

Transport Asset Management Plan 2023-2033



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Version Control

Version	Date	Details	Author	Ref.
1	18/05/2023	AMWG review of previous endorsed plan	Sonja Pienaar, Principal Asset and Mapping Services	Transport Asset Management Plan Draft 23-33 v1.1.docx
2	26/5/2023	Reviewed draft	Luke Botica, Director Works and Infrastructure	Transport Asset Management Plan Draft 23-33 v1.2.docx
3	19/6/2023	Endorsed	Executive Leadership Team	Transport Asset Management Plan Final Draft 23-33 v1.2.docx
4				
5				

Approval

Name	Date	Details
Executive Leadership Team	19/6/2023	As per minutes of the meeting held on 19 June 2023

Approval Process

The City's Executive Leadership Team (ELT) to endorse an annual internal review with a full review every 4 years to be adopted by Council according to the *Asset Management Policy (2019)*.

Transport Asset Management Plan 2021-2031 was endorsed by the City's Executive Leadership Team (ELT) in April 2021.

Executive Summary

The City of Bayswater maintains a range of assets to provide an integrated approach to the delivery of service. The City is responsible for community infrastructure with a replacement value of close to \$1 billion.

In order to ensure that the City effectively manages this large portfolio of assets, the City's Asset Management Working Group renewed their commitment to continuous improvement of its asset management practices, including preparing a suite of asset management plans as informing strategies to the Strategic Community Plan (SCP) and the Long Term Financial Plan (LTFP).

The purpose of an asset management plan is to assist the City to manage their infrastructure and other assets to an agreed level of service, and to ensure this is sustainable into the future. It is a plan for the appropriate acquisition, upgrade, maintenance, renewal, and disposal of assets that balances aspirations with affordability.

This is the City's Asset Management Plan (AMP) for the Transport portfolio (roads, paths, drainage, car parks and street furniture). The City manages the transport network in partnership with other stakeholders such as Main Roads WA, Metronet, Public Transport Authority and adjoining local governments.

On 30 June 2022, the City's Transport portfolio had a current replacement value of \$334m. This excludes non-depreciable assets, such as the road formation. The available data indicates that approximately \$4.6m will be required annually to renew Transport assets to sustain the current service levels. This excludes ongoing operation and maintenance expenditure and in 2021/22 financial year it amounted to approximately \$2.8m.

It is anticipated that a number of likely changes will occur to transport network demand. Some of the more significant changes will be due to the increase in population, the increase in traffic volumes, climate change, vehicle technology changes, promotion of active travel models such as cycling and walking and improved Metronet infrastructure.

While care has been taken to represent accurate available information, the City is committed to continuous improvement to ensure that the organisation's asset management maturity continues to evolve.

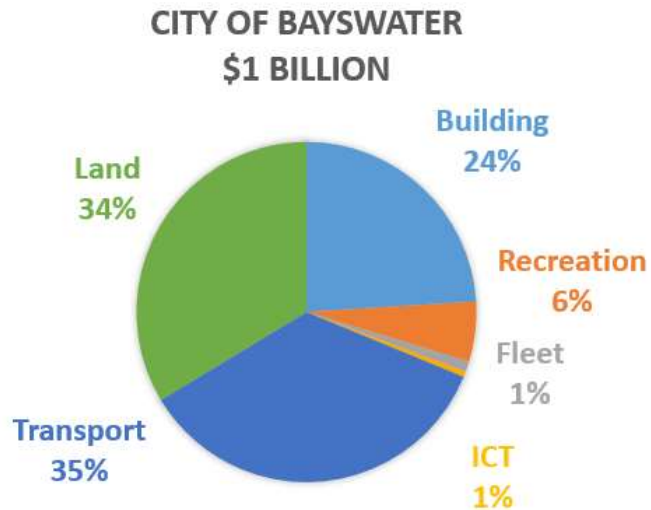
In order to improve asset management practices and the accuracy of this plan, a number of key tasks have been identified. These have been listed within the Improvement Plan for future implementation.

All readers of this asset management plan must understand its limitations and applied assumptions before acting on any information contained within it.

Background and Objectives

Purpose of this Asset Management Plan

As part of the Integrated Planning and Reporting Framework, the City has prepared asset management plans as informing strategies to the Strategic Community Plan (SCP) and the Long Term Financial Plan (LTFP).



This is the City's Asset Management Plan (AMP) for the Transport network and documents related management practices, processes and strategies. The objective of the Transport AMP is to ensure that transport assets are maintained to agreed service levels, and balanced against long term resource availability and sustainability.

Information used in the Asset Management Plan

The City's financial asset register for Infrastructure asset class is required to hold assets at a current fair value as opposed to historic/purchase price. The financial register obtains its fair value valuations from the City's infrastructure asset management system that holds details on each asset and its components as well as unit cost and age/condition information used to estimate the fair value. The values represented in this report has been obtained from a revaluation conducted in the infrastructure asset management system as on 30 June 2023 and aligns with the financial asset register. Revaluations are only required every four years. In subsequent years purchase price is considered sufficient to represent fair value.

