

Devonport City Council



The City with Spirit



Transport Asset Management Plan 2017-2022

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1 EXECUTIVE SUMMARY

This asset management plan (AM Plan) details information about transport infrastructure assets including actions required to provide an agreed level of service in the most cost-effective manner while outlining associated risks. The plan defines the services to be provided, how the services are provided and what funds are required to provide the services over a 10-year planning period.

The transport network comprises the following assets (as at 31 October 2017):

- Bridges: 15
- Footpaths: 263km
- Formations: 85km
- Kerb & Channel: 323km
- Parking Equipment: 320 items
- Pavements: 799,109m²
- Wearing Surfaces: 265km
- Other Transport Infrastructure Assets: (retaining walls, signage, traffic control, light poles)

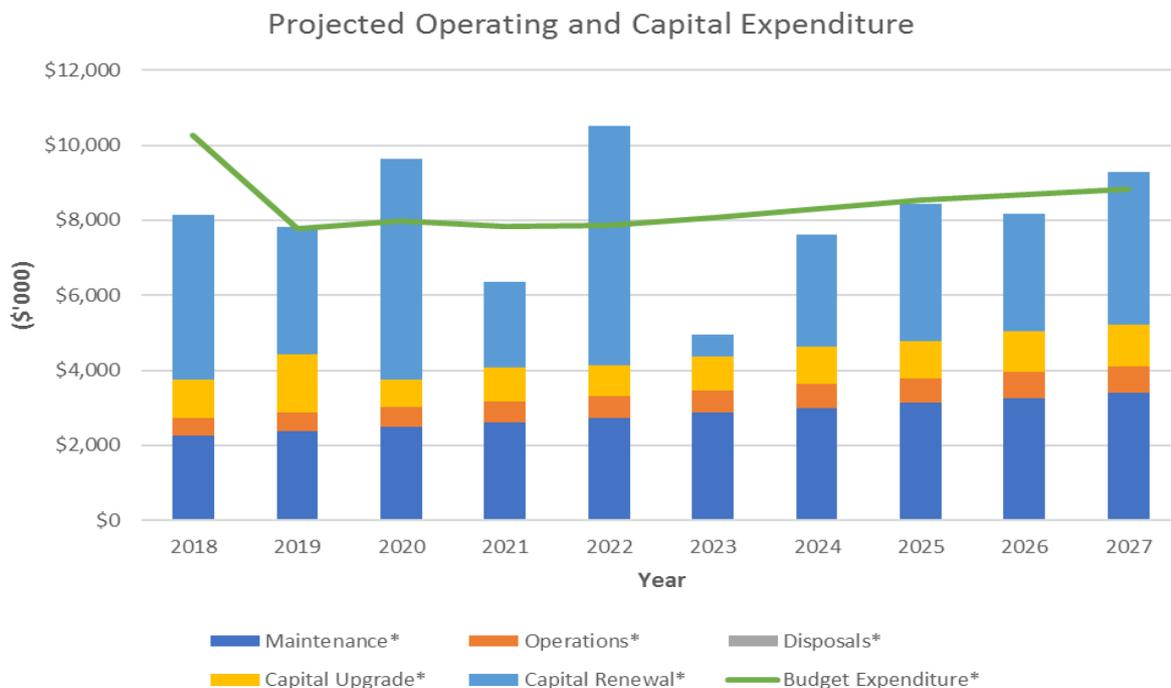
These transport infrastructure assets have a combined replacement value of \$285,231,426.

Our present funding levels for transport assets are sufficient to continue to provide existing transport services at current levels in the medium term.

The projected outlays necessary to provide the services covered by this AM Plan includes operations, maintenance, renewal and upgrade of existing assets over the 10-year planning period is \$80,918,000 or \$8,092,000 on average per year.

Estimated available funding for this period is \$84,103,000 or \$8,410,000 on average per year as per the long term financial plan or budget forecast. This is \$104% of the cost to sustain the current level of service at the lowest lifecycle cost.

The allocated funding for assets leaves a surplus of \$318,000 on average per year of the projected expenditure required to provide transport services in the AM Plan compared with planned expenditure currently included in the Long Term Financial Plan. This is shown in the figure below (the values in the figure are in current, real dollars).



We plan to provide transport services for the following:

- Operation, maintenance, renewal and upgrade of bridges, footpaths, formations, kerb & channel, parking equipment, pavements, wearing surface and other infrastructure associated with transport services to meet service levels set in the annual budget.
- Major capital works in the 5 year planning period greater than \$300,000 include annual reseal program, Don Road/Nixon Street Traffic signals, Formby Road – Best Street/Stewart Street renewal, Holyman Street renewal, CBD streetscape improvements, William Street – Valley Road/Middle Road pavement reconstruction, North Fenton Street – Madden Street/Parker Street reconstruction, Torquay Road – west of John Street reconstruction.

We currently allocate enough funding to sustain these services at the desired standard or to provide all new services being sought.

The systems Council uses to manage assets include:

- Technology One Finance System
- Technology One Enterprise Suite - Asset

Assets requiring renewal/replacement are identified using the Asset Register data to project the renewal costs using acquisition year and useful life to determine the renewal year.

The next step resulting from this AM Plan to improve asset management practices is to implement an asset management system.

2. INTRODUCTION

2.1 Background

Asset management planning is a comprehensive process to ensure delivery of services from infrastructure is provided in a financially sustainable manner.

This AM Plan communicates the actions required for the management of transport assets (and services provided from these assets), compliance with regulatory requirements, and funding needed to provide the required levels of service over a 10-year planning period.

The AM Plan is to be read in conjunction with the Devonport City Council's key planning documents:

- Asset Management Policy
- Asset Management Strategy
- Road Network Strategy 2016
- Pedestrian Strategy 2016-2021
- Bike Riding Strategy 2015-2020
- Public Lighting Strategy
- Parking Strategy 2016
- Roads and Stormwater Service Level Document

The infrastructure assets covered by this AM plan are shown in Table 2.1. (as at 31 October 2017)

Table 2.1: Assets covered by this Plan

Asset Category	Dimension	Replacement Value
Bridges	15	\$3,804,000
Footpaths	263km	\$66,525,000
Formations	85km	\$21,518,000
Kerb & Channel	323km	\$43,788,000
Parking Equipment	320 items	\$1,317,000
Pavements	799,109m ³	\$114,155,000
Wearing Surfaces	265km	\$19,811,000
Other Infrastructure (retaining walls, signage, traffic control, light poles)	Various	\$14,313,000
TOTAL		\$285,231,000

2.2 Goals and Objectives of Asset Ownership

Council's goal in managing transport assets is to meet the defined level of service (as amended from time to time) in a financially sustainable manner. The key elements of infrastructure asset management are:

- Defining a level of service
- Monitoring performance
- Managing the impact of growth of the asset base and increased demand for services
- Managing whole of life costs
- Identifying, assessing and appropriately controlling risks
- Linking to Council's Long Term Financial Plan

Other references to the benefits, fundamentals principles and objectives of asset management are:

- International Infrastructure Management Manual 2015 1
- ISO 55000 Asset Management – Overview, principles and terminology

2.3 Core and Advanced Asset Management

This AM Plan is prepared as a 'core' asset management plan over a 10-year planning period. Core asset management is a 'top down' approach where analysis is applied at the system or network level. An 'advanced' asset management approach uses a 'bottom up' approach for gathering detailed asset information for individual assets.

¹ Based on IPWEA 2015 IIMM, Sec 2.1.3, p 2 | 13

3. LEVELS OF SERVICE

3.1 Community Research and Expectations

The Local Government Association of Tasmania (LGAT) conduct Community Satisfaction Surveys on a semi-regular basis. The last survey was conducted in 2013. The results compare community satisfaction from each Local Government areas for several services.

To complement the LGAT survey and gain a more detailed understanding of the expectations of the Devonport Community, Council have conducted their own Community Satisfaction Surveys. The last survey was conducted in 2014. At that time maintaining local roads rated high for important to local residence (4.65 out of 5) and above average for satisfaction rating (3.16 out of 5).

Prior to the annual budget deliberations, Council seeks input from the community. This gives the community an opportunity to provide feedback regarding where they would like Council to allocate budget funding. This feedback is for both new and renewal projects as well as maintenance funding.

