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CITY OF ADELAIDE

INFRASTRUCTURE AND PUBLIC WORKS COMMITTEE

AGENDA & REPORTS

for the meeting

Tuesday, 16 April 2024
at 7.00 pm

in the Colonel Light Room, Adelaide Town Hall

Members – The Right Honourable the Lord Mayor, Dr Jane Lomax-Smith

Councillor Elliott (Chair)

Councillor Noon (Deputy Chair)

Deputy Lord Mayor, Councillor Snape and Councillors Abrahimzadeh, Couros, Davis, Giles, Hou, Li, Martin and Dr Siebentritt

1. Acknowledgement of Country

At the opening of the Infrastructure and Public Works Committee meeting, the Chair will state:

'Council acknowledges that we are meeting on traditional Country of the Kaurna people of the Adelaide Plains and pays respect to Elders past and present. We recognise and respect their cultural heritage, beliefs and relationship with the land. We acknowledge that they are of continuing importance to the Kaurna people living today.

And we also extend that respect to other Aboriginal Language Groups and other First Nations who are present today.'

2. Apologies and Leave of Absence

Nil

3. Confirmation of Minutes - 19/3/2024

That the Minutes of the meeting of the Infrastructure and Public Works Committee held on 19 March 2024, be taken as read and be confirmed as an accurate record of proceedings.

View public 19 March 2024 Minutes

4. Declaration of Conflict of Interest

5. Deputations

6. Workshops

Nil

7. Reports for Recommendation to Council

8. Reports for Noting

Nil

9. Closure

Capital Project Update – March 2024

Strategic Alignment - Our Corporation

Public

Tuesday, 16 April 2024

Infrastructure and Public Works Committee

Program Contact:
Mark Goudge, Associate Director Infrastructure

Approving Officer:
Tom McCready, Director City Services

EXECUTIVE SUMMARY

This report provides a summary view of the Capital Works Program delivery and financial performance as of 31 March 2024 including a snapshot of headline projects either complete or in progress, future procurement activities and upcoming community consultation and engagement activities.

The Infrastructure Program will present a monthly report to the Infrastructure & Public Works Committee reflecting the previous monthly performance.

RECOMMENDATION

THAT THE INFRASTRUCTURE AND PUBLIC WORKS COMMITTEE RECOMMENDS TO COUNCIL

THAT COUNCIL:

1. Notes the Capital Works Program Update for March 2024 as contained within this report and Attachment A to Item 7.1 on the Agenda for the meeting of the Infrastructure & Public Works Committee held on 16 April 2024.

IMPLICATIONS AND FINANCIALS

City of Adelaide 2024-2028 Strategic Plan	Strategic Alignment – Our Corporation Strategy, Value and Efficiency - Strategic and Capital Projects are delivered on time and on budget (target 75%)
Policy	Not as a result of this report
Consultation	Consultation to various levels as required for the delivery of each project has or will be undertaken.
Resource	Projects delivered through a combination of Council resources, contract staff and external contractors and suppliers.
Risk / Legal / Legislative	Not as a result of this report
Opportunities	Not as a result of this report
23/24 Budget Allocation	This report tracks capital works performance against the 2023/24 Capital Works budget of $110.336m
Proposed 24/25 Budget Allocation	Not as a result of this report
Life of Project, Service, Initiative or (Expectancy of) Asset	Life expectancy of assets varies by asset class.
23/24 Budget Reconsideration (if applicable)	Not as a result of this report
Ongoing Costs (eg maintenance cost)	Ongoing costs for the maintenance of new and/or renewed assets will be factored into future Asset Management and Maintenance Plans, Business Plans and Budgets.
Other Funding Sources	Projects reported on are primarily funded from Council's Capital Budget, however various State and Federal grant funding opportunities have been leveraged against a number of projects.

DISCUSSION

1. The total revised Capital Expenditure Budget for 2023/24 approved by Council is $110.336m.

2. The Capital Works Program is itemised as follows.

   2.1. Major Projects are defined as complex projects identified through Council strategies and plans; the funding allocated within 2023/24 financial period total $42.068m.

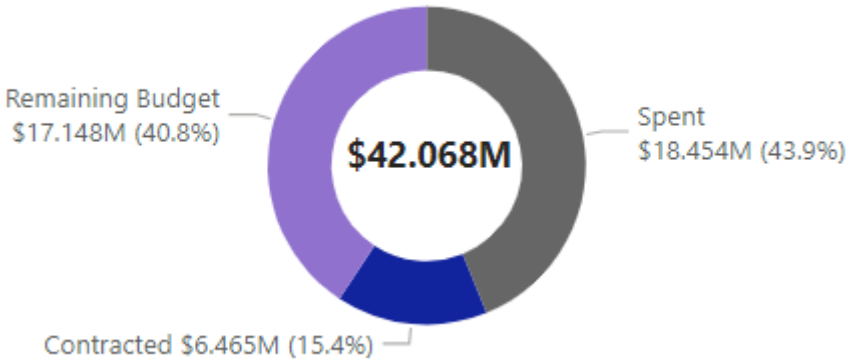
   2.2. New and Upgrade Projects are defined as installation of new infrastructure and upgrades to existing infrastructure, identified through Council strategies and plans, the funding allocated within 2023/24 financial period total $14.115m.

   2.3. Renewal Projects are defined as renewals and maintenance works which are aligned to Asset Management Plans and current assets, the funding allocated within 2023/24 financial period total $54.153m.

3. The monthly Capital Works Update provides the status of these three capital programs as at the end of each calendar month.

Major Projects

4. Major Projects as of 31 March 2024 reflects $18.454m in spend and a further $6.465m in contracted works.



5. Examples of Major Projects within this category are:

   5.1. Rymill Park / Murlawirrapurka (Park 14) Lake Upgrade

   5.2. Hutt Street Entry Statement

   5.3. North-South Bikeways

6. Major Project Summary:

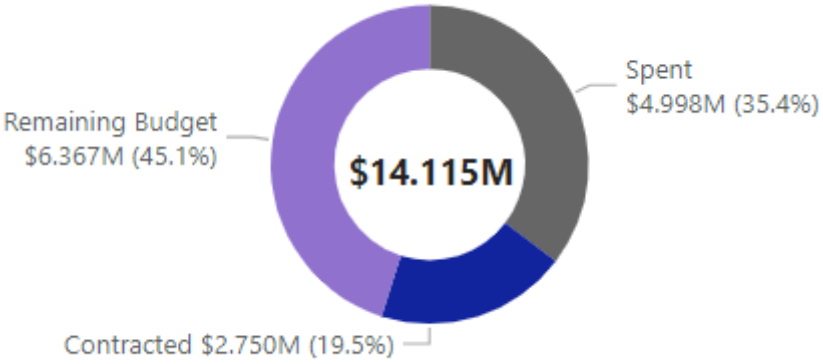
   6.1. Rymill Park Lake is nearing completion while managing close interface with event stakeholders on the back of recent Adelaide Fringe activities and planning for the Adelaide Equestrian Festival. The lake is set to be filled with 5,280KL water (~100 backyard swimming pools) and is set to open in mid-April.

   6.2. The Hutt Street Entry Statement construction is expected to start on site from mid-April with a project completion date of November 2024. Notification was provided to Hutt Street traders with additional signage also being provided on site.

   6.3. The North-South Bikeways project construction commencement is approaching. The team has been actively engaging with stakeholders to share construction plans and timelines.

New and Upgrade

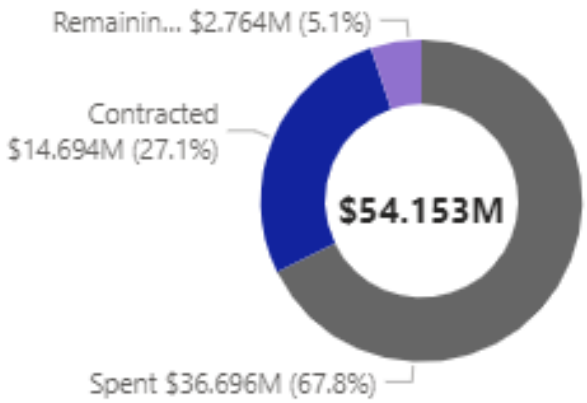
7. New and Upgrade Projects as of 31 March 2024 reflects $4.998m in spend and a further $2.750m in contracted works.



8. Examples of New and Upgrade Projects within this category are:
   8.1. Light Square Electrical Infrastructure Upgrade
   8.2. Vincent Street & Place Improvements
   8.3. Field Street Improvements
9. New and Upgrade Summary:
   9.1. We have reached Practical Completion on 1 New and Upgrade project in March – Women in Chamber – Mary Lee and Catherine Helen Spence.
   9.2. The Light Square Electrical Infrastructure Upgrade will provide increased provisions for power for events use within Light Square. Stage 1 of the project is completed with connection to Light Square facilitating recent Adelaide Fringe events. Stage 2 works will extend the Stage 1 connection to a permanent location, increasing accessibility and functionality. A Design and Construct contract for the remaining stage is now closed.
   9.3. Streetscape improvements to Vincent Street have been developed to concept design phase and shared with the community. Pending budget approvals, the project will provide for enhanced amenity road pavements, footpath, kerb, and water table.
   9.4. Field Street Improvements will commence the first stage of works in April following a slight delay due to service relocation works of the underground pipelines. This will enable electrical conduits to be installed in readiness for road works to commence.

Renewal Projects

10. Renewal Projects as of 31 March 2024 reflects $36.696m in spend and a further $14.694m in contracted works.



11. Examples of Renewal Projects within this category:
   11.1. Adelaide Town Hall Façade Restoration
   11.2. Road resurfacing projects

11.3. Bentham Street and Waymouth Street Intersection

12. Renewal Project Summary:

12.1. There were 14 renewal projects that achieved Practical Completion in March:

12.1.1. Footpath Renewal - Bundey's Paddock / Tidlangga (Park 9)

12.1.2. King Rodney Park / Ityamai-itpina (Park 15) Shared Use Path Project

12.1.3. Road Resurfacing - Hindley Street - Liverpool Street to West Terrace

12.1.4. Road Resurfacing - Morphett Street - Whitmore Square to South Terrace

12.1.5. Road Resurfacing – Tynte Street Post Office Car Park and Tynte Place

12.1.6. Adelaide Town Hall - Auditorium Hoist Replacement

12.1.7. Irrigation Renewal - West Terrace - Streetscape Median

12.1.8. Light Square plaques - restoration and base

12.1.9. North Adelaide Golf Links - Renewal of Main Valley Gutter

12.1.10. Playground Equipment Renewals

12.1.10.1. Blue Gum Park / Kurangga (Park 20) - swing set

12.1.10.2. Bullrush Park / Warnpangga (Park 10) - fitness station

12.1.10.3. Lefevre Park / Nantu Wama (Park 6) - senior swing

12.1.10.4. Bonython Park / Tulya Wardli (Park 27) - tyre swing

12.1.11. Road Resurfacing - Morialta Street - Franklin Street to Grote Street

12.1.12. Road Resurfacing - Trades Hall Lane - Franklin Street to Grote Street

12.1.13. Urban Elements - Bin Renewal Program

12.2. Conservation works on the Pirie Street side of the Adelaide Town Hall Façade Restoration Project were completed in March. The next phase of works has commenced on the King William Street side and are anticipated to be completed in December 2024. Works are progressing on time and budget as per the Construction Program. Community engagement is ongoing with adjoining businesses through letter box drop and regular updates.

12.3. The Roads resurfacing team have delivered more than 90% of its program for 2023/24. A small amount of work remains in finalisation. The roads team are now designing and preparing the 2024/25 program.

12.4. Works at the intersection of Bentham Street, Topham Mall and Waymouth Street to improve pedestrian movement and connectivity have commenced preliminary works. Stakeholders have been made aware and continued stakeholder review and management is occurring.

Capital Works Program

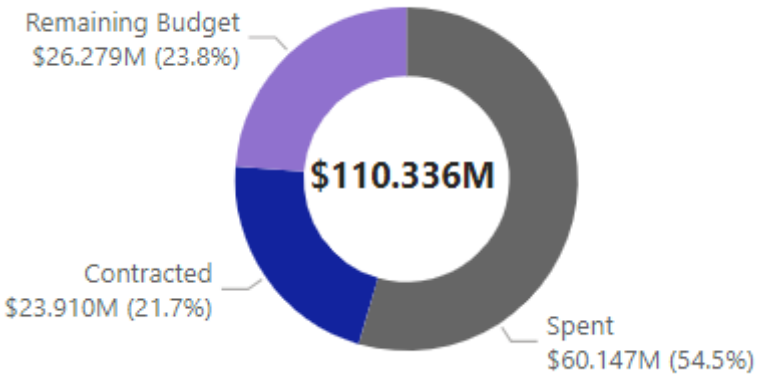
13. There are 387 projects within the approved program in the 2023/24 financial year.

14. Within the 2023/24 Capital Works Program there are currently 104 projects within the Initiate, Concept and Design phase.

15. The total value of projects within the Initiate, Concept and Design Phase is $8.399m.

16. There are 283 projects in the Delivery Phase with a total value of $101.938m. Of these projects, 126 have reached practical completion.

17. The total expenditure against the Capital Works Program to the end of March 2024 is $60.147m spent with a further $23.910m contracted, totalling $83.057m in the first nine months.



Summary of commitments and expenditure by asset class for March – 2024

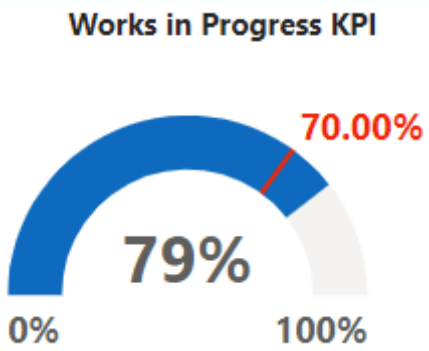
Summary of commitments and expenditure by asset class for March-2024.

Capital Works	No. of Projects	Approved Budget	Commitments	Expenditure	Remaining Budget
Asset Renewals	**299**	**$54.153M**	**$14.694M**	**$36.696M**	**$2.764M**
Corporate Overhead		$5.500M	$0.012M	$4.303M	$1.186M
Major Projects	10	$6.110M	$2.387M	$3.643M	$0.080M
New/Upgrade Projects	26	$1.422M	$0.021M	$0.214M	$1.188M
Bridges	4	$0.360M	$0.005M	$0.123M	$0.232M
Buildings	40	$9.430M	$4.448M	$5.495M	($0.514M)
ICT Renewals	7	$1.793M	$0.048M	$1.387M	$0.357M
Light'g & Electrical	20	$1.491M	$1.413M	$0.714M	($0.635M)
Park Lands Assets	15	$3.100M	$0.281M	$2.838M	($0.019M)
Plant and Fleet	5	$3.501M	$1.439M	$2.031M	$0.031M
Traffic Signal	9	$2.188M	$0.212M	$2.194M	($0.219M)
Transport	112	$13.796M	$2.504M	$10.686M	$0.605M
Urban Elements	44	$3.795M	$1.008M	$1.699M	$1.088M
Water Infrastructure	7	$1.668M	$0.915M	$1.369M	($0.616M)
Major Projects	**25**	**$42.068M**	**$6.465M**	**$18.454M**	**$17.148M**
New/Upgrade Projects	**97**	**$14.115M**	**$2.750M**	**$4.998M**	**$6.367M**
Total	**387**	**$110.336M**	**$23.910M**	**$60.147M**	**$26.279M**

1. *Transport is made up of Roads, Pathways and Kerb and Water Table*
2. *Plant and Fleet includes Commercial Plant and Fleet*
3. *Total Project Count: Mixed-Funded projects are only counted once in the total Project Count i.e. they are counted in the sub-totals but not in the Grand Total.*

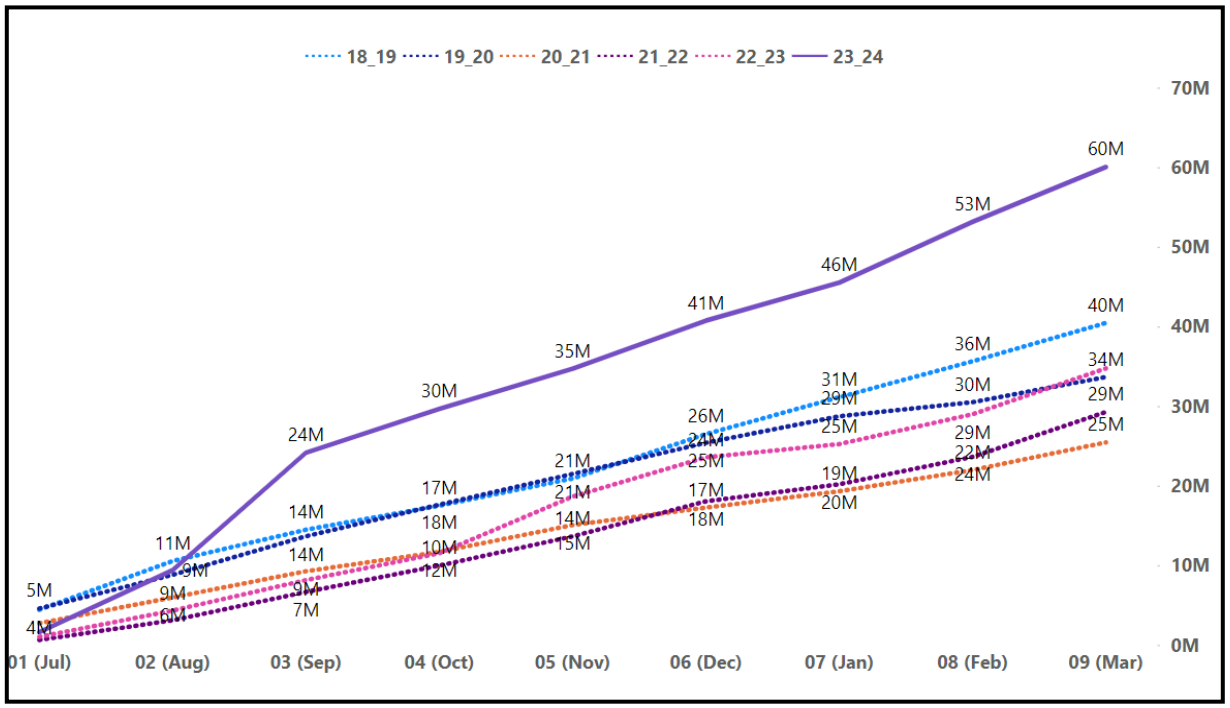
18. Examples of those works completed or in progress are reflected in **Attachment A - Capital Works**

19. Works in Progress (WIP) is the capitalisation of projects within 10 weeks following Practical Completion. WIP currently sits at 79% reflecting a positive variance to the WIP KPI of 70%.



Capital Works Year on Year Spend Profile

20. The spend profile for March 2024 reflects a capital spend of $60.147m year to date, compared to $34.737m in March 2023. This represents a 73% increase on the same period last year.



Future Procurement Activities

21. The following procurement activities are currently being undertaken or will commence shortly:

    21.1. Project Management Services Hindley Street - tender review underway.

    21.2. Adelaide Town Hall Service lift - project out to tender.

    21.3. Adelaide Town Hall David Spence and Prince Alfred Room (TV and joinery unit) - project out to tender.

Future Community Consultation and Engagement Activities

22. The following are some of the community consultation activities and engagements that are ongoing or planned:

    22.1. Hindley Street Revitalisation concept design – Monday 8 April to Monday 27 May.

    22.2. Gouger Street Revitalisation – ongoing with key stakeholder groups.

23. The information provided reflects the first nine months of the 2023/24 financial year. For further details on the 2023/34 Capital Program, the Council Member Corporate Dashboard has a dedicated Capital Works section.

24. Should Council Members wish to understand the progress of a specific project/s outside of those highlighted, the Director, City Services and Associate Director, Infrastructure can be contacted to discuss.

ATTACHMENTS

Attachment A – Capital Works Projects in Focus – March 2024

- END OF REPORT -

Capital Works
March Update
Infrastructure & Public Works Committee

This report provides an overview of Capital Projects either complete or progressing for the month of March 2024.

CITY OF ADELAIDE

Rymill Park Lake

$5.6m lake

Major Project

The Rymill Park Lake project is nearing completion, with final preparations being made to complete the project, and handover the space to the Adelaide Equestrian Festival.

Final works include plumbing, electrical, landscaping (including turf installation) and lake perimeter paths.

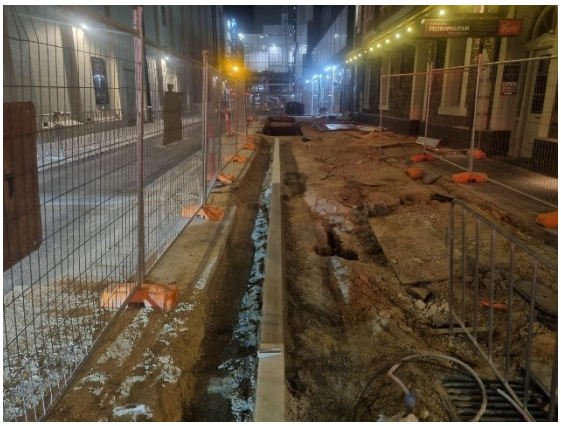
The construction of two underground storage tanks is now complete with 240kl of storage capacity becoming available.

Sand has been placed in the lake as part of final event preparations prior to water supply being instated to fill the lake.

Pitt Street

$2.65m

Major Project



Works are progressing well. Tree pits are being installed on the Eastern side along with new kerbs and footpaths.

Ongoing stakeholder engagement with impacted stakeholders, along with weekly bulletin updates from contractor.

Works are on track to be completed in mid-2024.

Station Road/North Terrace Footpath Upgrade

$400,000

New/Upgrade

Construction commenced in mid-March to upgrade the footpath and driveway into Station Road along North Terrace.

Demolition of the existing footpath and driveway has occurred, with a new concrete base installed. Curing of the concrete slab is underway with paving to occur in mid-April.

Works are expected to be completed by May.

Adelaide Town Hall Façade

$4.96m

Renewal

Works have been completed on the Pirie Street Façade.

King William Street Heritage Conservation works continue with scaffolding installed and cleaning of the Façade commencing.

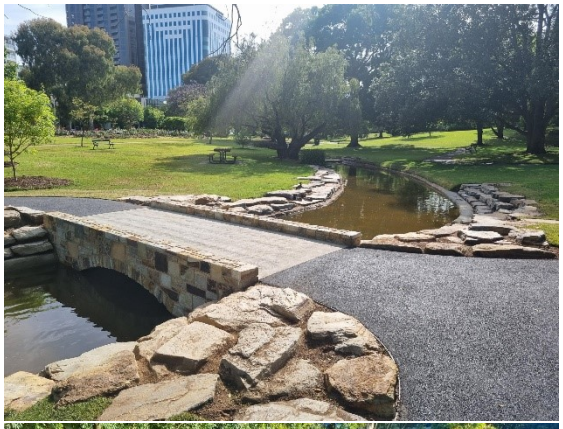
Practical completion is expected in December 2024.

Veale Park / Waylu Yatra (Park 21)

Veale Gardens Renewals

$450,000

Renewal



All works, including creek enhancements and asphalt footpath improvements, have now been completed ahead of schedule.

Two footbridges were renewed to improve pedestrian accessibility, and the creek required improvements to prevent water overflowing and soil erosion.

Stage 2 works (western side) were completed in early March. This followed Stage 1 works on the eastern side which were undertaken from July to October 2023.

Adelaide Central Market – Glass Entrance Canopy and Lighting Renewal

$650,000

Renewal

The glass entrance canopies have been renewed with new glass, modified framework and lighting has been replaced.

Works have aimed to cause minimal disruption to the Adelaide Central Market, ensuring only one entrance was being worked on at a time.

Works commenced on the Northwest Gouger Street and Northeast Grote Street entrances in January with only minor works remaining.

Works on the Southeast Grote Street entrance will be undertaken in April.

Bus Shelter Renewal – Botanic Road & Dequetteville Terrace

$55,000

Renewal

Stop X1 Dequetteville Terrace – Southwest Side

Stop 1 Botanic Road – Southeast Side (opposite the National Wine Centre)

Two bus shelters were renewed in March; Stop X1 Dequetteville Terrace – Southwest Side and Stop 1 Botanic Road – Southeast Side (opposite the Wine Centre).

The bus shelter at Stop 1 Botanic Road was removed some time ago and so has now been replaced.

The tactiles were also upgraded to both bus shelters.

Council Members' Accommodation Review

Tuesday, 16 April 2024

Infrastructure and Public Works Committee

Strategic Alignment - Our Places

Public

Program Contact:
Mark Goudge, Associate Director Infrastructure

Approving Officer:
Tom McCready, Director City Services

EXECUTIVE SUMMARY

At its meeting on 11 May 2021, Council requested the investigation into options for the alternate uses for Council Members' rooms and offices (accommodation) within the Civic Areas of Eagle Chambers and the Adelaide Town Hall.

In mid 2023, two concept options were designed; the first concept considered both the Archive Gallery Space and Members' Accommodation whilst the second concept option considered only the Members' Accommodation.

At its meeting on 19 September 2023, the Civic Recognition Working Group were presented for consideration the two concept designs options relating to the existing Members' Lounge Area and Archival Space.

The Civic Recognition Working Group recommended not to proceed with either concept option associated with Council Member accommodation due to the estimated construction costs and delivery outcomes.

RECOMMENDATION

The following recommendation will be presented to Council on 23 April 2024 for consideration.

THAT THE INFRASTRUCTURE AND PUBLIC WORKS COMMITTEE RECOMMENDS TO COUNCIL

THAT COUNCIL

1. Resolves not to proceed to detailed design or construction with either concept option associated with Council Members' Accommodation as contained in Attachment A to Item 7.2 on the Agenda for the meeting of the Infrastructure and Public Works Committee held on 16 April 2024, due to the estimated construction costs and delivery outcomes.

IMPLICATIONS AND FINANCIALS

City of Adelaide 2024-2028 Strategic Plan	Strategic Alignment – Our Places The actions outlined in this report give the opportunity to increase community access to the Adelaide Town Hall.
Policy	Standing Orders Community Land Management Plan – Town Hall
Consultation	Civic Recognition Working Group
Resource	Not as a result of this report
Risk / Legal / Legislative	Not as a result of this report
Opportunities	Not as a result of this report
23/24 Budget Allocation	Not as a result of this report
Proposed 24/25 Budget Allocation	Not as a result of this report
Life of Project, Service, Initiative or (Expectancy of) Asset	Not as a result of this report
23/24 Budget Reconsideration (if applicable)	Not as a result of this report
Ongoing Costs (eg maintenance cost)	Not as a result of this report
Other Funding Sources	Not as a result of this report

DISCUSSION

1. In 2017, the Administration provided Council Members with concepts plans for the Archival Space and Members' Accommodation.
2. At the Council Meeting on 11 May 2021, Council resolved:

   "That Council:

   1. *Notes that former Councillor Natasha Malani requested an investigation on the use of the Councillors' offices on the 19 July 2016 and for the space to be opened to the public.*
   2. *Requests Administration provides a report on the investigation to Council by end of June 2021.*
   3. *Requests the Administration conducts a workshop no later than July 2021 to discuss options of alternate uses for Council Members' rooms and offices. This may include having the offices/members' area open to the public, to develop as a gallery or other publicly accessible paces and may require moving the councillors' offices, creating hot desk spaces or other Members' facilities in another area within the Town Hall."*

3. A workshop was presented to the Committee on 27 July 2021, seeking feedback on key questions. The feedback was to consider further options for the space, consider reviewing the existing members lounge for an archival space, and consider the space within the Council Members areas.
4. The 2022/23 Business Plan and Budget included $10,000 to provide concepts designs for these selected spaces.
5. Two concept options where prepared, the first concept considered both the Archival Gallery Space and Members' Accommodation whilst the second concept option considered only the Members' Accommodation.
6. Feedback from the Councillors was received, and concept plans have since been drafted to consider options for the existing Members' Lounge Area and Archival Space within the Civic Areas of Eagle Chambers and the Adelaide Town Hall.

   6.1. Option 1: Archive Gallery Space and Members' Accommodation:

   6.1.1 Estimated total project cost $450,000 ($300,000 + $150,000) includes the Member Accommodation in Option 2 and incorporates repurposing the existing redundant Members' lounge in Adelaide Town Hall to consider an Archival space which celebrates the Council's history through selected interactive displays when engaged through guided tours.

   6.2. Option 2: Members' Accommodation Only:

   6.2.1 Estimated total project cost $300,000 to re-purpose the existing underutilised office administration space in Eagle Chambers to consider a more functional space for the Councillors with a lounge area, meeting room and cloak room.

   6.2.2 The existing Members Administration and proposed meeting area is now occupied by the Coordinator, Security & Emergency Management.

   6.2.3 Both Options require an estimated $80,000 for detailed design.

7. The two options were presented to the Civic Recognition Working Group on 19 September 2023, seeking endorsement to engage with Council Members on the options presented. Please refer to Attachment A - Council Members' accommodation report – Civic Recognition Working Group.
8. The outcome of the discussion was as follows:

   "The Civic Recognition Working Group did not endorse the advancement of either option.

   This was based on the cost of the project, Return on Investment (ROI) and given cost for the ongoing maintenance and curation of the museum component of the space.

   It was suggested to explore the use of the Artist Pods in the Colonel Light Centre (breezeway) as a better space to showcase our museum pieces in archival storage. This would enable more exposure to the public to view the artifacts."

9. Due to the estimated construction costs the Civic Recognition Working Group recommended not to proceed with the project.

ATTACHMENTS

Attachment A - Council Members' accommodation report – Civic Recognition Working Group

- END OF REPORT -

Proposed Archive Gallery Space and Members Lounge

Background

In 2017, the Administration provided Elected Members with concepts plans for the Archival Space and Members Accommodation.

In July 2021, the Administration provided a workshop to the Elected Members to seek further feedback on the proposed spaces.

The 2022/23 Business Plan and Budget included $10,000 to provide concepts designs for these selected spaces. We have prepared two concept options the first concept considers both the Archival Gallery Space and Members Accommodation whilst the second concept option considers only the Members Accommodation.

There is no allocation within the 2023/24 Business Plan and Budget for any works that maybe approved to proceed.

Original Motion

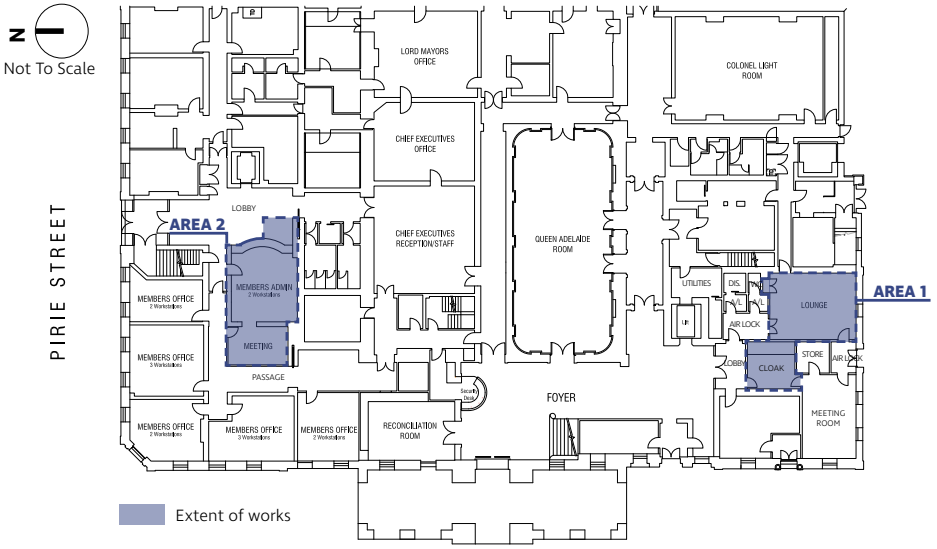
At a meeting on 11 May 2021, resolved:

That Council:

1.Notes that former Councillor Natasha Malani requested an investigation on the use of the Councillors' offices on the 19 July 2016 and for the space to be opened to the public.

2.Requests Administration provides a report on the investigation to Council by end of June 2021.

3.Requests the Administration conducts a workshop no later than July 2021 to discuss options of alternate uses for Council Members' rooms and offices. This may include having the offices/members' area open to the public, to develop as a gallery or other publicly accessible spaces and may require moving the councillors' offices, creating hot desk spaces or other Members' facilities in another area within the Town Hall.



EXISTING PLAN

AREA 1

CLOAK - LOOKING NORTH EAST

LOUNGE - LOOKING NORTH

LOUNGE - LOOKING SOUTH

AREA 2

LOBBY - LOOKING WEST

MEMBERS ADM. LOOKING NORTH WEST

MEMBERS MEETING - LOOKING NORTH

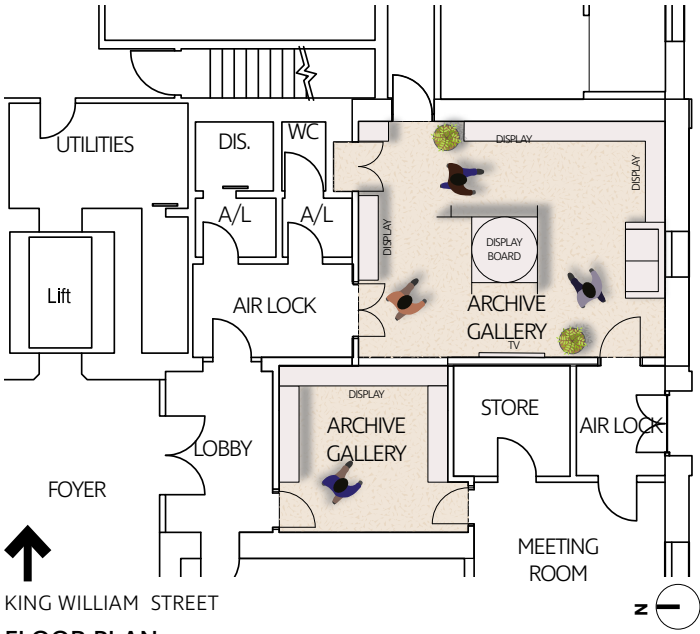
Proposed Archive Gallery Space and Members Lounge

Option 1: Concept Designs 1 and 2

The project entails a conceptual investigation with costings for the development and installation of a dedicated Archive and/or Gallery Space within the current Members Lounge situated in Town Hall.

The project seeks to increase community access to more areas of Town Hall and foster stronger community connections through an interactive display of historical artifacts and/or indigenous artworks for public awareness and education.

The day-to-day running and programming of the gallery space could be assigned to the soon-to-be announced CoA Art Curator. The space needs to be dynamic and having an assigned CoA employee would guarantee its on-going interest and visitation to Town hall.



FLOOR PLAN

Not To Scale

ASPIRATIONAL IMAGES - ARCHIVE GALLERY

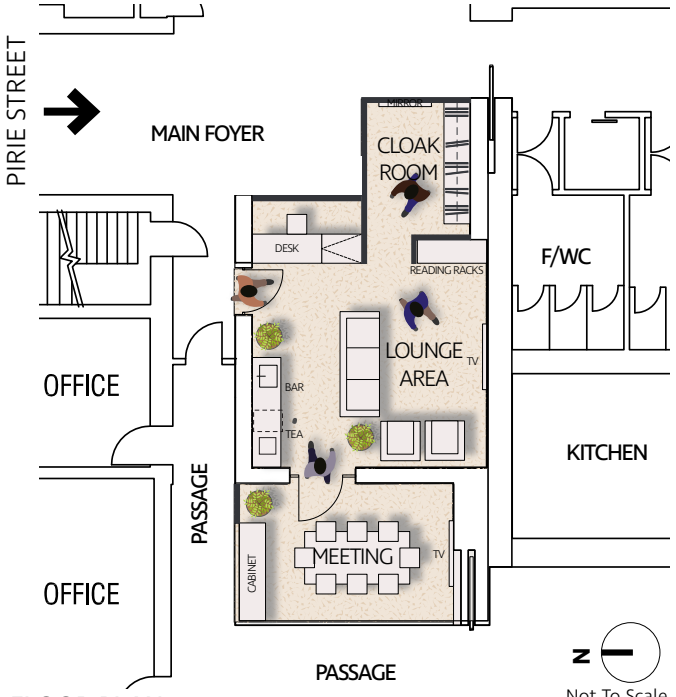
Concept Design 1

- ☑ Opening up and activating a strategic area of town hall for public tours and education.
- ☒ The need to relocate members lounge to a new location

Option 2: Concept Designs 2

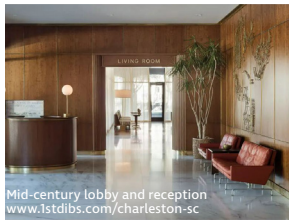
As a consequence of this creating this beneficial gallery space, we propose to relocate the Members Lounge to an under-utilised administration area within Eagle Chambers.

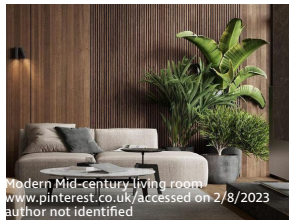
By relocating the Members Lounge closer to the Members offices, it is hoped to foster a stronger functional relationship between member's tasks and activities, increase productivity and connectivity with one another and constituents as part of a central hub.

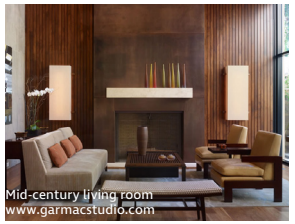


FLOOR PLAN

Not To Scale







ASPIRATIONAL IMAGES - MEMBERS LOUNGE

Concept Design 2

- ☑ Stronger spatial connection between relocated Members Lounge and existing offices
- ☒ Public perception of spending rate payers money on a 'non-essential' item.

Proposed Archive Gallery Space and Members Lounge

Overall Costings

Town Hall Complex - Council Member Accommodation & Archive Gallery	
Project Cost	
Design	
Heritage Architect	$40,000
Service Engineer	$9,000
Cost Consultant	$9,500
Structural Engineer	$6,000
Building Rules Consent	$3,000
Fee Contingency	$15,000
Total Design Cost	**$82,500**
Construction Phase	
1 - Archive Display	$293,910
2 - New Members' lounge	$150,970
Full Scope	**$444,879**
Total Construction Cost	**$444,879**
Total Project Cost	**$527,379**

Town Hall Complex - Budget		
Amount	**Year**	**Shown in the project tool**
$10k (Design)	22/23 (raised in 2021)	Yes
$800k (construction)	24/25 (raised in 2021)	No

Please note the following:

1. Timeline (approx.) based on Full Scope (Archive Display and New Members Lounge)

a. Design 12 to 14 weeks not including CoA review/workshop sessions at 30%, 70% and 90%. With the following breakdown 4 weeks concept (including interior selections & images), 8 weeks Design Development and 2 weeks IFT drawing set.

b. Stakeholder Consultation - 4 months including Council / Exec approval / Heritage consultation / BRC etc. The Archive Display scope is very high level and therefore requires further consultation to define the scope (there are a lot of interested stakeholders for this scope).

c. Construction – 3 months (might take longer due to latent conditions considering the age of the building).

d. Overall timeline would be approx. 1 year. 7 – 8 months Design and 3 months Construction. This time period may be spread over two financial years where IFT drawings are completed in year 1 and construction commences in year 2.

2. The scope shown in the Concept was developed with assistance from the Council Liaison Officer, Arts & Culture team, and the Archives team.

3. Wall demolition has been removed from scope to ensure the Town Hall heritage building fabric is preserved.

4. Risk – Defining scope and project proceeding. The scope for this project has been raised by Council Members multiple times over numerous years with no progression into Concept Design.

Note: These will still need to be developed further and scope confirmed.

Feedback

Project team is seeking feedback and direction from the Civic Recognition Working Group regarding appetite to proceed with concept development, engaging with Elected Members and allocating budget for 2024/25 financial year.

City Dirt Concept Options

Strategic Alignment - Our Community

Public

Tuesday 16 April 2024

Infrastructure and Public Works Committee

Program Contact:
Mark Goudge, Associate Director Infrastructure

Approving Officer:
Tom McCready, Director City Services

EXECUTIVE SUMMARY

The report presents three concept options that have been developed from the City Master Plan, for City Dirt BMX Hub in Blue Gum Park / Kurangga (Park 20). It is proposed to upgrade the existing BMX Hub to help continue to provide a community recreation asset with a strong cultural identity and contribute to high quality public space within the Adelaide Park Lands.

Three options have been based on project funding allocations and scope alignment to different set budgets.

Options Two and Three meet project design principles and align with the relevant strategic plans, whereas Option One does not meet all the project design principles.

At its meeting on 22 February 2024, Kadaltilla / Adelaide Park Lands Authority was presented the three options and were supportive of the recommended option (Option Two).

This report seeks Council consideration and endorsement for Option Two to progress to Detailed Design.

RECOMMENDATION

The following recommendation will be presented to Council on 23 April 2024 for consideration.

THAT THE INFRASTRUCTURE AND PUBLIC WORKS COMMITTEE RECOMMENDS TO COUNCIL

THAT COUNCIL

1. Notes that Kadaltilla / Adelaide Park Lands Authority is supportive of the City Dirt BMX Hub Concept Design Option Two as discussed at their meeting on 22 February 2024.
2. Endorses Option Two as the preferred City Dirt BMX Hub Concept Design for Detailed Design, as included in Attachment A to Item 7.3 on the Agenda for the meeting of the Infrastructure and Public Works Committee held on 16 April 2024.
3. Notes a budget bid will be put forward in the 2025/26 Annual Business Plan and Budget deliberations to develop detailed designs and cost estimates to commence construction in future years.

IMPLICATIONS AND FINANCIALS

City of Adelaide 2024-2028 Strategic Plan	Strategic Alignment – Our Community
Policy	Adelaide Park Lands Management Strategy 'Big Move' - expand the existing BMX track to include a skill track and mountain bike trails, creating a significant destination with associated attractions including nature and adventure play complemented by a small café or kiosk. Community Land Management Plan - Blue Gum Park/Kurangga (Park 20) "Manage the playground and BMX track as regional youth activity hubs in the Park supported by adjoining picnic and recreation facilities".
Consultation	The Concept Design encompasses key findings from community engagement undertaken in 2018 and City Dirt Master Plan developed in 2019.
Resource	Existing Administration resources will coordinate progression of the Concept Design through to Detailed Design as funding is allocated. Administration will continue to work with and support stakeholders in programming and volunteering opportunities at the BMX facility.
Risk / Legal / Legislative	Not as a result of this report.
Opportunities	The Concept Design seeks to better connect the BMX Tracks, the Park Lands Trail, TreeClimb, and adjacent nature-based activities to achieve a diverse, highly engaging destination that continues to increase visitation to the Park Lands.
23/24 Budget Allocation	$30,000 for the City Dirt BMX Facility Master Plan - Blue Gum Park/Kurangga (Park 20)
Proposed 25/26 Budget Allocation	Renewal - Associated renewal funding of ($1.15m) has been forecast in the 2025/26 Financial Year within the draft Park Lands and Open Space, Buildings and Urban Elements Asset Management Plans (AMP's). New & Upgrade - Option Two funding amount to match Asset Renewal contribution ($1.15m) (unfunded opportunity). Grant Funding - Apply for State Government's Open Space Grant Program in February 2025 ($500,000).
Life of Project, Service, Initiative or (Expectancy of) Asset	Estimated life expectancy by asset type: BMX Tracks – 40 years, Concrete footpaths – 50-80 years, Dirt paths - 10 years and Urban Elements – 5-10 years
23/24 Budget Reconsideration (if applicable)	Not as a result of this report.
Ongoing Costs (eg maintenance cost)	Administration of volunteer management and a horticulture maintenance budget of $1,000 per year. Minimal operational costs in the first 20 years. Typical maintenance costs for this type of asset in the first 20 years.
Other Funding Sources	Proposed 2025/26 Budget bid (currently an unfunded opportunity).

DISCUSSION

Background

1. City Dirt (BMX Hub), Blue Gum Park / Kurangga (Park 20), is located in the southern Adelaide Park Lands and is in close proximity to the city centre. The facility is one of many outdoor recreation and adventure opportunities available in Park 20 where the precinct serves multiples age groups and varied interests.
2. At its meeting on 22 February 2024, Kadaltilla / Adelaide Park Lands was presented with three Concept Options (Link 1). Kadaltilla Members were supportive of and preferred Option Two. Discussion points raised were:
   - 2.1. Supported the project team's recommended option (Option Two).
   - 2.2. Project team to consider Crime Prevention Through Environmental Design (CPTED).
   - 2.3. Project team to consider the interface of new surfaces with existing trees and vegetation and long-term tree health as part of the design progression.
3. At its meeting on 20 August 2019, Council approved the City Dirt Master Plan (Link 2).

The Site

4. The BMX hub is located in the southeast corner of Blue Gum Park / Kurangga (Park 20). The site is set within trees and offers a mix of open wooded and heavily wooded areas (see Figure 1).
5. The area is complementary to outdoor recreation and adventure opportunities and the precinct services multiple age groups and interests.

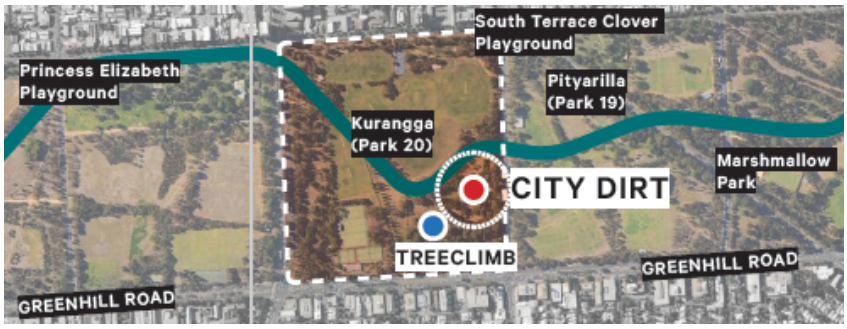


Figure 1 – BMX facility location

Existing Conditions

Beginner Track looking south.

Area of the proposed path looking south, between Intermediate and Beginner Tracks.

Existing irrigated lawn area adjacent Advanced Track looking south-west.

Intermediate Track looking south, showing vantage point area.

Lawn area between Pump and Intermediate Tracks, looking north-east.

Existing BBQ, picnic tables and bike repair station. Existing public toilet in the background.

Project Objectives

6. The Master Plan identified the following key objectives to be delivered as part of the upgrade to the City Dirt BMX Hub:

   6.1. A new and legible hierarchy of pathways to better connect the BMX Tracks, the Park Lands Trail, TreeClimb, and adjacent nature-based activities.

   6.2. Improvements to the Beginner, Intermediate and Pump Tracks, including the addition of new features and natural buffer strips to improve the rider experience and enhance safety.

   6.3. Entry points and main nodes consolidated with wayfinding and track identification to better improve site and track legibility.

   6.4. Stormwater management improvements with informal natural swales to re-direct excessive water away from the tracks and to soakage pits located at low points.

   6.5. All internal paths designed to allow for wheelchair access and delineated with bordering native plants and rocks to prevent random crossings and improve safety for all users.

   6.6. Enhance the amenity and safety of the City Dirt precinct with infill planting, renewal of furniture and signage.

   6.7. Consideration of Kaurna interpretation in the design treatments and renewal of signage.

Concept Options

7. The following table summarises the scope inclusions and funding requirements for each of the three Concept Options. Refer to **Attachment A** for further information on the concept design and scope inclusions in each option.

Options	**Option One** (Base Renewal and Upgrade of Existing Facilities with Low - Level Enhancements)	**Option Two** (Base Renewal and Upgrade of Existing Facilities with Mid-Level Enhancements)	**Option Three** (Base Renewal and Upgrade of Existing Facilities with Full - Level Enhancements)
Budget Requirements	Planned Asset Renewal - $1,154,907.00 New/Upgrade - $500,000 Grant Funding - $500,000 **Total - $2,154,907.00**	Planned Asset Renewal - $1,154,907.00 New/Upgrade - $1,154,907.00 Grant Funding - $500,000 **Total - $2,809,814.00**	Planned Asset Renewal - $1,154,907.00 New/Upgrade - $2,298,931.00 Grant Funding - $500,000 **Total - $3,953,838.00**
Scope Inclusions	Asset Renewal Funding • Advanced Track - Light Touch. • Intermediate Track (Jump Zone) - Light Touch. • Beginners Track - Light Touch. • Pump Track - Renewal. • Existing Furniture – Various. • Existing Signage – Various. • Existing Toilet - Renewed Exeloo Unit. New & Upgrade Funding	In addition to option 1 + New trackside planting. + New 1 in 6 turf embankment/viewing area with irrigation & swale. + New GAP water connection. + New Amenity planting. + New mulch to infill existing tree surrounds. + New native planting edge of path delineation. + New Signage to compliment renewed.	In addition to option 1 & 2 + New Stormwater Buffer Planting. + New Buffer Edge Planting. + New electrical 1st-fix installations and Advance track lighting feasibility assessment.

	• Intermediate Track (Central) - New Tunnel & Start Tabletop over. • Intermediate Track (South) - New Step-Up Zone. • Beginners Track - New Skills Zone. • Pump Track - Enlarged, sealed and Re-Orientated. • New Vantage Point • New concrete pathways. • New asphalt path. • New compacted gravel pathways. • New natural swale landscaping system.	+ New Furniture to compliment renewed. + Sustainable Polymer Track Surfacing to beginner and intermediate tracks.	
Meets Project Objectives	No	Yes	Yes
Recommendation	Option Two (Base Renewal and Upgrade of Existing Facilities with Mid-Level Enhancements) - This option whilst not delivering the full Master Plan project brief, it delivers the core Vision of the City Dirt Master Plan 'A community recreation asset with a strong cultural identity and contributing to high quality public space within the Adelaide Park Lands.' Including the six principals: 1. Community and Culture 2. Accessibility 3. Park Lands Integration 4. Amenity 5. Wide Appeal 6. Security and Safety		

Next Steps

8. A budget bid will be put forward in the 2025/26 Annual Business Plan and Budget deliberations to develop detailed designs and cost estimates on the preferred option, with construction to occur in future years.

DATA AND SUPPORTING INFORMATION

Link 1 – Presentation to Kadaltilla / Adelaide Park Lands Authority 22 February 2024

Link 2 – City Dirt Masterplan

ATTACHMENTS

Attachment A – City Dirt Concept Package

- END OF REPORT -

CITY OF ADELAIDE

City Dirt Concept Design

BLUE GUM PARK / KURANGGA (PARK 20), ADELAIDE PARK LANDS

FOR KADALTILLA REVIEW
FEBRUARY 2024

Image credit: City Dirt Crew

X150 City Dirt

Project Drivers

City Dirt (BMX Hub), Blue Gum Park / Kurangga (Park 20), is located in the southern Adelaide Park Lands and is in close proximity to the City centre. The facility is one of many outdoor recreation and adventure opportunities available in Park 20 where the precinct serves multiple age groups and varied interests.

The concept design presented in this report offers:

- A legible and new hierarchy of pathways to better connect to the BMX Tracks, the Park Lands Trail, TreeClimb, and adjacent nature-based activities.
- Improvements to the Beginner, Intermediate and Pump Tracks, including the addition of new features and natural buffer strips to improve the rider experience and enhance safety.
- Entry points and main nodes consolidated with wayfinding and track identification to better improve site and track legibility.
- Stormwater management improvements with informal natural swales to re-direct excessive water away from the tracks and to soakage pits located at low points.
- All internal paths designed to allow for wheelchair access and delineated with bordering native plants and rocks to prevent random crossings and improve safety for all users.
- Enhance the amenity and safety of the City Dirt precinct with infill planting, renewal of furniture and signage.
- Consideration of Kaurna interpretation in the design treatments and renewal of signage.

Planning + Policy

Adelaide Park Lands Management Strategy 2015-2025

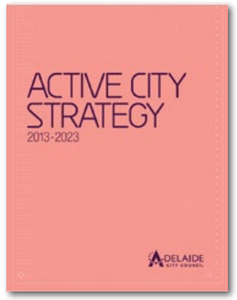
Future Moves - Kurangga (Park 20): "A medium hub will be developed in the south-east of the park to support an expanded BMX/mountain bike facility with the creek line surrounding this facility to be rehabilitated to create opportunities for nature play, exploration and contemplation."

"The BMX/mountain bike track will be connected to an improved Park Lands Trail, providing an additional east-west access to the track and further connections to the Park Lands path network."

Community Land Management Plan - Kurangga (Park 20)

Desired Future Character Statement: "Meet the sporting and other recreation needs of the community in attractive wide open spaces surrounded by large shady trees within an open woodland character."

Management Direction: "1.3.10 Manage the playground and the BMX track as regional youth activity hubs in the Park supported by adjoining picnic and recreation facilities, and promote the BMX track for use by non-powered bicycles during daylight hours. (R9)"



Active City Strategy 2013-2023

Outcome 1 - Great Spaces to be Physically Active: "Spaces throughout the City are safe and accessible and invite people to be physically active.
The City contains a range of active recreation and sport destinations shaped by the community.
Social interactions are fostered through shared facilities"

Strategies: "1.2.2 Create regional activity hubs linked to the Park Lands Trail.
1.3.1 Provide youth recreation opportunities including skate and BMX facilities Additional cycling facilities (e.g. 'Pump Track') will be considered for the Kurangga BMX Tracks, along with consideration of facilities to broaden its appeal to families. Shade, signage and landscaping will significantly improve the usability of existing facilities."

Park Lands and Open Space Asset Management Plan

2.2 Goals and Objectives of Asset Management: "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;"

Extract: City Dirt Master Plan - Blue Gum Park / Kurangga (Park 20), Adelaide Park Lands - June 2019, Prepared by Oxigen

X150 City Dirt

Summary of Journey to Date

Timeline

- 1982 - Council built a BMX track, due to high community demand.
- 2003 - Council redeveloped the tracks, creating three new tracks: Beginner, Intermediate and Advanced levels.
- 2009 - Existing advanced track was developed further by members of the volunteer group, 'City Dirt Crew', to improve the condition and range of existing facilities and initiate a regular maintenance program.
- 2011 - The pump track circuit was built.
- 2017 - Significant renewal works.
  - Council endorsed a range of accessibility improvements. The BMX Hub was identified as an area requiring an upgrade to the existing path network.
- 2018 - Council raised Motion of Notice requesting that the BMX track be modified to include tracks more appropriate to the skill level of younger riders.
  - A community engagement consultation was undertaken.
- 2019 - The City Dirt Master Plan was developed by Oxigen.
  - At it's meeting held on 25 July 2019 Adelaide Park Lands Authority (Kadaltilla) carried the City Dirt Master Plan in Blue Gum Park / Kurangga (Park 20)
  - At its meeting held on 20 August 2019 Council approved the City Dirt Master Plan in Blue Gum Park / Kurangga (Park 20).
- **2023 - 2024** Delivery of a Concept Plan for the City Dirt precinct for Council and relevant stakeholders.
  Ongoing communication and engagement with Kadaltilla (Adelaide Park Lands Authority) through e-news.

BMX Hub Engagement Summary (March to May 2018)

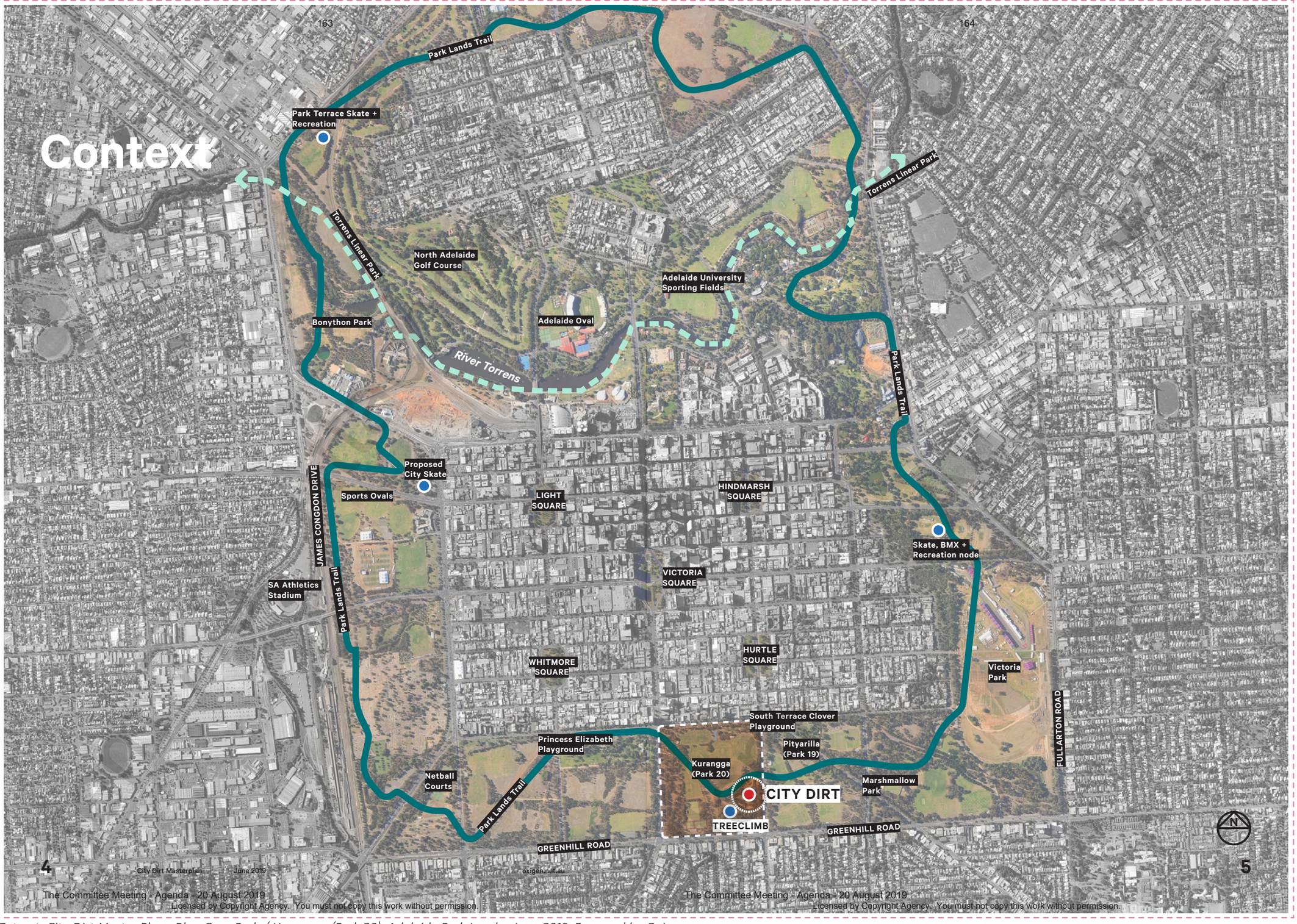
Volunteers

Over the past 12-14 years, the City Dirt Crew, an incorporated volunteer organization, has played a crucial role in the construction and maintenance of the BMX facilities, working closely with the City of Adelaide Council, collaborating on maintenance, resource management, and proposed changes. The Council acknowledges and appreciates the valuable contribution of the volunteer group, providing ongoing support and assistance for maintenance activities.

Development of the Advanced Track 2008-19

Extract: City Dirt Master Plan - Blue Gum Park / Kurangga (Park 20), Adelaide Park Lands - June 2019, Prepared by Oxigen

X150 City Dirt



The Committee Meeting - Agenda - 20 August 2019
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Extract: City Dirt Master Plan - Blue Gum Park / Kurangga (Park 20), Adelaide Park Lands - June 2019, Prepared by Oxigen

X150 City Dirt

Existing Conditions

1 Beginner Track looking south.

2 Intermediate Track looking south, showing vantage point area.

3 Area of the proposed path looking south, between Intermediate and Beginner Tracks.

4 Lawn area between Pump and Intermediate Tracks, looking north-east.

LEGEND:

- Exeloo
- Picnic Table Setting
- BBQ Existing BBQ
- Power Bollard
- Timber Seats
- Timber Seats with Storage
- Water Point
- Bin

5 Existing irrigated lawn area adjacent Advanced Track looking south-west.

6 Existing BBQ, picnic tables and bike repair station. Existing public toilet in the background.

7 Culvert storage under berm with raised viewing platform over.

8 Existing entry from Unley Road with adjacent public toilet and wayfinding.

X150 City Dirt

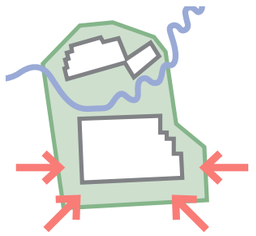
Design Principles

01
Community + Culture

Recognise the value of the site to the local riding community that utilise the site and the broader community that interact with the south Park Lands.

02
Accessibility

Provide a clear access and circulation network that caters to pedestrians and cyclists.



03
Park Lands Integration

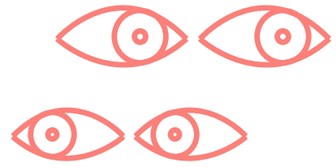
Integrate assets within the surrounding Park Lands and the natural open space character of the site.

04
Amenity

Provide an attractive destination for all users utilising the inherent landscape qualities and the provision of an appropriate level of infrastructure to service its use.

05
Wide Appeal

Acknowledge the potential for a wide appeal across demographics for recreation and spectating.



06
Security + Safety

Provide a safe riding facility whilst facilitating appropriate levels of challenge with passive surveillance from adjacent landscape areas and streetscape.

X150 City Dirt

Concept Plan

KEY MOVES

- Improve City Dirt entries and access to and within the site and links to Park Lands Trail and TreeClimb facility
- Create central Vantage Point with renewed furniture and improved viewer amenity
- Establish central meeting areas with renewed furniture, power and water points
- Improve links between Beginner and Pump Tracks by creating a tunnel and/or bridge connection that incorporates jumps and creates challenges for riders
- Reconfigure Intermediate Track by adding 'step up' ramp course within south zone to close skills gap between beginner and intermediate users
- Extend Beginner Track to create an optional loop to the south end with a 'skills test' zone, to improve the 'skill set' of young riders
- Enlarge, reconfigure and seal existing Pump Track
- Ensure the design meets DDA compliance and maintenance requirements
- Enhance lawn areas and incorporate native plantings along paths, track sides and natural swales

LEGEND

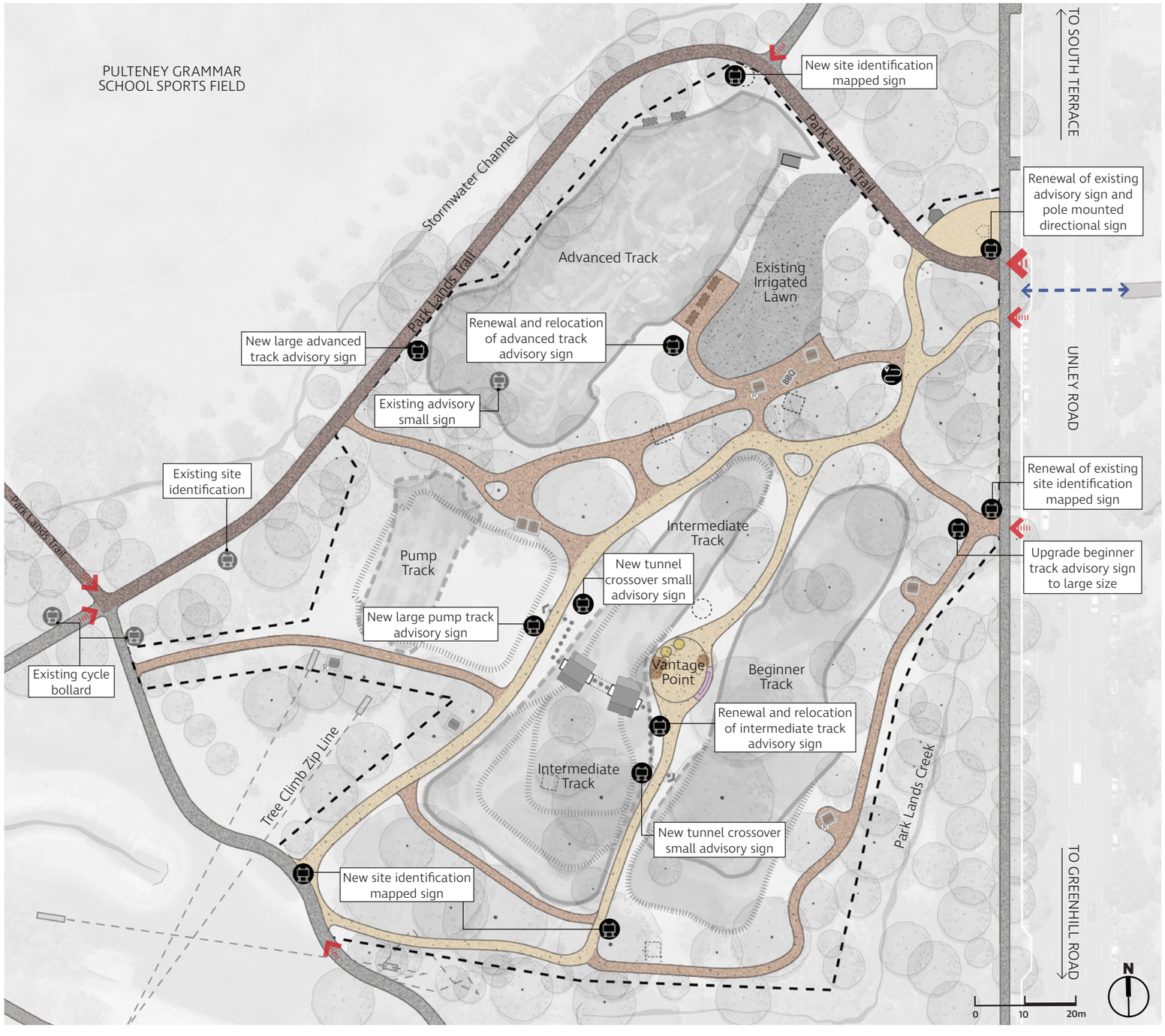
- Existing asphalt paths
- Existing park lands trail - Ochre asphalt
- Proposed path - Exposed aggregate concrete
- Proposed path - compacted gravel
- Existing track extent - To be retained
- Existing track extent - To be decommissioned
- Proposed track
- Proposed tunnel within mound and access steps over
- New automated public toilet facility connected to GAP
- Soakage pits / natural swale landscape system
- Existing trees
- Extent of works

X150 City Dirt

Movement + Access

KEY MOVES

- New internal paths to improve connection and access to BMX facilities and surrounding recreation areas
- Improve access and legibility using a hierarchy of materials and path widths for new path network throughout the whole site
- Ensure the design meets DDA compliance and maintenance requirements
- Retain existing asphalt paths and Park Lands Trail and connect with proposed internal paths
- Create central Vantage Point with 360 degree views, new insitu seating,renewed seating pods, litter bin, drinking fountain and improved viewer amenity
- New wayfinding and track identification to provide better site legibility of key BMX and adjacent facilities
- Protect all trees and formalize delineation between mulch areas, tree roots and path interface
- Consideration of Kaurna interpretation in the renewal of signage



LEGEND

- Pedestrian main access points
- Pedestrian road crossing point
- Existing Asphalt paths
- Existing park lands trail - Ochre asphalt
- Proposed path - Exposed aggregate concrete
- Proposed Path - Compacted gravel
- Renewed Wayfinding + signage
- Existing wayfinding + signage
- New trailhead signage
- Extent of works

X150 City Dirt

BMX Tracks

KEY MOVES

- Improve links between Beginner and Pump Tracks by creating a tunnel and/or bridge connection that incorporates jumps and creates challenges for riders
- Reconfigure Intermediate Track by adding 'step up' ramp course within south zone to close skills gap between beginner and intermediate users
- Incorporate 'timber slat' boarding to intermediate track's inclines of jumps, to reduce on-going maintenance
- Extend Beginner Track to create an optional loop to the south end with a 'skills test' zone, to improve the 'skill set' of young riders
- Enlarge and reconfigure existing Pump Track
- Ensure Beginner, Intermediate and Pump Tracks are sealed with a robust and durable sustainable polymer-based surface layer

LEGEND

- Existing track extent - To be retained
- Existing track extent - To be decommissioned
- Proposed track
- Track riding direction
- Proposed tunnel within mound and access steps over
- Track entry points
- Battered earth corner ramp
- Battered earth step-up ramp
- Timber jump skill test
- Raised beam skill test
- Timber see-saw skill test
- Extent of works

X150 City Dirt

Urban Elements

KEY MOVES

- New amenity facilities adjacent Unley Road entry point:
  - DDA compliant and self-cleaning toilet facility connected to GAP water
  - Drinking fountain and bottle refill
  - 2x bike racks
  - Litter bin (relocate existing)
- Enhance amenity of Vantage Point:
  - New concrete insitu seating with rubber soft fall to seat;
  - Renewed seating pods;
  - New drinking fountain and bottle refill;
  - Renewed power bollard;
  - 2x new bike racks;
  - Litter bin (relocate existing);
- Renewed table and seating settings with DDA-compliant configurations fixed to new concrete base
- New bike repair and pump station adjacent Pump Track
- 2x existing water points to be lowered & capped in valve boxes
- Storage benches adjacent Advanced Track to be renewed

LEGEND

- Renewed automated public toilet facility connected to GAP
- Decommissioned and removed existing toilet facility
- Renewed picnic table setting fixed to new concrete base
- Repositioned and renewed picnic table setting fixed to new concrete base
- Repositioned existing picnic table setting
- BBQ — Existing BBQ
- Existing bike repair and pump station
- New bike repair and pump station
- New bike racks
- Existing water point
- Relocated drink fountain
- New drink fountain
- Relocated bin
- Existing bin location
- Relocated power bollard
- New power bollard
- Renewed storage bench
- Existing culvert storage under berm
- Extent of works

X150 City Dirt

Planting

KEY MOVES

A range of existing species are found within Kurangga Park reflecting an ad-hoc development and planting program. The landscape character is open Eucalyptus woodland consistent to the site perimeter and mixed exotic canopy trees within the central zone. For new planting, refer to 'List of Species' in City of Adelaide's 'Strategic Revegetation Plan'.

LEGEND

Stormwater Buffer
- New tree planting to increase shade at picnic nodes
- Reinstatement of the eucalyptus canopy following stormwater corridor realignment and laying back of batters

Buffer Edge Planting
- Retain existing trees with new infill planting
- Infill planting of eucalyptus to increase the extent of the open woodland character to the track perimeter

Amenity Planting
- Increase shade within the central node through new amenity trees
- Improve sightlines through minor works to lift the canopy of existing species.
- Allow winter light into the lawned areas through deciduous tree species selection.

Trackside Planting
- Increase the shade for users through new trees at sides of all existing tracks.
- Deter access from track crossings, define trails + increase biodiversity through strategic pocket planting.
- Prevent erosion, minimise visual impact of the taller mounding + increase biodiversity through trackside understorey native planting to south, west and north sides of the Advanced Track.

Irrigated Turf
- Improve surface condition through coring and topdressing. Connect to GAP Irrigation.

Native planting edge of path delineation

Soakage pits / natural swale landscape system

Proposed organic mulch to infill existing tree surrounds

Extent of works

X150 City Dirt

Artist's Impression

BEGINNER TO PUMP TRACK CROSSOVER

The Intermediate Track crossover point ensures a smooth and safe connection between Beginner Track and Pump Track incorporating jumps that improve the user skill set.

Two options ensuring a safe crossover are proposed, either using a concrete pipe tunnel within mound or timber bridges.

Native plantings and strategically placed rocks along the crossover edges have the role of marking clear boundaries and ensuring safety by preventing collisions between cyclists crossing the tunnel/bridge and those on the intermediate track.

LOCALITY PLAN

Proposed view of concrete tunnel pipe within mound crossover

Proposed view of timber bridges crossover

X150 City Dirt

Option Analysis

	Option 1	Option 2	Option 3
Scope	Asset Renewals: • Advanced Track - Light Touch • Intermediate Track (Jump Zone) - Light Touch • Beginners Track - Light Touch • Pump Track - Renewal • Existing Furniture - Various • Existing Signage - Various • Existing Toilet - Renewed Exeloo Unit New & Upgrade • Intermediate Track (Central) - New Tunnel & Start Tabletop over • Intermediate Track (South) - New Step-Up Zone • Beginners Track - New Skills Zone • Pump Track - Enlarged, sealed and Re-Orientated • New concrete Vantage Point • New concrete pathways • New asphalt pathway • New compacted gravel pathways • New natural swale landscaping system	Asset Renewals: • Advanced Track - Light Touch • Intermediate Track (Jump Zone) - Light Touch • Beginners Track - Light Touch • Pump Track - Renewal • Existing Furniture - Various • Existing Signage - Various • Existing Toilet - Renewed Exeloo Unit New & Upgrade: • Intermediate Track (Central) - New Tunnel & Start Tabletop over • Intermediate Track (South) - New Step-Up Zone • Beginners Track - New Skills Zone • Pump Track - Enlarged, sealed and Re-Orientated • New concrete Vantage Point • New concrete pathways • New asphalt pathway • New compacted gravel pathways • New natural swale landscaping system • New trackside planting • New 1 in 6 turf embankment/viewing area with irrigation & swale • New GAP water connection • New Amenity planting • New mulch to infill existing • New garden beds • New Signage to compliment renewed • New Furniture to compliment renewed • Polymer Track Surfacing	Asset Renewals: • Advanced Track - Light Touch • Intermediate Track (Jump Zone) - Light Touch • Beginners Track - Light Touch • Pump Track - Renewal • Existing Furniture - Various • Existing Signage - Various • Existing Toilet - Renewed Exeloo Unit New & Upgrade: • Intermediate Track (Central) - New Tunnel & Start Tabletop over • Intermediate Track (South) - New Step Up Zone • Beginners Track - New Skills Zone • Pump Track - Enlarged, Sealed and Re-Orientated • New concrete Vantage Point • New concrete pathways • New asphalt pathway • New compacted gravel pathways • New natural swale landscaping system • New trackside planting • New 1 in 6 turf embankment/viewing area with irrigation & swale • New GAP water connection • New Amenity planting • New mulch to infill existing • New garden beds • New Signage to compliment renewed • New Furniture to compliment renewed • Polymer Track Surfacing • New Storm water Buffer Planting • New Buffer Edge Planting • New electrical 1st-fix installations and Advance track lighting feasibility assessment
Cost - Capital	• Planned Asset Renewal - $1,154,907.00 • New/Upgrade - $500,000 • Grant Funding - $500,000 • Total - $2,154,907.00	• Planned Asset Renewal - $1,154,907.00 • New/Upgrade - $1,154,907.00 • Grant Funding - $500,000 • Total - $2,809,814.00	• Planned Asset Renewal - $1,154,907.00 • New/Upgrade - $2,308,931.01 • Grant Funding - $500,000 • Total - $3,963,838.00
Cost - Operating	• Minimal Operational cost in first 20 years. • Typical Maintenance costs for this type of asset in the first 20 years due to unsealed nature of majority of bike tracks	• Minimal Operational cost in first 20 years. • Typical Maintenance reduced due to polymer track surfacing of majority of bike tracks. • Typical Maintenance for introduction of turfed embankment and new furniture.	• Minimal Operational cost in first 20 years. • Typical Maintenance reduced due to polymer track surfacing of majority of bike tracks. • Typical Maintenance for introduction of turfed embankment and new furniture. • Significant time and resources required to establish new plantings.
Time	• 2023/24 Concept Design with Cost Estimate, CTG, Committee, Council & PCG review, Funding submissions and approvals. • Project Delivery (D&C Contract).	• 2023/24 Concept Design with Cost Estimate, CTG, Committee, Council & PCG review, Funding submissions and approvals. • Project Delivery (D&C Contract).	• 2023/24 Concept Design with Cost Estimate, CTG, Committee, Council & PCG review, Funding submissions and approvals. • Project Delivery (D&C Contract).
Quality	• This option provides a like for like renewal of assets in core areas and significant upgrade in quality to other core and ancillary areas. • The quantum of upgrade elements in this option will attract more visitors to the Park Lands and increase visitation rates.	• This option provides a like for like renewal of assets in core areas and significant upgrade in quality to other core & ancillary areas. • The quantum of upgrade elements in this option will attract more visitors to the Park Lands and provide more amenity, rest locations and visual assistance in and around the precinct.	• This option provides a like for like renewal of assets in core areas and significant upgrade in quality to other core & ancillary areas. • The quantum of upgrade elements in this option will attract more visitors to the Park Lands and provide more amenity, rest locations and visual assistance in and around the precinct. • The precinct will be surrounded by newly established greening to strengthen the desired 'woodland' setting for Park 20 and the City Dirt facility. • The precinct will have electrical upgrades and connection points.
Risks	• Risk of project not proceeding as main project objectives aren't met i.e. path delineation, the quality of the landscape and infrastructure and amenities to support higher visitation rates and length of stay. • Risk of not meeting the expectation of stakeholders if not all lawn with irrigation with GAP water, trackside planting for formal safe path routes, amenity planting, furniture, signage and greening upgrades are installed. • Risk of not meeting the expectation of stakeholders if the greater greening and electrical upgrades around the precinct is not installed in line with Master Plan. • Risk of not receiving the Grant Funding and matching council funding may reduce scope of works and limit to New and Upgrade Funding. • Risk of not having the ability to compete with the various suburban and regional dirt bike tracks in South Australia and losing patrons. • Risk of future stages not proceeding.	• Risk of not meeting the expectation of stakeholders if the greater greening and electrical upgrades around the precinct is not installed in line with Master Plan. • Risk of not receiving the Grant Funding and matching council funding may reduce scope of works and limit to New and Upgrade Funding. • Risk of not having the ability to compete with the various suburban and regional dirt bike tracks in South Australia and losing patrons. • Risk of future stages not proceeding.	• Risk of not receiving the Grant Funding and matching council funding may reduce scope of works and limit to New and Upgrade Funding.
Stakeholder Expectations	• Administration has engaged with key stakeholders (City Dirt Crew, CoA City Operations, Assets, Park Lands & Sustainability and Community Lifestyle teams) regarding the design (renewal & upgrade areas), operation and on-going maintenance issues to develop an enhanced City Dirt precinct that will meet stakeholder expectations and be in line with AM renewal programming.	• Administration has engaged with key stakeholders (City Dirt Crew, CoA City Operations, Assets, Park Lands & Sustainability and Community Lifestyle teams) regarding the design (renewal & upgrade areas), operation and on-going maintenance issues to develop an enhanced City Dirt precinct that will meet stakeholder expectations and be in line with AM renewal programming.	• Administration has engaged with key stakeholders (City Dirt Crew, CoA City Operations, Assets, Park Lands & Sustainability and Community Lifestyle teams) regarding the design (renewal & upgrade areas), operation and on-going maintenance issues to develop an enhanced City Dirt precinct that will meet stakeholder expectations and be in line with AM renewal programming.
Recommend	✗ **Not recommended**	✓ **Preferred Option**	✗ **Not recommended**

X150 City Dirt

Evaluation

	Design Principles	Key attributes	Option 1	Option 2	Option 3
	BMX Tracks & Community	• Upgrades to existing tracks • Improvements to the riding experience with addition of new challenges, jumps and ramps • Close skills gap between different level riders • Upgraded track identification • Seal tracks with sustainable polymer track surfacing			
	Movement + Access	• Improved connection and access to BMX facilities and surrounding recreation areas through new internal pathways • Upgraded wayfinding for better site legibility • New wayfinding and signage			
	Park Lands Integration	• Integrate assets within the surrounding Park Lands and the natural open space character of the site • Connect to existing Park Lands Trail			
	Increased Greening	• Retain and protect all existing trees • Improved drainage through new soakage pits • Trackside planting to define pathways and tracks • New irrigated turf embankment/viewing area • New amenity planting and mulch to infill existing tree surrounds • Increased shade through new trees planting • New GAP water connection			
	Wide Appeal	• Acknowledge the potential for a wide appeal across demographics for recreation and spectating • Ensure the design meets DDA compliance			
	Security + Safety	• Provide a safe riding facility whilst facilitating appropriate levels of challenge with passive surveillance from adjacent landscape areas and streetscape • Advanced track lighting feasibility assessment and additional power supply			
		Total Cost	**$ 2.15M**	**$ 2.8M**	**$ 3.95M**

X150 City Dirt

Quick Facts

	 BMX Tracks	 Internal Pathways	 Greening	 Amenity Facilities	 Envitonmental Disturbance
Existing (Current conditions)	Advanced Track - not sealed Intermediate Track - not sealed Beginner Track - not sealed Pump Track - not sealed	Unclear and informal path delineation	+ 200 trees + 500sqm irrigated turf	Basic amenity facilities: outdated toilet facility, BBQ, picnic tables, timber seatings, water points and bins	-
Option 1	Advanced - light touch Intermediate - 20% increased track Beginner - 15% increased track Pump - 50% increased track & 100% sealed	90% improvement	5% increase	40% renewed	None
Option 2	Advanced - light touch Intermediate - 20% increased track & 100% sealed Beginner - 15% increased track & 100% sealed Pump - 50% increased track & 100% sealed	100% improvement	30% increase	60% renewed and upgraded	None
Option 3	Advanced - light touch Intermediate - 20% increased track & 100% sealed Beginner - 15% increased track & 100% sealed Pump - 50% increased track & 100% sealed	100% improvement	50% increase	70% renewed and upgraded	None

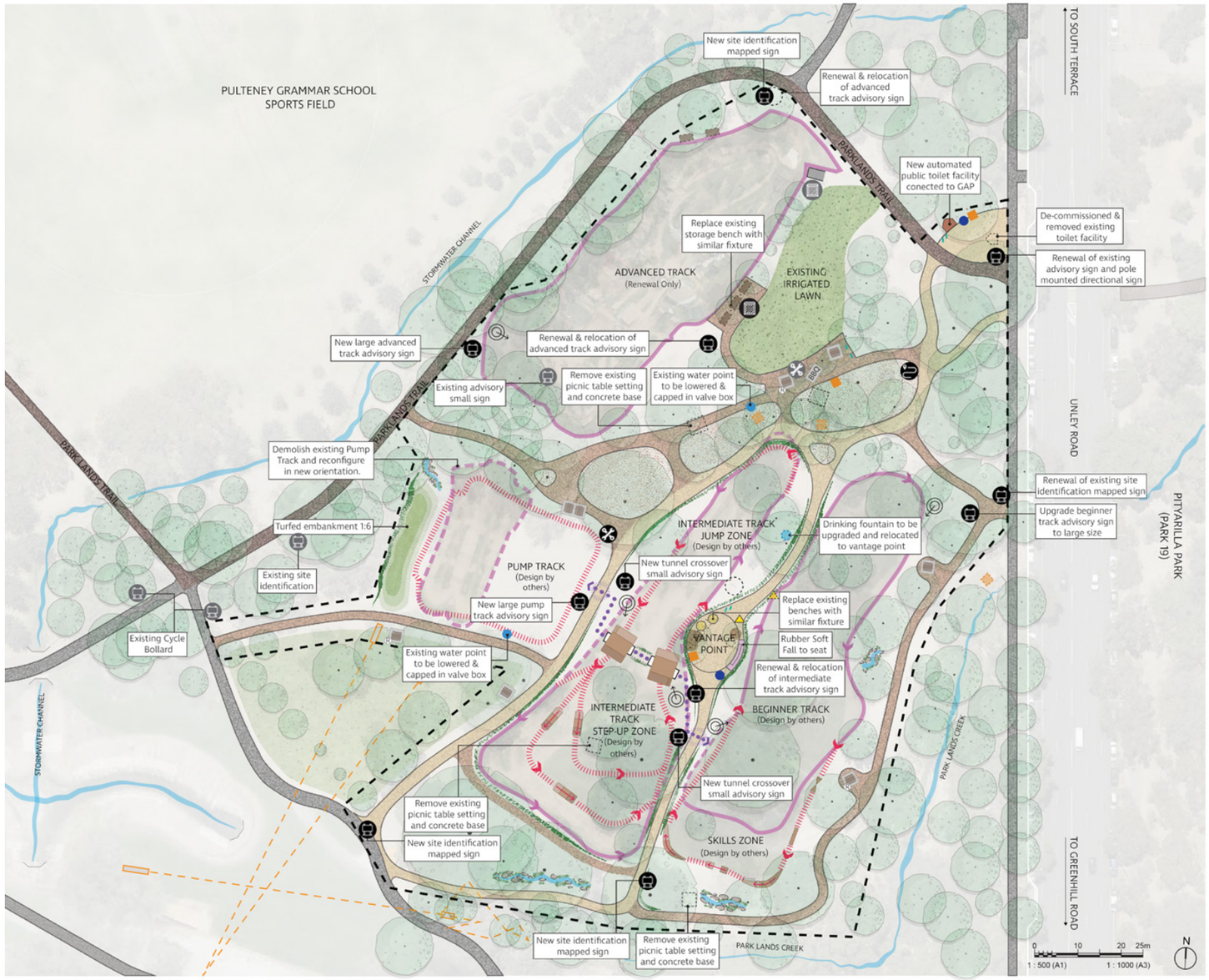
*** Quick facts presented for the concept design focus only. Exact quantities to be determined at a future project stage.**

X150 City Dirt

Recommendation - Option 2

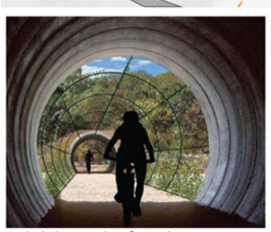
KEY MOVES

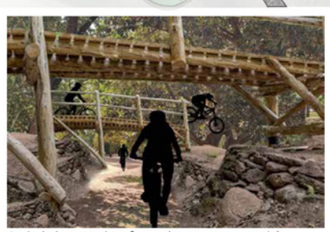
- Improve linkage between Beginner and Pump Tracks
  - Create connection between tracks, with tunnels and/or bridges that incorporate jumps and improve user skill set
- Reconfigure Intermediate Track
  - Add 'step-up' ramp course within south zone to close skills gap between beginner and intermediate users
  - Incorporate 'timber slat' boarding to inclines of jumps, to reduce on-going maintenance
- Extend Beginner Track to create optional longer loop to the southern end with a 'skills test' zone, to improve the 'skill set' of younger riders
- Improve access and legibility within and around the site using a hierarchy of materials and path widths for the new path network - Ensure the design meets DDA compliance and CoA maintenance requirements - Allow for maintenance vehicles access throughout 'central spine' with a minimum width of 3m
- Create central Vantage Point with 360 degree views, new insitu seating, renewed seating pods, litter bin, drinking fountain and improved viewer amenity
- Rationalise activity nodes and create recreation hubs
- Enlarge, reconfigure and seal existing Pump Track
- Enhance picnic, barbecue and seating areas
- Protect all trees and formalise delineation between mulch areas, tree roots and path interface
- Provide turfed embankment near Pump Track for natural viewing area
- Mitigation of local flooding issues by incorporating natural swales and soakage trenches, with rocks and native plantings
- Delineation of paths using native plantings and rocks where appropriate



Legend:

- Shared Use Path - Asphalt (Existing)
- Park Lands Trail - Ochre Asphalt (Existing)
- Proposed Path - Exposed Agregate Concrete
- Proposed Path - Compacted Gravel
- Existing Track - To be retained
- Existing Track - To be decomissioned
- Proposed Track
- Track Entry Points
- Proposed Tunnel Within Mound and access steps over
- Battered Earth Corner Ramp
- Battered Earth Step-Up Ramp
- Timber Jump Skill Test
- Raised Beam Skill Test
- Timber See-Saw Skill Test
- Soakage Pits / Natural Swale
- Native Planting Edge of Path Delineation
- Proposed Organic Mulch
- Overhead Tree Climb Zip Line (Existing)
- New Trailhead Signage Node
- Wayfinding + Signage (see notes)
- Existing Bike Repair and Pump Station
- New Bike Repair and Pump Station
- Existing Storage
- Renewed Storage
- Repositioned Signage
- Renewed Picnic Table Setting Fixed To New Concrete Base
- Repositioned & renewed Picnic Table Setting Fixed To New Concrete Base
- Repositioned Picnic Table Setting
- BBQ Existing BBQ
- Existing Trees
- Existing Water Point
- Relocated Drink Fountain
- New Drink Fountain
- Existing Bin Location
- Relocated Bin
- New bike racks
- Relocated Power Bollard
- Renewed Power Bollard
- Extent of Works


Artist's impression featuring crossover with concrete tunnel pipe within mound.


Artist's impression featuring crossover with timber bridges.


Timber jumps at Keystone Bike Park, Colorado - USA
Image credit: https://theloamwolf.com/2019/10/03/keystone-bike-park/


Raised Beam Skill Test Winterberg - Germany
Image credit: https://www.pinkbike.com/photo/2493874/


Artist's impression featuring delineation of paths.

Option 2 - Base Renewal And Upgrade Of Existing Facilities With Mid-Level Enhancements

RECOMMENDATION BASED ON THE FOLLOWING JUSTIFICATION:

This option whilst not delivering the full Master Plan project brief, it delivers the core Vision of the City Dirt Master Plan 'A community recreation asset with a strong cultural identity and contributing to high quality public space within the Adelaide Park Lands.'

Including the six principals:
1. Community and Culture
2. Accessibility
3. Park Lands Integration
4. Amenity
5. Wide Appeal
6. Security and Safety

For best opportunity to succeed the project team requires:

Approval – To proceed with Option 2 as Stage 1 and Stage 2 delivered at a later date which includes the following scope Stormwater Buffer, Buffer Edge Planting and Electrical Installations/ Feasibility Study.

