T2D TORRENS TO DARLINGTON

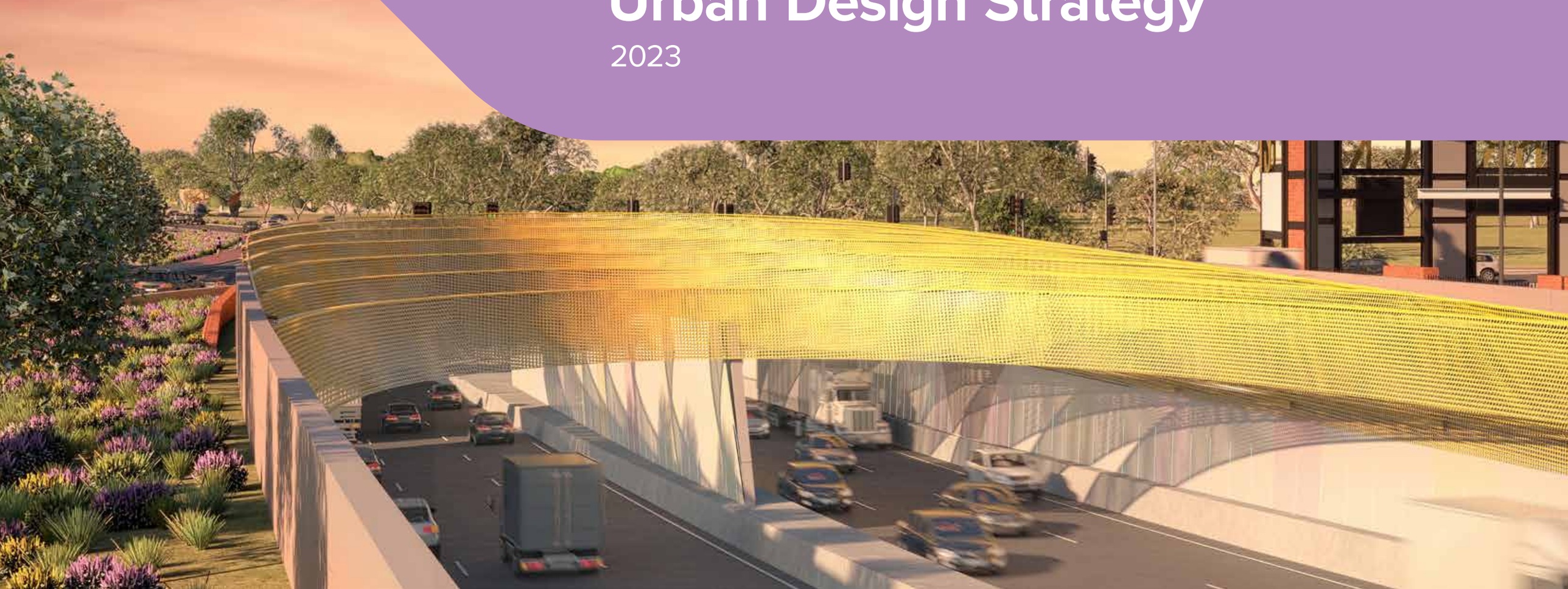
Australian Government

Government of South Australia
Department for Infrastructure and Transport

North-South Corridor

River Torrens to Darlington Project
Urban Design Strategy

2023



Document Control

Project and report	North-South Corridor – River Torrens to Darlington Project Urban Design Strategy	
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In collaboration with	North-South Corridor Program Delivery Office Office for Design and Architecture South Australia	T2D TORRENS TO DARLINGTON OFFICE FOR DESIGN + ARCHITECTURE SA
With contributions from	Kaurna Yerta Aboriginal Corporation and Aboriginal Urban Design City of Mitcham, City of Marion, City of Unley, City of West Torrens and City of Charles Sturt Aurecon Mott MacDonald Joint Venture	

Disclaimer

Please consider the environment before printing this document.
If printing is necessary, select A3 size, colour, and flip on short side for best results.

Cover image: T2D Project artist's impression - Northern Tunnels

Acknowledgement of Kaurna Country

Ngadlu tampinthi yalaka ngadlu Kaurna yartangka inparrinthi. Ngadludlu tampinthi, parnaku tuwila yartangka.

Kaurna Miyurna yaitya yarta-mathanya Wama Tarntanyaku, parnaku yailtya, parnaku tapa puru purruna. Kaurna Miyurna ithu yailtya purruna, yarta kuma puru martinthi, puru warri-apinthi, puru tangka martulayinthi.

Kuma kumartarna Yaitya Miyurna ngadludlu tampinthi iyangka yalaka. Parnaku yarta kumartarna yarta Kanthi Partu-arra kuma Warrunangku.

We respectfully acknowledge the Kaurna peoples as the Traditional Custodians of the River Torrens to Darlington Project area and Adelaide region, on whose ancestral lands we live and work.

We recognise the continuing connection of the Kaurna peoples to land and waters and pay our respects to the diversity of cultures, significance of contributions and to Elders past, present and emerging.

We are committed to respecting Kaurna heritage and culture and will continue to work with the Kaurna peoples to ensure these values are upheld through the delivery of the River Torrens to Darlington Project.

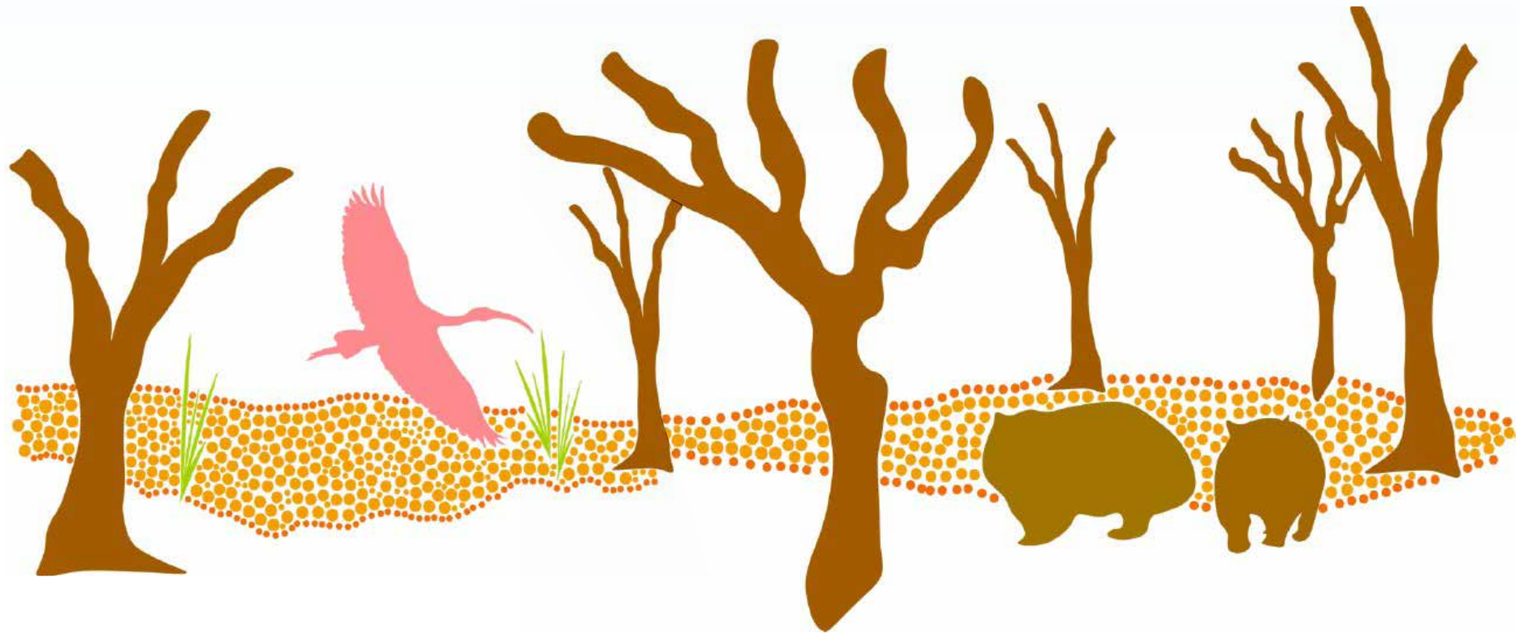

Figure 1. Illustration representing the environments, landscape and fauna found within the T2D Project area and illustrating the journey that is traversed as you walk across Kaurna Country.

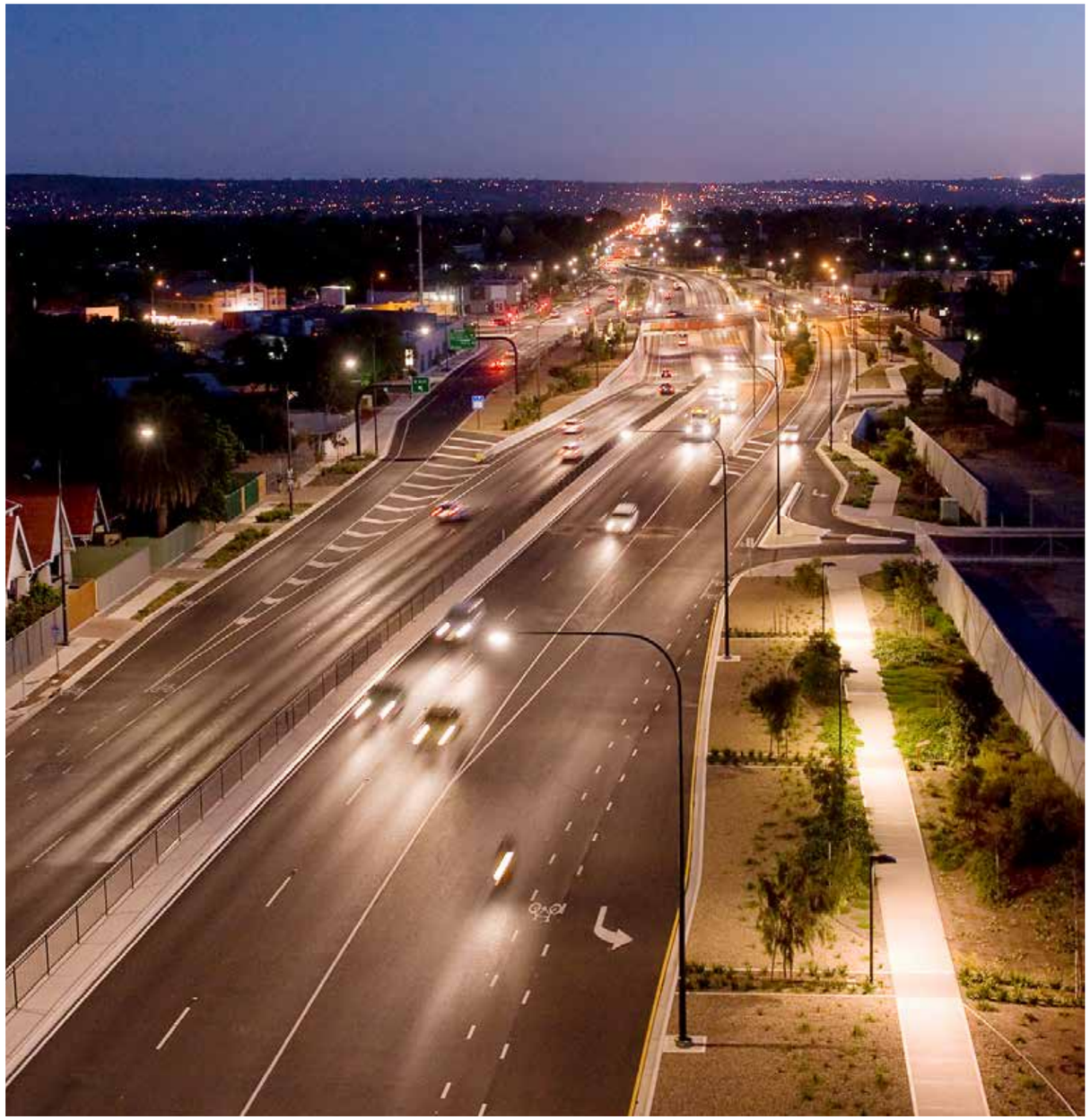

Figure 2. Gallipoli Underpass, Adelaide

Jon Whelan
Chief Executive, Department for Infrastructure and Transport

The River Torrens to Darlington Project is the largest road infrastructure project in South Australia's history.

By completing the North-South Corridor, the project will fundamentally transform the road network of Greater Adelaide and the South Australian economy.

It will change how we move around our city, helping connect people to key destinations and precincts such as Adelaide's CBD, Adelaide Airport and Port Adelaide.

The project provides opportunities to create great places for people to live, work and play in as well as opportunity for more tree canopy coverage and green, sustainable infrastructure.

The Urban Design Strategy will help turn these ambitions into reality.

The Strategy will ensure new infrastructure is delivered to fit seamlessly into its surroundings and adds value to local communities, building on Adelaide's already strong reputation as one of the world's most liveable cities.

It will guide design to be respectful of its unique local context and embraces heritage and history, celebrating stories and acknowledging the traditional lands of the Kaurna peoples on which it is constructed.

The Strategy will help us to deliver a project that is not just functional, but visually attractive and demonstrating best practice urban design as a legacy for Adelaide and generations to come.

Jon Whelan
Chief Executive

Figure 3. Oaklands Crossing, Adelaide

Kirsteen Mackay
South Australian Government Architect

Every new development has the potential to improve our quality of life, attract investment and reduce our impact on the environment.

The design legacy of the River Torrens to Darlington Project will have a profound and lasting impact on Adelaide's form and character for generations.

This Urban Design Strategy embodies our commitment to maximise the potential of the largest infrastructure project in the state's history through a focus on design excellence for the benefit of all South Australians.

At its core, this Strategy prioritises connectivity and inclusivity by enhancing movement, social cohesion, economic prosperity and quality of life. It supports the project's transport objectives, while promoting multi-modal transportation, pedestrian-friendly environments and universal design at ground level.

The strategy embraces placemaking and Kaurna culture to create inspired experiences and places that build on Adelaide's unique character to foster a sense of pride and belonging.

Sustainability is also central to the Strategy. Through integrating green spaces with active travel, increasing our urban tree canopy and supporting a biodiverse understorey we aim to create a cooler, greener, wilder and climate-resilient Adelaide.

We look forward to working with the design sector, contractors, local governments, stakeholders and the community to achieve good design outcomes. Together, we can shape a vibrant, inclusive and sustainable city that enriches the lives of its residents.

Kirsteen Mackay
South Australian Government Architect

Figure 4. T2D Project artist's impression – Northern Tunnels

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About the project

The River Torrens to Darlington Project is the final section of the North-South Corridor and the biggest road infrastructure project in South Australia's history.

Figure 5. T2D Project artist's impression – open motorway

Setting the scene

The need for change

Adelaide's existing transport network is struggling to meet demand, with more than 120,000 vehicles using South, Marion and Goodwood roads each day.

Infrastructure Australia expects daily car trips across Adelaide to increase by 26% by 2031, or up to 6.2 million car trips each day.

The average speed along the River Torrens to Darlington (T2D) Project section of South Road is just 20 km/h, and the crash rate is 11 times higher than already upgraded sections of the North-South Corridor.

If not addressed, this congestion will cost the South Australian economy more than $230 million a year in lost productivity.

The project

The T2D Project is the biggest road infrastructure project in South Australia's history and will unlock the full potential of the non-stop North-South Corridor between Gawler and Old Noarlunga.

The T2D Project will generate a wide range of transport, social, economic, environmental and safety benefits – not only for Adelaide, but for the entire state.

By moving thousands of vehicles into tunnels and bypassing 21 existing sets of traffic lights, the T2D Project will significantly reduce traffic congestion and better connect communities across Adelaide.

The T2D Project will ensure people, produce and goods arrive where they need to be, sooner and safer.

Benefits

To deliver far-reaching benefits for South Australia, the T2D Project will:

- Improve safety and travel times by reducing the amount of stop-start traffic on South Road, resulting in about 200 fewer crashes per year on this section of the road network.
- Allow motorists to bypass 21 sets of traffic lights between the River Torrens and Darlington, improving travel times by up to 30-40 minutes during peak-hour traffic.
- Provide urban renewal opportunities for local businesses and residents through new and upgraded walking and cycling paths, green spaces and recreational areas.
- Preserve important cultural and heritage sites, including Thebarton Theatre and the Queen of Angels Church.
- Improve access to the western suburbs, CBD and key travel gateways including Adelaide Airport, Port Adelaide and the national highway network.
- Reduce traffic congestion by taking approximately 130,000 weekday vehicle movements into tunnels.
- Generate greening opportunities to provide an increase in overall tree canopy cover, local biodiversity and habitat.
- Support approximately 5,500 jobs per year during main construction, creating a skills legacy for South Australia.

North-South Corridor

The North-South Corridor has long been identified as one of Adelaide's most important transport corridors that will generate important economic, employment and safety benefits for the state.

Figure 6. Gallipoli Underpass, Adelaide

The North-South Corridor (NSC) is key to unlocking Adelaide's traffic network and will provide a 78 km non-stop, traffic light-free and free-flowing route through Greater Adelaide.

The NSC plays a critical role in the South Australian economy, providing essential transport links for local residents and businesses as well as to key employment centres and international gateways.

The completed NSC will deliver improved freight connections between primary industries and businesses, while supporting commuters to enjoy more reliable, safer journeys across Adelaide.

The case for the completion of the NSC is clear and compelling: without action on this section of South Road, severe congestion is forecast across the Adelaide road network by 2031.

Objectives

Strategic objectives for the NSC set the overarching direction for the final section to be completed:

1 **Economic growth**

Land use policy and transport network infrastructure, policy settings, regulation and management enable appropriate uses that support economic growth and job creation in key industry sectors across SA.

2 **Safe, reliable and efficient movement**

Transport networks are developed, regulated and managed to maximise accessibility and enable safe, integrated, reliable and efficient movement of people, goods and services, balancing demand with capacity.

3 **Successful places**

Land use and transport policy settings, planning and program delivery enable more liveable, better connected, safer, healthier and more sustainable communities.

4 **Customer and community centred**

All aspects of operation and service delivery are centred on making best use of available resources to meet customer needs and taking into account community issues and expectations.

The completed North-South Corridor will provide 78 km of non-stop motorway that will seamlessly link Gawler to Old Noarlunga.

Staging

For more than a decade, the South Australian and Australian Governments have worked collaboratively to expand and deliver the North-South Corridor:

- Northern Expressway
  Completed 2010
- South Road Superway
  Completed 2013
- Southern Expressway Duplication
  Completed 2014
- Torrens Road to River Torrens
  Completed 2018
- Northern Connector
  Completed 2020
- Darlington Upgrade Project
  Completed 2020
- Regency Road to Pym Street
  Completed 2021
- River Torrens to Darlington (T2D)
  To be completed by 2031

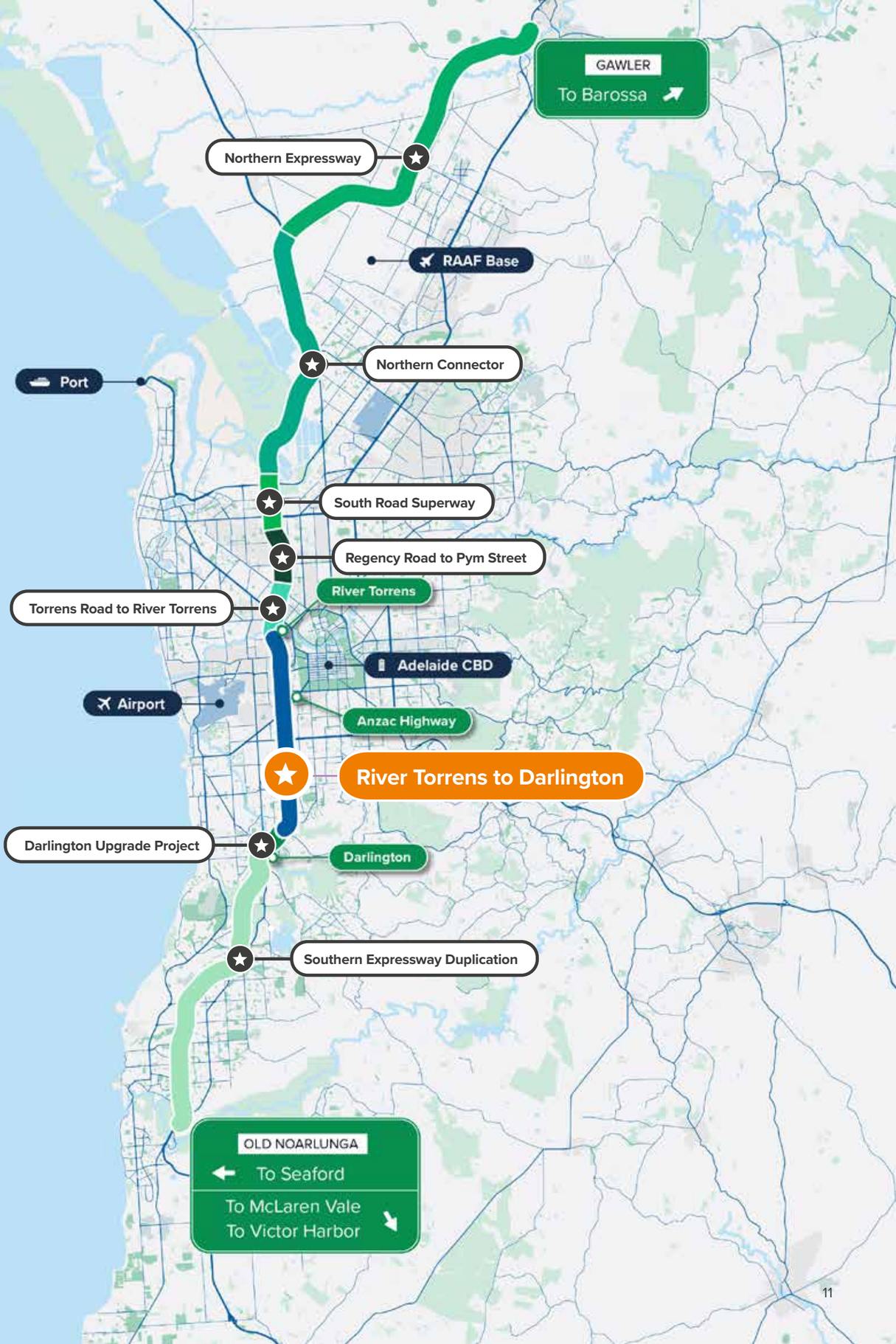

Figure 7. North-South Corridor map

River Torrens to Darlington Project

The River Torrens to Darlington Project will complete the North-South Corridor, connecting communities across Greater Adelaide and ensuring people, produce and products arrive where they need to be, sooner and safer.

The River Torrens to Darlington (T2D) Project is located along a 10.5 km section of South Road between West Hindmarsh and Darlington, connecting to the Torrens Road to River Torrens and Darlington Upgrade projects.

Using a combination of tunnels, open motorway and underpasses at key intersections, the T2D Project will unlock uninterrupted, long-distance journeys along the North-South Corridor.

The T2D Project will bypass 21 sets of traffic lights and significantly reduce congestion. It will reduce travel time by up to 40 minutes between the Karrawirra Parri / River Torrens and Darlington in weekday peak times.

The existing South Road – which will be retained as a surface-level, two-lane arterial road – will see far less traffic, as vehicles making longer north-south journeys will use the new motorway.

Figure 8. T2D Project artist's impression – Northern Tunnels

Objectives

Strategic objectives for the T2D Project set the strategic direction for all design and development:

Productivity and efficiency

- Be a primary contributor to the economic development of Adelaide and the state through improving productivity and accessibility for small and large freight vehicle movements supporting local and regional business.
- Improve the efficiency and reliability of all modes of travel for people moving north-south and east-west.
- Improve connectivity to the northern and southern suburbs to facilitate jobs growth in those regions.

Community and connectivity

- Create connected communities that lead to improved land use opportunities.
- Increase the capacity and connectivity of the North-South Corridor to the surrounding transport network to better support community needs and help improve public transport services through more efficient journeys.

Safety

- Improve road safety (reducing the potential for road crashes).

The River Torrens to Darlington Project design consists of two separate tunnels joined by an open motorway.

The Southern Tunnels will connect Darlington to Anzac Highway while the Northern Tunnels will connect to the existing motorway south of Grange Road.

Project sections

Southern Tunnels

The **Southern Tunnels** run between the open motorway at Darlington to just south of Anzac Highway in Glandore and provide key connectivity to Anzac Highway. This section includes about 4 km of twin three-lane tunnels, with open motorway at each end of the tunnels.

Open motorway

At just over 2.5 km in length, the **open motorway** links the Southern and Northern Tunnels, connecting to key routes such as Richmond Road and James Congdon Drive. This section will provide critical east-west connectivity and links to key destinations such as Adelaide's airport and CBD.

Northern Tunnels

The **Northern Tunnels** run between James Congdon Drive and the existing open motorway south of Grange Road. This section includes about 2.2 km of twin three-lane tunnels with open motorway at each end of the tunnels.

Figure 9. River Torrens to Darlington (T2D) Project map

What is urban design?

“Urban design is concerned with the arrangement, appearance and function of our suburbs, towns and cities. It is both a process and an outcome of creating localities in which people live, engage with each other, and the physical place around them.”

Creating Places for People 2011

Figure 10. Torrens Road to River Torrens (T2T) Project, Adelaide

Good urban design is critical to the success of the T2D Project and the broader benefits it aims to deliver.

This includes not only the motorway design and the areas immediately adjacent to it, but also its broader relationship with neighbouring communities.

Good urban design helps to minimise impacts to surrounding communities and delivers great places for people to live, work and play in. It responds sensitively to local context, enhancing local features and complementing existing character.

This Urban Design Strategy has been developed to guide good urban design, landscape and public realm outcomes for the T2D Project.

This Urban Design Strategy builds upon international, national and state government best practice design principles provided by:

- Office for Design and Architecture SA’s Principles of Good Design
- Creating Places for People: an Urban Design Protocol for Australian Cities
- The Seven Principles of Universal Design.

These principles are embedded throughout this Urban Design Strategy.

Good urban design must also be supported by good processes, from the outset of planning and design until the project is delivered to completion.

The T2D Project is committed to achieving good urban design through implementation of this Urban Design Strategy, supported by good urban design thinking and processes throughout the project lifecycle.

The T2D Project will exercise a collaborative approach across different technical disciplines including planning, engineering, architecture and landscape architecture, to deliver high-quality and well-integrated urban design outcomes.

The T2D Project will engage with local communities and partner with key stakeholders to ensure context responsive design solutions that maximise benefits for everybody.

The T2D Project will implement an independent urban design review process with appointed experts from across Australia, to promote and support good urban design solutions as they are developed.

Good urban design for the T2D Project:

- represents a shared and endorsed vision
- responds to local context and analysis
- reflects stakeholder priorities and feedback
- aligns to relevant policy directions and targets
- benchmarks precedent projects as examples of good design.

Figure 11. Aerodrome Road Intersection, Maroochydore

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About this document

Purpose of this document

The purpose of this Urban Design Strategy is to describe what needs to be delivered and where it needs to be delivered to achieve good urban design for the T2D Project.

This Urban Design Strategy is the primary document guiding good urban design, landscape and public realm outcomes for all T2D Project works.

It provides a hierarchy of urban design guidance that is used to guide and evaluate the design and delivery of T2D Project works throughout the project lifecycle.

The T2D Project's Urban Design Strategy:

- Sets a project-wide urban design vision, supported by urban design principles and objectives to be achieved by all T2D Project works.
- Describes place-specific urban design outcomes and requirements along the T2D Project area that must be achieved to ensure context appropriate design responses.
- Includes benchmarked, technical requirements for different project elements to ensure high-quality, best practice design solutions are delivered as part of the T2D Project.

Application of this document

T2D Project area

The Urban Design Strategy contractually applies to all works within the T2D Project area to ensure that consistently good urban design, landscape and public realm outcomes are achieved.

The T2D Project area includes the land required to construct the motorway, surface roads and supporting above-ground infrastructure, as well as the tunnels constructed underground.

The Urban Design Strategy applies to all design phases throughout the T2D Project lifecycle, including:

- Reference Design (completed 2022)
- Tender Design
- Detailed Design.

It is also used to guide the delivery of works during construction, including any temporary works.

The Urban Design Strategy will be used to evaluate T2D Project design solutions as they develop, with good urban design measured as successful achievement of the aspects set out by this document.

Design solutions will also be independently reviewed by a panel of appointed experts from across Australia, in support of the Urban Design Strategy.

Adjacent or interfacing works

The Urban Design Strategy should also be used to guide the design and delivery of adjacent or interfacing works in the area surrounding the T2D Project.

The Department for Infrastructure and Transport is committed to delivering broader network upgrades in this surrounding area, including improvements to key intersections and active travel connections.

Other entities may also deliver works within the area surrounding the T2D Project, including:

- state government agencies
- local councils
- private developers.

The Urban Design Strategy should be referenced by these works to achieve consistent design outcomes and appropriate interfaces with the T2D Project.

The T2D Project must also demonstrate appropriate interfaces with these surrounding works which may include engagement and collaboration with relevant entities.

Figure 12. T2D Project area and the area of adjacent or interfacing works

Inputs into this document

The Urban Design Strategy has been informed by different inputs:

- Analysis of the local context to identify opportunities and constraints.
- Engagement with the Kaurna peoples, the Traditional Custodians of the Adelaide region, to identify Kaurna urban design themes.
- Stakeholder engagement with state and local government, interest groups and local communities to identify relevant priorities.
- Review of relevant state and local government strategies, policies and plans to determine aligned strategic objectives and targets.
- Benchmarking of similar projects within Australia and internationally to understand best practice design.
- Expert advice from the Office for Design and Architecture SA, state government agencies and other technical experts.

To review these inputs, refer to the attachments which include:

- Attachment A – Local context analysis
- Attachment B – Kaurna urban design themes
- Attachment C – Stakeholder engagement summary
- Attachment D – Strategy, policy and plan review

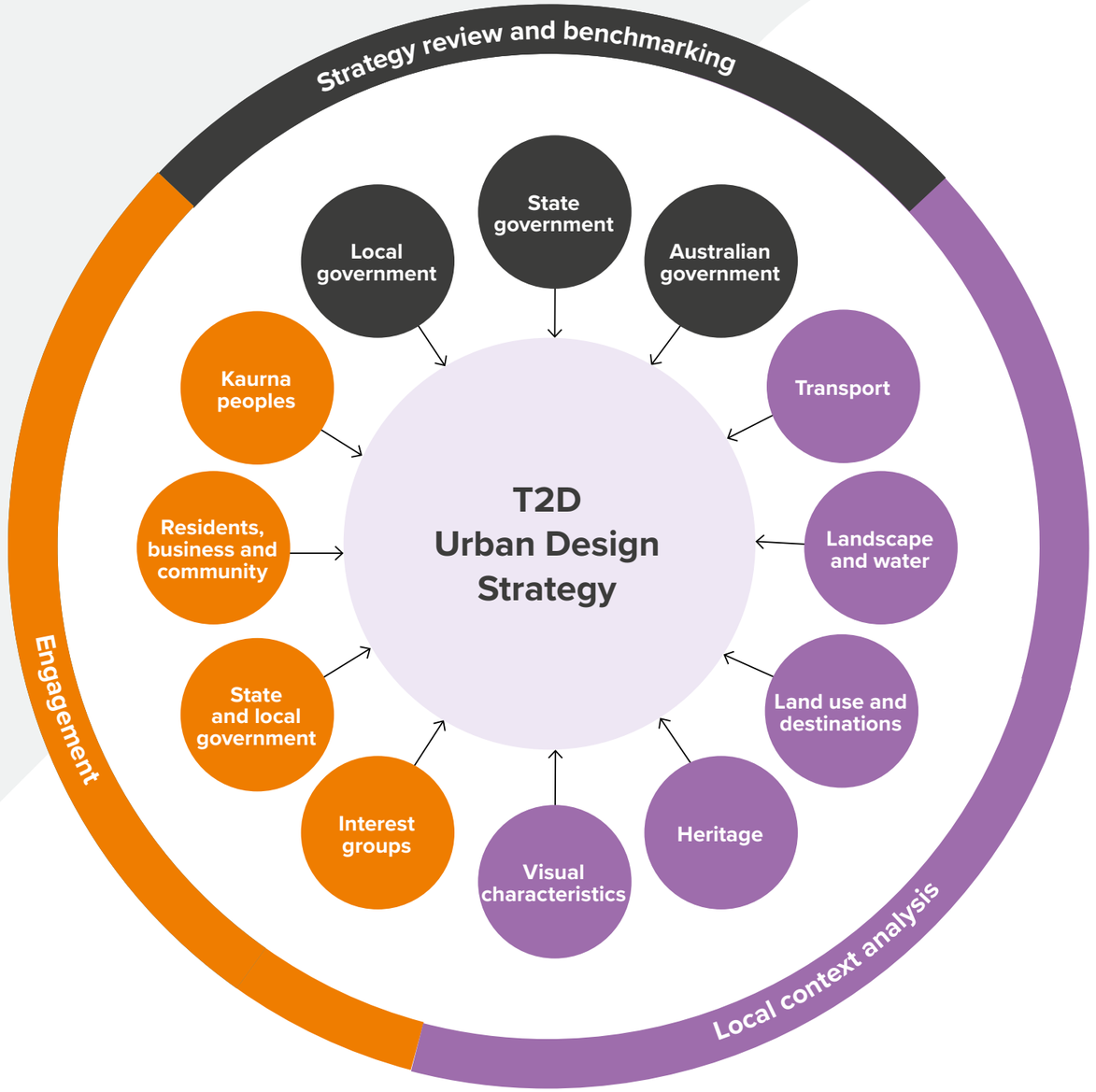


Figure 13. Inputs into Urban Design Strategy

How to use this document

The Urban Design Strategy is to be used to guide all T2D Project works to achieve consistently good urban design, landscape and public realm outcomes.

The Urban Design Strategy includes an overarching vision for the T2D Project, supported by principles and objectives, as well as more detailed outcomes and requirements for specific places and project elements.

The Urban Design Strategy must be read holistically with all chapters reviewed together for appropriate T2D Project guidance.

The Urban Design Strategy is part of a suite of contractual documents for the T2D Project and must be read in conjunction with other contractual requirements, noting the order of precedence.

Vision, principles and objectives

Find these in **Chapter 3**

Urban design vision
Provides the overarching strategic direction for the urban design of the T2D Project and the desired outcome.

Urban design principles
Five urban design principles outline the expectations for how the urban design vision will be successfully achieved, including:

- P1 Connect people and place
- P2 Support great journeys
- P3 Create greener, resilient places
- P4 Enable opportunities
- P5 Celebrate culture and place

Urban design objectives
Urban design objectives describe what is required of the T2D Project design to align with the urban design principles.

Place outcomes and requirements

Find these in **Chapter 4**

Place outcomes
Place outcomes describe the overall design aspiration expected to be achieved for each T2D Project section, in response to the local context.

Project sections
Place outcomes and requirements set location- specific design guidance for key T2D Project sections, including:

- N Northern Tunnels
- O Open motorway
- S Southern Tunnels

Place requirements
Place requirements provide contextually responsive design criteria for each T2D Project section, to help achieve the place outcomes.