Collection of community expectation and satisfaction levels on a regular basis will improve Council's understanding of the community requirements and expectations of Council's transport assets. Reviewing the questions asked for the budget consultation will give Council an annual indication if the Community's expectation regarding service delivery is being met.

Improvement:

- Review the questions for the budget consultation to gain an annual understanding of the community's expectation of service delivery relating to transport assets.

3.2 Strategic and Corporate Goals

This AM Plan is prepared under the direction of Devonport City Council's vision, mission, goals and objectives.

Our vision is:

"Devonport will be a thriving and welcoming regional City, living lightly by river and sea."

Our mission is:

"A commitment to excellence in leadership and service."

Relevant goals and objectives and how these are addressed in this asset management plan are:

Table 3.2: Goals and how these are addressed in this Plan

Goal No.	Goal	Strategy No.	Strategy	AM Plan Context
1	Living lightly on our environment	1.1.1	Lead and actively promote the adoption of practices that support the sustainable use of energy and other natural resources by Council, businesses and the community.	Natural resource input will be a consideration in selection of asset management decisions related to transport assets.
2	Building a unique city	2.3.1	Provide and maintain roads, bridges, footpaths, bike paths and car parks to appropriate standards.	Transport assets will be provided and maintained to balance community expectations, technical requirements and long term financial sustainability.

5	Practicing excellence in governance	5.5.2	Ensure comprehensive financial planning to meet sustainability requirements.	This asset management plan will be used to inform Council's long term financial plan.
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3.3 Legislative Requirements

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

Table 3.3: Legislative Requirements

Legislation	Requirement
<i>Local Government Act, 1993, Section 70B</i>	<p>Long-term strategic asset management plans</p> <p>(1) A council is to prepare a long-term strategic asset management plan for the municipal area.</p> <p>(2) A long-term strategic asset management plan is to relate to all assets that are within a class of assets specified in an order under section 70F(3) to be major assets.</p> <p>(3) A long-term strategic asset management plan is to be in respect of at least a 10 year period.</p> <p>(4) A long-term strategic asset management plan for a municipal area is to –</p> <ul style="list-style-type: none"> (a) be consistent with the strategic plan for the municipal area; and (b) refer to the long-term financial management plan for the municipal area; and (c) contain at least the matters that are specified in an order made under section 70F as required to be included in a long-term strategic asset management plan.
<i>Local Government Act, 1993, Section 70F</i>	<p>Orders determining minimum contents of plans, &c., and classes of assets</p> <p>(1) The Minister, by order, may specify the matters that are required to be included in –</p> <ul style="list-style-type: none"> (a) a long-term financial management plan; or (b) a long-term strategic asset management plan; or (c) a financial management strategy; or (d) an asset management strategy; or (e) an asset management policy. <p>(2) A matter may be included in a plan, policy or strategy referred to in subsection (1), even though the matter is not specified in an order under subsection (1) as required to be included in such a plan, policy or strategy.</p> <p>(3) The Minister, by order, may specify the classes of assets that are to be taken to be major assets for the purposes of section 70B.</p> <p>(4) The Minister is to consult with councils as to the matters to be included in an order under this section.</p>
<i>Local Government Highways Act 1982, Section 21</i>	<p>General responsibility of corporations</p> <p>(1) Subject to this Act, the corporation of a municipality is charged with the duty of maintaining the local highways in the municipality that are maintainable by the corporation as shown on its municipal map, and, in any particular case, it shall discharge that duty in such manner as, having regard to all the circumstances of the case, it considers practicable and appropriate.</p>

Legislation	Requirement
<p><i>Roads and Jetties Act 1935, Section 11</i></p>	<p>Where in a city, town or village there is a footpath on one side or both of a State highway or subsidiary road –</p> <p>(a) the Minister is required to maintain and reconstruct –</p> <ul style="list-style-type: none"> (i) the carriageways and the surface lying between them, in the case of 2 paved carriageways divided by a median strip; (ii) the carriageway and the overtaking lane, in the case of a single paved carriageway incorporating an overtaking lane; (iii) a paved carriageway not exceeding 7.4 metres in width, in the case of a single undivided paved carriageway; (iv) a paved carriageway not exceeding 4.3 metres in width, in the case of a carriageway providing a traffic lane to a traffic interchange; and (v) the culverts and bridges over which the State highway or subsidiary road runs; and <p>(b) the remainder of the State highway or subsidiary road, including drainage and shoulders but not culverts and bridges, shall be maintained and reconstructed by the local authority.</p>
<p><i>Heavy Vehicle National Law (Tasmania) Act 2013, Section 16</i></p>	<p>The following are declared to be the road manager for a road in this jurisdiction for the purposes of the Heavy Vehicle National Law (Tasmania):</p> <ul style="list-style-type: none"> (a) for a State highway or subsidiary road within the meaning of the <i>Roads and Jetties Act 1935</i>, the Minister administering that Act; (b) for a road controlled by a local government authority, the local government authority.

3.4 Customer Levels of Service

Customer Levels of Service measure how the customer receives the service and whether value to the customer is provided. Council has defined some customer levels of service in the following documents:

- Road Network Strategy 2016
- Pedestrian Strategy 2016-2021
- Public Lighting Strategy
- Roads and Stormwater Service Level Document

However, the customer levels of service are not fully defined and have not been matched with community expectations in a formal way.

The levels of service measures in these documents include:

- Quality** How good is the service ... *what is the condition or quality of the service? eg road condition*
- Function** Is it suitable for its intended purpose *Is it the right service? eg footpath grades and crossfall*
- Capacity/Use** Is the service over or under used ... *do we need more or less of these assets? eg footpath widths, CBD parking supply*

Formalisation of Customer Levels of Service and assessment of the assets against these levels of service to identify over or under servicing will better align the services provided by transport assets with community expectation and needs and assist in prioritizing provision of new and upgraded assets.

Improvement:

- Formalise Customer Levels of Service across Transport assets
- Implement a program of assessment against Customer Levels of Service

3.5 Technical Levels of Service

Technical Levels of Service are the technical measurements and specifications relating to allocation of resources and physical work to best achieve the desired customer outcomes and demonstrate effective performance.

Council often refers to these as 'Service Levels' or 'Maintenance Service Levels'

Technical levels of service are achieved through work under Council's capital and operational budgets, including:

- Operations – the regular activities to provide services (eg inspections, street sweeping, street lighting energy costs),
- Maintenance – activities that enable an asset to provide service for its planned life and may be proactive (eg unsealed road grading) or reactive (eg patching),
- Renewal – activities that return the service capability of an asset up to that which it had originally (eg road resurfacing and pavement reconstruction), and
- New – the activities to provide a higher level of service (eg widening a road, sealing an unsealed road) or a new service that did not exist previously (eg a new footpath).

Operations and Maintenance are carried out under Council's operational budget. Renewal and new project work is carried out under Council's capital works program.

Council's technical levels of service for operations and maintenance are defined in the Roads and Stormwater Service Level Document and are reviewed annually.

4. FUTURE DEMAND

4.1 Demand Drivers

Demand drivers that may impact future service delivery and use of assets were identified and are documented as:

- Total population
- Car ownership and driver's licence ownership rates
- Crash data (current and future)
- Public transport availability and utilisation
- Change of land use
- Local economic conditions, including unemployment rate and fuel price

4.2 Demand Forecasts

Only some types of transport assets are impacted by changes in demand. These are shown in table 4.2 below.

Table 4.2: Demand Forecasts on Transport Assets

Asset Category	Impacted by changes in demand	Demand Forecast
Bridges	Yes	1% cumulative traffic growth, increased axle loads
Footpaths	Yes	unknown
Formations	No	
Kerb & Channel	No	
Parking Equipment	No	
Pavements	Yes	1% cumulative traffic growth
Wearing Surfaces	Yes	1% cumulative traffic growth
Other Infrastructure (retaining walls, signage, traffic control, light poles)	No	

Council undertakes traffic counts and modelling of major intersections to determine the current performance of the road network and identify locations where demand (traffic volume) is approaching the capacity of the road or intersection.