Adoption of the Urban Elements Asset Management Plan

Strategic Alignment - Our Places

Public

Tuesday, 16 April 2024

Infrastructure and Public Works Committee

Program Contact:
Mark Goudge, Associate Director Infrastructure

Approving Officer:
Tom McCready, Director City Services

EXECUTIVE SUMMARY

The purpose of this report is to present the community feedback and consultation outcomes of the draft Urban Elements Asset Management Plan (AM Plan), in conjunction with feedback received from the Audit and Risk Committee (ARC) and seek Council adoption of a finalised Urban Elements AM Plan as required under the *Local Government Act (SA) 1999*. Each of our six AM Plans will require Council adoption prior to 30 June 2024 to enable review by the Essential Services Commission of South Australia (ESCOSA) in 2024/25.

At its 12 December 2023 meeting, Council was presented the draft Urban Elements AM Plan and endorsed it to be released to community consultation for an eight-week period between 8 December 2023 and 9 February 2024. Community consultation included a 'Your Say' engagement page in conjunction with two drop-in sessions that were held at the Hutt Street Library (24 January 2024) and the North Adelaide Library on Tynte Street (31 January 2024).

The community was notified of the consultation through the Government Gazette and Public Notice in the Advertiser, as well as physical and electronical promotion including signage at community centres and social media campaigns.

Through the 'Your Say' engagement, we received 408 visits to the Transport and Urban Elements AM Plan landing page, with 38 visitors who viewed the Urban Elements AM Plan feedback form, resulting in 6 survey responses which were all supportive of the draft Urban Elements AM Plan. In addition to the 'Your Say' responses, we also had six verbal conversations with members of the community at the drop-in sessions, which have been captured as general feedback.

The draft Urban Elements AM Plan was also presented to the Audit and Risk Committee on 16 February 2024 for review and comment. Recommendations were made to adjust wording within the executive summary for the purposes of better informing the community what is covered within each asset class. The finalised AM Plan contains this information in Section 2 of the concise AM Plan Summary (**Attachment B**) and Section 1.2 of the Comprehensive AM Plan (**Attachment B**).

RECOMMENDATION

The following recommendation will be presented to Council on 23 April 2024 for consideration.

THAT THE INFRASTRUCTURE AND PUBLIC WORKS COMMITTEE RECOMMENDS TO COUNCIL THAT COUNCIL:

1. Receives the community feedback for the draft Urban Elements AM Plan included in the Engagement Summary & Submissions Report provided in Attachment A to Item 7.4 on the Agenda for the meeting of the Infrastructure and Public Works Committee held on 16 April 2024.
2. Notes that the draft Urban Elements AM Plan was presented to the Audit and Risk Committee on 16 February 2024 for review and comment, where recommendations were made to adjust wording within the executive summary for the purposes of better informing the community what is covered within each asset class.
3. Notes that there were no changes to the draft Urban Elements AM Plan in response to the feedback received through the community consultation or the advice received from the Audit and Risk Committee, other than minor editorial and formatting changes.

4. Adopts the Urban Elements AM Plan provided in Attachment B and C to Item 7.4 on the Agenda for the meeting of the Infrastructure and Public Works Committee held on 16 April 2024

5. Notes that the adopted Urban Elements AM Plan will be included into the 24/25 Business Plan and Budget and LTFP.

6. Notes that the Urban Elements AM Plan will be reviewed on an annual basis, where any material changes to financial forecasts will be considered through the Annual Business Plan and Budget process and incorporated as updates to the LTFP.

7. Authorises the Acting Chief Executive Officer or delegate to make minor and technical amendments as required (including updates to adopted budgets in the LTFP), to the Urban Elements AM Plan documents contained in Attachment B and C to Item 7.4 on the Agenda for the meeting of the Infrastructure and Public Works Committee held on 16 April 2024.

IMPLICATIONS AND FINANCIALS

City of Adelaide 2024-2028 Strategic Plan	Strategic Alignment – Our Places Manage our assets to meet the needs of the community.
Policy	Asset Management Policy Strategic AM Plan Public Communication and Consultation Policy
Consultation	Consultation on the draft Urban Elements AM Plan was open from Friday 15 December 2023 to Friday 9 February 2024. The results of the consultation feedback and analysis are provided within, and as an attachment to this report for Council's consideration prior to adopting the Urban Elements AM Plan.
Resource	Not as a result of this report
Risk / Legal / Legislative	The review and update of AM Plans, including levels of service, is required every four years or within two years of a general Council election pursuant to section 122 of the *Local Government Act 1999 (SA)*.
Opportunities	The Urban Elements AM Plan defines asset levels of service to ensure assets are meeting the community's current and future requirements.
23/24 Budget Allocation	Not as a result of this report
Proposed 24/25 Budget Allocation	2024/25 budgets will be set by Council through the Annual Business Plan and Budget Process (noting Asset Renewal Funding Ratio targets of between 90-110%). Asset renewal is generally funded through operational revenue, which includes rates, commercial revenue and grant allocations.
Life of Project, Service, Initiative or (Expectancy of) Asset	There are implications for the future lifecycle management of our urban elements, including operation, maintenance and renewal of assets. These are presented in detail within the Urban Elements AM Plan.
23/24 Budget Reconsideration (if applicable)	Not as a result of this report
Ongoing Costs (eg maintenance cost)	As documented within AM Plan (no change)
Other Funding Sources	External funding opportunities will continually be pursued to offset costs, bring forward works, or provide for additional enhancements.

DISCUSSION

1. The purpose of this report is to present the community feedback and consultation outcomes of the draft Urban Elements AM Plan, in conjunction with feedback received from the Audit and Risk Committee (ARC) and seek Council adoption of a finalised Urban Elements AM Plan (AM Plan) as required under the *Local Government Act (SA) 1999*. Each of our six AM Plans will require Council adoption prior to 30 June 2024 to enable review by the Essential Services Commission of South Australia (ESCOSA) in 2024/25.

Background

2. In November 2021, we undertook an engagement process with City residents and visitors to better understand and measure levels of satisfaction of users who utilise the services provided by our Urban Elements (which includes Street and Park Lands furniture, Public Art and Monuments and urban structures).
3. At its 14 June 2022 meeting Council received a report noting the results of the community consultation undertaken to benchmark current user satisfaction and approved the development of a draft Urban Elements AM Plan based on the planning principles and recommended management strategies (levels of service) presented within the report and its Attachments [Link 1].
4. At its 12 December 2023 meeting, Council received the draft Urban Elements AM Plan and endorsed it to be released to community consultation for an eight-week period between 8 December 2023 and 9 February 2024 [Link 2].
5. At its 16 February 2024 meeting, the Audit and Risk Committee was presented the draft Urban Elements AM Plan for review and comment. Recommendations were made to adjust wording within the executive summary for the purposes of better informing the community what is covered within each asset class [Link 3].

Consultation Process

6. Community consultation ran for an 8-week period between 15 December 2023 and 9 February 2024.
7. This 8-week period exceeded the minimum requirements (21 days) of Section 50 of the *Local Government Act 1999 (SA)*, as well as exceeded the 6-week consultation period recommended under Council's Community Consultation Policy.
8. Community consultation included a 'Your Say' engagement page in conjunction with two drop-in sessions that were held at the Hutt Street Library (24 January 2024) and the North Adelaide Library on Tynte Street (31 January 2024).
9. To ensure the community was informed and aware of their opportunities to provide feedback into this process, consultation included:
    - 9.1. Public notice in the South Australian Government Gazette on 14 December 2023.
    - 9.2. Public note in The Advertiser newspaper on 15 December 2023.
    - 9.3. Physical promotion at libraries and community centres.
    - 9.4. Electronic promotion through social media platforms.
    - 9.5. Notification to registered Yoursay stakeholders (over 10,000 registered users) via the Your Say email newsletter on 20 December 2023 and 16 January 2024.
    - 9.6. Notifications to registered CoA newsletter subscribers.
10. Through the Your Say engagement, we received 408 visits to the Transport and Urban Elements AM Plan landing page, with 38 visitors who viewed the Urban Elements feedback form, resulting in 6 survey responses for the Urban Elements AM Plan.
11. All 6 of the survey responses were supportive of the draft Urban Elements AM Plan. Consultation responses have been collated and summarised in **Attachment A**.

12. In addition to the 'Your Say' responses, we also had six verbal conversations with members of the community at the drop-in sessions, which have been captured as general feedback and can be found summarised in **Attachment A**.

13. While community engagement response numbers were low, the consultation outcomes demonstrated community support for the draft Urban Elements AM Plan.

Audit and Risk Committee Advice

14. The draft Urban Elements AM Plan was presented to the Audit and Risk Committee on 16 February 2024 for review and comment. Recommendations were made to adjust wording within the executive summary for the purposes of better informing the community what is covered within each asset class.

Finalised Urban Elements AM Plan

15. The feedback from community consultation and the Audit and Risk Committee did not prompt any substantial changes to the draft Urban Elements AM Plan, other than minor editorial and formatting changes.

16. The finalised Urban Elements AM Plan is presented in **Attachment B** (Summary Urban Elements AM Plan) and **Attachment C** (Comprehensive Urban Elements AM Plan).

Next Steps

17. The 2024/25 Business Plan and Budget will be prepared in line with the requirements of the updated Urban Elements AM Plan, with the LTFP being updated through this process.

18. All six AM Plans will be presented to Council for adoption by 30 June 2024.

19. Following adoption of all six AM Plans, in 2024/25 ESCOSA will assess City of Adelaide's long-term financial sustainability.

20. Following adoption of the 24/25 Business Plan and Budget and updates to the LTFP, minor amendments will be made to the Urban Elements AM Plan, under the authorisation of the Acting Chief Executive Officer, to reflect changes to adopted budget allocations for the Urban Elements AM Plan (i.e. showing to what extent the AM Plan has been funded by Council).

DATA AND SUPPORTING INFORMATION

Link 1 - Council Meeting Agenda 14 June 2022
Link 2 - Council Meeting Agenda 12 December 2023
Link 3 - Audit and Risk Committee Meeting Agenda 16 February 2024

ATTACHMENTS

Attachment A - Urban Elements AM Plan Engagement Summary & Submissions Report
Attachment B - Urban Elements AM Plan (Summary)
Attachment C - Urban Elements AM Plan (Comprehensive)

- END OF REPORT -

Engagement Summary and Submissions
Draft Urban Elements Asset Management Plan

ENGAGEMENT SUMMARY

Formal consultation on City of Adelaide's draft Urban Elements Asset Management Plan occurred between 15 December 2023 and 9 February 2024.

Community consultation included a 'Your Say' engagement page in conjunction with two drop-in sessions that were held at the Hutt Street Library (24 January 2024, 12 noon - 2 pm) and the North Adelaide Library on Tynte Street (31 January, 10am - 12 noon).

Notification of the public consultation was announced through the Government Gazette and a Public Notice in the Advertiser, as well as advertised through physical and electronical promotion through City of Adelaide platforms including signage at community centres and social media campaigns.

Your Say Survey

The 'Your Say' community engagement platform provided an overview of what Asset Management is as well as the purpose of the Asset Management Plan. Additionally, it highlighted the journey that has been undertaken to date in the development of the draft Asset Management Plans, which included:

- Preliminary engagement with our community to better understand and measure levels of satisfaction for the services provided by our assets.
- Identifying where current levels of service are not meeting the community's expectation, to then enable recommendations to be made to Council regarding how our assets are managed into the future through the development of the draft Asset Management Plans.

We have used the insights from the community to develop the draft Urban Elements Asset Management Plan and through the final consultation, asked the question, did we get it right?

Through the Your Say engagement page, we received:

- 408 visitors to the Your Say page
- 38 visitors who viewed the feedback form
- 6 survey responses

Respondents were prompted to provide demographic information, which is summarised below:

Ratepayers:

3 survey respondents identified as ratepayers within the City of Adelaide (50%)

3 survey respondents identified as a non-ratepayer (50%)

Residents:

3 survey respondents identified as residents within Adelaide CBD

1 survey respondents identified as residents within North Adelaide

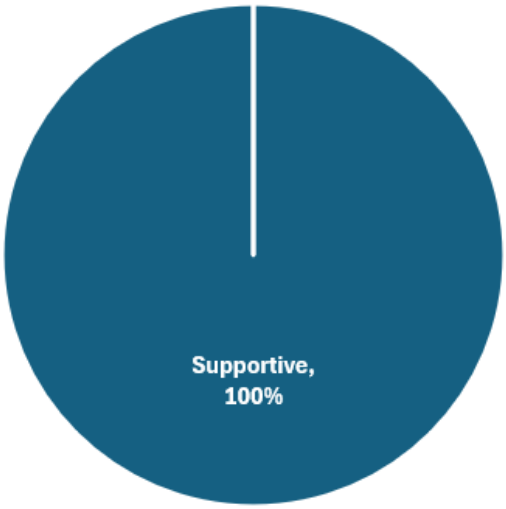
2 survey respondents identified as City visitors

How you participate' in City life:

Feedback Summary of Survey Responses:

Q1. Do you support the adoption of the Urban Elements Asset Management Plan?

- 6 of 6 written submissions via YourSay were in support of the Plan (100%)



Within these 6 responses, we received one written comment advocating for more bike infrastructure, including bike racks to ensure adequate provisions for end of trip facilities. While this feedback is considered constructive and valuable, it falls outside the intended purpose of the Urban Elements Asset Management Plan, which is to forecast the operations, maintenance and renewal requirements of our existing assets.

Programs to create of new urban elements, including bike racks, are considered on an annual basis through the development of the Business Plan and Budget, where initiatives prioritised with respect to organisational priorities and budget availability.

Drop-In Sessions

From the two drop-in sessions that were held at the Hutt Street Library and the North Adelaide Library on Tynte Street, we had six verbal conversations with the community that were captured as general feedback. This general feedback, relevant to the Urban Elements Asset Management Plan is summarised below:

- Supportive of improving cycling infrastructure
- Request for more butt out bins
- Recommend more education around recycling and green bins
- Request for more shelters for bus stops

YOUR SAY ENGAGEMENT SUBMISSIONS

Respondent	Do you support the adoption of the AM Plan?	Comments	Response
Respondent 1 (16/12/23)	Yes	We need more bike infrastructure in general, including bike parking. I don't know if this is the space for public toilets, but there are limited facilities in the city. If the city is planning on growing it's residential population, more public facilities should be incorporated into the city.	Feedback is related to new and upgrade of infrastructure, while this Asset Management Plan does not identify financial forecasts associated with new and upgrade projects, New and upgrade project are considered through developed of BP&B, with consideration of orginaional priorities and available budgets.
Respondent 2 (20/12/23)	Yes	-	-
Respondent 3 (10/01/24)	Yes	-	-
Respondent 4 (16/01/24)	Yes	-	-
Respondent 5 (22/01/24)	Yes	-	-
Respondent 6 (07/02/24)	Yes	-	-

Urban Elements Asset Management Plan

Summary

CITY OF ADELAIDE

Contents

EXECUTIVE SUMMARY

1 The Purpose of the Plan

The City of Adelaide is responsible for an extensive and diverse asset portfolio valued at more than $2 billion, which represents a significant investment made over multiple generations. These assets play a vital role in providing essential services to our community and it is critical to ensure these assets continue to be effectively managed to enable ongoing service provision and benefits for both current and future generations.

Under South Australia's *Local Government Act 1999*, we are required to develop Asset Management Plans for a period of at least 10 years, which includes information about the operation, maintenance, renewal, acquisition, expansion, upgrade and disposal for each infrastructure asset class under our care and control. The City of Adelaide has six Asset Management Plans, which include Transport, Park Lands & Open Space, Buildings, Water Infrastructure, Lighting & Electrical and Urban Elements.

The fundamental purpose of this Urban Elements Asset Management Plan is to outline the Council's high-level asset management priorities for the operation, maintenance and renewal of our assets over the next 10 years. Additionally, it aims to improve the long-term strategic management of our urban elements, to cater for the community's required levels of service both now and into the future.

The plan defines the current state of our $105.3 million urban elements portfolio, as well as the asset management activities and associated funding requirements recommended for inclusion into the Long-Term Financial Plan to achieve our asset performance target.

2 Our Urban Elements

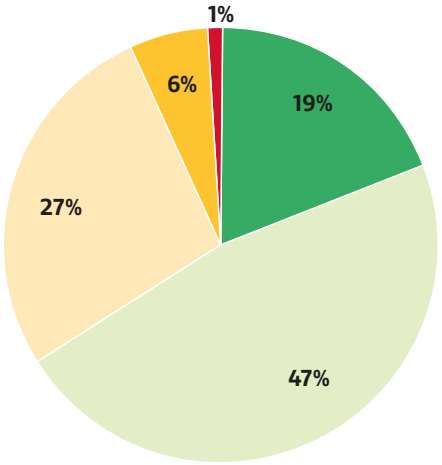
The City of Adelaide's urban elements portfolio is valued at approximately $105.3 million and provides vital services which enable the health and wellbeing of our community and support access and use to key amenities within the City and Park Lands. These assets include Public Art and Monuments, Street and Park Lands Furniture (e.g. bike racks, seat, wayfinding signage) and Urban Structures (e.g. rotundas, retaining walls and bus shelters).

Street & Park Lands Furniture
Quantity – 10,752
Total Value – $31,637,348

Urban Structures
Quantity – 1,849
Total Value – $34,396,251

Public Art & Monuments
Quantity – 664
Total Value – $39,281,152

To monitor the performance of our urban elements, we undertake regular condition audits (typically every 4 years). Asset condition information is analysed with respect to technical intervention criteria to inform our maintenance and renewal programs. The current condition of our urban elements portfolio is rated in a good to fair condition, with an overall condition index rating of 2.2. 93% of assets are rated in a very good to fair condition and 7% of assets are rated in poor or very poor condition, which form the general basis of our future renewal program priorities.



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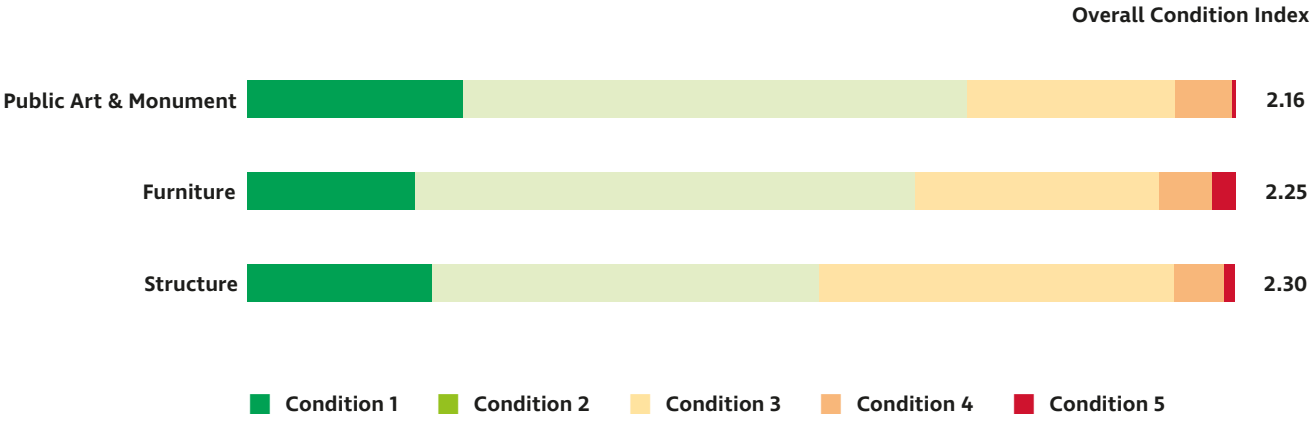
5	**Very Poor:** physically unsound and/or beyond rehabilitation, immediate action required

Typical examples of each condition state for our urban elements assets are shown in Appendix E.

Overall, the majority of each of the Urban Elements sub-classes are rated in a very good to fair condition with only a small proportion of assets rated in poor and very poor condition. This is considered a healthy condition distribution, however ongoing investment will be required to ensure levels of service are maintained.



3 Community Engagement & Customer Satisfaction

In November 2021, we undertook an engagement process with City residents and visitors to better understand and measure levels of customer satisfaction for the services provided by our urban elements. A summary of the responses is shown below.

Category	Average Score	Very Poor (<40%)	Poor (40-54%)	Average (55-69%)	Good (70-84%)	Excellent (>85%)
Park Lands Urban Elements	94%					●
City Streets Urban Elements	88%					●

The overall feedback confirmed appropriate levels of customer satisfaction for our Urban Elements.

A Recommended Levels of Service Report was presented to Council, with the recommendations approved in August 2022. This report noted the community consultation undertaken and the associated benchmarking of current user satisfaction. Additionally, Council also approved the development of the Urban Elements Asset Management Plan based on the planning principles and recommended management strategies presented within the report and its attachments.

4 Current and Future Demands

It is anticipated that City of Adelaide will be subject to considerable change over the next ten years. This will result in our urban elements being subject to new demands that have the potential to impact future service delivery and the requirements of our existing assets.

Key demand drivers and future challenges will include:

- City growth
- Changing demographic
- Tourism & event growth
- Climate change and carbon neutrality
- Emerging technology
- Legislation & regulation

Demand for new services will be managed through a combination of managing existing assets, upgrading existing assets, providing new assets and demand management. Demand management practices can include non-asset solutions, such as educating the community around alternative options, which facilitates service provision without the need to invest in new or upgraded infrastructure.

Demand management will include:

- Continuing to engage with our community through annual City User Profile surveys
- Delivering priority upgrade/new projects identified within the Strategic Plan and strategic documents
- Ensuring climate risk mitigation and adaptation is a key focus for strategic planning, asset management and project delivery
- Continuing to review and update design standards and technical specifications to ensure our assets transition towards having a lower carbon footprint with improved circular economy outcomes through increased usage of recycled materials
- Continuing to partner with industry, to monitor and evaluate new and emerging technologies, with trials of new materials, approaches, and methodologies to inform appropriate changes to standards and practices
- Continuing to monitor changes to legislation and ensure appropriate adaptation into asset management practices

5 Strategic Planning

Under the *Local Government Act (SA) 1999*, we are legislatively required to establish a suite of Strategic Management Plans, which guide Council's future planning, asset management and financial sustainability. An overview of these strategic management plans are shown below:

Strategic Plan *Community*	Long term with a four year delivery focus. *Planning for the vision and aspirations of the Adelaide Capital City.*
Long-Term Financial Plan *Financial*	Ten year Plan, revised annually to ensure a ten year view is maintained. Planning for the long-term financial sustainability of the City of Adelaide.
Asset Management Plans *Infrastructure*	Suite of ten year Plans. *Planning for the sustainable renewal and maintenance of Council assets.*
City Plan *Development / Built Form*	Ten year Spatial Plan. *Planning for the future land uses and built form of the Adelaide Capital City.*

Through the City of Adelaide Draft Strategic Plan 2024 – 2028, Council's vision is:

Our Adelaide. Bold. Aspirational. Innovative.

Achieving our vision for the future will be guided by our long term aspirations:

Our Community: Vibrant, connected and inclusive
Our Environment: Resilient, protected and sustainable
Our Economy: Growing, innovative and responsive
Our Places: Interesting, purposeful and safe
Our Corporation: High performing, customer-centric and bold

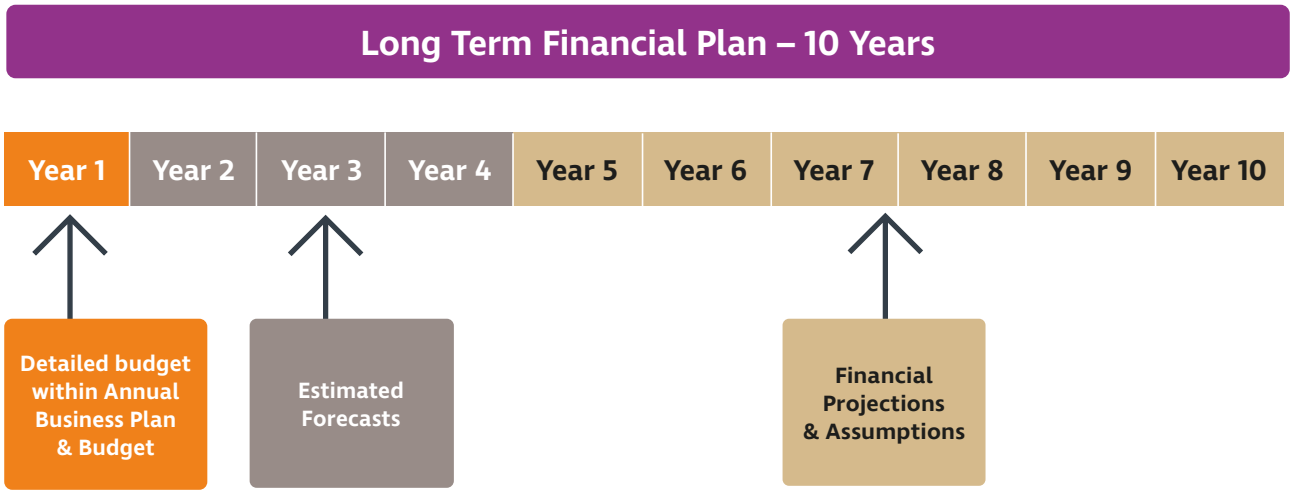
As Adelaide grows, we will need to consider economic vitality, social connectivity and wellbeing, distinctive precincts, environmental and financial sustainability, asset management and service delivery. To ensure we maintain our liveability and to support growth, these principles will underpin everything we do:

- Exceptional Amenity – Be bold and courageous in our pursuit of excellence for our city
- Quality Housing – Strive for liveability and affordability to attract and retain residents
- Community Connection – Strengthen connection, accessibility, diversity and inclusivity by putting people first
- Unique Experiences – Create interesting experiences for our residents, workers and visitors
- Climate Resilience – Embed climate resilience in all that we do
- Economic Growth – Encourage innovation, investment and development in current and emerging sectors
- Budget Repair – Provide quality services and ensure long-term financial sustainability

The Strategic Plan is supported by a suite of long and short-term strategies and action plans as well as a Resource Plan. The Resource Plan provides a four-year view of new and upgrade projects, resources, and budget requirements to deliver our Strategic Plan aspirations and objectives.

Integrated Delivery Planning ensures that prudent and efficient decisions are made, with line-of-sight between Council's Strategic Plan objectives and the major infrastructure projects we deliver. While this Asset Management Plan does not identify financial forecasts associated with new and upgrade projects, it does ensure required asset renewals are aligned (where practical) with key new and upgrade projects specified within the Resource Plan.

Each year our annual business plan and budget formalises funding allocations to continue providing services and progress new projects. It enables existing projects to move from one delivery stage to the next (eg progress concept design to detailed design and detailed design to construction) as well as consider emerging risks and opportunities that may result from Council decisions, community requests or other external factors.



6 Lifecycle Management

In order to effectively manage our assets, it is important to understand the relationship between all stages of the asset lifecycle. Effective asset management and sustainable financial planning requires a balance between the maintenance, renewal and disposal of existing assets and the delivery of new and upgraded assets.

Our goal is to provide assets that service the needs of the community, providing the agreed levels of service at the lowest lifecycle cost. To enable this, it is important to understand:

- How our assets are performing
- How our assets should be operated and maintained
- When our assets should be renewed
- When we should consider upgrading existing assets or constructing new assets
- How funding for new and upgraded assets is prioritised
- When we should consider disposing underperforming or underutilised assets

This Asset Management Plan's renewal strategy aims to minimise the number of assets that deteriorate into a poor condition and prohibit assets reaching a very poor condition. This strategy ensures we can continue to provide services in line with the community's expectations, appropriately manage risk and optimise whole-of-life costs. Renewal requirements have been identified through a combination of condition audits, engineering recommendations and predictive modelling.

Operational and Maintenance activities are generally evaluated and prioritised with respect to budget provisions within the Long-Term Financial Plan and Annual Business Plan and Budget. Following the completion of this Asset Management Plan, we will be reviewing operations and maintenance standards for urban elements assets, with a view to develop more structured and proactive maintenance regimes which provide an acceptable balance between cost, risk, and customer expectations. The associated financial impacts will need to be further considered in future revisions of this Asset Management Plan and the Long-Term Financial Plan.

This Asset Management Plan does not identify financial forecasts associated with asset disposal, however where recommended, significant assets will be identified for decommissioning and disposal through Council Reports, to then be considered within the Long-Term Financial Plan and Business Plan and Budget.

7 Financial Summary

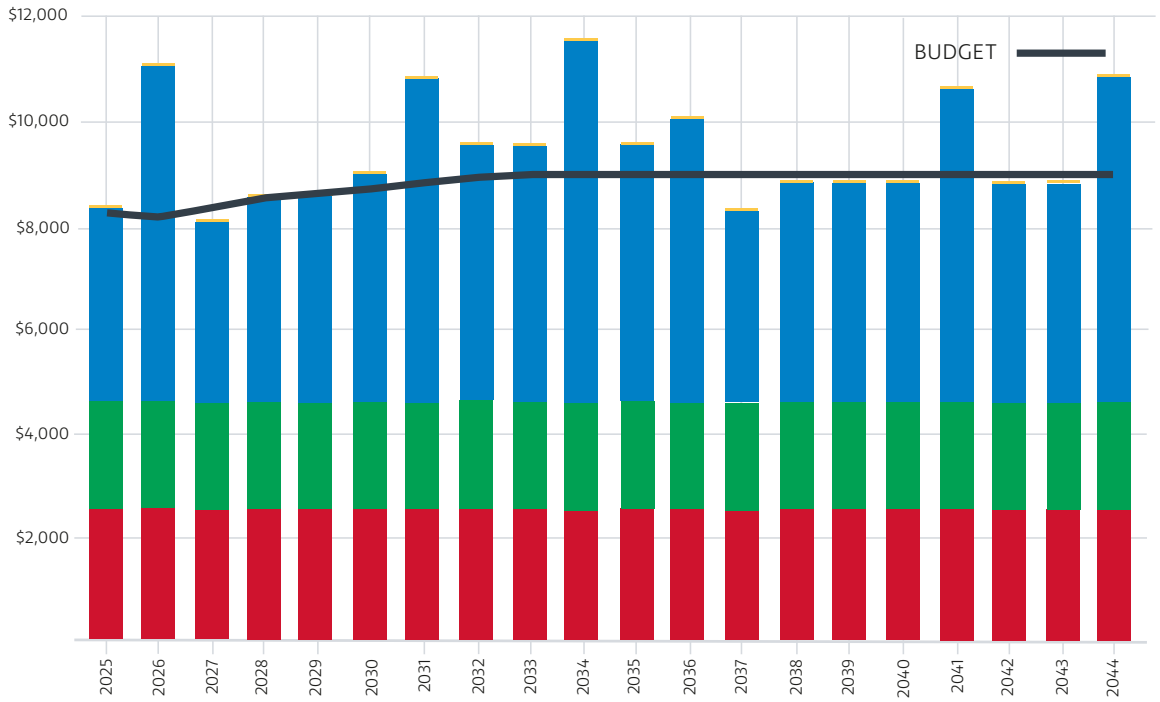
This Asset Management Plan defines the asset management activities and associated funding requirements recommended for inclusion into the Long-Term Financial Plan to achieve our asset performance targets. The lifecycle costs necessary to operate, maintain and renew our assets as outlined within this Asset Management Plan is approximately $9.49 million on average each year across the 10-year planning period. The associated 10-year annual average financial forecasts for renewal, maintenance and operation are presented below for each asset class.

Public Art & Monuments	Furniture	Structure	Total
$0.45 M Renewal Cost	**$2.85 M** Renewal Cost	**$1.58 M** Renewal Cost	**$4.88 M** Renewal Cost
$0.36 M Maintenance Cost	**$1.40 M** Maintenance Cost	**$0.32 M** Maintenance Cost	**$2.08 M** Maintenance Cost
$0.05 M Operation Cost	**$2.45 M** Operation Cost	**$0.02 M** Operation Cost	**$2.52 M** Operation Cost
$0.86 M Lifecycle Cost	**$6.70 M** Lifecycle Cost	**$1.92 M** Lifecycle Cost	**$9.49 M** Lifecycle Cost

Currently, the lifecycle budget allocation within the Long-Term Financial Plan is only $8.61 million on average each year. This leaves a funding shortfall of $0.88 million on average each year and means we currently only have 91% of the costs (Lifecycle Financial Ratio) to deliver the required activities to sustain current levels of service.

10-year Asset Renewal Funding Ratio
82%

10-year Lifecycle Financial Ratio
91%



LIFECYCLE SUMMARY
Annual Average first 10 years

Lifecycle Forecast	$9,493,661
Planned Budget	$8,608,408
Shortfall	-$885,253

MAINTENANCE
Annual Average first 10 years

Maintenance Forecast	$2,084,675
Planned Budget	$2,084,675

OPERATION
Annual Average first 10 years

Operation Forecast	$2,526,802
Planned Budget	$2,526,802

RENEWAL
Annual Average first 10 years

Renewal Forecast	$4,882,184
Planned Budget	$3,996,932

Noting that this Asset Management Plan has not forecast any additional operational and maintenance requirements, the identified lifecycle funding shortfall is associated with the revised asset renewal forecasting. Each urban elements asset class generally requires additional renewal funding across the 10-year planning period.

The Asset Renewal Funding Ratio indicates that over the next 10 years our current budgets within the Long-Term Financial Plan account for 82% of the forecast funding required for the optimal renewal of our urban elements. Contributing factors for the gap between the forecast renewal costs and current budgets within the Long-Term Financial Plan include:

- Not achieving our Asset Renewal Funding Ratio targets over the past 4 financial years as a result of covid-19 resourcing impacts and project delays associated with post-pandemic market saturation.
- Utilising advanced predictive modelling within this Asset Management Plan, that analyses asset condition information to better recognise the changing asset investment needs over time to maintain service levels.
- Ensuring we accurately recognise asset replacement costs, utilising current unit rates that take into consideration increasing costs associated with inflation and industry escalations (we have experienced significant increases in project unit rates, noting that the Local Government Association (LGA) have indicated that costs and materials have increased up to 25% post pandemic).

Only what is funded within the Long-Term Financial Plan and approved through the Annual Business Plan and Budget can be delivered. Should the Long-Term Financial Plan be unable to accommodate the revised asset renewal forecasts recommended within this Asset Management Plan, there will be associated service and risk impacts.

Continuing to leverage off external funding opportunities will allow us to maintain and enhance the quality of the service we provide, while reducing financial pressures through the efficiencies in an increased revenue. We will continue to work in partnership with both the State and Federal Governments to pursue these opportunities for both renewal and significant new and upgrade projects.

8 Potential Service and Risk Impacts

If the forecast activities outlined within this Asset Management Plan (operations, maintenance, renewal) are unable to be accommodated into the Long-Term Financial Plan, there will be potential service consequences for users. These service consequences include:

- Reduced levels of service for the urban elements portfolio (maintenance and renewal backlog)
- Reduced customer satisfaction levels associated with the management of our existing assets
- Intergenerational inequity (burdening future generations)

The associated risk consequences include:

- Increased safety risks associated with assets deteriorating beyond recommended intervention levels
- Increased reputational risks associated with services not aligning with community expectations
- Increased financial risks associated with additional maintenance requirements that cannot be accommodated within existing budgets
- Increased financial risks associated with higher renewal and/or rehabilitation treatments as asset renewals are not funded at the optimal point in time
- Increased economic risk associated with reduced business activity, events and tourism
- Intergenerational inequity (passing on costs and risk to future generations)

If the forecast activities outlined within this Asset Management Plan are unable to be accommodated into the Long-Term Financial Plan, we will endeavour to manage these risks within available funding by:

- Continuing to undertake regular asset condition and maintenance inspections
- Prioritising all asset renewal and maintenance activities with respect to available budget
- Revising our levels of service to establish an acceptable balance between cost, level of service and risk
- Developing a communication strategy to manage expectations and educate the community around affordable levels of service
- Continuing to seek out external funding opportunities
- Prioritisation of the delivery of key actions from the Improvement Plan

9 Monitoring and Improvement Program

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

	Improvement Plan Actions
1	Finalise a 4-year Resource Plan to identify key upgrade/new projects to deliver Council's Strategic Plan objectives. Once key projects are recognised within the Long Term Financial Plan, Asset Management Plans will be updated to ensure associated acquisition costs (upgrade/new) and ongoing operational and maintenance costs are appropriately recognised, in conjunction with any scheduling adjustments required for asset renewal programs.
2	Continue to work in partnership with both the State and Federal Governments to pursue external funding opportunities for both renewal and significant upgrade/new projects.
3	Review and update operations and maintenance standards, to develop more structured and proactive maintenance regimes which provide an acceptable balance between cost, risk, and customer expectations. Include changes into future revisions of this Asset Management Plan and Long Term Financial Plan.
4	Continue to undertake regular condition audits and revaluation for all our urban elements assets within the nominated 4-year cycles, including regular review of asset useful lives.
5	Continue to review our technical standards and their application across the City and Park Lands with respect to climate resilience, circular economy, recycled materials, durability and performance, whole-of-life cost, amenity, and heritage requirements.
6	Continue to monitor forecast climate change impacts to ensure we remain resilient through proactively implementing appropriate mitigation and adaptation controls.
7	Improve the capture of carbon emission data for technical standards and project procurement to support lower carbon decision making.
8	Review of corporate performance measure targets for customer satisfaction, to assist with performance gap analysis.
9	Review and standardise asset hierarchies for all asset classes within Streets and Park Lands.
10	Review customer service requests codes to better align with Level of Service reporting and operational and maintenance sub-activities.
11	Further develop processes to ensure asset data is updated following the completion of contracted maintenance work and emergency asset replacement resulting from vandalism or knockdowns.

CITY OF ADELAIDE

Urban Elements Asset Management Plan

CITY OF ADELAIDE

Contents

1.0 EXECUTIVE SUMMARY

1.1 The Purpose of the Plan

The City of Adelaide is responsible for an extensive and diverse asset portfolio valued at more than $2 billion, which represents a significant investment made over multiple generations. These assets play a vital role in providing essential services to our community and it is critical to ensure these assets continue to be effectively managed to enable ongoing service provision and benefits for both current and future generations.

Under South Australia's *Local Government Act 1999*, we are required to develop Asset Management Plans for a period of at least 10 years, which includes information about the operation, maintenance, renewal, acquisition, expansion, upgrade and disposal for each infrastructure asset class under our care and control. The City of Adelaide has six Asset Management Plans, which include Transport, Park Lands & Open Space, Buildings, Water Infrastructure, Lighting & Electrical and Urban Elements.

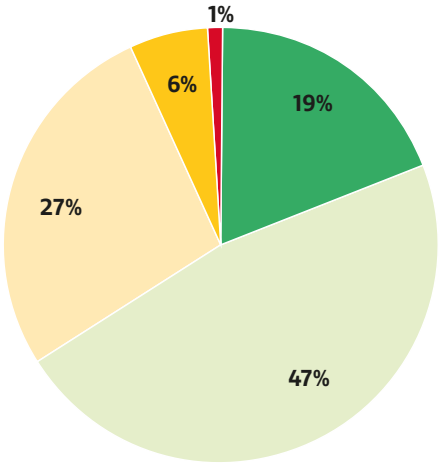
The fundamental purpose of this Urban Elements Asset Management Plan is to outline the Council's high-level asset management priorities for the operation, maintenance and renewal of our assets over the next 10 years. Additionally, it aims to improve the long-term strategic management of our urban elements, to cater for the community's required levels of service both now and into the future.

The plan defines the current state of our $105.3 million urban elements portfolio, as well as the asset management activities and associated funding requirements recommended for inclusion into the Long-Term Financial Plan to achieve our asset performance target.

1.2 Our Urban Elements

The City of Adelaide's urban elements portfolio is valued at approximately $105.3 million and provides vital services which enable the health and wellbeing of our community and support access and use to key amenities within the city and Park Lands. These assets include Public Art and Monuments, Street and Park Lands Furniture (e.g. bike racks, seat, wayfinding signage) and Urban Structures (e.g. rotundas, retaining walls and bus shelters).

To monitor the performance of our urban elements, we undertake regular condition audits (typically every 4 years). Asset condition information is analysed with respect to technical intervention criteria to inform our maintenance and renewal programs. The current condition of our urban elements portfolio is rated in a good to fair condition, with an overall condition index rating of 2.2. 93% of assets are rated in a very good to fair condition and 7% of assets are rated in poor or very poor condition, which form the general basis of our future renewal program priorities.



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Typical examples of each condition state for our urban elements assets are shown in Appendix E.

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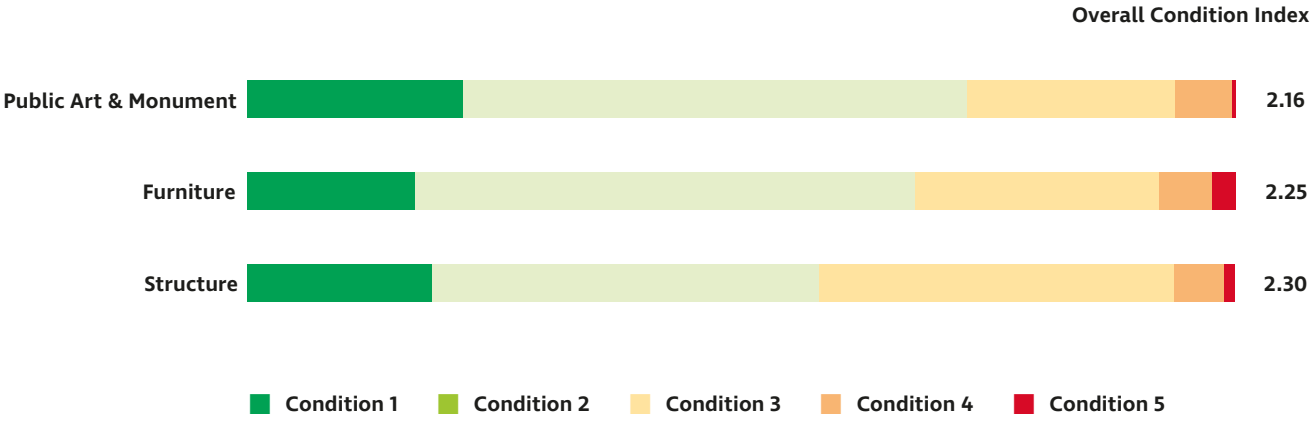

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1.4 Current and Future Demands

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Key demand drivers and future challenges will include:

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Demand for new services will be managed through a combination of managing existing assets, upgrading existing assets, providing new assets and demand management. Demand management practices can include non-asset solutions, such as educating the community around alternative options, which facilitates service provision without the need to invest in new or upgraded infrastructure.

Demand management will include:

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- Delivering priority upgrade/new projects identified within the Strategic Plan and strategic documents
- Ensuring climate risk mitigation and adaptation is a key focus for strategic planning, asset management and project delivery
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1.5 Strategic Planning

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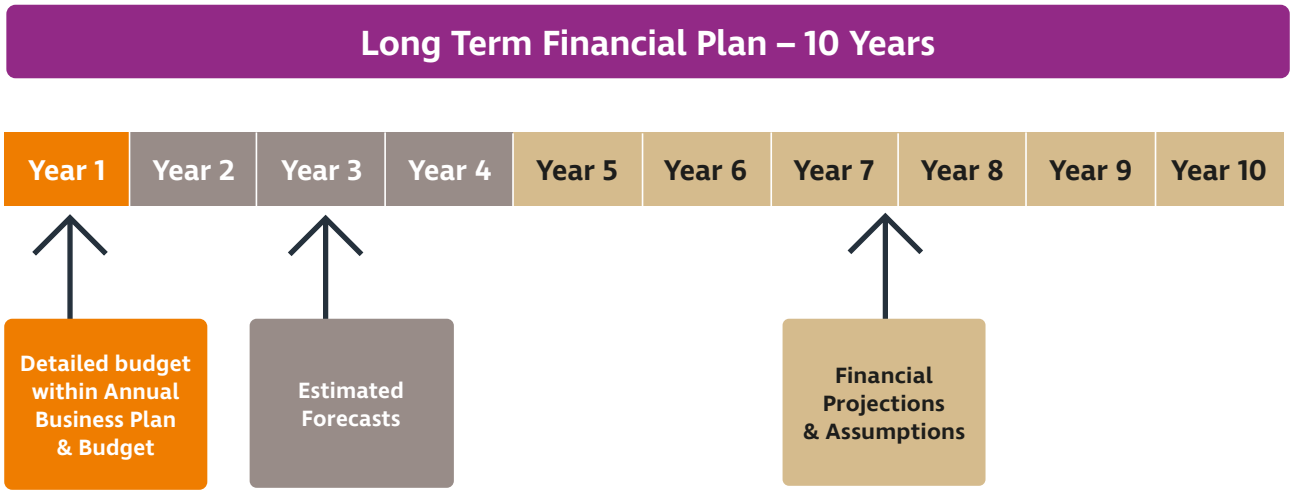
Each year our annual business plan and budget formalises funding allocations to continue providing services and progress new projects. It enables existing projects to move from one delivery stage to the next (e.g. progress concept design to detailed design and detailed design to construction) as well as consider emerging risks and opportunities that may result from Council decisions, community requests or other external factors.



1.6 Lifecycle Management

In order to effectively manage our assets, it is important to understand the relationship between all stages of the asset lifecycle. Effective asset management and sustainable financial planning requires a balance between the maintenance, renewal and disposal of existing assets and the delivery of new and upgraded assets.

Our goal is to provide assets that service the needs of the community, providing the agreed levels of service at the lowest lifecycle cost. To enable this, it is important to understand:

- How our assets are performing
- How our assets should be operated and maintained
- When our assets should be renewed
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Operational and Maintenance activities are generally evaluated and prioritised with respect to budget provisions within the Long-Term Financial Plan and Annual Business Plan and Budget. Following the completion of this Asset Management Plan, we will be reviewing operations and maintenance standards for urban elements assets, with a view to develop more structured and proactive maintenance regimes which provide an acceptable balance between cost, risk, and customer expectations. The associated financial impacts will need to be further considered in future revisions of this Asset Management Plan and the Long-Term Financial Plan.

This Asset Management Plan does not identify financial forecasts associated with asset disposal, however where recommended, significant assets will be identified for decommissioning and disposal through Council Reports, to then be considered within the Long-Term Financial Plan and Business Plan and Budget.

1.7 Financial Summary

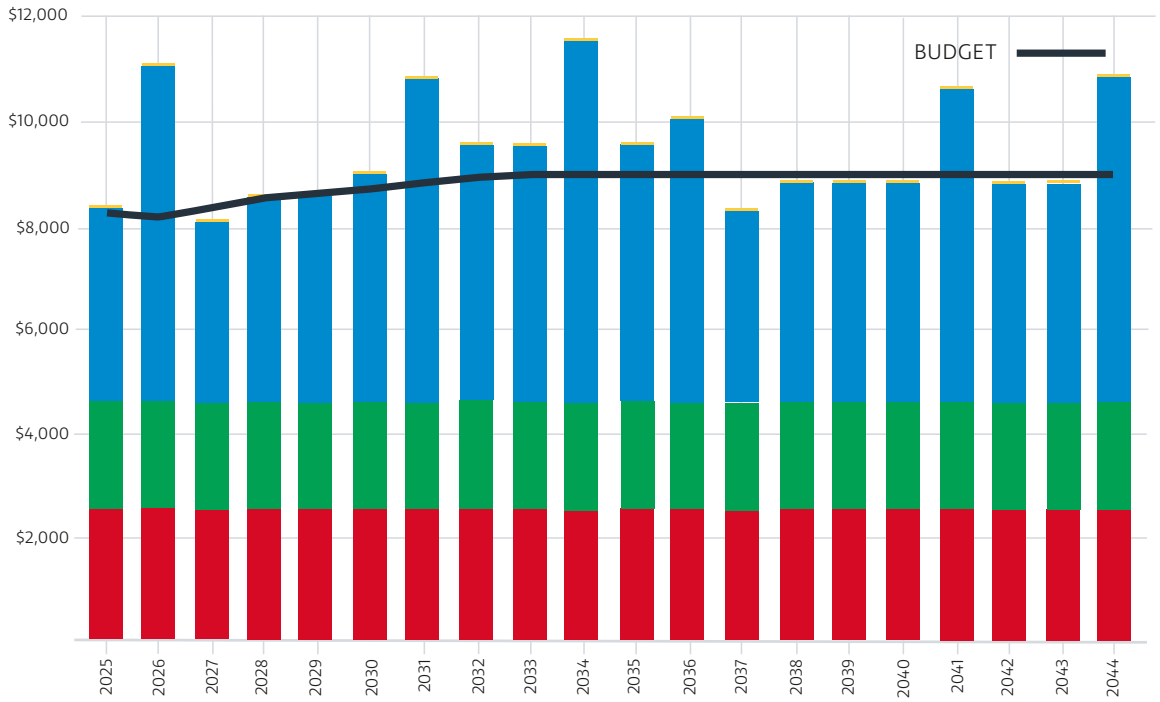
This Asset Management Plan defines the asset management activities and associated funding requirements recommended for inclusion into the Long-Term Financial Plan to achieve our asset performance targets. The lifecycle costs necessary to operate, maintain and renew our assets as outlined within this Asset Management Plan is approximately $9.49 million on average each year across the 10-year planning period. The associated 10-year annual average financial forecasts for renewal, maintenance and operation are presented below for each asset class.

Public Art & Monuments	Furniture	Structure	Total
$0.45 M Renewal Cost	**$2.85 M** Renewal Cost	**$1.58 M** Renewal Cost	**$4.88 M** Renewal Cost
$0.36 M Maintenance Cost	**$1.40 M** Maintenance Cost	**$0.32 M** Maintenance Cost	**$2.08 M** Maintenance Cost
$0.05 M Operation Cost	**$2.45 M** Operation Cost	**$0.02 M** Operation Cost	**$2.52 M** Operation Cost
$0.86 M Lifecycle Cost	**$6.70 M** Lifecycle Cost	**$1.92 M** Lifecycle Cost	**$9.49 M** Lifecycle Cost

Currently, the lifecycle budget allocation within the Long-Term Financial Plan is only $8.61 million on average each year. This leaves a funding shortfall of $0.88 million on average each year and means we currently only have 91% of the costs (Lifecycle Financial Ratio) to deliver the required activities to sustain current levels of service.

10-year Asset Renewal Funding Ratio
82%

10-year Lifecycle Financial Ratio
91%



LIFECYCLE SUMMARY
Annual Average first 10 years

Lifecycle Forecast	$9,493,661
Planned Budget	$8,608,408
Shortfall	-$885,253

MAINTENANCE
Annual Average first 10 years

Maintenance Forecast	$2,084,675
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OPERATION
Annual Average first 10 years

Operation Forecast	$2,526,802
Planned Budget	$2,526,802

RENEWAL
Annual Average first 10 years

Renewal Forecast	$4,882,184
Planned Budget	$3,996,932

Noting that this Asset Management Plan has not forecast any additional operational and maintenance requirements, the identified lifecycle funding shortfall is associated with the revised asset renewal forecasting. Each urban elements asset class generally requires additional renewal funding across the 10-year planning period.

The Asset Renewal Funding Ratio indicates that over the next 10 years our current budgets within the Long-Term Financial Plan account for 82% of the forecast funding required for the optimal renewal of our urban elements. Contributing factors for the gap between the forecast renewal costs and current budgets within the Long-Term Financial Plan include:

- Not achieving our Asset Renewal Funding Ratio targets over the past 4 financial years as a result of covid-19 resourcing impacts and project delays associated with post-pandemic market saturation.
- Utilising advanced predictive modelling within this Asset Management Plan, that analyses asset condition information to better recognise the changing asset investment needs over time to maintain service levels.
- Ensuring we accurately recognise asset replacement costs, utilising current unit rates that take into consideration increasing costs associated with inflation and industry escalations (we have experienced significant increases in project unit rates, noting that the Local Government Association (LGA) have indicated that costs and materials have increased up to 25% post pandemic).

Only what is funded within the Long-Term Financial Plan and approved through the Annual Business Plan and Budget can be delivered. Should the Long-Term Financial Plan be unable to accommodate the revised asset renewal forecasts recommended within this Asset Management Plan, there will be associated service and risk impacts.

Continuing to leverage off external funding opportunities will allow us to maintain and enhance the quality of the service we provide, while reducing financial pressures through the efficiencies in an increased revenue. We will continue to work in partnership with both the State and Federal Governments to pursue these opportunities for both renewal and significant new and upgrade projects.

1.8 Potential Service and Risk Impacts

If the forecast activities outlined within this Asset Management Plan (operations, maintenance, renewal) are unable to be accommodated into the Long-Term Financial Plan, there will be potential service consequences for users. These service consequences include:

- Reduced levels of service for the urban elements portfolio (maintenance and renewal backlog)
- Reduced customer satisfaction levels associated with the management of our existing assets
- Intergenerational inequity (burdening future generations)

The associated risk consequences include:

- Increased safety risks associated with assets deteriorating beyond recommended intervention levels
- Increased reputational risks associated with services not aligning with community expectations
- Increased financial risks associated with additional maintenance requirements that cannot be accommodated within existing budgets
- Increased financial risks associated with higher renewal and/or rehabilitation treatments as asset renewals are not funded at the optimal point in time
- Increased economic risk associated with reduced business activity, events and tourism
- Intergenerational inequity (passing on costs and risk to future generations)

If the forecast activities outlined within this Asset Management Plan are unable to be accommodated into the Long-Term Financial Plan, we will endeavour to manage these risks within available funding by:

- Continuing to undertake regular asset condition and maintenance inspections
- Prioritising all asset renewal and maintenance activities with respect to available budget
- Revising our levels of service to establish an acceptable balance between cost, level of service and risk
- Developing a communication strategy to manage expectations and educate the community around affordable levels of service
- Continuing to seek out external funding opportunities
- Prioritisation of the delivery of key actions from the Improvement Plan

1.9 Monitoring and Improvement Program

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

	Improvement Plan Actions
1	Finalise a 4-year Resource Plan to identify key upgrade/new projects to deliver Council's Strategic Plan objectives. Once key projects are recognised within the Long Term Financial Plan, Asset Management Plans will be updated to ensure associated acquisition costs (upgrade/new) and ongoing operational and maintenance costs are appropriately recognised, in conjunction with any scheduling adjustments required for asset renewal programs.
2	Continue to work in partnership with both the State and Federal Governments to pursue external funding opportunities for both renewal and significant upgrade/new projects.
3	Review and update operations and maintenance standards, to develop more structured and proactive maintenance regimes which provide an acceptable balance between cost, risk, and customer expectations. Include changes into future revisions of this Asset Management Plan and Long Term Financial Plan.
4	Continue to undertake regular condition audits and revaluation for all our urban elements assets within the nominated 4-year cycles, including regular review of asset useful lives.
5	Continue to review our technical standards and their application across the city and Park Lands with respect to climate resilience, circular economy, recycled materials, durability and performance, whole-of-life cost, amenity, and heritage requirements.
6	Continue to monitor forecast climate change impacts to ensure we remain resilient through proactively implementing appropriate mitigation and adaptation controls.
7	Improve the capture of carbon emission data for technical standards and project procurement to support lower carbon decision making.
8	Review of corporate performance measure targets for customer satisfaction, to assist with performance gap analysis.
9	Review and standardise asset hierarchies for all asset classes within Streets and Park Lands.
10	Review customer service requests codes to better align with Level of Service reporting and operational and maintenance sub-activities.
11	Further develop processes to ensure asset data is updated following the completion of contracted maintenance work and emergency asset replacement resulting from vandalism or knockdowns.

2.0 Introduction

2.1 Background

First shaped by the Kaurna People of the Adelaide Plains, then by Colonel William Light, Adelaide is a dynamic, accessible and safe city, that offers an enviable quality of life. The physical layout of the city enhances the attributes that make Adelaide unique. From the Nationally Heritage Listed Park Lands that surround our city, to the compact layout that makes the city walkable and cyclable, to our unique neighbourhoods and precincts, all these factors place Adelaide on the path to being one of the most liveable cities in the world. Despite our small footprint, the City of Adelaide is home to over 26,000 residents, 12,000 businesses and accommodates over 300,000 visitors daily, contributing close to 18% of the State's economic value.

The City of Adelaide's Urban Elements Portfolio is valued at approximately $105.3 million and has been developed over time through major investment across multiple generations. The Urban Element Portfolio includes assets such as Public Art, monuments, wayfinding signage, bus stops, street furniture, bicycle racks, parking machines and sensors, and minor structures. These assets provide services which enable the health and wellbeing of our community and support access and use to key amenities within the City and Park Lands.

With projected City and metropolitan growth, a changing climate and advancements in technology, it is anticipated that higher demand will be placed on our existing assets and there will be increasing requirements for new and upgraded infrastructure.

With Council's strategic objectives to create a City that is welcoming, inclusive and accessible to all, it is critical to ensure that our urban elements continue to be appropriately managed, ensuring we provide appropriate services and benefits for both current and future generations.

This Urban Elements Asset Management 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 infrastructure assets covered by this Asset Management Plan, including their quantities and replacement costs are shown in Table 2.1 below.

Table 2.1: Infrastructure Assets covered by the Urban Elements Asset Management Plan

Asset Class	Asset Type	Quantity	Replacement Value
Public Art & Monuments	Public Art & Monuments	664	$39,281,152
Street and Park Lands Furniture	BBQ	49	$1,098,141
	Bike Rack	1420	$846,884
	Bin	1157	$3,168,900
	Bollard	1396	$3,345,673
	Custom Sign	63	$115,081
	Drinking Fountain	146	$857,895
	Parking Machine	292	$1,682,520
	Smart Parking Solution	2964	$3,242,187
	Picnic Table	142	$577,537
	Planter Box	703	$3,698,829
	Seat	1855	$11,835,415
	Wayfinding Signage	565	$1,168,287
Urban Structure	Boat Landing	11	$5,063,043
	Boat Ramp	1	$116,878
	Bus Shelter	134	$3,278,877
	Fence	908	$11,463,070
	Flagpole	71	$314,659
	Gate	356	$248,256
	Other Structure	120	$6,612,695
	Retaining Wall	248	$7,298,775
Total		**13,265**	**$105,314,754**

This Asset Management Plan is to be read in conjunction with the Asset Management Policy, Strategic Asset Management Plan and the following key planning documents:

- City of Adelaide Strategic Plan (2024-2028)
- Active City Strategy (2013-2023)
- Adelaide Park Lands Management Strategy (2014-2025)
- Carbon Neutral Strategy (2015-2025)
- Climate Change Risk Adaptation Action Plan (2021-2026)
- Community Land Management Plans
- Cultural Strategy (2017-2023)
- Disability Access and Inclusion Plan (2019-2022)
- Heritage Strategy and Action Plan (2021-2036)
- Park Land and Precinct Master Plans
- Public Art Action Plan (2019-2022)
- Public Health and Wellbeing Plan (2020-2025)
- Smart Move Transport and Movement Strategy (2012-2022)
- The 30-Year Plan for Greater Adelaide (2017) - State Government

As existing planning documents are updated and new planning documents are approved by Council, Asset Management Plans will be reviewed and updated as required.

Infrastructure projects will reference the Adelaide Design Manual for transformational projects supported by upgrade/new funding allocated with the Business Plan and Budget and Long Term Financial Plan.

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 550002

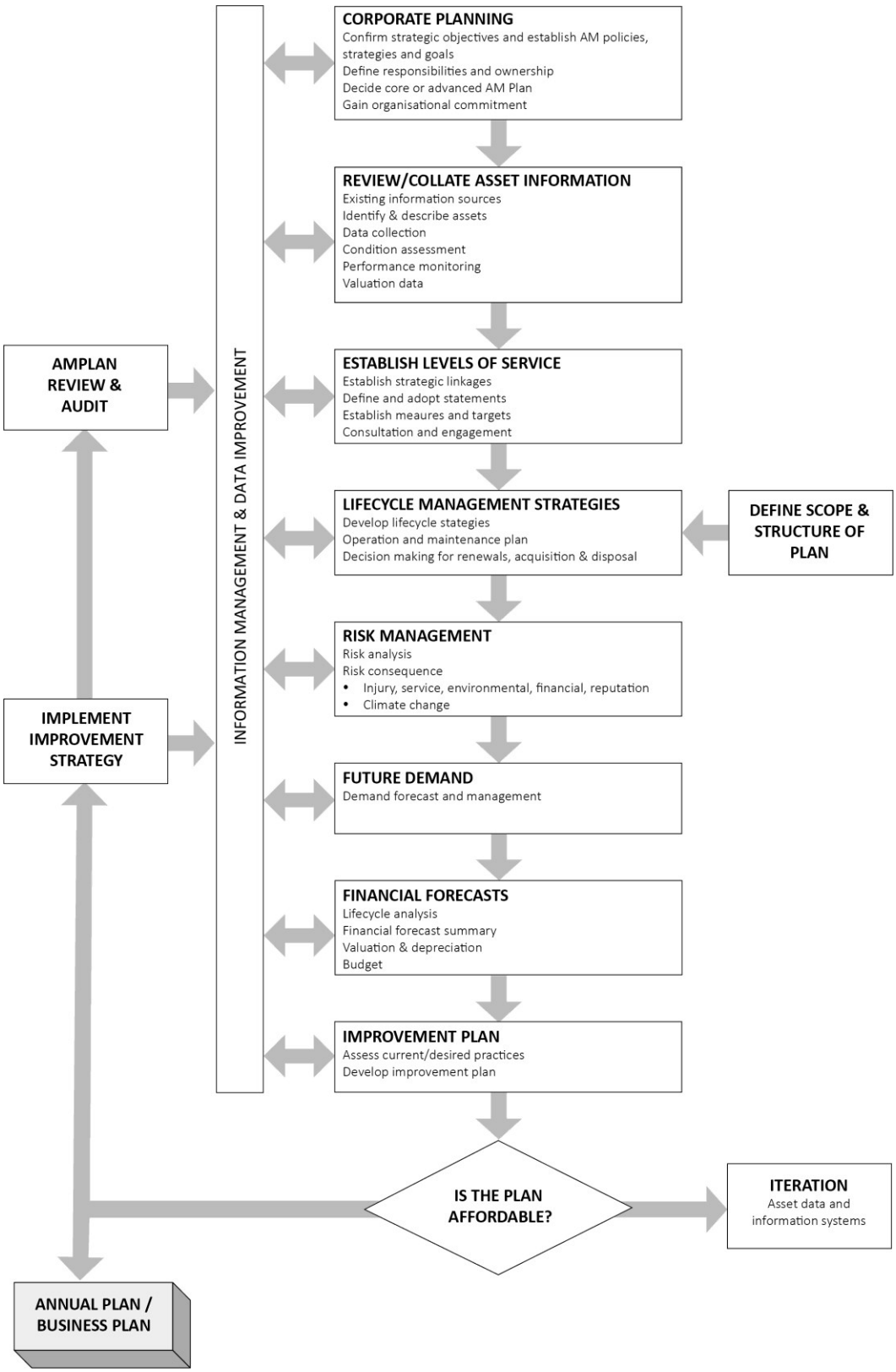
[1] Based on IPWEA 2015 IIMM, Sec 2.1.3, p 2| 13

[2] ISO 55000 Overview, principles and terminology

A road map for preparing an Asset Management Plan is shown below:

Figure 2.2: Road Map for preparing an Asset Management Plan

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



2.3 Key Stakeholders & Organisational Responsibilities

Key stakeholders in the preparation and implementation of this Asset Management Plan are shown in Table 2.3

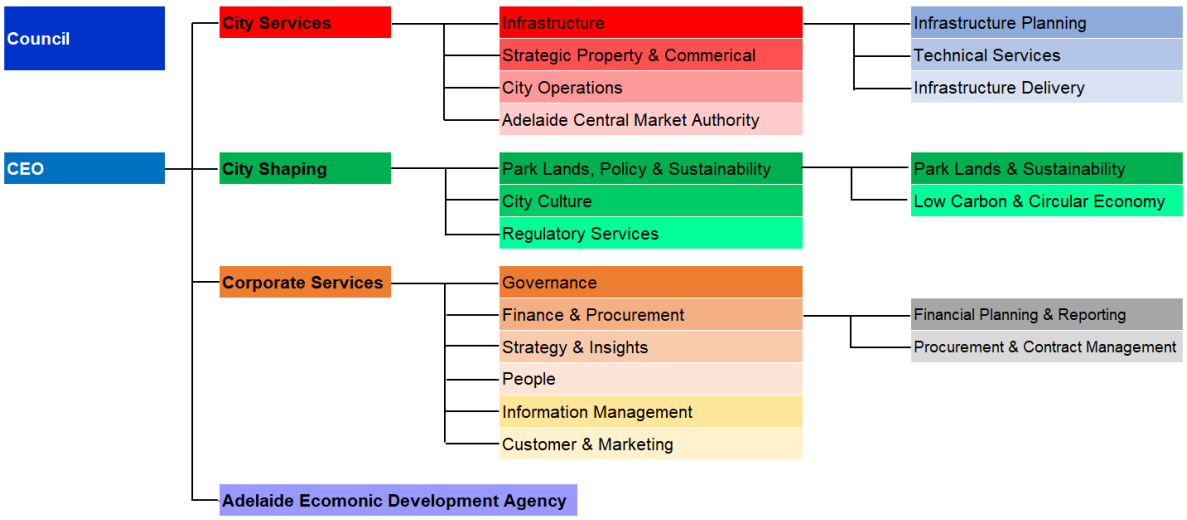
Table 2.3: Key Stakeholders in the Asset Management Plan

Key Stakeholder	Role in Asset Management Plan
Residents, Ratepayers & Businesses	Provide feedback on current and desired levels of service, which is considered in the development of Asset Management Plans.
Workers, Visitors, Tourists and Students	
Capital City Committee (CCC)	Intergovernmental body established under the City of Adelaide Act (1998) which initiates new projects to enhance and promote the development of the City of Adelaide as the capital city of the state.
Lord Mayor & Elected Members	Represent and advocate for the needs of the community and set high level direction through the development of asset management principles in the Strategic Plan. Approve the Asset Management Plan and Long-Term Financial Plan, to ensure the organisation maintains financial sustainability over the short, medium and long terms, with consideration of community needs/expectations and corporate risk management requirements.
Chief Executive Officer & Executive Leadership Team	Responsible for the allocation of resources and development of sound asset management practice across the organisation as well as ensuring that all asset management activities are consistent with the objectives of Council's Strategic Plan, the Business Plan and Budget process and the Long-Term Financial Plan. Responsible for ensuring the financial projections in the adopted Asset Management Plans are reflected in the Long-Term Financial Planning and include sustainable maintenance, operations, renewal, and upgrade costs of current and future assets.
Associate Director Infrastructure	Responsible for providing leadership and direction for Council's Asset Management Framework and Project Delivery.
Infrastructure Planning	Responsible for the lifecycle management of Council's Infrastructure Assets and the development of Asset Management Plans, ensuring alignment with the Strategic Management Framework and principles and objectives outlined in the Strategic Plan and other relevant corporate planning documents.
City Culture	Responsible for developing Public Art Action Plan, assessing and initiating new Public Art assets as well as providing technical advice for Public Art refurbishment and maintenance issues.
Park Lands & Sustainability	Responsible for developing the Adelaide Park Lands Management Strategy, Park Lands and Square Master Plans and initiating priority Park Lands & Open Space upgrade/new project initiatives. Responsible for facilitating the identification of climate change risks and potential impacts to infrastructure assets.

Key Stakeholder	Role in Asset Management Plan
Low Carbon & Circular Economy	Responsible for facilitating the identification of opportunities to improve environmental and circular economy outcomes within infrastructure standards and specifications.
Strategy & Insights	Responsible for the Strategic Management Framework, including the development of the Strategic Plan in consultation with the Executive Leadership Team, Elected Members and key strategic stakeholders.
Technical Services	Responsible for technical design documentation to facilitate construction of infrastructure projects, review and update infrastructure technical standards to ensure they are fit-for-purpose as well as the provision of general engineering and technical advice.
Infrastructure Delivery	Responsible for delivering Capital Works Projects identified in the Asset Management Plan and Annual Business Plan and Budget.
Financial Planning & Reporting	Responsible for the development and currency of the Asset Accounting Policy, Fixed Asset Guideline, as well as the preparation of asset sustainability and financial reports, which incorporate depreciation and asset revaluations in compliance with Australian accounting standards.
Procurement & Contract Management	Responsible for ensuring appropriate procedures are in place to enable efficient and effective procurement and contract management that demonstrates value for money and ensure public money is appropriately spent in accordance with the Local Government Act.
City Operations	Responsible for delivering day-to-day maintenance and operational activities, ensuring works are prioritised, planned and delivered consistently with operational and maintenance plans.
Regulatory Services	Responsible for issuing permits with conditions to enable external parties to undertake works on Council Infrastructure as well as enforcing rectification for works that are not compliant with CoA construction standards.
Department of Infrastructure and Transport (DIT)	Collaborative partner for major projects.
Service Authorities (e.g. SA Water, South Australian Power Networks)	Service authorities will continue to be consulted to coordinate any works planned by either Council or the service authority, so asset investment is not compromised.

Our organisational structure for service delivery associated with infrastructure assets is shown in Figure 2.3.

Figure 2.3: Organisational Structure



3.0 LEVELS OF SERVICE

3.1 Customer Research and Expectations

In November 2021, the City of Adelaide undertook an engagement process with City residents and visitors to better understand and measure levels of customer satisfaction for users who utilise the services provided by our Urban Elements. The engagement was advertised on signage in City Streets as well as through the City of Adelaide's social media platforms.

The insights from the Survey are intended to be used to identify where current levels of service are not meeting the community's expectation. This will enable recommendations to be made to Council regarding future resourcing requirements for specific services.

The engagement process was primarily undertaken through questionnaire surveys (113 total respondents), where information was collected online using the YourSay platform (61 respondents), as well as through on street intercepts at various locations across the City (52 respondents). Additional information and feedback relating to CoA's infrastructure assets was also collected through the 2021 Resident Survey (318 comments) and engagement with the Disability Access and Inclusion Panel (44 comments).

The demographic distribution of respondents who provided feedback is presented across Figures 3.1.1 to 3.1.3. There were significantly more survey responses received from visitors compared to residents and a very even balance across genders.

Figure 3.1.1 - Respondent Distribution

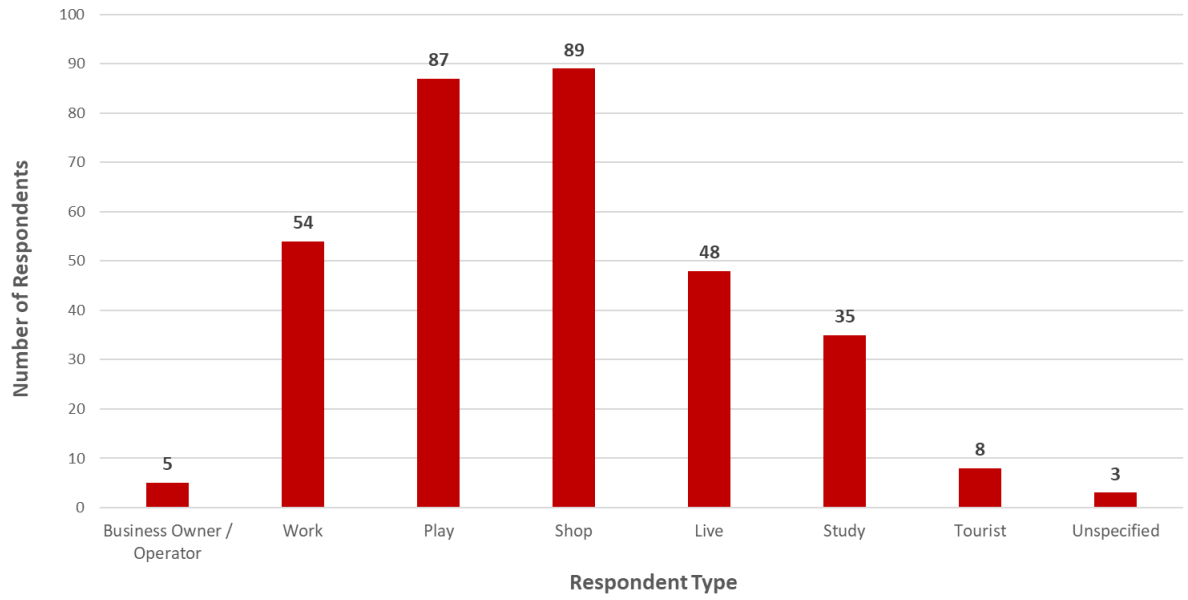


Figure 3.1.2 - Respondent Distribution (Residents v Visitors)

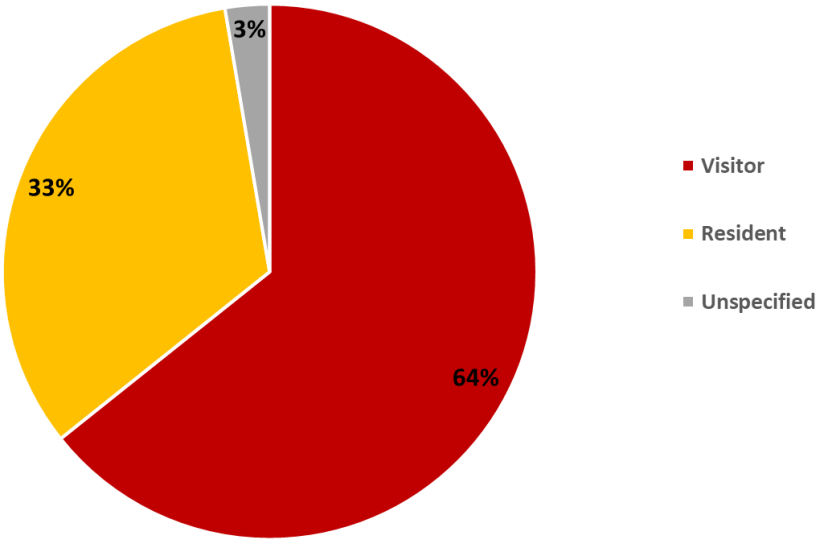
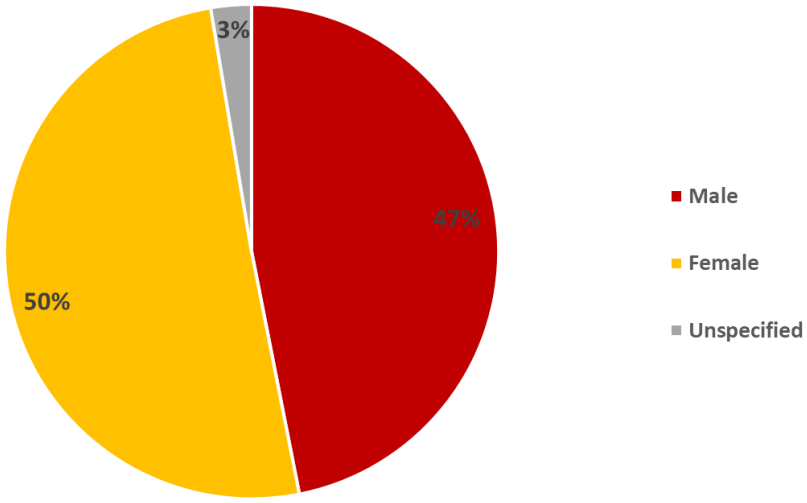


Figure 3.1.3 - Respondent Distribution (Gender)



To ensure that data was collected to enable a clear line of sight for decision making purposes, the questionnaire was structured to differentiate responses relating to City's streets Urban Elements and Park Lands Urban Elements.

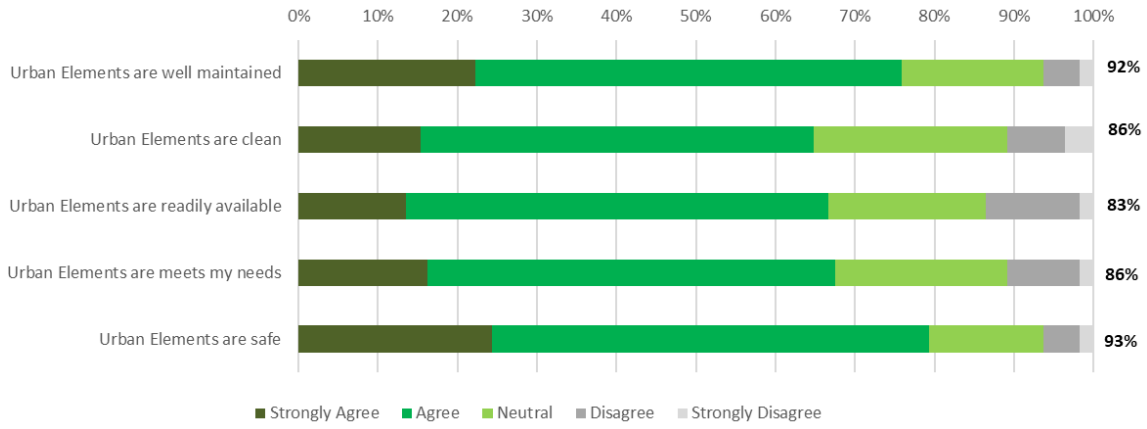
For each performance measure question, a customer satisfaction indicator was calculated which represents the percentage of respondents who were satisfied with the service (neutral responses were omitted from the calculation). These figures can then be compared against CoA's organisation scorecard target of 70% satisfaction to identify where our services are not being delivered in line with community expectations.

The results for City Streets and Park Lands Urban Elements assets are presented and discussed below.

City Streets

Majority of respondents were satisfied with the overall performance of our Urban Elements located on city streets. Each of the-performance measures had satisfaction indicators exceeding CoA's 70% target, as shown in Figure 3.1.4 below.

Figure 3.1.4 - City Streets Urban Elements



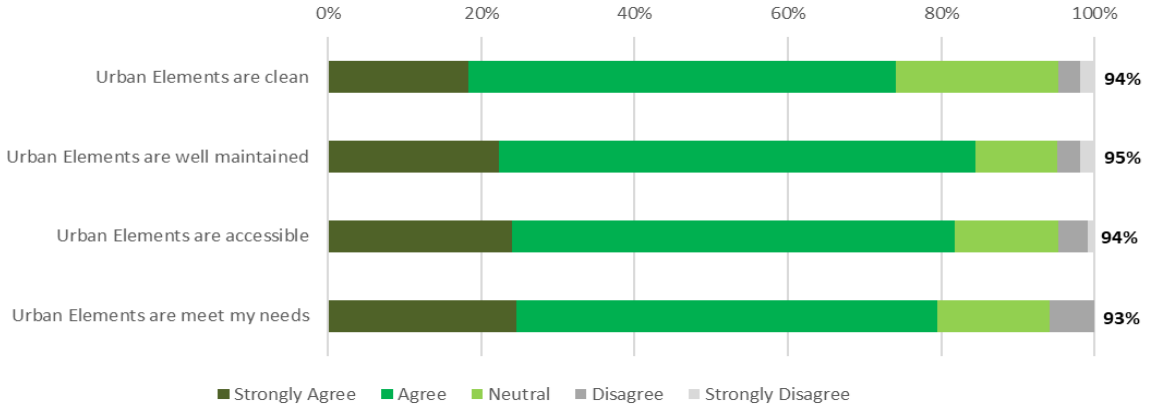
Where respondents stated that they were not satisfied, general themes of the written feedback received are as summarised below:

- Desire for additional seating with shade or shelter
- Desire for additional bins located on city streets, with increased frequency for emptying
- Desire to see more public art in the City
- Not enough drinking fountains located outside of the Park Lands and squares

Park Lands

Majority of respondents were satisfied with the overall performance of our Urban Elements located in the Park Lands. Each of the-performance measures had satisfaction indicators exceeding CoA's 70% target, as shown in Figure 3.1.5 below.

Figure 3.1.5 – Park Lands Urban Elements



Where respondents stated that they were not satisfied, general themes of the written feedback received are as summarised below:

- Desire for more seating and picnic tables in the Park Lands
- Desire for more shade and seating within Squares
- Desire for additional bins located in the Park Lands, with increased frequency for emptying

Summary

The individual satisfaction indicators calculated for City Streets and Park Lands have been grouped, averaged and presented in Table 3.1 below to provide a high-level summary of the community's feedback with respect to our urban elements assets.

Table 3.1: Consultation Summary Table

Category	Average Score	Very Poor (<40%)	Poor (40-54%)	Average (55-69%)	Good (70-85%)	Excellent (>85%)
Park Lands Urban Elements	94%					●
City Streets Urban Elements	88%					●

The overall feedback confirmed appropriate levels of customer satisfaction for all Urban Elements assets.

A Recommended Levels of Service Report was presented to Council, with the recommendations approved in August 2022. This report noted the community consultation undertaken and the associated benchmarking of current user satisfaction. Additionally, Council also approved the development of the Urban Elements Asset Management Plan based on the planning principles and recommended management strategies presented within the report and its attachments.

For the next revision of this Asset Management Plan, it is recommended that questions asked through community engagement align with the three key Urban Element groups (Public Art & Monument, Street and Park Lands Furniture and Urban Structures). This has been recognised as an action within the Improvement Plan (Chapter 8).

3.2 Strategic Planning

Under the Local Government Act (SA) 1999, we are legislatively required to establish a suite of Strategic Management Plans, which guide Council's future planning, asset management and financial sustainability. An overview of these strategic management plans are shown below in Table 3.2.1:

Table 3.2.1: Strategic Management Documents

Strategic Plan Community	Long term with a four year delivery focus. Planning for the vision and aspirations of the Adelaide Capital City.
Long-Term Financial Plan Financial	Ten year Plan, revised annually to ensure a ten year view is maintained. Planning for the long-term financial sustainability of the City of Adelaide.
Asset Management Plans Infrastructure	Suite of ten year Plans. Planning for the sustainable renewal and maintenance of Council assets.
City Plan Development / Built Form	Ten year Spatial Plan. Planning for the future land uses and built form of the Adelaide Capital City.

Through the City of Adelaide Draft Strategic Plan 2024-2028, Council's vision is:

Our Adelaide. Bold in our approach. Proud of who we are.

Achieving our vision for the future will be guided by our long term aspirations:

Our Community: **Vibrant, connected and inclusive**
Our Environment: **Resilient, protected and sustainable**
Our Economy: **Growing, innovative and responsive**
Our Places: **Interesting, purposeful and safe**
Our Corporation: **High performing, customer-centric and bold**

As Adelaide grows, we will need to consider economic vitality, social connectivity and wellbeing, distinctive precincts, environmental and financial sustainability, asset management and service delivery. To ensure we maintain our liveability and to support growth, these principles will underpin everything we do:

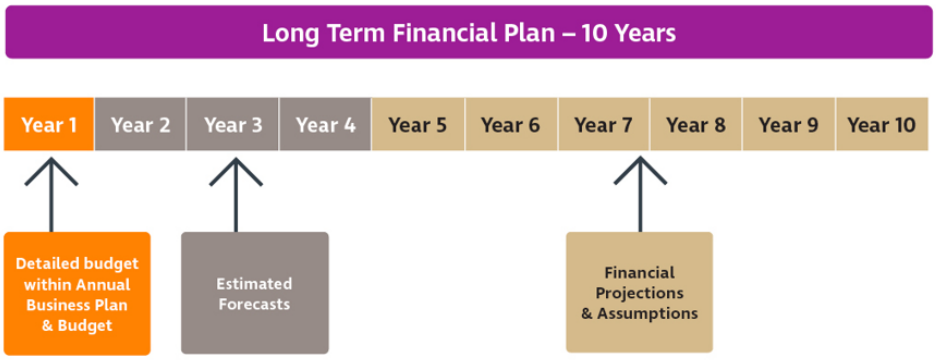
- Exceptional Amenity - Be bold and courageous in our pursuit of excellence for our city.
- Quality Housing - Strive for liveability and affordability to attract and retain residents.
- Community Connection - Strengthen connection, accessibility, diversity and inclusivity by putting people first.
- Unique Experiences - Create interesting experiences for our residents, workers and visitors.
- Climate Resilience - Embed climate resilience in all that we do.
- Economic Growth - Encourage innovation, investment and development in current and emerging sectors.
- Budget Repair - Provide quality services and ensure long-term financial sustainability

The Strategic Plan is supported by a suite of long and short-term strategies and action plans as well as a Resource Plan. The Resource Plan will provide a 4-year view of the projects, resources, and budgets required to deliver our Strategic Plan objectives. It informs the Long-Term Financial Plan (as shown in Figure 3.2.1) and acts as the key link between the Strategic Plan and Annual Business Plan & Budget, providing transparency between our vision and the key projects we deliver.

Integrated Delivery Planning ensures that prudent and efficient decisions are made, with line-of-sight between Council's Strategic Plan objectives and the major infrastructure projects we deliver. While this Asset Management Plan does not identify financial forecasts associated with new and upgrade projects, it does ensure required asset renewals are aligned (where practical) with key new and upgrade projects specified within the Resource Plan. Infrastructure projects will reference the Adelaide Design Manual for transformational projects supported by upgrade/new funding allocated with the Resource Plan and Long-Term Financial Plan.

Each year our annual business plan and budget formalises funding allocations to continue providing services and progress new projects. It enables existing projects to move from one delivery stage to the next (e.g. progress concept design to detailed design and detailed design to construction) as well as consider emerging risks and opportunities that may result from Council decisions, community requests or other external factors.

Figure 3.2.1: Long-Term Financial Plan



The relevant aspirations and objectives of the City of Adelaide Draft 2024-2028 Strategic Plan and how they are considered within this Asset Management Plan are summarised in Table 3.2.2

Table 3.2.2: Strategic aspirations, objectives and outcomes and how these are considered in this Plan

Aspirations	Objectives	Outcomes	Asset Management Alignment
Our Communities *Vibrant, connected and inclusive*	Support our communities thrive Create fun, lively and interesting experiences Celebrate and honour community and cultures	Drive housing outcomes that attract and retain residents in our city Foster connection, learning and wellbeing, making Adelaide an interesting and comfortable place to live and visit Be an inclusive and welcoming community	• Create welcoming civic infrastructure that enables City growth and fosters community connections through the adoption of universal and sustainable design principles • Create enabling infrastructure to support world class events, festivals and activation • Support the development of new cultural and civic infrastructure • Deliver key infrastructure projects and programs outlined within the Disability Access and Inclusion Plan • Deliver asset renewal and asset maintenance programs to ensure our assets are safe for people of all ages and abilities
Our Environment *Resilient, protected and sustainable*	Be climate conscious and resilient Prioritise sustainability in our decisions for the future Protect, enhance, and activate our Park Lands and open space	Lead as a Low Carbon Emissions City Be a sustainable climate resilient city and embed climate resilience in all that we do Be active in the promotion of the status, attributes and character of our green spaces and the Park Lands by protecting and strengthening their integrity and value	• Increase the use of recycled or sustainable materials • Implement sustainable, renewable and green systems, infrastructure, practices and materials in our projects and services • Adapt to climate change and enhancing our climate resilience through upgrading our existing assets and creating new assets • Ensure all asset investment (design, construct and maintenance) considers and embeds appropriate climate resilience measures • Enhance the environmental value, productivity, quality and biodiversity of the Park Lands, squares, open space and streetscapes • Protect and restore native habitat in our city • Increase in tree canopy cover and green spaces
Our Economy *Growing, innovative and responsive*	Continue to grow our economy in alignment with the Community Support existing businesses to be agile and responsive to change Create strong skilled workforces	Adelaide's unique experiences and opportunities attract visitors to our city Grow the economy to achieve a critical mass of jobs, investment and attract and retain businesses Create new Council driven development opportunities for our community via diverse commercial activities	• Deliver infrastructure upgrade projects to attract increased visitation into the City and promote business development and economic growth • Explore project partnership opportunities with State Government, developers and other third-parties
Our Places *Interesting, purposeful and safe*	Manage assets to meet the needs of our community Encourage bold, interesting and purposeful development Facilitate and activate our places in a safe and accessible way for our community	Our community assets are adaptable and responsibly maintained Encourage bold, interesting and purposeful development Responsibly deliver regulatory services and work with partners to create safe, inclusive and healthy places for our community	• Deliver asset renewal and asset maintenance programs to ensure our assets are safe for people of all ages and abilities • Ongoing review of asset management strategies and technical standards to optimise whole-of-life costs • Continue to undertake regular condition audits and revaluation for all our urban elements within the nominated 4-year cycles, including regular review of asset useful lives. • Deliver Main Street and precinct revitalisation upgrades • Deliver Park Land and Streetscape improvements to cater for emerging community needs • Preserve and promote heritage assets • Maintain and improve disability access and inclusion

3.3 Legislative Requirements

There are many legislative requirements relating to the management of infrastructure assets including Australian Legislation, State Legislation and State Regulations. Legislative requirements relevant to the Urban Elements Asset Management Plan are outlined in Table 3.3.

