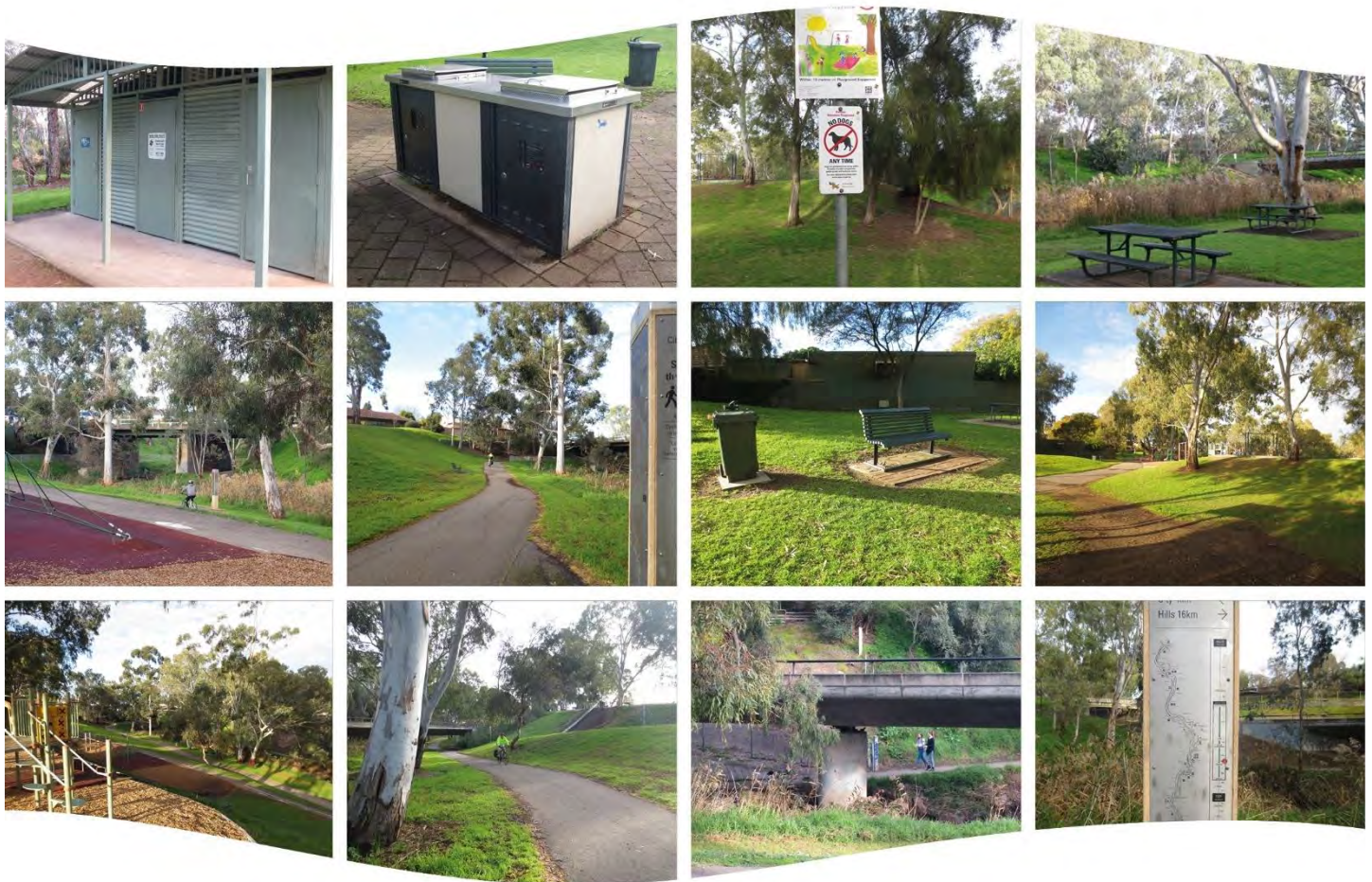


RIVER TORRENS LINEAR PARK

STRATEGIC INTEGRATED ASSET MANAGEMENT PLAN



Final Report



February 2017

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Please note that this Plan (and all other supporting documentation) has been prepared as a **strategic guide** for the 9 participating Councils to inform long term planning efforts in a coordinated and integrated manner within the River Torrens Linear Park. It is not an endorsed Asset Management Plan as recognised in the *Local Government Act 1999* (SA).

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1 Introduction

1.1 River Torrens Linear Park - The Vision

The River Torrens Linear Park is a multi-functional, regional open space corridor linking the Adelaide foothills to the coast. Its role in flood mitigation and stormwater management blends seamlessly with its function as a recreational asset and network for biodiversity. It provides respite from the otherwise highly developed urban environment, with ease of access to a range of recreational experiences at different points along its length. The shared use path will be a prominent and well used recreational element, encouraging people to travel longer distances and enjoy the resultant health benefits without compromising key areas of biodiversity value.

Through public and private partnerships, the 9 metropolitan councils that border the Park will manage and improve recreational facilities along its length, to meet evolving and diverse community needs and managing the assets sustainably in respect to environmental, recreation and financial considerations.



1.2 Background

The River Torrens Linear Park (RTLP) is a 30 km linear park which runs along both sides of the length of the River Torrens through the Adelaide metropolitan area between the Adelaide foothills in the east and the coast in the west. Infrastructure assets within the Linear Park include walkways, public lighting, bridges, toilets and playgrounds and other recreational infrastructure.

Between the Adelaide foothills and the coast, the Linear Park passes through nine council areas including:

- Adelaide Hills Council
- City of Tea Tree Gully
- Campbelltown City Council
- City of Norwood Payneham and St Peters
- Port Adelaide Enfield City Council
- Walkerville Council
- Adelaide City Council
- City of West Torrens
- City of Charles Sturt.

Each of these nine councils is responsible for the management of the linear park assets within their council area. Within the Linear Park corridor there is approximately 92km of paths, over 1,600 lights, 65 bridge assets and numerous other recreation assets to be managed by the councils.



1.3 Aims and Objectives

Tonkin Consulting together with Jensen Planning + Design were engaged by the River Torrens Linear Park Coordinating Committee, Assets and Infrastructure Working Group (representing all the Councils along the metropolitan River Torrens) to develop a River Torrens Linear Park Strategic Integrated Asset Management Plan (RTLPI SIAMP).

The following asset classes will be considered as part of the RTLP Strategic Integrated Asset Management plan:

Paths	Public lighting	Bridges, stairs and crossings (excluding Road bridges)
Toilet Blocks	Defined park and playground areas	BBQ's
Seating	Shelters and Shade Shelters	Wayfinding (signage)
Carparks	Sports and fitness equipment	Public Art installations
Litter / Rubbish Bins	Drinking fountains	Fences and bollards (note retaining walls were not included as all Councils except Adelaide City Council didn't record these)

The RTLP SIAMP aims to provide the following:

- To set the strategic direction for the RTLP Asset Renewals and Upgrade for the next 20 years with specific and achievable actions for the next ten years
- To provide the RTLP precinct Councils with guidance in relation to the ongoing management and investment strategies for the recreational and transport assets along the RTLP
- To collate [from precinct Councils] the existing asset condition and service levels for all recreational and transport assets along the RTLP as informed by existing Asset Plans
- To establish minimum desirable standards and service levels for key assets within the RTLP
- To identify key risks relating to the management of assets along the RTLP including safety; asset quality and limitations; accessibility; wayfinding; lifecycle costs and imposed lifecycle maintenance activities
- To ensure the RTLP meets the needs of the current and future users including aged and disabled
- To deliver a plan that is achievable and financially sustainable with recommendations considering maintenance and current maintenance service levels within the financial constraints of each of the Councils
- To establish a reporting and monitoring framework for projects ongoing.

1.4 Project Methodology

The project has been undertaken using spatial and asset data for the RTLP provided by the Councils, which has then been standardised to allow a comparison of 'apples with apples'.

The RTLP boundary was developed using land ownership data and creating the boundary of public land bounded by private property or public roads. Some areas in Adelaide City Council and other Councils under lease to third parties were excluded and other areas such as Apex Park in the City of Charles Sturt were included. The boundaries were reviewed by the relevant Council.

Significant consultation has been undertaken, including Council and stakeholder workshops, a website and an online survey in which over 800 community responses were received.

This RTLP SIAMP has been prepared based on the data provided by the Councils, together with outcomes from the consultation.

Jensen Planning + Design have also prepared the following documents as part of this project to develop a RTLP SIAMP.

- Future Trends That May Affect The Linear Park And Associated Assets, River Torrens Linear Park Strategic Integrated Asset Management Plan: Jensen Planning + Design, November 2016
- Key Stakeholder Workshop #1 – Summary, River Torrens Linear Park Strategic Integrated Asset Management Plan: Jensen Planning + Design, November 2016
- Online Survey Summary, River Torrens Linear Park Strategic Integrated Asset Management Plan: Jensen Planning + Design, November 2016
- Wayfinding Plan Review, River Torrens Linear Park Strategic Integrated Asset Management Plan: Jensen Planning + Design, November 2016.

1.5 Background Reports

Over a number of years, various groups have commissioned reports on the River Torrens Linear Park. These have included:

- River Torrens Linear Park Trail – Signage Plan, The Office for Recreation and Sport, Department of Transport, Energy and Infrastructure, Local Government Association (SA), Brecknock Consulting in association with Martins Design June 2007
- River Torrens Linear Park Management Plan – Hindmarsh Bridge to the River Mouth, City of West Torrens and City of Charles Sturt, EBS, Hemisphere Design, Connell Wagner, December 2007
- River Torrens Linear Park Trail Assessment, Local Government Association of South Australia, Echelon, Tonkin Consulting, December 2007
- River Torrens Linear Park Eastern Section Management Plan, Cities of Adelaide, Norwood Payneham St Peters, Port Adelaide Enfield, Tea Tree Gully, Walkerville and the Department of Planning and Local Government, URPS, EBS, Tonkin Consulting, Swanbury Penglase, October 2011.

The reports provide some useful background information relevant to the SIAMP. This includes:

River Torrens Linear Park Trail – Signage Plan is currently being implemented. This plan created the RTLP Logo currently in use. A review of the signage has been undertaken and is detailed later in this report.

River Torrens Linear Park Management Plan – Hindmarsh Bridge to the River Mouth identified an increase in commuter cycle traffic as well as an increase in general use from residential developments close to the Linear Park. The management plan identifies some safety concerns in relation to the path network and sections of the path which are not up to current Australian Standards, creating conflicts between pedestrians and cyclists. The general condition of some infrastructure and stability of river bank and associated paths was also identified.

The management plan identifies that upgrade to the path network is a high priority together with the construction of underpasses to allow users to remain on the Linear Path. Other infrastructure requiring upgrade included toilets (noting potential safety and hygiene issues) and exercise circuits.

It was recommended that investigations into a dedicated commuter path be undertaken. The preparation of the management plan included community consultation in which there were 146 completed questionnaires.

River Torrens Linear Park Trail Assessment included a physical inspection of the entire path network from the Gorge Weir in the Adelaide foothills to the coast. In addition, consultation with key stakeholders (excluding the community) was undertaken. General comments on the design of paths were identified, including access via steps and ramps, access to adjoining streets, river crossings, warning signage, and lighting. A plan identifying key trail safety concerns for each Council was also prepared. The report noted that due to the topography, geography and natural environment it is not possible to achieve many design and construction standards. The report noted that the Linear Park is a natural environment which cannot reasonably be redesigned or re-engineered to fully mitigate risks associated with accessing or interacting with the park.

River Torrens Linear Park Eastern Section Management Plan. This report identified one of the roles of the RTLP as a recreation asset providing a range of predominately unstructured recreation activities (eg walking and cycling). It also recommended that a major review of asset condition be undertaken every 10 years to minimise risk to users together with safety audits. Consultation associated with the project identified issues associated with cycling / pedestrian conflicts, night time use and lighting, flooding, path design and construction, and vegetation restricting sightlines. Commuter cyclists travelling at speed were identified as having a greater potential to clash with other users. Dogs not under effective control were also identified as an issue.