Focus of this Asset Management Plan

The AMP focuses on assets that support a fit for purpose transport network. The key assets that make up the network and their values are detailed in Table 1.

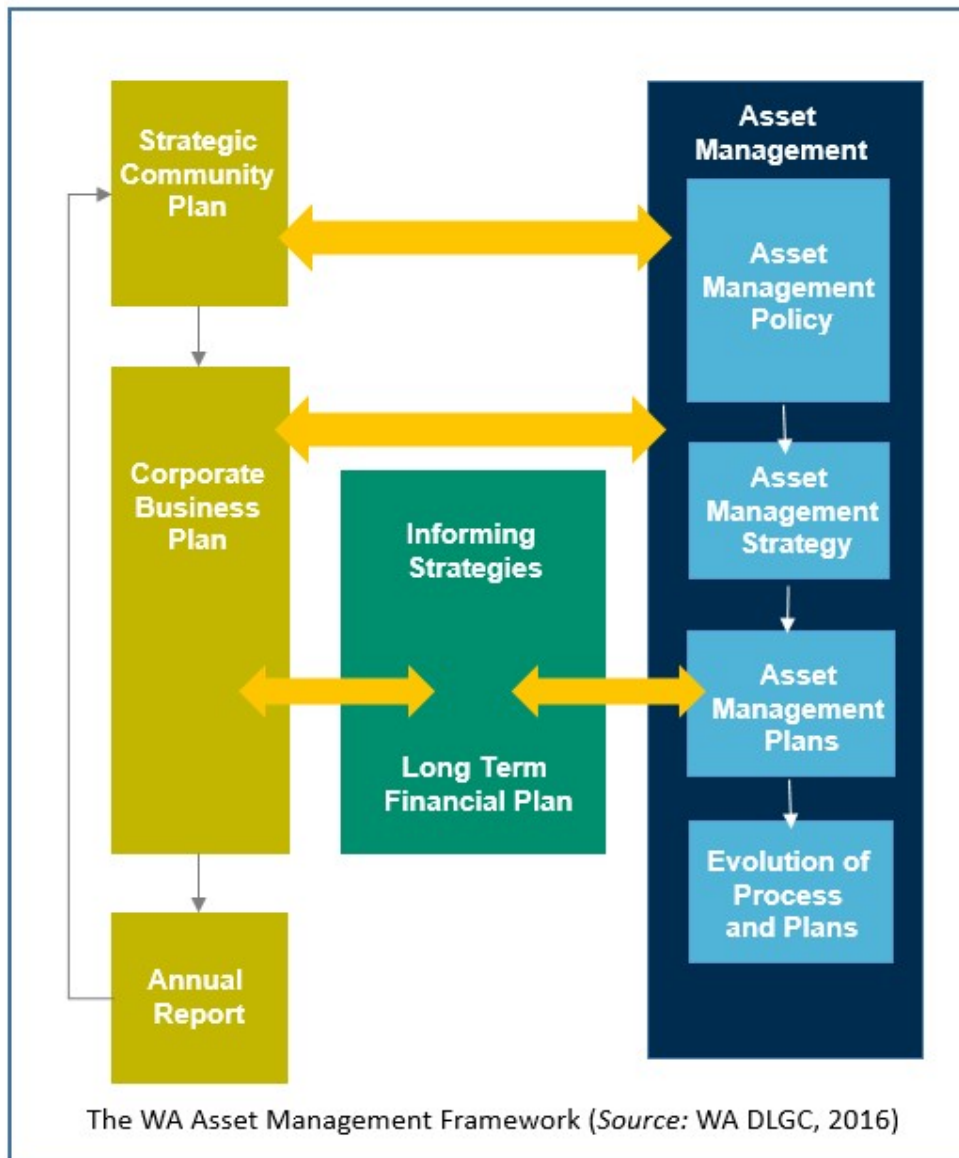
Table 1: Assets covered by Transport AMP (as on 30 June 2022)

Asset Type	Quantity	Current Replacement Cost
Roads		
Pavement	364.63 km	\$126,448,715
Seal	365.08 km	\$49,337,078
Kerbing	727,609 m	\$24,353,071
		\$200,138,863
Car Parks		
Pavement	164,522 m ²	\$5,820,799
Seal	163,051 m ²	\$2,581,734
Kerbing	31,995 m	\$1,070,873
		\$9,473,406
Roads Total		\$209,612,269
Drainage		
Pits and Covers	18,129 items	\$15,614,344
Pipes	22,2058 m	\$49,821,305
Headwalls	283 items	\$420,371
		\$65,856,020
Paths	347 km; 712,935 m ²	\$50,353,139
Miscellaneous (Other Infrastructure)		
Street Furniture	466 items	\$813,015
Bus Shelters	152 Items	\$2,133,548
Public Litter Bins	180 items	\$157,217
Street Lighting	627 items	\$1,780,014
Signage	11,665 items	\$2,363,072
Entry Statements	13 items	\$521,004
Guard Rails	48 items	\$270,624
		\$8,038,494
Total		\$333,859,923