Developing an improved system of demand data collection and management will enable more accurate forecasting of changes in demand for key transport assets. It is likely that this can be incorporated into an asset management system.

Improvement:

- Implement an asset management system

4.3 Demand Management Plan

Demand for most of Council's transport assets is nowhere near the capacity that the assets provide. Traffic on most roads is generally free flowing and most intersections operate a level of service A or B². However, monitoring of major roads and intersections have identified the following locations that may require a demand management in future:

² Guide to Traffic Management Part 3: Traffic Studies and Analysis, Austroads 2013.

Roads:

- Formby Road
- William Street
- Steele Street
- Devonport Road (including Horsehead Creek bridge)
- Tarleton Street (including Bishton Creek culvert)

Intersections:

- Formby Road and Steele Street
- Formby Road and Stewart Street
- Formby Road and Best Street
- Formby Road, Oldaker Street, Rooke Street and Victoria Parade
- William Street and Middle Road
- William Street and Steele Street
- William Street and Best Street
- William Street and Oldaker Street
- Steele Street and Rooke Street
- All interfaces with the State Government road network

A demand management plan will be required once these key assets reach capacity. The plan should identify strategies that will delay or defer the need for new/upgrade projects while minimising the effect on the customer levels of service provided. If the threshold for a new/upgrade project is met, then work to meet the increased demand is shown in Table 4.3.

Table 4.3: Possible responses to increased demand

Asset Category	Demand Forecast	Possible DCC response
Bridges	1% cumulative traffic growth, increased axle loads	Increase strength
Footpaths	unknown	Increase width
Pavements	1% cumulative traffic growth	Increase strength (thickness), Increase width (for extra lane)
Wearing Surfaces	1% cumulative traffic growth	Increase durability (renew) Increase width (for extra lane)

Improvement:

- Develop a demand management plan (as required)

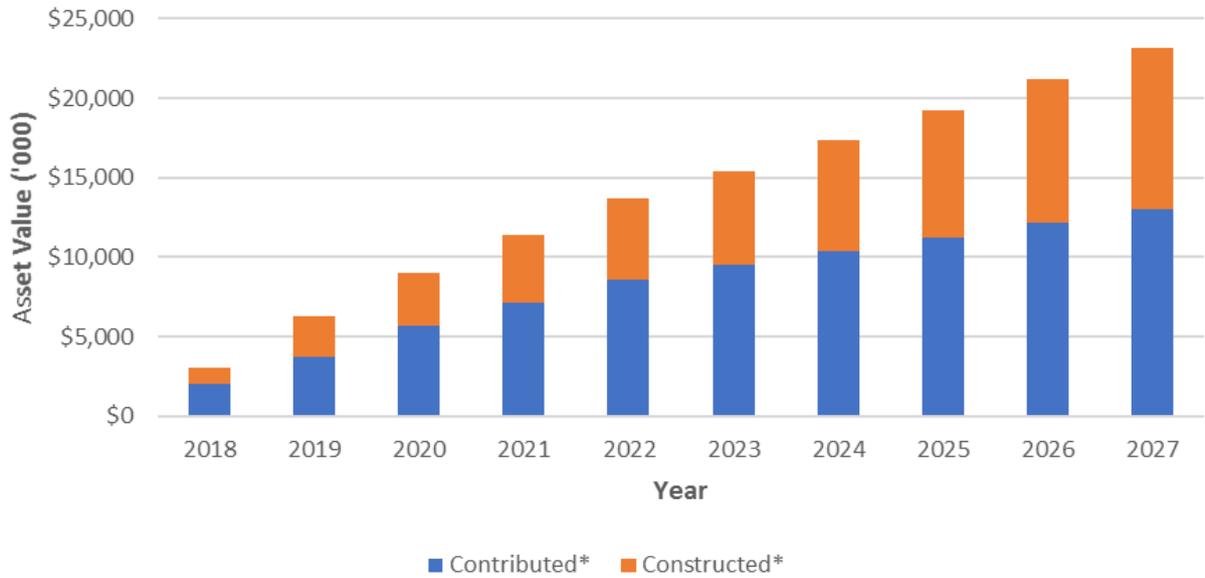
4.4 Asset Programs to meet Demand

The new assets required to meet demand can be constructed as part of Council's capital works program or may be donated or acquired from private developers.

The projection of the cumulative value of additional asset is shown in Figure 1. This projection is based on:

- Contributed assets - as an average of past subdivisional assets donated to Council.
- Constructed assets - the projected capital upgrades and new assets detailed in the forward capital works program.

Figure 1: Upgrade and New Assets to meet Demand – (Cumulative)



- Figure 1 represents the expected value on a cumulative basis of new assets that will be contributed and constructed and upgraded. Contributed assets, generally donated subdivisions are based on the average donations from 2013 – 2017 in years one to three and minimal growth past this at 0.3%. Expected minimal growth in population (figures used from LIVING CITY proposals). Values are in current (real) dollars.

Acquiring these new assets will commit ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required. These future costs are identified and considered in developing forecasts of future operations, maintenance and renewal costs for inclusion in the long term financial plan further in Section 5.

5. LIFECYCLE MANAGEMENT PLAN

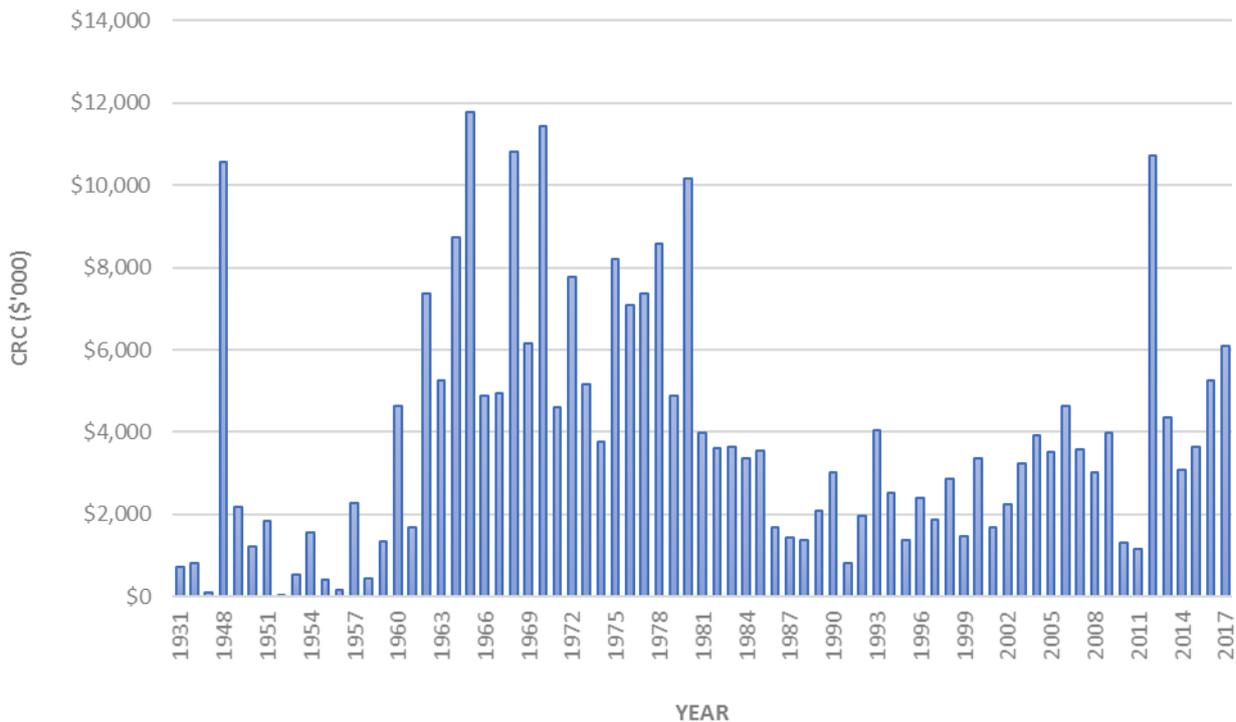
The lifecycle management plan details how Council plans to manage and operate the assets at the agreed levels of service (defined in Section 3) while managing life cycle costs.