1.6 Management and Maintenance

The RTLP was established in 1982 as a joint State and Local Government venture, with the former Engineering and Water Supply Department (now SA Water) being responsible for the State's commitment to the scheme. The RTLP was primarily designed and managed for flood mitigation, and has since become a significant open space and multi-functional recreational asset comprising walking and cycling trails, picnic areas and visitor facilities stretching from the Adelaide foothills to the coast.

The RTLP Coordinating Committee was formed in 2012 via a Memorandum of Understanding (MOU) between the South Australian State Government (four departments) and eight local governments (excluding Adelaide Hills Council) with the purpose of promoting and fostering a co-operative approach to the management and development of the whole of the RTLP.

The RTLP is a significant component of the Metropolitan Open Space System (MOSS) and is protected under the Linear Parks Act (2006).

The recreational and transport (walking and cycling) assets along the river are now upward of 30 years old and are at a stage of needing renewal and in many cases upgrading to meet legislative requirements and/or the future needs of users. The Councils with responsibility for the RTLP have asset management plans for the assets along the river as part of their suite of Asset Management Plans within their respective Councils. Many of these plans cover a class or group of asset and not necessarily directly encompass the RTLP group of assets with respect to design, function, look and feel.

The ownership of the land comprising the RTLP has a long and difficult history. The RTLP land is owned by both the State Government and the Local Government authorities. Most councils also own land adjacent to the RTLP that they class as being part of the RTLP. It is understood that the RTLP is under the care and control of the councils in terms of maintenance and renewal of assets. This probably means that re-development and upgrade works, as long as works are consistent with the objectives of the RTLP, are also the responsibility of the councils.

Review of cadastre plans has identified that approximately 50% of the RTLP land is owned by the State Government and approximately 50% of the RTLP land is owned by the Local Government authorities. Areas of RTLP land that have been identified as being owned by the Local Government authorities include:

- Apex Park (City of West Torrens)
- Area East of Holbrooks Rd to Hardys Rd (City of Charles Sturt/City of West Torrens)
- Area East of South Rd to Port Rd (City of Charles Sturt)
- All of the Adelaide City area (Adelaide City Council)
- St Peters Billabong (Norwood, Payneham and St Peters)
- Area East of OG Rd to Wicks Ave (Norwood, Payneham and St Peters)
- Area East of Windsor Grove to Coventry Drive (City of Port Adelaide Enfield, Campbelltown City Council, City of Tea Tree Gully).

It is noted however, there is no legislation that imposes control and/or management of the river on any particular entity. As a consequence, the various Councils through which the RTLP travels have generally taken responsibility for the care, control and maintenance of the Linear Park.

2 Linear Park Usage

2.1 Community Usage of Linear Park

The RTLP corridor is currently used by the community for both recreation and transport in a number of ways. Key uses include:

- transport corridor for bike riders commuting, for example, to and from the city (and other destinations) for work
- a linear shared use facility for community exercise including riding, walking, running and dog walking
- a safe bikeway and walkway for families away from roads
- access to playgrounds and picnic facilities for recreation purposes
- access across the river at the many bridges
- community events.

Whilst most users of the Linear Park will only access a small portion of the park during any single visit to the park, it is generally expected that the walkways, shared use paths and bridges will be of sufficient standard to allow continuous access along the entire length of the River Torrens corridor between the Adelaide foothills and the coast. This was identified in the stakeholder workshop as a community expectation.

2.2 River Torrens Linear Park Function

The River Torrens has its headwaters in the Adelaide Hills and runs in a general westerly to south westerly direction into the north eastern suburbs of Adelaide, through the Adelaide CBD and to the coast. The river drains into the Gulf of St Vincent approximately 10km west of the Adelaide CBD.

The primary role of the RTLP is for flood/stormwater management. The Linear Park also has three subsidiary but important functions:

- As a recreation asset, providing for a range of predominantly unstructured recreation activities (e.g. walking and cycling)
- As a linear network for biodiversity, enhanced through improvements in water quality, weed eradication and careful vegetation species selection tailored to the stormwater and recreation functions of different sections of the Linear Park
- As part of the transport network, accommodating the O-Bahn bus service, together with off-road walking and bicycle paths that provide connections to the CBD and public transport.

2.3 River Torrens Linear Park Assets

The RTLP key assets include shared use paths, pedestrian paths, lighting along paths and bridges / boardwalks. Appendix A and B shows the asset spatial data provided by the Councils.

Based on the data provided by the Councils, there is a continuous shared path along the majority of both sides of the river and pedestrian access across the river at approximately 30 locations. Numerous road bridges also provide pedestrian access across the river. The path width generally exceeds 2.5 metres and is generally sealed. Access to the adjoining road network is readily available although may require the use of steps or ramps.

Sections of the River Torrens around Thebarton / Hindmarsh, west Parklands, Hackney and Walkerville have a path on one side only and in some cases the path is quite narrow. A combination of site topography and land ownership is limiting the development of paths in some areas.

A significant portion of the shared path network on both sides of the River between the coast and South Road and within the Adelaide Council area (Weir to Frome Road) has public lighting. The shared path on one side of the river east of Frome Road to Highbury includes lighting. Key areas without lighting or only flag lighting (i.e. single lights at a feature) include Hindmarsh and the west Parklands, and east of Highbury. It should be noted that some of the paths that are adjacent to roads may be lit by lighting along these roads.

Based on the data provided by the Councils there are 23 playgrounds and 13 toilets. The data does not include facilities outside the RTLP boundaries, although for a park user there are significant gaps between toilets within the park area.

3 Community Consultation

Community consultation regarding the RTLP Strategic Integrated Asset Management Plan has been undertaken in two stages including a stakeholder workshop and broader community consultation.

3.1 Stakeholder Workshop Outcomes

The stakeholder workshop was held in August 2016 with representatives from eight of the nine councils, SA Water, Department of Planning, Transport and Infrastructure and the Office for Recreation and Sport.

The purpose of the workshop was to inform the representatives of the project objectives, provide an update of the project status, identify key issues affecting the RTLP, identify key trends relating to the usage and outline future activities relating to the overall project.

The three key issues for the RTLP were identified as:

- Service standards/consistency
- Wayfinding
- Paths/shared use paths.

Other issues that were identified less frequently included lighting, access, place making, safety, recreational facilities, sustainability, asset condition and bridges.

The three key drivers for change in demand for facilities were identified as:

- Housing density
- Demographic change
- Climate change / environmental change.

Other drivers for change that were identified less frequently included changes in usage, an increase in cycling, usage changes from a desire to exercise more for health reasons, technology, funding and increased tourism.

A complete summary of the workshop outcomes and the consideration and discussion regarding consistency, paths/shared use paths, wayfinding, lighting, access, place making, bridges, safety and recreational facilities can be found in River Torrens Linear Park Strategic Integrated Asset Management Plan Key Stakeholder Workshop #1 – Summary (Jensen Planning + Design 2016).

3.2 Broader Community Consultation

A community survey regarding the River Torrens Linear Park Strategic Integrated Asset Management Plan was undertaken in September 2016 using Survey Monkey. Over 800 responses were received, primarily from people living in the 9 council areas along the Linear Park.

The survey included questions regarding park usage and facilities along the park. Results indicates that people use the park for activities including walking, cycling, running, walking pets, visiting playgrounds and attending barbeques as would be expected. More than two thirds of the survey participants use the park at least once a week.

The adjoining Councils contacted key community group stakeholders and requested that these groups respond using the website survey.

Standard of Facilities

Survey participants provided the following comments regarding the standard of the facilities within the park:

- **Path Standard:** Approximately half of the participants are happy with the standard of the paths, a fifth are unhappy and 30% are neutral.
- **Path Lighting:** Only a fifth of the participants consider the path lighting to be good/excellent, more than a quarter were neutral and more than a third consider the path lighting is inadequate.
- **Playgrounds:** 40% of participants are happy with the standard of playgrounds, a quarter of participants are neutral regarding playgrounds, only 12% were not happy with the playgrounds standard and a quarter of participants responded not applicable.
- **Access Across the River:** 50% of participants are happy with the provision of access across the river, 20% of participants feel that access across the river could be improved, whilst almost a third of participants responded neutral or not applicable.
- **Toilets:** Only 13% of participants stated that toilets were a feature that was maintained to a good/excellent standard. Almost 50% of participants were unhappy with the current standard of facilities and almost 40% of participants responded that the standard of toilets was either not applicable or neutral.

Details of the survey outcomes regarding the standard of these and other recreation facilities such as barbeques, carparks, fitness equipment, public art, stairs and other facilities are provided in River Torrens Linear Park Strategic Integrated Asset Management Plan: Online Survey Summary (Jensen Planning + Design, 2016).

Importance of Facilities

Survey participants provided the following comments regarding the importance of services along the river.

- **Paths/Boardwalks:** Almost 90% of participants considered that the provision of paths and boardwalks is important, approximately 10% considered it was of neutral importance and less than 2% considered that paths were of little importance.
- **Path Lighting:** Three quarters of participants indicated that path lighting was important with 50% stating that it was very important. Only 7% of participants considered that path lighting was not important.
- **Playgrounds:** Almost half of participants considered that playgrounds are important along the River Torrens whilst a quarter of participants responded neutral importance and a fifth responded that playgrounds were not very important.
- **Access Across the River:** More than 70% of participants felt that access across the river must be highly considered within future management of the park. Approximately a fifth of participants responded with a neutral score and only 4% felt this was not important.
- **Toilets:** More than two thirds of participants considered that toilets have some importance with almost 40% regarding it at very important. Less than 10% stated that toilets have little importance whilst a fifth responded with a neutral score.

Details of the survey outcomes regarding the importance of these and other recreation facilities are provided in River Torrens Linear Park Strategic Integrated Asset Management Plan: Online Survey Summary (Jensen Planning + Design, 2016).

Community Feedback General Comments

Results of the survey indicate that the community consider that the most important facilities along the river in descending order are:

- Feeling of safety
- Paths/Boardwalks
- Path Lighting
- Physical safety
- Toilets
- Access across the river.

Key facilities that were considered to be of least importance were:

- Public Art
- Fitness Equipment
- Carparks
- Interpretive Signage.

A range of topics were addressed in the general comments section. The most re-occurring topics included:

- Cycling and pedestrian conflict
- Poor quality paths
- Poor supervision of pets
- Lack of toilets and
- Inadequate path lighting.

Cyclist and pedestrian conflict was the most occurring topic. Comments included the need to slow cyclists down, provision of wider paths or providing separate paths for cyclists. One area of concern is the consideration that widening paths may lead to cyclists travelling even faster and increasing potential hazards. Introduction of etiquette signage such as “Keep Left” or “Ring Bell to Pass” was also discussed as a potential solution.

Comments regarding poor quality paths related to timber sections of path, particularly around the South Rd underpass, and to sections of path where tree roots have cracked the surface or are bulging in specific areas.

Inadequate lighting comments were related to specific problem areas including:

- The area near Hindmarsh Cemetery
- Between Tapleys Hill Rd and the beach (on the south side)
- South Rd underpass
- Underneath the Port Road / SA Brewery Bridge.

Poor supervision of pets was a common area of concern with parents concerned for children’s safety, cyclists concerned about running into unleashed dogs and issues regarding dog defecation being left on the ground. A potential solution suggested to the issues was to introduce fenced off dog zones along the park.

A lack of toilets was raised by 7% of participants. Users highlighted the need for toilets at recreational sites as well as in consistent spacing along the park. Areas identified as requiring a toilet included:

- River Drive Athelstone playground
- Between Dernancourt and Highbury
- Tea Tree Gully area (non-specific)
- End of Hallett Boulevard Allenby Gardens (there is a recreational area nearby)
- Klemzig Interchange heading towards the Adelaide foothills.

Complete details of the community feedback comments are provided in River Torrens Linear Park Strategic Integrated Asset Management Plan: Online Survey Summary (Jensen Planning + Design, 2016).

The Bicycle Institute of South Australia (BISA) provided a response which included three recommendations:

1. Provide simple clear, directional signage designed to be easily read by moving cyclists.
2. Provide direct, safe, on-street alternative cycling routes to the Linear Path, particularly where it is not possible to provide an alternative path to separate cyclists and pedestrians
3. Provide an alternative path to separate cyclists and pedestrians.

BISA noted that the separate paths may be difficult to achieve, although options such as encouraging faster 'transport' cyclists off the linear path and into alternative on road routes designed around cycling for transport, along with other localised treatments could be considered.