Table 3.3: Legislative Requirements

Legislation	Requirement
Aboriginal Heritage Act 1988	An Act to provide for the protection and preservation of the Aboriginal heritage
Adelaide Park Lands Act 2005	An Act and Framework that promotes the special status, attributes, and character of the Adelaide Park Lands; to provide for the protection of those Park Lands and their management as a world class asset to be preserved as an urban park for the benefit of present and future generations
Australian Accounting Standards	Standards that set out the financial reporting standards relating to the revaluation and depreciation of assets
Australian Standards	All of Council's infrastructure projects are undertaken in accordance with Australian Standards, or in the absence of, best practice techniques.
Australian Road Rules 1999	The Australian Road Rules have been made into regulations under the Road Traffic Act (South Australia) and came into operation throughout Australia on 1 December 1999
City of Adelaide Act 1998	An Act to establish mechanisms to enhance the role of the city of Adelaide as the capital city of South Australia; to make special provision in relation to the local governance of the city of Adelaide; and for other purposes
Civil Liability Act 1936	An Act to outline liability of road authorities under Section 42
Development Act 1993	An Act to provide for planning and regulate development in the state; to regulate the use of management of land and building; and for other purposes
Disability Discrimination Act 1992	An Act to provide protection for everyone in Australia against discrimination based on disability. It encourages everyone to be involved in implementing the Act and to share in the overall benefits to the community and the economy that flow from participation by the widest range of people
Environmental Protection Act 1993	An Act to provide for the protection of the environment: to establish the Environmental Protection Authority and define functions and powers and for other purposes

Linear Parks Act 2006	An Act to provide the protection of the River Torrens Linear Park, as world-class assets to be preserved as public parks for the benefit of present and future generations
Local Government Act 1999	An Act to set out the role, purpose, responsibilities, and powers of local governments including the preparation of a Long Term Financial Plan supported by asset management plans for sustainable service delivery
State Records Act 1997	An Act to ensure Local Government's record and store all relevant information as set out by the State Government of South Australia
Work Health and Safety Act 2012	Provides minimum standards for health and safety of individuals performing works

3.4 Customer Levels of Service

Customer Levels of Service measure how the community receives a service and whether the organisation is providing community value. Levels of service are monitored and adjusted from the public consultation process, customer satisfaction surveys and customer service centre feedback.

The Customer Levels of Service are considered in terms of:

Quality 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 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 (Quality, Function, Capacity) 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.

Table 3.4.1: Customer Level of Service Measures (Public Art & Monuments)

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Current Budget
Quality	Condition – Public Art & Monument are well maintained and in an appropriate condition	Customer service requests relating to reported hazards and maintenance of Public Art & Monument	2022 - 29 requests Past 4 years –32 average /year	Customer service requests are expected to increase as Public Art & Monument deteriorate
		Customer satisfaction survey results relating to art work and monument maintenance	City Streets - 92% (across all UE assets) Park Lands - 95% (across all UE assets)	Customer satisfaction ratings are expected to decrease as Public Art & Monument deteriorate
	Confidence levels		**High**	**Medium**
	Amenity - Public Arts and monuments are clean	Customer service requests relating to the cleanliness of Public Art & Monument	2022 – 7 requests * Past 4 years – 6 average/year * * Assume 1% of graffiti requests related to Public Art and monument assets	Customer service requests are expected to remain the same
		Customer satisfaction survey results relating to the cleanliness of Public Art & Monument	City Streets - 86% (across all UE assets) Park Lands – 94% (across all UE assets)	Customer satisfaction ratings are expected to stay the same
	Confidence levels		**Medium**	**Medium**
Function	Fit for Purpose - Public Art & Monument represent the intended purpose, easily understood and meets community needs	Customer satisfaction surveys results relating to Public Art & Monument meeting community needs	City Streets – 86% (across all UE assets) Park Lands – 93% (across all UE assets)	Subject to Council adoption of upgrade/new projects through Business Plan and Budget
	Confidence levels		**High**	**Medium**
Capacity	Capacity – There are an appropriate number of Public Arts and monuments to meet demand	Customer service requests relating to new Public Arts and monuments	Not currently measured	Subject to Council adoption of upgrade/new projects through Business Plan and Budget, noting the Council decision to ensure a minimum of 1.3% of the annual capital works budget is allocated to Public Art works (new, renewal, refurbishment)
		Ongoing investment in new public art in accordance with Public Art Action Plan	Delivery of adopted annual capital works program (minimum 1.3% of the Capital Works Program contribution to public art)	
	Confidence levels		**High**	**Medium**

Table 3.4.2: Customer Level of Service Measures (Street and Park Lands Furniture)

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Planned Budget
Quality	Condition – Street and Park Lands furniture are free from hazards and in a condition appropriate for use	Customer service requests relating to reported hazards and maintenance requirements for Street and Park Lands furniture.	2022 - 2316 requests Parking machine faults – 2063 Other furniture - 253 Past 4 years – 2801 average /year Parking machine faults – 2635 Other furniture - 166	Customer service requests are expected to increase as furniture deteriorates
		Customer satisfaction survey results relating to Street and Park Land furniture maintenance	City Streets - 92% (across all UE assets) Park Lands - 95% (across all UE assets)	Customer satisfaction ratings are expected to decrease as furniture deteriorates
	Confidence Level		***High***	***Medium***
	Amenity - Street and Park Lands furniture are clean	Customer service requests relating to the cleanliness of Street and Park Lands furniture	2022 – 26 requests Past 4 years – 58 average /year	Customer service requests are expected to stay the same
		Customer satisfaction survey results relating to the cleanliness of Street and Park Lands furniture	City Streets - 86% (across all UE assets) Park Lands – 94% (across all UE assets)	Customer satisfaction ratings are expected to stay the same
	Confidence Level		***High***	***Medium***
Function	Fit for Purpose - Street and Park Lands furniture provides adequate facilities to meet community needs	Customer satisfaction surveys results relating to Street and Park Lands furniture meeting community needs	City Streets – 86% (across all UE assets) Park Lands – 93% (across all UE assets)	Subject to Council adoption of upgrade/new projects through Business Plan and Budget
	Confidence Level		***High***	***Medium***
Capacity	Capacity – There are an appropriate number of Street and Park Lands furniture to meet demand	Customer service requests relating to new Street and Park Lands furniture	2022 – 61 requests Past 4 years – 74 average /year	Subject to Council adoption of upgrade/new projects through Business Plan and Budget
	Confidence Level		***High***	***Medium***

Table 3.4.3: Customer Level of Service Measures (Urban Structure)

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Planned Budget
Quality	Condition – Urban Structures are free from hazards and are in a condition appropriate for use	Customer service requests relating to reported hazards and maintenance requirements of urban structures	2022 – 20 requests Past 4 years – 20 average /year	Customer service requests are expected to increase as urban structures deteriorate
		Customer satisfaction survey results relating to urban structures maintenance	City Streets - 92% (across all UE assets) Park Lands - 95% (across all UE assets)	Customer satisfaction ratings are expected to decrease as urban structures deteriorate
	Confidence Level		***High***	***Medium***
	Amenity – Urban structures are clean and free of debris and rubbish	Customer service requests relating to the cleanliness of urban structures	2022 – 6 requests Past 4 years – 6 average /year	Customer service requests are expected to stay the same
		Customer satisfaction survey results relating to the cleanliness of urban structures	City Streets - 86% (across all UE assets) Park Lands – 94% (across all UE assets)	Customer satisfaction ratings are expected to stay the same
	Confidence Level		***High***	***Medium***
Function	Fit for Purpose – Urban structures provide adequate facilities to meet community needs	Customer satisfaction surveys results relating to urban structures meeting community needs	City Streets – 86% (across all UE assets) Park Lands – 93% (across all UE assets)	Subject to Council adoption of upgrade/new projects through Business Plan and Budget
	Confidence Level		***High***	***Medium***
Capacity	Capacity - Appropriate number of urban structures to meet demand	Customer service requests relating to new urban structures	2022 – 2 requests Past 4 years – 2 average /year	Subject to Council adoption of upgrade/new projects through Business Plan and Budget
	Confidence Level		***Medium***	***Medium***

3.5 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 stormwater pipe 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, stormwater pipe replacement and building component replacement)
- **Disposal** – the activities to remove and/or dispose of an asset that may be considered as underperforming, underutilised or obsolete

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

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

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.

Table 3.5.1: Technical Levels of Service (Public Art & Monuments)

Lifecycle Category	Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance	Recommended Performance
Acquisition (upgrade/new)	Upgrade / New Projects	To create new Public Art & Monument to meet the needs of the community	Delivery of key upgrade/new projects, in line with the Council decision to ensure a minimum of 1.3% of the annual capital works budget is allocated to Public Art works (new, renewal, refurbishment)	Upgrade/new projects aligned to Strategic Plan objectives and the Public Art Action plan are initiated through the Business Plan and Budget process on an annual basis, where projects are evaluated and prioritised based on strategic alignment and financial capacity.	Upgrade/new projects aligned to Strategic Plan objectives are informed by City Plan, with financial requirements accommodated into the Long Term Financial Plan. Initiatives are confirmed to proceed annually through the Business Plan and budget process
			Budget	As adopted annually in BP&B	To be developed
Operation	Condition Audits	To collect asset condition data to inform capital renewal planning and asset revaluation	Condition audit frequency of all Public Art and monument assets	Every 4 years	Every 4 years
	Cleansing	To ensure art and monument assets are clean and free of graffiti	Cleansing frequency	Cleansing and graffiti removal works are delivered based on priority (location and severity) with consideration of available budget	To be reviewed with planned updates to operations and maintenance standards
			Budget	Condition Audits - $50,000 (every 4 years) Cleansing: $49,047	To be reviewed with planned updates to operations and maintenance standards
Maintenance	Maintenance Audits	To ensure defects are proactively identified and prioritised	Frequency of asset maintenance audits	Monuments and Public Art - Every 6 months Fountain Public Art – Daily	To be reviewed with planned updates to operations and maintenance standards
	Maintenance Activities	To ensure assets are maintained in an appropriate condition free of hazards	Completion of planned and reactive maintenance	Maintenance works are delivered based on priority (location and severity) with consideration of available budget	To be reviewed with planned updates to operations and maintenance standards
			Budget	Maintenance - $364,105	To be reviewed with planned updates to operations and maintenance standards
Renewal	Renewal Projects	To ensure assets are renewed, providing service in line with community expectations at lowest lifecycle costs	% of assets in condition 4 or 5	Condition 4 - 9% Condition 5 – 1%	Condition 4 – less than 5% Condition 5 – 0%
			Asset renewal funding ratio	90% (existing Asset Management Plan)	100%
			Budget	$376,000	$450,000 (10 Year Average)
Disposal	Disposal Projects	To ensure that assets that may be underperforming, underutilised or obsolete are removed from service	Disposal of assets	Major assets are recommended for disposal through Council decision, with financial requirements identified and incorporated through the Business Plan and Budget Process.	Assets are recommended for disposal through Council decision, with financial requirements identified and incorporated through the Business Plan and Budget Process.
			Budget	As adopted annually in BP&B	As adopted annually in BP&B

Table 3.5.2: Technical Levels of Service (Street and Park Lands Furniture)

Lifecycle Category	Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance	Recommended Performance
Acquisition (upgrade/new)	Upgrade / New Projects	To provide new or upgraded street and park lands furniture to ensure assets are safe, fit for purpose and service the needs of the community	Delivery of key upgrade/new projects	Upgrade/new projects aligned to Strategic Plan objectives are initiated through the Business Plan and Budget process on an annual basis, where projects are evaluated and prioritised based on strategic alignment and financial capacity.	Upgrade/new projects aligned to Strategic Plan objectives are informed by City Plan, with financial requirements accommodated into the Long Term Financial Plan. Initiatives are confirmed to proceed annually through the Business Plan and budget process
			Budget	As adopted annually in BP&B	To be developed
Operation	Condition Audits	To collect asset condition data to inform capital renewal planning and asset revaluation	Condition audit frequency of all urban elements	Every 4 years	Every 4 years
			Budget	Condition Audits – $100	Condition Audits – $100k every 4 years
	Cleaning	To ensure furniture assets are clean and free of debris and graffiti	Cleaning Frequency	BBQ Cleaning – Daily Street Bin Emptying – Daily Park Bin Emptying - Weekly Other furniture assets -if graffiti presents cleaned in two days	To be reviewed with planned updates to operations and maintenance standards
			Budget	Furniture Cleansing: $532,753 Public Litter Bin Emptying: $1,920,477	To be reviewed with planned updates to operations and maintenance standards
Maintenance	Maintenance Audits	To ensure defects are proactively identified and prioritised	Frequency of asset maintenance audits	Parking Machine – Monthly BBQ – Quarterly Other Furniture Assets – Every 6 months	To be reviewed with planned updates to operations and maintenance standards
	Maintenance Activities	To ensure assets are maintained in an appropriate condition free of hazards	Completion of planned and reactive maintenance	Maintenance works are delivered based on priority (location and severity) with consideration of available budget	To be reviewed with planned updates to operations and maintenance standards
			Budget	Furniture Maintenance - $1,398,000	To be reviewed with planned updates to operations and maintenance standards
Renewal	Renewal Projects	To ensure assets are renewed, providing service in line with community expectations at lowest lifecycle costs	% of assets in condition 4 & 5	Condition 4 - 5% Condition 5 – 2 %	Condition 4 – less than 10% Condition 5 – 0%
			Asset renewal funding ratio	90% (existing Asset Management Plan)	100% (assuming budget is adopted)
			Budget	$1,750,000	$3,050,184 (10 Year Average)
Disposal	Disposals Projects	To ensure that assets that may be underperforming, underutilised or obsolete are removed from service.	Disposal of assets	Major assets are recommended for disposal through Council decision, with financial requirements identified and incorporated through the Business Plan and Budget	Major assets are recommended for disposal through Council decision, with financial requirements identified and incorporated through the Business Plan and Budget
			Budget	As adopted annually in BP&B	As adopted annually in BP&B

Table 3.5.3: Technical Levels of Service (Urban Structure)

Lifecycle Category	Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance	Recommended Performance
Acquisition (upgrade/new)	Upgrade / New Projects	To provide new or upgraded urban structures to ensure assets are safe, fit for purpose and service the needs of the community	Delivery of key upgrade/new projects	Upgrade/new projects aligned to Strategic Plan objectives are initiated through the Business Plan and Budget process on an annual basis, where projects are evaluated and prioritised based on strategic alignment and financial capacity.	Upgrade/new projects aligned to Strategic Plan objectives are informed by City Plan, with financial requirements accommodated into the Long Term Financial Plan. Initiatives are confirmed to proceed annually through the Business Plan and budget process
			Budget	As adopted annually in BP&B	To be developed
Operation	Condition Audits	To collect asset condition data to inform capital renewal planning and asset revaluation	Condition audit frequency of all urban elements	Every 4 years	Every 4 years
			Budget	Condition Audits - $100,000	Condition Audits – $100k every 4 years
	Cleaning	To ensure structures are clean and free of debris and graffiti	Cleaning Frequency	If graffiti presents cleaned in two days	To be reviewed with planned updates to operations and maintenance standards
			Budget	Structure Cleansing: $25,000	To be reviewed with planned updates to operations and maintenance standards
Maintenance	Maintenance Audits	To ensure defects are proactively identified and prioritised	Frequency of asset maintenance audits	Inspected every 6 months	To be reviewed with planned updates to operations and maintenance standards
	Maintenance Activities	To ensure assets are maintained in an appropriate condition free of hazards	Completion of planned and reactive maintenance	Maintenance works are delivered based on priority (location and severity) with consideration of available budget	To be reviewed with planned updates to operations and maintenance standards
			Budget	Urban structures - $323,000	Determined on an annual basis
Renewal	Renewal Projects	To ensure assets are renewed, providing service in line with community expectations at lowest lifecycle costs	% of assets in condition 4 & 5	Condition 4 - 5% Condition 5 - 1%	Condition 4 – less than 5% Condition 5 – 0%
			Asset renewal funding ratio	90% (existing Asset Management Plan)	100% (assuming budget is adopted)
			Budget	$1,176,000	$1,780,000 (10 Year Average)
Disposal	Disposals Projects	To ensure that assets that may be underperforming, underutilised or obsolete are removed from service.	Disposal of assets	Major assets are recommended for disposal through Council decision, with financial requirements identified and incorporated through the Business Plan and Budget	Major assets are recommended for disposal through Council decision, with financial requirements identified and incorporated through the Business Plan and Budget
			Budget	As adopted annually in BP&B	As adopted annually in BP&B

4.0 FUTURE DEMAND

4.1 Demand Drivers

The drivers affecting demand on assets include population change, regulations, changes in demographics, seasonal factors, vehicle ownership rates, consumer preferences and expectations, technological changes, economic factors, and environmental impacts.

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 also include non-asset solutions with a focus on providing the required service without the need for the organisation to invest in new or upgraded infrastructure. Management actions could include reducing the demand for the service or educating users around alternative options. It is important to ensure that these strategies consider the associated risks and consequences.

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

Table 4.3: Demand Management Plan

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
City Growth	2021 Statistics: Residents - 25,551 Businesses – 11,519 Daily Visitors – 321,500	2041 Forecast: Residents - 46,000 Anticipated ongoing business growth in line with residential city growth projections. Anticipated daily visitor growth in line with Metropolitan Adelaide growth	City growth will place higher demands on our urban elements, with increasing level of service expectations. This will likely result in the need to install additional assets to service community needs.	Delivery of prioritised upgrade/new projects identified in the Strategic Plan and key Corporate planning documents (referenced in Section 2.1) to enhance the urban elements portfolio and accommodate city growth through upgrading existing assets and creating new assets to align service provision with the evolving needs of the community. This Asset Management Plan will ensure asset renewals will consider and align where practical with these key upgrade/new initiatives.
Changing Demographic	2021 Statistics 0 to 11 Years 1,246 (5%) 12 to 17 Years 587 (2%) 18 to 34 Years 12,117 (51%) 35 to 49 Years 4,409 (19%) 50 to 59 Years 2,281 (10%) 60 to 69 Years 2,233 (10%) 70 Years & Above 2,633 (3%)	2041 Forecast 0 to 11 Years 2,633 (6%) 12 to 17 Years 1,501 (3%) 18 to 34 Years 21,771 (47%) 35 to 49 Years 8,933 (19%) 50 to 59 Years 4,272 (9%) 60 to 69 Years 3,274 (7%) 70 Years & Above 4,175 (9%)	Changing expectations from a culturally and demographically diverse customer base will result in our urban elements being subject to new demands. With a forecast aging population, there will be increasing demands for providing additional rest and refuge areas for the community (e.g. furniture and shading structure) to ensure the city is accommodating for people of all ages and abilities.	Ongoing engagement with city users through annual City User Profile surveys, and ensuring that Strategic Documents are updated on a cyclic basis to reflect changes with community expectations. Delivery of prioritised upgrade/new projects identified in the Strategic Plan and key Corporate planning documents (referenced in Section 2.1) to align service provision with the evolving needs of the community. This Asset Management Plan will ensure asset renewals will consider and align where practical with these key upgrade/new initiatives.
Tourism & Event Growth	A key objective in Council's 2023-24 Business Plan and Budget was to provide 'year round' events that attract people to visit the City. Investment in public infrastructure has also been identified as part of the South Australian Tourism Plan (2020) and the SA Visitor Economy Sector Plan 2030. In 2020 annual tourism expenditure in Adelaide was estimated to be approximately $3.9 billion	Cultural and event infrastructure will be an ongoing and increasing priority for both the City of Adelaide and South Australian State Government. It is projected that annual tourism expenditure will continue to grow and it is estimated to be $7.7 billion/year by 2030.	Increasing demands on our urban elements to facilitate tourism and event growth by supporting new cultural, civic and event infrastructure in the City and connecting city users to place through curated city experiences.	Delivery of prioritised upgrade/new projects identified in the Strategic Plan and key Corporate planning documents (referenced in Section 2.1) to support tourism and event growth. This Asset Management Plan will ensure asset renewals will be consider and align where practical with these key upgrade/new initiatives.

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
Environmental Sustainability & Carbon Neutrality	Changes to the global climate (climate change) are clear. Documented increases in the average air and ocean temperature (by over 1 °C), widespread melting of snow and ice, and rising average sea level are just some examples. City of Adelaide's 2020-2024 Strategic Plan has an objective to become one of the world's first carbon neutral cities by 2025. Additionally, a Climate Action Plan (2022-2025) has been developed to ensure we continue to drive down our carbon footprint and mitigate climate impacts for our residents and visitors. Currently City of Adelaide include recycled materials in urban elements, where there is demonstrated environmental benefits that also consider cost and performance.	Inaction to climate change and climate risk will result in negative health impacts to our community and potentially impact to our businesses and economy. Reduced water availability and increasing heat will result in increased stress and resources required for maintaining and operating our assets. To effectively manage climate change and climate risk Council will need to continue to respond through substantial reductions in greenhouse gases (mitigation controls) and helping to prepare for and respond to the changing climate (adaptation controls).	There will be an increased demand to ensure we utilise more environmentally sustainable materials and construction technique for urban elements, with lower carbon footprint and improved circular economy outcomes. Additionally, there will also be increasing community demand for bike infrastructure, shelters, shading structures and drinking fountain assets.	Our Strategic Planning, Asset Management and Project Delivery (including design and procurement) will continue to focus on ensuring that climate risk mitigation and adaption is a key focus. Ongoing reviews and updates to our design standards and technical specifications to ensure our assets transition towards having a lower carbon footprint with improved circular economy outcomes, as well as ensure they are more resilient to withstand extreme weather events. Delivery of prioritised upgrade/new projects identified in the Strategic Plan and key corporate planning documents (referenced in Section 2.1), which support environmental sustainability and climate risk mitigation and adaptation. This Asset Management Plan will ensure asset renewals will consider and align where practical with these key upgrade/new initiatives.
Emerging Technology	Asset construction techniques and associated materials are currently undertaken in line with industry standards	Alternative construction techniques and materials with durability and sustainability benefits will continue to become more readily available and standardised.	Improvements in construction techniques and materials could result in improved comfort, asset durability, increased asset lifespans, reduced whole-of-life costs and improved environmental outcomes.	Continue to partner with industry, to monitor and evaluate new and emerging technologies, with trials of new materials, approaches and methodologies to inform appropriate changes to standards and practices.
	Asset management systems and condition audit methodologies are in line with industry standards and best practice	Asset management systems and technology will continue to evolve over time, particularly with respect to the collection of condition data and monitoring of asset deterioration over time.	Improved asset information and systems will enable improved decision making and efficiencies with respect to optimising whole-of-life-costs and managing asset risks.	
	On-street parking assets (i.e. parking machines and smart parking solutions) provides services through current technology platforms.	Intelligent parking systems will continually be developed and enhanced. It is anticipated there will be further opportunities to improve communications and connections between users and parking services.	Enhancements to intelligent parking systems will introduce efficiencies, resulting in new and enhanced services being provided through emerging technologies, potentially including non-asset solutions.	
Legislation & Regulation	Legislation exists which outlines requirements for how Council must manage infrastructure assets.	There is potential for future changes to legislation will influence how Council's infrastructure is managed	New legislation may impose or require changes to asset management planning principles and activities. They may include requirements that have a financial and/or service level impact that must be met.	Continue to monitor changes to legislation and ensure appropriate adaptation into asset management practices. Any material impacts would be considered as part of the Annual Business Plan and Budget process and included in the next revision of the Asset Management Plan.

4.4 Asset Programs to meet Demand

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

Acquiring new assets will commit City of Adelaide 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.

All upgrade/new projects responding to demand will involve developing business cases, cost estimates and facilitating decision making to integrate upgrade/new project initiatives with operational asset management planning and the Long-Term Financial Plan. This process will be facilitated with Council and the Community through the Annual Business Plan & Budget Process.

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. 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.

Table 4.5 Managing the Impact of Climate Change on Urban Elements Assets and Services

Climate Change Description	Projected Change	Potential Impact on Assets and Services	Management
Increasing temperatures and more frequent, long-running and intense heatwaves	The number of days over 40°C to double by 2050 Average temperatures to increase across all seasons by between 1.5°C and 2°C by 2050	Increased heat and UV related damage to assets Reduced lifespan of urban elements assets Increased costs to provide the same level of service Premature obsolescence as functionality is not met	Strategic Planning, Asset Management and Project Delivery (including design and procurement) will continue to focus on ensuring that climate risk mitigation and adaption is a key focus. Mitigation and adaptation measures will include: • Ongoing reviews and updates to our design standards and technical specifications to ensure our assets transition towards having a lower carbon footprint with improved circular economy outcomes as well as ensure they are more resilient to withstand extreme heat events • Proactively reviewing our asset management strategies with respect to the impacts of climate change, to ensure we continue to provide the agreed level of service at the lowest lifecycle cost • Reducing the impacts of heat through increasing canopy cover and providing additional rest and refuge areas for the community
Less rain overall but more intense storms and flooding	Average annual rainfall to decrease by 7% by 2050 Intensity of heavy rainfall events to increase by at least 10% by 2050	Increased stormwater related damage to assets Reduced lifespan of urban elements assets Increased costs to provide the same level of service Premature obsolescence as functionality is not met	Strategic Planning, Asset Management and Project Delivery (including design and procurement) will continue to focus on ensuring that climate risk mitigation and adaption is a key focus. Mitigation and adaptation measures will consider: • Ongoing reviews and updates to our design standards and technical specifications to ensure our assets transition towards having a lower carbon footprint with improved circular economy outcomes as well as ensure they are more resilient to increased flood risk and inundation • Proactively reviewing our asset management strategies with respect to the impacts of climate change, to ensure we continue to provide the agreed level of service at the lowest lifecycle cost

The impact of climate change on assets is a new and complex discussion and further impacts and management strategies will considered and developed in future revisions of this Asset Management Plan. It is recommended to continue monitoring the impacts of climate conditions and associated cost implications as further investigation is undertaken and more data becomes available. This is included as a key action within this Asset Management Plans Improvement Plan.

5.0 LIFECYCLE MANAGEMENT PLAN

5.1 Lifecycle Management Overview

In order to effectively manage our assets, it is important to understand the relationship between all stages of the asset lifecycle. Effective asset management and financial sustainability requires a balance between the maintenance, renewal and disposal of existing assets and the delivery of new and upgraded assets.

Our goal is to provide assets that service the needs of the community, providing the agreed levels of service at the lowest lifecycle cost. To enable this, it is important to understand:

- How our assets are performing
- How our assets should be operated and maintained
- When our assets should be renewed
- When we should consider upgrading existing assets or constructing new assets
- How funding for new and upgraded assets is prioritised
- When we should consider disposing underperforming or underutilised assets

An overview of the asset lifecycle is shown in Figure 5.1 below:

Figure 5.1: Asset Lifecycle Overview

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

5.2 Background Data

5.2.1 Physical parameters

The assets covered by this Asset Management Plan are shown in Table 5.2.1 and all figure values are shown in current day dollars.

Table 5.2.1: Assets covered by this Plan

Asset Class	Asset Type	Quantity	Replacement Value
Public Art & Monuments	Public Art & Monuments	664	$39,281,152
Street and Park Lands Furniture	BBQ	49	$1,098,141
	Bike Rack	1420	$846,884
	Bin	1157	$3,168,900
	Bollard	1396	$3,345,673
	Custom Sign	63	$115,081
	Drinking Fountain	146	$857,895
	Parking Machine	292	$1,682,520
	Smart Parking Solution	2964	$3,242,187
	Picnic Table	142	$577,537
	Planter Box	703	$3,698,829
	Seat	1855	$11,835,415
	Wayfinding Signage	565	$1,168,287
Urban Structure	Boat Landing	11	$5,063,043
	Boat Ramp	1	$116,878
	Bus Shelter	134	$3,278,877
	Fence	908	$11,463,070
	Flagpole	71	$314,659
	Gate	356	$248,256
	Other Structure	120	$6,612,695
	Retaining Wall	248	$7,298,775
Total		**13,265**	**$105,314,754**

5.2.2 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 5.2.2.

Table 5.2.2: Known Service Performance Deficiencies

Asset/Location	Service Deficiency
Bike Racks	Community engagement and ongoing customer service requests have identified demand for additional bike racks. The 2023/24 Business Plan and Budget includes a program to install additional bike racks and this program is recommended to continue into the future to re-align service provision with the evolving needs of the community.
Bus Shelter/Shelter/Drinking Fountain	Community engagement has identified demand for additional drinking fountains, shelters and shading structures within city streets and the Park Lands. This aligns with a key adaptation action outlined within our Climate Action Plan (2022-2025) to provide additional convenience and comfort in response to the increase effects of climate change.

5.2.3 Asset condition

Condition is measured using a 1 – 5 grading system[4] 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 Asset Management plan results are translated to a 1 – 5 grading scale for ease of communication.

Table 5.2.3: Condition Grading System

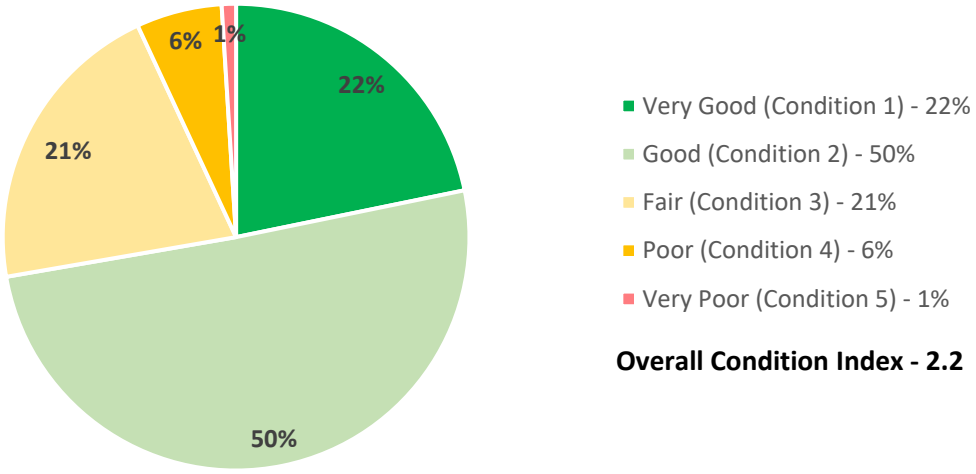
Condition Grading	Description of Condition
1	**Very Good**: free of defects, only planned and/or routine maintenance required
2	**Good**: minor defects, increasing maintenance required plus planned maintenance
3	**Fair**: defects requiring regular and/or significant maintenance to reinstate service
4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

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

Public Art & Monuments

Public Art & Monument are typically condition audited every 4 years, with the most recent audit undertaken in 2022. Figure 5.1.3 presents the predicted Public Art & Monument condition distribution as of September 2023. Overall, the majority of our Public Art & Monument are rated in a very good to fair condition (93%), with a small proportion of assets rated in poor (6%) and very poor condition (1%). Ongoing investment will be required to refurbish assets to ensure levels of service are maintained in conjunction with minimising whole-of-life costs (i.e. prevent increased maintenance and renewal costs from not renewing assets at the appropriate time).

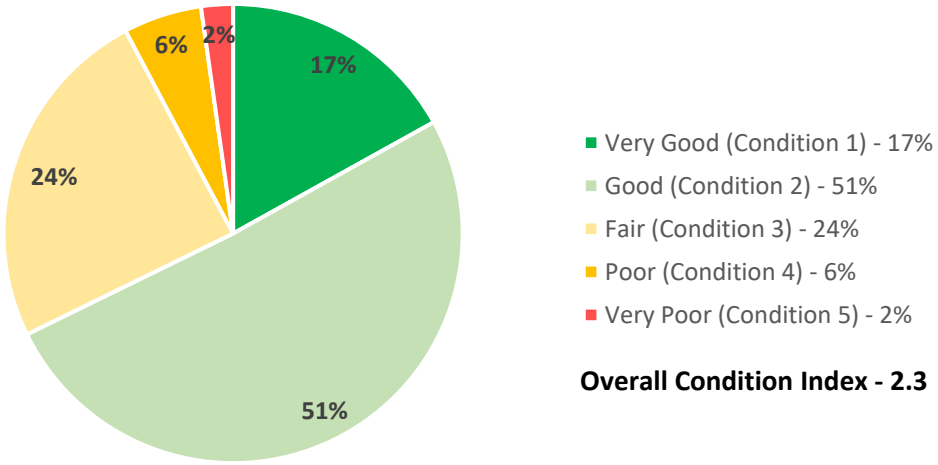
Figure 5.2.3.p: Asset Condition Profile (Public Art & Monuments)



Street and Park Lands Furniture

Street and Park Lands Furniture is typically condition audited every 4 years, with the most recent audit undertaken in 2020. Figure 5.1.3 presents the predicted furniture condition distribution as of September 2023. Overall, the majority of our furniture is in a very good to fair condition (92%), with a small proportion of assets rated in poor and very poor condition (8%). Ongoing investment will be required to renew and replace assets to ensure levels of service are maintained.

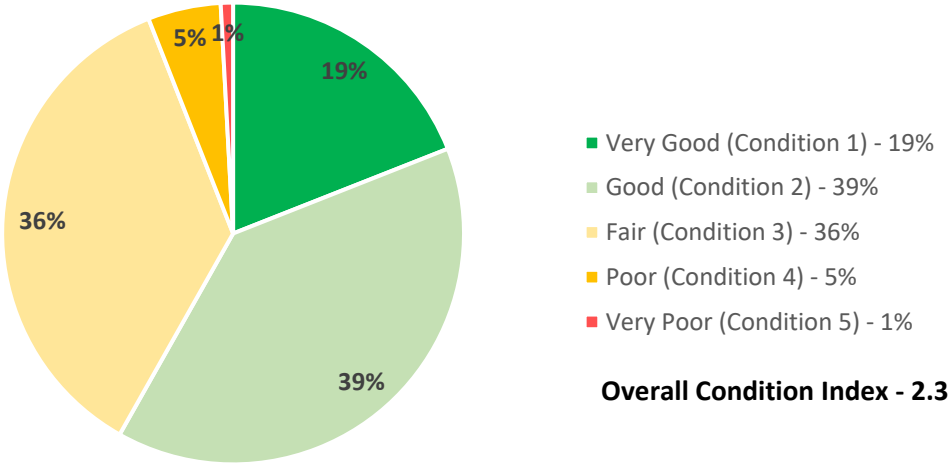
Figure 5.2.3.f: Asset Condition Profile (Street and Park Lands Furniture)



Urban Structure

Structures are typically condition audited every 4 years, with the most recent audit undertaken in 2020. Figure 5.1.3 presents the predicted structure condition distribution as of September 2023. Overall, the majority of our structures are rated in a very good to fair condition (94%), with a small proportion of assets rated in poor and very poor condition (6%). Ongoing investment will be required to renew and refurbish our structures to ensure levels of service are maintained in conjunction with minimising whole-of-life costs (i.e. prevent increased maintenance costs).

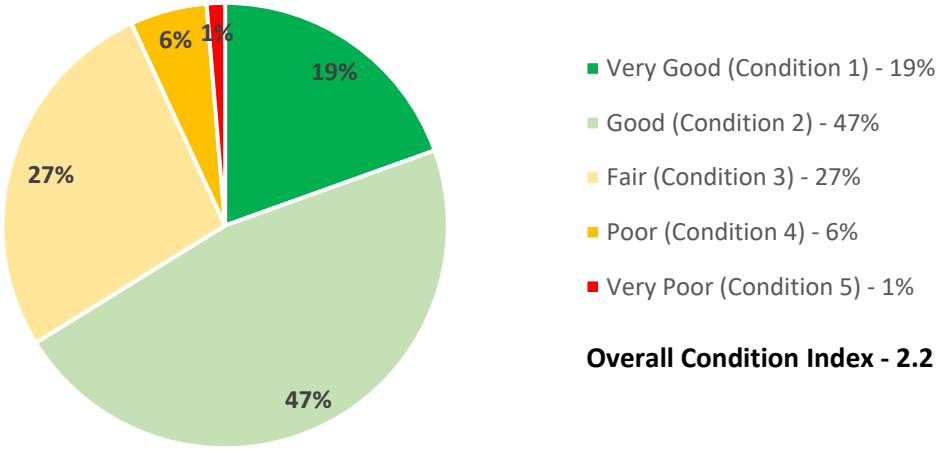
Figure 5.2.3.s: Asset Condition Profile (Urban Structure)



Summary

Overall, the current condition of our urban elements portfolio is rated in a good to fair condition, with a combined overall condition index rating of 2.2. 93% of assets are rated in a very good to fair condition and 6% of assets are rated in poor or very poor condition, which will form the general basis of our renewal program priorities.

Figure 5.2.3.all: Urban Elements Portfolio Condition Profile



5.3 Operations and Maintenance Plan

Operations include regular activities to provide services. Examples of typical operational activities include cleaning, 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 furniture repairs, painting worn surfaces and securing loose nuts and bolts. Requirements are informed by both customer service requests and proactive maintenance inspections.

Currently, maintenance activities are generally evaluated and prioritised with respect to annual budgets. This process is undertaken by experienced staff, where risk-based assessment and resource allocation considers the severity of the defect as well as its location. Any critical maintenance requirements that cannot be accommodated within exiting budgets and assessed through regular budget reviews to ensure resources are appropriately re-allocated.

Following the completion of this Asset Management Plan, we will be reviewing operations and maintenance standards for Urban Elements Assets, with a view to develop more structured and proactive maintenance regimes which provide an acceptable balance between cost, risk and customer expectations. This activity has been recognised as an action within the Improvement Plan of this Asset Management Plan (Chapter 8), where the associated financial impacts will need to be further considered in future revisions of this Asset Management Plan and the Long-Term Financial Plan.

Updated standards will document both maintenance intervention levels and response times. Intervention levels will document the criteria for actioning maintenance defects and response times will set targets that we aim to work within to repair defects. Typically, both of these elements will vary depending on the severity of the defect as well as its position/location within the asset hierarchy.

Monitoring whether maintenance activities are being delivered in accordance with the specified intervention levels and response times, will enable us to understand whether resourcing levels are sufficient. Where resourcing levels are identified as insufficient, additional budget requirements can be considered through the business plan and budget process, or intervention levels and response times can be adjusted with respect to budget constraints.

5.3.1 Maintenance Budget Trends

The trend in maintenance budgets for all urban element assets over the past 4 years is shown in Table 5.3.1.

Table 5.3.1: Maintenance Budget Trends

Year	Public Art & Monument	Furniture	Structure
2020/21	$305,593	$1,241,779	$271,335
2021/22	$371,790	$1,411,316	$339,846
2022/23	$553,558	$1,754,328	$373,115
2023/24	$364,105	$1,397,666	$322,904

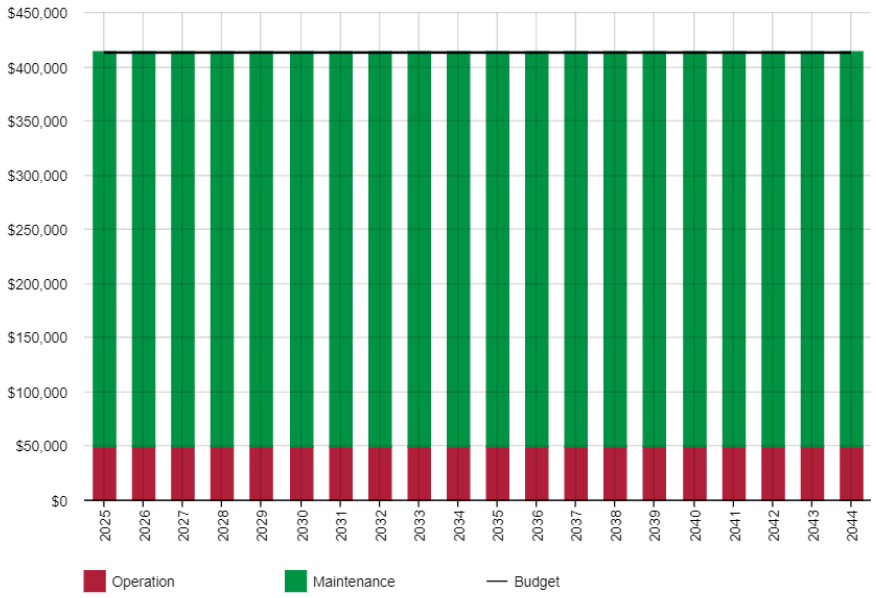
5.3.2 Summary of future operations and maintenance costs

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.

Public Art & Monuments

The forecast operations and maintenance costs for Public Art & Monument, relative to the proposed operations and maintenance budgets are shown in Figure 5.4. Future revisions of this Asset Management Plan will further review forecast requirements based on updated operations and maintenance standards and acquired assets. All values are shown in current day dollars.

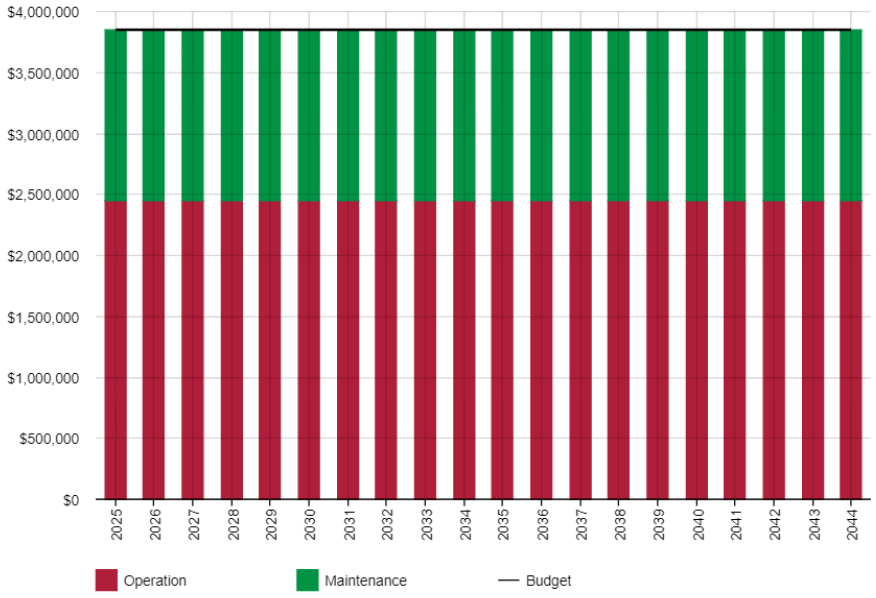
Figure 5.3.2.p.: Operations and Maintenance Summary (Public Art & Monument)



Street and Park Lands Furniture

The forecast operations and maintenance costs for Street and Park Lands Furniture, relative to the proposed operations and maintenance budgets are shown in Figure 5.4. Future revisions of this Asset Management Plan will further review forecast requirements based on updated operations and maintenance standards and acquired assets. All values are shown in current day dollars.

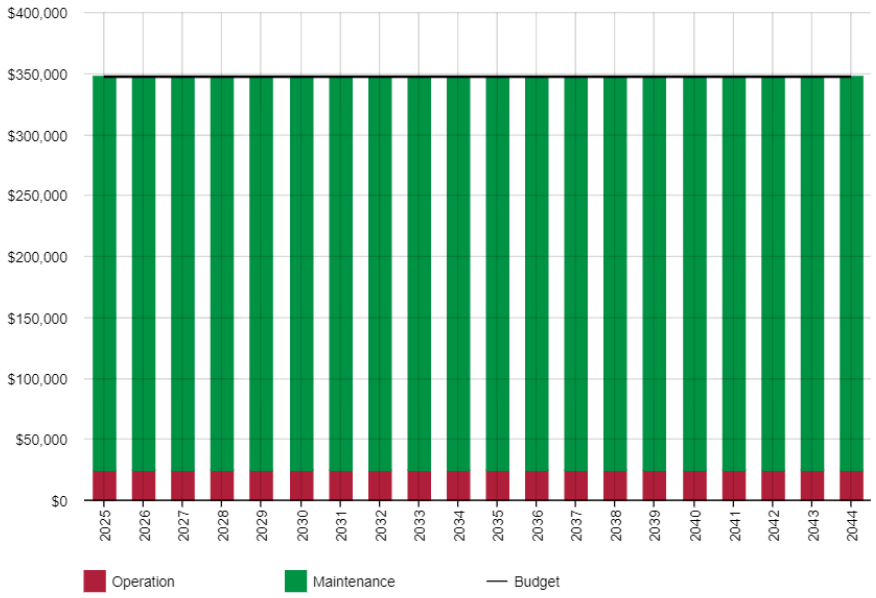
Figure 5.3.2.f: Operations and Maintenance Summary (Street and Park Lands Furniture)



Urban Structure

The forecast operations and maintenance costs for Structures, relative to the proposed operations and maintenance budgets are shown in Figure 5.4. Future revisions of this Asset Management Plan will further review forecast requirements based on updated operations and maintenance standards and acquired assets. All values are shown in current day dollars.

Figure 5.3.2.s.: Operations and Maintenance Summary (Urban Structure)



5.4 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 (new/upgrade) resulting in additional future operations and maintenance costs.

Asset renewal is typically undertaken to:

- Ensure ongoing reliability of existing infrastructure to deliver the service it was constructed to facilitate
- Ensure infrastructure is of sufficient quality to meet the service requirements
- Optimise whole-of-life costs, when maintenance activities are no longer economical

Within this Asset Management Plan, asset renewal requirements have been identified by utilising replacement costs and remaining useful life estimates that have been derived through a combination of condition audits, engineering recommendations and predictive modelling.

Predictive modelling provides a basis for evidence-based decision making, where the financial requirements for different level of service scenarios can be estimated across the short, medium and long-term. Additionally, it allows us to understand the relationship between cost, level of service and risk and can effectively demonstrate the consequences of not appropriately funding asset renewal. An overview of the predictive modelling utilised in this Asset Management Plan is shown in Figure 5.4.1 and is discussed further for each asset class in Section 5.4.1.

Figure 5.4.1: Predictive Modelling Overview

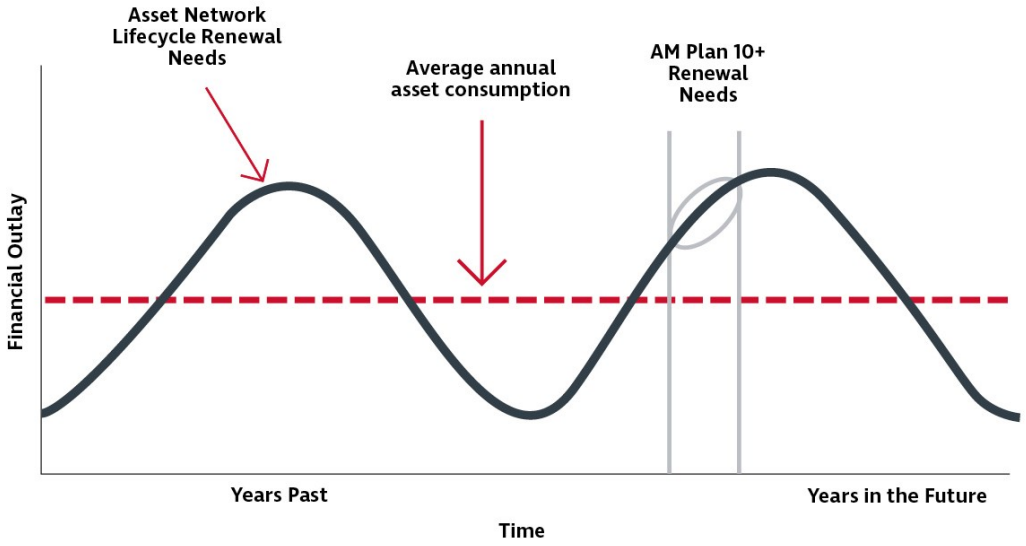
This Asset Management Plan's renewal strategy aims to minimise the number of assets that deteriorate into a poor condition and prohibit assets reaching a very poor condition. Assets can generally be cost effectively maintained and provide appropriate levels of service up to a fair condition, however assets in poor and very poor condition have higher risk profiles and maintenance treatments are generally not economical. This strategy ensures we can continue to provide services in line with the community's expectations, appropriately manage risk and optimise whole-of-life costs.

Asset renewal planning is undertaken with a holistic and integrated approach, to ensure consideration is given to asset functionality, adjacent assets and Council's higher-level strategic objectives (e.g. new and upgrade

requirements). This allows capital works programming to be optimised through the development of logical works packages, that provide value to the community and minimise disruption.

It is important to understand that infrastructure networks are comprised of assets with varying age profiles and different useful lives and replacement costs. This results in having to replace more assets in some periods when compared with others and means that it's very unlikely that asset renewal needs will be consistent over time. Figure 5.4.2 highlights a typical scenario of varying asset renewal expenditure requirements over the asset lifecycle.

Figure 5.4.2: Asset Network Lifecycle Renewal Needs



To account for fluctuations in asset lifecycle renewal needs and enable efficient resourcing planning, often there will be a need to smooth out expenditure requirements over multiple years through a combination of deferring renewal (where appropriate) and bringing scheduled works forward.

At times, this may result in a small number of assets exceeding prescribed renewal intervention criteria, requiring projects to be prioritised with respect to available budget. It is possible to prioritise renewals by identifying assets or asset groups that:

- Have a higher consequence of failure
- Have higher usage and the subsequent impact on users would be more significant
- Have higher than expected operational and maintenance costs

Prioritisation criteria used to inform the renewal forecasts within this Asset Management Plan include:

- Compliance with current legislative requirements
- Asset condition
- Asset hierarchy and criticality
- Cost effectiveness of maintenance investment
- Alignment with Strategic Plan objectives and corporate strategies
- Financial capacity and sustainable financial management principles
- Council decisions
- Asset functionality deficiencies
- Community interest

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 in2023.

Table 5.4: Useful Lives of Assets

Asset Category	Asset (Sub)Category	Useful life *
Public Art and Monument	Public Art and Monument	5-10 year refurbishment cycles
Street and Park Lands Furniture	BBQ	10 years
	Bike Rack	15 years
	Bin	10 years
	Bollard	15 years
	Custom Sign	10 years
	Drinking Fountain	10 years
	Parking Machine	10 years
	Smart Parking Solution	5 years
	Picnic Table	20 years
	Planter Box	15 years
	Seat	20 years
	Wayfinding Signage	20 years
Urban Structure	Boat Landing	20-80 years
	Boat Ramp	80 years
	Bus Shelter	20 years
	Fence	15 years
	Flagpole	30 years
	Gate	15 years
	Other Structure	15-20 years
	Retaining Wall	60 years

* useful life will vary dependant on asset hierarchy/material/component

5.4.1 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.

Public Art and Monuments

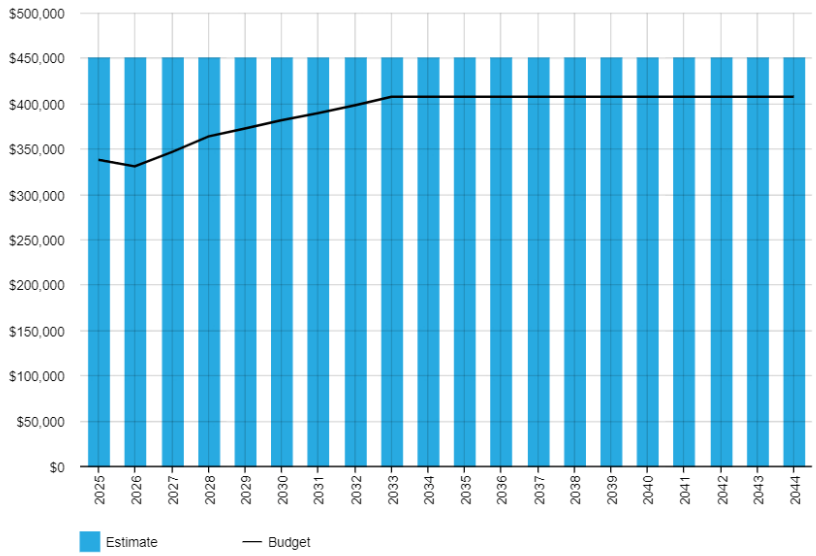
Due to the cultural and aesthetic value provided by Public Art and Monuments, assets are assessed and refurbished on a cyclic basis to maintain structural integrity and aesthetics. Full replacement of our Monuments is generally not feasible due to heritage conservation requirements and the fact that Public Art assets need to be managed in accordance with formal agreements with artists for the period nominated for presentation. Full replacement of assets will only be considered when it is not possible to appropriately maintain assets through cyclic refurbishment programs.

It is estimated that $450,000 will be required on an annual basis to ensure Public Art & Monument are assessed and refurbished in accordance with the recommended frequencies below:

- Large memorials, monuments and heritage assets – every 5 years
- Small memorials and other Public Art – every 10 years

The projected 20-year renewal forecast compared against the current Long Term Financial Plan budget allocation for Public Art and Monuments is shown in Figure 5.4.1 below (note: all figure values are shown in current day dollars). When comparing the forecast renewal costs against the existing budget allocation (black line), it is shown that there is a minor funding shortfall over the first 7 years and additional funding is required to maintain current levels of service.

Figure 5.4.1.p.: Forecast Renewal Costs (Public Art and Monuments)



Street and Park Lands Furniture

Predictive modelling identified that the existing budget allocations within the Long-Term Financial Plan were insufficient to maintain current service levels, resulting in the health of the furniture network steadily declining over time. Various renewal strategies were considered for the furniture network utilising predictive scenario modelling, which are presented and further discussed in Appendix F.

The recommended asset renewal strategy aims to reduce the number of assets that deteriorate into condition 4 (< 10%) and probit assets reaching condition 5 (target of 0%). Street and Park Lands Furniture are generally renewed individually when asset deteriorates to condition 4. As on-street parking assets (i.e. parking machines

and smart parking solutions) have a heavy reliance on operating platforms, to leverage advances in new and emerging technology, it is recommended that these assets are all replaced at the same time as a group at the expiration of their recommended useful life.

To enable this, our general Street and Park Lands and Furniture will require:

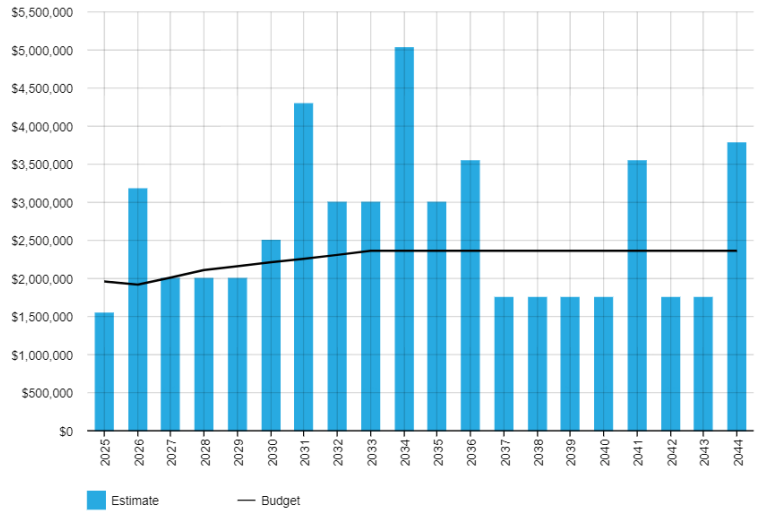
- $1.8 m / year - between years 1 and 5
- $2.8 m / year - between years 6 and 11
- $1.75 m / year - between years 12 and 20

On top of this there will be cyclic renewal requirements associated with our on-street parking assets, which include:

- $1.8m in years 2, 7, 12 and 17 (smart parking solution - 5 year useful life)
- $2.1m in years 10 and 20 (parking machines - 10 year useful life)

The projected 20-year renewal forecast compared against the current Long-Term Financial Plan budget allocation for Street and Park Lands Furniture is shown in Figure 5.4.1 below (note: all figure values are shown in current day dollars). When comparing the forecast renewal costs against the existing budget allocation (black line), it is evident that there is a funding shortfall in specific years and additional funding is required to maintain service levels. Not funding the shortfall will result in the health of the asset network slowly deteriorating over time and pose potential financial risks associated with lost revenue from on-street parking assets.

Figure 5.4.1.f.: Forecast Renewal Costs (Street and Park Lands Furniture)



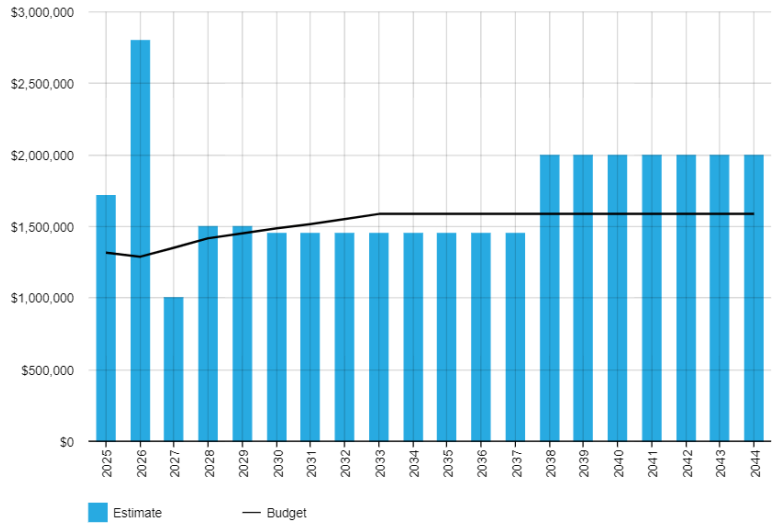
Urban Structures

Predictive modelling identified that the existing budget allocations within the Long-Term Financial Plan were insufficient to maintain current service levels, resulting in the health of our structures steadily declining over time. Various renewal strategies were considered for our structures utilising predictive scenario modelling, which are presented and further discussed in Appendix F.

The recommended asset renewal strategy aims to reduce the number of assets that deteriorate into condition 4 (target < 5%) and prohibit assets reaching condition 5 (target 0%). To enable this, increased renewal funding of $1.7m, $2.8m is required over the first two years, where the investment spike in year 2 is associated with the replacement of our Christmas Tree. From years 6 to year 13, renewal funding requirements reduce to $1.5m each year to maintain service levels. From years 14 to 20 investment requirements slighting increase further to $2m each year to address the forecast medium to long term renewal requirements.

The projected 20-year renewal forecast compared against the current Long-Term Financial Plan budget allocation for Structures is shown in Figure 5.4.1 below (note: all figure values are shown in current day dollars). When comparing the forecast renewal costs against the existing budget allocation (black line), it is evident that there is a funding shortfall and additional funding is required to maintain service levels. Not funding the shortfall will result in the health of the asset network slowly deteriorating over time resulting in risk of asset failure and service disruption that cannot be rectified through maintenance resources.

Figure 5.4.1.s.: Forecast Renewal Costs (Urban Structures)



5.5 Acquisition of Assets (New & Upgrade)

Acquisition reflects 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 City of Adelaide.

Opportunities for acquisition of new assets, and upgrade of existing assets, are identified from various sources such as community requests, initiatives identified within strategic plans and corporate strategies as well as partnerships with third parties (e.g. State Government and Developers).

Potential new and upgrade works should be reviewed to verify that they are essential to City of Adelaide's needs and include analysis to understand ongoing operations, maintenance and renewal requirements to ensure that the services are sustainable over the longer term.

While this Asset Management Plan does not identify financial forecasts associated with new and upgrade projects, it does ensure required renewal scheduling is aligned (where practical) with key new and upgrade initiatives linked to our Strategic Plan through Integrated Delivery Planning.

Prioritisation and scheduling of new and upgrade works is currently undertaken on an annual basis through the business plan and budget process, where key prioritisation criteria include:

- Alignment with Strategic Plan objectives and corporate strategies
- Financial capacity and sustainable financial management principles
- Council decisions
- Asset functionality deficiencies
- Asset condition
- Compliance with current legislative requirements
- Community interest

The Resource Plan will provide a 4-year view of new and upgrade projects, resources, and budgets required to deliver our Strategic Plan objectives. It will inform the Long-Term Financial Plan and act as the key link between the Strategic Plan and Annual Business Plan & Budget.

Transformational new and upgrade projects will reference the Adelaide Design Manual that have allocated funding within the Resource Plan and Long-Term Financial Plan.

5.6 Disposal of Assets

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. Disposal can be considered when an asset has been identified as underperforming, underutilised, or obsolete and does not provide value to the community.

This Asset Management Plan does not identify financial forecasts associated with asset disposal, however where recommended, significant assets will be identified for decommissioning and disposal through Council Reports. To enable informed decision making, reports will include any anticipated impacts to service provision as well as financial impacts including disposal costs, revenue gained and estimated reductions in annual operations and maintenance expenditure that will be included into the Business Plan and Budget and Long-Term Financial Plan.

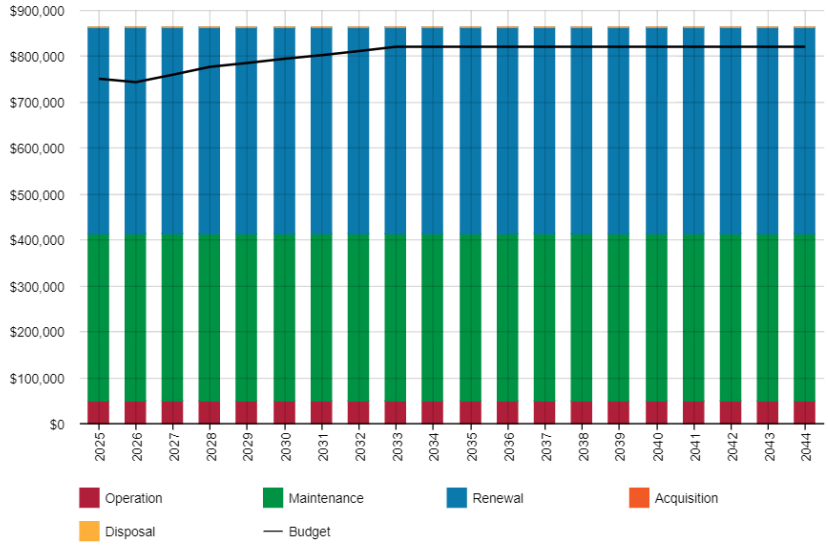
5.7 Summary of Asset Forecast Costs

The total financial projections from this Asset Management Plan are shown in Figure 5.7 below for each asset category. 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 discussed in detail within sections 5.3 and 5.4.

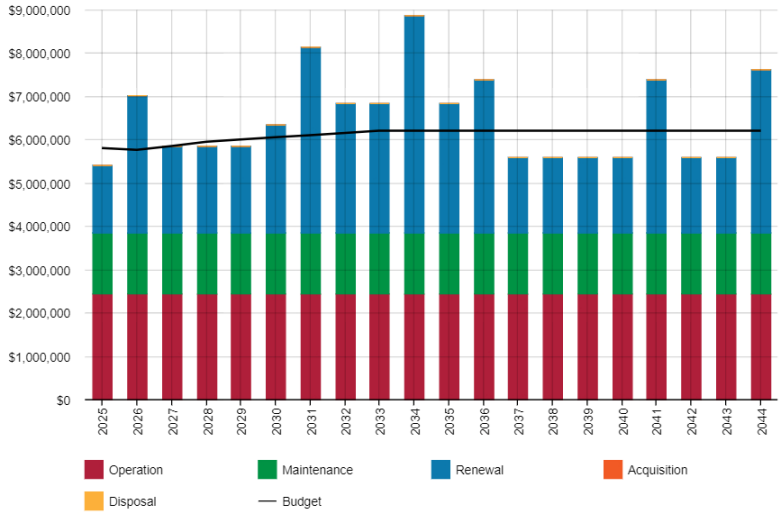
Public Art and Monument

Figure 5.7.1: Lifecycle Summary (Public Art and Monument)



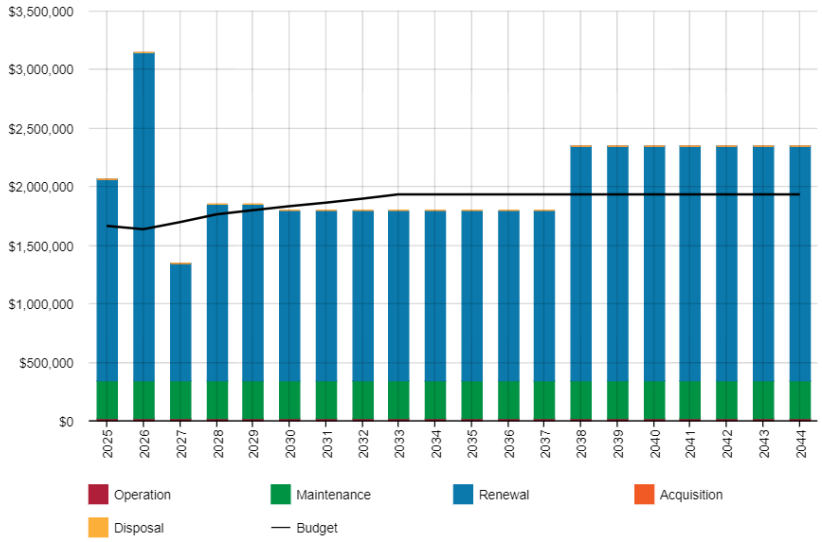
Street and Park Lands Furniture

Figure 5.7.2: Lifecycle Summary (Street and Park Lands Furniture)



Urban Structure

Figure 5.7.3: Lifecycle Summary (Urban Structure)



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'[5].

An assessment of risks[6] 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. Critical assets have been identified and along with their typical failure mode, and the impact on service delivery, are summarised in Table 6.1. Failure modes may include physical failure, collapse or essential service interruption.

Table 6.1 Critical Assets

Asset Category	Critical Asset(s)	Failure Mode	Impact
Public Art & Monuments	Water features associated with Public Art & Monuments	Poor water quality and outbreaks of waterborne disease	Public safety Illness related to water quality
	Public Art & Monuments	Asset not managed in accordance with agreement with artist. Breach in moral rights laws	Legal and reputational damages
Urban Structures	Bus stops, rotundas and shelters	Structural deterioration resulting in structure restrictions or physical collapse.	Reduced accessibility, or injury/ fatality as a result of collapse
On-street Parking Assets	Parking machines and Smart Parking Solution	Technology failure or vandalism	Loss of revenue

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.

[5] ISO 31000:2009, p 2

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

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.

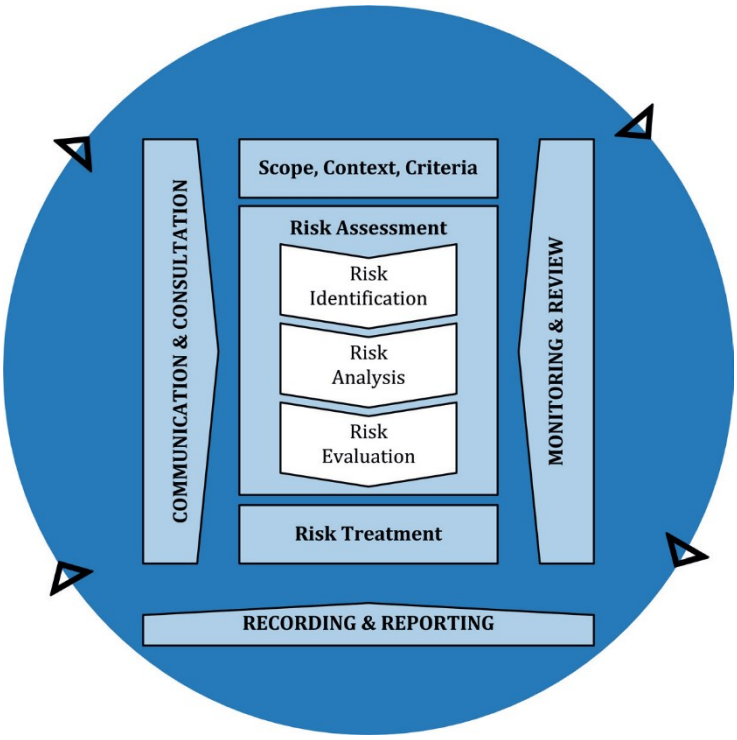


Fig 6.2 Risk Management Process – Abridged
Source: ISO 31000:2018, Figure 1, p9

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[7] 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 Strategic Risk and Internal Audit Group (SRIA).

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

Table 6.2: Risks and Treatment Plans

Asset at Risk	What can Happen	Risk Rating	Risk Treatment Plan	Residual Risk	Treatment Costs
All Urban Elements Assets	Renewal, maintenance and operational budgets are not adopted as recommended in Asset Management Plan, resulting in increased asset risk, reduced levels of service and increased whole of life costs	High	Reduce levels of service, to better align asset management activities with financial constraints. This will result in renewal and maintenance activities being prioritised, with respect to available budgets.	Medium	Within existing resources / budgets
Public Art & Monument Water Features	Public illness associated with outbreak of waterborne disease	High	Daily inspections of fountains and sanitation procedures are undertaken within SA Health guidelines	Low	Within existing resources / budgets
On-Street Parking Assets	Parking machines and smart parking solution become obsolete due to the asset not being compatible with enabling technology, resulting in asset not operating and loss of revenue	High	Enabling technology changes are monitored on an ongoing basis. Asset useful life and asset management planning considers anticipated changes in technology	Low	Within existing resources / budgets

6.3 Infrastructure Resilience Approach

The resilience of our 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.

Our current measure of resilience is shown in Table 6.3 which includes the type of threats and hazards and the current measures that the organisation takes to ensure service delivery resilience.

Ensuring we remain resilient to the impacts of projected future climate will require ongoing investigation, monitoring and adaption within future revisions of this Asset Management Plan. This has been recognised as a key action within the Improvement Plan (Chapter 8).

Table 6.3: Resilience Assessment

Threat / Hazard	Assessment Method	Current Resilience Approach
Increasing temperatures and more frequent, long-running and intense heatwaves	Data SA Climate Projections for South Australia Climate change modelling scenarios based on weather station data	Implementation key actions from the Climate Change Risk Adaptation Action Plan, which include: Continuing to work with industry to identify new/superior products (or new applications) for application in CoA Developing an Urban Greening Strategy to guide future investment for improved canopy cover and natural cooling

6.4 Service and Risk Trade-Offs

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

6.4.1 What we cannot do

Based on our current Long-Term Financial Plan budgets, there are some operations and maintenance activities and capital projects that are unable to be undertaken within the next 10 years.

Maintenance & Operations

Currently, maintenance activities are evaluated and prioritised with respect to available budgets. While make-safe treatments are always undertaken as soon practical (generally within 24 hours), we are currently unable to undertake all permanent repairs within the timeframes aligned with community expectations. Following the completion of this Asset Management Plan, we will be updating maintenance standards to formalise maintenance intervention levels and response times, with the objective of establishing an acceptable balance between cost, risk and customer expectations.

This activity has been recognised as an action within the Improvement Plan of this Asset Management Plan (Chapter 8), where the associated financial impacts will need to be further considered in future revisions of this Asset Management Plan and the Long-Term Financial Plan.

Renewal

There is an estimated $1.54m renewal funding shortfall on average per year over the next 10 years, to continue to provide services in line with community expectations and reduce whole-of-life costs. This is further summarised for each urban elements asset category in Table 6.4 below.

Table 6.4.1: Renewal funding shortfall

Asset Category	Forecast renewal costs over next 10 years (annual average)	Current budget allocation over next 10 years (annual average)	Renewal funding shortfall over next 10 years (annual average)
Public Art & Monuments	$450,000	$379,325	-$70,675
Street and Park Lands Furniture	$3,050,184	$2,197,971	-$852,213
Urban Structures	$1,780,000	$1,477,104	-$302,896
Total	$5,280,184	$4,054,400	-$1,225,784

Acquisition (New & Upgrade)

It will not be possible to deliver all new and upgrade initiatives identified within corporate strategies and action plans within the 10 year planning period. New and upgrade initiatives will be prioritised and assessed against key criteria (see section 5.5) and considered with respect to available budgets. This process will be undertaken in consultation with the community through the business plan and budget process and the development of the Resource Plan.

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:

- Reduced levels of service for the urban elements portfolio (maintenance and renewal backlog)
- Reduced customer satisfaction levels associated with the management of our existing assets
- Intergenerational inequity (burdening future generations)

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:

- Increased public safety risks associated with assets deteriorating beyond recommended intervention levels
- Increased reputational risks associated with service provisions not aligning with community expectations
- Increased financial risks associated with surplus maintenance requirements that cannot be accommodated within existing budgets
- Increased financial risks associated with higher renewal and/or rehabilitation treatments as asset renewals are not funded at the optimal point in time
- Increased economic risk associated with reduced business activity, events and tourism
- Intergenerational inequity (burdening future generations)

7.0 FINANCIAL SUMMARY

This section contains the financial requirements resulting from the information presented in the previous sections of this Asset Management 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 Asset Management 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)
- Medium term forecast costs/proposed budget (over 10 years of the planning period)

Asset Renewal Funding Ratio

The forecast renewal costs along with the proposed renewal budget, and the cumulative shortfall, is detailed in Appendix C and summarised in Table 7.1.1-1 with an overall Asset Renewal Funding Ratio of 82%.

Table 7.1.1-1: Asset Renewal Funding Ratio

Public Art and Monuments	Street and Park Lands Furniture	Urban Structures	Total
83%	76%	92%	82%

The Asset Renewal Funding Ratio is an important indicator and illustrates that over the next 10 years we expect to have 82% of the funds required for the optimal renewal of assets.

Contributing factors for the gap between the forecast renewal costs and current budgets include:

- Not achieving our Asset Renewal Funding Ratio targets over the past 4 financial years as a result of covid-19 resourcing impacts and project delays associated with post-pandemic market saturation.
- Utilising advanced predictive modelling within this Asset Management Plan, that analyses asset condition information to better recognise the changing asset investment needs over time to maintain service levels.
- Ensuring we accurately recognise asset replacement costs, utilising current unit rates that take into consideration increasing costs associated with inflation and industry escalations (we have experienced significant increases in project unit rates, noting that the Local Government Association (LGA) have indicated that costs and materials have increased up to 25% post pandemic).

Medium term – 10 year financial planning period

This Asset Management 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 for the urban element assets over the 10 year planning period is $9,493,661 ($9.49 million) on average per year.

The current (budgeted) operations, maintenance and renewal funding is $8,608,408 ($8.61 million) on average per year giving a 10 year funding shortfall of $885,253 ($0.89 million) on average per year.

This indicates that 90.68% of the forecast costs needed to provide the services documented in this Asset Management Plan are accommodated in the proposed budget. Note, these calculations exclude acquired assets.

This information is presented in further detail for each asset class in Table 7.1.1-2 below.

Table 7.1.1-2: 10-Year Financial Indicator

Asset Class	Forecast operations, maintenance and renewal costs (10-year average)	Current operations, maintenance and renewal funding (10-year average)	Funding Shortfall/ Surplus (10-year average)	10 Year Financial Indicator
Public Art & Monuments	$863,152	$787,101	-$76,052	91.19%
Street and Park Lands Furniture	$6,706,081	$6,017,713	-$688,368	89.74%
Urban Structure	$1,924,427	$1,803,594	-$120,833	93.72%
Total	$9,493,661	$8,608,408	-$885,253	90.68%

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 Asset Management 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

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.

A gap between the forecast outlays and the amounts allocated in the financial plan indicates further work is required on reviewing service levels in the Asset Management Plan or revising the Long-Term Financial Plan.

The forecast costs (outlays) required for consideration in the 10 year Long-Term Financial Plan are provided in Appendix F. These costs include renewal, maintenance and operations of our existing assets. For the next revision of this Asset Management Plan, it is recommended to include the acquisition costs (upgrade/new) that are specified within the Resource Plan and are accommodated within the Long-Term Financial Plan. This has been recognised as an action within the Improvement Plan (Chapter 8). Costs associated with asset disposal, will continue to be identified through Council Reports and accommodated within the annual Business Plan and Budget and Long-Term Financial Plan as required.

7.2 Funding Strategy

The proposed funding for assets is outlined in the City of Adelaide Annual Business Plan and Budget and Long-Term Financial Plan.

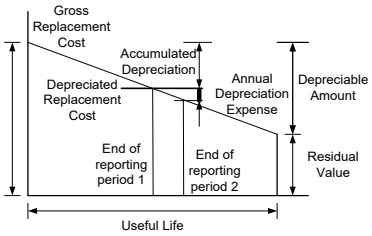
The financial strategy of the entity determines how funding will be provided, whereas the Asset Management Plan communicates how and when this will be spent, along with the service and risk consequences of various service alternatives.

7.3 Valuation Forecasts

7.3.1 Asset valuations

The best available estimate of the value of assets included in this Asset Management Plan are shown below. The assets are valued at fair value cost to replace service capacity in accordance with Australian Account Standards.

Gross Replacement Cost	$105,314,751
Depreciable Amount	$66,776,600
Depreciated Replacement Cost[8]	$72,134,242
Depreciation	$4,027,758



A more comprehensive breakdown for each asset class is shown in Table 7.3.1.

Table 7.3.1: Asset Valuations

Financial Figure	Public Art and Monument	Street and Park Lands Furniture	Urban Structure	Total
Gross Replacement Cost	$39,281,152	$31,637,348	$34,396,251	$105,314,751
Depreciable Amount	$743,001	$31,637,348	$34,396,251	$66,776,600
Depreciated Replacement Cost[9]	$38,807,347	$16,032,650	$17,294,245	$72,134,242
Annual Depreciation	$69,341	$2,416,065	$1,542,351	$4,027,757

7.3.2 Valuation forecast

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

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.

Increases to in asset valuation are formally recognised through asset revaluations in conjunction with updates to Asset Management Plans, which are both typically undertaken every 4 years.

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

7.4 Key Assumptions Made in Financial Forecasts

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

Key assumptions made in this Asset Management Plan are:

- All current assets will remain within the organisation's ownership throughout the planning period
- Renewal forecasts associated with Adelaide Bridge assume the full replacement of the existing structure. The scope, costs and timing of the recommended capital works will be better understood following the completion of the Options Analysis (currently underway and scheduled for completion in 2024). Outcomes will be revised into this Asset Management Plan and Long Term Financial Plan in the future as soon as practical
- Renewal forecasts are based on costs associated with like for like or modern equivalent replacement and are based off current design standards and any legislated requirements. They do not account for additional costs to upgrade assets or install new ancillary assets
- Renewal forecast have been derived from treatment rates established from quantity surveyor estimates or contract rates, applied to asset dimensions recognised within the Asset Management System
- Renewal forecasts have been escalated into FY24/25 dollars (based on historic and forecast inflation)
- Renewal forecasts account for external design requirements, where costs are allocated within each FY of the Asset Management Plan as a "Design Program" where applicable (typically between 5-10% of annual construction costs, depending on asset class)
- Renewal forecasts consider asset condition, asset functionality and integrated planning principles
- Renewal forecasts have been aligned where appropriate with upgrade projects approved by Council and recognised in the Long-Term Financial Plan
- Renewal forecasts do not account for internal staff resourcing. These resources are to be allocated through a capital resource overhead and accommodated into the Long-Term Financial Plan separately
- Asset useful lives align with current levels of service and are based on the judgment and experience of internal staff
- Asset remaining useful life estimates are based off asset condition data and technical asset deterioration profiles which are based on the judgement and experience of internal staff
- Asset useful life and remaining useful life estimates assume existing maintenance resourcing levels are continued
- Acquisition (upgrade/new) costs are not recognised within this Asset Management Plan. These costs will be recognised in the Resource Plan and incorporated into Long-Term Financial Plan separately
- Operations and maintenance forecasts are prioritised and delivered with respect to existing budget (standards to be reviewed and associated cost impacts to be incorporated into a future revision of this Asset Management Plan)
- Operations and maintenance forecasts do not currently account for the future acquisition of new assets through upgrade/new projects or gifted assets (to be incorporated into a future revision of this Asset Management Plan)
- The Long-Term Financial Plan will appropriately escalate financial outlays communicated within this Asset Management Plan

7.5 Forecast Reliability and Confidence

The forecast costs, proposed budgets, and valuation projections in this Asset Management 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[10] 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 Asset Management Plan is shown in Table 7.5.2. This Asset Management Plan's Improvement Plan (Chapter 8) outlines further steps recommended to be undertaken to continue to increase the maturity and confidence in asset management and financial forecasts.

Table 7.5.2: Data Confidence Assessment for Data used in Asset Management Plan

Public Art and Monument	Street and Park Lands Furniture	Urban Structure
Medium	Medium - High	Medium - High

Further information to support this assessment at a more granular level is provided in Appendix H.

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

8.0 PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices[11]

8.1.1 Accounting and financial data sources

This Asset Management Plan utilises accounting and financial data. The source of the data is from the accounting module of CoA's Asset Management System (Assetic).

8.1.2 Asset management data sources

This Asset Management Plan also utilises asset management data. The source of the data is from CoA's Asset Management System (Assetic).

8.2 Improvement Plan

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

Table 8.2: Improvement Plan

Task	Task	Responsibility	Resources Required	Timeline
1	Finalise a 4-year Resource Plan to identify key upgrade/new projects to deliver Council's Strategic Plan objectives. Once key projects are recognised within the Long Term Financial Plan, Asset Management Plans will be updated to ensure associated acquisition costs (upgrade/new) and ongoing operational and maintenance costs are appropriately recognised, in conjunction with any scheduling adjustments required for asset renewal programs.	Strategy, Insights & Performance, with organisational support Infrastructure Planning	Within existing resource allocations	2024/25
2	Review and update operations and maintenance standards, to develop more structured and proactive maintenance regimes which provide an acceptable balance between cost, risk, and customer expectations. Include changes into future revisions of this Asset Management Plan and Long Term Financial Plan.	Infrastructure Planning, City Operations	Within existing resource allocations	2024-25 2025-26
3	Continue to undertake regular condition audits and revaluation for all of our Urban Elements within the nominated 4-year cycles, including regular review of asset useful lives.	Infrastructure Planning	Within existing resource allocations	Ongoing
4	Review and standardise asset hierarchies for all asset classes within Streets, Park Lands and Buildings Categories.	Infrastructure Planning, City Operations	Within existing resource allocations	2024/25
5	Review customer service requests codes to better align with Level of Service reporting and operational and maintenance sub-activities.	Infrastructure Planning, City Operations, Customer Centre	Within existing resource allocations	2024/25

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

6	Review community engagement survey questions to better align with specific asset categories and Level of Service measures	Infrastructure Planning	Within existing resource allocations	Ongoing
7	Continue to review our technical standards and their application across the City and Park Lands, with respect to climate resilience, performance, whole-of-life cost and amenity.	Infrastructure Planning, Technical Services	Within existing resource allocations	Ongoing
8	Continue to monitor forecast climate change impacts to ensure we remain resilient through proactively implementing appropriate mitigation and adaptation controls.	Sustainability, Infrastructure Planning	Within existing resource allocations	Ongoing
9	Improve the capture of carbon emission data for technical standards to support lower carbon decision making	Low Carbon & Circular Economy, Infrastructure Planning, Technical Services	Led by existing resources, with external support identified through the Business Plan and Budget	Ongoing
10	Improve the capture of carbon emission data for project procurement to support lower carbon decision making	Low Carbon & Circular Economy, Procurement, Infrastructure Delivery	Led by existing resources, with external support identified through the Business Plan and Budget	Ongoing
11	Review of corporate performance measure targets for customer satisfaction, to assist with performance gap analysis	Strategy, Insights & Performance, Infrastructure Planning	Within existing resource allocations	2024/25
12	Further develop processes to ensure asset data is updated following the completion of maintenance work and emergency asset replacement resulting from vandalism	Infrastructure Planning, City Operations,	Within existing resource allocations	2024/25
13	Continue to work in partnership with both the State and Federal Governments to pursue external funding opportunities for both renewal and significant upgrade/new projects	City Services Executive	Within existing resource allocations	2024-25 2025-26

8.3 Monitoring and Review Procedures

This Asset Management 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 Asset Management 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 budgets will be incorporated into the Long-Term Financial Plan once completed.

The Asset Management Plan has a maximum life of 4 years and is due for complete revision and updating within two years of a general Council election, pursuant to section 122 of the Local Government Act 1999 (SA).

8.4 Performance Measures

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

The degree to which the required forecast costs identified in this Asset Management Plan are incorporated into the Long-Term Financial Plan,

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 Asset Management 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 (90-110%)

Achieving Technical Level of Service objectives

Reviewing changes to customer service request numbers and customer satisfactory surveys

Progressing with the implementation of Improvement Actions identified in Table 8.2

Reviewing and update of the Plan at minimum every four years

9.0 REFERENCES

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10.0 APPENDICES

Appendix A Operation Forecast

The forecast operational costs for the urban elements portfolio are shown below. Future revisions of this Asset Management Plan will further review forecast requirements based on updated operations and maintenance standards. All values are shown in current day dollars.

Table A1 - Operation Forecast Summary (Public Art & Monument)

Year	Operation Forecast	Additional Operation Forecast	Total Operation Forecast
2025	$49,047	$0	$49,047
2026	$49,047	$0	$49,047
2027	$49,047	$0	$49,047
2028	$49,047	$0	$49,047
2029	$49,047	$0	$49,047
2030	$49,047	$0	$49,047
2031	$49,047	$0	$49,047
2032	$49,047	$0	$49,047
2033	$49,047	$0	$49,047
2034	$49,047	$0	$49,047

Table A2 - Operation Forecast Summary (Street and Park Lands Furniture)

Year	Operation Forecast	Additional Operation Forecast	Total Operation Forecast
2025	$2,453,230	$0	$2,453,230
2026	$2,453,230	$0	$2,453,230
2027	$2,453,230	$0	$2,453,230
2028	$2,453,230	$0	$2,453,230
2029	$2,453,230	$0	$2,453,230
2030	$2,453,230	$0	$2,453,230
2031	$2,453,230	$0	$2,453,230
2032	$2,453,230	$0	$2,453,230
2033	$2,453,230	$0	$2,453,230
2034	$2,453,230	$0	$2,453,230

Table A3 - Operation Forecast Summary (Urban Structure)

Year	Operation Forecast	Additional Operation Forecast	Total Operation Forecast
2025	$24,524	$0	$24,524
2026	$24,524	$0	$24,524
2027	$24,524	$0	$24,524
2028	$24,524	$0	$24,524
2029	$24,524	$0	$24,524
2030	$24,524	$0	$24,524
2031	$24,524	$0	$24,524
2032	$24,524	$0	$24,524
2033	$24,524	$0	$24,524
2034	$24,524	$0	$24,524

Appendix B Maintenance Forecast

The forecast maintenance costs for the urban elements portfolio are shown below. Future revisions of this Asset Management Plan will further review forecast requirements based on updated operations and maintenance standards. All values are shown in current day dollars.

Table B1 - Maintenance Forecast Summary (Public Art & Monument)

Year	Maintenance Forecast	Additional Maintenance Forecast	Total Maintenance Forecast
2025	$364,105	$0	$364,105
2026	$364,105	$0	$364,105
2027	$364,105	$0	$364,105
2028	$364,105	$0	$364,105
2029	$364,105	$0	$364,105
2030	$364,105	$0	$364,105
2031	$364,105	$0	$364,105
2032	$364,105	$0	$364,105
2033	$364,105	$0	$364,105
2034	$364,105	$0	$364,105

Table B2 - Maintenance Forecast Summary (Street and Park Lands Furniture)

Year	Maintenance Forecast	Additional Maintenance Forecast	Total Maintenance Forecast
2025	$1,397,666	$0	$1,397,666
2026	$1,397,666	$0	$1,397,666
2027	$1,397,666	$0	$1,397,666
2028	$1,397,666	$0	$1,397,666
2029	$1,397,666	$0	$1,397,666
2030	$1,397,666	$0	$1,397,666
2031	$1,397,666	$0	$1,397,666
2032	$1,397,666	$0	$1,397,666
2033	$1,397,666	$0	$1,397,666
2034	$1,397,666	$0	$1,397,666

Table B3 - Maintenance Forecast Summary (Urban Structure)

Year	Maintenance Forecast	Additional Maintenance Forecast	Total Maintenance Forecast
2025	$322,904	$0	$322,904
2026	$322,904	$0	$322,904
2027	$322,904	$0	$322,904
2028	$322,904	$0	$322,904
2029	$322,904	$0	$322,904
2030	$322,904	$0	$322,904
2031	$322,904	$0	$322,904
2032	$322,904	$0	$322,904
2033	$322,904	$0	$322,904
2034	$322,904	$0	$322,904

Appendix C Renewal Forecast Summary

The forecast renewal costs for urban elements, relative to current renewal budgets are shown below, in conjunction with the annual renewal budget shortfall and the cumulative budget shortfall over the 10-year planning period. All Forecast costs are shown in 2024-25 dollar values.

Table C1 - Renewal Forecast Summary (Public Art & Monument)

Year	Renewal Forecast	Renewal Budget	Annual Budget Shortfall	Cumulative Budget Shortfall
2025	$450,000	$338,379	-$111,621	-$111,621
2026	$450,000	$331,186	-$118,814	-$230,435
2027	$450,000	$347,092	-$102,908	-$333,343
2028	$450,000	$364,179	-$85,821	-$419,164
2029	$450,000	$372,870	-$77,130	-$496,293
2030	$450,000	$381,951	-$68,049	-$564,342
2031	$450,000	$389,600	-$60,400	-$624,743
2032	$450,000	$398,452	-$51,548	-$676,290
2033	$450,000	$407,887	-$42,113	-$718,404
2034	$450,000	$407,887	-$42,113	-$760,517

The 10-year planning period, the forecast renewal costs are $4.50m, with a current budget allocation of $3.74m, resulting in a cumulative budget shortfall of $0.76m. This equates to an asset renewal funding ratio of 83%.