Corporate Document Relationships

This AMP integrates with the following City documents as part of an integrated planning and reporting framework:

- Strategic Community Plan
- Corporate Business Plan
- Long Term Financial Plan
- Asset Management Strategy
- Annual Budget



The Transport AMP is also guided by the following informing strategies and inputs:

- Cycle Network Strategy
- City Wide Traffic Management Implementation Plan
- Drainage Lid Replacement Program
- Local Bike Plan (under development)
- Parking Strategy
- Safe Routes to School Program

- Town Centre Activation Plans (Bayswater, Maylands, Morley, Noranda)
- Townsite Disabled Person’s Walkability Assessment Strategy

Funding programs and their requirements, such as Roads to Recovery (R2R), Local Roads and Community Infrastructure Program (LRCIP), Metropolitan Region Road Project Grants (MRRG), Road Safety Program (Blackspot program), Low Cost Urban Road Safety Program (LCURS) will guide project eligibility and plays an important role in managing Transport Assets.

Time Period of the AMP and Review Process

The Transport AMP covers a 10-year period and will be reviewed annually.

An internal review will be conducted annually and endorsed by the City’s Executive Leadership Team (ELT) with a full review every four years for the approval of Council as per the *Asset Management Policy (2019)*. The Asset Management Plan review will inform the annual review of the LTFP/Budget process as part of the integrated planning and reporting framework.

The next review will commence shortly after 1 July 2023. These Asset Management Plans for 2024 to 2034 will inform the LTFP 24-34 and the 24-25 budget process to commence in January 2024.

Service Levels

Introduction

Service Levels describe the outputs that the City provides from its transport network. These have been developed through the consideration of strategic and policy inputs, customer perceptions and needs.

Community Perceptions Survey

The City’s last Community Perceptions Survey was in 2021 and indicated the following performance results and trends as shown in Table 2. A new survey is to be conducted in 2023.

Table 2: Customer Perception Survey

Focus	Very Satisfied or Satisfied 2021	Very Satisfied or Satisfied 2018	Trend
Road Maintenance	78.6%	79.6%	Decreasing
Footpaths and Cycle ways	73.0%	78.7%	Decreasing

Service Level Performance

Table 3 details the targeted service levels to be refined in future revisions of the plan.

Table 3: Service Level Performance

KPI	Service level - Target	Service level - Performance
Accessibility	All designs of new asset to address accessibility.	Monitoring and reporting annually
Aesthetics	Visual Condition 1-3 for 80%+	Monitoring and reporting annually
Availability	Reduce unplanned failures to a minimum.	Monitoring and reporting annually
Compliance	All designs of new asset to adhere to standards and regulations	Monitoring and reporting annually
Financial Sustainability	Asset Ratios	Monitoring and reporting annually
Quality	Aim to reduce whole of life cost	Monitoring and reporting annually
Safety	Traffic accident data	Monitoring and reporting annually

Service Demand

This section summarises likely factors which may affect the demand for transport network over the life of the Transport AMP.

Some of the more significant changes will be due to the increase in population, the increase in traffic volumes, climate change, vehicle technology changes, promotion of active travel models such as cycling and walking and improved Metronet infrastructure.

Historic Demand

The following table outlines the key factors that have affected historical service demand change.

Table 4: Historic Demand Drivers

Driver Type	Effect	Demand Change
Vehicle Ownership	Dwellings with a registered motor vehicle up from 24,258 in 2016 to 25,842 in 2021.	Increase
Travel to Work	Number of people travelling to work up from 22,199 (2016) to 23,885 (2021). Car is by far the most common mode. On census day 2021 in the City of Bayswater 65.3% (2016, 67.2%) travelled to work in a private car, 10.5%(2016, 13.2%) took public transport and 2.2 % (2016, 2.3 %) rode to work on a bike or walked. 7.5% (2016, 3.1%) worked from home.	Increase
Population	The population grew from 64,677 (2016) to 69,283 (2021). This is consistent with the growth rate between 2006 and 2016.	Increase
Demographics	The median age declined slightly between 2006 and 2016 from 38 to 37 years of age and rose again to 38 by 2021 census.	Neutral
Recreation	Participation in recreational activities that utilise transport assets (i.e. walking on paths) remained virtually unchanged in recent years.	Neutral
Climate	IPWEA provides some guidelines on how to access physical damage and chemical deterioration impact on useful life of assets due to changing climates. Future plans may attempt to determine these past changes to allow for better future projections of useful lives.	Changing patterns

Future Demand

Consideration was given to six possible future demand drivers for transport assets.