Implementation and Funding

The stakeholder workshop aim was to bring Councils and Government stakeholders together. A recommendation from the workshop was that due to the scale of the project and regional importance, that the implementation of the SIAMP is deserving of State and Commonwealth Funding.

Further, a responsible Minister at State Government level as champion for the RTLP and expanding the role and purpose of the RTLP Coordinating committee should be considered.

3.3 Consultation Conclusions

The results of both the stakeholder workshop and the community consultation indicate that the paths, lighting, river crossings, playgrounds and toilets are considered to be important facilities along the River Torrens.

It is recommended that each council review their own paths and lighting facilities along the river and identify areas that are lacking in terms of asset standard or adequacy of facilities. Each council should also review the Online Survey Summary report and identify areas requiring improvement of service based on feedback provide by the community.

It is recommended that the provision of recreational facilities including toilets, playgrounds and barbeques be reviewed in terms of what facilities already exist and where new facilities could be located to provide some consistency with spacing along the river.

4 Future Trends and Demand Forecast

It is envisaged that in the future the RTLP will continue to be used as a commuter corridor for bike riders, as a linear pathway for exercise, and as a recreation facility for families and community events.

Factors that may change patterns of demand and usage of the RTLP in the future include:

- Population growth within each Council area and in greater Adelaide. According to the Australian Bureau of Statistics Census Data, the population within the eight council areas is increasing by less than 1% annually on average. The population within Adelaide City Council area is however increasing by approximately 3.8% annually
- Infill of residential areas and public housing renewal resulting in higher population density of some areas near the RTLP. The rate of growth close to the RTLP is likely to exceed the overall growth of metropolitan Adelaide as a whole. Higher density development with less private open space will increase the demand on larger public open space such as the RTLP
- Changes to demographics along the River Torrens in particular aging population. This is likely to decrease the level of demand for some assets (for example, children's playground areas) relative to that of others (for example, walking and cycling trails)
- People with disabilities are reported to be 21.5% of the State's population. People with disabilities are entitled to expect the same level of opportunities as other members of the community. Managers of the RTLP and its assets should keep in mind how best to encourage and enable people with disabilities to use and enjoy the RTLP
- Increasing rates of participation in physical activity including walking, cycling and running, all of which can easily be undertaken in the RTLP
- Changes in transport mode choice away from private motor vehicle use and towards cycling and walking. Several factors will contribute to this shift, including greater awareness of environmental impacts, health benefits, recreation, and increasing costs of vehicle ownership
- Increased employment and commercial and community activity in centres close to the RTLP. These may include public transport nodes, or commercial and recreation activity at designated activity centres
- Policies that support the enhancement of greenways in transit corridors and along major watercourses and linear parks, including the RTLP
- Changes in technology will change the expectation of many users of the RTLP in relation to signage and wayfinding
- Climate change is likely to lead to increased costs for asset management and maintenance; to change the times people may enjoy the RTLP (for example, avoiding the heat of the day); lead to additional stress on vegetation and shorter vegetation lifespans; and cause more regular flooding.

The above future trends will need to be considered in any renewal or capital upgrades of the assets over time.

5 Linear Park Infrastructure

5.1 Linear Park Assets

Infrastructure assets within the RTLP corridor include walkways, public lighting, bridges and boardwalks and other recreation assets including playgrounds, toilets, sports fitness equipment, bins, seats and shelters.

The eight city Councils have provided asset valuation data for all assets within the Linear Park corridor. The valuation and condition data provided by the councils is assumed to be as of 1 July 2015.

Condition rating data has been provided by the Councils for most of the assets. Each asset has generally been assigned a condition rating between 1 and 5 where 1 represents very good condition and 5 represents very poor condition requiring replacement. It has been assumed that the condition ratings are consistent with the IPWEA.NAMS rating system.

The available asset condition data has been collated to allow comparison between Councils. For councils where condition ratings were not provided an estimated condition rating has been calculated using the current valuation and written down value data. Straight line depreciation is used by all Councils except Tea Tree Gully Council and for the purposes of consistency, straight line depreciation was adopted for all Councils.

An overview of the three main asset groups plus a summary of the other recreation assets within Linear Park is provided in Table 5.1 below.

Table 5.1 Walkways, Public Lighting, Bridge and Boardwalk and Other Recreation Assets covered by this plan

Council	Walkway Area (m ²)	CRC	Public Lighting (N ^o)	CRC	Bridges and Boardwalks (N ^o)	CRC	Other Assets CRC	Total CRC
Adelaide	64,264	\$6.0M	553	\$5.1M	5	\$6.0M	\$3.0M	\$20.1M
Campbelltown	38,804	\$4.5M	75	\$0.5M	9	\$0.2M	\$0.8M	\$6.0M
Charles Sturt	26,978	\$3.0M	261	\$1.5M	14	\$10.4M	\$2.9M	\$17.8M
Norwood, Payneham and St Peters	21,835	\$1.9M	42	\$0.2M	10	\$0.6M	\$2.5M	\$5.1M
Port Adelaide Enfield	19,823	\$2.1M	186	\$1.1M	4	\$0.3M	\$0.3M	\$3.8M
Tea Tree Gully	29,005	\$2.7M	103	\$0.4M	10	\$0.7M	\$0.2M	\$4.0M
Walkerville	12,061	\$1.2M	146	\$0.9M	6	\$1.5M	\$0.3M	\$3.9M
West Torrens	34,638	\$3.5M	276	\$1.6M	7	\$1.8M	\$1.0M	\$7.9M
Total	247,407	\$25.0M	1,642	\$11.3M	65	\$21.5M	\$10.9M	\$68.6M

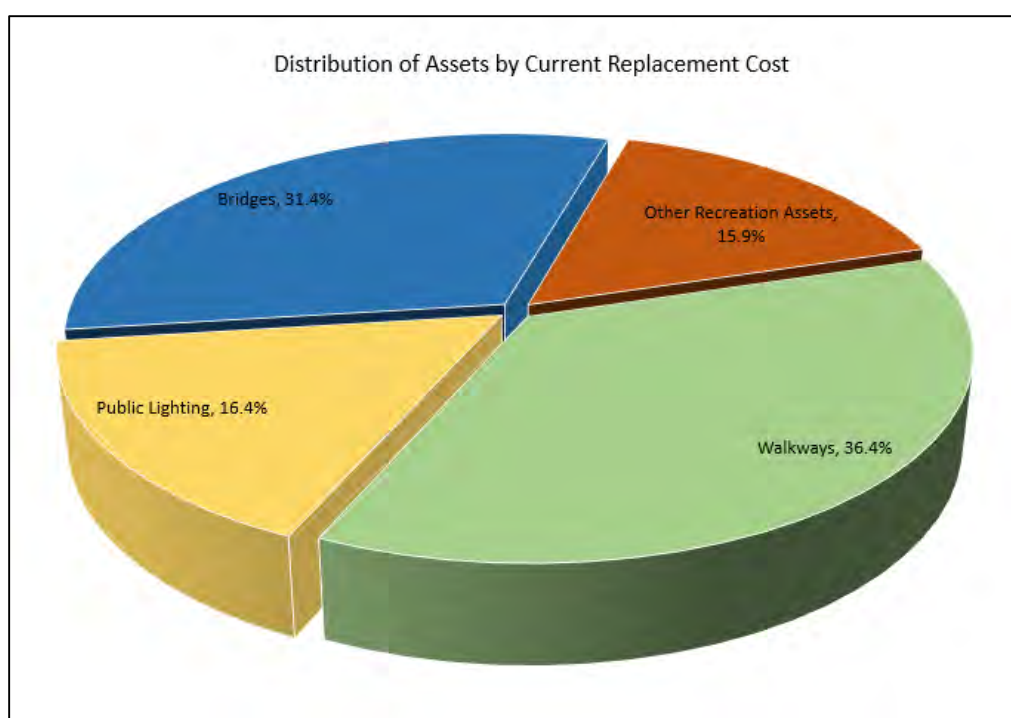
CRC: Current Replacement Cost – the cost to demolish and replace the asset with a new asset to maintain an equivalent level of service

Valuation data indicates that the walkways represent approximately 36.4% of the overall asset value for assets within Linear Park. An overview of the Linear Park assets is provided in Table 5.2 below.

The valuation data has been adopted from the Council's supplied data. It is noted that the unit rates vary between Councils and reflect their costs to replace the asset. For example, asphalt path unit rates vary from \$89/m² to \$117/m² whilst lighting ranges from \$4,000 to \$9,162 per light with the higher figure being Adelaide City Council.

Table 5.2 Overview of Linear Park Assets

Asset Category	Current Replacement Cost of Assets (\$)	Percentage (%)
Walkways	\$25.0M	36.4%
Public Lighting	\$11.3M	16.1%
Bridges and Boardwalks	\$21.5M	31.4%
Other Recreation Assets	\$10.9M	15.9%
Total	\$68.6M	100.0%



5.2 Walkways

There is approximately 92km of walkways along both sides of the River Torrens between the Adelaide foothills in the east and the coast in the west. A summary of the walkways within each of the eight councils is provided in Table 5.3 and 5.4 below.



Table 5.3 Walkways Assets by Council

Council	Length (m)	Area (m ²)	Average Width (m)
Adelaide City Council	19,886	64,264	3.2
Campbelltown City Council	14,428	38,804	2.7
City of Charles Sturt	11,263	26,978	2.4
City of Norwood Payneham St Peters	9,532	21,835	2.3*
Port Adelaide Enfield City Council	7,929	19,823	2.5*
City of Tea Tree Gully	10,118	29,005	2.9
Walkerville Council	5,320	12,061	2.3
City of West Torrens	13,855	34,638	2.5*
Total	92,331	247,407	2.6*

*An average width of 2.5m for paths has been assumed for paths with unknown widths.

Table 5.4 Walkway Condition Distribution

Walkway Condition Rating	No of Walkways	Length (m)	Percentage (%)
0 or Unknown	171	30,659	33%
1 – Very Good	66	5,112	6%
2 - Good	310	34,428	37%
3 - Fair	88	12,938	14%
4 - Poor	73	8,335	9%
5 – Very Poor	7	858	1%
Total	715	92,330m	100%

Of the paths with a condition rating, 64 % are condition 1 or 2 which is not likely to need replacement for 10 or more years and only 1.4% are in condition 5 which is at the end of their useful life.

5.3 Public Lighting

There are 1,642 lights which are located on both sides of the River Torrens. A summary of these public lights is provided in Table 5.5 below.

Table 5.5 Public Lighting Assets by Council

Council	Public Lighting Assets
Adelaide City Council	553
Campbelltown City Council	75
City of Charles Sturt	261
City of Norwood Payneham St Peters	42
Port Adelaide Enfield City Council	186
City of Tea Tree Gully	103
Walkerville Council	146
City of West Torrens	276
Total	1,642

Condition rating data has been provided by each Council for most of the public lighting assets. The distribution of public lighting condition is provided in Table 5.6 below. Results indicate that a substantial portion of the lights do not have condition data available and therefore it is difficult to identify the general condition of the public lights.



Table 5.6 Public Lighting Condition Distribution

Condition Rating	No of Public Lights	Percentage (%)
0 or Unknown	889	54%
1 – Very Good	195	12%
2 - Good	220	13%
3 - Fair	212	13%
4 - Poor	121	7%
5 – Very Poor	5	0%
Total	1,642	100%

Of the lights with a condition rating, 55 % are condition 1 or 2 and 84% condition 3 or better which will not require maintenance for 5-10 years and less than 1% are in condition 5 which is at the end of their useful life.

5.4 Bridges and Boardwalks

There are 55 pedestrian bridges and boardwalks which traverse the River Torrens within the eight council areas. These 55 bridges are identified as 65 bridge assets as 10 of the bridges are have shared ownership between two councils.

