Brighton Council

Asset Management Plan
Transport

FEBRUARY 2021

Brighton going places

We acknowledge the traditional owners who once walked this country: the Mumirimina people.

The Mumirimina belonged to the Oyster Bay tribe. This was the largest tribe in Tasmania and covered 8000 square kilometres. kutalayna levee in Brighton was a significant meeting place where hundreds of generations of Aboriginal families hunted, gathered, corroboreed, camped and traded.

In the course of colonisation, dispossession of the Mumirimina was early, rapid and extensive.

We acknowledge the Tasmanian Aboriginal Community today as the continuing custodians of this land, and pay our respects to Elders past and present. Through our words and actions we strive to build a community that reflects and respects the history and hopes for all the people of Brighton.

Document Control	Asset Management Plan				
Document ID :					
Rev No	**Date**	**Revision Details**	**Author**	**Reviewer**	**Approver**
A	Sep 2012	Complete AMP	GB	HM	HM
B	July 2013		GB	HM	HM
V3	August 2020	Update	HM	HM	HM

The entity can choose either template to write/update their plan regardless of their level of asset management maturity and in some cases may even choose to use only the Executive Summary.

The illustrated content is suggested only and users should feel free to omit content as preferred (e.g. where info is not currently available).

This Asset Management Plan may be used as a supporting document to inform an overarching Strategic Asset Management Plan.

Contents

1.0 EXECUTIVE SUMMARY

1.1 The Purpose of the Plan

This Asset Management Plan (AM Plan) details information about infrastructure assets with 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 over the 20 year planning period. The AM Plan will link to a Long-Term Financial Plan which typically considers a 10 year planning period.

1.2 Asset Description

This plan covers the infrastructure assets that provide transport services.

The transport network comprises:

- Bridges
- Roads
- Kerb and Channel
- Footpaths

The above infrastructure assets have replacement value estimated at $127,390,845.

1.3 Levels of Service

The allocation in the planned budget is sufficient to continue providing existing services at current levels for the planning period.

The main service consequences of the Planned Budget are:

- To maintain the current level of service.

1.4 Future Demand

The factors influencing future demand and the impacts they have on service delivery are created by:

- Increased development
- Increase customer expectations

These demands will be approached using a combination of managing existing assets, upgrading existing assets and providing new assets to meet demand. Demand management practices may also include a combination of non-asset solutions, insuring against risks and managing failures.

- Ensuring service levels facilitate the ‘directing’ of traffic to favoured routes
- Where appropriate, instituting load limits & traffic control devices to avoid the necessity to upgrade construction

1.5 Lifecycle Management Plan

1.5.1 What does it Cost?

The forecast lifecycle costs necessary to provide the services covered by this AM Plan includes operation, maintenance, renewal, acquisition, and disposal of assets. Although the AM Plan may be prepared for a range of time periods, it typically informs a Long-Term Financial Planning period of 10 years. Therefore, a summary output from the AM Plan is the forecast of 10 year total outlays, which for the transport is estimated as $21659908 or $2165991 on average per year.

1.6 Financial Summary

1.6.1 What we will do

Estimated available funding for the 10 year period is $37380328 or $3738033 on average per year as per the Long-Term Financial plan or Planned Budget. This is 172.58% of the cost to sustain the current level of service at the lowest lifecycle cost.

The infrastructure reality is that only what is funded in the long-term financial plan can be provided. The Informed decision making depends on the AM Plan emphasising the consequences of Planned Budgets on the service levels provided and risks.

The anticipated Planned Budget for Transport leaves a surplas of $1572042 on average per year of the forecast lifecycle costs required to provide services in the AM Plan compared with the Planned Budget currently included in the Long-Term Financial Plan. This is shown in the figure below.

Forecast Lifecycle Costs and Planned Budgets

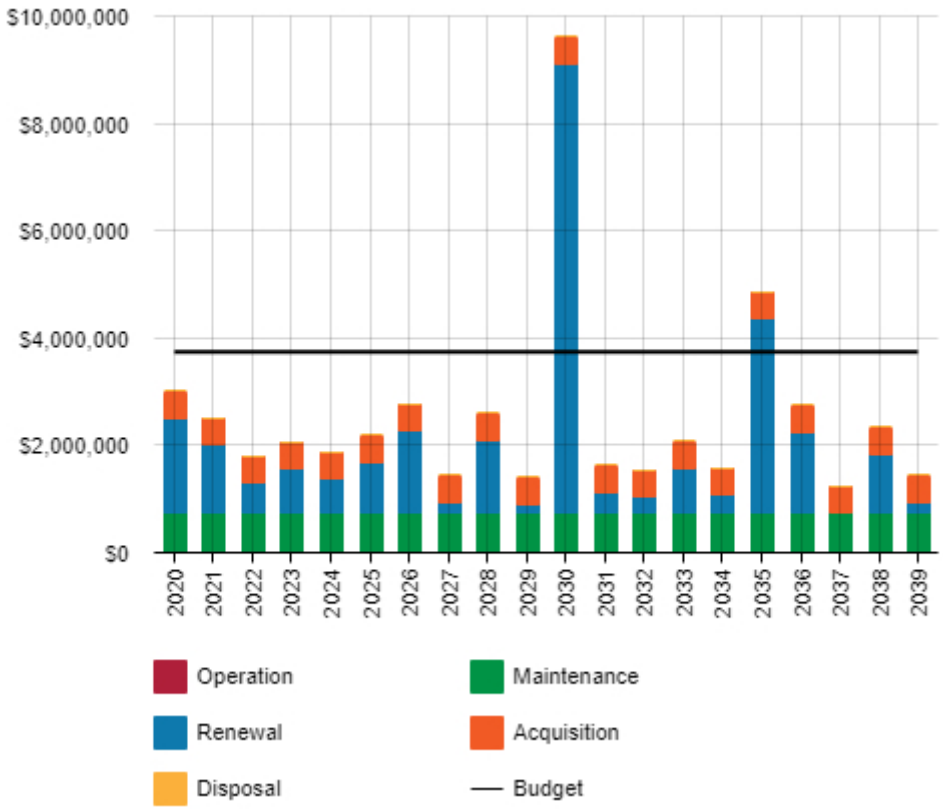


Figure Values are in current dollars.

We plan to provide Transport services for the following:

- Operation, maintenance, renewal and acquisition of bridges, roads, footpaths and kerb & channel to meet service levels set by the Council in annual budgets and
- Within the 10 year planning period:
  - reconstruct Andrew St
  - reconstruct Baskerville Road
  - reconstruct Tea Tree Road
  - reconstruct Scott Rd
  - reconstruct Albion Road

1.6.2 What we cannot do

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

- Upgrade of all identified functional deficiencies
- Maintain service standards in circumstances such as unforeseen extraordinary heavy vehicle road usage or during extreme weather events.

1.6.3 Managing the Risks

Our present budget levels are sufficient to continue to manage risks in the medium term.

- The main risk consequences are:
- Potentially dissatisfied ratepayers
- Loss of/reduced funding towards Transport

We will endeavour to manage these risks within available funding by:

- Ensure that rates increase align with asset management plans
- Investigating new techniques for renewal of assets to reduce costs or extend the life of the assets
- Continue road management practises

1.7. Asset Management Planning Practices

Our systems to manage assets include:

- Xero
- Assetic Cloud

Assets requiring renewal are identified from either the asset register or an alternative method.

- The timing of capital renewals based on the asset register is applied by adding the useful life to the year of acquisition or year of last renewal,
- Alternatively, an estimate of renewal lifecycle costs is projected from external condition modelling systems and may be supplemented with, or based on, expert knowledge.

The Asset Register was used to forecast the renewal lifecycle costs for this AM Plan.

This AM Plan is based on a fairly reliable level of confidence information.

1.8 Monitoring and Improvement Program

The next steps resulting from this AM Plan to improve asset management practices are:

- Review the transport assets condition and useful life data
- Monitor ongoing condition of the transport assets

2.0 Introduction

2.1 Background

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

The AM Plan is to be read with the Transport planning documents. This should include the Asset Management Policy and Asset Management Strategy, where developed, along with other key planning documents:

- Brighton Council's 2050 Vision
- Brighton Council's Strategic Plan 2019-2029
- Brighton Council's Annual Plan
- Brighton Council's Long Term Financial Management Plan
- Brighton Council's 10 Year Asset Management Plan

The infrastructure assets covered by this AM Plan include bridges, roads, footpaths and kerb & channel. For a detailed summary of the assets covered in this AM Plan refer to Table in Section 5.