Table 5: Future Demand Drivers

Driver Type	Effect	Demand Change
Political	Possible increased demand for additional municipal resources as a result of decreasing external grant funding.	Increase
Economic	The long term outlook is for transport maintenance costs to at least match inflation increases. While road fleets will progressively move to electrical power, the overall cost of motoring is unlikely to significantly change. The long term financial sustainability of the transport network requires further analysis.	Neutral
Social	Increased demand due to population growth and densification on transport infrastructure. Increased availability of alternative transport modes such as new train stations, mid-tier transport opportunities will impact current and future planned transport infrastructure. The “Green Dreams” Urban canopy strategy is advocating for healthier and more sustainable transport options such as cycling and walking.	Increase
Technological	Opportunity exists to manage and maintain the transport network more efficiently and sustainably through the use of software solutions and technologies such as the internet of things (IoT). Opportunity also exists to plan for the future reuse and/or recycling of waste materials. Investigation is required into the provision and timing of electric vehicle recharge points and the requirements for autonomous vehicles.	Increase
Legal	Benefits (i.e. stronger risk mitigation) may be realised though improving the City’s formal defect identification and correction practices to reduce interruptions in the transport network and ensure safe traveling options.	Neutral
Environmental	Increased demand for more environmentally sustainable construction and maintenance practices. Increased need to understand future rainfall events and maximum temperatures and allow for shorter asset lives and higher maintenance costs. The application of water sensitive urban design principals and living streams will increase in future as part of mitigating the environmental impact of traditional infrastructure and climate change.	Increase

Demand Management

A review of past and future demand factors shows that change has occurred and will also likely occur into the future. Looking forward, the following initiatives/improvements are proposed in order to meet demand changes.

- Regularly review strategies to consider, and plan for, the possible effects that identified demand drivers may have on transport assets.
- Investigate the need for a transport strategy, a walkability plan and drainage improvement plan to address the complexity of challenges and changes in the demand for transport infrastructure in the City.
- Aligning the Long Term Financial Plan and annual budgets with the AMP supported 10-year Forward Capital Works Programs will ensure that demand is managed in a sustainable way.
- Review the City's current approach to the reuse/recycling of transport asset material.

Risk Management

The City intends to proactively monitor the condition of transport assets. Having sufficient warning and understanding, the likelihood and consequence of an asset failing, will allow the City to take corrective action to avoid unplanned failures and meet agreed service levels.

A risk analysis of the current transport asset and asset management practices has not been included in this document, and has been identified in the improvement plan as a high priority to address in future plans.

Lifecycle Management

Lifecycle management refers to how the City intends to manage and operate its transport assets at the agreed service levels. It considers the information and strategies used to guide lifecycle decisions, including decisions regarding acquisition, maintenance, renewal, upgrade and disposal. Future revisions of this AMP will consider the implementation of these lifecycle management strategies which will feed into the 10-year Forward Capital Works Program.

Transport Network Physical Parameters

The following information is obtained from the City's asset management system.

Table 6: Transport Network Physical Parameters (30 June 2022)

Asset Type		Quantity	Current Replacement Cost
Roads	Pavement	364.63 km	\$126,448,715
	Seal	365.08 km	\$49,337,078
	Kerbing	727,609 m	\$24,353,071
			\$200,138,863
Car Parks	Pavement	164,522 m ²	\$5,820,799
	Seal	163,051 m ²	\$2,581,734
	Kerbing	31,995 m	\$1,070,873
			\$9,473,406
Roads Total			\$209,612,269
Drainage	Pits and Covers	18,129 items	\$15,614,344
	Pipes	22,2058 m	\$49,821,305
	Headwalls	283 items	\$420,371
			\$65,856,020
Paths		347 km; 712,935 m ²	\$50,353,139
Miscellaneous (Other Infrastructure)			
	Street Furniture	566 items	\$813,015
	Bus Shelters	152 Items	\$2,133,548
	Public Litter Bins	180 items	\$157,217
	Street Lighting	627 items	\$1,780,014
	Signage	11,665 items	\$2,363,072
	Entry Statements	13 items	\$521,004
	Guard Rails	48 items	\$270,624
			\$8,038,494
Total			\$333,859,923

Transport Network Condition

Table 7 shows the condition rating for transport assets (rating 1-5 with 1 being very good and 5 being very poor) weighted by replacement cost. The condition is purely a visual condition rating.