Table 5.7 Bridge Assets by Council

Council	No of Bridge Assets
Adelaide City Council	5
Campbelltown City Council	9
City of Charles Sturt	14
City of Norwood Payneham St Peters	10
Port Adelaide Enfield City Council	4
City of Tea Tree Gully	10
Walkerville Council	6
City of West Torrens	7
Total	65

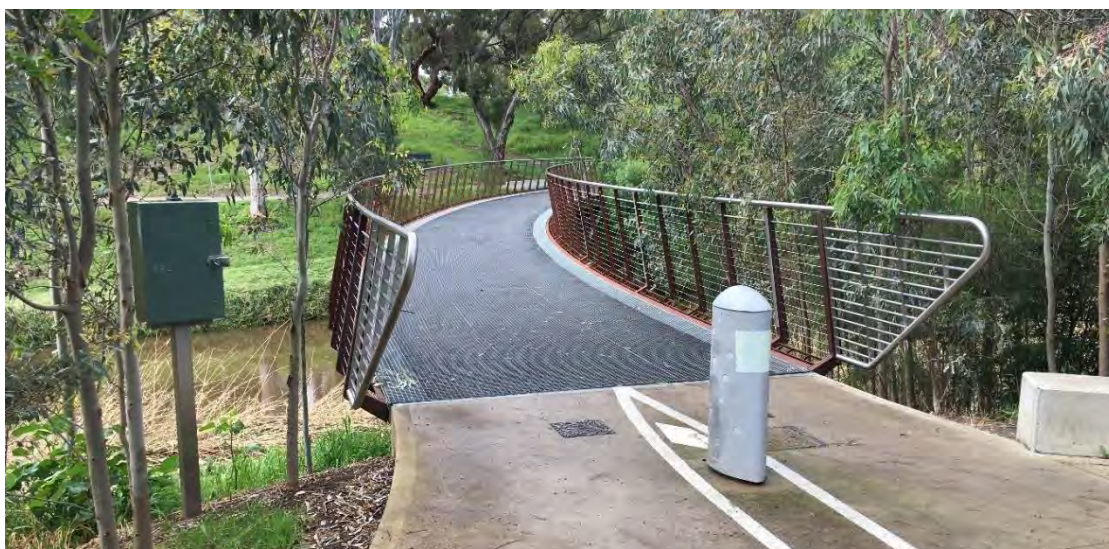


Condition ratings data for the bridge assets is provided in Table 5.8 below.

Table 5.8 Bridge Assets Condition Distribution

Condition Rating	No of Bridge Assets	Percentage (%)
0 or Unknown	1	2%
1 – Very Good	4	6%
2 - Good	27	42%
3 - Fair	23	35%
4 - Poor	6	9%
5 – Very Poor	4	6%
Total	65	100%

It should be noted that the bridge assets range from a low level (low cost) timber bridge through to large high level bridges or boardwalk with high values. The condition has not been weighted based on the length or form of the bridge. The bridge to the Adelaide Oval has not been included in this assessment.



5.5 Other Recreation Assets

Other recreation assets within the Linear Park include playgrounds, sports fitness equipment, barbeque areas, seating, toilets and other recreation and civil infrastructure. A summary of the quantities of some of the recreation assets along the Linear Park is provided below:

- 55 playground and sports fitness equipment assets
- 18 toilets
- 33 barbeques
- 422 seats and picnic tables
- 24 shelters
- 10 carparks
- 52 drinking fountains

Of these other recreation assets, public toilets and playgrounds each account for approximately \$2M based on current replacement costs.



Appendix A shows plans of paths, lighting and bridge assets that have been provided by the Councils for the whole of the RTLP.

6 Levels of Service

The community expect that the eight councils will provide a safe and amenable park corridor along the length of the River Torrens between the Adelaide foothills and the coast through the provision of infrastructure and maintenance services.

The service standards for walkways, bridges and public lighting have been defined in terms of providing continuous and safe pathway access along the length of the River Torrens corridor.

Service standards have been developed from Council Asset Management Plans, community and stakeholder consultation together with recognised codes and standards relating to the assets.

6.1 Walkway Service Standards

The walkways within the Linear Park corridor can be divided into three main groups as follows:

- Shared used paths
- Pedestrian paths
- Unsealed formed paths.

The following strategic service standards for the walkways are identified in order to achieve an amenable, enjoyable and safe experience for all users of the Linear Park corridor.

Walkway Provision

- Provision of a continuous sealed shared use path along the length of the Linear Park, preferably both sides
- A continuous lit path and additional lighting in high use areas
- Provision of sealed shared use access paths with lighting to link from adjacent roads to the primary shared use path at key points. Access to the road should be available to cyclists and those with disabilities
- Signposted primary paths to identify location and path use options
- Minimum width of 3m for paths identified as shared use paths, with width increased where demand dictates
- Minimum width of 1.8m for paths identified as pedestrian paths, with width increased where demand dictates
- Plan for asset renewal once paths have reached a minimum condition rating of 3 (fair) for shared use paths and 4 (poor) for reserve paths
- DDA compliant access paths where possible along the corridor and into the RTLP from adjoining streets
- A network of low order all weather paths to interest points, playgrounds, toilets and other facilities
- Signage to identify path detours and bridge closures required during flood events or maintenance.

Safety Standards for Paths

- Shared paths and Reserve paths designed in accordance with relevant Australian Standards
- Shared use path provision with adequate sight distance for expected cyclist speeds
- Consideration of options for cyclist and pedestrian safety on shared use paths including:
 - Separate cyclists and pedestrian paths

- Peak hour acceptance for higher speeds for cyclists during commuting hours in morning and evening and signage identifying requirements
- Influence desired behaviour through design
- Education and signage on expected behaviour and etiquette including recommended cyclist speeds.
- Crime Prevention Through Environmental Design (CPTED):
 - Location of paths, playgrounds, exercise equipment, toilets and other public facilities in appropriate accessible open spaces
 - Public lighting provision in high use areas and key areas adjacent to public transport locations
 - Paths designed to have reasonable sight lines and avoid dense vegetation close to the path
 - Encourage passive surveillance.

6.2 Public Lighting Service Standards

The following strategic service standards for the public lighting are identified to provide a safe environment for all users of the Linear Park corridor.

- Public Lighting provision along the entire length of the shared use path along the Linear Park to enable safe transport for cyclists and pedestrians
- Public Lighting provision on shared use access paths to link adjacent roads to the primary shared use path at key points
- Public Lighting provision at playgrounds, exercise equipment, toilets and other public facilities
- Consideration of lighting times to encourage appropriate usage of the Linear Park corridor and minimise environmental impacts i.e. lighting to assist pedestrians or cyclists during commuting periods in the morning and evening, light spill avoided to protect residential amenity
- Lighting designed to Australian standards
- Review public lighting assets once the condition rating reaches 4 (poor) and plan for renewal once the condition rating is 5 (very poor).

6.3 Bridges Service Standards

The following strategic service standards for the bridges are identified to provide safe river crossings along the Linear Park corridor.

- Provision of bridges to enable safe river crossing at key locations to enable access to the continuous shared use path, access to recreation facilities, access to transport facilities and adjacent roads and connection of communities each side of the river
- Provision of signage to identify path detours and alternative routes or river crossings when bridges are closed during flood events or maintenance
- Consideration of bridges and river crossing standards in terms of maintaining the capacity of the river to drain stormwater during flood events
- Bridges designed in accordance with relevant Australian Standards including access for maintenance and emergency vehicles
- Plan for renewal or maintenance activities once the condition rating reaches 3 (fair) or if the bridge asset is identified as unserviceable.

6.4 Recreation Facilities Service Standards

The service standards for the other recreation facilities along the River Torrens corridor have been defined in terms of providing safe and amenable access to the community for recreation and exercise activities.

Carparking Service Standards

The following strategic service standards for carparking facilities are identified to encourage usage of the Linear Park as both a recreational facility and as a commuter corridor for cyclists and pedestrians.

- Provide adequate carparking near playground, toilet and recreational facilities situated within the Linear Park to encourage usage. This may include carparking in adjacent streets or dedicated parking facilities as required
- Consider the provision of carparking facilities to encourage cyclists to park and ride into the Adelaide CBD.

Playground, Toilet, BBQ, Seating, Picnic and Shelter Service Standards

Whilst all the playground, toilet, BBQ, seating, picnic and shelter facilities provided along the Linear Park are instrumental to the use of the Linear Park as a recreation facility, each of these facilities is situated within both the Linear Park corridor and within a Council area. The eight councils also provide recreation facilities outside of the Linear Park corridor for community use. For this reason, it is difficult to define the frequency and location of where recreation facilities should be provided along the River Torrens corridor except in general terms.

The following strategic service standards for playground, toilet, BBQ, seating, picnic and shelter facilities are outlined to encourage the use of the Linear Park as a recreation facility.

- Provision of playgrounds, exercise equipment, toilet facilities, picnic facilities and bins to encourage the use of the River Torrens as a recreation facility. Co-location of these facilities where possible to provide a comprehensive recreation service
- All playgrounds to comply with relevant Australian Standards
- Consideration of signposting to playground, toilet and other recreation facilities that are situated nearby in the surrounding suburbs outside the RTLP
- Co-location of seats, tables, shelters, BBQ facilities and drinking fountains with playground equipment
- Provision of additional seats at points of interest along the shared use and pedestrian paths
- Provision of additional bins and dog bag dispensers along the River Torrens to encourage the appropriate removal of rubbish by the public and Council and to maintain clean facilities
- Ensure vehicle access for maintenance is available
- Review recreation assets once the condition rating reaches 4 (poor) and plan for renewal once the condition rating is 5 (very poor) or if the asset becomes unserviceable.

Monuments, Art and Sculptures

Monuments, Art and Sculptures are to be provided along the Linear Park at the discretion of each Council. These assets should be located to encourage public interest and public safety and to increase the amenity of the Linear Park.

Signage

Signage can be divided into four main groups including Regulatory, Informative, Directional and Emergency Locations Markers. Signage within the Linear Park should be provided to address the following service standards:

- **Regulatory Signage:** Provide regulatory signage to ensure appropriate shared path usage such as speed limits, give way to pedestrians, alternative routes when low level bridges and/or paths are in flood.
- **Informative:** Provide informative signs to identify and explain environmental, historic or cultural locations or facilities.
- **Directional:** Provide directional signage at Linear Park access points to identify the location of facilities or adjacent road names.
- **Emergency Location Markers:** Consider the provision of an emergency marker location system along the Linear Park to enable simple identification of location to authorities during an emergency.

Signage should be functional yet be sensitive to the local environment. Regulatory signage should be installed in accordance with the Australian Standards and located where it does not cause a hazard to park users. Signage should be designed and located to reduce risk of graffiti or vandalism.



A detailed wayfinding review has been prepared which provides recommendations to improve signage, particularly for cyclists and identifies options to embrace technology. (Wayfinding Plan Review, River Torrens Linear Park Strategic Integrated Asset Management Plan: Jensen Planning + Design, November 2016)

6.5 Community Levels of Service

Community Levels of Service relate to the service outcomes that the community wants in terms of quality reliability, responsiveness, amenity, safety and financing.

Table 6.1 *Community Levels of Service*

Key Performance Measure	Level of Service Objective	Performance Measure Process	Service Target
Quality	Maintain walkways/shared paths with consideration to path usage Maintain bridges to provide safe river crossings. Maintain sufficient public lighting with consideration to park usage community expectations and park amenity. Maintain other recreational infrastructure with consideration to usage and safety.	Customer feedback and community satisfaction.	Reducing quantity and significance of complaints each year.
Function	Meet user requirements and compliance requirements (fit for purpose).	Customer feedback and requests.	Assess and respond to request within 30 days.
Safety	Provide safe walkways/shared paths and bridges. Provide sufficient public lighting along the corridor with consideration to usage and community expectation. Provide safe working recreation infrastructure for community usage.	No successful claim against each council.	Zero claims against councils.
Financing	Budget reporting in line with each council's financial processes.	Adequate recording and reporting on costs.	Budget reporting in line with measured costs.

6.6 Technical Levels of Service

Technical Levels of Service support the community service levels and are operational or technical measures of performance. These technical measures relate to the allocation of resources to service activities that the eight councils undertake to best achieve the desired community outcomes.