Place requirements may apply to a specific location or the general area of each T2D Project section.

Place requirement plans
Place requirement plans diagrammatically represent the place requirements and indicate where they should be achieved.

Performance outcomes and requirements

Find these in **Chapter 5**

Performance outcomes
Performance outcomes describe the overarching aspiration for each project element that together comprise the T2D Project.

Project elements
Performance outcomes and requirements set the minimum standard of design quality for different T2D Project elements, including:

- E1 Road bridges and overpasses
- E2 Lowered roads and underpasses
- E3 Active travel bridges
- E4 Land bridges
- E5 Tunnel portals and approaches
- E6 Tunnel interiors
- E7 Buildings and ancillary structures
- E8 Noise barriers
- E9 Walls, fences and screens
- E10 Road signage and furniture
- E11 Streetscapes and public realm
- E12 Active travel and public transport
- E13 Lighting
- E14 Landscape design
- E15 Parks and open space
- E16 Planting
- E17 Water sensitive urban design

Performance requirements
Performance requirements provide element-specific design quality criteria and benchmarks.

Vision, principles and objectives

Figure 14. T2D Project artist's impression - Southern Tunnels

Urban design vision

More than a motorway

The River Torrens to Darlington Project will deliver an outstanding urban design that provides great journeys for everyone and leaves a positive legacy of greener, connected communities where people want to live, work and visit.

With a focus on improved connectivity, a holistic network of safe, direct and attractive connections will be provided for people travelling in all directions, by all travel modes and of all abilities.

The design will integrate with the completed North-South Corridor, balancing corridor consistency with memorable, creative design responses inspired by local identity.

Green, resilient and sustainable infrastructure will maximise the opportunity for planting, biodiversity and water sensitive design.

Active communities will be encouraged through additional green space, linked by public transport and active travel connections.

New infrastructure will blend with local surroundings to prioritise visual amenity for residents and businesses, while supporting the potential for growth, employment and higher density living.

Creative and interpretive design will acknowledge the traditional lands, culture and stories of the Kaurna peoples through a journey of discovery, as well as celebrating local history and place.

More than a motorway, the River Torrens to Darlington Project will help to shape Adelaide's future while respecting its past.

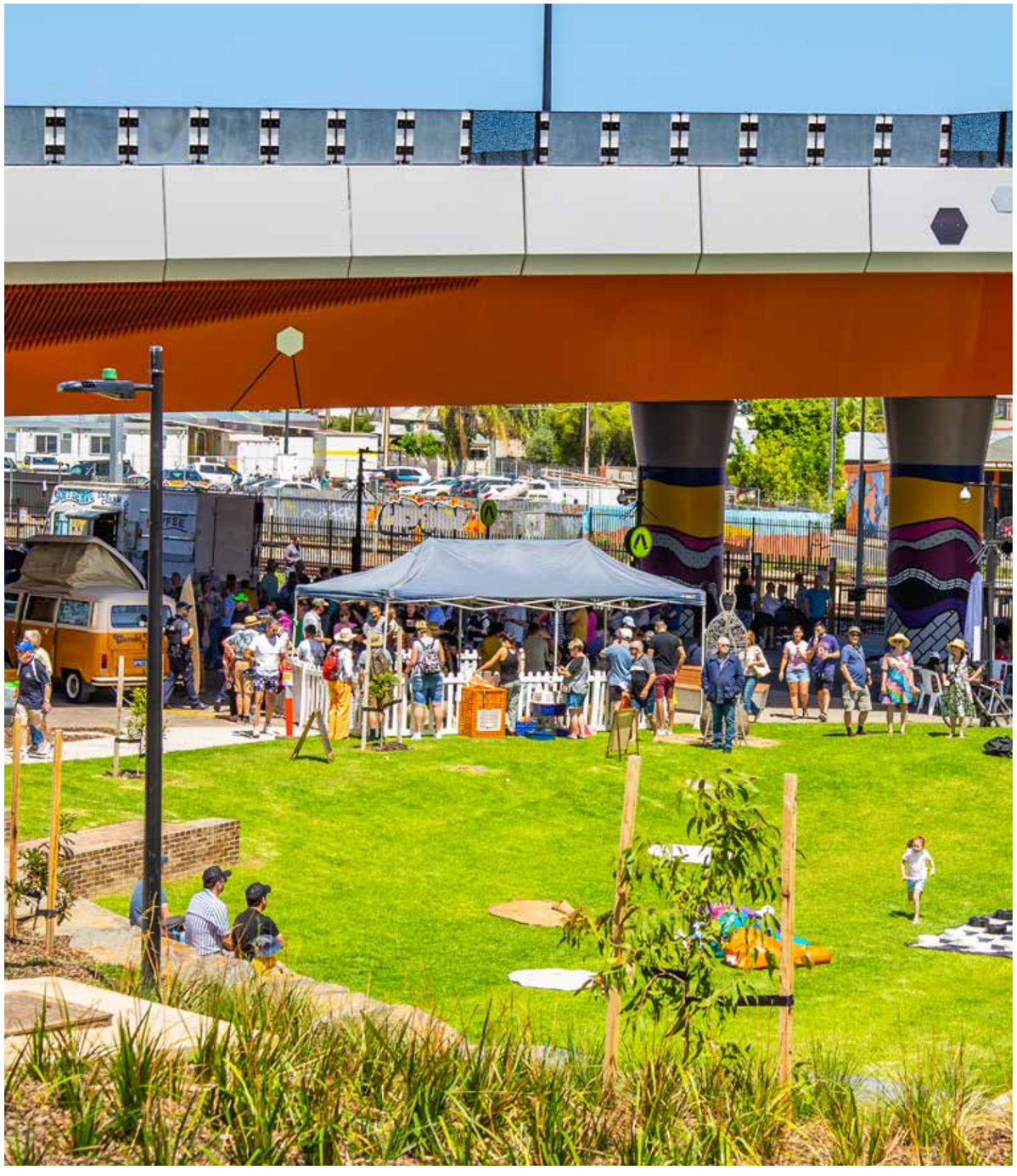


Figure 15. Ovingham Level Crossing Removal, Adelaide

Urban design principles and objectives

Purpose

Five urban design principles outline the expectations for how the T2D Project's urban design vision will be successfully achieved.

They are supported by objectives which describe in more detail what is required of the T2D Project design to align with the urban design principles.

The urban design principles and objectives align to policy directions and targets across all levels of government and reflect values and priorities heard through stakeholder engagement.

They apply corridor-wide to all T2D Project works, regardless of nature, scale or location.

Connect people and place

Celebrate culture and place

T2D urban design principles

Support great journeys

Enable opportunities

Create greener, resilient places

Urban design principle

P1 Connect people and place

The T2D Project makes new and improved connections as part of an integrated transport system that seamlessly connects into existing networks.

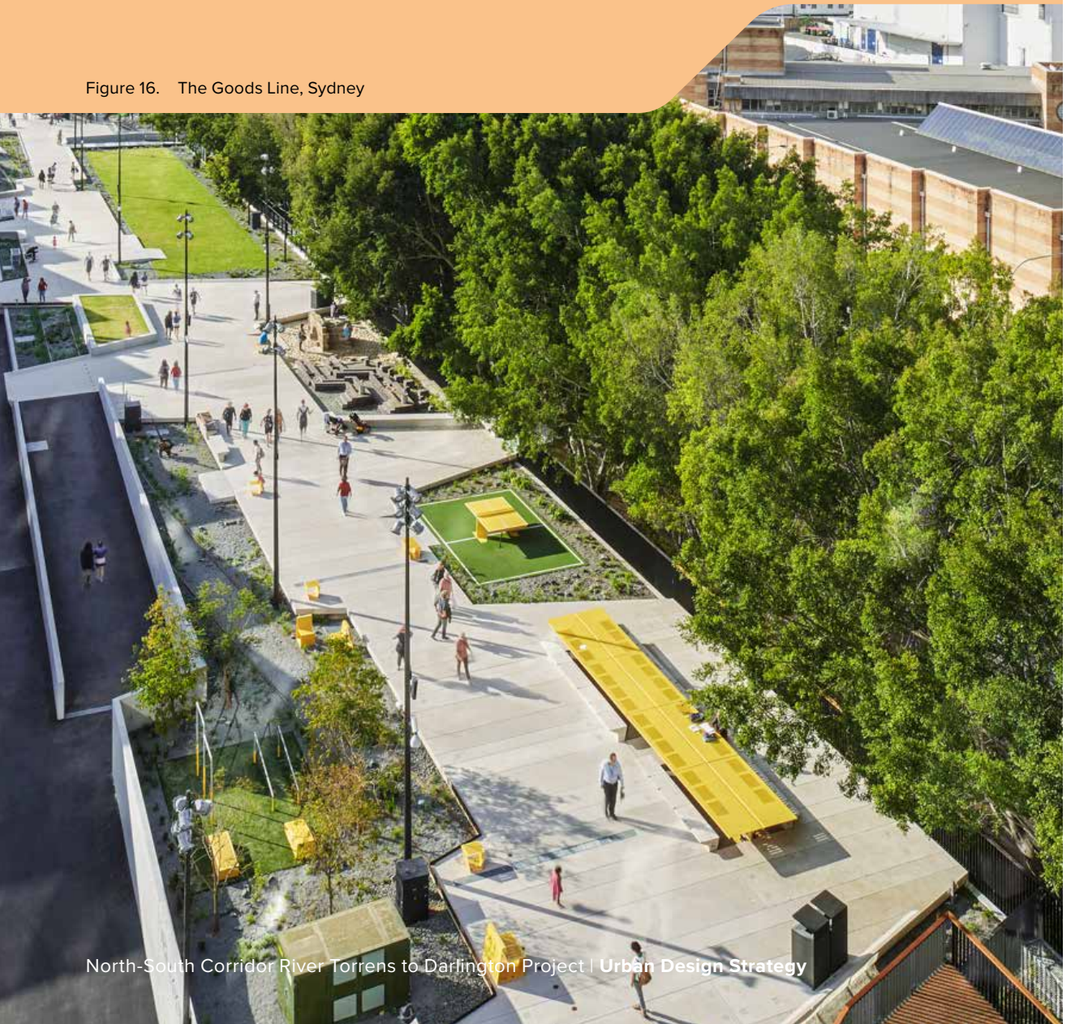


Figure 16. The Goods Line, Sydney

Urban design objectives

To connect people and place, the T2D Project will:

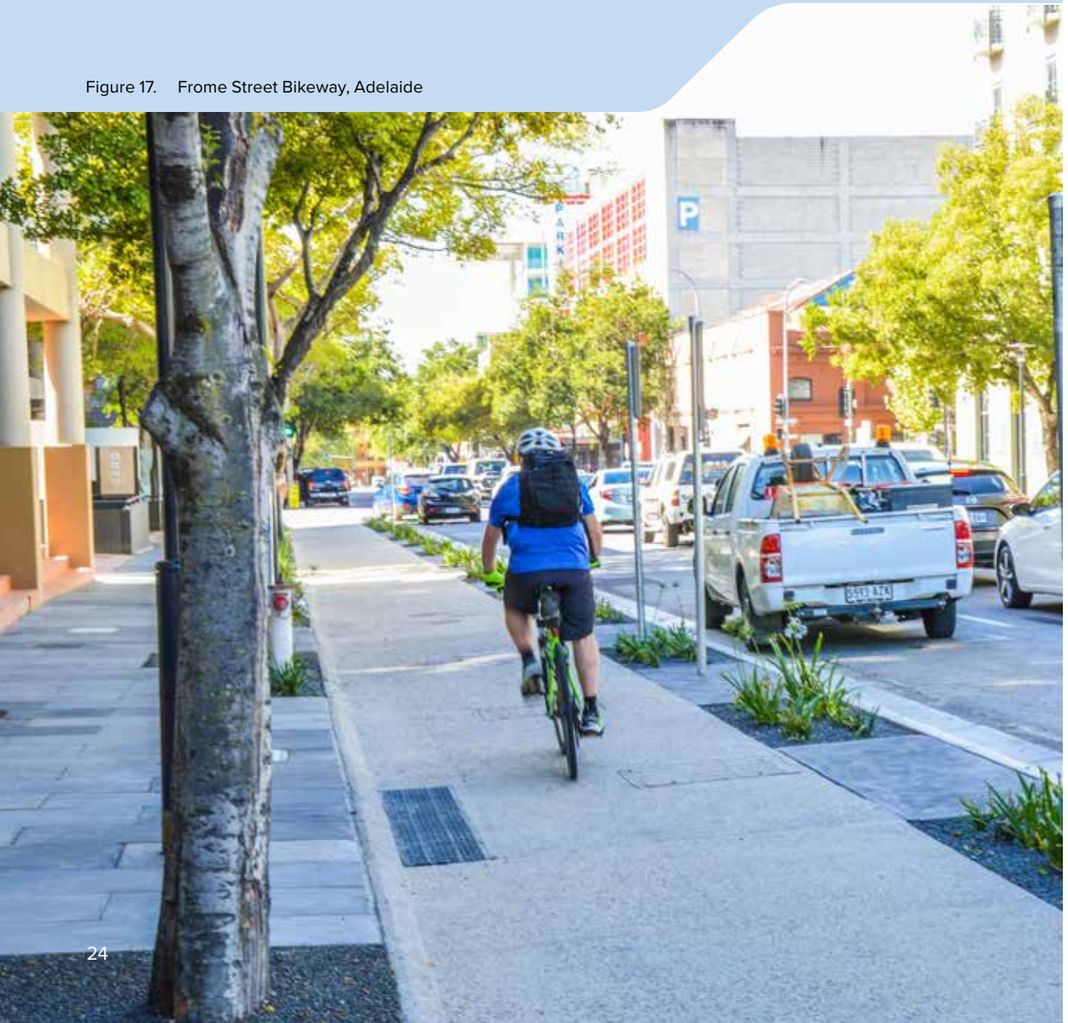
1. Enhance the built environment physically and functionally to provide a well-integrated movement network that is accessible for all people and all abilities.
2. Create new routes adjacent to, across, and along the full length of the T2D Project area for all journeys, whether driving, walking, cycling, using mobility aids or using public transport.
3. Enhance and connect to the surrounding active travel network, providing seamless transitions between existing and new infrastructure.
4. Support and enhance key crossing points, including east-west connectivity across South Road and across other priority locations.
5. Provide links to key destinations including schools, commercial precincts, public open spaces and other community facilities.
6. Prioritise pedestrians and cyclist movement over vehicular movement on key routes to provide safe and convenient access.
7. Ensure pedestrian and cyclist paths are well connected to create an integrated and legible network along and across the T2D Project area.
8. Enhance and connect to existing transport networks for people driving freight, commercial or passenger vehicles.
9. Maintain connectivity for local traffic movement in local neighbourhoods and commercial precincts.
10. Adopt and consistently apply the Movement and Place classification framework into transport, network and road safety planning to appropriately balance the movement of people and goods with the amenity and quality of places.
11. Prioritise public transport access to key destinations and local services for people who live and work along the T2D Project area, as well as for visitors.
12. Provide new and improved connections to catalyse investment and support the uplift of existing places and creation of new places.

Urban design principle

P2 Support great journeys

The T2D Project provides positive journey experiences that are safe, efficient, comfortable, easy to navigate and enjoyable for everyone.

Figure 17. Frome Street Bikeway, Adelaide



Urban design objectives

To support great journeys, the T2D Project will:

1. Provide a unified and coherent design that is well integrated with the previously completed sections of the North-South Corridor.
2. Balance consistent, corridor-wide treatments that reinforce the North-South Corridor identity with place-specific design elements that demonstrate local variation and the T2D Project identity.
3. Provide a high-quality, well-resolved and memorable driver experience for people travelling in vehicles with intuitive orientation, local awareness and featured points of interest.
4. Provide a safe, legible and positive journey experience for people walking, cycling, using mobility aids or using public transport, with integrated orientation and wayfinding measures.
5. Strike an appropriate balance between traffic flows and pedestrian and cyclist movements to optimise overall transport outcomes and improve safety for vulnerable road users.
6. Ensure a choice of routes, and provide shade, seating and lighting to provide a pleasant and comfortable experience for people walking and cycling to key destinations.
7. Encourage public transport patronage by facilitating improved service levels and providing stops that are accessible, comfortable and support safe and efficient mode transfer.
8. Align crossing points of the motorway and surface roads with existing and anticipated desire lines.
9. Integrate appropriately-scaled, high-quality public realm outcomes within the T2D Project area and at its interfaces with adjacent context.
10. Embed Universal Design principles to ensure the design meets accessibility standards and accommodates all people and abilities.
11. Incorporate Crime Prevention Through Environmental Design (CPTED) principles to encourage passive surveillance, deter criminal and anti-social behaviour and create an environment through which journeys feel safe, welcoming and enjoyable.

Urban design principle

P3 Create greener, resilient places

The T2D Project creates cooler, greener and more resilient landscapes through green infrastructure, water and biodiversity sensitive design and enhancements to existing natural systems.

Figure 18. Bonython Park, Adelaide

Urban design objectives

To create greener, resilient places the T2D Project will:

1. Deliver infrastructure that is resilient to climate change and delivers on the T2D Project's sustainability commitments.
2. Significantly increase the number of trees planted to achieve or exceed canopy cover targets and create shaded routes for pedestrians and cyclists.
3. Reduce urban heat island effect through an appropriate selection of trees, understorey vegetation and materials.
4. Maximise the use of long-lived local native species to support the ongoing success of planted landscapes.
5. Select plant species that will improve urban biodiversity and provide food and habitat for local fauna species, in appropriate locations.
6. Create environments that encourage positive interactions between humans and nature, as well as nature stewardship among residents.
7. Maximise opportunities for planting in and around all new infrastructure, ensuring the successful establishment, growth and long-term health of planting in medians, on structures and above tunnels.
8. Employ a variety of water sensitive urban design approaches to irrigate landscapes, manage stormwater runoff volumes and improve the quality of stormwater discharging into local waters, including use of permeable surfaces and recycled water for vegetation establishment.
9. Maximise opportunities for green infrastructure throughout the T2D Project area to achieve broader environmental and biodiversity benefits.
10. Locate and integrate new infrastructure sympathetically with the existing landscape by using landform, vegetation and blue and green infrastructure to minimise impacts to surrounding communities.
11. Incorporate smart energy solutions including energy efficient lighting, wayfinding signage and irrigation.
12. Maximise use of low carbon solutions for all project elements and use of recycled and locally sourced materials.
13. Use high-quality, robust materials and finishes that age gracefully, deter graffiti and vandalism and require minimal maintenance input.
14. Consider whole-of-life costs and ongoing maintenance and management requirements to ensure design integrity can be achieved for the life of the T2D Project.
15. Provide a design that recognises communities and environments are continually evolving and adapting.
16. Provide adequate space and soil volumes for the installation and ongoing health of shade tree species adjacent to footpaths and active travel links.

Urban design principle

P4 Enable opportunities

The T2D Project connects to existing infrastructure and enables new economic, social and environmental opportunities for local businesses, surrounding communities and visitors.

Figure 19. Bowden Courts, Adelaide

Urban design objectives

To enable opportunities, the T2D Project will:

1. Ensure the urban design response considers current and future activities and can evolve and adapt over time.
2. Support a growing population and changing demographics, anticipating new social infrastructure planned adjacent to the T2D Project area, and ensuring appropriate interfaces and connections are provided.
3. Enhance opportunities for active and passive recreation through new and improved green spaces and active travel connections between them.
4. Enhance liveability and desirability of local places and businesses by improving streetscape amenity.
5. Maximise opportunities for active travel to incentivise sustainable travel behaviour changes and increase recreation options.
6. Increase opportunities for public transport use by improving accessibility and connectivity of future public transport stops, interchanges and stations.
7. Support the urban regeneration of adjacent suburbs along the T2D Project area, through improved access to new green public open spaces and improved streetscape amenity.
8. Support the regeneration of existing industrial and commercial areas adjacent to the T2D Project area and maximise opportunities for new precincts through improved accessibility and amenity.
9. Support infill development adjacent to the T2D Project area through provision of green space, improved connections and community facilities, anticipating higher density land uses.
10. Provide a range of community facilities to support different activities, including active and passive recreation, as identified by stakeholders such as local government.
11. Ensure interfaces between the T2D Project area and adjacent places are carefully considered, well integrated and provide an appropriate transition.
12. Align to relevant growth strategies, policies and plans to support uplift opportunities and sustainable urban development.
13. Create opportunities for temporary activations and events during construction, including collaboration and partnership with local communities.
14. Provide new, locally-acccessible green space and improve existing open space to provide opportunities to rest, relax and play.
15. Integrate new green spaces with existing green spaces to create connected green corridors that support active travel, recreation and amenity.

Urban design principle

P5 Celebrate culture and place

The T2D Project respects and celebrates the important heritage of the Kaurna peoples and draws on local character and history to acknowledge the past and design for the future.

Figure 20. Tjilbruke narna arra / Tjilbruke Gateway, Adelaide

Urban design objectives

To celebrate culture and place, the T2D Project will:

1. Celebrate the living culture of the Kaurna peoples as the first people of the Adelaide Plains through a design that creates and integrates opportunities to understand, embrace and celebrate Kaurna culture.
2. Integrate Kaurna history by acknowledging Kaurna ancestors, significant places and stories through design.
3. Explore use of Kaurna language, including naming or dual naming of places and new infrastructure.
4. Involve the Kaurna peoples in the design process to ensure appropriate and agreed cultural expression and artistic outcomes.
5. Help heal Kaurna Country by incorporating locally endemic plant species and other restorative and sustainable design solutions, as well as considering earth and water in design expression.
6. Develop creative design solutions to retain and protect existing trees, particularly significant and regulated trees, native vegetation or trees of community value.
7. Celebrate and acknowledge the contribution of different communities and cultures in the development of historic buildings, places and neighbourhoods along the T2D Project area.
8. Create opportunities to celebrate non-Aboriginal heritage and interpret local history in the design response, including local character and historic areas.
9. Express themes of commemoration and remembrance, including acknowledgement of Anzac Highway and Gallipoli Underpass as a key memorial boulevard.
10. Strengthen local culture and community connections by providing places to rest, relax and play.
11. Provide a design that respects the needs and aspirations of the community that lives and works there, as well as visitors to the area.
12. Provide a design that visually enhances the built environment and establishes a recognisable character for the T2D Project.
13. Use materials, colours, textures, finishes and plant species that draw inspiration from the diverse landscape and built form character of the local context.
14. Celebrate local identity through creative design, with different scales of interpretation when traversing the motorway or navigating the local communities that surround it.
15. Integrate infrastructure elements to create a visually cohesive design that reinforces sense of place, with appropriate materials and finishes.

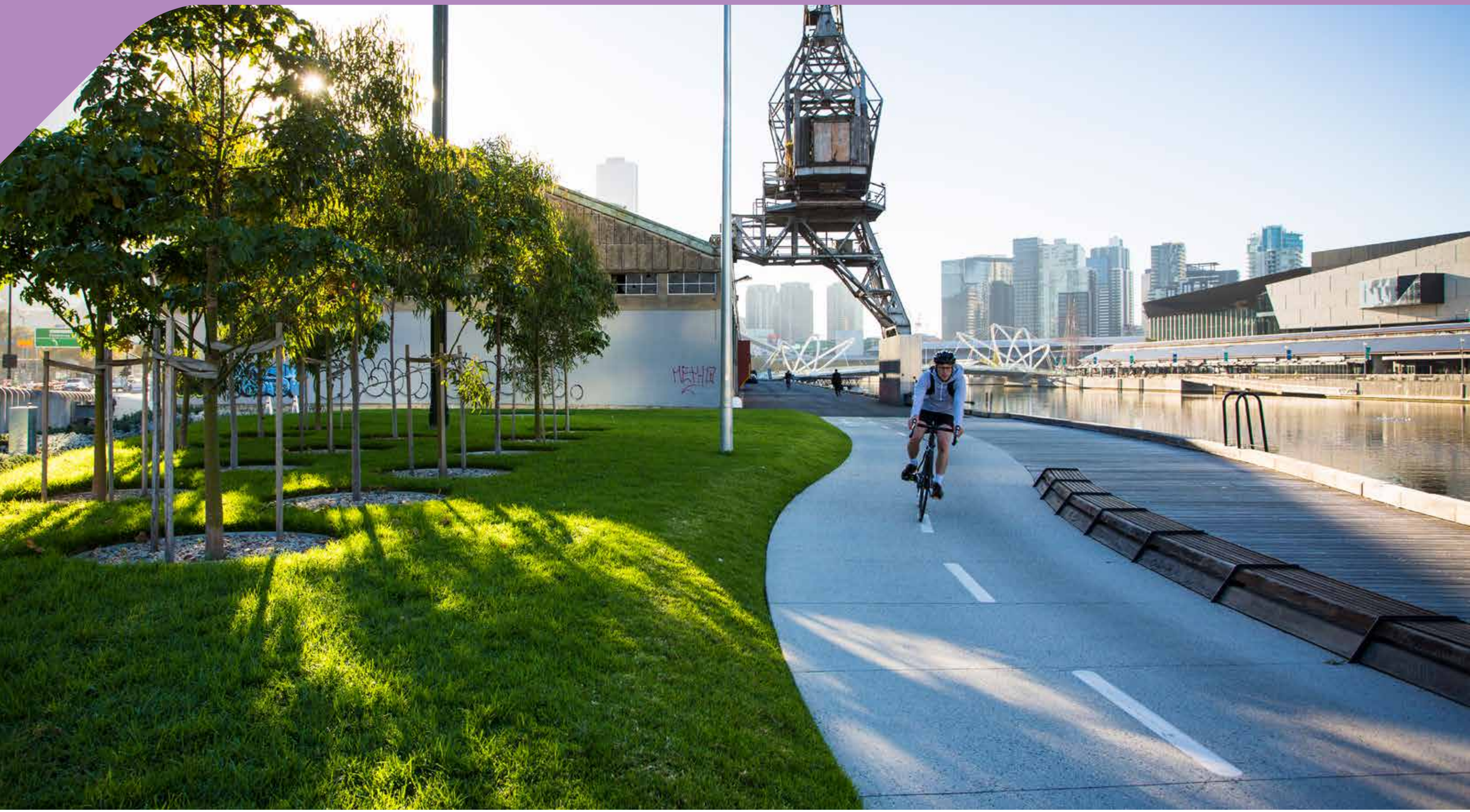


Figure 21. Jim Stynes Bridge, Melbourne

4

Place outcomes and requirements

Purpose

This chapter describes the expected place outcomes to be achieved by each section of the T2D Project, supported by a series of detailed place requirements.

Figure 22. T2D Project artist's impression - Gallipoli Underpass

How to use this chapter

Place outcomes and requirements set location-specific design guidance for different sections of the T2D Project, describing what must be achieved and where.

Each T2D Project section must be designed and delivered to achieve all place outcomes and requirements, including at specified locations.

This user guide explains how to understand the place outcomes and requirements, as well as the supporting place requirement plans.

Project sections

The T2D Project includes three sections of above ground motorway that connect the tunnels together and tie in with previously completed sections of the North-South Corridor, including:

- Northern Tunnels: Grange Road to Ashley Street
- Open motorway: Sir Donald Bradman Drive to Glengarry Avenue
- Southern Tunnels: Norrie Avenue to Tonsley Boulevard

Place outcomes and requirements have been developed for these sections to determine design opportunities, constraints and mitigation measures for any impacts generated by the T2D Project to the surrounding area.

This chapter does not include place outcomes and requirements for the Northern and Southern Tunnels underground. Performance requirements for tunnel interiors are included in Chapter 5.

Surface areas above the Northern and Southern Tunnels are also not included in this chapter as they fall outside of the T2D Project area. Chapters 3 and 5 of this Urban Design Strategy can be used as general guidance for works in these areas.

Place outcomes

Place outcomes describe the overall urban design aspiration expected to be achieved for each T2D Project section, in response the local context.

Place outcomes are supported by more detailed place requirements that set out how the desired outcomes should be achieved, and where.

Place requirements

Place requirements directly respond to the local context of the T2D Project, identifying design opportunities and constraints. They have been developed based on analysis of existing conditions and engagement with local councils, communities and other interested stakeholders.

Place requirements describe what the T2D Project should achieve in specific locations, as well as requirements applicable to the general area of each T2D Project section.

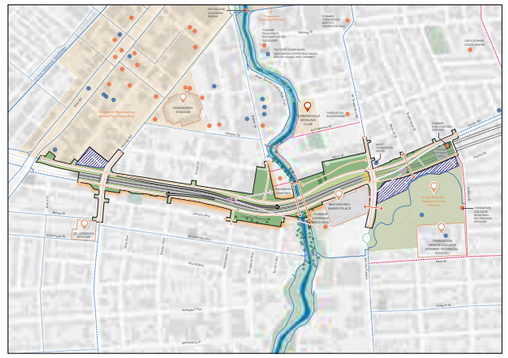
A unique identifying number has been assigned to each place requirement, to be referenced during the design and evaluation processes:

- Shown on plan
- Not shown on plan

Place requirement plans

Place requirement plans support understanding of the place requirements. They diagrammatically represent where place requirements should be achieved, as well as the surrounding context into which they must be seamlessly integrated.

Place requirement plans are diagrammatic only and represent the 2023 T2D Project design which is subject to change. They do not represent a design proposal, nor limit a design response.



T2D Project area

The T2D Project area represents the land required for construction and operation of the above ground motorway sections, including the acquisition of sites. It does not include the tunnels underground.

Temporary works areas

Some land within the T2D Project area may be used temporarily for construction and not required permanently by the final T2D Project design; these areas are represented as temporary works areas.

Temporary works areas may be made available as redevelopment opportunities after T2D Project completion, subject to relevant approvals.

Interfacing works with these areas must be carefully considered and coordinated to ensure any redevelopment opportunity is not precluded.

Green space

Land indicated as green space represents areas where the desired land use is open space, parks or biodiversity corridors that provide environmental, recreational and community benefits.

Green space may also be desired to address an interface with a sensitive land use, to provide a landscape buffer that helps to mitigate visual and physical impacts generated by the T2D Project.

The placement, size and land use of green space is to be confirmed by the final T2D Project design and through consultation with relevant local councils.

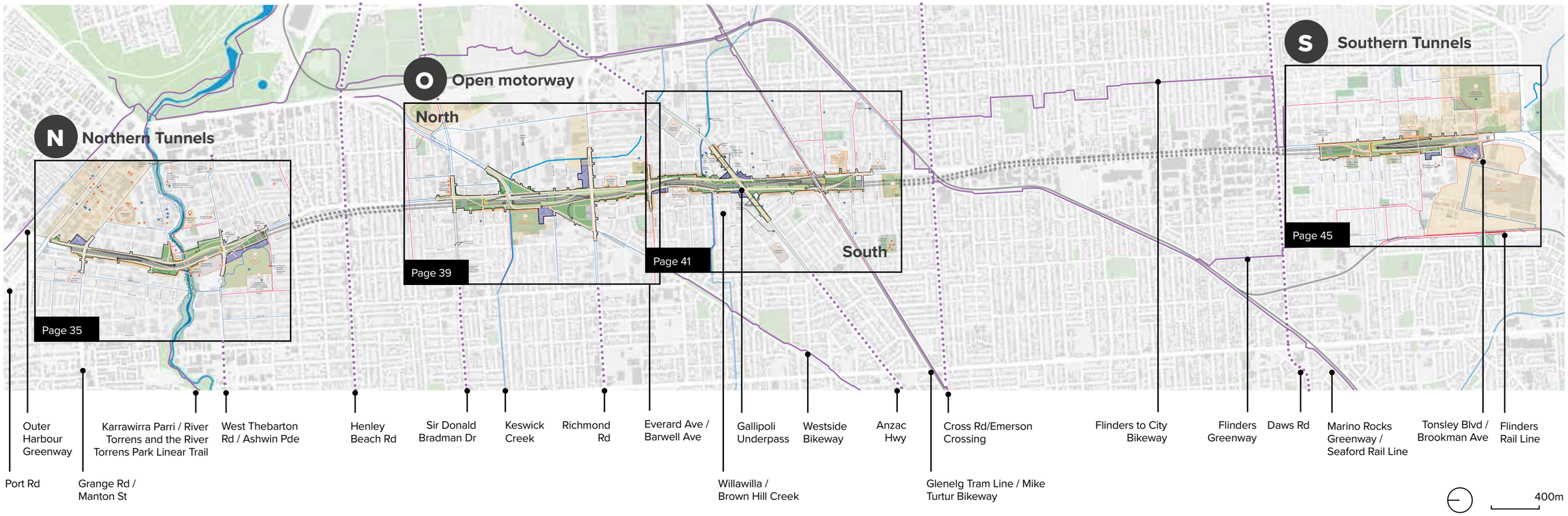
Landscape treatment

Landscape treatment areas represent opportunities for green infrastructure within the motorway and road alignment, to further contribute to public amenity and environmental benefits.

The placement, size and type of landscape treatment is to be confirmed by the final T2D Project design.

Project sections

Figure 23. T2D Project sections



The T2D Project includes three sections of above ground motorway for which place outcomes and requirements have been developed.

These above ground sections include:

- **N** Northern Tunnels: Grange Road to Ashley Street
- **O** Open motorway (split across two plans):
  - North: Sir Donald Bradman Drive to Everard Avenue and Barwell Avenue
  - South: Everard Avenue and Barwell Avenue to Glengarry Avenue
- **S** Southern Tunnels: Norrie Avenue to Tonsley Boulevard

N Northern Tunnels – Grange Road to Ashley Street

Place outcomes

The Northern Tunnels provide a significant threshold to the motorway, seamlessly connecting with the completed Torrens Road to River Torrens stage of the North-South Corridor as well as the Karrawirra Parri / River Torrens and the River Torrens Linear Park Trail.

The northern section of the T2D Project acknowledges the Karrawirra Parri / River Torrens as an important feature of Kaurna Country, that reflects Wodli Parri (Milky Way) in its waters and once provided habitat for the southern hairy-nosed wombat, South Australia's fauna emblem.

The portal design for the Northern Tunnels integrates these Kaurna themes and serves as a memorable orientation point for the T2D Project more broadly, considering the transition to and from the tunnels.

The portal design expression complements and integrates the surrounding local context and considers unique views from above where the flightpath crosses over the North-South Corridor.

New green spaces are integrated with existing open spaces to create a series of linear parks that extend the River Torrens Linear Park Trail and complement the Thebarton Oval/Kings Reserve precinct.

Well-designed noise barriers and local streetscape improvements help to minimise the visual and physical impacts generated by the T2D Project, with landscaping in open spaces to provide an effective green buffer for adjacent residents.

Active travel opportunities are provided along and across the T2D Project corridor to connect precincts together, including the Brickworks Marketplace, Thebarton Oval/Kings Reserve precinct and the emerging Hindmarsh and Thebarton precincts.

Creative design responses celebrate the local history of Hindmarsh and brick manufacturing, including use of recycled red brick in design materiality.

Heritage sites such as the former Hoffman Brick Kiln and Hindmarsh Cemetery are acknowledged, enhanced and protected to ensure their continued visual amenity and presence within the local area.