5.1 Background Data

5.1.1 Physical parameters

Council's transport assets include a mixture of medium and long-life assets. The age profile of the assets included in this AM Plan are shown in Figure 2 (values are in current dollars).

Figure 2: Asset Age Profile



The 'spike' in 1948 represents the older assets with an unknown commission date assumed to be 1948 or earlier. The peak between 1960 and 1980 is reflective of a period of population growth for Devonport. The peak in 2011 represents the renewal of Formby Road, which was a large project carried out over and above the regular capital expenditure budget of that era.

5.1.2 Asset capacity and performance

Council has adopted some key performance criteria for transport assets in strategic documents, which are reflective of Customer Levels of Service including;

- Road Network Strategy 2016 (road widths, lane widths etc)
- Pedestrian Strategy 2016-2021 (footpath widths, crossfalls, grades etc)
- Bike Riding Strategy 2015-2020 (bike lanes, path widths etc)
- Public Lighting Strategy (lighting levels)

A small number of assessments have been undertaken including;

- Public lighting levels at night time crash locations
- Pedestrian facilities in the CBD

Development of a more comprehensive assessment program to identify deficiencies against Customer Levels of Service will allow improved comparison and prioritisation of projects competing for 'new' project funding in Council's capital works program.

An asset management system is required to effectively manage data related to Customer Levels of Service.

<p>Improvement:</p> <ul style="list-style-type: none"> • Implement an asset management system

5.1.3 Asset condition

Asset condition data is collected as part of various programs on certain asset types (retaining walls, poles, major pavement assets). Condition data is not managed in any meaningful way and is not used effectively to inform asset renewal programs.

Implementation of an asset management system will allow storage, interrogation and management of key asset data, including condition.

Development of a full program of asset condition assessments will result in major improvements in the reliability of asset data, notably projected renewal dates. Therefore, the projected asset renewal funding requirements in the forward capital works program will be more accurate. This then improves the reliability of Council's Long Term Financial Plan.

Asset condition assessment processes should be developed using IPWEA practice notes where available.

<p>Improvement:</p> <ul style="list-style-type: none"> • Implement an asset management system • Implement a program of asset condition assessments

5.2 Operations and Maintenance Plan

Operations include regular activities to provide services such as safety and amenity (eg inspections, street sweeping, street lighting energy costs).

Maintenance includes activities that enable an asset to provide service for its planned life and may be proactive (eg unsealed road grading) or reactive (eg patching).

Operations and maintenance expenditure is shown in Table 5.2.1.

Table 5.2.1: Operations and Maintenance Expenditure Trends

Year	Operations and Maintenance Budget \$
2016-17	\$2,616,694
2017-18	\$2,694,312
2018-19	\$2,775,141

Operational and maintenance expenditure levels appear to be sufficient to meet projected service levels. However, no objective assessment of funding levels has been undertaken. To confirm required projected operational and maintenance expenditure the following activities need to be completed over a 2 - 3 year period;

- Completion of maintenance inspections in accordance with Council's Service Level Documents
- Generation of work requests resultant from maintenance inspections
- Performance reporting on completion of work requests in timeframes specified by Council's Service Level Document
- Implementation of program of asset condition assessments to determine overall condition of asset class

Inadequate funding of operations and maintenance, inefficient use of resources, or incorrect prioritisation of work can result in asset condition deteriorating beyond a level where it can be addressed through maintenance. Beyond this point, more expensive capital renewal is required. This creates an overall reduction in asset condition or requires increased expenditure, neither of which is a desired outcome.

Until these processes are embedded, and reporting can be provided consistently, there is uncertainty around the adequacy of current funding of operations and maintenance levels and future projection of required funding.

- Improvement:**
- Objectively assess operations and maintenance funding levels

5.2.2 Summary of future operations and maintenance expenditures

Future operations and maintenance expenditure is shown in Figure 4. This graph shows an increase as it assumes that the asset base will increase (as shown in Figure 1).

Figure 4: Projected Operations and Maintenance Expenditure

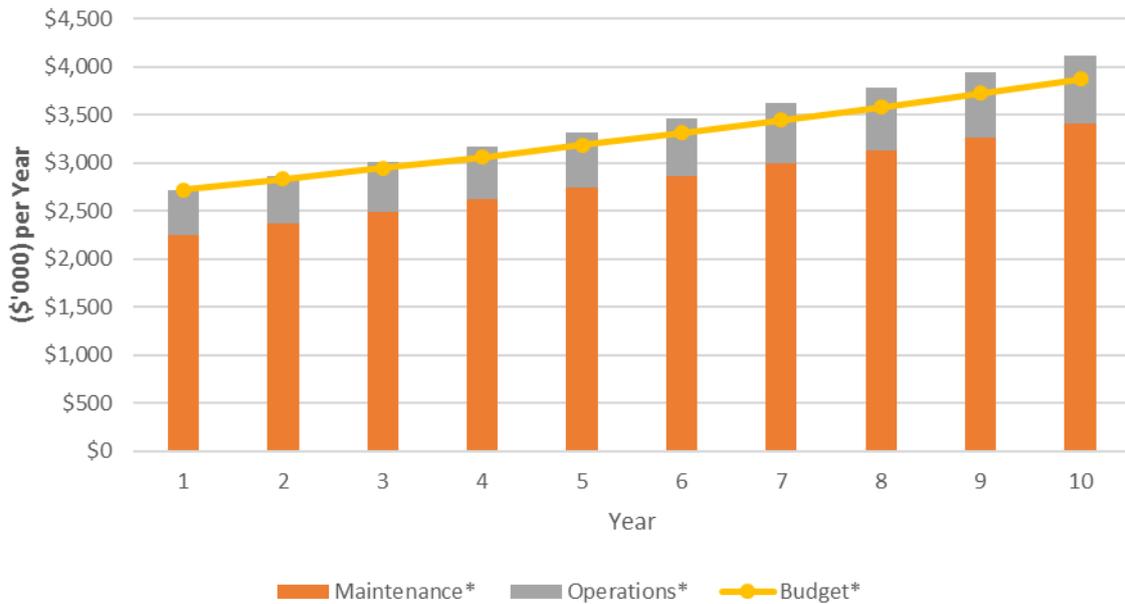
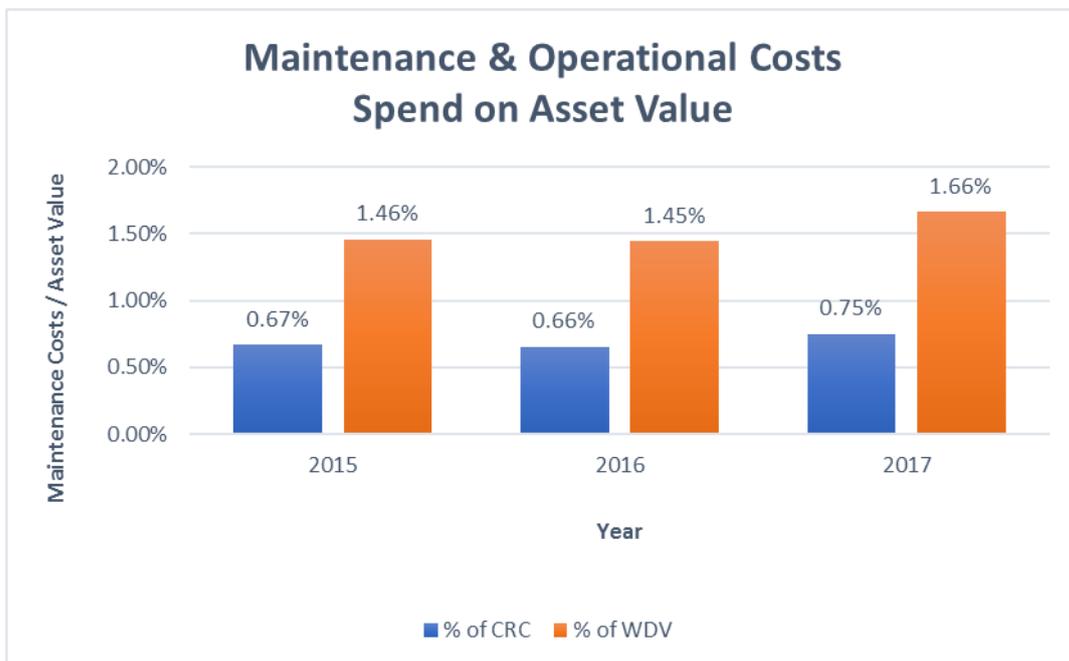
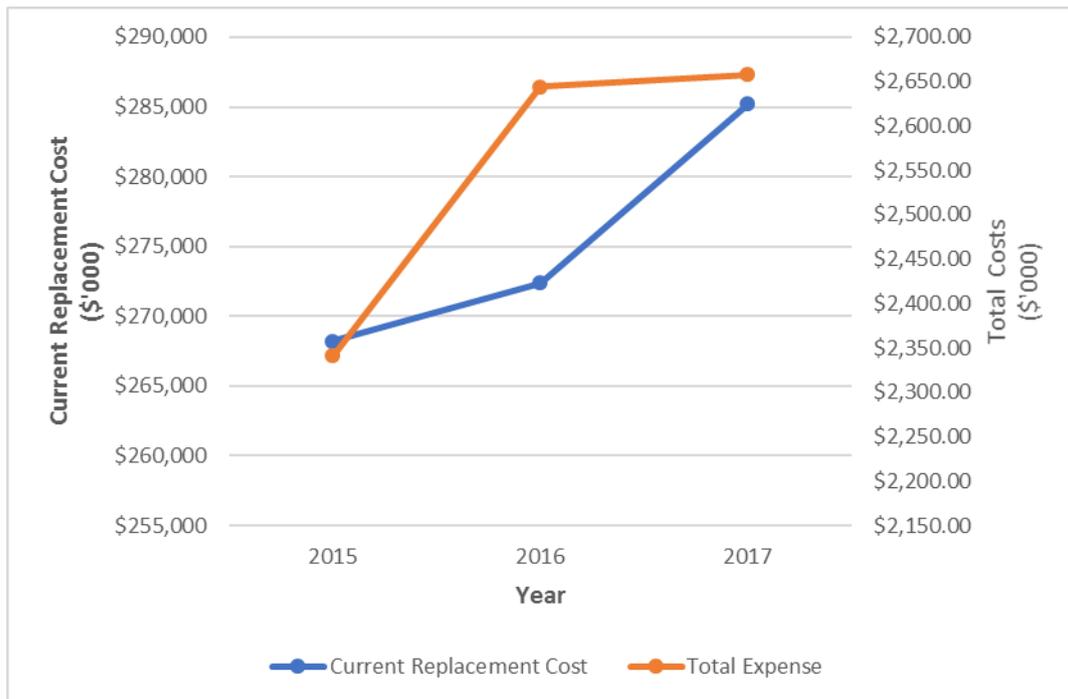