Table 7: Road Network Condition (2021-22 Revaluation)

Asset Type	Very Good	Good	Fair	Poor	Very Poor
Roads					
Pavement	3%	97%	0%	0%	0%
Seal	22%	18%	25%	20%	14%
Kerbing	4%	11%	51%	33%	2%
	8%	67%	12%	9%	4%
Car Parks					
Pavement	2%	98%	0%	0%	0%
Seal	20%	28%	41%	10%	2%
Kerbing	6%	61%	30%	3%	0%
	7%	75%	14%	3%	0%
Drainage					
Pits and Covers	4%	13%	78%	5%	0%
Pipes	3%	3%	93%	0%	0%
Headwalls	8%	26%	62%	3%	0%
	4%	6%	89%	1%	0%
Paths	15%	13%	70%	2%	0%
Miscellaneous (Other Infrastructure)					
Street Furniture	42%	32%	17%	9%	0%
Bus Shelters	40%	9%	41%	9%	1%
Public Litter Bins	12%	69%	8%	5%	7%
Lighting	14%	57%	29%	1%	0%
Signage	23%	29%	41%	5%	1%
Entry Statements	0%	0%	85%	8%	8%
Guard Rail	1%	0%	99%	0%	0%
	29%	30%	34%	6%	1%

Transport Network Data Confidence and Reliability

Table 8 details the reliability and confidence levels of the current asset data the City holds (1-5 with 1 being very good and 5 very poor). It is the City's intention to progress towards a position whereby data confidence levels for all areas are classified as either a 1 or 2.

Table 8: Transport Network Data Confidence Levels

Asset Type	Inventory	Condition	Valuation
Road seal	1	1	2
Road pavement	1	2	2
Road Kerbing	2	2	2
Car Parks	2	2	2
Miscellaneous	3	3	3
Paths	2	2	2
Drainage	2	3	2
Weighted Average	2	2	2

Lifecycle Management Strategies

This section details all the strategies and practices that are currently employed to manage transport assets at the lowest lifecycle cost.

Operation and Maintenance (O&M) Strategy

The City seeks to progress to a point whereby it employs preventative maintenance strategies wherever possible, to maximise asset performance and minimise long term costs. Preventative maintenance strategies are based on technical service levels. Each asset group's strategy will be specifically designed for its own requirements.

Some of these activities include:

- Road surface repair
- Road sweeping
- Pathway maintenance program includes grinding and slab replacement to address risk of trip hazard.
- Drainage pit cleaning
- Sign replacement
- Carpark maintenance – signage and linemarking
- Bus shelter maintenance
- Structural inspections of structures
- Maintain boat ramps and jetties

Operation and maintenance expenditure in 2021/22 financial year amounted to approximately \$2.8m.

Renewal Strategy

All transport assets are periodically inspected to determine their condition, on a 1 (very good) to 5 (very poor) scale for all transport assets. City staff then consider condition 4 and 5 assets to determine the timing, scope and budget of any future renewal project. The identified projects are scheduled within the 10-year Forward Capital Works Program in line with informing strategies and strive to balance cost, safety, reliability and functionality.

The purpose of the asset management plan is to ensure that these strategies are effective to manage the required renewals to maintain an agreed level of service.

Table 9: Transport Assets – useful life estimates

Asset Type	Useful life - Asset Renewal Triggers
Roads	
Pavement	99 years
Seal	15 years for DistributorA roads 20 years for DistributorB and Local Distributor roads 30 years for Local Access Roads
Kerbing	75 years
Car Parks	
Pavement	99 years
Seal	30 years
Kerbing	75 years
Drainage	
Pits and Covers	80 years for brick pits 200 years for concrete pits 99 years for steel covers
Pipes	200 years for asbestos, earthenware, concrete, subsoil, unplasticised polyvinyl chloride (UPVC), high density polyethylene (HDPE) pipes 50 years for coiled pipes 30 years for other
Headwalls	99 years
Paths	30 years for asphalt path 75 years for brick, concrete, limestone, synthetic
Other Infrastructure	
Street Furniture	5-15 years
Bus Shelters	35-40 years
Public Litter Bins	10-15 years
Lighting	10 years for luminaires 20-50 years for poles
Signage	4-10 years for sign blades 25 years for sign poles
Entry Statements	30 years
Guard Rail	40 years

In line with the City's *Asset Management Policy (2019)* when considering asset renewal, consideration should also be given to disposal, rationalisation and non-asset solutions to reduce the whole of life cost of providing the asset and the service.