Table 6.2 *Technical Levels of Service*

Key Performance Measure	Level of Service Objective	Performance Measure Process	Service Target
Operations	Efficiently utilise assets that consume resources such as manpower, energy and materials (IIMM).	Regular condition assessments. Adherence to asset renewal works programs. Ongoing improvement to construction standards. Regular compliance testing and replacement of lighting, gas cylinder and electrical assets.	Asset reinspection program linked to maintenance/renewal programs and registered customer complaints. Improved construction standards linked to lower lifecycle costs.
Maintenance	Retain assets as near as practicable to its original condition, but excluding rehabilitation or renewal (IIMM).	Proactive approach to maintaining assets to maintain service levels.	Maintenance linked to reinspection program. Record maintenance activities.
Renewal	Planned asset renewal and upgrade to maintain assets in compliant operational condition. Replace existing assets with assets of equivalent capacity or performance capability (IIMM).	Renewal program developed and managed for each council for walkways, bridges, public lighting and other recreation assets. Renewal program integrated with each council's Long Term Financial Plan and annual budget processes	Meet and maintain planned renewal expenditures.
Capital Upgrade	Planned capital upgrades to provide a higher level of service	Upgrades to meet the future needs of the community	Meet future community needs

IIMM: International Infrastructure Management Manual, Institute of Public Works Engineering Australasia

7 Life Cycle Management

Life cycle management of assets details how assets are managed and operated to provide agreed levels of service while optimising life cycle costs.

The required expenditure to maintain assets includes the projected operations, maintenance and capital renewal expenditure required to provide an agreed level of service to the community over a 10 year medium term financial planning period.

7.1 Routine Maintenance Expenditure

Routine maintenance is the regular on-going work that is necessary to keep assets operating, including instances where portions of an asset fails and needs immediate repair to make the asset operational again. Maintenance includes reactive (unplanned), planned and specific maintenance work activities. Assessment and prioritisation of reactive maintenance is undertaken by operational staff using experience and judgement.

No assessment of the routine maintenance and operation costs for each Council to maintain their portion of the RTLTP has been undertaken for this plan.

7.2 Capital Renewal Expenditure

Capital renewal expenditure is major work which does not increase the asset's design capacity 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 upgrade expenditure.

If an asset register is complete with asset details, current replacement costs, acquisition years and useful lives for the assets, an asset renewal or works plan can be developed by summing the replacement costs for the assets due to expire in each year of the renewal plan.

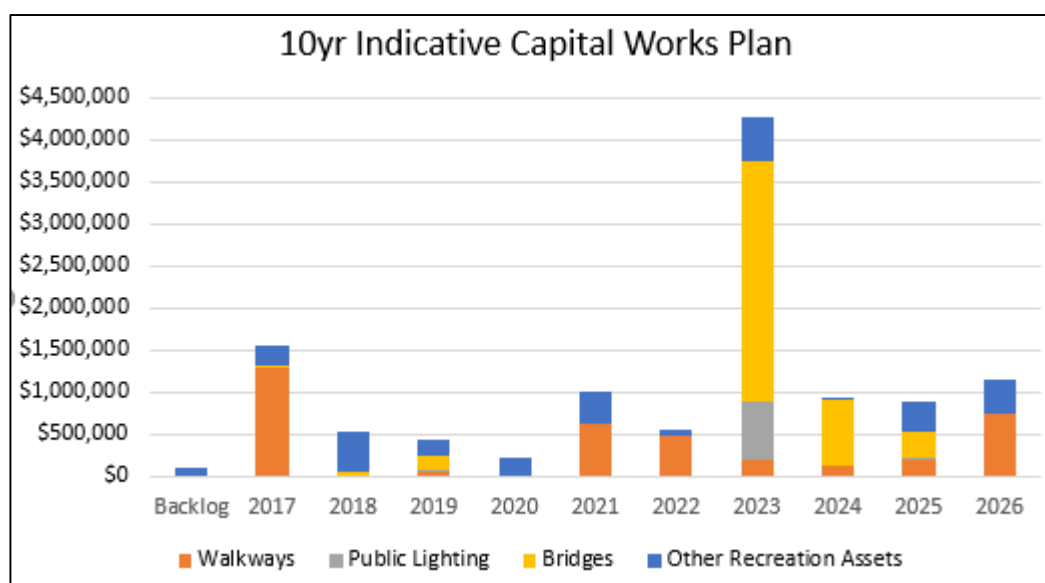
An indicative 10-year capital works plan for asset renewal has been developed for the RTLTP based on the available data provided by the Councils. It should be noted the data used to calculate the indicative works plan is incomplete for several of the councils and is therefore an underestimation of the total capital works plan.

The indicative capital works plan includes the replacement of approximately 13.7km of walkways, 88 of the public lights and 10 of the bridges. Other assets included in the 10year works plan include barbeques, bins, seats, carparks, playgrounds, fencing, drinking fountains and other recreation facilities. This is based on the financial information provided by each council.

In order to develop the 10-year capital works plan from the data provided by the councils, it was assumed that the remaining useful life was as of 2015 and the works plan has been calculated as of 2016. Assets that had an expiry date of 2016 or earlier were assumed to have expired and were assigned as "Backlog". The initial version of the 10-year capital works plan identified "Backlog" assets in four of the councils. These councils were provided with the original backlog asset list to review. The Councils reviewed these backlog assets and some of these assets were identified as having some remaining useful life and their replacement/renewal date has been deferred accordingly in the current version of the 10-year capital works plan.

Table 7.1 Indicative 10year Capital works Plan

Year	Walkways	Public Lighting	Bridges	Other Recreation Assets
Backlog	\$12,499	\$0	\$0	\$73,080
2017	\$1,290,910	\$0	\$30,000	\$226,747
2018	\$0	\$0	\$52,000	\$475,812
2019	\$48,895	\$34,898	\$150,749	\$185,291
2020	\$0	\$0	\$0	\$216,588
2021	\$624,603	\$0	\$0	\$382,216
2022	\$468,475	\$0	\$0	\$80,860
2023	\$190,818	\$700,555	\$2,848,400	\$537,340
2024	\$119,732	\$0	\$786,300	\$18,220
2025	\$191,014	\$23,596	\$307,000	\$360,208
2026	\$728,868	\$0	\$0	\$408,000
Total	\$3,675,814	\$759,049	\$4,174,449	\$2,964,363



The large peak in 2023 includes 80 public lights within Adelaide City Council (\$700K) with a condition rating of 4 and two bridge/boardwalk assets within the City of Charles Sturt (\$2.8M). The peak for the RTLP assets may form only a small portion of a Council wide overall 10 year capital works plan. In practice, the capital works plan for each Council will be refined and peaks will be spread over several years in line with the priorities and availability of funds from the respective Councils.

Development of an average indicative 10year capital works plan can also be achieved by considering the overall value of each asset group and an average standard useful life for each asset group and developing an average renewal cost for each year.

Table 7.2 Average Indicative 10year Capital Works Plan

Average 10year Renewal Expenditure	Walkways	Public Lighting	Bridges	Other Recreation Assets
Current Replacement Cost for Asset Group	\$25.0M	\$11.3M	\$21.5M	\$10.9M
Average Standard Useful Life (assumed)	40years	25years	80years	40years
Average Annual Asset Depreciation	\$625K	\$452K	\$269K	\$273K
Average 10yr Renewal Expenditure Requirement	\$6.25M	\$4.52M	\$2.69M	\$2.73M

The average standard life is based on the information provided by the Councils. IPWEA Practice Note 10.2 2016 – Parks Management Suite provides common industry lives and for asphalt path it ranges from 20-40 years. Public Lighting ranges from 50 years (steel pole) to 25 years for the Luminaire.

The Indicative 10-year Capital Works Plan that is based on the asset data provided by the councils provides a total required expenditure of \$11.6M in the 10-year period to 2026. The Average Indicative 10-year Capital Works Plan that is based on overall current replacement costs and average standard useful lives, provides a total required expenditure of \$16.2M in the 10-year period to 2026. Further development of the asset register will assist with more accurately reporting the required renewal expenditure.

7.3 Capital Upgrade and Acquisition Expenditure

New/upgrade expenditure is major work that creates a new asset that did not previously exist, or works which upgrade or improve an existing asset beyond its design capacity. They may result from growth, social or environmental needs. Assets may also be acquired at no cost from funding grants.

A review of service levels and community expectations together with an assessment of future demand may identify areas of potential upgrade of the assets the RTLP. Upgrade of assets may include:

- The widening of shared use paths in some areas to achieve better sharing of facilities for walkers and riders
- New shared paths or new bicycle only paths
- Surface type upgrades to some paths to increase service standards
- Increased public lighting frequency and increased service standards for lighting in some areas
- Recreation asset frequency and service level upgrade; potential co-location of recreation assets such as toilets, playgrounds, bins, seating to increase the amenity of the recreation areas
- Bridge upgrades as required.

The following areas along the RTLP should be reviewed when considering upgrade works requirements.

- Sections of the River Torrens around Thebarton / Hindmarsh, west Parklands, Hackney and Walkerville have a path on one side only and in some cases the path is quite narrow. Widening or new path may require boardwalks to suit the topography
- Key areas along the RTLP without lighting or with flag lighting only include Hindmarsh, the West Parklands and East of Highbury and at underpasses

- Upgrade some low level bridges to provide a higher level of service
- Based on the data provided by the councils there are 23 playgrounds and 13 toilets. Whilst there may be toilet facilities provided outside the RTLP boundary, there are significant gaps between toilets and playgrounds within the park area.

7.4 Renewal Strategies

A renewal strategy needs to be identified for each asset as it gets close to the end of its useful life. Prior to this, general maintenance is required to ensure that the asset reaches its desired design life. Renewal strategies are summarised in Table 7.3.

Table 7.3 *Renewal Strategies for Asset Groups*

Asset Group	Renewal Strategy
Asphalt or spray sealed paths	<ul style="list-style-type: none"> • An asphalt or spray seal overlay for paths in fair condition without significant displacement. • Reconstruction for paths that have significant defects and displacement.
Bridges and Boardwalks	<ul style="list-style-type: none"> • Whole bridge replacement where the bridge is a low cost asset such as a low level bridge. • Component replacement where a bridge is in fair condition and a component requires replacement to extend its life. This may be a shorter design life component such as deck or handrails. • Whole bridge replacement or major renewal where the bridge structural components are at the end of their useful life
Lighting	<ul style="list-style-type: none"> • Replace luminaires when at the end of their useful life • Replace poles when at the end of their useful life • Replace electrical components when at the end of their useful life
Playgrounds	<ul style="list-style-type: none"> • Whole facility replacement where the playground is a low cost asset. • Component replacement where a playground is in fair condition and a component requires replacement to extend its life. This may be a shorter design life component or replacement to meet current safety standards. • Whole playground replacement or major renewal where the whole playground is at the end of its useful life.
Toilets	<ul style="list-style-type: none"> • Whole facility replacement where the toilet is a low cost asset or single unit (ie prefabricated off site). • Component replacement where a toilet is in fair condition and a component requires replacement to extend its life. This may be a shorter design life component or replacement to meet current standards. • Whole toilet replacement or major renewal where the whole toilet is at the end of its useful.
Other Assets	<ul style="list-style-type: none"> • Replacement at the end of the asset's useful life.

7.5 Asset Disposal Plan

Disposal includes any activity associated with disposal of a decommissioned asset including sale, demolition or relocation. The eight Councils have not identified any assets to be disposed in the 10-year planning period.

7.6 Risk Management

An assessment of the risks associated with the service delivery of the walkways, bridges and recreational assets associated with the RTLP has not been undertaken as part of this Strategic Integrated Asset Management Plan. The risk assessment process identifies credible risks, considers the likelihood of an event occurring and assesses the impact or consequence that would be caused by an event occurring. A risk rating system using a risk matrix of likelihood versus consequence is developed and a risk treatment plan to address non-acceptable risk is developed.

Critical risks assessed as being “Very High” – requiring immediate corrective action and “High” – requiring prioritised corrective action will be identified and addressed in future revisions of the plan.

This plan does not include a formal risk assessment. However, the following risks have been identified for further consideration in future iterations of this plan.