These assets are used to provide transport services.

The infrastructure assets included in this plan have a total replacement value of $127,390,813.

Key stakeholders in the preparation and implementation of this AM Plan are shown in Table 2.1.

Table 2.1: Key Stakeholders in the AM Plan

Key Stakeholder	Role in Asset Management Plan
Brighton Councillors	Represent needs of community/shareholders, Allocate resources to meet planning objectives in providing services while managing risks, Ensure service sustainable.
General Manager	Direct Council Staff in the balancing of agreed service levels and the fiscal ability to provide services.
Council Staff	To maintain a proactive approach to customer requests, and to utilise a holistic asset management system and procedures which can better inform decisions by Council
The Community	Report perceived shortcomings, damage, safety concerns, etc. with the current infrastructure in relation to their needs

2.2 Goals and Objectives of Asset Ownership

Our goal for managing infrastructure assets is to meet the defined level of service (as amended from time to time) in the most cost effective manner for present and future consumers. The key elements of infrastructure asset management are:

- Providing a defined level of service and monitoring performance,
- Managing the impact of growth through demand management and infrastructure investment,
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service,
- Identifying, assessing and appropriately controlling risks, and
- Linking to a Long-Term Financial Plan which identifies required, affordable forecast costs and how it will be allocated.

Key elements of the planning framework are:

- Levels of service – specifies the services and levels of service to be provided,
- Risk Management,
- Future demand – how this will impact on future service delivery and how this is to be met,
- Lifecycle management – how to manage its existing and future assets to provide defined levels of service,
- Financial summary – what funds are required to provide the defined services,
- Asset management practices – how we manage provision of the services,
- Monitoring – how the plan will be monitored to ensure objectives are met,
- Asset management improvement plan – how we increase asset management maturity.

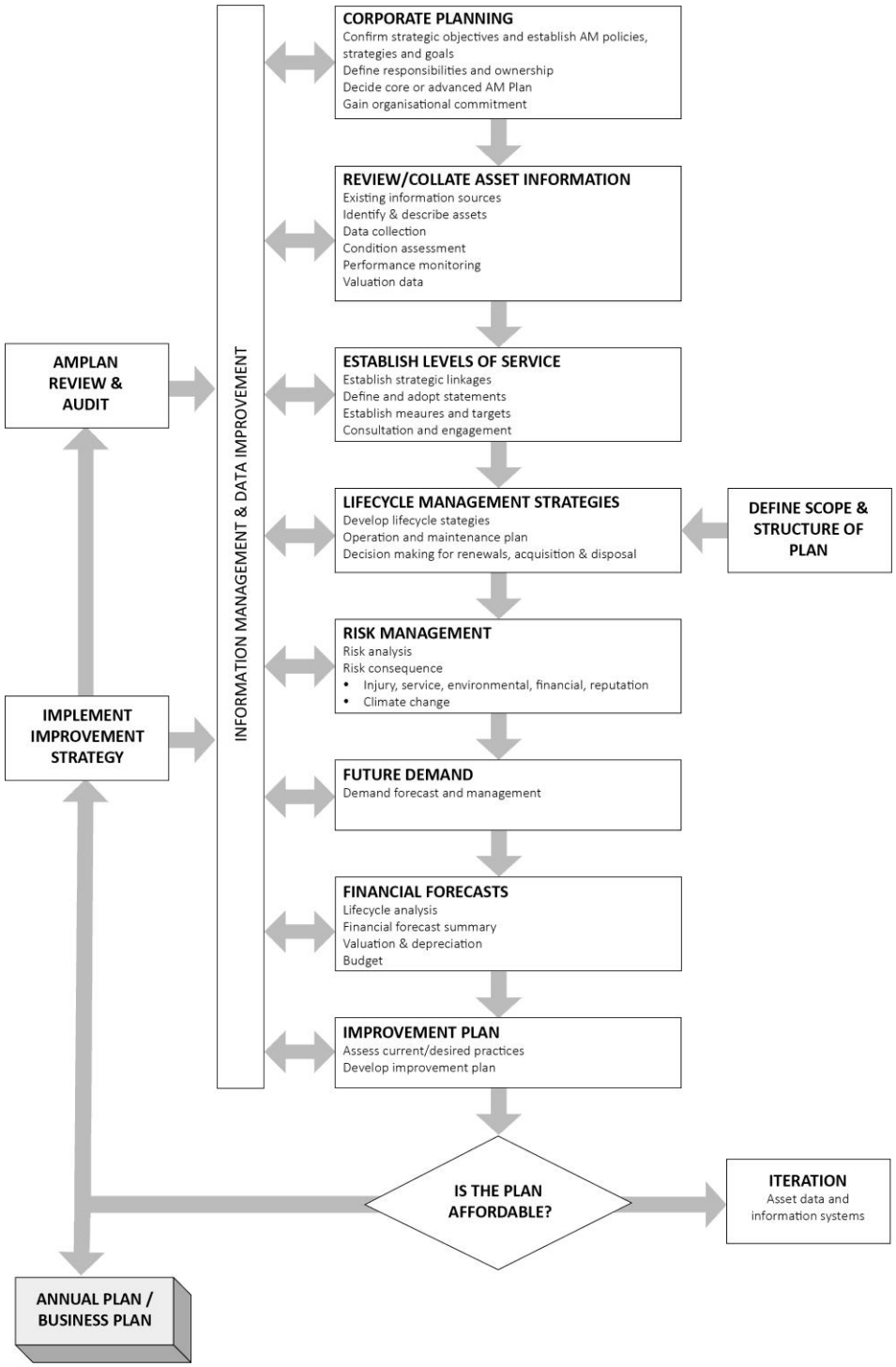
Other references to the benefits, fundamentals principles and objectives of asset management are:

- International Infrastructure Management Manual 2015 [1]
- ISO 55000[2]
- A road map for preparing an AM Plan is shown below.

[1] Based on IPWEA 2015 IIMM, Sec 2.1.3, p 2| 13
[2] ISO 55000 Overview, principles and terminology

Road Map for preparing an Asset Management Plan

Source: IPWEA, 2006, IIMM, Fig 1.5.1, p 1.11



3.0 LEVELS OF SERVICE

3.1 Customer Research and Expectations

We currently have no research on customer expectations. This will be investigated for future updates of the AM Plan.

3.2 Strategic and Corporate Goals

This Asset Management Plan is prepared under the direction of the Council's Strategic Plan.

Our purpose is "To Lead Change For Better Community Liveability."

Strategic goals have been set by the plan. The relevant goals and objectives and how these are addressed in this Asset Management Plan are summarised in Table 3.2.

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

Goal	Objective	How Goal and Objectives are addressed in the AM Plan
Strengthen our Communities	S1.4: Support Connected Communities	Transport assets help connect the community together and to access services within the the community and neighbouring areas.
Drive Infrastructure Development	S3.2: Implement Strategic Asset Management Plan (Existing and New)	Transport assets are maintained in good, fit-for purpose condition to facilitate the provision of services to the community.
Ensure a Stable Organisation	S4.1: Ensure Financial & Risk Sustainability	Transport assets are management in a financially sustainable manner and designed and constructed to reduce risk and costs to the community

3.3 Legislative Requirements

There are many legislative requirements relating to the management of assets. Legislative requirements that impact the delivery of the Transport services are outlined in Table 3.3.

Table 3.3: Legislative Requirements

Legislation	Requirement
Local Government Act 1993	To provide for local government and establish councils to plan for, develop and manage municipal areas in the interests of their communities.
Local Government (Highways) Act 1982	Sets out role, purpose, responsibilities and powers of local governments in relation to Highways and Roads.
Roads & Jetties Act 1935	An Act to consolidate and amend certain enactments relating to roads and jetties.
Traffic Act 1925	An Act to consolidate and amend the law relating to vehicular and other traffic
Disability Discrimination Act 1992	The objects of this Act are: (a) to eliminate, as far as possible, discrimination against persons on the ground of disability in the areas of: (i) work, accommodation, education, access to premises, clubs and sport; and (ii) the provision of goods, facilities, services and land; and (iii) existing laws; and (iv) the administration of Commonwealth laws and programs; and (b) to ensure, as far as practicable, that persons with disabilities have the same rights to equality before the law as the rest of the community; and

	(c) to promote recognition and acceptance within the community of the principle that persons with disabilities have the same fundamental rights as the rest of the community

3.4 Customer Values

Service levels are defined in three ways, customer values, customer levels of service and technical levels of service.

