levels, valuations, conditions and/or resources available to provide those services.

Status of asset management practices

Accounting and financial systems

We use Civica Authority to manage our financial information. This system is used in conjunction with our asset management information system, Assetic Cloud.

Financial transactions are processed using Assetic Cloud against asset components, which update financial depreciation values as the transactions are performed.

Accounting standards and regulations

The Australian Accounting Standards provide the benchmark against which we report on asset accounting.

Asset management systems

We use Assetic Cloud to manage our asset information. This system integrates with our GIS system and our Customer Request Management system.

Assetic Cloud is managed through modules including asset register, accounting, valuations and assessments

Our asset register contains important asset information such as material, construction date, and hierarchy, which is used to develop this asset management plan and to forecast the renewal of our assets.

Improvement plan

The asset management improvement plan

generated from this asset management plan is shown on the next page.

Monitoring and review procedures

The Transport Asset Management Plan is reviewed annually, during the annual business plan and budget process, to ensure it reflects:

- Current service levels
- Actual asset values
- Projected operations, maintenance, capital renewal and replacement
- Capital upgrade/new and asset disposal expenditures
- Projected expenditure values incorporated into the Long-Term Financial Plan
- Any changes to the available resources and the resultant service levels.

The plan has a life of four years and is due for full revision and updating within two years of each Council election.

Performance measures

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

- The degree to which the required projected expenditure identified in the asset management plan are incorporated into the Long-Term Financial Plan.
- The degree to which the works programs, budgets, business plans and corporate structures take into account the 'global' works program trends provided by the asset management plan.

Asset management improvement plan

	Task	Responsibility	Resources required	Timeline
1	Service levels – refine and collect information on all transport assets to establish quantifiable service level information with community, staff and Council input. e.g. undertake more targeted community engagement to produce greater feedback of community expectations, which can lead to better decision making	Civil Assets	Community Engagement, Strategic Assets	Ongoing
2	Data collection – collected asset data at an increased component level to establish greater confidence in renewal forecasting. e.g. review condition and hierarchy of roads to assist in prioritising renewals work programs	Civil Assets	Strategic Assets	June 2022
3	Review critical risks and treatment strategies	Civil Assets	Strategic Assets	June 2022
4	Review and benchmark with industry standards the useful lives and unit rates of transport assets used in renewal forecasting (predictive modeling)	Civil Assets	Strategic Assets	Review annually
5	Maintenance Service Agreement – review current levels of service, covering maintenance activities and service standards, to reflect the work undertaken with the current budget	Strategic Assets	Civil Assets, Civil Water and Operations	Ongoing
6	Update Transport Asset Management Plan when data changes or assessments realise a change in the renewal forecast	Strategic Assets	Civil Assets, Civil Water and Operations	Review annually
7	Condition assessment – regularly review condition data in order to ensure the data used to forecast renewals is current and useful	Strategic Assets	Civil Assets, Civil Water and Operations	Ongoing

References

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