Table 7.4 River Torrens Linear Park Preliminary Asset Risk Register

Risk	Comments
Flood damage of walkway and other assets	Paths are located where possible above a 10-20 year ARI flood level (10%-5% AEP) and where this is not possible be designed to withstand inundation. Key paths are located above the 20 year ARI flood level.
Flood damage of bridges	Bridges are designed to withstand flooding or can be easily repaired following a flood. Bridges should not come loose and create a possible blockage
Safety risk of shared use paths	Design to comply where possible with relevant standards. Signage or other treatment should be used in substandard areas. Management plan to address potential cyclist / other users should be implemented
Public toilets	Created so that they are vandal resistant, discourage antisocial behaviour and are located where possible above a 20 year ARI flood.
Public Lighting	Lighting should be designed to minimise regular maintenance and be safe in the event of a flood. All key electrical meter boards and service points should be above a 20 year ARI flood level.
Disability access	Should be considered and implemented if reasonable for all new works
Funding	Availability of funding to provide / maintain assets to agreed service levels

A safety assessment was completed in December 2007 for the Local Government Association and the recommendations in this report should be reviewed and implemented as required.

7.7 Current Expenditure

The Councils currently incorporate the maintenance and capital upgrades along the RTLP in overall open space budgets and Asset Management Plans. Capital renewal and maintenance budgets and expenditure are not generally identified separately for assets in the RTLP. Accordingly, it is difficult to identify current expenditure on infrastructure within the RTLP.

8 Improvement Plan

The following tasks have been identified for improving future versions of the plan. The eight councils should assign responsibilities and resources to these tasks as part of the endorsement of the plan.

Tasks for the each of the eight Councils include:

- Review the accuracy and currency of the existing asset register through development of the spatial register and completion of all asset attribute data including asset types, widths, lengths, age, condition data, useful lives etc. with sufficient detail to enable asset valuations to be developed and asset management planning to be undertaken
- Each council should identify all assets within their asset registers that are within the RTLP corridor and commence recording operating and maintenance costs associated with these assets so that this information is available for the next review and update of this plan
- Ensure a condition review and potentially a condition assessment (as required) of all assets within the RTLP corridor is undertaken every 5 years or more regularly as necessary to assess the condition and remaining life of the assets
- Identification, planning and budgeting of upgrade works to achieve required service standards and community expectations
- Review their section of RTLP in terms of safety and provision of paths and lighting and community feedback. Each council to identify what is required to maintain service standards and improve service standards to address issues identified during community consultation
- Consider recording costs and work completed and any capital renewals completed for works within the RTLP Corridor to provide an indication of ongoing expenditure and allow this to be compared with required future investment.

Tasks for the Committee include:

- Define how each council is to collect and assess data, and develop a template with details of asset data to be collected to ensure consistency
- Review unit rates for current replacement costs and standard lives and develop consistent rates for works in the RTLP for the same asset type
- Agree on depreciation models for the RTLP assets so that all asset classes are depreciated similarly (ie straight line or deterioration curve)
- Confirm RTLP boundaries, in particular Apex Park (City of West Torrens) and Breakout Creek (City of Charles Sturt)
- Conduct a risk assessment workshop in order to develop a risk register and identify critical risks and a treatment plan for inclusion in future iterations of the plan
- Confirm responsibility for the care, control and maintenance of each asset within the RTLP and responsibility for any capital replacement or capital upgrade
- Confirm ownership of joint assets (i.e. bridges) to ensure these assets are not duplicated
- Develop consistent minimum level of service for each asset and appropriate intervention levels prior to renewal (rehabilitated) or reconstruction (replaced)

- Consider path widths and cycling options to determine options for widening the paths for shared use paths or providing separate dedicated cycle paths or maintaining the current path widths to maintain the current service standard and usage of the paths by pedestrians and cyclists and other paths users
- Review the locations of recreation facilities along and adjacent to the linear park and consider whether additional facilities are required and where they should be situated to provide consistency in terms of spacing along the river and with other facilities outside the river corridor.

This Strategic Integrated Asset Management Plan will be reviewed every 3 years and amended as required to address any material changes in service levels and/or resources available to provide those services as a result of budget decisions.

This plan is current as of November 2016 and due for revision and updating in November 2019.

9 Recommendations

The following recommendations are provided to improve the ongoing management of the RTLP assets.

Management

- Develop a charter for the ongoing ownership and management of assets within the RTLP which identifies the roles of the Councils, the coordinating committee(s) and State Government.

Reporting and Monitoring

- Collect condition data for all recreational and transport assets within the RTLP under the care, control and maintenance of the Councils using a standardised format every 5 years.
- Review the RTLP SIAMP every five years to ensure it remains current and is continuously improved.
- Undertake a new community and stakeholder survey every 5 years to review current performance and identify emerging issues.

Paths

- Develop a cycle strategy which extends wider than the RTLP corridor to identify safe routes for serious recreational cyclists and transport cyclists who wish to travel at speed. This will reduce the number of cyclists using the RTLP shared use paths. Identify sections of the RTLP that would warrant separate cyclist paths or widened shared use paths to accommodate cyclists and improve safety for all users
- Consider signage identifying path use etiquette including cyclists, dog control and pedestrians
- Undertake continual safety improvement in accordance with the 2007 LGA trails safety assessment report
- Renew and maintain shared use paths to a minimum condition for the required service standard. We recommend that planning for renewal once the asset is at a minimum condition rating of 3
- Renew and maintain pedestrian paths to a minimum condition for the required service standard. We recommend planning for renewal once the asset is at a minimum condition rating of 4
- Undertake a safety assessment to review progress of safety improvements recommended in the 2009 LGA Safety report and plan to complete high risk items within 5 years.

Bridges

- Renew and maintain bridges to a minimum condition for the required service standard. We recommend planning for renewal once the asset is at a minimum condition rating of 3.

Public Lighting

- Extend and infill public lighting to provide a single safe continuous lit shared path along the whole length of the Linear Park and ultimately a continuous lit shared path on both sides of the River Torrens in high use areas. Lighting design should consider the Australian Standards, energy efficiency, amenity for users and adjoining residents and consider the impact on the environment. Timed lighting is recommended
- Provide timed flag lighting at key facilities including bridges that are used after dark.

Other Assets

- Review location of other assets, particularly playgrounds and toilets within the RTLP and adjacent areas to provide a network of easily accessible facilities. Provide additional facilities based on a gap analysis and demand
- Provide other minor assets such as bins, dog bag dispensers, seats, tables etc. at regular intervals
- Implement a modified signage strategy that considers new technology, provides emergency markers and improves readability and directions for moving cyclists.

Planning

- Review infrastructure assets against changing social, environmental and demographic needs and changes in demand.

Funding

- Identify funding opportunities to undertake asset data collection and analysis and prepare a detailed asset management plan for the RTLP
- Identify funding opportunities to undertake capital upgrades (widening, new assets, upgraded facilities) to meet the needs of all current and future users including the disabled and aged. Prioritize projects based on demand
- Provide funding to achieve the minimum service standards, based on a minimum of 2.5% of the current replacement cost. Review service standards to match funding availability
- Plan to fund major infrastructure as it comes due, including major bridges
- Identify current and historic renewal or capital expenditure on the RTLP and review to meet required service standards.

Promotion

- Promote the use of the RTLP through the website, online maps and events. Consider providing information showing facilities both in the RTLP and adjacent areas
- Consider the identification of a responsible Minister at State Government level to champion further improvement and management of the RTLP.

References

1. River Torrens Linear Park Trail – Signage Plan, The Office for Recreation and Sport, Department of Transport, Energy and Infrastructure, Local Government Association (SA), Brecknock Consulting in association with Martins Design June 2007
2. River Torrens Linear Park Management Plan – Hindmarsh Bridge to the River Mouth, City of West Torrens and City of Charles Sturt, EBS, Hemisphere Design, Connell Wagner, December 2007
3. River Torrens Linear Park Trail Assessment, Local Government Association of South Australia, Echelon, Tonkin Consulting, December 2007
4. River Torrens Linear Park Eastern Section Management Plan, Cities of Adelaide, Norwood Payneham St Peters, Port Adelaide Enfield, Tea Tree Gully, Walkerville and the Department of Planning and Local Government, URPS, EBS, Tonkin Consulting, Swanbury Penglase, October 2011
5. Parks Management: Inventories, Condition and Performance Grading, Practice Note 10.1 Parks IPWEA NAMS.AU
6. IIMM: International Infrastructure Management Manual, Institute of Public Works Engineering Australasia
7. Parks Asset Management, Renewal Planning, Valuation and Asset Management Plans, Practice Note 10.2 2016 Parks Management Suite IPWEA NAMS.AU
8. Future Trends That May Affect The Linear Park And Associated Assets, River Torrens Linear Park Strategic Integrated Asset Management Plan: Jensen Planning + Design, November 2016
9. Key Stakeholder Workshop #1 – Summary, River Torrens Linear Park Strategic Integrated Asset Management Plan: Jensen Planning + Design, November 2016
10. Online Survey Summary, River Torrens Linear Park Strategic Integrated Asset Management Plan: Jensen Planning + Design, November 2016
11. Wayfinding Plan Review, River Torrens Linear Park Strategic Integrated Asset Management Plan: Jensen Planning + Design, November 2016



Appendix A

Spatial Maps

River Torrens Linear Park Path Widths and Bridge Locations



NB: Hard surfaces include asphalt, concrete, bitumen and paving surface types

Job Number: 20155853
 Filename: 20155853G0005
 Revision: C
 Date: 24/02/2017
 Drawn: R BELL

Data Acknowledgement:
 Linear Park Trail data supplied by
 Participating Councils
 Road data from DataSA, 2015



0 100 200 300 400 500 m



Map 1 of 6

River Torrens Linear Park Path Widths and Bridge Locations



NB: Hard surfaces include asphalt, concrete, bitumen and paving surface types

Job Number: 20155853
 Filename: 20155853GQ005
 Revision: C
 Date: 24/02/2017
 Drawn: R BELL

Data Acknowledgement:
 Linear Park Trail data supplied by
 Participating Councils
 Road data from DataSA, 2015



River Torrens Linear Park Path Widths and Bridge Locations



NB: Hard surfaces include asphalt, concrete, bitumen and paving surface types

Job Number: 20155853
 Filename: 20155853G0005
 Revision: C
 Date: 24/02/2017
 Drawn: R BELL

Data Acknowledgement:
 Linear Park Trail data supplied by
 Participating Councils
 Road data from DataSA, 2015



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Map 3 of 6

River Torrens Linear Park Path Widths and Bridge Locations



NB: Hard surfaces include asphalt, concrete, bitumen and paving surface types

Job Number: 20155853
 Filename: 20155853GQ005
 Revision: C
 Date: 24/02/2017
 Drawn: R BELL

Data Acknowledgement:
 Linear Park Trail data supplied by
 Participating Councils
 Road data from DataSA, 2015



