



Bruce

Precinct Master Plan

Final Scenarios Report

Final Issue
04/09/2026



Australian Government

HATCH

Title:	Final Scenarios Report
Prepared for:	DITRDCSA
Reference:	H377218
Status:	Final
Date	September 3, 2026 6:48 PM
Prepared by:	Marta Francisco, Fariz Hazmi and Jack Jeffries
Approved by:	Angela Koepp
Report Inputs:	
Landscape Architecture:	Brooke Ryan - Hatch
Planning:	Hope Watson - Planit
Designing With Country:	Yerrabingin
Economic Development:	Leigh Holford - Hatch
Engineering:	Mark Perry, Gerard Zafico - Stantec
WSUD:	Tommy Plahcinski - Stantec
Sustainability:	Rebecca Dracup- Stantec
Active Travel:	Chris Coath - Stantec
Cost Estimates:	Sephton Wolmarans - RLB

DISCLAIMER & COPYRIGHT

This document was prepared for the exclusive use of Department of Infrastructure, Transport, Regional Development, Communications, Sports and the Arts (DITRDCSA). Hatch acts in all professional matters as a faithful advisor to its clients and exercises all reasonable skill and care in the provision of its professional services. The information presented herein has been compiled from a number of sources using a variety of methods. Hatch does not attempt to verify the accuracy, validity or comprehensiveness of any information supplied to Hatch by third parties. The development parameters (dwelling yields, stages etc) referred to in this report may vary over time. The figures contained herein are estimates; they represent a good approximation of likely development outcomes to a sufficient level of accuracy for the purposes of this report. Hatch makes no warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, validity or comprehensiveness of this document, or the misapplication or misinterpretation by third parties of its contents. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favouring by Hatch.

This document cannot be copied or reproduced in whole or part for any purpose without the prior written consent of Hatch.

© Hatch Pty Ltd, 2026

Hatch
Level 3, 50 Carrington Street, Sydney NSW 2000
T: +612 8202 8000 www.hatch.com

HATCH

 **Stantec**

 **YERRABINGIN**



PLANIT
Strategic & Transport
Town Planning

 **Rider
Levett
Bucknall**

Table of Contents

Executive Summary	06		
1			
Introduction	08		
Project Overview	10		
Purpose of this report	12		
2			
The Foundations	14		
Precinct Ambition	16		
Engagement Summary	18		
Design Brief	20		
Strategic Maps	24		
Urban Design Recommendations	26		
3			
Context	28		
Context Overview	30		
A Country First & Place Led Approach	32		
4			
Bruce Precinct	34		
4.1			
Stitched together by waterways & green corridors			
<i>Starting with Country</i>	<i>38</i>		
<i>Designing with Country</i>	<i>40</i>		
<i>Connecting with Country</i>	<i>42</i>		
4.2			
Connected through public places & active connections			
<i>Community & Cultural Spaces</i>	<i>46</i>		
<i>Movement Network & Access</i>	<i>48</i>		
4.3			
Fostering innovation & anchor synergy			
<i>Economic Development</i>	<i>72</i>		
<i>Health, Education & Sports Integration</i>	<i>76</i>		
4.4			
Creating a new entertainment & stadium-led community			
<i>Land Use, Built Form & Density</i>	<i>82</i>		
<i>Strategic & Statutory Planning</i>	<i>92</i>		
4.5			
Integrated with Belconnen & beyond			
<i>Infrastructure & Servicing</i>	<i>104</i>		
4.6			
Delivering a legacy of resilience for generations to come			
<i>Environmental Sustainability & Resilience</i>	<i>122</i>		
<i>Indicative Costing</i>	<i>132</i>		
5			
Conclusion	134		
Next Steps	136		
Appendix A			
<u>Transport</u>			
Appendix B			
<u>Designing with Country</u>			

Acknowledgment of Country

We acknowledge the Traditional Custodians of Country throughout Australia and their continuing connection to culture, community, land, water, and sky.

We specifically acknowledge the Ngunnawal and Ngambri people, who have long cared for this Country. We pay our respects to Elders and Knowledge Holders, past and present, and express our gratitude for their continued sharing of knowledge and culture.









Executive Summary

Project Overview

Hatch and Stantec have been engaged by the Department of Infrastructure, Transport, Regional Development, Communications, Sports and the Arts (DITRDCA) to lead and coordinate the preparation of a master plan for the Bruce Precinct, a section of the suburb of Bruce in the ACT.

The report was commissioned by Commonwealth to provide advice for future decisions on the precinct. It contains investigations using scenarios to explore future outcomes and inform government decisions at all levels. The document does not represent current ACT or Australian Government policy decisions.

The master plan builds on existing strategic work and aligns with the Australian Government and ACT Government's vision for a vibrant, inclusive, and sustainable Precinct, by identifying optimal land uses within the Precinct and integrating the various existing anchors into a cohesive scheme.

This report

This report synthesises nine months of collaborative planning, analysis and design to establish a clear vision for the precinct and to provide existing and future opportunities and constraints associated with a future development capacity of the Bruce Precinct in order to guide decision-making and facilitate the highest and best use.

The process has been grounded in iterative engagement, including workshops with the project Working Group and meaningful consultation with Ngunnawal and Ngambri stakeholders, alongside comprehensive background, place and site analysis to frame opportunities and constraints.

Building from this evidence base, the report defines a set of guiding principles and tests two spatial scenarios against the eight core elements of the design brief, translating these into integrated urban design responses.

The development potential of Bruce Precinct is described within this document through a multidisciplinary lens—including transport, landscape, infrastructure, sustainability, planning and economic development—to understand performance, trade-offs and delivery considerations.

This approach ensures the direction is both strategically aligned and practically achievable, balancing place outcomes with technical and commercial realities in the trajectory to the ultimate realisation of the long-term vision for Bruce Innovation Precinct.

01

INTRODUCTION

Project Overview

The Bruce Precinct comprises several distinct institutions and hubs, all of which operate in unique fields with local through to far-reaching significance. The Final Scenarios Report will deliver options for the integration of these various existing developments into a cohesive place, delivering optimal land uses including opportunities for urban renewal, and enhancing synergies between the precinct anchors.

The Project

The project has been overseen by both levels of government, including through a working group, with the overall ambition of seeking information for future government decision making.

The Working Group, together with Client, endorsed at the first workshop the project drivers of

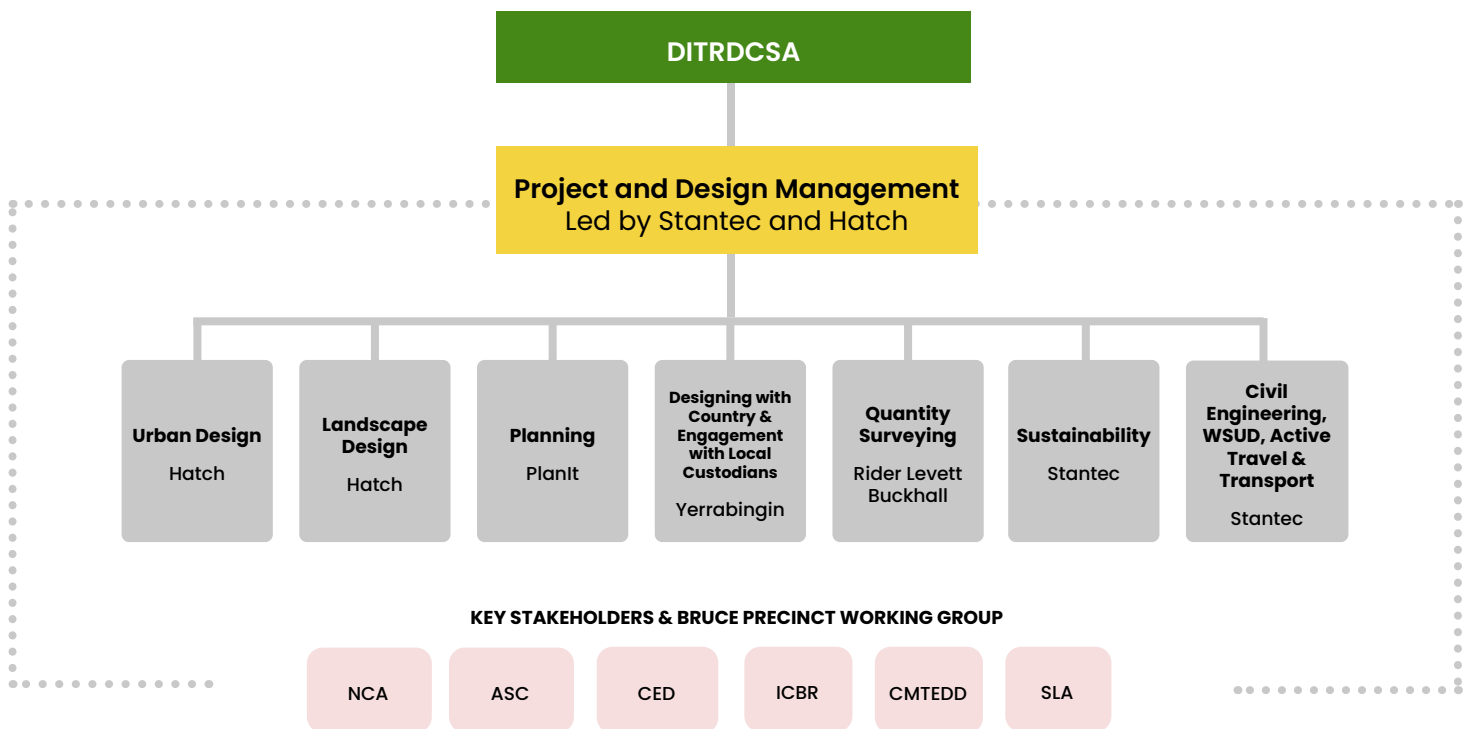
- achieving highest and best land use including urban renewal
- delivering integration of existing sites into a cohesive place
- enhancing synergies between anchors

At that session a series of critical inputs were mapped out and curated to help establish the design brief. Those inputs were then tested at the March workshop, providing the findings and mapping that formed the scenarios in the Scenarios Report, later expanded into the Strategic Map report. This report subsequently added eight Urban Design Recommendations, inspired by learnings from the scenarios, that have informed the spatial advice included in the Final Scenarios report.

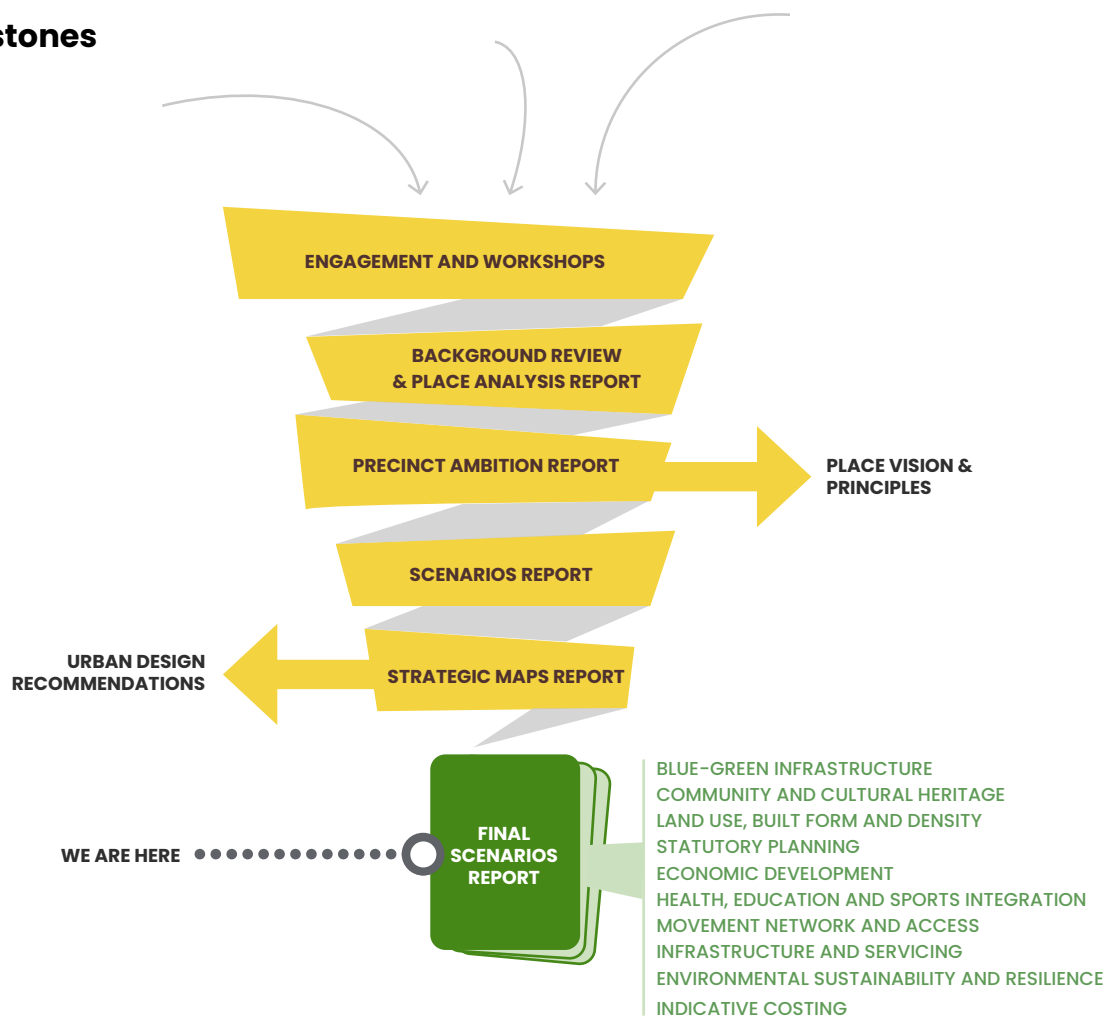
In parallel, the Precinct Ambition Report has set out the Place Principles that enable the delivery of the Place Vision. This Vision was initially set out by the project team and workshopped with the Working Group.

In this report, the scenarios are now critically assessed through a multidisciplinary lens—including transport, landscape, infrastructure, built form, sustainability, planning and economic development—to understand performance, trade-offs and delivery considerations.

Project team structure



Project Milestones



Purpose of this report

This report identifies existing and future opportunities and constraints shaping the development capacity of the Bruce Precinct, to guide decision-making and enable its highest and best use, informed by a multidisciplinary framework spanning transport, landscape, built form, infrastructure, sustainability, planning and economic development.

PLACE PRINCIPLES

**STITCHED
TOGETHER BY
WATERWAYS
AND GREEN
CORRIDORS**

**CONNECTED
THROUGH
PUBLIC PLACES
AND ACTIVE
CONNECTIONS**

**FOSTERING
INNOVATION
AND ANCHOR
SYNERGY**

URBAN DESIGN RECOMMENDATIONS

**GREEN AND BLUE
MOVEMENT GRID**

**EQUITABLE AND
ACTIVE NETWORK**

**AIS SEAMLESS
PUBLIC PRIVATE TRANSITION**

**CONNECTED AND
ENHANCED HOSPITAL**

**RENEWED AND DIVERSIFIED
CIT SITE**

REPORT CHAPTERS

**BLUE-GREEN
INFRASTRUCTURE**

**COMMUNITY &
CULTURAL SPACES**

**MOVEMENT NETWORK &
ACCESS**

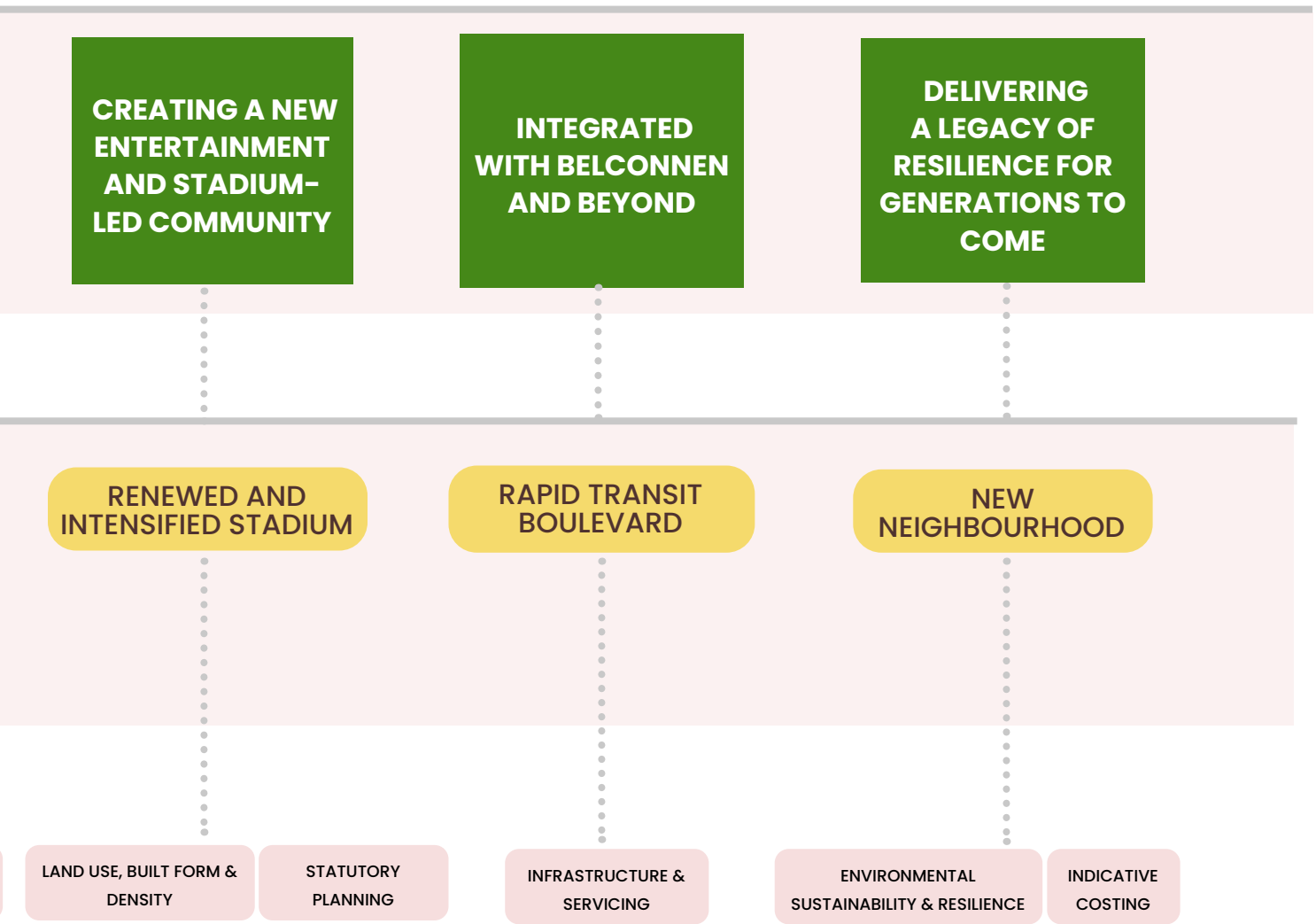
**ECONOMIC
DEVELOPMENT**

**HEALTH, EDUCATION &
SPORTS INTEGRATION**

Document Structure

The report is structured into four key sections:

- 1. **Introduction** – Provides an overview of the project and the purpose of this report.
- 2. **The Foundations** – Summarises the scope of work undertaken over the past nine months highlighting design brief, the key reference documents and engagement and their respective insights and takeaways.
- 3. **Context** – Establishes the site context and outlines the methodology.
- 4. **Bruce Precinct** – Organised around the place principles, this section outlines the opportunities and constraints informing the future development capacity of the Bruce Precinct, providing a basis for decision-making and enabling its highest and best use through a multidisciplinary lens.

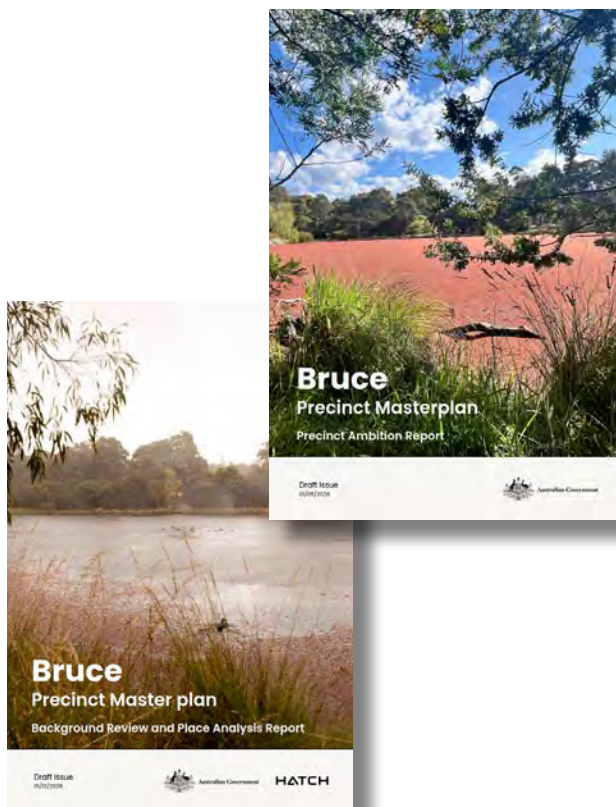


02

THE FOUNDATIONS

Precinct Ambition

The Vision and supporting Place Principles articulate the future identity and ambition of the Bruce Precinct. The scenarios and development of the Urban Design Recommendations includes a constant review against the principles to ensure alignment with this agreed-on identity.



The Precinct Ambition was developed through a multi-layered process:

- establishing context (alignment with broader policy, investment directions, and governance frameworks as well as building an understanding of physical setting, assets, opportunities and constraints, users, etc),
- reflecting on engagement (translate diverse perspectives and aspirations into design moves),
- and benchmarking (ensure its forward-looking, competitive, and grounded in proven models).

Synthesised into a clear overarching Place Vision: ***'The Bruce Innovation Precinct anchors are stitched together by a whole of Government ambition towards wellbeing, learning and legacy built on the strong foundations of Country, public life and long-term viability'*** that articulates the future identity of the Precinct and a set of supporting **PLACE PRINCIPLES** that translate the vision into actionable and strategic directions.

PLACE PRINCIPLES



STITCHED TOGETHER BY WATERWAYS AND GREEN CORRIDORS

A network of green spaces and water systems stitches the precinct together, supporting amenity, ecology, and movement.



FOSTERING INNOVATION AND ANCHOR SYNERGY

Key institutions and assets collaborate to drive research, learning, and high-performance outcomes.



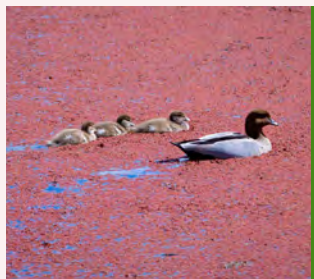
CONNECTED THROUGH PUBLIC PLACES AND ACTIVE CONNECTIONS

Strong public spaces and social connections enable easy movement and vibrant, active places that community wants to visit and linger.



INTEGRATED WITH BELCONNEN AND BEYOND

The precinct is embedded within the broader urban context. It celebrates its national reputation while meeting local needs.



DELIVERING A LEGACY OF RESILIENCE FOR GENERATIONS TO COME

Urban development is designed for long-term adaptability, environmental resilience, and intergenerational benefit.



CREATING A NEW ENTERTAINMENT AND STADIUM- LED COMMUNITY

Sporting and entertainment assets act as catalysts for community and public life, visitation, and economic activity.

Engagement Summary

Despite the transformations that have occurred across Ngunnawal and Ngambri Country since European settlement, the deep systems of Country remain intact. This truth must guide the way we imagine Bruce Precinct's urban development.

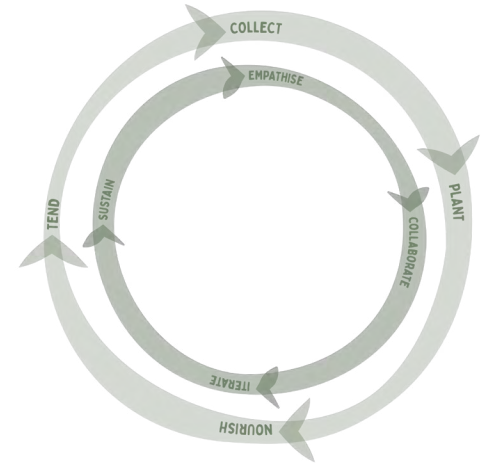


Figure 5 - Yerrabingin, 2026. Methodology Process.

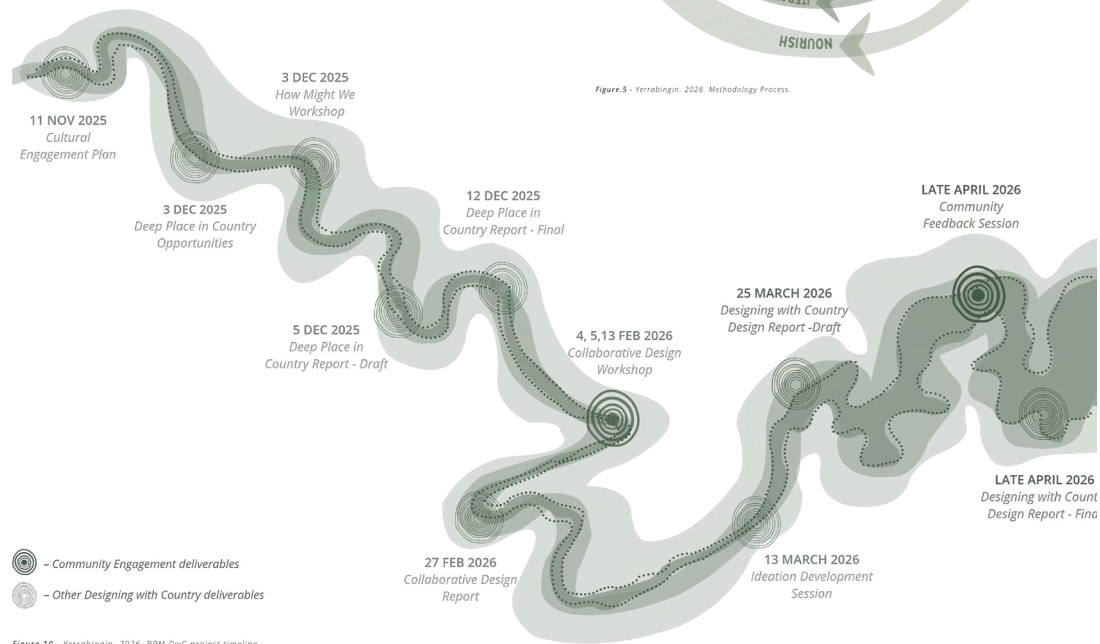
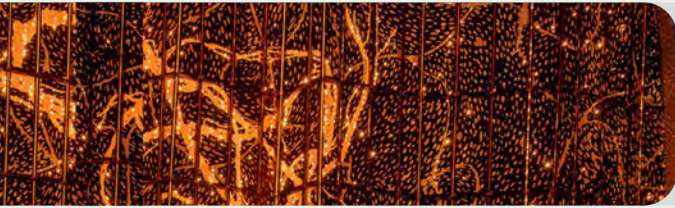


Figure 10 - Yerrabingin, 2026. BPM DuC project timeline.

Community Engagement Outcomes



Country as our Teacher

We listen deeply to the needs of Country and walk together with our peers to foster connection. Drawing on Cultural knowledge, we observe the cues Country offers to understand how to maintain balance. This outcome recognises country as a source of knowledge, guidance and Cultural truth, inviting visitors and the local community to slow down, observe, and learn.



Country as our Healer

Health and wellbeing at the centre of Bruce, means a healthy Community, and healthy Country. Promote physical, mental and Cultural wellbeing through nature, sport, recreation, and shared healing spaces. This theme requires us to heal Country so that Country can heal and bind community and kin.



Country as our Legacy

Legacy is established through practices of caring for Country and Non-human Kin, which allows for preservation of traditions, landscapes and ecological systems. This theme is all about building a resilient Country that will span across generations and thrive with time, leaving a lasting legacy of Place deep in time.

As part of the Stakeholder and Engagement Plan a series of workshops have been held with the Bruce Precinct Master plan Working Group that have helped inform this report.

Stakeholder Workshop Outcomes

An 'Opportunities and Trade-offs' activity was undertaken in the March workshop. Two scenarios were developed, defined by a set of assumptions responding to each of the eight established Design Brief elements.



Rapid Transit – Belconnen Way to Haydon Drive

Stadium – Relocate to CIT land

GDE – Off ramp near existing stadium site

Hospital – Site remains, increase precinct connectivity

CIT Future – Campus is relocated

Housing Needs – New housing to be located on site, investigate opportunity on CIT site, existing stadium site, and south-west AIS site.

Bruce Ridge Remnant Reserve Area – Assume preservation of natural area.

AIS Master Plan – Potential for community areas to be allocated to the south of the campus. Consideration of divestment and land swaps.



Rapid Transit – Central route via Bruce Ridge Reserve existing track

Stadium – Retain existing site for redevelopment

GDE – Off ramp adjacent to hospital/ICT

Hospital – Site remains, increase precinct connectivity

CIT Future – Campus remains in current location and is subject to intensification

Housing Needs – New housing to be located on site, investigate opportunity on CIT site, existing stadium site, and south-west AIS site.

Bruce Ridge Remnant Reserve Area – Assume preservation of natural area.

AIS Master Plan – Potential for community areas to be allocated to the south of the campus. Consideration of divestment and land swaps.

Design Brief



Figure 01. Bruce Precinct Summary Plan from the 'Background Review and Place Analysis' Report

Existing commitments and strategic priorities include:

Sports

A Fit for Purpose Australian Institute of Sport Independent Review confirms Bruce as the AIS's permanent home and recommends renewal as a catalyst for a broader sport, health and education precinct via a coordinated master plan that delivers national, local and system-wide benefits, rather than solely on elite outcomes.



Access

Address the traffic management challenges on game day, and explore improvements along Gungahlin Drive.



Stadium

Australian Government agrees in principles with Recommendation 14 of A Capital for all Australians, in which the Committee recommends that the Commonwealth Government work with the ACT Government to upgrade Canberra's stadium infrastructure.



Housing

Under the National Housing Accord, the ACT is required to deliver approximately 21,000 new well-located dwellings by 2029. Precincts, such as Bruce, with strong access to health, education, employment and public transport, are identified as priority locations for contributing to this target.



Health

ACT Government's largest single investment in a health infrastructure - the new North Canberra Hospital will be built on the existing hospital campus in Bruce, early works scheduled for late April 2026. It will remain open and fully operational during the delivery, which Canberra Health Services will manage it after delivery.



Canberra's light rail network is not yet funded, strategic planning for the inner-city corridor via Haydon Street, with Bruce expected to be a key station.

LEGEND

- Bruce Study Area
- AIS
- CIT
- Hospital
- Box-Gum Woodland
- Urban Ponds and Lakes
- Mature Native Tree Canopy

Scale
1:15,000 @ A4



0m 150 300 450 600 750m

Design Brief *(continued)*

The Design Brief establishes the key parameters, commitments, and strategic priorities that inform the development of future scenarios for the Bruce Precinct. It translates policy directions, confirmed infrastructure investments and known constraints into a clear framework to guide scenario testing and option development.