Customer Values indicate:

- What aspects of the service is important to the customer
- Whether they see value in what is currently provided and
- The likely trend over time based on the current budget provision

Council have not done works on determining our customers level of service values in any detail.

3.5 Customer Levels of Service

The Customer Levels of Service are considered in terms of:

Condition How good is the service … what is the condition or quality of the service?

Function Is it suitable for its intended purpose …. Is it the right service?

Capacity/Use Is the service over or under used … do we need more or less of these assets?

In Table 3.5 under each of the service measures types (Condition, Function, Capacity/Use) there is a summary of the performance measure being used, the current performance, and the expected performance based on the current budget allocation.

These are measures of fact related to the service delivery outcome (e.g. number of occasions when service is not available or proportion of replacement value by condition %'s) to provide a balance in comparison to the customer perception that may be more subjective.

Council have not done works on determining our customers level of service values in any detail.

3.6 Technical Levels of Service

Technical Levels of Service – To deliver the customer values, and impact the achieved Customer Levels of Service, are operational or technical measures of performance. These technical measures relate to the activities and 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:

- **Acquisition** – the activities to provide a higher level of service (e.g. widening a road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (e.g. a new library).
- **Operation** – the regular activities to provide services (e.g. opening hours, cleansing, mowing grass, energy, inspections, 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, building and structure repairs),
- **Renewal** – the activities that return the service capability of an asset up to that which it had originally provided (e.g. road resurfacing and pavement reconstruction, pipeline replacement and building component replacement),

Service and asset managers plan, implement and control technical service levels to influence the service outcomes.[3]

Table 3.6 shows the activities expected to be provided under the current 10 year Planned Budget allocation, and the Forecast activity requirements being recommended in this AM Plan.

Table 3.6: Technical Levels of Service

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
TECHNICAL LEVELS OF SERVICE				
Acquisition	Ensure that new roads meet current standards	Assessment against Municipal standard drawing	New developments are meeting the requirement	Continue to meet the standards
		Budget	$500000	$500000
Operation	Maximise the availability of roads to users	Amount of time roads are closed per year	Road closures only due to pre-planned works	Road closures only due to pre-planned works
		Budget	$0	$0
Maintenance	Provide the service in the most cost effective manner	Past and present budget	All maintenance is currently reactive with the exception of grading of unsealed roads	Proactive rather than reactive maintenance
		Budget	$738033	$738033
Renewal	Ensure that roads as replaced when required	Annual budget	Funding budget	Continue to fund budget
		Budget	$2500000	$927958
Disposal	Dispose of assets when required	Annual budget	Annual budget	Annual budget
		Budget	$0	$0

Note: * Current activities related to Planned Budget.

** Expected performance related to forecast lifecycle costs.

It is important to monitor the service levels regularly as circumstances can and do change. Current performance is based on existing resource provision and work efficiencies. It is acknowledged changing circumstances such as technology and customer priorities will change over time.

[3] IPWEA, 2015, IIMM, p 2|28.

4.0 FUTURE DEMAND

4.1 Demand Drivers

Drivers affecting demand include things such as population change, regulations, changes in demographics, seasonal factors, vehicle ownership rates, consumer preferences and expectations, technological changes, economic factors, agricultural practices, environmental awareness, etc.

4.2 Demand Forecasts

The present position and projections for demand drivers that may impact future service delivery and use of assets have been identified and documented.

4.3 Demand Impact and Demand Management Plan

The impact of demand drivers that may affect future service delivery and use of assets are shown in Table 4.3.

Demand for new services will be managed through a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand and demand management. Demand management practices can include non-asset solutions, insuring against risks and managing failures.

Opportunities identified to date for demand management are shown in Table 4.3. Further opportunities will be developed in future revisions of this AM Plan.

Table 4.3: Demand Management Plan

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
Population	Approx. 17,000	It is expected that the municipality will experience an increase in population over the next 5-10 years	Could result in more demand being put on the existing infrastructure	Consider greater development restrictions on land with transport issues. Continue to investigate alternative renewal treatments to lower lifecycle costs
Land subdivision	Land/Property Subdivision continues to occur at a fast rate.	Expected to continue	Additional loading to existing road network.	Require land developers to assess the impact of developments on the capacity of existing infrastructure. May require review of service levels and/or capital upgrade

4.4 Asset Programs to meet Demand

The new assets required to meet demand may be acquired, donated or constructed. Additional assets are discussed in Section 5.4.

Acquiring new assets will commit the Transport to 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 (Refer to Section 5).

4.5 Climate Change Adaptation

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

How climate change impacts on assets will vary depending on the location and the type of services provided, as will the way in which we respond and manage those impacts.[4]

As a minimum we consider how to manage our existing assets given potential climate change impacts for our region.

Risk and opportunities identified to date are shown in Table 4.5.1

Table 4.5.1 Managing the Impact of Climate Change on Assets and Services

Climate Change Description	Projected Change	Potential Impact on Assets and Services	Management
Changing weather patterns	Trending toward increased seasonal extremes	Increasing levels of maintenance work to maintain current standard of the transport network	Schedule long-term capital works program. Investigate cooperating with adjacent councils to achieve economies of scale and cost savings. Investigate new and innovative methods of construction, operation, maintenance and renewal. Consider retreat/defend strategies for vulnerable assets

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

Assets will withstand the impacts of climate change;

Services can be sustained; and

Assets that can endure may potentially lower the lifecycle cost and reduce their carbon footprint

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

[4] IPWEA Practice Note 12.1 Climate Change Impacts on the Useful Life of Infrastructure

5.0 LIFECYCLE MANAGEMENT PLAN

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

5.1 Background Data

5.1.1 Physical parameters

The assets covered by this AM Plan are shown in Table 5.1.1.

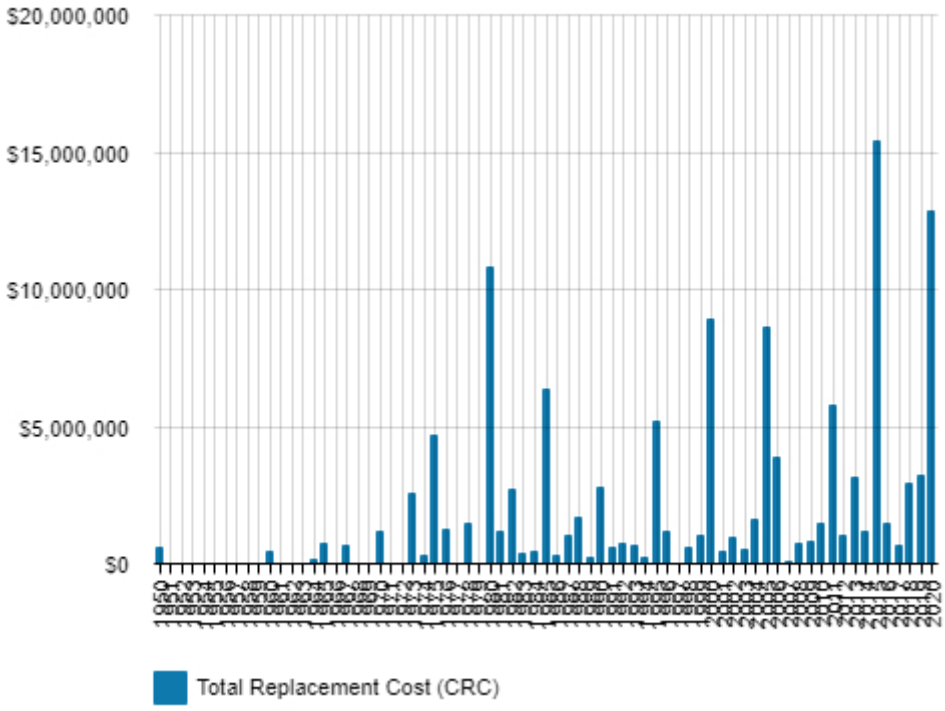
The Transport infrastructure consisting of all the roads and footpaths infrastructure across the entire municipality including footpaths in reserves and along the foreshores.

The age profile of the assets included in this AM Plan are shown in Figure 5.1.1.