Figure 24. Brickworks Marketplace and the former Hoffman Brick Kiln, Torrensville

Figure 25. Kings Reserve/Thebarton Oval Precinct, Torrensville

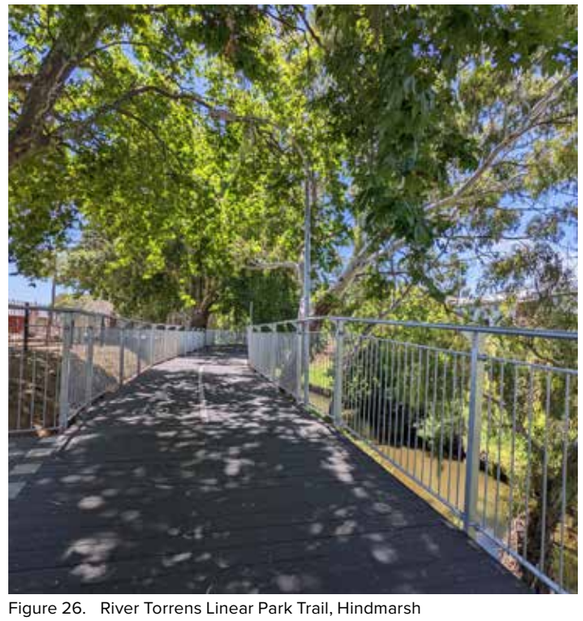


Figure 26. River Torrens Linear Park Trail, Hindmarsh

Figure 27. T2D Project artist's impression - Northern Tunnels

N Northern Tunnels – Grange Road to Ashley Street

Place requirements

1. Provide a smooth, cohesive urban design transition between the Torrens Road to River Torrens (T2T) Project and the T2D Project.
2. Create a memorable and unique tunnel portal that reflects the Kaurna theme of the southern hairy-nosed wombat, considering its former natural habitat of the Karrawirra Parri / River Torrens.
3. Maintain the connectivity on the northern bank of Karrawirra Parri / River Torrens provided by the River Torrens Linear Park Trail.
4. Provide a new active travel connection on the southern bank of Karrawirra Parri / River Torrens as an extension to the River Torrens Linear Park Trail.
5. Integrate the River Torrens Linear Park Trail with adjacent green space to improve its accessibility and visibility as a gateway through the parklands into the city.
6. Enhance the user experience of the River Torrens Linear Park Trail crossing beneath South Road to encourage active travel, including improvements to safety and the perception of safety.
7. Create new green space to address open space deficiency in residential areas, reduce visual and noise impacts, provide biodiversity and recreation opportunities and provide a green buffer to adjoining interfaces.
8. Provide new green space adjacent to the River Torrens Linear Park Trail that complements the local open space network, increases biodiversity and provides appropriate community facilities, with easy, walkable access from South Road as well as local streets.
9. Create new green space above the tunnels that integrates with Kings Reserve and Thebarton Oval and encourages complementary recreational and community land uses.
10. Offset any loss of existing Langman Reserve by reinstating community facilities into new green spaces within walking distance of the local area, in consultation with local councils.
11. Provide new active travel links that connect to local destinations and expand the existing active travel network, including off-road opportunities for vulnerable users and on-road opportunities for commuters.
12. Maintain and enhance local connectivity to key destinations including the Brickworks Marketplace and Kings Reserve/Thebarton Oval through the provision of:
    - improved signage and wayfinding
    - crossing opportunities over South Road and Ashwin Parade/West Thebarton Road
13. Maintain and enhance local connectivity provided by the Henley Beach Bikeway along West Thebarton Road and Ashwin Parade as a continuous active travel connection with a safe, dedicated east-west crossing point of South Road.
14. Maintain and enhance existing access to the state heritage-listed Hindmarsh Cemetery from South Road, Adam Street and the River Torrens Linear Park Trail for people walking and cycling.
15. Enhance the setting of the Hindmarsh Cemetery by upgrading streetscapes and integrating landscape treatments and interpretative elements into new green spaces to acknowledge the associated local history.
16. Maintain views to and from the Hindmarsh Cemetery to encourage passive surveillance and frame the historic backdrop including remnant eucalypts along the cemetery's edge adjacent to the riverbank. Ensure the design of adjacent motorway infrastructure sensitively considers its visual impact on this place.
17. Maintain important views to the former Hoffman Brick Kiln chimney stack and provide interpretive elements to acknowledge the associated local history.
18. Protect and enhance the views to and from Karrawirra Parri / River Torrens for all users, including pedestrians, cyclists and motorists.
19. Minimise impacts to views and access to the state heritage-listed former World War Two Civil Defence Sub-Control Station and provide interpretive elements to acknowledge associated local history.
20. Minimise the visual and noise impact of any ventilation facilities through architectural, landscape and/or creative treatments that integrate any structures with the surrounding area.
21. Minimise adverse impacts to Karrawirra Parri / River Torrens and protect associated significant and regulated trees and native vegetation.
22. Ensure works to the banks of the Karrawirra Parri / River Torrens are designed to:
    - achieve positive visual and environmental outcomes
    - prioritise use of natural materials and methods in design solutions
    - consider existing and new trees
    - protect the riverbank from erosion
    - not have adverse downstream impacts.
23. Provide and upgrade streetscapes within the T2D Project area boundary, including walking and cycling paths, street trees, wayfinding signage, street furniture, lighting and stormwater treatment.
24. Tie into the West Hindmarsh streetscape tree planting initiative to increase tree canopy, and improve the amenity of streetscapes and active travel connections north of Karrawirra Parri / River Torrens.
25. Upgrade landscape treatment north of Grange Road to provide an integrated, high-quality green space.
26. Retain and protect existing South Road street trees which contribute to existing landscape character.
27. Include plant species based on the River Red Gum/ SA Blue Gum Woodland pre-European plant associations in this area.
28. Ensure water management infrastructure elements are sensitively located and integrated within new and existing green space, maximising biodiversity and recreational values.
29. Explore use of recycled red bricks that are used in Hindmarsh as wayfinding visual cues, reflective of the local area's history.
30. Ensure landscape design and creative design responses reflect Kaurna urban design themes including:
    - the southern hairy-nosed wombat which was native to this area
    - Wodli Parri / Milky Way which is said to be reflected in the waters of the Karrawirra Parri / River Torrens
    - existing themes expressed on River Torrens Linear Park Trail, including the Rakali (native river water rat).

(#) Shown on plan (#) Not shown on plan

N

OUTER HARBOUR GREENWAY
Port Rd
Hindmarsh Placemaking Master Plan Focus Area
HINDMARSH STADIUM
SIR WILLIAM GOODMAN BRIDGE
Thebarton Brewery Precinct
FORMER THEBARTON BAPTIST CHURCH & HALL
Stirling St
FORMER FAULDING'S EUCALYPTUS OIL DISTILLERY
FACTORY, COMPOUND AND HEDGE HOUSE BUILDINGS, BOILER HOUSE AND CHIMNEY
LADY GOWRIE CHILD CENTRE
Karrawirra Parri / River Torrens
River Torrens Linear Park Trail
Adam St
TORRENSVILLE BOWLING CLUB
THEBARTON INCINERATOR
W Thebarton Rd
Ann Nelson Dr
Holden St
Grange Rd
Susan St
Bennett St
Ballantyne St
19 FORMER SUB-CONTROL STATION
South Rd
Danby St
WEST THEBARTON HOTEL
Ware St
Potential ventilation facility
1
25
14
8
13
12
9
20
2
5
HINDMARSH CEMETERY
16
15
3
6
4
17
10
BRICKWORKS MARKETPLACE
FORMER HOFFMAN BRICK KILN
Kings Reserve/ Thebarton Oval Precinct
Ashley St
THEBARTON SOLDIERS MEMORIAL RECREATION GROUND
Bond St
Bertie St
Jervois Ave
Langman Reserve
ST. JOSEPH'S SCHOOL
Albemarle St
Grey Ave
Gawler Ave
McDonnell Ave
Hindmarsh Ave
Musgrave Ave
Torrens Ave
Young Ave
Ashwin Parade
East St
THEBARTON SENIOR COLLEGE (FORMER TECHNICAL SCHOOL)

Place requirement plans are diagrammatic only and do not represent a design proposal, nor limit a design response. The T2D Project Area shown is subject to change.

Legend - T2D Project (indicative only)

- 1 Place requirement (shown on plan)
- T2D Project area
- Motorway
- Surface road
- Ramps
- Tunnel portal
- Tunnel
- Ancillary infrastructure
- Active travel connection
- Active travel crossing
- Temporary works area
- Green space
- Landscape treatment

Legend - Existing Context

- Local destination
- Potential local destination
- Local works/precinct
- State Heritage Place
- Local Heritage Place
- Commemorative feature
- Interface with sensitive area
- Key view
- Train/tram line
- Waterway
- Priority trees for retention
- Existing open space
- On-road cycle lane
- Existing secondary cycle route
- Off-road walk/cycle route
- Potential walk/cycle route

Figure 28. Northern Tunnels map

100m

Open motorway – Sir Donald Bradman Drive to Glengarry Avenue

Place outcomes

Between the Northern and Southern Tunnels, the open motorway comes to surface, enabling interchange with the arterial road network and providing important east-west connectivity and access to Adelaide's airport and CBD.

In the central section of the T2D Project, each portal for the Northern and Southern Tunnels is recessive and contextual in its design response, set amongst new green space and landscaping to minimise their visual impact on the surrounding area.

The portal for the Northern Tunnels considers expression of the local area's light rail history, including the nearby former tram barn State Heritage Place. The Boulevard of Honour along Sir Donald Bradman Drive, west of South Road, is also acknowledged as an important commemorative feature.

The portal for the Southern Tunnels considers expressing the Kaurna theme of the Black Forest through landscaping, where Kangaroo Grass was said to once grow to a great height in Black Forest.

The Gallipoli Underpass intersection is celebrated as a culturally significant meeting place of the ancient Kaurna Trade Line. The design sensitively and carefully balances expression of Kaurna themes with the commemorative ANZAC features already established which are to be retained, reinforced and integrated.

The sections of Keswick Creek and Willawilla / Brownhill Creek that cross South Road are carefully integrated into the design, noting their potential redevelopment by local council into active travel corridors, as well as functional waterways.

The design supports active travel along and across the T2D Project corridor, providing walking and cycling connections to connect precincts together and service local recreation destinations such as Hisense Stadium/ Richmond Oval and Glandore Oval.

Crossings of the T2D Project are provided to prioritise local access to key destinations, including Richmond Primary School, Black Forest Primary School and the Tennyson Medical Centre.

The Westside Bikeway is a feature of the interchange of James Congdon Drive/Deacon Avenue and South Road and is prioritised as a major active travel connection between Adelaide's city and the sea.

Connections to the Mike Turtur Bikeway via the South Road Tram Overpass are retained, ensuring continued access to this major active travel route. Access is also prioritised to Glenelg Tram Stop 6, located on the overpass, as well as to bus stops beneath it to enable ongoing, seamless public transport interchange.

New green spaces are integrated with existing open spaces to create a series of linear parks that extend from each of the tunnel portals along the open motorway, providing continuous, active travel connections within them.

Figure 29. South Road Tram Overpass, Everard Park

Figure 30. Heritage tram barns (Sir Donald Bradman Drive), Mile End

Figure 31. Gallipoli Underpass, Kurralta Park

Figure 32. Black Forest Primary School, Black Forest

Figure 33. T2D Project artist's impression - open motorway

Open motorway (north) – Sir Donald Bradman Drive to Everard Avenue / Barwell Avenue

Place requirements

1. Create a simple and elegant tunnel portal that minimises visual impact and integrates with the surrounding local character.
2. Integrate the design of any ventilation facilities with the gateway of the Sir Donald Bradman Drive and South Road intersection from where it will be highly visible.
3. Minimise the visual impact of any ventilation facilities and substations through architectural, landscape and/or creative treatments that integrate any structures with the surrounding area.
4. Maintain and improve the connectivity provided by the Westside Bikeway as a continuous active travel connection. Provide a safe, legible and dedicated east-west crossing point of the motorway that prioritises efficient walking and cycling movement.
5. Connect the potential bikeway along Keswick Creek with the Westside Bikeway.
6. Provide new green spaces that maximise opportunities for stormwater management, increase biodiversity, enhance active travel routes and provide complementary recreational opportunities.
7. Create a series of linear parks connecting Sir Donald Bradman Drive to Everard Avenue/ Barwell Avenue, including above the tunnel, to address open space deficiency in residential areas, provide biodiversity and recreation opportunities and provide a green buffer to adjoining interfaces to mitigate physical and visual impacts.
8. Consider the interface between the Westside Bikeway and Hisense Stadium (Richmond Oval) and ensure walking and cycling links connect to existing access points.
9. Ensure new green space adjacent to Hisense Stadium (Richmond Oval) is well integrated to maintain and improve local connectivity and offers complementary community and recreation facilities.
10. Provide new active travel links that connect to local destinations and expand the existing active travel network, including off-road opportunities for vulnerable users and on-road opportunities for commuters.
11. Provide safe, direct and pleasant crossings at key intersections for people walking and cycling, including Sir Donald Bradman Drive, James Congdon Drive, Deacon Avenue, Richmond Road and Barwell Avenue/Everard Avenue.
12. Maintain local access and connectivity to Richmond Primary School, including crossing opportunities over South Road and associated traffic management such as kiss and drop facilities.
13. Use creative treatments to enhance the South Road frontage to the Richmond Primary School, integrating with the upgraded streetscape and new crossing point.
14. Retain and integrate the Significant Ficus (Fig) tree at the Richmond Primary School frontage, with improvements made to the conditions around the tree to maintain its ongoing health.
15. Provide and upgrade streetscapes within the T2D Project area boundary, including walking and cycling paths, street trees, noise barriers, wayfinding and signage, street furniture, lighting and stormwater treatment.
16. Protect the Eucalyptus trees at the south-east corner of the South Road and James Congdon Drive intersection which contribute to existing landscape character.
17. Protect existing street trees on Barwell Avenue and Everard Avenue which contribute to existing landscape character.
18. Retain and enhance the existing Sir Donald Bradman Drive Boulevard of Honour elements.
19. Include plant species based on the River Red Gum / SA Blue Gum Woodland and Spear Grass/ Wallaby Grass Grassland pre-European plant associations in this area.
20. Use planting on land bridges to improve and contribute further environmental and biodiversity benefits to the project in addition to managing overland flow.
21. Ensure water management infrastructure elements are sensitively located and integrated within new and existing green space, maximising biodiversity and recreational values.
22. Use materials and finishes to enhance the gateway of the Sir Donald Bradman Drive intersection which is framed by red-brick structures.
23. Express the historic light rail travel theme of the local area through creative and interpretive elements, including consideration of the former tram barn State Heritage Place that frames the Sir Donald Bradman Drive intersection.
24. Include creative design responses that reflect Kaurna urban design themes.

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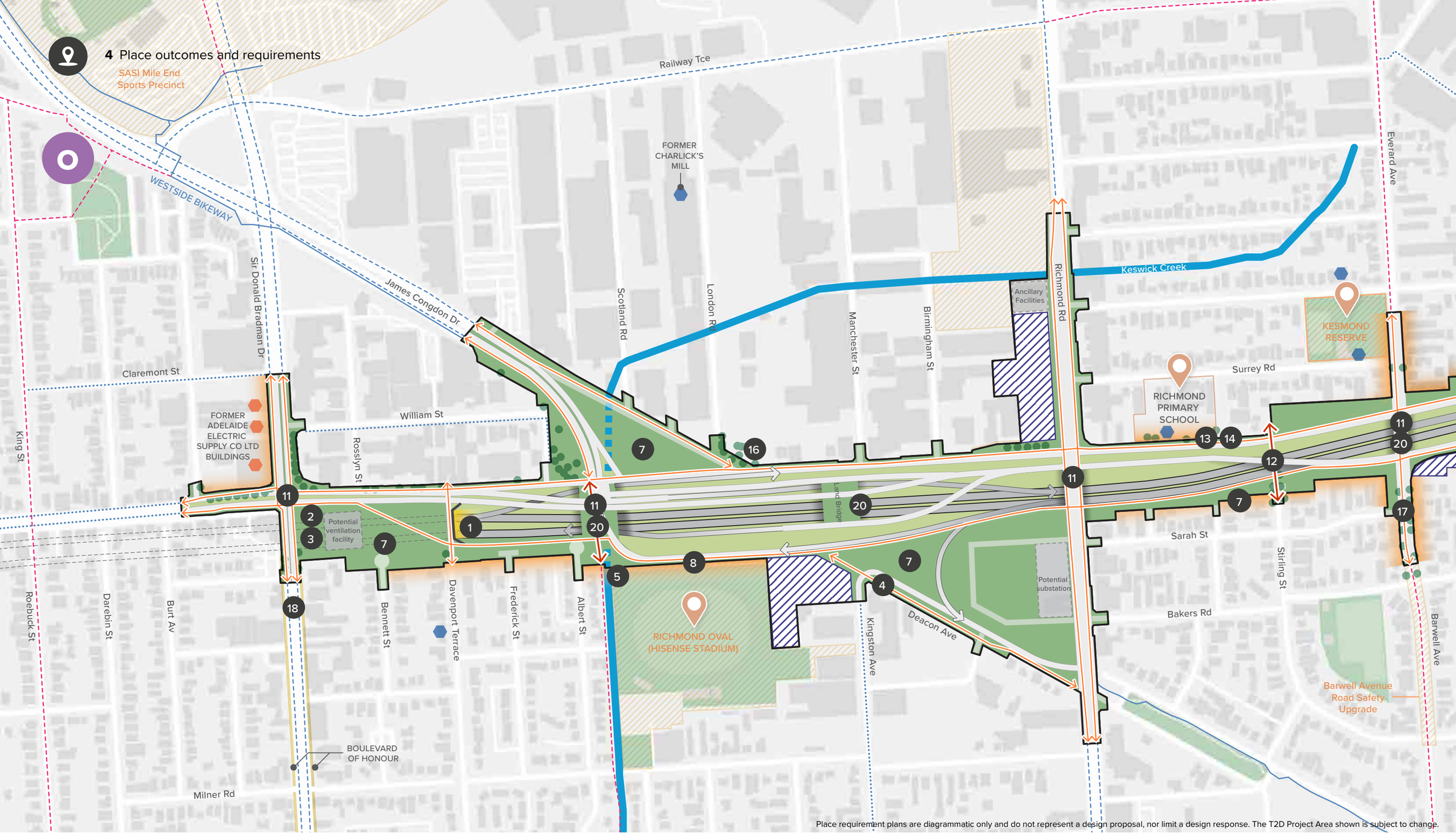

Place requirement plans are diagrammatic only and do not represent a design proposal, nor limit a design response. The T2D Project Area shown is subject to change.

Legend - T2D Project (indicative only)

- Place requirement (shown on plan)
- T2D Project area
- Motorway
- Surface road
- Ramps
- Tunnel portal
- Tunnel
- Ancillary infrastructure
- Active travel connection
- Active travel crossing
- Temporary works area
- Green space
- Landscape treatment

Legend - Existing Context

- Local destination
- Potential local destination
- Local works/precinct
- State Heritage Place
- Local Heritage Place
- Commemorative feature
- Interface with sensitive area
- Key view
- Train/tram line
- Waterway
- Priority trees for retention
- Existing open space
- On-road cycle lane
- Existing secondary cycle route
- Off-road walk/cycle route
- Potential walk/cycle route

Figure 34. Open motorway (north) map

Open motorway (south) – Everard Avenue / Barwell Avenue to Glengarry Avenue

Place requirements

26 Create a simple and elegant tunnel portal that complements and does not compete with the proposed upgrade to the South Road Tram Overpass.

27 Ensure the design of any ventilation facilities complement the design of the tunnel portal and the South Road Tram Overpass, considering materiality, form, landscape and other creative elements.

28 Minimise the visual impact of any ventilation facilities through architectural, landscape and / or creative treatments that integrate any structures with the surrounding area.

29 Maintain and improve local access and connectivity to local shops and services, including safe, accessible and pleasant crossing opportunities over South Road and Anzac Highway for people walking, cycling, using public transport or driving vehicles.

30 Improve the user experience of people walking and cycling over the Anzac Highway interchange with South Road in all directions, to ensure the crossing is safe, direct and pleasant.

31 Include creative design responses that express the Kaurna urban design theme of the Kaurna Trade Line and the important meeting place that existed at the intersection of Anzac Highway and South Road.

32 Maintain and enhance the commemorative importance and landmark quality of the Anzac Highway and Gallipoli Underpass interchange, including through incorporation of creative elements and improved access.

33 Retain, refresh and integrate existing Gallipoli underpass elements, including underpass and retaining wall infrastructure, signage, artwork, landscaping and mature trees.

34 Reinforce the existing ANZAC themes of remembrance and introduce creative responses to reflect more recent, broader Australian military history in consultation with the Returned and Services League (RSL) and Veterans SA.

35 Protect trees and vegetation of cultural, amenity or heritage significance planted along Anzac Highway, including the Lone Pine on the southwestern corner of Anzac Highway, the Aleppo Pine and Claret Ash (Fraxinus sp.) which form part of the living memorial between Adelaide City and Glenelg.

36 Provide new active travel links that connect to local destinations and expand the existing active travel network, including off-road opportunities for vulnerable users and on-road opportunities for commuters.

37 Maintain local access and connectivity to the Tennyson Medical Centre, including a dedicated crossing of South Road and associated traffic management.

38 Connect the Tennyson Medical Centre crossing to the planned active travel route along Willawilla / Brownhill Creek.

39 Retain and protect mature trees along Willawilla / Brownhill Creek as far as practicable.

40 Maintain local access and connectivity to Black Forest Primary School, including a dedicated crossing of South Road and associated traffic management such as kiss and drop facilities.

41 Use creative treatments to enhance the South Road frontage to Black Forest Primary School, integrating with the upgraded streetscape and the new crossing point.

42 Provide safe, convenient and pleasant access to the Glenelg Tram Stop 6 and South Road bus stops for people interchanging by walking, cycling or driving, including parking facilities.

43 Where practical, retain, improve and integrate existing South Road Tram Overpass landscapes and public realm at ground level, including well-established mature native *Eucalyptus maculata* trees.

44 Retain and enhance connections to the Mike Turtur Bikeway that crosses via the South Road Tram Overpass as a continuous active travel corridor between Adelaide's city centre and the sea.

45 Minimise impacts to views of the historic Ackland House.

46 Provide new green spaces that maximise opportunities for stormwater management, increase biodiversity, enhance active travel routes and provide complementary recreational opportunities.

47 Create a series of linear parks connecting Everard Avenue/Barwell Avenue to Glengarry Avenue, including above the tunnel, to address open space deficiency in residential areas, provide biodiversity and recreation opportunities and provide a green buffer to adjoining interfaces to mitigate physical and visual impacts.

48 Provide and upgrade streetscapes within the T2D Project area boundary, including walking and cycling paths, street trees, noise barriers, wayfinding and signage, street furniture, lighting and stormwater treatment.

49 Improve interfaces with local residential communities by integrating upgraded streetscapes with adjacent green space.

50 Ensure water management infrastructure elements are sensitively located and integrated within new and existing green space, maximising biodiversity and recreational values.

51 Include plant species based on the Spear Grass / Wallaby Grass Grassland, the Black Forest: Grey Box / SA Blue Gum Woodland and the Black Forest: Grey Box / River Red Gum Woodland pre-European plant associations in this area.

52 Feature Kangaroo Grass and/or Wallaby Grass to acknowledge the Kaurna cultural significance of these plant species in this area formerly known as The Black Forest.

53 Include creative design responses that reflect broader Kaurna urban design themes.

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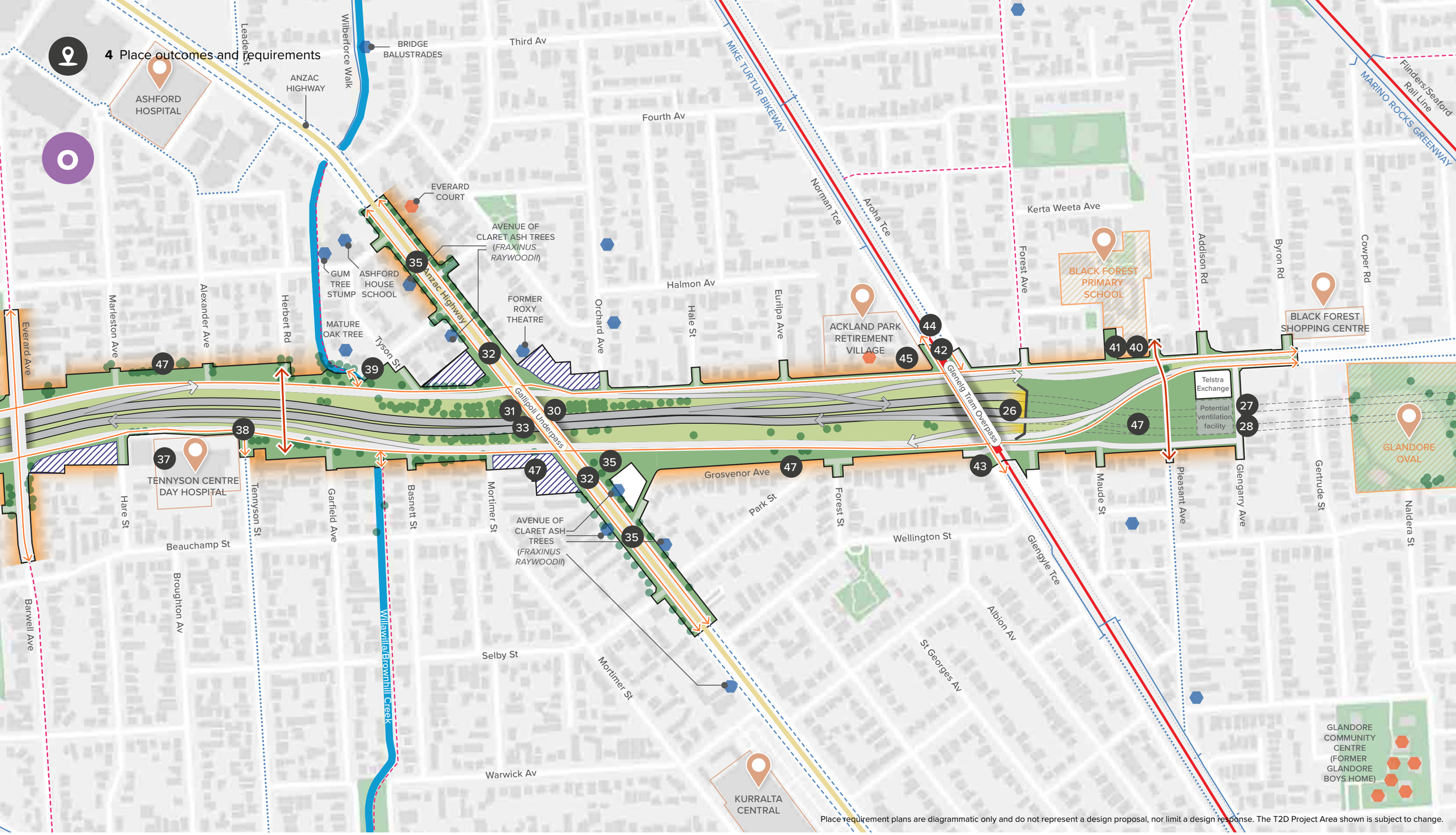

Place requirement plans are diagrammatic only and do not represent a design proposal, nor limit a design response. The T2D Project Area shown is subject to change.

Legend - T2D Project (indicative only)

- 1 Place requirement (shown on plan)
- T2D Project area
- Motorway
- Surface road
- Ramps
- Tunnel portal
- Tunnel
- Ancillary infrastructure
- Active travel connection
- Active travel crossing
- Temporary works area
- Green space
- Landscape treatment

Legend - Existing Context

- Local destination
- Potential local destination
- Local works/precinct
- State Heritage Place
- Local Heritage Place
- Commemorative feature
- Interface with sensitive area
- Key view
- Train/tram line
- Waterway
- Priority trees for retention
- Existing open space
- On-road cycle lane
- Existing secondary cycle route
- Off-road walk/cycle route
- Potential walk/cycle route

Figure 35. Open motorway (south) map

100m

S Southern Tunnels – Norrie Avenue to Tonsley Boulevard

Place outcomes

The Southern Tunnels provide an important transition from the Darlington Interchange and Southern Expressway, including a bold entry statement that acknowledges the Kaurna story of Tjilbruke and his transformation into a beautiful Glossy Ibis.

The southern section of the T2D Project integrates the Kaurna design theme of Tjilbruke and his transformation into the Glossy Ibis. The native bird once inhabited the nearby Wattiparringga Creek which historically crossed South Road and flowed into a large lagoon.

The portal for the Southern Tunnels serves as a memorable orientation point for the T2D Project and the North-South Corridor more broadly, providing an important transition from the Southern Expressway towards Adelaide's airport, CBD and Port Adelaide.

Active travel opportunities are provided along and across the T2D Project corridor, with walking and cycling connections provided key destinations.

Active travel connections to St Bernadette's Primary School, the Tonsley Innovation District and Flinders to City Bikeway along Brookman Avenue. Broader network connections to the Flinders Medical and University Precincts to the south are considered.

New green spaces are integrated with existing open space to create a series of linear parks that provide recreational and community benefits and improve environmental performance.

Well-designed noise barriers and local streetscape improvements help to minimise the visual and physical impacts generated by the T2D Project, with landscaping in open spaces to provide an effective green buffer for adjacent residents.

Creative design responses consider the historical land uses of the local area, including car manufacturing, viticulture and other industries. The visual presence of the Tonsley Innovation District gateway is maintained to support economic development uplift within the locality.

Heritage sites such as St Mary's Church and cemetery and Wattiparringga dwelling and vineyard are acknowledged through interpretive elements, to ensure their continued presence within the local area.

Figure 36. Tonsley Innovation District, Tonsley

Figure 37. Clovelly Park Memorial Hall, Clovelly Park

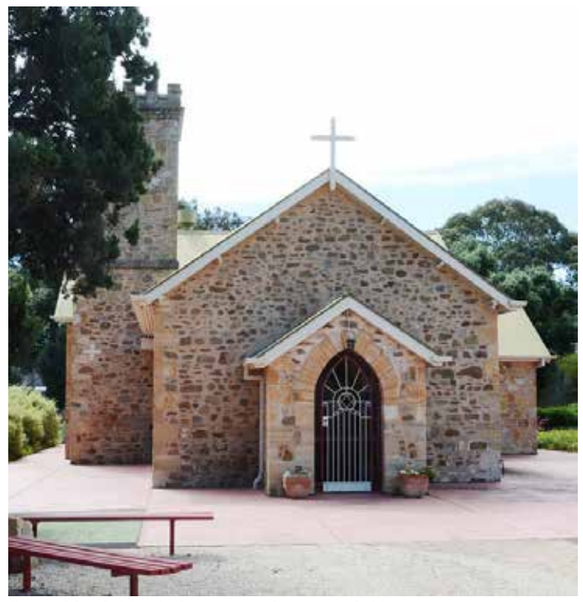

Figure 38. St Mary's Church and Cemetery, St Marys

Figure 39. T2D Project artist's impression - Southern Tunnels

S Southern Tunnels – Norrie Avenue to Tonsley Boulevard

Place requirements

1. Provide a smooth, cohesive urban design transition between the T2D Project and the Southern Expressway.
2. Create a memorable and unique tunnel portal that reflects the Kaurna theme of Tjilbruke and the Glossy Ibis, considering its former natural habitat within the nearby Wattiparringga Creek and Lagoon.
3. Ensure any ventilation facilities complement the design of the tunnel portal, considering materiality, form, landscape and other creative elements.
4. Minimise the visual impact of any ventilation facilities and substations, including their access points, through architectural, landscape and/or creative treatments that integrate any structures with the surrounding area.
5. Provide new active travel links that connect to local destinations and expand the existing active travel network, including off-road opportunities for vulnerable users and on-road opportunities for commuters.
6. Connect active travel links to employment, retail and accommodation amenities within the Tonsley Innovation District, including a safe and pleasant crossing of Brookman Avenue/Tonsley Boulevard with South Road.
7. Connect active travel links to the Flinders to City Bikeway which travels along Brookman Avenue and the Flinders Greenway along Tonsley Boulevard, including enhanced wayfinding and signage.
8. Maintain local access and connectivity to St Bernadette's Primary School, including crossing opportunities over South Road and associated traffic management such as kiss and drop facilities.
9. Use creative treatments to enhance the South Road frontage to St Bernadette's Primary School, integrating with the upgraded streetscape and the new crossing point.
10. Ensure safe and legible connection is provided between St Bernadette's Primary School and the existing open space on Walsh Street which serves as recreational space for the school.
11. Protect existing street trees on South Road (near Walsh Avenue) which contribute to existing landscape character.
12. Protect existing easterly views towards the Adelaide foothills through the careful placement of infrastructure.
13. Create new linear parks, including new public space above the tunnel. This will address open space deficiency in residential areas, reduce visual and noise impacts, provide biodiversity and recreation opportunities and provide a green buffer to local residents.
14. Provide complementary green space and community facilities adjacent to Cosgrove Hall, Graham Watts Playground and Clovelly Park Memorial Community Hall. Ensure continued access and parking is provided along York Avenue.
15. Provide and upgrade streetscapes within the T2D Project area boundary, including walking and cycling paths, street trees, noise barriers, wayfinding and signage, street furniture, lighting and stormwater treatment.
16. Include plant species based on the Black Forest: Grey Box/River Red Gum Woodland pre-European plant associations in this area.
17. Ensure water management infrastructure elements are sensitively located and integrated within new and existing green space, maximising biodiversity and recreational values.
18. Water sensitive urban design (WSUD) initiatives undertaken by the City of Marion and the City of Mitcham, are integrated with new water management infrastructure required for T2D Project.
19. Maintain views to reinforce the gateway statement to Tonsley Innovation District.
20. Consider integration of interpretive elements that appropriately acknowledge heritage places, including St Mary's Anglican Church and cemetery, Wattiparringga dwelling and vineyard, and St Marys Park.
21. Include creative design responses that reflect the history of the local context. These include the technical innovation and local manufacturing history, and pre-manufacturing wine growing that occurred in the area featuring some of South Australia's oldest vineyards.
22. Include creative design responses that reflect broader Kaurna urban design themes.