The brief distinguishes eight fixed elements of the precinct that are both significant, known components as well as components requiring critical decisions for their advancement, hence requiring a focus of investigation and testing. These elements are the core building blocks of the future Bruce precinct, and include confirmed infrastructure investments, protected assets, statutory requirements and operational commitments that establish the fundamental parameters to commence strategic thinking on the Bruce Master Plan.

Each of these fixed elements was given complementary assumptions aligned with initial appreciation and prevailing thinking from stakeholders. While significant further investigation was required before any of these elements could be conclusively answered, the assumptions provided a starting point to test possible outcomes with Stakeholders and led to the development of the Scenario Maps, critical in the process of delivering this report.

In parallel, the brief identifies a wide range of strategic questions and opportunities that are not fixed and also warrant testing, refinement and resolution through scenario development. These matters include the location, mix and intensity of uses, the staging of development, the integration of movement, open space and built form, and the funding of major infrastructure works such as multi-storey parking or new sporting infrastructure.

The combination of fixed elements as the fundamental building blocks with the brief's breadth of open strategic questions provided the balance needed for this precinct's investigation. This approach ensures that future scenarios are grounded in reality while remaining sufficiently flexible to explore innovation, respond to uncertainty and align with broader government objectives for growth, infrastructure delivery and long-term place quality.

The **Eight Elements** of the Precinct are known components requiring investigation and key decisions for their advancement

Conditions and considerations that were tested in Scenarios at the March Workshop



HOSPITAL

Master Plan connectivity between Hospital site and precinct



RAPID TRANSIT

Haydon Drive VS Battye Street rapid transit alignment



STADIUM

Retain or relocate stadium



ACCESS

Gungahlin Drive entry location VS alternative entry points for traffic into the Precinct, parking arrangements and infrastructure



CIT

Long-term value proposition and possible relocation



HOUSING

Quantity commensurate with investment



RESERVE

Preservation VS Stewardship



AIS

Master Plan land use synergies and athletics track location

Strategic Maps

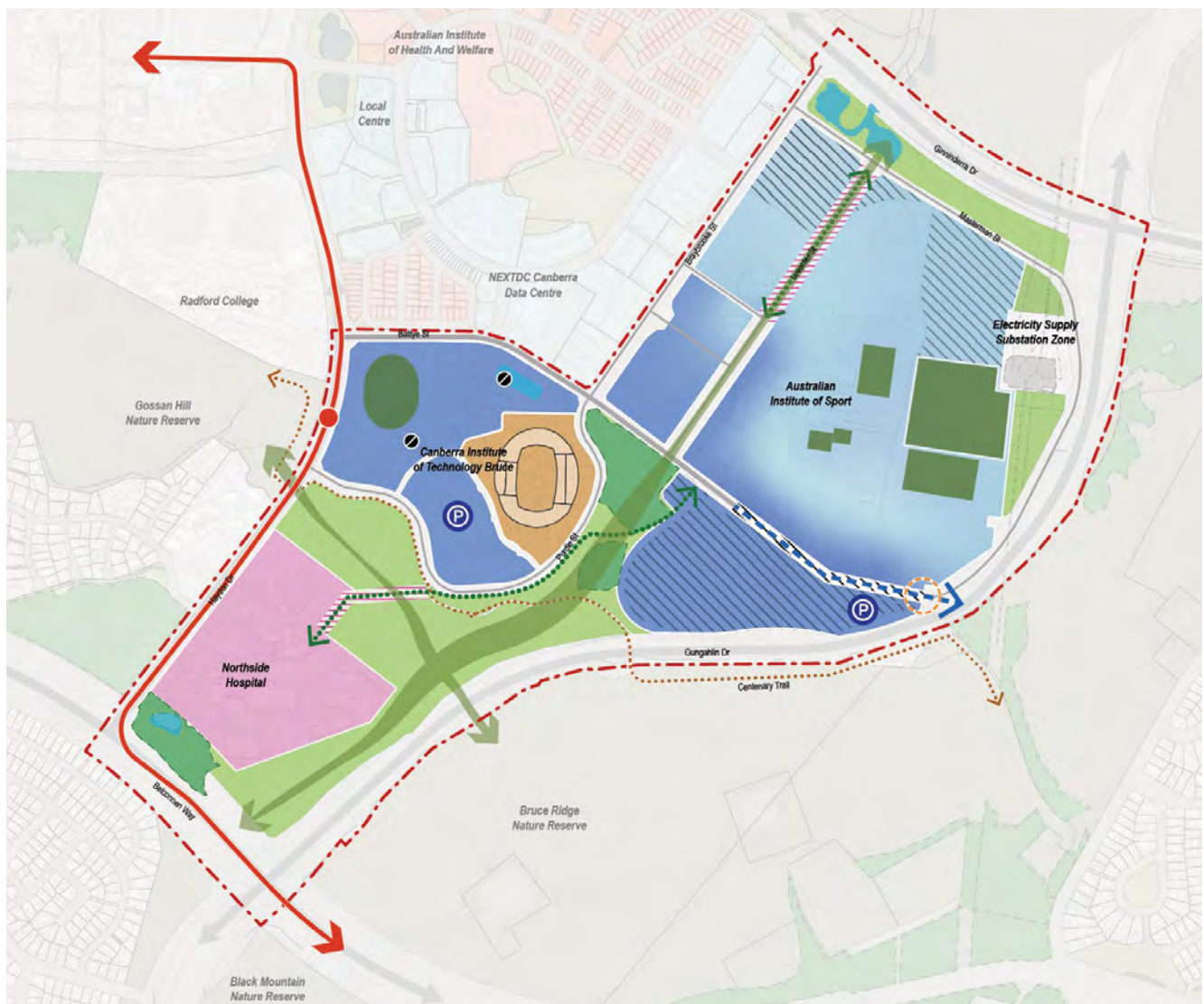
Scenario 1

This scenario promotes a significant redevelopment of the site's central east-west core, as a branch from a deeply innovation-focused rapid transit alignment.

The plan assumes the relocation of the CIT campus and consideration of land swap arrangements. This clean slate allows the desired stadium renewal to be delivered more centrally within the precinct and proximate to the rapid transit, with space for housing, mixed-use development and public amenity surrounding all sides.

The rapid transit alignment focuses access toward the civic destinations, including the hospital, education precincts to the north, and the new stadium and transit-oriented development.

The Strategic Maps were initially developed in the March Stakeholder workshop, from different assumptions on the eight elements of the Design Brief (listed on the previous page). They form an important spatial tool to explore and investigate outcomes and map their implications in order to deliver the findings and advice required for future decision making.

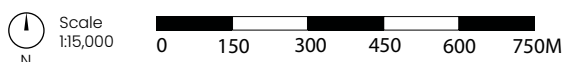


Scenario 2

This scenario considers the introduction of a central spine whereby movement and place come together to support people, investment, activity, access and community life. This spine would be located and designed to support the existing precinct legacy anchor sites such as the stadium whilst future- proofing a corridor for place- based outcomes including but not limited to high-density mixed-use frontages, active travel, event crowd movement, rapid transit, road closure destination events (sport, community, events by Traditional Custodians, etc). This corridor stitches together a renewed stadium precinct, CIT campus and surrounding development; also providing access into the heart of the AIS campus, via a common central green open space.

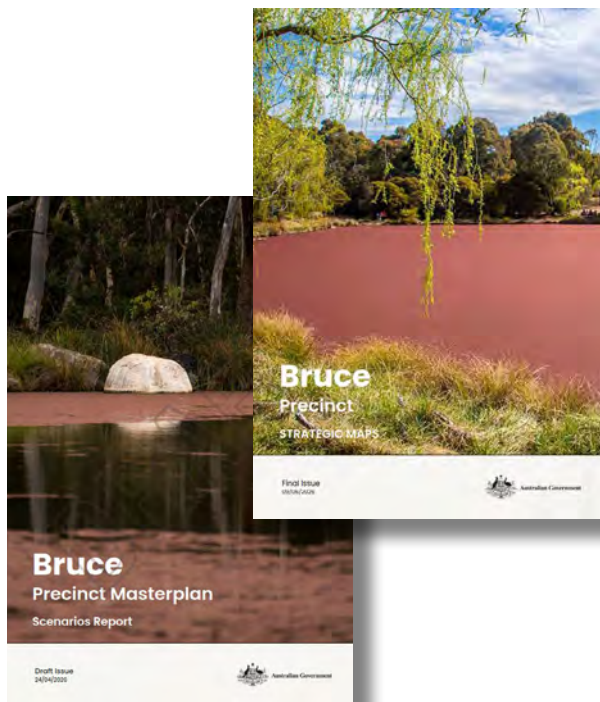
LEGEND

- Stadium
- Mixed-use Development
- Education
- Sports
- Health
- Green Open Space
- Active Sport Field
- Protected Woodland/ Grassland
- Potential Multi-Storey Parking
- Rapid Transit Corridor
- Access
- Epicentre
- Land Swap & Divestment
- Pedestrian Corridor
- Indicative New Access Road
- Slip Lane Road Extension



Urban Design Recommendations

Consistent themes identified through the March workshop have evolved into eight urban design recommendations. These recommendations form the key moves underpinning this Final Scenarios Report and guiding spatial decision-making. They are informed by benchmarking and best practice across Health and Education innovation precincts, Country-led urbanism and Stadium-anchored entertainment neighbourhoods.

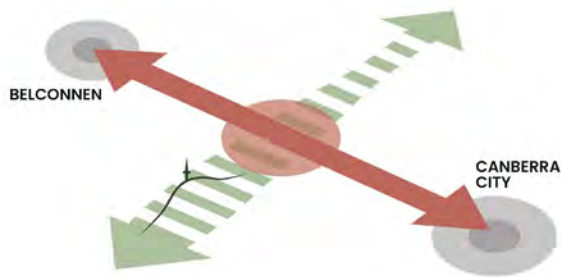


The urban design recommendations were developed directly from insights from the March Workshop. During the workshop, two scenarios were developed that tested a series of assumptions across the eight elements that make up the design brief.

Comparative testing of these two scenarios revealed a strong convergence around several preferred structural moves that have been summarised into

URBAN DESIGN RECOMMENDATIONS

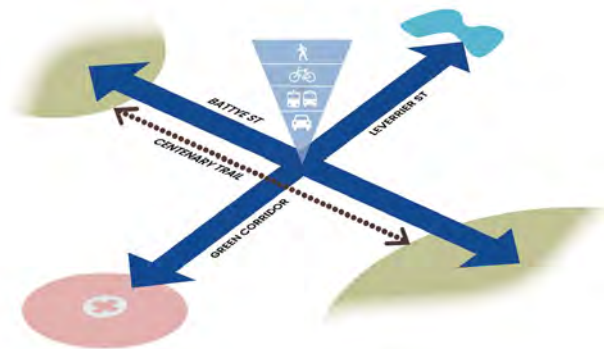
These recommendations directly influence the spatial thinking for the precinct and are grounded by best practice.



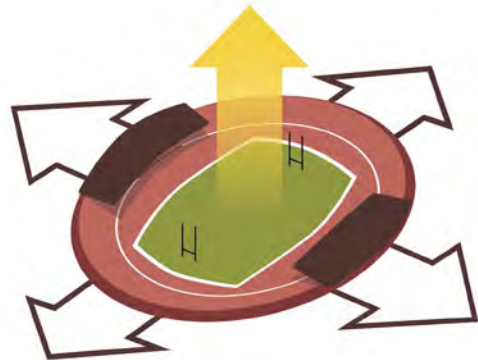
RAPID TRANSIT BOULEVARD



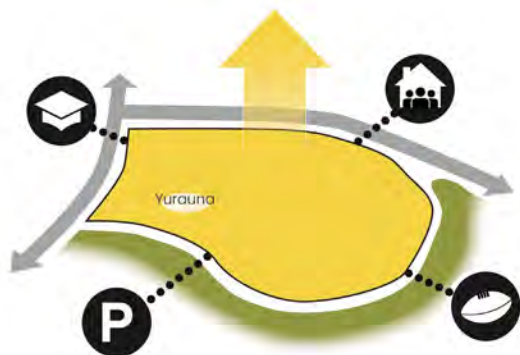
GREEN AND BLUE MOVEMENT GRID



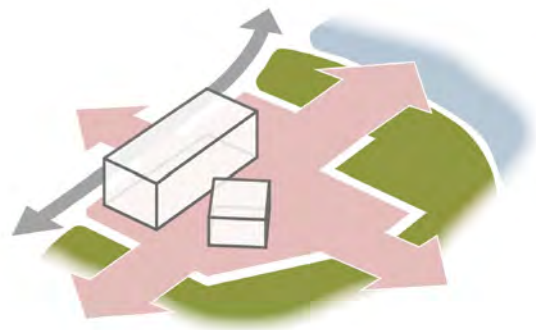
EQUITABLE AND ACTIVE NETWORK



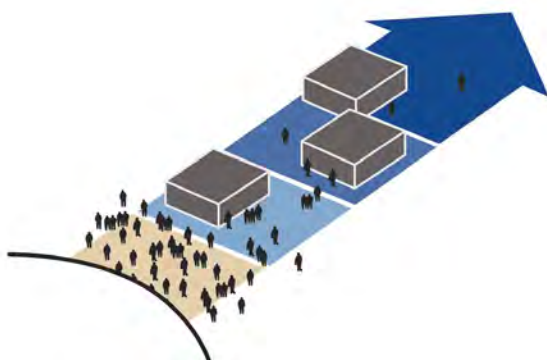
RENEWED AND INTENSIFIED STADIUM



RENEWED AND DIVERSIFIED CIT SITE



CONNECTED AND ENHANCED NORTH CANBERRA HOSPITAL



**AIS SEAMLESS
PUBLIC PRIVATE TRANSITION**



NEW NEIGHBOURHOOD

03

CONTEXT

Context Overview

Bruce, in Canberra's Belconnen district, is a vibrant suburb known for its educational, health and sporting hubs. Home to the University of Canberra, Australian Institute of Sport, Canberra Institute of Technology, North Canberra Hospital and Canberra Stadium the Belconnen Education and Sports Innovation Precinct, where research, education and sports practice come together, has a national reputation for excellence and magnifies the strong district economy.

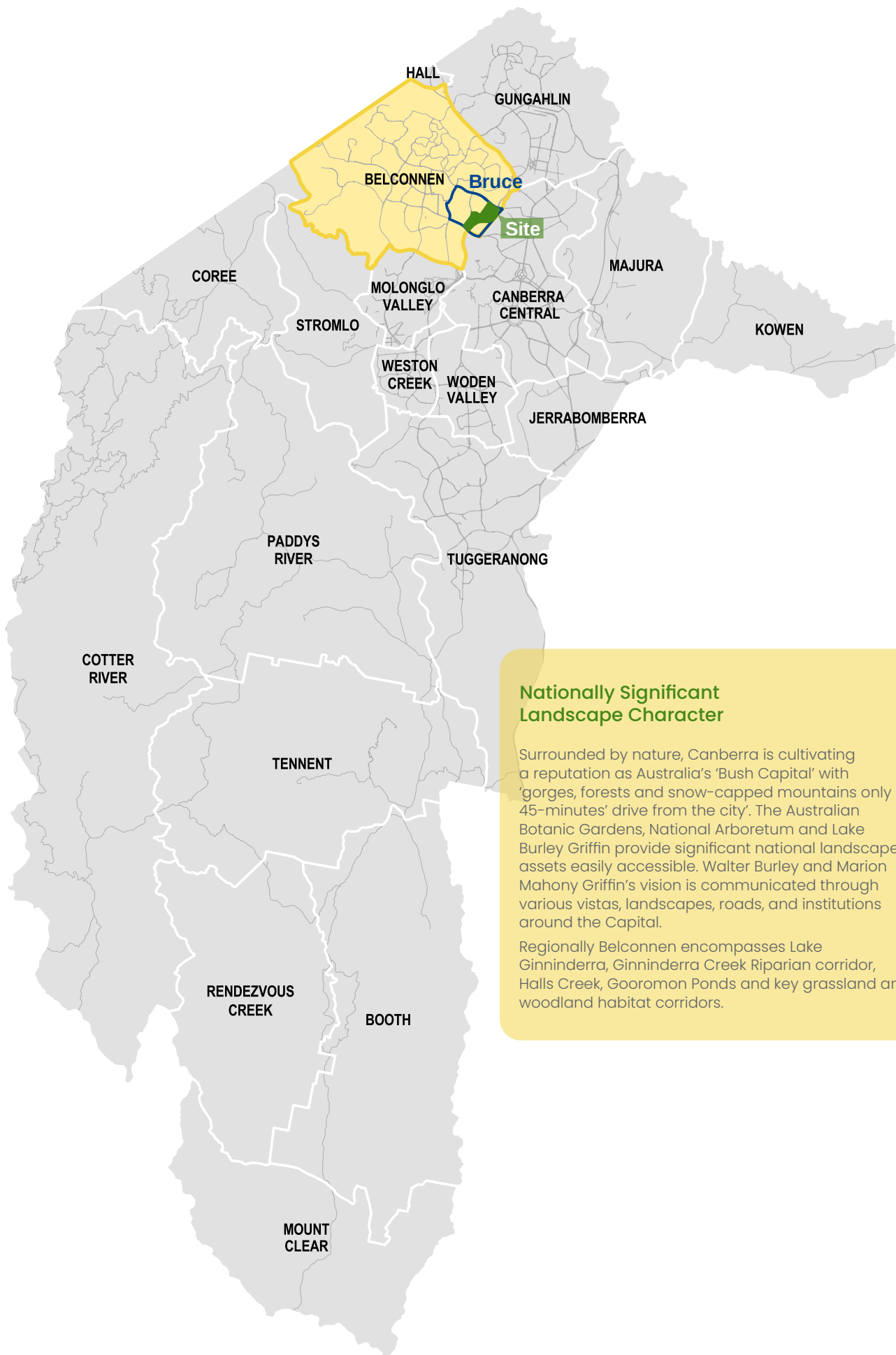
The Site

The subject area (approx. 214 ha) is located in the Australian Canberra Territory, 7km northwest of Canberra's city centre, in Belconnen District. Bruce sits on gently undulating terrain between Black Mountain and Lake Ginninderra, the site is bordered by the Bruce Ridge Nature Reserve along Gungahlin Drive, Belconnen Way to the south, Haydon Drive to the west, and Battye and Braybrooke Road and Ginninderra Drive to the north, providing key access routes.

Key social infrastructure within the site include the Australian Institute of Sport and Canberra Stadium, the Bruce campus of the Canberra Institute of Technology, and the new North Canberra Hospital.

Belconnen's large town centre, Radford College, Fern Hill Park suburb, and the adjacent University of Canberra campus are very accessible to the site – a 5 to 10 minute drive away.

This precinct is part of a broader national Canberra innovation corridor linking the cluster of institutions around the ANU, the City Centre, ADFA and Fyshwick. Initiatives to support this potential role could include using future light rail stops to catalyse and support the diversity of land uses already in this area, particularly with a sport, education and health focus.



Nationally Significant Landscape Character

Surrounded by nature, Canberra is cultivating a reputation as Australia's 'Bush Capital' with 'gorges, forests and snow-capped mountains only 45-minutes' drive from the city'. The Australian Botanic Gardens, National Arboretum and Lake Burley Griffin provide significant national landscape assets easily accessible. Walter Burley and Marion Mahony Griffin's vision is communicated through various vistas, landscapes, roads, and institutions around the Capital.

Regionally Belconnen encompasses Lake Ginninderra, Ginninderra Creek Riparian corridor, Halls Creek, Gooromon Ponds and key grassland and woodland habitat corridors.

Figure 02. Bruce ACT Wide Context plan



A Country First & Place Led Approach

Country is a living network of relationships between water, wind, soil, plants, animals, and people that sustains life and Culture. Designing with Country means recognising these interconnections and working with them to create places that endure.

Bruce sits within a landscape of ridgelines, river flats and ephemeral waterways, connected to Ginninderra Creek and adjacent to Bruce Ridge Nature Reserve in an ecological corridor linking Black Mountain, O'Connor Ridge and the Molonglo River.

These connections are not incidental, they are vital pathways for species and stories. They invite us to see the precinct as part of a continuum of this important Cultural landscape of Country.

Yerrabingin's 'Connecting with Country' report identified several site-specific opportunities, including:

- Consideration of seasonal cycles, water management and plant use offers a guide for sustainable design.
- Strengthen links, regenerate landscapes and foster custodianship.
- Restore ecological health and Cultural connections.
- Community planting days with local custodians.
- Consider water management across the precinct through permeable surfaces, vegetated swales and wetlands.
- Movement networks that reflect Country's patterns, creating paths that follow natural contours and connect people to reserves and Cultural sites.

Understanding Country



Figure 03. Deep Country - Ngannawal Country landscape



Figure 04. Move with Country - Tidbinbilla Nature Reserve

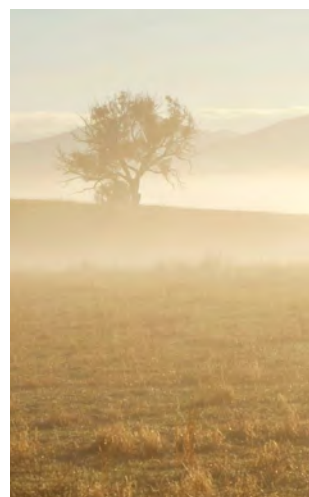


Figure 05. Sky Country - Mist

Beginning with Country

*'Country is our mother, our teacher,
our library and our kin; it sustains
us, inspires us and surrounds us. The
experience of Country is both individual
and collective, both new and familiar.
From her we learn, share and flourish.
Continuing to care for Country is central
to our being and our identity.'*

Christian Hampson, Yerrabingin

Country reaches into and across the earth and into the sky. The unique and distinctive elements of Country are connected, and open to everyone. They are the connective tissue, the interstices, the flow between Water, Earth, Sky, our Non-Human Kin, and ourselves. In this way, we are part of the system of Country and have a responsibility to future generations. Our actions must always be Country positive.

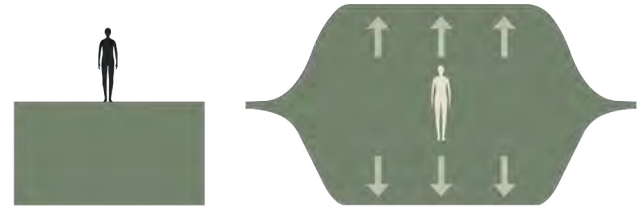


Figure 09. Yerrabingin. 2026. We inhabit and are inhabited by Country (source: Yerrabingin Designing with Country Report March 2026)

Country-centric

We inhabit and are inhabited by Country. To inhabit Country and connect with Country is to be grounded in the landscape and to practice the cultural knowledge stored within it. This encourages physical and emotional wellbeing for people and Country.

The innate symbiosis of being connected to Country moves us into being Eco or Country centric, rather than being Human centric. This connection and position in relation to Country is a central component of Aboriginal people's ideology. It is a cultural value that places humans within the ecological and landscape system, not as dominators but as caretakers and custodians. This function requires constant interaction and observation, being tuned in to reactive requirements and response.



Figure 06. Water Country – Ginninderra Creek



Figure 07. Wind Country – Grassland



Figure 08. Non-Human Kin Country – Eastern grey kangaroos

04

BRUCE INNOVATION PRECINCT

4.1

**STITCHED TOGETHER
BY WATERWAYS AND
GREEN CORRIDORS**

Starting with Country

Regional Scale: Setting the Scene

Blue, green, and Country are inherently interconnected, with blue-green systems forming part of Country and guiding design through learning from Country, supporting ecological healing, and sustaining an enduring legacy of Connection to Country.

Bruce Precinct sits on Ngunnawal and Ngambri Country, to the north of Canberra. It is surrounded by mountain ranges to the east and south, with a ridgeline connecting O'Connor Ridge Reserve and Bruce Ridge Reserve to the high point of Black Mountain, forming the edge of Lake Ginninderra's water catchment, within which the precinct lies. This establishes the precinct's connection to Sky and Water Country. This landscape also supports a diverse ecological system rich in biodiversity, where patches of potentially threatened woodland and a significant number of mature native trees have been identified. This makes the precinct part of the ACT's Urban Habitat Connectivity Project, a functional habitat connectivity corridor that allows non-human kin to move between habitats. Therefore, future development of the Bruce Precinct should respond to the Country system by protecting and enhancing the ecosystem, while strengthening the ongoing Connection to Country.

Connecting with Country Strategies

The three Designing with Country opportunities for Bruce Precinct, as identified in the *Yerrabingin Designing with Country Report*, have been central to the development of the precinct's blue-green infrastructure and open space strategies:

- Country as our Teacher – recognising Country as a source of knowledge, guidance, and cultural truth.
- Country as our Healer – acknowledging the importance of healing Country so that Country can in turn heal and bind community and kin.
- Country as our Legacy – facilitating the practice and preservation of caring for Country and non-human kin across generations, enabling both to thrive over time.

Green Strategies

Protecting and enhancing the ecosystem, as well as facilitating and improving human-nature connections to strengthen community's ecological stewardship, is at the core of designing the Bruce Precinct. The following key principles of Biodiversity Sensitive Urban Design (BSUD) have been adopted across multi-scale strategies in the Bruce Precinct, from the precinct to

block-scale, ensuring that ecological connectivity is woven throughout the broader landscape:

- maintain and enhance nature
- connect and extend nature
- minimise threats and protect nature
- connect people to nature

Landscape Strategies

- celebrate ACT 'bush-capital' legacy to foster inter-generational pride and empowerment.
- Ensure tree canopy planning, embedding key principles to achieve a 30% urban tree canopy cover by 2045 (ACT Urban Forest Strategy)
- 30% target for permeable surfaces (ACT WSUD Guidelines, Urban Forest Act)
- Ensure a minimum of 50% of the whole site area include one or a combination of heat reducing strategies (permeable surfaces, vegetation, shading structures or water bodies)

Blue Strategies

The Bruce Precinct adopts a layered Water Sensitive Urban Design (WSUD) strategy, where water management is embedded throughout the development, from regional systems through to individual development lots. Rather than relying on a single intervention, the approach integrates precinct-scale infrastructure, street-scale systems and lot-scale controls to deliver a resilient and adaptable water cycle. This framework supports reduced potable water demand, improved stormwater performance, and a highly resilient blue-green network.

At its core, the strategy responds to four key drivers:

- reducing mains water demand through harvesting and reuse
- maintaining or reducing post-development runoff
- improving stormwater quality through distributed treatment
- supporting climate resilience, urban cooling and canopy outcomes

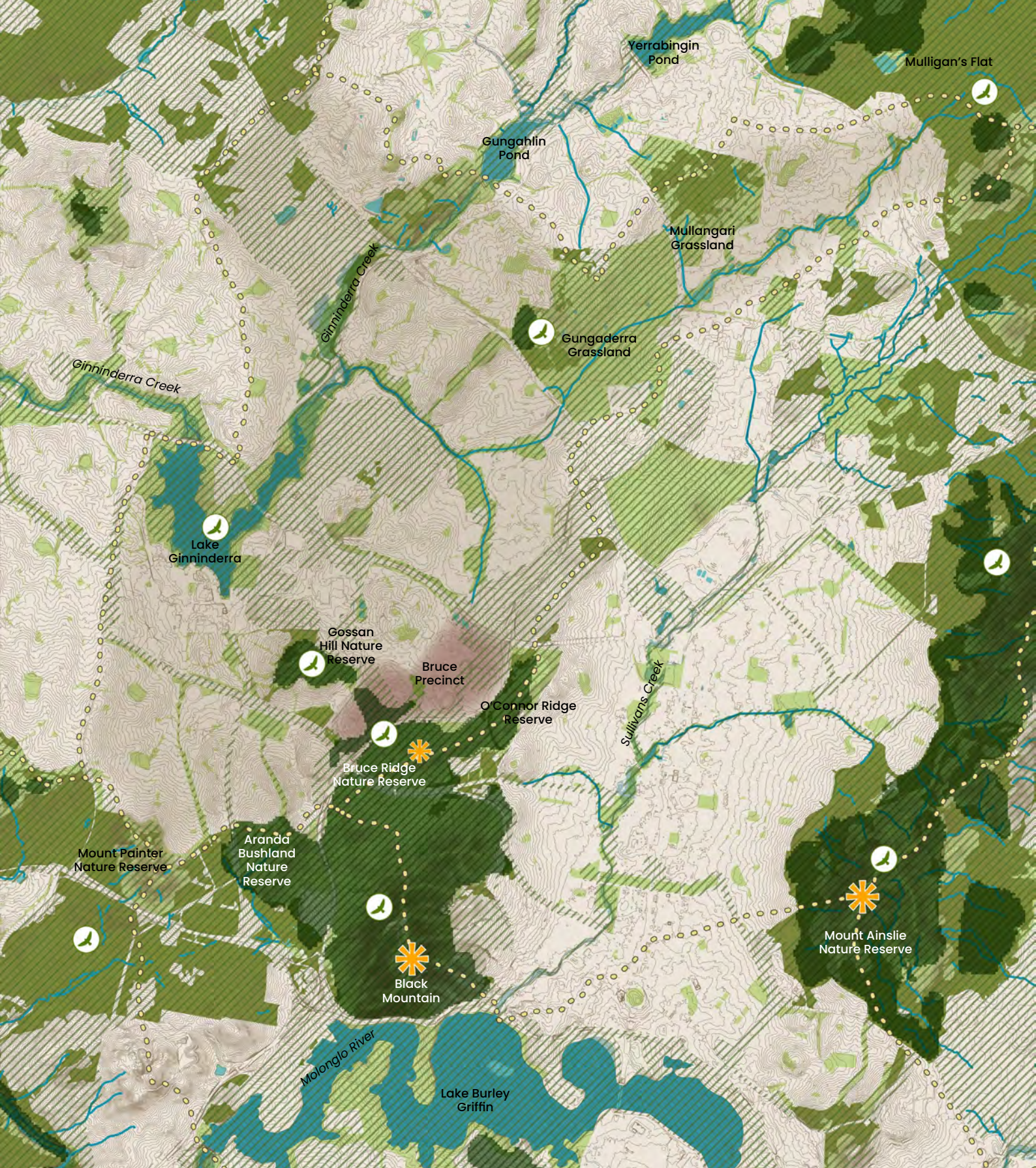
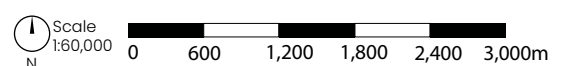


Figure 10. Country System



LEGEND

	Bruce Precinct		Functional Habitat Connectivity Patch (>10ha)		Non-human Kin Habitat
	Nature Reserve/Urban Open Space		Ridgeline		Water Country - Water Body
	Lake Ginninderra Catchment		Water Country - Water Line		High Point
	Potential Threatened Woodland				
	Urban Habitat Connectivity Project (UHCP)				

Designing with Country

Precinct Scale: Blue-Green Infrastructure

Bruce Precinct protects and enhances its woodland, grassland and wetland systems through connected ecological corridors, expanded blue-green infrastructure and WSUD, supporting biodiversity, water management and a stronger Connection to Country.