Table C2 - Renewal Forecast Summary (Street and Park Lands Furniture)

Year	Renewal Forecast	Renewal Budget	Annual Budget Shortfall	Cumulative Budget Shortfall
2025	$1,550,000	$1,960,712	$410,712	$410,712
2026	$3,180,000	$1,919,033	-$1,260,967	-$850,254
2027	$2,000,000	$2,011,198	$11,198	-$839,056
2028	$2,000,000	$2,110,211	$110,211	-$728,845
2029	$2,000,000	$2,160,570	$160,570	-$568,275
2030	$2,500,000	$2,213,189	-$286,811	-$855,087
2031	$4,294,800	$2,257,506	-$2,037,294	-$2,892,381
2032	$3,000,000	$2,308,804	-$691,196	-$3,583,577
2033	$3,000,000	$2,363,469	-$636,531	-$4,220,108
2034	$5,027,041	$2,363,469	-$2,663,572	-$6,883,680

The 10-year planning period, the forecast renewal costs are $28.55m, with a current budget allocation of $21.67m, resulting in a cumulative budget shortfall of $6.88m. This equates to an asset renewal funding ration of 76%.

Table C3 - Renewal Forecast Summary (Urban Structure)

Year	Renewal Forecast	Renewal Budget	Annual Budget Shortfall	Cumulative Budget Shortfall
2025	$1,720,000	$1,317,659	-$402,341	-$402,341
2026	$2,800,000	$1,289,650	-$1,510,350	-$1,912,692
2027	$1,000,000	$1,351,587	$351,587	-$1,561,105
2028	$1,500,000	$1,418,127	-$81,873	-$1,642,978
2029	$1,500,000	$1,451,970	-$48,030	-$1,691,008
2030	$1,450,000	$1,487,331	$37,331	-$1,653,677
2031	$1,450,000	$1,517,114	$67,114	-$1,586,564
2032	$1,450,000	$1,551,587	$101,587	-$1,484,977
2033	$1,450,000	$1,588,324	$138,324	-$1,346,653
2034	$1,450,000	$1,588,324	$138,324	-$1,208,329

The 10-year planning period, the forecast renewal costs are $15.77m, with a current budget allocation of $14.56m, resulting in a cumulative budget shortfall of $1.21m. This equates to an asset renewal funding ration of 92%.

Appendix D Budget Summary by Lifecycle Activity

The forecast costs (outlays) required for consideration in the 10 year Long-Term Financial Plan are provided in shown below. These costs include renewal, maintenance, and operations of our existing assets. For the next revision of this Asset Management Plan, it is recommended to include the acquisition costs (upgrade/new) that are specified within the Resource Plan and are accommodated within the Long-Term Financial Plan. This has been recognised as an action within the Improvement Plan (Chapter 8). Costs associated with asset disposal, will continue to be identified through Council Reports and accommodated within the annual Business Plan and Budget and Long-Term Financial Plan as required. All forecast renewal costs are shown in 2024/25 dollar values and operations/maintenance costs are shown in 2023/24 dollar values.

Table D2 – Budget Summary by Lifecycle Activity (Public Art & Monument)

Year	Acquisition	Operation	Maintenance	Renewal	Disposal
2024/25	$0	$49,047	$364,105	$338,379	$0
2025/26	$0	$49,047	$364,105	$331,186	$0
2026/27	$0	$49,047	$364,105	$347,092	$0
2027/28	$0	$49,047	$364,105	$364,179	$0
2028/29	$0	$49,047	$364,105	$372,870	$0
2029/30	$0	$49,047	$364,105	$381,951	$0
2030/31	$0	$49,047	$364,105	$389,600	$0
2031/32	$0	$49,047	$364,105	$398,452	$0
2032/33	$0	$49,047	$364,105	$407,887	$0
2033/34	$0	$49,047	$364,105	$407,887	$0

*Costs accounted for within the Resource Plan and incorporated into Long-Term Financial Plan separately (i.e. not through the Asset Management Plan)

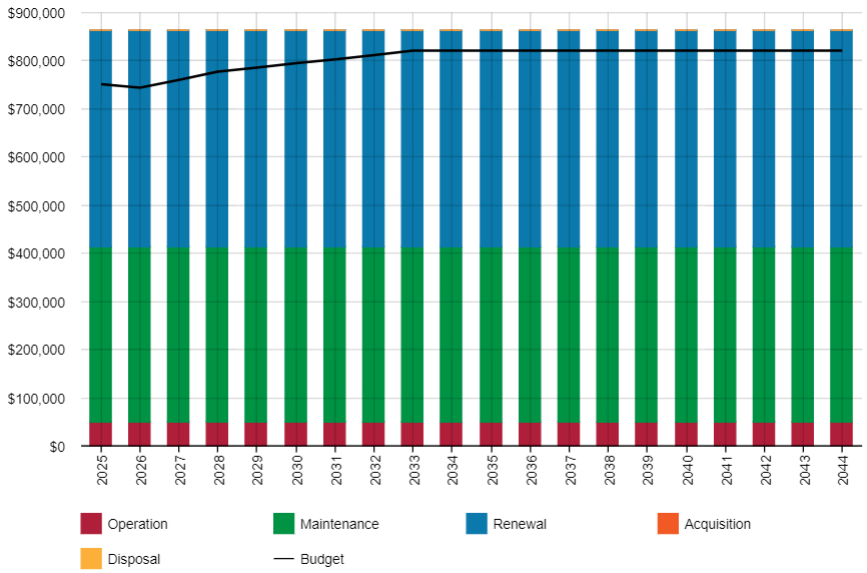


Table D3 – Budget Summary by Lifecycle Activity (Street and Park Lands Furniture)

Year	Acquisition	Operation	Maintenance	Renewal	Disposal
2024/25	$0	$2,453,230	$1,397,666	$1,960,712	$0
2025/26	$0	$2,453,230	$1,397,666	$1,919,033	$0
2026/27	$0	$2,453,230	$1,397,666	$2,011,198	$0
2027/28	$0	$2,453,230	$1,397,666	$2,110,211	$0
2028/29	$0	$2,453,230	$1,397,666	$2,160,570	$0
2029/30	$0	$2,453,230	$1,397,666	$2,213,189	$0
2030/31	$0	$2,453,230	$1,397,666	$2,257,506	$0
2031/32	$0	$2,453,230	$1,397,666	$2,308,804	$0
2032/33	$0	$2,453,230	$1,397,666	$2,363,469	$0
2033/34	$0	$2,453,230	$1,397,666	$2,363,469	$0

*Costs accounted for within the Resource Plan and incorporated into Long-Term Financial Plan separately (i.e. not through the Asset Management Plan)

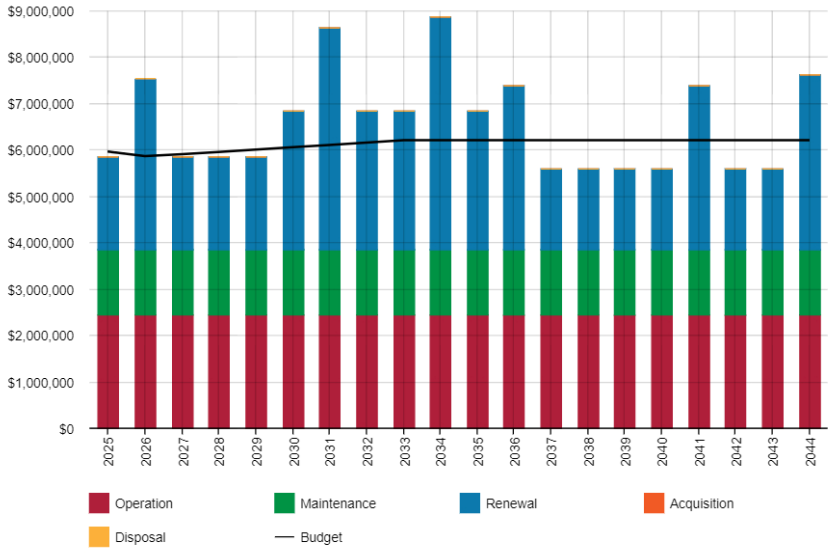
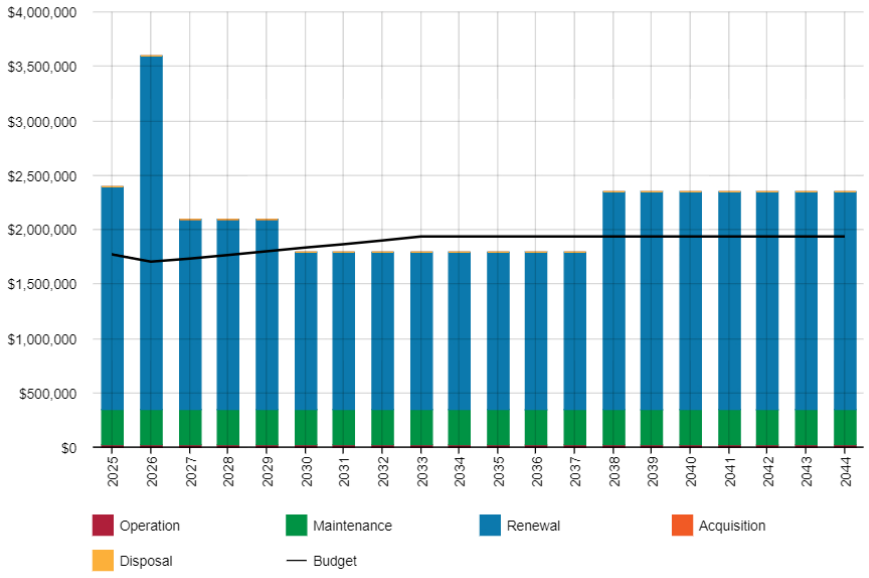


Table D4 – Budget Summary by Lifecycle Activity (Urban Structure)

Year	Acquisition	Operation	Maintenance	Renewal	Disposal
2024/25	$0	$24,524	$322,904	$1,317,659	$0
2025/26	$0	$24,524	$322,904	$1,289,650	$0
2026/27	$0	$24,524	$322,904	$1,351,587	$0
2027/28	$0	$24,524	$322,904	$1,418,127	$0
2028/29	$0	$24,524	$322,904	$1,451,970	$0
2029/30	$0	$24,524	$322,904	$1,487,331	$0
2030/31	$0	$24,524	$322,904	$1,517,114	$0
2031/32	$0	$24,524	$322,904	$1,551,587	$0
2032/33	$0	$24,524	$322,904	$1,588,324	$0
2033/34	$0	$24,524	$322,904	$1,588,324	$0

*Costs accounted for within the Resource Plan and incorporated into Long-Term Financial Plan separately (i.e. not through the Asset Management Plan)



Appendix E Asset Condition Images and Intervention Levels

Public Art & Monument

Public Art & Monument	Refurbishment Cycle
Large Memorial, Significant Public Art	5 years
Small Memorial, plaque, other Public Art	10 years

Before Refurbishment

Fair/Poor condition, showing wear and tear, some maintenance work required

After Refurbishment

Good condition, minor maintenance work required

Street and Park Lands Furniture

Treatment Name	Useful life *	Intervention Level
BBQ Renewal	10 years	Condition 4
Bike Rack Renewal	15 years	Condition 4
Bin Renewal	10 years	Condition 4
Bollard Renewal	15 years	Condition 4
Custom Sign Renewal	10 years	Condition 4
Drinking Fountain Renewal	10 years	Condition 4
Parking Machine Renewal	10 years	End of Useful Life
Smart Parking Solution	5 years	End of Useful Life
Picnic Table	20 years	Condition 4
Planter Box	15 years	Condition 4
Seat	20 years	Condition 4
Wayfinding Signage	20 years	Condition 4

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

Urban Structure

Treatment Name	Useful life *	Intervention Level
Boat Landing	20-80 years	Condition 4
Boat Ramp	80 years	Condition 4
Bus Shelter	20 years	Condition 4
Fence	15 years	Condition 4
Flagpole	30 years	Condition 4
Gate	15 years	Condition 4
Other Structure	15-20 years	Condition 4
Retaining Wall	60 years	Condition 4

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



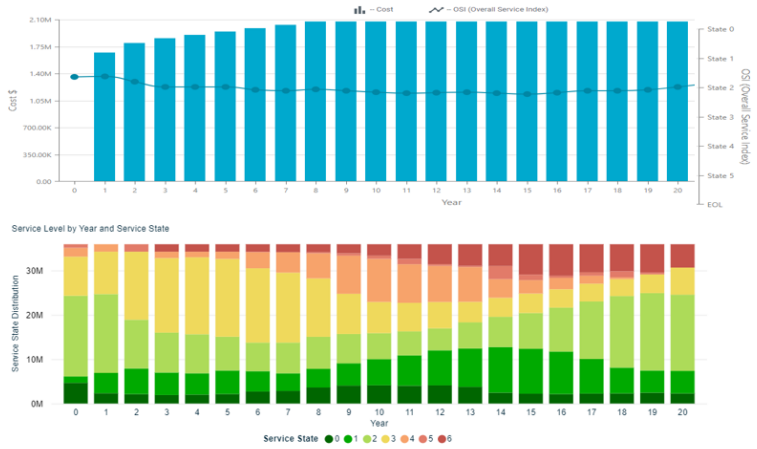


Appendix F Asset Renewal Scenario Modelling

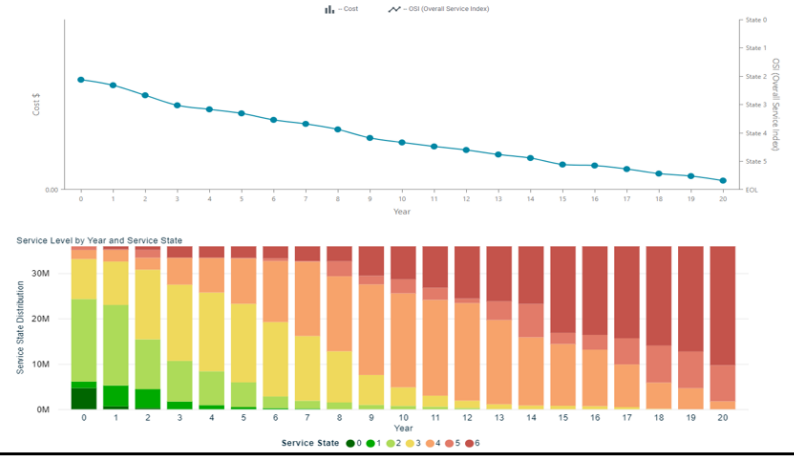
Street and Park Lands Furniture

Street and Park Lands Furniture – Predictive Scenario Modelling

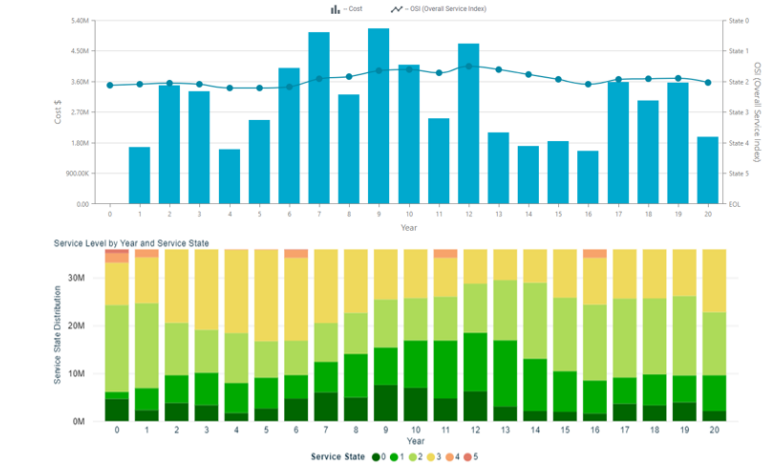
LTFP Budget



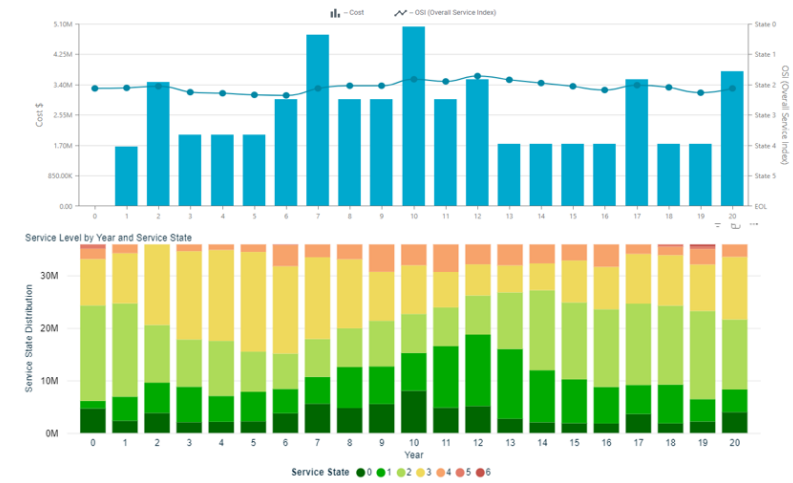
Zero Budget



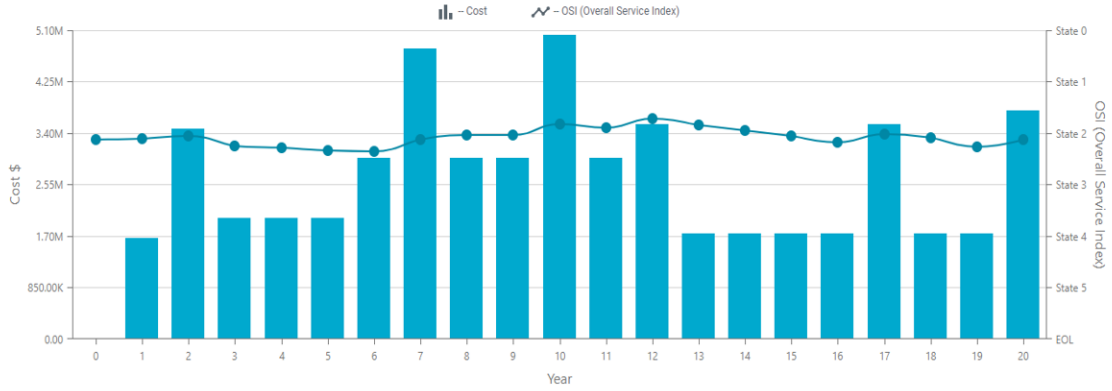
Unconstrained Budget

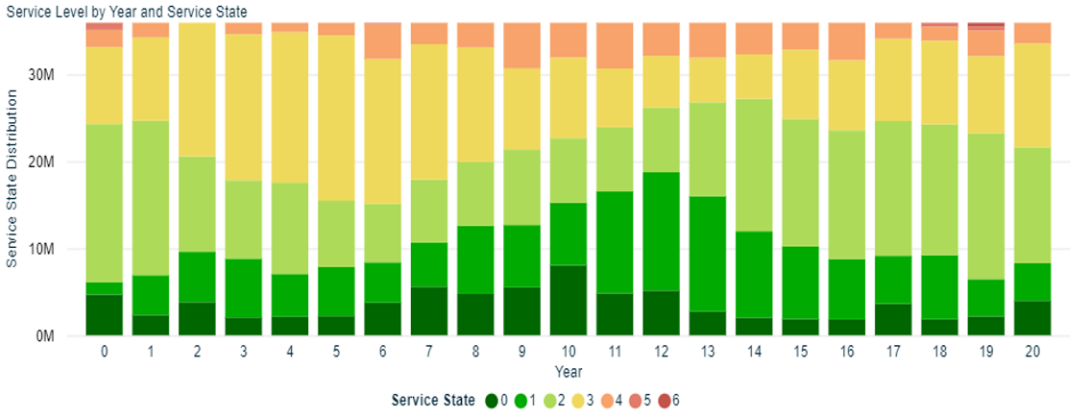


Recommended Strategy & Budget



Street and Park Lands Furniture - Recommended Strategy

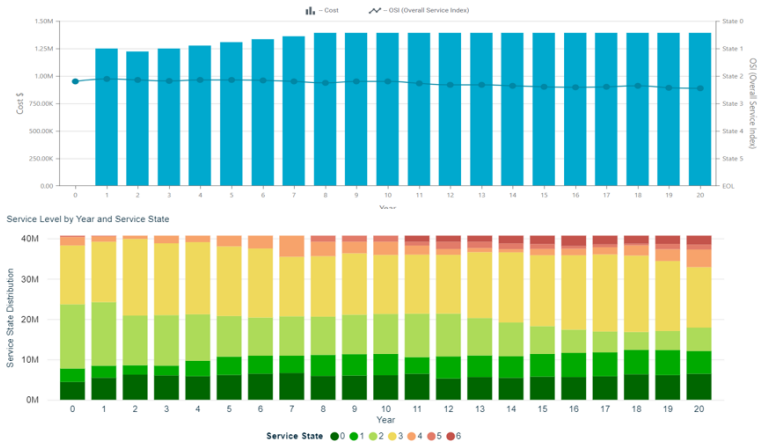




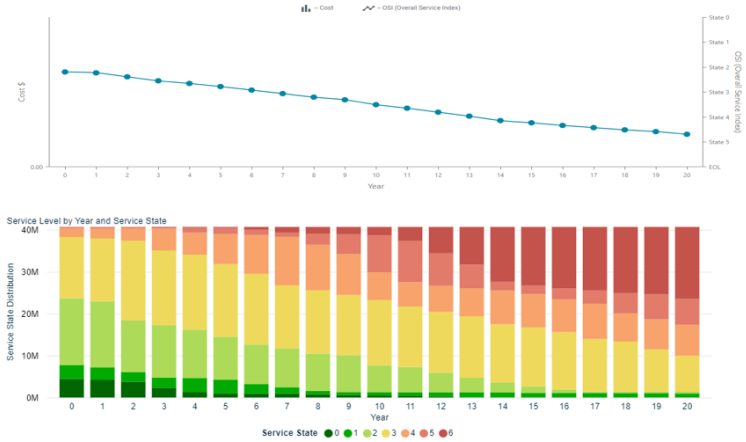
- The LTFP budget would see asset condition slowly deteriorate over the 20-year projection
- The recommended strategy is a more balanced approach than the unconstrained budget whilst addressing the shortfalls of the LTFP budget.
- The unconstrained budget outlines the required budget to prevent any assets falling into condition 4, which requires significant spikes of investment in specific years.
- Overall service state of the network is maintained around condition state 2.1 by the recommended strategy
- Small quantity of assets fall in condition 4 (<10%) and minimal assets fall into condition 5 (1%). The long-term projection is less than 10% of assets falling into condition 4.
- Considered acceptable from a risk management perspective noting that isolated service deficiencies can be managed through maintenance programs.
- Conclusion – recommended this strategy is adopted

Structure– Predictive Scenario Modelling

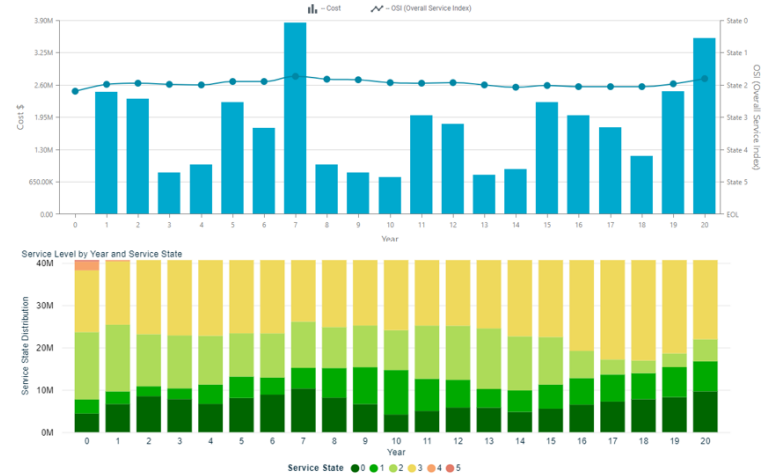
LTFP Budget



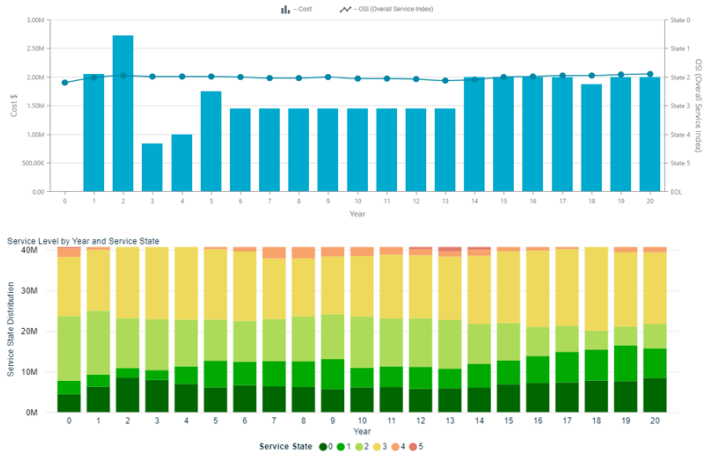
Zero Budget



Unconstrained Budget



Recommended Strategy & Budget



Structure– Recommended Strategy

- The LTFP budget would see asset condition slowly deteriorate over the 20-year projection
- The recommended strategy is a more balanced approach than the unconstrained budget whilst addressing the shortfalls of the LTFP budget.
- The unconstrained budget outlines the required budget to prevent any assets falling into condition 4, which requires significant spikes of investment in specific years.
- Overall service state of the network is maintained around condition state 1.9 by the recommended strategy
- Small quantity of assets fall in condition 4 (<7%) and minimal assets fall into condition 5 (<3%). The long-term projection is less than 5% of assets falling into condition 4.
- Considered acceptable from a risk management perspective noting that isolated service deficiencies can be managed through maintenance programs.
- Conclusion – recommended this strategy is adopted

Appendix G Data Confidence Assessment for Data Used in Asset Management Plan

The estimated confidence level for and reliability of data used in this Asset Management Plan is shown in the tables below.

Table H1: Data Confidence Assessment for Data used in Asset Management Plan (Public Art & Monument)

Data	Confidence Assessment	Comment
Demand drivers	High	Based off corporate planning documents and strategies
Growth projections	High	Based off State government projections and industry research and analysis
Acquisition forecast	Low	Not accommodated within this Asset Management Plan
Operation forecast	Medium	Based off known requirements and known costs for condition audits
Maintenance forecast	Low	Maintenance requirements are not forecasted, currently just aligned to existing budget allocations
Asset values	High	Asset valuations have been inflated for 24/25 period
Asset useful lives	High	In line with industry standards with regular review
Condition modelling & Treatment Cost	Medium	Public Art & Monument condition audit was undertaken in 2021. Due to the uniqueness of each pubic art & monument, the treatment cost is estimated based on recent refurbishment project cost. Total refurbishment requirement is calculated based on the estimated refurbishment cost and recommended refurbishment cycle.
Disposal forecast	Low	Not accommodated within this Asset Management Plan

Table H2: Data Confidence Assessment for Data used in Asset Management Plan (Furniture and Structure)

Data	Confidence Assessment	Comment
Demand drivers	High	Based off corporate planning documents and strategies
Growth projections	High	Based off State government projections and industry research and analysis
Acquisition forecast	Low	Not accommodated within this Asset Management Plan
Operation forecast	Medium	Based off known requirements and known costs for condition audits
Maintenance forecast	Low	Maintenance requirements are not forecasted, currently just aligned to existing budget allocations
Asset values	High	Asset valuations have been inflated for 24/25 period
Asset useful lives	High	In line with industry standards with regular review
Condition modelling	Medium	Furniture and Structure condition audit was undertaken in 2020 and has been validated by internal staff to be of reliable quality. Predictive modelling was undertaken with Brightly's Predictor software package to estimate remaining useful life of assets
Disposal forecast	Low	Not accommodated within this Asset Management Plan

CITY OF ADELAIDE

Adoption of the Transport Asset Management Plan

Tuesday, 16 April 2024

Infrastructure and Public Works Committee

Strategic Alignment - Our Places

Program Contact:
Mark Goudge, Associate Director Infrastructure

Public

Approving Officer:
Tom McCready, Director City Services

EXECUTIVE SUMMARY

The purpose of this report is to present the community feedback and consultation outcomes of the draft Transport Asset Management Plan (AM Plan), in conjunction with feedback received from the Audit and Risk Committee (ARC) and seek Council adoption of a finalised Transport AM Plan as required under the *Local Government Act (SA) 1999*. Each of our six AM Plans will require Council adoption prior to 30 June 2024 to enable review by the Essential Services Commission of South Australia (ESCOSA) in 2024/25.

At its 12 December 2023 meeting, Council was presented the draft Transport AM Plan and endorsed it to be released to community consultation for an eight-week period between 8 December 2023 and 9 February 2024. Community consultation included a Your Say engagement page in conjunction with two drop-in sessions that were held at the Hutt Street Library (24 January 2024) and the North Adelaide Library on Tynte Street (31 January 2024). The community was notified of the consultation through the Government Gazette and Public Notice in the Advertiser, as well as physical and electronical promotion including signage at community centres and social media campaigns.

Through the 'Your Say' engagement process, we received 408 visits to the Transport and Urban Elements AM Plan landing page, with 98 visitors who viewed the Transport AM Plan feedback form, resulting in 15 survey responses for the Transport AM Plan. In addition to the 'Your Say' responses, we also had six verbal conversations with members of the community at the drop-in sessions, which have been captured as general feedback. While community engagement response numbers were low, the consultation outcomes demonstrated community support for the draft Transport AM Plan. The feedback received did not prompt any major adjustments for the finalisation of the Transport AM Plan, other than minor editorial amendments. All consultation responses have been collated and summarised in **Attachment A**.

Of the 15 survey responses, 11 (73%) were supportive of the draft Transport AM Plan and 4 (27%) were not supporting of the draft Transport AM Plan.

The draft Transport AM Plan was also presented to the Audit and Risk Committee on 16 February 2024 for review and comment. Recommendations were made to adjust wording within the executive summary for the purposes of better informing the community what is covered within each asset class. The finalised AM Plan contains this information in Section 2 of the concise AM Plan Summary (**Attachment B**) and Section 1.2 of the Comprehensive AM Plan (**Attachment B**).

RECOMMENDATION

The following recommendation will be presented to Council on 23 April 2024 for consideration.

THAT THE INFRASTRUCTURE AND PUBLIC WORKS COMMITTEE RECOMMENDS TO COUNCIL THAT COUNCIL:

1. Receives the community feedback for the draft Transport Asset Management Plan included in the Engagement Summary & Submissions Report provided in Attachment A to Item 7.5 on the Agenda for the meeting of the Infrastructure and Public Works Committee held on 16 April 2024.

2. Notes that the draft Transport Asset Management Plan was presented to the Audit and Risk Committee on 16 February 2024 for review and comment, where recommendations were made to adjust wording within the executive summary for the purposes of better informing the community what is covered within each asset class.
3. Notes that there were no changes made to the draft Transport Asset Management Plan in response to the feedback received through community consultation and the advice received from the Audit and Risk Committee, other than minor editorial and formatting changes.
4. Adopts the Transport Asset Management Plan provided in Attachment B and C to Item 7.5 on the Agenda for the meeting of the Infrastructure and Public Works Committee held on 16 April 2024
5. Notes that the adopted Transport Asset Management Plan will be included into the 24/25 Business Plan and Budget and Long Term Financial Plan.
6. Notes that the Transport Asset Management Plan will be reviewed on an annual basis, where any material changes to financial forecasts will be considered through the Annual Business Plan and Budget process and incorporated as updates to the Long Term Financial Plan.
7. Authorises the Acting Chief Executive Officer or delegate to make minor and technical amendments as required (including updates to adopted budgets in the Long Term Financial Plan), to the Transport Asset Management Plan documents contained in Attachment B to Item 7.5 on the Agenda for the meeting of the Infrastructure and Public Works Committee held on 16 April 2024.

IMPLICATIONS AND FINANCIALS

City of Adelaide 2024-2028 Strategic Plan	Strategic Alignment – Our Places Manage our assets to meet the needs of the community.
Policy	Asset Management Policy Strategic AM Plan Public Communication and Consultation Policy
Consultation	Consultation on the draft Transport AM Plan was open from Friday 15 December 2023 to Friday 9 February 2024. The results of the consultation feedback and analysis are provided within, and as an attachment to this report for Council's consideration prior to adopting the Transport AM Plan.
Resource	Not as a result of this report
Risk / Legal / Legislative	The review and update of AM Plans, including levels of service, is required every four years or within two years of a general Council election pursuant to section 122 of the *Local Government Act 1999 (SA)*.
Opportunities	The Transport AM Plan defines asset levels of service to ensure assets are meeting the community's current and future requirements.
23/24 Budget Allocation	Not as a result of this report
Proposed 24/25 Budget Allocation	2024/25 budgets will be set by Council through the Annual Business Plan and Budget Process (noting Asset Renewal Funding Ratio targets of between 90-110%). Asset renewal is generally funded through operational revenue, which includes rates, commercial revenue and grant allocations.
Life of Project, Service, Initiative or (Expectancy of) Asset	There are implications for the future lifecycle management of our transport portfolio, including operation, maintenance and renewal of assets. These are presented in detail within the Transport AM Plan.
23/24 Budget Reconsideration (if applicable)	Not as a result of this report
Ongoing Costs (eg maintenance cost)	As documented within AM Plan (no change).
Other Funding Sources	External funding opportunities will continually be pursued to offset costs, bring forward works, or provide for additional enhancements.

DISCUSSION

1. The purpose of this report is to present the community feedback and consultation outcomes of the draft Transport AM Plan, in conjunction with feedback received from the Audit and Risk Committee (ARC) and seek Council adoption of a finalised Transport AM Plan (AM Plan) as required under the *Local Government Act (SA) 1999.* Each of our six AM Plans will require Council adoption prior to 30 June 2024 to enable review by the Essential Services Commission of South Australia (ESCOSA).

Background

2. In November 2021, we undertook an engagement process with City residents and visitors to better understand and measure levels of satisfaction of users who utilise the services provided by our transport infrastructure.

3. At its 14 June 2022 meeting Council received a report noting the results of the community consultation undertaken to benchmark current user satisfaction and approved the development of a draft Transport AM Plan based on the planning principles and recommended management strategies (levels of service) presented within the report and its Attachments [Link 1]

4. At its 12 December 2023 meeting, Council received the draft Transport AM Plan and endorsed it to be released to community consultation for an eight-week period between 8 December 2023 and 9 February 2024 [Link 2]

5. At its 16 February 2024 meeting, the Audit and Risk Committee was presented the draft Transport AM Plan for review and comment. Recommendations were made to adjust wording within the executive summary for the purposes of better informing the community what is covered within each asset class [Link 3]

Consultation Process

6. Community consultation ran for an 8-week period between 15 December 2023 and 9 February 2024.

7. This 8-week period exceeded the minimum requirements (21 days) of Section 50 of the *Local Government Act 1999 (SA)*, as well as exceeded the 6-week consultation period recommended under Council's Community Consultation Policy.

8. Community consultation included a 'Your Say' engagement page in conjunction with two drop-in sessions that were held at the Hutt Street Library (24 January 2024) and the North Adelaide Library on Tynte Street (31 January 2024).

9. To ensure the community was informed and aware of their opportunities to provide feedback into this process, consultation included:

    9.1. Public notice in the South Australian Government Gazette on 14 December 2023.

    9.2. Public note in The Advertiser newspaper on 15 December 2023.

    9.3. Physical promotion at libraries and community centres.

    9.4. Electronic promotion through social media platforms.

    9.5. Notification to registered Yoursay stakeholders (over 10,000 registered users) via the Your Say email newsletter on 20 December 2023 and 16 January 2024.

    9.6. Notifications to registered CoA newsletter subscribers.

10. Through the 'Your Say' engagement, we received 408 visits to the Transport and Urban Elements AM Plan landing page, with 98 visitors who viewed the Transport AM Plan feedback form, resulting in 15 survey responses for the Transport AM Plan.

11. Of the 15 survey responses, 11 (73%) were supportive of the draft Transport AM Plan and 4 (27%) were not supporting of the draft Transport AM Plan. All consultation responses have been collated and summarised in **Attachment A**.

12. From the four responses that were not supportive of the Plan, the general themes of written feedback were that the City's cycling network needed to be safer and better connected, with more separated cycleways.

13. While this feedback is considered constructive and valuable, it falls outside the intended purpose of the Transport AM Plan, which is to forecast the operations, maintenance and renewal requirements of our existing assets.

14. Strategic improvements to our transport network, including provision of new separated cycle ways, will be guided by the Integrated Transport Strategy (currently under development) and realised through the subsequent initiation, funding and delivery of key new and upgrade projects. While this AM Plan does not identify financial forecasts associated with new and upgrade projects, integrated planning will ensure required asset renewals are aligned (where practical) with key new and upgrade projects linked to our Strategic Plan objectives, that are represented in the Resource Plan and funded through the Business Plan and Budget.

15. Feedback was also received that cycling infrastructure needed to be better represented within the AM Plan. Consideration of separating shared use paths and separated cycleways into distinct asset classes will be incorporated into the improvement Plan.

16. In addition to the Your Say responses, we also had six verbal conversations with members of the community at the drop-in sessions, which have been captured as general feedback and can be found summarised in **Attachment A**.

17. While community engagement response numbers were low, the consultation outcomes demonstrated community support for the draft Transport AM Plan.

Audit and Risk Committee Advice

18. The draft Transport AM Plan was presented to the Audit and Risk Committee on 16 February 2024 for review and comment. Recommendations were made to adjust wording within the executive summary for the purposes of better informing the community what is covered within each asset class [Link 3]

Finalised Transport AM Plan

19. The feedback from community consultation and the Audit and Risk Committee did not prompt any substantial changes to the draft Transport AM Plan, other than minor editorial and formatting changes.

20. The finalised Transport AM Plan is presented in **Attachment B** (Summary Transport AM Plan) and **Attachment C** (Comprehensive Transport AM Plan).

Next Steps

21. The 2024/25 Business Plan and Budget will be prepared in line with the requirements of the updated Transport AM Plan, with the LTFP being updated through this process.

22. The remaining five AM Plans will be presented to Council for adoption by 30 June 2024.

23. Following adoption of all six AM Plans, in 2024/25 ESCOSA will assess City of Adelaide's long-term financial sustainability.

24. Following adoption of the 24/25 Business Plan and Budget and updates to the LTFP, minor amendments will be made to the Transport AM Plan, under the authorisation of the Acting Chief Executive Officer, to reflect changes to adopted budget allocations for the Transport AM Plan (i.e. showing to what extent the AM Plan has been funded by Council)

DATA AND SUPPORTING INFORMATION

Link 1 - Council Meeting Agenda 14 June 2022

Link 2 - Council Meeting Agenda 12 December 2023

Link 3 - Audit and Risk Committee Meeting Agenda 16 February 2024

ATTACHMENTS

Attachment A - Transport AM Plan Engagement Summary & Submissions Report

Attachment B - Transport AM Plan (Summary)

Attachment C - Transport AM Plan (Comprehensive)

- END OF REPORT -

Engagement Summary and Submissions Draft Transport Asset Management Plan

ENGAGEMENT SUMMARY

Formal consultation on City of Adelaide's draft Transport Asset Management Plan occurred between 15 December 2023 and 9 February 2024.

Community consultation included a Your Say engagement page in conjunction with two drop-in sessions that were held at the Hutt Street Library (24 January 2024, 12 noon - 2 pm) and the North Adelaide Library on Tynte Street (31 January, 10am - 12 noon).

Notification of the public consultation was announced through the Government Gazette and a Public Notice in the Advertiser, as well as advertised through physical and electronical promotion through City of Adelaide platforms including signage at community centres and social media campaigns.

Your Say Survey

The Your Say community engagement platform provided an overview of what Asset Management is as well as the purpose of the Asset Management Plan. Additionally, it highlighted the journey that has been undertaken to date in the development of the draft Asset Management Plans, which included:

- Preliminary engagement with our community to better understand and measure levels of satisfaction for the services provided by our assets.
- Identifying where current levels of service are not meeting the community's expectation, to then enable recommendations to be made to Council regarding how our assets are managed into the future through the development of the draft Asset Management Plans.

We have used the insights from the community to develop the draft Transport Asset Management Plan and through the final consultation, asked the question, did we get it right?

Through the Your Say engagement page, we received:

- 408 visitors to the Your Say page
- 98 visitors who viewed the feedback form
- 15 survey responses

Respondents were prompted to provide demographic information, which is summarised below:

Ratepayers:

5 survey respondents identified as ratepayers within the City of Adelaide (33%)

10 survey respondents identified as a non-ratepayer (67%)

Residents:

5 survey respondents identified as residents within Adelaide

0 survey respondents identified as residents within North Adelaide

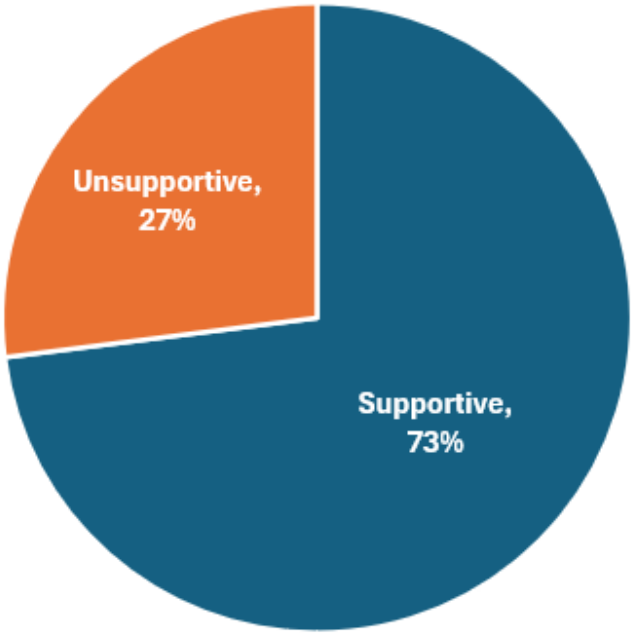
10 survey respondents identified as City visitors

How you participate' in City life:

Feedback Summary of Survey Responses:

Q1. Do you support the adoption of the Transport Asset Management Plan?

- 11 of 15 written submissions via YourSay were in support of the Plan (73%)
- 4 of 15 written submissions via YourSay were not in support of the Plan (27%)



From the four responses that were not supportive of the Plan, the general themes of written feedback were that the City's cycling network needed to be safer and better connected, with more separated cycleways.

While this feedback is considered constructive and valuable, it falls outside the intended purpose of the Transport Asset Management Plan, which is to forecast the operations, maintenance and renewal requirements of our existing assets.

Strategic improvements to our transport network, including provision of new separated cycle ways, will be guided by the Integrated Transport Strategy (currently under development) and realised through the subsequent initiation, funding and delivery of key new and upgrade projects.

While this Asset Management Plan does not identify financial forecasts associated with new and upgrade projects, integrated planning will ensure required asset renewals are aligned (where practical) with key new and upgrade projects linked to our Strategic Plan objectives, that are represented in the Resource Plan and funded through the Business Plan and Budget.

Feedback was also received that cycling infrastructure needed to be better represented within the AM Plan. Consideration of separating shared use paths and separated cycleways into distinct asset classes will be incorporated into the improvement plan of this AM Plan and will be further considered in the next revision of this AM Plan.

Drop-In Sessions

From the two drop-in sessions that were held at the Hutt Street Library and the North Adelaide Library on Tynte Street, we had six verbal conversations with the community that were captured as general feedback. This general feedback, relevant to the Transport Asset Management Plan is summarised below:

- Supportive of improve cycling and pedestrian infrastructure.
- Concerns about e-scooters and pedestrian safety.
- Feedback regarding a specific location being dirty and requiring more cleaning.
- Supportive of delivering projects that will improve the City.
- Consideration of low-impact development in the Park Lands (i.e. footpaths and trails).
- Feedback regarding a specific location requiring maintenance.
- Supportive of the City Connector bus.

YOUR SAY ENGAGEMENT SUBMISSIONS

Respondent	Do you support the adoption of the AM Plan?	Comments	Response
Respondent 1 (16/12/23)	Yes	Please stop using the term Transportation, we're not American. It is Transport. Transportation is when convicts were sent to Australia in the 1800s. It is Transport not Transportation in Australia.	Feedback was taken on board, and terminology used with the Plan has been updated.
Respondent 2 (16/12/23)	Yes	Agree with the findings on the survey on page 6 of the summary. The city bike lanes are woeful. I ride daily, and I often feel incredibly unsafe. Please install more protected, separated bike lanes. Particularly aiming to avoid car doors opening into these lanes. The city should also consider making routes through the city that are car-free and car-light, to improve safety for cyclists, pedestrians, and mobility device users.	The AM Plan acknowledges the community feedback and service deficiencies associated with cycling infrastructure within the City, however the Plan's primary purpose is to forecast the operations, maintenance and renewal requirements of our existing assets. Strategic improvements to our transport network, including provision of new separated cycle ways, will be guided by the Integrated Transport Strategy (currently under development) and realised through the subsequent initiation, funding and delivery of key upgrade projects. While this Asset Management Plan does not identify financial forecasts associated with new and upgrade projects, it does ensure required asset renewals are aligned (where practical) with key new and upgrade projects aligned with our Strategic Plan objectives that are specified within the Resource Plan.
Respondent 3 (16/12/23)	Yes	-	-
Respondent 4 (17/12/23)	No	Cycle paths should be considered separately from roads and footpaths and make for a sixth asset class in their assessment. It highlights the deficiencies in the cycle network unique to that asset class	City of Adelaide currently recognise the linemarking associated with on-road cycling lanes as part of the individual road asset and Park Lands shared-use paths and separated cycleways on City Streets as part of the pathway network. Consideration of separating these assets into a new asset class will be incorporated into the improvement plan of this AM Plan and will be further considered in future revisions of this AM Plan.

Respondent 5 (17/12/23)	Yes	-	-
Respondent 6 (20/12/23)	Yes	We need to improve the protected bicycle network in the CBD	It is anticipated that the completion of the Integrated Transport Strategy (currently under development) and the subsequent initiation, funding and delivery of key upgrade/new cycling infrastructure projects will over time incrementally bridge the gap between customer expectations and service provisions.
Respondent 7 (23/12/23)	No	The lack of a separate category for Bike lanes as a transportation asset is disappointing but not surprising. It reflects the abysmal level of investment and effort towards making the City of Adelaide a less hostile place for cyclists. Bikes are an environmentally friendly, space efficient, and health-improving method of transportation. They deserve to be taken seriously as a transport option, and this should be reflected by Bike lanes being considered a separate transportation asset. 'Cycle lanes are safe' - 23% of responders agreed/strongly agreed 'Roads are safe' - 69% of responders agreed/strongly agreed 'Cycle lanes meet my needs' - 27% agreed/strongly agreed 'Roads meet my needs' - 77% agreed/strongly agreed that (Figure 3.1-7 & 3.18) There is blatant inequity between the safety, quality, and abundance of Bike lanes and Roads. It is vital that the City of Adelaide works to address this. The consideration of Bike lanes as a separate transportation asset in this Asset Management Plan will increase transparency on the City of Adelaide's approach to improving bike lanes. As an aside, 'Cycle lanes' (the terminology used in the plan) sounds pretty stupid. Cycle is a verb. If we wanted to specify what a lane for cars would be, it would be a car lane, not a drive lane.	City of Adelaide currently recognise the line marking associated with on-road cycling lanes as part of the individual road asset and Park Lands shared-use paths and separated cycleways on City Streets as part of the pathway network. Consideration of separating these assets into a new asset class will be incorporated into the improvement plan of this AM Plan and will be further considered in future revisions of this AM Plan. It is anticipated that the completion of the Integrated Transport Strategy (currently under development) and the subsequent initiation, funding and delivery of key upgrade/new cycling infrastructure projects will over time incrementally bridge the gap between customer expectations and service provisions.

Respondent 8 (03/01/2023)	Yes	-	
Respondent 9 (05/01/24)	No	'Given the very high level of customer dissatisfaction with on-city-street cycle lanes (Poor in the Nov 2021 survey), my thoughts are that the transport asset management plan would be an excellent opportunity to address this in the near term. There are several advantages of focusing on this particular shortfall in the near term rather than waiting for several more years. This would include providing non-protected bike lanes where they are currently not available (e.g. King William, widening existing bike lanes and removing dangerous on-street parking. the benefits of this are: - low cost of upgrades for non-protected bike lanes where they currently don't exist - low cost to remove on-street parking where this is dangerous to cycle users (e.g. Franklin) - Possible availability of co-funding from state schemes for active transport/cycling - increasing the width of cycle lanes will reduce the wear and tear on pavement surfaces reducing ongoing maintenance costs - all the above will improve attractiveness of active transport and reduce car use and therefore wear and tear - will address several of the metrics associated with customer complaints and feedback.	It is anticipated that the completion of the Integrated Transport Strategy (currently under development) and the subsequent initiation, funding and delivery of key upgrade/new cycling infrastructure projects will over time incrementally bridge the gap between customer expectations and service provisions. We will continue to work in partnership with the State Government regarding enhancing access into and around the City, as well as leverage available funding grants, including the State Bike Fund and Special Local Roads Program.
Respondent 10 (06/01/24)	Yes	The current draft plan summary makes no mention of the length or condition of cycling paths in the city. We should be documenting all our cycle paths and categorising them according to type (dedicated, shared with pedestrians, separated lane on road, painted lane on road, shared with cars). Curiously the executive summary has many pictures of people on bikes and in parks and the few roads that are depicted are not clogged with cars which is a common occurrence!	City of Adelaide currently recognise the line marking associated with on-road cycling lanes as part of the individual road asset and Park Lands shared-use paths and separated cycleways on City Streets as part of the pathway network. Consideration of separating these assets into a new asset class will be incorporated into the improvement plan of this AM Plan and will be further considered in future revisions of this AM Plan.

Respondent 11 (15/01/24)	Yes	Ned to ensure focus on pedestrians and cyclist safety	It is anticipated that the completion of the Integrated Transport Strategy (currently under development) and the subsequent initiation, funding and delivery of key upgrade/new cycling infrastructure projects will over time incrementally bridge the gap between customer expectations and service provisions.
Respondent 12 (24/01/24)	Yes	-	-
Respondent 13 (28/01/24)	Yes	Thanks for your work. Extending tram line up port road could be good! And of course electrification of train lines and increasing bike lanes and connectivity in and around the CBD.	It is anticipated that the completion of the Integrated Transport Strategy (currently under development) and the subsequent initiation, funding and delivery of key upgrade/new cycling infrastructure projects will over time incrementally bridge the gap between customer expectations and service provisions.

Respondent 14 (07/02/24)	No	I have read the plan. I am sorry, but there is no mention of cyclists, new safe and secure bike paths separated by a physical barrier from the road. Coming from Europe, I can't stress enough how poor the cycling infrastructure is in this city. I have been cycling all over my country and in the capital city where I lived before moving to Adelaide. Here, I am afraid to use a bicycle. Bike paths are just white lines painted on the side of the road, with no protection from cars, especially from parked cars. Cars park on bike lanes all the time. With bike paths separated from roads, this will not happen anymore, and I can be sure more people will cycle in the city. I really suggest you take a look at the Netherlands and how they combat traffic. There are a lot of YouTube videos about these topics. One really good channel is 'Not Just Bikes'. Adding more roundabouts instead of traffic light intersections would also increase the safety of pedestrians and cyclists. At the same time, you will save on operating costs, because there is practically no maintenance and electricity bills for a roundabout. The flow of traffic is faster and safer; you can't run a red light on a roundabout. I am also shocked that bicycle sharing and renting do not exist here in Adelaide. What is the fastest, most environmentally friendly way to move around the city? It is cycling. Those electric scooters are terrible, they are slow, and parked everywhere. Make specific parking locations for them and don't allow them to be parked anywhere but there. If you want a very good example of how bike sharing works well, check out the Slovenian capital, Ljubljana, and their 'Bicikelj' bike sharing solution. More on this link: https://www.visitljubljana.com/en/visitors/travel-information/getting-around/bicikelj/ and this one https://www.ljubljana.info/bicikelj/. This are all really small and not costly improvements compared to building roads.	The AM Plan acknowledges the community feedback and service deficiencies associated with cycling infrastructure within the City, however the Plan's primary purpose is to forecast the operations, maintenance and renewal requirements of our existing assets. Strategic improvements to our transport network, including provision of new separated cycle ways, will be guided by the Integrated Transport Strategy (currently under development) and realised through the subsequent initiation, funding and delivery of key upgrade projects. While this Asset Management Plan does not identify financial forecasts associated with new and upgrade projects, it does ensure required asset renewals are aligned (where practical) with key new and upgrade projects aligned with our Strategic Plan objectives that are specified within the Resource Plan.

Respondent 15 (8/2/24)	Yes	As identified in the City's public engagement activities, the bike network is lacklustre and unsafe. This is recognised in the asset management plan but is unfortunately not followed up with statements of intention to invest in bettering this infrastructure. The report could also better highlight the significant lack of cycling infrastructure as a distinct feature from motor vehicle roads or pedestrian footpaths by classifying it as such in its asset summaries. Best of luck with maintaining and improving our beautiful city.	Strategic improvements to our transport network, including provision of new separated cycle ways, will be guided by the Integrated Transport Strategy (currently under development) and realised through the subsequent initiation, funding and delivery of key upgrade projects. While this Asset Management Plan does not identify financial forecasts associated with new and upgrade projects, it does ensure required asset renewals are aligned (where practical) with key new and upgrade projects aligned with our Strategic Plan objectives that are specified within the Resource Plan.

Transport Asset Management Plan

Summary

CITY OF ADELAIDE

Contents

EXECUTIVE SUMMARY

1 The Purpose of the Plan

The City of Adelaide is responsible for an extensive and diverse asset portfolio valued at more than $2 billion, which represents a significant investment made over multiple generations. These assets play a vital role in providing essential services to our community and it is critical to ensure these assets continue to be effectively managed to enable ongoing service provision and benefits for both current and future generations.

Under South Australia's *Local Government Act 1999*, we are required to develop Asset Management Plans for a period of at least 10 years, which includes information about the operation, maintenance, renewal, acquisition, expansion, upgrade and disposal for each infrastructure asset class under our care and control. The City of Adelaide has six Asset Management Plans, which includes Transport, Park Lands & Open Space, Buildings, Water Infrastructure, Lighting & Electrical and Urban Elements.

The fundamental purpose of this Transport Asset Management Plan is to outline the Council's high-level asset management priorities for the operation, maintenance and renewal of our assets over the next 10 years. Additionally, it aims to improve the long-term strategic management of our transport assets, to cater for the community's required levels of service both now and into the future.

The plan defines the current state of our $1.14 billion transport asset portfolio, as well as the asset management activities and associated funding requirements recommended for inclusion into the Long-Term Financial Plan to achieve our asset performance targets.

2 Our Transport Assets

The City of Adelaide's transport network is valued at approximately $1.14 billion and provides vital services that support pedestrians, cyclists, motorists, and public transport users to move into and around the city and Park Lands. These assets include roads, kerb and watertable, footpaths, bridges and traffic signals.

Roads
Quantity – 129 kilometres
Total Value – $296.5 million

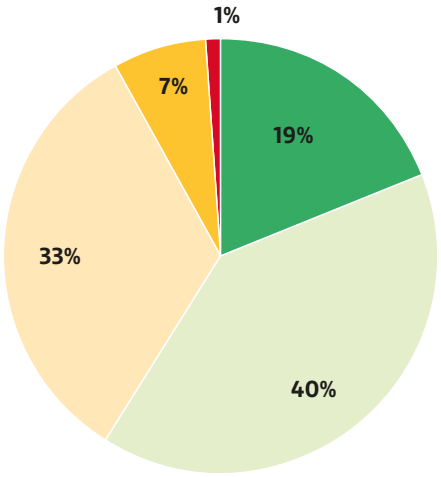
Kerb and Watertable
Quantity – 292 kilometres
Total Value – $119.7 million

Traffic Signals
Quantity – 138 sites
Total Value – $59.4 million

Bridges
Quantity – 37 sites
Total Value – $178.4 million

Footpaths
Quantity – 292 kilometres
Total Value – $486.4 million

To monitor the performance of our transport assets, we undertake regular condition audits (typically every 4 years). Asset condition information is analysed with respect to technical intervention criteria to inform our maintenance and renewal programs. The current condition of our transport network is rated in a good to fair condition, with an overall condition index rating of 2.3. 92% of assets are rated in a very good to fair condition and 8% of assets are rated in poor or very poor condition, which form the general basis of our future renewal program priorities.



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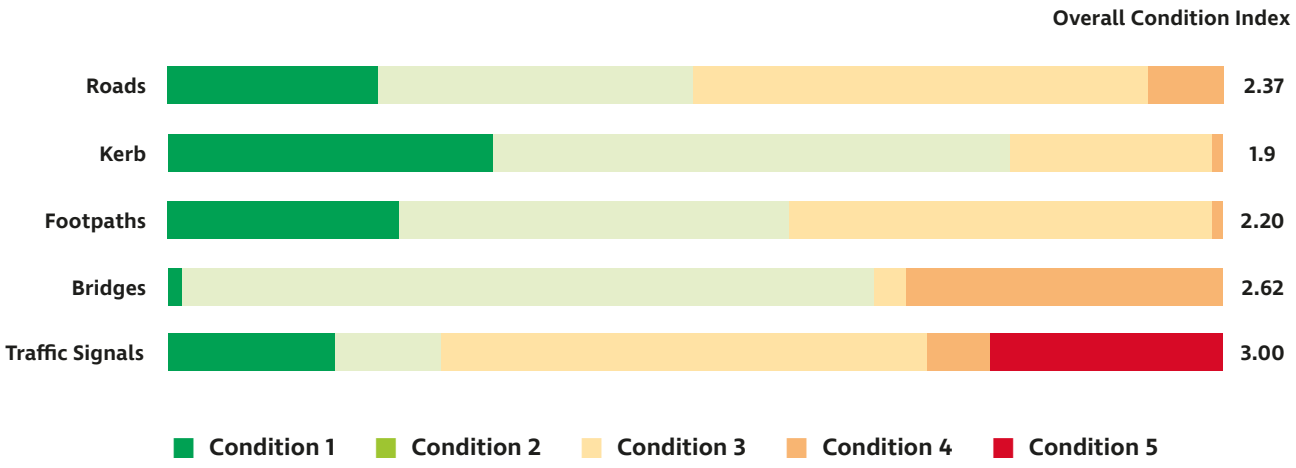
2	**Good:** minor defects, increasing maintenance required plus planned maintenance
3	**Fair:** defects requiring regular and/or significant maintenance to reinstate service
4	**Poor:** significant defects, higher order cost intervention likely
5	**Very Poor:** physically unsound and/or beyond rehabilitation,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

Typical examples of each condition state for our transport assets are shown in Appendix E.

Overall, the majority of our road, kerb and footpath assets are rated in a very good to fair condition with only a small proportion of assets rated in poor and very poor condition. This is considered a healthy condition distribution, however ongoing investment will be required to ensure levels of service are maintained.

Our bridges are generally rated in a good overall condition, with the exception of Adelaide Bridge, an aging asset constructed in 1931 that is approaching the end of it's useful life. Adelaide Bridge primarily accounts for the significant proportion of the bridge network currently rated in poor condition, with the bridge requiring significant rehabilitation or replacement within this Asset Management Plan's 10-year planning period.

Our traffic signal network has a significant number of assets rated in a poor to very poor condition. While this does not present any immediate operational risks due to effective proactive maintenance programs, accelerated renewal investment will be proposed within the first 5 years of this Asset Management Plan, with priorities informed by a comprehensive condition audit scheduled for 2024.



3 Community Engagement & Customer Satisfaction

In November 2021, we undertook an engagement process with city residents and visitors to better understand and measure levels of customer satisfaction for the services provided by our transport assets. A summary of the responses is shown below.

Category	Average Score	Very Poor (<40%)	Poor (40-54%)	Average (55-69%)	Good (70-84%)	Excellent (>85%)
City Street Roads	87 %					●
City Street Footpaths	77 %				●	
City Street Cycle Lanes	52 %		●			
Park Lands Footpaths	88 %					●
Park Lands Cycle Paths	87 %					●

The overall feedback confirmed appropriate levels of customer satisfaction for all transport assets, with the exception of city street cycle lanes. It is evident that there is a significant gap between current service provisions and the expectations of the community with respect to city street cycling facilities. The community's view was that on-road cycling infrastructure needs to be more accessible, easier to navigate and safer, in order to better meet their needs. It is anticipated that the completion of the Integrated Transport Strategy in 2024 and the subsequent initiation, funding and delivery of key upgrade/new cycling infrastructure projects will over time incrementally bridge the gap between customer expectations and service provisions.

A Recommended Levels of Service Report was presented to Council, with the recommendations approved in June 2022. This report noted the community consultation undertaken and the associated benchmarking of current user satisfaction. Additionally, Council also approved the development of the Transport Asset Management Plan based on the planning principles and recommended management strategies presented within the report and its attachments.

4 Current and Future Demands

It is anticipated that the City of Adelaide will be subject to considerable change over the next ten years. This will result in our transport assets being subject to new demands that have the potential to impact future service delivery and the requirements of our assets.

Key demand drivers and future challenges will include:

- City growth
- Changing demographic
- Tourism & event growth
- Climate change and carbon neutrality
- Emerging technology
- Legislation & regulation

Demand for new services will be managed through a combination of managing existing assets, upgrading existing assets, providing new assets and demand management. Demand management practices can include non-asset solutions, such as educating the community around alternative options, which facilitates service provision without the need to invest in new or upgraded infrastructure.

Demand management will include:

- Continuing to engage with our community through annual City User Profile surveys
- Finalising the Integrated Transport Strategy (2024)
- Delivering priority upgrade/new projects identified within the Strategic Plan and strategic documents
- Ensuring climate risk mitigation and adaptation is a key focus for strategic planning, asset management and project delivery
- Continuing to review and update design standards and technical specifications to ensure our assets transition towards having a lower carbon footprint with improved circular economy outcomes through increased usage of recycled materials
- Continuing to partner with industry, to monitor and evaluate new and emerging technologies, with trials of new materials, approaches, and methodologies to inform appropriate changes to standards and practices
- Continuing to monitor changes to legislation and ensure appropriate adaptation into asset management practices

5 Strategic Planning

Under the *Local Government Act (SA) 1999*, we are legislatively required to establish a suite of Strategic Management Plans, which guide Council's future planning, asset management and financial sustainability. An overview of these strategic management plans are shown below:

Strategic Plan ***Community***	Long term with a four year delivery focus. *Planning for the vision and aspirations of the Adelaide Capital City.*
Long-Term Financial Plan ***Financial***	Ten year Plan, revised annually to ensure a ten year view is maintained. Planning for the long-term financial sustainability of the City of Adelaide.
Asset Management Plans ***Infrastructure***	Suite of ten year Plans. *Planning for the sustainable renewal and maintenance of Council assets.*
City Plan ***Development / Built Form***	Ten year Spatial Plan. *Planning for the future land uses and built form of the Adelaide Capital City.*

Through the City of Adelaide Draft Strategic Plan 2024 – 2028, Council's vision is:

Our Adelaide. Bold. Aspirational. Innovative.

Achieving our vision for the future will be guided by our long term aspirations:

Our Community: Vibrant, connected and inclusive
Our Environment: Resilient, protected and sustainable
Our Economy: Growing, innovative and responsive
Our Places: Interesting, purposeful and safe
Our Corporation: High performing, customer-centric and bold

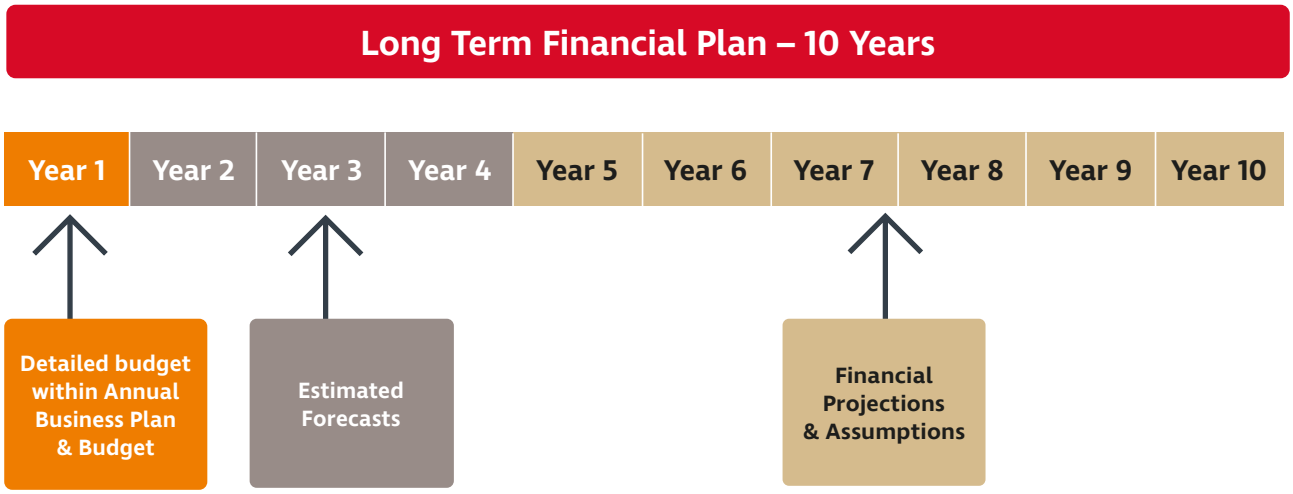
As Adelaide grows, we will need to consider economic vitality, social connectivity and wellbeing, distinctive precincts, environmental and financial sustainability, asset management and service delivery. To ensure we maintain our liveability and to support growth, these principles will underpin everything we do:

- Exceptional Amenity – Be bold and courageous in our pursuit of excellence for our city
- Quality Housing – Strive for liveability and affordability to attract and retain residents
- Community Connection – Strengthen connection, accessibility, diversity and inclusivity by putting people first
- Unique Experiences – Create interesting experiences for our residents, workers and visitors
- Climate Resilience – Embed climate resilience in all that we do
- Economic Growth – Encourage innovation, investment and development in current and emerging sectors
- Budget Repair – Provide quality services and ensure long-term financial sustainability

The Strategic Plan is supported by a suite of long and short-term strategies and action plans as well as a Resource Plan. The Resource Plan provides a four-year view of new and upgrade projects, resources, and budget requirements to deliver our Strategic Plan aspirations and objectives.

Integrated Delivery Planning ensures that prudent and efficient decisions are made, with line-of-sight between Council's Strategic Plan objectives and the major infrastructure projects we deliver. While this Asset Management Plan does not identify financial forecasts associated with new and upgrade projects, it does ensure required asset renewals are aligned (where practical) with key new and upgrade projects specified within the Resource Plan.

Each year our annual business plan and budget formalises funding allocations to continue providing services and progress new projects. It enables existing projects to move from one delivery stage to the next (e.g. progress concept design to detailed design and detailed design to construction) as well as consider emerging risks and opportunities that may result from Council decisions, community requests or other external factors.



6 Lifecycle Management

In order to effectively manage our assets, it is important to understand the relationship between all stages of the asset lifecycle. Effective asset management and sustainable financial planning requires a balance between the maintenance, renewal and disposal of existing assets and the delivery of new and upgraded assets.

Our goal is to provide assets that service the needs of the community, providing the agreed levels of service at the lowest lifecycle cost. To enable this, it is important to understand:

- How our assets are performing
- How our assets should be operated and maintained
- When our assets should be renewed
- When we should consider upgrading existing assets or constructing new assets
- How funding for new and upgraded assets is prioritised
- When we should consider disposing underperforming or underutilised assets

This Asset Management Plan's renewal strategy aims to minimise the number of assets that deteriorate into a poor condition and prohibit assets reaching a very poor condition. This strategy ensures we can continue to provide services in line with the community's expectations, appropriately manage risk and optimise whole-of-life costs. Renewal requirements have been identified through a combination of condition audits, engineering recommendations and predictive modelling.

Operational and Maintenance activities are generally evaluated and prioritised with respect to budget provisions within the Long-Term Financial Plan and Annual Business Plan and Budget. Following the completion of this Asset Management Plan, we will be reviewing operations and maintenance standards for transport assets, with a view to develop more structured and proactive maintenance regimes which provide an acceptable balance between cost, risk, and customer expectations. The associated financial impacts will need to be further considered in future revisions of this Asset Management Plan and the Long-Term Financial Plan.

This Asset Management Plan does not identify financial forecasts associated with asset disposal, however where recommended, significant assets will be identified for decommissioning and disposal through Council Reports, to then be considered within the Long-Term Financial Plan and Business Plan and Budget.

7 Financial Summary

This Asset Management Plan defines the asset management activities and associated funding requirements recommended for inclusion into the Long-Term Financial Plan to achieve our asset performance targets. The lifecycle costs necessary to operate, maintain and renew our assets as outlined within this Asset Management Plan is approximately $41.23 million on average each year across the 10-year planning period. The associated 10-year annual average financial forecasts for renewal, maintenance and operation are presented below for each asset class.

Roads	Kerbs	Footpaths	Bridges	Traffic Signals	Total
$9.57 M Renewal Cost	$3.08 M Renewal Cost	$9.85 M Renewal Cost	$7.26 M Renewal Cost	$3.86 M Renewal Cost	$33.62 M Renewal Cost
$1.04 M Maintenance Cost	$0.47 M Maintenance Cost	$1.64 M Maintenance Cost	$0.23 M Maintenance Cost	$0.50 M Maintenance Cost	$3.87 M Maintenance Cost
$1.56 M Operation Cost	$0.03 M Operation Cost	$1.50 M Operation Cost	$0.06 M Operation Cost	$0.59 M Operation Cost	$3.73 M Operation Cost
$12.17 M Lifecycle Cost	$3.58 M Lifecycle Cost	$12.99 M Lifecycle Cost	$7.55 M Lifecycle Cost	$4.95 M Lifecycle Cost	$41.23 M Lifecycle Cost

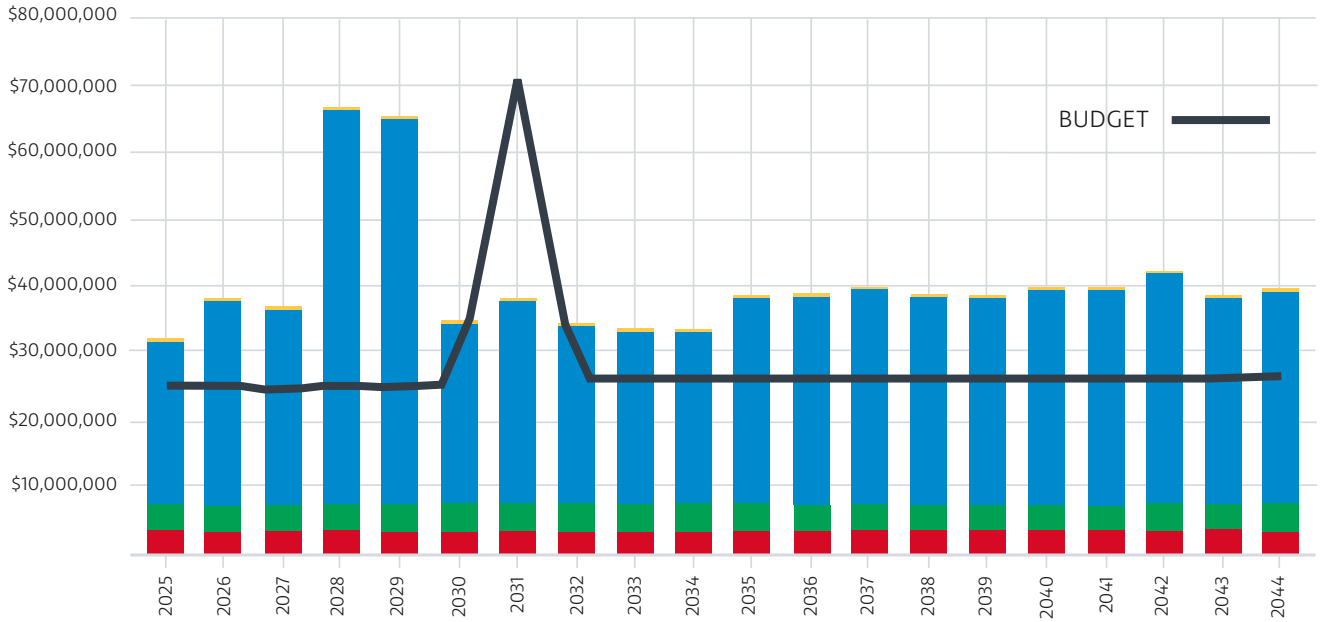
Currently, the lifecycle budget allocation within the Long-Term Financial Plan is only $31.74 million on average each year. This leaves a funding shortfall of $9.49 million on average each year and means we currently only have 77% of the costs (Lifecycle Financial Ratio) to deliver the required activities to sustain current levels of service.

10-year Lifecycle Financial Ratio

77%

10-year Asset Renewal Funding Ratio

72%



LIFECYCLE SUMMARY

Annual Average first 10 years

Lifecycle Forecast	$41,255,000
Planned Budget	$31,738,330
Shortfall	-$9,486,670

MAINTENANCE

Annual Average first 10 years

Maintenance Forecast	$3,871,000
Planned Budget	$3,871,000

OPERATION

Annual Average first 10 years

Operation Forecast	$3,733,500
Planned Budget	$3,733,500

RENEWAL

Annual Average first 10 years

Renewal Forecast	$33,620,500
Planned Budget	$24,133,830

Noting that this Asset Management Plan has not forecast any additional operational and maintenance requirements, the identified lifecycle funding shortfall is associated with the revised asset renewal forecasting. Each transport asset class generally requires additional renewal funding across the 10-year planning period.

The Asset Renewal Funding Ratio indicates that over the next 10 years our current budgets within the Long-Term Financial Plan account for 72% of the forecast funding required for the optimal renewal of our transport assets. Contributing factors for the gap between the forecast renewal costs and current budgets within the Long-Term Financial Plan include:

- Not achieving our Asset Renewal Funding Ratio targets over the past 4 financial years as a result of covid-19 resourcing impacts and project delays associated with post-pandemic market saturation.
- Utilising advanced predictive modelling within this Asset Management Plan, that analyses asset condition information to better recognise the changing asset investment needs over time to maintain service levels.
- Ensuring we accurately recognise asset replacement costs, utilising current unit rates that take into consideration increasing costs associated with inflation and industry escalations (we have experienced significant increases in project unit rates, noting that the Local Government Association (LGA) have indicated that costs and materials have increased up to 25% post pandemic).

Only what is funded within the Long-Term Financial Plan and approved through the Annual Business Plan and Budget can be delivered. Should the Long-Term Financial Plan be unable to accommodate the revised asset renewal forecasts recommended within this Asset Management Plan, there will be associated service and risk impacts.

Continuing to leverage off external funding opportunities will allow us to maintain and enhance the quality of the service we provide, while reducing financial pressures through the efficiencies in an increased revenue. We will continue to work in partnership with both the State and Federal Governments to pursue these opportunities for both renewal and significant new and upgrade projects.

8 Potential Service and Risk Impacts

If the forecast activities outlined within this Asset Management Plan (operations, maintenance, renewal) are unable to be accommodated into the Long-Term Financial Plan, there will be potential service consequences for users. These service consequences include:

- Reduced levels of service for the transport network (maintenance and renewal backlog)
- Reduced customer satisfaction levels associated with the management of our existing assets
- Intergenerational inequity (burdening future generations)

The associated risk consequences include:

- Increased safety risks associated with assets deteriorating beyond recommended intervention levels
- Increased reputational risks associated with services not aligning with community expectations
- Increased financial risks associated with additional maintenance requirements that cannot be accommodated within existing budgets
- Increased financial risks associated with higher renewal and/or rehabilitation treatments as asset renewals are not funded at the optimal point in time
- Increased economic risk associated with reduced business activity, events and tourism
- Intergenerational inequity (passing on costs and risk to future generations)

If the forecast activities outlined within this Asset Management Plan are unable to be accommodated into the Long-Term Financial Plan, we will endeavour to manage these risks within available funding by:

- Continuing to undertake regular asset condition and maintenance inspections
- Prioritising all asset renewal and maintenance activities with respect to available budget
- Revising our levels of service to establish an acceptable balance between cost, level of service and risk
- Developing a communication strategy to manage expectations and educate the community around affordable levels of service
- Continuing to seek out external funding opportunities
- Prioritisation of the delivery of key actions from the Improvement Plan

9 Monitoring and Improvement Program

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

	Improvement Plan Actions
1	Finalise a 4-year Resource Plan to identify key upgrade/new projects to deliver Council's Strategic Plan objectives. Once key projects are recognised within the Long Term Financial Plan, Asset Management Plans will be updated to ensure associated acquisition costs (upgrade/new) and ongoing operational and maintenance costs are appropriately recognised, in conjunction with any scheduling adjustments required for asset renewal programs.
2	Finalise Integrated Transport Strategy in 2024 and identify key priority projects for inclusion within the Resource Plan. Asset Management Plans to be reviewed and updated where required, considering any impacts to planned asset renewal programs.
3	Revise asset renewal forecasts for Adelaide Bridge following the completion of Options Analysis (currently underway).
4	Continue to work in partnership with both the State and Federal Governments to pursue external funding opportunities for both renewal and significant upgrade/new transport projects.
5	Review and update operations and maintenance standards, to develop more structured and proactive maintenance regimes which provide an acceptable balance between cost, risk, and customer expectations. Include changes into future revisions of this Asset Management Plan and Long Term Financial Plan.
6	Continue to undertake regular condition audits and revaluation for all our transport assets within the nominated 4-year cycles, including regular review of asset useful lives.
7	Continue to review our technical standards and their application across the transport network with respect to climate resilience, circular economy, recycled materials, durability and performance, whole-of-life cost, amenity, and heritage requirements.
8	Continue to monitor forecast climate change impacts to ensure we remain resilient through proactively implementing appropriate mitigation and adaptation controls.
9	Improve the capture of carbon emission data for technical standards and project procurement to support lower carbon decision making.
10	Review of corporate performance measure targets for customer satisfaction, to assist with performance gap analysis.
11	Review and standardise asset hierarchies for all asset classes within Streets and Park Lands.
12	Review customer service requests codes to better align with Level of Service reporting and operational and maintenance sub-activities.
13	Further develop processes to ensure asset data is updated following the completion of contracted maintenance work and emergency asset replacement resulting from vandalism or knockdowns.
14	Based on community engagement feedback, review the feasibility of establishing a distinct asset class for Cycleways for the next revision of this Asset Management Plan.

CITY OF ADELAIDE

Transport Asset Management Plan

CITY OF ADELAIDE

Contents

1.0 EXECUTIVE SUMMARY

1.1 The Purpose of the Plan

The City of Adelaide is responsible for an extensive and diverse asset portfolio valued at more than $2 billion, which represents a significant investment made over multiple generations. These assets play a vital role in providing essential services to our community and it is critical to ensure these assets continue to be effectively managed to enable ongoing service provision and benefits for both current and future generations.

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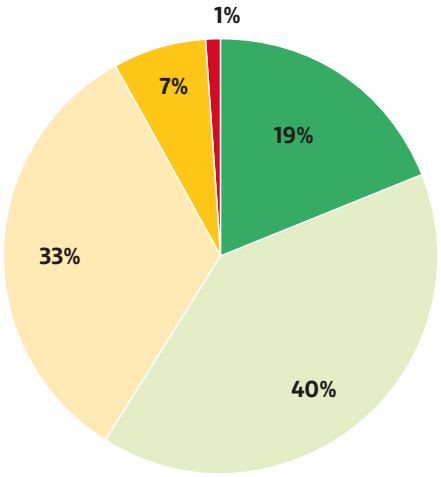

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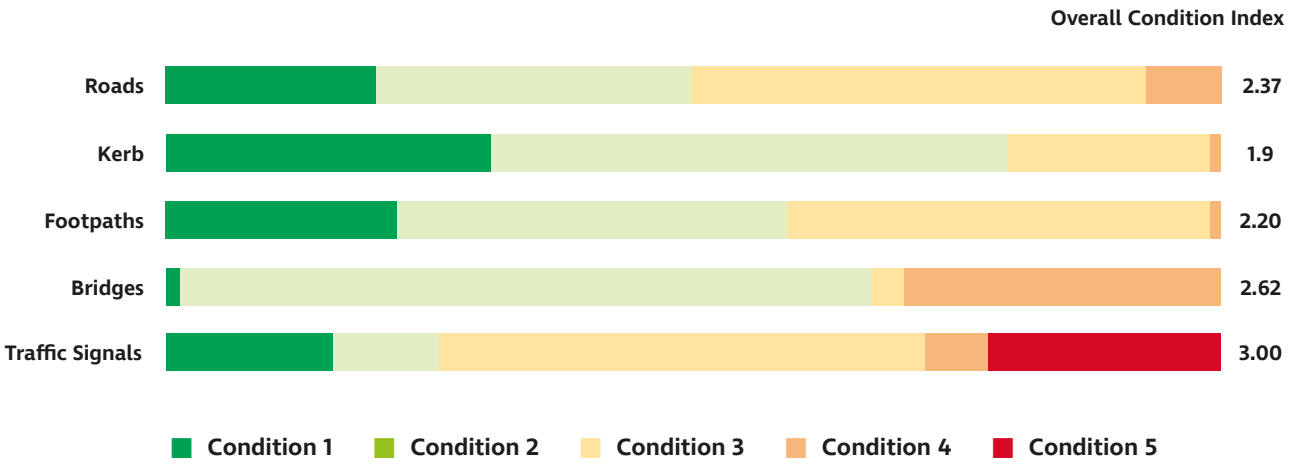
Typical examples of each condition state for our transport assets are shown in Appendix E.

Overall, the majority of our road, kerb and footpath assets are rated in a very good to fair condition with only a small proportion of assets rated in poor and very poor condition. This is considered a healthy condition distribution, however ongoing investment will be required to ensure levels of service are maintained.

Our bridges are generally rated in a good overall condition, with the exception of Adelaide Bridge, an aging asset constructed in 1931 that is approaching the end of it's useful life. Adelaide Bridge primarily accounts for the significant proportion of the bridge network currently rated in poor condition, with the bridge requiring significant rehabilitation or replacement within this Asset Management Plan's 10-year planning period.

Our traffic signal network has a significant number of assets rated in a poor to very poor condition. While this does not present any immediate operational risks due to effective proactive maintenance programs, accelerated renewal investment will be proposed within the first 5 years of this Asset Management Plan, with priorities informed by a comprehensive condition audit scheduled for 2024.



1.3 Community Engagement & Customer Satisfaction

In November 2021, we undertook an engagement process with city residents and visitors to better understand and measure levels of customer satisfaction for the services provided by our transport assets. A summary of the responses is shown below.

Category	Average Score	Very Poor (<40%)	Poor (40-54%)	Average (55-69%)	Good (70-84%)	Excellent (>85%)
City Street Roads	87 %					●
City Street Footpaths	77 %				●	
City Street Cycle Lanes	52 %		●			
Park Lands Footpaths	88 %					●
Park Lands Cycle Paths	87 %					●

The overall feedback confirmed appropriate levels of customer satisfaction for all transport assets, with the exception of city street cycle lanes. It is evident that there is a significant gap between current service provisions and the expectations of the community with respect to city street cycling facilities. The community's view was that on-road cycling infrastructure needs to be more accessible, easier to navigate and safer, in order to better meet their needs. It is anticipated that the completion of the Integrated Transport Strategy in 2024 and the subsequent initiation, funding and delivery of key upgrade/new cycling infrastructure projects will over time incrementally bridge the gap between customer expectations and service provisions.

A Recommended Levels of Service Report was presented to Council, with the recommendations approved in June 2022. This report noted the community consultation undertaken and the associated benchmarking of current user satisfaction. Additionally, Council also approved the development of the Transport Asset Management Plan based on the planning principles and recommended management strategies presented within the report and its attachments.

1.4 Current and Future Demands

It is anticipated that the City of Adelaide will be subject to considerable change over the next ten years. This will result in our transport assets being subject to new demands that have the potential to impact future service delivery and the requirements of our assets.

Key demand drivers and future challenges will include:

- City growth
- Changing demographic
- Tourism & event growth
- Climate change and carbon neutrality
- Emerging technology
- Legislation & regulation

Demand for new services will be managed through a combination of managing existing assets, upgrading existing assets, providing new assets and demand management. Demand management practices can include non-asset solutions, such as educating the community around alternative options, which facilitates service provision without the need to invest in new or upgraded infrastructure.

Demand management will include:

- Continuing to engage with our community through annual City User Profile surveys
- Finalising the Integrated Transport Strategy (2024)
- Delivering priority upgrade/new projects identified within the Strategic Plan and strategic documents
- Ensuring climate risk mitigation and adaptation is a key focus for strategic planning, asset management and project delivery
- Continuing to review and update design standards and technical specifications to ensure our assets transition towards having a lower carbon footprint with improved circular economy outcomes through increased usage of recycled materials
- Continuing to partner with industry, to monitor and evaluate new and emerging technologies, with trials of new materials, approaches, and methodologies to inform appropriate changes to standards and practices
- Continuing to monitor changes to legislation and ensure appropriate adaptation into asset management practices

1.5 Strategic Planning

Under the *Local Government Act (SA) 1999*, we are legislatively required to establish a suite of Strategic Management Plans, which guide Council's future planning, asset management and financial sustainability. An overview of these strategic management plans are shown below:

Strategic Plan ***Community***	Long term with a four year delivery focus. *Planning for the vision and aspirations of the Adelaide Capital City.*
Long-Term Financial Plan ***Financial***	Ten year Plan, revised annually to ensure a ten year view is maintained. Planning for the long-term financial sustainability of the City of Adelaide.
Asset Management Plans ***Infrastructure***	Suite of ten year Plans. *Planning for the sustainable renewal and maintenance of Council assets.*
City Plan ***Development / Built Form***	Ten year Spatial Plan. *Planning for the future land uses and built form of the Adelaide Capital City.*

Through the City of Adelaide Draft Strategic Plan 2024 – 2028, Council's vision is:

Our Adelaide. Bold. Aspirational. Innovative.

Achieving our vision for the future will be guided by our long term aspirations:

Our Community: Vibrant, connected and inclusive
Our Environment: Resilient, protected and sustainable
Our Economy: Growing, innovative and responsive
Our Places: Interesting, purposeful and safe
Our Corporation: High performing, customer-centric and bold

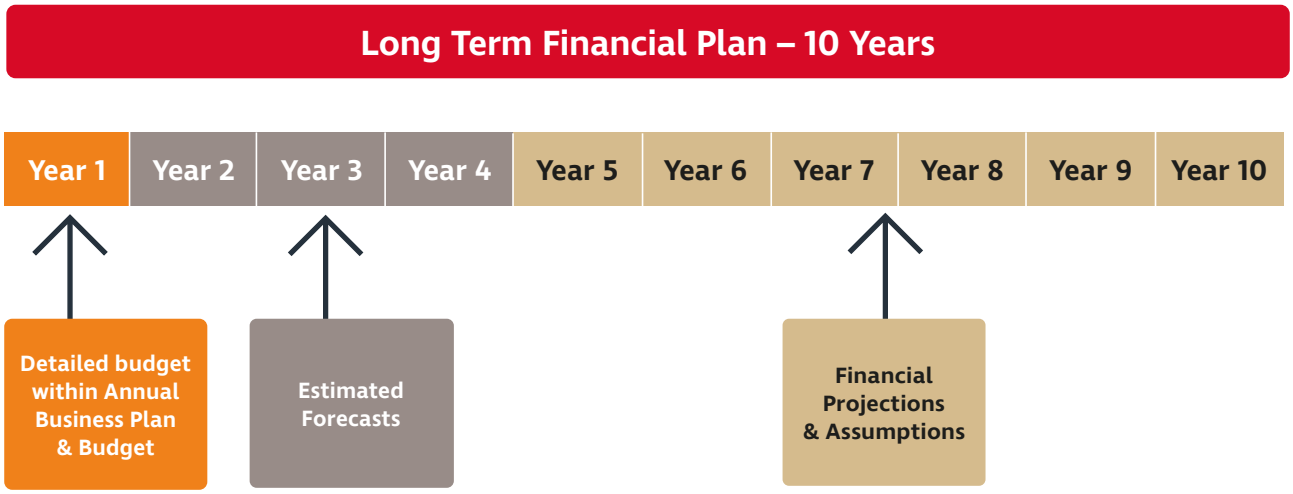
As Adelaide grows, we will need to consider economic vitality, social connectivity and wellbeing, distinctive precincts, environmental and financial sustainability, asset management and service delivery. To ensure we maintain our liveability and to support growth, these principles will underpin everything we do:

- Exceptional Amenity – Be bold and courageous in our pursuit of excellence for our city
- Quality Housing – Strive for liveability and affordability to attract and retain residents
- Community Connection – Strengthen connection, accessibility, diversity and inclusivity by putting people first
- Unique Experiences – Create interesting experiences for our residents, workers and visitors
- Climate Resilience – Embed climate resilience in all that we do
- Economic Growth – Encourage innovation, investment and development in current and emerging sectors
- Budget Repair – Provide quality services and ensure long-term financial sustainability

The Strategic Plan is supported by a suite of long and short-term strategies and action plans as well as a Resource Plan. The Resource Plan provides a four-year view of new and upgrade projects, resources, and budget requirements to deliver our Strategic Plan aspirations and objectives.

Integrated Delivery Planning ensures that prudent and efficient decisions are made, with line-of-sight between Council's Strategic Plan objectives and the major infrastructure projects we deliver. While this Asset Management Plan does not identify financial forecasts associated with new and upgrade projects, it does ensure required asset renewals are aligned (where practical) with key new and upgrade projects specified within the Resource Plan.

Each year our annual business plan and budget formalises funding allocations to continue providing services and progress new projects. It enables existing projects to move from one delivery stage to the next (e.g. progress concept design to detailed design and detailed design to construction) as well as consider emerging risks and opportunities that may result from Council decisions, community requests or other external factors.