Figure Values are in current (real) dollars.

Maintenance and operational cost as a percentage of total asset value; current replacement cost and written down value is show in the following graphs. The shows funding trends in context of a growing asset base.





5.2.3 Deferred Maintenance

Deferred maintenance is work that is required to meet Council's technical levels of service but is unable to be completed within the required timeframe due to budget constraints.

Council does not defer maintenance in normal circumstances. However, it may be required following natural disasters (flood, fire etc) or following periods of accelerated deterioration (eg an extended wet period which facilitates pavement and wearing surface damage).

Council has a number of options in these situations including:

- Deferring the identified maintenance, temporarily lowering the level of service
- Reprioritising maintenance work, resulting in different maintenance work being deferred
- Increasing the maintenance budget
- Funding the work from the capital budget, if the required thresholds can be met

The most appropriate option depends on the type of work and the risks of each option should be assessed.

5.3 'Renewal' Projects

Renewal expenditure is major work which restores, rehabilitates, replaces or renews an existing asset to its original condition.

Council's renewal projects have three main drivers:

- Asset renewal – based on condition (but may include 'new' elements to increase capacity)
- Safety and Risk – assets are renewed to address a specific risk (these projects may also have 'new' elements)
- Prioritisation – high profile projects that may have local or regional significance (these projects may also have 'new' elements)

Renewal projects in Council's forward capital works program are identified by the main project driver.

Currently, Council uses Asset Register data to project the renewal costs using acquisition year and useful life to determine the renewal year. Assets are inspected and expiry date adjusted once they are within 5 years of their nominal expiry date.

In future, moving to a system that uses capital renewal expenditure projections from external condition modelling systems (like an asset management system), will streamline the identification and prioritisation of renewal projects.

Council's current renewal plan – the forward capital works program – is only a five-year program. Extending this program to 10 years will provide more reliable data to Council's Long Term Financial Plan, as long as it is based on accurate asset condition and age data.

Improvement:

- Implement an asset management system
- Extend forward capital works program from 5 years to 10 years
- Refine forecast renewal and new/upgrade works in the forward works program
- Align forward works program to asset class

5.3.1 Renewal ranking criteria

Asset renewal and replacement is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (eg replacing a bridge to avoid reducing the load limit and impacting heavy vehicle operators), or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (eg renewing pavement and seal to address the roughness of a road).

Council does not use 'Renewal Priority Ranking Criteria' to prioritise renewal and replacement proposals. Instead, the following factors are considered, and engineering judgement applied:

- Asset condition
- Position in relevant asset hierarchy
- Risk to public safety
- Forecast future maintenance

Development of 'Renewal and Replacement Priority Ranking Criteria' that can compare and prioritise transport renewal projects of different types will improve the consistency and transparency of the forward capital works program.

Improvement:

- Develop and implement 'Renewal and Replacement Priority Ranking Criteria'

5.3.2 Summary of future renewal expenditure

The projected expenditure on renewal projects is shown in Figure 5. This data reflects the value of assets requiring renewal over the next 10 years, as listed in the asset register. In the long term, renewal expenditures are forecast to increase over time when the asset stock increases.

Variances will occur from year to year depending on the specific assets requiring renewal each year. It may also be preferable to 'smooth expenditure' to reduce large variances and ensure consistent and manageable workloads.

The projected capital renewal program is shown in Appendix A.

Figure 5: Projected Capital Renewal and Replacement Expenditure

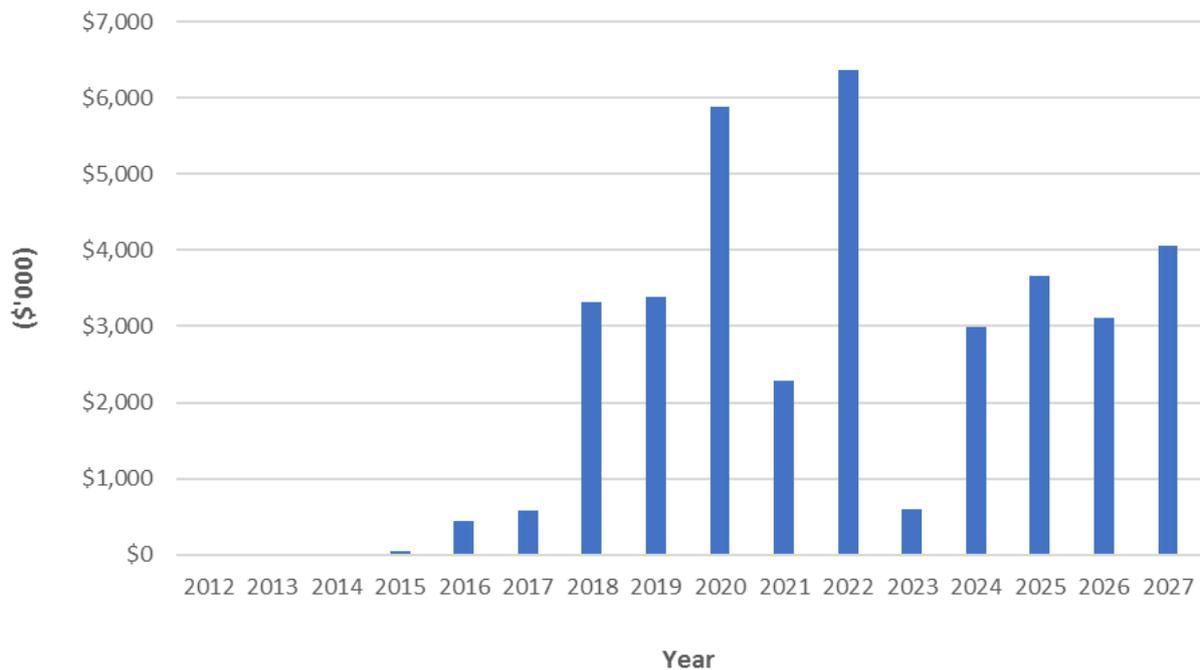


Figure 5 shows the projected capital renewal expenditure based on current replacement cost and on the data from Councils' asset register of useful life and resultant expiry date. All figures are shown in real values.