Protect The Threatened Woodland/Grassland

It is essential for Bruce precinct to protect the identified patches of potentially critical endangered ecological community, *White Box–Yellow Box–Blakely's Red Gum Grassy Woodland and Derived Native Grassland*, that exist on site. Future development occurring in proximity to this ecosystem should avoid or minimise ecological degradation by preventing key threats, including changes to soil nutrient levels, land clearing and fragmentation, inappropriate grazing, weed invasion, altered hydrology, inappropriate fire regimes, and the impacts of climate change. Accordingly, future development should follow the ACT BSUD Guide and Implementation Advice.

Protect and Expand The Wetland System

Several wetland and pond systems already exist within the precinct and are to be protected. There is an opportunity to expand the northernmost wetland system, including a transient bog linked to it, to operate as multifunctional assets that manage and store water. This wetland supports rich biodiversity and hence expanding the wetland system will therefore support ecological habitat and amenity, fostering a stronger sense of connection and stewardship of Country.

Protect and Enhance Ecological Network

Bruce Precinct should avoid or minimise impacts from future development on existing intact groups of mature native trees with dense canopy located within the precinct, as they function as critical habitat connectivity corridors across the broader landscape, particularly between Gossan Hill Nature Reserve and Bruce Ridge Nature Reserve. Wildlife crossings or tunnel infrastructure connecting the precinct to these nature reserves should be considered to reduce habitat fragmentation, especially for ground-dependent species. Moreover, future main boulevards and streets, particularly those linking the woodland to the northern wetlands, should incorporate a minimum 4.2m tree verge, ensuring sufficient deep soil (including structural soil volumes) to support large canopy trees and contribute to pollination processes.

Medicinal and Bush Tucker Garden

As identified through consultation with Traditional custodians, multiple medicinal and bush tucker gardens should be located near North Canberra Hospital and Yurauna Education Centre. These gardens provide food sources and habitat for pollinators while enabling direct engagement between the community and non-human kin, strengthening connections to Country.

Canopy Cover, Shade and Soil Volumes

The Bruce Precinct proposes a strategic approach to achieve at least 30% tree canopy cover through the early integration of large-canopy trees (ASV Class 4+) in locations with sufficient soil volume to support long-term growth. Canopy coverage will be maximised through the selection of large, climate-resilient, and predominantly indigenous species, supported by coordinated design measures such as asymmetrical verges, staggered planting, integrated civil layouts, permeable surfaces, and structural soils to enhance tree health and provide shading along key movement corridors. The plan also prioritises the retention and protection of significant and culturally valuable trees in line with the Urban Forest Act 2023, while preserving at least 50% of the site as nature reserve to strengthen biodiversity, maintain cultural heritage values, and exceed canopy and ecological connectivity targets.

WSUD Strategies

At the precinct scale, WSUD is anchored by centralised systems that define how stormwater is stored, treated and reused across the site. The expanded and enhanced wetland system can provide water quality treatment, detention and storage. This may be in the form of converting ponds to wetlands or creating standalone wetland systems.

Water captured within these systems is then reused across the precinct, supporting a range of demands such as irrigation, cooling and public realm watering, significantly offsetting potable water use. The visibility of these water bodies also plays an important role in placemaking, reinforcing a strong identity centred around water and landscape.

Complementing this is a connected blue-green grid, which integrates bushland, open space and key movement corridors into a coherent framework. In this way, water is not treated as isolated infrastructure,

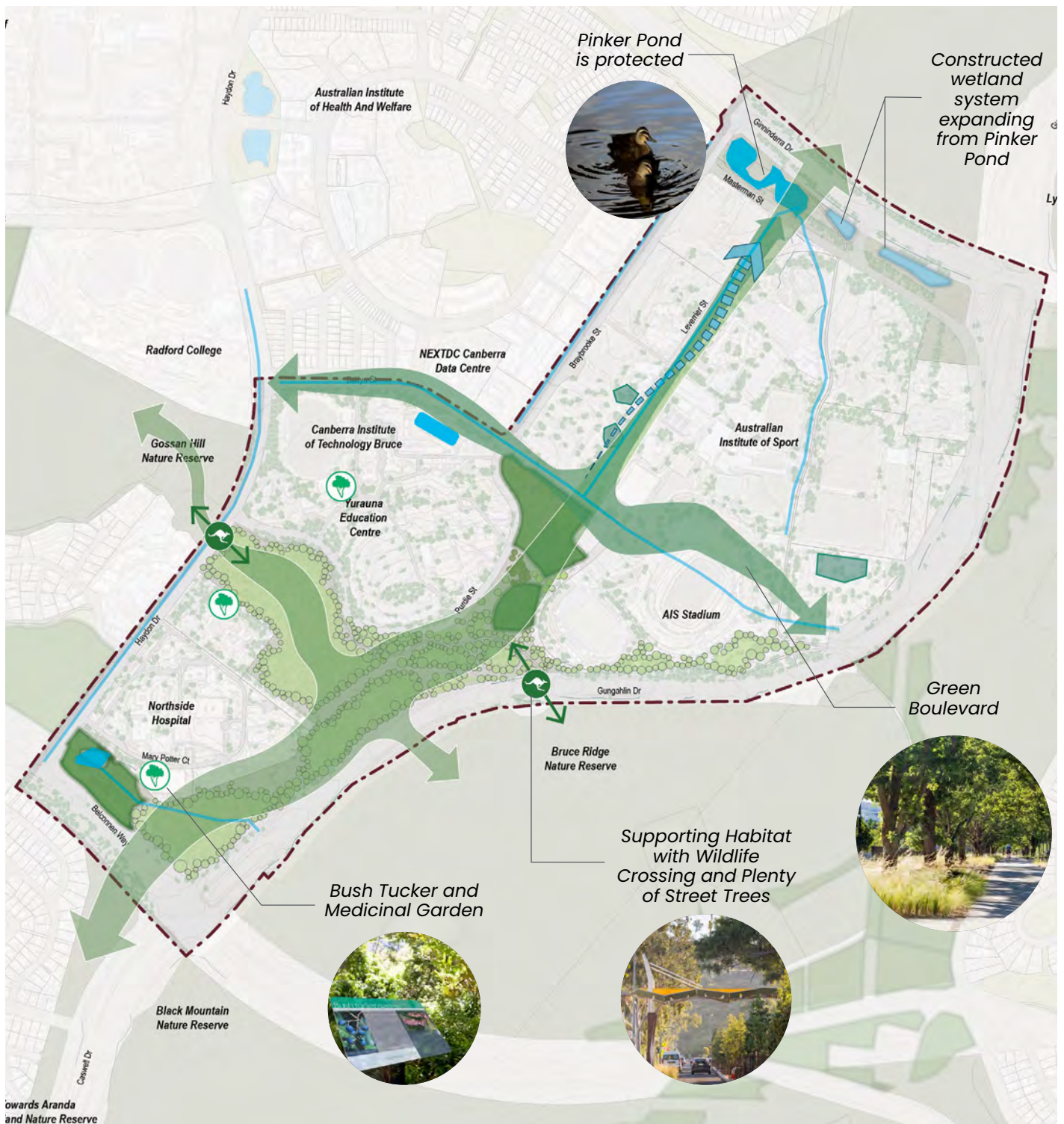


Figure 11. Precinct Scale Green-Blue Infrastructure

Scale
1:15,000 @ A4

N

0m 150 300 450 600 750m

LEGEND

- Endangered Ecological Communities (Woodland/Grassland)
- Culturally Significant Trees
- Areas of Intact Mature Nature Trees
- Connected and Expanded Ecological Corridor
- Main Green Boulevards with Prominent Shade Canopy and Cooling
- Wildlife Crossing (Tunnel/Bridge/Passage) for future investigation
- Medicinal and Bush Tucker Garden
- Protected and Enhanced Existing Wetland/Ponds
- Constructed Wetland and/or Sedimentation Basin (Indicative)
- WSUD Main Linear Biofiltration System
- Indicative WSUD features (e.g., vegetated swale)

linking hydrology, ecology and urban form.

Typical WSUD features at this scale include:

- Constructed wetlands and expanded or new stormwater ponds
- Below ground stormwater harvesting infrastructure drawing water from the wetland overflow for reuse throughout the precinct
- Sedimentation basins for sediment/pollutant control
- Large-scale flood detention areas integrated into open space

Connecting with Country

Block and Street Scale: Integrated Solutions

An integrated block and street scale approach that connects ecology, water, and urban life to support biodiversity, resilience, and connection with Country

Integrated Ecology and Urban Solution at Block-scale

An integrated ecology and urban design solution at the block-scale is important to ensure that block permeability not only enables greater walkability for people, but also allows non-human species to move easily across the precinct and ultimately connect to the broader landscape. It also supports natural processes occurring on site, such as pollination and seed dispersal. Moreover, introducing habitat at this scale, expanded from the broader ecosystem, brings nature closer to everyday life. This is important in strengthening the community's ecological stewardship by facilitating positive human-nature interactions. This integrated approach can help prevent further habitat fragmentation and ensure that future block development within the Bruce Precinct is adaptable in responding to the needs of the green corridor, and as part of BSUD Guide requirements. Therefore, to achieve ecological block permeability, development within the Bruce Precinct should consider the following design principles:

- **Stepping stone habitats** within communal open spaces (with deep soil), connected via secondary green links that tie into the precinct-scale primary blue-green corridor, or directly into natural habitats (e.g. woodland and wetlands). These biodiverse open spaces could incorporate native garden beds, dense shrubs, and layered vegetation to provide food sources and habitat for pollinators, while WSUD solutions such as raingardens and vegetated swales can also be integrated to support water management and enhance habitat value.
- **Medicinal and bush tucker gardens**, developed in collaboration with Traditional custodian communities, providing opportunities to learn from and heal with Country. This will require further engagement.
- **Balanced use of public space** that supports both ecological function and human activity, particularly in blocks with an entertainment or commercial focus. Integrating both within a single space can strengthen human-nature interaction. Orienting active frontages and public spaces towards ecological areas will further reinforce this relationship.

WSUD Strategies at Street Scale

At the street scale, WSUD is embedded within the public domain and visible to everyday users. Primary pedestrian corridors function as blue-green spines, integrating movement, landscape, and water management through elements such as biofiltration systems, tree pits, and passively irrigated planting. Beyond these corridors, WSUD extends across the street network through streetscape interventions, including linear or discrete biofiltration within verges and medians, passive irrigation of street trees to support canopy growth, permeable surfaces in parking and low-traffic areas, and kerb inlets directing runoff into WSUD systems. These measures provide pre-treatment of stormwater and reduce runoff volumes before reaching downstream systems.

In constrained or higher-density areas, surface systems are supported by subsurface infrastructure, such as leaky pipes that exfiltrate into tree root zones, maintaining flow reduction and passive irrigation without compromising valuable public realm space.

WSUD Strategies at Block/Lot Scale

At the lot scale, WSUD focuses on capturing, reusing, and attenuating runoff at its source, reducing pressure on downstream systems and improving overall performance. Buildings and development parcels incorporate rainwater harvesting systems to capture roof runoff for reuse, reducing demand on mains water while lowering peak flows, extending flow duration to improve downstream treatment efficiency, and supporting soil moisture and passive irrigation.

In addition, on-lot measures such as biofiltration systems, swales, and infiltration systems provide localised treatment and infiltration, forming the first line of defence in stormwater management. Typical features include rainwater tanks (connected to internal reuse such as toilets, laundry, and irrigation), green roofs and rooftop gardens, on-lot raingardens, infiltration trenches, and permeable driveways and hardstand areas.

Where reuse is not feasible, tanks can function as leaky systems, capturing runoff and releasing it gradually to mimic natural baseflow conditions, reducing peak flows and allowing downstream systems to operate more effectively without being hydraulically overwhelmed.



Semi-natural biodiverse communal open space as stepping stone habitat for non-human kin. Integrated with WSUD such as raingardens to capture lot-scale catchment, and potentially complemented with social spaces such as community garden, nature based playground, and interpretative ecological knowledge can strengthen positive human-nature connection in everyday life.



Multi layered Vegetation Canopy of native planting and integration with WSUD features such as vegetated swale on the secondary green link, street, communal open space to provide suitable resources and allow on-site natural processes including pollination and seed dispersal.

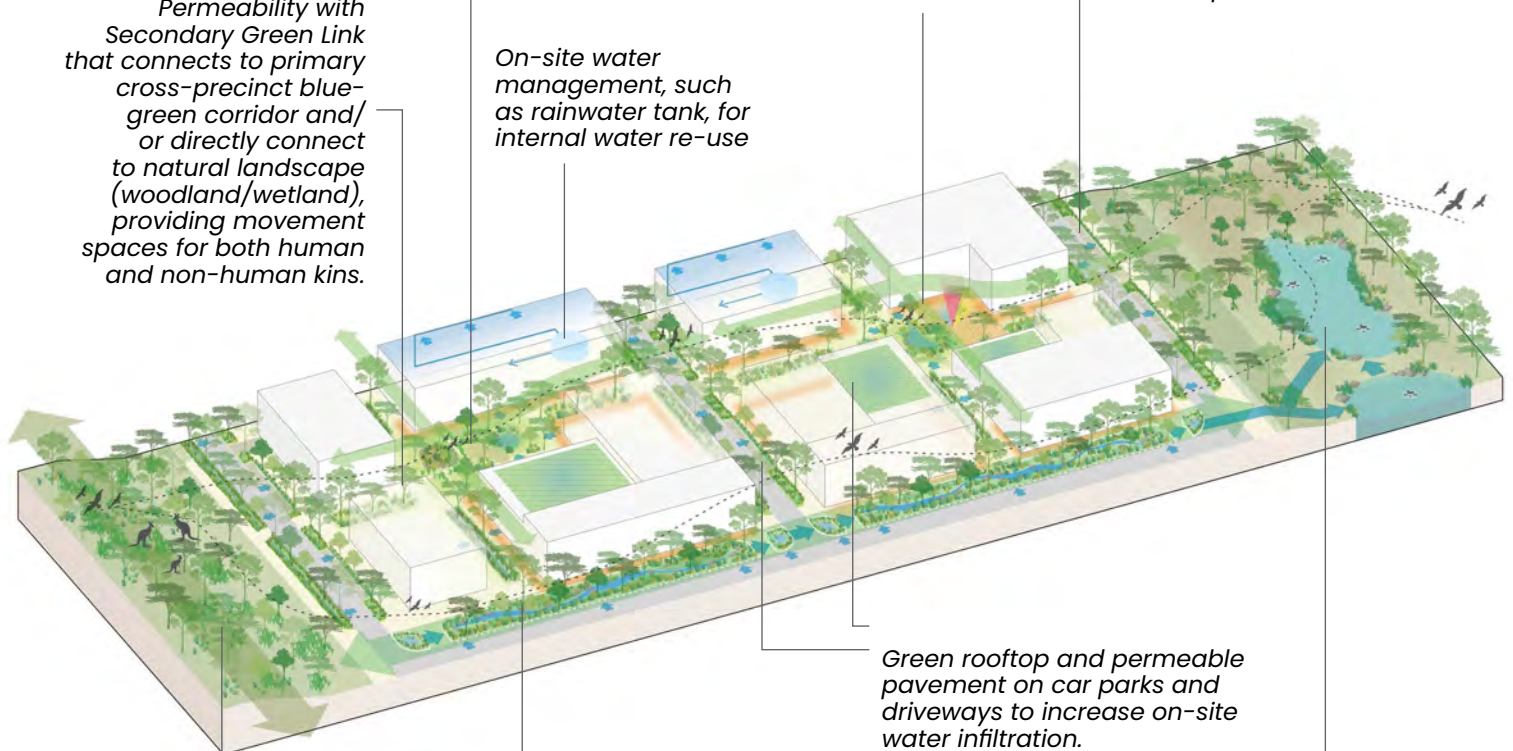


Ecological Block Permeability with Secondary Green Link that connects to primary cross-precinct blue-green corridor and/or directly connect to natural landscape (woodland/wetland), providing movement spaces for both human and non-human kins.



Balanced use of space for ecology, social, entertainment, commercial and other human activities, with active frontage orienting towards semi-natural social spaces to foster daily human-nature interaction.

On-site water management, such as rainwater tank, for internal water re-use



Green rooftop and permeable pavement on car parks and driveways to increase on-site water infiltration.

Main blue-green corridor as habitat connection with linear biofiltration system and passively irrigated trees that stitch together the woodland, wetland, and precinct's block, integrating the movement of people, water and non-human kin in one spine.



Existing wetland is protected and enhanced through the constructed wetlands with water capture, storage, sedimentation basin, flood attenuation/detention and management while providing habitat for wildlife.



The threatened woodland is protected and celebrated by enhancing its connection to surrounding landscape.



Figure 12. Blue Green Infrastructure at Block and Street Scale, integrated to precinct scale system.

4.2

CONNECTED THROUGH PUBLIC PLACES AND ACTIVE CONNECTIONS

Community and Cultural Spaces and Trails

Public spaces form a connected network of nature-based and culturally responsive environments, where learning, healing and long-term stewardship are guided through Country, and supported by cultural bushfire management practices.

District Play Space opportunity

District play spaces serve a large portion of the community, catering to children and families through diverse play experiences and a wide range of amenities. They typically include multiple play areas for different age groups, combining structured play equipment, nature play, open space, barbecues, picnic shelters, toilets, car parking, and landscaped areas to support longer visits and large gatherings. These are destination play spaces, facilities that families may travel to on weekends. The strategy aims to provide at least one district play space per district as populations grow, recognising that community infrastructure is delivered progressively. They are often located within district parks and co-located with features such as sporting facilities, lakes, rivers, or nature reserves.

John Knight Memorial Park is currently the nearest district-level play space to Bruce. There is an opportunity to introduce a new sporting-themed destination play space near AIS Stadium, celebrating Indigenous athletes across Australia and incorporating Indigenous themes and games. District play spaces are intended to cater to all age groups, including toddlers (0–4), juniors (5–9), pre-teens (10–13), teenagers (14–17), and adults.

Local Public Spaces

Public space is where public life happens, they include public open spaces like parks and playgrounds, public facilities such as libraries and museums as well as streets. Local public spaces are located close to homes and support frequent, everyday use, particularly for young families. There is an opportunity to enhance the site existing ones and introduce new through diverse, engaging, and nature-based country-led design.

Opportunities to strengthen local amenity include nature play, outdoor classrooms, community gardens. In Bruce, there is a strong desire for culturally expressive play spaces that connect to Country, supported through a network of informal healing, gathering and learning space connected via nature based active travel trails. This became spaces that celebrate the anchors and the local stories.

Cultural Bushfire Management Practice

Site-specific bushfire analysis will be required in accordance with the 2023 Bushfire Management Standards (BMS), particularly as North Canberra Hospital, CIT, and AIS are classified as Sensitive Use Developments. These uses require stricter measures due to vulnerable occupants and evacuation constraints, including larger Asset Protection Zones (10–24 m), enhanced construction standards, tailored emergency planning, and adequate access to firefighting infrastructure. These requirements are addressed through measures such as perimeter roads and integrated landscape planning. At the same time, there is a growing need to rethink settlement patterns and land stewardship in high-risk zones, recognising fire as an essential ecological process that supports biodiversity, vegetation health, and landscape resilience.

Cultural bushfire management offers a pathway forward, drawing on Indigenous knowledge systems that use “cool burning” to reduce fuel loads, maintain ecological balance, and care for Country through reciprocal practices. There is an opportunity to support initiatives, such as CIT’s cultural ranger programs to actively manage landscapes like Gossan Hill Nature Reserve, although this will require stronger policy support and investment. Moreover, land-use planning and urban development must become more adaptive and ecologically grounded, responding to changing fire regimes while strengthening the relationship between nature, culture, and the built environment.



Figure 13. Art & interpretative design element through signage and wayfinding



Figure 14. Acknowledgement of Country and celebration of Significant First Nations figures of the past as Wayfinding Strategy



Scale
1:15,000 @ A4

0m 150 300 450 600 750m

N

LEGEND

- | | | | |
|--|---|--|---|
| | Preservation of Significant Cultural Heritage Sites | | Acknowledgement of Country, Signage and Wayfinding Strategy |
| | Culturally Significant Trees | | High Points for Views Sky Country |
| | Nature Based Walking and Cycling Trail linked to Centenary Trail | | Community Rangers Bushfire Management Strategy |
| | Medicinal and Bush Tucker Garden | | Areas of Intact Mature Nature Trees |
| | Informal Education Opportunities and Meeting Places for Young Adults | | Endangered Ecological Communities (Woodland/Grassland) |
| | Informal Education Opportunities for Regional/District Level Play Space or Water Play Space | | First Nations Athletes Trail - Celebrating Athletes from All over the Country |
| | Outdoor Healing Spaces, Gathering and Knowledge Sharing Spaces | | Celebrate Colours, Textures, Materials and Tons of Deep Country |



Figure 16. Cultural Fire Management Program

Movement Network and Access

The Bruce Precinct Strategic Maps Report provides Place principles, movement framework and urban design recommendations. Based on this, the following Transport Principles have been prepared to guide the design and delivery of the Bruce precinct.

Strategic Alignment

Movement and Place is universally acknowledged as a multi-disciplinary, place-based approach to integrated planning, design, delivery and operation of transport networks. It recognises the dual function of roads and streets and balances the place-making expectations related to their role in the transport network.

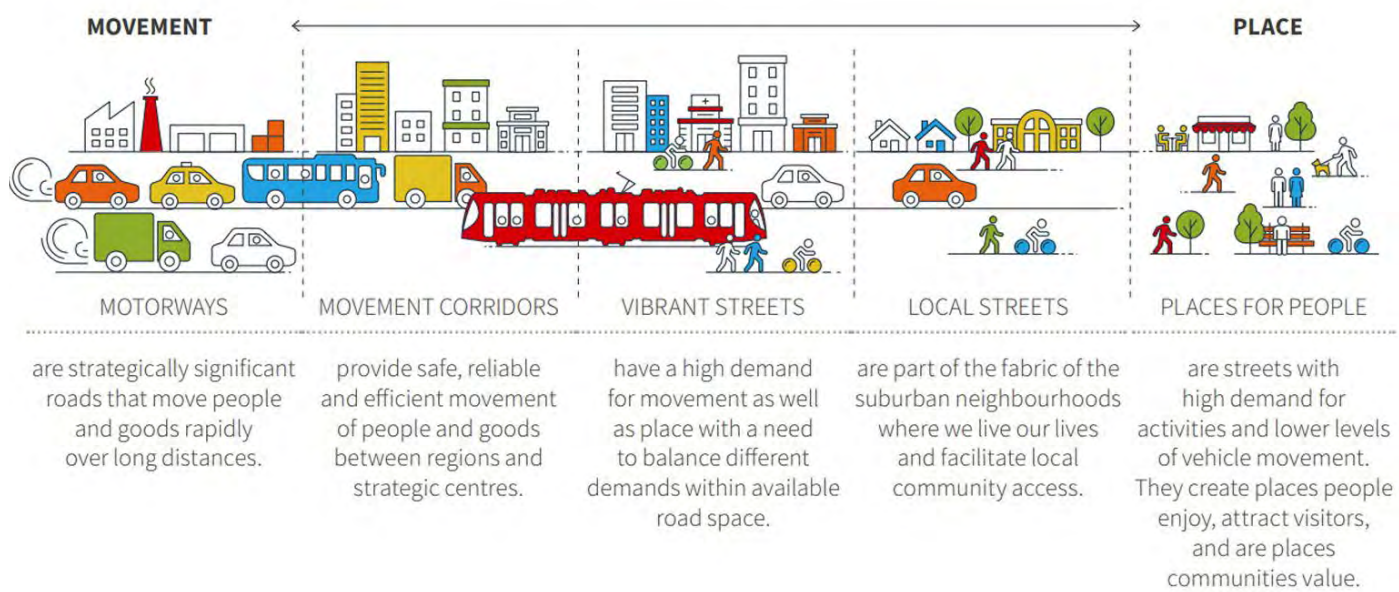
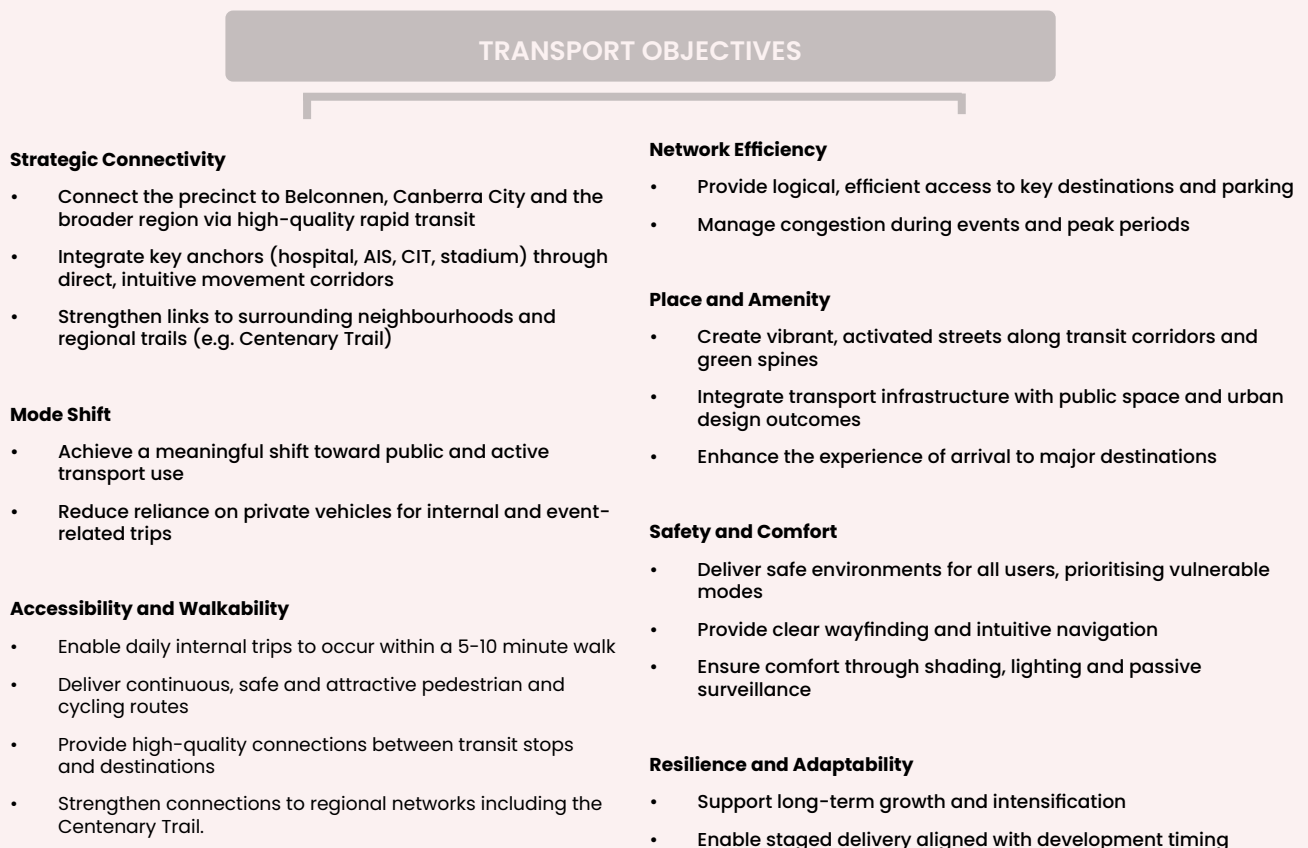
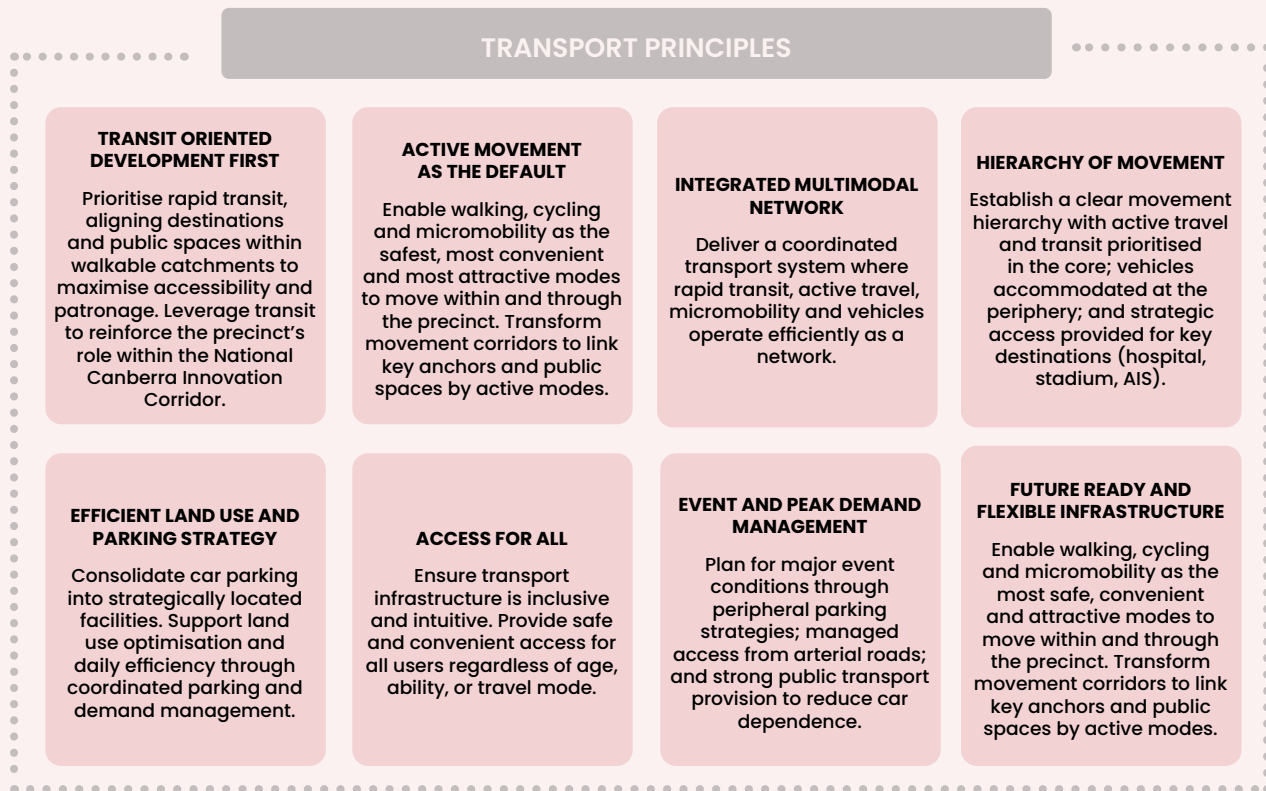


Figure 17. Movement and Place diagram – ACT Planning Strategy (2018)

Principles and Objectives

The Bruce Precinct Strategic Maps Report provides Place principles, movement framework and urban design recommendations. Based on this, the following Transport Principles have been prepared to guide the design and delivery of the Bruce precinct.



Movement Network and Access

Road Network

To achieve the previously identified transport principles, the road network should aim to be structured to accommodate future development while supporting best practice transport planning practices of mode shift and reducing reliance on private vehicles for internal and event related trips.

A clear movement hierarchy will concentrate higher traffic volumes on peripheral routes and limit through movements in core areas, ensuring efficient circulation while discouraging unnecessary car travel. Roads will be well integrated with the surrounding urban environment, with clear layouts, appropriate speed environments and reduced conflict points to support all users. The network will perform effectively during peak and event conditions through managed access, clear routing, and directing traffic to the periphery.