Table 5.1.1: Assets covered by this Plan

Asset Category	Dimension	Replacement Value
Road Surface – spray seal, asphalt and gravel sheet	189 km	$21,855,322
Road Pavement – sealed and unsealed	189 km	$42,640,901
Road Formation	189 km	$17,698,133
Kerbs	[Enter asset dimensions]	$20,028,807
Bridges	41	$6,406,660
Footpaths	138,942m	$18,761,022
TOTAL		**$127,390,845**

Figure 5.1.1: Asset Age Profile



All figure values are shown in current day dollars.

The data for the age profile is sourced from council's asset management system. While the ages of assets acquired prior to around 1999 are largely based on estimates, the relative accuracy is considered to be good overall due to the presence of construction plans and long-serving, experienced works staff with high levels of local knowledge.

5.1.2 Asset capacity and performance

Assets are generally provided to meet design standards where these are available. However, there is insufficient resources to address all known deficiencies. Locations where deficiencies in service performance are known are detailed in Table 5.1.2.

Table 5.1.2: Known Service Performance Deficiencies

Location	Service Deficiency
Munday Street	Reconstruction required
Elderslie Road	Reconstruction required
Andrew Street	Reconstruction required
Albion Road	Reconstruction required
Back Tea Tree Road	Widening and Reconstruction required
Baskerville Road	Widening and Reconstruction required
Willowbrook Rd Bridge	Replacement required
Merriworth Road Bridge	Replacement required

The above service deficiencies were identified from Brighton Council 10 Year Plan and asset management system

5.1.3 Asset condition

Condition is currently monitored periodically according to asset class and specific inspections depending on the remaining useful life.

Bridges are formally assessed on a 6-monthly frequency under contract with AusSpan Pty Ltd.

Condition is measured using a 1 – 5 grading system[5] as detailed in Table 5.1.3. It is important that a consistent approach is used in reporting asset performance enabling effective decision support. A finer grading system may be used at a more specific level, however, for reporting in the AM plan result

s are translated to a 1 – 5 grading scale for ease of communication.

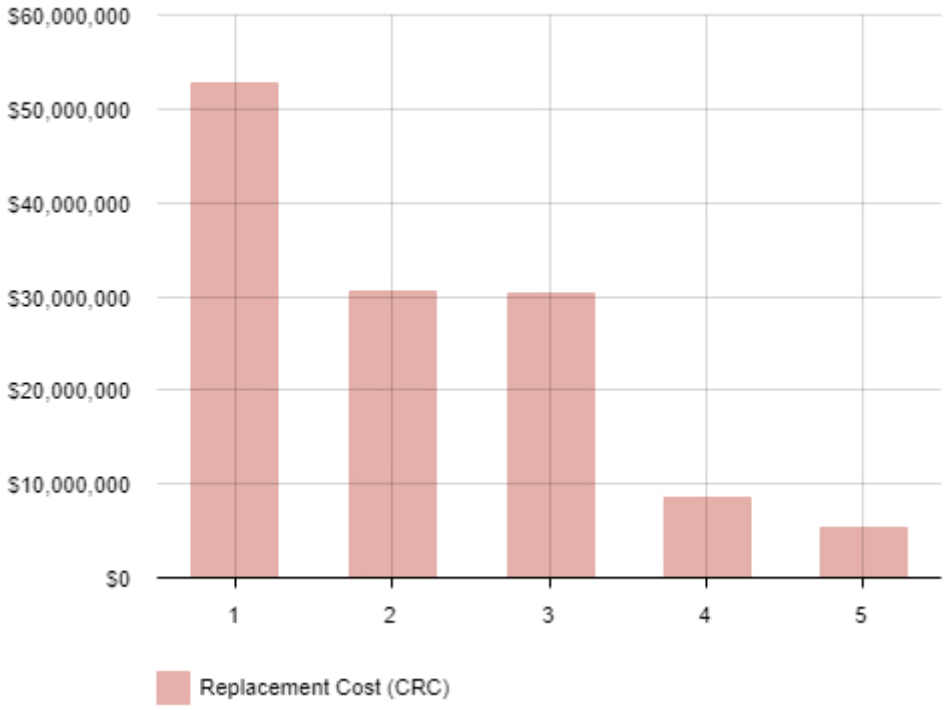
Table 5.1.3: Condition Grading System

Condition Grading	Description of Condition
1	**Very Good**: free of defects, only planned and/or routine maintenance required
2	**Good**: minor defects, increasing maintenance required plus planned maintenance
3	**Fair**: defects requiring regular and/or significant maintenance to reinstate service
4	**Poor**: significant defects, higher order cost intervention likely
5	**Very Poor**: physically unsound and/or beyond rehabilitation, immediate action required

The condition profile of our assets is shown in Figure 5.1.3.

Figure 5.1.3: Asset Condition Profile

[5] IPWEA, 2015, IIMM, Sec 2.5.4, p 2|80.



Overall the majority of the Transport assets are in a very good to fair condition

All figure values are shown in current day dollars.

5.2 Operations and Maintenance Plan

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

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

The trend in maintenance budgets are shown in Table 5.2.1.

Table 5.2.1: Maintenance Budget Trends

Year	Maintenance Budget $
2019-20	$1,832,317
2020-21	$2,059,094
2021-22	$2,300,000

Maintenance budget levels are considered to be adequate to meet projected service levels, which may be less than or equal to current service levels. Where maintenance budget allocations are such that they will result in a lesser level of service, the service consequences and service risks have been identified and are highlighted in this AM Plan.

For bridges, assessment and priority of reactive maintenance is undertaken by specialist contractors (AusSpan Pty Ltd) using visual inspection.

Assessment and priority of reactive maintenance for other assets are undertaken by staff using experience and judgement and based on an annual inspection.

Asset hierarchy
An asset hierarchy provides a framework for structuring data in an information system to assist in collection of data, reporting information and making decisions. The hierarchy includes the asset class and component used for asset planning and financial reporting and service level hierarchy used for service planning and delivery.

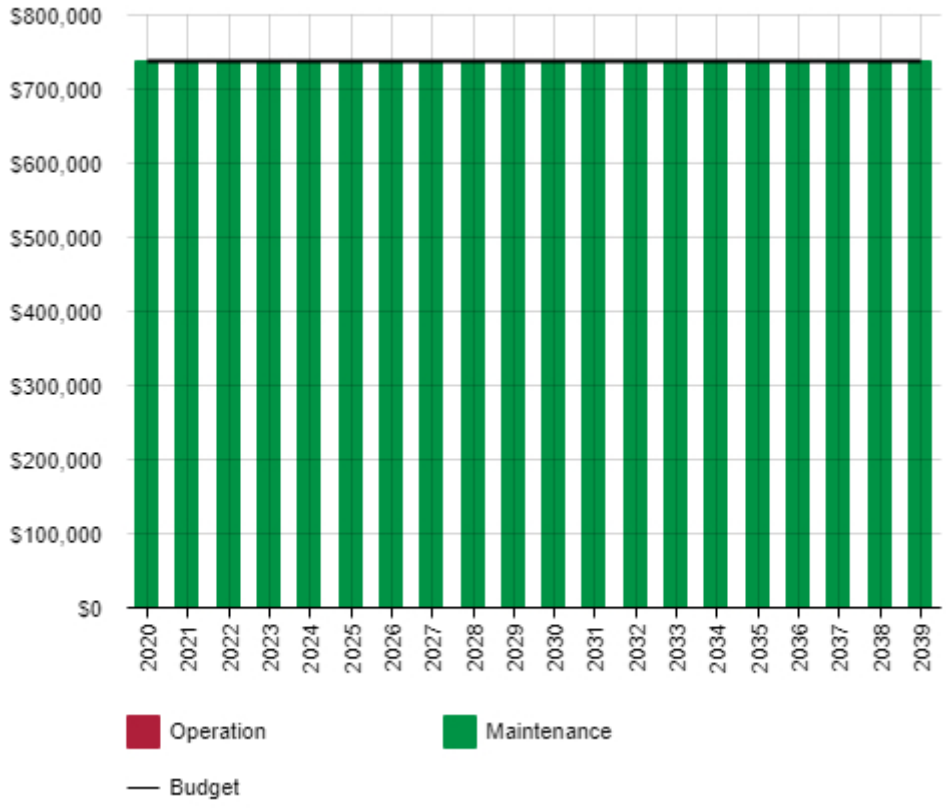
The service hierarchy is shown is Table 5.2.2.