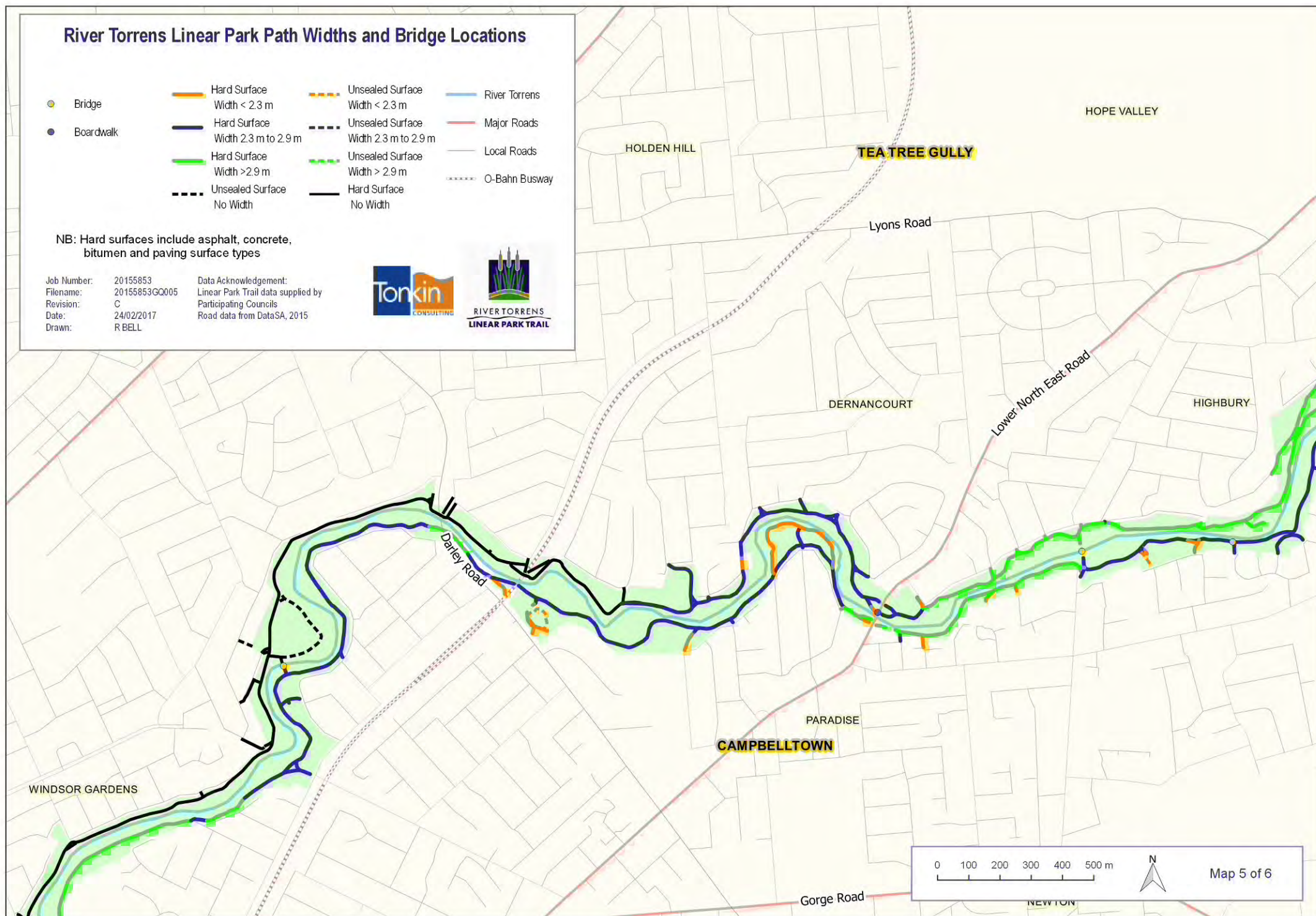
River Torrens Linear Park Path Widths and Bridge Locations



NB: Hard surfaces include asphalt, concrete, bitumen and paving surface types

Job Number: 20155853
 Filename: 20155853GQ005
 Revision: C
 Date: 24/02/2017
 Drawn: R BELL

Data Acknowledgement:
 Linear Park Trail data supplied by
 Participating Councils
 Road data from DataSA, 2015



0 100 200 300 400 500 m



Map 5 of 6

River Torrens Linear Park Path Widths and Bridge Locations



NB: Hard surfaces include asphalt, concrete, bitumen and paving surface types

Job Number: 20155853
 Filename: 20155853GQ005
 Revision: C
 Date: 24/02/2017
 Drawn: R BELL

Data Acknowledgement:
 Linear Park Trail data supplied by
 Participating Councils
 Road data from DataSA, 2015



0 100 200 300 400 500 m



Map 6 of 6



Appendix B

Key Community Assets

River Torrens Linear Park Key Feature Location Plan

- | | | |
|---------------------|-------------------|---------------------|
| Bridge Crossing | O-Bahn | Sporting facilities |
| Boardwalk | Minor Roads | Toilets |
| Non-Bridge Crossing | River Torrens | Parking |
| Linear Park Trail | Playgrounds | |
| Main Road Crossings | Fitness Equipment | |



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24 February 2017, 20155653GQ004C



Data is based on spatial asset information provided by Local Councils

River Torrens Linear Park Key Feature Location Plan

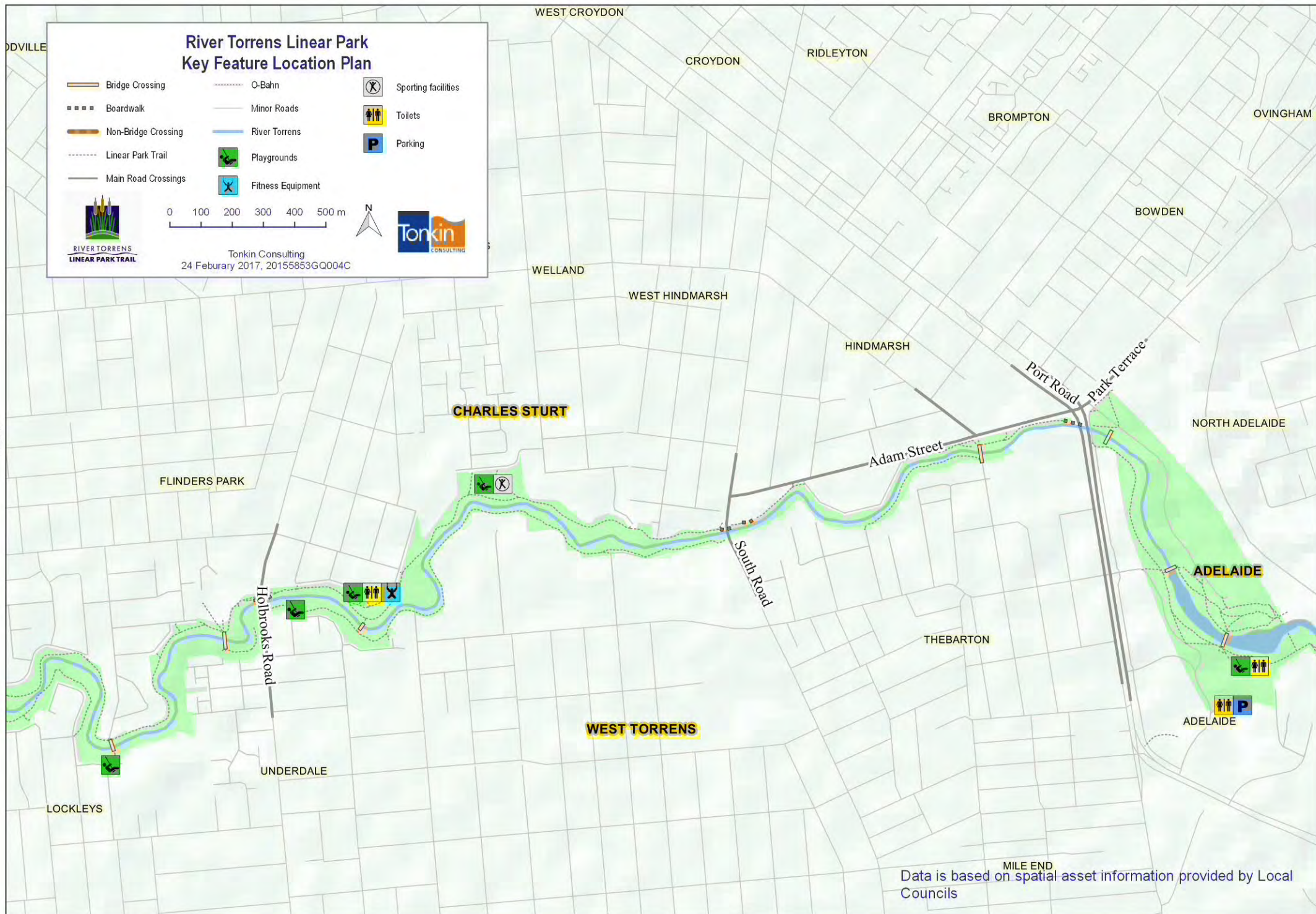
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- Boardwalk
- Non-Bridge Crossing
- Linear Park Trail
- Main Road Crossings
- O-Bahn
- Minor Roads
- River Torrens
- Playgrounds
- Fitness Equipment
- Sporting facilities
- Toilets
- Parking



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24 February 2017, 20155853GQ004C



Data is based on spatial asset information provided by Local Councils

River Torrens Linear Park Key Feature Location Plan

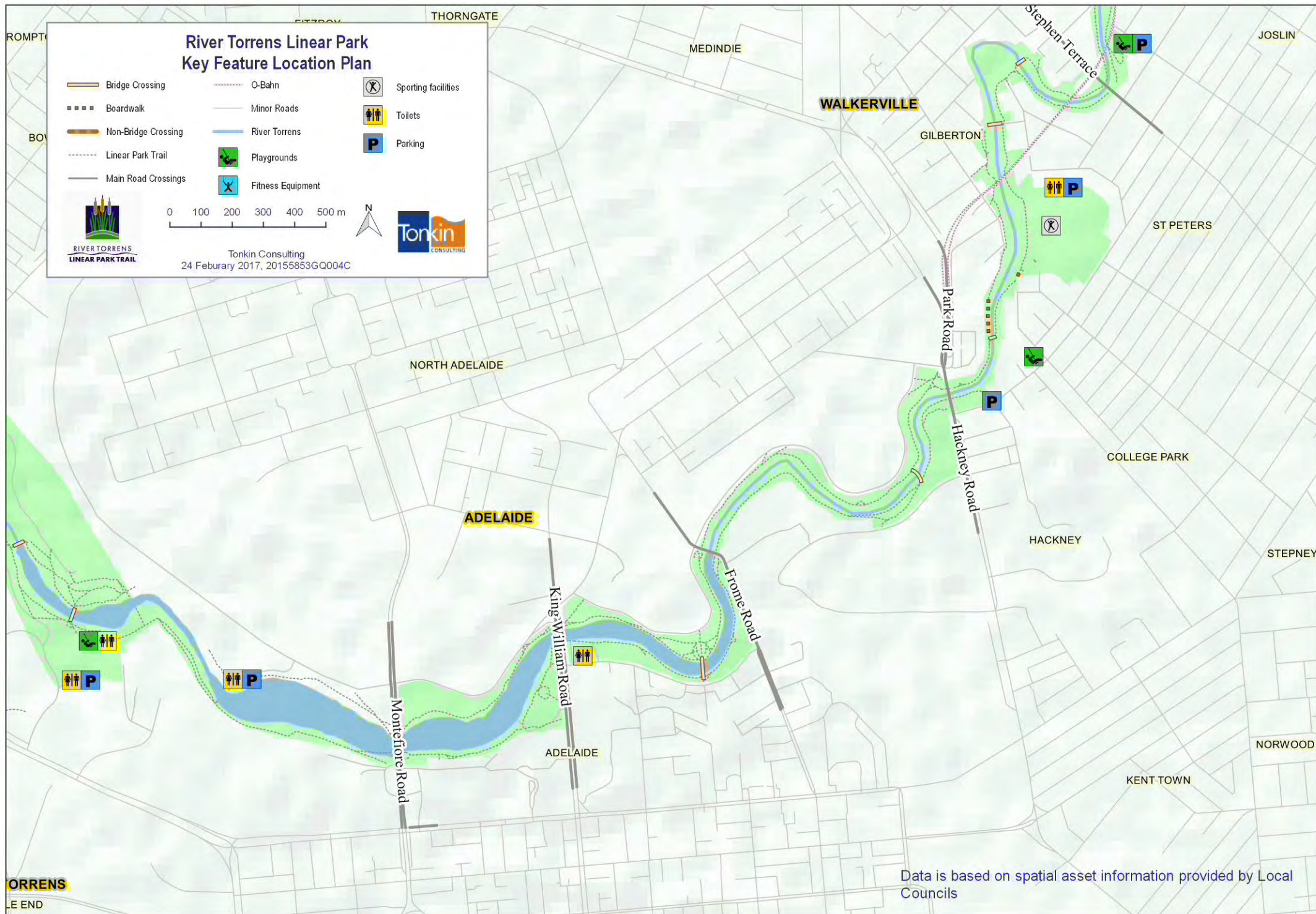
- | | | |
|---------------------|-------------------|---------------------|
| Bridge Crossing | O-Bahn | Sporting facilities |
| Boardwalk | Minor Roads | Toilets |
| Non-Bridge Crossing | River Torrens | Parking |
| Linear Park Trail | Playgrounds | |
| Main Road Crossings | Fitness Equipment | |



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24 February 2017, 20155853GQ004C



Data is based on spatial asset information provided by Local Councils

River Torrens Linear Park Key Feature Location Plan

- Bridge Crossing
- Boardwalk
- Non-Bridge Crossing
- Linear Park Trail
- Main Road Crossings
- O-Bahn
- Minor Roads
- River Torrens
- Playgrounds
- Fitness Equipment
- Sporting facilities
- Toilets
- Parking