This approach will maintain reliable, strategic access to key destinations and parking facilities while reinforcing a road network that prioritises essential vehicle trips. In doing so, it will support sustainability outcomes, efficient network use and provide for long-term growth and intensification, without resulting in unnecessary expansion or over-provision of road infrastructure.

Existing Road Network

The Bruce precinct is located approximately 7 kilometres northwest of Canberra's city centre and is bounded by major arterial roads, including Belconnen Way to the south, Ginninderra Drive to the north, Haydon Drive to the west and Gungahlin Drive to the east.

Battye Street and Braybrooke Street form collector roads that provide the major access into the precinct connecting to the arterial network with signalised intersections. No vehicular access to the precinct is available directly from Gungahlin Drive.

The internal road network connects the major destinations to their associated at-grade car parking and to the surrounding arterial roads at the perimeter of the precinct. Individual institutions are serviced by smaller internal access roads which primarily support movement within their own areas. The movement within the site is characterised by vehicle travel needs from arterial roads to specific destinations. Local road network connectivity exists between the AIS, Canberra

Stadium and CIT. The North Canberra Hospital is however isolated from the remaining precinct network not having any local road network connections between itself and the other precinct land uses. Its access is solely to and from Haydon Drive.

Generating diverse travel demands and patterns, the precinct accommodates daily commuter, student, visitor and event based demand associated with major sporting and entertainment uses. As such, the precinct requires a well-coordinated and multimodal transport system to support efficient movement, improve connectivity and enable future growth opportunities.

Existing Traffic Volumes

An assessment of traffic volumes across the precinct is provided in Appendix A (6.1.4 Existing Traffic Volumes). This includes consideration of typical daily traffic volumes and the influence of event traffic.

All intersections saw substantial traffic volume increases on game days as expected, with the most notable increases at the Haydon Drive/Battye Street and Haydon Drive/Jaeger Circuit intersections.

Modelling Assumptions, Outcomes and Recommendations

Traffic Generation

Traffic generation has been estimated in line with Integrated Transport Assessments principles, adopting a multi-modal approach that considers network performance alongside broader community outcomes, rather than vehicle demand alone.

To avoid over-provision of road capacity and infrastructure needs, a range of residential and commercial development scenarios and associated trip rates has been applied. ACT Government rates have been used, with an average scenario reflecting reduced vehicle trips typical of high-density, mixed-use precincts due to mode shift, internal trip capture and shared travel behaviour.

This approach provides a balanced, realistic and policy aligned basis for transport planning and network assessment. It reflects the likely range of development, travel behaviour change, and sustainable transport objectives.

Full details can be found in Appendix A (6.2 Master Plan Traffic Generation) which indicates the future Master Plan development could generate in the order of 3,000 additional traffic movements during the AM and PM peak hours.

Additional considerations have been given to the development of the North Canberra Hospital, Canberra Institute of Technology, Canberra Stadium and the Australian Institute of Sport as discussed in Appendix A (6.2 Master Plan Traffic Generation).

Traffic Modelling

These traffic volume increases have been assessed using the Bruce Traffic Model (provided by the ACT Government) to understand the impacts of such land use growth on the existing road network for a future year 2041 case. Full details of the traffic modelling are included within Appendix A (6.3 Network Traffic Operation).

Traffic Outcomes

The modelling results indicate a significant deterioration of network performance due to the additional traffic demand associated with the Bruce Precinct. Full details of the outcomes of this modelling are included in Appendix A (6.3 Network Traffic Operation).

The modelling, at this time undertaken on the existing road network, indicates that both demand side (achieving mode shift from private vehicle travel) and supply side (increasing road network capacity) measures need to be investigated. Further investigations and potential opportunities need to be explored at later stages of the project as follows:

- Site access arrangements to encourage Ginninderra Drive rather than Haydon Drive and Belconnen Way.
- Upgrade of the Belconnen Way/Haydon Drive intersection is recommended, particularly to increase the right turn capacity from Haydon Drive to Belconnen Way. Currently, only a single right turn lane is provided, and this movement is susceptible to queues extending back to adjacent intersection, limiting throughput. This queueing issue is also observed in 2041 Reference Case scenario.
- Upgrade internal intersections, in particular the Battye Steet / Braybrook Street / Purdie Street intersection from priority controlled to a signalised intersection.
- Provide additional access to the precinct by opening Agar Street to Ginninderra Drive on non-event days and signalling the intersection. The intersection would be located approximately 280 m from the Ginninderra Drive interchange and 390 m from the existing signalised intersection at Ginninderra Drive/Braybrooke Street, indicating that there is adequate spacing from nearby signalised intersections.
- Increase/encourage in travel mode shift to reduce reliance on private vehicle trips.
- Increase the mixed-use nature of the precinct to enhance the internal trip capture by active travel modes, thus reducing vehicle trip generation.
- Consideration and feasibility for ACT Government investment in additional vehicle access under Gungahlin Drive to the south.

The increase in event traffic volumes, albeit outside of typical road network peak periods, will further add to the traffic congestion in the precinct highlighting the need for further demand and supply side measures and specific event traffic management planning.

Movement Network and Access

Road Network

Proposed rapid transit boulevard

The transport networks presented for each scenario explore alternative alignments of the Rapid Transit Boulevard which influences the broader movement framework across the precinct. While the alignments vary between scenarios, a representative cross section is proposed to illustrate the intended corridor design and functionality.

The rapid transit boulevard integrates capacity for future light rail (or dedicated bus lanes), with a single traffic lane in each direction, alongside planting, on-street parking, indented bus bays and an 8.0m wide promenade designed for community use. This indicative cross section, shown in Figure below illustrates the intent of the transit boulevard for shared transport and public realm outcomes. Priority is given to public transport, while accommodating limited vehicle access through one traffic lane in each direction.

Movement and Place

The Rapid Transit Boulevard in Scenario 2 creates an opportunity for a 'Vibrant Street' function through the centre of the precinct aligning with both a high movement and a high place function under Movement and Place categorisations. This reflects the dual function of the stadium precinct corridors moving large event crowds efficiently while the density of future land uses support vibrant, activated streets.

The dual function of this corridor highlights its strategic significance to this precinct to support development in both a staged and ultimate configuration.



Figure 18. Example Transit Boulevard Section

SCENARIO 1

Scenario 1 establishes a clear distinction between the precinct core and its periphery. The Rapid Transit Boulevard is positioned along the edge of the precinct, running along Haydon Drive and Belconnen Way. This draws public transport to the perimeter while reinforcing the route as the primary movement corridor.

In contrast, the core of the precinct accommodates vehicles along Battye Street while prioritising pedestrian movement along north-south internal connections via Leverrier Street and an active travel link between the stadium, CIT and North Canberra Hospital. While these destinations benefit from improved connection, AIS is more separated and relies on arterial connections via Ginninderra Drive and Haydon Drive.

East west connectivity is anchored by Battye Street and its potential extension to Gungahlin Drive, forming the main internal spine and a key-through connection to surrounding suburbs. The additional precinct access point increases direct connectivity to the precinct but has the potential to affect the operation of Gungahlin Drive due to the existing interchanges being already at minimum spacing.

Geometric and physical spacing constraints may affect the feasibility of an additional Gungahlin Drive interchange, particularly in respect to providing adequate ramp tapers and storage length. Weaving of traffic especially during event days will put pressure on north-south traffic flow on Gungahlin Drive. While this additional access point could be anticipated to be predominantly used for providing additional event capacity, it is more suitable to provide event specific access solutions rather than introducing a permanent new interchange. Further investigation of such an access point would need to be explored through modelling, geometric design and government engagement.

In summary, Scenario 1 aligns public transport with the arterial through traffic route however separating its connection with land use attractors and increases potential conflicts for pedestrians to access future public transport.

Haydon Drive Impacts

Traffic modelling undertaken in the Belconnen to City Transitway report indicates a reduction in Haydon Drive operation will require improvements, in particular, recommending corridor widening near Belconnen Way and Haydon Drive to support interim operations and the potential longer term transition to light rail. Further modelling of the Transit Boulevard configuration would be required along Haydon Drive to understand its impact more fully, along with the densification of the Bruce Precinct. However based on the Belconnen to City Transitway modelling it would be expected that a reduction in general traffic capacity along Haydon Drive would need to be accepted as an inherent consequence of any upgrade to Transitway proposals.

SCENARIO 2

Scenario 2 is structured to prioritise a transit and active travel focused precinct core, with general vehicle movement shifted to the periphery. The rapid transit boulevard runs centrally through the precinct along the Battye Street alignment, passing beneath Gungahlin Drive and bringing public transport directly to the centre. This reinforces the core as people focused environment, while existing arterial routes accommodate vehicle movement around the edges.

Opportunity exists to for private vehicle movements to be combined with the Rapid Transit Boulevard providing an eastern precinct connection across (under) Gungahlin Drive through the Bruce Ridge Nature Reserve to Dryandra Street and Fairfax Street.

East-west connectivity is defined by this central rapid transit boulevard, which forms the primary spine of movement and a strong connection to outer suburbs. Private vehicle movement is distributed to the surrounding arterial network, supporting reduced traffic within the core and aligning with the ambition for internal movement to be dominated by public transport and active modes.

North-south movement within the precinct is provided via the pedestrianised Leverrier Street and the extended Masterman Street along the eastern edge, which functions as an important internal link. This corridor supports access between major destinations, including North Canberra Hospital, the CIT campus and Canberra Stadium while also keeping this traffic off Gungahlin Drive. The extension of Masterman Street seeks to provide opportunity for greater dispersal and flexibility of traffic movements across the precinct.

Overall, under this scenario, the network emphasises internal connectivity through high quality public transport and pedestrian links, while maintaining broader accessibility via the peripheral road network.

Movement Network and Access

Parking Provisions

The desired outcome for parking provision should support land use optimisation and best practice transport planning practices for a shift toward more sustainable transport modes by reducing reliance on private vehicles and encouraging greater uptake of public and active transport. It must also accommodate peak demand associated with major sporting and recreational events through a coordinated and efficient parking management approach.

Particular consideration should be given to integrating the access and operational requirements of the North Canberra Hospital into the overall parking strategy. The Precinct will rely on a combination of structured parking to accommodate future demand, supported by demand reduction measures to encourage alternative travel choices.

Existing Conditions

Parking across the precinct is predominantly provided through a combination of large at-grade car parks and select parking buildings associated with individual institutions. Provision and management vary with a mix of free and controlled parking supporting staff, students, visitors and event based demand.

While this approach accommodates existing needs, it results in a dispersed and land-intensive parking pattern, with limited coordination across the precinct. The following outlines the current parking arrangements for key institutions.

North Canberra Hospital

The hospital campus has a free 24/hr multi-storey car park on the Mary Potter Circuit approximately 100m from the main hospital entrance. Across the campus, enforced parking conditions and time limits apply to the at grade uncovered car park opposite the main hospital entrance, and short term parking outside the Marian Building and Emergency Department.

Accessible parking is available around the campus and within the multi storey car park.

CIT Bruce Campus

A large at grade uncovered car park is available at the Bruce campus, free for all students. Accessible parking is provided outside various buildings.

Canberra Stadium

Designated car parks are available on the east and west sides of the stadium catering to visitors for \$10 per vehicle. VIP, corporate and disabled parking is also provided. Additionally, Canberra stadium directs visitors to additional parking at CIT and the University of Canberra about 10 or 20 minutes' walk respectively.

AIS

Three parking areas are provided for visitors, with two areas accommodating buses. Separate staff and athlete parking is also available. Accessible parking is available close to the main entrances.

Proposed Parking Generation

In a similar manner to traffic generation above, an estimate of the future parking needs of the contemplated master plan uses has been undertaken in the following.

- Residential**

Adopting a rate of 1 car parking space per dwelling would result in a demand in the order of 4,000 to 5,800 resident spaces.

- Commercial**

A range of parking generation rates are applicable for a range of commercial use types that could be expected to make up an overall commercial offering across the precinct.

In this regard car parking expectations have been referenced from the ACT Government Technical Specification (Commercial Zone) for retail shop and office land uses as follows:

- Retail (Shop): 5 spaces per 100 sqm
- Office: 2 spaces per 100 sqm

These would be expected to form the key range limits to be tested.

Traffic Generation Rate Range (Peak Hour)	Land Use Scale Range (sqm)	
	30,000	43,000
2 spaces / 100sqm (Office)	600	860
5 spaces / 100sqm (Shop)	1500	2150
Average	1,278 spaces	

Table above (Commercial Parking Generation) indicates an average commercial parking expectation of 1,278 spaces. Combined with future resident parking a total additional parking requirement in the order of 5,000 – 7,000 spaces could be required above that currently provided within the precinct.

The above figures are considered to represent an upper bound scenario, noting that a significant proportion of demand is likely to be accommodated through shared and walk-up trips between future residential development and adjacent retail/commercial uses. This internalisation of trips is expected to reduce the overall parking demand compared to a conventional, stand-alone land use approach. It is important to put in place a forward looking parking strategy at the outset which balances travel and parking needs now, however has the flexibility to evolve in the future as densification of a mixed use activity centre occurs. Parking controls and future planning provisions and ownership of parking assets play a role in creating a future flexibility for change.

Notwithstanding this, the provision and distribution of parking will require careful consideration in future development stages, particularly in response to the congestion issues identified in the traffic assessment. Parking supply should be aligned with network capacity constraints to avoid exacerbating peak period pressures on the surrounding road network.

It is important to recognise that parking provision is a key determinant of private vehicle travel behaviour. As such, parking supply may need to be deliberately moderated to discourage unnecessary car use, mitigate congestion impacts, and support a shift toward more sustainable transport modes. An oversupply of parking can induce additional vehicle trips, undermining broader transport and land use objectives.

In this context, opportunities to maximise the efficiency and utilisation of parking should be actively pursued. This includes, but is not limited to, shared parking arrangements across complementary land uses with differing peak demand profiles, flexible allocation strategies, and potential integration with demand management measures. These approaches will help to optimise parking provision across the precinct and avoid unnecessary capital investment in underutilised parking infrastructure, while still maintaining appropriate levels of accessibility for residents, workers, and visitors.

Movement Network and Access **Parking Provisions** *(continued)*



Proposed Parking Generation (cont.)

SCENARIO 1

Scenario 1 identifies, two multi-storey parking structures. The first parking structure is located adjacent to the relocated stadium and is accessed from Haydon Drive. It supports both hospital staff and stadium demand while keeping vehicles out of the precinct core and utilising existing parking land. The second parking structure is located on mixed-use development land and is proximate to the proposed access to Gungahlin Drive.

Together, these multi-storey parking structures respond to event-related congestion and reduce excess traffic movements through the precinct. They provide the ability to supplement and provide shared parking for hospital staff and stadium events, while accommodating increased traffic associated with development intensification and the anticipated needs of institutions, residents, and visitors within the precinct.

Overall, the approach delivers shared benefits across the wider precinct and a range of stakeholders, noting that considerations of investment, ownership and ongoing operation and maintenance of these structures have not been addressed at this stage.

SCENARIO 2

Scenario 2 identifies two multi-storey parking structures. The first parking structure involves upgrading existing parking land adjacent to the CIT campus to a multi-storey facility, accessed from Haydon Drive.

The second parking structure is located adjacent to the rapid transit boulevard near AIS. It is accessed from the extension of Masterman Street and the proposed connection under Gungahlin Drive. This utilises existing parking land. This peripheral parking approach reduces the need for vehicles to enter the core of the precinct, supporting event day traffic management.

Collectively, these multi-storey parking structures support the precinct's evolving access and parking demands by accommodating increased traffic associated with development intensification. By locating parking at the periphery, they reduce the need for vehicles to enter the precinct core, enabling the epicentre to be prioritised for active travel.

Movement Network and Access

Active Travel Connections

The desired outcome to support best practice transport planning services is to establish a people-focused movement environment supported by safe, convenient, and attractive walking, cycling, and micromobility networks that connect key anchors, public spaces and destinations across the precinct. A highly permeable network will enable direct and legible routes, supported by comfortable, low stress environments with appropriate levels of separation, low speed conditions and safe crossings.

High-quality amenity, including shade, active frontages, and well-designed public realm interfaces, will make active travel an appealing and intuitive choice for everyday and recreational trips. A fully integrated multimodal system will enable seamless connections to rapid transit while ensuring active travel and micromobility operate efficiently as a cohesive network. This will be supported by appropriate end-of-trip facilities, secure bicycle parking, and infrastructure that accommodates a range of users and micromobility options. The network will be underpinned by a clear movement hierarchy that prioritises active travel within the precinct core and maintains strategic access to key destinations such as the hospital, stadium, and AIS.

Existing Conditions

A series of active travel routes exist through the precinct comprising both Principal Routes and Main Routes.

The Main Route provides connection along the northern side of Battye Street from Haydon Drive to Canberra Stadium travelling onwards under Gungahlin Drive continuing through the Bruce Ridge Nature Reserve to Fairfax Street. This route facilitates a number of crossing points of local roads through the use of raised pedestrian zebra crossing treatments.

As precinct intensification increases vehicle volumes, the route will experience heightened interaction between pedestrians, cyclists and traffic, reinforcing the need for safe crossing design and effective traffic management. This existing route network will become increasingly valuable, offering users an attractive alternative to private vehicle use which enables a shift toward more active travel modes while maintaining the continuous connection between Belconnen Town Centre and the Canberra CBD.

A further main route is provided from Ginninderra Drive providing connections from the north to the Canberra Stadium linking with the path network that continues south under Gungahlin Drive.

The Main Route through the site provides a connection to the Centenary Trail, a 138 km shared use trail which runs through urban and rural Canberra and passes through the Bruce precinct. This provides an important corridor for walking, running and cycling. Connection of this trail is provided under Gungahlin Drive to the Bruce Ridge Nature Reserve. To the west the path crosses Haydon Drive in an uncontrolled manner linking with the Gossan Hill Nature Reserve. Kerb ramps are provided however formal crossing control is not.

These routes are shown in Figure 19.

Several local streets support cycling in lower-speed environments such as Braybrooke Street and Leverrier Street which function as bicycle friendly streets, these include:

- Traffic calming measures, raised crossings, and signage to encourage slower vehicle speeds particularly through the AIS area
- Raised zebra crossings e.g. on Braybrooke near Battye Street intersection that further support pedestrian safety



Alinga



Movement Network and Access



Bus

100m



Active Travel Connections (continued)



Proposed Active Travel

SCENARIO 1

Scenario 1 drives significant land use and movement change by transforming Haydon Drive into an active mixed-use rapid transit boulevard, forming a key north-south spine along the precinct. This corridor utilises the socialised space along Haydon Drive to connect major anchors, including the hospital, Fern Hill residential neighbourhoods, and Radford College. It strengthens connectivity by facilitating links to Jaeger Circuit and Purdie Street, as well as pedestrian connections into Aranda to the southwest. While access to the AIS and the precinct core would rely on the internal local movement network, the boulevard enhances broader connectivity by linking into the existing Centenary Trail, improving access to surrounding nature reserves. The scenario prioritises active travel through upgrades to the north-south route while retaining the east-west recreational trail, supporting a framework for a more integrated and walkable movement network across the precinct.

While links to regional and recreational routes are provided, connectivity at a local level is more limited, necessitating a more comprehensive internal movement network. Scenario 1 has a clearer separation between commuter movement along the rapid transit boulevard and connections to the broader precinct, which results in weaker direct integration, particularly in relation to the pedestrianised Leverrier Street.

Enhancements such as the development of Battye Street are required to establish continuous and legible active travel infrastructure, ensuring both effective connections between key destinations and also improving overall network permeability.

SCENARIO 2

Scenario 2 establishes a regionally significant active transit corridor along an east-west boulevard, forming the primary movement spine of the precinct. This is complemented by north-south links that transition into pedestrian-focused street environments, creating a fine-grained and people-oriented network. This scenario builds on and expands the existing Centenary Trail, strengthening connections to recreation and surrounding open space. Permeability is enhanced through new, upgraded and extended connections, including Leverrier Street and additional thoroughfares—particularly in the northern section—at intervals of up to 100 metres, supporting a highly walkable urban form. Active travel is prioritised along the east-west transit boulevard through activated frontages, with movement and land use focused around the precinct epicentre and integrated with key recreational connections.

With large traffic volumes arriving via rapid transit and from the CIT parking centre, strong active travel connections—particularly between Battye Street and the CIT—are critical to ensure efficient and safe movement. Access to the hospital is closely tied to station placement, which must be optimised to maintain walkable distances. Similarly, access to other key destinations may require complementary measures such as bicycle depots or a loop bus to support last-mile connectivity.

In this scenario, the direct stadium link to the light rail caters for event traffic, reducing the need for additional active travel measures to manage game day surges.

Movement Network and Access

Public Transport

The desired outcome to align with best practice transport planning practices is to create a clear movement hierarchy that will prioritise public transport within the core of the precinct, while accommodating vehicles at the periphery and maintaining access to strategic destinations, including the hospital, stadium and AIS.

It will effectively respond to peak and event demand through managed access, peripheral parking and high-capacity public transport. Integration of existing game day bus services with future light rail will be critical to managing event surges, with a clear hierarchy that prioritises light rail as the primary high-capacity mode and positions bus services as a complementary secondary and local access network.

Overall, the network will provide intuitive and efficient access to destinations, manage congestion during peak and event conditions, and support long-term growth and intensification. Its delivery will be flexible and staged, aligned with development timing and will reinforce a connected, resilient and future focused public transport system.

Existing Conditions

The existing public transport network comprises a mix of regular, event and school bus services, each serving a distinct function in providing coverage, managing commuter and event related demand and supporting access to destinations across the precinct and wider network.

Bus

- Regular Services

Overall, the public transport network exhibits a strong radial structure centred on Belconnen Interchange, with high frequency rapid routes providing efficient connections City Interchange and supporting regional travel demand. Rapid routes R2, R3, R4, R5, and R6 form the primary public transport spine, operating at a high frequency between Belconnen Interchange and City Interchange.



Figure 21. Rapid routes R2, R3, R4, R5, and R6

Route 9 supplements this network by linking Belconnen Interchange to Dickson Interchange, supporting cross-town movement and improving connectivity to the inner north.



Figure 23. Route R9

Local routes such as the 901 complement this structure by servicing key destinations within the Bruce precinct and enabling accessibility.

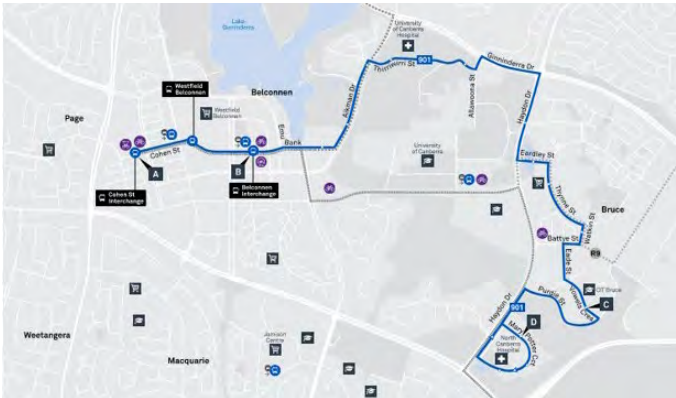


Figure 22. Route 901

Game day Services

Canberra Stadium provides free game day bus services for ACT Brumbies and Canberra Raiders matches. These services depart from major interchanges across Canberra and drop off and pick up passengers at the East Gate of Canberra Stadium, adjacent to the East car park.

School Services

School services further reinforce the importance of key corridors such as Haydon Drive and Belconnen Way, highlighting concentrated peak-period movements associated with education facilities.

Additional Services

Additional transport services are available to support ACT residents who may have difficulty accessing conventional public transport. These include community bus services operating Monday to Friday, offering flexible, pre-booked routes tailored to individual passenger needs.

While the existing network provides a solid foundation of coverage and connectivity, it is primarily oriented towards connecting outer suburbs and passing through Bruce. This suggests opportunities to enhance cross-precinct and local connectivity, as well as to better integrate key institutions and activity centres within the broader transport network.

A summary of the available bus routes is in Table below along with maps showing the routes as they relate to the Bruce precinct.

Route Number	Route	Roads through Precinct
R2	Belconnen to Fyshwick Via City and Railway Station	Belconnen Way, Haydon Drive
R3	Belconnen to Airport Via City and Russell	Belconnen Way, Haydon Drive
R4	Tuggeranong to Belconnen Via Woden and City	Belconnen Way, Haydon Drive
R5	Belconnen to Lanyon Via ANU, City, Woden and Erindale	Belconnen Way, Haydon Drive
R6	Belconnen to Woden Via ANU, City and Kingston	Belconnen Way, Haydon Drive
R9	Belconnen to Watson Via Bruce and Dickson	Braybrooke Street, Battye Street
901	Belconnen to North Canberra Hospital Via UC Hospital and CIT Bruce	Mary Potter Circuit, Haydon Drive, Purdie Street, Vowels Crescent
1055	Aranda Primary School, Canberra High School	Braybrooke Street, Battye Street
2012	St Clare's/St Edmund's College	Belconnen Way, Haydon Drive

Figure 24. Table Bus Routes Passing through Precinct

Movement Network and Access

Public Transport

(continued)

Light Rail

The existing light rail network comprises the north-south Route R1, which connects Alinga Street in the City to Gungahlin Place. Operated by Canberra Metro Operations, the line provides a high-frequency rapid transit service, with services running approximately every 5 to 15 minutes across weekdays, weekends, and public holidays. All stops along the corridor are fully accessible.

While the current light rail alignment does not directly service Bruce, indirect access is available via connecting bus service Route 9 from Dickson Interchange.

Transport Canberra has planned network expansion which will extend light rail to additional destinations, following a hub-and-spoke model centred on the City, with new corridors radiating outward to serve surrounding areas.

A feasibility study undertaken by WSP in March 2026 investigated opportunities to enhance transit performance along Haydon Drive and eastern portion of Belconnen Way through targeted interventions that address the short to medium term needs. The existing connections of this corridor are currently constrained, and infrastructure limitations affect the efficiency and reliability of public transport. The study developed two tactical kerbside treatment options.

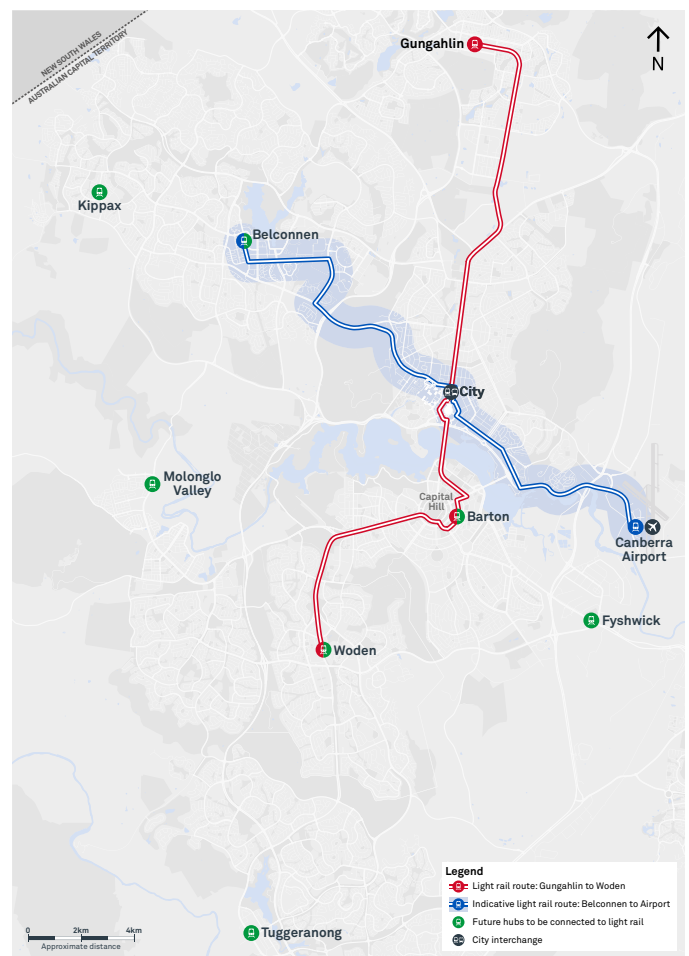


Figure 25. Moving Canberra 2019–2045 Integrated Transport Strategy: Current Planned Network

Proposed Public Transport

Figure 26. Scenario 1 – Public Transport Catchment 400m



SCENARIO 1

Under Scenario 1, no new or modified bus services are specifically identified at this time. Instead, the focus is on enabling infrastructure, including the provision of new bus stops and an upgraded bus corridor integrated within the proposed rapid transit boulevard. This approach is intended to support direct and convenient public transport access to the future mixed-use development, as well as key destinations such as the stadium and hospital.

With the stadium centrally located and new mixed-use development, housing and public amenity surrounding the precinct, these key destinations will be anchored by the rapid transit corridor along Haydon Drive.

The overall strategy maintains a strong emphasis on the future delivery of high-capacity light rail as the primary mode, with bus services playing a complementary role in providing local access and network coverage.

Under Scenario 1, the rapid transit alignment is oriented to serve key civic destinations, including the hospital, northern education precincts, and the proposed stadium location (noting the relocation of the stadium is required to place it within a reasonable walking catchment of the Transit Corridor). The corridor follows Haydon Drive and Belconnen Way, providing strong regional connectivity and direct access to these high-demand uses. This aligns with the short and medium term transitway alignments contained within the recent feasibility study prepared by the ACT Government. While this configuration supports efficient movement to major destinations, the perimeter alignment limits coverage over the core of the precinct. In particular, it introduces a degree of separation from the AIS campus, reducing the directness of connections and potentially constraining accessibility within this area. As a result, while the alignment performs well at a strategic level, additional measures may be required to strengthen internal connectivity and ensure equitable access across the precinct.

Figure 27. Scenario 2 – Public Transport Catchment 400m



SCENARIO 2

Under Scenario 2, there are no new or modified bus routes proposed at this time, with the public transport strategy relying on a new east-west light rail corridor along Battye Street, supported by active travel, to address future transport demand. In this context, bus services are not identified as a primary intervention, reflecting a shift toward high-capacity rapid transit as the dominant mode. The concept design only identifies the potential for a loop bus service, subject to patronage and demand analysis, to support the light rail corridor by providing local circulation and informing stop placement and coverage. Overall, bus services are envisaged as a secondary, adaptable layer, complementing the light rail network rather than driving network structure.

The rapid transit alignment along Battye Street, extending to Gungahlin Drive, establishes a regionally significant and highly active transit corridor through the precinct. This alignment strengthens east-west connectivity and creates a strong public transport spine that integrates with the wider network. With the stadium retained in its existing location, the corridor is well positioned to support event-related demand, providing direct and efficient access for large passenger volumes. It also enhances connectivity to key destinations within the precinct, including the heart of the AIS campus, the CIT campus, and other education facilities to the north. Overall, the alignment supports both daily and peak demand, reinforcing the role of rapid transit as the primary mode while improving accessibility across major activity centres. This alignment is however at the expense of the North Canberra Hospital which would fall outside of a 400m walking catchment of the Rapid Transit route.

Movement Network and Access

Loading and Servicing

Servicing and waste management functions will be integrated to enable safe and efficient access for service and collection vehicles while minimising conflicts with pedestrians, cyclists, general traffic and the primary movement network, particularly within high activity areas. The design and operation of these functions will also protect the visual and acoustic amenity of the public realm.