Table 10: Transport Asset Renewal Programs

Asset Type	Renewal Strategy
Roads	The City's road surface preservation strategy is engineered to ensure that the road surface as well as the remaining pavement reaches its intended useful life.
Carparks	Annual programs for reseal of car parks also addresses the ACROD parking bay improvements and constructing additional paths to allow for access and inclusion requirements to facilities and other paths.
Drainage	Drainage lids/covers are replaced reactively. It is difficult to predict drainage renewal requirements without condition assessments. Risk approach to be considered based on criticality – i.e. downstream is more critical than upstream and possibly focus detail condition program in these high risk areas.
Pathways	Damage and localised failure of pathways are managed under pathway maintenance, but once it is a significant section of path (to be defined) that require renewal due to its overall condition it will be identified in the renewal program. Pathways standards are being reviewed and will feed into future renewal program.
Street Furniture	Renewal criteria will include condition and functionality.
Bus Shelters	Bus shelters are provided in partnership with the Public Transport Authority (PTA). Any renewal of bus shelters are the responsibility of the City.
Public Litter Bins	Renewal criteria will include condition and functionality.
Street Lighting (City owned)	Consider non-asset strategies for replacing decorative assets in future so that they can be transferred to western power.
Signage	The City manages a range of different signs, including road name signs, parking signs and tourist & business directional signs. Road warning signs and regulatory traffic signs and traffic light signals are managed by MRWA in partnership with the City. Some signage is replaced as part of regular maintenance and a formal signage renewal strategy needs to be agreed to.
Entry Statements	Renewal criteria will include condition and functionality.
Guard Rail	Renewal criteria will include condition and functionality.

Upgrade/New Strategy

The need for new and/or upgraded transport assets (i.e. to meet a service deficiency) are identified from a number of potential sources. Each potential project is investigated by City staff and where valid, often prioritised against similar projects. Approved projects are then listed onto a consolidated 10-year Forward Capital Works Program.

By considering upgrade and new projects together with renewal and disposal, activities within an integrated asset management approach, appropriate consideration can be given to whole of life cost while prioritising renewal activities.

Table 11: Transport Upgrade/New Programs

Asset Type	Upgrade/New Strategy
Roads	Road upgrades are currently conducted through various programs with different objectives such as LCURS, Blackspot/RSA and upgrades to MRWA roads – these objectives need to be integrated through the development of an integrated transport plan or even a transport strategy that looks at all modes of transport – rail, road and paths as well as land use strategies at local and regional scale.
Carparks	Upgrades as per recommendations from other strategies such as the City's Access and Inclusion Plan.
Drainage	<p>The drainage improvement program considers the following objectives:</p> <ul style="list-style-type: none"> • Improving environmental sustainability by managing stormwater overland flow; and • Mitigating potential flooding risk which looks at slow flowing drainage or low-lying areas. <p>These improvements addresses the effectiveness of the drainage system due to the impact of new developments, increased residential densities and climate change (more intense rainfall).</p>
Pathways	Work is being done to create a pathway hierarchy and develop a pathway master plan that aligns with the Bike Plan. Path upgrade program is driven by master plan and path hierarchy that aligns with road hierarchy for new paths and missing link paths. The master plan also identifies paths that needs to be upgraded either at time of renewal or prior. This also has to align with the long-term cycle network (LTCN) path strategy.
Street Furniture	Some upgrades are identified in an effort to implement the Town Centre Activation Plans (Bayswater, Maylands, Morley, Noranda).
Bus Shelters	Bus shelters are provided in partnership with the Public Transport Authority (PTA). If certain criteria are met the PTA may provide up to 50% funding.
Public Litter Bins	Currently this is done on a case by case basis.
Street Lighting (City owned)	Currently no strategy exist for the upgrade/new City owned decorative Streets lights. A Strategy for upgrading Street Lights to use LED
Signage	Currently no upgrade/new strategy exist and new signs and upgrade to signs are conducted on a case by case basis.
Entry Statements	Currently this is done on a case by case basis.
Guard Rail	New or upgraded guard rails will be installed as part of road safety investigations.

Disposal Strategy

The City rarely disposes of transport assets. Where a potential need is identified not to replace an asset, it is considered a true disposal. The *Asset Management Policy (2019)* not only prioritises renewal of assets but also identifies that consideration should be given to rationalisation or non-asset solutions when considering renewal of assets. Current information only supports age or condition-based considerations when assessing renewal. There are no

documented criteria for considering the disposal of transport assets and they are currently assessed on a case by case basis. All true disposal should be identified through the 10-year Forward Capital Works Program.

Table 12: Transport Disposal Program

Asset Type	Disposal Strategy
Roads	No current disposal strategy.
Carparks	No current disposal strategy.
Drainage	No current disposal strategy.
Pathways	No current disposal strategy.
Street Furniture	No current disposal strategy.
Bus Shelters	No current disposal strategy. Shelters that require renewal and do not meet the PTA criteria for part funding may be considered for disposal without replacement.
Public Litter Bins	No current disposal strategy.
Street Lighting (City owned)	No current strategy. However when replacing decorative lighting consideration should be given to Western Power requirements in order to hand over assets to Western Power.
Signage	No current disposal strategy.
Entry Statements	No current disposal strategy.
Guard Rail	No current disposal strategy.

Financial

This section contains the financial requirements resulting from all the information presented in this Transport AMP.

Current operation & maintenance, renewal, upgrade and new expenditure

Future revisions of this plan will report on historical expenditure for operation & maintenance, renewal, upgrade and new expenditure.

Table 13 provides a summary of all capital expenditure related to transport assets during the 2021-22 financial year.