Table 5.2.2: Asset Service Hierarchy

Service Hierarchy	Service Level Objective
Roads / Roads Low Trafficked	Provide a higher level of design based on the hierarchy
Footpaths – High/Medium/Low	Maintain high level footpaths to a higher standard

Summary of forecast operations and maintenance costs
Forecast operations and maintenance costs are expected to vary in relation to the total value of the asset stock. If additional assets are acquired, the future operations and maintenance costs are forecast to increase. If assets are disposed of the forecast operation and maintenance costs are expected to decrease. Figure 5.2 shows the forecast operations and maintenance costs relative to the proposed operations and maintenance Planned Budget.

Figure 5.2: Operations and Maintenance Summary



All figure values are shown in current day dollars.

The forecast maintenance budget matches the expected costs.

5.3 Renewal Plan

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

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

The first method uses Asset Register data to project the renewal costs (current replacement cost) and renewal timing (acquisition year plus updated useful life to determine the renewal year), or

The second method uses an alternative approach to estimate the timing and cost of forecast renewal work (i.e. condition modelling system, staff judgement, average network renewals, or other).

The typical useful lives of assets used to develop projected asset renewal forecasts are shown in Table 5.3. Asset useful lives were last reviewed in 2016.

Table 5.3: Useful Lives of Assets

Asset (Sub)Category	Useful life
Prime & Seal	15 Years
Prime & Seal – (Low Trafficked Area)	30 Years
Surface Seal Course	5 Years
30mm Asphalt	30 Years
30mm Asphalt – (Low Trafficked Area)	40 Years
Base Course – New	70 Years
Base Course – Stabilised	70 Years
Base Course – Gravel Road	100 Years
Formation	100 Years
Kerb & Gutter	50 Years
Semi Mountable Kerb	50 Years
Open Drain	10 Years
Concrete Footpath	40 Years
Bridle Track / Gravel Footpath	15 Years
Asphalt Footpath	20 Years

The estimates for renewals in this AM Plan were based on the asset register.

5.3.1 Renewal ranking criteria

Asset renewal is typically undertaken to either:

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

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

- Have a high consequence of failure
- Have high use and subsequent impact on users would be significant,
- Have higher than expected operational or maintenance costs, and
- Have potential to reduce life cycle costs by replacement with a modern equivalent asset that would provide the equivalent service.[7]

The ranking criteria used to determine priority of identified renewal proposals is detailed in Table 5.3.1.

Table 5.3.1: Renewal Priority Ranking Criteria

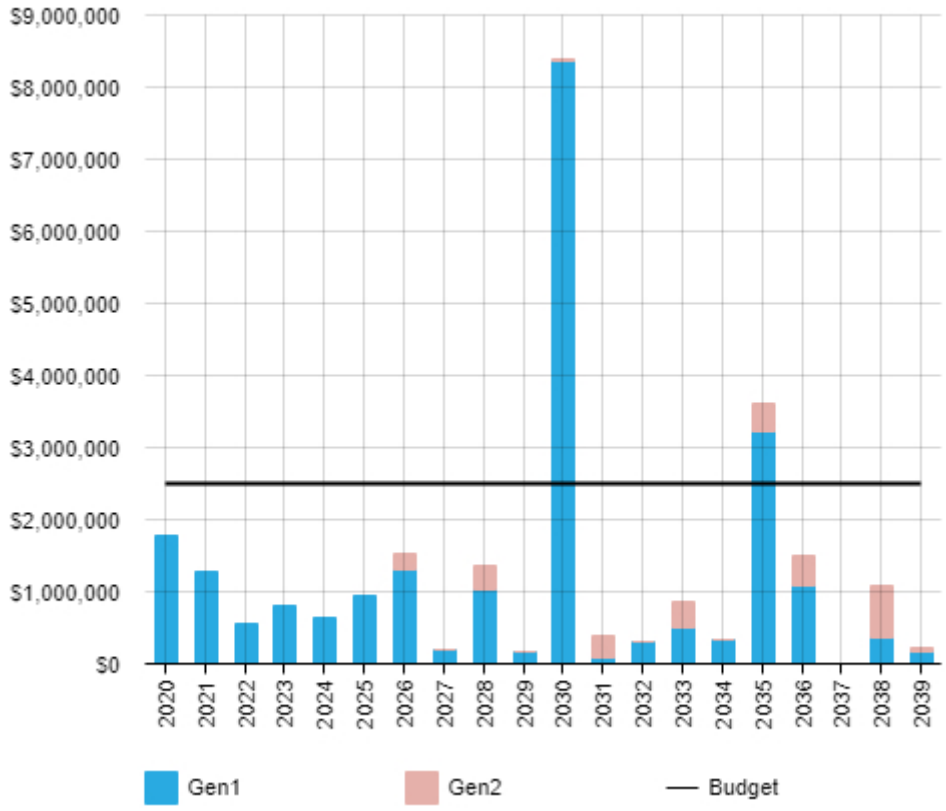
Criteria	Weighting
Corporate planning – strategic planning for future development	30%
Present usage – amount in which roads are presently used	20%
Safety – Potential for improvement to public safety	30%
Cost - $ value of work. Consideration must be given to the potential to obtain contributions from local residents or developers	20%
Total	**100%**

5.4 Summary of future renewal costs

Forecast renewal costs are projected to increase over time if the asset stock increases. The forecast costs associated with renewals are shown relative to the proposed renewal budget in Figure 5.4.1. A detailed summary of the forecast renewal costs is shown in Appendix D.

Figure 5.4.1: Forecast Renewal Costs

[6] IPWEA, 2015, IIMM, Sec 3.4.4, p 3|91.
[7] Based on IPWEA, 2015, IIMM, Sec 3.4.5, p 3|97.



All figure values are shown in current day dollars.

Renewals and replacement expenditure in the organisation's capital works program will be accommodated in the long term financial plan.

Deferred renewal (assets identified for renewal and not scheduled in capital works programs) should be included in the risk analysis process in the risk management plan.

5.5 Acquisition Plan

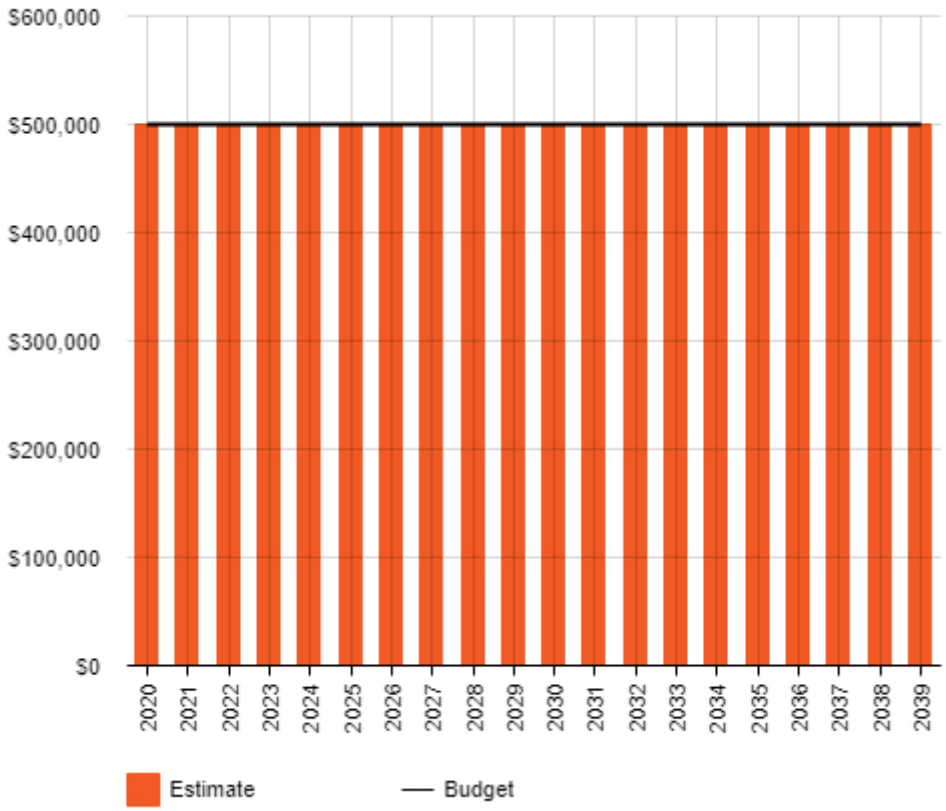
Acquisition reflects are new assets that did not previously exist or works which will upgrade or improve an existing asset beyond its existing capacity. They may result from growth, demand, social or environmental needs. Assets may also be donated to the Transport.