The strategy should aim to respond to the anticipated operational demands of key destinations, including Canberra Stadium, ensuring event related servicing is accommodated without compromising visitor experience. To deliver best practice transport planning practices it will align with the precinct's road network principles to support efficient operation without driving unnecessary road expansion or over provision of infrastructure and remain adaptable to emerging delivery technologies and evolving servicing models.

Existing and planned routes

The strategy will respond to the existing and planned transport network, including key orbital links and freight routes identified in the ACT Freight Strategy. Servicing access will align with these corridors to support efficient regional movement while minimising impacts on local streets.

The precincts bordering arterial roads all currently allow B-Double access as part of the National Heavy Vehicle Register. The future orbital network is shown in Figure 42

Land Use

A diverse mix of residential, health, education and event uses generates varied servicing and waste management needs. Future residential growth will increase demand, requiring solutions that protect amenity, while major destinations such as the hospital, stadium and CIT campus will require tailored servicing approaches to support their specific operational needs.

Vehicle Types and Frequency

The precinct must accommodate a range of vehicle types, including waste trucks, delivery vans, removalists, trades, emergency services and event related loading vehicles. Increasing small vehicle parcel deliveries will require flexible, short term loading spaces near residential areas and local centres, with servicing managed to balance efficiency and minimise disruption.

Access and Circulation

Servicing access will be designed to support safe and efficient operations by:

- Accommodating MRV and where required HRV and Semi Trailer turning paths
- Minimising reversing in public streets
- Maintaining clear sightlines and pedestrian priority
- Integrating with the street hierarchy and traffic calming measures

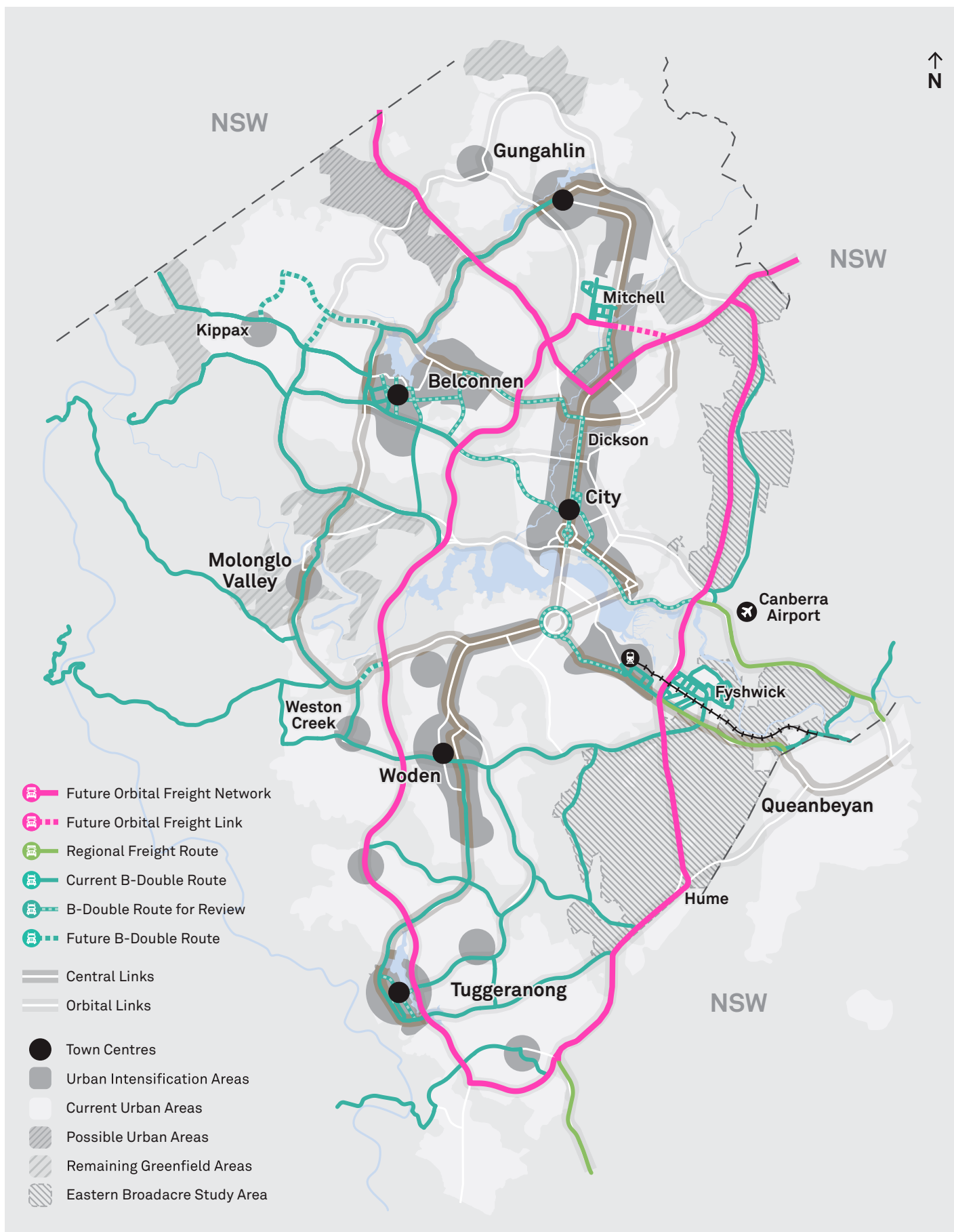


Figure 28. Freight Current and Planned Network, Source: ACT Transport Strategy 2020

Movement Network and Access

Future Transport and next steps

The precinct as envisioned, will generate diverse travel demands, including commuter, student, visitor and major event travel, requiring a coordinated and integrated multimodal transport system. Anchored by the North Canberra Hospital, CIT, AIS and Canberra Stadium, and supported by strong regional connections via surrounding arterial roads, the precinct is well positioned to leverage a future rapid transit corridor as the primary spine for movement and connectivity.

Future Transport

Future transport in the precinct should integrate land use and movement to support a mixed-use environment, prioritising active and public transport while maintaining efficient, managed vehicle access. A forward looking approach will enable the adoption of emerging technologies and innovative mobility solutions, ensuring the network remains accessible, resilient, and aligned with broader ACT objectives.

The infrastructure should be designed to support long-term growth and intensification, with corridors capable of staged delivery aligned to development timing. The network will remain flexible and adaptable to evolving technologies and travel behaviours while maintaining efficient and sustainable performance.

Road Network and Operation

Traffic modelling indicates that both demand-side and supply-side measures would be required to support efficient operation of the road network. In general, the Master Plan Option Case results in a deterioration and breakdown of network performance compared to the 2041 Reference Case, driven by the additional traffic demand associated with the Bruce Master Plan.

Increasing mode shift to public and active transport, along with stronger internal trip capture, will therefore be critical to reducing reliance on private vehicles. However, targeted upgrades to intersections, site access arrangements, and local circulation will also be needed to address key constraints. Event traffic will place additional pressure on the road network, reinforcing the need for dedicated event management strategies.

All mitigation measures remain indicative and require further investigation. Overall, an integrated approach combining travel demand management, land use optimisation, and targeted infrastructure improvements will be essential to support efficient network performance without widespread road expansion.

Scenarios Assessment

Both Master Plan Scenario 1 and Scenario 2 align strongly with the desired transport outcomes by establishing a clear movement hierarchy and integrating land use with transport. High-capacity rapid transit forms the backbone of the public transport network, supported by active travel connections and a road network that accommodates vehicles primarily at the periphery. This approach supports mode shift, improves access to key destinations, and limits unnecessary vehicle movement within central areas, creating a more efficient and people focused environment.

Next Planning and Design Stages

Further work is required to resolve gaps in connectivity and network performance. This includes refining road access points; intersection performance; improving the permeability and coverage of active travel networks; and strengthening integration between rapid transit and local connections to support first/last mile access. Ensuring equitable access to key destinations including AIS and the North Canberra Hospital, and developing effective event management strategies will be critical. These refinements will help ensure all modes operate efficiently under daily and peak conditions while maximising mode shift.

Loading, servicing and future transport strategies should be further developed through the next stages of planning and design. These should support efficient servicing within the road network while minimising conflicts with pedestrians and cyclists and protecting public realm amenity. A flexible, future focused approach should also support emerging technologies, integrated multimodal networks and staged delivery to ensure adaptability as the precinct grows.

Overall, the master plan provides a strong foundation for a coordinated, multimodal transport system that supports growth, enhances accessibility, and promotes sustainable travel, positioning Bruce as a high value and integrated mixed-use precinct.



EMERGING TECHNOLOGIES AND MULTIMODAL INTEGRATION

Future transport in the precinct will integrate land use and movement to support a mixed-use environment, prioritising active and public transport while maintaining efficient, managed vehicle access. A forward looking approach will enable the adoption of emerging technologies and innovative mobility solutions, ensuring the network remains accessible, resilient, and aligned with broader ACT objectives.

The infrastructure will be designed to support long-term growth and intensification, with corridors capable of staged delivery aligned to development timing. The network will remain flexible and adaptable to evolving technologies and travel behaviours while maintaining efficient and sustainable performance.

MONITORING AND ADAPTABILITY

The future transport strategy will remain flexible and responsive to changing conditions. This will include ongoing monitoring of travel patterns and mode share and periodic review of infrastructure performance and capacity. The approach will allow for adaptation to evolving technologies, user behaviours, and policy settings, including the use of pilot programs and temporary interventions.

SUSTAINABILITY AND BEHAVIOUR CHANGE

Encouraging sustainable travel behaviour will be central to the precinct vision, particularly given its role as a major destination for events, education, and health services. Travel demand management will be critical to reducing reliance on private vehicles, with measures tailored to these uses, such as event travel planning, and incentives for staff, students, patients and visitors to choose active and public transport.

Flexible working and study arrangements, personalised travel planning, and targeted initiatives during major events will further support mode shift. Community engagement and education can further reinforce sustainable travel choices and support a transition to less car dependent travel patterns.

4.3

FOSTERING INNOVATION AND ANCHOR SYNERGY

Economic Development

Benchmarking Success in Innovation Precincts

The benchmark data shows that successful innovation precincts that operate at a 200–400+ hectares scale deliver 2–6 times higher job density than traditional centres, and anchor over 25,000–80,000 jobs—driven by concentrated sport, health, education and research ecosystems with thousands of clinical trials and billions in annual economic output.

Comparable innovation precincts demonstrate consistent performance benchmarks. These precincts achieve significantly higher productivity, with job densities of **50–180 jobs per hectare**, compared to just 20–50 jobs per hectare in non-innovation precincts. They are also characterised by deep research and clinical ecosystems, including **1,000–3,000+ clinical trials**, thousands of clinicians and researchers, and multi-billion-dollar annual economic outputs (typically **\$3B+ per annum**). This scale is supported by major anchor institution (hospitals and universities) and extensive partnership networks, positioning them as nationally and globally significant knowledge and innovation cluster.

The benchmarking highlights that success is not just about development, but achieving critical mass, density and ecosystem integration. Bruce must target a minimum threshold of 25,000+ jobs to operate as a credible innovation precinct. The presence and integration of health, education and sport anchors is essential, alongside a deliberate focus on building a translational research ecosystem that drives clinical trials, innovation and economic uplift. Equally important is governance and coordination, with successful precincts supported by strong partnership models and long-term investment to grow from emerging clusters into mature innovation ecosystems. Without this level of scale and integration, precincts risk underperforming and functioning as conventional centres rather than globally competitive innovation hubs.

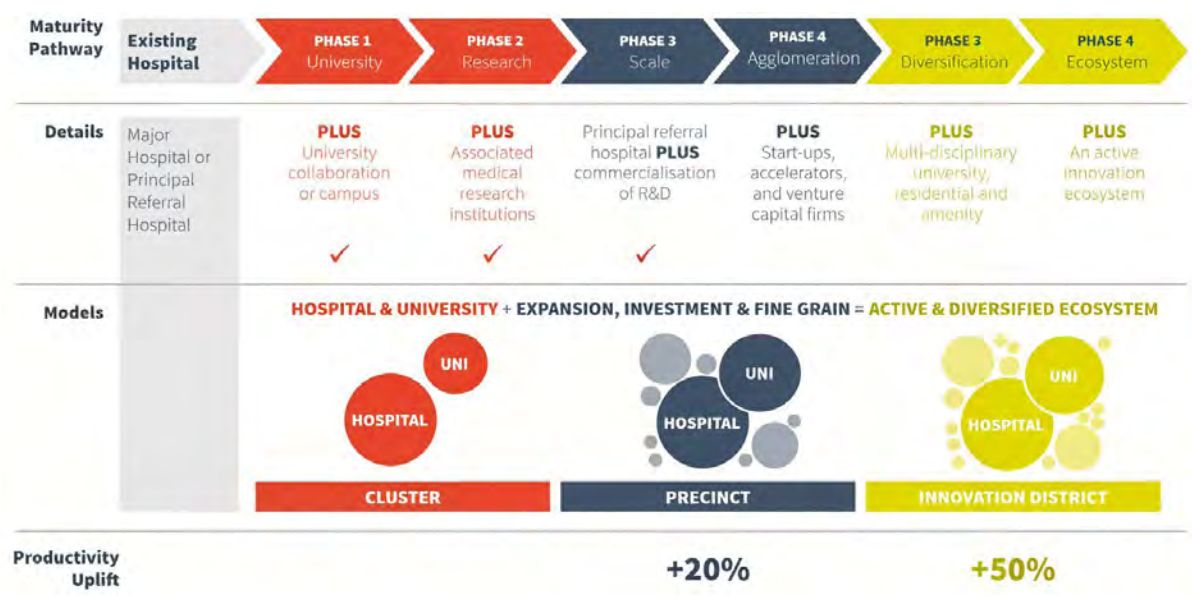


Figure 29. Maturity pathway for health and knowledge precincts - “Agglomeration” on a Continuum- increase productivity or output that is achieved through improvements in processes, technology or skills.

KEY TAKEAWAYS

STRUCTURED PARTNERSHIPS AT IPS UNLOCK ~30%+ PRODUCTIVITY GAINS

*FASTER COMMERCIALISATION AND TALENT ATTRACTION

PARTNERSHIPS, NOT JUST CO-LOCATION, DRIVE OUTCOMES

Co-location supports collaboration and knowledge exchange, but is not sufficient on its own. Formal and informal partnerships, affiliations and integrated institutional relationships are the primary drivers of sustained collaboration and innovation. Deliberate actions by institutions and stakeholders cultivate productivity and economic opportunity. Westmead's integration of two universities, and Parkville's unified governance structure both showcase this.

CROSS-SECTOR IPS GROW 2-3× FASTER* THAN TYPICAL METRO EMPLOYMENT GROWTH

*~150-180% TOTAL GROWTH OVER ~20 YEAR PERIOD

PRECINCTS EVOLVE FROM SINGLE-SECTOR CLUSTERS TO DIVERSE ECOSYSTEMS

Successful precincts typically originate from a strong single-sector base, and expand over time to incorporate complementary uses and entire sectors. The Gold Coast precinct is exemplary of how the education-research-clinical nexus is often the logical point of cross-sector integration, particularly between universities and medicine.

300-800+ PEOPLE & 25,000-80,000 JOBS /HA REQUIRED FOR CRITICAL MASS

SUSTAIN TALENT, SERVICES, AND DAILY INTERACTION

DENSITY, CRITICAL MASS AND OPPORTUNITY FOR INTERACTION UNDERPIN AGGLOMERATION BENEFITS

Achieving sufficient scale, density and concentration of activity is essential to unlock agglomeration benefits. These include increased collaboration, talent attraction, and enhanced attractiveness for further capital investment. Westmead is an example of this becoming a virtuous circle for the precinct.

BALANCED MIXED-USE* DRIVES PEAK INNOVATION PERFORMANCE

*35% EMPLOYMENT, 25% KNOWLEDGE, 25% RESIDENTIAL AND 15% AMENITY

TRANSITION FROM INSTITUTIONAL CORE TO MIXED-USE INNOVATION DISTRICT MUST BE PLANNED

Precincts need to evolve beyond an institutional or campus-based model into a mixed-use, economically diverse urban environment. This transition requires deliberate planning of land use, amenity, commercial activation and residential integration. Mix of uses translates into density of economic opportunity. The coming transition of Sydney Olympic Precinct will demonstrate the benefits of elevating beyond single-purpose precincts.

\$1 - 5B AVERAGE AUSTRALIAN GOVERNMENT INVESTMENT IN IPS

UP TO \$10B LONG-TERM

PUBLIC INVESTMENT ENABLES AND ACCELERATES, BUT DOES NOT ALWAYS LEAD

Funding models are not always government-led. In many successful cases, government investment follows or reinforces established strengths, providing infrastructure, coordination and enabling conditions rather than acting as the primary catalyst. Parkville developed organically from one of Australia's oldest universities, with government infrastructure and support recognizing this and facilitating further growth, rather than initiating the precinct.

AUSTRALIAN SPORTS-TECH CONVERGENCE SECTOR GENERATED \$5.65B*

*ANNUAL REVENUE IN 2025

CONNECTION TO SPORTS SECTOR IS A NEW FRONTIER FOR INNOVATION IN PRECINCTS, BEYOND PLACE ACTIVATION

Sport is increasingly relevant to innovation precincts through its role in the emerging wellness economy, where it intersects with health, human performance, and technology. Beyond its traditional function as an amenity or event-based prospect, sport can support innovation in preventative health, rehabilitation, data analytics and commercialisation. In the context of Bruce, sport can act as an additional bridge between clinical systems, research and consumer markets.

Economic Development (continued)

Westmead Innovation Precinct



Figure 30. Westmead Innovation Precinct services health needs, and includes multiple ancillary health developments and is surrounded by dense housing, universities, schools and green space

SERVES WESTERN SYDNEY, 10% OF AUSTRALIA’S POPULATION

- Strong institutional anchors with complementary roles
- State-significant concentration of healthcare, research and education
- Co-locates Western Sydney University and University of Sydney campuses in the precinct – and within major facilities
- Precinct models how multiple education tiers complement each other and coexist with health assets
- Achieved scale and critical mass (density), one of the largest clusters of its kind
- Formalised partnerships across institutions, collation supports strongly connected system
- Located within a high-growth population catchment with demand for services
- Sustained and coordinated government investment
- Attracting substantial private capital investment to strengthen the precinct and diversify employment
- Transitioning to mixed-use innovation district

Parkville Medical Precinct



Figure 31. Parkville Medical Precinct – government investment reinforces an already successful ecosystem, image of partnership with Transport to ensure patients have a safe arrival experience

- Clustered around historic institutions (eg Melbourne University), now includes over 40 education, research and medical institutions
- Early establishment and co-location of major anchor institutions
- Exceptional density of complementary research, clinical and education institutions
- Attracts one in every four dollars of biomedical research funding in the nation
- Long-term accumulation and compounding of institutional relationships and collaboration
- Sustained government investment reinforcing and scaling an already successful ecosystem
- Mature, self-reinforcing cluster dynamics driven by global reputation, talent attraction and research funding
- Sub-precincts within Parkville provide opportunities for specialised focus within a dynamic mixed-use environment
- Joint governance, through a unified vehicle that can bid for Commonwealth grants, coordinate place delivery and ensure awareness across institutions and activities

EVERY DOLLAR INVESTED BY GOV GENERATES \$3.66 IN GROSS STATE PRODUCT

Gold Coast Health and Knowledge Precinct



Figure 32. Gold Coast Health and Knowledge Precinct – research hubs around hospitals delivered approx. 3.4B to QLD economy

SURPLUS LAND INTO KEY WORKER HOUSING DELIVERS MIXED-USE VITALITY

- Anchor-led development enabled through proactive government planning
- Institution-led governance with formal partnerships driving outcomes
- Research focus on sports technology, biotechnology and assistive technologies, the latter relating to the more mature population in the Gold Coast region but not wholly serving a local population catchment
- Public investment catalysing private sector participation Strong hospital–university integration
- Planned private sector entry through land release and enabling infrastructure
- Sequenced development from anchors to commercial growth Emerging sports innovation focus (human performance, health, technology)
- Converted surplus land into key worker housing to minimise commute, and appeal through mixed-use vitality
- Leveraged major event infrastructure for the benefit of the precinct, for example light rail

Sydney Olympic Park



Figure 33. Sydney Olympic Park – green corridor delivering a diversity of public open spaces that support both community as well as sporting infrastructure

- 10M+ visitors per year to between 5,500 to 6,000 events per year
- Unique catalytic investment delivering world-class infrastructure and site transformation
- Required “top down” planning to ensure outcomes met Olympic specifications
- Staged private sector activation following upfront public investment
- Creation of a strong destination identity anchored in events, sport and entertainment
- Economic activity dominated by events, sport, entertainment and government, rather than knowledge-based industries
- Ongoing transition from event-based precinct to mixed-use urban district requires active planning and long-term coordination (2050 Master Plan)
- Existing precinct structure supports active transport; this is to be emphasised in the coming transition
- Transition will overcome the “monoculture” of an event-only precinct, structurally isolated and not truly “owned” by a local community by providing consistent daily working and residential population.

\$16.3M IN REVENUE FROM LEASES AND LICENSES ACROSS 190 PROPERTIES

Health, Education and Sports Integration

Potential Precinct Governance Models

GOVERNMENT:
funds and leads public
infrastructure and planning



ANCHOR:
funds and leads
institutional capital
and research

PRIVATE:
leads development
and funds real estate
and venture capital

Triple-Helix Partnership Model *AKA traditional IP*

Structure

- Government (planning + infrastructure)
- Universities / hospitals (anchor institutions)
- Private sector (developers, VC, corporates)

Governance

- Independent precinct entity or steering group
- Formalised partnerships (MoU, joint ventures, affiliations)
- Cross-appointments, shared boards, advisory councils

Funding

- Public infrastructure (transport, hospitals)
- Institutional capital (universities, health systems)
- Private real estate + venture capital
- Competitive research funding

ANCHOR:
industry, talent
and investment
attraction

PRIVATE:
memberships
and partnership
contributions



GOVERNMENT:
seed funding

Ecosystem Coordinator Model *AKA networked*

Structure

- No single controlling authority but a central coordinating body aligns stakeholders

Governance

Coordination office / "backbone organisation" with a focus on:

- partnerships
- branding
- investment attraction
- ecosystem programming

Funding

- Government seed funding for coordination
- Membership / partner contributions
- Program-based funding

This page outlines four typical innovation precinct governance models, distinguished by how structure, governance and funding responsibilities are distributed across government, anchor institutions and the private sector.



Anchor-Led Distributed Model *AKA campus*

Structure

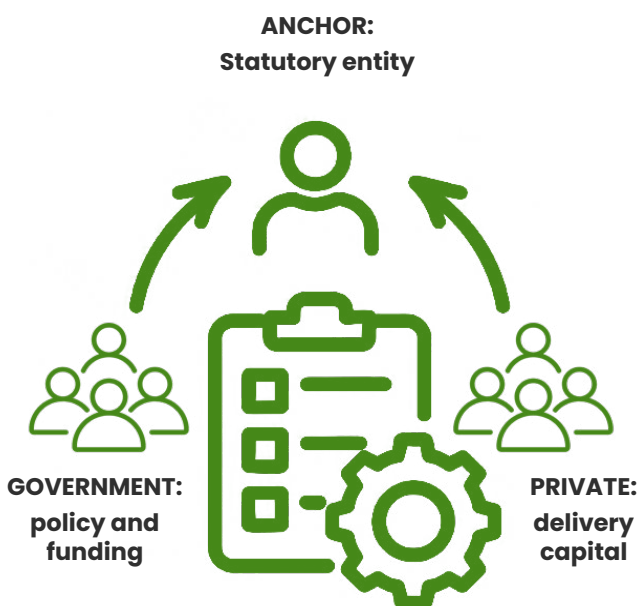
- Precinct grows around one or two dominant anchors
- Governance is institution-led, not place-led

Governance

- Bilateral or multilateral agreements
- Hospital–university affiliations define roles, funding and operations

Funding

- health capital programs
- Research grants + education / university investment
- Surrounding development funded privately



Development Corporation Model *A stadium led/event catalyst urban renewal*

Structure

Statutory or quasi-government entity with:

- planning powers
- land assembly
- delivery oversight

Governance

- Board appointed by government
- Multi-agency coordination mandate
- Ability to override fragmented planning controls

Funding

- Commercial event revenue and Development partnerships
- Government capital (seed infrastructure)
- Land value uplift capture and Long-term leasing

Health, Education and Sports Integration (continued)

Given fragmentation is a key failure point for innovation precincts, a single coordinating entity with decision-making authority and cross-sector representation (health, education, sports, government and private) is a successful way to enable a formal MoU or partnership agreement to align vision and formalise funding, infrastructure and programming protocols.

Recommendation approach for Bruce

Drawing on economic development insights from comparable innovation precincts, and informed by the four typical governance models reviewed, a model that changes over time is recommended for the Bruce Precinct. The governance structures will evolve over time in response to market conditions and institutional maturity. Establishing a clear and enduring precinct identity is critical to aligning stakeholders, attracting investment and guiding long-term decision-making.

Governance

A Urban Renewal / Development Corporation model, led by the ACT Government, is recommended to provide the leadership, statutory authority and delivery capability required to overcome fragmentation and coordinate precinct-wide outcomes. This entity would be supported by a formalised partnership framework with key anchor institutions, including the Commonwealth (through the Australian Institute of Sport), and ACT including the University of Canberra, CIT and the North Canberra Hospital.

Delivery

A staged delivery approach is critical to sequencing investment, managing risk and building momentum:

- Stage 1: Establish governance structure, secure funding agreements, and deliver enabling infrastructure (transport, utilities, public domain) to unlock development capacity.
- Stage 2: Anchor Projects
Deliver catalytic anchor investments, including the stadium, hospital and education expansions, to establish critical mass, attract talent and signal long-term commitment.
- Stage 3: Mixed-Use + Innovation Ecosystem
that facilitates broader mixed-use development (residential, commercial, retail) alongside the growth of innovation clusters, partnerships and supporting ecosystem programs.

This sequencing reflects best practice, where early public and institutional investment de-risks the precinct and creates the conditions for sustained private sector participation.

Funding

A blended funding model is required to support both infrastructure delivery and long-term ecosystem development:

- Public investment from the ACT Government and Commonwealth should be considered, to facilitate major infrastructure and anchor projects including the stadium and hospital.
- Institutional capital from the University of Canberra and CIT will support campus expansion, research facilities and education infrastructure.
- Private sector investment will drive residential and commercial development, enabled by improved infrastructure and place value uplift.
- Targeted innovation funding streams, particularly in sports technology will be critical to supporting research, commercialisation and industry growth

This diversified funding approach reduces reliance on any single source while aligning capital flows with precinct priorities.

Precinct Positioning

The Bruce Precinct has the potential to establish a globally unique positioning as a “SPORTS, HEALTH AND EDUCATION INNOVATION DISTRICT.” This integrated identity builds on existing strengths and differentiates the precinct in a competitive global market. The positioning aligns with the ACT Government’s BSHEP planning work on the wider integration of the area’s diverse anchors, with the Bruce Precinct differentiating itself as a distinct regionally and globally significant innovation hub. By co-locating elite sports infrastructure, health services and education/research institutions, the precinct can foster cross-sector collaboration, support applied research and create new pathways for innovation, talent development and industry engagement. A clear and consistent positioning will be essential to attract investment, partnerships and global recognition.

Governance model principles for IPs

PURPOSE

**empowered and
coordinated
governance
entity**

PEOPLE

**actively curate
collaboration
and innovation**

PLACE

**shared
infrastructure,
funding and data**



4.4

CREATING A NEW ENTERTAINMENT AND STADIUM-LED COMMUNITY

Land Use, Built Form and Density

A Vision for Innovative Urban Development

The strategic location of Bruce enables engagement on the delivery of vibrant, landscape-led, mixed-use, medium-density development as the glue between the precinct's anchors.

Bruce is located between the strategic centers of Canberra City and Belconnen, and along the innovation corridor extending to Fyshwick as identified in the Belconnen District Strategy. The ACT Government has committed to 30,000 dwellings by 2030 and Bruce is well positioned to contribute.

This precinct will deliver Urbanity (rather than only housing density) in the form of a neighbourhood structure centred around a vibrant green public heart and dominated by mixed-use development that integrates residential, commercial and community uses with the existing and planned anchors, and rapid transit corridor.

Leveraged off planned public transit and green amenity, the development should be moderately dense, with typical 4-6 storey blocks topped with appropriately located towers that minimise visual impacts. Built form should be flexible, adaptable and evolve over time.

This integration with anchors should drive the typologies and character areas. Dense development should be focused around the revitalised stadium, driving a complementary mixed-use precinct boosting retail and urban activity both on and outside game days. Proximity to several universities and education campuses supports well located student housing that in turn generates activity and innovation. Adjacent the redeveloped North Canberra Hospital, diverse retirement and aging in place typologies, as well as key worker housing, would be attractive offerings.

Delivering successful innovation precincts relies on the attraction of people, not just as an ideal place to work, but a place to stay, live, and invest into a shared identity. People are the difference between bustling places and all-too-common, sparse, 'ghost-town' campus environments, and this activity is what provides the friction for innovation and the energy that attracts businesses and institutions. The Bruce Precinct should meet this need through mixed-use development with housing alongside commercial floorspace, and the density and walkability to stimulate attractive, populated public realm.

The Bruce Precinct will exist within its regional context as a specialist urban district, avoiding conflict with the traditional town center hierarchy of surrounding suburbs. The neighbourhood will be a self-sufficient center, however its commercial space will be more focused on district and city-scale employment and attraction as opposed to a center delivering at a suburban scale.



Figure 34. University Canberra 'UCLodge' Student Accommodation houses over 350 units on an medium-density 8 storey, half-hectare site.



Figure 42. A mixture of apartments and student accommodation along Scholars Greenway offers attractive living on the edge of Vancouver's UBC campus.



Figure 35. Woollooware Shores - an attractive medium-density retirement campus including standalone units and RACF in Taren Point, Sydney, designed by Jackson Teece Architects



Figure 37. Billion dollar mixed-use development under construction adjacent to CPKC, the worlds first dedicated women's sports stadium in Kansas City, USA Project includes 10% affordable housing and integrates with a streetcar extension.



Figure 36. Westmead Innovation Precinct Master Plan, incorporates a new stadium, city center, and regional health district, and mixed-use development along a green corridor.



Figure 38. Sydney Olympic Park Master Plan - Mixed-use, activated housing blocks leveraged off a successful sports and commercial precinct.



Figure 41. Macquarie Park Innovation District - leading research and tech offices combine with public transit and dense housing



Figure 40. Scape Sydney - modern, compact student housing within the city fabric



Figure 39. Industry Lanes, Richmond VIC - mixed-use, campus style precinct combining retail, community amenity and modern, creative commercial uses.

Land Use, Built Form and Density

Achieving Urbanity: Character Area Based Densities

Land within the urban development area illustrated in the Scenarios has been divided into two character areas, specific to their capacity for development and resulting density and building typology.

The ambition of these areas is to realise a form and feel to new development in the Bruce Master Plan, and allocate densities that aligned with expected yield outcomes from previous investigations. The two areas differentiate between and acknowledge the unique characteristics of the future stadium-associated development versus the traditional urban precincts.