1.6 Lifecycle Management

In order to effectively manage our assets, it is important to understand the relationship between all stages of the asset lifecycle. Effective asset management and sustainable financial planning requires a balance between the maintenance, renewal and disposal of existing assets and the delivery of new and upgraded assets.

Our goal is to provide assets that service the needs of the community, providing the agreed levels of service at the lowest lifecycle cost. To enable this, it is important to understand:

- How our assets are performing
- How our assets should be operated and maintained
- When our assets should be renewed
- When we should consider upgrading existing assets or constructing new assets
- How funding for new and upgraded assets is prioritised
- When we should consider disposing underperforming or underutilised assets

This Asset Management Plan's renewal strategy aims to minimise the number of assets that deteriorate into a poor condition and prohibit assets reaching a very poor condition. This strategy ensures we can continue to provide services in line with the community's expectations, appropriately manage risk and optimise whole-of-life costs. Renewal requirements have been identified through a combination of condition audits, engineering recommendations and predictive modelling.

Operational and Maintenance activities are generally evaluated and prioritised with respect to budget provisions within the Long-Term Financial Plan and Annual Business Plan and Budget. Following the completion of this Asset Management Plan, we will be reviewing operations and maintenance standards for transport assets, with a view to develop more structured and proactive maintenance regimes which provide an acceptable balance between cost, risk, and customer expectations. The associated financial impacts will need to be further considered in future revisions of this Asset Management Plan and the Long-Term Financial Plan.

This Asset Management Plan does not identify financial forecasts associated with asset disposal, however where recommended, significant assets will be identified for decommissioning and disposal through Council Reports, to then be considered within the Long-Term Financial Plan and Business Plan and Budget.

1.7 Financial Summary

This Asset Management Plan defines the asset management activities and associated funding requirements recommended for inclusion into the Long-Term Financial Plan to achieve our asset performance targets. The lifecycle costs necessary to operate, maintain and renew our assets as outlined within this Asset Management Plan is approximately $41.23 million on average each year across the 10-year planning period. The associated 10-year annual average financial forecasts for renewal, maintenance and operation are presented below for each asset class.

Roads	Kerbs	Footpaths	Bridges	Traffic Signals	Total
$9.57 M Renewal Cost	$3.08 M Renewal Cost	$9.85 M Renewal Cost	$7.26 M Renewal Cost	$3.86 M Renewal Cost	$33.62 M Renewal Cost
$1.04 M Maintenance Cost	$0.47 M Maintenance Cost	$1.64 M Maintenance Cost	$0.23 M Maintenance Cost	$0.50 M Maintenance Cost	$3.87 M Maintenance Cost
$1.56 M Operation Cost	$0.03 M Operation Cost	$1.50 M Operation Cost	$0.06 M Operation Cost	$0.59 M Operation Cost	$3.73 M Operation Cost
$12.17 M Lifecycle Cost	$3.58 M Lifecycle Cost	$12.99 M Lifecycle Cost	$7.55 M Lifecycle Cost	$4.95 M Lifecycle Cost	$41.23 M Lifecycle Cost

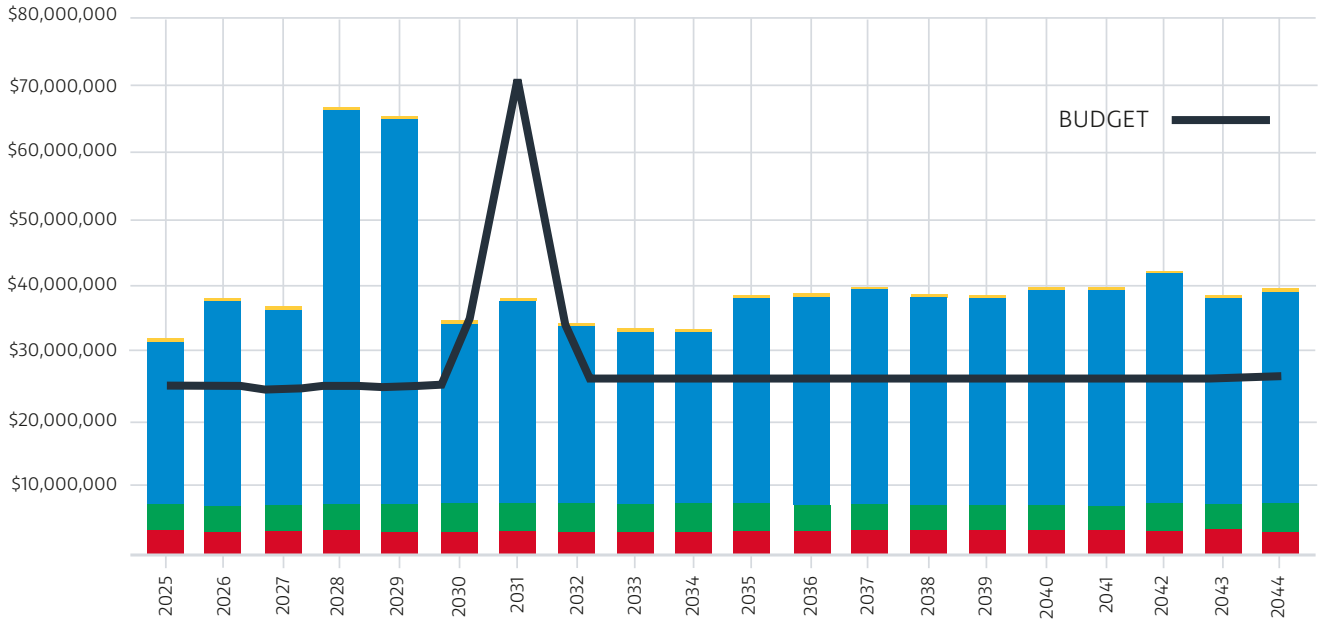
Currently, the lifecycle budget allocation within the Long-Term Financial Plan is only $31.74 million on average each year. This leaves a funding shortfall of $9.49 million on average each year and means we currently only have 77% of the costs (Lifecycle Financial Ratio) to deliver the required activities to sustain current levels of service.

10-year Lifecycle Financial Ratio

77%

10-year Asset Renewal Funding Ratio

72%



LIFECYCLE SUMMARY

Annual Average first 10 years

Lifecycle Forecast	$41,255,000
Planned Budget	$31,738,330
Shortfall	-$9,486,670

MAINTENANCE

Annual Average first 10 years

Maintenance Forecast	$3,871,000
Planned Budget	$3,871,000

OPERATION

Annual Average first 10 years

Operation Forecast	$3,733,500
Planned Budget	$3,733,500

RENEWAL

Annual Average first 10 years

Renewal Forecast	$33,620,500
Planned Budget	$24,133,830

Noting that this Asset Management Plan has not forecast any additional operational and maintenance requirements, the identified lifecycle funding shortfall is associated with the revised asset renewal forecasting. Each transport asset class generally requires additional renewal funding across the 10-year planning period.

The Asset Renewal Funding Ratio indicates that over the next 10 years our current budgets within the Long-Term Financial Plan account for 72% of the forecast funding required for the optimal renewal of our transport assets. Contributing factors for the gap between the forecast renewal costs and current budgets within the Long-Term Financial Plan include:

- Not achieving our Asset Renewal Funding Ratio targets over the past 4 financial years as a result of covid-19 resourcing impacts and project delays associated with post-pandemic market saturation.
- Utilising advanced predictive modelling within this Asset Management Plan, that analyses asset condition information to better recognise the changing asset investment needs over time to maintain service levels.
- Ensuring we accurately recognise asset replacement costs, utilising current unit rates that take into consideration increasing costs associated with inflation and industry escalations (we have experienced significant increases in project unit rates, noting that the Local Government Association (LGA) have indicated that costs and materials have increased up to 25% post pandemic).

Only what is funded within the Long-Term Financial Plan and approved through the Annual Business Plan and Budget can be delivered. Should the Long-Term Financial Plan be unable to accommodate the revised asset renewal forecasts recommended within this Asset Management Plan, there will be associated service and risk impacts.

Continuing to leverage off external funding opportunities will allow us to maintain and enhance the quality of the service we provide, while reducing financial pressures through the efficiencies in an increased revenue. We will continue to work in partnership with both the State and Federal Governments to pursue these opportunities for both renewal and significant new and upgrade projects.

1.8 Potential Service and Risk Impacts

If the forecast activities outlined within this Asset Management Plan (operations, maintenance, renewal) are unable to be accommodated into the Long-Term Financial Plan, there will be potential service consequences for users. These service consequences include:

- Reduced levels of service for the transport network (maintenance and renewal backlog)
- Reduced customer satisfaction levels associated with the management of our existing assets
- Intergenerational inequity (burdening future generations)

The associated risk consequences include:

- Increased safety risks associated with assets deteriorating beyond recommended intervention levels
- Increased reputational risks associated with services not aligning with community expectations
- Increased financial risks associated with additional maintenance requirements that cannot be accommodated within existing budgets
- Increased financial risks associated with higher renewal and/or rehabilitation treatments as asset renewals are not funded at the optimal point in time
- Increased economic risk associated with reduced business activity, events and tourism
- Intergenerational inequity (passing on costs and risk to future generations)

If the forecast activities outlined within this Asset Management Plan are unable to be accommodated into the Long-Term Financial Plan, we will endeavour to manage these risks within available funding by:

- Continuing to undertake regular asset condition and maintenance inspections
- Prioritising all asset renewal and maintenance activities with respect to available budget
- Revising our levels of service to establish an acceptable balance between cost, level of service and risk
- Developing a communication strategy to manage expectations and educate the community around affordable levels of service
- Continuing to seek out external funding opportunities
- Prioritisation of the delivery of key actions from the Improvement Plan

1.9 Monitoring and Improvement Program

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

	Improvement Plan Actions
1	Finalise a 4-year Resource Plan to identify key upgrade/new projects to deliver Council's Strategic Plan objectives. Once key projects are recognised within the Long Term Financial Plan, Asset Management Plans will be updated to ensure associated acquisition costs (upgrade/new) and ongoing operational and maintenance costs are appropriately recognised, in conjunction with any scheduling adjustments required for asset renewal programs.
2	Finalise Integrated Transport Strategy in 2024 and identify key priority projects for inclusion within the Resource Plan. Asset Management Plans to be reviewed and updated where required, considering any impacts to planned asset renewal programs.
3	Revise asset renewal forecasts for Adelaide Bridge following the completion of Options Analysis (currently underway).
4	Continue to work in partnership with both the State and Federal Governments to pursue external funding opportunities for both renewal and significant upgrade/new transport projects.
5	Review and update operations and maintenance standards, to develop more structured and proactive maintenance regimes which provide an acceptable balance between cost, risk, and customer expectations. Include changes into future revisions of this Asset Management Plan and Long Term Financial Plan.
6	Continue to undertake regular condition audits and revaluation for all our transport assets within the nominated 4-year cycles, including regular review of asset useful lives.
7	Continue to review our technical standards and their application across the transport network with respect to climate resilience, circular economy, recycled materials, durability and performance, whole-of-life cost, amenity, and heritage requirements.
8	Continue to monitor forecast climate change impacts to ensure we remain resilient through proactively implementing appropriate mitigation and adaptation controls.
9	Improve the capture of carbon emission data for technical standards and project procurement to support lower carbon decision making.
10	Review of corporate performance measure targets for customer satisfaction, to assist with performance gap analysis.
11	Review and standardise asset hierarchies for all asset classes within Streets and Park Lands.
12	Review customer service requests codes to better align with Level of Service reporting and operational and maintenance sub-activities.
13	Further develop processes to ensure asset data is updated following the completion of contracted maintenance work and emergency asset replacement resulting from vandalism or knockdowns.
14	Based on community engagement feedback, review the feasibility of establishing a distinct asset class for Cycleways for the next revision of this Asset Management Plan

2.0 INTRODUCTION

2.1 Background

First shaped by the Kaurna People of the Adelaide Plains, then by Colonel William Light, Adelaide is a dynamic, accessible and safe city, that offers an enviable quality of life. The physical layout of the city enhances the attributes that make Adelaide unique. From the Nationally Heritage Listed Park Lands that surround our city, to the compact layout that makes the city walkable and cyclable, to our unique neighbourhoods and precincts, all these factors place Adelaide on the path to being one of the most liveable cities in the world. Despite our small footprint, the City of Adelaide is home to over 26,000 residents, 12,000 businesses and accommodates over 300,000 visitors daily, contributing close to 18% of the State's economic value.

The City of Adelaide's transport network is valued at approximately $1.14 billion and supports pedestrians, cyclists, motorists, and public transport users to move into and around the City and Park Lands. These transport assets are vital to the health and wellbeing of the community and have been developed over time through major investment across multiple generations.

With projected City and metropolitan growth, a changing climate, and advancements in technology, it is anticipated that higher demand will be placed on our existing assets and there will be increasing requirements for new and upgraded infrastructure.

With Council's strategic objectives to create a City that is welcoming, inclusive, and accessible to all, it is critical to ensure that our transport network continues to be appropriately managed, ensuring we provide appropriate services and benefits for both current and future generations.

This Transport Asset Management 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 infrastructure assets covered by this Asset Management Plan, including their quantities and replacement costs are shown in Table 2.1 below.

Table 2.1: Infrastructure Assets covered by Transport Asset Management Plan

Asset Class	Quantity/Dimension	Replacement Value
Roads	129 kilometres	$296.5 million
Kerb and Watertable	292 kilometres	$119.7 million
Bridges	37 sites	$178.6 million
Footpaths	292 kilometres	$486.4 million
Traffic Signals	138 sites	$59.4 million
Total		$1.14 billion

This Asset Management Plan is to be read in conjunction with the Asset Management Policy, Strategic Asset Management Plan and the following key Corporate planning documents:

- City of Adelaide Strategic Plan (2024-2028)
- Active City Strategy (2013-2023)
- Adelaide Park Lands Management Strategy (2014-2025)
- Carbon Neutral Strategy (2015-2025)
- Climate Change Risk Adaptation Action Plan (2021-2026)
- Community Land Management Plans
- Disability Access and Inclusion Plan (2019-2022)
- Heritage Strategy and Action Plan (2021-2036)
- Park Land and Precinct Master Plans

- Public Art Action Plan (2019-2022)
- Public Health and Wellbeing Plan (2020-2025)
- Smart Move Transport and Movement Strategy (2012-2022)
- The 30-Year Plan for Greater Adelaide (2017) - State Government
- Integrated Transport and Land Use Plan for Greater Adelaide - State Government
- South Australian Walking Strategy (2022-2032) – State Government
- South Australia's Road Safety Strategy (to 2031) – State Government

As existing planning documents are updated and new planning documents are approved by Council, Asset Management Plans will be reviewed and updated as required.

Infrastructure projects will reference the Adelaide Design Manual for transformational projects supported by upgrade/new funding allocated with the Business Plan and Budget and Long-Term Financial Plan.

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:

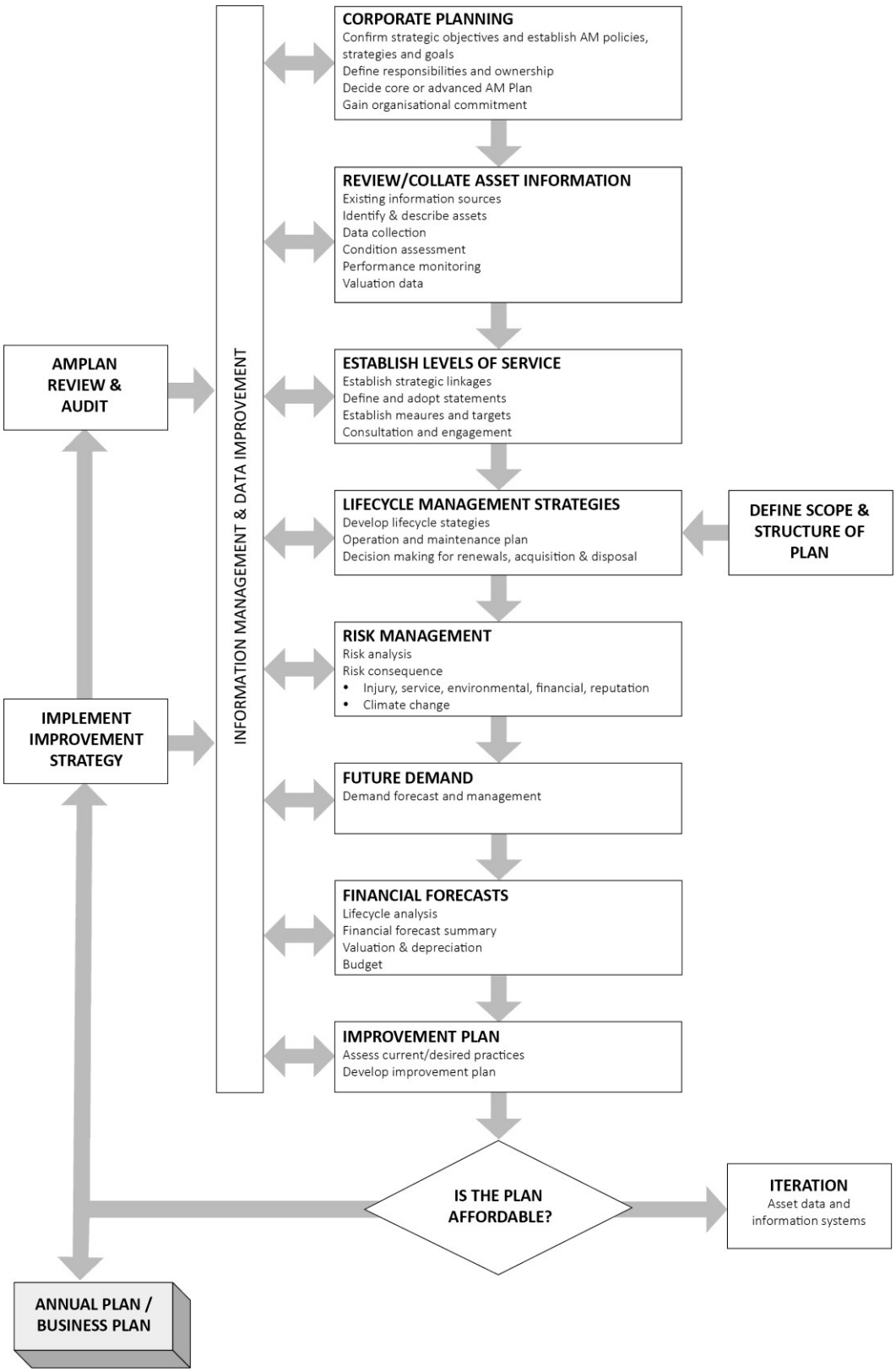
- International Infrastructure Management Manual 2015 1
- ISO 550002

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

A road map for preparing an Asset Management Plan is shown below:

Figure 2.2: Road Map for preparing an Asset Management Plan

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



2.3 Key Stakeholders & Organisational Responsibilities

Key stakeholders in the preparation and implementation of this Asset Management Plan are shown in Table 2.3.

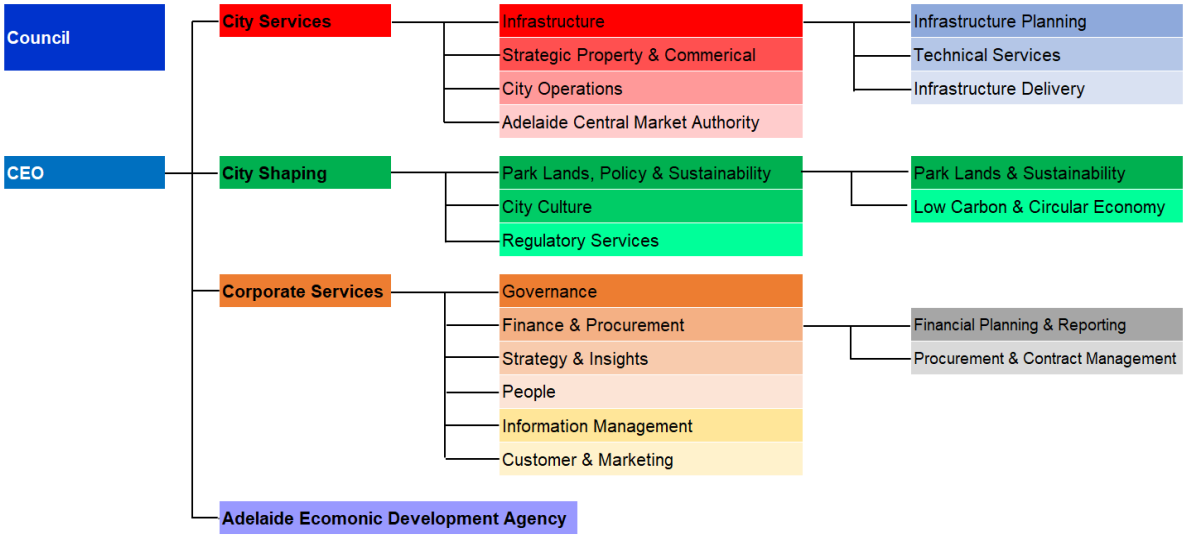
Table 2.3: Key Stakeholders in the Asset Management Plan

Key Stakeholder	Role in Asset Management Plan
Residents, Ratepayers & Businesses Workers, Visitors, Tourists and Students	Provide feedback on current and desired levels of service, which is considered in the development of Asset Management Plans.
Capital City Committee (CCC)	Intergovernmental body established under the City of Adelaide Act (1998) which initiates new projects to enhance and promote the development of the City of Adelaide as the capital city of the state.
Lord Mayor & Elected Members	Represent and advocate for the needs of the community and set high level direction through the development of asset management principles in the Strategic Plan. Approve the Asset Management Plan and Long-Term Financial Plan, to ensure the organisation maintains financial sustainability over the short, medium, and long terms, with consideration of community needs/expectations and corporate risk management requirements.
Chief Executive Officer & Executive Leadership Team	Responsible for the allocation of resources and development of sound asset management practice across the organisation as well as ensuring that all asset management activities are consistent with the objectives of Council's Strategic Plan, the Business Plan and Budget process and the Long-Term Financial Plan. Responsible for ensuring the financial projections in the adopted Asset Management Plans are reflected in the Long-Term Financial Planning and include sustainable maintenance, operations, renewal, and upgrade costs of current and future assets.
Associate Director Infrastructure	Responsible for providing leadership and direction for Council's Asset Management Framework and Project Delivery.
Infrastructure Planning	Responsible for the lifecycle management of Council's Infrastructure Assets and the development of Asset Management Plans, ensuring alignment with the Strategic Management Framework and principles and objectives outlined in the Strategic Plan and other relevant corporate planning documents.
Park Lands & Sustainability	Responsible for developing the Adelaide Park Lands Management Strategy, Park Lands and Square Master Plans and initiating priority Park Lands & Open Space upgrade/new project initiatives. Responsible for facilitating the identification of climate change risks and potential impacts to infrastructure assets.

Key Stakeholder	Role in Asset Management Plan
Low Carbon & Circular Economy	Responsible for facilitating the identification of opportunities to improve circular economy outcomes within infrastructure standards and specifications.
Traffic & Transport	Responsible for developing the Integrated Transport Strategy, Corridor Planning Studies and initiating priority transport upgrade/new project initiatives as well as providing technical traffic advice for capital works projects and operational issues.
Strategy & Insights	Responsible for the Strategic Management Framework, including the development of the Strategic Plan in consultation with the Executive Leadership Team, Elected Members, and key strategic stakeholders.
Technical Services	Responsible for technical design documentation to facilitate construction of infrastructure projects, review, and update infrastructure technical standards to ensure they are fit-for-purpose as well as the provision of general engineering and technical advice.
Infrastructure Delivery	Responsible for delivering Capital Works Projects identified in the Asset Management Plan and Annual Business Plan and Budget.
Financial Planning & Reporting	Responsible for the development and currency of the Asset Accounting Policy, Fixed Asset Guideline, as well as the preparation of asset sustainability and financial reports, which incorporate depreciation and asset revaluations in compliance with Australian accounting standards.
Procurement & Contract Management	Responsible for ensuring appropriate procedures are in place to enable efficient and effective procurement and contract management that demonstrates value for money and ensure public money is appropriately spent in accordance with the Local Government Act.
City Operations	Responsible for delivering day-to-day maintenance and operational activities, ensuring works are prioritised, planned and delivered consistently with operational and maintenance plans.
Regulatory Services	Responsible for issuing permits with conditions to enable external parties to undertake works on Council Infrastructure as well as enforcing rectification for works that are not compliant with CoA construction standards.
Department of Infrastructure and Transport (DIT)	Collaborative partner for major projects.
Service Authorities (e.g. SA Water, South Australian Power Networks)	Service authorities will continue to be consulted to coordinate any works planned by either Council or the service authority, so asset investment is not compromised.

Our organisational structure for service delivery associated with infrastructure assets is shown in Figure 2.3.

Figure 2.3: Organisational Structure



3.0 LEVELS OF SERVICE

3.1 Customer Research and Expectations

In November 2021, the City of Adelaide undertook an engagement process with City residents and visitors to better understand and measure levels of customer satisfaction for users who utilise the services provided by our transport infrastructure. The engagement was advertised on signage in City Streets as well as through the City of Adelaide's social media platforms.

The insights from the Survey are intended to be used to identify where current levels of service are not meeting the community's expectation. This will enable recommendations to be made to Council regarding future resourcing requirements for specific services.

The engagement process was primarily undertaken through questionnaire surveys (113 total respondents), where information was collected online using the YourSay platform (61 respondents), as well as through on street intercepts at various locations across the City (52 respondents). Additional information and feedback relating to CoA's infrastructure assets was also collected through the 2021 Resident Survey (318 comments) and engagement with the Disability Access and Inclusion Panel (44 comments).

The demographic distribution of respondents who provided feedback is presented across Figures 3.1-1 to 3.1-3 There were significantly more survey responses received from City visitors compared to residents and an even balance across genders.

Figure 3.1-1: Respondent distribution

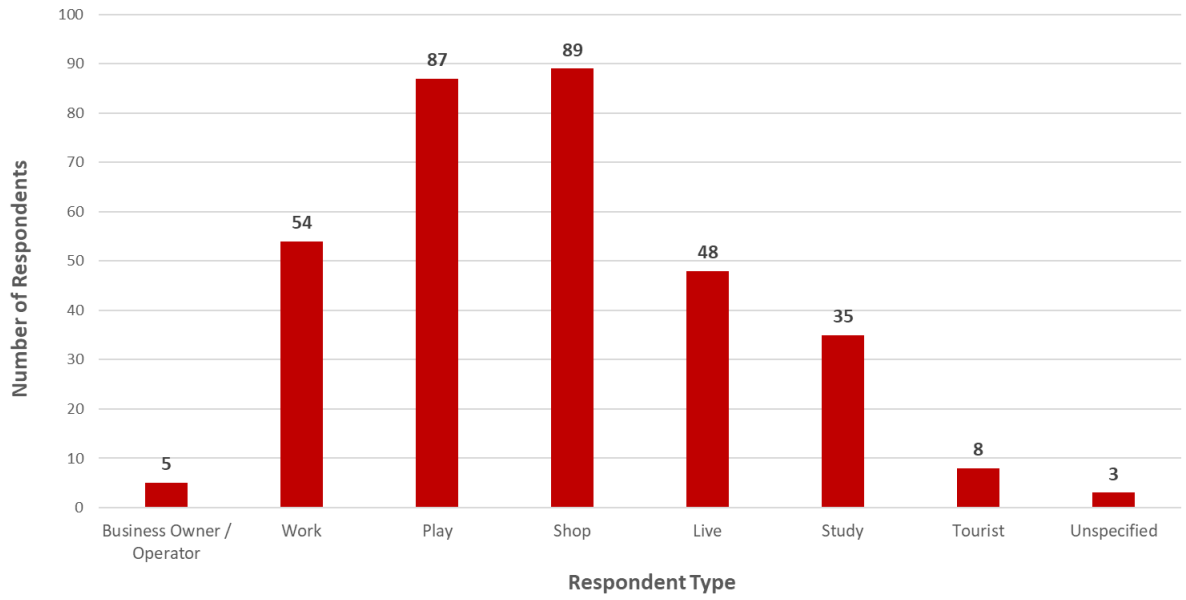


Figure 3.1-2: Respondent Distribution (Residents v Visitors)

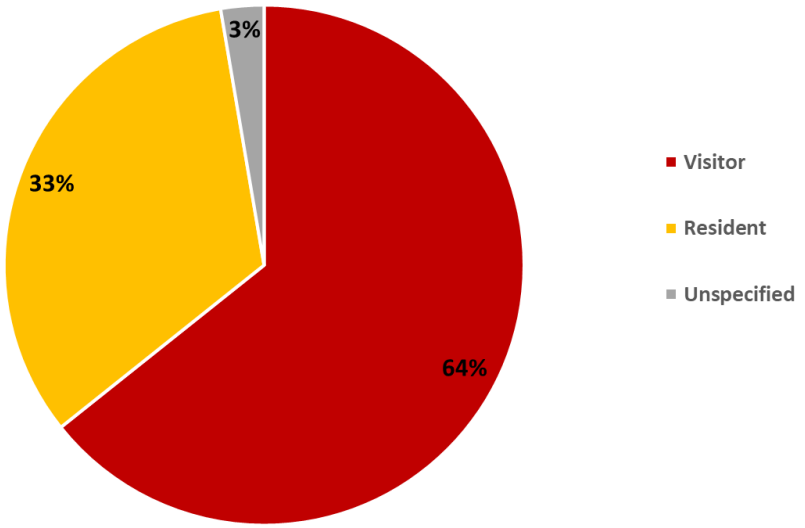
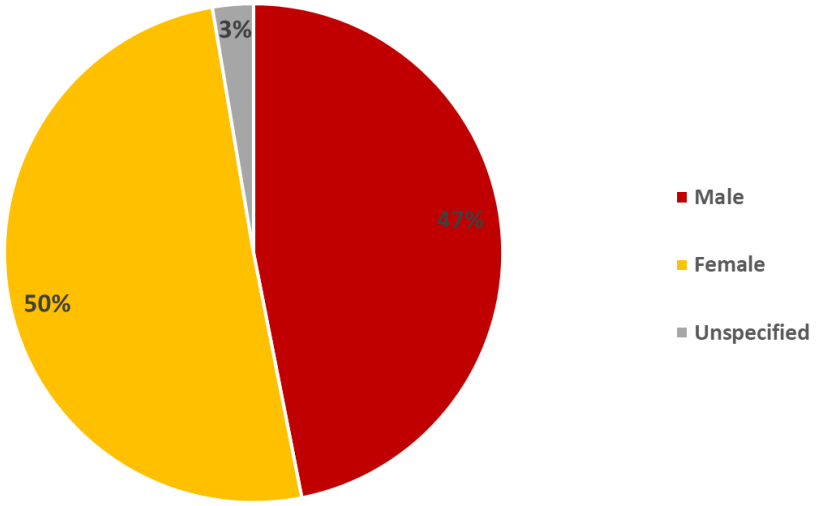


Figure 3.1-3: Respondent Distribution (Gender)



To ensure that data was collected to enable a clear line of sight for decision making purposes, the questionnaire was structured to differentiate responses received from the various user groups who utilise the transport network (i.e. cyclists, pedestrians and motorists) as well as differentiate responses relating to the City's Streets and the Park Lands.

Figure 3.1-4 and 3.1-5, provides a high level overview of the survey respondents perception of how well City Streets and Park Lands are maintained. Respondents were predominatly satisfied with the overall performance in maintaining the City's Streets and Park Lands, with 74% responding as Good or Excellent for City Streets and 84% responding as Good or Excellent for the Park Lands.

Figure 3.1-4: Overall Performance in Maintaining the City's Streets

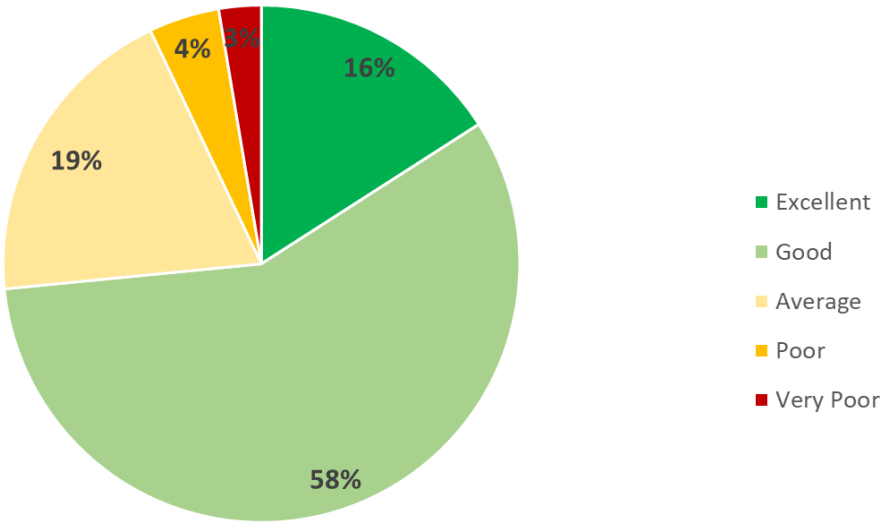
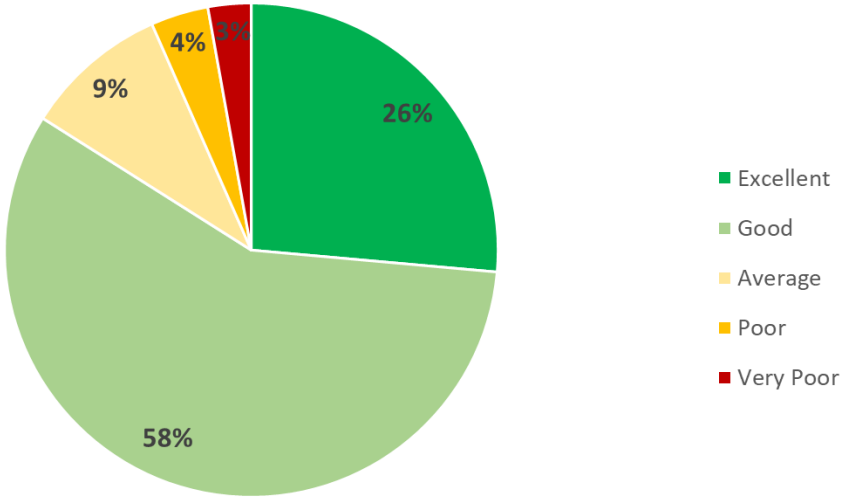


Figure 3.1-5: Overall Performance in Maintaining the Park Lands



More targeted questions were also asked with respect to the different user groups who utilise the transport network (i.e. cyclists, pedestrians and motorists).

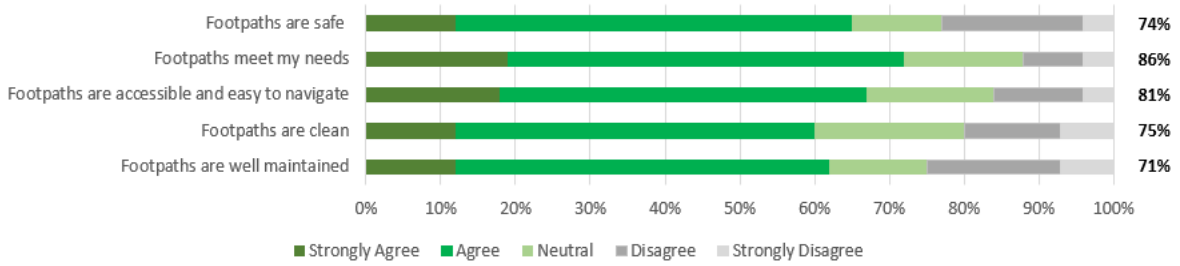
For each performance measure, a customer satisfaction indicator was calculated which represents the percentage of respondents who were satisfied with the service (neutral responses were omitted from the calculation). These figures can then be compared against CoA's organisation scorecard target of 70% satisfaction to identify where our services are not being delivered in line with community expectations.

The results for City Streets and Park Lands for pedestrian, cycling and motorist user groups are presented and discussed below.

City Streets – Pedestrian User Group

Generally, pedestrians were satisfied with the overall performance of the City's footpaths, where each of the-performance measures had satisfaction indicators exceeding CoA's 70% target, as shown in Figure 3.1-6 below.

Figure 3.1-6: City Streets - Pedestrian User Group Results



Where respondents stated they were not satisfied, general themes of the written feedback received included:

- More priority should be given to pedestrians at traffic lights to improve safety and reduce wait times
- Not all footpaths are accessible for those who have mobility aids
- More of the overall road reserve should be allocated to pedestrians (vehicle dominated)
- Some paved areas become slippery after significant rainfall events

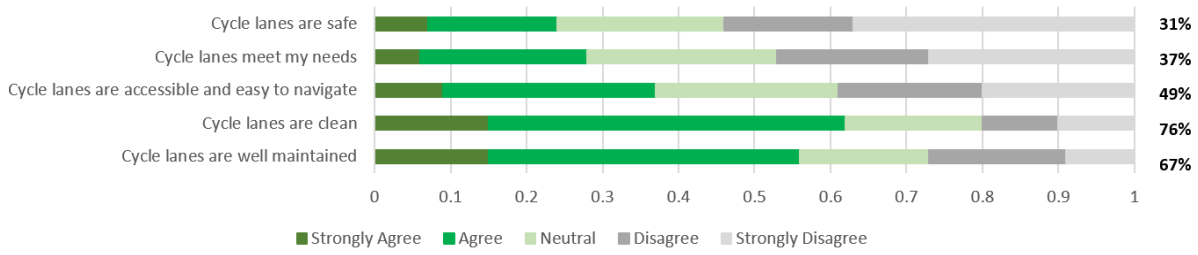
General themes in the feedback received from the Disability Access and Inclusion Panel included:

- A higher level of service is required for footpath maintenance and renewal programs to ensure footpaths are safe and accessible
- Undulating footpaths and steep crossfalls significantly limit accessibility
- Objects and clutter on footpaths significantly limit accessibility
- Footpath materials should consider surface temperature during hot weather for guide dogs
- Importance of pram ramp alignment and warning tactiles at intersections to ensure safe path of travel
- Some paved areas become slippery after significant rainfall events

City Streets – Cyclist User Group

Generally, cyclists were not satisfied with the performance/provision of cycling infrastructure in the City. Results identify that where cycling infrastructure exists, it is generally considered clean and well maintained. However, most satisfaction indicators were below CoA's 70% target, highlighting that the City's cycling infrastructure needs to be more accessible, easier to navigate, and safer to meet the needs of the community. The survey results are summarised in Figure 3.1-7 below.

Figure 3.1-7: City Streets - Cyclist User Group Results



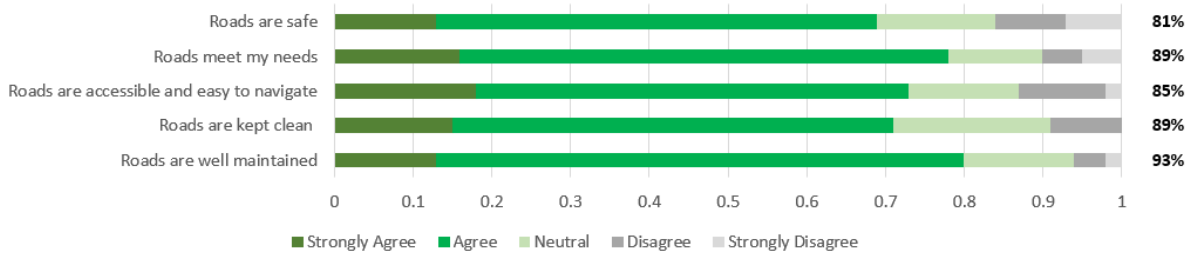
Where respondents stated they were not satisfied, general themes of the written feedback received included:

- There are currently not enough dedicated cycling lanes
- The cycling network is not well connected and often bike lanes end without warning
- Cycling lanes are often obstructed by trade and delivery vehicles
- Cycling lanes feel too close to parked cars
- There is a nervousness to cycle on roads due to the danger of cars
- Cyclists would feel safer riding in the City if there were more separated bike lanes

City Streets – Motorist User Group

Predominantly, motorists were satisfied with the overall performance of the City's roads, where each of the 5-performance measure had satisfaction indicators exceeding CoA's 70% target, as shown in Figure 3.1-8 below.

Figure 3.1-8: City Streets – Motorist User Group Results



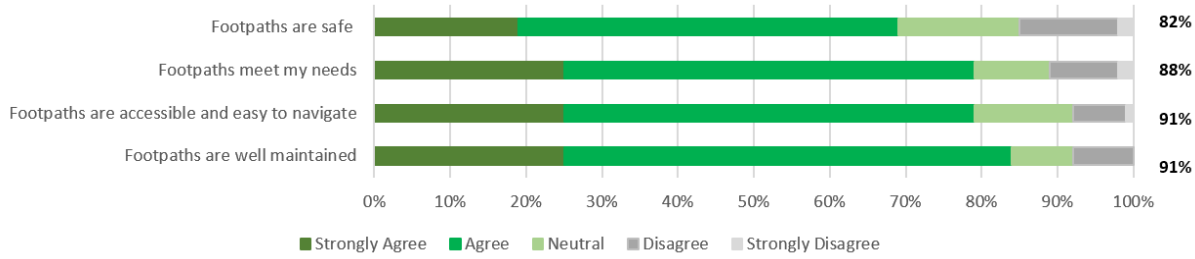
Where respondents stated they were not satisfied, general themes of the written feedback received included:

- Traffic congestion on specific main roads
- Difficultly in seeing linemarking when it rains
- Deterioration of bus lanes, particularly the Currie-Grenfell corridor (which has since been addressed through a capital works project in 2023)

Park Lands - Pedestrian User Group

Predominantly, pedestrians were satisfied with the overall performance of the Park Lands footpaths, where each of the performance measures had satisfaction indicators exceeding CoA's 70% target, as shown in Figure 3.1-9 below.

Figure 3.1-9: Park Lands - Pedestrian User Group



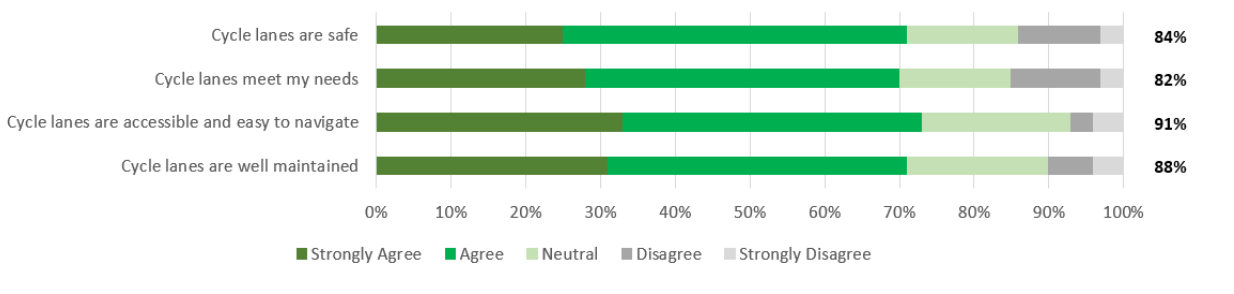
Where respondents stated they were not satisfied, general themes of the written feedback received included:

- Lighting is insufficient in certain locations leading to feeling unsafe at night
- Signage and wayfinding could be improved
- Wider shared use paths would facilitate a higher level of comfort

Park Lands - Cyclist User Group

Predominantly, cyclists were satisfied with the performance/provision of cycling infrastructure in the Park Lands, where each of the performance measures had satisfaction indicators exceeding CoA's 70% target, as shown in Figure 3.1-10 below.

Figure 3.1-10: Park Lands - Cyclist User Group



Where respondents stated they were not satisfied, general themes of the written feedback received were consistent with the pedestrian user group, which included:

- Lighting is insufficient in certain locations leading to feeling unsafe at night
- Signage and wayfinding could be improved
- Wider shared use paths would facilitate a higher level of comfort

Summary

The individual satisfaction indicators calculated for each user group have been grouped, averaged, and presented in Table 3.1 below to provide a high-level summary of the community's feedback with respect to our transport assets. Feedback was not sought for bridge, traffic signal and kerb assets as experience has shown that the community typically generalise feedback against road, footpath and cycling infrastructure, and not against these ancillary assets. Additionally, traffic signals and bridges are managed through more technical intervention levels to ensure asset risk and service continuity are effectively managed.

Table 3.1: Consultation Summary Table

Category	Average Score	Very Poor (<40%)	Poor (40-54%)	Average (55-69%)	Good (70-85%)	Excellent (>85%)
City Street Roads	87 %					●
City Street Footpaths	77 %				●	
City Street Cycle Lanes	52 %		●			
Park Lands Footpaths	88 %					●
Park Lands Cycle Paths	87 %					●

The overall feedback confirmed appropriate levels of customer satisfaction for all transport assets, with the exception of City Street Cycle Lanes. It is evident that there is a significant gap between current service provisions and the expectations of the community with respect to City Street cycling facilities. The community's view was that on-road cycling infrastructure needs to be more accessible, easier to navigate and safer, in order to better meet their needs.

It is anticipated that the completion of the Integrated Transport Strategy (currently under development) and the subsequent initiation, funding and delivery of key upgrade/new cycling infrastructure projects will over time incrementally bridge the gap between customer expectations and service provisions.

It is critical that the Transport Asset Management Plan appropriately recognises the strategic direction set by the Integrated Transport Strategy, and a key action has been included within this Asset Management Plan's Improvement Plan (Section 8.2) to ensure it is reviewed and updated where required following Council adoption of the Integrated Transport Strategy.

A Recommended Levels of Service Report was presented to Council, with the recommendations approved in June 2022. This report noted the community consultation undertaken and the associated benchmarking of current user satisfaction. Additionally, Council also approved the development of the Transport Asset Management Plan based on the planning principles and recommended management strategies presented within the report and its attachments.

3.2 Strategic Planning

Under the Local Government Act (SA) 1999, we are legislatively required to establish a suite of Strategic Management Plans, which guide Council's future planning, asset management and financial sustainability. An overview of these strategic management plans are shown below in Table 3.2-1:

Table 3.2-1: Strategic Management Documents

Strategic Plan Community	Long term with a four year delivery focus. Planning for the vision and aspirations of the Adelaide Capital City.
Long-Term Financial Plan Financial	Ten year Plan, revised annually to ensure a ten year view is maintained. Planning for the long-term financial sustainability of the City of Adelaide.
Asset Management Plans Infrastructure	Suite of ten year Plans. Planning for the sustainable renewal and maintenance of Council assets.
City Plan Development / Built Form	Ten year Spatial Plan. Planning for the future land uses and built form of the Adelaide Capital City.

Through the City of Adelaide Strategic Plan 2024-2028, Council's vision is:

Our Adelaide. Bold. Aspirational. Innovative.

Achieving our vision for the future will be guided by our long term aspirations:

Our Community: Vibrant, connected and inclusive
Our Environment: Resilient, protected and sustainable
Our Economy: Growing, innovative and responsive
Our Places: Interesting, purposeful and safe
Our Corporation: High performing, customer-centric and bold

As Adelaide grows, we will need to consider economic vitality, social connectivity and wellbeing, distinctive precincts, environmental and financial sustainability, asset management and service delivery. To ensure we maintain our liveability and to support growth, these principles will underpin everything we do:

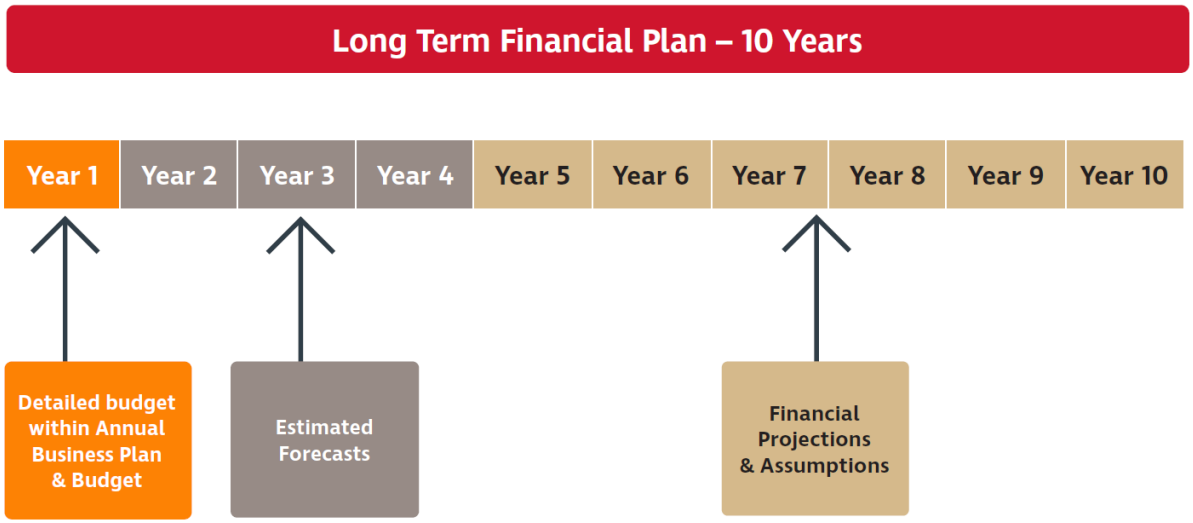
- Exceptional Amenity - Be bold and courageous in our pursuit of excellence for our city.
- Quality Housing - Strive for liveability and affordability to attract and retain residents.
- Community Connection - Strengthen connection, accessibility, diversity and inclusivity by putting people first.
- Unique Experiences - Create interesting experiences for our residents, workers and visitors.
- Climate Resilience - Embed climate resilience in all that we do.
- Economic Growth - Encourage innovation, investment and development in current and emerging sectors.
- Budget Repair - Provide quality services and ensure long-term financial sustainability

The Strategic Plan is supported by a suite of long and short-term strategies and action plans as well as a Resource Plan. The Resource Plan will provide a 4-year view of the projects, resources, and budgets required to deliver our Strategic Plan objectives. It informs the Long-Term Financial Plan (as shown in Figure 3.2) and acts as the key link between the Strategic Plan and Annual Business Plan & Budget, providing transparency between our vision and the key projects we deliver.

Integrated Delivery Planning ensures that prudent and efficient decisions are made, with line-of-sight between Council's Strategic Plan objectives and the major infrastructure projects we deliver. While this Asset Management Plan does not identify financial forecasts associated with new and upgrade projects, it does ensure required asset renewals are aligned (where practical) with key new and upgrade projects specified within the Resource Plan. Infrastructure projects will reference the Adelaide Design Manual for transformational projects supported by upgrade/new funding allocated with the Resource Plan and Long-Term Financial Plan.

Each year our annual business plan and budget formalises funding allocations to continue providing services and progress new projects. It enables existing projects to move from one delivery stage to the next (e.g. progress concept design to detailed design and detailed design to construction) as well as consider emerging risks and opportunities that may result from Council decisions, community requests or other external factors.

Figure 3.2: Long-Term Financial Plan



The relevant aspirations and objectives of the City of Adelaide 2024-2028 Strategic Plan and how they are considered within this Asset Management Plan are summarised in Table 3.2-2.

Table 3.2-2: Strategic aspirations, objectives and outcomes and how these are considered in this Plan

Aspirations	Objectives	Outcomes	Asset Management Alignment
Our Communities *Vibrant, connected and inclusive*	Support our communities thrive Create fun, lively and interesting experiences Celebrate and honour community and cultures	Drive affordable, safe and quality housing outcomes that attract and retain residents in our city An interesting and engaging place to live, learn and visit An inclusive, equitable and welcoming community where people feel a sense of belonging	• Create welcoming civic infrastructure that enables City growth and fosters community connections through the adoption of universal and sustainable design principles • Create enabling infrastructure to support world class events, festivals and activation • Support the development of new cultural and civic infrastructure • Deliver key infrastructure projects and programs outlined within the Disability Access and Inclusion Plan • Deliver asset renewal and asset maintenance programs to ensure our assets are safe for people of all ages and abilities
Our Environment *Resilient, protected and sustainable*	Protect, enhance, and activate our Park Lands and open space Be climate conscious and resilient Prioritise sustainability in our decisions for the future	Lead as a Low Carbon Emissions City A sustainable city where climate resilience is embedded in all that we do The status, attributes and character of our green spaces and the Park Lands are protected and strengthened	• Increase the use of recycled or sustainable materials • Implement sustainable, renewable and green systems, infrastructure, practices and materials in our projects and services • Adapt to climate change and enhancing our climate resilience through upgrading our existing assets and creating new assets • Ensure all asset investment (design, construct and maintenance) considers and embeds appropriate climate resilience measures • Enhance the environmental value, productivity, quality and biodiversity of the Park Lands, squares, open space and streetscapes • Protect and restore native habitat in our city • Increase in tree canopy cover and green spaces
Our Economy *Growing, innovative and responsive*	Continue to grow our economy in alignment with the Community Support existing businesses to be agile and responsive to change Create strong skilled workforces	Adelaide's unique experiences and opportunities attract visitors to our city Achieve a critical mass of jobs and investment and attract and retain businesses by growing a dynamic, holistic economy Council is driving development opportunities for our community via diverse commercial activities	• Deliver infrastructure upgrade projects to attract increased visitation into the City and promote business development and economic growth • Explore project partnership opportunities with State Government, developers and other third-parties
Our Places *Interesting, purposeful and safe*	Manage assets to meet the needs of our community Encourage bold, interesting and purposeful development Facilitate and activate our places in a safe and accessible way for our community	Community assets are adaptable and responsibly maintained Encourage bold, interesting and purposeful development that supports the changing needs of our community and city Create safe, inclusive and healthy places for our community	• Deliver asset renewal and asset maintenance programs to ensure our assets are safe for people of all ages and abilities • Ongoing review of asset management strategies and technical standards to optimise whole-of-life costs • Continue to undertake regular condition audits and revaluation for all our transport assets within the nominated 4-year cycles, including regular review of asset useful lives • Deliver quality street and laneway upgrades, main streets, precincts and neighbourhood revitalisation and improvements that make Adelaide well-designed, safe and unique • Support the creation of multi-use green spaces such as open space, community gardens and pocket parks that enable shared use and community connection • Deliver Park Land and Streetscape improvements to cater for emerging community needs • Improve accessibility and connectivity for pedestrians, cyclists, and public transport users through delivering key projects from the integrated transport strategy (under development) • Preserve and promote heritage assets • Maintain and improve disability access and inclusion

3.3 Legislative Requirements

There are many legislative requirements relating to the management of infrastructure assets including Australian Legislation, State Legislation and State Regulations. Legislative requirements relevant to the Transport Asset Management Plan are outlined in Table 3.3.

Table 3.3: Legislative Requirements

Legislation	Requirement
Aboriginal Heritage Act 1988	An Act to provide for the protection and preservation of the Aboriginal heritage
Adelaide Park Lands Act 2005	An Act and Framework that promotes the special status, attributes, and character of the Adelaide Park Lands; to provide for the protection of those Park Lands and their management as a world class asset to be preserved as an urban park for the benefit of present and future generations
Australian Accounting Standards	Standards that set out the financial reporting standards relating to the revaluation and depreciation of assets
Australian Standards	All of Council's infrastructure projects are undertaken in accordance with Australian Standards, or in the absence of, best practice guidelines
Australian Road Rules 1999	The Australian Road Rules have been made into regulations under the Road Traffic Act (South Australia) and came into operation throughout Australia on 1 December 1999
City of Adelaide Act 1998	An Act to establish mechanisms to enhance the role of the city of Adelaide as the capital city of South Australia; to make special provision in relation to the local governance of the city of Adelaide; and for other purposes
Civil Liability Act 1936	An Act to outline liability of road authorities under Section 42
Code of Technical Requirements (Part 2)	Outlines the design and construction parameters to which traffic management devices must comply.
Development Act 1993	An Act to provide for planning and regulate development in the state; to regulate the use of management of land and building; and for other purposes
Disability Discrimination Act 1992	An Act to provide protection for everyone in Australia against discrimination based on disability. It encourages everyone to be involved in implementing the Act and to share in the overall benefits to the community and the economy that flow from participation by the widest range of people
Environmental Protection Act 1993	An Act to provide for the protection of the environment: to establish the Environmental Protection Authority and define functions and powers and for other purposes

Highways Act 1926	An Act to provide for the appointment of a Commissioner of Highways and to make further and better provisions for the construction and maintenance of roads and works and for other purposes
Linear Parks Act 2006	An Act to provide the protection of the River Torrens Linear Park, as world-class assets to be preserved as public parks for the benefit of present and future generations
Local Government Act 1999	An Act to set out the role, purpose, responsibilities, and powers of local governments including the preparation of a Long-Term Financial Plan supported by asset management plans for sustainable service delivery
Roads (Opening and Closing) Act 1991	An Act to provide for the opening and closing of roads and allows for formalisation of roadway status
Road Traffic Act 1961	An Act to prescribe the duties of road users; to provide for nationally consistent road rules; to provide for vehicle standards, mass, and loading requirements; to provide for the installation, use, and maintenance of traffic control devices; to provide for the closing of roads for traffic management and other purposes
State Records Act 1997	An Act to ensure Local Government's record and store all relevant information as set out by the State Government of South Australia
Work Health and Safety Act 2012	Provides minimum standards for health and safety of individuals performing works

3.4 Customer Levels of Service

Customer Levels of Service measure how the community receives a service and whether the organisation is providing community value. Levels of service are monitored and adjusted from the public consultation process, customer satisfaction surveys and customer service centre feedback.

The Customer Levels of Service are considered in terms of:

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

In Tables 3.4 under each of the service measures types (Quality, Function, Capacity) 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.

Table 3.4.a-b: Customer Level of Service Measures (Roads, includes Kerb and Watertable)

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Current Budget
Quality	Condition - Roads are free from hazards and are in a condition appropriate for use	Customer service requests relating to reported road hazards	2022 - 105 requests Past 4 years – average 124/year	Customer service requests are expected to increase as the road network deteriorates
		Customer service requests relating to reported kerbing defects	2022 - 18 requests Past 4 years – average 14/year	Customer service requests are expected to increase as the kerb network deteriorates
		Customer satisfaction rating from survey results relating to road maintenance	Cyclists - 67% Motorists – 93%	Customer satisfaction ratings are expected to decrease as the road network deteriorates
	Confidence levels		**Medium**	**Medium**
	Amenity - Roads are clean and free of debris and rubbish	Customer service requests relating to reported road cleanliness issues	2022 - 165 requests Past 4 years – average 163/year	Customer service requests are expected to stay the same
		Customer satisfaction survey results relating to road cleanliness	Cyclists - 76% Motorists - 89%	Customer satisfaction ratings are expected to stay the same
	Confidence levels		**Medium**	**Medium**
Function	Accessibility - Road network is well connected and accessible allowing for efficient movements	Customer satisfaction surveys relating to road accessibility	Cyclists – 49% Motorists – 85%	Subject to Council adoption of upgrade/new projects through Business Plan and Budget
	Confidence levels		**Medium**	**Medium**
	Fit for Purpose - Road network provides adequate facilities to enable multi-modal transport options (buses, cyclists)	Customer service requests relating to unsatisfactory on-road cycling facilities	2022 - 27 requests Past 4 Years – average 23/year	Subject to Council adoption of upgrade/new projects through Business Plan and Budget
		Customer satisfaction surveys relating to road infrastructure meeting user needs	Cyclists – 37% Motorists – 89%	Subject to Council adoption of upgrade/new projects through Business Plan and Budget
	Confidence levels		**Medium**	**Medium**
	Safety – Road network accommodates safe movements of vehicles and cyclists	Number of incidents and casualties reported in road crash data within City of Adelaide (Casualties: treated injuries and fatalities)	2022 – 549 incidents (182 casualties) Past 4 Years - average 607incidents /year (average 230.25 casualties/year)	Subject to Council adoption of upgrade/new projects through Business Plan and Budget
		Customer satisfaction surveys relating to road safety	Cyclists – 31% Motorists –81%	Subject to Council adoption of upgrade/new projects through Business Plan and Budget
	Confidence levels		**Medium**	**Medium**
Capacity	Capacity – Roads network has adequate capacity to minimise traffic congestion and delays	Customer service requests relating to congestion and delays.	2022 - 151 requests Past 4 years – average 186/year	Subject to Council adoption of upgrade/new projects through Business Plan and Budget
	Confidence levels		**Medium**	**Medium**

Table 3.4.c: Customer Level of Service Measures (Footpaths)

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Current Budget
Quality	Condition – Footpaths are free from hazards and are in a condition appropriate for use	Customer service requests relating to reported footpath and cycle path hazards	2022 – 164 requests Past 4 years – average 181/year	Customer service requests are expected to increase as the footpath network deteriorates
		Customer satisfaction survey results relating to footpath and cycle path maintenance	Pedestrians – 81% * Cyclists – 88% ^	Customer satisfaction ratings are expected to decrease as the footpath network deteriorates
	Confidence levels		**Medium**	**Medium**
	Amenity - Footpaths are clean and free of debris and rubbish	Customer service requests relating to reported footpath cleanliness	2022 – 181 requests Past 4 years – average 265/year	Customer service requests are expected to stay the same
		Customer satisfaction survey results relating to footpath cleanliness	Pedestrians - 76%	Customer satisfaction ratings are expected to stay the same
	Confidence levels		**Medium**	**Medium**
Function	Accessibility - Footpath network is well connected and accessible to users allowing for efficient movements	Customer satisfaction surveys relating to footpath accessibility	Pedestrians - 86% * Cyclists – 91% ^	Subject to Council adoption of upgrade/new projects through Business Plan and Budget
	Confidence levels		**Medium**	**Medium**
	Fit for Purpose - Footpath network provides adequate facilities to enable multi-modal transport options (pedestrians, cyclists, public transport interchange)	Customer satisfaction surveys relating to footpath infrastructure meet user needs	Pedestrians – 87% * Cyclists – 82% ^	Subject to Council adoption of upgrade/new projects through Business Plan and Budget
	Confidence levels		**Medium**	**Medium**
	Safety – Footpath network accommodates safe movements of pedestrians and cyclists	Customer satisfaction surveys relating to footpath and cycle path safety	Pedestrians - 78% * Cyclists – 84% ^	Subject to Council adoption of upgrade/new projects through Business Plan and Budget
	Confidence levels		**Medium**	**Medium**
Capacity	Capacity – Footpath network has adequate capacity to minimise congestion and delays	Customer service requests relating to congestion	2022 – 12 requests Past 4 years average – 20 per year	Subject to Council adoption of upgrade/new projects through Business Plan and Budget
	Confidence levels		**Medium**	**Medium**

* Customer satisfaction index represents average scores from City Streets and Park Lands indices
^ Customer satisfaction index represents scores from Park Lands only

Table 3.4.d: Customer Level of Service Measures (Bridges)

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Current Budget
Quality	Condition - Bridges are free from hazards and are in a condition appropriate for use	Customer service requests relating to reported bridge hazards and maintenance	2022 - 3 requests Past 4 years – average 6/year	Customer service requests are expected to increase as the bridge network deteriorates
	Confidence levels		**Medium**	**Medium**
	Amenity - Bridges are clean and free of debris, rubbish, and graffiti	Customer service requests relating to reported bridge cleanliness issues, including graffiti	2022 - 34 requests Past 4 years – average 20/year	Customer service requests are expected to remain the same
	Confidence levels		**Medium**	**Medium**
Function	Accessibility - Bridge network enables access to provide for efficient movements	Customer service requests relating to bridge accessibility	2022 - 0 requests Past 4 years – average 3/year	Subject to Council adoption of upgrade/new projects through Business Plan and Budget
	Confidence levels		**Medium**	**Medium**
	Safety – Bridge network accommodates safe movements of vehicles and cyclists	Customer service requests relating to reported bridge safety incidents	2022 - 0 requests Past 4 years – average 1/year	Subject to Council adoption of upgrade/new projects through Business Plan and Budget
	Confidence levels		**Medium**	**Medium**
Capacity	Structural Capacity – Bridge assets have adequate load capacity to cater for demand	Customer service requests relating to incompatible loadings with signed load limits	2022 - 2 requests Past 4 years – average 2/year	Customer service requests are expected to remain the same
	Confidence levels		**Medium**	**Medium**

Table 3.4.e: Customer Level of Service Measures (Traffic Signals)

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Current Budget
Quality	Condition – Traffic Signals are operational and are in a condition appropriate for use	Customer service requests relating to traffic signal faults and maintenance issue	2022 – 55 requests Past 4 years average - 54/year	Customer service requests are expected to increase as the traffic signal network deteriorates
	Confidence levels		**Medium**	**Medium**
Function	Fit for Purpose – Signalised Intersections have the functionality to enable efficient movements for all modes of transport (e.g. pedestrians, cyclists, public transport, private vehicles)	Customer service requests relating to signal optimisation and timing/sequencings issues	2022 – 59 requests Past 4 years average - 21/year	Expected to gradually decrease over time as system optimisation improvements are implemented
		Percentage of signalised intersection connected to SCATS Network, to enable optimised sequencing based off demand	94%	Subject to Council adoption of upgrade/new projects through Business Plan and Budget
	Confidence levels		**High**	**High**
Capacity	Capacity – Appropriate number of signalised intersection/crossing sites to meet demand	Customer service requests relating to new signalised intersection and crossing locations	2022 – 8 requests Previous 4 years average – 2/year	Subject to Council adoption of upgrade/new projects through Business Plan and Budget
	Confidence levels		**Medium**	**Medium**

3.5 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 stormwater pipe 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, stormwater pipe replacement and building component replacement)
- **Disposal** – the activities to remove and/or dispose of an asset that may be considered as underperforming, underutilised or obsolete

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

Table 3.5 shows the activities expected to be provided under the current 10 year Planned Budget allocation, and the Forecast activity requirements being recommended in this Asset Management Plan.

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.

Table 3.5.a-b: Technical Levels of Service (Roads, includes Kerb and Watertable)

Lifecycle Category	Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance	Recommended Performance
Acquisition (upgrade/new)	Upgrade / New Projects	To upgrade and further develop the road network to ensure it safe, fit-for-purpose and meets the needs of the community	Delivery of key upgrade/new projects	Upgrade/new projects aligned to Strategic Plan objectives are initiated through the Business Plan and Budget process on an annual basis, where projects are evaluated and prioritised based on strategic alignment and financial capacity.	Upgrade/new projects aligned to Strategic Plan objectives are informed by City Plan, with financial requirements accommodated into the Long-Term Financial Plan. Initiatives are confirmed to proceed annually through the Business Plan and budget process.
			Budget:	As adopted annually in BP&B	To be developed
Operation	Condition Audits	To collect asset condition data to inform capital renewal planning and revaluation	Frequency of full condition audit of road network	Every 4 years	Every 4 years
	Street Sweeping	To ensure roads are clean and free of debris	Street sweeping frequency	Category 1 – Swept Daily Category 2 – Swept Weekly Category 3 – As required based on inspection	To be reviewed with planned updates to operations and maintenance standards
	Line Marking Reapplication	To ensure road markings are visible and enable safe travel movements	Completion of line marking reapplication works	Line marking works are completed following performance-based inspections	To be reviewed with planned updates to operations and maintenance standards
			Budget	Condition Audits –$300,000 (every 4 years) Street Sweeping – $980,000 Line Marking – $530,000	To be reviewed with planned updates to operations and maintenance standards
Maintenance	Maintenance Audits	To ensure road defects are proactively identified and prioritised	Frequency of road network maintenance audits	Category 1 – 6 Monthly Category 2 – 12 Monthly Category 3 – 18 Monthly	To be reviewed with planned updates to operations and maintenance standards
	Maintenance Activities	To ensure roads are maintained in a serviceable condition free of hazards	Completion of planned and reactive maintenance	Maintenance works are delivered based on priority (location and severity) with consideration of available budget	To be reviewed with planned updates to operations and maintenance standards
			Budget	Road Maintenance - $1,040,000 Kerb Maintenance - $465,000	To be reviewed with planned updates to operations and maintenance standards
Renewal	Renewal Projects	To ensure assets are renewed, providing service in line with community expectations at lowest lifecycle costs	% road and kerb assets in condition 4 & 5	Condition 4 - 7% Condition 5 - 0%	Condition 4 – less than 5% Condition 5 – 0%
			Asset renewal funding ratio	90% (existing Asset Management Plan)	100% (assuming budget is adopted)
			Budget	Roads - $5,850,000 Kerb -$1,846,000	Roads - $9,500,000 (10 Year Average) Kerb - $3,078,500 (10 Year Average)
Disposal	Disposals Projects	To ensure that assets that may be underperforming, underutilised or obsolete are removed from service.	Disposal of assets	Major assets are recommended for disposal through Council decision, with financial requirements identified and incorporated through the Business Plan and Budget	Major assets are recommended for disposal through Council decision, with financial requirements identified and incorporated through the Business Plan and Budget
			Budget	As adopted annually in BP&B	As adopted annually in BP&B

Table 3.5.c: Technical Levels of Service (Footpaths)

Lifecycle Category	Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance	Recommended Performance
Acquisition (upgrade/new)	Upgrade / New Projects	To upgrade and further develop the footpath and cycleway network to ensure it safe, fit-for-purpose and meets the needs of the community	Delivery of key upgrade/new projects	Upgrade/new projects aligned to Strategic Plan objectives are initiated through the Business Plan and Budget process on an annual basis, where projects are evaluated and prioritised based on strategic alignment and financial capacity.	Upgrade/new projects aligned to Strategic Plan objectives are informed by City Plan, with financial requirements accommodated into the Long-Term Financial Plan. Initiatives are confirmed to proceed annually through the Business Plan and budget process.
			Budget:	As adopted annually in BP&B	To be developed
Operation	Condition Audits	To collect asset condition data to inform capital renewal planning and revaluation	Condition audit frequency of entire footpath network	Every 4 years	Every 4 years
	Footpath Sweeping	To ensure footpaths are clean and free of debris	Footpath sweeping frequency	Category 1 – Swept Daily Category 2 - Swept Weekly Category 3 – Informed by daily inspections	To be reviewed with planned updates to operations and maintenance standards
	Footpath Scrubbing	To ensure footpaths are clean and free of debris	Footpath scrubbing frequency	Category 1 - Scrubbed daily Category 2 – Scrubbed twice a week Category 3 – Scrubbed once a week Category 4 – Scrubbed once a fortnight Category 5 – Informed by daily inspections	To be reviewed with planned updates to operations and maintenance standards
			Budget	Condition Audits – $150k (every 4 years) Footpath Scrubbing - $480,000 Footpath Sweeping - $980,000	To be reviewed with planned updates to operations and maintenance standards
Maintenance	Maintenance Audits	To ensure footpath defects and line marking requirements are proactively identified and prioritised.	Frequency of footpath network maintenance audits	Category 1 – 6 Monthly Category 2 – 12 Monthly Category 3 – 18 Monthly	To be reviewed with planned updates to operations and maintenance standards
	Maintenance Activities	To ensure footpaths are maintained in a serviceable condition free of hazards	Completion of planned and reactive maintenance	Maintenance works are delivered based on priority (location and severity) with consideration of available budget	To be reviewed with planned updates to operations and maintenance standards
			Budget	Footpath Maintenance - $1,640,000	To be reviewed with planned updates to operations and maintenance standards
Renewal	Renewal Projects	To ensure assets are renewed, providing service in line with community expectations at lowest lifecycle costs	% paths in condition 4 & 5	Condition 4 - 1 % Condition 5 - 0 %	Condition 4 – less than 5% Condition 5 - 0 %
			Asset renewal funding ratio	90% (existing Asset Management Plan)	100% (assuming budget is adopted)
			Budget	$5,174,000	$9,850,000 (10 Year Average)
Disposal	Disposals Projects	To ensure that assets that may be underperforming, underutilised or obsolete are removed from service.	Disposal of assets	Major assets are recommended for disposal through Council decision, with financial requirements identified and incorporated through the Business Plan and Budget	Major assets are recommended for disposal through Council decision, with financial requirements identified and incorporated through the Business Plan and Budget
			Budget	As adopted annually in BP&B	As adopted annually in BP&B

Table 3.5.d: Technical Levels of Service (Bridges)

Lifecycle Category	Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance	Recommended Performance
Acquisition (upgrade/new)	Upgrade / New Projects	To upgrade and further develop the bridge network to ensure it safe, fit-for-purpose and meets the needs of the community	Delivery of key upgrade/new projects	Upgrade/new projects aligned to Strategic Plan objectives are initiated through the Business Plan and Budget process on an annual basis, where projects are evaluated and prioritised based on strategic alignment and financial capacity.	Upgrade/new projects aligned to Strategic Plan objectives are informed by City Plan, with financial requirements accommodated into the Long-Term Financial Plan. Initiatives are confirmed to proceed annually through the Business Plan and budget process.
			Budget:	As adopted annually in BP&B	To be developed
Operation	Condition Audits	To collect asset condition data to inform capital renewal planning and revaluation	Condition audit frequency of all bridges	Level 2 Inspection: - Every 4 years Level 1 Inspection – Every Year Increased frequency for assets approaching end of serviceable life	Level 2 Inspection: - Every 4 years Level 1 Inspection – Every Year Increased frequency for assets approaching end of serviceable life
			Budget	Condition Audits – $250,000 (every 4 years)	Condition Audits – $250,000 (every 4 years)
Maintenance	Maintenance Audits	To ensure bridge defects are proactively identified and prioritised	% of bridge network audited on an annual basis	100%	100%
	Maintenance Activities	To ensure bridges are maintained in a serviceable condition free of hazards	Completion of planned and reactive maintenance	Maintenance works are delivered based on recommendations from engineering inspections	Maintenance works are delivered based on recommendations from engineering inspections
			Budget	$230k	Determined on an annual basis
Renewal	Renewal Projects	To ensure assets are renewed, providing service in line with community expectations at lowest lifecycle costs	% of bridges in condition 4 & 5	Condition 4 - 30% Condition 5 - 0 %	Condition 4 – 0% Condition 5 – 0%
			Asset renewal funding ratio	90% (existing Asset Management Plan)	100% (assuming budget is adopted)
			Budget	$2,159,000	$7,262,000 (10 Year Average)
Disposal	Disposals Projects	To ensure that assets that may be underperforming, underutilised or obsolete are removed from service.	Disposal of assets	Major assets are recommended for disposal through Council decision, with financial requirements identified and incorporated through the Business Plan and Budget	Major assets are recommended for disposal through Council decision, with financial requirements identified and incorporated through the Business Plan and Budget
			Budget	As adopted annually in BP&B	As adopted annually in BP&B

Table 3.5.e: Technical Levels of Service (Traffic Signals)

Lifecycle Category	Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance	Recommended Performance
Acquisition (upgrade/new)	Upgrade / New Projects	To upgrade and further develop the traffic signal network to ensure it safe, fit-for-purpose and meets the needs of the community	Delivery of key upgrade/new projects	Upgrade/new projects aligned to Strategic Plan objectives are initiated through the Business Plan and Budget process on an annual basis, where projects are evaluated and prioritised based on strategic alignment and financial capacity.	Upgrade/new projects aligned to Strategic Plan objectives are informed by City Plan, with financial requirements accommodated into the Long-Term Financial Plan. Initiatives are confirmed to proceed annually through the Business Plan and budget process.
			Budget:	As adopted annually in BP&B	To be developed
Operation	Condition Audits	To collect asset condition data to inform capital renewal planning and revaluation	Full condition audit of traffic signal network	Every 4 years	Every 4 years
	SCATS Management Service	Ongoing management service with DIT to manage traffic signals operations through SCATS	Managed service is provided by DIT in accordance with agreement.	Managed service is provided by DIT in accordance with agreement.	Managed service is provided by DIT in accordance with agreement.
	Power Supply	Utility costs associated with providing power to operate signalised intersections	Ongoing power supply to operate traffic signals	Ongoing power supply to operate traffic signals	Ongoing power supply to operate traffic signals
			Budget	Condition Audits: $250,000/4yrs SCATS Fee: $422,000/Year Power Supply : $104,000/Year	Condition Audits: $250,000/4yrs SCATS Fee: $422,000/Year Power Supply : $104,000/Year
Maintenance	Maintenance Audits	To ensure Traffic Signal Network defects are proactively identified prior to faults occurring.	Maintenance inspections of traffic signal network	Each site inspected every 6 months	To be reviewed with planned updates to operations and maintenance standards
	Maintenance Activities	To ensure traffic signals are maintained in a serviceable condition free of hazards to enable reliable and ongoing service provision	Planned and reactive maintenance works are complete within contracted KPI timeframes	Priority 1 – make safe within 1 hour Priority 2 – rectify within 1 working day Priority 3a – rectify within 5 working days Priority 3b – rectify within 10 working days	To be reviewed with planned updates to operations and maintenance standards
			Budget	$496,000	To be reviewed with planned updates to operations and maintenance standards
Renewal	Renewal Projects	To ensure assets are renewed, providing service in line with community expectations at lowest lifecycle costs	% of traffic signal network in condition 5	22%	Less than 5 %
			Asset renewal funding ratio	90% (existing Asset Management Plan)	100% (assuming budget is adopted)
			Budget	$2,255,000	*$3,860,00 (10 Year Average)*
Disposal	Disposals Projects	To ensure that assets that may be underperforming, underutilised or obsolete are removed from service.	Disposal of assets	Major assets are recommended for disposal through Council decision, with financial requirements identified and incorporated through the Business Plan and Budget	Major assets are recommended for disposal through Council decision, with financial requirements identified and incorporated through the Business Plan and Budget
			Budget	As adopted annually in BP&B	As adopted annually in BP&B

4.0 FUTURE DEMAND

4.1 Demand Drivers

The drivers affecting demand on assets include population change, regulations, changes in demographics, seasonal factors, vehicle ownership rates, consumer preferences and expectations, technological changes, economic factors, and environmental impacts.

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 also include non-asset solutions with a focus on providing the required service without the need for the organisation to invest in new or upgraded infrastructure. Management actions could include reducing the demand for the service or educating users around alternative options. It is important to ensure that these strategies consider the associated risks and consequences.

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

Table 4.3: Demand Management Plan

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
City Growth	2021 Statistics: Residents - 25,551 Businesses – 11,519 Daily Visitors – 321,500	2041 Forecast: 46,000 residents 2036 Target: 50,000 residents Anticipated ongoing business growth in line with residential city growth and South Australian State growth projections Anticipated daily visitor growth in line with South Australian State growth projections	City growth will place increasing demands on transport infrastructure, with growing volumes of pedestrians, motorists, cyclists, and public transport users using the network to get into and around the City. This will result in increased level of service expectations as well as competing demands for the services provided by our transport assets (e.g. off street parking, pedestrian, cycling and public transport infrastructure).	Delivery of prioritised upgrade/new projects identified in the Strategic Plan and key Corporate planning documents (referenced in Section 2.1) to enhance the transport network and accommodate city growth through upgrading existing assets and creating new assets to align service provision with the evolving needs of the community. This Asset Management Plan will ensure asset renewals will consider and align where practical with these key upgrade/new initiatives.
Changing Demographic	2021 Statistics 0 to 11 Years 1,246 (5%) 12 to 17 Years 587 (2%) 18 to 34 Years 12,117 (51%) 35 to 49 Years 4,409 (19%) 50 to 59 Years 2,281 (10%) 60 to 69 Years 2,233 (10%) 70 Years & Above 2,633 (3%)	2041 Forecast 0 to 11 Years 2,633 (6%) 12 to 17 Years 1,501 (3%) 18 to 34 Years 21,771 (47%) 35 to 49 Years 8,933 (19%) 50 to 59 Years 4,272 (9%) 60 to 69 Years 3,274 (7%) 70 Years & Above 4,175 (9%)	Changing expectations from a culturally and demographically diverse customer base will result in our transport network being subject to new demands. This will result in competing demands for the services provided by our transport assets (e.g. parking, cycling, public transport) and with a forecast aging population, there will be increasing demands for higher levels of service to ensure transport infrastructure is safe, accessible and well connected for people of all ages and abilities.	Ongoing engagement with city users through annual City User Profile surveys, and ensuring that Strategic Documents are updated on a cyclic basis to reflect changes with community expectations. Delivery of prioritised upgrade/new projects identified in the Strategic Plan and key Corporate planning documents (referenced in Section 2.1) to align service provision with the evolving needs of the community. This Asset Management Plan will ensure asset renewals will consider and align where practical with these key upgrade/new initiatives.
Tourism & Event Growth	A key objective in Council's 2023-24 Business Plan and Budget was to provide 'year round' events that attract people to visit the City. Investment in public infrastructure has also been identified as part of the South Australian Tourism Plan (2020) and the SA Visitor Economy Sector Plan 2030. In 2020 annual tourism expenditure in Adelaide was estimated to be approximately $3.9 billion	Cultural and event infrastructure will be an ongoing and increasing priority for both the City of Adelaide and South Australian State Government. It is projected that annual tourism expenditure will continue to grow and it is estimated to be $7.7 billion/year by 2030.	Increasing demands on transport infrastructure to facilitate tourism and event growth by supporting new cultural, civic and event infrastructure in the City and connecting city users to place through curated city experiences.	Delivery of prioritised upgrade/new projects identified in the Strategic Plan and key Corporate planning documents (referenced in Section 2.1) to support tourism and event growth. This Asset Management Plan will ensure asset renewals will be consider and align where practical with these key upgrade/new initiatives.

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
Environmental Sustainability & Carbon Neutrality	Changes to the global climate (climate change) are clear. There are documented increases in the average air and ocean temperature, widespread melting of snow and ice, and rising average sea levels. City of Adelaide's 2020-2024 Strategic Plan has an objective to become one of the world's first carbon neutral cities by 2025. Additionally, a Climate Action Plan (2022-2025) has been developed to ensure we continue to drive down our carbon footprint and mitigate climate impacts for our residents and visitors. Currently City of Adelaide include recycled materials in transport projects, where there is demonstrated environmental benefits that also consider cost and performance.	Inaction to climate change and climate risk will result in negative health impacts to our community and potentially impact to our businesses and economy. Reduced water availability and increasing heat will result in increased stress and resources required for maintaining and operating our assets. To effectively manage climate change and climate risk Council will need to continue to respond through substantial reductions in greenhouse gases (mitigation controls) and helping to prepare for and respond to the changing climate (adaptation controls).	There will be an increased demand to ensure we utilise more environmentally sustainable materials and construction techniques for transport projects, with lower carbon footprint and improved circular economy outcomes. Additionally, there will also be increasing community demand for improved public transport services and cycling infrastructure to support active modes of transport with reduced carbon emissions. The increasing uptake in electric vehicle usage for both public transport and private commuter vehicles, will place additional demand on the structural capacity of our pavements and bridges, due to increased vehicle loadings associated with more substantial battery mass.	Our Strategic Planning, Asset Management and Project Delivery (including design and procurement) will continue to focus on ensuring that climate risk mitigation and adaption is a key focus. Ongoing reviews and updates to our design standards and technical specifications to ensure our assets transition towards having a lower carbon footprint with improved circular economy outcomes, as well as ensure they are more resilient to withstand extreme weather events. Delivery of prioritised upgrade/new projects identified in the Strategic Plan and key corporate planning documents (referenced in Section 2.1), which support environmental sustainability and climate risk mitigation and adaptation. This Asset Management Plan will ensure asset renewals will consider and align where practical with these key upgrade/new initiatives.
Emerging Technology	Asset construction techniques and associated materials are currently undertaken in line with industry standards	Alternative construction techniques and materials with durability and sustainability benefits will continue to become more readily available and standardised.	Improvements in construction techniques and materials could result in improved asset durability, increased asset lifespans, reduced whole-of-life costs and improved environmental outcomes.	Continue to partner with industry, to monitor and evaluate new and emerging technologies, with trials of new materials, approaches, and methodologies to inform appropriate changes to standards and practices.
	Asset management systems and condition audit methodologies are in line with industry standards and best practice.	Asset management systems and technology will continue to evolve over time, particularly with respect to the collection of condition data and monitoring of asset deterioration over time.	Improved asset information and systems will enable improved decision making and efficiencies with respect to optimising whole-of-life-costs and managing asset risks.	
	Intelligent transport systems are currently used to control traffic signals and manage traffic flow to enhance the efficiency of our transport network.	Intelligent transport systems are continually being developed and enhanced. It is anticipated they will provide further opportunities to optimise communications and connections between transport and people through artificial intelligence, smart technologies, mobility solutions and driverless vehicles.	Enhancements to intelligent transport systems will introduce efficiencies into the transport network, and potentially result in new and enhanced services being provided through emerging technologies.	
Legislation & Regulation	Legislation exists which outlines requirements for how Council's must manage infrastructure assets.	There is potential for future changes to legislation will influence how Council's infrastructure is managed.	New legislation may impose or require changes to asset management planning principles and activities. They may include requirements that have a financial and/or service level impact that must be met.	Continue to monitor changes to legislation and ensure appropriate adaptation into asset management practices. Any material impacts would be considered as part of the Annual Business Plan and Budget process and included in the next revision of the Asset Management Plan.

4.4 Asset Programs to meet Demand

The new assets required to meet demand will be acquired, donated or constructed. Additional assets are discussed in Section 5.5.

Acquiring new assets will commit City of Adelaide 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.

All upgrade/new projects responding to demand will involve developing business cases, cost estimates and facilitating decision making to integrate upgrade/new project initiatives with operational asset management planning and the Long-Term Financial Plan. This process will be facilitated with Council and the Community through the Annual Business Plan & Budget Process.

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. 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

Table 4.5 Managing the Impact of Climate Change on Transport Assets and Services

Climate Change Description	Projected Change	Potential Impact on Assets and Services	Management
Increasing temperatures and more frequent, long-running and intense heatwaves	The number of days over 40°C to double by 2050 Average temperatures to increase across all seasons by between 1.5°C and 2°C by 2050	Increased heat related damage to assets including bitumen softening, accelerated asphalt oxidisation and concrete cracking. Reduced lifespan of transport assets Increased costs to provide the same level of service Premature obsolescence as functionality is not met	Strategic Planning, Asset Management and Project Delivery (including design and procurement) will continue to focus on ensuring that climate risk mitigation and adaption is a key focus. Mitigation and adaptation measures will include: • Ongoing reviews and updates to our design standards and technical specifications to ensure our assets transition towards having a lower carbon footprint with improved circular economy outcomes as well as ensure they are more resilient to withstand extreme heat events • Proactively reviewing our asset management strategies with respect to the impacts of climate change, to ensure we continue to provide the agreed level of service at the lowest lifecycle cost • Reducing the impacts of heat through increasing canopy cover and providing additional rest and refuge areas for the community
Less rain overall but more intense storms and flooding	Average annual rainfall to decrease by 7% by 2050 Intensity of heavy rainfall events to increase by at least 10% by 2050	Increased stormwater related damage to assets including earth, rubble and concrete erosion resulting in a loss of structural integrity/strength Reduced lifespan of transport assets Increased costs to provide the same level of service Premature obsolescence as functionality is not met (e.g. bridge inundated by open channel flows)	Strategic Planning, Asset Management and Project Delivery (including design and procurement) will continue to focus on ensuring that climate risk mitigation and adaption is a key focus. Mitigation and adaptation measures will consider: • Ongoing reviews and updates to our design standards and technical specifications to ensure our assets transition towards having a lower carbon footprint with improved circular economy outcomes as well as ensure they are more resilient to increased flood risk and inundation • Proactively reviewing our asset management strategies with respect to the impacts of climate change, to ensure we continue to provide the agreed level of service at the lowest lifecycle cost • Developing stormwater management plans to identify assets at risk and priority mitigation controls such as upgrading existing underground assets and creating new assets such as wetlands and detention basins to increase water storage capacity • Continue to explore new sustainable water supply opportunities to irrigate and maintain amenity for our streetscapes and Park Lands

The impact of climate change on assets is a new and complex discussion and further impacts and management strategies will considered and developed in future revisions of this Asset Management Plan. It is recommended to continue monitoring the impacts of climate conditions and associated cost implications as further investigation is undertaken and more data becomes available. This is included as a key action within this Asset Management Plans Improvement Plan.

5.0 LIFECYCLE MANAGEMENT PLAN

5.1 Lifecycle Management Overview

In order to effectively manage our assets, it is important to understand the relationship between all stages of the asset lifecycle. Effective asset management and sustainable financial planning requires a balance between the maintenance, renewal and disposal of existing assets and the delivery of new and upgraded assets.

Our goal is to provide assets that service the needs of the community, providing the agreed levels of service at the lowest lifecycle cost. To enable this, it is important to understand:

- How our assets are performing
- How our assets should be operated and maintained
- When our assets should be renewed
- When we should consider upgrading existing assets or constructing new assets
- How funding for new and upgraded assets is prioritised
- When we should consider disposing underperforming or underutilised assets

An overview of the asset lifecycle is shown in Figure 5.1 below:

Figure 5.1: Asset Lifecycle Overview

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

5.2 Background Data

5.2.1 Physical parameters

The assets covered by this Asset Management Plan are shown in Table 5.2.1 and all figure values are shown in current day dollars.

Table 5.2.1: Assets Covered by this Plan

Asset Class	Quantity/Dimension	Replacement Value
Roads	129 kilometres	$296.5 million
Kerb and Watertable	292 kilometres	$119.7 million
Bridges	37 sites	$178.4 million
Footpaths	292 kilometres	$486.4 million
Traffic Signals	138 sites	$59.4 million
Total		$1.14 billion

5.2.2 Asset capacity and performance

Assets are generally provided to meet design standards where these are available. However, there are insufficient resources to address all known deficiencies. Locations where deficiencies in service performance are known are detailed in Table 5.2.2.