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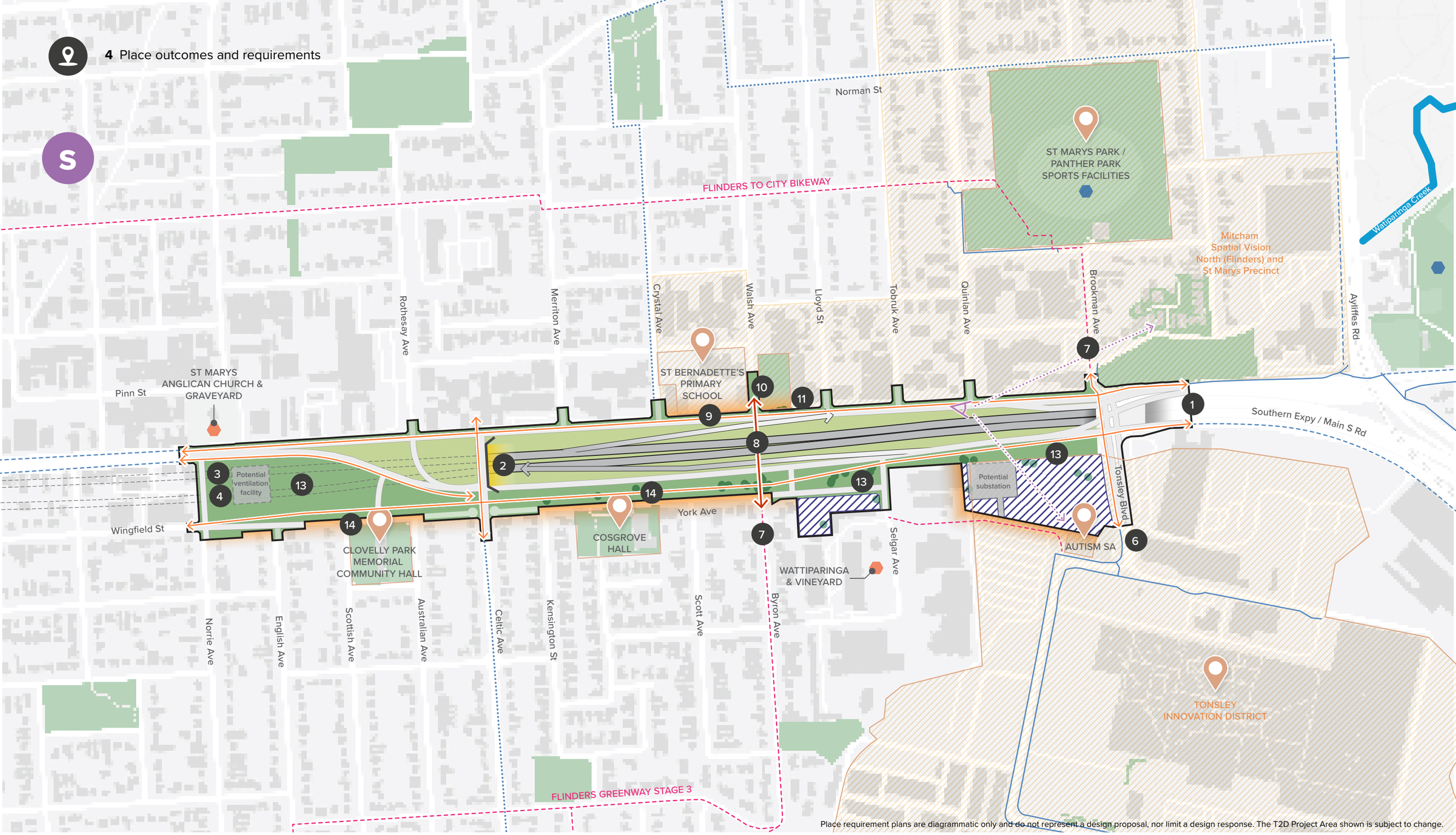

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- On-road cycle lane
- Existing secondary cycle route
- Off-road walk/cycle route
- Potential walk/cycle route

Figure 40. Southern Tunnels map

5

Performance outcomes and requirements

Purpose

This chapter describes the expected performance outcomes and requirements to be achieved by different project elements that together comprise the T2D Project.

Figure 41. T2D Project artist impression - Northern Tunnels

How to use this chapter

This chapter sets the minimum performance outcomes and requirements for different project elements – the individual components that together comprise the T2D Project.

Performance outcomes and requirements will be used to guide, benchmark and evaluate the T2D Project as it progresses through design, construction and operation.

This user guide explains how to understand the performance outcomes and requirements and their role in the broader suite of T2D Project contractual requirements.

Project elements

The T2D Project will be designed and delivered as a combination of individual project elements, both above ground and within the tunnels.

For each project element, a performance outcome describes to overall performance result that is sought, supported by more detailed requirements explaining how that performance result might be achieved.

Performance outcomes

Performance outcomes describe the overall urban design aspiration expected to be achieved for each project element, considering their individual role in the operation of the T2D Project.

The design of T2D Project elements will respond to the diverse needs, journeys and experiences of the people that use and interact with them.

Some project elements will demonstrate corridor-wide consistency and a uniform palette, while others will reflect local variation representative of the local identity. Design expression will range from bold, memorable features to recessive, sensitively located project elements.

Collectively, the project elements must be delivered as a cohesive, holistically considered design expression throughout the T2D Project area.

Performance requirements

Performance requirements describe the minimum design expectations for each project element and the standard and quality of performance that is expected.

Precedent imagery

Performance requirements are supported by precedent images of benchmark projects that help to illustrate the performance standard and design quality to be achieved.

General performance requirements

The urban design objectives set out by Chapter 3 of this Urban Design Strategy should also be interpreted as general performance requirements for project elements.

The urban design objectives describe the standard of performance expected in relation to:

- design form, functionality and integration
- visual impacts and visual amenity
- sustainability and climate change resilience
- corridor consistency and local identity
- cultural heritage celebration and interpretation
- creative design expression and activation
- universal access and wayfinding
- materials and finishes
- safety and maintenance.

Urban design objectives must be achieved by all T2D Project elements to ensure consistent urban design, landscape and public realm outcomes.

Other requirements

T2D Project elements must also be designed and delivered in accordance with other applicable requirements, guidelines and standards.

The performance outcomes and requirements set out in this chapter are to be read together with other relevant requirements, noting any applicable order of precedence.

T2D Project contractual requirements

Project elements must achieve other T2D Project contractual requirements, including relevant Master Specification Parts, Functional and Operational Requirements and any Third Party Agreements.

Government standards and guidelines

Project elements must consider relevant standards and guidelines from state and local government to support their efficient operation and maintenance.

Alignment to local government standards also supports a level of consistency between the T2D Project area and the surrounding area.

The T2D Project will appropriately engage with state and local government to confirm and accurately interpret any standards and guidelines that apply.

Project elements

Bridges, overpasses and underpasses

- E1 Road bridges and overpasses
- E2 Lowered roads and underpasses
- E3 Active travel bridges
- E4 Land bridges

Tunnels, portals and ancillary structures

- E5 Tunnel portals and approaches
- E6 Tunnel interiors
- E7 Buildings and ancillary structures

Barriers, walls, fences and screens

- E8 Noise barriers
- E9 Walls, fences and screens

Road furniture and streetscapes

- E10 Road signage and furniture
- E11 Streetscapes and public realm
- E12 Active travel and public transport
- E13 Lighting

Landscape and open space

- E14 Landscape design
- E15 Parks and open space
- E16 Planting
- E17 Water sensitive urban design

Bridges, overpasses and underpasses

Performance outcome

Bridges and overpasses provide elevated grade separation for vehicular and active travel. Their visual prominence from the motorway and elevated height above adjacent built form and vegetation means that they inherently become memorable features for road users, pedestrians and cyclists as well as surrounding communities. For this reason, it is vital that they are well integrated and resolved in form, providing a unified and considered outcome.

Lowered roads and underpasses facilitate cross-corridor vehicular and active travel connections to be maintained at existing street levels. Their recessed nature means that they have less visual impact on the surrounding context than bridges and overpasses. Design should focus on the integration of retaining structures with the surrounding landscape and the experience for road users allowing easy orientation and a sense of place in the absence of other visual connections to the urban context.

All bridges, overpasses and underpasses provide the opportunity to incorporate creative and cultural elements into their design.

Figure 42. Northern Expressway, Adelaide

E1 Road bridges and overpasses

Performance requirements

1. Road bridges and overpasses are distinctly recognisable as part of the T2D Project, while providing a level of design consistency with existing infrastructure along the North-South Corridor.
2. The height, scale, form and location of all road bridges and overpasses are resolved to minimise impacts to adjacent communities.
3. Scenic vistas and views from road bridges and overpasses are identified, highlighted and framed to improve the experience for road users.
4. Road bridges and overpasses are structurally expressive in form and avoid the use of cladding to disguise poor visual design outcomes.
5. All substructure and superstructure elements are visually integrated to create a unified, architectural form, including piers and cross heads, beams, girders, abutments, walls, pier protection, safety barriers, railings, screens, lighting, signage and Intelligent Transport System (ITS) infrastructure.
6. Noise, safety, anti-throw and privacy screens are integrated as part of the design to create a unified and considered form that avoids superfluous or additional design elements that give the appearance of being 'tacked on'.
7. Superstructure depth, spans and piers are well-proportioned to minimise visual bulk.
8. Large spans that eliminate or minimise the number of piers required are used to create a feeling of openness and provide usable space beneath structures.
9. Road bridges and overpasses are sympathetic to their context and contribute to wayfinding.
10. Road bridge and overpass soffits are designed to conceal unsightly elements such as cross bracing, service trays, drainage infrastructure, suspended pipes and prevent bird roosting.
11. Road bridge and overpass parapets are designed to enable easy retrofitting of anti-throw or safety screens, should these be required in future.
12. Land use, amenity and safety of areas beneath structures are considered. The design of undercroft spaces and landscaping provide visual permeability at ground level to maximise passive surveillance.
13. Visual clutter is avoided or minimised on road bridge and overpass parapets, including signage and advertising. If signage or advertising is required within the road reserve, a visual assessment should be undertaken to determine appropriate locations.
14. Culturally relevant and place-specific creative elements, art works and design interventions are integrated into the design of road bridges and overpasses in accordance with the Creative Strategy.

Figure 43. Ovingham Level Crossing Removal, Adelaide. Considers the amenity and safety beneath the structure to enable community use and activation.

Figure 44. Kings Avenue Overpass, Canberra. Soffits are designed to conceal unsightly elements and parapets are free from visual clutter.

Figure 45. South Road Superway, Adelaide. The design is structurally expressive with well proportioned superstructure and a large span to minimise piers and maximise the sense of openness.

E2 Lowered roads and underpasses

Performance requirements

1. Lowered roads and underpasses form part of a holistic urban design response that improves permeability, legibility, connectivity and accessibility along and across the T2D Project area.
2. A consistent pattern and simple materials are used to provide a visually calm background and allow for contextual 'feature' design responses at key locations.
3. The design and materiality of adjacent lowered road corridors (Darlington Upgrade and T2T projects) and underpasses (Gallipoli) are acknowledged by new designs which replicate, extend, transition or replace existing as appropriate to the location.
4. Modifications to existing retaining walls are respectful of the original wall design and consider how panel heights, widths, lengths and patterns transition to the new design.
5. Retaining wall design is visually integrated with bridge piers and parapets to create a well-proportioned, unified and considered form.
6. Height changes in retaining walls are carefully considered and stepping is eliminated or minimised to reinforce a consistent horizontal alignment.
7. Abutments of bridges crossing lowered roads or underpasses are on the same plane as lowered motorway walls (i.e. no stepping in and out to minimise bridge spans). Awkward connections are avoided.
8. Road bridge or overpass piers located within the lowered road corridor are visually integrated with traffic barriers.
9. Noise, safety, anti-throw and privacy screens are integrated with retaining walls and abutments to provide visual consistency and reduce clutter.
10. Access ramps are integrated with lowered roads and underpasses and consider the surrounding land form to work with changes in levels and grades.
11. Colour, texture and patterning help visually minimise the height of lowered road and underpass walls and contribute to wayfinding.
12. All off-gun shotcrete surfaces are concealed from view.
13. Panel fixings and other structural elements are concealed from view while providing safe maintenance access where required.
14. The architectural treatment of service bridges across lowered motorway corridors are carefully considered as to whether they are visually minimised or celebrated in the design response.
15. Notwithstanding appropriate access, fire hydrant placement is considered in the design of retaining walls and traffic barriers to ensure an integrated design outcome.
16. Retaining wall structures are designed to enable planting of trees and understorey vegetation at surface level.
17. Planting or creative treatments are used to reduce reflected heat and light impacts, deter graffiti and enhance user experience.
18. Points of interest are provided within long lowered road corridors to assist with driver orientation and navigation.
19. Retaining walls feature appropriate Kaurna themes, explored and designed in collaboration with the Kaurna peoples.
20. Culturally relevant and place-specific creative elements, art works and design interventions are integrated into the design of lowered roads and underpasses in accordance with the Creative Strategy.

Figure 46. Gallipoli Underpass, Adelaide. Creative treatments on retaining walls enhance user experience and panel fixings and structural elements are concealed from view.

Figure 47. Bio Science Park, Netherlands. Texture and patterning of the walls visually minimise the impact of their height. Timber treatments to the underside of the bridge provide an attractive and memorable treatment that conceals structural elements.

Figure 48. Northern Beaches Hospital Road Upgrade Project, Sydney. The consistent patterning and simple materials used on the walls create a sense of calm and act as a background for feature elements.

Figure 49. Bowen Place Crossing, Canberra. Feature design elements such as folded oxidised steel retaining walls and planting are used at key locations to enhance user experience.

E3 Active travel bridges

Performance requirements

1. Active travel bridges provide the most direct and convenient connection possible.
2. Active travel bridges have a structurally expressive sculptural form that makes a visual statement and are well lit to give the bridge and its curtilage prominence at night.
3. Height, scale, form and location of active travel bridges are designed to maximise views, minimise impacts to local communities and integrate privacy requirements.
4. Active travel bridges provide a unique local experience for people walking or cycling across the bridge and for road users travelling underneath that responds to and reflects the local character.
5. Active travel bridges have a sense of openness, with clear sight lines and visual connectivity across the structure to enable passive surveillance and the perception of safety for all users.
6. Active travel bridges are designed for comfortable journeys for people of all ages and abilities, and all mobility types.
7. Active travel bridges include intuitive wayfinding at their entries, exits and approaches.
8. Vehicle access is prevented without requiring visually obtrusive traffic control devices or bollards which become hazards for pedestrians and cyclists.
9. Active travel bridges meet universal access requirements, with compliant ramps provided as well as stairs for more direct access by able bodied users.
10. Active travel bridge lengths are minimised as much as possible and address CPTED principles of access and egress.
11. Safety and privacy screens are integrated as part of the design to create a unified and considered form that avoids superfluous or additional design elements that give the appearance of being 'tacked on'.
12. Land form and planting help to integrate ramps and staircases with their surroundings.
13. Culturally relevant and place-specific creative elements, art works and design interventions are integrated into the design of active travel bridges in accordance with the Creative Strategy.

Figure 50. Albert 'Tibby' Cotter Walkway, Sydney. The design has structurally expressive sculptural form with lighting that gives prominence at night and bollards that are integrated with the design.

Figure 51. HOTA Bridge, Gold Coast. The bridge provides unique local experience with culturally significant place specific creative elements and great views.

Figure 52. Lachlan's Line Bridge, Sydney. Land form and planting successfully integrate the ramps and steps required to access the bridge.

Figure 53. Birrarung Marr, Melbourne. Stairs are provided for more direct access with planting and land form helping to integrate them into the landscape.

E4 Land bridges

Performance requirements

1. Land bridges are designed to convey overland flood water flows along and across the motorway, while contributing to T2D Project landscape through enabling the planting of vegetation.
2. Land bridges support the establishment of green space to increase canopy cover and urban cooling, provide biodiversity and habitat links and complement surrounding planting spaces.
3. Land bridges are designed to hold an appropriate depth and profile of growing medium to support healthy, long-term growth of trees, shrubs and groundcovers, based on best practice horticultural advice.
4. Vegetation planted on land bridges is visible from the motorway to enhance the journey experience for motorists.
5. Land bridge landscapes are to be open in nature so not to impede or restrict the flow of floodwaters.
6. Engineering and landscape design disciplines are coordinated early and throughout the design process to ensure that flood water conveyance, structural and landscape requirements are considered.
7. The height, scale, form and location of all land bridges are resolved to minimise impact to adjacent communities.
8. All substructure and superstructure elements are visually integrated to create a unified, single structural form, consistent with performance requirements for road bridges and overpasses.

Figure 54. Vancouver Land Bridge, Washington, USA. The engineering and landscape design has allowed for significant planting that is highly visible from the motorway.

Figure 55. Vancouver Land Bridge, Washington, USA. The bridge utilises a raised planter design to hold appropriate depth and profile of growing medium and support healthy planting.

Figure 56. Lower Rainier Vista & Pedestrian Land Bridge, Seattle, USA. The land bridge extends and connects open space over lowered roads.

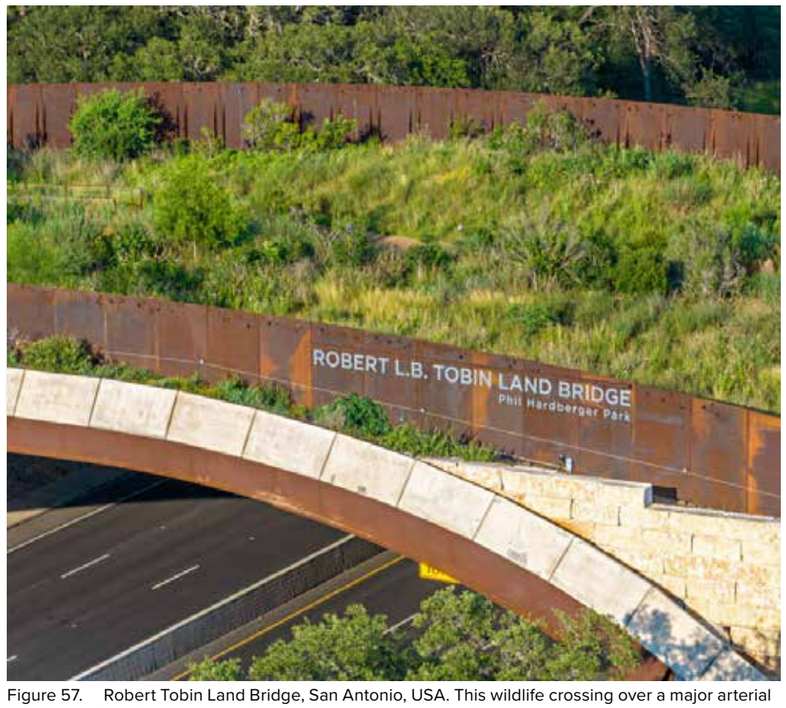

Figure 57. Robert Tobin Land Bridge, San Antonio, USA. This wildlife crossing over a major arterial road works to extend biodiversity for both wildlife and pedestrians.

Tunnels, portals and ancillary buildings

Performance outcome

Tunnels are an important component of the T2D Project. The transition into, through and out of tunnels is a memorable part the journey along the T2D Project area and is to be a carefully considered design outcome.

Tunnel portals provide an important transition space into and out of the enclosed tunnel environment. The portal structures provide opportunities for integrated creative design elements that reference the local and cultural context. Tunnel portals can be expressive points of interest that feature within the T2D Project area, or they can be recessive and restrained.

The interior design of the tunnels is to focus on creating user safety and comfort whilst also incorporating location specific elements that reinforce a sense of place and orientation to the public spaces above ground.

Any ancillary buildings or structures that are required to operate the tunnels, including ventilation facilities and electricity substations, will need to be well designed to ensure that they mitigate visual impacts and fit within their local context.

Figure 58. WestConnex M8, Sydney

E5 Tunnel portals and approach

Performance requirements

1. A refined and creative architectural solution is provided at each tunnel portal to achieve a distinct sense of identity for the T2D Project and to assist with wayfinding.
2. Design consistency is achieved across all tunnel portals with local differentiation that considers the prevailing local sense of place and integrates with the landscape and architectural character of the surrounding area.
3. The height, scale, form and location of tunnel portals are carefully considered to maximise views, minimise impacts to local communities and meet acoustic requirements for noise attenuation.
4. The form and placement of tunnel portals, approach structures, gantries, walls, barriers, screens, lighting, Intelligent Transport System (ITS) infrastructure, signage and services are integrated and considered to provide an uncluttered and unified design.
5. Tunnel approaches are generously proportioned to provide a welcoming, reassuring and memorable experience for motorists with a focus on driver safety and comfort.
6. Where appropriate, feature lighting is used to contribute to the identity, safety and visual amenity of tunnel portals and approach structures at night.
7. Architectural shading devices are used at daylight portals to provide a transition zone to help road users adjust to changing light conditions when entering or exiting the tunnels.
8. Alternative structural solutions to propping are considered, with necessary propping elements shaped and designed to reduce strobing and soften their visual impact.
9. Creative architectural treatments are used to conceal and integrate any propping structures on approach to the tunnel portals, including shading devices.
10. Structures are designed to be capable of supporting deep soil zones for vegetation around and above portal areas.
11. Tunnel portals and approaches feature appropriate Kaurna themes, explored and designed in collaboration with the Kaurna peoples.
12. Culturally relevant and place-specific creative elements, art works and design interventions are integrated into the design of tunnel portals and approaches in accordance with the Creative Strategy.

Figure 59. Airport Link M7, Brisbane. The design uses feature lighting to highlight creative elements and provide a distinct identity for the project.

Figure 60. Nordhavn Tunnel, Copenhagen, Denmark. Distinct architectural shading devices provide a transition zone between artificial and natural light.

Figure 61. M7 Clem Jones Tunnel, Brisbane. The architectural solution successfully provides a distinct identity for the project.

Figure 62. Graham Farmer Freeway, Perth. Landscape planting around the tunnel portal helps to integrate level changes, increase a sense of 'green' and reinforce creative and cultural themes.

E6 Tunnel interiors

Performance requirements

1. The urban design response of tunnel interiors provides a safe, comfortable and attractive journey experience for motorists that enables awareness of location while underground.
2. Motorist orientation and wayfinding solutions explore creative ways to represent the local area, while achieving consistency with the North-South Corridor.
3. A calming and reassuring experience for motorists is provided within the tunnels, with appropriate levels of visual stimulation to ensure driver attentiveness and safety.
4. Visual variety within the tunnels is achieved by providing creative, integrated design responses at tunnel entrances, exits, pedestrian emergency access passages, or other areas of interest.
5. Materiality, colours, textures and feature lighting within tunnel interiors achieve a level of consistency with the T2D Project motorway design.
6. Robust, durable materials that can withstand the expected tunnel environment and required maintenance regime are used.
7. Tunnel walls, ceilings and cladding are designed to conceal sub-structures and services.
8. Maintenance access requirements are thoroughly considered, and facilitate easy removal or replacement of cladding panels.
9. Tunnel cladding panels are aligned to avoid gaps and stepping to create a consistent visual outcome.
10. Light colours are used for interior cladding to reflect light and provide a sense of spaciousness.
11. Ambient lighting is used to improve the visual experience within tunnels and to reduce or remove any potentially oppressive feeling of being underground.
12. Visible elements of tunnel fire detection and suppression systems are considered, located and designed to achieve an integrated urban design outcome, without compromising the functions and performance of the systems.
13. Feature lighting contributes to the identity, road safety and visual amenity of the tunnel interior and must be coordinated with functional carriageway lighting.
14. Culturally relevant and place-specific creative elements, art works and design interventions are integrated into the design of tunnel interiors in accordance with the Creative Strategy.

Figure 63. St Helena Tunnel, Byron Bay. Creative treatments around emergency access points help to achieve visual variety within the tunnel.

Figure 64. WestConnex M8 Sydney, Sydney. Large distinctive lettering enables an awareness of location whilst underground. The light coloured panels on the walls with a dark roof increases the sense of spaciousness and calm.

Figure 65. NorthConnex, Sydney. Australia's first "feature lighting tunnel" demonstrates enhanced visual amenity to users.

E7 Buildings and ancillary structures

Performance requirements

1. The design of buildings, ventilation facilities and ancillary structures creates a strong visual connection to the design of the motorway and tunnel portals, to present a cohesive family of project elements, balanced with representation of the local context through bespoke form, materiality and creative elements.
2. Buildings, ventilation facilities and ancillary structures are of high architectural quality, with design treatments that visually minimise scale, mass and bulk and are sensitive to local conditions, architectural forms, landscape, materiality, heritage and streetscapes.
3. The built form of buildings, ventilation facilities and ancillary structures is of a scale that complements adjacent land uses and existing buildings.
4. Any ventilation outlets, buildings, plant, equipment and other ancillary elements required to support tunnel operation are co-located in combined facility compounds to minimise land requirements and visual impacts on local communities.
5. Ancillary elements such as fan rooms, pump rooms, electrical infrastructure and water management infrastructure are located below ground level, where practical. Elements that cannot be located below ground are sensitively integrated and concealed from public view.
6. Maintenance access and safe vehicle, pedestrian and cyclist circulation requirements are accommodated while minimising impact on the amenity and functionality of the public realm.
7. Impacts of daily plant operations such as noise, light and vehicle movements, is mitigated to reduce impacts on adjacent neighbourhoods.
8. Safety and security fencing or screening of substations and other buildings incorporates creative design elements to enhance their appearance.
9. Landscape elements such as mounding and planting are used to reduce the perceived height, bulk, scale and form of buildings, ventilation facilities and ancillary structures.
10. A green, vegetated buffer is provided around the perimeter of buildings, ventilation facilities and ancillary structures to help to help screen structures from public view and integrate them into the surrounding landscape.
11. Culturally relevant and place-specific creative elements, art works and design interventions are integrated into the design of buildings, ventilation facilities and ancillary structures in accordance with the Creative Strategy.

Figure 66. WestConnex M8 Ventilation facility, Sydney. Planting surrounding the ventilation structure will eventually grow to soften it from surrounding views.

Figure 67. WestConnex Parramatta Road Ventliation Facility, Sydney. A 9m high translucent polycarbonate wall provides a simple, high-quality architectural treatment that becomes an interesting feature at night.

Figure 68. Burnside Substation, Adelaide. Creative design of electricity substation screen assists in concealing unsightly elements.

Figure 69. WestConnex M5 MOC3 Buildings, Sydney. The architectural treatments to buildings achieve a well considered outcome that visually minimises bulk and is also coordinated with the tunnel portal treatments.

Figure 70. WestConnex Tunnel Support Facility, Sydney. The tunnel portal design and creative elements achieve a distinct sense of identity whilst also providing screening for ventilation facility above.

Barriers, walls, fences and screens

Performance outcome

Noise barriers, walls, fences and screens provide a range of functions including protection of road infrastructure, screening views and ensuring public safety.

Collectively, these elements will be some of the most significant visual elements that repeat along the length of the T2D Project area. Their design is to provide a coordinated, consistent and elegant outcome that is identifiable as part of the T2D family of project elements.

Noise barriers, walls, fences and screens are to be integrated with other design elements and road infrastructure to minimise visual clutter for road users and the surrounding communities. Where possible, landscape elements and planting should be included to soften the overall visual impact and provide a sense of ‘green’ within the T2D Project area.

Traffic barriers, flood walls, retaining walls, safety screens, privacy fences and screens are coordinated and integrated with tunnel portals, bridges, lowered motorway corridors, underpasses and other T2D Project elements to create a unified and considered form.

Figure 71. Regency Road to Pym Street (R2P) Project

E8 Noise barriers

Performance requirements

1. New noise barriers provide a level of consistency with existing noise barriers along the North-South Corridor, with local variation that is responsive to site and context.
2. Noise barriers are designed as high-quality, elegant, three-dimensional sculptural elements, with consistency of form, texture, colour and pattern.
3. The location and alignment of noise barriers within the road reserve and on structures is carefully considered. The height, placement and design balances acoustic benefits with provision of safe, usable community open space and landscaping.
4. Noise barrier form generally follows the vertical alignment of the road at the macro scale and considers the surrounding land form to work with changes in levels and grades.
5. Noise barrier height is consistent with minimal stepping in the top edge. Where stepping is unavoidable, steps are small and regular or organised in equal or controlled rhythms.
6. Noise barriers are designed to be viewed from both sides, with equal consideration given to drivers travelling at high speeds, pedestrians and cyclists travelling at lower speeds, and sensitive design considered where outlook from adjacent properties exists.
7. Planting is used to soften the appearance of noise barriers, reduce their height and bulk, and help integrate them into the surrounding area.
8. Noise barriers are designed to mitigate graffiti, including consideration of materials and textures.
9. Noise barrier location and alignment considers the safety and security of adjacent paths and properties, eliminating any narrow, unsafe spaces that may become a CPTED or maintenance issue.
10. Where noise barriers are in proximity to significant heritage buildings, existing tree roots and or open spaces their design is to specifically consider the interface to mitigate negative impacts.
11. Noise barriers on structures are angled away from the road to deliver improved visual outcomes.
12. Ends of noise barriers on bridges, or where there are breaks in the wall, are tapered to ensure gradual termination.
13. Noise barrier panel fixings and structural elements are concealed while enabling maintenance access, where possible.
14. Transparent panels are used to avoid overshadowing, increase passive surveillance, reduce visual bulk and provide visual connection to public spaces on either side of the noise barrier, provided any adverse reflective or strobing effects are addressed.
15. Integrated growing frames or supports for planting to reduce reflected heat, deter graffiti and enhance the user experience on both sides of the barrier are considered, where appropriate and maintainable.
16. Noise barriers feature appropriate Kaurna themes, explored and designed in collaboration with the Kaurna peoples.
17. Culturally relevant and place-specific creative elements, art works and design interventions are integrated into the design of noise barriers in accordance with the Creative Strategy.

Figure 72. Northern Beaches Hospital Road Upgrade Project, Sydney. The use of planting in front of the wall softens its appearance whilst the inclusion of transparent panels reduce the visual impact of its height from the street as well as on the residential properties behind.

Figure 73. Pima Freeway, Scottsdale, Arizona USA. Incorporates culturally relevant, creative elements that addresses both sides of the wall and are also repeated within the wider landscape design for the road.

Figure 74. Eastlink Freeway, Melbourne. The noise barrier is incorporated into the design of the bridge structure and angled away from the road for improved visual outcomes.

E9 Walls, fences and screens

Performance requirements

1. Walls, fences and screens are designed as high-quality, elegant, three-dimensional sculptural elements, with consistency of form, texture, colour and pattern.
2. Walls, fences and screens are designed to be viewed from both sides, with consideration given to the user context including drivers travelling at high speeds and pedestrians and cyclists travelling at a slower pace, as well as views from adjacent properties.
3. The privacy of adjacent residents and sensitive land uses is considered in the design, with overlooking avoided.
4. Transparent or permeable materials are used for improved active and passive surveillance and retention of views and amenity, where appropriate.
5. Anti-throw screens and safety screens have appropriate visual permeability to maximise passive surveillance.
6. Mounding, landscaping and the location and architectural detailing of flood walls and barriers ensures functional and amenity outcomes are delivered for the community.
7. Overshadowing of sensitive land uses, private properties and open spaces is minimised.
8. Wall, fence and screen location and alignment considers the safety and security of adjacent paths and properties, eliminating any narrow, unsafe spaces that may become a CPTED or maintenance issue.
9. Modifications to existing walls, fences and screens are respectful and seamlessly transition into new treatments.
10. Consistent and repeatable patterns with simple finishes are used, with selected local and contextual 'feature' design responses included at key locations.
11. Dark, recessive colours are used for fencing to properties.
12. Level differences transition smoothly with minimal stepping and ends of walls, fences and screens are tapered to ensure gradual termination.
13. Landscaping and mounding are used to soften the appearance and to reduce overall height and bulk, while preventing unwanted access or climbing.
14. The design allows for easy maintenance or replacement in the event of damage.
15. Off-the-shelf fencing is contemporary in design, and of a high-quality finish.
16. Temporary walls, fences, screens and hoardings erected during construction feature creative treatments to help minimise the visual impact of construction activities and to build a positive relationship with communities.
17. Culturally relevant and place-specific creative elements, art works and design interventions are integrated into the design of walls, fences and screens in accordance with the Creative Strategy.

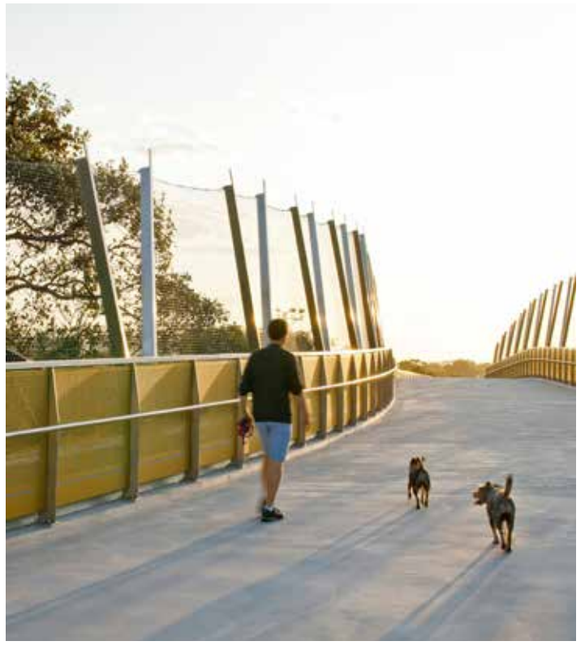

Figure 75. Albert 'Tibby' Cotter Walkway, Sydney. Throw screens use a tensile mesh that is visually permeable offering good surveillance and views for users whilst being strong and lightweight.

Figure 76. South Road Superway, Adelaide. The design of the throw screens on the bridge adopt consistent repeatable patterns that create visual interest at ground level.

Figure 77. Belair Rail Line Artwork, Adelaide. Local artists are engaged to create artwork on temporary or permanent fencing.

Figure 78. Royal Adelaide Hospital, Adelaide. Aboriginal and Torres Straight Islander Health Garden. The design of the walls/screening incorporates creative designs telling local indigenous stories and history.

Road furniture and streetscapes

Performance outcome

Road furniture includes regulatory and directional signage, gantries, advertising, security cameras, lighting, crash barriers, emergency phones, fire safety infrastructure and other road furniture required to make the corridor safe for all users.

Road furniture is designed and located to comply with applicable standards whilst minimising unnecessary visual clutter, as part of a consistent and coordinated whole-of-corridor approach to enhance driver legibility, increase safety, and improve overall user experience.

Streetscapes and public realm include the areas surrounding service roads, local connecting roads and streets. They integrate with the unique character of the adjacent built form and open spaces alongside the corridor and are important in reinforcing a ‘sense of place’ and a high-quality interface with the T2D Project.

Streetscapes and public realm prioritise safe, legible and attractive connections for people walking, wheeling and cycling through coordinated and considered design of paths, soft landscape, street furniture, lighting and services.

Figure 79. Oaklands Crossing, Adelaide

E10 Road signage and furniture

Performance requirements

1. A consistent, coordinated and whole-of-project approach to the location and placement of signage and wayfinding infrastructure is incorporated into the design to ensure driver legibility and safety and to minimise visual clutter.
2. The design and colour of light and camera poles, gantries and other road furniture is consistently applied along the T2D Project area to provide visual continuity and enable easy maintenance and replacement.
3. Road furniture provides visual continuity with existing furniture along the North-South Corridor.
4. Signage, gantries and associated infrastructure are consolidated and rationalised to minimise the visual clutter of elements.
5. Signage infrastructure does not overwhelm the scale and character of the public realm or obscure significant views.
6. Locating signage and gantries on bridge parapets, tunnel entries, ramps and elevated structures is avoided or minimised, where practical.
7. The number and size of field cabinets are considered and minimised. They are sensitively located and integrated within the surrounding landscape and concealed from view as much as possible while providing safe maintenance access.
8. Common service trenches are provided and located to facilitate tree planting in road verges.
9. The location of service pits are fully coordinated and consolidated to maintain the design integrity and safety of pedestrian and cyclist paths.
10. Pit surrounds and lids are vehicle rated if located in pedestrian and cyclist paths or turf areas requiring mowing, to avoid potential damage or trip and slip hazards.
11. Visible elements of motorway and road fire detection and suppression systems are located and designed to achieve an integrated urban design outcome with visual cohesion.