Table 13: Transport Asset Capital Expenditure 2021-22 financial year

Asset Class	Total
Roads (incl Car Parks)	\$2,741,591
Drainage	\$164,463
Paths	\$469,187
Miscellaneous/Other Infrastructure	\$943,972
Transport Total	\$4,319,213

Projected Expenditure Requirements

Projected Renewal Expenditure

Widely used indicators for long-term renewal requirements are annual depreciation figures. These figures represent the annual replacement cost to maintain the service at current service levels.

More refined estimates of the required renewal expenditure require data that is reliable in terms of inventory, valuation and condition.

As the City's asset management maturity, data reliability and systems improve, the reliability of these estimates will improve.

For purposes of this document, the annualised replacement cost will present the official indicators of required renewal expenditure as an annual average over the next 10 years. This number excludes the impact of any growth of the portfolio due to new and upgrade projects over the next 10 years.

All replacement costs are presented as they were in June 2022, and no consumer or construction price index (CPI) has been applied to adjust for inflation.

Table 14 provides a summary of estimated renewal requirements as described above.

Table 14: Transport Assets Projected Renewal Expenditure Requirements

Asset Type		Annualised Replacement Cost
Roads	Pavement	\$1,277,132
	Seal	\$1,788,985
	Kerbing	\$323,896
		\$3,390,013
Car Parks	Pavement	\$58,790
	Seal	\$84,491
	Kerbing	\$14,243
		\$157,523
Roads Total		\$3,547,537
Drainage	Pits and Covers	\$132,935
	Pipes	\$250,307
	Headwalls	\$4,245
		\$387,487
Drainage Total		\$387,487
Paths Total		\$725,874
Other Infrastructure	Street Furniture	\$44,433
	Bus Shelters	\$48,695
	Public Litter Bins	\$9,566
	Street Lighting	\$62,864
	Signage	\$130,324
	Entry Statements	\$17,349
	Guard Rails	\$6,766
Other Infrastructure Total		\$319,997
Transport Total		\$ 4,593,408

Projected Upgrade and New Expenditure

Future revisions of the Transport Asset Management Plan will identify upgrade and new projects that will impact Transport asset portfolio.

Planned Expenditure Requirements

In future revisions of this plan the 10-year Forward Capital Works Program (FCWP) and the Long Term Financial Plan (LTFP) will provide information on planned expenditure.

Plan Improvement and Monitoring

This Section of the Transport AMP outlines the degree to which it is an effective and integrated tool within the City. It also details the future tasks required to improve its accuracy and robustness.

Performance Measures

The effectiveness of this asset management plan will be monitored by the performance of three statutory asset management ratios that the City reports on.

These KPIs are useful in determining:

- the current physical state of the asset portfolio;
- how sufficient past renewal expenditure was; and
- whether sufficient future renewal expenditure is being allowed for.

Asset Consumption Ratio

This ratio is a measure of the condition of the City's physical assets, by comparing their depreciated replacement cost or fair value (replacement cost less deductions for physical deterioration) against their current replacement cost (cost to replace). The ratio highlights the aged condition of the portfolio and has a target band of between 50%-75%. Non-depreciating assets should be excluded from the calculation.

According to the available data these ratio indicate that overall the transport assets fall within the target range. However, some categories within the transport assets are falling below the target range indicating the condition and age profile of the portfolio needs to be monitored closely. The reliability of the ratios will improve as the reliability of the data improves. However, it is still important to report on these ratios.

Table 15: Transport Asset Consumption Ratio

Asset Type		Fair Value (Written Down Cost)**	Current Replacement Cost	Asset Consumption Ratio
Roads	Pavement	\$72,307,789	\$126,448,715	57%
	Seal	\$22,169,157	\$49,337,078	45%
	Kerbing	\$10,422,292	\$24,353,071	43%
		\$104,899,238	\$200,138,863	52%
Car Parks	Pavement	\$4,824,780	\$5,820,799	83%
	Seal	\$1,470,701	\$2,581,734	57%
	Kerbing	\$831,458	\$1,070,873	78%
		\$7,126,940	\$9,473,406	75%
Roads Total		\$112,026,177	\$209,612,269	53%
Drainage	Pits and Covers	\$9,691,416	\$15,614,344	62%
	Pipes	\$39,139,340	\$49,821,305	79%
	Headwalls	\$250,346	\$420,371	60%
		\$49,081,102	\$65,856,020	75%
Paths Total		\$35,577,363	\$50,353,139	71%
Other Infrastructure	Street Furniture	\$624,798	\$813,015	77%
	Bus Shelters	\$1,046,476	\$2,133,548	49%
	Public Litter Bins	\$50,278	\$157,217	32%
	Street Lighting	\$671,015	\$1,780,014	38%
	Signage	\$1,182,411	\$2,363,072	50%
	Entry Statements	\$265,954	\$521,004	51%
	Guard Rails	\$155,541	\$270,624	57%
		\$3,996,474	\$8,038,494	50%
Transport Total		\$200,681,117	\$333,859,923	60%

Asset Sustainability Ratio

The ratio is a measure of the extent to which assets managed by the City are being replaced as they reach the end of their useful lives. The ratio is essentially past looking, and is based upon dividing the average annual depreciation expense of the Transport asset portfolio by the average annual renewal expenditure, for a number of past years (e.g. 3). The ratio has a target band of between 90%-110%.