The remaining assets are still in service and therefore have a remaining useful life. Work to assess the condition of these assets and input this condition data into an asset management system will allow the expiry dates of these assets to be recalculated, vastly improving the accuracy of the projected capital renewal expenditure.

Improvement:

- Implement an asset management system

5.3.3 Deferred Renewal Projects

Deferred renewal projects are projects that are required to meet Council's technical levels of service but are unable to be completed within the required timeframe due to budget constraints.

Council does not defer renewal projects in normal circumstances, however it may be required following natural disasters (flood, fire etc).

Council has a number of options in these situations including;

- Deferring the identified project, temporarily lowering the level of service.
- Reprioritising renewal work, resulting in different renewal work being deferred
- Increasing the capital budget

The most appropriate option depends on the type of work and the risks of each option should be assessed.

Renewals and replacement expenditure in the capital works program will be accommodated in the long term financial plan. This is further discussed in Section 7.

5.4 'New' Projects

'New' projects are those that create a new asset that did not previously exist or works which will upgrade or improve an existing asset beyond its existing capacity.

Council's 'New' projects have three main drivers:

- Asset renewal – based on condition (but may include ‘new’ elements to increase capacity)
- Safety and Risk – new assets are created to address a specific risk (these projects may also have ‘renewal’ elements)
- Prioritisation – high profile projects that may have local or regional significance (these projects may also have ‘renewal’ elements)

‘New’ projects in Council’s forward capital works program are identified by the main project driver.

5.4.1 Selection criteria

‘New’ projects are identified from various sources such as community requests, proposals identified by strategic plans or partnerships with others. Candidate proposals are inspected to verify need and to develop a preliminary renewal estimate:

- Position in relevant asset hierarchy
- Value for money for Council (benefit cost ratio or similar)
- Projected utilisation

Development of ‘New Project Priority Ranking Criteria’ that can compare and prioritise ‘new’ transport projects of different types will improve the consistency and transparency of the forward capital works program.

Improvement:

- Develop and implement ‘New Project Priority Ranking Criteria’
- Align forward works program to asset class

5.4.2 Summary of future ‘new’ project expenditure

Projected ‘new’ project expenditures are summarised in Figure 6. The projected upgrade/new capital works program is shown in Appendix A.

Figure 6: Projected Capital Upgrade/New Asset Expenditure

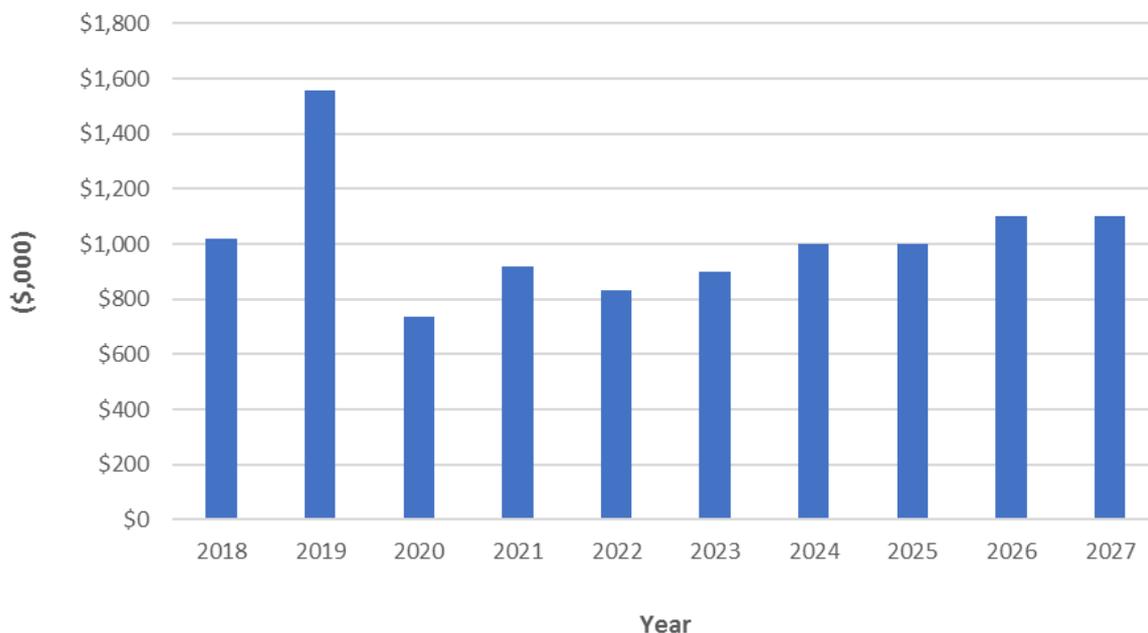


Figure 6 shows the projected capital upgrade/new asset expenditure detailed in the Forward Capital Works Program. All amounts are shown in real values (net of inflation). Values are in current (real) dollars.

The projected ‘spike’ in 2019 is largely due to CBD streetscape upgrades programmed for that year. The programming of this type of project is driven by outside factors, including political

motivations, community expectations, availability of external funding and Council's overall financial position.

Projects can be added, deleted, deferred and brought forward during annual budget deliberations, sometimes without consideration for the long term financial plan. Therefore Figure 6 may not be a reliable projection.

Construction of new assets will commit the funding of ongoing operations, maintenance and renewal costs.

Council's current 'new' project plan – the forward capital works program – is only a 5-year program. Extending this program to 10 years will provide more reliable data to Council's Long Term Financial Plan.

Improvement:

- Extend forward capital works program from 5-years to 10-years

5.5 Disposal Plan

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation.

Council has identified the following Transport asset for disposal:

- Best Street car park (excluding salvageable items) – due to sale of land

5.6 Combined Projected Expenditure

Projected operating and capital expenditures are summarised in Figure 7.