Table 5.2.2: Known Service Performance Deficiencies

Asset / Location	Service Deficiency
On-Road Cycling Network	User engagement and ongoing customer service requests have identified that the City's on-road cycling infrastructure needs to be more accessible, easier to navigate and safer to meet the needs of the community.
Residential Street Footpath Functionality	There are a number of small residential streets within the City of Adelaide where footpath widths prohibit inclusive and accessible access for people of all ages and abilities. A number of these streets were built over 50 years ago and often renewal programs alone cannot address functionality deficiencies and supporting upgrade funding may be required.
Street Network Functionality and Safety	With a historic reliance on motorised vehicles to get into and around the City in conjunction with city growth, the risk to road users has increased since a number of our roads were last redeveloped (often over 50 years ago). Asset renewal programs alone will not necessarily be able to make our streets more people-friendly and achieve targets for road safety and supporting upgrade funding may be required. It is anticipated that the Citywide Speed Limit Review will identify opportunities to reduce exposure to these risks and the Integrated Transport Strategy will identify priority upgrade projects to further enhance our transport network.

Access Ramp Compliance	There are a significant number of access ramps within the City of Adelaide that are not compliant with current Australian Standards and Disability Discrimination Act requirements. These are a result of historic constructions and changes to standards over time. These sites are incrementally being addressed through CoA's footpath renewal program, access ramp renewal program and streetscape upgrade projects. In specific circumstance, supporting upgrade funding may be required to upgrade and re-configure intersections to provide access ramps and crossing points in accordance with Australia Standards.
Traffic Signal Functionality	There are a number of traffic signal sites within the City of Adelaide where opportunities to enhance safety, efficiency and reliability have been identified. These sites are incrementally being improved through CoA's renewal program and the Federal Government's Blackspot Program.
Currie-Grenfell Corridor	The Currie-Grenfell corridor serves as the City's primary bus transit link and interchange. The existing road corridor is not considered to be fit-for-purpose, due to the lack of pedestrian and interchange facilities, and overall streetscape amenity.
Adelaide Bridge	Adelaide Bridge was originally constructed in 1931 and is approaching the end of its design life, with increasing and ongoing maintenance requirements. The bridge is planned for renewal/rehabilitation within this Asset Management Plan with the existing structure currently having a 26T load limit which restricts access to heavy vehicle traffic.

5.2.3 Asset condition

Condition is measured using a 1 - 5 grading system as detailed in Table 5.2.3. 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 Asset Management plan results are translated to a 1 – 5 grading scale for ease of communication.

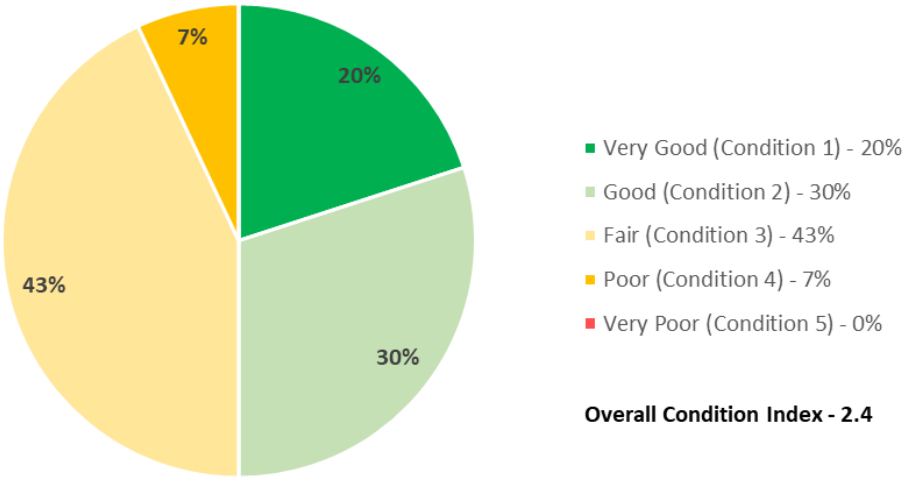
Table 5.2.3: Condition Grading System

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

Roads

The road network is typically condition audited every 4 years, with the most recent audit undertaken in 2019. Figure 5.2.3.a presents the predicted road network condition distribution as of September 2023. Overall, the majority of the road network is in a very good to fair condition (93%), with a small proportion of assets rated in poor condition (7%). Ongoing investment will be required to resurface and rehabilitate road assets to ensure levels of service are maintained in conjunction with minimising whole-of-life costs (i.e. prevent increased maintenance and renewal costs from not renewing assets at the appropriate time).

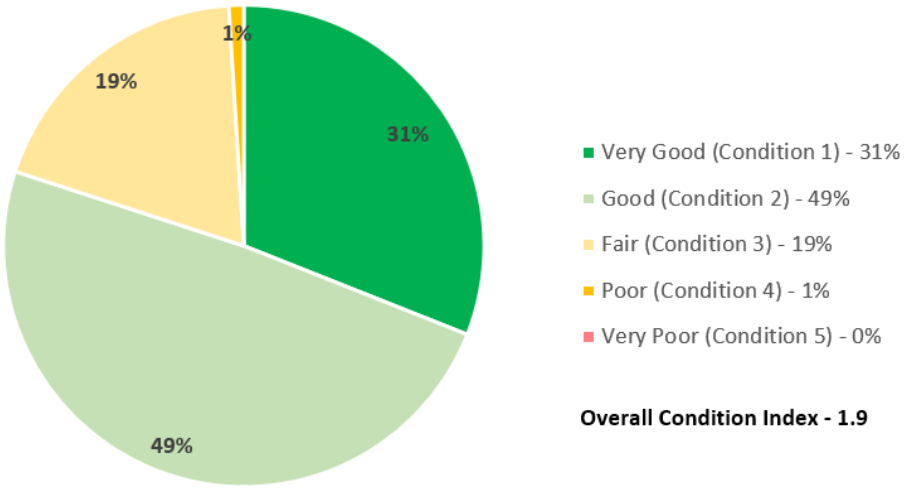
Figure 5.2.3.a: Condition Profile (Roads)



Kerb and Watertable

The kerb and watertable network is typically condition audited every 4 years, with the most recent audit undertaken in 2019. Figure 5.2.3.b presents the predicted kerb and watertable network condition distribution as of September 2023. Overall, the majority of the kerb and watertable network is rated in a very good to fair condition (99%) with only 1% of the network rated in poor condition. Ongoing renewal investment will be required to ensure sustainable management of the Kerb asset.

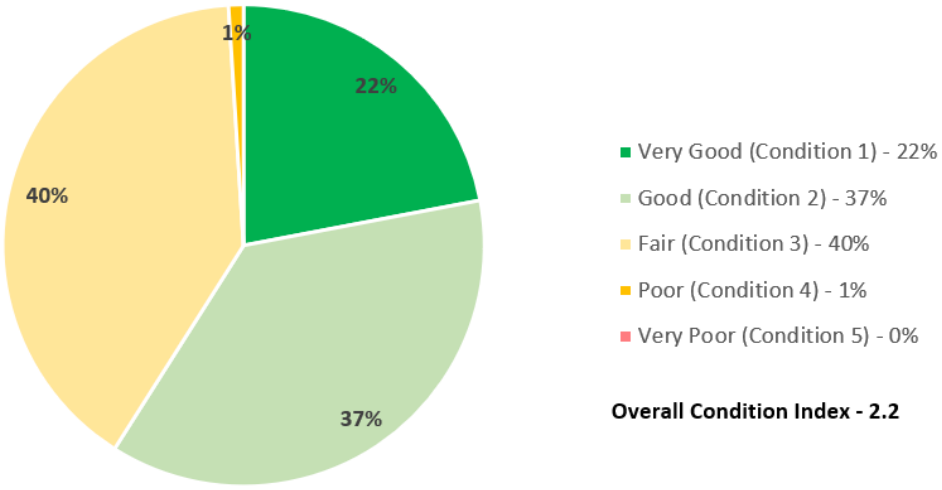
Figure 5.2.3.b: Condition Profile (Kerb and Watertable)



Footpaths

The footpath network is typically condition audited every 4 years, with the most recent audit undertaken in 2021. Figure 5.2.3.c presents the predicted footpath network condition distribution as of September 2023. Overall, the majority of the footpath network is rated in a very good to fair condition (99%) with a very small proportion of assets rated in poor and very poor condition (1%). It is important to note that a significant quantity of the footpath network is currently rated in a fair condition (40%), which will result in significant renewal requirements in the medium term. Ongoing investment will be required to renew and rehabilitate footpath assets to ensure levels of service are maintained in conjunction with minimising whole-of-life costs.

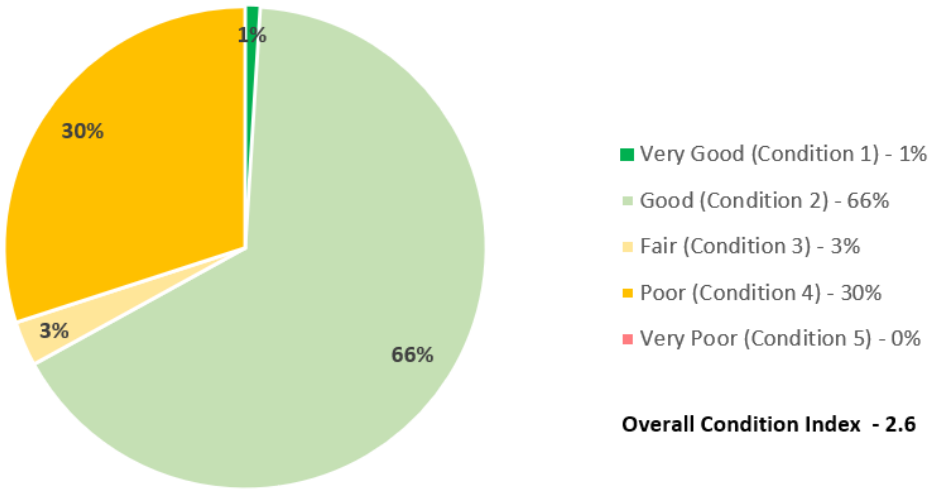
Figure 5.2.3.c: Condition Profile (Footpaths)



Bridges

The bridge network is typically condition audited every 4 years, with the most recent audit of the full bridge network undertaken in 2019. Several road bridges have been audited in 2023, including Adelaide Bridge which has more frequent audits undertaken due to the age of the asset. Figure 5.2.3.d presents the predicted bridge network condition distribution as of September 2023. Overall majority of the bridge network is in a very good to fair condition (70%), with Adelaide Bridge being the major contributor for 30% of the network being rated in poor condition. Renewal or rehabilitation of Adelaide Bridge will be a critical investment requirement within this Asset Management Plan, that will be further discussed in Chapter 5.

Figure 5.2.3.d: Condition Profile (Bridges)

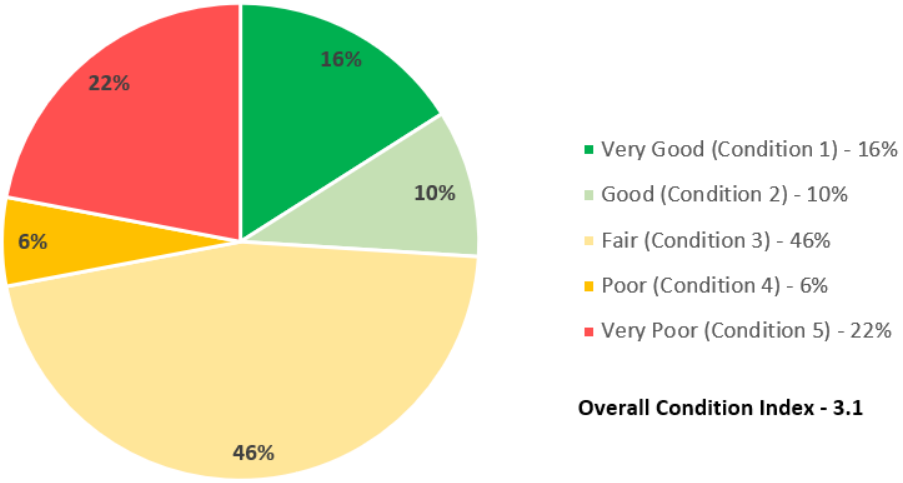


Traffic Signals

The traffic signal network is typically condition audited every 4 years, with the most recent audit undertaken in 2019. Figure 5.2.3.e presents the predicted traffic signal network condition distribution as of September 2023. Overall the majority of the traffic signal network is rated in very good to fair condition (72%). However, 28% of the traffic signal network is rated in a poor to very poor condition. Accelerated renewal investment will be required over the short term to address these deficiencies.

It is important to note that the previous condition audit methodology assigned a very poor condition score rating (condition 5) to older installation that are not compliant with current standards. However, these assets are considered safe and manageable within the short term through proactive maintenance inspections and works programming.

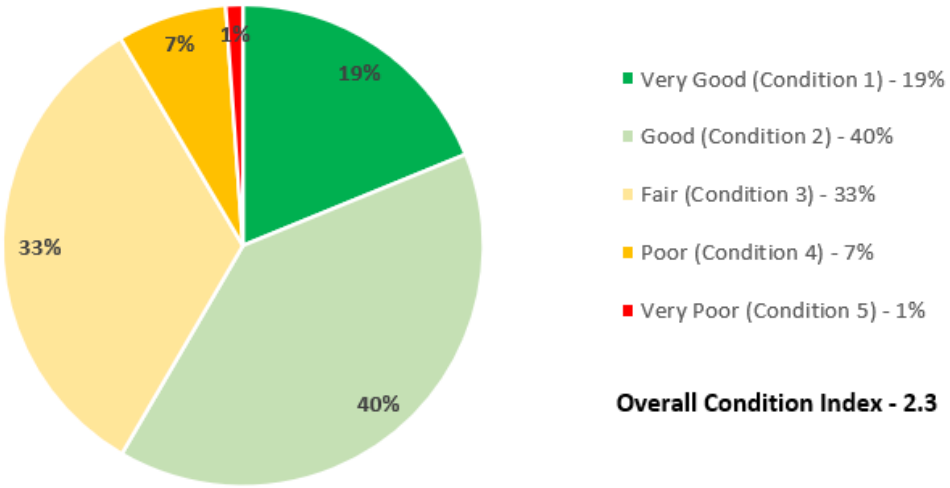
Figure 5.2.3.e: Network Condition Profile (Traffic Signals)



Summary

Overall, the current condition of our transport network is rated in a good to fair condition, with a combined overall condition index rating of 2.3. 91% of assets are rated in a very good to fair condition and 9% of assets are rated in poor or very poor condition, which will form the general basis of our renewal program priorities.

Figure 5.2.3.f: Transport Network Condition Profile



5.3 Operations and Maintenance Plan

Operations include regular activities to provide services. Examples of typical operational activities include cleaning, street sweeping, line marking re-application, 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 footpath repairs, asphalt patching, and equipment repairs. Requirements are informed by both customer service requests and proactive maintenance inspections.

Currently, maintenance activities are generally evaluated and prioritised with respect to annual budgets. This process is undertaken by experienced staff, where risk-based assessment and resource allocation considers the severity of the defect as well as its location. Any critical maintenance requirements that cannot be accommodated within exiting budgets are assessed and considered through regular budget reviews to ensure resources are appropriately re-allocated.

Following the completion of this Asset Management Plan, we will be reviewing operations and maintenance standards for transport assets, with a view to develop more structured and proactive maintenance regimes which provide an acceptable balance between cost, risk, and customer expectations. This activity has been recognised as an action within the Improvement Plan of this Asset Management Plan (Section 8.2), where the associated financial impacts will need to be further considered in future revisions of this Asset Management Plan and the Long-Term Financial Plan.

Updated standards will document both maintenance intervention levels and response times. Intervention levels will document the criteria for actioning maintenance defects and response times will set targets that we aim to work within to repair defects. Typically, both of these elements will vary depending on the severity of the defect as well as its position/location within the asset hierarchy.

Monitoring whether maintenance activities are being delivered in accordance with the specified intervention levels and response times, will enable us to understand whether resourcing levels are sufficient. Where resourcing levels are identified as insufficient, additional budget requirements can be considered through the business plan and budget process, or intervention levels and response times can be adjusted with respect to budget constraints.

5.3.1 Maintenance Budget Trends

The trend in maintenance budgets for all transport assets over the past 4 years is shown in Table 5.3.1.

Table 5.3.1: Maintenance Budget Trends

Year	Roads	Kerbing	Footpaths	Bridges	Traffic Signals
2020-21	$572,787	$77,714	$903,034	$27,788	$460,755
2021-22	$918,727	$287,114	$1,283,404	$29,216	$431,584
2022-23	$1,113,857	$382,269	$2,534,640	$28,341	$600,165
2023-24	$1,040,564	$461,628	$1,642,929	$228,619	$495,537

5.3.2 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 hierarchy for each transport asset class is shown is Table 5.3.2.

Table 5.3.2: Asset Service Hierarchy

Asset Class	Asset Hierarchy
Roads and Kerb and Watertable	Major Arterial Roads (e.g. West Terrace)
	Minor Arterial Roads (e.g. Port Road)
	Primary Collector (e.g. King William Street)
	Local Collector (e.g. Melbourne Street)
	Local Access and Car Parks (e.g. Archer Street)
Footpaths	City Streets (e.g. North Terrace)
	Residential Streets (e.g. Archer Street)
	Park Lands (e.g. Rymill Park Footpaths)
Bridges	Road Bridges (e.g. Adelaide Bridge)
	Major Footbridges (e.g. University Footbridge)
	Minor Footbridges (e.g. Parklands Bridges)
Traffic Signals	Signalised Intersections (e.g. King William Street / Pirie Street intersection)
	Pedestrian Actuated Crossings (e.g. Victoria Drive adjacent University)
	Koala Crossings (e.g. East Terrace adjacent Glover Playground)

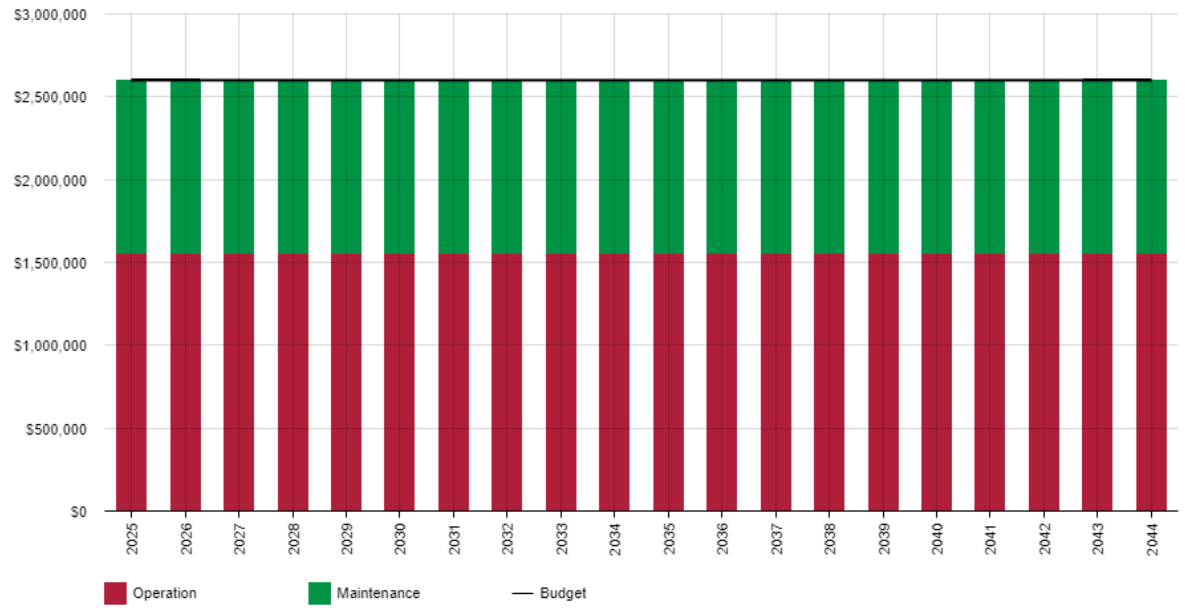
5.3.3 Summary of future operations and maintenance costs

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.

Roads

The forecast operations and maintenance costs for the road network, relative to the proposed operations and maintenance budgets are shown in Figure 5.3.3.a. Future revisions of this Asset Management Plan will further review forecast requirements based on updated operations and maintenance standards and acquired assets. All values are shown in current day dollars.

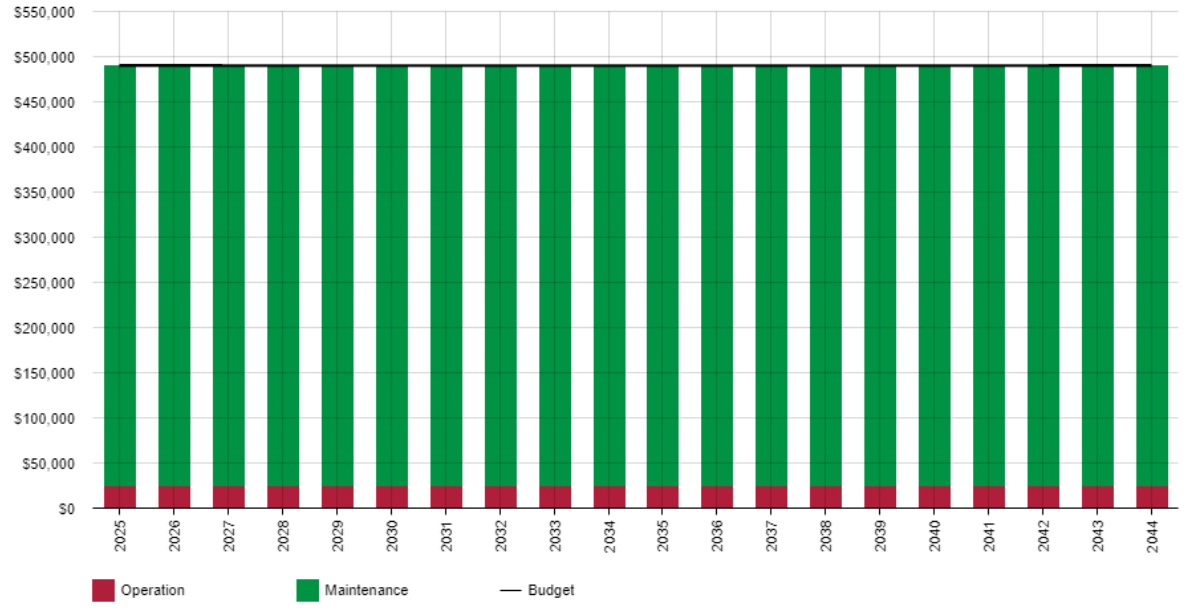
Figure 5.3.3.a: Operations and Maintenance Summary (Roads)



Kerb and Watertable

The forecast operations and maintenance costs for the kerb and watertable network, relative to the proposed operations and maintenance budgets are shown in Figure 5.3.3.b. Future revisions of this Asset Management Plan will further review forecast requirements based on updated operations and maintenance standards. All values are shown in current day dollars.

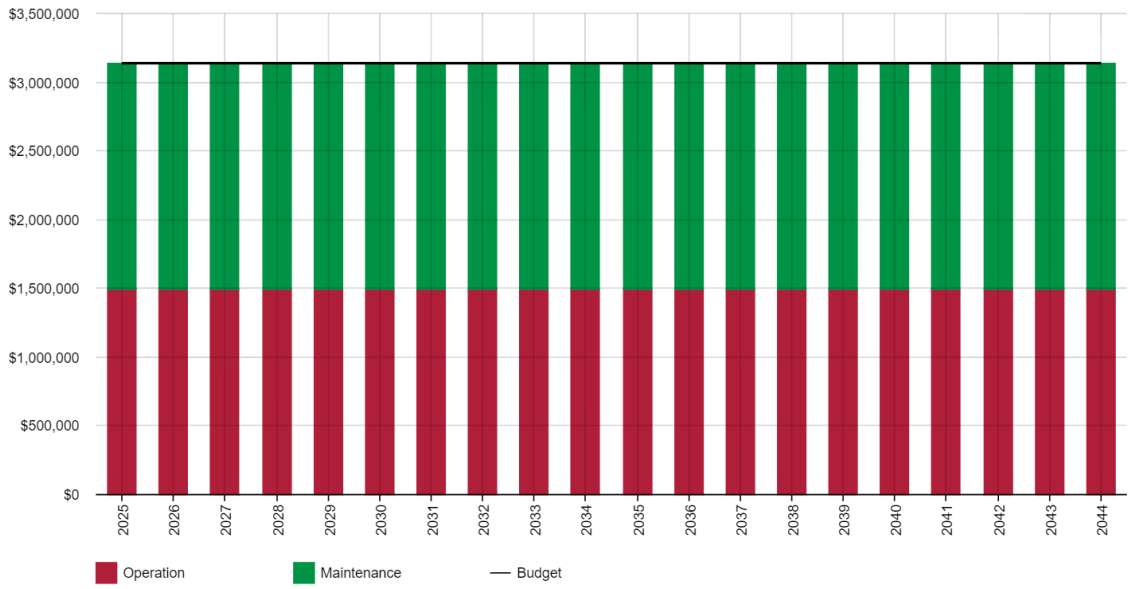
Figure 5.3.3.b: Operations and Maintenance Summary (Kerb and Watertable)



Footpaths

The forecast operations and maintenance costs for the footpath network, relative to the proposed operations and maintenance budgets are shown in Figure 5.3.3.c. Future revisions of this Asset Management Plan will further review forecast requirements based on updated operations and maintenance standards. All values are shown in current day dollars.

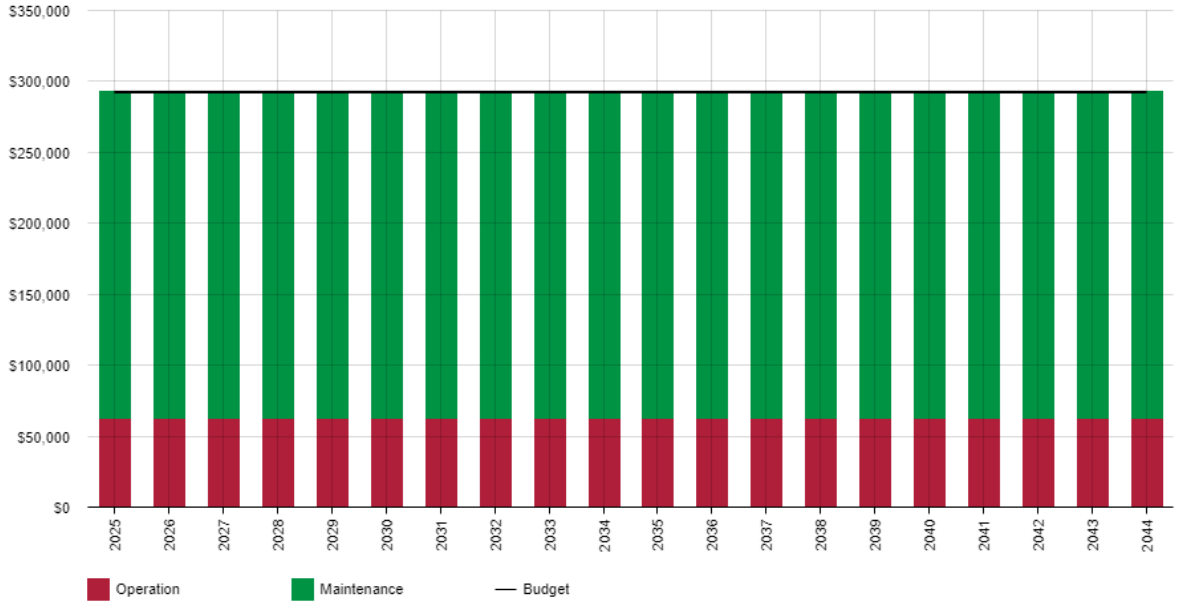
Figure 5.3.3.c: Operations and Maintenance Summary (Footpaths)



Bridges

The forecast operations and maintenance costs for the bridge network, relative to the proposed operations and maintenance budgets are shown in Figure 5.3.3.d. Future revisions of this Asset Management Plan will further review forecast requirements based on updated operations and maintenance standards. All values are shown in current day dollars.

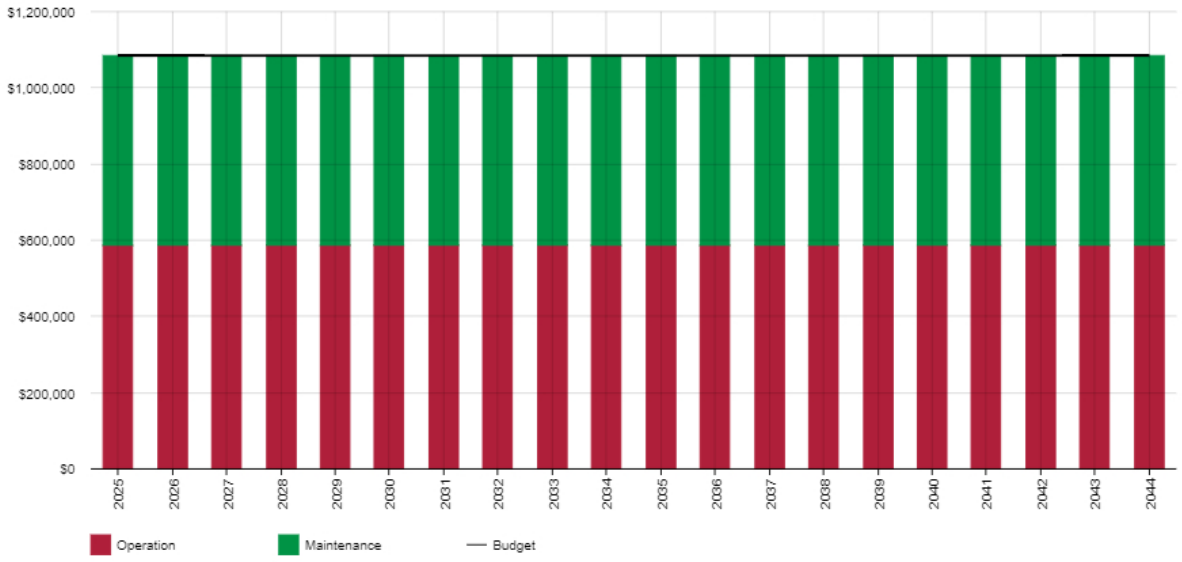
Figure 5.3.3.d:Operations and Maintenance Summary (Bridges)



Traffic Signals

The forecast operations and maintenance costs for the traffic signal network, relative to the proposed operations and maintenance budgets are shown in Figure 5.3.3.e. Future revisions of this Asset Management Plan will further review forecast requirements based on updated operations and maintenance standards. All values are shown in current day dollars.

Figure 5.3.3.e: Operations and Maintenance Summary (Traffic Signals)



5.4 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 (new/upgrade) resulting in additional future operations and maintenance costs.

Asset renewal is typically undertaken to:

- Ensure ongoing reliability of existing infrastructure to deliver the service it was constructed to facilitate
- Ensure infrastructure is of sufficient quality to meet the service requirements
- Optimise whole-of-life costs, when maintenance activities are no longer economical

Within this Asset Management Plan, asset renewal requirements have been identified by utilising replacement costs and remaining useful life estimates that have been derived through a combination of condition audits, engineering recommendations and predictive modelling.

Predictive modelling provides a basis for evidence-based decision making, where the financial requirements for different level of service scenarios can be estimated across the short, medium, and long-term. Additionally, it allows us to understand the relationship between cost, level of service and risk and can effectively demonstrate the consequences of not appropriately funding asset renewal. An overview of the predictive modelling utilised in this Asset Management Plan is shown in Figure 5.4.1 and is discussed further for each asset class in Section 5.4.1.

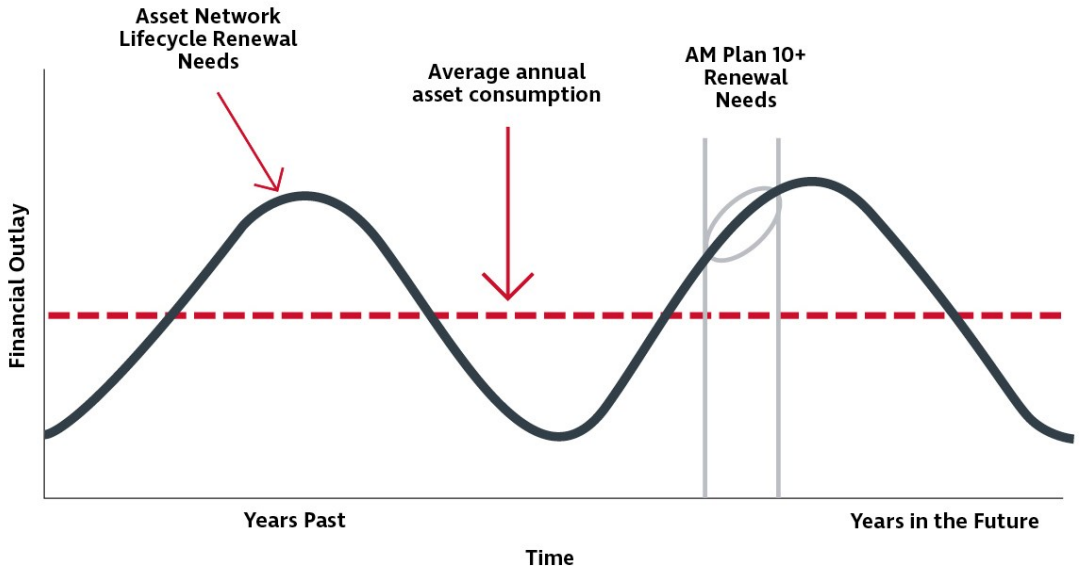
Figure 5.4.1: Predictive Modelling Overview

This Asset Management Plan's renewal strategy aims to minimise the number of assets that deteriorate into a poor condition and prohibit assets reaching a very poor condition. Assets can generally be cost effectively maintained and provide appropriate levels of service up to a fair condition, however assets in poor and very poor condition have higher risk profiles and maintenance treatments are generally not economical. This strategy ensures we can continue to provide services in line with the community's expectations, appropriately manage risk and optimise whole-of-life costs.

Asset renewal planning is undertaken with a holistic and integrated approach, to ensure consideration is given to asset functionality, adjacent assets and Council's higher-level strategic objectives (e.g. new and upgrade requirements). This allows capital works programming to be optimised through the development of logical works packages, that provide value to the community and minimise disruption.

It is important to understand that infrastructure networks are comprised of assets with varying age profiles and different useful lives and replacement costs. This results in having to replace more assets in some periods when compared with others and means that it's very unlikely that asset renewal needs will be consistent over time. Figure 5.4.2 highlights a typical scenario of varying asset renewal expenditure requirements over the asset lifecycle.

Figure 5.4.2: Asset Network Lifecycle Renewal Needs



To account for fluctuations in asset lifecycle renewal needs and enable efficient resourcing planning, often there will be a need to smooth out expenditure requirements over multiple years through a combination of deferring renewal (where appropriate) and bringing scheduled works forward.

At times, this may result in a small number of assets exceeding prescribed renewal intervention criteria, requiring projects to be prioritised with respect to available budget. It is possible to prioritise renewals by identifying assets or asset groups that:

- Have a higher consequence of failure
- Have higher usage and the subsequent impact on users would be more significant
- Have higher than expected operational and maintenance costs

Prioritisation criteria used to inform the renewal forecasts within this Asset Management Plan include:

- Compliance with current legislative requirements
- Asset condition
- Asset hierarchy and criticality
- Cost effectiveness of maintenance investment
- Alignment with Strategic Plan objectives and corporate strategies
- Financial capacity and sustainable financial management principles
- Council decisions
- Asset functionality deficiencies
- Community interest

The typical useful lives of assets used to develop projected asset renewal forecasts are shown in Table 5.4. Asset useful lives were last reviewed in 2023.

Table 5.4: Useful Lives of Assets

Asset Class	Asset Sub Class	Useful life *
Roads	Road Surface	15-25 years
	Road Pavement	30-80 years
Kerb and Water table	Concrete	60-80 years
	Bluestone	120 years
	Granite	120 years
Footpath	Asphalt	30 years
	Concrete Flagstone	40-50 years
	Granite & Slate	40-50 years
	Interlocking Pavers	40-50 years
	Small Format Concrete Pavers	40-50 years
	In-Situ Concrete	40-50 years
	Rubble	10-20 years
Traffic Signals	Poles	25 years
	Lanterns	10 years
	Controllers	10 years
	UPS	10 years
	Target Board	15 years
	Push Button	10 years
	Audio Tactile	10 years
	Top Box	10 years
	Conduits	40 years
	Pits	40 years
	CCTV	5 years
Bridges	Road Bridges	20-100 years
	Major Footbridges	40-100 years
	Minor Footbridges	20-80 years

* useful life will vary dependant on asset hierarchy/material/component

5.4.1 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 Figures 5.4.1a to 5.4.1e. A detailed summary of the forecast renewal costs is shown in Appendix C.

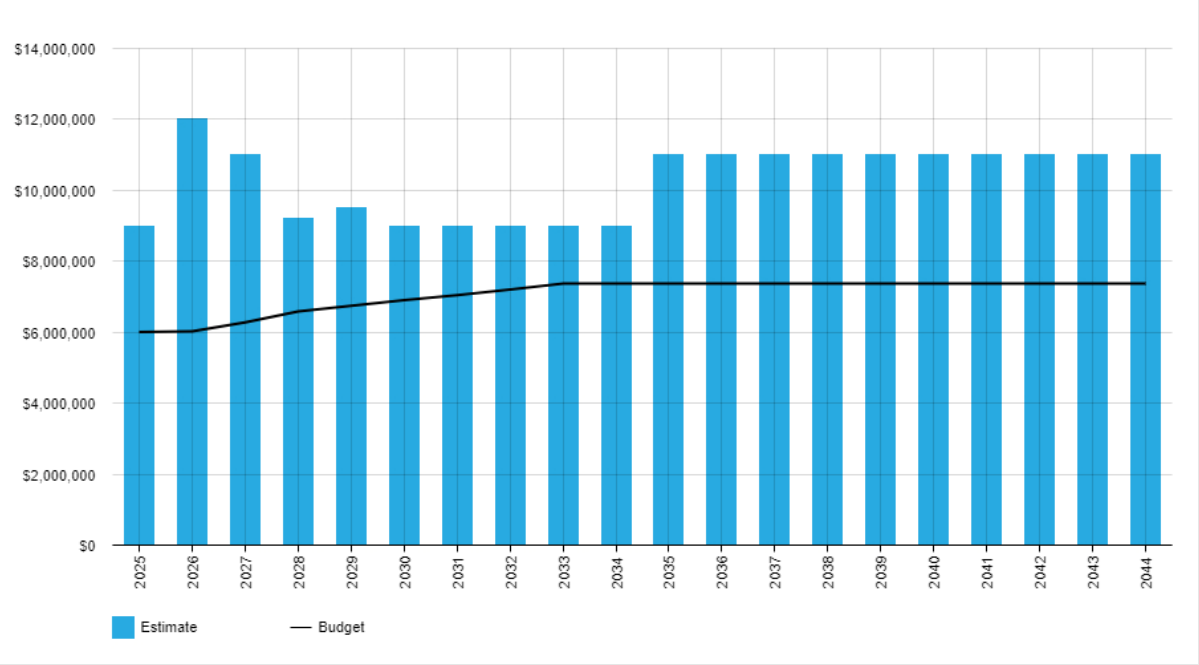
Roads

Predictive modelling identified that the existing budget allocations within the Long-Term Financial Plan were insufficient to maintain current service levels, resulting in the health of the road network steadily declining over time. Various renewal strategies were considered for the road network utilising predictive scenario modelling, which are presented and further discussed in Appendix F.

The recommended asset renewal strategy aims to reduce the number of assets that deteriorate into condition 4 (target less than 5%) and prohibit assets reaching condition 5 (target 0%). To enable this, increased renewal funding of $9m, $12m, $11m, $9.2m, and $9.5m is required over the first five years to address the initial renewal backlog, with investment requirements then reducing to $9m per year between years 6 and 10 to maintain service levels. From 2035 renewal funding is required to increase moderately to $11m per year to address the forecast medium to long term renewal requirements. Specific renewal intervention levels for different road hierarchies as well as typical images of each condition state are documented in Appendix E.

The projected 20-year renewal forecast compared against the current Long-Term Financial Plan budget allocation for the road network is shown in Figure 5.4.1.a below (note: all figure values are shown in current day dollars). When comparing the forecast renewal costs against the existing budget allocation (black line), it is evident that there is a funding shortfall and additional funding is required to address the renewal backlog and maintain current levels of service. Not funding the shortfall will result in the health of the road network to continue steadily decreasing over time, resulting in increased whole-of-life costs and risks of asset failure that cannot be rectified through maintenance resources.

Figure 5.4.1a: Forecast Renewal Costs (Roads)



Kerb and Watertable

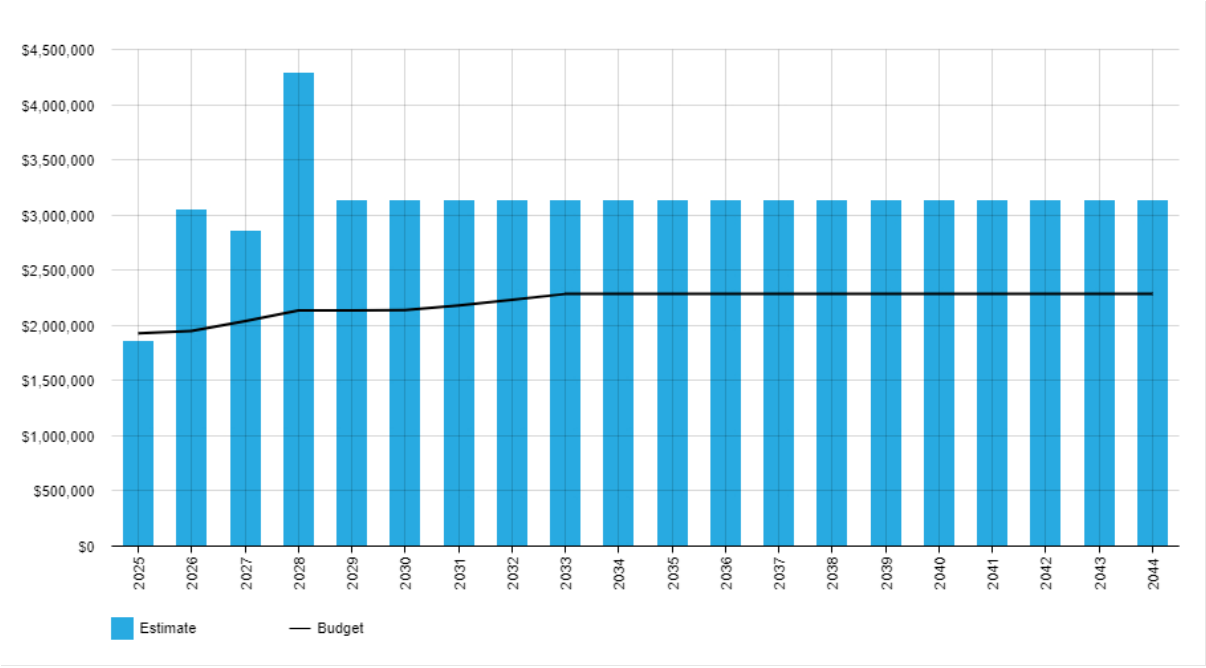
Predictive modelling identified that the existing budget allocations within the Long-Term Financial Plan were insufficient to maintain current service levels, resulting in the health of the kerb and watertable network steadily declining over time. Various renewal strategies were considered for the kerb and watertable network utilising predictive scenario modelling, which are presented and further discussed in Appendix F.

The recommended asset renewal strategy aims to reduce the number of assets that deteriorate into condition 4 (< 5%), prohibit assets reaching condition 5 (target of 0%) and ensure aging assets in a fair condition showing signs of deterioration are renewed concurrently with adjacent road and footpath renewal projects.

To enable this, increased renewal funding of $1.85m, $3.05m, $2.85m, and $4.29m is required over the first 4 years, with investment requirements then reducing to $3.125m each year to maintain service levels. Specific renewal intervention levels as well as typical images of each condition state are documented in Appendix E.

The projected 20-year renewal forecast compared against the current Long-Term Financial Plan budget allocation for the kerb and watertable network is shown in Figure 5.4.1.b below (note: all figure values are shown in current day dollars). When comparing the forecast renewal costs against the existing budget allocation (black line), it is evident that there is a funding shortfall and additional funding is required to address the renewal backlog and maintain current levels of service. Not funding the shortfall will result in the health of the kerb and watertable network to continue steadily decreasing over time, resulting in increased whole-of-life costs and risks of asset failure that cannot be rectified through maintenance resources.

Figure 5.4.1.b: Forecast Renewal Costs (Kerb and Watertable)



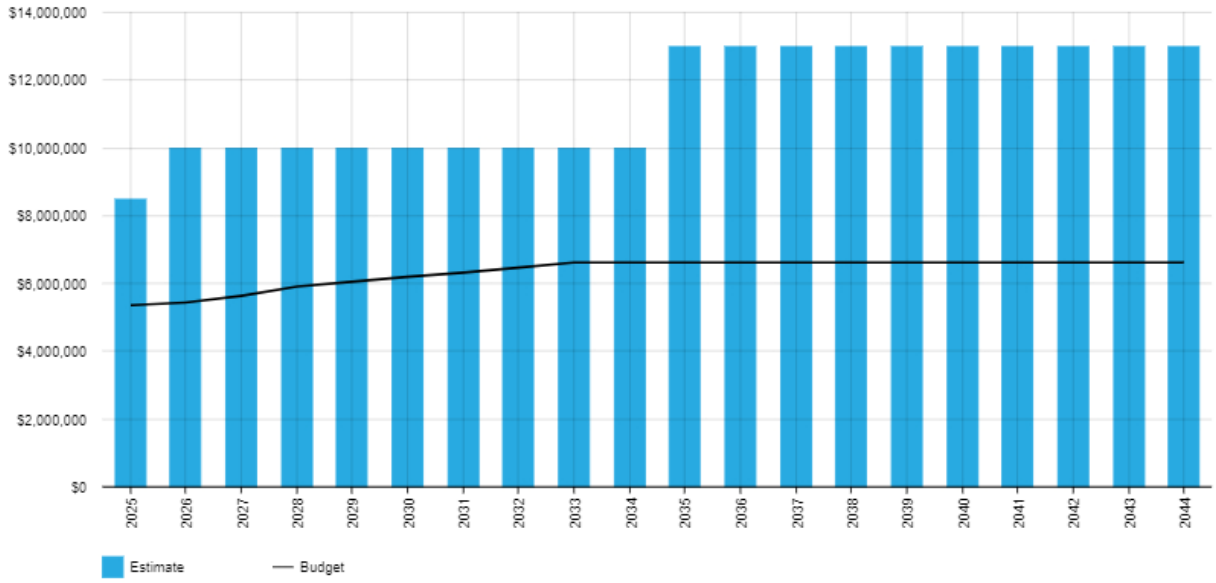
Footpaths

Predictive modelling identified that the existing budget allocations within the Long-Term Financial Plan were insufficient to maintain current service levels, resulting in the health of the footpath network steadily declining over time. Various renewal strategies were considered for the footpath network utilising predictive scenario modelling, which are presented and further discussed in Appendix F.

The recommended asset renewal strategy aims to reduce the number of assets that deteriorate into condition 4 (target < 5%) and prohibit assets reaching condition 5 (target 0%). To enable this, $10m is required each year for the first 10 years, with a further increase to funding up to $13m each year between years 11 and 20. This significant investment is required to address the substantial number of assets currently rated in a fair condition (40% of the network) that have forecast renewals across the 20-year planning period. Specific renewal intervention levels for different footpath hierarchies and material types, as well as typical images of each condition state are documented in Appendix E.

The projected 20-year renewal forecast compared against the current Long-Term Financial Plan budget allocation for Footpaths is shown in Figure 5.4.1.c below (note: all figure values are shown in current day dollars). When comparing the forecast renewal costs against the existing budget allocation (black line), it is evident that there is a funding shortfall and additional funding is required to address the backlog of asset renewals and maintain service levels. Not funding the shortfall will result in the health of the footpath network to continue steadily decreasing over time, resulting in significant risks of asset failure and service disruption that cannot be rectified through maintenance resources.

Figure 5.4.1.c: Forecast Renewal Costs (Footpaths)



Bridges

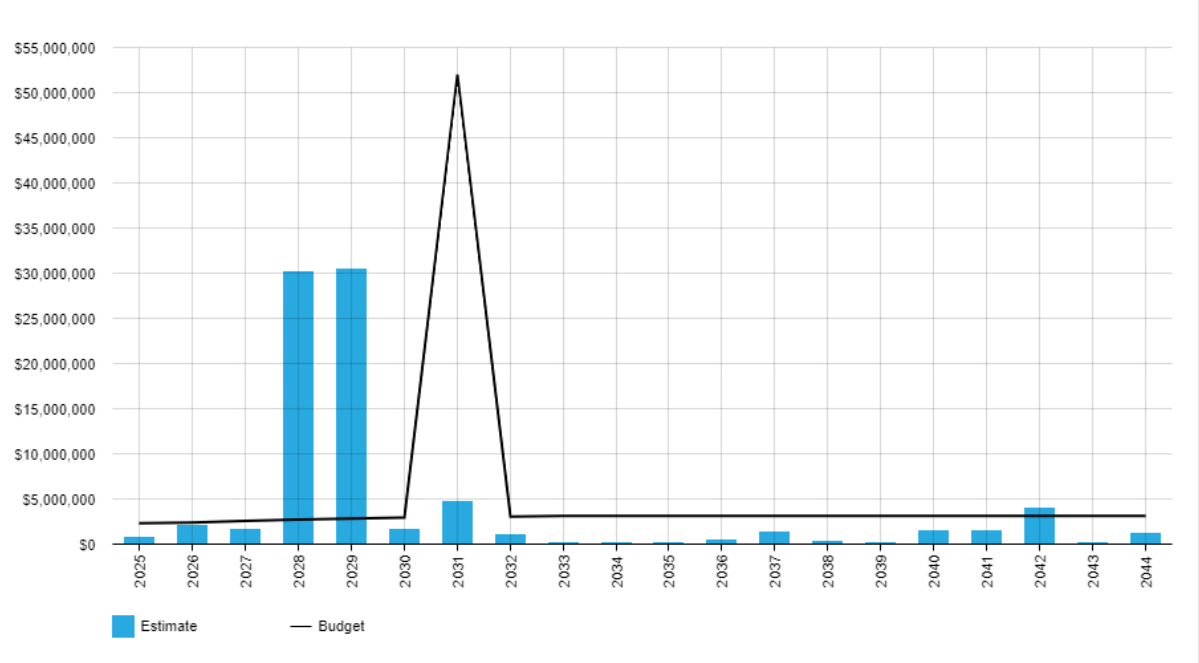
Renewal requirements for our bridge assets are informed by regular engineering inspections. Each inspection monitors any change in condition for individual bridge components and re-forecasts an associated remaining useful life estimate. The recommended asset renewal strategy for the bridge portfolio aims to reduce the number of assets that deteriorate beyond condition 3 and prohibit assets reaching condition 4 or 5 (target 0%). Due to the high value and long life of individual bridge components, forecast replacement and/or rehabilitation requirements vary substantially over the 20-year period, and can generally not be “smoothed” for budgeting purposes.

Adelaide Bridge (located on King William Road, crossing the Torrens) will be a key priority within this Asset Management Plan, as condition monitoring has identified the aging bridge (constructed in 1931) is approaching the end of its useful life. Within the next 5 years significant capital works will be required to either rehabilitate or replace the bridge, as it is becoming uneconomical to continue maintaining the bridge. Recent engineering inspections and preliminary project planning has recognised that the renewal/ rehabilitation of Adelaide Bridge requires scheduling and budgeting adjustments within the Asset Management Plan and Long Term Financial Plan, bringing works forward and spreading forecast costs over two financial years.

For preliminary planning purposes, renewal forecasts have assumed the full replacement of Adelaide Bridge, however an options analysis is currently being undertaken to inform recommendations to finalise the scope, cost and timing of capital works moving forward. The options analysis will consider capital costs, intended lifespan and durability, operational and maintenance costs, heritage retention and current and future loading requirements. Revision of asset renewal forecasts following the completion of the options analysis has been recognised as a key action within the Improvement Plan (Chapter 8).

The projected 20-year renewal forecast compared against the current Long-Term Financial Plan budget allocation for Bridges is shown in Figure 5.4.1.d below (note: all figure values are shown in current day dollars).

Figure 5.4.1.d: Forecast Renewal Costs (Bridges)

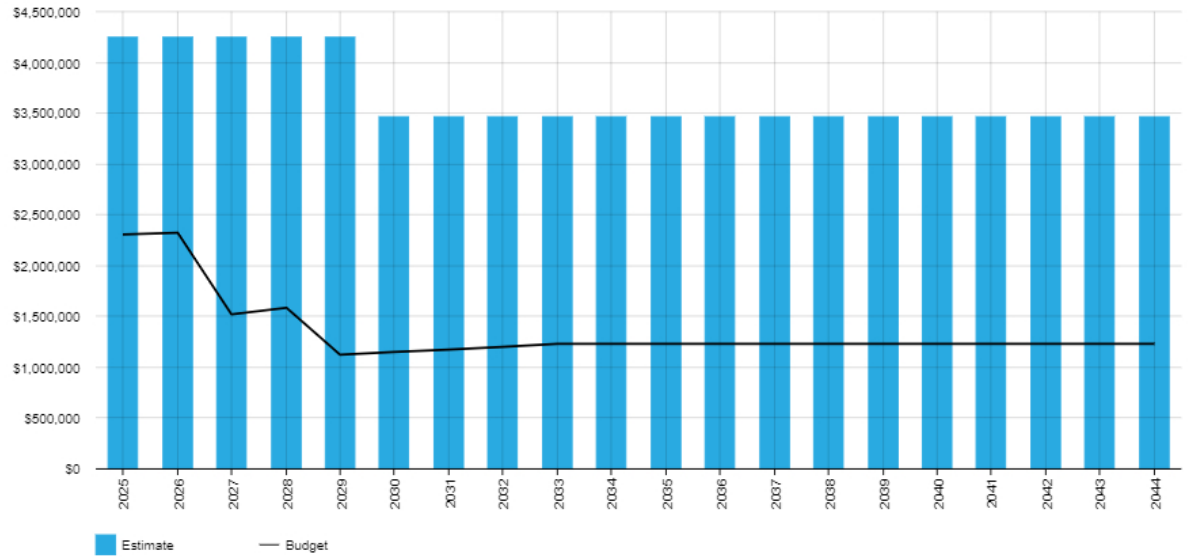


Traffic Signals

The projected 20-year renewal forecast compared against the current Long-Term Financial Plan budget allocation for Traffic Signals is shown in Figure 5.4.1.e below. The asset renewal strategy aims to reduce the number of assets that deteriorate into condition 4 and 5. To enable this, increased renewal funding of $4,25M is required over the first five years to address the current asset renewal backlog (assets in condition 4 and 5), however following this investment reduces to $3.47M per year, to maintain service levels.

When comparing the forecast renewal costs against the existing budget allocation (black line), it is evident that there is a funding shortfall and additional funding is required to address the backlog of asset renewals and maintain service levels. Not funding the shortfall will result in the health of the traffic signal network to continue steadily decreasing over time, resulting in significant risks of asset failure and service disruption that cannot be rectified through maintenance resources.

Figure 5.4.1.e: Forecast Renewal Costs (Traffic Signals)



5.5 Acquisition of Assets (New & Upgrade)

Acquisition reflects 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 City of Adelaide.

Opportunities for acquisition of new assets, and upgrade of existing assets, are identified from various sources such as community requests, initiatives identified within strategic plans and corporate strategies as well as partnerships with third parties (e.g. State Government and Developers).

Potential new and upgrade works should be reviewed to verify that they are essential to City of Adelaide's needs and include analysis to understand ongoing operations, maintenance and renewal requirements to ensure that the services are sustainable over the longer term.

While this Asset Management Plan does not identify financial forecasts associated with new and upgrade projects, it does ensure required renewal scheduling is aligned (where practical) with key new and upgrade initiatives linked to our Strategic Plan through Integrated Delivery Planning.

Prioritisation and scheduling of new and upgrade works is currently undertaken on an annual basis through the business plan and budget process, where key prioritisation criteria include:

- Alignment with Strategic Plan objectives and corporate strategies
- Financial capacity and sustainable financial management principles
- Council decisions
- Asset functionality deficiencies
- Asset condition
- Compliance with current legislative requirements
- Community interest

The Resource Plan will provide a 4-year view of new and upgrade projects, resources, and budgets required to deliver our Strategic Plan objectives. It will inform the Long-Term Financial Plan and act as the key link between the Strategic Plan and Annual Business Plan & Budget.

Transformational new and upgrade projects will reference the Adelaide Design Manual that have allocated funding within the Resource Plan and Long-Term Financial Plan.

5.6 Disposal of Assets

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. Disposal can be considered when an asset has been identified as underperforming, underutilised, or obsolete and does not provide value to the community.

This Asset Management Plan does not identify financial forecasts associated with asset disposal, however where recommended, significant assets will be identified for decommissioning and disposal through Council Reports. To enable informed decision making, reports will include any anticipated impacts to service provision as well as financial impacts including disposal costs, revenue gained and estimated reductions in annual operations and maintenance expenditure that will be included into the Business Plan and Budget and Long-Term Financial Plan.

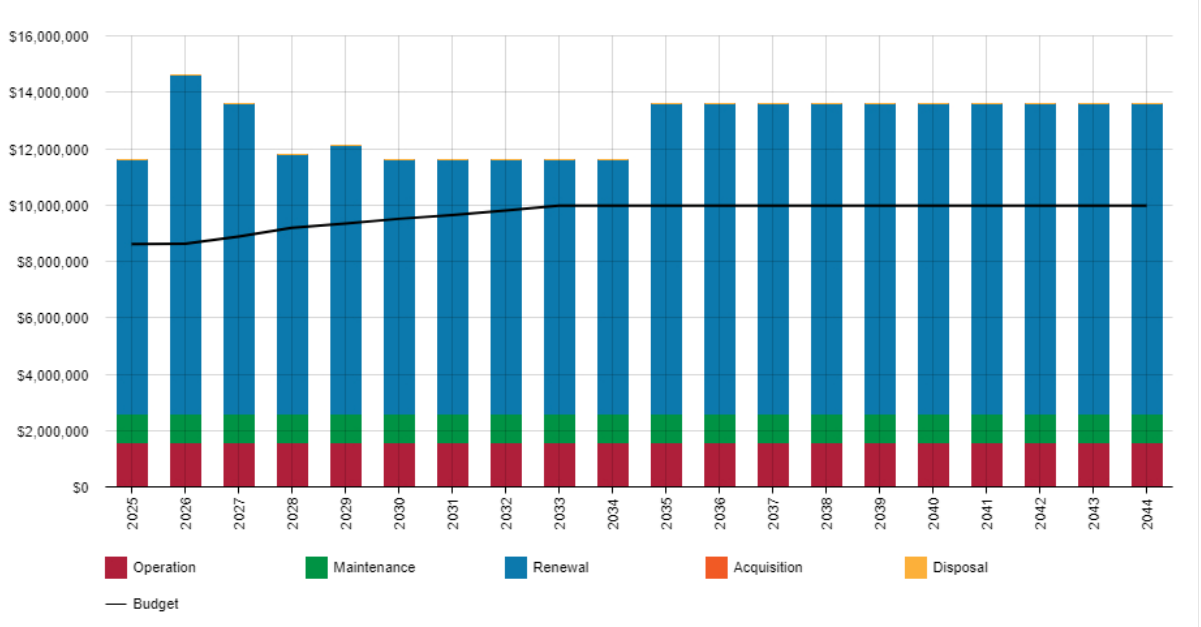
5.7 Summary of Asset Forecast Costs

The total financial projections from this Asset Management Plan are shown in Figures 5.7 below for each asset class. 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 discussed in detail within sections 5.3 and 5.4.

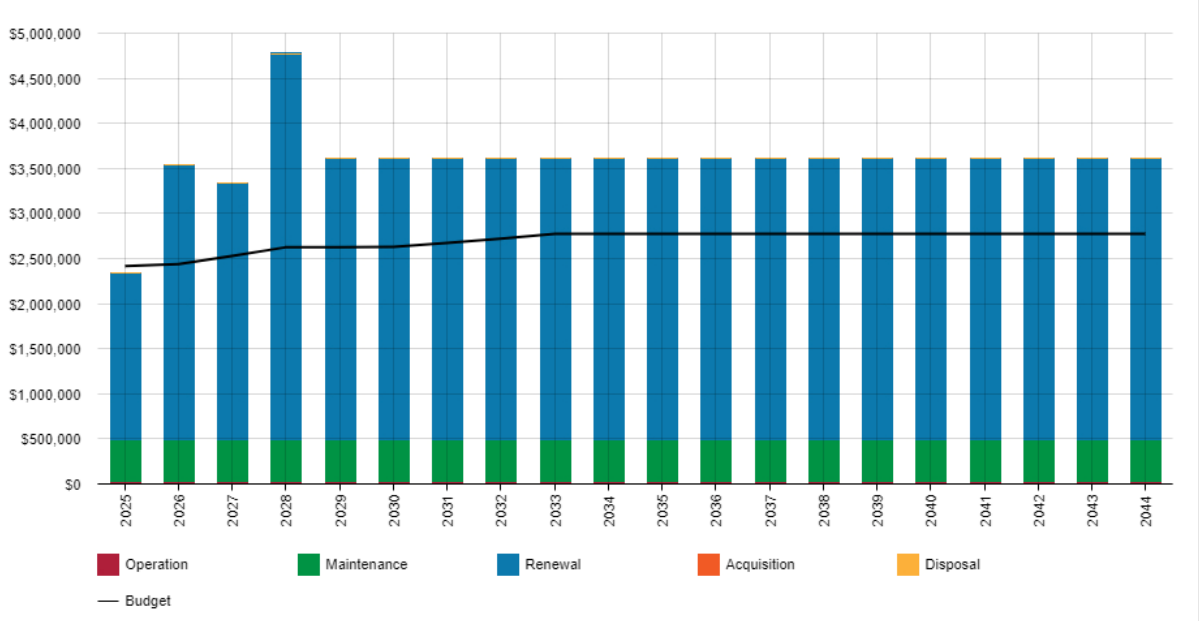
Roads

Figure 5.7.a: Lifecycle Summary (Roads)



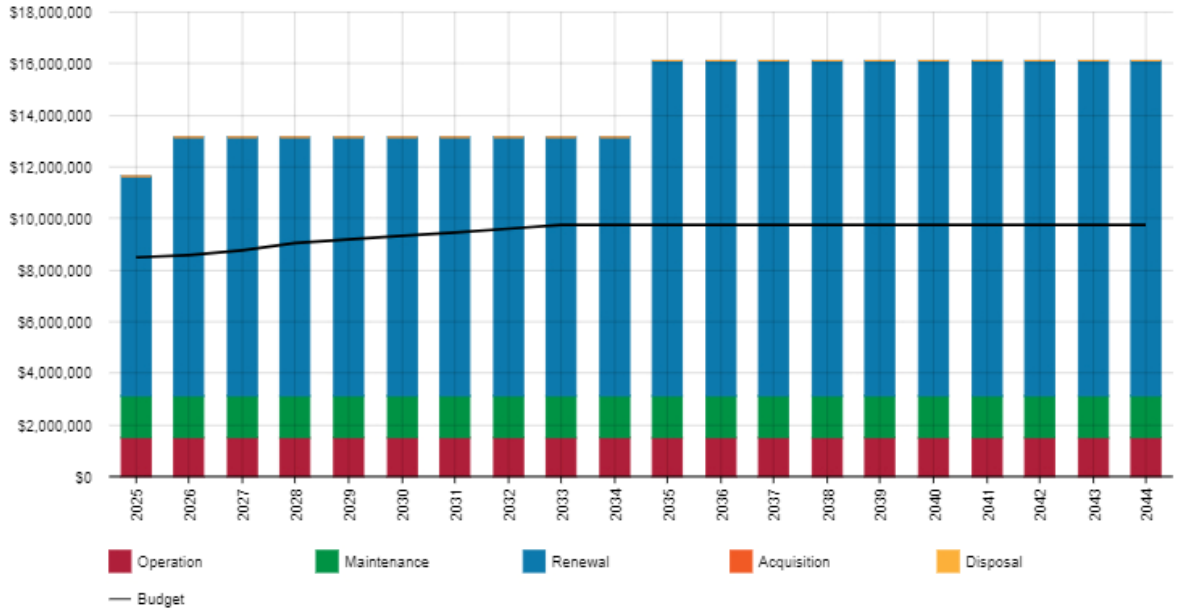
Kerb and Watertable

Figure 5.7.b: Lifecycle Summary (Kerb and Watertable)



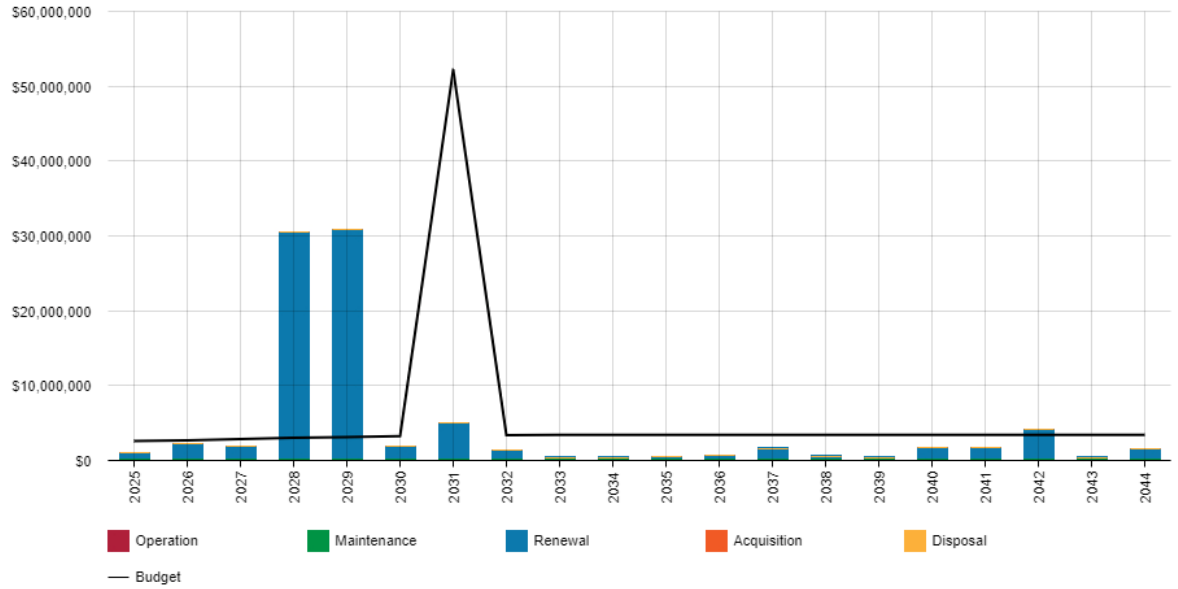
Footpaths

Figure 5.7.c: Lifecycle Summary (Footpaths)



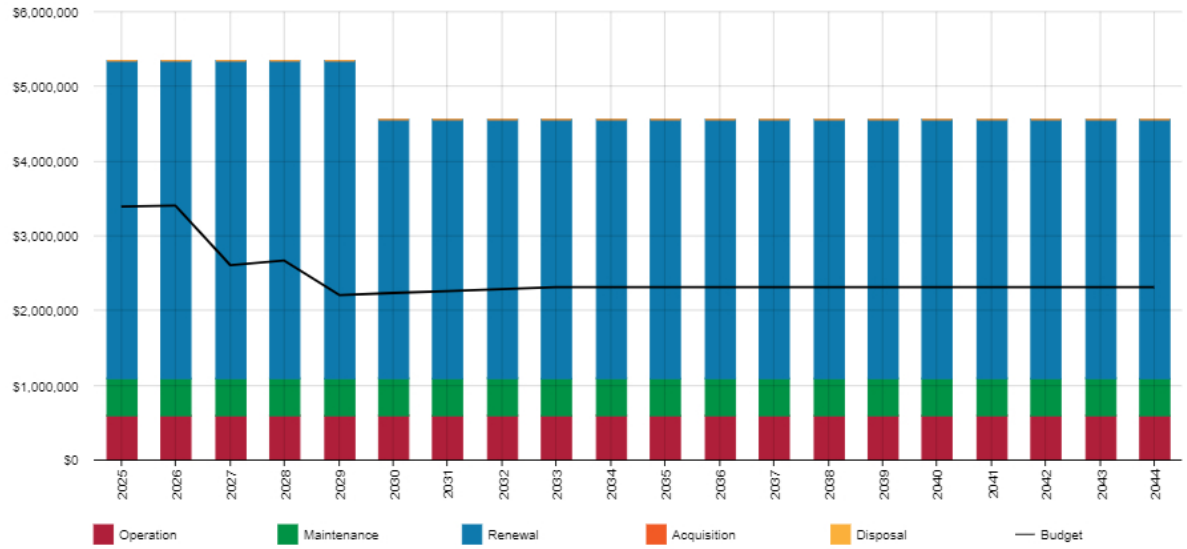
Bridges

Figure 5.7.d: Lifecycle Summary (Bridges)



Traffic Signals

Figure 5.7.e: Lifecycle Summary (Traffic Signals)



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'[4].

An assessment of risks[5] 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. Critical assets have been identified and along with their typical failure mode, and the impact on service delivery, are summarised in Table 6.1. Failure modes may include physical failure, collapse or essential service interruption.

Table 6.1 Critical Assets

Asset Class	Critical Asset(s)	Failure Mode	Impact
Bridges	All Road Bridges	Structural deterioration resulting in bridge restrictions or physical collapse.	Reduced capacity and accessibility, resulting in significant disruption to the transport network or fatality as a result of collapse
Roads	Arterial and Primary Collector Network	Structural deterioration of road pavement, resulting in cracking, deformation, and potholes. Road damage due to service authority incidents such as water main bursts.	Public safety risks association with dangerous road defects and disruption to the transport network
Footpaths	City Street Footpaths (High Volume)	Structural and environmental deterioration of footpaths resulting in trip hazards, depressions, and loose pavers. Footpath damaged by service authorities and development.	Public safety risks associated with dangerous footpath defects and disruption to the transport network
Traffic Signals	All Signalised Intersections	Electrical fault and/or equipment failure	Public safety risks associated with inoperative traffic control devices and disruption to the transport network

[4] ISO 31000:2009, p 2

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

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.

6.2 Risk Assessment

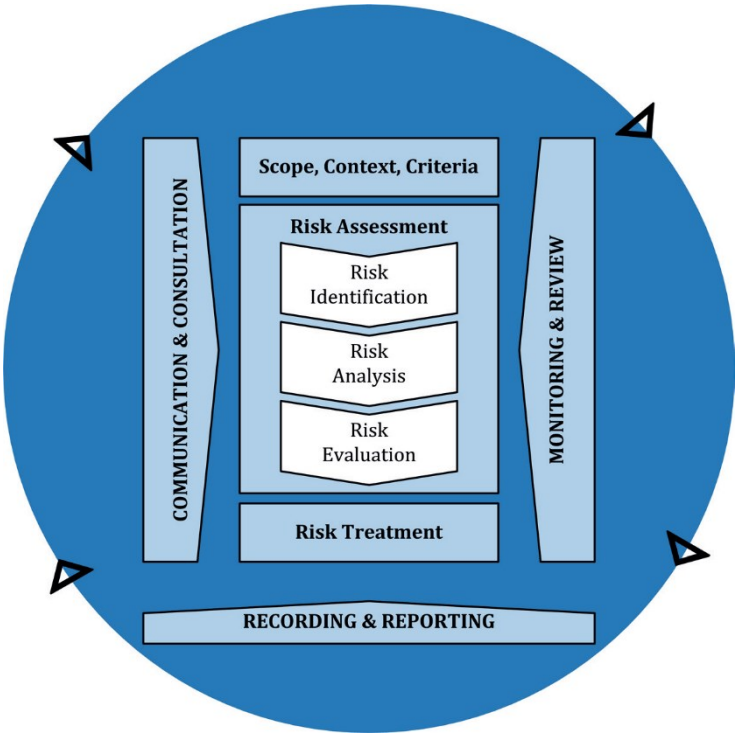
The risk management process used is shown in Figure 6.2 below.

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.

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 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 'Extreme' (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 Strategic Risk and Internal Audit Group (SRIA).

Table 6.2: Risks and Treatment Plans

Asset at Risk	What can Happen	Risk Rating	Risk Treatment Plan	Residual Risk	Treatment Cost
All Transport Assets	Renewal, maintenance, and operational budgets are not adopted as recommended in Asset Management Plan, resulting in increased asset risk, reduced levels of service and increased whole of life costs	High	Reduce levels of service, to better align asset management activities with financial constraints. This will result in renewal and maintenance activities being prioritised, with respect to available budgets.	Medium	Within existing resources / budgets
	Recommended road safety initiatives and/or infrastructure upgrade budgets are not approved to enable Safe System speeds and Safe System aligned layouts. This may result in failure to meet targets set in South Australia's Road Safety Strategy and deliver upon Council's Strategic Plan objectives to decarbonise transport and provide more inclusive, healthy streets.	High	Implement Safe System speed limits and treatments, pending Council and DIT approval of recommendations from the City Wide Speed Limit Review. Delivery of prioritised upgrade/new projects with Safe System aligned outcomes identified within the Transport Strategy to enhance road user safety. Monitor road related statistics to identify if additional prioritisation criteria and funding are needed	Medium	Upgrade/new projects are considered as part of the Annual Business Plan & Budget
	Increasing demands placed on the transport network, with growing volumes of pedestrians, motorists, cyclists, and public transport users using the network to get into and around the City. This will result in increased level of service expectations as well as competing demands for the services provided by our transport assets (e.g. off street parking, pedestrian, cycling and public transport infrastructure).	High	Engage with the community and develop an Integrated Transport Strategy to establish a long-term vision for the transport network. Delivery of prioritised upgrade/new projects identified within the Transport Strategy to enhance the transport network and accommodate city growth through upgrading existing assets and creating new assets to align service provision with the evolving needs of the community.	Medium	Within existing resources / budgets Upgrade/new projects are considered as part of the Annual Business Plan & Budget
	CoA do not have the financial capacity to undertake all recommended upgrades in conjunction with asset renewal projects to address functionality deficiencies and strategic objectives.	High	Upgrade opportunities associated with significant renewal projects are discussed with Council on an annual basis through the Business Plan and Budget Process. Prior to allocating resources to detailed design and construction activities, concept design options are developed with cost estimates and presented to CoA's Senior Leadership Team, to confirm project priority in conjunction with the recommended scope and timing of works.	Medium	Upgrade/new projects are considered as part of the Annual Business Plan & Budget
	Compromised decision making caused by insufficient asset information	High	Continue to regularly collect and update asset condition and financial information in our asset management system, to inform sound decision making. Undertake predictive scenario modelling to effectively communicate the relationship between cost, level of service and risk to inform asset management strategies.	Medium	Within existing resources / budgets
	Accelerated asset deterioration and technical obsolescence, resulting in assets requiring renewal earlier than scheduled within Asset Management Plan.	High	Undertake regular condition audits and routine maintenance inspections to understand asset deterioration trends. Review emerging renewal priorities on a regular basis and update the 4-year renewal plan through the business plan and budget process on an annual basis as required.	Medium	Within existing resources / budgets

Asset at Risk	What can Happen	Risk Rating	Risk Treatment Plan	Residual Risk	Treatment Cost
All Transport Assets	Increasing operational and maintenance requirements and costs	High	Undertake routine maintenance inspections and maintenance planning to proactively identify financial risks associated with maintenance requirements to provide the agreed level of service. Review and update maintenance standards, intervention levels and response times following adoption of Asset Management Plan. Utilise established processes through the annual business plan and budget to submit a business case to re-forecast additional operational and maintenance costs.	Medium	Within existing resources / budgets
	Third party works (e.g. utility trenching) are not constructed in accordance with CoA standards, resulting in potential hazards to public and/or premature asset failure and reduced useful life.	High	All third-party works require City Works Permits, to ensure works are delivered in accordance with City Works Guidelines and CoA standards. Defects and omission inspections are undertaken following the completion of works to ensure compliance with CoA standards. Where defects are identified the third-party is instructed to undertake required rectifications works.	Medium	Within existing resources / budgets
	Gifted assets associated with developments are not constructed in accordance with CoA standards, resulting in potential hazards to public and/or premature asset failure and reduced useful life.	High	All third-party works require City Works Permits, to ensure works are delivered in accordance with City Works Guidelines and CoA standards. Additionally, where appropriate, infrastructure agreements are established with developers to ensure proposed works are designed and constructed in accordance with CoA standards. Defects and omission inspections are undertaken following the completion of works to ensure compliance with CoA standards and/or infrastructure agreement. Where defects are identified the developer is instructed to undertake required rectifications works.	Medium	Within existing resources / budgets
Roads	Occurrence of significant road defects, such as potholes and deformations, resulting in hazards to road users.	High	Cyclic condition audits and routine maintenance inspections to monitor the condition of the road network. Delivery of planned and reactive maintenance programs with annual reviews of the capital works program to re-prioritise and incorporate emerging risks.	Medium	Within existing resources / budgets
Footpaths	Occurrence of significant footpath defects, such as vertical displacements/trip hazards or loose/missing pavers, resulting in hazards to cyclists and pedestrians.	High	Cyclic condition audits and routine maintenance inspections to monitor the condition of the footpath network. Delivery of planned and reactive maintenance programs with annual reviews of the capital works program to re-prioritise and incorporate emerging risks.	Medium	Within existing resources / budgets
Traffic Signals	Occurrence of significant traffic signal defects, causing electrical faults and/or equipment failure, resulting in major disruption to the transport network.	High	Cyclic condition audits and routine maintenance inspections to monitor the condition of the traffic signal network. Delivery of planned and reactive maintenance programs with annual reviews of the capital works program to re-prioritise and incorporate emerging risks.	Medium	Within existing resources / budgets

Asset at Risk	What can Happen	Risk Rating	Risk Treatment Plan	Residual Risk	Treatment Cost
Bridges	Structural failure of bridge assets as a result of lifecycle deterioration, resulting in catastrophic events, including death.	Very High	The condition of all bridge assets is monitored on a regular basis through Level 2 condition inspections which are undertaken every 2-4 years (based of asset age and risk profile) in conjunction with Level 1 maintenance inspections which are undertaken annually. Level 2 inspections are undertaken by structural engineering consultants in accordance with the Department of Infrastructure and Transports Road Structures Inspection Manual. Significant renewal and rehabilitation requirements identified are incorporated into renewal forecasting of asset management plans and essential maintenance requirements that are identified through inspections are considered through the Business Plan and Budget process annually.	Medium	Inspections are funded within existing resources / budgets Additional maintenance budget requirements are considered where required annually

6.3 Infrastructure Resilience Approach

The resilience of our 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.

Our current measure of resilience is shown in Table 6.3 which includes the type of threats and hazards and the current measures that the organisation takes to ensure service delivery resilience.

Ensuring we remain resilient to the impacts of projected future climate will require ongoing investigation, monitoring and adaption within future revisions of this Asset Management Plan. This has been recognised as a key action within the Improvement Plan (Chapter 8).

Table 6.3: Resilience Assessment

Threat / Hazard	Assessment Method	Current Resilience Approach
Increasing temperatures and more frequent, long-running and intense heatwaves	Data SA Climate Projections for South Australia Climate change modelling scenarios based on weather station data	Implementation key actions from the Climate Change Risk Adaptation Action Plan, which include: • Continuing to work with industry to identify new/superior products (or new applications) for application in CoA • Developing an Urban Greening Strategy to guide future investment for improved canopy cover and natural cooling
Less rain overall but more intense storms and flooding	Data SA Climate Projections for South Australia Climate change modelling scenarios based on weather station data	Implementation of key actions from the Climate Change Risk Adaptation Action Plan, which include: • Undertaking a full underground audit of our stormwater network and developing a Stormwater Management Plan to understand current and future upgrade priorities to manage flood risk • Development of flexible spatial flood modelling layers in GIS

6.4 Service and Risk Trade-Offs

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

6.4.1 What we cannot do

Based on our current Long-Term Financial Plan budgets, there are some operations and maintenance activities and capital projects that are unable to be undertaken within the next 10 years.

Maintenance & Operations

Currently, maintenance activities are evaluated and prioritised with respect to available budgets. While make-safe treatments are always undertaken as soon practical (generally within 24 hours), we are currently unable to undertake all permanent repairs within the timeframes aligned with community expectations. Following the completion of this Asset Management Plan, we will be updating maintenance standards to formalise maintenance intervention levels and response times, with the objective of establishing an acceptable balance between cost, risk, and customer expectations.

This activity has been recognised as an action within the Improvement Plan of this Asset Management Plan (Chapter 8), where the associated financial impacts will need to be further considered in future revisions of this Asset Management Plan and the Long-Term Financial Plan.

Renewal

There is an estimated $9.49 million renewal funding shortfall on average per year over the next 10 years, to continue to provide services in line with community expectations and reduce whole-of-life costs. This is further summarised for each transport asset class in Table 6.4.1 below.

Table 6.4.1: Renewal funding shortfall

Asset Class	Forecast renewal costs over next 10 years (annual average)	Current budget allocation over next 10 years (annual average)	Renewal funding shortfall over next 10 years (annual average)
Roads	$9,570,000	$6,756,660	-$2,813,340
Kerb and Watertable	$3,078,500	$2,621,077	-$947,423
Footpaths	$9,850,000	$6,061,640	-$3,788,360
Bridges	$7,262,000	$7,699,644	$437,644
Traffic Signals	$3,860,000	$1,484,810	-$2,375,190
Total	$33,620,500	$24,133,830	-$9,486,670

Acquisition (New & Upgrade)

It will not be possible to deliver all new and upgrade initiatives identified within corporate strategies and action plans within the 10-year planning period. New and upgrade initiatives will be prioritised and assessed against key criteria (see section 5.5) and considered with respect to available budgets. This process will be undertaken in consultation with the community through the business plan and budget process and the development of the Resource Plan.

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:

- Reduced levels of service for the transport network (maintenance and renewal backlog)
- Reduced customer satisfaction levels associated with the management of our existing assets
- Intergenerational inequity (burdening future generations)

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:

- Increased public safety risks associated with assets deteriorating beyond recommended intervention levels
- Increased reputational risks associated with service provisions not aligning with community expectations
- Increased financial risks associated with surplus maintenance requirements that cannot be accommodated within existing budgets
- Increased financial risks associated with higher renewal and/or rehabilitation treatments as asset renewals are not funded at the optimal point in time
- Increased economic risk associated with reduced business activity, events and tourism
- Intergenerational inequity (burdening future generations)

7.0 FINANCIAL SUMMARY

This section contains the financial requirements resulting from the information presented in the previous sections of this Asset Management 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 Asset Management 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)
- Medium term forecast costs/proposed budget (over 10 years of the planning period)

Asset Renewal Funding Ratio

The forecast renewal costs along with the proposed renewal budget, and the cumulative shortfall, is detailed in Appendix C and summarised in Table 7.1.1-1 with an overall Asset Renewal Funding Ratio[6] of 72%.

Table 7.1.1-1: Asset Renewal Funding Ratio

Roads	Kerbing	Footpaths	Bridges	Traffic Signals	Total
71%	69%	62%	106%	38%	72%

The Asset Renewal Funding Ratio is an important indicator and illustrates that over the next 10 years we expect to have 72% of the funds required for the optimal renewal of assets.

Contributing factors for the gap between the forecast renewal costs and current budgets include:

- Not achieving our Asset Renewal Funding Ratio targets over the past 4 financial years as a result of covid-19 resourcing impacts and project delays associated with post-pandemic market saturation.
- Utilising advanced predictive modelling within this Asset Management Plan, that analyses asset condition information to better recognise the changing asset investment needs over time to maintain service levels.
- Ensuring we accurately recognise asset replacement costs, utilising current unit rates that take into consideration increasing costs associated with inflation and industry escalations (We have experienced significant increases in project unit rates, noting that the Local Government Association (LGA) have indicated that costs and materials have increased up to 25% post pandemic).

Medium Term – 10 Year Financial Planning Period

This Asset Management 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 for the transport network over the 10 year planning period is approximately $41.23 million on average per year.

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

The current (budgeted) operations, maintenance and renewal funding is approximately $31.74 million on average per year giving a 10 year funding shortfall of approximately $9.49 million on average per year.

This indicates that 77% of the forecast costs needed to provide the services documented in this Asset Management Plan are accommodated in the proposed budget. Note, these calculations exclude acquired assets.

This information is presented in further detail for each asset class in Table 7.1.1-2 below.

Table 7.1.1-2: 10-Year Financial Indicator

Asset Class	Forecast operations, maintenance, and renewal costs (10-year average)	Current operations, maintenance, and renewal funding (10-year average)	Funding Shortfall/ Surplus (10-year average)	10 Year Financial Indicator
Roads	$12,170,000	$9,356,660	-$2,813,340	77%
Kerb and Watertable	$3,568,500	$2,621,077	-$947,423	73%
Footpaths	$12,987,500	$9,199,140	-$3,788,360	71%
Bridges	$7,554,500	$7,992,144	$437,644	106%
Traffic Signals	$4,944,500	$2,569,310	-$2,375,190	52%
Total	$41,225,000	$31,738,330	-$9,486,670	77%

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 Asset Management 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

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.

A gap between the forecast outlays and the amounts allocated in the financial plan indicates further work is required on reviewing service levels in the Asset Management Plan or revising the Long-Term Financial Plan.

The forecast costs (outlays) required for consideration in the 10 year Long-Term Financial Plan are provided in Appendix F. These costs include renewal, maintenance, and operations of our existing assets. For the next revision of this Asset Management Plan, it is recommended to include the acquisition costs (upgrade/new) that are specified within the Resource Plan and are accommodated within the Long-Term Financial Plan. This has been recognised as an action within the Improvement Plan (Chapter 8). Costs associated with asset disposal, will continue to be identified through Council Reports and accommodated within the annual Business Plan and Budget and Long-Term Financial Plan as required.

7.2 Funding Strategy

The proposed funding for assets is outlined in the City of Adelaide Annual Business Plan and Budget and Long-Term Financial Plan.

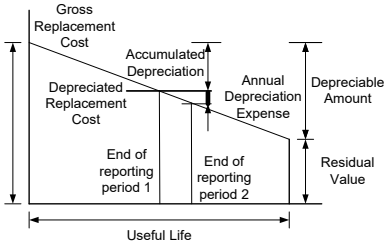
The financial strategy of the entity determines how funding will be provided, whereas the Asset Management Plan communicates how and when this will be spent, along with the service and risk consequences of various service alternatives.

7.3 Valuation Forecasts

7.3.1 Asset Valuations

The best available estimate of the value of assets included in this Asset Management Plan are shown below. The assets are valued at fair value cost to replace service capacity in accordance with Australian Accounting Standards.

Gross Replacement Cost	$1,141 million
Depreciable Amount	$991 million
Depreciated Replacement Cost[7]	$630 million
Depreciation	$21.6 million



A more comprehensive breakdown for each asset class is shown in Table 7.3.1.

Table 7.3.1: Asset Valuations

Financial Figure	Roads	Kerbs	Footpaths	Traffic Signals	Bridges
Gross Replacement Cost	$296,523,651	$119,743,095	$486,356,980	$59,352,017	$178,560,278
Depreciable Amount	$245,814,270	$119,743,095	$386,975,659	$59,352,017	$178,560,278
Depreciated Replacement Cost[8]	$201,261,941	$71,147,657	$280,119,321	$19,835,336	$57,534,949
Annual Depreciation	$7,196,174	$1,443,182	$7,782,769	$3,041,692	$2,088,132

7.3.2 Valuation Forecast

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

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.

Increases to asset valuation are formally recognised through asset revaluations in conjunction with updates to Asset Management Plans, which are both typically undertaken every 4 years.