Future revisions of this plan will collect and refine the reporting of actual renewal expenditure. Once data reliability has improve these ratios can be calculated

Table 16: Transport Asset Sustainability Ratio

Asset Type	1 Year Average Annual Renewal Expenditure	Annual Depreciation	Asset Sustainability ratio - target 90%
Roads			
Pavement	TBC	\$1,277,132	TBC
Seal	TBC	\$1,788,985	TBC
Kerbing	TBC	\$323,896	TBC
		\$3,390,013	
Car Parks			
Pavement	TBC	\$58,790	TBC
Seal	TBC	\$84,491	TBC
Kerbing	TBC	\$14,243	TBC
		\$157,523	
Roads Total	TBC	\$3,544,219	TBC
Drainage			
Pits and Covers	TBC	\$132,935	TBC
Pipes	TBC	\$250,307	TBC
Headwalls	TBC	\$4,245	TBC
Drainage Total	TBC	\$387,487	TBC
Paths Total	TBC	\$725,874	TBC
Other Infrastructure			
Street Furniture	TBC	\$44,433	TBC
Bus Shelters	TBC	\$48,695	TBC
Public Litter Bins	TBC	\$9,566	TBC
Street Lighting	TBC	\$62,864	TBC
Signage	TBC	\$130,324	TBC
Entry Statements	TBC	\$17,349	TBC
Guard Rails	TBC	\$6,766	TBC
Other Infrastructure Total	TBC	\$319,997	TBC
Transport Total	TBC	\$4,980,895	TBC

Asset Renewal Funding Ratio

The ratio is a measure as to whether the City has the financial capacity to fund asset renewal as and when it is required over the future 10 year period. The ratio is calculated by dividing the net present value of planned renewal expenditure over the next 10 years in the LTFP, by the net present value of planned renewal expenditure over the next 10 years in the AMP. The same net present value discount must be applied in both calculations. The ratio has a target band of between 95%-105%.

Future revisions of this plan will collect planned renewal from the LTFP and refine the required renewal expenditure required. Once data reliability has improve these ratios can be calculated.

Table 17: Transport Asset Renewal Funding Ratio

Asset Type	NPV of LTFP Planned Renewal Expenditure over the next 10 years according to LTFP	NPV of AMP Required Renewal Expenditure over the next 10 years	Asset Renewal Funding Ratios
Roads			
Pavement	TBC	TBC	TBC
Seal	TBC	TBC	TBC
Kerbing	TBC	TBC	TBC
Car Parks			
Pavement	TBC	TBC	TBC
Seal	TBC	TBC	TBC
Kerbing	TBC	TBC	TBC
Roads Total	TBC	TBC	TBC
Drainage			
Pits and Covers	TBC	TBC	TBC
Pipes	TBC	TBC	TBC
Headwalls	TBC	TBC	TBC
Drainage Total	TBC	TBC	TBC
Paths Total	TBC	TBC	TBC
Other Infrastructure			
Street Furniture	TBC	TBC	TBC
Bus Shelters	TBC	TBC	TBC
Public Litter Bins	TBC	TBC	TBC
Street Lighting	TBC	TBC	TBC
Signage	TBC	TBC	TBC
Entry Statements	TBC	TBC	TBC
Guard Rails	TBC	TBC	TBC
Other Infrastructure Total	TBC	TBC	TBC
Transport Total	TBC	TBC	TBC

Improvement Plan

It is important to further develop the City's Asset Management Plans. This will ensure that the City's asset management continues to mature and can provide accurate data and information for effective decision-making to ensure that the City's infrastructure and assets are managed sustainably into the future.

The asset management improvement plan generated from this AMP is shown in Table 19.

Table 18: Transport AMP Improvement Plan

Task No	Task	Timeline
1	Identify main risks for assets and asset management practices	Dec 2023
2	Improve inventory reliability. Review classification and definitions to form the basis of a review of the inventory.	Dec 2023
3	Improve valuation reliability by reviewing replacement cost estimates and useful life triggers.	Dec 2023
4	Improve condition data reliability and review the renewal and other lifecycle strategies to align with current practices.	Dec 2023
5	Improve reporting on historic renewal cost to allow for calculating the asset sustainability ratios	May 2024
6	Prepare 10-year Forward Capital Works Programs that feed into the Long Term Financial Plan and allow for calculating asset renewal funding ratios.	May 2024