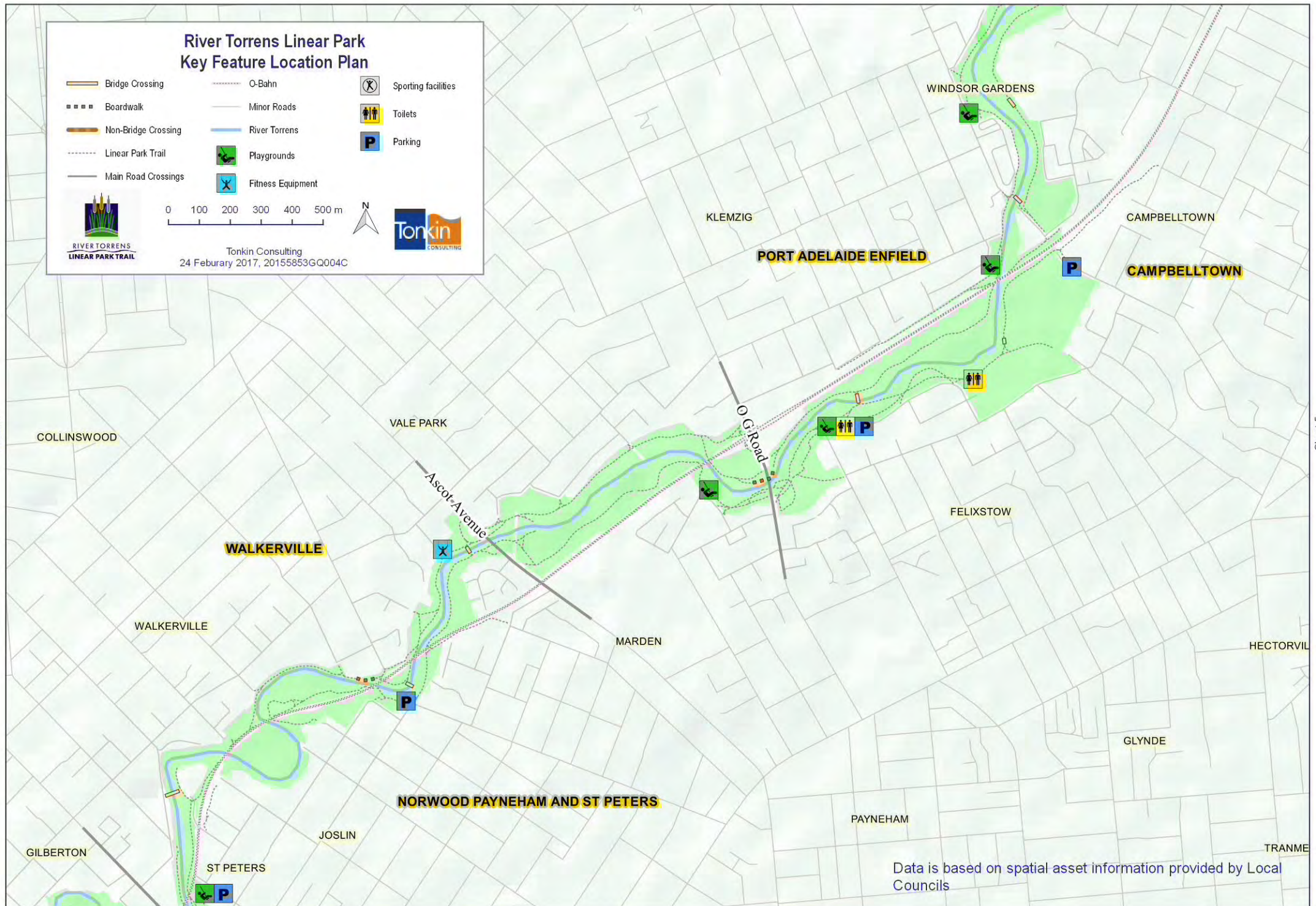


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24 February 2017, 20155853GQ004C

Sheet 3

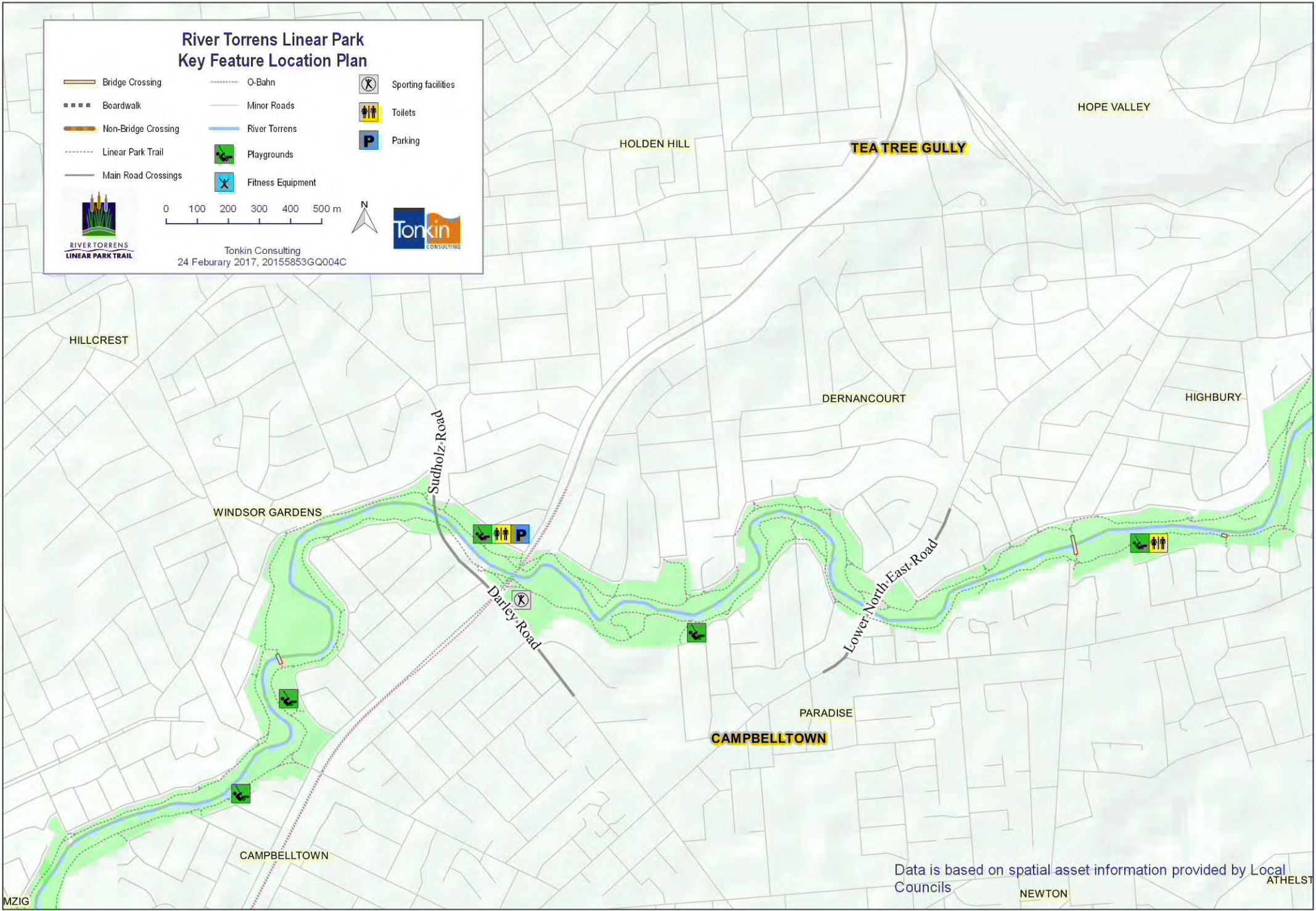
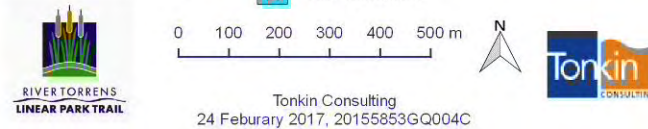


Sheet 5

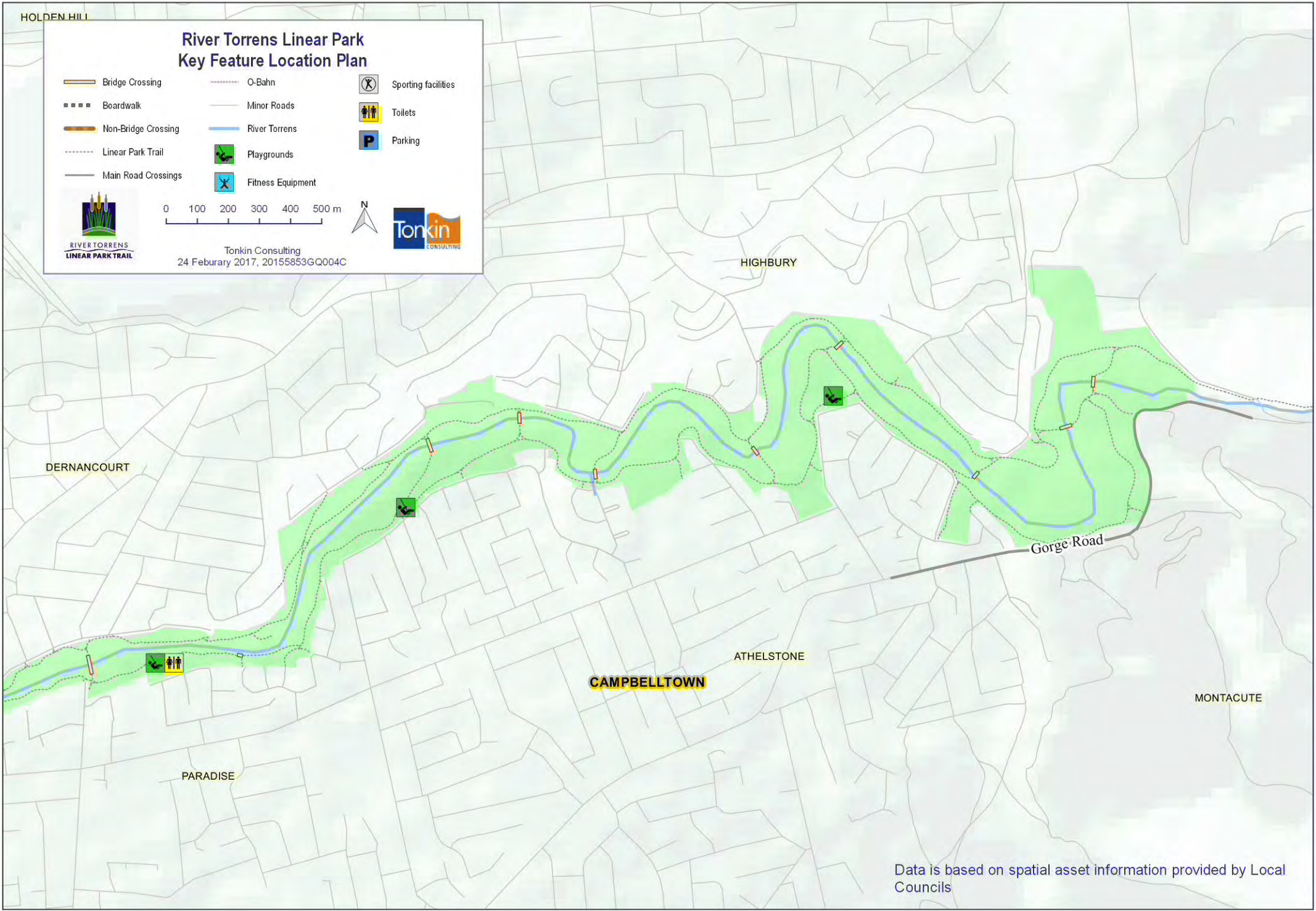
Data is based on spatial asset information provided by Local Councils

River Torrens Linear Park Key Feature Location Plan

- Bridge Crossing
- Boardwalk
- Non-Bridge Crossing
- Linear Park Trail
- Main Road Crossings
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- Minor Roads
- River Torrens
- Playgrounds
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- Parking



Data is based on spatial asset information provided by Local Councils



Data is based on spatial asset information provided by Local Councils