Figure 80. Northconnex, Sydney. The design successfully avoids locating signage on tunnel portal leaving the creative elements free from visual clutter.

Figure 81. Darlington Upgrade Project (above) and South Road Superway (below), Adelaide. Gantries consolidate signage and associated infrastructure to minimise the need for additional overhead structures.

Figure 82. Regency Road to Pym Street (R2P) Project, Adelaide. The design avoids the need to have signage attached to the bridge structure keeping the form simple and legible.

E11 Streetscapes and public realm

Performance requirements

1. New streetscapes accommodate fit for purpose pedestrian and cyclist paths, street trees that will achieve connected canopies at maturity, understorey landscaping, lighting, rest stops, and noise barriers where necessary.
2. Streetscapes improve access to key destinations including schools, shopping centres, medical centres, community facilities and parks and open space.
3. Road verges provide sufficient width to create a comfortable and safe environment for pedestrians and cyclists, while also accommodating mature shade trees and other necessary streetscape furniture.
4. Streetscapes are designed to support active building frontages for existing and future businesses along the corridor.
5. Existing and future businesses and community facilities are supported by providing good pedestrian and cyclist connectivity, bicycle parking and car parking.
6. Streetscapes and public realm elements are designed to meet universal access requirements.
7. Pedestrian and cyclist movement over local and collector roads are prioritised with circulation hierarchy expressed in the materiality including continuous, unbroken treatments.
8. Existing street trees and vegetation are retained and protected during construction, where possible.
9. Conditions for existing street trees are conserved or improved by increasing permeable surfaces or installing water sensitive urban design (WSUD) devices.
10. The design of road and bridge infrastructure around key destinations including schools, shopping centres and healthcare facilities carefully considers their interface treatments including safety, access points, local identity, sense of arrival and operational requirements.
11. Service infrastructure is coordinated and consolidated underground to minimise streetscape obstructions and maximise consistent street tree planting, subject to clearance requirements.
12. Best practice Crime Prevention Through Environmental Design (CPTED) principles are applied to streetscapes and public realm to minimise reliance on use of CCTV surveillance cameras.
13. Light poles are located to avoid visual clutter in lowered motorway areas. Where possible, poles are located at surface level or directly on top of safety barriers.
14. Regulatory and feature lighting is integrated into the design of streetscapes to contribute to identity, safety and visual amenity.
15. Agreed standards will be applied to achieve consistency along the North-South Corridor for materials such as paths, street furniture, planting, bus stops and wayfinding infrastructure.
16. Opportunities for public art to be delivered by local artists are maximised, and is developed in consultation with the relevant local council.
17. Streetscapes and public realm feature appropriate Kaurna themes, explored and designed in collaboration with the Kaurna peoples.

Figure 83. Aerodrome Road Intersection, Maroochydore. Wide verges provide ample space for separated pedestrian and cyclist paths. Places to rest and stop are surrounded by planting and trees for shade. Street furniture including light poles are located to avoid being obstructions and reduce clutter.

Figure 84. North Williamstown Station, Victoria. Use of reclaimed bricks in the surrounding streetscape reflects local character.

Figure 85. Metro North West Line, Sydney. Public art has successfully been incorporated through sculptural furniture elements which pick up themes that are also part of the wider public realm design.

Figure 86. Bourke Street Cycleway, Sydney. The bi-directional cycleway retrofitted into an urban street is given priority at intersections through the use of clear surface treatments and line markings.

E12 Active travel and public transport

Performance requirements

1. Active travel paths are designed to be effective, efficient and multi-functional and avoid unnecessary duplication.
2. Scenic vistas and views from the active travel network are identified, highlighted and framed to improve the experience for pedestrians and cyclists.
3. All new active travel paths apply universal design principles to provide equal access for all users of all abilities.
4. Active travel paths are free from obstructions including signage and light poles and have an even surface that is free of tripping hazards.
5. Outdoor furniture and fixtures including shelters, bins, seating, drinking fountains and bus shelters are located at regular intervals and offset from active travel paths.
6. Provide parking for wheeled vehicles at key destinations, public transport stops and at resting places along the corridor, provided natural surveillance is available.
7. Pleasant and comfortable waiting areas for public transport are designed to provide protection from weather at all times of the year, with canopy trees providing additional shade.
8. Bus stops include smart infrastructure including real time bus arrivals to improve the public transport user experience and encourage uptake.
9. Active travel paths include facilities that support and encourage active travel as a mode of transport to public transport, such as bicycle parking.
10. At interchanges, bus and rail infrastructure are connected with direct, safe and legible paths and drop-off facilities to ensure quick and intuitive transfers.
11. All bus stops provide universal access and clear visibility from paths and rest areas to approaching buses at all times.
12. Active travel facilities are safe, connected, direct, attractive and comfortable for all users.
13. A wayfinding strategy is implemented to assist with orientation and help people find their way to key destinations when using active travel and public transport.
14. Wayfinding should not rely solely on signage but should also ensure clear sight lines to local landmarks and use other cues such as colour, texture and material selection to promote intuitive wayfinding.
15. New wayfinding signage is coordinated with any existing local signage systems. Adequate signage is provided at major decision points on routes connecting local and regional destinations, as well as at additional location if route continuity is unclear.
16. Interpretative signage is provided at key locations or points of interest and its design is integrated with the wayfinding strategy.
17. Signage is provided in all directions to ensure legibility and connectivity to public transport, balancing effective communication and minimising visual clutter.

Figure 87. Oaklands Crossing, Adelaide. Active travel paths are enhanced with landscaping and have a smooth, even surface free from obstructions.

Figure 88. Bell to Moreland Level Crossing Removal Project, Melbourne. Use of colour assists with wayfinding and orientation.

Figure 89. Bourke Street Cycleway, Sydney. Cycle paths have been designed to be integrated with bus stops to avoid pedestrian conflicts.

Figure 90. Jim Stynes Bridge, Melbourne. Separated active travel paths provide dedicated pedestrian and cyclist routes to incentivise active travel.

E13 Lighting

Performance requirements

1. Lighting is used to create a cohesive identity for the project at night and provide safe and desirable use of public realm.
2. Feature lighting is integrated with road and pedestrian lighting to enhance navigation and user experience while minimising ongoing energy consumption and maintenance requirements.
3. The appearance of light poles and luminaries during the day as well as at night is considered.
4. Light pole location is coordinated with the landscape design so they do not obstruct pedestrian and cyclist paths or prevent planting of trees.
5. Key infrastructure elements such as tunnel portals and approaches, tunnel interiors, road bridge and overpass parapets, active travel bridges and other important public realm elements are highlighted and articulated with creative feature lighting to enhance navigation and user experience.
6. Regulatory road and shared path light poles provide a level of design consistency in form and colour with existing infrastructure along the North-South Corridor, to provide visual continuity and enable easy maintenance and replacement.
7. Spacing and alignment of light poles across road bridge and overpass parapets is considered to provide an integrated urban design outcome.
8. Light poles are located to avoid visual clutter in lowered motorway areas. Where possible, poles are located at surface level or directly on top of safety barriers rather than fixed to safety barriers with angled brackets.
9. The lighting design minimises light spill into adjacent residential properties and disruption to ecological processes.
10. Light fittings specified are robust, vandal proof and can be easily and safely maintained.
11. Energy-efficient, long service life, and low-maintenance light fittings are used to minimise ongoing energy consumption and life-cycle environmental impact.
12. ‘Warm white’ (as opposed to 'cool white’) lighting is used in the public realm to increase usage of public space and minimise impact of artificial light on wildlife.

Figure 91. WestConnex M8 Tunnel Portal, Sydney. Lighting is used to highlight architectural features of the portal design as part of the project's distinct identity.

Figure 92. WestConnex M8 Kingsgrove Dives, Sydney. Vertical light bars within lowered road walls create a special effect for road users at night.

Figure 93. Jim Stynes Bridge, Melbourne. Creative use of feature lighting that is integrated with bridge and public realm elements.

Figure 94. Oxford Street Illuminated Peewees, Bulimba. Feature lanterns contribute to distinct place making.

Figure 95. Lonsdale Street, Dandenong. Streetscape design coordinates landscape, furniture and lighting to minimise obstruction.

Landscape and open space

Performance outcome

The T2D Project provides a valuable opportunity to improve the environmental quality, visual appearance, recreational opportunities and active travel connections within the road corridor and across the wider project area.

Landscape design will be one of the most important factors in mitigating the impact of the road infrastructure through increasing soft landscape and tree canopy cover, helping to soften large expanses of hard surfaces, reduce urban heat island effects and provide a comfortable environment for walking and cycling.

A critical element of the landscape design will be in ensuring appropriate species selection for planting – balancing the need for commercially available species with biodiversity and maintenance requirements.

The T2D Project also includes works to adjacent new and existing public open spaces. These public spaces are equally important project elements and require careful consideration and design so that they meet the functional and recreational requirements of the surrounding communities.

Figure 96. Kensington Wama / Kensington Gardens Reserve, Adelaide

E14 Landscape design

Performance requirements

1. The landscape design achieves an appropriate level of design consistency with existing landscape design along the North-South Corridor. Previous projects are reviewed to understand prevailing site conditions, community requirements and likely maintenance regimes.
2. A minimum 20% increase in canopy cover is achieved within the T2D Project area, or higher where achievable.
3. Tree planting is prioritised in areas that will achieve the greatest benefit to local communities, including within green spaces and the public realm.
4. A minimum 50% canopy cover is achieved over all pedestrian and cyclist paths, or higher where achievable.
5. Removal of existing vegetation is minimised and offset where retention is not possible. Preferentially, regulated, significant, mature amenity trees, remnant native trees, habitat trees, heritage and commemorative vegetation or vegetation within or connected to open space is retained.
6. Removed vegetation is reused, including reuse of mulch on site, relocation of tree hollows, and reuse of logs to create fauna habitat in landscape areas.
7. Opportunities for planting within the road corridor and on structures are maximised by designing infrastructure that enables safe clear zones, sight distance and maintenance access requirements to be met, including planted medians, batters, retaining walls, tunnel portals and noise barriers.
8. Tree and understorey vegetation is included and visible as part of the tunnel portal and approach, to maximise the driver's experience of the landscape before entering the tunnel.
9. Appropriately scaled, layered vegetation screens are provided at interfaces with sensitive land uses to help to soften the appearance of walls, barriers, screens, fences and other infrastructure.
10. Utility services are located underground to enable planting within road verges, where practical.
11. Structural soils or structural tree cells are used where necessary to create adequate soil volumes to enable sustained tree growth.
12. Opportunities for community partnerships are considered that support additional tree and vegetation planting along adjoining streets, local businesses or residential properties to enhance the urban forest.
13. All landscape design considers and ensures safe accessibility for maintenance.
14. Maintenance and irrigation requirements (including conduit locations) are determined early in the design process, with selection of systems that are compatible with other relevant management systems and product requirements.
15. The irrigation design consolidates and minimises the number of water meters used in each local council area, where possible.
16. All landscape design explores opportunities for wayfinding, orientation, creative elements and interpretive design expression.
17. Landscape design features appropriate Kaurna themes, explored and designed in collaboration with the Kaurna peoples.

Figure 97. Regency Road to Pym Street Project, Adelaide. Landscape design should achieve consistency with completed North-South Corridor sections.

Figure 98. Metro North West Line, Sydney. Significant new tree planting along paths provides shade and reduces urban heat island effect.

Figure 99. Felixstow Reserve, Adelaide. Interpretative signage explains ecological benefits to enhance user experience. without compromising sight lines and road safety.

Figure 100. Graham Farmer Freeway, Perth. Landscape design allows for safe maintenance access.

Figure 101. Mitchell Freeway, Perth. Planted medians improve the sense of 'green', reduces heat island effects and provide culturally relevant, creative design responses.

E15 Parks and open space

Performance requirements

1. Parks and open space are high-quality, high amenity spaces within the T2D Project area that provide a physical and visual buffer to motorway infrastructure and provide the community with opportunities to rest, relax and play.
2. Design solutions mitigate noise impacts to enhance and encourage use of parks and open space delivered in the T2D Project area.
3. New parks and open space are designed in accordance with local council open space strategies, guidelines, service levels and maintenance requirements and contribute to a hierarchy of connected, functional open spaces along the T2D Project area.
4. Parks and open spaces respond to user needs as determined through engagement.
5. A consistent approach to seating, shade, shelter, rest points, and lighting at thresholds, key pathways, and community spaces is provided, balanced with appropriate local variation representative of the local context.
6. Community and recreation facilities are clustered within parks and open space, in accordance with assessed community need, to encourage people to gather and have positive social interactions.
7. Parks and open space are designed for safe use in consideration of their location near the motorway, including types and location of facilities and passive surveillance being achieved.
8. Parks and open space include densely planted areas focused on achieving improved biodiversity and habitat, particularly in adjacency to natural waterways including the Karrawirra Parri / River Torrens.
9. Parks and open spaces include opportunities for nature-based play.
10. New pedestrian and cyclist paths are located through and surrounding parks and open space to provide connections to the existing active travel network and integrate with streetscapes.
11. Parks and open space include community infrastructure and facilities to enhance their function and enjoyment by the community, and complement existing facilities in the surrounding area.
12. Designs cater for a diverse range of users and abilities by providing spaces that promote social inclusiveness and physical activity, including passive and active recreation opportunities.
13. Parks and open spaces implement water sensitive urban design (WSUD), including treatment of local stormwater, stormwater basins integrated with the surrounding landscape and restoration of natural waterways.
14. Parks and open space explore opportunities for wayfinding, orientation, creative elements and interpretive design expression.
15. Parks and open space features appropriate Kaurna themes, explored and designed in collaboration with the Kaurna peoples.
16. Opportunities for public art to be delivered by local artists is maximised, and is developed in consultation with the relevant local council.

Figure 102. Greening the Pipeline MOS Pilot Park 2, Melbourne. This linear park implements principles of WSUD and the restoration of waterways whilst improving connectivity and access to local open space.

Figure 103. Flagstone Regional Recreation Park, Queensland. Provides active space for a range of ages and abilities as a benefit for the broader community.

Figure 104. Pelzer Park Pityarilla (Park 19) Activity Hub, Adelaide. Provision of recreation facilities to encourage social gathering and interaction.

Figure 105. Pasadena Biodiversity Corridor, Adelaide. Through innovative engineering, stormwater has been redirected to the surface, nurturing dense native vegetation along a 300-metre creek line.

E16 Planting

Performance requirements

1. Plant species used throughout the T2D Project area are self-reliant, sustainable, require minimal maintenance or long-term irrigation and take into account predicted future changes in climate.
2. Plant selection, design and layout present a coordinated colour, form and texture palette integrated with the urban design concept and contribute to the landscape character.
3. A biodiversity sensitive urban design (BSUD) approach is used to support the conservation of native flora and fauna.
4. The design incorporates a selection of plant species from vegetation associations that existed on the Adelaide Plains prior to European settlement, these being:
   - River Red Gum Woodland
   - Spear/Wallaby Grass Grassland
   - Mallee Box Low Woodland
   - The Black Forest: Grey Box/SA Blue Gum Woodland
   - The Black Forest: Grey Box/River Red Gum Woodland.
5. A minimum 50% of new landscape plantings must be local native species to meet the DIT Green Infrastructure Commitment, or higher where local council policies require a higher target.
6. Endemic native species are used in environmentally sensitive areas including identified biodiversity sites, as well as appropriate species that provide habitat.
7. Non-local provenance species are considered in locations where soils, site conditions, infrastructure constraints or specific performance requirements cannot be achieved with local species.
8. Plant species selection is consistent with state government, local council and utility service requirements and guidelines.
9. Tree species selected are of appropriate scale to the adjacent road environment or open space in which they are located.
10. Roadside environments must be planted with a selection of practical, sustainable species tolerant to the microclimatic conditions of excessive thermal heat load and compromised air quality.
11. Canopy span leaf form is considered when selecting trees to maximise shade potential in green spaces and along active travel paths.
12. Species are selected to mitigate urban heat island effect and provide localised cooling.
13. Native seed collection and propagation occurs early to ensure availability of supply, particularly for less common native plant species that may not be commercially available.
14. Value-for-money is achieved by carefully considering pot size of plants, species longevity and planting densities used in the landscape design.
15. Concrete edging is used to separate different landscape materials, surface treatments and planting types to facilitate easy maintenance.
16. Vegetation screens and landscape buffers are provided at interfaces with sensitive land uses while maintaining CPTED principles.
17. Vegetation is used as a means of access control to deter graffiti.
18. Vegetation is used to reduce the apparent height of noise barriers and motorway infrastructure, and to soften and screen built elements such as tunnel ventilation facilities, bridges and retaining walls.
19. Trees and understorey vegetation are planted early where practical, to re-establish visual amenity and achieve early realisation of benefits.

Figure 106. Lizard Log Parklands, Western Sydney. Extensive use of native species in a parkland setting supports biodiversity sensitive urban design, with concrete edging used to separate different planting types.

Figure 107. Minnipi Parklands, Brisbane. Vegetation has been used to soften the appearance of retaining walls.

Figure 108. Regency Road to Pym Street (R2P) Project, Adelaide. Vegetation is used as a screen and landscape buffer whilst still maintaining CPTED principles.

Figure 109. Northern Connector, Adelaide. Native plants chosen for their resilience and low maintenance requirements

Figure 110. Graham Farmer Freeway, Perth. A practical and sustainable collection of species selected to tolerate the roadside conditions.

E17 Water sensitive urban design

Performance requirements

1. A water sensitive urban design (WSUD) approach is used to integrate water management into the overall T2D Project design, in accordance with the WSUD strategy.
2. Passive irrigation techniques and incorporation of WSUD infrastructure including swales, retention and detention basins, bio-filtration systems (rain gardens), kerb inlet systems and permeable paving are used to provide a holistic approach to water management across the T2D Project and improve water quality.
3. Drainage infrastructure and detention basins are located and designed to visually blend into the surrounding landscape and positively contribute to the quality and function of public open space.
4. Drainage infrastructure and detention basins are designed and constructed to passively manage pest plant and animals whilst being resilient and easy to maintain.
5. Detention basins and swales are designed to maximise usable open space, and to minimise disruption to the community's enjoyment of open space, particularly following wet periods.
6. Detention basins, swales and other WSUD infrastructure are designed and located to enable ongoing maintenance activities to be carried out easily and efficiently.
7. Early engagement occurs with local councils to investigate opportunities to use recycled water for irrigation.
8. Use of harvested and recycled water for landscape irrigation is maximised, including non-potable, local council-owned water supply and Aquifer Storage Recovery (ASR) water, subject to environmental regulatory approval.
9. Innovative and integrated WSUD solutions are used to provide passive irrigation to planted areas.
10. Opportunities for water harvesting, treatment and reuse are maximised.
11. Selected plant species are suited to the functional requirements of WSUD interventions.
12. Natural and open waterways are preserved and restored, and where possible daylighted to improve aesthetic, amenity and ecological outcomes.
13. Interpretive and educational signage is provided to explain the WSUD initiatives that have been delivered.
14. The important Kaurna relationship to water is recognised and celebrated through culturally relevant, creative design elements in consultation with the Kaurna peoples.

Figure 111. Kensington Wama Kensington Gardens Reserve, Adelaide. Successfully incorporates drainage infrastructure and wetlands as part of the wider landscape working closely with Kaurna Traditional owners to deliver a range of cultural heritage recognition initiatives.

Figure 112. Tree net inlet allows for innovative storm water irrigation of adjacent tree pits and planting.

Figure 113. Holland Street, Thebarton. Passive irrigation techniques drain runoff from streets into planting beds and rain gardens are an integrated feature of the public realm.

Figure 114. Hassett Park, Canberra. The design of the drainage system provides a focal point within the park whilst maximising adjacent usable open space for the enjoyment of the local community.

Glossary and references

Figure 115. T2D Project artist's impression - open motorway

1 Glossary of terms

Term	Meaning
Active Living Coalition	A South Australian advocacy group for active living and active travel, funded by South Australian Government agencies
Active travel, active transport	Travel of a kind that involves physical exercise, such as walking, wheeling, cycling or accessing public transport
ASR	Aquifer Storage Recovery water
BSUD	Biodiversity sensitive urban design
Bicycle Institute	A community-based organisation advocating for better cycling in South Australia
Bike Direct Network	A network of existing bicycle routes across the Adelaide metropolitan area.
Community and Business Reference Groups	Community and business leaders identified to provide respective insight into high level priorities through engagement
Contractual documents	All T2D Project requirements to be achieved by the Tender Design and Detailed Design, including relevant Master Specification Parts and the Functional and Operational Requirements
CPTED	Crime prevention through environmental design
Cross-Agency Reference Group	State government agency leaders identified to provide respective insight into high level priorities through engagement
DDA	Disability Discrimination Act 1992
Department, DIT	The South Australian Government Department for Infrastructure and Transport
Detailed Design	The design(s) prepared by the successful consortia during the delivery phase of the T2D Project following contract award
Functional and Operational Requirements	The Department's specific functional and operational requirements for the T2D Project, including design standards and parameters, as well as location specific requirements
Government standards and guideline	Any applicable state and local government standards, codes, guidelines and industry standards relevant to the T2D Project works and temporary works
Greater Adelaide	The Greater Adelaide Statistical Area
Green Adelaide	The Green Adelaide statutory board of the South Australian Government Department for Environment and Water

Term	Meaning
Green infrastructure	As defined by the Department's Sustainability Manual which states "green Infrastructure refers to both natural and engineered ecological systems (e.g. trees and other landscaped areas, stormwater detention basins, wetlands etc.) that deliver a range of ecosystem services and community benefits"
Green Infrastructure Commitment	The Department document titled "Green Infrastructure Commitment" (available from: https://dit.sa.gov.au/standards/standards_and_guidelines)
Green space	Areas of public land including parks, gardens, playgrounds, sporting fields, waterways, wetlands, biodiversity corridors, civic squares and plazas and streetscapes
Heritage SA	The State Heritage division of the South Australian Government Department for Environment and Water
ITS	Intelligent Transport Infrastructure
Key destinations	Schools, childcare, aged accommodation, major shopping centres, places of worship, recreation facilities and other community facilities within and interfacing with the T2D Project area
Key schools	Government and non-government schools directly interfacing with the T2D Project
Key stakeholders	Key bodies for the T2D Project to engage with during its design and delivery, including state government agencies, local councils and interest groups
Kaurna	The Kaurna peoples who are the Traditional Owners of the T2D Project area and Adelaide region
Kaurna Urban Design Working Group	The T2D Project urban design-focused working group established in 2021-22 in partnership with KYAC
KYAC	Kaurna Yerta Aboriginal Corporation
Link and Place	An approach to street planning and design (available from: https://australasiantransportresearchforum.org.au/wp-content/uploads/2022/03/2009_Jones_Boujenko.pdf)
Local councils	The five local government areas interfacing with the T2D Project, including City of Charles Sturt, City of West Torrens, City of Unley, City of Marion and City of Mitcham

1 Glossary of terms

Term	Meaning
Master Specification	The Department's general requirements for projects to achieve the quality or performance outcomes expected in the finished product for construction projects and professional services
Northern Tunnels	The above ground motorway section spanning approximately between Grange Road to Ashley Street, excluding the underground tunnel from Ashley Street to Sir Donald Bradman Drive
NSC	The North-South Corridor program of works
Department for Infrastructure and Transport	The North-South Corridor Program Delivery Office.
ODASA	The Office for Design and Architecture SA within the South Australian Government Department for Trade and Investment
Open motorway	The above ground motorway section spanning approximately between Sir Donald Bradman Drive to Glengarry Avenue
Other entities	Delivery bodies other than the Department who may deliver works within the area surrounding the T2D Project, including state government agencies, local councils and private developers
PLUS	The Planning and Land Use Services division within the South Australian Government Department for Trade and Investment
R2P	Regency Road to Pym Street Project
Reference Design	The design(s) prepared by/on behalf of the Department prior the Tender Design, to be provided to consortia who tender to design and construct the T2D Project
Regulated tree	Any tree with a trunk circumference of 2.0 metres or more measured at a point 1.0 metre above natural ground level
Representative Buildings	Examples of buildings that contribute to the character of an area, formerly known as Contributory Items
RSL	The South Australian Returned and Services League
SAPTA	The South Australian Public Transport Authority of the South Australian Government Department for Infrastructure and Transport
Significant tree	Any tree with a trunk circumference of 3.0 metres or more measured at a point 1.0 metre above natural ground level

Term	Meaning
Southern Tunnels	The above ground motorway section spanning approximately between Norrie Avenue to Tonsley Boulevard, excluding the underground tunnel from Glengarry Avenue to Norrie Avenue
State government	The Government of South Australia
State heritage	Places and areas listed within the State Heritage Register maintained by the South Australian Heritage Council under the Heritage Places Act 1993 (SA).
Sustainability commitment	The commitment made by the T2D Project to deliver sustainability outcomes (available from: https://www.t2d.sa.gov.au/about/sustainability-commitment)
T2D Project	The River Torrens to Darlington Project
T2D Project area	The area made available to design and construct the T2D Project works or temporary works
T2T	The Torrens Road to River Torrens (T2T) Project
Temporary works	Temporary infrastructure or works constructed, installed or erected during the construction of the T2D Project
Tender Design	The design(s) prepared by bidding consortia during the tender phase of the T2D Project
Third parties	Entities who may assume ownership, management and maintenance of completed T2D Project works, including local councils or utility providers
Third Party Agreements	An agreement between the T2D Project and a relevant third party
Traditional Owners	The Kaurna peoples who are the Traditional Owners of the T2D Project area and the Adelaide plains
Universal access	Access which universally accommodates the needs of all people regardless of age and ability
Utility Service	Any infrastructure directly associated with transmitting electricity or telecommunications or transporting gases, liquids or solids (including water, sewerage, fuel and wastes), including poles, pipes, pipelines, cables, wires, conduits, tunnels, aqueducts, electric installations, water channels, and any associated plant
Veterans SA	A South Australian Government agency that provides support to the veteran community and the Minister for Veterans' Affairs
WSUD	Water sensitive urban design

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Figure 116. T2D Project artist's impression - tunnel interior

Attachments

Figure 117. T2D Project artist's impression - new green space

A

Attachment A
Local context analysis

Purpose of this analysis

The purpose of the local context analysis is to understand the existing River Torrens to Darlington Project area relevant to urban design, as a basis for the development of the Urban Design Strategy.

The River Torrens to Darlington (T2D) Project area has an established urban fabric with a complex mix of natural assets, land uses and surrounding communities.

The local context analysis assesses existing conditions to identify priorities, constraints and opportunities for the T2D Project's design which have been embedded throughout this Urban Design Strategy.

The local context analysis includes a location-based assessment of:

1. Visual characteristics
2. Aboriginal heritage
3. Non-Aboriginal heritage
4. Land use
5. Key destinations
6. Landscape and water
7. Active travel
8. Public transport

1 Visual characteristics

Hindmarsh to Torrensville

North of the Karrawirra Parri / River Torrens features the completed Torrens Road to River Torrens (T2T) Project and a number of light industrial buildings. The Hindmarsh Cemetery State Heritage Place is located north of the river and is South Australia's second oldest cemetery.

The Brickworks Marketplace is to the west of South Road which features the former Hoffman Brick Kiln.

South of Ashwin Parade, established residential housing and the West Thebarton Hotel are located on the east side of South Road with Kings Reserve and the Thebarton Community Centre on the west side.

An avenue of London Plane Trees are planted on South Road south of Ashwin Parade.

Key features

1. Existing South Road lowered motorway, Hindmarsh.
2. Existing South Road character, Hindmarsh.
3. Existing Karrawirra Parri / River Torrens and River Torrens Linear Park Trail.
4. The State heritage-listed Hindmarsh Cemetery.
5. The former Hoffman Brick Kiln is located within the Brickworks Marketplace.
6. Kings Reserve includes a sports ground, playground, bowling club, skate park and reserve located next to Thebarton Oval and Thebarton Community Centre.

Torrensville to Mile End

Thebarton's historic character continues along South Road and includes established and older residential houses, churches and school buildings.

An established avenue of street trees provide major landscape character along South Road towards Henley Beach Road.

The former library and the Thebarton Theatre are well known landmarks at the intersection with Henley Beach Road, together with the retail precinct on both sides.

The wide intersection and views south allow filtered views to the distant Adelaide Hills.

The local character is a mix of commercial and industrial uses, with the prevailing heritage character changing to a mix of small to medium sized buildings.

Key features

7. The former WWII Sub-Control Civil Defence Station State Heritage Place.
8. The Queen of Angels Church Local Heritage Place is a major feature of the streetscape and area.
9. Corner open space connecting the Thebarton Theatre and former library.
10. The Thebarton Theatre State Heritage Place is of high value to the local community.
11. South Road streetscape character features established Plane Trees on both sides.

Figure 118. Visual characteristics analysis map - Hindmarsh to Mile End

1 Visual characteristics

Mile End to Richmond

Sir Donald Bradman Drive to James Congdon Drive has a change in character and land use, dominated by low rise industrial and commercial buildings.

Local landmarks at the intersection with Sir Donald Bradman Drive include the former tram barn building to the east, and the Hilton Hotel and associated car park to the west.

Keswick Creek crosses South Road in concrete culverts, north of the intersection with James Congdon Drive.

The existing Westside Bikeway crosses South Road at James Congdon Drive, with Richmond Oval located west of Deacon Ave, behind a retail complex.

Industrial, larger warehouses form the dominant character of properties towards the Richmond Road intersection.

Key features

12. The former tram barn State Heritage Place on Sir Donald Bradman Drive is a mixed use building.
13. Richmond Oval/Hisense Stadium is a local recreation destination accessible from Deacon Avenue and the Westside Bikeway.
14. Limited streetscape and landscape character between Sir Donald Bradman Drive and James Congdon Drive.
15. Keswick Creek forms part of the catchment from Willawilla / Brownhill Creek and the Adelaide Park Lands.
16. James Congdon Drive intersection with South Road, with existing native trees on private land.
17. The Westside bikeway follows the former Holdfast Bay railway line, connecting Glenelg to the city.

Richmond to Kurralta Park

South Road narrows at Richmond Primary School with the significant fig tree the most prominent and local natural feature.

The landscape character of established Plane Trees reappears between Richmond Road and the Tennyson Centre on the western side of South Road.

Willawilla / Brownhill Creek passes under South Road with limited acknowledgement from street level.

Gallipoli Underpass is the dominant feature of the Anzac Highway interchange, where South Road passes under Anzac Highway.

There is extensive and established landscaping around the underpass, including four ANZAC memorials.

Key features

18. Street character on South Road near Richmond Road, includes the well known Villi's Bakery.
19. Richmond Primary School features large, established trees (including a mature fig tree which hangs over South Road).
20. Everard Avenue and Barwell Avenue intersection, which are local connector streets.
21. Willawilla / Brownhill Creek is a concrete channel.
22. The Tennyson Centre medical facility.
23. Gallipoli Underpass, features include memorials and a strong Anzac theme, including established landscape areas.

Legend

Waterway | Open space | S State Heritage | L Local Heritage | School

Figure 119. Visual characteristics analysis map - Mile End to Kurralta Park

1 Visual characteristics

Kurralta Park to Edwardstown

The land uses between Anzac Highway/Gallipoli Underpass and Cross Road includes a mix of residential, aged care and retail/commercial uses.

The west side of South Road was widened for the Gallipoli Underpass, and includes a landscaped park, established Eucalyptus street trees and 2-3 m noise barriers.

The Glenelg Tram Line and Tram Stop 6 is elevated over South Road, with the separated Mike Turtur Bikeway connecting Glenelg to the city.

South of the tram the streetscape includes large trees within private lots and the Black Forest Primary School.

Glandore Oval is located north of the Emerson Crossing, with the Black Forest Shopping Centre opposite.

Key features

24. Gallipoli Underpass landscaping, noise walls and memorial, including signage and the lone pine tree.
25. Aveo Ackland Park aged accommodation and the stone wall along the South Road frontage.
26. South Road Tram Overpass with Glenelg Tram Stop 6 and the Mike Turtur Bikeway crossing.
27. Black Forest Primary School, with significant trees within the school grounds.
28. Glandore Oval and Memorial Rose Gardens.
29. Black Forest Shopping Centre.

Edwardstown to Melrose Park

The Emerson Crossing includes a grade separated South Road over Cross Road, with an at-grade rail crossing and the Emerson train station.

Commercial and light industrial uses line South Road, with residential areas on the east side and the Edwardstown precinct on the west between South Road and the train line.

The Emerson Crossing is a local landmark and the highest structure in the area, and the Marino Rocks Greenway crosses at grade to connect to the west side of South Road.

The former Hills Industry site is dormant and vacant, and includes an area of ecological sensitivity along the boundary with the rail line.

Key features

30. View from Emerson Crossing over Emerson Rail Station and along South Road with Adelaide Hills in the distance.
31. The Marino Rocks Greenway crosses the at-grade intersection.
32. The Emerson Crossing - Cross Road and rail at-grade, South Road overpass.
33. St Anthonys School and church.
34. The Avoca Hotel.
35. The vacant former Hills Industries site, view south west towards existing remnant vegetation along rail line.
36. Edward Street intersection, view east from South Road.

Legend

Waterway · Open space · S State Heritage · L Local Heritage · School

Figure 120. Visual characteristics analysis map - Kurralta Park to Melrose Park

1 Visual characteristics

Melrose Park to St Marys

From Edward Street, the character of South Road is dominated by a lack of street trees and larger commercial properties.

The large Castle Plaza Shopping Centre includes an at-grade and partially covered car park, with convenience retail along the frontage to South Road.

Several retail complexes are located in the area, including the multi-story Bunnings store on the western side of South Road.

Towards Daws Road are smaller retail, industrial, service and commercial uses.

There are no street trees in the area, with a number of large trees located on private properties.

Key features

37. Castle Plaza complex, with fast food outlets on South Road.
38. South Road lacks street trees and is dominated by low commercial buildings, often with car parks and vacant space along the frontage to South Road.
39. The large multi-story Bunnings complex on the west side of South Road.
40. A lone 'Bunya' Pine on private land is the only vertical landscape element in this part of South Road.
41. Large pylon signage is highly visible.
42. The intersection with Daws Road is dominated by the high voltage overhead wires and stobie poles.

St Marys to Tonsley

The historic St Mary's Church is the third oldest Anglican church in South Australia and includes a cemetery with mature and established trees.

South of Daws Road, this section of South Road is unique, containing the only overhead wires and stobie poles, which are visually intrusive and dominant.

St Bernadette's School is located on Walsh Street with buildings and school grounds fronting South Road.

Approaching Tonsley the Darlington Interchange dominates, with a large stand of remnant trees marking the Wattiparringga Creek, a tributary of the nearby Sturt River.