Figure 7: Projected Operating and Capital Expenditure

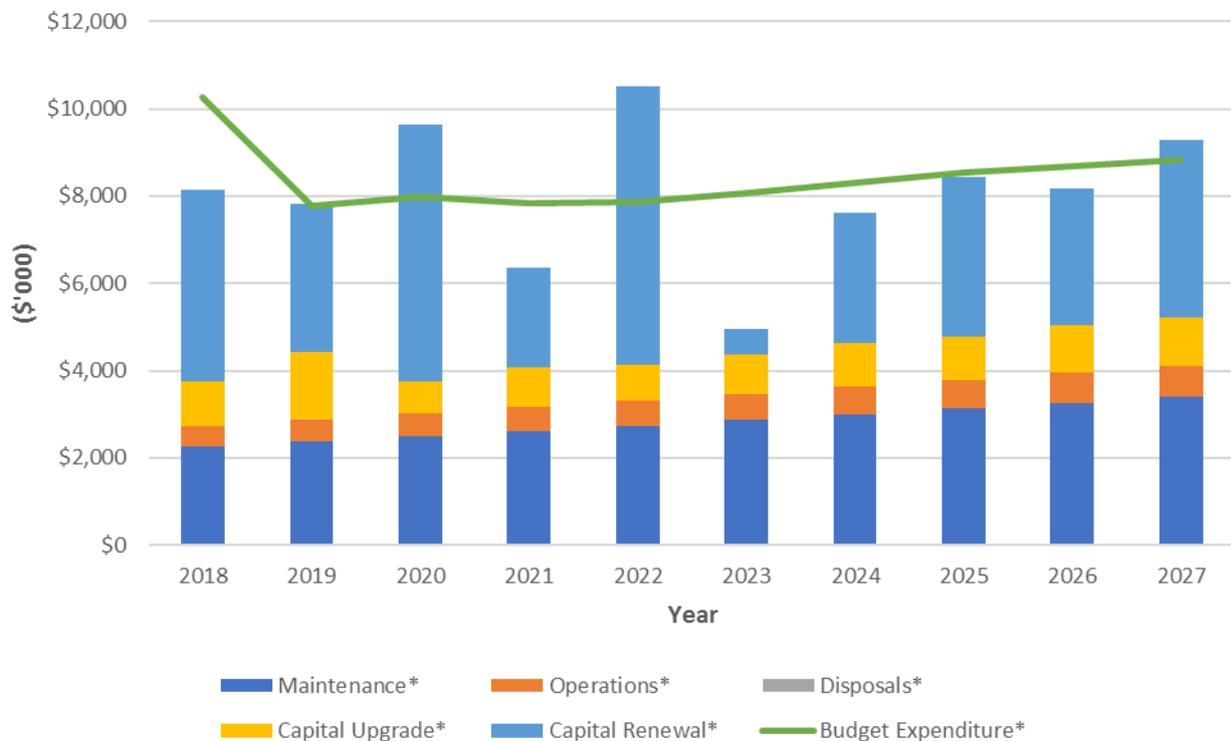


Figure 7 shows the total of projected operating (maintenance and operating) and capital (upgrade/new and renewal) expenditure. The year to year variance is a result of the yearly movements in the projected renewal value, whereas the maintenance and operating expenditure increases marginally each year allowing for contributed and new assets. Figure Values are in current (real) dollars.

6. RISK MANAGEMENT PLAN

The purpose of infrastructure risk management is to document the results and recommendations resulting from the periodic identification, assessment and treatment of risks associated with providing services from infrastructure, using the fundamentals of International Standard ISO 31000:2009 Risk Management – Principles and guidelines.

Risk Management is defined in ISO 31000:2009 as: 'coordinated activities to direct and control with regard to risk'³.

An assessment of risks associated with service delivery from infrastructure assets can identify critical risks that will result in loss or reduction in service from infrastructure assets or a 'financial shock'. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, develops a risk rating, evaluates the risk and develops a risk treatment plan for non-acceptable risks.

6.1 Critical Assets

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

Critical assets have been identified as;

Critical Asset(s)	Failure Mode	Impact
Pavement and wearing surface – all arterial roads	Pavement failure	Customer dissatisfaction and financial loss
All Bridges	Failure of bridge/overflow of river banks	Financial loss for bridge replacement, public confidence loss
Off-street parking machines	Machine breakdown/out of order	Financial loss of parking fees and fines

By identifying critical assets and failure modes, investigative activities, condition inspection programs, maintenance and capital expenditure plans can be targeted at the critical areas.

6.2 Risk Assessment

Council does not undertake risk assessments at an asset class level. Future revisions of this AM Plan will consider undertaking risk assessments at an asset class level.

6.3 Infrastructure Resilience Approach

Council does not measure infrastructure resilience. Future revisions of this AM Plan may consider measuring infrastructure resilience.

6.4 Service and Risk Trade-Offs

Council does not analyse service and risk trade-offs. This AM Plan is based on balancing service performance, cost and risk to provide an agreed level of service from available resources in the long-term financial plan.

³ ISO 31000:2009, p 2

7. FINANCIAL SUMMARY

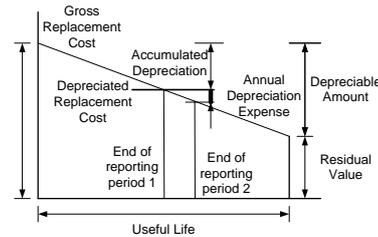
This section contains the financial requirements resulting from all the information presented in the previous sections of this AM Plan. The financial projections will be improved as further information becomes available on desired levels of service and current and projected future asset performance.

7.1 Financial Statements and Projections

7.1.1 Asset valuations

The best available estimate of the value of assets included in this AM Plan are shown below. Transport assets are valued at fair value.

Gross Replacement Cost	\$285,231,000
Depreciable Amount	\$285,231,000
Depreciated Replacement Cost ⁴	\$128,494,000
Annual Average Asset Consumption	\$4,004,000



7.1.2 Sustainability of service delivery

Two key indicators for service delivery sustainability that have been considered in the analysis of the services provided by Council's transport assets, these being the:

- asset renewal funding ratio, and
- medium term budgeted expenditures/projected expenditure (over 10 years of the planning period).

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio⁵ 103%

The Asset Renewal Funding Ratio is an important indicator and compares the forecasted renewal funding requirements identified in the AM Plan, to the funds included in the Long Term Financial Plan over the next 10 year period. The benchmark established by the Tasmanian Audit Office for the ratio is in a range between 90% and 100%.

The result above indicates Council is forecasting to provide for over 100% of asset renewal requirements based on the current asset data.

The renewal funding provided for in the 5-year capital program often reflects funding at a summary level, rather than at a detailed listing. Further refinement of the asset management process will allow Council to identify individual capital works in future years.

Medium term – 10-year financial planning period

This AM Plan identifies the projected operations, maintenance and capital renewal expenditures required to provide an agreed level of service to the community over a 10 year period. This provides input into 10-year financial and funding plans aimed at providing the required services in a sustainable manner.

These projected expenditures may be compared to budgeted expenditures in the 10-year period to identify any funding shortfall. In a core asset management plan, a gap is generally due to increasing asset renewals for ageing assets.

The projected operations, maintenance and capital renewal expenditure required over the 10 year planning period is \$7,076,000 on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is \$7,444,000 on average per year giving a 10 year funding surplus of \$368,000 per year. This surplus may not be

⁴ Also reported as Written Down Value, Carrying or Net Book Value.

⁵ AIFMM, 2015, Version 1.0, Financial Sustainability Indicator 3, Sec 2.6, p 9.

accurate as projects included in the forward works program and budgeted capital renewals are based on estimated costs and include some other asset classes, ie stormwater pipes, pits, manholes in an entire road reconstruction. Other costs may be included in the capital budget that cannot or will not be capitalised. Continued development of the forward works program is required for an accurate classification of these renewals.

This indicates 105% of the projected expenditures needed to provide the services documented in the AM Plan. This excludes upgrade/new assets.

Providing services from infrastructure in a sustainable manner requires the matching and managing of service levels, risks, projected expenditures and financing to achieve a financial indicator of approximately 1.0 for the first years of the AM Plan and ideally over the 10-year life of the Long Term Financial Plan.

Improvement:

- refer to section 8.2

7.1.3 Projected expenditures for long term financial plan

Table 7.1.2 shows the projected expenditures for the 10 year Long Term Financial Plan.

Expenditure projections are in 2017 real values.

Table 7.1.2: Projected Expenditures for Long Term Financial Plan (\$000)

Year	Operations (\$000)	Maintenance (\$000)	Projected Capital Renewal (\$000)	Capital Upgrade/ New (\$000)	Disposals (\$000)
2018	\$470	\$2,251	\$4,416	\$1,017	\$0
2019	\$495	\$2,370	\$3,388	\$1,558	\$0
2020	\$521	\$2,494	\$5,879	\$736	\$0
2021	\$547	\$2,618	\$2,279	\$919	\$0
2022	\$572	\$2,742	\$6,367	\$831	\$0
2023	\$599	\$2,869	\$ 588	\$900	\$0
2024	\$625	\$2,996	\$2,990	\$1,000	\$0
2025	\$653	\$3,127	\$3,668	\$1,000	\$0
2026	\$681	\$3,264	\$3,115	\$1,100	\$0
2027	\$711	\$3,406	\$4,056	\$1,100	\$0

7.2 Funding Strategy

Funding for assets is provided from Council's operational budget and Long Term Financial Plan.

Council's financial strategy determines how funding will be provided, whereas the AM Plan communicates how and when this will be spent, along with the service and risk consequences of differing options.

7.3 Valuation Forecasts

Asset values are forecast to increase as additional assets are added.

Additional assets will generally add to the operations and maintenance needs in the longer term, as well as the need for future renewal. Additional assets will also add to future depreciation forecasts.

7.4 Key Assumptions Made in Financial Forecasts

This section details the key assumptions made in presenting the information contained in this AM Plan. It is presented to enable readers to gain an understanding of the levels of confidence in the data behind the financial forecasts.