5.5.1 Selection criteria

Proposed acquisition of new assets, and upgrade of existing assets, are identified from various sources such as community requests, proposals identified by strategic plans or partnerships with others. Potential upgrade and new works should be reviewed to verify that they are essential to the Entities needs. Proposed upgrade and new work analysis should also include the development of a preliminary renewal estimate to ensure that the services are sustainable over the longer term. Verified proposals can then be ranked by priority and available funds and scheduled in future works programmes.

Summary of future asset acquisition costs
Forecast acquisition asset costs are summarised / summarized in Figure 5.4.1 and shown relative to the proposed acquisition budget. The forecast acquisition capital works program is shown in Appendix A.

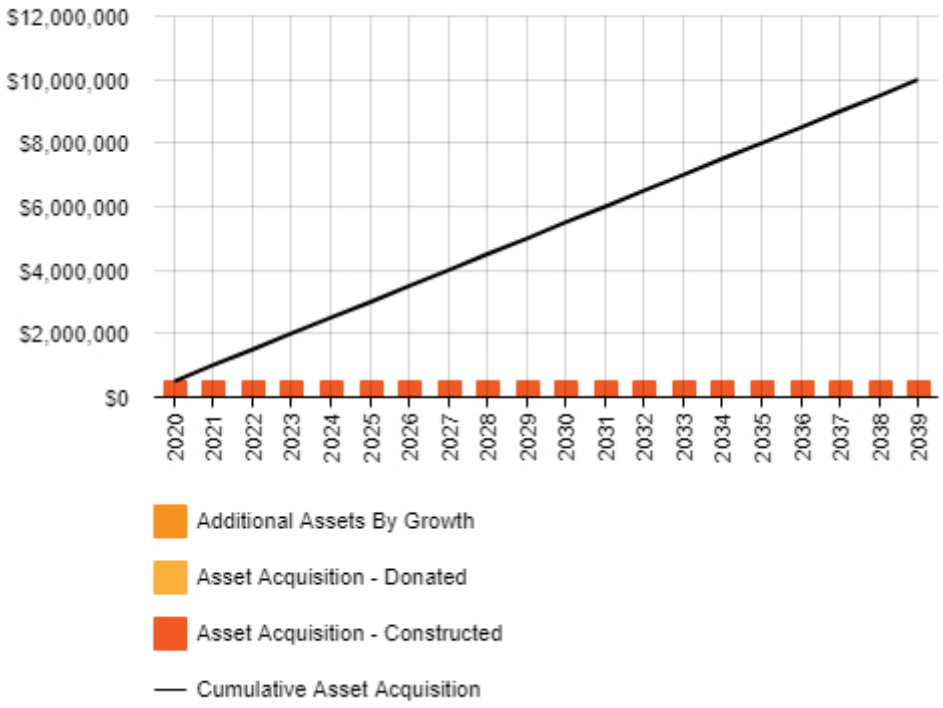
Figure 5.5.1: Acquisition (Constructed) Summary



All figure values are shown in current day dollars.

When an Entity commits to new assets, they must be prepared to fund future operations, maintenance and renewal costs. They must also account for future depreciation when reviewing long term sustainability. When reviewing the long-term impacts of asset acquisition, it is useful to consider the cumulative value of the acquired assets being taken on by the Entity. The cumulative value of all acquisition work, including assets that are constructed and contributed shown in Figure 5.4.2.

Figure 5.5.2: Acquisition Summary



All figure values are shown in current dollars.

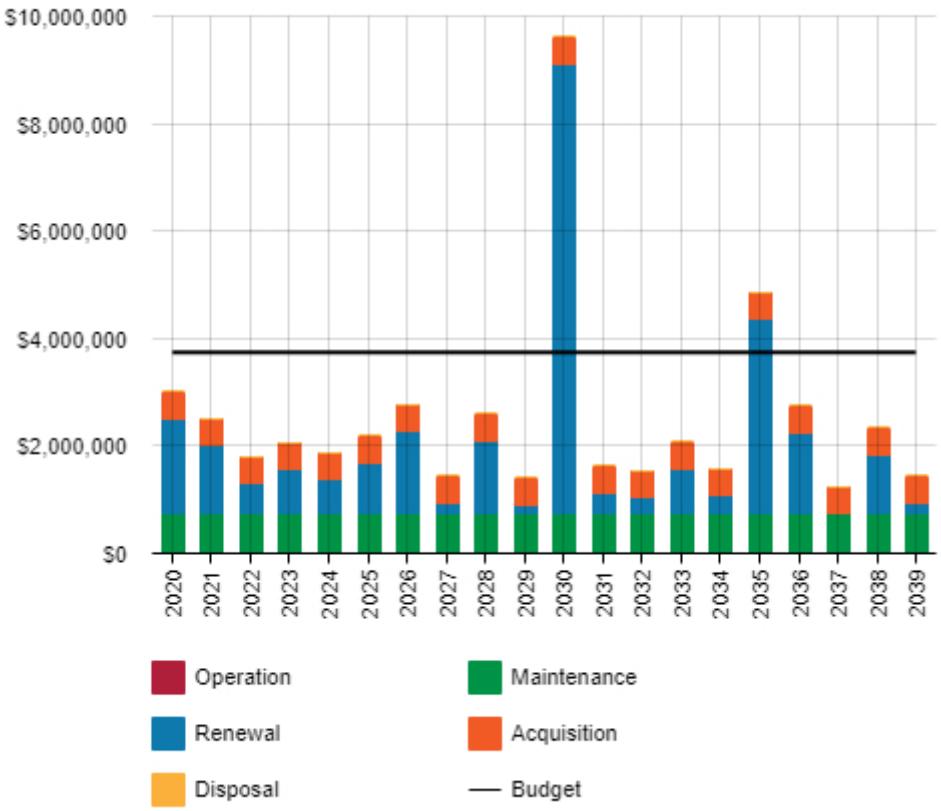
Expenditure on new assets and services in the capital works program will be accommodated in the long-term financial plan, but only to the extent that there is available funding.

Projected capital upgrade/new expenditure will require additional ongoing operations, maintenance and renewal funding for the period that the service provided from the assets is required into the future.

Summary of asset forecast costs
The financial projections from this asset plan are shown in Figure 5.4.3. These projections include forecast costs for acquisition, operation, maintenance, renewal, and disposal. These forecast costs are shown relative to the proposed budget.

The bars in the graphs represent the forecast costs needed to minimise the life cycle costs associated with the service provision. The proposed budget line indicates the estimate of available funding. The gap between the forecast work and the proposed budget is the basis of the discussion on achieving balance between costs, levels of service and risk to achieve the best value outcome.

Figure 5.5.3: Lifecycle Summary



All figure values are shown in current day dollars.

Expenditure on new assets and services in the organisation's capital works program will be accommodated in the long term financial plan.

5.6 Disposal Plan

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

No additional assets are identified for decommissioning at this stage.

6.0 RISK MANAGEMENT PLANNING

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

Risk Management is defined in ISO 31000:2018 as: 'coordinated activities to direct and control with regard to risk'[8].

An assessment of risks[9] associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, and the consequences should the event occur. The risk assessment should also include the development of a risk rating, evaluation of the risks and development of a risk treatment plan for those risks that are deemed to be non-acceptable.

6.1 Critical Assets

Critical assets are defined as those which have a high consequence of failure causing significant loss or reduction of service.

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

No assets are specifically identified as 'critical' at the current time however, bridges are inspected more frequently than other assets as a reflection of their relatively greater criticality.