Views of the Adelaide Hills are clear from the southern extents of the T2D Project area.

Key features

43. The historic St Mary's Church and Cemetery.
44. The recently completed Aldi Supermarket on the west side of South Road.
45. Cosgrove Hall and Graham Watts Reserve on York Avenue provide local community facilities
46. St Bernadette's Primary School and large Eucalyptus trees in playing fields on the south side of Walsh Street.
47. The Tonsley Hotel (to be removed)
48. The recently completed Darlington Interchange
49. The Tonsley Innovation District entrance at Tonsley Boulevard with signage on the South Road frontage

Legend

Waterway | Open space | S State Heritage | L Local Heritage | School

Figure 121. Visual characteristics analysis map - Kurralta Park to Melrose Park

2 Aboriginal heritage

Existing conditions

The Kaurna peoples are the Aboriginal Traditional Custodians of the T2D Project area and the wider Adelaide region. While the Adelaide region is highly urbanised and subject to extensive historical disturbance, the Kaurna peoples continue to have strong connection to Country.

Since European settlement, the T2D Project area has been subject to significant development and has been highly modified and disturbed by previous land uses.

As a result, the likelihood of encountering Aboriginal heritage is low, however some areas may have higher potential including land and vegetation near bodies of water and open space and parks.

Several waterways within or adjacent to the T2D Project area are important Kaurna cultural landscapes, including the Karrawirra Parri / River Torrens and Willawilla / Brownhill Creek, as well as Warriparri / Sturt River and the Wattiparringga wetlands to the south. Keswick Creek holds no cultural or historic significance to the Kaurna people.

Local Kaurna Elders were engaged to identify places along the Kaurna places of significance, with nine places identified within the area surrounding the T2D Project that hold cultural or historical significance.

Local Kaurna Elders spoke of the Kaurna Trade Line (also known as the Great North-South Track) which followed the north-south alignment of South Road, spanning from Victor Harbor to Port Augusta through to Alice Springs.

The Kaurna Trade Line was a trading pathway and cultural song line used by the Kaurna people for thousands of years, who lived beside it, walked it to trade artefacts and materials such as ochre and skins and used it to facilitate processes when visiting neighbouring tribal groups.

Around the current intersection of South Road and Anzac Highway is said to be a historical meeting place, where the Kaurna Trade Line intersected with other tracks. There are historical images and paintings describing this meeting place as well as other meeting places.

Significant places

Kaurna Elders identified the following places of significance along the T2D Project corridor:

1. Karrawirra Parri / River Torrens meaning "Red Gum River Forest'
2. Karraundongga / Hindmarsh and Thebarton meaning “Red Gum Spear Place”
3. Weeroopa / Brooklyn Park meaning “Crested Parakeet”
4. Willawilla / Brownhill Creek
5. Kurralta / Kurralta Park meaning "On the Hill/Up There"
6. The Black Forest / Black Forest
7. Wattiparringga Creek meaning “Place of Windy River”
8. Wattiparringga Tartoyerta / Wattiparringga Lagoon
9. Warriparri / Sturt River meaning “Windy Place by the River”

Opportunities

The T2D Project presents an opportunity to:

- Reinforce that the T2D Project will be constructed entirely on Kaurna land.
- Engage with Kaurna Elders and the broader Kaurna community in a co-design process.
- Celebrate Kaurna themes, stories and cultural heritage through design expression.
- Protect cultural heritage as part of project design and construction.
- Investigate the potential for Aboriginal naming of assets such as bridges, structures and tunnels.

Figure 122. Aboriginal heritage analysis map

3 Non-Aboriginal heritage

Existing conditions

Non-Aboriginal heritage refers to sites relevant to the early history of Adelaide and surrounding areas since European arrival. They include places and objects of high cultural value that contribute to a sense of history and identity for the community.

The T2D Project area contains some of Adelaide's oldest suburbs and areas with high concentrations of Non-Aboriginal heritage places, particularly north of Anzac Highway.

In total, 10 State Heritage Places, 24 Local Heritage Places and 71 Representative Buildings (formerly Contributory Items) have been identified within the T2D Project area which add to the visual amenity, value and local character.

Many heritage places are places of worship, including the Queen of Angels Church, Mile End Church of Christ, Holder Memorial Church, St Anthony's Church, St Francis of Assisi Anglican Hall and St Marys's Anglican Church.

Some State Heritage Places are of particular importance the local community, including the still-operating Thebarton Theatre on Henley Beach Road and the Hindmarsh Cemetery which is the second oldest cemetery in South Australia.

At the northern end of the T2D Project, State and Local Heritage Places feature red brick construction representative of the red brick manufacturing that once occurred in this area.

The former Hoffman Brick Kiln is still standing adjacent to the Brickworks Marketplace and is the only surviving Hoffman kiln in South Australia.

There are 9 Historic and Character Area Overlay areas within the T2D Project area that include Representative Buildings which display historic themes and characteristics from the late 19th and early-to-mid 20th century.

Key features

The following heritage places are of particular significance:

1. Hindmarsh Cemetery
2. Former Hoffman Brick Kiln
3. Former WWII Sub-Control Civil Defence Station
4. Queen of Angels Church
5. Thebarton Theatre, council chambers and hall
6. Former Adelaide Electric Supply Co Ltd garages feature a consistent red brick construction
7. Boulevard of Honour down Sir Donald Bradman Drive
8. Avenue of Claret Ash trees along Anzac Highway
9. Former 'Ackland House' which includes a historic stone wall fronting South Road
10. Messines Avenue
11. St Mary's Church and cemetery which is South Australia's third oldest Anglican church
12. 'Wattiparringga' dwelling and vineyard

Opportunities

The T2D Project presents an opportunity to:

- Enhance the setting and context of heritage places.
- Tell stories of the T2D Project area's history.
- Connect to existing heritage and character through materiality and palette selection.
- Maximise views to heritage features and places.
- Explore wayfinding interpretation opportunities.
- Mitigate any negative impact on non-Aboriginal heritage places and objects through design.

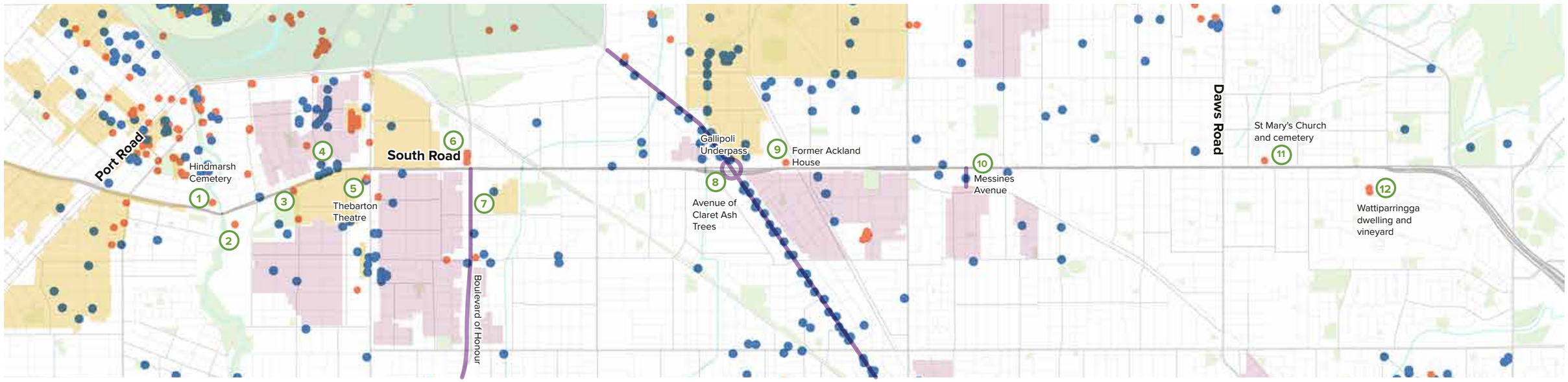


Figure 123. Non-Aboriginal heritage analysis map

4 Land use

Existing conditions

The T2D Project area is characterised by a diverse range of highly urbanised areas with a mix of land uses and surrounding communities.

From the north to the south, the T2D Project area traverses through established residential neighbourhoods, valued character areas, bustling retail and innovation precincts as well as long-standing commercial and industry clusters that are reflective of the area's industrial history.

Land uses fronting South Road include residential, historical landmarks, light industrial areas, recreational uses, community green space commercial/retail and suburban activity centers.

North of Anzac Highway, land uses are predominantly residential, with commercial uses fronting South Road where local shops and services support local communities.

South of Anzac Highway, land uses are a mix of residential neighbourhoods, commercial tenancies and light industry, with industrial land uses becoming more prevalent further south towards Tonsley.

Established residential neighbourhoods exist in West Hindmarsh, Torrensville, Mile End, Hilton, Everard Park, Kurralta Park, Black Forest, Forestville, Glandore, Clarence Gardens and Clovelly Park.

Around 1 000 businesses are located near the T2D Project, representing a range of industries. The most prominent business sectors are retail (approx. 25% of all businesses), manufacturing, construction, healthcare, social assistance and the arts.

The largest cluster of businesses is located within Edwardstown/Melrose Park precinct which includes the Castle Plaza Shopping Centre, Bunnings Edwardstown and multiple large retail stores and commercial businesses.

There are multiple economic activity destinations within the T2D Project area including Tonsley, Flinders Health and Education Precinct, Edwardstown and Melrose Park, Mile End, Thebarton and Hindmarsh.

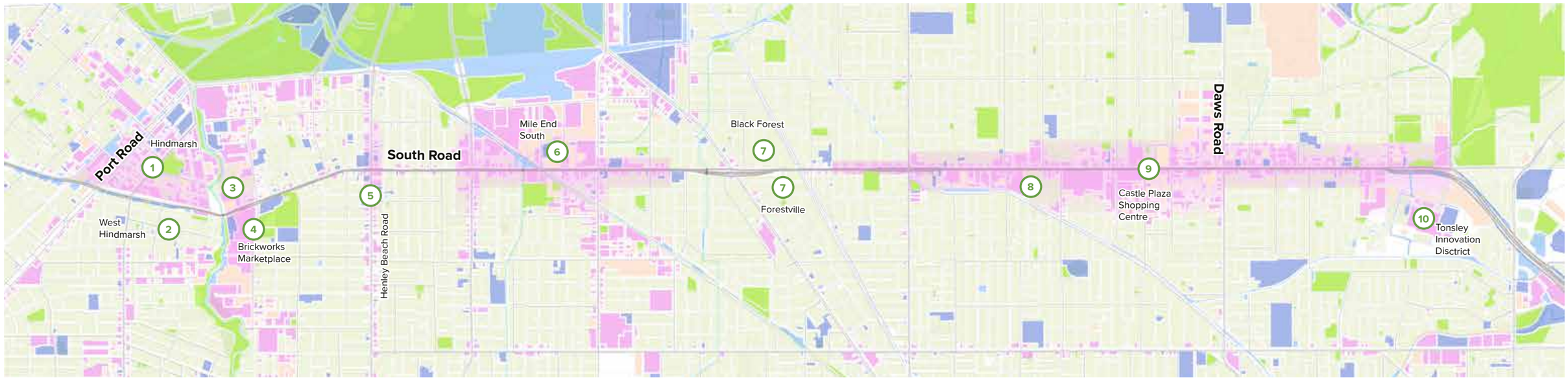
Key features

1. Hindmarsh features Hindmarsh Stadium and the Entertainment Centre, surrounded by commercial and industrial land uses
2. West Hindmarsh is predominantly residential
3. Redevelopment opportunities adjacent to the River Torrens and West End Brewery
4. Brickworks Marketplace and Kings Reserve recreational and retail precinct
5. Henley Beach Road retail precinct and Urban Corridor Zone
6. Mile End South precinct including commercial and industrial land uses
7. Black Forest and Forestville are predominantly residential neighbourhoods
8. The vacant former Hills Industries site
9. Edwardstown/Melrose Park shopping precinct including Castle Plaza and Bunnings
10. The new Tonsley Innovation District which is accessed via Tonsley Boulevard

Opportunities

The T2D Project presents an opportunity to:

- Enhance local access to businesses through improved streetscapes and frontages.
- Improve visibility to businesses through increased foot traffic.
- Identify areas for improved walkability.
- Improve access to key destinations for multiple modes of transport.
- Re-establish local centres, specifically in places where local shops will have to be removed.
- Provide infrastructure to support greater housing diversity and renewed business precincts.



Legend

Residential
Commercial
Open Space/Recreation
Public institution
Industrial
Other

Figure 124. Land use analysis map

5 Key destinations

Existing conditions

It also provides access to significant destinations within metropolitan Adelaide, including the Adelaide CBD, Adelaide Airport and employment, university and health precincts.

Some areas lack major public open space (at least 4000m2 in size) within a 5 minute walking distance (400 metres), in accordance with the 30-Year Plan for Greater Adelaide's walkability targets.

Existing major public open spaces include the River Torrens Linear Park Trail, King's Reserve, Westside Bikeway, Glandore Oval and Memorial Rose Gardens, AA Bailey Recreation Ground, Edwardstown Oval and St Marys Park.

The five local councils within the T2D Project area have demonstrated a commitment to increasing and improving green space within their local area.

A variety of community facilities and services exist within the T2D Project area, most of which are recreational facilities. Major recreational facilities include Hindmarsh Stadium, Thebarton Oval and Hisense Stadium.

Several schools have a South Road frontage including St George College, Richmond Primary, Black Forest Primary, St Anthony's School and St Bernadette's Primary.

Places of worship make up approximately 8.7% of community services within the T2D Project area and are regularly placed along the length of South Road.

Aged care accommodation is present along South Road south of Anzac Highway, including the former Ackland House State Heritage Place.

The Tennyson Centre Day Hospital located on the western side of South Road and the nearby Ashford Hospital on Anzac Highway are both key community destinations and are regularly serviced by emergency vehicles.

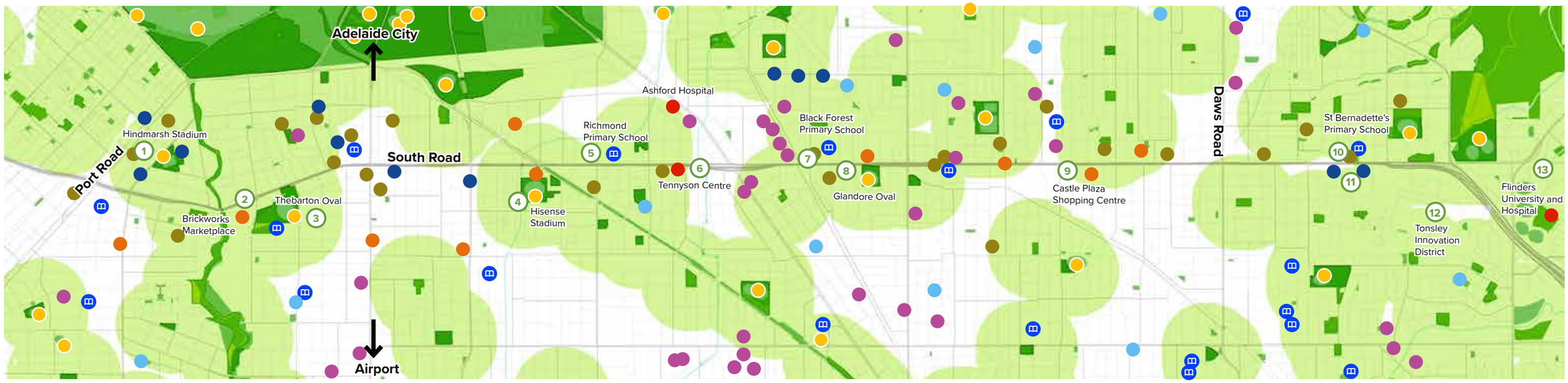
Key features

1. Hindmarsh Stadium
2. Brickworks Marketplace and car park
3. Thebarton Oval is located next to Kings Reserve and Thebarton Senior College
4. Hisense Stadium adjacent to Keswick Creek
5. Richmond Primary School
6. Tennyson Centre medical facility
7. Black Forest Primary School, with significant trees within the school grounds
8. Glandore Oval and memorial rose garden
9. Castle Plaza shopping centre
10. St Bernadette's Primary School and large Eucalyptus trees in playing field south of Walsh Street
11. Cosgrove and Clovelly Park Memorial Halls
12. The new Tonsley Innovation District
13. Flinders University and Medical Precincts

Opportunities

The T2D Project presents an opportunity to:

- Identify areas for improved walkability.
- Improve access to key destinations for multiple modes of transport, including business precincts.
- Create new public open space, including new major public open space within a walkable distance.
- Partner with local councils to retain and improve existing public open space.
- Encourage active and public transport access to key destinations.
- Explore opportunities for place-making with local communities.



Legend

- Open space ≥ 4000 m²
- 400m walking catchment
- School
- Recreation facility
- Hospital
- Shopping centre
- Childcare
- Aged accommodation
- Places of worship
- Community facility

Figure 125. Key destinations analysis map

6 Landscape and water

Existing conditions

The pre-European landscape that existing in the T2D Project area was dominated by open and closed woodland species, with grassland species in the central and northern sections. The five main plant associations that would have covered the T2D Project area include:

1. River Red Gum/SA Blue Gum Woodland
2. Spear/Wallaby Grassland
3. Mallee Box/Spear Grass Woodland
4. The Black Forest (Grey Box/SA Blue Gum Woodland)
5. The Black Forest (Grey Box/River Red Gum Woodland)

The local topography has been modified by redevelopment and is therefore relatively flat. There is a gradual rise in elevation when approaching the foothills to the east.

The dominant landscape character of the T2D Project area is residential and is generally tightly bound by the built environment, with few natural landscape features remaining. Existing vegetation is highly modified and/or landscaped which reflects the long history of urbanisation.

South Road crosses three waterways which are natural features, including the Karrawirra Parri / River Torrens, Keswick Creek and Willawilla / Brownhill Creek. Drainage is provided by a system of underground pits, pipes and culverts that transfer runoff from the urban catchment into waterways.

Native vegetation exists along the Karrawirra Parri / River Torrens which is the main area of ecological value and provides habitat to fauna species along the riverbank.

Significant and Regulated trees are present throughout the T2D Project area, with greater densities identified within open spaces and parks and along waterways. Two significant sites exist, including an avenue of Claret Ash along Anzac Highway and two river red gums at Walsh Avenue, St Marys.

Trees, gardens and other areas of vegetation with amenity value are planted throughout the T2D Project area. Parks and reserves and generally highly modified and landscaped but may provide habitat to fauna species. There are no substantially intact remnant habitats evident.

Key features

1. Existing vegetation within Langman Reserve
2. Numerous Significant trees and Native Vegetation along the River Torrens Linear Park Trail
3. Kings Reserve includes many trees that border the recreation spaces
4. Trees adjacent to the Westside Bikeway
5. Keswick Creek crosses South Road in a culvert and forms part of the Brownhill Creek catchment.
6. Willawilla / Brownhill Creek crosses South Road through a concrete channel
7. Anzac Highway features rows of memorial Claret Ash trees
8. Significant trees are present either side of South Road in Black Forest and Glandore
9. Wattiparringga Creek once crossed South Road and flowed into a large lagoon

Opportunities

The T2D Project presents an opportunity to:

- Reinstate pre-European vegetation, balanced with appropriate plant selection of other species.
- Create green corridors to connect communities to existing green space and natural features.
- Increase tree canopy coverage to increase shade, amenity and urban cooling.
- Protect and enhance natural waterways, rivers and creeks, particularly where they cross South Road.
- Explore best practice water sensitive urban design (WSUD) measures to improve environmental performance, including use of local stormwater.
- Maximise opportunities for green infrastructure.
- Improve biodiversity by planting fauna-specific habitat and supporting ecosystems along the corridor.
- Establish vegetation connections from the hills face vegetation through to the Wattiparringga Creek and Warriparri / Sturt River corridors.

Legend

- Waterways (current and historic)
- Open space and parks
- Significant/Regulated trees in T2D Project area

Woodlands

- *E. camaldulensis* (River Red Gum), *E. leuCOXylon* (SA Blue Gum) Woodland
- *E. porosa* (Mallee Box) Woodland
- The Black Forest: *E. microcarpa* (Grey Box), *E. camaldulensis* (River Red Gum) Woodland
- The Black Forest: *E. microcarpa* (Grey Box) *E. leuCOXylon* (SA Blue Gum) Woodland

Grasslands

- *Stipa spp*. (Spear Grass), *Danthonia spp*. (Wallaby Grass) Grassland

Reedlands/Sedgelands

- Mixed *Muehlenbeckia florulenta* (Lignum) Low shrubland *Phragmites australis* (Common Reed), *Potamogeton spp.* (Pond Weed), *Triglochin procerum var. procerum* (Water-ribbons) Reedbeds, *Bolboschoenus spp.* Sedgeland

Figure 126. Landscape and water analysis map

7 Active travel

Existing conditions

South Road currently provides for a variety of different transport modes and types of users, including people walking and cycling. However, there are limited on-road cycle lanes and poor footpath quality lacking continuity.

Of the T2D Project area's working population, 6% identified as using active travel modes to travel to/from work which is higher than the 3.9% Metropolitan Adelaide average. Over 26% of the working population work within the City of Adelaide and commute towards the city.

Pedestrians and cyclists have three ways to cross South Road's four lanes of traffic: either at traffic signals at intersections, at pedestrian activated crossings or at road sections between intersections, generally where there is a median refuge.

Signalised pedestrian crossings are currently provided on South Road where there are high concentrations of pedestrian crossing movements such as shopping centres and schools. All schools include student catchments either side of South Road.

The T2D Project area includes just over 71 kilometres of dedicated cycling network that intersects with South Road at multiple points and includes off-road shared use paths, on-road bicycle lanes and main and local roads.

The existing Bike Direct cycling network is demonstrated in the analysis map below.

South Road is a main road and designated as a 'Major Cycling Route' in A Functional Hierarchy for South Australia's Land Transport Network, though the majority of its length lacks on-road bicycle lanes which are sporadically placed at key intersections.

Four popular, off-road shared use paths intersect with South Road, including the Outer Harbor Greenway, River Torrens Linear Park Trail, Westside Bikeway, Mike Turtur Bikeway and Marino Rocks Greenway.

The new Tonsley Innovation Precinct includes off-road shared use paths that connect to South Road as well as the new Flinders Greenway.

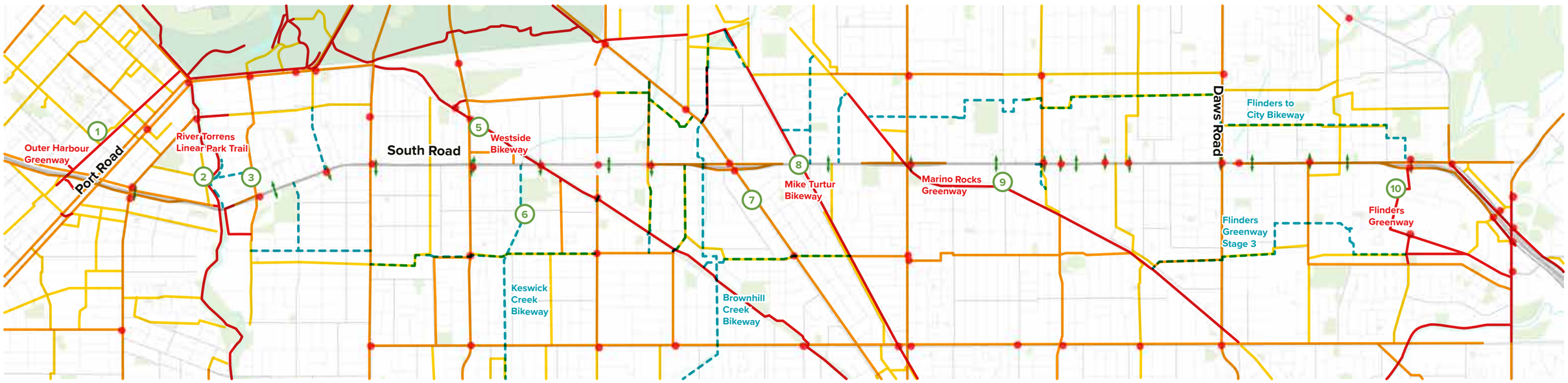
Key features

1. Outer Harbour Greenway runs adjacent to the Outer Harbor Rail Line
2. River Torrens Linear Park Trail crosses beneath the existing South Road bridge
3. West Thebarton Road and Ashwin Parade provide a secondary route to the Adelaide Park Lands
4. No bike lanes along South Road for north-south travel
5. Westside Bikeway crosses South Road at-grade with pedestrian actuated crossings
6. Potential new bikeway along Keswick Creek
7. Anzac Highway is a main commuter route from the western suburbs to the city
8. Mike Turtur Bikeway crosses South Road using the Glenelg Tram Overpass
9. Marino Rocks Greenway that crosses at-grade beneath the Emerson Crossing Overpass.
10. Tonsley Innovation District connects to the Flinders Greeway

Opportunities

The T2D Project presents an opportunity to:

- 'Fill the gaps' in the active transport network.
- Provide off-corridor alternatives to arterial road routes.
- Connect to active transport investments in the surrounding network by state and local government.
- Focus on key destinations such as schools, shopping centres and green spaces to be accessible by active transport.
- Encourage mode shift away from car travel for local trips.
- Provide safe pedestrian access and space specifically for cyclists, separate from moving traffic.
- Connect active transport routes to public transport to encourage multi-modal travel.
- Provide east-west crossing points in key locations.



Legend

- Existing off-road shared use path
- Existing on-road bicycle lane
- Existing local road route
- Planned future improvement
- Existing pedestrian crossing (South Road)
- Existing intersection crossing (traffic light)

Figure 127. Active travel analysis map

8 Public transport

Existing conditions

Of the T2D Project area's working population, 9% identified as using public transport to travel to/from work which is higher than the 5.7% Metropolitan Adelaide average.

The T2D Project area includes bus, train and tram services. Bus routes are defined by Adelaide's grid, with north-south and east-west connections provided at regular intervals with some variations.

Key east-west, intersecting routes include Grange Road, Ashwin Parade and West Thebarton Road, Henley Beach Road, Sir Donald Bradman Drive, Everard Avenue and Barwell Avenue, Richmond Road, Anzac Highway, Cross Road and Daws Road.

South Road is a major bus corridor primarily serving the southern suburbs, including express and limited- stops services. It is also a key link for citybound bus routes from the west. Everard Avenue and Barwell Avenue currently provide an important bus route that services Adelaide City from the western suburbs. There are approximately 30 bus stop pairs on South Road within the T2D Project area. Bus services are subject to traffic congestion along South Road resulting in a high degree of variation between peak and off- peak periods.

South Road is intersected by two fixed line public transport services – the Glenelg Tram Line and Seaford Rail Line. These intersection points are public transport interchanges where passengers can transfer from fixed line services to various bus routes from nearby bus stops on South Road.

The Seaford Rail Line crosses South Road at-grade at Cross Road beneath the Emerson Crossing Overpass and is Adelaide's second longest suburban rail line at 35.9 kilometres long.

The Glenelg Tram Line crosses over South Road via a grade-separated overpass, where the tram line runs above the road. Tram stop 6 is located on the overpass which is currently accessed by pedestrians via stairs or lifts on either side of the tramline.

Key features

1. Outer Harbour train line runs parallel to Grange Road, a key bus route.
2. Local bus services run down Ashley Street adjacent to Kings Reserve
3. Henley Beach Road Go Zone towards Henley Beach.
4. Airport Bus Services to Adelaide Airport run down Sir Donald Bradman Drive
5. Everard Avenue/Barwell Avenue is an important bus route between the western suburbs and Adelaide City
6. Anzac Highway Go Zone bus services
7. Glenelg Tram Overpass over South Road and interchange with South Road bus services
8. Seaford Rail Line Level Crossing at Cross Road, beneath Emerson Crossing Overpass
9. Woodlands Park Station behind Castle Plaza
10. Daws Road Go Zone bus services
11. Flinders Rail Station servicing university and medical precincts

Opportunities

The T2D Project presents an opportunity to:

- Maintain/introduce established interchanges between bus and tram stops.
- Connect active transport routes to public transport to encourage multi-modal travel and increase patronage.
- Facilitate east-west crossing points near bus and tram stops to service catchments on both sides of South Road.
- Investigate possible optimisation of bus stop locations, linking into surrounding streets.
- Investigate opportunities for park and ride facilities within the area that surrounds the T2D Project.
- Explore ways to improve the public transport level of service such as dedicated bus lanes.

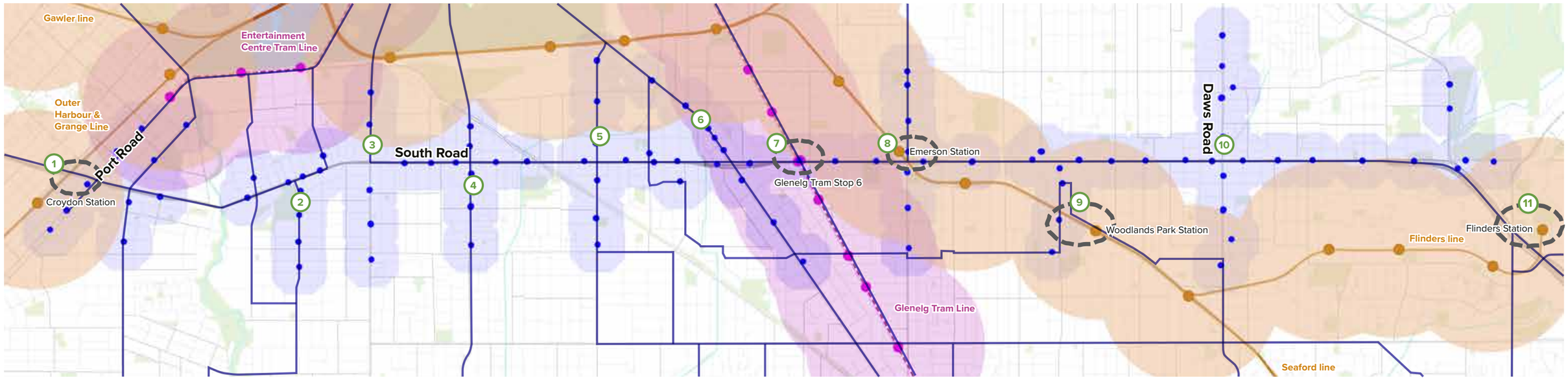


Figure 128. Public transport analysis map

Figure 129. T2D Project artist's impression - new green space

B

Attachment B
Kaurna urban design themes

Figure 130. Illustration representing the environments, landscape and fauna found within the T2D Project area and illustrating the journey that is traversed as you walk across Kaurna Country.

Purpose of this document

This document has been prepared to provide a detailed record of engagement with the Kaurna peoples and Aboriginal Cultural Authority in relation to urban design for the River Torrens to Darlington Project.

The River Torrens to Darlington (T2D) Project area is located on Kaurna Country, the traditional lands of the Kaurna peoples of the Adelaide Plains.

Kaurna Country extends from Cape Jervis in the south of Adelaide to Crystal Brook in the north and spans from the Mount Lofty Ranges in the east to Gulf Saint Vincent in the west.

The Kaurna peoples are recognised as the Traditional Custodians of the T2D Project area and the wider Adelaide region who have lived on the land for thousands of years and many generations.

The Aboriginal Cultural Authority for Kaurna Country is the Kaurna Yerta Aboriginal Corporation (KYAC).

This attachment describes agreed and endorsed Kaurna urban design themes for the T2D Project, including:

- a Kaurna vision and desired outcomes
- significant Kaurna places along the T2D Project corridor
- Kaurna themes, drawing upon history, stories and Elder research
- design opportunities where Kaurna themes could be featured.

These Kaurna urban design themes have been endorsed in-principle by KYAC for inclusion in the T2D Project's Urban Design Strategy.

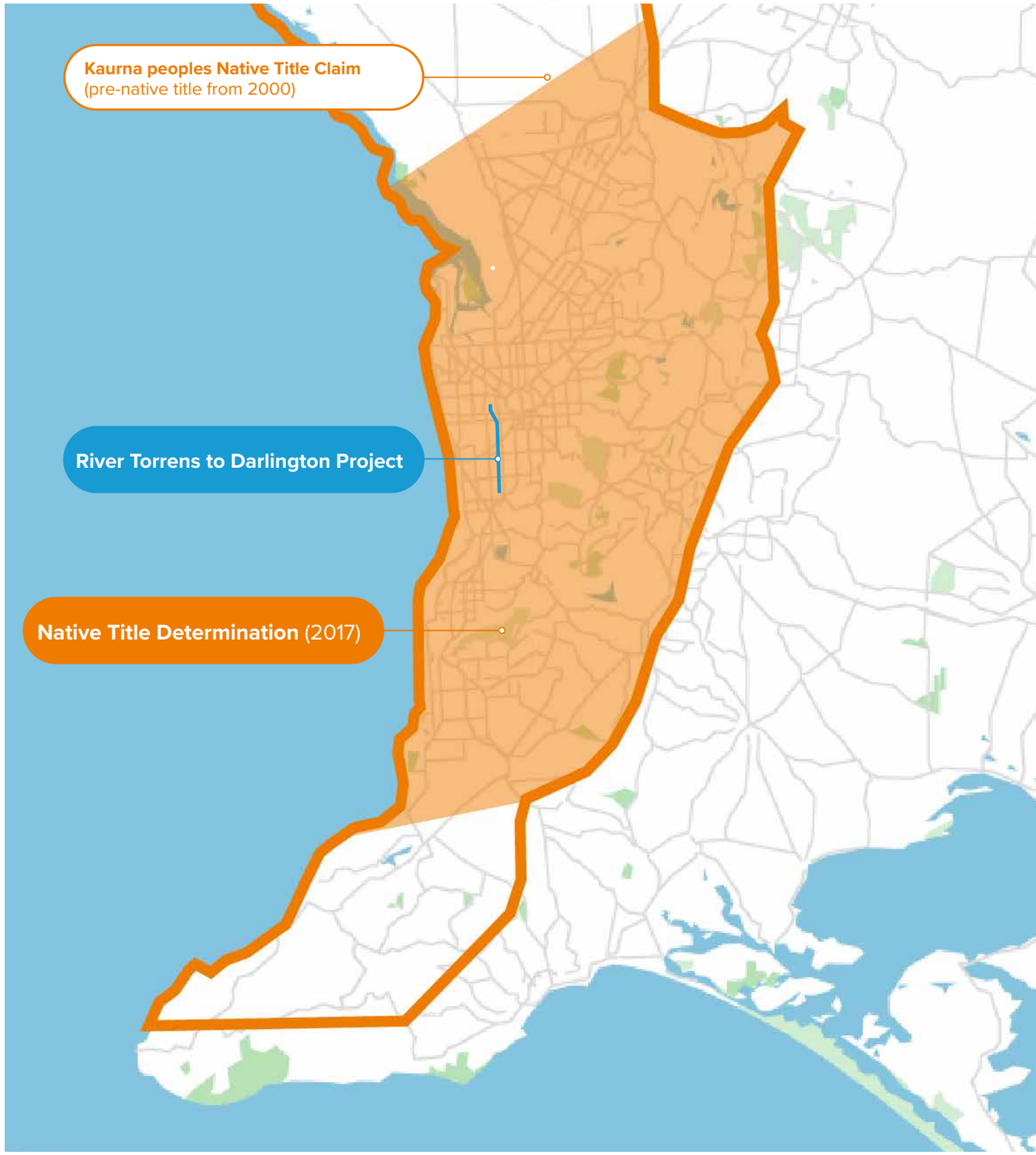


Figure 131. T2D Project on Kaurna Country

Mikka Womma

In the Beginning, Kaurna's great ancestral spirit Manintjeru created all things on this land, all life and all spirits.