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

7.4 Key Assumptions Made in Financial Forecasts

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

Key assumptions made in this Asset Management Plan are:

- All current assets will remain within the organisation's ownership throughout the planning period
- Renewal forecasts associated with Adelaide Bridge assume the full replacement of the existing structure. The scope, costs and timing of the recommended capital works will be better understood following the completion of the Options Analysis (currently underway and scheduled for completion in 2024). Outcomes will be revised into this Asset Management Plan and Long Term Financial Plan in the future as soon as practical
- Renewal forecasts are based on costs associated with like for like or modern equivalent replacement and are based off current design standards and any legislated requirements. They do not account for additional costs to upgrade assets or install new ancillary assets
- Renewal forecast have been derived from treatment rates established from quantity surveyor estimates or contract rates, applied to asset dimensions recognised within the Asset Management System
- Renewal forecasts have been escalated into FY24/25 dollars (based on historic and forecast inflation)
- Renewal forecasts account for external design requirements, where costs are allocated within each FY of the Asset Management Plan as a "Design Program" where applicable (typically between 5-10% of annual construction costs, depending on asset class)
- Renewal forecasts consider asset condition, asset functionality and integrated planning principles
- Renewal forecasts have been aligned where appropriate with upgrade projects approved by Council and recognised in the Long-Term Financial Plan (e.g. Main Streets)
- Renewal forecasts do not account for internal staff resourcing. These resources are to be allocated through a capital resource overhead and accommodated into the Long-Term Financial Plan separately
- Asset useful lives align with current levels of service and are based on the judgment and experience of internal staff
- Asset remaining useful life estimates are based off asset condition data, renewal intervention levels aligned with current levels of service and technical asset deterioration profiles which are based on the judgement and experience of internal staff and available industry standards
- Asset useful life and remaining useful life estimates assume existing maintenance resourcing levels are continued
- Acquisition (upgrade/new) costs are not recognised within this Asset Management Plan. These costs will be recognised in the Resource Plan and incorporated into Long-Term Financial Plan separately
- Operations and maintenance forecasts are prioritised and delivered with respect to existing budget (standards to be reviewed and associated cost impacts to be incorporated into a future revision of this Asset Management Plan)
- Operations and maintenance forecasts do not currently account for the future acquisition of new assets through upgrade/new projects or gifted assets (to be considered through the annual business plan and budget and incorporated into future revisions of this Asset Management Plan)
- The Long-Term Financial Plan will appropriately escalate financial outlays communicated within this Asset Management Plan

7.5 Forecast Reliability and Confidence

The forecast costs, proposed budgets, and valuation projections in this Asset Management 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[9] 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 Asset Management Plan is shown in Table 7.5-2. This Asset Management Plan's Improvement Plan (Chapter 8) outlines further steps recommended to be undertaken to continue to increase the maturity and confidence in asset management and financial forecasts.

Table 7.5-2: Data Confidence Assessment for Data used in Asset Management Plan

Roads	Kerbs	Footpaths	Bridges	Traffic Signals
Medium - High	Medium - High	Medium - High	Medium - High	Medium

Further information to support this assessment at a more granular level is provided in Appendix G.

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

8.0 PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices

8.1.1 Accounting and financial data sources

This Asset Management Plan utilises accounting and financial data. The source of the data is from the accounting module of CoA's Asset Management System (Assetic).

8.1.2 Asset management data sources

This Asset Management Plan also utilises asset management data. The source of the data is from CoA's Asset Management System (Assetic).

8.2 Improvement Plan

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

Table 8.2: Improvement Plan

Task	Task	Responsibility	Resources Required	Timeline
1	Finalise a 4-year Resource Plan to identify key upgrade/new projects to deliver Council's Strategic Plan objectives. Once key projects are recognised within the Long Term Financial Plan, Asset Management Plans will be updated to ensure associated acquisition costs (upgrade/new) and ongoing operational and maintenance costs are appropriately recognised, in conjunction with any scheduling adjustments required for asset renewal programs.	Strategy, Insights & Performance, with organisational support Infrastructure Planning	Within existing resource allocations	2024-25
2	Finalise Integrated Transport Strategy and identify key priority projects for inclusions within the Resource Plan. Review any key impacts to existing asset renewal programs.	Infrastructure Planning	Within existing resource allocations	2025-26
3	Revise asset renewal forecasts for Adelaide Bridge following the completion of Options Analysis (currently underway).	Infrastructure Planning	Within existing resource allocations	2024-25
4	Continue to work in partnership with both the State and Federal Governments to pursue external funding opportunities for both renewal and significant upgrade/new transport projects.	City Services Executive	Within existing resource allocations	2024-25 2025-26
5	Review and update operations and maintenance standards, to develop more structured and proactive maintenance regimes which provide an acceptable balance between cost, risk, and customer expectations. Include changes into future revisions of this Asset Management Plan and Long-Term Financial Plan.	Infrastructure Planning, City Operations	Within existing resource allocations	2024-25 2025-26

6	Continue to undertake regular condition audits and revaluation for all our transport assets within the nominated 4-year cycles, including regular review of asset useful lives.	Infrastructure Planning	Within existing resource allocations	Ongoing
7	Continue to review our technical standards and their application across the transport network with respect to climate resilience, performance, whole-of-life cost, amenity, and heritage requirements.	Infrastructure Planning, Technical Services	Within existing resource allocations	Ongoing
8	Continue to monitor forecast climate change impacts to ensure we remain resilient through proactively implementing appropriate mitigation and adaptation controls.	Sustainability, Infrastructure Planning	Within existing resource allocations	Ongoing
9	Improve the capture of carbon emission data for technical standards to support lower carbon decision making	Low Carbon & Circular Economy, Infrastructure Planning, Technical Services	Led by existing resources, with external support identified through the Business Plan and Budget	Ongoing
10	Improve the capture of carbon emission data for project procurement to support lower carbon decision making	Low Carbon & Circular Economy, Procurement, Infrastructure Delivery	Led by existing resources, with external support identified through the Business Plan and Budget	Ongoing
11	Review of corporate performance measure targets for customer satisfaction, to assist with performance gap analysis	Strategy, Insights & Performance, Infrastructure Planning	Within existing resource allocations	2024-25
12	Review and standardise asset hierarchies for all asset classes within Streets, Park Lands and Buildings Categories.	Infrastructure Planning, City Operations	Within existing resource allocations	2024-25
13	Review customer service requests codes to better align with Level of Service reporting and operational and maintenance sub-activities.	Infrastructure Planning, City Operations, Customer Centre	Within existing resource allocations	2024-25
14	Further develop processes to ensure asset data is updated following the completion of contracted maintenance work and emergency asset replacement resulting from vandalism or knockdowns	Infrastructure Planning, City Operations,	Within existing resource allocations	2024-25
15	Based on community engagement feedback, review the feasibility of establishing a distinct asset class for Cycleways for the next revision of this Asset Management Plan	Infrastructure Planning	Within existing resource allocations	2026-27

8.3 Monitoring and Review Procedures

This Asset Management 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 Asset Management 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 budgets will be incorporated into the Long-Term Financial Plan once completed.

The Asset Management Plan has a maximum life of 4 years and is due for complete revision and updating within two years of a general Council election, pursuant to section 122 of the Local Government Act 1999 (SA).

8.4 Performance Measures

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

- The degree to which the required forecast costs identified in this Asset Management Plan are incorporated into the Long-Term Financial Plan
- 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 Asset Management 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 (90-110%)
- Achieving Technical Level of Service objectives
- Reviewing changes to customer service request numbers and customer satisfactory surveys
- Progressing with the implementation of Improvement Actions identified in Table 8.2
- Reviewing and update of the Plan at minimum every four years

9.0 REFERENCES

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10.0 APPENDICES

Appendix A Operation Forecast

The forecast operational costs for the transport network are shown below. Future revisions of this Asset Management Plan will further review forecast requirements based on updated operations and maintenance standards. All values are shown in current day dollars.

Roads

Table A1 - Operation Forecast Summary (Roads)

Year	Operation Forecast	Additional Operation Forecast	Total Operation Forecast
2024-25	$1,560,000	$0	$1,560,000
2025-26	$1,560,000	$0	$1,560,000
2026-27	$1,560,000	$0	$1,560,000
2027-28	$1,560,000	$0	$1,560,000
2028-29	$1,560,000	$0	$1,560,000
2029-30	$1,560,000	$0	$1,560,000
2030-31	$1,560,000	$0	$1,560,000
2031-32	$1,560,000	$0	$1,560,000
2032-33	$1,560,000	$0	$1,560,000
2033-34	$1,560,000	$0	$1,560,000

Kerb and Watertable

Table A2 - Operation Forecast Summary (Kerb and Watertable)

Year	Operation Forecast	Additional Operation Forecast	Total Operation Forecast
2024-25	$25,000	$0	$25,000
2025-26	$25,000	$0	$25,000
2026-27	$25,000	$0	$25,000
2027-28	$25,000	$0	$25,000
2028-29	$25,000	$0	$25,000
2029-30	$25,000	$0	$25,000
2030-31	$25,000	$0	$25,000
2031-32	$25,000	$0	$25,000
2032-33	$25,000	$0	$25,000
2033-34	$25,000	$0	$25,000

Footpaths

Table A3 - Operation Forecast Summary (Footpaths)

Year	Operation Forecast	Additional Operation Forecast	Total Operation Forecast
2024-25	$1,497,500	$0	$1,497,500
2025-26	$1,497,500	$0	$1,497,500
2026-27	$1,497,500	$0	$1,497,500
2027-28	$1,497,500	$0	$1,497,500
2028-29	$1,497,500	$0	$1,497,500
2029-30	$1,497,500	$0	$1,497,500
2030-31	$1,497,500	$0	$1,497,500
2031-32	$1,497,500	$0	$1,497,500
2032-33	$1,497,500	$0	$1,497,500
2033-34	$1,497,500	$0	$1,497,500

Bridges

Table A4 - Operation Forecast Summary (Bridges)

Year	Operation Forecast	Additional Operation Forecast	Total Operation Forecast
2024-25	$62,500	$0	$62,500
2025-26	$62,500	$0	$62,500
2026-27	$62,500	$0	$62,500
2027-28	$62,500	$0	$62,500
2028-29	$62,500	$0	$62,500
2029-30	$62,500	$0	$62,500
2030-31	$62,500	$0	$62,500
2031-32	$62,500	$0	$62,500
2032-33	$62,500	$0	$62,500
2033-34	$62,500	$0	$62,500

Traffic Signals

Table A5 - Operation Forecast Summary (Traffic Signals)

Year	Operation Forecast	Additional Operation Forecast	Total Operation Forecast
2024-25	$588,500	$0	$588,500
2025-26	$588,500	$0	$588,500
2026-27	$588,500	$0	$588,500
2027-28	$588,500	$0	$588,500
2028-29	$588,500	$0	$588,500
2029-30	$588,500	$0	$588,500
2030-31	$588,500	$0	$588,500
2031-32	$588,500	$0	$588,500
2032-33	$588,500	$0	$588,500
2033-34	$588,500	$0	$588,500

Appendix B Maintenance Forecast

The forecast maintenance costs for the transport network are shown below. Future revisions of this Asset Management Plan will further review forecast requirements based on updated operations and maintenance standards. All values are shown in current day dollars.

Roads

Table B1 - Maintenance Forecast Summary (Roads)

Year	Maintenance Forecast	Additional Maintenance Forecast	Total Maintenance Forecast
2024-25	$1,040,000	$0	$1,040,000
2025-26	$1,040,000	$0	$1,040,000
2026-27	$1,040,000	$0	$1,040,000
2027-28	$1,040,000	$0	$1,040,000
2028-29	$1,040,000	$0	$1,040,000
2029-30	$1,040,000	$0	$1,040,000
2030-31	$1,040,000	$0	$1,040,000
2031-32	$1,040,000	$0	$1,040,000
2032-33	$1,040,000	$0	$1,040,000
2033-34	$1,040,000	$0	$1,040,000

Kerb and Watertable

Table B2 - Maintenance Forecast Summary (Kerb and Watertable)

Year	Maintenance Forecast	Additional Maintenance Forecast	Total Maintenance Forecast
2024-25	$465,000	$0	$465,000
2025-26	$465,000	$0	$465,000
2026-27	$465,000	$0	$465,000
2027-28	$465,000	$0	$465,000
2028-29	$465,000	$0	$465,000
2029-30	$465,000	$0	$465,000
2030-31	$465,000	$0	$465,000
2031-32	$465,000	$0	$465,000
2032-33	$465,000	$0	$465,000
2033-34	$465,000	$0	$465,000

Footpaths

Table B3 - Maintenance Forecast Summary (Footpaths)

Year	Maintenance Forecast	Additional Maintenance Forecast	Total Maintenance Forecast
2024-25	$1,640,000	$0	$1,640,000
2025-26	$1,640,000	$0	$1,640,000
2026-27	$1,640,000	$0	$1,640,000
2027-28	$1,640,000	$0	$1,640,000
2028-29	$1,640,000	$0	$1,640,000
2029-30	$1,640,000	$0	$1,640,000
2030-31	$1,640,000	$0	$1,640,000
2031-32	$1,640,000	$0	$1,640,000
2032-33	$1,640,000	$0	$1,640,000
2033-34	$1,640,000	$0	$1,640,000

Bridges

Table B4 - Maintenance Forecast Summary (Bridges)

Year	Maintenance Forecast	Additional Maintenance Forecast	Total Maintenance Forecast
2024-25	$230,000	$0	$230,000
2025-26	$230,000	$0	$230,000
2026-27	$230,000	$0	$230,000
2027-28	$230,000	$0	$230,000
2028-29	$230,000	$0	$230,000
2029-30	$230,000	$0	$230,000
2030-31	$230,000	$0	$230,000
2031-32	$230,000	$0	$230,000
2032-33	$230,000	$0	$230,000
2033-34	$230,000	$0	$230,000

Traffic Signals

Table B5 - Maintenance Forecast Summary (Traffic Signals)

Year	Maintenance Forecast	Additional Maintenance Forecast	Total Maintenance Forecast
2024-25	$496,000	$0	$496,000
2025-26	$496,000	$0	$496,000
2026-27	$496,000	$0	$496,000
2027-28	$496,000	$0	$496,000
2028-29	$496,000	$0	$496,000
2029-30	$496,000	$0	$496,000
2030-31	$496,000	$0	$496,000
2031-32	$496,000	$0	$496,000
2032-33	$496,000	$0	$496,000
2033-34	$496,000	$0	$496,000

Appendix C Renewal Forecast Summary

The forecast renewal costs for the transport network, relative to current renewal budgets are shown below, in conjunction with the annual renewal budget shortfall and the cumulative budget shortfall over the 10-year planning period. All Forecast costs are shown in 2024-25 dollar values.

Roads

Table C1 - Renewal Forecast Summary (Roads)

Year	Renewal Forecast	Renewal Budget	Annual Budget Shortfall	Cumulative Budget Shortfall
2024-25	$9,000,000	$6,012,500	-$2,987,500	-$2,987,500
2025-26	$12,000,000	$6,024,915	-$5,975,085	-$8,962,585
2026-27	$11,000,000	$6,278,253	-$4,721,747	-$13,684,332
2027-28	$9,200,000	$6,587,336	-$2,612,664	-$16,296,996
2028-29	$9,500,000	$6,744,541	-$2,755,459	-$19,052,456
2029-30	$9,000,000	$6,908,797	-$2,091,203	-$21,143,658
2030-31	$9,000,000	$7,047,140	-$1,952,860	-$23,096,518
2031-32	$9,000,000	$7,207,274	-$1,792,726	-$24,889,244
2032-33	$9,000,000	$7,377,920	-$1,622,080	-$26,511,324
2033-34	$9,000,000	$7,377,920	-$1,622,080	-$28,133,404

Across the 10-year planning period, the forecast renewal costs are $9.06m, with a current budget allocation of $67.6 m, resulting in a cumulative budget shortfall of -$28.1 m. This equates to an asset renewal funding ratio of 71%.

Kerb and Watertable

Table C2 - Renewal Forecast Summary (Kerb and Watertable)

Year	Renewal Forecast	Renewal Budget	Annual Budget Shortfall	Cumulative Budget Shortfall
2024-25	$1,850,000	$1,927,263	$77,263	$77,263
2025-26	$3,050,000	$1,949,323	-$1,100,677	-$1,023,414
2026-27	$2,850,000	$2,040,522	-$809,478	-$1,832,892
2027-28	$4,285,000	$2,134,700	-$2,150,300	-$3,983,192
2028-29	$3,125,000	$2,136,504	-$988,496	-$4,971,688
2029-30	$3,125,000	$2,139,332	-$985,668	-$5,957,356
2030-31	$3,125,000	$2,182,170	-$942,830	-$6,900,186
2031-32	$3,125,000	$2,231,756	-$893,244	-$7,793,430
2032-33	$3,125,000	$2,284,598	-$840,402	-$8,633,832
2033-34	$3,125,000	$2,284,598	-$840,402	-$9,474,234

Across the 10-year planning period, the forecast renewal costs are $30.8 m, with a current budget allocation of $21.3 m, resulting in a cumulative budget shortfall of -$9.5 m. This equates to an asset renewal funding ratio of 69%.

Footpaths

Table C3 - Renewal Forecast Summary (Footpaths)

Year	Renewal Forecast	Renewal Budget	Annual Budget Shortfall	Cumulative Budget Shortfall
2024-25	$8,500,000	$5,358,068	-$3,141,932	-$3,141,932
2025-26	$10,000,000	$5,438,504	-$4,561,496	-$7,703,428
2026-27	$10,000,000	$5,632,741	-$4,367,259	-$12,070,687
2027-28	$10,000,000	$5,910,045	-$4,089,955	-$16,160,642
2028-29	$10,000,000	$6,051,086	-$3,948,914	-$20,109,556
2029-30	$10,000,000	$6,198,454	-$3,801,546	-$23,911,102
2030-31	$10,000,000	$6,322,573	-$3,677,427	-$27,588,528
2031-32	$10,000,000	$6,466,242	-$3,533,758	-$31,122,288
2032-33	$10,000,000	$6,619,343	-$3,380,657	-$34,502,944
2033-34	$10,000,000	$6,619,343	-$3,380,657	-$37,883,600

Across the 10-year planning period, the forecast renewal costs are $98.5 m, with a current budget allocation of $60.6 m, resulting in a cumulative budget shortfall of -$37.8 m. This equates to an asset renewal funding ratio of 62%.

Bridges

Table C4 - Renewal Forecast Summary (Bridges)

Year	Renewal Forecast	Renewal Budget	Annual Budget Shortfall	Cumulative Budget Shortfall
2024-25	$750,000	$2,304,447	$1,554,447	$1,554,447
2025-26	$1,995,000	$2,398,110	$403,110	$1,957,557
2026-27	$1,600,000	$2,555,835	$955,835	$2,913,392
2027-28	$30,150,000	$2,722,292	-$27,427,708	-$24,514,316
2028-29	$30,500,000	$2,829,490	-$27,670,510	-$52,184,824
2029-30	$1,550,000	$2,942,315	$1,392,315	-$50,792,512
2030-31	$4,750,000	$51,890,316	$47,140,316	-$3,652,195
2031-32	$1,100,000	$3,069,429	$1,969,429	-$1,682,766
2032-33	$100,000	$3,142,104	$3,042,104	$1,359,338
2033-34	$125,000	$3,142,104	$3,017,104	$4,376,442

Across the 10-year planning period, the forecast renewal costs are $72.6 m, with a current budget allocation of $77.0 m, resulting in a cumulative budget surplus of $4.4 m. This equates to an asset renewal funding ration of 106%.

Traffic Signals

Table C5 - Renewal Forecast Summary (Traffic Signals)

Year	Renewal Forecast	Renewal Budget	Annual Budget Shortfall	Cumulative Budget Shortfall
2024-25	$4,250,000	$2,306,950	-$1,943,050	-$1,943,050
2025-26	$4,250,000	$2,322,837	-$1,927,163	-$3,870,213
2026-27	$4,250,000	$1,522,001	-$2,727,999	-$6,598,212
2027-28	$4,250,000	$1,585,710	-$2,664,290	-$9,262,502
2028-29	$4,250,000	$1,124,090	-$3,125,910	-$12,388,412
2029-30	$3,470,000	$1,151,466	-$2,318,534	-$14,706,946
2030-31	$3,470,000	$1,174,523	-$2,295,477	-$17,002,423
2031-32	$3,470,000	$1,201,212	-$2,268,788	-$19,271,211
2032-33	$3,470,000	$1,229,653	-$2,240,347	-$21,511,558
2033-34	$3,470,000	$1,229,653	-$2,240,347	-$23,751,905

Across the 10-year planning period, the forecast renewal costs are $38.6m, with a current budget allocation of $14.85m, resulting in a cumulative budget shortfall of -$23.7m. This equates to an asset renewal funding ratio of 38%.

Appendix D Budget Summary by Lifecycle Activity

The forecast costs (outlays) required for consideration in the 10 year Long-Term Financial Plan are provided in shown below. These costs include renewal, maintenance, and operations of our existing assets. For the next revision of this Asset Management Plan, it is recommended to include the acquisition costs (upgrade/new) that are specified within the Resource Plan and are accommodated within the Long-Term Financial Plan. This has been recognised as an action within the Improvement Plan (Chapter 8). Costs associated with asset disposal, will continue to be identified through Council Reports and accommodated within the annual Business Plan and Budget and Long-Term Financial Plan as required. All forecast renewal costs are shown in 2024/25 dollar values and operations/maintenance costs are shown in 2023/24 dollar values.

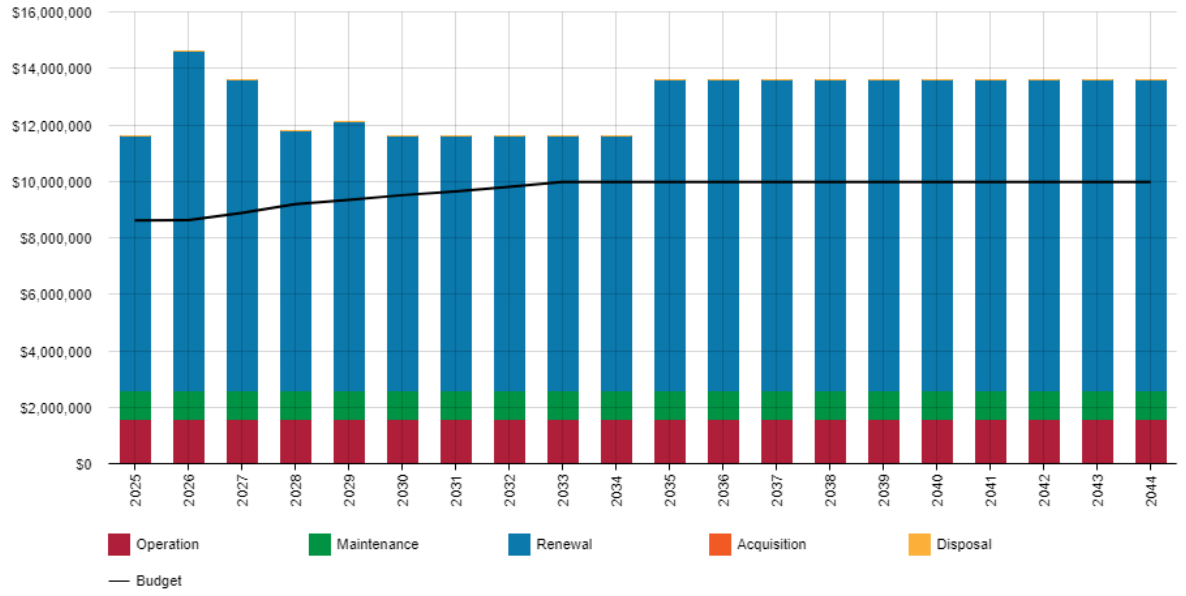
Roads

Table D1 – Budget Summary by Lifecycle Activity (Roads)

Year	Acquisition *	Operation	Maintenance	Renewal	Disposal
2024-25	$0	$1,560,0000	$1,040,0000	$9,000,000	$0
2025-26	$0	$1,560,0000	$1,040,0000	$12,000,000	$0
2026-27	$0	$1,560,0000	$1,040,0000	$11,000,000	$0
2027-28	$0	$1,560,0000	$1,040,0000	$9,200,000	$0
2028-29	$0	$1,560,0000	$1,040,0000	$9,500,000	$0
2029-30	$0	$1,560,0000	$1,040,0000	$9,000,000	$0
2030-31	$0	$1,560,0000	$1,040,0000	$9,000,000	$0
2031-32	$0	$1,560,0000	$1,040,0000	$9,000,000	$0
2032-33	$0	$1,560,0000	$1,040,0000	$9,000,000	$0
2033-34	$0	$1,560,0000	$1,040,0000	$9,000,000	$0

*Costs accounted for within the Resource Plan and incorporated into Long-Term Financial Plan separately (i.e. not through the Asset Management Plan)

Figure D1: Budget Summary by Lifecycle Activity (Roads)



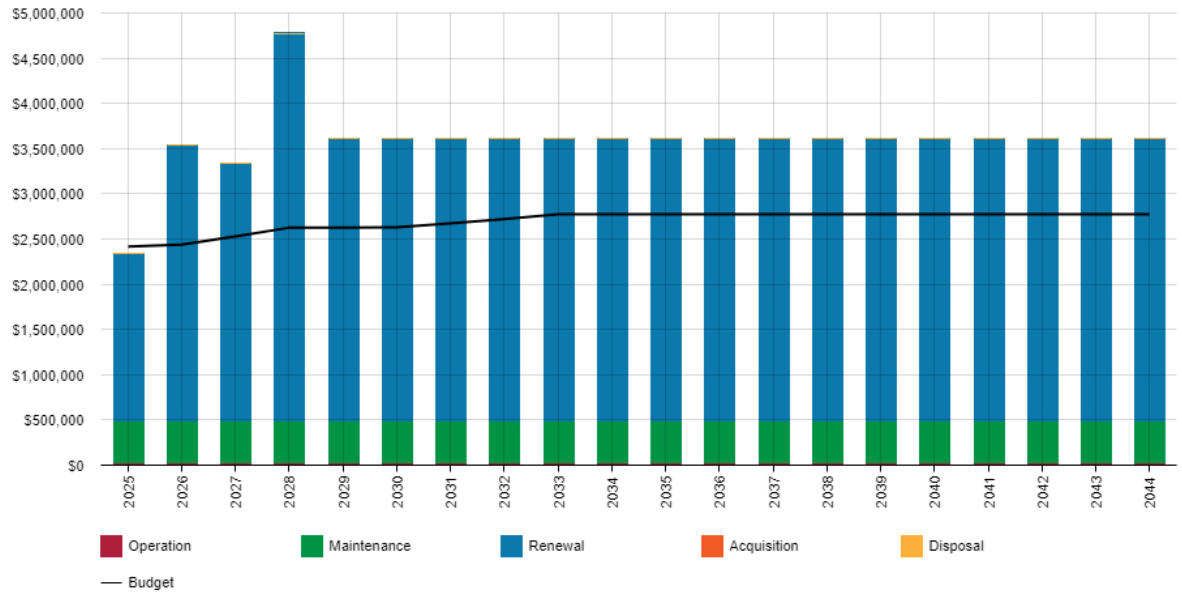
Kerb and Watertable

Table D2 – Budget Summary by Lifecycle Activity (Kerb and Watertable)

Year	Acquisition*	Operation	Maintenance	Renewal	Disposal
2024-25	$0	$25,000	$465,000	$1,850,000	$0
2025-26	$0	$25,000	$465,000	$3,050,000	$0
2026-27	$0	$25,000	$465,000	$2,850,000	$0
2027-28	$0	$25,000	$465,000	$4,285,000	$0
2028-29	$0	$25,000	$465,000	$3,125,000	$0
2029-30	$0	$25,000	$465,000	$3,125,000	$0
2030-31	$0	$25,000	$465,000	$3,125,000	$0
2031-32	$0	$25,000	$465,000	$3,125,000	$0
2032-33	$0	$25,000	$465,000	$3,125,000	$0
2033-34	$0	$25,000	$465,000	$3,125,000	$0

*Costs accounted for within the Resource Plan and incorporated into Long-Term Financial Plan separately (i.e. not through the Asset Management Plan)

Figure D2 – Budget Summary by Lifecycle Activity (Kerb and Watertable)



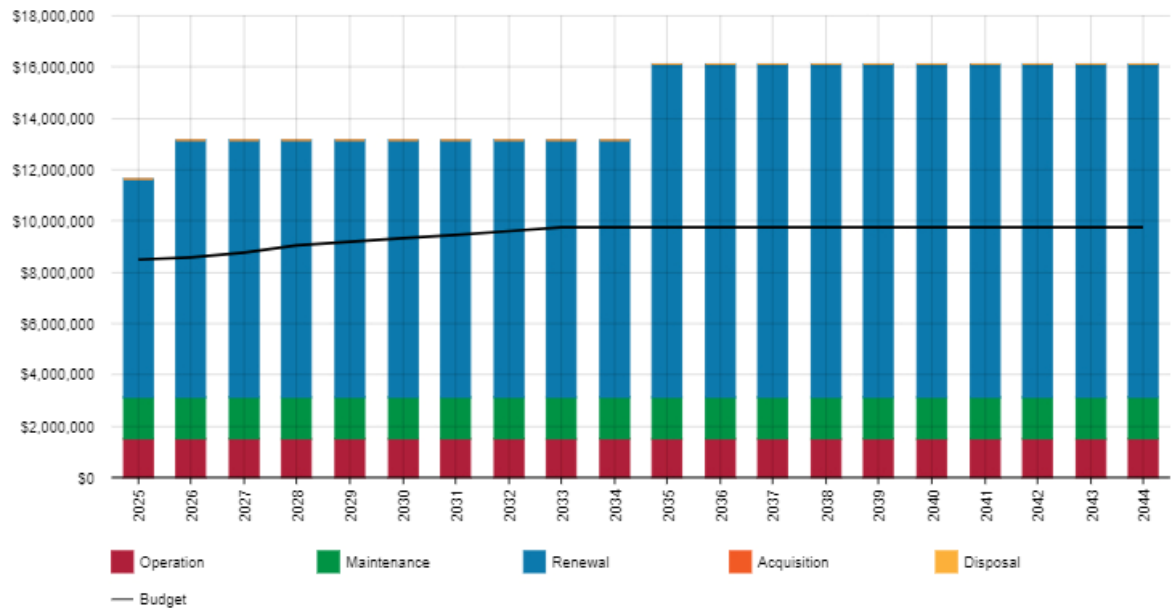
Footpaths

Table D3 – Budget Summary by Lifecycle Activity (Footpaths)

Year	Acquisition*	Operation	Maintenance	Renewal	Disposal
2024-25	$0	$1,497,000	$1,640,000	$8,500,000	$0
2025-26	$0	$1,497,000	$1,640,000	$10,000,000	$0
2026-27	$0	$1,497,000	$1,640,000	$10,000,000	$0
2027-28	$0	$1,497,000	$1,640,000	$10,000,000	$0
2028-29	$0	$1,497,000	$1,640,000	$10,000,000	$0
2029-30	$0	$1,497,000	$1,640,000	$10,000,000	$0
2030-31	$0	$1,497,000	$1,640,000	$10,000,000	$0
2031-32	$0	$1,497,000	$1,640,000	$10,000,000	$0
2032-33	$0	$1,497,000	$1,640,000	$10,000,000	$0
2033-34	$0	$1,497,000	$1,640,000	$10,000,000	$0

*Costs accounted for within the Resource Plan and incorporated into Long-Term Financial Plan separately (i.e. not through the Asset Management Plan)

Figure D3 – Budget Summary by Lifecycle Activity (Footpaths)



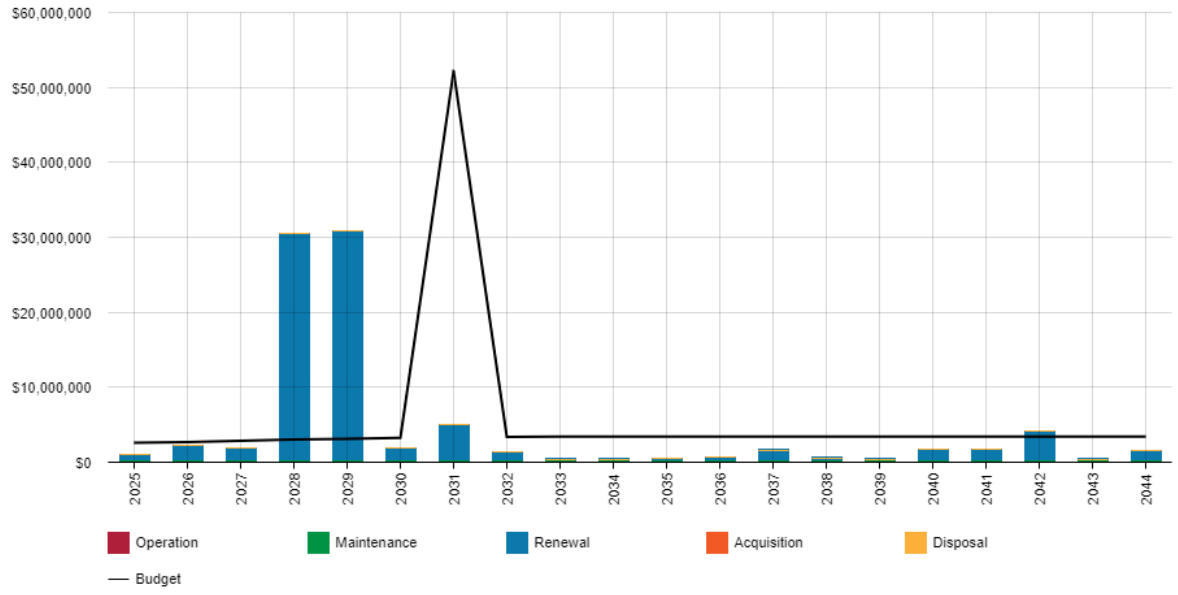
Bridges

Table D4 – Budget Summary by Lifecycle Activity (Bridges)

Year	Acquisition	Operation	Maintenance	Renewal	Disposal
2024-25	$0	$62,500	$230,000	$750,000	$0
2025-26	$0	$62,500	$230,000	$1,995,000	$0
2026-27	$0	$62,500	$230,000	$1,600,000	$0
2027-28	$0	$62,500	$230,000	$30,150,000	$0
2028-29	$0	$62,500	$230,000	$30,500,000	$0
2029-30	$0	$62,500	$230,000	$1,550,000	$0
2030-31	$0	$62,500	$230,000	$4,750,000	$0
2031-32	$0	$62,500	$230,000	$1,100,000	$0
2032-33	$0	$62,500	$230,000	$100,000	$0
2033-34	$0	$62,500	$230,000	$125,000	$0

*Costs accounted for within the Resource Plan and incorporated into Long-Term Financial Plan separately (i.e. not through the Asset Management Plan)

Figure D4 – Budget Summary by Lifecycle Activity (Bridges)



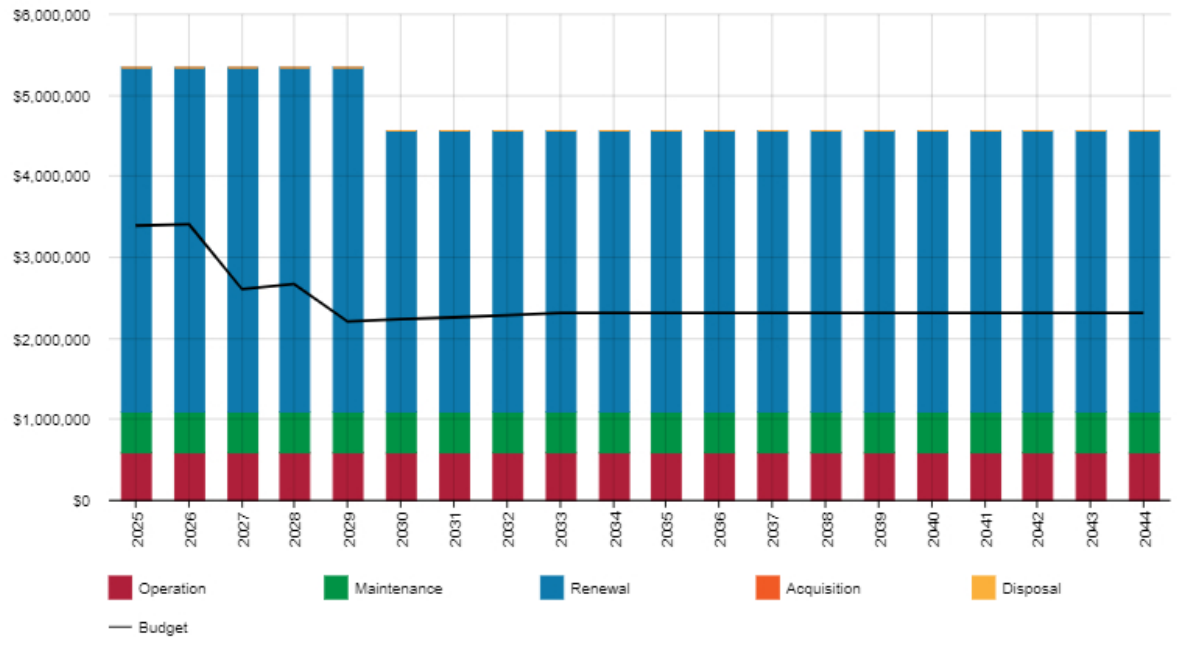
Traffic Signals

Table D5 – Budget Summary by Lifecycle Activity (Traffic Signals)

Year	Acquisition *	Operation	Maintenance	Renewal	Disposal
2024-25	$0	$588,500	$496,0000	$4,250,000	$0
2025-26	$0	$588,500	$496,0000	$4,250,000	$0
2026-27	$0	$588,500	$496,0000	$4,250,000	$0
2027-28	$0	$588,500	$496,0000	$4,250,000	$0
2028-29	$0	$588,500	$496,0000	$4,250,000	$0
2029-30	$0	$588,500	$496,0000	$3,470,000	$0
2030-31	$0	$588,500	$496,0000	$3,470,000	$0
2031-32	$0	$588,500	$496,0000	$3,470,000	$0
2032-33	$0	$588,500	$496,0000	$3,470,000	$0
2033-34	$0	$588,500	$496,0000	$3,470,000	$0

*Costs accounted for within the Resource Plan and incorporated into Long-Term Financial Plan separately (i.e. not through the Asset Management Plan)

Figure D5 – Budget Summary by Lifecycle Activity (Traffic Signals)



Appendix E Asset Condition State Overview & Renewal Intervention Levels

Roads

Table E1.1: Renewal Condition Intervention Levels (Roads)

	Road Surface		Road Pavement	
Hierarchy	Intervention Level	Useful Life	Intervention Level	Useful Life*
Major Arterial Roads	4	15 years	4	40-80 years
Minor Arterial Roads	4	15 years	4	40-80 years
Primary Collector	4	15 years	4	30-80 years
Local Collector	4.5	20 years	4	50-80 years
Local Access and Car Parks	4.5	25 years	4.5	50-80 years

*Useful Life will be dependent on specific rehabilitation treatment selected following pavement investigation and options analysis.

Table E1.2: Asset Condition Examples (Roads)

Condition	Example
Condition 1 Very Good: Free of defects, only planned and/or routine maintenance required	
Condition 2 Good: Minor defects, increasing maintenance required plus planned maintenance	

Condition 3 Fair: Defects requiring regular and/or significant maintenance to reinstate service	
Condition 4 Poor: Significant defects, higher order cost intervention likely	
Condition 5 Very Poor: Physically unsound and/or beyond rehabilitation, immediate action required	

Table E1.3: Capital Intervention Matrix (Road – Major Arterial, Minor Arterial, and Primary Collector)

PCI	SCI				
	1	2	3	4	5
1	-	-	-	50mm P&R + LP	50mm P&R + LP
2	-	-	-	50mm P&R + LP	50mm P&R + LP
3	-	-	-	50mm P&R + HP	50mm P&R + HP
4	Rehabilitation	Rehabilitation	Rehabilitation	Rehabilitation	Rehabilitation
5	Reconstruction	Reconstruction	Reconstruction	Reconstruction	Reconstruction

Table E1.4: Capital Intervention Matrix (Road – Local Collector)

PCI	SCI				
	1	2	3	4	4.5-5
1	-	-	-	-	40mm P&R + LP
2	-	-	-	-	40mm P&R + LP
3	-	-	-	-	40mm P&R + HP
4	Rehabilitation	Rehabilitation	Rehabilitation	Rehabilitation	Rehabilitation
4.5-5	Reconstruction	Reconstruction	Reconstruction	Reconstruction	Reconstruction

Table E1.5: Capital Intervention Matrix (Road – Local Access and Car Parks)

PCI	SCI				
	1	2	3	4	4.5-5
1	-	-	-	-	40mm P&R + LP
2	-	-	-	-	40mm P&R + LP
3	-	-	-	-	40mm P&R + HP
4	-	-	-	-	40mm P&R + HP
4.5-5	Reconstruction	Reconstruction	Reconstruction	Reconstruction	Reconstruction

PCI= Pavement Condition Index

SCI = Surface Condition Index

50mm P&R + LP refers to Planing and Reinstating (P&R) the top 50mm of asphalt with Light Patching (LP)

40mm P&R + HP refers to Planing and Reinstating (P&R) the top 40mm of asphalt with Heavy Patching (HP)

Kerb and Watertable

Table E2.1: Renewal Condition Intervention Levels (Kerb and Watertable)

Hierarchy	Concrete		Bluestone		Granite	
	Intervention Level	Useful Life (Years)	Intervention Level	Useful Life (Years)	Intervention Level	Useful Life (Years)
Major Arterial Roads	4	60-80	4	120	4	120
Minor Arterial Roads	4	60-80	4	120	4	120
Primary Collector	4	60-80	4	120	4	120
Local Collector	4	60-80	4	120	4	120
Local Access and Car Parks	4	60-80	4	120	4	120

Table E2.2: Asset Condition Examples (Kerb and Watertable)

Condition	Example
Condition 1 Very Good: Free of defects, only planned and/or routine maintenance required	
Condition 2 Good: Minor defects, increasing maintenance required plus planned maintenance	

Condition 3 Fair: Defects requiring regular and/or significant maintenance to reinstate service	
Condition 4 Poor: Significant defects, higher order cost intervention likely	
Condition 5 Very Poor: Physically unsound and/or beyond rehabilitation, immediate action required	

Table E3.1: Renewal Condition Intervention Levels (Footpaths)

Surface Type	Hierarchy 1 Intervention Level	Hierarchy 2 Intervention Level	Hierarchy 3 Intervention Level	Hierarchy 4 Intervention Level	Parklands Intervention Level
Asphalt	4	4	4	4	4.25
Concrete Flagstone	4	4	4	4	4
Granite	4	4	4	4	4
In-situ Concrete	4	4	4	4	4
Interlocking Pavers	4	4	4	4	4
Polished Concrete	4	4	4	4	4
Rubble	4	4	4	4	4.25
Slate	4	4	4	4	4

Table E1.2: Asset Condition Examples (Footpaths)

Condition	Example
Condition 1 Very Good: Free of defects, only planned and/or routine maintenance required	
Condition 2 Good: Minor defects, increasing maintenance required plus planned maintenance	

Condition 3 Fair: Defects requiring regular and/or significant maintenance to reinstate service	
Condition 4 Poor: Significant defects, higher order cost intervention likely	
Condition 5 Very Poor: Physically unsound and/or beyond rehabilitation, immediate action required	

Bridges

Table E4.1: Renewal Condition Intervention Levels (Bridges)

Bridge Component	Intervention Level	Useful Life (Years)
Abutment	4	50-80
Apron	4	50
Apron Protection	4	50
Arch	4	80
Batter Protection	4	20-50
Culvert	4	80
Deck - Slab	4	20-80
Deck - Wearing Surface	4	20-80
Handrails	4	30-75
Headwall	4	80
Kerb	4	30
Outlet Protection	4	80
Piers	4	50
Primary Beams or Trusses	4	30-80
Secondary Beams or Joists	4	30-75
Solid Weir Substructure and Footings	4	50
Wingwall	4	50-80

Traffic Signals

Table E5.1: Renewal Condition Intervention Levels (Traffic Signals)

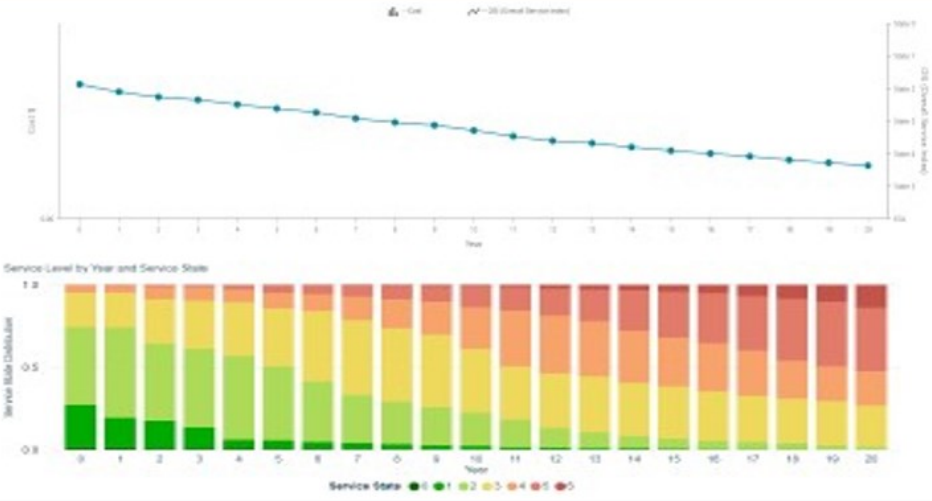
Traffic Signals Component	Intervention Level	Useful Life (Years)
Audio Tactile Renewal	4	10
Detector Loop Renewal	4	10
Lantern Renewal	4	10
Target Board Renewal	4	15
Pit Renewal	4	40
Pole Renewal	4	25
Push Button Renewal	4	10
Controller Renewal	4	10
Top Box Renewal	4	10
UPS Renewal	4	10
Conduit Renewal	4	40
CCTV Renewal	4	5

Appendix F Asset Renewal Scenario Modelling

Road Network – Predictive Scenario Modelling

LTFP Budget

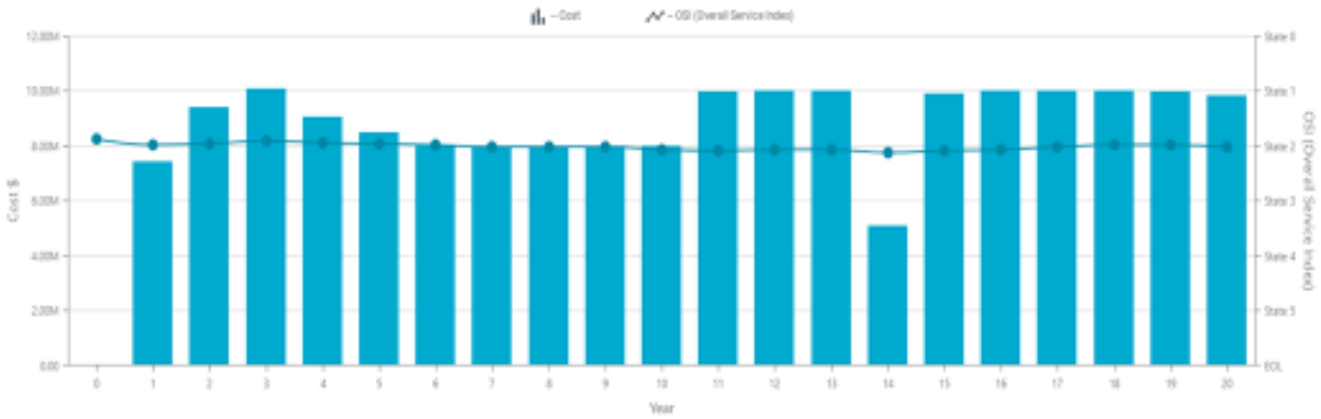
Zero Budget

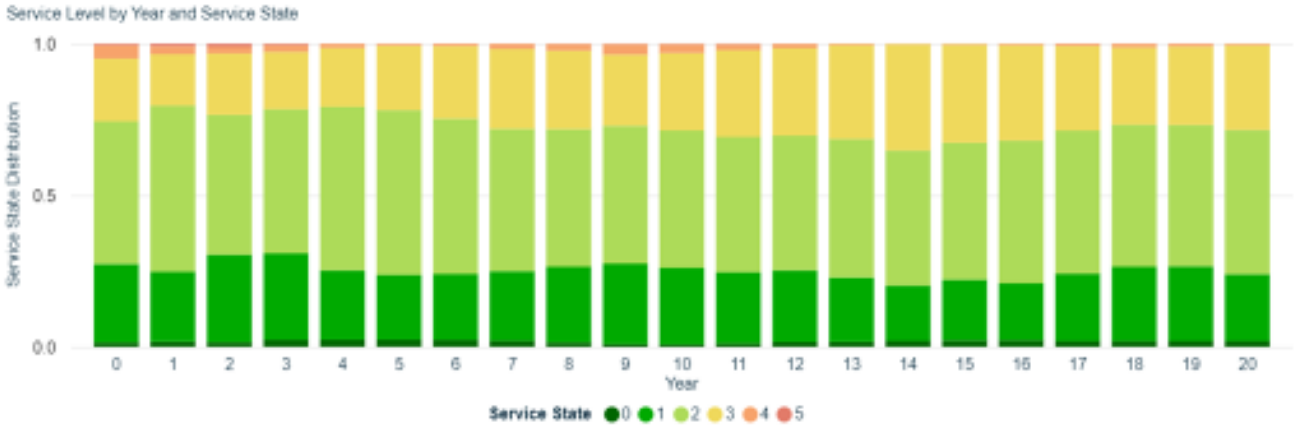


Unconstrained Budget

Recommended Strategy & Budget

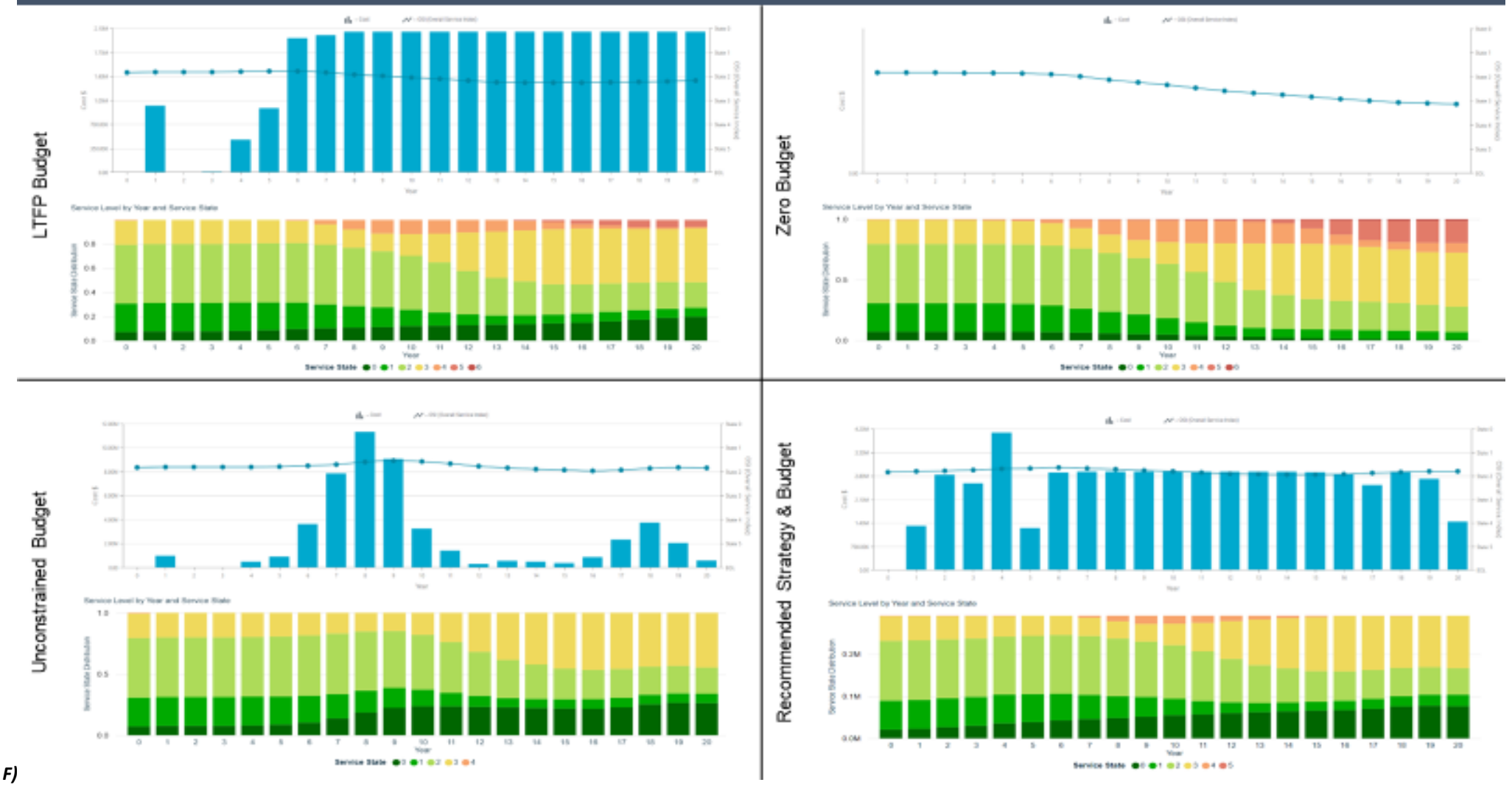
Road Network – Recommended Strategy





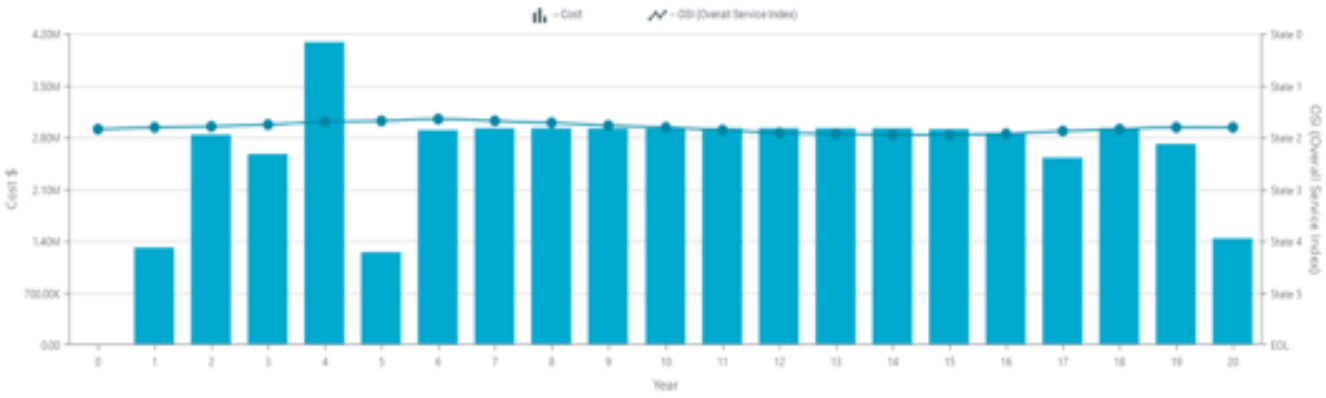
- The LTFP budget is insufficient to maintain service levels and would result in the road network slowly deteriorating over time.
- The unconstrained model projects the financial requirements to renew assets in accordance with specified renewal intervention criteria (Appendix E),which results in significant spikes of investment in specific years.
- The recommended strategy takes a more balanced approach, finding an acceptable equilibrium between budget requirements and service state outcomes, to smoothen out the unconstrained model.
- The overall service index of the network is maintained around condition state 2. Small quantities of assets fall into condition state 4 (<5%) and no assets fall into condition state 5 (with exceptions in years 2 and 3, as the initial renewal backlog is managed)
- This is considered acceptable from a risk management perspective noting that isolated service deficiencies can be managed through maintenance programs.
- Note: annual design programs ($600k) and a heavy patching program ($400k) have been included in addition to these figures for inclusion into the AM Plan.

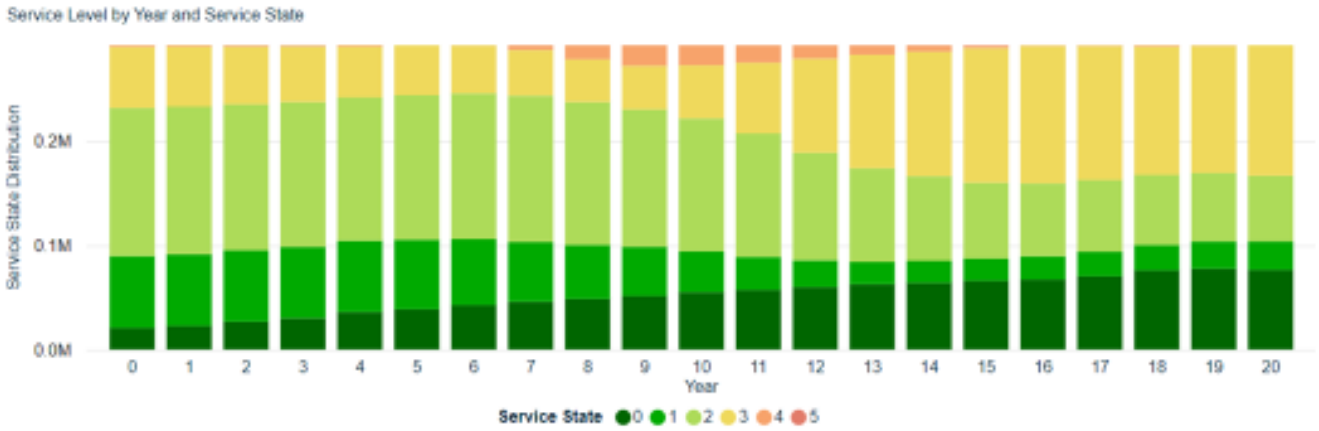
Kerb and Watertable Network – Predictive Scenario Modelling



F)

Kerb and Watertable Network – Recommended Strategy

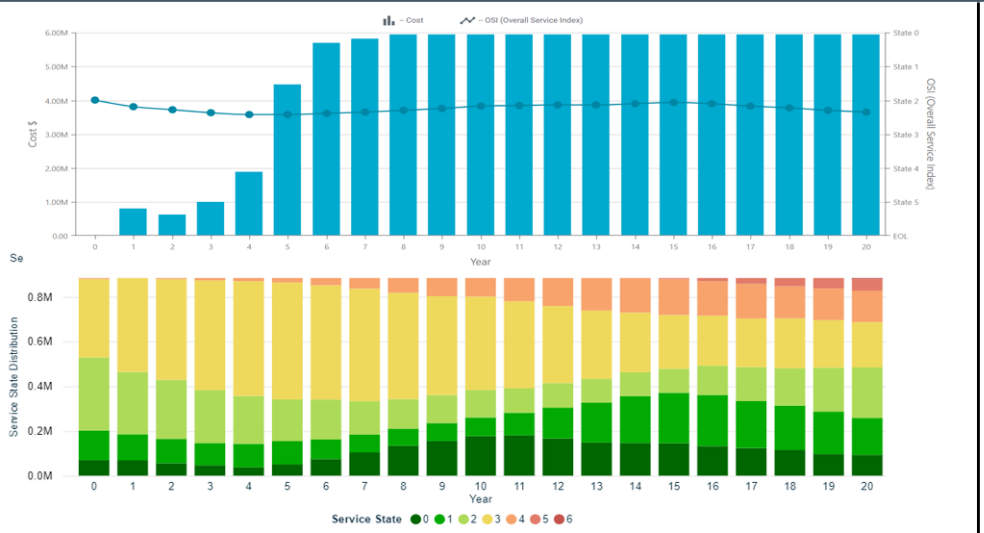




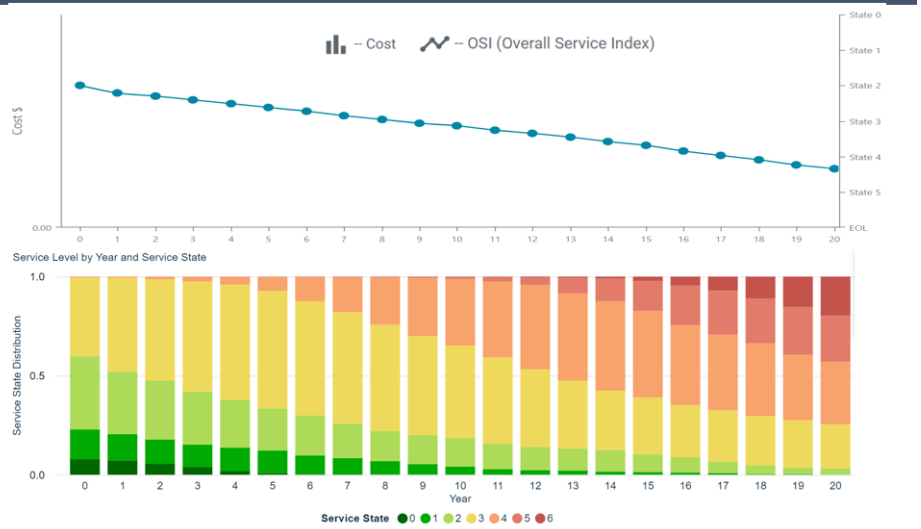
- The LTFP budget is insufficient to maintain service levels and would result in the road network slowly deteriorating over time.
- The unconstrained model projects the financial requirements to renew assets in accordance with specified renewal intervention criteria (Appendix E),which results in significant spikes of investment in specific years.
- The recommended strategy takes a more balanced approach, finding an acceptable equilibrium between budget requirements and service state outcomes, to smoothen out the unconstrained model.
- The overall service index of the network is maintained around condition state 2. Small quantities of assets fall into condition state 4 (<5%) and no assets fall into condition state 5 (with exceptions in years 9, 10, and 11, as the significant spike seen in the unconstrained model is managed)
- This is considered acceptable from a risk management perspective noting that isolated service deficiencies can be managed through maintenance programs.
- Note: annual design programs ($200k) have been included in addition to these figures for inclusion into the AM Plan.

Footpath Network – Predictive Scenario Modelling

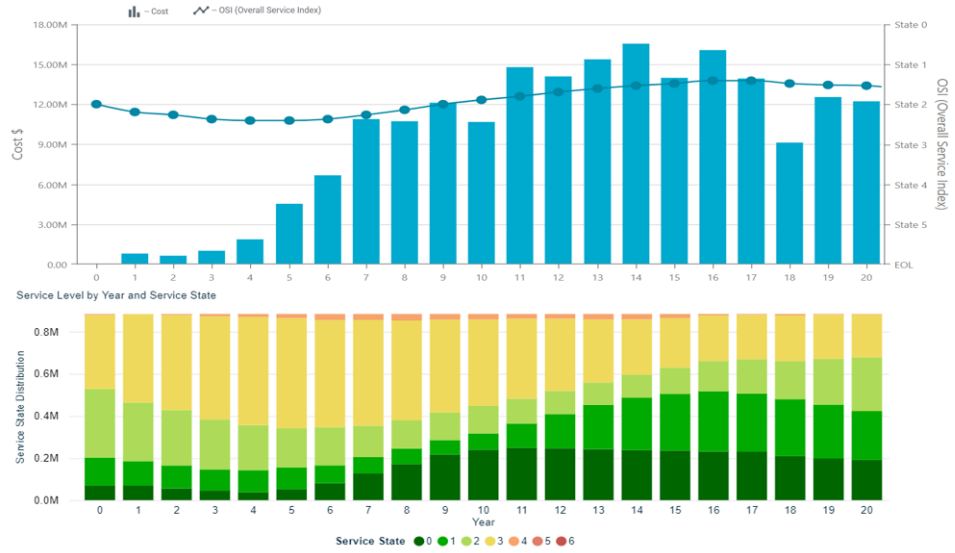
LTFP Budget



Zero Budget

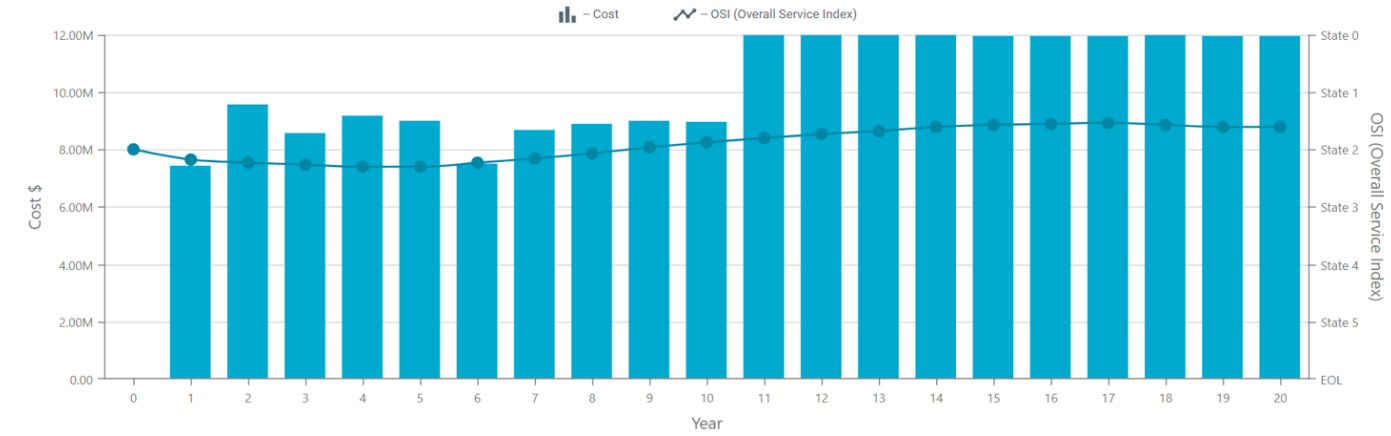


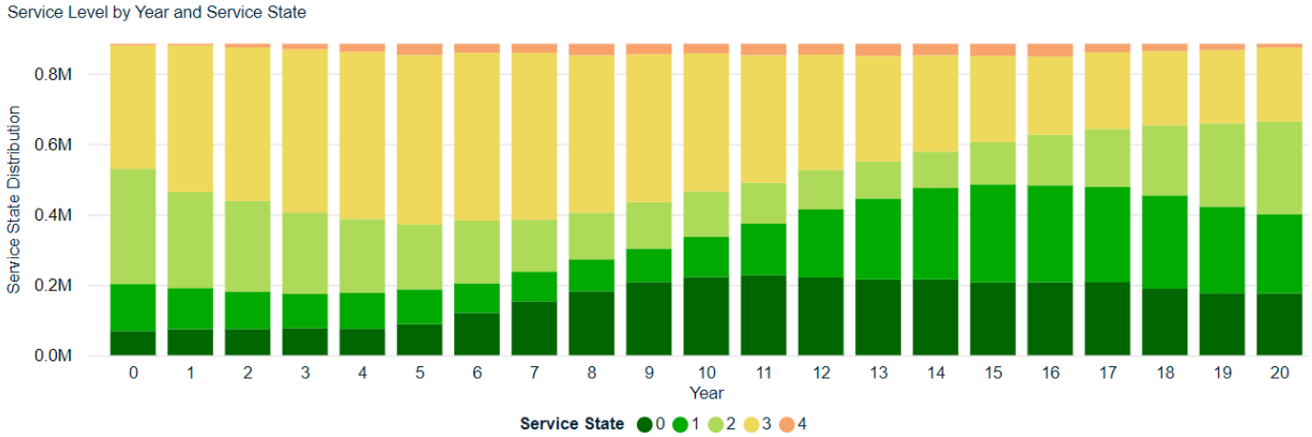
Unconstrained Budget



Recommended Strategy & Budget

Footpath Network – Recommended Strategy





- The LTFP budget is insufficient to maintain service levels and would result in the footpath network slowly deteriorating over time.
- The unconstrained model projects the financial requirements to renew assets in accordance with specified renewal intervention criteria (Appendix E),which results in significant spikes of investment in specific years.
- The recommended strategy takes a more balanced approach, finding an acceptable equilibrium between budget requirements and service state outcomes, to smoothen out the unconstrained model.
- The overall service index of the network is maintained around condition state 2. Small quantities of assets fall into condition state 4 (<5%) and no assets fall into condition state 5
- Note: annual design programs ($450k) , footpath refurbishment program ($450k) and access ramp renewal program ($100k) have been included in addition to these figures for inclusion into the AM Plan.

Appendix G Data Confidence Assessment for Data Used in Asset Management Plan

The estimated confidence level for and reliability of data used in this Asset Management Plan is shown in the tables below.

Roads

Table G1: Data Confidence Assessment for Data used in Asset Management Plan (Roads)

Data	Confidence Assessment	Comment
Demand drivers	High	Based off corporate planning documents and strategies
Growth projections	High	Based off State government projections and industry research and analysis
Acquisition forecast	Low	Not accommodated within this Asset Management Plan
Operation forecast	Medium	Based off known requirements and known costs for condition audits
Maintenance forecast	Low	Maintenance requirements are not forecasted, currently just aligned to existing budget allocations
Asset values	High	Asset valuations have been inflated for 2024/25 period
Asset useful lives	High	In line with industry standards with regular review
Condition modelling	High	Road condition audit was undertaken in 2019 and has been validated by internal staff to be of reliable quality. Predictive modelling was undertaken with Brightly's Predictor software package to estimate remaining useful life of assets
Disposal forecast	Low	Not accommodated within this Asset Management Plan

Kerb and Watertable

Table G2: Data Confidence Assessment for Data used in Asset Management Plan (Kerb and Watertable)

Data	Confidence Assessment	Comment
Demand drivers	High	Based off corporate planning documents and strategies
Growth projections	High	Based off State government projections and industry research and analysis
Acquisition forecast	Low	Not accommodated within this Asset Management Plan
Operation forecast	Medium	Based off known requirements and known costs for condition audits
Maintenance forecast	Low	Maintenance requirements are not forecasted, currently just aligned to existing budget allocations
Asset values	High	Asset valuations have been inflated for 2024/25 period
Asset useful lives	High	In line with industry standards with regular review
Condition modelling	Medium	Kerb condition audit was undertaken in 2019 and has been validated by internal staff to be of reliable quality. Predictive modelling was undertaken with Brightly's Predictor software package to estimate remaining useful life of assets
Disposal forecast	Low	Not accommodated within this Asset Management Plan

Footpaths

Table G3: Data Confidence Assessment for Data used in Asset Management Plan (Footpaths)

Data	Confidence Assessment	Comment
Demand drivers	High	Based off corporate planning documents and strategies
Growth projections	High	Based off State government projections and industry research and analysis
Acquisition forecast	Low	Not accommodated within this Asset Management Plan
Operation forecast	Medium	Based off known requirements and known costs for condition audits
Maintenance forecast	Low	Maintenance requirements are not forecasted, currently just aligned to existing budget allocations
Asset values	High	Asset valuations have been inflated for 2024/25 period
Asset useful lives	High	In line with industry standards with regular review
Condition modelling	Medium	Footpath condition audit was undertaken in 2021 and has been validated by internal staff to be of reliable quality. Predictive modelling was undertaken with Brightly's Predictor software package to estimate remaining useful life of assets
Disposal forecast	Low	Not accommodated within this Asset Management Plan

Bridges

Table G4: Data Confidence Assessment for Data used in Asset Management Plan (Bridges)

Data	Confidence Assessment	Comment
Demand drivers	High	Based off corporate planning documents and strategies
Growth projections	High	Based off State government projections and industry research and analysis
Acquisition forecast	Low	Not accommodated within this Asset Management Plan
Operation forecast	Medium	Based off known requirements and known costs for condition audits
Maintenance forecast	Low	Maintenance requirements are not forecasted, currently just aligned to existing budget allocations, with additional budget bids put forward annually as required
Asset values	High	Asset valuations have been inflated for 2024/25 period
Asset useful lives	High	In line with industry standards with regular review
Condition modelling	Medium	Condition audit of bridge network was undertaken in 2019, with several road bridges having more recent audits in 2023. Remaining life estimates are made based from engineering inspections and recommendations.
Disposal forecast	Low	Not accommodated within this Asset Management Plan

Traffic Signals

Table G5: Data Confidence Assessment for Data used in Asset Management Plan (Traffic Signals)

Data	Confidence Assessment	Comment
Demand drivers	High	Based off corporate planning documents and strategies
Growth projections	High	Based off State government projections and industry research and analysis
Acquisition forecast	Low	Not accommodated within this Asset Management Plan
Operation forecast	High	Based off ongoing costs for the provision of a SCATS fee, power supply charges and condition audits.
Maintenance forecast	Medium	Maintenance requirements are based off contracted standards for inspections; planned/reactive maintenance works, with associated KPI's
Asset values	High	Asset valuations have been inflated for 2024/25 period
Asset useful lives	High	In line with industry standards with regular review
Condition modelling	Low	Condition audit of traffic signal network was undertaken in 2019, however audit methodology has deficiencies for underground assets to inform remaining useful life estimates
Disposal forecast	Low	Not accommodated within this Asset Management Plan

CITY OF ADELAIDE

Public Realm Condition Audits

Strategic Alignment - Our Places

Public

Tuesday, 16 April 2024

Infrastructure and Public Works Committee

Program Contact:
Noni Williams, Associate Director City Operations

Approving Officer:
Tom McCready, Director City Services

EXECUTIVE SUMMARY

On 27 February 2024, Council received a report providing an overview of previous Public Realm Condition Audits undertaken on King William Street, North Terrace, Hutt Street and Melbourne Street.

The purpose of this report is to inform the Infrastructure and Public Works Committee of further Public Realm Audits undertaken in the East End and Hindley Street, as a requirement of the Chief Executive Officer's (CEO) annual Key Performance Indicators (KPI) for the Administration to conduct four public realm condition audits and present the findings back to Council.

Two further Public Realm Condition Audits and associated works will be presented to a future Infrastructure and Public Works Committee.

RECOMMENDATION

The following recommendation will be presented to Council on 23 April 2024 for consideration

THAT THE INFRASTRUCTURE AND PUBLIC WORKS COMMITTEE RECOMMENDS TO COUNCIL:

THAT COUNCIL:

1. Notes the Public Realm Condition Audits as contained in Attachment A to Item 7.6 on the Agenda for the meeting of the Infrastructure and Public Works Committee held on 16 April 2024.

IMPLICATIONS AND FINANCIALS

City of Adelaide 2024-2028 Strategic Plan	Strategic Alignment – Our Places Community assets are adaptable and responsibly maintained
Policy	Asset Management Policy, Strategic Asset Management Plan, Public Communication and Consultation Policy.
Consultation	Maintenance works undertaken, as noted in this report, may have required stakeholder notification.
Resource	Inspections were attended by the Lord Mayor, Council Members, and Council Administration.
Risk / Legal / Legislative	The review and update of Asset Management Plans, including levels of service, is required every four years or within two years of a general Council election pursuant to section 122 of *Local Government Act 1999 (SA)*.
Opportunities	Ongoing opportunities to directly discuss alignment with city maintenance and presentation activities.
23/24 Budget Allocation	Not as a result of this report
Proposed 24/25 Budget Allocation	Not as a result of this report
Life of Project, Service, Initiative or (Expectancy of) Asset	Not as a result of this report
23/24 Budget Reconsideration (if applicable)	Not as a result of this report
Ongoing Costs (eg maintenance cost)	Ongoing impacts to maintenance budget are not quantifiable at this time.
Other Funding Sources	Not as a result of this report

DISCUSSION

1. Council has resolved as part of the CEO's KPI scorecard to conduct four (4) Public Realm Condition Audits within the 2023/24 financial year and to report back to Council on the findings and implementation strategies to make good and/or enhance.
2. A report was presented to Council on 27 February 2024 in relation to a series of Public Realm Condition Audits across the City Business District (CBD) and North Adelaide, including King William Street, North Terrace, Hutt Street and Melbourne Street.
3. During Q3 2024, a series of Public Realm Condition Audits have been undertaken across the following locations:
    3.1. East End, Wednesday 14 February 2024
        3.1.1. Attendees: Deputy Lord Mayor Councillor Snape, Councillors Noon, Elliott and Couros, and representatives from the Council Administration.
    3.2. Hindley Street, Thursday 14 March 2024
        3.2.1. Attendees: Lord Mayor, Deputy Lord Mayor Councillor Snape, Councillors Noon, Elliott, Giles, Couros and Martin, and representatives from the Council Administration.
4. The outcomes of these audits are provided in **Attachment A**.
5. These audits provide Council Members with an opportunity to identify areas of concern and opportunities to focus future design and maintenance programming.
6. Common areas of focus will continue as part of these audits including:
    6.1. Cleaning.
    6.2. Graffiti.
    6.3. Footpath condition.
    6.4. Tree condition and tree surrounds.
    6.5. Weeds.
    6.6. Garden beds.
7. The walk-through provided an opportunity for the Administration to communicate and share with Council Members some of the topical themes, most relevant and important to the individual precincts and stakeholders.
8. The Project Manager for the Hindley Street master plan project attended the Hindley Street condition audit, providing commentary on the upcoming works, including:
    8.1. Intent of the project.
    8.2. Safety in Design Principles.
    8.3. Materiality intent.
    8.4. Time frames for upcoming project milestones.
9. As an outcome of the audits the City Operations team have addressed maintenance items that required immediate resolution and programmed future works for completion as per the current Service Standards.
10. Any works that have not been deemed maintenance have been escalated to the Asset Management Team for inclusion in future capital renewal works.
11. A program of associated works is in development and will be presented to a future Infrastructure and Public Works Committee meeting prior to 30 June 2024 to respond to the outcomes of the audits.
12. To complete the four condition audits, two more are programmed for this financial year. The Gouger Street audit was conducted on Wednesday 10 April 2024, and the O'Connell Street audit will be conducted on Friday 19 April 2024. Works identified from these ongoing audits will continue to be programmed and completed. A report for these audits will be provided at the June Infrastructure and Public Works Committee Meeting.

13. The proposed approach for the 2024/25 condition audits is to revisit the streets that were audited as of the end of 2023/24, in the same order. Allowing participants to provide feedback and observations of changes over the intervening periods. The order being:

    13.1. King William Street/North Terrace.

    13.2. Hutt Street.

    13.3. Melbourne Street.

    13.4. East End.

    13.5. Hindley Street.

    13.6. Gouger Street.

    13.7. O'Connell Street.

14. Further, it is proposed that the scope of the condition audits broadens to incorporate discussions about:

    14.1. Planned and upcoming projects applicable to location.

    14.2. Commentary from Place Coordinators about upcoming activities and place activations.

    14.3. Community safety and compliance initiatives and issues.

    14.4. An overview of current challenges and opportunities within the street, including feedback from the community and key stakeholders.

15. Prior to the East End condition audit, City Operations Staff undertook a pre-Adelaide Fringe walkover. This is conducted yearly with business groups and resident representatives and is used to identify any maintenance works prior to the Fringe commencing. This year's walkover was completed on Thursday, 1 February 2024. Works identified and the completion status of this walkover is available at Link 1.

DATA AND SUPPORTING INFORMATION

Link 1 – Adelaide Fringe 2024 walkover works identified

ATTACHMENTS

Attachment A – Public Ream Conditions Audits – April 2024

- END OF REPORT -

PUBLIC REALM CONDITION AUDITS

April 2024

CITY OF ADELAIDE

EAST END

On Wednesday 14 February 2024, members from the Administration met with Council Members to undertake the second public realm condition audit. This was undertaken in the CBD's East End, including Rundle Street, Vaughan Place, Frome Road (Rundle Street to North Terrace), Ebeneezer Place and Vardon Avenue.

Administration also undertook an East End walk-through on Thursday, 1 February 2024, in the lead-up to Fringe. This walk-through is undertaken yearly with representatives from the business association and members of the public. Works identified in this walk-through are provided in attachment B.

Common Themes

The public realm condition audit of the East End identified several common themes.

1. Cleanliness
2. Parking control
3. Private signage
4. Footpath defects
5. Asset Renewals and Projects

Cleanliness

Observations noted that the footpaths were generally clean and tidy, localised stains were recent, and the cleansing team were observed onsite. Additionally, the group observed the gum removal unit operating on Pulteney Street, between Rundle Street and North Terrace.

Parking Controls

Whilst on Rundle Street, it was noted that a delivery truck was not parked in dedicated loading zones, parking on a solid yellow line. The Community Safety team continue to enforce illegal parking.

Private Signage

Whilst on Rundle Street, it was noted that a store advertising sign was placed in such a manner that it was blocking a bike rack. The Community Safety were notified.

Footpath Defects

During the condition audit, there was one defect noted for action. An inset coin was missing in front of 279 Rundle Street.

Location 279 Rundle Street

Asset Renewals and Projects

Members of the Administration spoke about the upcoming project on Frome Street, Rundle Street to North Terrace, with the project being a link in the continuous and separated bikeways through the City of Adelaide. This project will be a combination of renewal and new and upgrade with the scope, including an upgrade of existing stormwater, renewal of roadway, upgrade of footpath, new kerb and water-table and new lighting specifically for a newly installed wombat crossing.

HINDLEY STREET

On Thursday 14 March 2024, a condition audit was undertaken along Hindley Street, northern and southern sides from King William Street to Morphett Street.

Common Themes

Similar to previous condition audits, several themes were identified:

1. Cleanliness/Graffiti
2. Footpath condition
3. Asset Renewals

Cleanliness

Along the length of Hindley Street, three incidences of graffiti were reported and sent to the Cleansing Team for action. These have been actioned as of 19 March 2024.

Images below: Graffiti on Hindley Street

Location: Intersection of Hindley Street and Rosina Street

Before

After

Location: Intersection of Hindley Street and Bank Street

Before

After

Location: Bank Street

Before

After

Footpath Condition

It was noted that overall, the footpaths were serviceable but are in need of rejuvenation. The Project Manager for the Hindley Street Master Plan was onsite and spoke to the project deliverables.

Asset Renewals

The Project Manager spoke to the overall vision for the Hindley Streer Master Plan, including the renewal and new and upgrade components.

Unique Themes

In addition, Hindley Street presented with unique observations. These include:

1. Unkempt bin storage at the roadside.
2. Private laneways.
3. Impacts of birds on Leigh Street.
4. Upcoming Master Plan Project.
5. Other Discussion.

Unkept Bin Storage at Roadside

The photo below is of a group of bins clustered on the footpath; notification of this was sent through to the Regulatory Team to action appropriately.

Location: Intersection of Hindley Street and Clubhouse Lane

Private Laneway

The cohort walked Produce Lane where cleanliness of the roadway and toilet was discussed.

City Operations staff confirmed that the lane was privately owned, with the toilet being under the care and control of Council, requiring a high level of service. Also, noting that the Hindley Street Master Plan works will include public conveniences.

Impact of birds on Leigh Street

Location: Leigh Street

In Leigh Street, Council staff spoke to the bird inundation. This discussion noted that there are several trees in the street that are frequented by Tree Martin's.

This small bird prefers open woodland with large trees for nesting but is becoming more common in urban areas. The birds using this area result in increased cleaning requirements and damage to private infrastructure. Council has taken measures to improve outcomes, these include.

1. Additional tree pruning to minimise overhang.
2. Additional cleaning during migration season to twice daily (up to three times daily from 26 February 2024).
3. Regular monitoring and spot cleaning as required.
4. Investigating bird control technology, including sonar.

Other Discussions

Place Activation

Further to discussions on-site, the Place Coordinator for Hindley Street has provided a list of Place Activations and Experiences that are planned in the West End over the 2023/24 financial year. These include:

1. Trial of Winter Weekends in the West End.
2. Hindley Street Uplighting Installation.
3. Motherlode Parklet Project.
4. Adelaide Symphony Orchestra Foyer Artwork installation.
5. Tiki-Palooza car show event in Light Square/Wauwi.
6. Inflatable Church/Adelaide Fringe – Discover More in the West End marketing campaign.

Other identified work

Administration staff identified several other tasks requiring follow-up and action. At the time of writing this report, these works are on the future works plan.

Image below: A yellow line that was missed during Service Authority reinstatement.

Location: Leigh Street

Image below: A missing steel collar around a bollard on Peel Street.

Location: Intersection of Hindley Street and Peel Street

Image below: A drain requiring cleaning.

Location: Rosina Street

These additional identified works have been programmed in for action.

A Parklet was identified that appeared to be no longer in use. Follow-up enquiries through the Place Coordinator to the business owner confirmed the intent to begin the re-use of this Parklet in the near future.

Image below: Parklet.

Location: 97A Hindley Street

Electric Vehicle (EV) Charging Targets and Micro-Mobility Update

Strategic Alignment - Our Environment

Public

Tuesday, 16 April 2024

Infrastructure and Public Works Committee

Program Contact:
Sarah Gilmour, Associate Director Park Lands, Policy & Sustainability

Approving Officer:
Ilia Houridis, Director City Shaping

EXECUTIVE SUMMARY

The purpose of this report is to present recommended inclusions in the Electric Vehicle (EV) Charging Infrastructure Roadmap (the EV Transition Roadmap) relating to:

- The setting of electric vehicle (EV) charging targets for the overall number of EV chargers to be provided within the city (**Attachment A**).
- Provision of e-bike charging and secure storage facilities within the city, and the development of approaches that anticipate and facilitate the increased adoption of electric cargo bikes and small commercial electric delivery vehicles (**Attachment B**).

The report responds to a Council decision on 24 October 2023 that approved the Electric Vehicle (EV) Transition Roadmap and noted the directions from the EV Transition Roadmap would be incorporated into a consolidated Climate and Sustainability Strategy.

The draft Integrated Climate Strategy (draft Strategy) was endorsed by Council on 12 December 2023 for the purposes of public consultation. Public consultation on the draft Strategy closed on 15 March 2024 and a report will be presented to Council in May 2024. The draft Strategy includes a target to install an additional 100 public EV and bicycle chargers between 2022-2025 in collaboration with partners.

The Council decision on 24 October 2023, also requested that the Administration make inclusions to the EV Transition Roadmap for e-bike charging and secure storage facilities, and develop approaches that anticipate and facilitate the increased adoption of electric cargo bikes and small commercial electric delivery vehicles, subject to consideration by the Infrastructure and Public Works Committee no later than July 2024.

The report outlines that based on current public charging EV rates, an initial short-term target is to increase the number of public EV charging bays by twenty-five (25), with a longer-term target to provide a network of up to 220 public EV chargers by 2030.

The report recommends improvements to bicycle networks and infrastructure in the City of Adelaide in relation to increased adoption of electric cargo bikes and small commercial electric delivery vehicles.

RECOMMENDATION

The following recommendation will be presented to Council on 23 April 2024 for consideration

THAT THE INFRASTRUCTURE AND PUBLIC WORKS COMMITTEE RECOMMENDS TO COUNCIL

THAT COUNCIL

1. Approves the inclusions to the Electric Vehicle (EV) Charging Infrastructure Transition Roadmap contained in Attachment A to Item 7.7 on the Agenda for the meeting of the Infrastructure and Public Works Committee held on 16 April 2024.

2. Approves the inclusions to the Electric Vehicle (EV) Charging Infrastructure Transition Roadmap contained in Attachment B to Item 7.7 on the Agenda for the meeting of the Infrastructure and Public Works Committee held on 16 April 2024.
3. Notes the initial short-term EV charging infrastructure target is to increase the number of public EV charging bays by twenty-five (25), expanding to a network of up to 220 public EV chargers by 2030.
4. Notes the revised EV charging infrastructure target contained in Attachment A Item 7.7 on the Agenda for the meeting of the Infrastructure and Public Works Committee held on 16 April 2024 will be used to update the target contained in the draft Integrated Climate Strategy 2030.
5. Notes that improvements to bicycle networks and cycling infrastructure in the City of Adelaide for increased adoption of electric cargo bikes and small commercial electric delivery vehicles will be considered through the development of the Integrated Transport Strategy.

IMPLICATIONS AND FINANCIALS

City of Adelaide 2024-2028 Strategic Plan	Strategic Alignment – Our Environment Lead as a low Carbon Emissions City
Policy	The EV Transition Roadmap is integrated as part of the draft Integrated Climate Strategy 2030.
Consultation	The EV Transition Roadmap is informed by engagement across the City of Adelaide, neighbouring local governments, State Government, industry, community representative groups and stakeholders.
Resource	Not as a result of this report
Risk / Legal / Legislative	To support access to on-street electric vehicle charging stations, the State Government legislation relating to electric vehicle parking bays was Gazetted on 30 November 2023 and came into operation on 30 March 2024.
Opportunities	The provision of public EV charging infrastructure aims to support residents in areas with constrained off-street charging options and provide destination charging that supports the city's economic competitiveness and appeal to visitors for shopping, employment, tourism, and enjoyment of the Adelaide Park Lands.
23/24 Budget Allocation	Funding is allocated in the Climate Change Adaptation Initiative Fund (CCAIF) for the financial year.
Proposed 24/25 Budget Allocation	Not as a result of this report
Life of Project, Service, Initiative or (Expectancy of) Asset	The EV Transition Roadmap has a three-year delivery focus from 2023/24 financial year to 2026/27 financial year.
23/24 Budget Reconsideration (if applicable)	Not as a result of this report
Ongoing Costs (eg maintenance cost)	The EV Transition Roadmap proposes a partnership model to expand EV charging infrastructure in the city to reduce upfront capital costs and ongoing maintenance of the charging network.
Other Funding Sources	The City of Adelaide will approach the Australian Renewable Energy Agency (ARENA) regarding funding opportunities aligned with the Roadmap.

DISCUSSION

Background

1. At its meeting on 28 March 2023, Council requested a report on an Electric Vehicle (EV) Transition Roadmap (EV Transition Roadmap) for consideration as part of the 2024/25 budget process.

2. The EV Transition Roadmap was presented to the Infrastructure and Public Works Committee on 17 October 2023 (Link 1) and subsequently approved by Council at its meeting on 24 October 2023.

3. In approving the EV Transition Roadmap, the Council noted the directions from the EV Transition Roadmap would be incorporated into a consolidated Climate and Sustainability Strategy.

4. The draft Integrated Climate Strategy (draft Strategy) was endorsed by Council on 12 December 2023 for the purposes of public consultation. Public consultation on the draft Strategy closed on 15 March 2024 and will be presented to Council in May 2024.

    4.1. A key priority for Goal 1: A net zero city is that “public EV charging infrastructure is available for all users, including micro-mobility, catalysing the uptake of EVs in Adelaide”.