In the next stage of the master planning process, a further detailed character area breakdown will be required to go beyond density and capacity and include identity, land use and anchoring features.

Stadium Precinct

In accordance with the documented benefits of mixed-use entertainment precincts for civic activation, commercial benefits and livability outcomes, the precinct's densest development is allocated in proximity to the renewed stadium.

This density can accommodate medium-high-density development including increased commercial floorspace for an active ground plane.

Bruce Village

More traditional urban precincts away from the stadium will be suited to medium-density typologies, providing a density capable of active, walkable, amenable neighbourhoods while maintaining an urban village feel.

These areas will interface with existing campuses, including the AIS and CIT, and this density allows for a considered transition including the opportunity for development by these anchor institutions.



Figure 43. Scenario 1



Figure 44. Scenario 2

Determining an Indicative Yield Baseline

The areas identified within the Maps as ‘urban development’ have guided our spatial understanding of the potential development capacity of the site in terms of a reasonable lower and upper limit.

Based on preliminary development capacity investigations, using the assumptions opposite, a viable yield range applicable to both scenarios is established as 4,000–5,800.

For the purposes of establishing a yield range as the basis for engineering and economic investigations; the yield has been developable as all residential and mixed-use medium to high-density. The yield range does not include any of the other accommodation typologies at this stage.

However, the table opposite provides the inputs necessary to reevaluate the yields/ beds to generate a more tailored yield, development and accommodation typology mix once market demand is further understood.

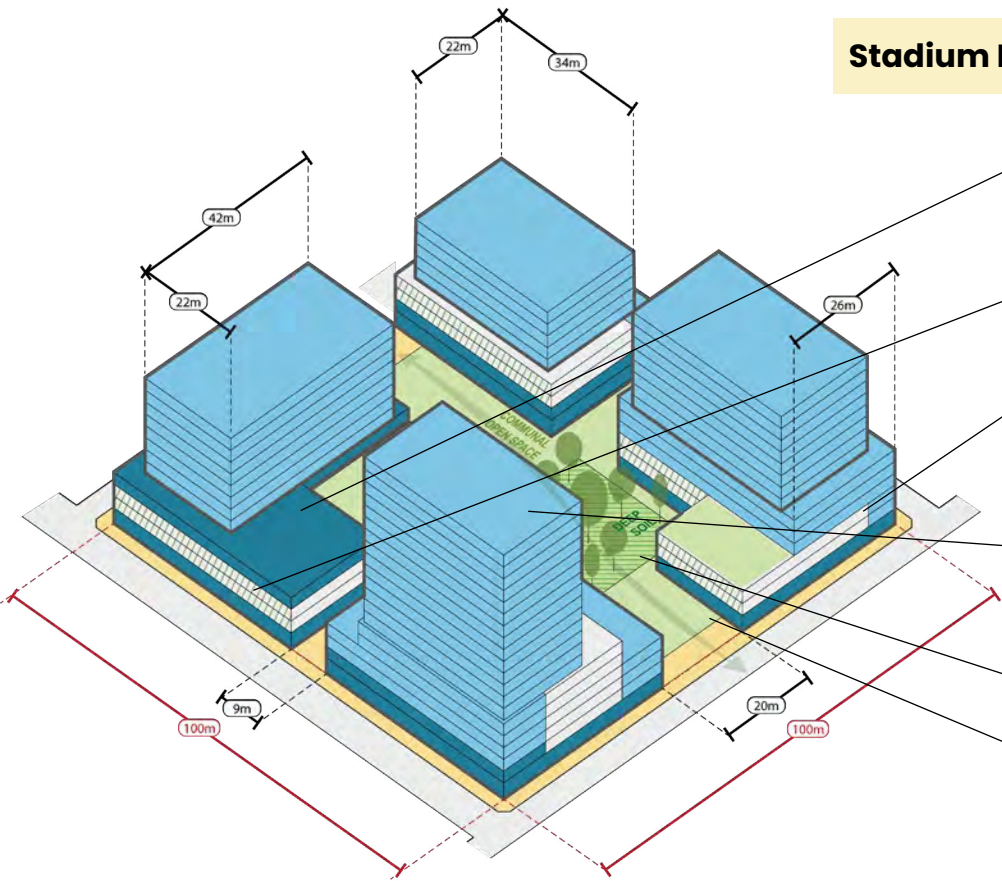
Pro Rata Yield for a 1Ha plot

Public	40%	0.4Ha
Open Space & Non-developed Land	50%	0.2Ha
Roads	50%	0.2Ha
Private	60%	0.6Ha
Commercial/Institution	10%	0.06Ha
Residential	90%	0.54Ha

Typical Residential	dw/ha	yield
2-6 Storeys	150	81
4-10 Storeys	250	135
4-15 Storeys	350	189
Student Housing		
4-8 Storeys	300-600	135-270
Aged Living		
Standalone RACF, 4-6 Storey	150-250	67-112
Retirement Village, 4-6 Storey	100-200	45-90
Vertical Over 50s Community, 4-8 Storey	200-300	90-135
Specialty Accom.		
Athlete Accommodation, 4-8 Storey	200-400	90-180
BTR Key Worker Housing, 4-8 Storey	250-350	112-157
Affordable Housing, 4-8 Storey	250-350	112-157

Land Use, Built Form and Density

Character Area Exemplars



Stadium Precinct:

Increased commercial floorspace compared to village character area, including most ground floors and some podium levels

Larger podiums with increased levels dedicated to green-walled parking, adaptable in future to alternative uses

Podium parking to be located on upper floors of podium with residential and commercial frontage along outer edges of parking where possible

Podiums between 4-6 Storeys, and towers up to 20 storeys, with greater variation between typical buildings and standalone anchor tower developments

Ambition of >25% of communal open space including >7% of deep soil

Through block links integrated with green-blue network ambitions



Figure 45. Perkins and King, Newcastle East End, NSW – SJB



Figure 46. Nishi, Canberra, ACT – Fender Katsalidis

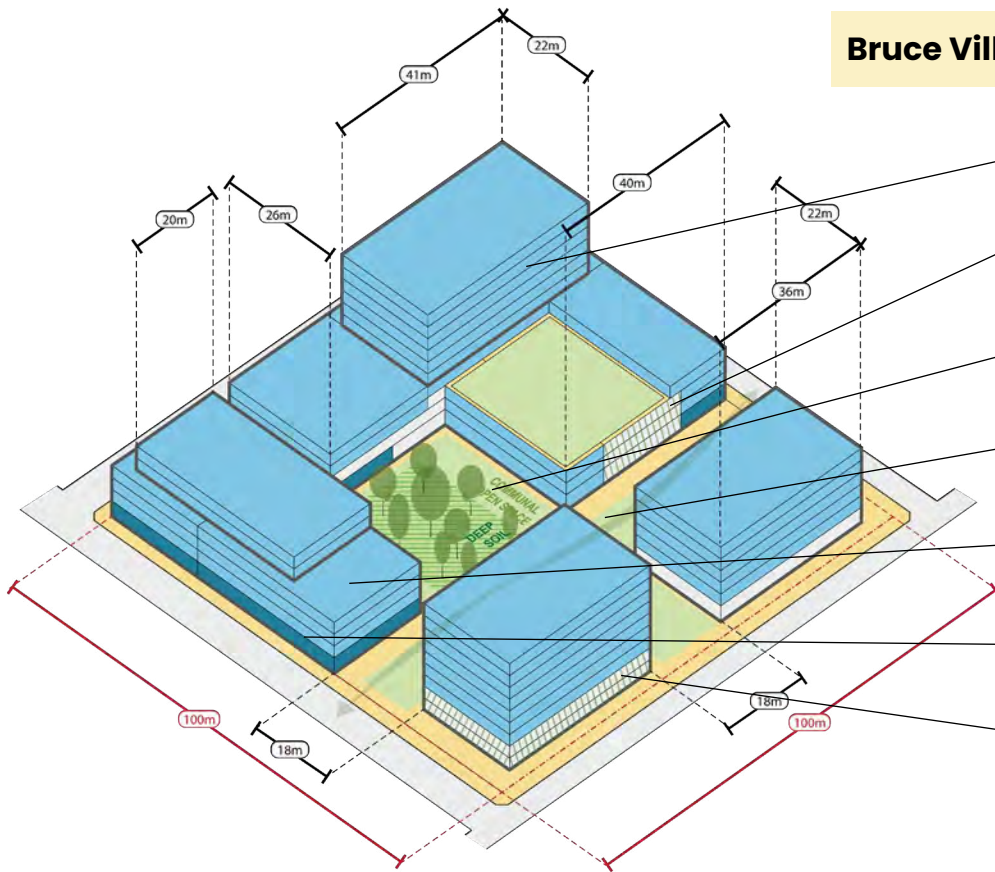


Figure 47. Kent Road, Mascot, NSW – SJB

The Character Area Exemplars seek to provide an **indicative application of the densities planned for the Bruce Precinct on a generic 1ha block**. These blocks are not drawn from any spatial location on the site and should serve only as a guide for potential height, form and typology that will be determined at the detailed master planning stage.

- Mixed-use - Residential
- Mixed-use - Commercial
- Parking
- Open Space
- Civic Promenade

Bruce Village:



Towers up to 10 storeys, offering a range of medium-density typologies

Integrated medium-density housing typologies with internalised parking and maximised frontages

Ambition of >25% of communal open space including >7% of deep soil

Consistent perimeter block frontage still includes through-block connectivity at both green corridor through to arcade scale

Introduction of typologies with less or no integrated parking to support modal shift ambitions

Consistent active commercial edges with zero setback to pedestrian active streets

Standalone towers with adaptable ground floors currently occupied by parking and green walls



Figure 48. Nightingale 1, Melbourne, VIC
- Breathe Architecture



Figure 49. Parklife, Melbourne, VIC - Austin Maynard Architects



Figure 50. Yukeembruk - ANU, Canberra, ACT - Bates Smart

Land Use, Built Form and Density

Evolution & Delivery

The Bruce Precinct is envisioned to be a sustainably evolving neighbourhood, responding to the progression of density, activity, movement trends and commercial needs over time.

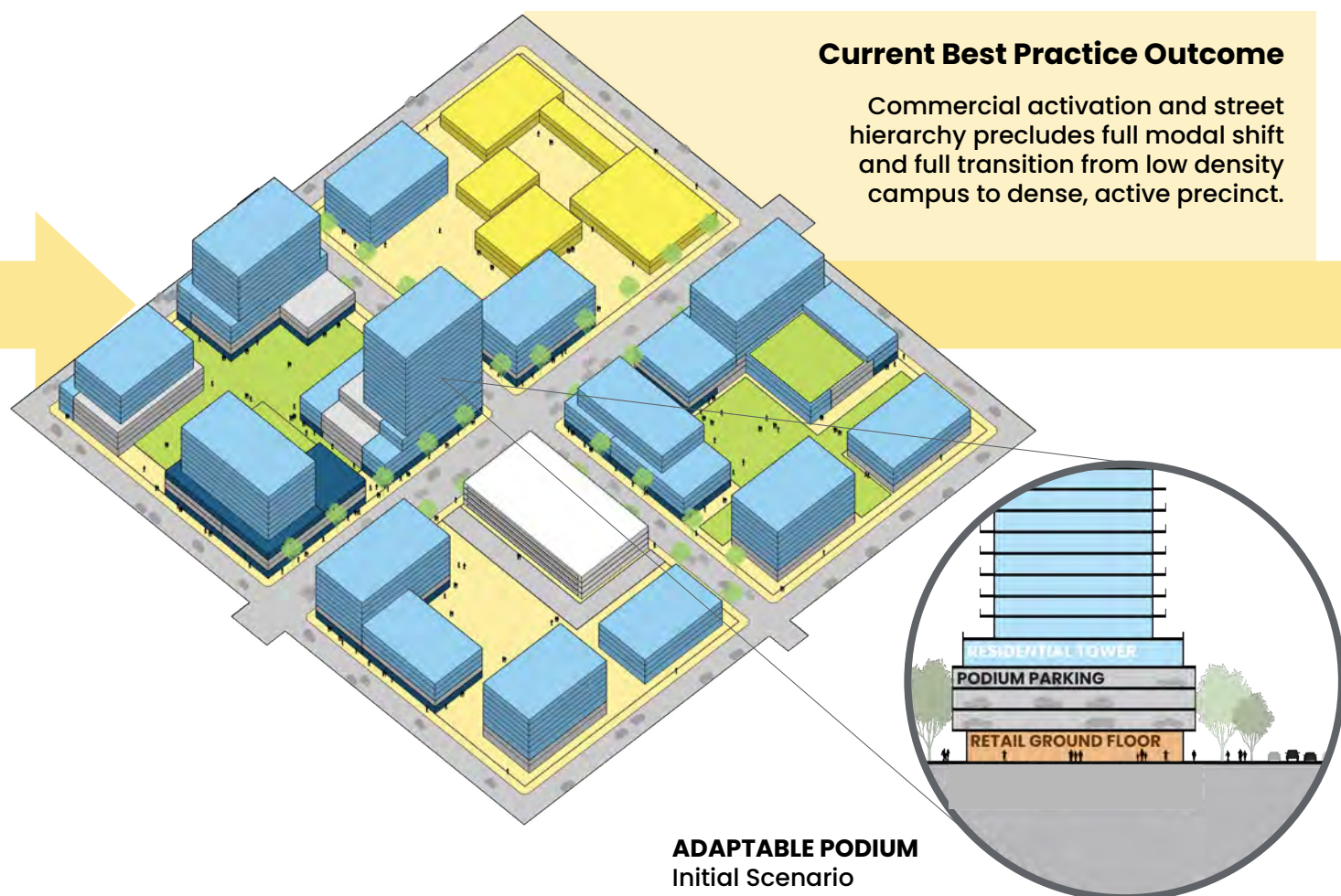
The subject area, in its current form, is largely a low density, campus-style special purpose precinct, well aligned with Canberra's prevalent car dependence and sprawling low density urban development typologies. Transition towards positive urban design outcomes, including transit mode shift, a high intensity of mixed-uses and a pedestrianized ground plane will require a stepped approach that stretches beyond, yet relies on, the initial outcome of this master plan.

The precinct's initial outcome based on current best practice delivers full sized vehicular roads and increased parking amenity that focuses on meeting current needs while delivering a moderate push toward modal shift. To support future intensification and prepare for such catalysts as new rapid transit networks, roads should be designed to facilitate future

dieting, including lane reductions, verge increase and pedestrianization in select areas. Parking floors in buildings should be designed with appropriate heights and servicing for future conversion to retail, residential, community or commercial use. These changes may be unlocked through the needs of population density in the project's later stages, increased pedestrian activity, and the delivery of rapid transit.

Podium parking is a desirable outcome not just for its adaptive reuse capability, but also for environmental sustainability (reduced excavation) and residential benefit (views and acoustic separation).

Future infill development, following long-term growth, may be delivered sustainably through planned adaptive re-use and tactical landbanking.



An expectation for the uplift of campuses in the subject area, such as CIT (pending relocation) or AIS, creates a natural land bank for future infill, where these campuses would densify leaving space for new development or green space. Buildings should consider adaptive re-use in their construction - which may include stronger structural systems to support internal changes or supporting additional floors; planned deconstructability and reuse of materials to minimise construction waste; or taller and more open internal spaces to facilitate such changes as converting residential to commercial space, or larger apartments to student accommodation.

Delivering on some of these long-term ambitions for coordinated intensification may require strategic, collaborative governance models. This may include charters or formal partnerships, or statutory recognition as a special precinct with it's own distinct controls, facilitating the likes of retrofit and infill development.

FLEXIBLE LOWER FLOORS

Retail and commercial demand will increase, accommodated in flexible floor height, layout and design.

PEDESTRIANIZED ROAD NETWORK

Gradual road diet reduces vehicles and increases active transit modes.

CAMPUS INTENSIFICATION

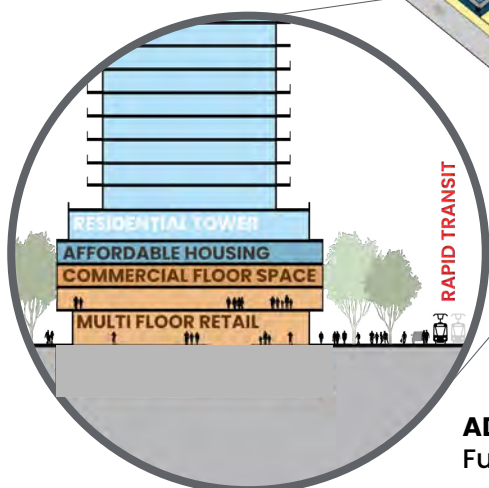
Campus typologies within the site such as CIT may redevelop at higher density, freeing land for infill development.

INFILL TOWERS

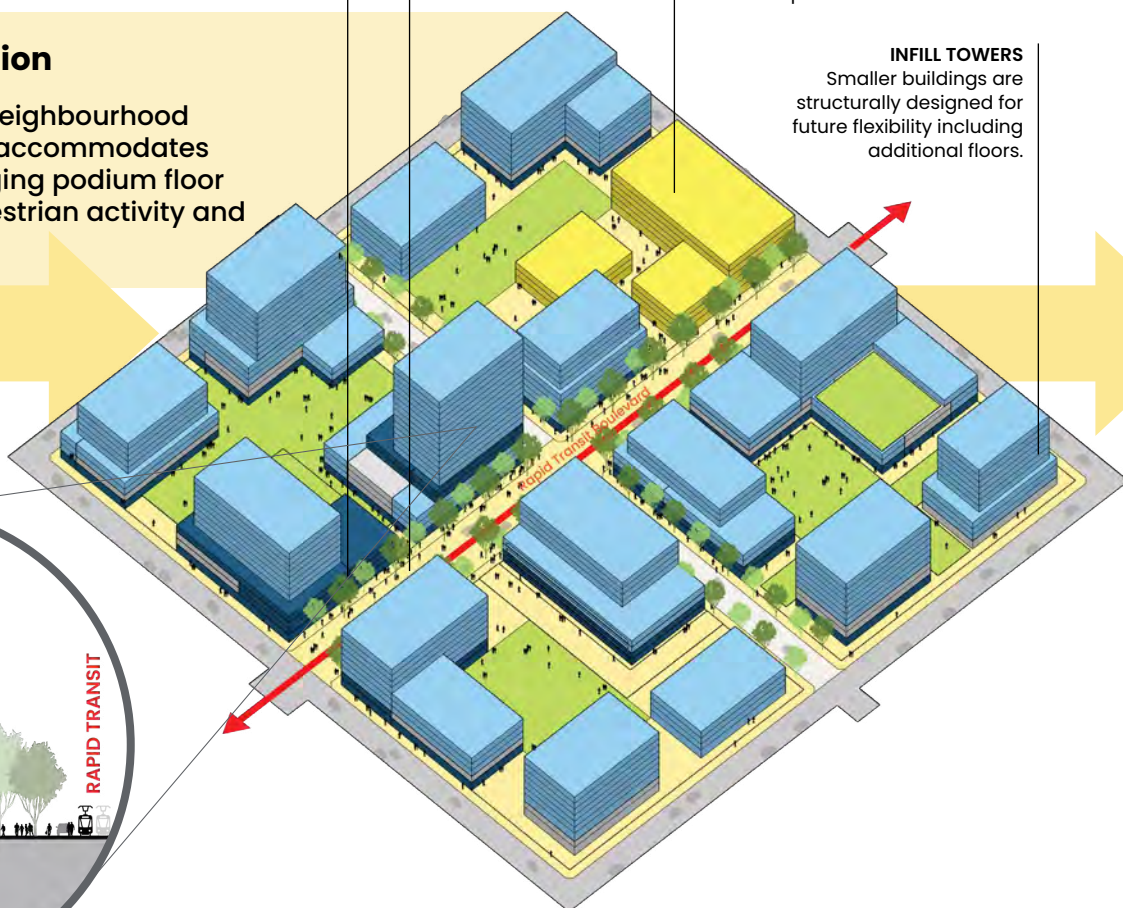
Smaller buildings are structurally designed for future flexibility including additional floors.

Ultimate Realisation

Existing flexibility in neighbourhood and building design accommodates for urban infill, changing podium floor uses, increased pedestrian activity and active modal shift.



ADAPTABLE PODIUM Future Scenario



Land Use, Built Form and Density

Proposed Land Use

Land Use Zoning Map

Land use zone changes within the Territory land can be facilitated through amendments to the District Strategy and Major Territory Plan Amendment process. This would consider and identify the proposed land use zones and planning controls to facilitate the redevelopment of the precinct.

Through this process more detailed consideration would be given to the most appropriate zones and controls to achieve the intended outcome. Potential consideration could also be made to using a Future Urban Area (FUA) overlay.

This process could also consider the introduction of an **Entertainment precinct** to support a lively mixed-use precinct associated with the stadium.

The Territory Plan 2023 currently identifies two entertainment precincts within the District Policies. These are areas where the focus is on existing and future nightlife activities.

1. The City Centre Entertainment Precinct (CCEP) is identified in the Inner North and City District Policy. It comprises a Core and a Frame area. The CCEP supports the strategic planning direction of the Inner North and City District Strategy and the City Plan.
2. The Gungahlin Entertainment Precinct is identified in the Gungahlin District Policy. It is located in the Gungahlin Town Centre. This supports the direction provided in Gungahlin District Strategy.

Both District Policies identify mandatory assessment requirements for development in entertainment precincts, which include:

- Developments should help make the area more vibrant, including supporting entertainment and nightlife activity;
- Entertainment venues must consider how they manage loud music, especially bass sounds, through building design and venue management; and
- Buildings must meet soundproofing standards to reduce incoming noise, including bass sounds.

The **CZ5 Mixed-use zone** includes the following permissible uses that are intended for the precinct including:

- Indoor Recreation facility or outdoor recreation facility (e.g. stadium)
- Educational Establishment (CIT)
- Multi-unit housing
- Commercial accommodation use
- Cafe
- Restaurant
- Supermarket
- Light rail

Some of the uses within the precinct can be facilitated within the current land uses zones. For example, the existing CIT site is zoned Community Facility and permissible uses include Indoor Recreation facility and outdoor recreation facility (stadium).

While mixed-use commercial and residential development can't currently be proposed in the community facility zone, a new stadium could be.

Within the Bruce - Commercial Mixed Area to the west, there are currently a number of assessment controls that apply to development, for land uses, GFA for shop, building heights and setbacks within that mixed-use area. Interface with this area would need to be considered as part of the planning amendments.

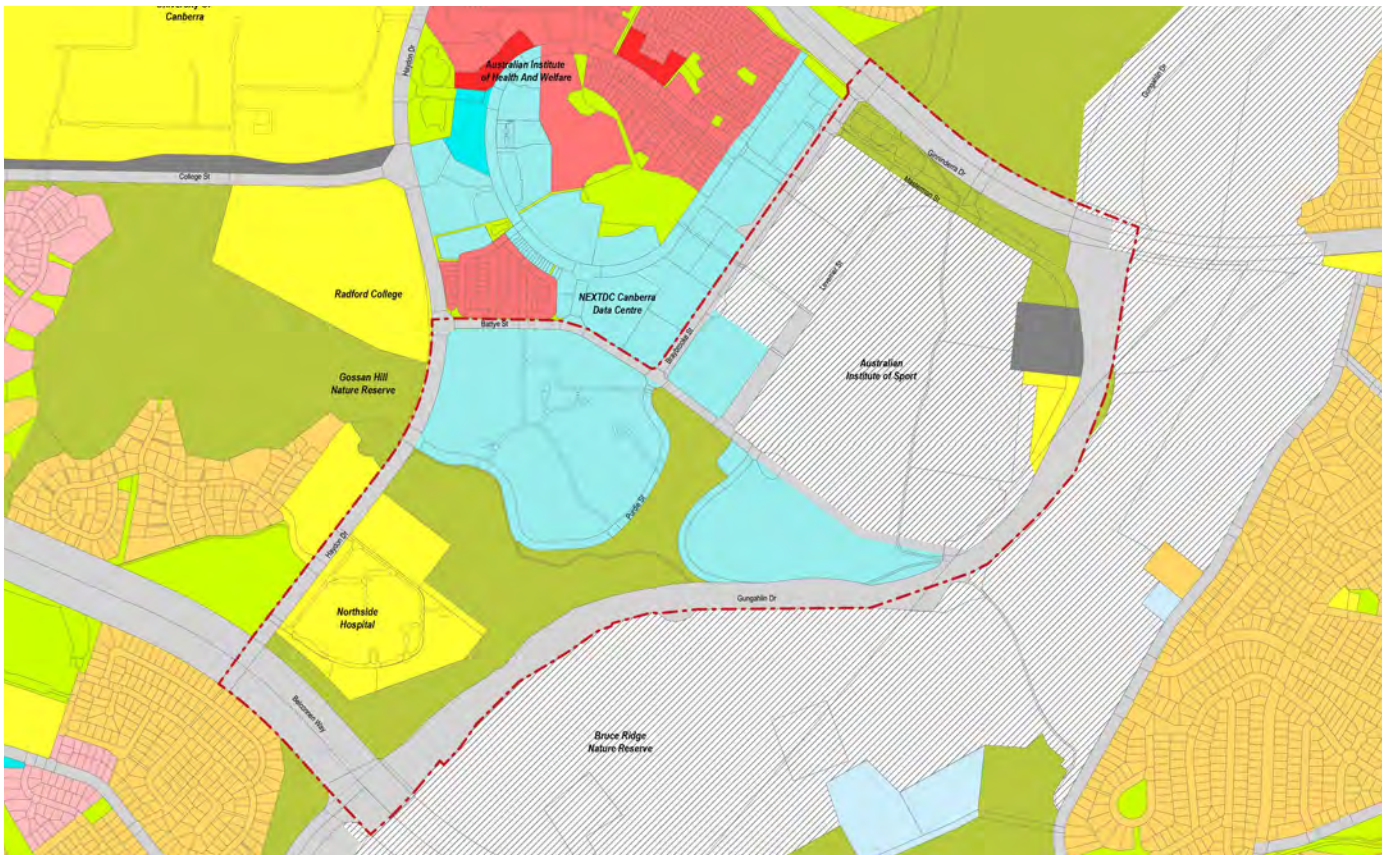


Figure 51. Scenario 1 Proposed Land Use

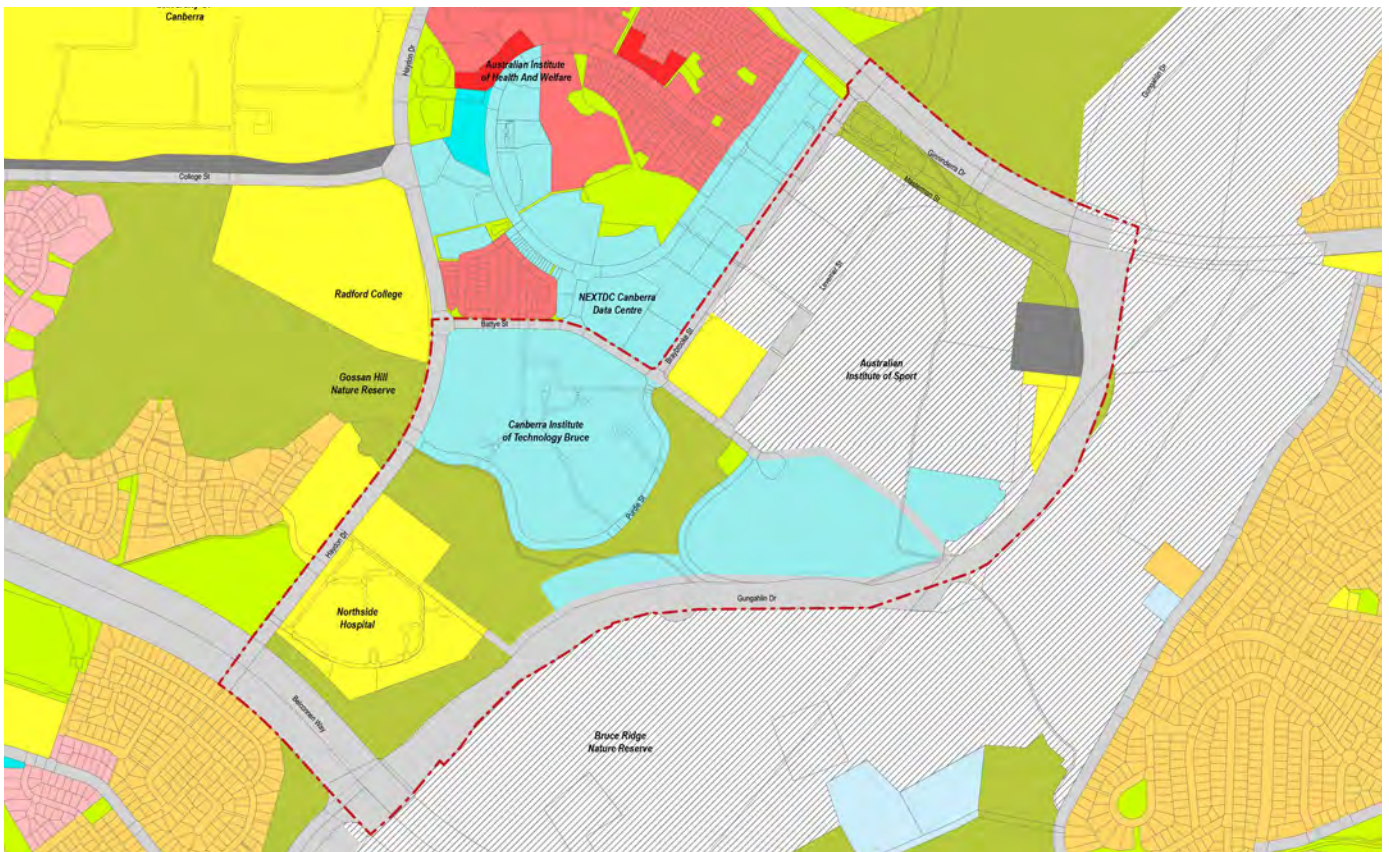
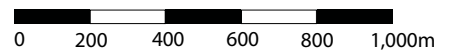


Figure 52. Scenario 2 Proposed Land Use



Scale
1:20,000



LEGEND

- Bruce Precinct Boundary
- CF - Community Facilities
- G25 - Mixed Use
- DES - Designated

- NUZ3 - Hills, Ridges and Buffer Areas
- PR21 - Urban Open Space
- TSZ1 - Transport
- TSZ2 - Services

Strategic and Statutory Planning Overview

The District Strategy envisions a coordinated, district-scale innovation precinct at Bruce integrating health, education and sport to drive jobs and regional significance, but its delivery requires strong stakeholder leadership, alignment across dual planning jurisdictions, land divestment, and a series of Commonwealth and Territory planning and environmental approval processes described below.

The current District Strategy sets the scene for a future innovation precinct with ambitions for a flagship, district-scale initiative—a place where health, education, and sport assets are brought together to:

- boost jobs and economic activity;
- strengthen Belconnen’s regional significance; and
- support a knowledge-based, innovation-driven economy.

To realise either of the strategic scenarios there are several processes and changes that would be required. In addition, there would need to be demonstrated leadership from key stakeholders to implement the changes and work together to support the vision for an integrated precinct.

The Bruce precinct will continue to be subject to two planning jurisdictions (the boundaries of which may be changed if desired).