He gave the different Kaurna groups special songs and stories, places, and totems.

He entrusted these songs and stories to Kaurna to guide their responsibility and duties to maintain and care for Country, keeping all things alive.

The spirit world walks alongside our world. Many spirits are friendly and give powers to help keep life positive and friendly, but others are not friendly and can bring sickness and death.

One of these songs is a story about the great celestial plain, the Mikka Womma ('Open Plain'). Many Kaurna ancestor spirits reside on this great celestial plain and on a clear night Kaurna elders tell stories of their ancestors and how these heroes of the past ensured our survival today.

Many stories upon Mikka Womma talk about how we care for our brother and sisters, animals and plants, how we are all connected to the spirit world and all things. Upon the Womma runs the great river, the Wodli Parri (Milky Way).

The Wodli Parri runs through the Mikka Womma bringing life to all things and connecting to all living creatures and spirits.

Upon the Mikka Womma lays Mankamankarana (the Pleiades constellation) which is a group of seven girls digging and collecting grubs, yams and fruits. Near them is a group of young men Tinninyarana (the Orion constellation) who stumble across them while out hunting. Some of them show interest and spy upon the girls.

Within the Wodli Parri is a creature that lives in the deep dark holes, the Yura. The Yura is a bunyip type serpent that travels in and out of these water holes capturing children who swim beyond their skills into the deep-water holes.

The story also describes that every night Goondooloo (the emu of the Southern Cross) lights a campfire in the sky beside the Wodli Parri to enable the Kaurna to find their way to the home of their spirit ancestors.

During the night the Magellanic clouds known as the Ngakallomurro, are the ashes from the trapped rainbow lorikeets that have been put to death.

Aboriginal People of South Australia, the Kaurna. Howard Groome, 1981.

Inclusive of notes supplied by Buster Turner and Lynette Crocker.

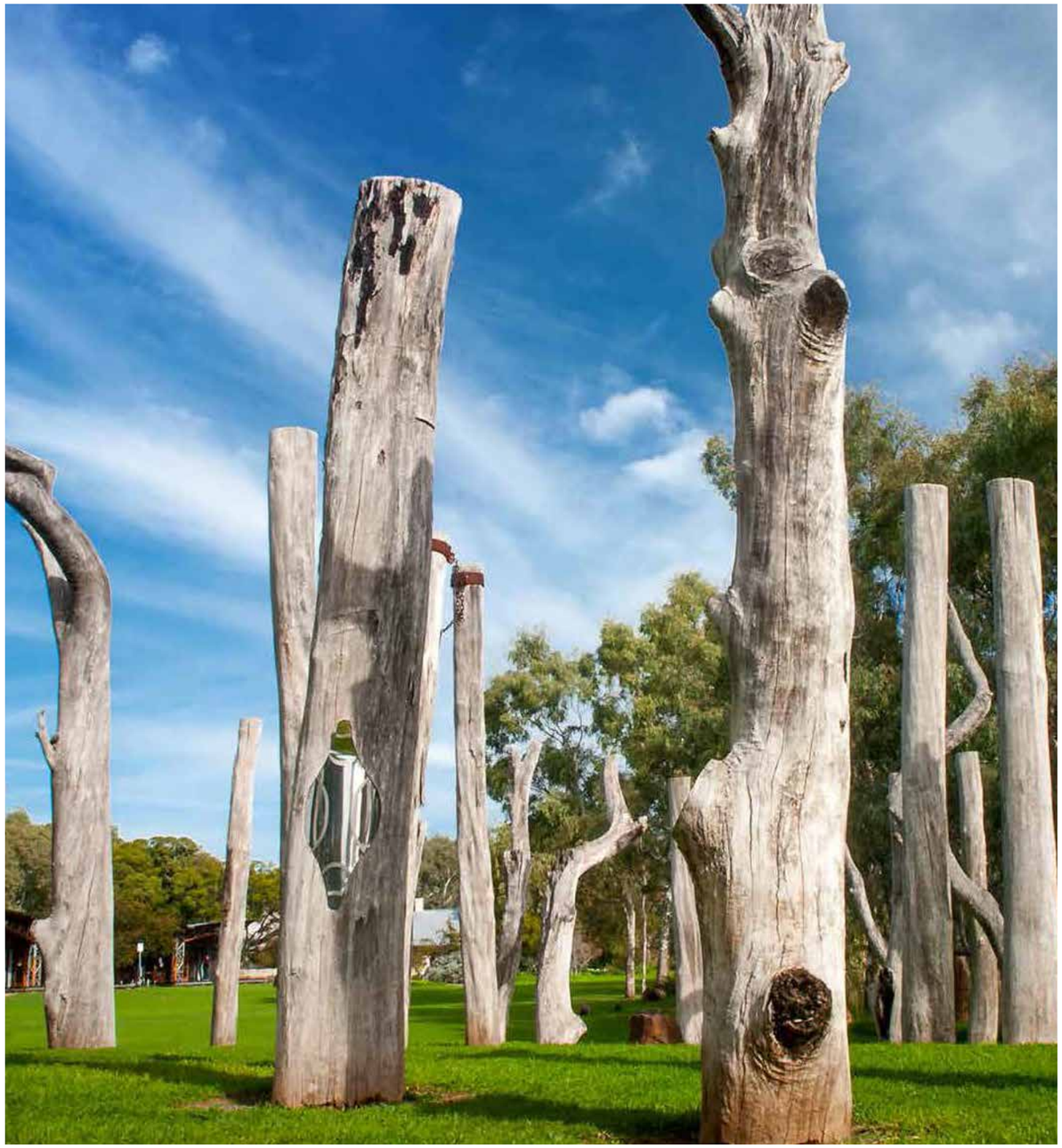


Figure 132. Tjilbruke narna arra / Tjilbruke Gateway, Adelaide

Engagement approach

Aboriginal co-design

As the Traditional Owners of the T2D Project area and the Adelaide region, an Aboriginal co-design process with the Kaurna peoples is important to the design, development and delivery of the T2D Project.

Aboriginal co-design builds spiritual and physical connection to Country for all people to enjoy. It creates a sense of belonging for people by preserving Country through ancient Dreamings, wisdom and storytelling. This process of guardianship has occurred for thousands of years and through co-design can continue for future generations.

Aboriginal co-design captures the local stories of Traditional Owners and Elders about Country, landscape features and moments in history that have impact on their community. The stories are of a cultural and heritage nature and hold cultural significance.

Aboriginal co-design aims to ensure the cultural and spiritual values of Traditional Owners are invested into the local landscape of a project, to create a sense of spiritual wellbeing and cultural connection while building reconciliation and educational opportunities within the wider community.

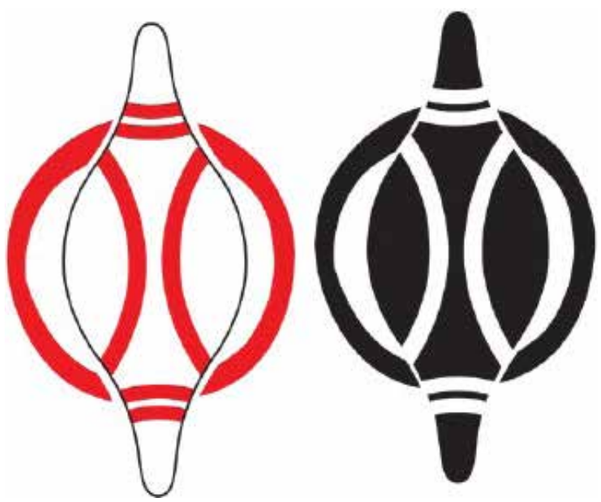


Figure 133. Illustration of Murlapaka / Kaurna Shield

T2D Kaurna Urban Design Working Group

In 2021, the Department for Infrastructure and Transport (DIT) established a Kaurna Urban Design Working Group (Working Group) in partnership with the Kaurna Yerta Aboriginal Corporation (KYAC) as part of broader engagement with the Kaurna community.

The purpose of the Working Group was to identify Aboriginal urban design themes and opportunities for the T2D Project to be included within its Urban Design Strategy. The goal of DIT was to ensure an effective, genuine and productive Aboriginal co-design process with the Kaurna peoples.

The Working Group comprised nominated KYAC board members, Kaurna community representatives and Kaurna Elders, including:

- Les Wanganeen (KYAC Chair)
- Tania Taylor (KYAC Director)
- Madge Wanganeen (KYAC Director)
- Buster Turner (Kaurna Elder)
- Lynette Crocker (Kaurna Elder)
- Clem Newchurch (Kaurna community member/artist)
- Rhiannon Dixon (Kaurna youth representative/artist)

The Working Group met over a series of interactive workshops held at the Living Kaurna Cultural Centre, facilitated by Aboriginal Urban Design (AUD) and supported by DIT. The half-day workshops were held fortnightly to allow time to think, space for discussion and listening from DIT staff.

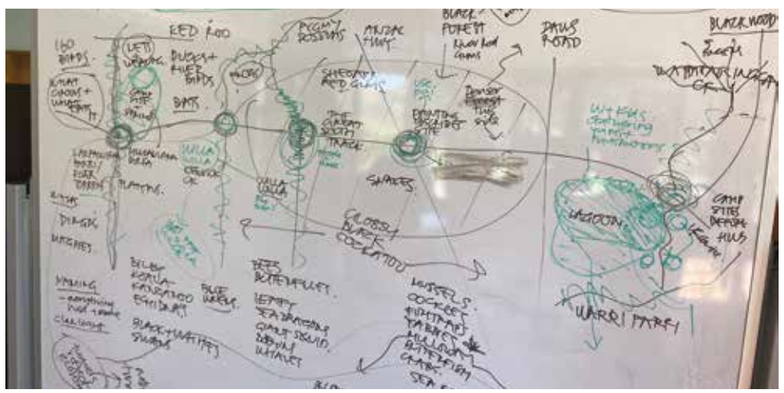


Figure 134. Kaurna Urban Design Working Group whiteboard

The benefit of several discussions over many months allowed all views, ideas, perspectives and questions to be revisited, discussed and debated. Allowing time to develop the relationships between Working Group members was paramount to creating an authentic engagement process.

Research was led by Kaurna Elders to provide information and stories about Country and the historical events of the past. This research identified themes and opportunities for Kaurna celebration and expression, including:

- historical knowledge and review of the landscape before European settlement
- Kaurna stories and Song Lines/Trade Lines
- any modern historical events or behaviour that have impacted on Kaurna History.

Two site visits covered the extent of the T2D Project area from the north (Karrawirra Parri) through to the south (Wattiparringga), with identification of important stories and significant places by the Working Group.

The Kaurna urban design themes developed by the Working Group were presented to and endorsed by KYAC in April 2022, for inclusion as an attachment to the Urban Design Strategy.

The Urban Design Strategy is the contractual document guiding urban design, landscape and public realm outcomes for the T2D Project.

Figure 135. Kaurna Urban Design Working Group site visit (north)

Kaurna urban design vision

A journey of discovery...

"To educate and inspire all, respect the lands and provide glimpses into Kaurna culture through the T2D Project."

T2D Kaurna Urban Design Working Group, 2022

Kaurna urban design outcomes

1

Educate, inspire and provide Kaurna opportunities to be delivered through the T2D Project

Achieving this outcome will enable the T2D Project to:

- help heal country
- encourage allies to understand
- minimise impacts to Country
- maximise Kaurna opportunities
- embrace Kaurna culture.

2

Create a strong visual Kaurna presence along the T2D Project

Achieving this outcome will enable the T2D Project to:

- celebrate Kaurna culture
- restore local flora and fauna
- respect ancestors
- acknowledge our people
- promote sustainability
- include Kaurna language.

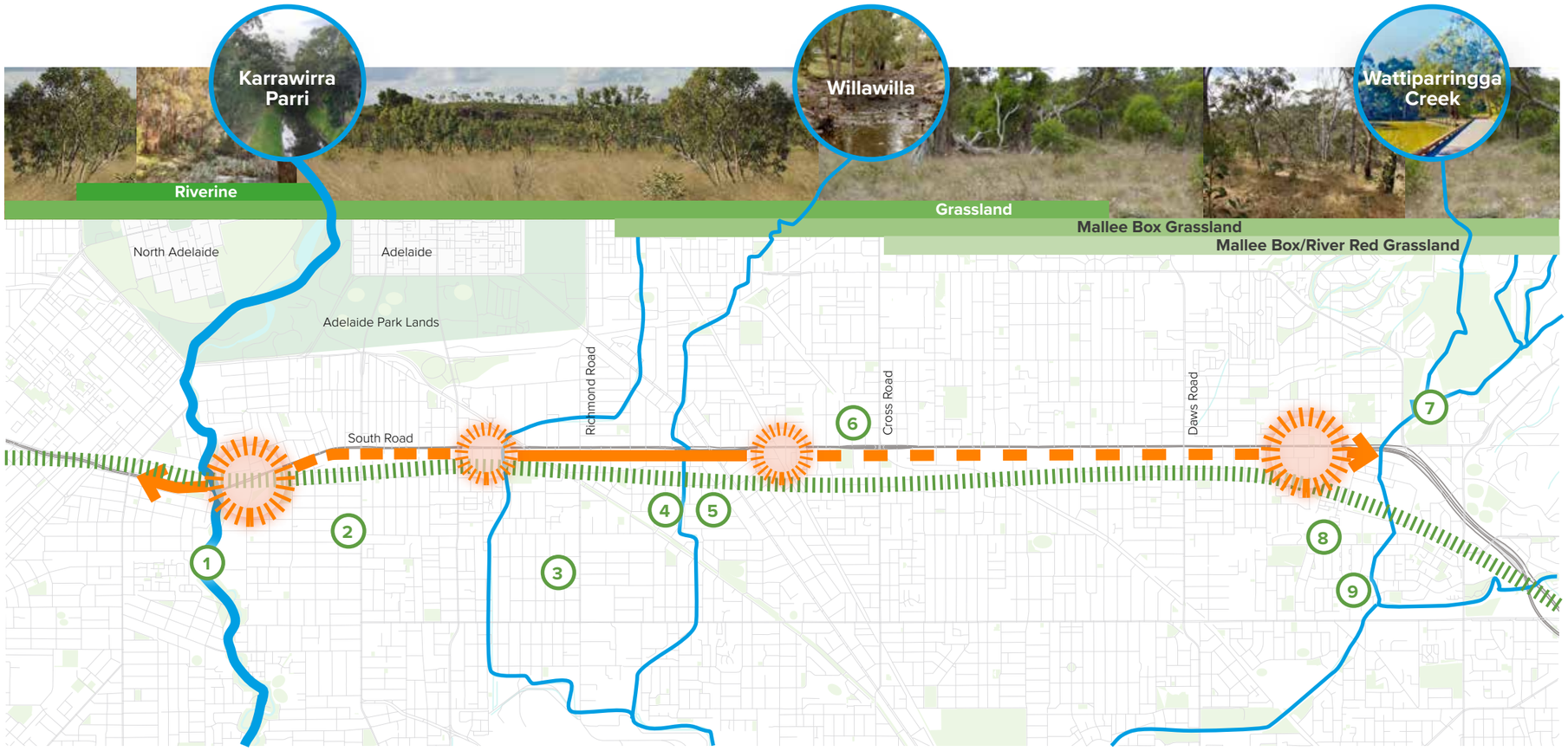
Figure 136. Yunggorendi Cultural Gathering Space, Adelaide

Figure 137. University of Adelaide Kaurna Learning Circle, Adelaide

Significant places

Local Kaurna Elders identified the following locations to be of cultural and historical significance within and adjacent to the T2D Project area and surrounds:

1. **Karrawirra Parri** / River Torrens
   meaning "Red Gum Forest River"
2. **Karraundongga** / Hindmarsh and Thebarton
   meaning "Red Gum Spear Place"
3. **Weeroopa** / Brooklyn Park
   meaning "Crested Parakeet"
4. **Willa Willa** / Brownhill Creek
5. **Kurralta** / Kurralta Park,
   meaning "on the hill" or "up there"
6. **The Black Forest** / Black Forest
7. **Wattiparringga Creek**
   meaning "Place of Windy River"
8. **Wattiparringga Tartoyerta** / Lagoon
9. **Warriparri** / Sturt River
   meaning "place of windy river"



T2D open motorway
T2D tunnels
T2D tunnel portal
Significant Kaurna places
Kaurna Trade Line
Rivers and creeks

Figure 138. Map of Kaurna significant places within and adjacent to the T2D Project area.

Kaurna urban design themes

The T2D Kaurna Urban Design Working Group discussed Kaurna culture, listened to Kaurna stories and heard Kaurna Elder research to determine Kaurna themes for the T2D Project.

Primary Themes

1. Murlapaka / Kaurna shield

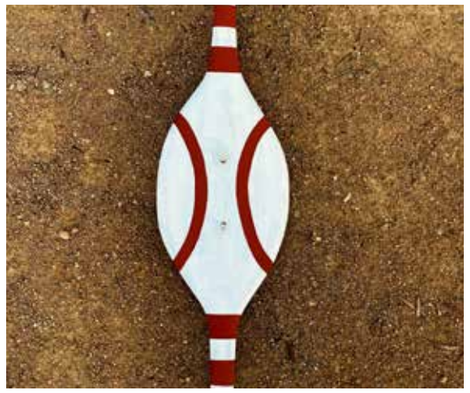


Figure 139. Murlapaka / Kaurna shield

The Kaurna shield is one of the recognised symbols of the Kaurna peoples and is one of the priority Kaurna themes for the T2D Project.

The red stripes on the shield often represent where or what region a Kaurna man is from. Details on the shield also reflect or represent seniority within the clan. The shield is warlike in appearance, and a form of protection.

It is typically painted with a mixture of grease and red ochre or chalk and frequently carved.

Some Kaurna members hold the belief that the shield represents direction. They believe that the shield should always lie north to south, with the wide sections lying east to west.

The Kaurna shield was discussed as an important feature to all tunnel entrances/exits to reiterate that you are on Kaurna land.

2. Tarndanya / red kangaroo

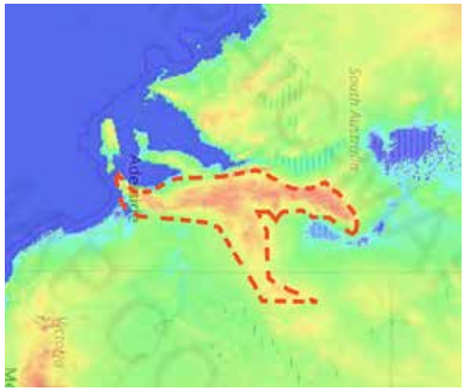


Figure 140. Topographical map of Tarndanya

Tarndanya (the red kangaroo) is a priority theme to be integrated across the whole of the T2D Project urban design.

Tarndanya sits over the T2D Project area and broader Adelaide Plains, originating from Mount Lofty. The T2D Project is located on the tail of the red kangaroo.

The Kaurna Urban Design Working Group proposed that Tarndanya could be represented as a sculptural moment, either travelling north-south along the corridor or grazing.

Tarndanya could be accompanied by other native animals such as emus and wombats.

3. Relationship of land, earth, water and sky

Figure 141. Tulya Wardli / Bonython Park creek

A priority Kaurna theme is understanding the relationship between land, water and sky and the associations between all living things within them.

Trees are an important part of the living landscape that should be protected; they talk to each other and support complimentary species to grow. Any tree removed should be returned to Kaurna for repurposing of the wood. Any scar trees present need to be protected.

Spears are a connecting tool that reach for the sky and represent its connection to land.

Underground, mychorrizhal connections are vital to a healthy ecosystem. These hidden networks connect plant roots, seeds and pods, insects, fungi, ancient megaflora and bones.

There are six weather seasons in Kaurna culture which are observed by changes in the ecosystem, rather than four seasons which are based on calendar dates.

Kaurna peoples interacted with traditional ecosystems through fire, water and spring sites which play an integral role in Kaurna culture.

4. Wartu / southern hairy-nosed wombat

Figure 142. Wartu / southern hairy-nosed wombat

The southern hairy-nosed wombat is the state fauna emblem of South Australia and is a priority theme to be integrated at the northern entrance to the T2D Project, adjacent to the Karrawirra Parri.

The wombat inhabited the land next to the Karrawirra Parri where they grazed native perennial grasses and dug burrows into the earth for habitat, connected to sophisticated warrens of many entrances.

Themes of the wombat burrows, warrens and connections were considered appropriate for the T2D Project tunnels, including scratch marks made by their claws when burrowing underground.

The potential naming of the T2D Project Northern Tunnels as ‘Wartu Waarki’ (wombat burrow) was also discussed, as well as wombat sculpture, symbolism and iconography.

5. Glossy ibis

Figure 143. Glossy ibis

The glossy ibis is a priority theme for the southern entrance to the T2D Project, connected with nearby waterways including the former Wattiparringga lagoon which was once its habitat.

The glossy ibis has a colourful plumage featuring an iridescent green and purple gloss when viewed in certain light. They inhabit shadow wetlands and hunt the shallow mud for aquatic invertebrates.

The glossy ibis is integral to the story of Tjilbruke where is emerged from a cave transformed from a man into a beautiful glossy ibis. The urban design should clearly explain Tjilbruke's journey and transformation.

Themes of the glossy ibis flying overhead, using the vibrant colours of its feathers or catching glimpses of it nesting as a sculptural piece were also explored.

Kaurna urban design themes

The T2D Kaurna Urban Design Working Group discussed Kaurna culture, listened to Kaurna stories and heard Kaurna Elder research to determine Kaurna themes for the T2D Project.

Secondary Themes

6. Wodli Parri / The Milky Way

Figure 144. Wodli Parri / The Milky Way

The Wodli Parri / Milky Way is a great river than runs upon the Mikka Womma / Open Plain and brings life to all things and connects to all living creatures and spirits.

The Karrawirra Parri / River Torrens is a reflection of Wodli Parri on the earth.

Within the Wodli Parri lives the Yura, a bunyip type serpent that travels in and out of water holes capturing children who swim beyond their skills.

Every night Goondooloo (the emu of the Southern Cross) lights a campfire in the sky beside the Wodli Parri to enable the Kaurna to find their way to their spirit ancestors.

During the night the Magellanic clouds known as the Ngakallomurro, are the ashes from the trapped rainbow lorikeets that have been put to death.

Feature lighting to depict the Wodli Parri or constellations on the ceiling of the tunnel interiors was discussed as a potential design opportunity.

7. Kaurna Trade Line (Great North-South Track)

Figure 145. Illustration of the Kaurna Trade Line

The Kaurna Trade Line (also known as the Great North-South Track) is a trading pathway used by Kaurna peoples for thousands of years, to trade artefacts and materials and facilitate visiting neighbouring tribal groups.

The trade line spans from Victor Harbour in the South to Port Augusta in the North through to Alice Springs.

Within the T2D Project area, the Kaurna Trade Line is a cultural song line along which people lived and ochre and skins were traded.

Meeting places and camp sites were known to be at the intersection with creeks, rivers and springs. Important meeting places included:

- Intersection of South Road/Anzac Highway which also intersected with other tracks.
- Karrawirra Parri / River Torrens which was a large camp site and natural spring.
- Willawilla / Brownhill Creek which was historically open grass woodlands.
- Wattiparringga Creek and Lagoon – the stop-off camp site before the hills.

8. Ancestors

Figure 146. Mullawirraburka / King John

Tjilbruke, a great ancestor of Kaurna, discovered his nephew was killed and he travelled to collect him from Wattiparringga.

Tjilbruke then began his journey to Cape Jervis where he buries him for his spirit to transform through Kangaroo Island and up into the celestial plains of the Mikka Womma.

Tjilbruke had enough from this world and climbed through a cave where he transformed himself into the Glossy Ibis.

Mullawirraburka was known as ‘King John’ or ‘Onkaparinga Jack’ to European settlers and was an important Kaurna elder at the time of invasion in the 1830s.

Mullawirraburka was known to travel the Kaurna Trade Line where the T2D Project is located, stopping at spring sites at Karrawirra Parri and other creeks and rivers.

9. Creeks and rivers

Figure 147. Warriparinga Wetlands, Adelaide

Creeks and rivers provide life-sustaining kauwe (water) and fishing to the Kaurna peoples as well as sacred camping sites, meeting points and breeding sanctuaries for animals.

The Karrawirra Parri / River Torrens is the main river on the Adelaide Plains and has beautiful associations to the Wodli Parri / Milky Way.

Willawilla / Brownhill Creek and Wattiparrinngga Creek are other important waterways close to the T2D Project area. Keswick Creek holds no cultural significance to the Kaurna peoples.

The former Wattiparringga Tartoyerta / lagoon was an exceptionally large wetland which gave life to all kinds of animals, birds and plant life for the Kaurna peoples for thousands of years.

Kaurna men were traditional owners of waterways as ancestral threads. Along the T2D Project, Willawilla and Mullawirraburka had ownership and were responsible for caring for Country.

Historic Kaurna camping sites and spring sites along the Karrawirra Parri were also important references to nature and caring for Country.

10. Native flora and fauna

Figure 148. Acacia plant

Traditional ecosystems of flora and fauna should be restored, with native plants revegetated, revitalised and integrated.

Every native/remnant tree is part of the spirit of the landscape and their removal is a significant loss. Any removed tree should be returned to Kaurna for repurposing of the wood.

Animals are integral to healthy ecosystems and appropriate habitat should support their presence.

A list of plants and animals relevant to the T2D Project area were identified:

Animals

Black cockatoo, black swan, chequered butterfly, dingo, echidna, emu, glossy ibis, koala, kookaburra, lorikeet, parakeet, pygmy possum, red kangaroo, snakes, sugar glider and wombat.

Plants

Blue gums, cyperus, knobby clubrush, peppermint gums, phragmites, pink gums, reed beds, river red gums, sheoaks typha and yaccas/grass trees.

Kaurna urban design opportunities

The T2D Kaurna Urban Design Working Group reviewed the T2D Project design to determine appropriate opportunities for expression of Kaurna urban design themes.

1. Tunnel portals

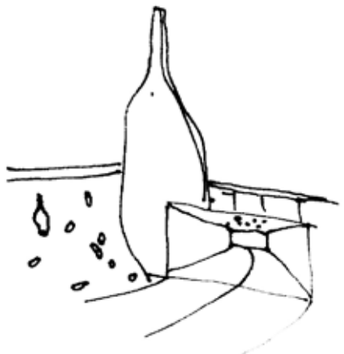


Figure 149. Illustration of a tunnel portal

Tunnel portals are the key entry and exit experience to/from the T2D Project tunnels.

Opportunities for Kaurna design include:

- large-scale artwork and sculpture
- wall patterns, silhouettes, etchings
- motorway propping and light and shadows
- artistic use of colour
- landscape elements
- reiterating the message that 'you are on Kaurna land' when entering/exiting the tunnel.

Each entrance statement should be unique and feature different Kaurna themes, including:

- Northern entrance: southern hairy-nosed wombat
- Southern entrance: glossy ibis.

2. Tunnel interiors

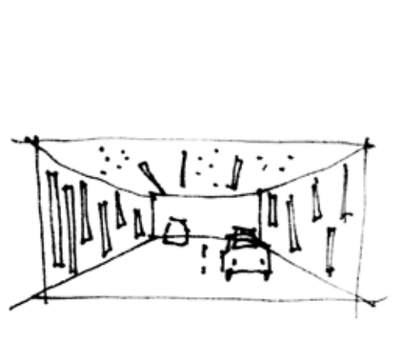


Figure 150. Illustration of a tunnel interior

Tunnel interiors are underground within the T2D Project include all walls, ceilings and lighting.

Opportunities for Kaurna design include:

- feature wall panels
- feature lighting and ceiling lighting, depicting the night sky, glow worms/ insects or mycorrhizal connections underground.
- sculptural, artistic 'moments' as you travel through the tunnel
- ‘landscaping’ underground, reflecting the pre-invasion landscape or what’s at surface.

Given the length of the tunnels, artistic elements can depict a Kaurna story or transformation from north to south. Infrequent ‘moments’ of Kaurna expression are proposed as a journey of discovery.

3. Noise and retaining walls

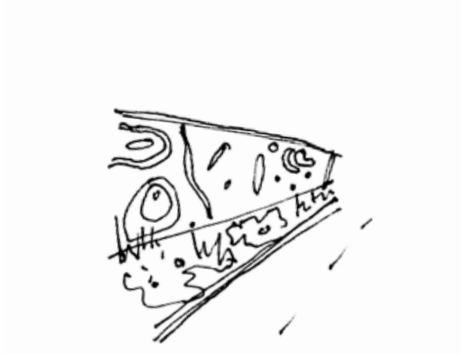


Figure 151. Illustration of a noise barrier

Noise and retaining walls provide highly visible opportunities for Kaurna design expression.

Opportunities for Kaurna design include:

- feature and repeating artwork
- patterns and etchings
- changes in colour, texture, lighting, shadow
- lighting installations
- stories and words
- fire and water symbolism from east to west (i.e. water closer to the coastline)
- transitions/transformations (e.g. changing of the six Kaurna seasons or transformation of Tjilbruke).

Artistic expression should tell a journey from north to south, depicting transitions with changes in colour, texture and lighting.

4. Ventilation facilities

Figure 152. Illustration of a ventilation facility

Ventilation facilities may be located adjacent to tunnel entry and exit points, if they be required to manage air quality in the tunnels.

Opportunities for Kaurna design features include:

- sculptural expression and form
- feature artwork
- colour, texture and materiality
- sustainable/natural cladding e.g. plant materials, bark, native grasses
- interpretive signage and Kaurna language
- Kaurna shield and spears as a connection between the earth and the sky world.

Each ventilation facility should incorporate a unique Kaurna design feature that is relevant to stories told at that place.

5. Public realm

Figure 153. Illustration of a public realm streetscape

Public realm includes the areas surrounding the motorway infrastructure, including street furniture, footpaths and local connections.

Opportunities for Kaurna design features include small-scale, regularly placed:

- artwork in street furniture (seating, barriers, walls, paths, play/rest areas)
- patterns and etchings in concrete – silhouettes or footprints of animals that once walked the area with their soft padded feet
- Journey of Tarndayna (red kangaroo) along the corridor with a sculptural moment at the end of the journey, or journey of the chequered butterfly from larvae to flight
- feature lighting and uplighting of trees
- interpretive signage and Kaurna language.

Kaurna urban design opportunities

The T2D Kaurna Urban Design Working Group reviewed the T2D Project design to determine appropriate opportunities for expression of Kaurna urban design themes.

6. Open spaces and parks

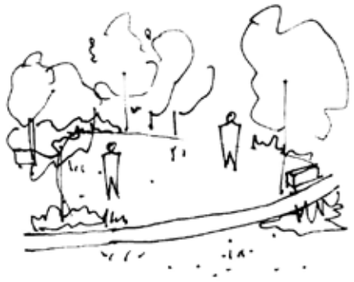


Figure 154. Illustration of an open space or park

The T2D Project will provide open spaces and parks for recreation, rest and play.

Opportunities for Kaurna design features include:

- landscape design and plant selection
- public art and sculptural elements with moments of Kaurna reflection – fire/ water / people / animals
- seating/rest areas and nature play with Kaurna interpretation / interaction
- garden beds, native planting, flower walls, edible gardens
- interpretative signage and Kaurna language
- park furniture (seating, barriers, walls, paths, play/rest areas)
- lighting of Significant trees/artefacts
- potential grassland/wetlands.

7. Plant selection

Figure 155. Illustration of tree and understorey planting

The plant palette for the T2D Project should be based on local and endemic species to contribute to sustainability objectives.

Opportunities for Kaurna design features include:

- reflect the pre-1836 natural Kaurna landscape to help heal Country
- plant selection needs to be part of the story and reflect how the landscape changes along the Kaurna Trade Line
- seed bank and nursery opportunities
- green vertical walls with native plants and integrated art
- restore what was once prevalent e.g. kangaroo grass in the Black Forest area
- fire on Country cultural burning.

8. Art and sculpture

Figure 156. Illustration of sculptural art

The T2D Project will feature art and sculpture from a range of local Kaurna artists from different walks of life to share the stories and history of Kaurna culture.

Opportunities for Kaurna design features include:

- large sculptural/artistic statements at each entrance statement (tunnel portal)
- art throughout to showcase history
- important to share story of the destruction and the truth – not many people see it/read it
- smaller insertions in the public domain along corridor (e.g. imprinting footpaths)
- form, finish, materials and colour of ventilation facilities, noise walls, retaining walls and tunnel interiors
- artist in residency program.

9. Interpretive signage

Figure 157. Illustration of interpretive signage

The T2D Project will feature interpretive signage in open spaces and the public realm. All signage should reinforce 'you are on Kaurna land' and *Marni naa pudni Kaurna yarta-ana* (welcome to Kaurna Country).

Opportunities for Kaurna design features include:

- acknowledge the traditional Kaurna Trade Line – how long it took, the footsteps of animals and people that once walked it
- native planting should be acknowledged and the cultural practice of maintenance with fire
- promote Kaurna language in all signage
- open space – grasslands and cultural burning and maintenance
- waterways and cultural custodianship.

10. Naming and language

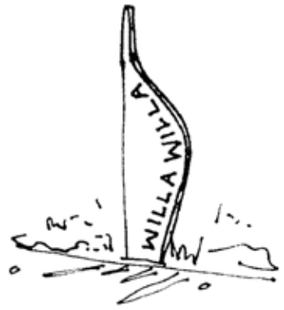


Figure 158. Illustration of signage with Kaurna language

The T2D Project is located on Kaurna land and traverses many significant sites to the Kaurna peoples along the corridor, from the north to the south.

Dual naming is important to reflect the siting of the T2D Project and there is an opportunity to name key Kaurna locations, including naming of interchanges, bridges, tunnels, open spaces and parks, and walkways.

Everything in Kaurna Country had a name and Kaurna language should be put back into the landscape

Dual naming opportunities include:

- 'Wartu Waarki' (Wombat Burrow)
- Ibis Hollows / Tjilbruke's Caves
- Great North-South Track.

C

Attachment C
Stakeholder engagement summary

Figure 159. Technical council workshop, T2D Project Community Information Centre

Purpose

This attachment describes the stakeholder engagement that occurred during the development of the Urban Design Strategy, as well as a summary of what was heard.

Stakeholder engagement is important to identifying local priorities, opportunities and constraints to be addressed by the T2D Project.

Feedback heard through engagement was reviewed, categorised into the five urban design principles for the T2D Project and then incorporated into the relevant chapters of the Urban Design Strategy.

Further stakeholder engagement will continue to occur as the T2D Project is designed and delivered through the project lifecycle.