Key assumptions made in this AM Plan are:

- Asset age is inversely proportional to asset condition. That is, condition deteriorates linearly over from 'new' to 'failure' over the designated standard asset life.
- Standard assets lives applied to transport assets are a reasonable approximation of the average life of the assets.
- The inventory of assets in the asset register is a reasonable approximation of the asset stock (ie there are not a significant number of assets missing from the register)

7.5 Forecast Reliability and Confidence

The expenditure and valuations projections in this AM Plan are based on best available data. Currency and accuracy of data is critical to effective asset and financial management. Data confidence is classified on a 5 level scale⁶ in accordance with Table 7.5.

Table 7.5: Data Confidence Grading System

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

The estimated confidence level for reliability of data used in this AM Plan is considered to be **C – uncertain**. Asset data held in the asset register including financial and attribute data is reliable, however limited condition assessment data has been collected, analysed and documented, therefore uncertain or unknown.

Improved confidence will be delivered through the establishment and delivery of an asset condition assessment program and management of condition data in an asset management system.

Improvement:

- Implement an asset management system
- Establish an asset condition assessment program

⁶ IPWEA, 2015, IIMM, Table 2.4.6, p 2 | 71.

8. PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices⁷

8.1.1 Accounting and financial data sources

The asset data sources used for the development of this AM Plan included Council's finance system, forward works program and budgets.

8.1.2 Asset management data sources

The asset data sources used for the development of this AM Plan included Council's finance system and asset management register Technology One.

8.2 Improvement Plan

The asset management improvement plan generated from AM Plan is shown in Table 8.1.

Table 8.1: Improvement Plan

Action No	Action	AM Plan Section	Responsibility	Resources Required	Timeline
1	Implement an asset management system	4.2 5.1.2 5.1.3 5.3 5.3.2 7.5	Infrastructure & Works	Opex	Year 1
2	Inspect 'expired' assets still in service	5.3.2	Infrastructure & Works	Opex	Year 1
3	Establish an asset condition assessment program	5.1.3 7.5	Infrastructure & Works	Opex	Year 1-2
4	Extend forward capital works program to 10 years	5.3 5.4.2	Infrastructure & Works	Opex	Year 2
5	Develop forward capital works program to classify renewals and new into all asset classes	7.1.1	Infrastructure & Works	Opex	
6	Develop and implement 'Renewal Priority Ranking Criteria'	5.3.1	Infrastructure & Works	Opex	Year 2-3
7	Develop and implement 'New Project Priority Ranking Criteria'	5.4.1	Infrastructure & Works	Opex	Year 2-3
8	Implement program of customer research activities	3.1	Infrastructure & Works	Opex	Year 2-3
9	Formalise Customer Levels of Service across Transport assets	3.4	Infrastructure & Works	Opex	Year 3-4
10	Objectively assess operations and maintenance funding levels	5.2	Infrastructure & Works	Opex	Year 4-5
11	Implement a program of assessment against Customer Levels of Service	3.4 5.1.2	Infrastructure & Works	Opex	Year 4-5
12	Develop a demand management plan (as required)	4.3	Infrastructure & Works	Opex	Year 5-10

⁷ ISO 55000 Refers to this the Asset Management System

8.3 Monitoring and Review Procedures

This AM Plan will be reviewed during annual budget planning processes and amended to show any material changes in service levels and/or resources available to provide those services as a result of budget decisions. A status update report on the progress of the actions from section 8.2 Improvement plan will be reported to Council annually.

The AM Plan will be updated annually to ensure it represents the current service level, asset values, projected operations, maintenance, capital renewal and replacement, capital upgrade/new and asset disposal expenditures and projected expenditure values incorporated into the long term financial plan.

The AM Plan has a life of 5-years.

8.4 Performance Measures

The effectiveness of the AM Plan can be measured in the following ways:

- The degree to which the required projected expenditures identified in this AM Plan is incorporated into the Long Term Financial Plan,
- The degree to which 1-5 year detailed works programs, budgets, business plans and corporate structures take into account the 'global' works program trends provided by the AM Plan,
- The degree to which the existing and projected service levels and service consequences (what we cannot do), risks and residual risks are incorporated into the Strategic Plan and associated plans,
- The Asset Renewal Funding Ratio achieving the target of 1.0.

9. REFERENCES

- IPWEA, 2006, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
- IPWEA, 2008, 'NAMS.PLUS Asset Management', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/namsplus.
- IPWEA, 2015, 2nd edn., 'Australian Infrastructure Financial Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/AIFMM.
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- IPWEA, 2012 LTFP Practice Note 6 PN Long Term Financial Plan, Institute of Public Works Engineering Australasia, Sydney
- Strategic Plan 2009 – 2030 (2014 review)
- Asset Management Policy
- Asset Management Strategy
- Road Network Strategy 2016
- Pedestrian Strategy 2016-2021
- Public Lighting Strategy
- Parking Strategy 2016
- Roads and Stormwater Service Level Document

10. APPENDICES

Appendix A Forward Works Program

Appendix B Budgeted Expenditures Accommodated in Long Term Finance Plan

Appendix A - Forward Works Program

Please see 2018-19 Annual Plan located at <http://www.devonport.tas.gov.au/Council/Publications-Plans-Reports/Annual-Plan-Estimates> to view the 5 year Capital Works Program

Appendix B - Budgeted Expenditures Accommodated in Long Term Finance Plan

NAMS.PLUS3 Asset Management Devonport CC

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Transport 2018_S1_V2

Asset Management Plan



Transport 2018

First year of expenditure projections **2018** (financial yr ending)

Asset values at start of planning period

Current replacement cost	\$285,231 (000)
Depreciable amount	\$285,231 (000)
Depreciated replacement cost	\$128,494 (000)
Annual depreciation expense	\$4,004 (000)

Calc CRC from Asset Register

\$285,231 (000)

This is a check for you.

Operations and Maintenance Costs for New Assets

	% of asset value
Additional operations costs	0.20%
Additional maintenance	0.95%
Additional depreciation	1.40%
Planned renewal budget (information only)	

You may use these values calculated from your data or overwrite the links.

Planned Expenditures from LTFP

20 Year Expenditure Projections

Note: Enter all values in current **2018** values

Financial year ending	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000

Expenditure Outlays included in Long Term Financial Plan (in current \$ values)

Operations

Operations budget	\$470	\$489	\$508	\$529	\$550	\$572	\$595	\$618	\$643	\$669
Management budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
AM systems budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total operations	\$470	\$489	\$508	\$529	\$550	\$572	\$595	\$618	\$643	\$669

Maintenance

Reactive maintenance budget	\$2,251	\$2,341	\$2,435	\$2,532	\$2,633	\$2,739	\$2,848	\$2,962	\$3,081	\$3,204
Planned maintenance budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Specific maintenance items budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total maintenance	\$2,251	\$2,341	\$2,435	\$2,532	\$2,633	\$2,739	\$2,848	\$2,962	\$3,081	\$3,204

Capital

Planned renewal budget	\$6,522	\$3,394	\$4,312	\$3,844	\$3,851	\$3,900	\$3,950	\$4,000	\$4,000	\$4,000
Planned upgrade/new budget	\$1,017	\$1,558	\$736	\$919	\$831	\$850	\$900	\$950	\$950	\$950

Non-growth contributed asset value

	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
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Asset Disposals

Est Cost to dispose of assets	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Carrying value (DRC) of disposed assets	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Additional Expenditure Outlays Requirements (e.g from Infrastructure Risk Management Plan)

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Additional Expenditure Outlays required and not included above	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Operations	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Maintenance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Capital Renewal	to be incorporated into Forms 2 & 2.1 (where Method 1 is used) OR Form 2B Defect Repairs (where Method 2 or 3 is used)									
Capital Upgrade	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
User Comments #2										

Forecasts for Capital Renewal using Methods 2 & 3 (Form 2A & 2B) & Capital Upgrade (Form 2C)

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Forecast Capital Renewal from Forms 2A & 2B	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Forecast Capital Upgrade from Form 2C	\$1,017	\$1,558	\$736	\$919	\$831	\$900	\$1,000	\$1,000	\$1,100	\$1,100