1. The AIS/ASC land which is subject to the National Capital Plan (NCP).
2. Territory land which is subject to the Territory Plan.

Co-ordination would need to come through alignment of the AIS Master Plan with the Bruce Precinct Master Plan, so that the planning and vision for both the AIS and the broader precinct is co-ordinated.

The National Capital Authority (NCA) has advised that the precinct is not considered to be nationally significant (aside from the AIS as a national institution). The key responsibility for the planning and implementation of the precinct outside the nationally significant area is expected to sit with the ACT Government or through a co-ordinated governance structure as described in Section *Health, Education and Sports Integration* below.

The process to implement the chosen scenario for the Bruce Precinct Master Plan would commence with land transfer processes between the ASC and ACT Government.

After the first steps around divestment of land, there are various processes that could then follow to support delivery of the scenarios, these include:

Commonwealth processes:

- Declaration of National land.
- Amendments to NCP.

Environmental Assessment processes:

- EPBC Act (Cth).
- Planning Act (Territory).

Territory Processes:

- Amendments to the Belconnen District Strategy.
- Major Territory Plan Amendments.
- Subdivision Design Proposal.
- Development Applications.

These are described in further detail below.



Strategic and Statutory Planning

Land Transfer Paths

The first step in facilitating the master plan would be possible land sale or divestments between the ASC and the ACT Government. There are two pathways mapped in figure below. There may be other ways to facilitate this process, but these identify a potential option.

TRANSFER MECHANISM 1

Transfer to ACT Government

The Australian Sports Commission (ASC) has five market value Territory Crown Leases which comprise the ASC site. Block 26 Section 8 Bruce includes most of the AIS including the stadium and athletics track in the south. This process describes the divestment to the ACT Government. The typical steps outlined in the diagram are as follows:

1. Initial discussions and Due Diligence

ACT Government to undertake due diligence work on the land to understand constraints. This would include more detailed investigations such as hazardous materials, servicing, contamination, ecology, trees, heritage etc.

2. Survey the proposed part block

Agreement on the appropriate boundary for subdivision and valuation purposes.

3. Negotiate terms/prepare a memorandum of understanding (MOU)

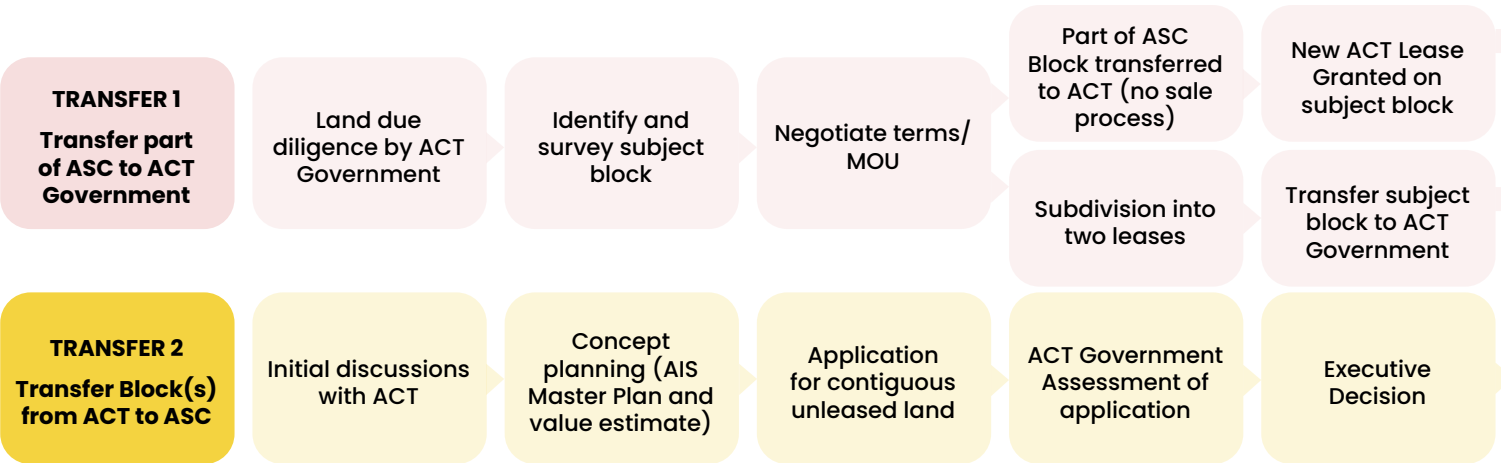
Based on the due diligence and land area, a general agreement could be reached to set out the terms and process going forward.

4. Subdivision or Surrender

The ASC could surrender part of their block to the ACT (without compensation) subject to any condition. This would then become unleased Territory land and the ASC block boundary could be redrawn. Part of this step would be to undertake a valuation of the land to inform negotiations.

Alternatively, the part block would be valued to inform a subdivision and lease variation so that the new block could be sold to the ACT Government. (Note that the Crown Lease and land subdivision may require both a development application under the Planning Act (for the Crown Lease variation) and a works approval under the NCP if physical works are required.

Through either subdivision or surrender, the outcome would be a new separate lease to the Australian Capital Territory for part of the block. A lease would be required so that subleases can be registered for operations and activities at the Stadium.



TRANSFER MECHANISM 2

Transfer of Contiguous Land / blocks to ASC

The Territory can only grant a lease by auction, tender, ballot or direct sale. The typical Steps for a Direct Sale Application are as follows:

1. Initial Discussions

This is a relatively informal process that typically involves meetings or writing to the Direct Sales Team within the ACT Government to identify the block(s) and proposal, and they will undertake initial enquiries within government to determine whether there are significant barriers to a Direct Sale of the land. Typically parcels subject to direct sale cannot be separately saleable and so this would need to be tested with Direct Sales and the Territory more broadly.

2. Concept Planning

A Direct Sale application needs to be supported by a concept to justify the need for the sale. This would include the overall AIS master plan and the Bruce Precinct Master Plan to demonstrate how the land would be used by the AIS and to help facilitate development across the precinct.

3. Application Submission

A formal application for the parcel(s) needs to be submitted which includes

- Site details (block/section) and applicant details
- Proposal description (suitability and consistency with operations) inc. development concept/sketch plans in this case it might be supported by the Bruce Precinct Master Plan, Planning justification, and Justification for a direct sale
- Financial Capacity to develop the land (Indicative project costs (construction, design, site preparation), funding sources (equity, bank finance, grants), land cost assumptions etc.

4. Assessment

The proposal will be assessed by relevant ACT Government entities and agencies against the criteria. Direct sales of contiguous land must:

- facilitate the achievement of a good planning outcome
- be compatible with Territory or Commonwealth government policies applicable to the proposed use;
- the lease is not viable to grant as a separate independent lease; and
- the proposed lease will a) not detract from the amenity of the surrounding area; and b) will promote better land management; and c) will not restrict public access to other land.

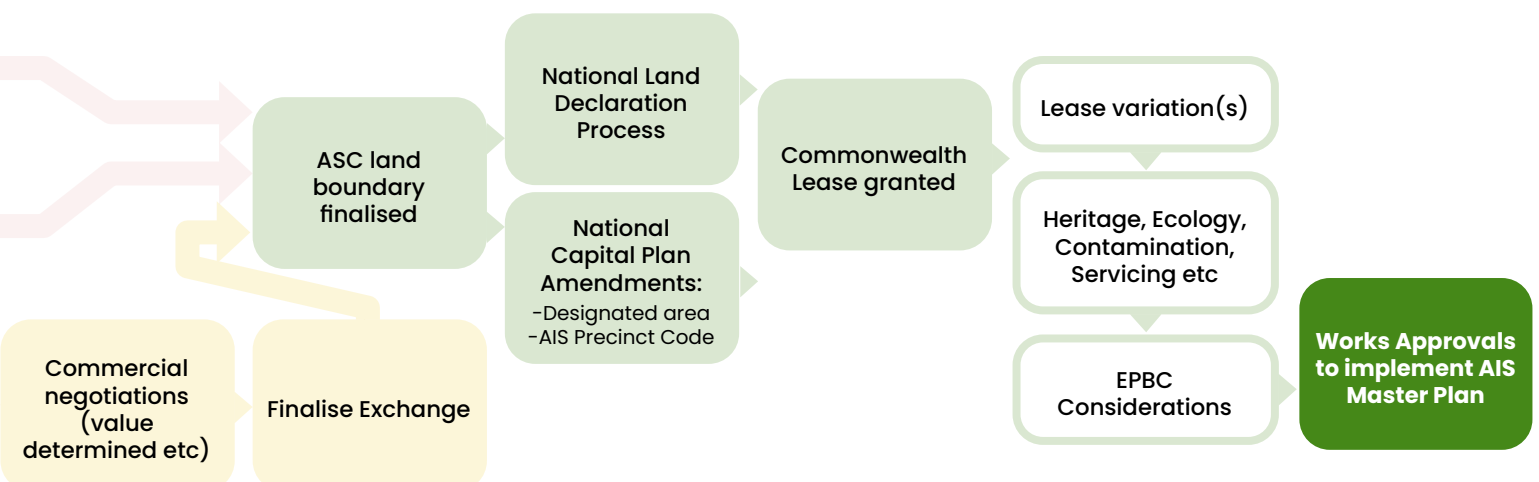
5. Executive Decision

Direct sales to Commonwealth or Territory Entities require Executive approval. If supported, the government may agree to negotiate the sale.

6. Lease Grant

The ACT Government then grants the Crown lease to the applicant based on the agreed value and upon any relevant conditions of sale or development.

Note: This process could potentially be bypassed by a direct transition from Territory land to declaration of National land subject to negotiations with the Territory. This is provided that the ASC could demonstrate the need for the declaration in the context of their overall site master plan and how the parcels would be developed.



Strategic and Statutory Planning

Land Transfer Paths

(continued)

Commonwealth Planning

Declaration of National Land

Once the ASC land boundary is confirmed, there would be an opportunity for blocks leased to the ASC to be declared as National land. This can occur where the land is intended to be used by or on behalf of the Commonwealth. National land can either be managed by the National Capital Authority (NCA) for the special purposes of Canberra as the National Capital, or the Minister for Finance (for all other National Land).

The NCA has set out a Standard Operating Procedure on National Land declarations, revocations and transfer which provide further detail on these processes.

In the case of the ASC blocks it would need to be determined whether the land would be managed by the NCA or the Minister for Finance prior to a declaration being made.

National Capital Plan (NCP) Amendments

Once the specific boundary of the AIS Lease and/or National land boundary has been confirmed, amendments would need to be made to the NCP.

Where changes are required to the NCP these should be consolidated into one amendment process undertaken by the NCA. The following changes to the NCP would be required:

- Alignment of the Designated area boundary in the NCP to reflect only the ASC/AIS block(s). Various blocks or part blocks currently shown as Designated area would become Territory land.
- Update the Australian Institute of Sport Precinct Code to reflect the updated Master Plan for the AIS which would be aligned with the Bruce Precinct Master Plan.

Works Approvals

Following amendments to the NCP, works approval applications could be undertaken on the ASC site in accordance with the updated Precinct Code. Prior to the commencement of planning changes, the ASC could progress works approval for other proposals that do not rely on NCP amendments.



Strategic and Statutory Planning

Planning approaches

Following divestment decisions and actions, the concept planning and assessments required to implement precinct development could commence. There are many potential approaches and ways this could be facilitated that cannot all be documented. Figure in following page maps out possible key steps and processes that would be required.

Planning changes process

Territory Planning Changes

In parallel more detailed precinct planning on Territory land could be developed to support either scenario as follows.

Amend District Strategy

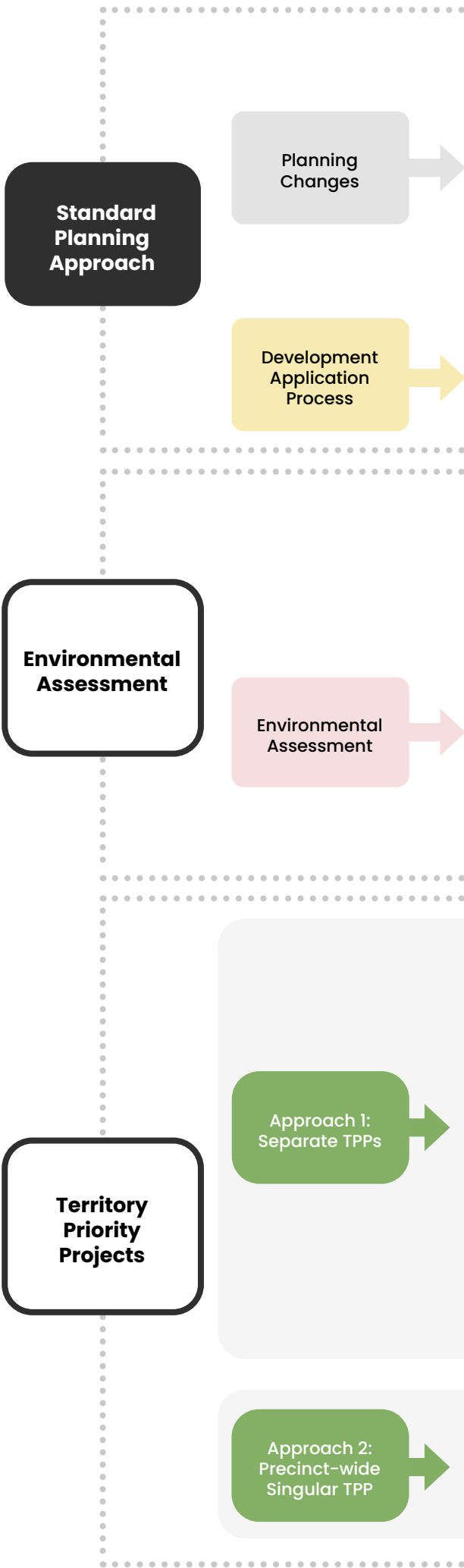
There is an opportunity to develop the Bruce Precinct Master Plan, as a ‘planning and response report’ that supports an amendment to the Belconnen District Strategy.

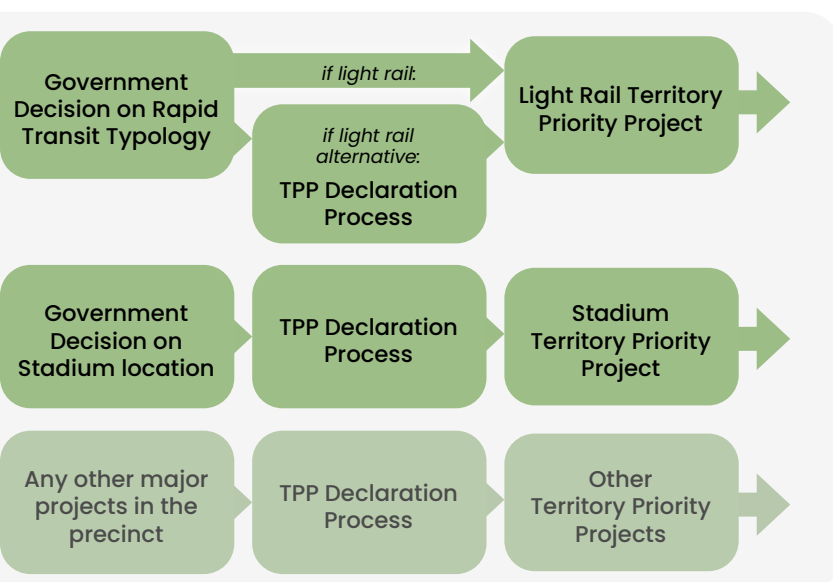
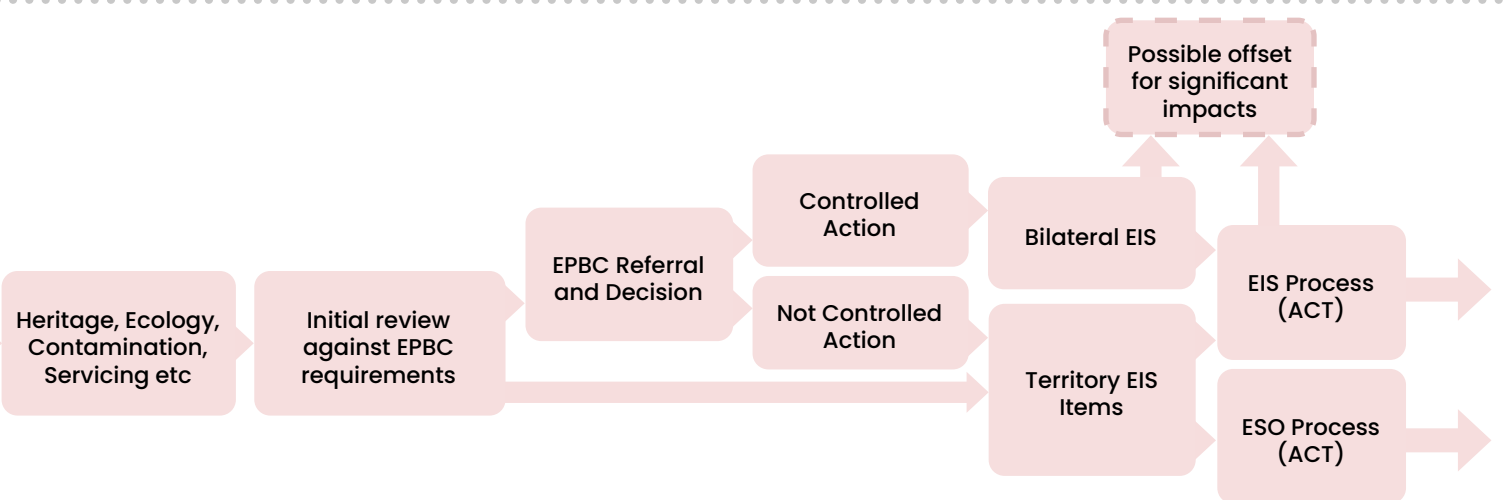
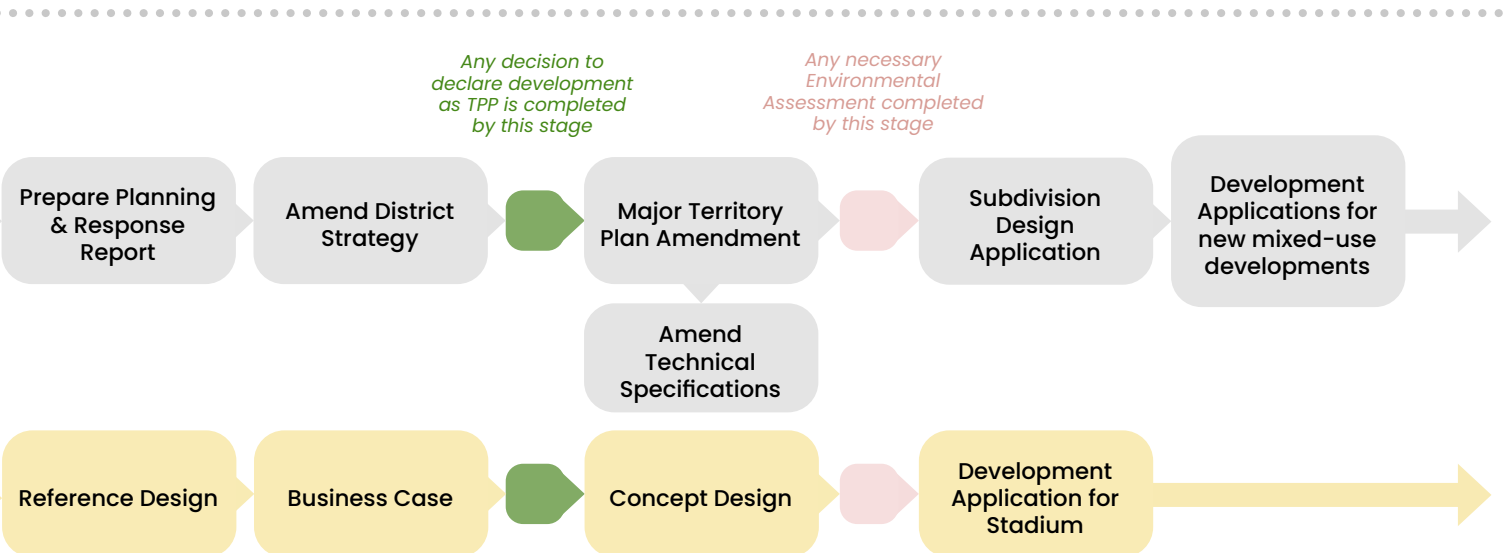
This process is set out in Part 2 of the Planning (General) Regulation 2023. A planning and response report can be prepared at a precinct scale and must include a concept planning document. Examples include a place and character plan, master planning and design framework, environmental and site study, staging and feasibility plan.

A planning and response report can either be prepared by the Territory Planning Authority (TPA) or if it is at a precinct scale it can be prepared by a prescribed entity such as the Suburban Land Agency (SLA).

Following the preparation of a planning and response report, the Minister may amend the district strategy provided there has been sufficient consultation on the amendment and it is consistent with the Planning Strategy.

In accordance with the Planning Act, 2023 (s41) the Executive at least once every 5 years after making the planning strategy or a district strategy, consider whether the strategy should be reviewed. The District Strategies will also potentially be up for review in September 2028, and this could also be an opportunity to update the District strategy to reflect the Bruce Precinct Master Plan.



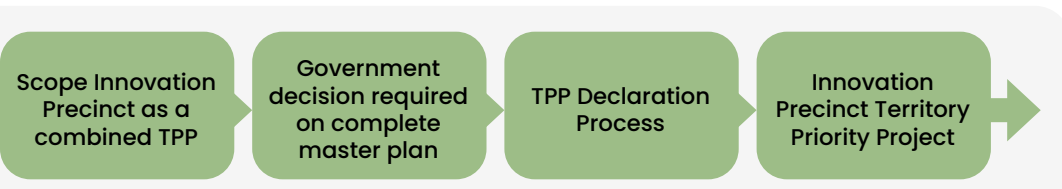


TPP Criteria:

- achieve a major government policy outcome that is of significant benefit to the people of the ACT; or
- would substantially facilitate the achievement of the desired future planning outcomes set out in the planning strategy, a relevant district strategy, the territory plan or any relevant zone; or
- is for significant infrastructure, or significant facilities, that are of significant benefit to the people of the ACT; and
- the proposal has been the subject of sufficient consultation.

TPP Benefits:

- can reduce the referral time for a Major Plan Amendment to the legislative assembly if it occurs ahead of a plan amendment process.
- It means the development will not be subject to third party appeals in ACAT.
- The Chief planner can make some additional decisions about a project if it is a TPP.



Strategic and Statutory Planning

Process per scenario

(continued)

Territory Plan Amendments

There are two types of amendments that can be made to the Territory Plan under the Planning Act, 2023. A minor plan amendment or a major plan amendment. Minor amendments are made to fix errors, provide clarification, to support the subdivision design process or to provide minor relocation of boundaries and would not be relevant in this case. A minor amendment can be made to remove an inconsistency between the Territory Plan and the National Capital Plan, which would arise if the designated land boundaries are amended in the NCP without the Territory Plan also being amended, however as the precinct master plan also relies upon other Territory Plan amendments, this should not be necessary.

Major plan amendments represent larger changes in policy and are prepared by the TPA, but can be proposed by a proponent, government or the minister. Irrespective of the proponent for the amendment, they typically follow the same process and usually require the preparation of a supporting report which outlines the need for the amendment, the impacts of the amendment and how it would give effect to the Planning Strategy and District strategy. The process for a major amendment to the Territory Plan is set out under part 5.2 of the Planning Act, 2023.

In the case of a precinct-wide major amendment, this would be undertaken by the TPA. There are different options that could be considered for a major plan amendment subject to the agreement of the TPA. This typically identifies changes to the land use zones and to requirements in the District Policy that apply to the land. Changes could also be made to the Technical Specifications which support the assessment outcomes in the Territory Plan (refer to Proposed Land Use on pages 88 to 89).

Consideration could be made to the possibility for introducing a future urban area (FUA) over part of the land. This would allow flexibility to determine the specific zone and block boundaries and detailed ongoing planning conditions for this area as part of the subdivision design development.

Within an FUA, minor plan amendments can be undertaken, which could support master planning or changes if development does not proceed for some time. A FUA also increases the amount of native vegetation clearing that can be contemplated before it is considered 'significant' requiring an EIS.

Under s157 of the Planning Act, once the TPA has prepared a MPA and given the major plan amendment to the Minister for approval, a proponent can apply for development approval. A Subdivision Design Proposal (SDP) or DA can be prepared concurrently with a Major Plan Amendment.

In locations where land is to cease being National Land or within Designated Areas, and hence will become subject to the requirements of the Territory Plan, the Territory Plan is amended in anticipation of the change, so that the appropriate planning controls are in place.

Development Applications process

Development Options

There are many possible ways development could be progressed within the precinct which will be subject to future decisions.

Development Applications

Following a Major Plan Amendment, development that the MPA facilitates can be proposed. Various options could be considered, such as:

- Subdivision Design Proposal(s) (SDPs) that identify the proposed blocks, roads, services and block consolidation.
- Alternatively in areas of unleased Territory land new blocks can be created without the need for subdivision, but where new roads and service connections are required, an SDP would be required.
- Development applications for specific proposals, buildings, services, demolition, roads etc.

Other usual considerations for development assessment and approval would be required under the Planning Act, 2023.

Environmental Assessment process

Environmental Assessments

Concept planning and understanding constraints and environmental impacts will be a key factor for planning components of future development.

Environment Protection and Biodiversity Conservation Act, 1999

Across the whole precinct, potential for development to impact on matters of national environmental significance (MNES) protected under the EPBC Act must be considered. This is relevant to areas subject to both the NCP and to the Territory Plan. Where possible protected values should be avoided, but where matters cannot be avoided a self-assessment process is available under the EPBC Act which should be undertaken by a qualified ecologist. If recommended by an ecologist a referral can be made to DCCEEW for a decision on whether the action is a controlled action and requires assessment under the EPBC Act.

ACT Environmental Assessment

If significant impacts to MNES require assessment under the EPBC Act for any proposal, the Territory would also require an Environmental Impact Assessment (EIS) under the Planning Act on Territory land and the bilateral process (if established) may be relevant.

Bilateral Environmental Impact Assessment Process

A new bilateral agreement between the Australian Government and the ACT Government for a combined environmental assessment process to streamline approvals is currently being prepared. Subject to its implementation, if a controlled action decision is made by the Australian Government under the EPBC Act, one EIS can be prepared to provide an assessment for both MNES and for the matters and considerations under the ACT legislation (Planning Act, 2023).

ACT EIS or ESO Process

Following consideration of EPBC Act matters on Territory land, other matters that could trigger the need for environmental impact assessment also need to be considered. These are identified in Schedule 1 of the Planning (General) Regulation 2023. There are 25 items identified; items 1-15 are for specific project types such as waste facilities, infrastructure projects, airports and the like. Items 16-25 are for areas and processes which are more broadly applicable and include significant adverse environmental impact to species and communities listed under the Nature Conservation Act.

For some of these items an Environmental Significance Opinion (ESO) can be sought. But an ESO will only be provided if there is not likely to be a significant adverse environmental impact in relation to the matter for which an ESO is sought. An ESO is typically provided for proposals that are smaller in scale and impact, where impacts have in the majority been avoided. An ESO is valid for 18 months so multiple ESO's may be required for long-term or staged projects.

If a project is likely to have a significant adverse environmental impact, an EIS process would be required, this could potentially be a bilateral process if it relates to MNES. An EIS process typically takes 2 years.

Territory Priority Project process

Territory Priority Projects (TPP) process

Projects within the precinct would be significant Territory projects that can be identified as TPPs. This includes proposals relating to light rail or proposals that are declared to be a TPP by the Chief Minister and Planning Minister if they meet certain criteria. If a declaration is required, it must be made prior to a development application being lodged.

A DA for a TPP must be decided by the Planning Minister (or their delegate) supported by advice from the TPA. The key benefit of a TPP is that the project is exempt from third party ACAT review. The North Canberra Canberra Hospital project has already been declared a TPP. A new stadium for the ACT would be expected to meet the TPP criteria.

4.5

**INTEGRATED WITH
BELCONNEN AND
BEYOND**

Infrastructure and Servicing

This section presents an assessment of infrastructure and servicing across the precinct. It includes a review of the existing infrastructure networks and servicing provisions, together with a preliminary, high-level evaluation of the infrastructure upgrades and servicing strategies required to support the proposed development.

The assessment adopts a strategic approach, considering the upper range of potential demand associated with the two development scenarios to inform indicative servicing requirements. This ensures that the analysis captures potential peak infrastructure demand and provides an appropriate basis for future detailed investigations.

It is noted that the North Canberra Hospital upgrade is currently progressing through the Design and Construct phase. As its servicing catchment is functionally separate from the remainder of the project precinct and being designed by others for ACT Government, an infrastructure and servicing assessment of this area has been excluded from this report.

Demand inputs for the assessment have been derived from the residential and commercial yields outlined in the Land Use, Built Form and Density section of this report. The upper bounds of these yields have been applied to ensure that the assessment appropriately captures potential peak servicing demands and informs the scale of infrastructure provisioning required.



Infrastructure and Servicing

WATER

Existing Infrastructure

Water Supply

A 900 mm diameter mild steel cement-lined (MSCL) trunk main traverses the site, conveying water from the Aranda Reservoir under the management of ICON Water. This critical asset supplies the Canberra Institute of Technology via a network of branching domestic water mains.

Along the Haydon Drive boundary, a 500 mm cement-lined cast iron (CICL) water main provides supply to the North Canberra Hospital via a 100 mm diameter ductile iron (DI) connection. This 500 mm CICL main connects to a 375 mm CICL main that runs along the Battye Street boundary.

The 375 mm CICL main along Battye Street, together with a 300 mm ductile iron cement-lined (DICL) main along Podium Way, forms the primary distribution system supplying the Australian Institute of Sport (AIS) and Canberra Stadium. Both the 375 mm CICL and 300 mm DICL mains feed into a connecting DICL main along Leverrier Street, which in turn supplies the AIS and Canberra Stadium precinct.

The existing water infrastructure is shown in the figure in the following page.

Easements

An existing easement is associated with the 900 mm MSCL trunk main within the block bounded by Battye Street, Braybrooke Street, and Podium Way. This easement must be maintained and protected to ensure access for operation, maintenance, and asset protection.

In addition, the 300 mm DICL main along Podium Way is located within a defined easement corridor. Any proposed works must account for these easements, with appropriate setbacks and access provisions incorporated into the design.

Proposed Development

As part of this project, an assessment has been undertaken of the additional demand generated by the proposed development across the site. This high-level assessment considers the upper range of potential demand across the two development scenarios to inform servicing requirements. It excludes the North Canberra Hospital upgrade as this work is currently in the detailed design phase and its servicing catchment is distinct from the remainder of the project precinct.

Three primary sources of water demand have been identified:

- Residential (Super High-density)
- Commercial space
- Playing fields

Design flows for these demand sources have been determined using the parameters specified in Table IW.1 of Icon Water Standard STD-SPE-G-012, Supplement to WSA 03-2011-3.3 Water Supply Code of Australia. These are shown in the Table 1.

As outlined previously in the Land Use, Built Form and Density section of the report, a maximum of 5,800 dwellings and a commercial floor area of 41,410 m² has been adopted. The extent of playing fields and open space has been estimated based on the scenario layouts. These values represent the maximum across the two considered scenarios.