Local residents, business and community

Engagement approach

Community engagement campaigns

A five week community engagement campaign was implemented in 2021 to release the high level T2D Project design and seek feedback on the proposed motorway footprint and functionality. Community priorities and concerns were gathered and with relevant comments analysed to inform the Urban Design Strategy.

The T2D Project team spoke with almost 1,500 people at shopping centre kiosks and community pop ups. More than 3,600 responses were received to the community survey, as well as 100 comments via an online Social Pinpoint map to collect location-specific perspectives.

A second community engagement campaign was implemented in 2023 to seek feedback on the updated T2D Project design. Community priorities, comments and concerns were again analysed for their relevance to the Urban Design Strategy, including additional location-specific comments provided via another online Social Pinpoint map.

Community and Business Reference Groups

Four Community and Business Reference Groups were established in 2021 to facilitate an exchange of information, views and ideas on the T2D Project. The monthly meetings enabled local residents and businesses to build an understanding of the elements of the T2D Project.

The Reference Groups also provided valuable insights into local interests, concerns and priorities to help develop the Urban Design Strategy. In particular, dedicated workshops were held with Reference Groups in April and September 2021 to specifically discuss urban design, landscaping and public realm ideas and opportunities.

What we've heard

P1 Connect people and place

- Improve east-west crossings and connections for all – cars, pedestrians and cyclists.
- Minimise “rat running" through residential areas.
- Provide safe, accessible and connected bicycle routes both north-south and east-west.
- Improve access to public transport, essential services, shops and community facilities.

P2 Support great journeys

- Improved safety is the top community priority.
- Improve walking and cycling facilities – lighting, shade, greening and wayfinding.
- Provide safe and easy local access to key destinations.
- Protection of local schools and childcare centres is a key community concern.

P3 Create greener, resilient places

- Increase greening along the corridor and in surrounding neighbourhoods and maintain current green space.
- Use innovation to promote sustainability, reducing urban heat and conserving water.
- Manage and enhance waterways and explore water sensitive urban design.

P4 Enable opportunities

- Explore opportunities to improve access to local businesses due to reduced traffic volumes along surface roads.
- Develop industrial parks/precincts to bring freight movement together and encourage new businesses.
- Establish retail precincts with lower speed limits, improved streetscapes and safer environments to encourage people to walk rather than drive.

P5 Celebrate culture and place

- This is more than a motorway – the T2D Project needs to help enhance the community.
- Preserve and enhance the amenity of local areas to maintain and foster pride in the community.
- Maintain existing heritage and local identity, to reinforce community connection and place-making.
- Reduce noise and pollution impacts and improve the visual appearance of South Road for local residents.

Figure 160. Community information session, T2D Project Community Information Centre

Figure 161. Marino Rocks Greenway, Adelaide

Figure 162. T2D Project online Social Pinpoint map data

Local government

Engagement approach

Council Working Group

Throughout 2021-2023, a monthly Council Working Group was established comprising staff representatives from the five local councils in the T2D Project area – Charles Sturt, West Torrens, Unley, Marion and Mitcham.

The Council Working Group provided an opportunity for councils to raise and discuss key questions, concerns and opportunities, including those focused on urban design, public realm and the future of the local area. Elected Member briefings and discussions were also held to further identify priorities for each.

A review of each council's strategies, plans and policies identified common themes relevant to urban design –liveability, connectivity, sustainability, prosperity. Dedicated workshops and discussions were held with the Council Working Group to discuss and reinforce these priorities.

Council technical workshops

In 2023, several technical workshops were held with the five local councils to discuss a range of technical matters relating to the T2D Project design update, including a review of local land use and urban design. The draft Urban Design Strategy was provided for review, as well as the updated urban and landscape design proposal forming part of the T2D Project Reference Design.

The review highlighted opportunities, constraints, gaps, inconsistencies, priorities and sensitivities across each council area of the T2D Project. Comments received from the workshop were used as a key input to updating the Urban Design Strategy and supporting contractual requirements for the T2D Project.

What we've heard

P1 Connect people and place

- Manage the changes to the local road network, including traffic patterns and local street capacity.
- Ensure access retained to surrounding residential, aged care and commercial land uses.
- Provide walking and cycling opportunities for both recreation and commuting purposes.
- Provide east-west connectivity to key destinations including schools and employment precincts.
- Use a link and place approach to transport planning.

P2 Support great journeys

- Provide safe connections to essential services for communities east-west across the corridor.
- Improve wayfinding, particularly rapidly regenerating areas (e.g. Tonsley) and retail precincts.
- Improve connections to existing active transport networks and surrounding recreation amenities.
- Improve north-south and east-west pedestrian and cyclist connections, including along Anzac Highway.

P3 Create greener, resilient places

- Invest in greening the corridor for biodiversity, shade and climate change resilience.
- Improve care and quality of urban waterways, creeks and rivers as important natural features.
- Investigate water sensitive urban design opportunities along the length of the corridor.
- Increase trees and greening and address open space deficit in some council areas.

P4 Enable opportunities

- Support economic growth precincts and business during construction.
- Improve the amenity and appearance of the corridor to attract investment and encourage urban regeneration.
- Address deficits in community and recreational facilities and enhance / connect to existing facilities.
- Utilise cut and cover areas for active recreation.
- Increase active travel and public transport patronage to key destinations.

P5 Celebrate culture and place

- Enhance and preserve cultural heritage and celebrate important Kaurna themes.
- Celebrate historic industries along the corridor, including manufacturing, tanneries and brick production.
- Use noise barriers and landscape buffers to reduce environmental and visual impact to residents.
- Achieve consistency in urban design and landscape typologies along the corridor to enhance place making and legibility.

Figure 163. Mike Turtur Bikeway, City of Marion

Figure 164. City Hindmarsh wayfinding, City of Charles Sturt

Figure 165. Tree net inlet, City of Mitcham

Figure 166. Technical council workshop, T2D Project Community Information Centre

State government and interest groups

Engagement approach

Effective engagement requires the long-term, ongoing involvement of stakeholders who are potentially affected by or interested in the T2D Project.

This includes providing information as the project evolves, understanding concerns and priorities, participation in decision-making, and incorporating feedback into planning and design.

State government agencies

In 2021, the T2D Project established a Cross-Agency Reference Group with relevant state government agencies to discuss city shaping, urban design and public realm opportunities. The monthly forum included:

- Planning and Land Use Services (PLUS)
- Green Adelaide
- Renewal SA
- Health and Wellbeing
- Office for Design and Architecture (SA)

Returned and Services League / Veterans SA

The Returned and Services League (RSL) were involved in the development of urban design features for Gallipoli Underpass and the surrounding landscape which are to be retained as part of the T2D Project.

In 2021, the RSL and Veterans SA were re-engaged to confirm the importance of retaining commemorative urban design themes and discuss the integration of new infrastructure with existing features.

Other interest groups

Throughout 2021-2023, engagement occurred with these interest groups to develop the Urban Design Strategy and supporting contractual requirements:

- South Australian Public Transport Authority (SAPTA)
- Department for Infrastructure and Transport
- Heritage SA
- Department for Education and key schools
- Active Living Coalition
- Bicycle Institute

What we've heard

P1 Connect people and place

- Maintain or improve safe access to schools from the catchments on both sides of South Road, via walking, cycling, public transport or private vehicles.
- Minimise physical and visual severance to key destinations, community facilities and heritage places.

P2 Support great journeys

- Encourage children to walk/cycle with safe, direct access and crossings to schools.
- Provide safe, comfortable and direct protected bikeways.
- Prioritise active travel with separated walking/cycling infrastructure and safer crossings, including removal of slip lanes at intersections.
- Provide coordinated and connected east-west walking / cycling crossing opportunities.
- Ensure universal access to all active travel infrastructure.
- Provide suitable signage to ensure safe, shared movement of both pedestrians and cyclists.

P3 Create greener, resilient places

- Enhance the setting of heritage places with additional, respectful landscaping and greening.
- Maximise opportunities for green infrastructure along and adjacent to the T2D Project corridor.

P4 Enable opportunities

- Maintain views to important heritage features.
- Consider interpretative signage to tell the story of historic features along the corridor.
- Encourage active and public transport uptake to address health impacts due to physical inactivity.
- Provide walkable neighbourhoods with walkable access to essential services and facilities.

P5 Celebrate culture and place

- Protect and recognise existing culture and heritage through urban design expression.
- Retain, enhance and upgrade commemorative infrastructure, including Anzac Highway and Gallipoli Overpass and existing memorial features.
- Explore progressive design that recognizes Australian military history beyond WW1/WW2 and Vietnam to include recent peacekeeping / conflicts.
- Establish ongoing working group with RSL and other veteran organisations to progress themes of commemoration and remembrance.

Figure 167. Frome Street Bikeway, Adelaide. Features separated walking/cycling infrastructure

Figure 168. Gallipoli Underpass memorial signage, Adelaide

Figure 169. Richmond Primary School entry and crossing, Adelaide

Figure 170. T2D Project artist's impression - new green space

D

Attachment D

Strategy, policy and plan review

Purpose of this review

The River Torrens to Darlington Project's Urban Design Strategy has been informed by a review of existing strategies, policies and plans from the state and local government in South Australia.

State and local government strategic documents shape the planning, development and delivery of infrastructure in South Australia across a range of areas, including:

- planning and development
- growth and economic prosperity
- environment and sustainability
- health and safety.

These documents identify stronger communities, increased greening, improved connectivity, safer streets and public spaces as key outcomes to be delivered in South Australian infrastructure.

The Urban Design Strategy seeks to achieve alignment with these documents by drawing on the individual objectives and actions to develop the urban design principles for the T2D Project:

- P1 **Connect people and place**
- P2 **Support great journeys**
- P3 **Create greener, resilient places**
- P4 **Enable opportunities**
- P5 **Celebrate culture and place**

State government review

20-Year State Infrastructure Strategy

South Australian Government, 2020

The 20-Year State Infrastructure Strategy is South Australia's first truly integrated infrastructure strategy and sets the longterm strategic direction and initial priorities for infrastructure development in the state.

The first Strategy was released in 2020 and has been instrumental in guiding decision making and investment decisions for infrastructure since its publication.

Under the Infrastructure *SA Act 2018,* the 20-Year State Infrastructure Strategy must be reviewed at least once every five years.

State Planning Policies for South Australia

South Australian Government, 2019

The State Planning Policies set out a framework for land use that aims to improve the liveability, sustainability and prosperity of the state.

State Planning Policies represent the highest level of policy in our new planning system, and address the economic, environmental and social planning priorities for South Australia.

They provide the state-wide vision for South Australia's planning and design system.

30-Year Plan for Greater Adelaide, 2017 Update

South Australian Government, 2017

The 30-Year Plan's vision is to become more liveable, competitive and sustainable.

Targets relevant to the T2D Project include; 85% new housing in established areas, 60% new housing in close proximity to frequent public transport, 25% increase of housing choice, 30% increase of active transport trips to work, 25% increase of walkable neighbourhoods and 20% increase of tree canopy cover.

The Plan outlines policies including protecting strategic freight routes, rail and transit corridors with an emphasis on ensuring quality design inclusive of infrastructure.

SA Public Health Plan 2019-2024

South Australian Government, 2013

The Plan identifies social inclusion and housing stress as key influences on public health. It outlines partnerships with other agencies (e.g. DIT) in addressing issues such as social inclusion, built environment and climate change.

The Plan seeks to 'build stronger communities and healthier environments', built environments protected from excessive noise, air pollution, environmental hazards and the risk of physical injury contribute significantly to the quality of life.

Well-designed public space and developments make communities more sustainable, safer, walkable, inclusive and accessible for all.

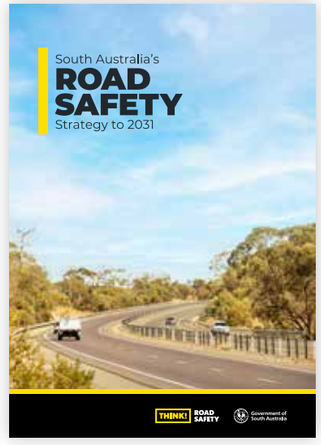
Integrated Transport and Land Use Plan, 2013

South Australian Government, 2013

The Integrated Transport and Land Use Plan (ITLUP) sets out a program of major transport infrastructure investment required to support the state's growth and productivity over the short, medium and long term.

The Plan identifies the North-South Corridor of the highest importance for freight and business travel.

It focuses on efficient connections between import/export gateways intermodal terminals, employment and industrial centres.



SA's Road Safety Strategy to 2031

South Australian Government, 2021

The Strategy seeks to reduce severe casualty trauma by at least 30 per cent. The Strategy explicitly calls out the dangers around intersections, noting that almost half of serious casualty crashes in metropolitan areas occur at intersections.

The T2D Project directly addresses this key safety risk by diverting traffic away from at-grade intersections, improving safety not only for motorists but also for active transport users.

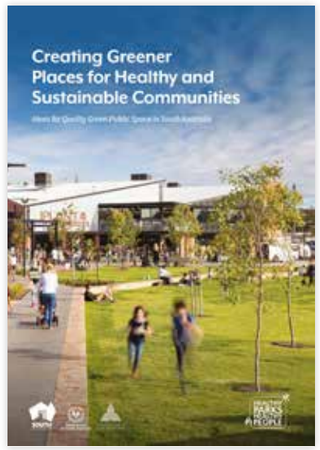
State government review

Climate Change Action Plan 2021–2025

South Australian Government, 2021

The Action Plan identifies measures to:

- Increase the use of public and active transport.
- Encourage development and design that achieves low emissions and climate resilient outcomes.
- Support smarter manufacturing and innovation of renewable technologies.
- Accelerates strategic urban greening.
- Build South Australia's climate resilient landscapes, habitats and natural resources.



Creating Greener Places for Healthy and Sustainable Communities

South Australian Government, 2019

The policy was prepared in partnership between the South Australian Government and industry to guide the development of quality green spaces within South Australia.

The policy recognises the benefits of green spaces and discusses successful case studies.

It provides principles and objectives to inform potential design responses to create greener, healthier and more sustainable communities.

Draft Green Adelaide Regional Landscape Plan 2021-2025

South Australian Government, 2021

The draft Plan outlines practical outcomes for greening Adelaide and includes the following priorities:

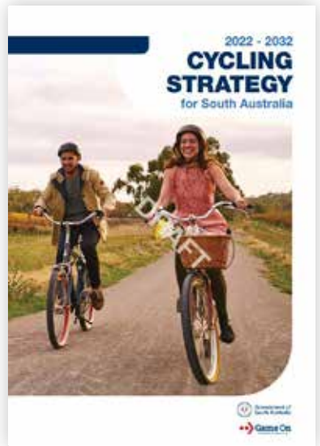
- Green streets and flourishing parklands.
- Biodiversity and water sensitive urban design.
- Fauna, flora and ecosystem health in the urban environment.
- Coastal management.
- Water resources and wetlands.

Green Infrastructure Commitment

South Australian Government, 2021

The Green Infrastructure Commitment focuses on the urban environment, including the Metropolitan Adelaide region and surrounding townships, where the social, environmental and economic benefits from the provision of increased green infrastructure can be maximised.

These areas are most vulnerable to the urban heat island effect and have greater numbers of residents, pedestrians and cyclists who will directly benefit from increased greening.



Draft Cycling Strategy for South Australia 2022-2032

South Australian Government, 2022

The Draft Strategy identifies four key objectives with an overarching aim to improve cyclist safety while encouraging more people to cycle improving health and wellbeing, de-congesting traffic and lowering emissions.

These objectives are:

- Inclusive cycling
- Accessible cycling
- Integrated cycling
- Enjoyable cycling

Priority projects identified with relevance to the T2D Project include a database of cycling infrastructure, the Mike Turtur Bikeway overpass and integrated key inner-west cycling links.

South Australian Walking Strategy 2022-2032

South Australian Government, 2022

The South Australian Walking Strategy focuses on three priority areas, to realise the vision of more people walking, more often, of all ages and abilities:

- Plan walkable neighbourhoods, towns and cities.
- Build connected, safe and pleasant walking environments for all.
- Create a South Australian walking culture.

It includes an action plan identifying key actions for the Department for Infrastructure and Transport, including improving pedestrian safety in transport infrastructure and providing shaded active transport corridors.

State government review

Urban Design Principle	Aligned objectives and actions					
	 **20-Year State Infrastructure Strategy**	 **State Planning Policies for South Australia**	 **30 Year Plan for Greater Adelaide, 2017 Update**	 **SA Public Health Plan 2019-2024**	 **Integrated Transport and Land Use Plan, 2013**	 **SA's Road Safety Strategy to 2031**
P1 **Connect people and place**	3: Develop a digital connectivity strategy to position South Australia to take advantage of the opportunities arising from digital infrastructure. 16: Provide better transport connectivity to facilitate ease of access to tourist attractions. 22: Make strategic investments to improve connectivity to, between and within key economic precincts. 25: Develop a Future Mobility Strategy.	1: Integrated Planning – Integrated planning coordinates the strategic use of land with the necessary services and infrastructure. It can influence how a city or region grows and evolves, which if done well, creates livable and sustainable places that contribute to our prosperity.	2: More ways to get around – 60% of all new housing in Metropolitan Adelaide is built within close proximity to current and proposed fixed line (rail/ tram/O-Bahn) and high frequency bus routes by 2045.	Strengthen mental health and wellbeing through promotion, prevention and intervention strategies.	14. North-South Corridor – Regency Road to Southern Expressway (excl. T2T). 8. Glenelg tram line – increase service frequencies and increase tram size and tram fleet. Restructure bus services and improve bus service frequencies. Work with local councils to complete local transport strategies, with a focus on accessible neighbourhoods, integration with public transport networks and state freight/major traffic routes.	37: The movement and place approach will be used to take account of road function when planning road safety treatments and determining operational settings (e.g. setting speed limits). 39: Safer and more connected walking and cycling infrastructure.
P2 **Support great journeys**	8: Develop and fund interventions that reduce demand for hospital-based services and contribute to improved health outcomes. 21: Improve public transport patronage to take a greater share of demand as Adelaide grows. 23: Improve the safety of the road network. 24: Take a more strategic approach to promoting active transport options.	11: Strategic Transport Infrastructure – Transport systems that provide effective connectivity underpin access for business to local, national and international markets; link people with employment, goods and services by providing travel choices; and contribute to a healthier and more connected society.	3: Getting active – Increase the share of work trips made by active transport modes by residents of Inner, Middle and Outer Adelaide by 30% by 2045.	Built environments that support health and wellbeing for all through improved public infrastructure (for example walking and cycling paths, functional streetscapes, recreation spaces, smoke free environments and accessible services). Built environments that support health and wellbeing for all through urban planning that promotes active travel and public transport.	24: Partner with local councils to complete the Airport Bikeway, including crossings of arterial roads On-road bus priority measures on key routes. Targeted upgrades of key intersections and sections of road to improve efficiency and safety performance. Increase maintenance to improve and sustain the performance of the transport network and make better use of our transport assets. Extend bicycle lanes to intersections on key routes.	34: Explore opportunities to make roads and crossings easier to use for older road users. 38: Positive provision policies for cycling and walking infrastructure irrespective of the project intent. 42: Improving pedestrian and cyclist safety when crossing arterial roads.
P3 **Create greener, resilient places**	34: Develop a South Australian sustainable water resources framework. 35: Develop water infrastructure to unlock economic opportunities. 36: Identify necessary flood mitigation infrastructure. 38: Leverage capabilities and infrastructure to build the circular economy and expertise in managing new waste streams.	5: Climate Change – Our future prosperity, the livability of our cities and towns, the health and wellbeing of our communities and the resilience of our built and natural environment all depend on how well we adapt to and mitigate the impacts of climate change.	5: A green liveable city – For council areas with less than 30% tree canopy cover currently, cover should be increased by 20% by 2045.	Built environments that support health and wellbeing for all through access to quality public realm and green infrastructure, including open space and effective use of shade, vegetation and sustainable water use	Development of shared use linear paths along waterways, coast and public transport corridors	51: Promote the benefits of public transport to encourage mode shift to increase public transport patronage
P4 **Enable opportunities**	5: Prepare and manage growth in demand for schooling. 11: Increase private sector investment in the supply of affordable housing. 14: Explore alternative models to increase supply of crisis, transitional and post-release housing. 26: Identify key economic corridors through Adelaide and the regions and plan interventions to create more efficient supply chains. 27: Improve the efficiency of freight through Adelaide.	9: Employment Lands – Providing a suitable supply of land for employment uses is critical to support job growth and the economic prosperity of the communities. It is critical that the right signals are sent to the market to attract interest, investment and tourism opportunities across South Australia.	1: Containing our urban footprint and protecting our resources – 85% of all new housing in Metropolitan Adelaide will be built in established areas by 2045.	Seek opportunities and linkages between the State Public Health Plan priorities and health and wellbeing outcomes in other relevant state government strategies and plans.	17: Upgrade intersections along Sir Donald Bradman Drive to reduce congestion and improve reliability of travel times to the airport, and provide taxi, commercial vehicle and bus access via Richmond Road. Actively manage the operation and performance of the road network to give priority to movements along key freight and major traffic corridors.	41: Work with local councils to design safer community and pedestrian precincts (schools, main streets, recreation and sports) using a movement and place approach.
P5 **Celebrate culture and place**	6: Recognise education facilities as community assets and promote shared use where possible. 15: Develop tourism assets and product to enhance the state's appeal to interstate and international visitors. 17: Develop business cases for investment in sports infrastructure based on strategic need and prioritise multi-use facilities.	2: Design Quality – Good design improves the way our buildings, streets and places function, making them more sustainable, more accessible, safer and healthier. 7: Cultural Heritage –The enduring, living, spiritual and cultural connection to the land by South Australia's First Peoples is recognised and acknowledged as an essential part of our cultural heritage.	4: Walkable neighbourhoods – Increase the percentage of residents living in walkable neighbourhoods in Inner, Middle and Outer Metropolitan Adelaide by 25% by 2045.	Support health and wellbeing in settings such as schools, workplaces, community spaces, health facilities and correctional services.	Improve walking and cycling facilities in catchment areas for schools. Access to sporting, entertainment and leisure hubs, such as Bailey Reserve, Highbury Recreation Centre, Warriparinga Wetlands	44: Improved design of roads that encourage the desired behaviours in users, for example, signage and a road environment that gives a clear indication of what is ahead.

Figure 171. Strategic alignment matrix of relevant strategic documents and the T2D Project urban design principles.

State government review

Urban Design Principle	Aligned objectives and actions					
	 **Climate Change Action Plan 2021–2025**	 **Creating Greener Places for Healthy and Sustainable Communities**	 **Draft Green Adelaide Regional Landscape Plan 2021-2025**	 **Green Infrastructure Commitment**	 **Draft Cycling Strategy for South Australia 2022-2032**	 **South Australian Walking Strategy 2022-2032**
P1 **Connect people and place**	4: Low emissions transport –Align transport and urban planning with low emissions transport outcomes.	3: Build stronger communities – Well-designed public green open spaces create unique settings that respond and adapt to demands and aspirations as our communities change socially, culturally, physically or environmentally.	G1: Drive coordinated, accelerated greening of streetscapes and public spaces.	2. Provide shade trees to improve amenity for pedestrians, cyclists and public transport customers, targeting ≥50% tree shade cover on footpaths and bikeways.	2.4: Fix identified gaps in the existing cycle network. 3.3: Ensure direct and well-designed cycle infrastructure and facilities are included in urban transport and infrastructure projects. 3.4: Ensure direct and well-designed cycle infrastructure and facilities are included in urban transport and infrastructure projects.	1.1.4: Adopt and consistently apply the Movement and Place classification framework into transport and network planning and Road Safety planning to appropriately balance the needs of various modes including pedestrians.
P2 **Support great journeys**	2: Climate Smart Economy – Develop a more circular economy and support climate smart business innovation.	4: Deliver connectivity and access for all – Well planned green open spaces are easily accessible for everyone and contribute to wider open space networks and landscapes. Accessible green open spaces enable people to move, stay and play.	G3: Identify priority locations for improved urban greening and define what success looks like in different contexts.	2. Provide shade trees to improve amenity for pedestrians, cyclists and public transport customers, targeting ≥50% tree shade cover on footpaths and bikeways.	2.3: Separate bike lanes on key arterial roads. 2.7: Improve opportunities for cycling in urban areas in South Australia, for locals and visitors. 3.2 Ensure the needs of bike riders are included within the planning and development of open space, the public realm and streetscapes. 3.5: Ensure cycling projects support the Road Safety Strategy vision (zero lives lost on our roads by 2050) by making cycling safer.	1.1.5: Implement the Australian Transport Assessment and Planning (ATAP) Guidelines, which outline best practice for transport planning and assessment in Australia, and which aim to improve the quality of the assessment of active travel initiatives. 1.1.10: Adopt and consistently apply relevant Austroads Guides and support Austroads' update of design guidelines. 1.3.2: Ensure new projects consider access and inclusion for people of all abilities, ages and backgrounds.
P3 **Create greener, resilient places**	4: Low emissions transport – Support the uptake of low and zero emissions vehicles and fuels; Increase the use of public transport and active travel.	2: Connect with nature – Quality green public spaces support natural processes and place value on local flora and fauna. The provision of public green open space provides us with the opportunity to connect with nature through well established, resilient, attractive and accessible landscapes. 6: Support resilient neighbourhoods.	W1: Protect, enhance, and restore water resources and water-dependent ecosystems through partnerships and on-ground delivery. BW1: Facilitate and incentivise best practice WSUD and WSUD in new developments, major transport corridors, public open spaces and local streetscapes. F2: Invest and partner in protecting, improving and/ or creating terrestrial habitats.	1. By 2045 the Department will deliver a 20% increase in canopy cover on departmental managed land (measured from the 2018/19 baseline). 3. Implement WSUD on infrastructure projects to achieve the state WSUD policy performance targets for water quality, peak flow and flood risk. 4. Minimise impacts to existing natural ecosystems to maintain ecological value and retain mature trees including Regulated and Significant trees.	1.4: Support current and emerging riding trends and technology, including further innovations in e-bikes and bikeshare programs. 2.6: Establish a cycling infrastructure ownership and maintenance strategy.	2.1.4: Identify and pursue feasible opportunities to expand green infrastructure on public land, focusing on priority areas identified by Green Adelaide, corridors which provide for active travel, and new infrastructure projects.
P4 **Enable opportunities**	3: Climate smart agriculture, landscapes and habitats – Build the climate resilience of landscapes, habitats and natural resources. 5: Climate smart built and urban environments – Provide for development and design that is low emissions and climate resilient; Accelerate strategic urban greening; Understand and reduce climate change risks to infrastructure.	1: Promote community health and wellbeing – Quality green public open spaces support and sustain the physical and mental health of our communities by providing inviting, welcoming and safe settings for outdoor pursuits, relaxation and social interaction.	G2: Encourage the protection of trees and incentivise greater greening of private land through the new planning system and other levers.	5. Identify and pursue opportunities to improve biodiversity, fauna habitat and wildlife corridors through civil and landscape design and species selection.	Integrate key inner-west cycling links into the Torrens to Darlington project. Develop missing links in cycling connections to the Mile End Sports Precinct as part of the SASI location relocation. 2.1: Further develop the Greenways Cycling Strategic Network. 2.2: Develop inner suburban bicycle boulevards.	1.3.1: Publish and promote improved guidance to better inform infrastructure providers on how to incorporate accessible universal design elements and principles into public transport infrastructure and surrounding precincts, and publish and promote case studies for successful transport infrastructure projects. 2.2.1: Continue to deliver the Way2Go education program with schools and deliver associated school zone improvements (e.g. crossings).
P5 **Celebrate culture and place**	6: Resilient communities – Support communities and businesses to build resilience and adapt. 7: Government leading by example – Embed climate change risk and opportunity into government policy and practice.	5: Contribute to neighbourhood character – Well planned public green open spaces respond to, support and enhance their surroundings and create positive relationships between natural landscapes, existing open spaces, building edges, neighbourhood character and other community infrastructure.	N1: Raise awareness and build capacity about Aboriginal cultural knowledge, values and lore. N3: Enable a movement of diverse nature 'stewards' through school / educational partnerships, community learning and development, nature play, citizen science and sustainability activities.	6. Minimum 50% of new landscape plantings need to be local native species suited to local conditions.	4.2: Improve and expand off-road trails and mountain biking networks.	2.1.6: Investigate ways to improve personal safety and security, by designing and building in accordance with Crime Prevention Through Environmental Design principles to provide safe public environments.

Figure 172. Strategic alignment matrix of relevant strategic documents and the T2D Project urban design principles.

Local government review

The T2D Project interfaces with five local government areas, including the City of Charles Sturt, City of West Torrens, City of Unley, City of Mitcham and City of Marion.

A review of each Council's current strategies and plans identified focus areas relevant to urban design and the development of the Urban Design Strategy.

City of Charles Sturt

The City of Charles Sturt includes strategic sites and natural assets within proximity of the T2D Project, including Bowden, Hindmarsh and the Karrawirra Parri / River Torrens.

City of Charles Sturt is also informed by its involvement in the Torrens Road to River Torrens Project (T2T) section of the North-South Corridor.

The City of Charles Sturt's policies reflect a mix of social, economic and environmental values, including the desire to achieve a connected and innovative community.

City of West Torrens

The City of West Torrens seeks an attractive, safe and cohesive environment that supports better quality development outcomes and infrastructure that meet the needs of a changing city and climate.

The City of West Torrens' policies note the pressure on local infrastructure in accommodating growth and impacts on climate.

The West Torrens' Community Plan includes relevant objectives to the T2D Project, including encouraging active travel and lowering car dependency, ensuring universal access, exploring place-making and public art, optimising employment precincts, creating open spaces that support recreation and biodiversity and protecting and expanding the urban forest.

City of Unley

The City of Unley's policies emphasise issues relating to local access and connectivity as well as a focus on main streets and public open space.

The City of Unley's strategic plans discuss cross-generational needs such as provision of open space in the context of growing residential density.

City of Mitcham

The City of Mitcham includes multiple economic precincts within proximity of the T2D Project as well as residential, heritage and special character areas.

The City of Mitcham's strategic plans note that the economic potential of South Road is yet to be realised.

The City of Mitcham Spatial Vision demonstrates an emphasis on place-making and city vibrancy, underpinned by a mix of social, economic and environmental values.

City of Marion

The City of Marion includes strategic sites within proximity of the T2D Project including the Tonsley Innovation District, Edwardstown Employment Precinct and Mitchell Park Sports Complex.

The City of Marion's policies reflect a desire to support business and innovation, supported by local amenity and active travel connections. They prioritise liveability in supporting growth, improved amenity and greater open space.

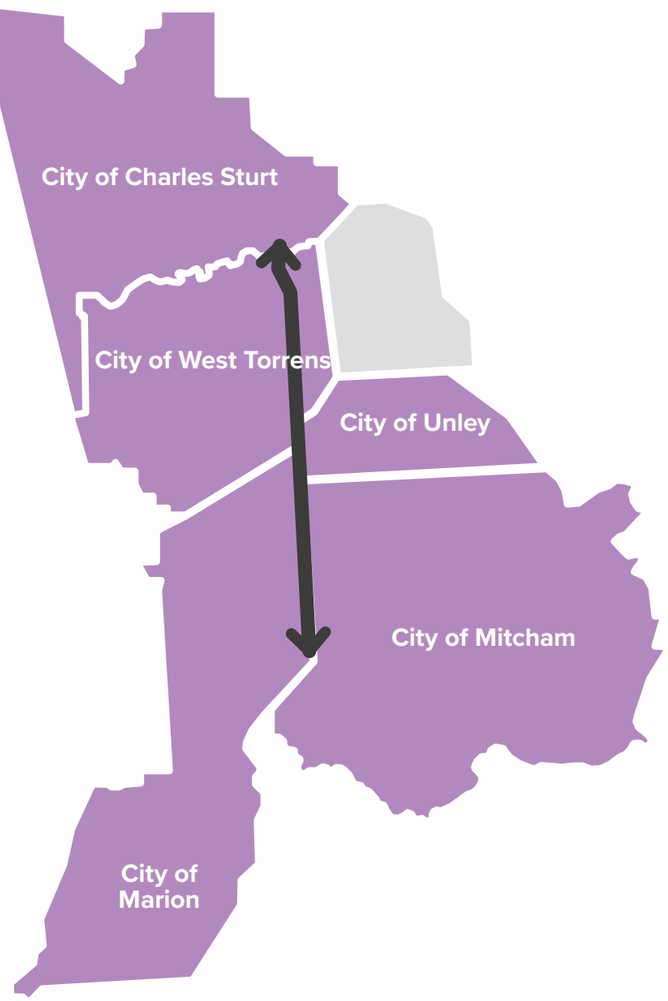


Figure 173. T2D Project area and relevant local government areas

Local government review

City of Charles Sturt

Strategies

- Community Plan 2020-2027
- Transport Plan 2016-2031
- Open Space Strategy 2025
- Living Green to 2020 Environmental Plan
- Tree Canopy Improvement Strategy 2021-45
- Disability Access & Inclusion Plan 2021-25

Asset Management Plans

- Transport
- Open Space and Recreation
- Water Infrastructure
- Public Lighting
- Council Buildings

City of West Torrens

Strategies

- Community Plan 2030
- Public Realm Design Manual
- Transport and Movement Strategy 2022-32
- Open Space Plan 2021-26
- Public Art Framework 2022-2032
- Tree Strategy 2018-25
- Disability Acess & Inclusion Plan 2021-25
- Brownhill Keswick Creek Catchment Stormwater Management Plan

Asset Management Plans

- Transport
- Open Space and Recreation
- Water Infrastructure
- Public Lighting
- Council Buildings

City of Unley

Strategies

- Community Plan 2033
- Four Year Delivery Plan 2021-25
- Integrated Transport Strategy
- Walking and Cycling Plan 2022-2027
- Living City – Open Space Strategy
- Cultural Plan 2021-2026
- Tree Strategy 2020
- Disability Access & Inclusion Plan 2022-26

Asset Management Plans

- Transport
- Open Space and Recreation
- Water Infrastructure
- Public Lighting
- Council Buildings

City of Mitcham

Strategies

- Mitcham 2030
- Mitcham Spatial Vision 2019
- Four Year Delivery Plan 2020-24
- Living Well Plan 2020-25
- Open Space Strategy 2001
- Sports Facilities Strategy 2016
- Tree Strategy 2016-2025
- Disability Access & Inclusion Plan 2020-24

Asset Management Plans

- Transport
- Open Space and Recreation
- Water Infrastructure
- Public Lighting
- Council Buildings

City of Marion

Strategies

- Community Vision Towards 2040
- Strategic Plan 2019-2029
- Transport Plan 2021-2026
- Open Space Plan
- Open Space Policy 2022
- Disability Access & Inclusion Plan 2020-24
- Streetscape Guidelines
- Building Asset Strategy
- Tree Management Framework / Tree Asset Management Plan
- Sturt River Biodiversity Sensitive Urban Design Strategy

Asset Management Plans

- Transport
- Open Space and Recreation
- Water Infrastructure
- Public Lighting
- Council Buildings

Figure 174. Relevant local government strategies and plans to the T2D Project


Tonsley
Innovation District

T2D TORRENS TO DARLINGTON

Australian Government

Government of South Australia
Department for Infrastructure and Transport

T2D.sa.gov.au