6.2 Risk Assessment

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

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

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

[8] ISO 31000:2009, p 2

[9] REPLACE with Reference to the Corporate or Infrastructure Risk Management Plan as the footnote

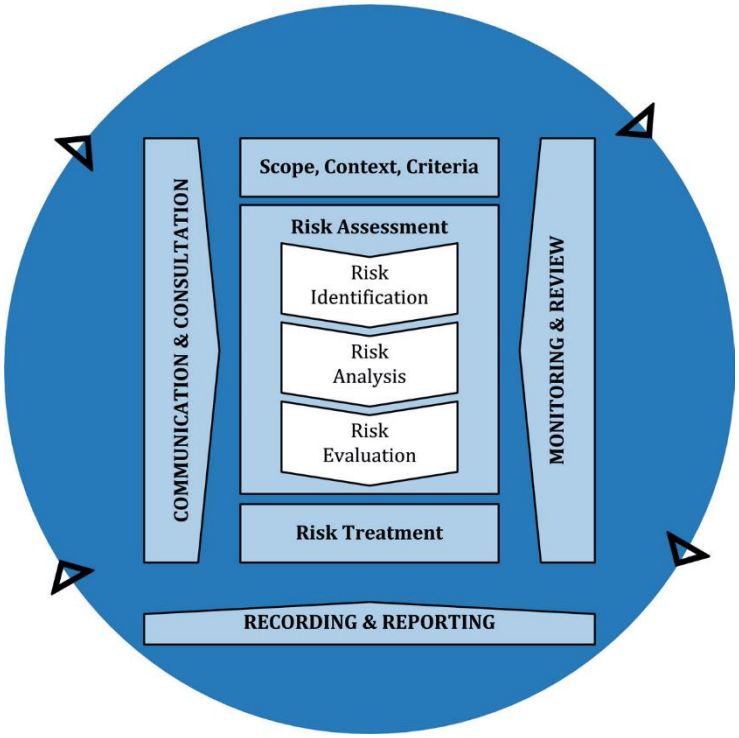


Fig 6.2 Risk Management Process – Abridged
Source: ISO 31000:2018, Figure 1, p9

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

An assessment of risks[10] associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences.

Critical risks are those assessed with 'Very High' (requiring immediate corrective action) and 'High' (requiring corrective action) risk ratings identified in the Infrastructure Risk Management Plan. The residual risk and treatment costs of implementing the selected treatment plan is shown in Table 6.2. It is essential that these critical risks and costs are reported to management and the Council

6.3 Infrastructure Resilience Approach

The resilience of our critical infrastructure is vital to the ongoing provision of services to customers. To adapt to changing conditions we need to understand our capacity to 'withstand a given level of stress or demand', and to respond to possible disruptions to ensure continuity of service.

Resilience recovery planning, financial capacity, climate change risk assessment and crisis leadership.

Formal measures of resilience have not been developed and will be addressed in a future iteration of this asset management plan.

6.4 Service and Risk Trade-Offs

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

[10] REPLACE with Reference to the Corporate or Infrastructure Risk Management Plan as the footnote

6.4.1 What we cannot do

There are some operations and maintenance activities and capital projects that are unable to be undertaken within the next 10 years. These include:

- Unable to convert all unsealed roads to sealed roadway
- Upgrade of all identified functional deficiencies
- Maintain service standards in circumstances such as unforeseen extraordinary heavy vehicle road usage or during extreme weather events

6.4.2 Service trade-off

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

- Lower standard of service during unforeseen extraordinary heavy vehicle road usage or during extreme weather events
- Some roads will continue to exhibit functional deficiencies

6.4.3 Risk trade-off

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

- Potentially dissatisfied ratepayers
- Periodic increased maintenance requirements on affected roads
- Lower travelling speeds and/or greater risk of road accidents through driver inattention on road sections with identified functional deficiencies

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

7.0 FINANCIAL SUMMARY

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

7.1 Financial Sustainability and Projections

7.1.1 Sustainability of service delivery

There are two key indicators of sustainable service delivery that are considered in the AM Plan for this service area. The two indicators are the:

- asset renewal funding ratio (proposed renewal budget for the next 10 years / forecast renewal costs for next 10 years), and
- medium term forecast costs/proposed budget (over 10 years of the planning period).

Asset Renewal Funding Ratio
Asset Renewal Funding Ratio[11] 100%

The Asset Renewal Funding Ratio is an important indicator and illustrates that over the next 10 years we expect to have 100% of the funds required for the optimal renewal of assets.

The forecast renewal work along with the proposed renewal budget, and the cumulative shortfall, is illustrated in Appendix D.

Medium term – 10 year financial planning period
This AM Plan identifies the forecast operations, maintenance and renewal costs 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.

This forecast work can be compared to the proposed budget over the first 10 years of the planning period to identify any funding shortfall.

The forecast operations, maintenance and renewal costs over the 10 year planning period is $1,665,991 average per year.

The proposed (budget) operations, maintenance and renewal funding is $3,238,033 on average per year giving a 10 year funding excess of $1,572,042 per year. This indicates that 194.36% of the forecast costs needed to provide the services documented in this AM Plan are accommodated in the proposed budget. Note, these calculations exclude acquired assets.

Providing sustainable services from infrastructure requires the management of service levels, risks, forecast outlays 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.

7.1.2 Forecast Costs (outlays) for the long-term financial plan

Table 7.1.3 shows the forecast costs (outlays) required for consideration in the 10 year long-term financial plan.

Providing services in a financially sustainable manner requires a balance between the forecast outlays required to deliver the agreed service levels with the planned budget allocations in the long-term financial plan.

Forecast costs are shown in 2020-21 dollar values.

Table 7.1.2: Forecast Costs (Outlays) for the Long-Term Financial Plan

[11] AIFMM, 2015, Version 1.0, Financial Sustainability Indicator 3, Sec 2.6, p 9.

Year	Acquisition	Operation	Maintenance	Renewal	Disposal
2020	500000	0	738033	1771899	0
2021	500000	0	738033	1266980	0
2022	500000	0	738033	558121	0
2023	500000	0	738033	816188	0
2024	500000	0	738033	640607	0
2025	500000	0	738033	949818	0
2026	500000	0	738033	1525898	0
2027	500000	0	738033	210327	0
2028	500000	0	738033	1365739	0
2029	500000	0	738033	174000	0
2030	500000	0	738033	8379809	0
2031	500000	0	738033	391895	0
2032	500000	0	738033	295738	0
2033	500000	0	738033	840555	0
2034	500000	0	738033	344697	0
2035	500000	0	738033	3616835	0
2036	500000	0	738033	1505194	0
2037	500000	0	738033	3911	0
2038	500000	0	738033	1102249	0
2039	500000	0	738033	200683	0

7.2 Funding Strategy

The proposed funding for assets is outlined in the Entity's budget and Long-Term financial plan.

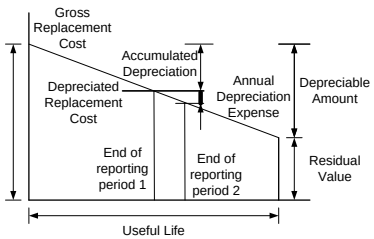
The financial strategy of the entity determines how funding will be provided, whereas the AM Plan communicates how and when this will be spent, along with the service and risk consequences of various service alternatives.

7.3 Valuation Forecasts

7.3.1 Asset valuations

The best available estimate of the value of assets included in this AM Plan are shown below. The assets are valued at current replacement cost:

Replacement Cost (Current/Gross)	$127,390,813
Depreciable Amount	$127,390,813
Depreciated Replacement Cost[12]	$82,722,148
Depreciation	$2,837,233.0



7.3.2 Valuation forecast

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

[12] Also reported as Written Down Value, Carrying or Net Book Value.

Additional assets will generally add to the operations and maintenance needs in the longer term. Additional assets will also require additional costs due to future renewals. Any additional assets will also add to future depreciation forecasts.

7.4 Key Assumptions Made in Financial Forecasts

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

Key assumptions made in this AM Plan are:

- The services provided by assets are consumed at a constant rate over the pre-defined standard useful lives recorded in council's asset management system for each of the asset sub-categories
- Present service levels will remain constant for the life of the plan
- Present levels of expenditure (and the relative distribution of planned & reactive maintenance, and capital renewals & new/upgrades) will remain constant for the life of the plan
- Legislative compliance will remain constant over the life of the plan

7.5 Forecast Reliability and Confidence

The forecast costs, proposed budgets, and valuation projections in this AM Plan are based on the best available data. For effective asset and financial management, it is critical that the information is current and accurate. Data confidence is classified on a A - E level scale[13] in accordance with Table 7.5.1.

Table 7.5.1: Data Confidence Grading System

Confidence Grade	Description
A. Very High	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 ± 2%
B. High	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 ± 10%
C. Medium	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 ± 25%
D. Low	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 ± 40%
E. Very Low	None or very little data held.

The estimated confidence level for and reliability of data used in this AM Plan is shown in Table 7.5.2.

Table 7.5.2: Data Confidence Assessment for Data used in AM Plan

[13] IPWEA, 2015, IIMM, Table 2.4.6, p 2|71.