    4.2. The draft Strategy includes a target to install an additional 100 public EV and bicycle chargers between 2022-2025 in collaboration with partners.

    4.3. The City of Adelaide currently provides 78 charging bays comprised of:

        4.3.1. 72 EV charging bays in UPark facilities (42 of which have been installed since 2022).

        4.3.2. 6 EV charging bays on-street or in similar short-term parking locations.

5. The Council decision on 24 October 2023, also requested inclusions to the EV Transition Roadmap for e-bike charging and secure storage facilities, and the development of approaches that anticipate and facilitate the increased adoption of electric cargo bikes and small commercial electric delivery vehicles.

6. The purpose of this report is to present recommended inclusions in the Electric Vehicle (EV) Charging Infrastructure Roadmap (the EV Transition Roadmap) relating to:

    6.1. The setting of electric vehicle (EV) charging targets for the overall number of EV chargers to be provided within the city (**Attachment A**).

    6.2. Provision of e-bike charging and secure storage facilities within the city, and the development of approaches that anticipate and facilitate the increased adoption of electric cargo bikes and small commercial electric delivery vehicles (**Attachment B**).

EV Charging Targets

7. At its meeting on 24 October 2023, Council requested that the Administration identify a target for the overall number of EV chargers to be provided within the city with the aim of ensuring the city’s existing parking offering remains a competitive and appealing destination and supporting residents who may have constrained charging options at their residences.

8. There is no widely accepted best practice approach to setting EV charging targets. Targets are highly varied throughout Australia, with not all cities committing to operate or specifically incentivise further EV charging infrastructure.

9. In developing a target, the review considered charger benchmarks across Australia and Europe together with an analysis of local charging patterns and growth projections.

10. The analysis suggests that a network of up to 220 EV chargers has the potential to fully meet charging demand to 2030 based on current public charging rates.

11. As trends, charging habits, and technology are still emerging, the analysis recommends a more targeted approach initially, focused on ensuring targeted coverage to priority on-street locations identified in the EV Transition Roadmap, followed by observation and a gradual increase to EV chargers across the network as demand increases.

12. An initial short-term target to increase the number of public EV charging bays by twenty-five (25) is recommended distributed across the on and off-street priority charging locations identified in the EV Transition Roadmap.

13. Of the recommended 25 public EV charging bays, eight were identified for priority off-street locations, and 17 on-street. The distribution of EV chargers will include appropriate pricing and time limits to manage access and sufficient vehicle turnover. Recommended locations include:

    13.1. Beaumont Avenue (two on-street chargers)

13.2. Carrington Street (two on-street chargers)

13.3. Park 27B (two destination chargers)

13.4. Hutt Street (four on-street chargers)

13.5. Par 3 Golf Course (two destination chargers)

13.6. Park 25 (two destination chargers)

13.7. Victoria Drive (two on-street chargers)

13.8. Melbourne Street (two on-street and two destination chargers)

13.9. O'Connell Street (one on-street charger)

13.10. Sturt Street (four on-street chargers).

14. Current usage data for chargers suggests that demand is relatively low at present within UParks, and much of the required capacity may already be met. Therefore, in the short term it is not recommended to increase the current number of EV charging bays of seventy-two (72) within UParks.

15. Destination and on-street charging bays should focus on fast chargers (22-150kW), which will add from 40km to 150km of range per hour of charging, depending on the vehicle. This is also in line with legislation changes relating to electric vehicle parking bays to only allow EVs to park in charging bays.

16. The EV parking bays will have a time limit of a maximum of 2 hours to charge, as they are intended for EVs to 'top up' their charge and not for extended stays to support fair and equitable access for all EV users. Non-EVs are not permitted to park in charging bays.

Micro-Mobility, E-Bike and Cargo Bike Analysis

17. The Council's decision sought to identify mechanisms through which the Council can anticipate increased micro-mobility, e-bike and cargo bike uptake.

18. E-bikes have a role to play in mode shift and electric vehicle transition, as globally e-bikes are contributing to a greater reduction in oil consumption than other types of EVs.

19. The review highlights a range of factors that influence demand for e-bike and cargo bike adoption, including:

19.1. Network safety

19.2. Comfort and effort

19.3. Limited availability of secure, convenient and covered storage

19.4. Cost

19.5. Varying e-bike range and charging standards vary with different connectors, voltage and power requirements.

20. The analysis suggests that providing a safe and well-connected cycling network and infrastructure is among the highest-impact ways to increase cycling uptake in the City of Adelaide. This includes, providing physical separation from cars, reducing vehicle speed limits (e.g. 30km/h), restricting vehicle traffic, quality paths and lighting are mechanisms that can increase network safety.

21. Charging infrastructure was not prominent in research as a barrier or enabler to cargo bike adoption.

22. Charging an e-bike requires significantly lower power requirements compared to electric vehicles, with most e-bike batteries being detachable, making it easier for the user to charge in a smaller space such as an office, apartment, or locker.

23. The Council can influence the uptake of e-bikes and cargo bikes within the city, including:

23.1. Providing safe cycling infrastructure and network

23.2. Improving secure parking throughout the city

23.3. Encouraging businesses and strata corporations to install e-bike charging for their employees, residents, or visitors

23.4. Implementing incentives for e-bikes

23.5. Providing charging facilities as demand dictates.

24. Case studies from Adelaide and Europe / United Kingdom demonstrate the increased interest in cargo bikes (including electric cargo bikes) and large secure parking facilities such as UPark and on-street bike lockers could facilitate increased adoption.

25. The analysis recommends the following options for increasing e-bike and cargo bike use in the city:

    25.1. Use of a Prioritisation Framework to identify short-term e-bike charging pilot projects where bike parking demand is already high, and secure bike parking facilities already exist.

    25.2. Working with residents and businesses to identify and understand the demands for secure on-street parking, and where this could potentially be trialled.

    25.3. Integrated transport planning to consider where cycling infrastructure can be upgraded to encourage more people onto e-bikes.

Next steps

26. Pending a decision by Council, the EV charging targets, priority EV charging locations, and possible pilot projects for e-bikes and cargo bikes, will be incorporated into the draft Integrated Climate Strategy 2030.

27. The below actions have commenced in the current 2023/24 financial year to enact the Council decision on 24 October 2024:

    27.1. Facilitate the deployment of EV charging infrastructure with the City of Adelaide by establishing a clear framework for the rollout of EV chargers at strategic locations.

    27.2. Enable the market-led provision of on-street EV chargers in select locations that support the transition to EVs and minimise impacts on the public realm.

    27.3. Work with private sector providers to trial on-street charging in residential areas with limited private off-street charging and constrained charging options.

28. Improvements to bicycle networks and cycling infrastructure in the City of Adelaide for increased adoption of electric cargo bikes and small commercial electric delivery vehicles will be considered through the development of the Integrated Transport Strategy in 2024/25.

DATA AND SUPPORTING INFORMATION

Link 1 – Infrastructure and Public Works Committee, Tuesday 17 October 2023

ATTACHMENTS

Attachment A – Electric Vehicle Infrastructure Charging Roadmap - Amendment A: EV Charing Targets and

Attachment B – Electric Vehicle Infrastructure Charging Roadmap - Amendment B: Micro-Mobility, E-Bike and Cargo Bike Analysis.

- END OF REPORT -

ELECTRIC VEHICLE CHARGING INFRASTRUCTURE TRANSITION ROADMAP

Amendment A: EV Charging Targets

ARUP

TABLE OF CONTENTS

SUMMARY

The City of Adelaide's *EV Charging Infrastructure Transition Roadmap* (the Roadmap) details the role of the City of Adelaide (CoA) and key actions to support increased electric vehicle (EV) uptake. The Roadmap is being delivered through the City of Adelaide *Integrated Climate Strategy*.

This amendment to the Roadmap seeks to set a target for the overall number of EV chargers likely to be required at CoA-owned and operated locations, particularly with the aim of delivering the following of the Roadmap's key actions:

1	Facilitate the deployment of EV charging infrastructure within the CoA by establishing a clear framework for the rollout of EV chargers at strategic locations.	**LEAD** *Year 1*
2	Enable the market-led provision of on-street EV chargers in select locations which support the transition to EVs and minimise impacts on public realm.	**LEAD** *Year 1 - 3*
3	Work with private sector providers to lead on-street charging trials in residential areas with limited private off-street charging and constrained charging options.	**LEAD** *Year 1 - 3*
4	Partner with industry for the provision of destination charging within U-Park facilities.	**PARTNER** *Year 1 – 3*

The targets are not intended to provide for the entirety of the city's charging demands, but rather to provide fair and equitable access and cement the city as an attractive and competitive destination. Individuals and businesses will continue to install charging capacity in residences, businesses, and other commercial car parks, meeting much of this demand.

There is no widely-accepted best practice approach to setting EV charging targets. Targets are highly varied throughout Australia, with not all cities committing to operate or specifically incentivise further EV charging infrastructure. Overseas experiences highlight government market intervention early on, followed by commercial viability of EVs and public chargers.

Targets for the CoA have been developed with reference to:

- The number of CoA car parking assets
- Expected overall EV uptake
- Public EV charging behaviour
- Priority EV charging infrastructure locations from the Roadmap.

CoA data provides localised indicators of user behaviour and can be used to monitor the rollout over time. For example:

- CoA residents appear to be more likely than the average Greater Adelaide resident to use CoA chargers
- Utilisation rates can indicate where the CoA sits in terms of balancing charger supply and demand
- CoA chargers provide data including length of stay and charge session volume, which can be used to calibrate targets over time.

Based on the current data, trend analysis and forecasts, it is expected that across priority locations identified in the Roadmap, at least 25 new public EV charging bays will be required in existing on- and off-street parking assets in the short-term to 2030. This would bring the total number of EV charging bays at CoA parking assets to 103.

Beyond this short-term forecast, continual monitoring will be required as the technology evolves, the market matures and uncertainty around charging behaviour reduces.

BENCHMARKING

Review of targets across Australia and leading jurisdictions

ARUP

BENCHMARKING

ABOUT THIS SECTION

With the EV transition still being in its infancy in Australia, there is no universal best practice for setting charging infrastructure targets. However, local and international benchmarks can provide insight into different methods cities are using to set targets, including from the viewpoints of jurisdictions with more matured EV uptake.

Area	EV uptake targets	On-street charging	Destination charging	Home & workplace charging	Summary
City of Sydney (CBD and metro area)	The City of Sydney aims for all vehicles to be 100% zero-emissions by 2035 but recognise that this goal requires federal legislation support[1].	The NSW Government has committed to funding assistance for 500 on-street charging points[2]. The City of Sydney has acknowledged that on-street charging is not an effective use of space, and that adoption of this typology will be limited[1].	The City of Sydney estimates that up to 350 public chargers will be sufficient for 2035 demand[1].	N/A	The City of Sydney's *Electrification of Transport in the City* strategy[1] is focused on prioritising mode shift away from cars – and as a result, its charging targets are relatively low for a city of its size. Charging infrastructure deployment is largely led by the state government rather than City of Sydney, and as a result is largely occurring outside of the inner-city area.
City of Melbourne (CBD and metro area)	All transport in the City of Melbourne is to be emissions-free by 2050, for which active and public transport play an important role[3].	On-street charging is not supported in the central city, and off-street parking is preferred[3].	The City of Melbourne is not taking on responsibility for EV charging, but rather taking a supporting role[3].		The City of Melbourne's *Transport Strategy 2030*[3] takes a position of advocating for increased uptake of zero-emissions transport. This does not extend to being the facilitator of charging infrastructure.
Northern Territory (state wide)	N/A	N/A	The NT Government is offering 100 residential and 80 business grants for EV charger rollout, and aiming to install at least 400 chargers at certain NT Government buildings[4].		

[1] *Electrification of Transport in the City: Strategy and Action Plan* – City of Sydney, 2023
[2] *NSW Electric Vehicle Strategy* – NSW Government, 2021
[3] *Transport Strategy 2030* – City of Melbourne, 2020
[4] *Northern Territory Electric Vehicle Strategy and Implementation Plan 2021 – 2026* – Northern Territory Government, 2020

BENCHMARKING

Area	EV uptake targets	On-street charging	Destination charging	Home & workplace charging	Summary
Brisbane City Council (CBD and metro area)	Queensland Government is aiming for 100% of new vehicle sales to be zero-emissions by 2036[7].	Brisbane City Council has free public EV charging stations at two locations[8], and do not have public targets for further EV charging infrastructure.			Brisbane City Council does not publicly advertise an intention to provide additional charging stations.
ACT (state wide)	80-90% of vehicles to be zero-emissions by 2030	ACT has a goal of 180 public chargers by 2025[9], and estimate that 580 – 1000 chargers will be required by 2030[10]. The ACT Zero Emissions Vehicles Strategy 2022-2030 highlights plans for regulation to require EV charging in some new residential and commercial buildings.			ACT's upper-limit goal is similar to NT (approximately one charger per 430 residents).
Oslo, Norway (CBD and metro area)	Norway is aiming for 100% of new passenger cars and light vans to be zero emissions from 2025[5]. As of November 2022, approximately 80% of new car sales are EVs.	Oslo Kommune (population 709,000) had implemented 400 free chargers by 2011[1]. Free parking was previously offered for EVs, but as Oslo's focus has shifted to active and public transport[4], this incentive has been rescinded (along with the removal of 4,000 parking spaces since 2016)[2,3]. Across Norway (population 5.4 million) there are 5,041 publicly accessible rapid chargers (>50kW), with only 700 implemented with the help of subsidies[5]. Norway's *National Charging Strategy* (2023)[5] did not identify a need for further subsidies for light vehicle chargers, but suggested they could be worthwhile for heavy vehicles during early stages.		In Norway, "charging rights" give apartment owners with parking spaces the right to have an EV charger installed, alleviating some of the challenges of apartment charging[5].	Oslo, and more broadly Norway, has been a global leader for EV adoption. However, Oslo has made a commitment to zero car traffic growth in favour of active and public transport[4] – and continued incentives for EVs are largely incompatible with this goal. Oslo presents a case that while EV charging incentives can lead to radical change, it's important to consider the role of EVs in reaching more sustainable transport goals.
European Union (region)	The EU has a zero-emission target for new cars and vans from 2035.	The EU requires that from 2024, its member states provide 1.3kW of public charging capacity for every registered light-duty battery electric vehicle[6]. In terms of 22kW chargers (common in Adelaide), this would equate to approximately 17 vehicles per charger. However, this can be re-considered once the share of EVs exceeds 15%[6].			

[1] *Making EVs the right choice* – Euro Cities, 2014

[2] *Norwegian EV policy* – Norsk elbilforening, 2023

[3] *Why Norway – the poster child for electric cars – is having second thoughts* – D Zipper / Vox Media, 2023

[4] *Reallocation of Road and Street Space in Oslo* – A Tennøy, & OH Hagen / International Transport Forum, 2020

[5] *National charging strategy* – Ministry of Transport, 2023

[6] *Regulation (EU) 2023/1804 of the European Parliament and of the Council*

[7] *Queensland's Zero Emission Vehicle Strategy 2022 – 2032* – Queensland Government, 2022

[8] *Electric Vehicles* – Department of Energy and Climate, 2024

[9] *Government funding for public EV chargers* – ACT Government, 2021

[10] *Electric vehicle charging infrastructure* – ACT Government, n.d.

BENCHMARKING

BENCHMARKING SUMMARY

EV charging targets and approaches are highly varied throughout Australia and Europe, with not all cities committing to operate or specifically incentivise further EV charging infrastructure. At this point in time, there is no universal method for setting EV charging targets.

Specific targets, and the quantum used to define those targets, varies by jurisdiction:

- Europe: 1.3kW per EV
- Northern Territory: 1 charger per 425 people
- Australian Capital Territory: 1 charger per 430-743 people
- City of Sydney: 1 charger per 203 resident-owned cars
- Norway: currently have 1 charger per 1071 residents

Electrification strategies by the City of Sydney and City of Melbourne emphasise the importance of mode shift away from cars of any kind as part of transport decarbonisation goals – particularly highlighting the inefficient space requirements of cars.

Oslo provides a forward-looking viewpoint of a more progressed city in terms of EV adoption. Through incentives including charging, Oslo has achieved a very high share of EVs, but now seeks to focus more on replacing vehicles entirely with public and active transport.

EV CHARGING TARGETS

Local charging patterns and growth projections

EV CHARGING TARGETS

OVERVIEW

This section provides an initial short-term target for public EV charger rollout at priority charging locations, and an indicative upper-limit number for 2030 in CoA.

Two key considerations when estimating the number of public charging bays required are:

- How many EVs might be parked in existing on- and off-street CoA assets in the future?
- How many of those might want/need public charging infrastructure at any given time?

Noting that EV technology, competition, and the broader transport mix are not stagnant, it's important for any target to be monitored over time. This section will also include some analysis of the utilisation and performance of CoA's current EV charging network.

CHARGING PATTERNS AND PROJECTIONS

EV CHARGING PATTERNS

Research indicates that the vast majority of EV charging currently occurs at home. A 2022 Electric Vehicle Council study indicated that only around 10% of surveyed Australian EV owners used public or workplace chargers at least weekly[1]. A CSIRO report estimates public charging will account for 5 – 11% of charging by 2050[2].

Most EV owners charge an average of 4 times per week[3]. Assuming 10% of these sessions occur outside the home, this translates into approximately 0.4 public charging sessions per EV per week.

CHARGING VOLUMES

The City of Adelaide manages a total of approximately 18,300 parking spaces across the City and North Adelaide[5].

Assuming parking assets remain constant, and considering EV market share projections by the CSIRO[4] (figure A.1), EVs could occupy 7 – 21% of spaces by 2030; meaning EVs may account for up to 1,300 - 3,800 vehicles parked in CoA parking spaces at any given time.

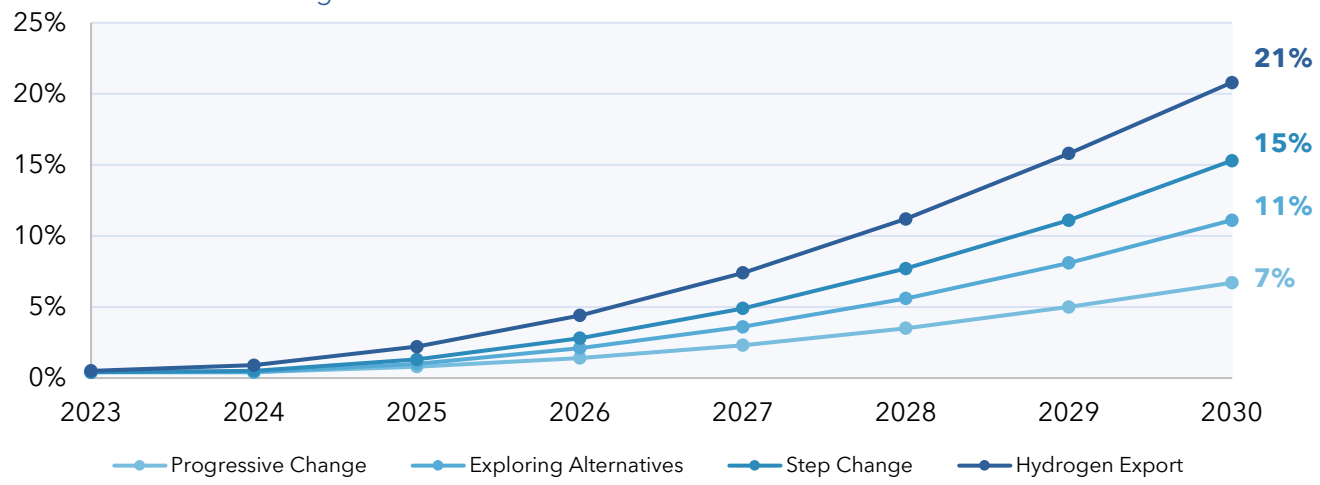
UPPER-LIMIT ESTIMATE

Based on current public charging rates, an upper limit estimate of 3,800 EVs could be expected to generate 217 sessions in public chargers by 2030.

Although the total number of EVs using CoA parking spaces may be greater due to parking space turnover, pricing and time limit policies can help to ensure that similar turnover rates apply to EV charging spaces, ensuring those who need a charger can access one.

Providing a total of ~220 EV chargers has the potential to fully meet charging demand to 2030 based on current public charging rates. However, this is an upper-limit estimate, not considering the trade-offs required to place this quantum of infrastructure in the public realm. In the short-term, a more targeted approach is recommended, focused on ensuring targeted coverage to priority locations identified in the Roadmap, followed by observation of utilisation.

Figure A.1: Estimated Electric Vehicle Market Penetration[4]



[1] *Insights into electric vehicle ownership* – Electric Vehicle Council, 2022
[2] *Electric vehicle projections 2021* – P Graham & L Havas / CSIRO, 2021
[3] *Milestone 8: EV Management and Time-Of-Use Tariff Profiles* – WJ Nacmanson, J Zhu, & L Ocha, 2022
[4] *Electric vehicle projections 2022* – P Graham / CSIRO, 2022
[5] *Parking in the city* – City of Adelaide, 2024

CURRENT TARGETS AND ROLLOUT

CURRENT EV CHARGER ROLLOUT

The City of Adelaide draft Integrated Climate Strategy 2030 sets a goat of providing 100 public EV charging bays by 2030.

CoA is tracking well with respect to accelerating the shift to EVs, with a current capacity of 78 charging bays (figure A.2):

- 72 EV charging bays in UPark facilities (42 of which have been installed since 2022).
- 6 EV charging bays on-street or in similar short-term parking locations[1].

These chargers vary in terms of charging typology, and the mechanism through which they're provided; with most chargers installed from 2022 being provided through a partnership (for example with RAA Charge).

The performance of CoA's public charging network is detailed in following sections.

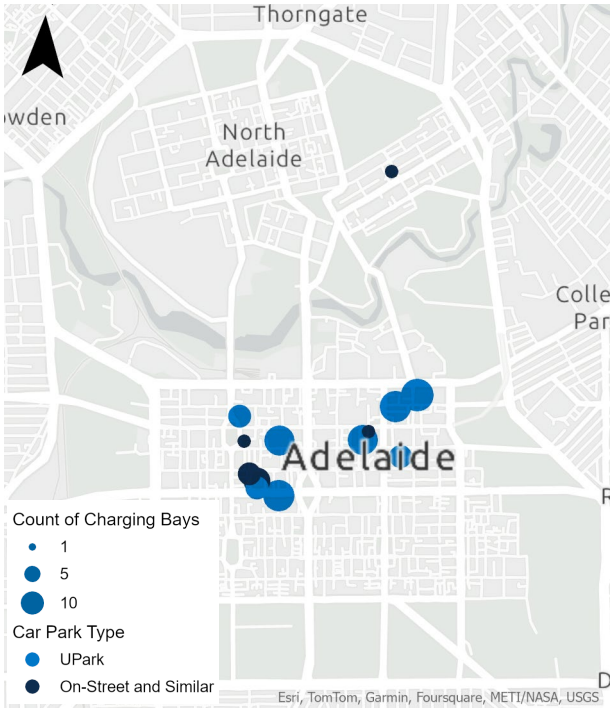


Figure A.2: Current EV charging capacity in City of Adelaide parking locations

THE ROADMAP

The Council's intention is to prioritise EV charging infrastructure in the locations defined in the Roadmap (summarised in figure A.3 on the following page).

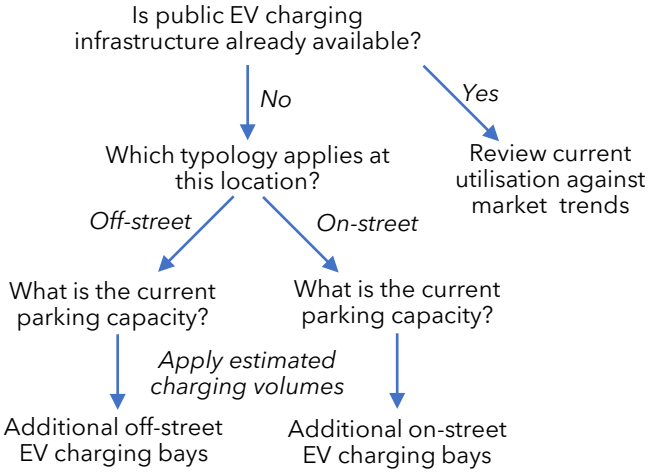
The priority locations are split between destination (which are generally off-street) and on-street charging, as each typology serves different need:

- On-street parking is typically used to meet residential and shorter-term, higher-turnover parking needs, suiting faster charging infrastructure.
- Off-street parking is generally used for longer duration stays and can be more suited to slower charging typologies.

The charging infrastructure that has been implemented to date (predominantly in UParks) generally meets the needs of visitors parking for longer durations. Focusing on other charging typologies, including on-street, can help to ensure residents' needs are also met.

TARGET DEVELOPMENT

Initial EV charging infrastructure requirements were derived for each of the Roadmap's priority locations using the below process:



This leads to an initial target of **25 new public EV charging bays** across the Roadmap's priority locations, described in further detail on the following page.

[1] Excluding chargers at 109 Franklin Street, as this site has been sold to Renewal SA and will undergo redevelopment.

RECOMMENDED LOCATION TARGETS

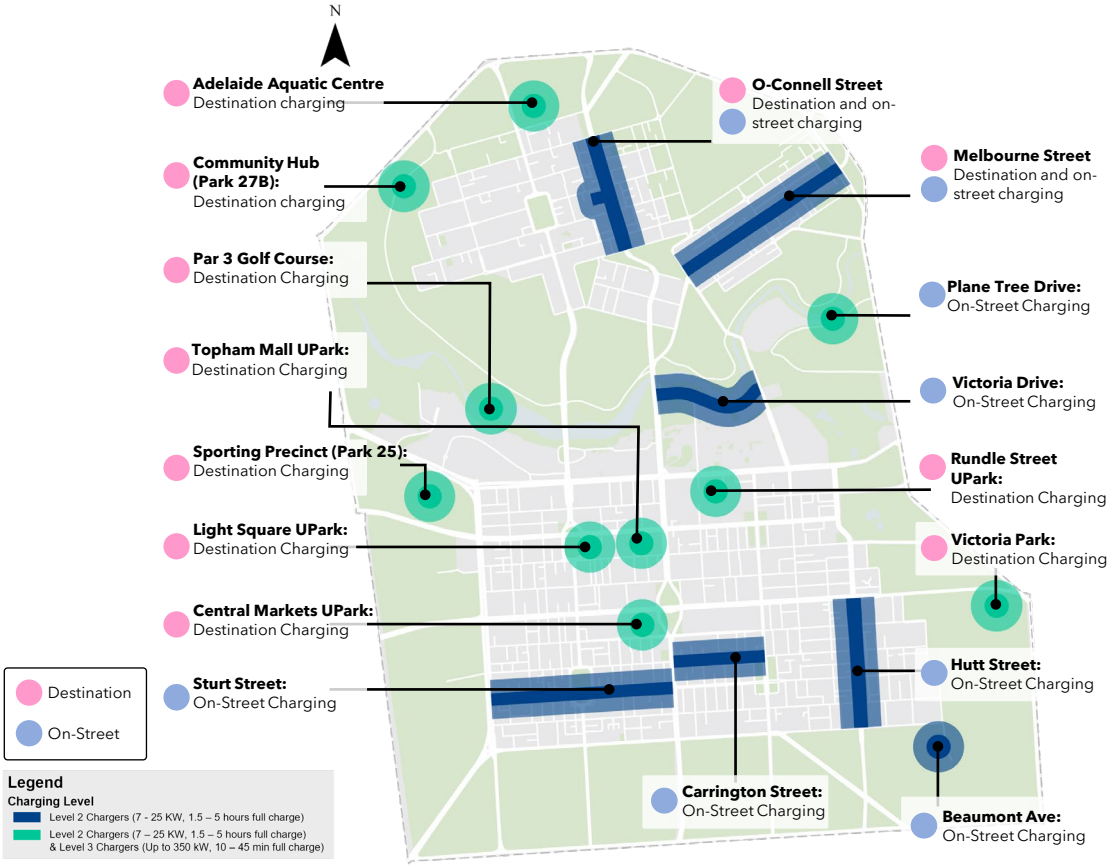


Figure A.3: Priority public EV charging locations from the Roadmap

RECOMMENDED LOCATION BREAKDOWN

Charging bay quantities

The following targets consider the number of on- or off-street EV charging bays at each priority location. In some cases, the infrastructure required may be minimised by using one charging station to serve two charging bays simultaneously.

Existing UPark capacity

Public EV charging is available at the UPark locations listed in the Roadmap. While there may be opportunity for additional charging capacity for fleet customers or residents, introduction of increased public EV charging capacity at these locations is not recommended in the short-term and should depend on the utilisation of existing infrastructure. Supporting analysis is provided in the following sections.

Council's role

Some priority locations are not under the care and control of City of Adelaide, and the Council seeks to influence charging infrastructure in these locations.

Recommended locations	On-street	Destination
Adelaide Aquatic Centre		*Influence*
Beaumont Avenue	2	
Carrington Street	2	
Community Hub (Park 27B)		2
Hutt Street	4	
Par 3 Golf Course		2
Sporting Precinct (Park 25)		2
Victoria Drive	2	
Victoria Park		*Influence*
Melbourne Street	2	2
O'Connell Street	1	*Influence*
Plane Tree Drive	*Influence*	
Sturt Street	4	
UParks		*Implement selectively*
Total	**17**	**8**

CITY OF ADELAIDE USAGE DATA

DATA AND LIMITATIONS

The CoA EV chargers record anonymised usage data that can be used to calibrate projections to the CoA's context, and to monitor the performance of CoA's charging network as it is rolled out.

The EV charging data contained in this document only contains CoA owned-and-operated charging stations[1] (i.e. RAA Charge and similar schemes are not included).

Charging data is recorded only when a user connects an EV to a charger, and hence the data in this document does not include cases where a vehicle is parked in (but not connected to) an EV charging bay.

To gain a comprehensive understanding of patterns and potential growth projections would require additional data points – including the full network of chargers operating within CoA parking assets and including statistics for non-charging vehicles.

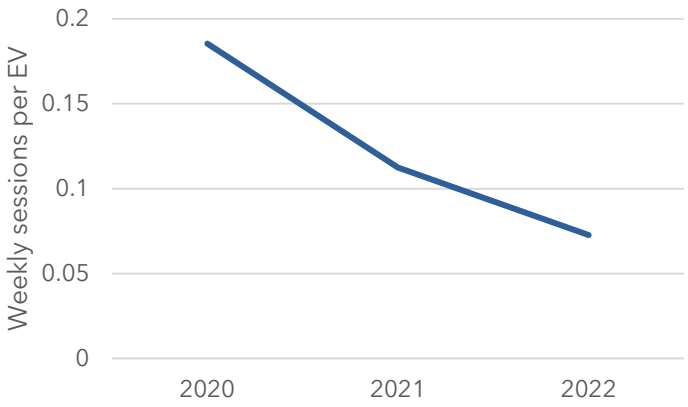
CHARGING SESSIONS PER EV

Correlating CoA charging data with EV registrations in Greater Adelaide provides a high-level overview of current charging trends in Adelaide (figure A.4).

The rate of charging sessions per EV has trended downwards since 2020, which could be due in part to more 'competition' from home, apartment, and other privately-operated chargers. Overall charging rates remain relatively low, with only 0.075 sessions per EV per week in CoA chargers. This is lower than research suggests but is reasonable considering that not all registered EVs are driven to the city, and not all public charging occurs at CoA owned-and-operated chargers.

This analysis highlights the importance of re-evaluating charging targets as the transition to EVs progresses in line with market and technology trends, and changes in charging behaviours over the next decade.

Figure A.4: Weekly charging sessions on CoA chargers per Greater Adelaide-registered EV



RESIDENT CHARGING

The postcodes of EV drivers are available for some charging sessions in CoA. Assuming postcode data was entered correctly by charger users, CoA residents accounted for approximately 11% of charging sessions at CoA chargers in 2022.

At 0.12 sessions per EV per week (compared to 0.075 sessions per week for all Greater Adelaide EVs), CoA EV owners appear much more likely to use CoA owned-and-operated chargers than the Greater Adelaide average.

Some CoA residents do not have access to off-street parking or live in buildings without charging capability. This may be contributing to the rate of charging being higher among CoA residents than the Greater Adelaide total.

ONGOING MONITORING

As the EV market and transition matures, understanding the performance and utilisation of EV chargers will be important as the share of EVs increases, and additional chargers are added to the network both within and externally to CoA parking assets.

CHARGING DURATIONS

In CoA owned-and-operated charging locations from Q1 2022 – Q1 2023, the average length of a charge session was:

- UPark chargers: 6.5 hours (2.4 hours of charging, and 4.1 hours of parking). This longer-term occupancy is likely reflective of the facilities being used for all-day parking.
- Other chargers: 1.4 hours (1.1 hours of charging, and 0.3 hours of parking). This shorter-term occupancy is likely reflective of these locations having time limits imposed on parking.

CHARGING SESSIONS PER DAY

Current available data shows that on average[2]:

- Hindmarsh Square and Franklin Street chargers perform well, with up to ~4.5 charge sessions per charger, per day.
- Light Square and Jerningham Street are less utilised, with 0.5 to 1.2 sessions per charger per day
- UPark chargers are more varied, with peak usage between 0.1 – 1.9 sessions per day. Most UPark chargers experience fewer than one charging session per day. It is likely that EV charging bays are being occupied more than indicated, but not used for charging.

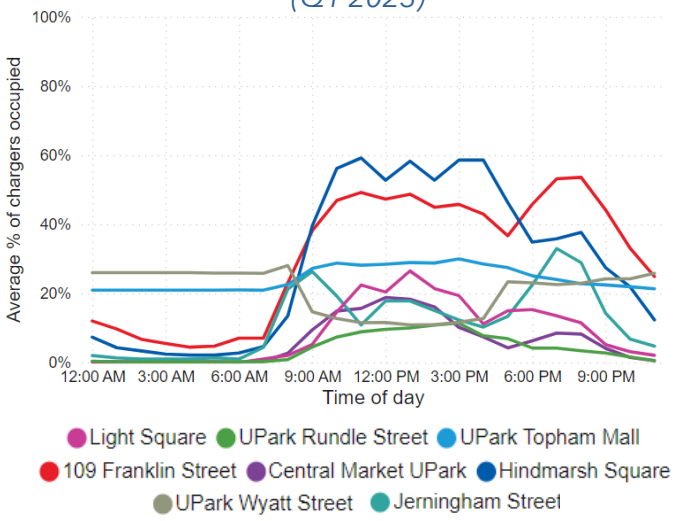
OCCUPANCY RATES

The occupancy of CoA's existing charger network provides another indicator of whether existing EV charger supply is sufficient. However, the data available at the time of writing only includes occasions where users plug in their cars; a key gap in measuring total occupancy.

From the available data, most CoA owned-and-operated EV charging locations had an average peak occupancy below 50% in Q1 2023 (figure A.5), indicating that CoA EV charger supply may be ahead of where it needs to be at present.

It is worth noting that Hindmarsh Square and Franklin Street have particularly high occupancy rates, likely due to parking being free at these locations.

Figure A.5: Average occupancy at CoA owned-and-operated EV charging locations (Q1 2023)



[1] The data has been filtered to remove significant periods of time during which no usage was recorded to account for charger inoperability. Resulting figures are approximate.

[2] H1 2022 – H1 2023. In addition to [1] above, sessions less than 20 minutes have been removed.

TARGET SUMMARY

TARGET SUMMARY

Based on current public charging rates and estimated EV uptake, there could be demand for 25 new public EV chargers in the Roadmap's priority locations by 2030.

Together with the 78 EV chargers currently available in CoA on- and off-street parking assets, this would would bring the total capacity to 103.

There are currently 72 EV chargers in UParks. Usage data for these chargers suggests that demand is relatively low at present. In future, CoA may still choose to implement additional charging at UParks that do not yet have charging facilities (such as Gawler Place UPark), but significantly more capacity could likely be achieved through parking control changes, rather than new infrastructure.

Of the recommended 25 public EV chargers, 8 were identified for priority off-street locations, and 17 on-street.

Actual distribution should be based on spatial need, and with appropriate pricing and time limits applied to ensure sufficient turnover. For example, initiatives to shift some EV charging demand from on-street locations to UParks could help to minimise impacts on urban amenity.

Targets should be regularly benchmarked against other available data, including occupancy rates (as shown previously). Low occupancy rates indicate that CoA may be ahead of the curve already, and a further rapid build out risks creating redundant infrastructure in the short term. High rates at particular locations can help to target future expansion.

COMPARISON TO OTHER REGION TARGETS

City of Sydney

City of Sydney's targets translate to a goal of approximately 1 charger per 200 resident motor vehicles in 2035. At this rate, 103 chargers would correspond with 20,600 resident motor vehicles, which is approximately double the number of all vehicles registered in CoA as of 2021.

Geographically, Sydney's target results in a higher density of chargers compared to Adelaide (approximately double). However, Sydney's population density is also approximately 5x greater than Adelaide's.

NT and ACT

Targets for NT and ACT correspond with approximately 1 charger per 425 residents.

At this rate,103 EV chargers would correspond with a population significantly greater than the population of CoA (as of 2021).

European Union

The EU has a target of 1.3kW of charging capacity per light-duty battery EV (while EV share is below 15%).

Based on the projections provided earlier, EVs could account for 7 – 21% of all vehicles parked in CoA parking spaces at any given time by 2030 (1,300 - 3,800 vehicles).

Applying the EU target to this number of vehicles would correspond with 1,690kW – 4,940kW of charging capacity. This equates to between 77 – 225 chargers with 22kW output.

With 78 EV chargers already available at CoA on- and off-street parking assets, the lower bound estimate is already being provided for. The short-term target will increase capacity further, and monitoring can help to refine longer-term targets.

ELECTRIC VEHICLE CHARGING INFRASTRUCTURE TRANSITION ROADMAP

Amendment B: Micro-Mobility, E-Bike and Cargo Bike Analysis

ARUP

TABLE OF CONTENTS

SUMMARY

Electric bikes (e-bikes) have a role to play in the transition to a more sustainable, safe, healthy and economical transport system. This amendment to the City of Adelaide's (CoA) *EV Charging Infrastructure Transition Roadmap* (the Roadmap) explores some of the mechanisms through which CoA can influence increased e-bike uptake.

The term "electric vehicles" (EVs) is commonly used to refer to electric cars. However, EVs can include a wide range of vehicles – from larger EV varieties including electric trucks, buses, vans, and cars to smaller "micro-mobility" vehicles including electric bikes, cargo bikes, and scooters.

This amendment focuses primarily on e-bikes, with consideration for the broader electric micro-mobility category that they belong to.

The barriers for e-bike adoption much more closely reflect the barriers to bike adoption than adoption of other types of EVs (including electric cars). For example, while range anxiety is a significant barrier for individuals looking to purchase an electric car, bikes (and e-bikes) are primarily affected by safety barriers. Case studies are included in this report as a reference.

Specific analysis for electric cargo bikes shows high potential for uptake, but barriers mirror those for 'normal' bikes and e-bikes.

This amendment explores options and opportunities for providing e-bike charging within CoA, including in UPark facilities.

CONTEXT

E-bikes have a role to play in mode shift and electric vehicle transition, as globally e-bikes are contributing to a greater reduction in oil consumption than other types of EVs.

ROLE OF E-BIKES IN THE EV TRANSITION

While EVs have lower emissions than internal combustion engine (ICE) vehicles, local and international benchmarks support a longer-term shift to alternative modes of transport.

E-bikes only take a fraction of the power, resources, and space required to manufacture and own an EV, making them a highly effective mode for decarbonisation and improving a city's overall liveability.

Congestion

EVs occupy the same road space requirements as ICE vehicles. Substituting even a small number of car trips with bike and e-bike trips can lead to an impactful congestion reduction[6].

Infrastructure

EVs continue to require a significant amount of the city's space to be devoted to carriageway and parking compared with other active transport modes (including bikes and e-bikes).

A higher share of bikes and e-bikes could allow some of this space to be repurposed for other uses; for example outdoor dining, green space, footpaths, or cycle lanes.

Health and safety

EVs pose similar or greater safety risks to vulnerable road users compared to ICE vehicles.

Investing in active transport (including e-bike riding) can create positive health benefits from increased physical fitness[7,8,9,10] and reduce road fatalities[11].

GLOBAL AND LOCAL TRENDS

The popularity of e-bikes has exploded in recent years.

- Worldwide, electric two- and three-wheeled devices are reducing oil consumption by over a million barrels per day – more than double that of electric cars[1].
- 2 million e-bikes were sold in Germany in 2021 alone[2] (2% of the population).
- E-bike sales in Australia grew 730% from 2017 to 2021[3]. One retailer reported a 92% increase in e-bike sales in SA from 2019 – 2021[4].
- From 2019 to 2023, the share of e-bike trips recorded on the exercise app Strava grew sixfold in Greater Adelaide (from 0.4% to 2.8%)[5].

[1] *Electric Vehicle Outlook 2022* – BloombergNEF, 2022
[2] Visualization and bibliometric analysis of e-bike studies: A systematic literature review (1976–2023) – J Zhou, Z Li, S Dong, J Sun, & Y Zhang, 2023
[3] *Australia's EV strategy misses the turnoff for faster climate action* – Bicycle Network, 2023
[4] *Electric bike sales increase in SA as commuters and families climb aboard* – C Peddie / The Advertiser, 2021
[5] This report includes aggregated and de-identified data from Strava Metro.
[6] *E-Bike Subsidy for Australians* – Institute for Sensible Transport / WeRide, 2021
[7] *E-bikes Toward Inclusive Mobility: A Literature Review of Perceptions, Concerns, and Barriers* – K Lee, & IN Sener, 2023
[8] *Extending life on the bike: Electric bike use by older Australians* – M Johnson, & G Rose, 2015
[9] *The impact of e-cycling on travel behaviour: A scoping review* – JE Bourne, AR Cooper, FJ Kinnear, C England, S Leary, & A Page – 2020
[10] *Health impact assessment of active transportation: A systematic review* – N Mueller, D Rojas-Rueda, T Cole-Hunter, A de Nazelle, E Dons, R Gerike, T Götschi, L I Panis, S Kahlmeier, & M Nieuwenhuijsen, 2015
[11] *Why cities with high bicycling rates are safer for all road users* – WE Marshall, & NN Ferenchak, 2019

ABOUT E-BIKES

E-bikes are part of a large and continually-growing number of electric mobility devices, which come in a range of different forms for different users and use cases.

THE 'TYPICAL' E-BIKE

Many e-bikes look like a normal bike – only they have a battery and an electric motor that will assist the rider up to a speed of 25km/h.

E-bikes allow riders to choose to cycle for more types of trips – whether that's riding further, on more challenging terrain, or with more cargo (e.g. groceries).

E-bikes tend to start at around $800 (depending on range, quality, and other factors), and have a range of 30-70km (varying for example with battery size, terrain, and power level).

ELECTRIC CARGO BIKES

Cargo bikes unlock a wide range of possibilities for transporting people and goods sustainably.

Businesses are increasingly using cargo bikes to replace vans – including in Adelaide, where they're used (for example) to deliver food, or service electric scooters.

There are many different sizes and configurations of cargo bikes, ranging from the size of a regular bike to not much smaller than a small van.

E-SCOOTERS AND ELECTRIC PERSONAL TRANSPORTERS

There are many other forms of e-mobility devices gaining popularity worldwide. E-scooters, e-skateboards, and other devices share similarities with e-bikes. They tend to benefit from infrastructure aimed at e-bikes and can help contribute to the overall electric vehicle transition by providing low-cost zero-emission transport options to fulfil a wide range of users' needs (pending legislation to allow their private use in South Australia).

Image: City of Adelaide

ELECTRIC MOBILITY AIDS

Electric mobility plays an important role for many people's independence and accessibility – for example electric mobility scooters, electric wheelchairs, or adaptive e-bikes. Support for charging electric mobility aids is outside of the scope of this document. CoA is committed to investing in infrastructure that helps people to move around and navigate the city, including promoting inclusion of people with disability.

Image: Zoos SA

INFLUENCING E-BIKE UPTAKE

Key actions to increase the share of e-bikes in the city's transport mix

ARUP

INFLUENCING DEMAND

Approximately 30% of the CoA[1] is currently dedicated to vehicle infrastructure by area – reinforcing vehicles as the mode of choice for most visitors to the city. This is true of most Australian cities, which have largely been designed to optimise car travel.

Encouraging mode shift to bikes (of any kind) seeks to change people's existing travel behaviours, and address barriers to bike ridership, particularly perceptions of safety[2].

E-bikes address barriers that may typically limit bike uptake associated with distance and difficult terrain, but barriers remain that limit mode shift to bikes, e-bikes, e-scooters, and cargo bikes.

NETWORK SAFETY

Network safety is one of the biggest barriers to adoption of both bikes and e-bikes[3,4,5]; particularly in Australia, where most adults do not feel safe riding on roads around vehicle traffic[6]. People's thresholds for cycling safety vary by age and gender, leading to discrepancies among those who cycle[14,15].

A safe and well-connected cycling network is one of the highest-impact ways to increase cycling uptake. This includes providing physical separation from cars, reducing vehicle speeds, and quality of paths and lighting[11,12].

Many of these infrastructure interventions also benefit those using electric mobility aids. For example, in some areas separated cycling infrastructure is open to people using electric mobility aids[7]. Limiting obstructions and widening paths are also important for improving accessibility for users of these devices[8,9].

COMFORT AND EFFORT

Weather, distance, hills, and physical effort can all contribute to people making the choice not to ride[2,3]. E-bikes reduce the physical effort required to ride and can reduce such barriers[3,5].

STORAGE AND CONVENIENCE

Bikes (and e-bikes) benefit from destination parking facilities at end of trip. These facilities occupy a small footprint compared with motor vehicles, and can be close to destinations or inside buildings. Security for bike parking can be a concern for e-bike riders[5].

COST

E-bikes range in cost from approximately $800. Some jurisdictions are incentivising uptake through rebates, including the City of Holdfast Bay (offering rebates of $200 for e-bikes and $300 for e-cargo bikes[10]), and CoA.

CASE STUDIES

The following case studies demonstrate how jurisdictions across the globe have invested in measures to increase demand, technology and facilities to increase the share of e-bikes in their city's transport mix.

[1] Excludes parklands. Based on OpenStreetMap and CoA road network data.
[2] *Barriers and enablers of bike riding for transport and recreational purposes in Australia* – L Pearson, B Gabbe, S Reeder, & B Beck – 2023
[3] *The impact of e-cycling on travel behaviour: A scoping review* – JE Bourne, AR Cooper, FJ Kinnear, C England, S Leary, & A Page – 2020
[4] *E-bikes Toward Inclusive Mobility: A Literature Review of Perceptions, Concerns, and Barriers* – K Lee, & IN Sener, 2023
[5] *E-bike Experience: Survey Study of Australian E-Bike Users* – T Washington, K Heesch, & A Ng, 2020
[6] *The Australian cycling and e-scooter economy in 2022* – Ernst & Young Australia / WeRide, 2023
[7] *Urban Design Guidelines for Victoria: 2.3 Pedestrian and bicycle paths* – Victoria Department of Transport and Planning, n.d.
[8] *Being mobile: electric mobility-scooters and their use by older people* – E May, R Garrett, & A Ballantyne, 2010
[9] *Inclusive and Safe Mobility Needs of Senior Citizens: Implications for Age-Friendly Cities and Communities* – AJ Bokolo, 2023
[10] *Green Living* Rebates - City of Holdfast Bay, 2024
[11] *Cycling, Health and Safety* – OECD / International Transport Forum, 2013
[12] *Summary of Design Principles for Good Bicycle Infrastructure* – Bicycle NSW, 2020
[13] *Designing for All Ages & Abilities: Contextual Guidance for High-Comfort Bicycle Facilities* – National Association of City Transportation Officials, 2017
[14] *Gender, Safety and Bike-Riding: Data Insights Report* – Z Condliffe, L Tsuchida, J Tang, J Clinch, A Kostecki, & G Cullen / She's a Crowd, 2022
[15] *Does More Cycling Mean More Diversity in Cycling?* – R Aldred, J Woodcock, & A Goodman, 2016

CASE STUDIES AMSTERDAM

Bikes account for
32%
of all journeys

E-bikes account for
50%
of new bike purchases

CYCLING NETWORK

Amsterdam is well known as being a bike-friendly city, having:

- Low speed limits on more than 80% of streets
- A vast, interconnected, safe cycling network including separated cycle paths and car-free areas
- High-quality public transport, which is well-integrated with cycling network and parking infrastructure.

E-BIKE CHARGING

Amsterdam has large parking garages that cater for thousands of bikes - often co-located with public transport to allow multi-modal trips, and often with attendants and other security measures to minimise theft.

Some of these have e-bike charging facilities, for example battery charging lockers. However, charging tends to be only a small fraction of overall parking capacity, and charging provisions weren't included in Amsterdam's newest 7,000-bike garage.

Amsterdam has very few on-street or destination e-bike charging facilities, with no active municipal or government programs to deliver facilities as of 2023.

Secure parking facility for 7,000 bikes at Amsterdam Central train station. This facility accommodates cargo bikes and share bikes but does not have charging facilities.

LESSONS FROM AMSTERDAM

Amsterdam's infrastructure, particularly network and parking facilities, makes cycling an appealing option for bike and e-bike riders. The Amsterdam case study indicates that e-bike use is not dependent on available e-bike charging infrastructure.

CASE STUDIES DENVER

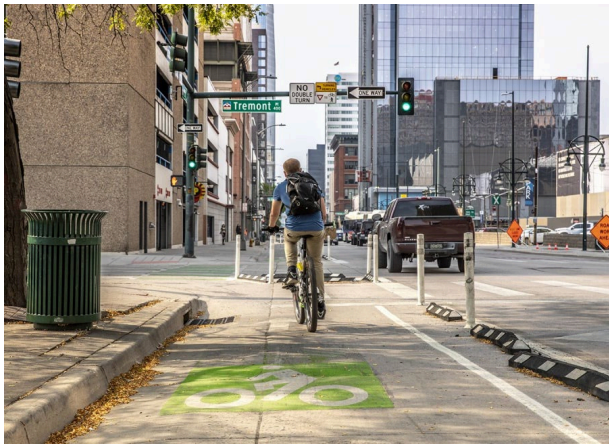
Mode share target:
15%
by 2030

Since 2018,
+255km
of new bikeways installed

CYCLING NETWORK

Denver has strong commitments to increase cycling mode share, and a key part of this involves ensuring all households have access to safe, comfortable bikeways.

Denver has installed 255km of new bikeways since 2018, many of which include physical separation from vehicle traffic.



Recently-installed separated bike lane in Denver
Image: HDR Inc

E-BIKE SUBSIDIES

From 2022, Denver has offered various e-bike rebates, with higher amounts offered to residents purchasing cargo bikes or those below certain income thresholds (see table B.1).

Denver's subsidy also includes a provision for people with a disability who cannot use a standard e-bike. Eligible applicants can access a higher rebate to purchase a specialised adaptive e-bike designed to meet their individual needs.

Denver's subsidy exists in the form of vouchers, which can be applied for online (at a first-come, first-served basis) and are redeemed at participating bike stores at the time of purchase.

A study[1] found that 71% of surveyed recipients used ICE vehicles less often, and that bikes replaced 3.4 round-trips per week.

Table B.1: Denver e-bike rebate amounts[3] (USD)

Income tier	Low income	Moderate income
Base incentive amount	$1,100	$500
Equipment incentive	+$100	+$100
Cargo bike incentive	+$300	+$300
Adaptive e-bike incentive	+$250	+$250

E-BIKE CHARGING

Denver have not implemented e-bike charging infrastructure as part of their target to increase e-bike uptake.

LESSONS FROM DENVER

Denver has made strong commitments to improving bike mode share, but charging has not been a part of this. Denver's e-bike subsidies have increased the number of people with bikes, which has led to further support for the increased roll-out of safe bike infrastructure[2].

[1] *Denver's 2022 Ebike Incentive Program: Results and Recommendations* – City and County of Denver, PeopleForBikes, Bicycle Colorado, Ride Report, & Rocky Mountain Institute, 2023
[2] *How E-Bike Rebates Will Make Cycling Safer* – D Zipper / Bloomberg, 2023
[3] *Community Access to Electric Bicycles Rebate Program* – State of Colorado Energy Office, 2024

CASE STUDIES TASMANIA

Hobart cycling share:
7%
(2x that of Greater Adelaide)

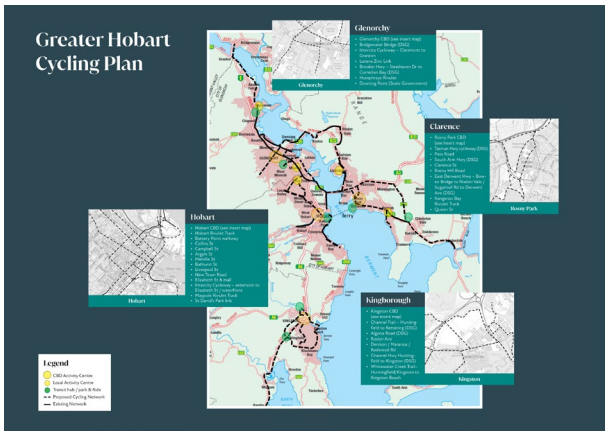
In 2023:
$1.2m
allocated to e-mobility incentives

CYCLING NETWORK

Tasmania's bike infrastructure is currently very similar to Adelaide, in that cycling is predominantly on-road.

Hobart is expanding their safe cycling network, with new separated cycle lanes installed in 2023 as part of the *Greater Hobart Commuter Cycling Network Plan*[1]. Hobart's aims[2] include providing a safe and convenient network that comprises of:

- Low speed limits (30km/h) on local streets
- Physically protected bike lanes
- Off-road cycleways.



Extract from the Greater Hobart Cycling Plan

E-BIKE CHARGING

In 2023, a trial of public e-bike charging infrastructure began in Hobart[3]. The city is recording data of its usage to determine the impact and benefit of the trial.

Public e-bike charger in Hobart
Image: Bicycle Network

E-BIKE SUBSIDIES

From November 2023, the Tasmanian Government has been offering rebates for purchasing e-mobility vehicles[4]:

- $250 for e-scooters and e-skateboards
- $500 for e-bikes
- $1,000 for electric cargo bikes.

LESSONS FROM TASMANIA

Tasmania has shown leadership in pioneering e-bike incentives in Australia, and is trialling e-bike charging infrastructure.

[1] *City of Hobart pedals forward with separated cycle lanes* – City of Hobart, 2023
[2] *Greater Hobart Cycling Plan* - Tasmanian Government Department of State Growth, 2021
[3] *e-Mobility Rebate 2023* – Tasmanian Government Department of State Growth, 2023
[4] *New chargers to keep Hobart on the move* – City of Hobart, 2023

CASE STUDIES SUMMARY

PARIS

Rapid adoption following infrastructure investment

In 2020, bikes accounted for just 5.4% of trips in Paris. Following significant investment in cycling infrastructure, and implementation of low-emissions zones and widespread 30km/h speed limits, Paris has seen a rapid increase in cycling, surpassing vehicle traffic counts during peak hours in 2023.

OSLO

Measurable benefits from e-bike subsidies

A 2016 Oslo City Council e-bike subsidy led to recipients increasing their cycling mode share by 17 percent points compared to a control group[1].

SUMMARY

Of the jurisdictions reviewed that are seeking to increase the share of bikes or e-bikes in their city's transport mix, charging is generally a minor consideration. While offering public e-bike can benefit some e-bike riders, it does not address the primary barrier to e-bike adoption, safe cycling infrastructure.

Key to many of these efforts is providing an environment that allows cycling to be a competitive and appealing transport choice – by being safe, connected, and convenient. Best practice includes:

- Lower speed limits (e.g. 30km/h); or
- Providing separated cycling infrastructure; or
- Removing cars from selected active transport routes.

[1] *The effects of a subvention scheme for e-bikes on mode share and active mobility* – HB Sundfør, & A Fyhri, 2022

SHARED MICRO-MOBILITY

ABOUT SHARED MICRO-MOBILITY

Shared micro-mobility schemes provide the public with short-term paid access to shared bikes, e-bikes, or e-scooters distributed throughout a city.

ROLES OF SHARED MICRO-MOBILITY

Shared electric micro-mobility options fulfil thousands of trips in Adelaide each day, replacing trips that may otherwise have been fulfilled by an ICE vehicle. The data shared electric micro-mobility vehicles collect can also be used as a proxy for e-bike usage, helping to prioritise and target infrastructure upgrades.

Shifting travel demand away from vehicles

Shared e-scooters and e-bikes make it easy for riders to sign up and experience e-mobility without requiring a significant upfront investment.

Shared electric micro-mobility can complement public transport by enabling more types of journeys, and can fulfil e-mobility needs for those who don't have access to their own e-scooter or e-bike, or prefer not to store devices.

Data

Shared micro-mobility are internet-connected and collect detailed usage data.

CoA has access to this data through an anonymised and aggregated reporting platform providing detailed insights into how shared micro-mobility is used in CoA. This can be used to help identify where improvements could be made to networks and infrastructure to make active transport safer and more appealing.

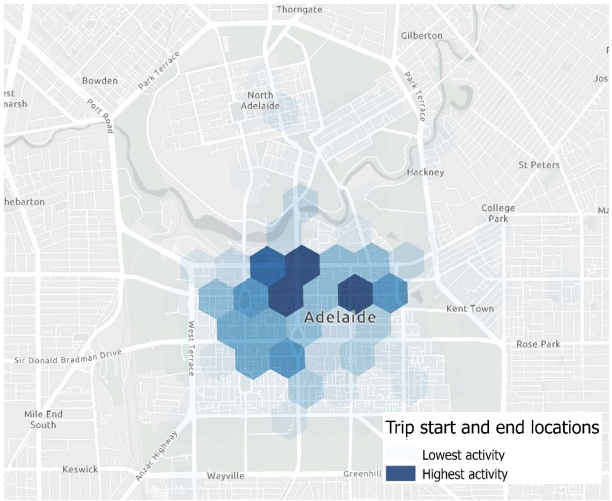
SHARED MICRO-MOBILITY IN ADELAIDE

CoA was one of the first Australian cities to introduce shared electric micro-mobility schemes, with e-scooter trials operating since 2019 and e-bikes introduced in 2021.

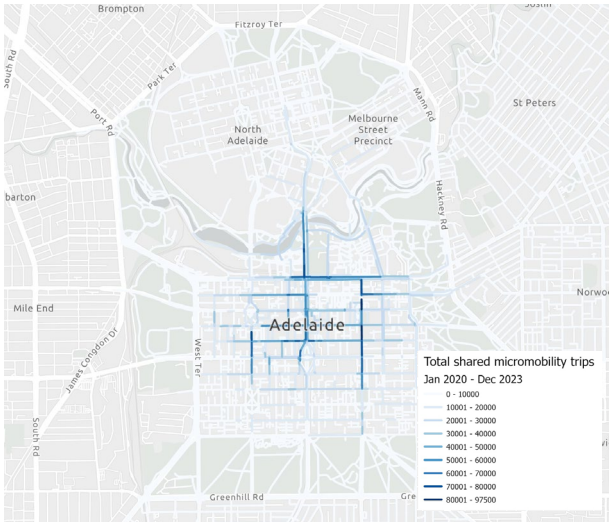
Key facts and figures

In Adelaide from 2020 to 2023[1] shared e-scooters and e-bikes saw:

- 2,874,200 trips taken
- 4.2 million kilometres travelled
- Peak of 8,900 trips/day
- 1,262 vehicles available (average)
- 1.8 trips per vehicle per day (average)



Shared micro-mobility trip start and end activity Jan 2020 – Dec 2023



Routes travelled on shared micro-mobility[1] Jan 2020 – Dec 2023

[1] Ride Report Global Micromobility Index

ELECTRIC CARGO BIKES AND COMMERCIAL VEHICLES

ABOUT CARGO BIKES

ABOUT CARGO BIKES

Cargo bikes, electric cargo bikes, and similar small electric delivery vehicles have significant potential to change the way goods are moved around cities – whether for personal or commercial use.

This amendment uses the term "cargo bikes" to cover the wide range of vehicles in this category. This includes both electric and non-electric cargo bikes as most cargo bikes currently sold are electric, and challenges and opportunities are generally common across the category, regardless of motive power source[1,3].

For personal use, cargo bikes are often considered more of a "car replacement" than standard bikes and e-bikes due to their ability to carry children, groceries, and other cargo.

For commercial use, cargo bikes can be a cost-effective alternative to utility vehicles or vans, particularly in built-up areas with high levels of traffic congestion.

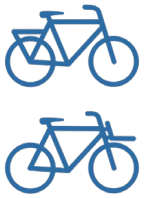
In both cases, cargo bikes can be seen to extend the benefits of e-bikes to cover a wider range of trip purposes – being more cost-effective, environmentally-friendly, and city-friendly than their ICE vehicle or EV equivalents.

GLOBAL TRENDS

Internationally, the benefits of cargo bikes are starting to be realised – with European cargo bike sales rising 65% in 2021, and over 100,000 cargo bikes sold in 2020 in Germany alone[2].

CARGO BIKE ARCHETYPES

Cargo bikes come in a wide range of different forms to meet different needs. Some common typologies are summarised below.



Standard Frame E-Bikes

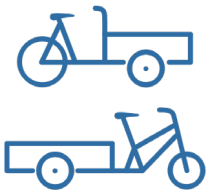
The assistance provided by e-bikes makes them an option for transporting goods (with a luggage rack and pannier bags), or children (with a carrier).

Longtails

The extended "tail" of this class of cargo bike allows them to be small, while still providing high capacity for personal items, commercial goods, or a passenger.

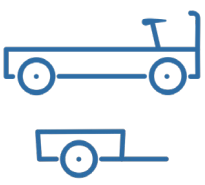
Long Diamonds and Long Johns

Often referred to as "Dutch-style" cargo bikes, these bikes offer an efficient balance between size and cargo capacity. They can often be found carrying commercial goods for delivery, or for personal use (including carrying children).



Trikes

Trikes have a larger footprint but provide more customisability, especially for commercial use.



Others

Small electric delivery vehicles can take many other forms – for example motorised bike trailers, or larger vehicles that resemble a small van.

Cargobike Achertypes icons by Eric Poscher from Noun Project (CC BY 0.3)

[1] *Electric cargo cycles – A comprehensive review* – S Narayanan, & C Antoniou, 2022

[2] *How fleets of cargo delivery bikes are making the last mile greener* – R Gizauskas / HERE, 2022

[3] *Cargo bike growth exploding* – Bicycle Network, 2020

INFLUENCING DEMAND

In general, the actions required to increase cargo bike uptake overlap significantly with the actions required to increase bike and e-bike adoption.

PERSONAL CARGO BIKES

Cargo bikes can be a car replacement for a broader range of trips – including shopping, running errands, and transporting children.

International research[2] indicates that cargo bike adoption is limited by many of the same factors that limit bike and e-bike adoption – particularly the safety and quality of cycling infrastructure.

In an effort to increase uptake, cargo bike subsidies are offered by some central, regional, and local authorities in Europe[2], and are included in a recent incentive offered by the Tasmanian Government.

Some other mechanisms that can be found internationally for aiding cargo bike adoption include:

- Providing larger parking spaces for cargo bikes (e.g. in the Netherlands)
- Shared cargo bike services (e.g. in Netherlands, Belgium, France, and Germany) to make cargo bikes available to those who only need to use one occasionally.

Longtail cargo bike in Adelaide

COMMERCIAL CARGO BIKES

Cargo bikes are becoming increasingly popular for last-mile logistics, especially in higher-density urban areas. In addition to environmental benefits, a cargo bike's compact size can support more time- and cost-efficient deliveries of smaller consignments than larger vehicles such as cars or vans.

Cargo bikes are particularly competitive in areas with aggressive measures and policies to promote cycling over vehicle traffic. A study in Brussels[3] estimated a delivery cost of €0.10/parcel when using cargo bikes, compared to €1.10/parcel for a petrol van or €1.05/parcel for an electric van. This commercial advantage has led to electric cargo bikes being adopted by prominent delivery and logistics companies globally.

As with personal cargo bikes, support and incentives for businesses can be found in some areas. For example:

- In Belgium, a municipal-supported cooperative[4] was created to provide businesses with free cargo bike advice and training, and cargo bike sales and maintenance.
- Some European countries and local authorities incentivise cargo bikes for commercial use through subsidies or tax incentives.

Long John cargo bike used commercially in Adelaide

[1] How fleets of cargo delivery bikes are making the last mile greener – R Gizauskas / HERE, 2022
[2] Electric cargo bikes in urban areas: A new mobility option for private transportation – D Carracedo / H Mostofi, 2022
[3] Data-driven Evaluation of Cargo Bike Delivery Performance in Brussels – Kale AI, 2023
[4] Urbike

CARGO BIKES IN ADELAIDE

The number of cargo bikes that can be seen on Adelaide streets is growing. There is increasing interest in cargo bikes from local residents and businesses. Commercially, cargo bikes are in use in CoA as a replacement for vehicles.

COMMUNITY GROUPS

The community Facebook group *Adelaide Cargo Bikes* has amassed over 825 members since its creation four years ago, and has been growing rapidly with an average of 25 new members per month since October 2022.

The community organisation Kidical Mass Adelaide holds an annual demonstration event to support safer cycling networks and infrastructure, especially with children in mind. A wide range of cargo bikes can be found at these events.

Image: Kidical Mass Adelaide

COMMERCIAL OPERATIONS

Beam use an electric cargo bike to service their Adelaide-based fleet of e-scooters – particularly for transporting batteries and helmets. Being able to use bike lanes in the Adelaide CBD allows Beam to move more efficiently around the city than a van would otherwise allow.

Beam has indicated that an expanded safe cycling network would allow them to expand e-bike operations – more so than public e-bike charging or parking infrastructure.

PASSENGER TRANSPORT AND WASTE

EcoCaddy formerly provided passenger transport, tours, and a zero-emission organic waste collection service in Adelaide. EcoCaddy used electric trikes, some of which had trailers attached for additional cargo capacity. This service is no longer operating.

Image: The Advertiser

DELIVERIES

Australia Post operates over 5,000 electric delivery vehicles across the country. These vehicles have lower speeds than the ICE motorbikes previously used by Australia Post, but are more efficient overall, carrying up to 100 parcels and 1200 letters[1].

Image: Australia Post

[1] *Here's how Australia's largest electric delivery fleet is changing the way you receive parcels* – N Clark / Australia Post, 2023

CARGO BIKES GLOBALLY

Cargo bikes are being used commercially across Europe and the US by small businesses through to multinationals. They are used to transport a range of goods and equipment and are a particularly effective and competitive travel mode for avoiding congestion or vehicle restrictions.

COURIERS

Cargo bikes have been adopted by large companies for deliveries worldwide. For example, courier company UPS uses electric cargo bikes to deliver parcels in over 30 cities including Dublin, Paris, Copenhagen, Stockholm, Amsterdam[1].

Collectively, DHL and Amazon have employed thousands of cargo bikes to replace delivery trucks[2], enabling these companies to continue to navigate areas with vehicle restrictions, including London[3].

UPS delivery cargo bike in Cambridge[1]

SMALL BUSINESSES

Throughout Europe, cargo bikes can be found serving a range of transport needs for small businesses.

Cargo bikes can be found delivering groceries[6], flowers[4], pharmaceuticals[6], and many more items.

In addition to deliveries, cargo bikes are also often used to transport equipment and materials, allowing a variety of small businesses to provide more sustainable services to their community. Cargo bikes can be found being used to provide laundry and dry-cleaning, medical assistance, plumbing, gardening[6], and construction services[7].

Cargo bike used for wine delivery in Amsterdam

LOCAL GOVERNMENTS

Some London councils have begun incorporating cargo bikes into their operations. Cargo bikes have been used by library teams, to access and maintain green spaces, for neighbourhood safety, and for community engagement[4].

In Australia, the City of Melbourne uses a fleet of cargo bikes to maintain bins and collect organic waste in some areas – replacing over 30,000 heavy vehicle movements within the City[5].

Cargo bike used by the City of Melbourne[5]

[1] *UPS pilot aims to sustainably deliver parcels via e-assisted cycles in Cambridge* – UPS, 2022
[2] *These electric cargo trailers are designed to replace delivery trucks and slash emissions* – A Peters, 2022
[3] *Amazon launches first fleet of e-cargo bikes in the UK* – Amazon UK, 2022
[4] *Fully Charged Business Case Studies* – Fully Charged, 2024
[5] *Case study: Cleaner streets in more ways than one* – Good Cycles, 2024
[6] *About us – Les Boite à Vélo* – Les Boite à Vélo, 2024
[7] FM Conway introduces new e-cargo bikes to cut carbon emissions in London, *FM Conway, 2020*

SUMMARY

Cargo bikes can take many forms and are used for a range of purposes. For individuals, their carrying capacity can allow them to replace more ICE vehicle or EV trips than a standard bike might. For commercial use, they are being used for a wide range of purposes in Adelaide and internationally, particularly where driving is disincentivised.

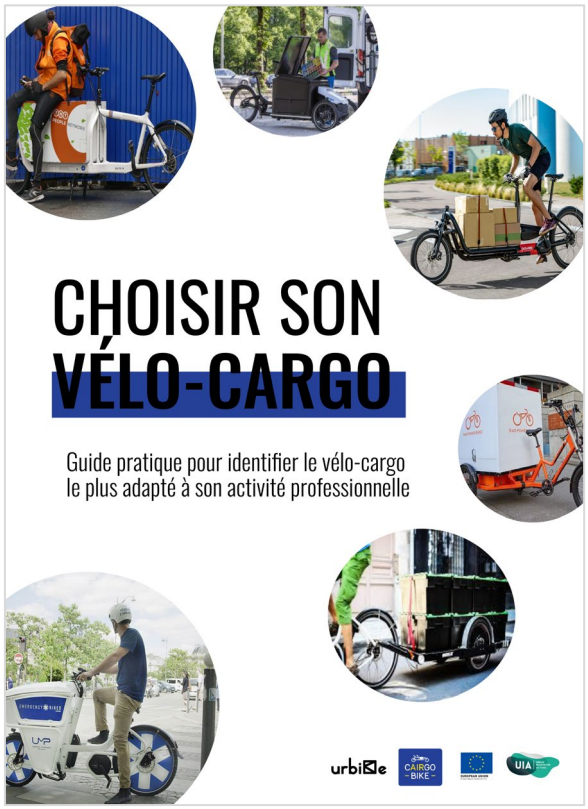
Subsidies, facilities, and other supporting measures can help to promote cargo bikes among individuals or small businesses. This can include:

- Rebates or other monetary incentives for purchase (including CoA)
- Support and advice for procurement and operation
- Larger parking facilities.

Charging infrastructure was not prominent in research as a barrier or enabler to cargo bike adoption.

Ultimately, cargo bikes are most appealing and competitive when a city's cycling network and infrastructure is safe, high-quality, and efficient. This applies to both personal and commercial use.

Dedicated cargo bike parking space in Amsterdam, Netherlands



"Choosing Your Cargo Bike" – a guide produced by the Belgian municipal-owned Urbike to support businesses interested in adopting e-bikes.

CHARGING E-BIKES

Charging patterns, technology, and solutions

ARUP

CHARGING TECHNOLOGY AND BEHAVIOUR

TECHNOLOGY AND STANDARDS

E-bikes have a much lower power requirement than electric cars (the type of EV they are most likely to replace), with as little as 10% of the consumption per kilometre, and 1% of the required battery capacity. This means that while larger EVs (including electric cars, vans, or trucks) often require expensive and wide-spread fast charging infrastructure, e-bikes tend to be charged via a standard power point - making them convenient and cost-effective to adopt.

E-bikes currently use a range of different charging standards depending on the manufacturer – with different connectors, voltages, and power requirements. This makes it difficult to provide a "one size fits all" public charging solution to suit a range of e-bikes.

Most e-bikes allow batteries to be detached from the bike, making it easier to charge in a smaller space such as an office, apartment, or locker – but this isn't the case for all models.

CHARGING SAFETY

E-bike chargers tend not to be designed for charging in wet conditions. As a result, public charging infrastructure should only be provided in dry locations.

Charging any lithium battery can pose a fire risk – and this applies to e-bike batteries too. In Australia, e-bikes must comply with *AS 15194*, which includes design and testing requirements for battery safety.

Fire risk has been particularly problematic in overseas jurisdictions that previously did not have requirements for batteries to meet safety standards. For example, New York City implemented new rules for the sale of e-bikes in 2023[1], and the city is also piloting outdoor storage and charging facilities, with a focus on fire safety[2].

TYPICAL CHARGING PATTERNS

Personal e-bikes

E-bike batteries generally have sufficient capacity for everyday personal use, so it's common for e-bikes (and cargo bikes) to primarily be charged at home.

Where destination charging exists, this tends to require owners to bring their own charger due to the wide range of incompatible charging standards across vehicle models.

Range anxiety is commonly cited as a barrier to e-bike adoption, though to a lesser extent than infrastructure safety and quality[4,5]. Destination charging can help to alleviate range anxiety, but one study found that destination charging is much less likely to be utilised if riders are charged a fee[3].

Commercial e-bikes

Commercial e-bikes (including cargo bikes) tend to be charged on-premises. For larger-scale operations with many batteries being charged simultaneously, some businesses may install extensive charging infrastructure with thermal monitoring systems for safety.

CHARGING SECURITY

E-bikes tend to be more expensive than their non-electric counterparts, which exacerbates the finance consequence of theft.

Secure parking will be increasingly important for promoting cycling in the city, and any public charging solution will need to consider security as a prerequisite.

[1] *How New York Plans to Regulate E-Bikes in the Wake of Deadly Fires* – W Hu / The New York Times, 2023
[2] *Mayor Adams Announces Plan to Combat Lithium-Ion Battery Fires, Promote Safe Electric Micromobility Usage* – City of New York, 2023
[3] *E-Bike Charging Infrastructure in the Workplace – Should Employers Provide It?* – D Kohlrautz, & T Kuhnimhof, 2023
[4] *E-bikes Toward Inclusive Mobility: A Literature Review of Perceptions, Concerns, and Barriers* – K Lee, & IN Sener, 2023
[5] *The impact of e-cycling on travel behaviour: A scoping review* – JE Bourne, AR Cooper, P Kelly, FJ Kinnear, C England, S Leary, & A Page, 2020

PUBLIC CHARGING INFRASTRUCTURE

Due to the power requirements for charging an e-bike being low, public charging solutions can be relatively small and versatile. However, different e-bikes having a range of different charging standards means that users are usually required to provide their own charging cable. For public charging to be a viable option for e-bike riders, secure parking needs to be provided for both the e-bike and the charging cable.

This section provides a high-level comparison of some of the public e-bike charging infrastructure options currently available.

STANDALONE CHARGING POINTS

The minimum infrastructure that would enable e-bike charging is technically a standard power point. Some solutions exist to provide a weatherproof power point on a post or similar to provide a public charging option.

Benefits

Minimal footprint is required for this category as they can be installed where existing bike rails are located. For example, a power point for charging could be provided on a post in a public space, or on a wall in a bike cage.

Disadvantages

Potential benefits can be reduced if the charger can't be secured, if there's a risk of bike theft, or if the location is exposed to wet weather.

Image: Entwurfreich Team

CHARGING RACKS

There are a number of commercially-available bike parking racks which include charging provisions.

Commercial products often have a locked section to secure the user's charging equipment.

Benefits

These can provide more security for users' charging equipment compared to standalone charging points. Minimal footprint is required, as they can be installed where existing bike rails are provided.

Disadvantages

These experience similar weather and security disadvantages to standalone charging points.

Image: Saris Infrastructure

PUBLIC CHARGING INFRASTRUCTURE CONTINUED

BATTERY CHARGING LOCKERS

Battery charging lockers provide a secure solution for e-bike batteries and their charging equipment.

Benefits

Lockers can provide additional security for batteries (which can be a large part of an e-bike's cost) and charging cables.

For existing bike parking areas, these allow a high density of charging infrastructure to be rolled out with minimal footprint and infrastructure.

Some lockers can provide fire resistance and are being used in some areas as a safe alternative to apartment or at-home charging (particularly where e-bike battery safety is less regulated).

Disadvantages

Most, but not all e-bikes have removable batteries - so not all will benefit from this solution.

Image: Kinetic Parking Solutions

BIKE LOCKERS

Bike lockers provide a secure solution for bikes (an individual bike or a small group of bikes) and can be fitted with power to provide a charging option.

Benefits

Bike lockers can provide enhanced security for bikes and charging cables, making it a particularly appealing option in areas that do not have access to secure bike parking. For example, in an off-street car park which does not yet have a bike cage, or on-street within an existing parking space.

For outdoor charging, bike lockers have the benefit of providing weather resistance.

Disadvantages

This is more expensive than traditional bike parking options.

Image: Cyclehoop

Image: Bikeep

RECOMMENDATIONS

Battery charging lockers are an option for public e-bike charging, particularly in UPark facilities that have secure bike parking options. This would allow charging facilities to be provided to users of the existing infrastructure, while minimising the electrical works required.

In UPark's premium offering (cages for individual bikes), charging could be provided by adding a power point given that the bike and charger are locked securely regardless.

In other locations (such as on-street), standalone charging points or charging racks are not recommended due to issues with bike security and weatherproofing. In these locations, bike lockers could be considered to offer secure parking and e-bike charging simultaneously.

FACILITIES

Analysis of current UPark bike parking facilities

UPARK BIKE FACILITY ANALYSIS

CITY OF ADELAIDE'S BIKE PARKING

UPark sites provide an opportunity to help enable e-bike adoption by offering secure bike parking and charging options within existing CoA assets.

This section focuses on the paid bike parking products at UPark sites.

Free bike parking

CoA currently has a high number of free-to-use bike hoops and racks throughout the city; including at most UPark sites.

Paid bike parking

Some UPark sites offer secure, paid bike parking options including:

- Bike cages: an enclosed steel bike cage shared among riders, potentially with small individual lockers for personal items
- Bike boxes: an individual enclosed box for one bike.

Paid bike parking at UPark sites is unlikely to be a convenient option for the bulk of trips as users can generally park close to their destination at no cost.

With access to the secure options being billed monthly, the product is more appealing to customers who use the facility regularly rather than visitors.

SITE VISITS

Site visits of three UPark sites (Topham Mall, Rundle Street, and Wyatt Street) were undertaken during business hours on a weekday to understand the opportunities for enhancing UPark's bike parking for e-bike owners.

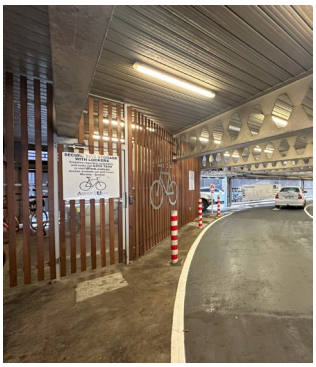
The following details some potential opportunities for enhancing the secure bike parking offering at UPark facilities.

Most of the identified opportunities have the potential to make the product more appealing to owners of all bikes; not just e-bikes.

Current utilisation

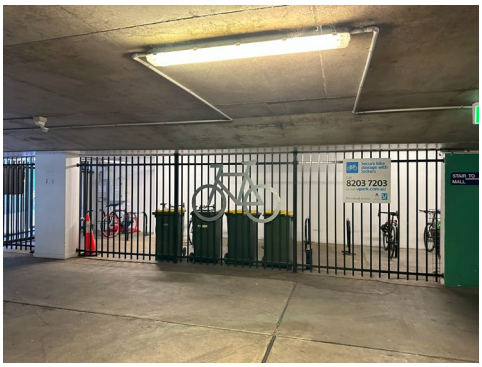
Although the site visits only provide one data point, it was observed:

- There was excess bike parking capacity in bike cages, highlighting an opportunity to improve, focus marketing, or raise awareness of the product to acquire more users.
- A relatively high proportion of parked bikes were electric – indicating that secure parking is valued by e-bike owners, and charging does not necessarily need to be provided for parking to be useful for e-bikes.



Rundle Street UPark

Wyatt Street UPark



Topham Mall UPark

UPARK BIKE FACILITY ANALYSIS

A summary of the strengths and potential opportunities for the three UPark locations visited are included in the table below.

Category	Observations	Strengths & Opportunities
Safety & security	All: Bike cages provide additional security for bikes over rack-only options	Secure bike storage provides security and weather protection, which are both pre-requisites for charging infrastructure.
	Wyatt Street and Rundle Street: Lockers for personal items are provided	Lockers are a useful feature for storing helmets, equipment, personal items, or even e-bike batteries. Investigate adding lockers to the Topham Mall bike cage.
	Rundle Street and Topham Mall: Obscured or isolated locations	Relocating bike cages to be in more prominent locations could help to increase passive surveillance and public awareness.
Amenity	All: Varied lighting quality across bike cages	Investigating lighting upgrades could enhance users' perceptions of personal safety and overall experience. This may include going beyond requirements of standards and considering factors such as contrast and quality of light.
	All: Single entry/exit points	Including more than one entry/exit point could contribute to increased perception of safety and equitable access.
Information & membership	All: The UPark website indicates which UPark facilities have bike parking options.	The UPark website could be updated to provide more details about the available services, including photos.
	All: Access us granted via a monthly charge. Users sign-up via phone call.	Investigating casual access and web-based sign-up options may allow the bike facilities to be more heavily utilised by a larger customer base.
Electrification	All: Access to power	The access to power at each site could (subject to further investigation) enable charging to be provided with relatively small infrastructure works. Lockers with battery charging capability could provide charging facilities for e-bikes with minimal infrastructure works.
Access	Wyatt Street and Rundle Street: Bike cages are accessed through car entry and exit driveways	Providing pedestrian paths for accessing bike cages could improve perceptions of safety and user comfort.
	All: The bike cages visited appeared to have sufficient space for cargo bikes	Designating some space for larger cargo bikes could allow these facilities to support increased adoption of cargo bikes for personal use.

RECOMMENDATIONS

ACTIONS TO INFLUENCE E-BIKE UPTAKE

Recommendations to increase the uptake of e-bikes can be summarised into six main themes, that cover actions and best practise for the network, parking and charging facilities, as well as incentives and subsidies.

SAFE CYCLING INFRASTRUCTURE & NETWORK

Create a low-stress cycling network by implementing:

- Cycling infrastructure that is physically separated from vehicle traffic
- Reduced speed limits (e.g. 30km/h)
- Areas with restricted vehicle traffic.

SECURE PARKING

Secure parking is a prerequisite for any public charging facility. Opportunities to improve secure parking throughout the city include:

- Improving secure bike parking facilities at select UPark locations, with a specific focus on e-bikes and cargo bikes
- Providing long-term secure bike parking in new locations, including near the Adelaide Railway Station, which could enable more multi-modal journeys
- Providing casual secure bike parking for shorter-term use cases including dining and events – for example near East End or Adelaide Oval
- Providing secure parking on-street by converting car parking space to bike parking using bike lockers
- Considering parking for larger bikes, including cargo bikes

Ideally, secure bike parking should be located in convenient, prominent locations with high levels of passive surveillance.

PUBLIC CHARGING FACILITIES

Battery charging lockers provide an effective solution for charging at UParks where secure bike parking already exists. For other locations such as on-street, charging provisions could be provided as part of a secure parking upgrade.

WORKPLACE & APARTMENT CHARGING

Encouraging businesses and strata corporations to install e-bike charging for their employees, residents, or visitors can help to maintain this advantage while meeting many users' charging needs.

In locations that have high interest but lack space for on-premises bike facilities, CoA could consider providing secure on-street parking by replacing some car parking spaces with bike lockers.

SUBSIDIES AND INCENTIVES

CoA has decided to implement incentives for e-bikes. Incentives should be monitored for uptake and effectiveness.

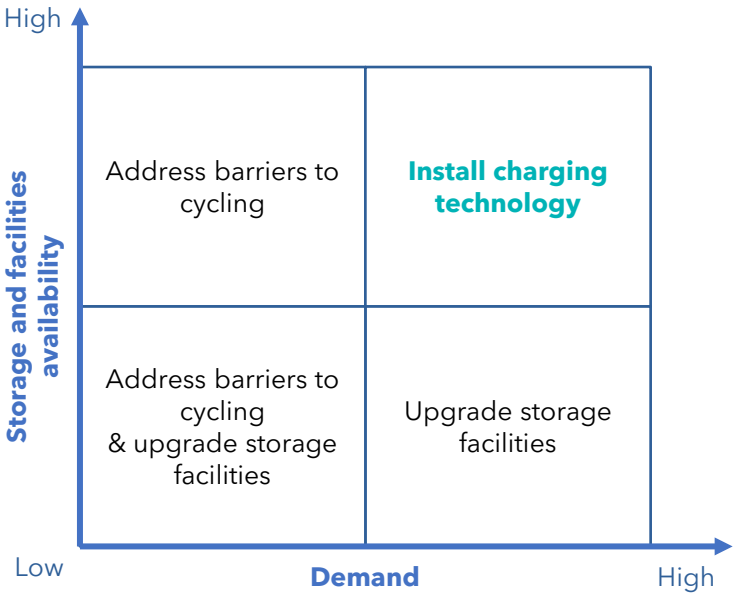
CHARGING INFRASTRUCTURE PRIORITISATION

PRIORITISATION FRAMEWORK

Short-term e-bike charging pilot projects would be most impactful where bike parking demand is already high, and secure bike parking facilities already exists.

Areas without secure bike parking will need storage facility upgrades before charging is implemented.

Areas with little cycling demand or connectivity with the broader network likely need network upgrades before charging infrastructure will be warranted. Integrated transport planning should continue to consider where cycling infrastructure can be upgraded to encourage more people onto e-bikes.



EVALUATING DEMAND

There is currently limited data about cycling demands in Adelaide. However, some data sources exist that can help to infer the demand spatially.

Cycling network

The safety and quality of cycling routes is one of the most important factors in influencing e-bike uptake. The Bike Direct network provides an overview of routes based on how "quiet" they are, indicating broadly which areas of the city are more and less friendly towards bikes (and hence e-bikes).

Shared micro-mobility data

The detailed usage data afforded by shared micro-mobility is one of the most detailed datasets currently available about where e-mobility is used most in the city at present.

EVALUATING STORAGE & FACILITIES

Existing UPark facilities

Some UPark facilities already provide secure bike storage. Being a prerequisite for e-bike charging infrastructure, this significantly reduces the upgrades required to provide a charging offering.

Other UPark locations present longer-term opportunities for upgrades to bike storage facilities – upgrades which can benefit all bike riders, regardless of electrification.

Gaps in UPark coverage

Some areas with high cycling demand do not overlap with UPark locations.

Some areas with high demand (for example Adelaide Railway Station or Adelaide Oval) have space limitations or are not owned by CoA. Providing secure parking in these locations might require more influence from the Council.

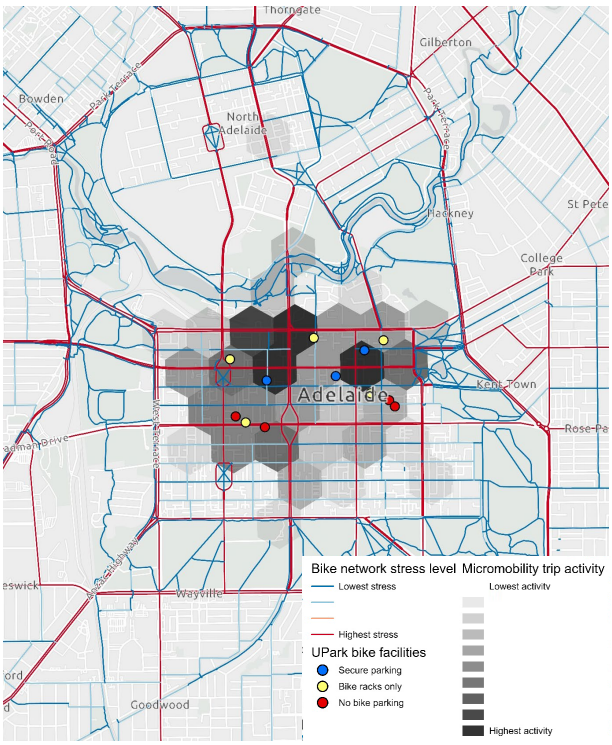
There may also be demand for secure on-street parking solutions, particularly near residential areas or businesses without off-street alternatives. Identifying these areas will require more investigation, and feedback from residents and businesses.

CHARGING INFRASTRUCTURE PRIORITY LOCATIONS

UPARK AND OFF-STREET PARKING

Demand indicators and existing UPark bike facilities are overlaid on the map below.

Using the prioritisation framework, interventions for key locations are shown in the table to the right.



UPark location	Network Demand	Storage & Facilities	Intervention
Rundle Street	High	High	Investigate e-bike chargers
Topham Mall	High	High	Investigate e-bike chargers
Adelaide Railway Station & Festival Plaza	High	No existing UPark	Work with State Government to upgrade storage facilities
Central Markets & Grote Street	High	Low	Investigate upgrades to storage facilities
Gawler Place	High	Low	Investigate upgrades to storage facilities
Light Square	Moderate	Low	Address barriers to cycling & investigate upgrades to storage facilities
Wyatt Street	Low	High	Address barriers to cycling
Frome Street	Moderate	Low	Address barriers to cycling & investigate upgrades to storage facilities

ON-STREET PARKING

On-street secure bike parking (for example bike lockers) could be beneficial to some residents and businesses – particularly those without off-street alternatives.

CoA should work with residents and businesses to identify and understand the demands for secure on-street parking, and where this could potentially be trialled.