Data	Confidence Assessment	Comment
Demand drivers	C. Medium	Using best available date but may vary in the future
Growth projections	C. Medium	Using best available date but may vary in the future
Acquisition forecast	D. Low	Using best available date but may vary in the future
Operation forecast	B. High	Fairly consistent over the years
Maintenance forecast	B. High	Fairly consistent over the years
Renewal forecast - Asset values	B. High	Using good unit rate
- Asset useful lives	C. Medium	Using best available data
- Condition modelling	C. Medium	Using best available data
Disposal forecast	E. Very Low	No disposals expected but it is unknown

The estimated confidence level for and reliability of data used in this AM Plan is considered to be Medium (C).

8.0 PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices[14]

8.1.1 Accounting and financial data sources

This AM Plan utilises accounting and financial data. The source of the data is:

- Xero
- Annual Budgets
- Long term financial plan

8.1.2 Asset management data sources

This AM Plan also utilises asset management data. The source of the data is Assetic Cloud

8.2 Improvement Plan

It is important that an entity recognise areas of their AM Plan and planning process that require future improvements to ensure effective asset management and informed decision making. The improvement plan generated from this AM Plan is shown in Table 8.2.

Table 8.2: Improvement Plan

Task	Task	Responsibility	Resources Required	Timeline
1	Revaluation of road assets	HM	Time	2021
2	Condition Assessment of Road Assets	HM	Time	2021
3	Review of asset date built	HM	Time	2022
4	Carry out an asset maturity assessment	HM	Time	2022

8.3 Monitoring and Review Procedures

This AM Plan will be reviewed during the annual budget planning process and revised to show any material changes in service levels, risks, forecast costs and proposed budgets as a result of budget decisions.

The AM Plan will be reviewed and updated annually to ensure it represents the current service level, asset values, forecast operations, maintenance, renewals, acquisition and asset disposal costs and planned budgets. These forecast costs and proposed budget are incorporated into the Long-Term Financial Plan or will be incorporated into the Long-Term Financial Plan once completed.

The AM Plan has a maximum life of 4 years and is due for complete revision and updating within 4 years of the adoption of this plan.

8.4 Performance Measures

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

– The degree to which the required forecast costs identified in this AM Plan are incorporated into the long-term financial plan.

[14] ISO 55000 Refers to this as the Asset Management System

- The degree to which the 1-5 year detailed works programs, budgets, business plans and corporate structures consider the 'global' works program trends provided by the AM Plan.
- The degree to which the existing and projected service levels and service consequences, risks and residual risks are incorporated into the Strategic Planning documents and associated plans.

The Asset Renewal Funding Ratio achieving the Organisational target (this target is often 90 – 100%).

9.0 REFERENCES

- IPWEA, 2006, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
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- IPWEA, 2020 'International Infrastructure Financial Management Manual', Institute of Public Works Engineering Australasia, Sydney
- IPWEA, 2018, Practice Note 12.1, 'Climate Change Impacts on the Useful Life of Assets', Institute of Public Works Engineering Australasia, Sydney
- IPWEA, 2012, Practice Note 6 Long-Term Financial Planning, Institute of Public Works Engineering Australasia, Sydney, https://www.ipwea.org/publications/ipweabookshop/practicenotes/pn6
- IPWEA, 2014, Practice Note 8 – Levels of Service & Community Engagement, Institute of Public Works Engineering Australasia, Sydney, https://www.ipwea.org/publications/ipweabookshop/practicenotes/pn8
- ISO, 2014, ISO 55000:2014, Overview, principles and terminology
- ISO, 2018, ISO 31000:2018, Risk management – Guidelines
- Local Government (Highways) Act 1982
- Local Government Act 1993
- Roads & Jetties Act (1935)
- Traffic Act (1925)
- Disability Discrimination Act (1992)
- Brighton Council's 2050 Vision
- Brighton Council's Strategic Plan 2019-2029
- Brighton Council's Annual Plan
- Brighton Council's Long Term Financial Management Plan
- Brighton Council's 10 Year Asset Management Plan

10.0 APPENDICES

Appendix A Acquisition Forecast

A.1 – Acquisition Forecast Assumptions and Source

The Acquisitions forecast was sourced from the 10 Year Works Plan and based on previous acquisition data.

A.2 – Acquisition Project Summary

None

A.3 – Acquisition Forecast Summary

Table A3 - Acquisition Forecast Summary

Year	Constructed	Donated	Growth
2020	500000	0	0
2021	500000	0	0
2022	500000	0	0
2023	500000	0	0
2024	500000	0	0
2025	500000	0	0
2026	500000	0	0
2027	500000	0	0
2028	500000	0	0
2029	500000	0	0
2030	500000	0	0
2031	500000	0	0
2032	500000	0	0
2033	500000	0	0
2034	500000	0	0
2035	500000	0	0
2036	500000	0	0
2037	500000	0	0
2038	500000	0	0
2039	500000	0	0

Appendix B Operation Forecast

B.1 – Operation Forecast Assumptions and Source

The Operation forecast was sourced from previous budget and the 10 year plan.

B.2 – Operation Forecast Summary

Table B2 - Operation Forecast Summary

Year	Operation Forecast	Additional Operation Forecast	Total Operation Forecast
2020	0	0	0
2021	0	0	0
2022	0	0	0
2023	0	0	0
2024	0	0	0
2025	0	0	0
2026	0	0	0
2027	0	0	0
2028	0	0	0
2029	0	0	0
2030	0	0	0
2031	0	0	0
2032	0	0	0
2033	0	0	0
2034	0	0	0
2035	0	0	0
2036	0	0	0
2037	0	0	0
2038	0	0	0
2039	0	0	0

Appendix C Maintenance Forecast

C.1 – Maintenance Forecast Assumptions and Source

The Operation forecast was sourced from previous budget and the 10 year plan.

C.2 – Maintenance Forecast Summary

Table C2 - Maintenance Forecast Summary

Year	Maintenance Forecast	Additional Maintenance Forecast	Total Maintenance Forecast
2020	738033	0	738033
2021	738033	0	738033
2022	738033	0	738033
2023	738033	0	738033
2024	738033	0	738033
2025	738033	0	738033
2026	738033	0	738033
2027	738033	0	738033
2028	738033	0	738033
2029	738033	0	738033
2030	738033	0	738033
2031	738033	0	738033
2032	738033	0	738033
2033	738033	0	738033
2034	738033	0	738033
2035	738033	0	738033
2036	738033	0	738033
2037	738033	0	738033
2038	738033	0	738033
2039	738033	0	738033

Appendix D Renewal Forecast Summary

D.1 – Renewal Forecast Assumptions and Source

The Operation forecast was sourced from the 10 year plan.

D.2 – Renewal Project Summary

None

D.3 – Renewal Forecast Summary

Table D3 - Renewal Forecast Summary

Year	Renewal Forecast	Renewal Budget
2020	1771899	2500000
2021	1266980	2500000
2022	558121	2500000
2023	816188	2500000
2024	640607	2500000
2025	949818	2500000
2026	1525898	2500000
2027	210327	2500000
2028	1365739	2500000
2029	174000	2500000
2030	8379809	2500000
2031	391895	2500000
2032	295738	2500000
2033	840555	2500000
2034	344697	2500000
2035	3616835	2500000
2036	1505194	2500000
2037	3911	2500000
2038	1102249	2500000
2039	200683	2500000

Appendix E Disposal Summary

E.1 – Disposal Forecast Assumptions and Source

No additional assets are identified for decommissioning at this stage.

Appendix F Budget Summary by Lifecycle Activity

Table F1 – Budget Summary by Lifecycle Activity

Year	Acquisition	Operation	Maintenance	Renewal	Disposal	Total
2020	500000	0	738033	2500000	0	3738033
2021	500000	0	738033	2500000	0	3738033
2022	500000	0	738033	2500000	0	3738033
2023	500000	0	738033	2500000	0	3738033
2024	500000	0	738033	2500000	0	3738033
2025	500000	0	738033	2500000	0	3738033
2026	500000	0	738033	2500000	0	3738033
2027	500000	0	738033	2500000	0	3738033
2028	500000	0	738033	2500000	0	3738033
2029	500000	0	738033	2500000	0	3738033
2030	500000	0	738033	2500000	0	3738033
2031	500000	0	738033	2500000	0	3738033
2032	500000	0	738033	2500000	0	3738033
2033	500000	0	738033	2500000	0	3738033
2034	500000	0	738033	2500000	0	3738033
2035	500000	0	738033	2500000	0	3738033
2036	500000	0	738033	2500000	0	3738033
2037	500000	0	738033	2500000	0	3738033
2038	500000	0	738033	2500000	0	3738033
2039	500000	0	738033	2500000	0	3738033