Table 2 summarises the additional water demand required for the proposed development.

Fire flow requirements are dependent on land use configurations, development layout and building height parameters. As these parameters are not yet defined, fire flow demand has not been quantified in this assessment. Localised fire booster systems may be required at specific locations to meet fire flow demands, consistent with typical servicing arrangements for individual development zones.

ICON Water Response

Regarding the water supply assessment, ICON Water advised:

- The proposed redevelopment will generate significant additional water demand and may reduce customer water pressures within the existing network below allowable service levels.
- Based on a preliminary review, the proposed development is likely to trigger water network augmentations and modifications to the existing pressure zoning arrangements.
 - » The extent of the required network upgrades and rezoning will be subject to further hydraulic assessment.
- ICON Water recommended the preparation of a comprehensive water supply Master Plan to support future servicing investigations.
 - » The Master Plan should consider detailed development demand information, ultimate development yields, building height assumptions and final land use distribution.
 - » Specified fire flow requirements should also be incorporated to enable assessment of network performance under peak demand and emergency conditions.
- ICON Water requested the preparation of a development staging plan to coordinate future infrastructure delivery.
 - » The staging plan will assist in aligning network upgrades with development timing and identifying the sequencing of required augmentation works.
- Further detailed assessment will be required to determine the full extent of water supply infrastructure upgrades necessary to service the proposed redevelopment while maintaining compliance with ICON Water service level requirements.

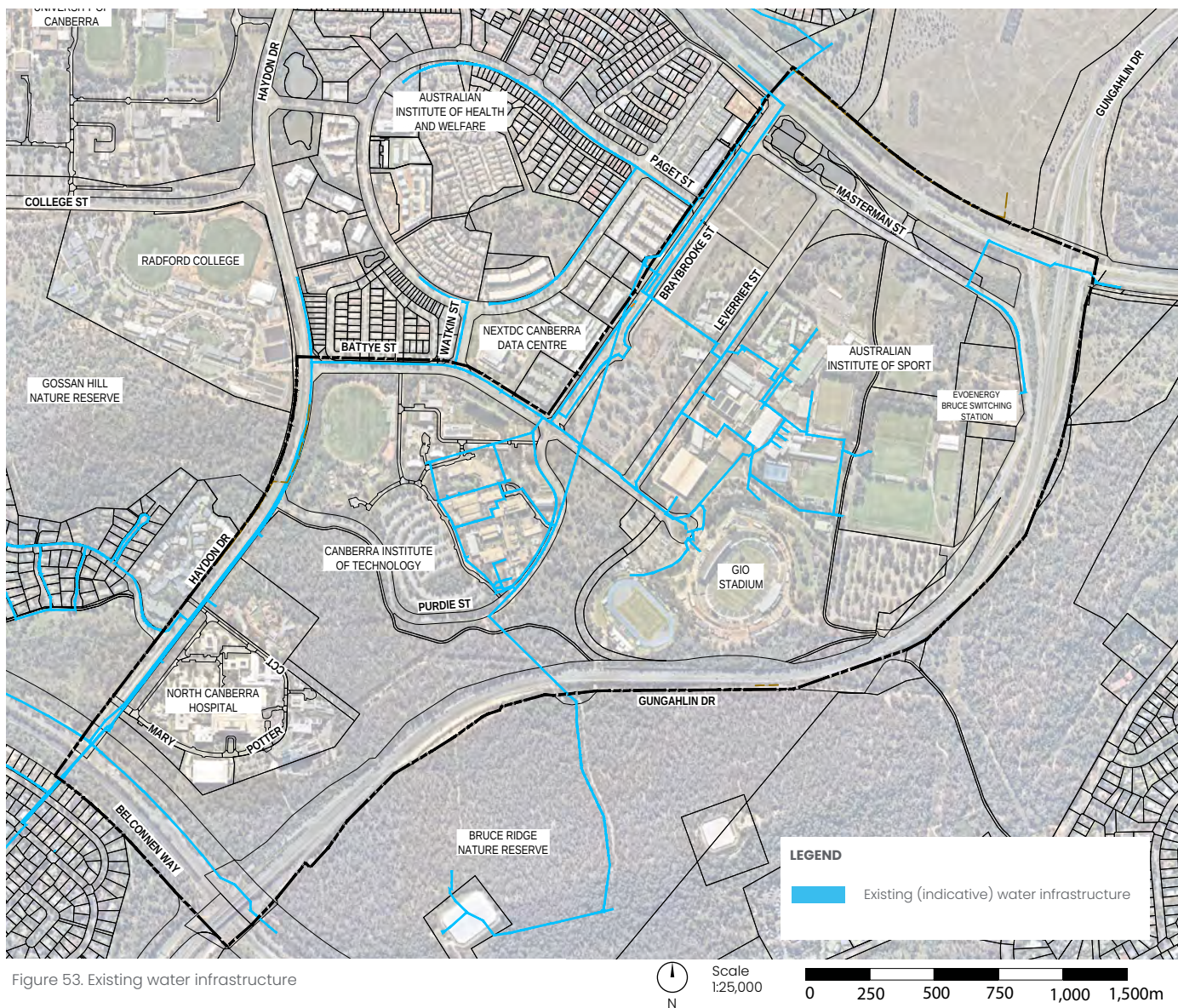


Figure 53. Existing water infrastructure

Figure 55. Table 1

Development type	Definition	Units	Peak Day Demand	Peak Hour Demand	95th Percentile Demand
Residential Super High-density	<100 m2 floor area per dwelling	L / tenement / day	550	2200	1452
Commercial		L / Ha / s	0.432	1.08	0.7128
Playing Fields: Automatic Night Watering	Based on 8hrs at peak flow (3.5 L/s)	L / Ha (irrigated area) / s	1.2	3.5	2.31

Figure 54. Table 2

Land Use Type	Service Area (ha)	Total Dwellings	Peak Day Demand (L/s)	Peak Hour Demand (L/s)	95th Percentile (L/s)
Urban Apartments	37.27	5800	36.92	147.69	97.47
Commercial	4.14	0	1.79	4.47	2.95
Urban Open Space	9.00	0	10.80	31.50	20.79
Total		5800	49.51	183.66	121.21

Infrastructure and Servicing

STORMWATER

Existing Infrastructure

The existing stormwater network comprises a combination of underground pipe systems. Based on the topography of the site, the runoff generally drains from south to north through minor systems before connecting to larger trunk infrastructure.

The existing stormwater infrastructure is shown in the figure in the following page.

The existing ponds/wetland at the north of the Precinct is part of the existing stormwater system functioning in part to attenuate peak flows. This is shown as part of the blue-green infrastructure in Figure 11.

Proposed Development

No detailed stormwater modelling or design has been undertaken at this stage. Further investigation will be required at subsequent design phases to confirm catchment behaviour, peak flows, and infrastructure requirements.

Future stormwater design will be undertaken in accordance with the requirements of ACT Municipal Infrastructure Standard MIS 08 – Stormwater (Edition 1, Revision 2). This includes, but is not limited to:

- maintaining post-development peak flows at or below pre-development conditions for relevant design events
- providing adequate major and minor drainage systems (including 1% AEP major event conveyance)
- incorporating water quality treatment to achieve required pollutant reduction targets applying Water Sensitive Urban Design (WSUD) principles and a treatment train approach

Any future design will also consider flood conveyance, overland flow paths, and integration with the proposed precinct-scale WSUD strategy.

Connection to Blue-Green Infrastructure

The stormwater approach for the Bruce Precinct will be informed by the layered WSUD strategy outlined earlier in this report, with drainage design to be developed through an integrated, multi-scale framework.

At the precinct scale, centralised assets such as ponds and wetlands are expected to play a key role in stormwater management, potentially providing detention, treatment and opportunities for harvesting and reuse. These systems are anticipated to contribute to the overall structure of the major drainage network and management of larger storm events.

At the street and lot scales, distributed WSUD measures may be adopted to reduce runoff at source through retention, infiltration and reuse. This could include elements such as biofiltration systems, permeable surfaces, tree pits and rainwater harvesting, providing pre-treatment prior to discharge to downstream systems.

In combination, a treatment train approach is intended to:

- attenuate peak flows and support maintenance of post-development hydrology
- improve stormwater quality through staged treatment
- provide opportunities for reuse and reduce reliance on potable water
- integrate overland flow paths within the broader blue-green network

Further investigation, modelling and detailed design will be required to confirm the final stormwater management approach and demonstrate compliance with relevant standards, including MIS 08 – Stormwater, in relation to peak flow control, flood conveyance and water quality requirements.

As noted previously in the report in covering the blue-green infrastructure, a precinct scale consideration of water quality through the expanded and enhanced wetland system can provide both water quality treatment as well as stormwater detention and storage. Refer Figure 11 to show proposed increase in the wetland system to the north of the Precinct.

The North Canberra Hospital stormwater catchment drains to the southwest and functionally separate from the remainder of the project precinct. Drainage upgrades for the North Canberra Hospital project are being assessed as part of the current Design and Construct stage by ACT Government.

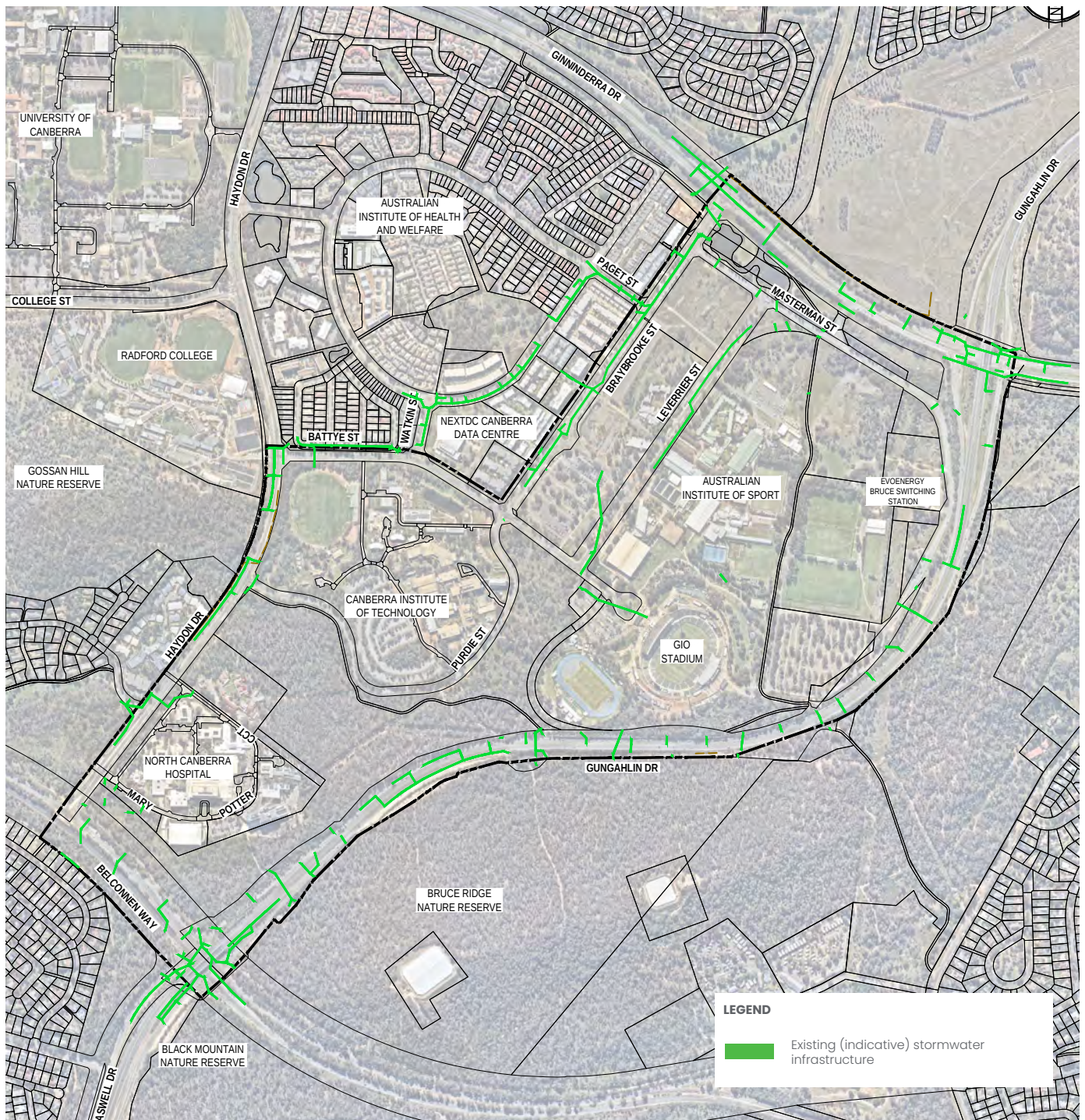
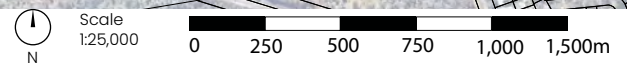


Figure 56. Existing stormwater infrastructure



Infrastructure and Servicing

SEWER

Existing Infrastructure

The site has been divided into three indicative drainage catchments based on existing topography. Catchment 1, located in the south, services North Canberra Hospital via a 150 mm vitrified clay pipe (VCP).

Catchment 2 (approximately 15.2 ha), bounded by Mary Potter Circuit, Haydon Drive, Battye Street, and Purdie Street, services the Canberra Institute of Technology via 150 mm and 225 mm VCP pipes.

Catchment 3, the northern-most catchment, services Canberra Stadium, the Australian Institute of Sport (AIS), and the Evoenergy Bruce Switching Station via a network of pipes ranging from 150 mm to 375 mm in diameter. These pipes are constructed from polyvinyl chloride (PVC) and reinforced concrete pipe (RCP), in addition to VCP.

Easements

An existing easement is associated with the 900. There is one sewer easement within the development site, located along Battye Street, containing a 225 mm VCP that services Catchment 2.

The existing sewer infrastructure and catchment boundaries are shown in the figure in the following page.

Proposed Development

As part of this project, an assessment has been undertaken of the additional demand generated by the proposed development across the site. This high-level assessment considers the upper range of potential demand across the two development scenarios to inform servicing requirements. It excludes the North Canberra Hospital upgrade as this work is currently in the detailed design phase and it's servicing catchment is distinct from the remainder of the project precinct.

Three primary sources of sewer demand have been identified:

- High-density Residential
- Commercial space

Total Equivalent Population for these demand sources have been determined using the parameters specified in Table IW.1 of Icon Water Standard STD-SPE-G-011, Supplement to WSA 02-2014-3.3 Gravity Sewerage Code of Australia. These are shown in the table below.

Classification	Units	Equivalent population per Unit
High-density Residential	Per dwelling	2
Commercial	Gross Lettable Floor Space (10,000 sqm)	300

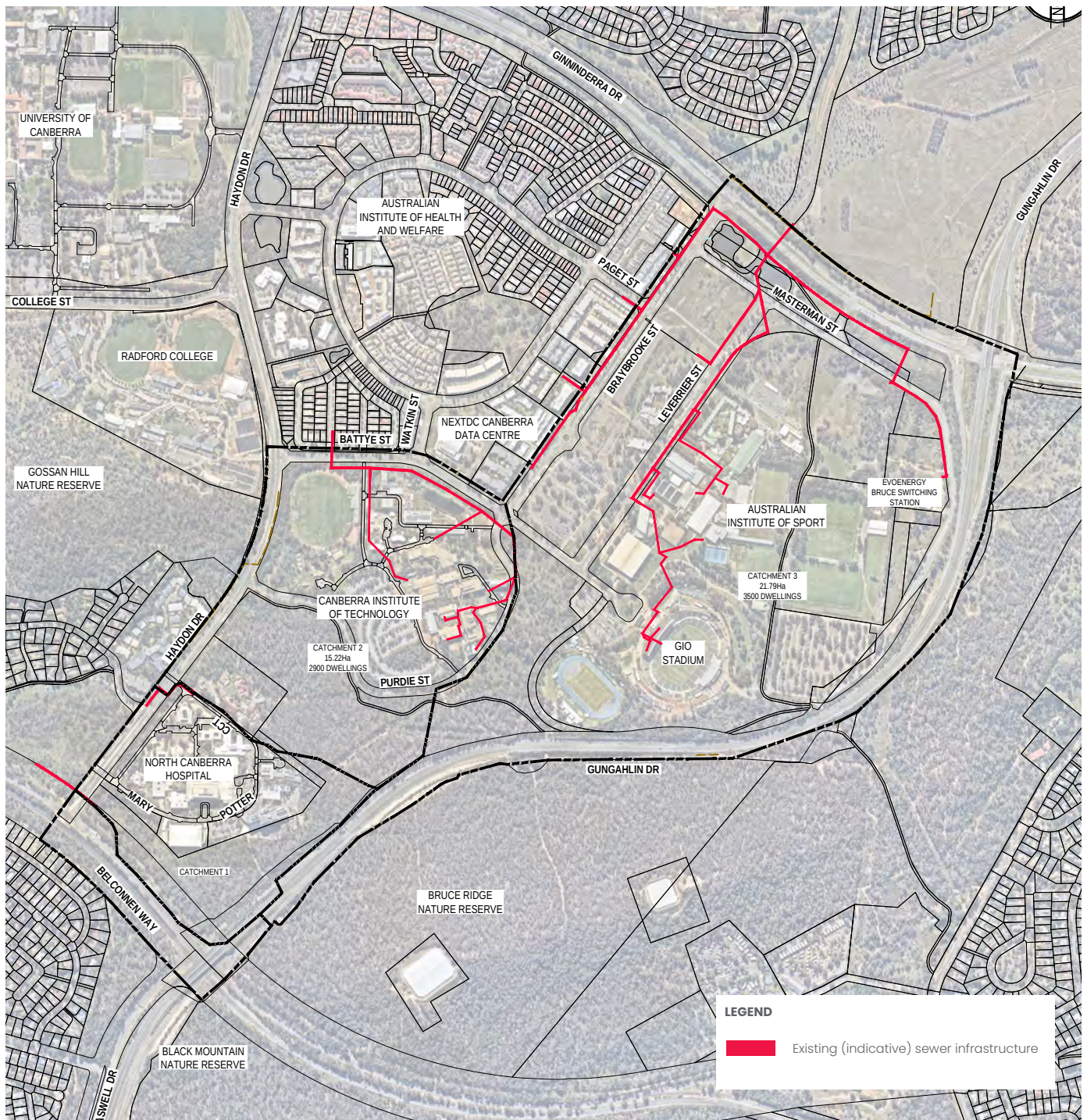


Figure 57. Existing sewer infrastructure



Infrastructure and Servicing

SEWER (CONT.)

As previously noted, a maximum of 5,800 dwellings and a commercial floor area of 41,410 m² have been adopted for the assessment as outlined in the Land Use, Built Form and Density section of the report. These demands have been distributed across Catchments 2 and 3 based on upper-bound assumptions to maintain flexibility in staging and development yield.

This results in 2,900 dwellings allocated to Catchment 2 and 3,500 dwellings to Catchment 3. An additional 200 dwellings associated with the AIS upgrade have been assigned to Catchment 3, increasing its total to 3,700 dwellings. The commercial floor area has been proportionally distributed, resulting in 18,015 m² for Catchment 2 and 22,985 m² for Catchment 3.

The North Canberra Hospital upgrade is the only proposed development within sewer Catchment 1, and consequently, its servicing catchment is functionally separate from the remainder of the project precinct. This reflects its distinct network interaction which is therefore not directly connected with the balance of the precinct. Servicing requirements for the North Canberra Hospital upgrade are being assessed as part of the current Design and Construct stage by ACT Government.

Sewer Design flows were completed in accordance with the method outlined in IW.3.4 of Icon Water Standard STD-SPE-G-011, Supplement to WSA 02-2014-3.3 Gravity Sewerage Code of Australia

The table below summarises the additional sewer demand required for the proposed development.

ICON Water Response

Regarding the sewer servicing assessment, ICON Water advised:

- There is concern that the existing sewer network may not have sufficient capacity to accommodate the proposed redevelopment, in conjunction with other known growth within the surrounding catchment.
- The proposed development assumptions for the Canberra Institute of Technology (CIT), Australian Institute of Sport (AIS) and North Canberra Hospital represent an increase of approximately 3,000 Equivalent Persons (EP) compared to the development information currently held by ICON Water.
 - » ICON Water noted that the majority of this increase appears to be associated with the proposed redevelopment of the CIT site
- Due to the significant forecast growth within the Bruce, Lawson and University of Canberra catchments, major sewer network augmentations are likely to be required.
 - » The extent of these augmentations will need to be confirmed through further detailed planning and network assessment.
- Local sewer augmentations are also expected to be triggered by the proposed redevelopment.
 - » The specific infrastructure requirements will be confirmed once additional development and staging information becomes available.
 - » ICON Water noted that a previous Sewer Influence Review (SIR) undertaken for the CIT site identified the need for sewer augmentation works.
 - » Given the increased Equivalent Population adopted for the current assessment, additional local sewer augmentation works may be required beyond those previously identified.
 - » ICON Water requested an indicative development staging program to assist with future network planning and scheduling of capital works and existing infrastructure augmentation.

Figure 58. Additional Sewer Demand for Proposed Development

Catchment No.	NSA (ha)	EP	TEP	Aeff (ha)	ADWF (L/s)	PDWF (L/s)	GWI (L/s)	RDI (L/s)
1	North Canberra Hospital upgrade							
2	15.22	2	6340	16.30	13.21	32.09	0.24	20.07
3	21.79	2	8089	23.18	16.85	39.95	0.35	27.36



Infrastructure and Servicing

GAS

Existing Infrastructure

There is existing gas infrastructure within the site which services the North Canberra Hospital, Canberra Institute of Technology, Canberra Stadium and the AIS.

The existing gas infrastructure is shown in the figure in the following page.

Proposed Development

Existing gas infrastructure within the Bruce Precinct is expected to be retained in the short to medium term to service established uses, with its future role dependent on redevelopment staging and the extent of works.

The approach to gas will be guided by the ACT legislative framework, including the Climate Change and Greenhouse Gas Reduction Act 2010, which supports emissions reduction and restricts new natural gas connections in prescribed areas.

Consistent with this direction, new development is expected to minimise reliance on natural gas, with a preference for all-electric systems where feasible.

Opportunities to rationalise or progressively decommission existing gas infrastructure may arise as redevelopment occurs; however, any transition to a fully gas-free precinct will be subject to further investigation, including feasibility, staging and cost considerations.

COMMUNICATIONS

Existing Infrastructure

There is existing communications infrastructure within the site which services the North Canberra Hospital, Canberra Institute of Technology, Canberra Stadium and the AIS.

The existing communications infrastructure is shown in the figure in the following page.

Proposed Development

Based on the current assessment, there are no identified constraints associated with communications infrastructure that would restrict the delivery of the proposed development outlined in this report.

As part of subsequent project stages, communications servicing will be further developed through design development and ongoing engagement with relevant authorities and service providers. This process will confirm infrastructure requirements, identify any servicing constraints, and ensure the proposed works are consistent with applicable standards and regulatory obligations.

Any required upgrades should prioritise the delivery of modern, fit-for-purpose communications infrastructure, consistent with the precinct's education and innovation aspirations.

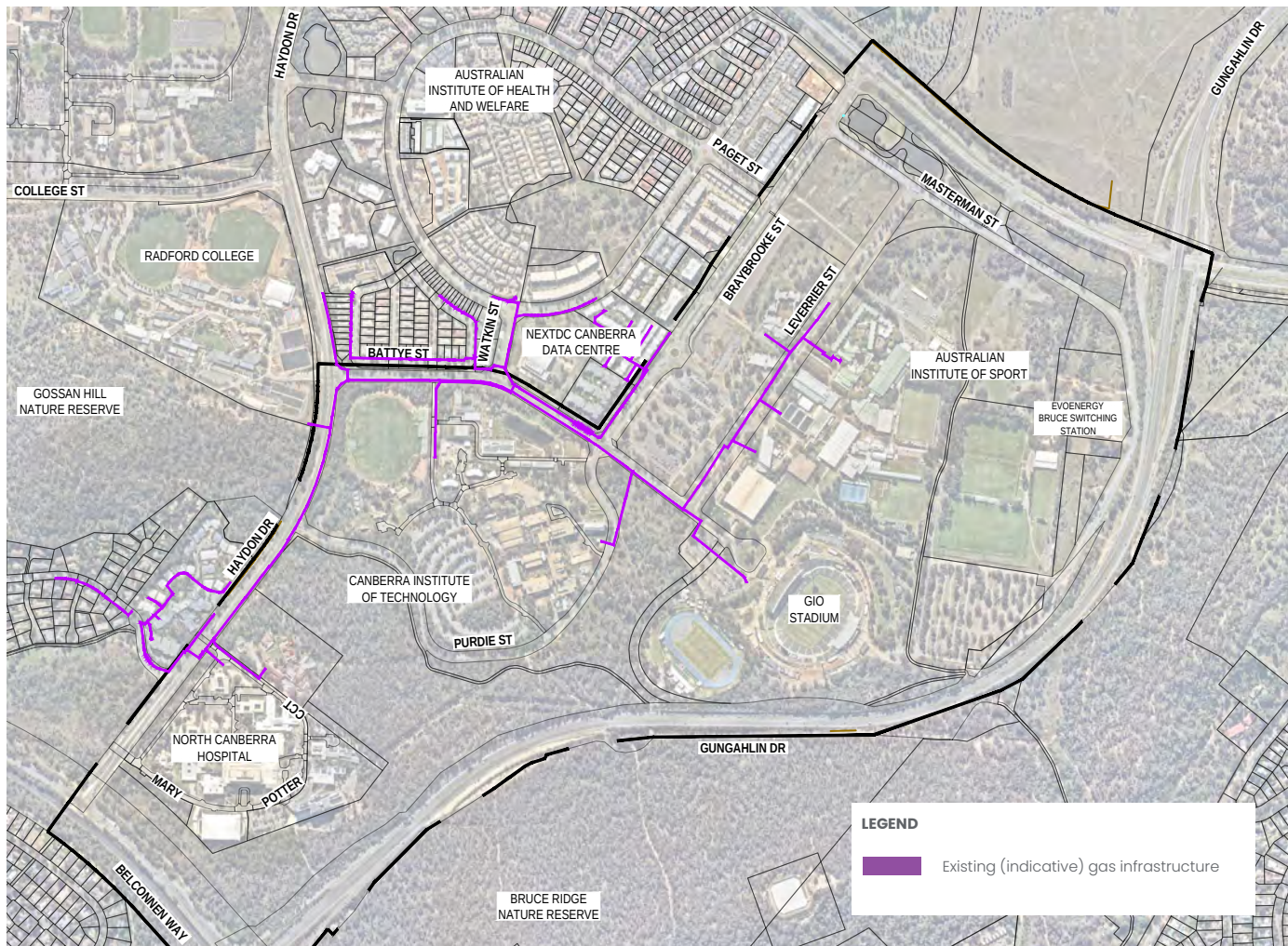


Figure 59. Gas Infrastructure servicing the Precinct

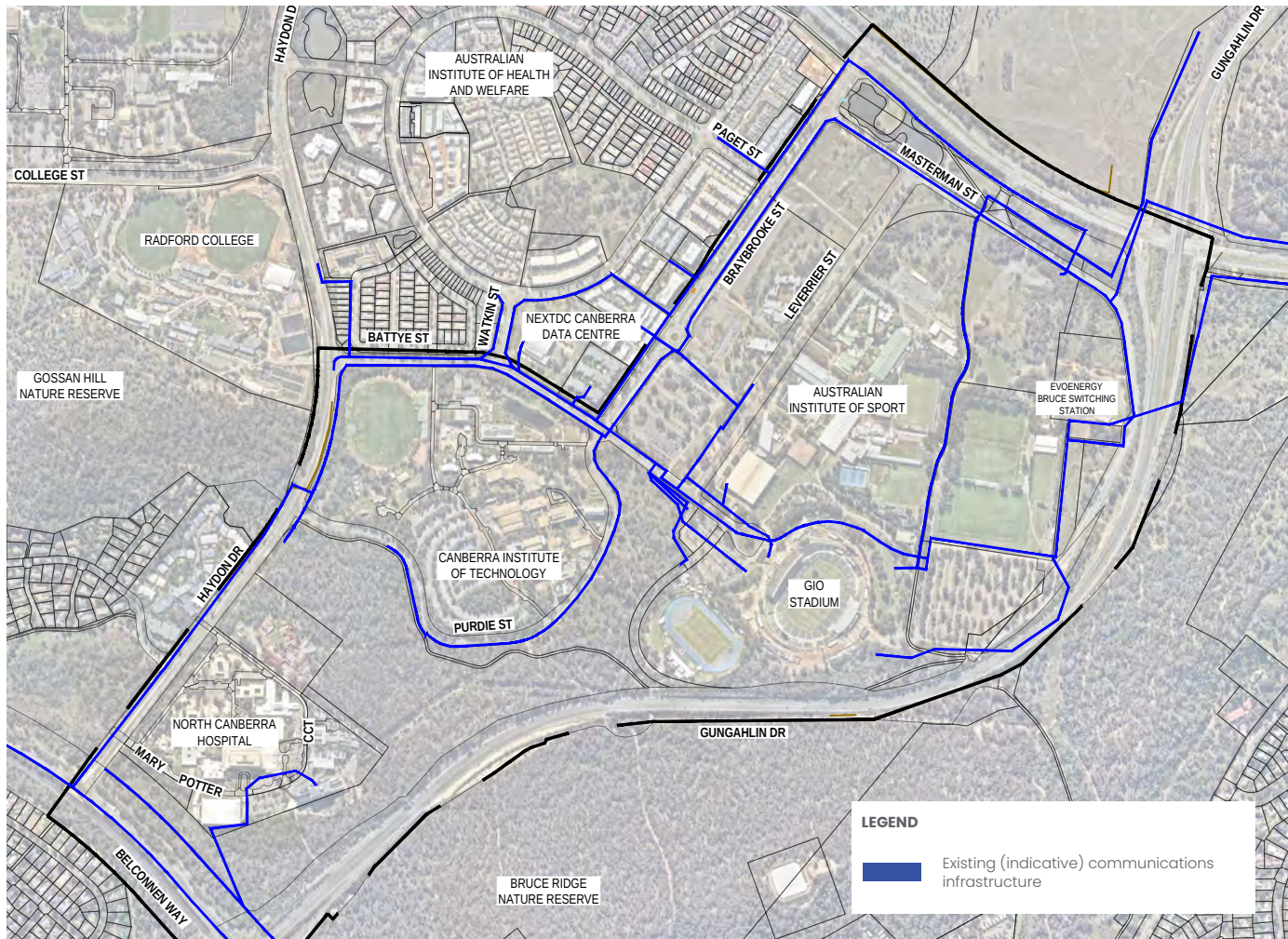
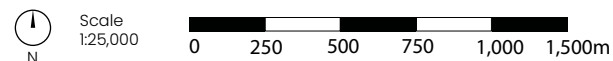


Figure 60. Communications infrastructure servicing the Precinct



Infrastructure and Servicing

ELECTRICAL

Existing Evo Energy Network

The proposed development area is centrally located between two zone substations on Evo Energy’s 132 kV network, namely the Belconnen and Civic substations. The area and its surroundings are currently supplied by an 11 kV feeder from these two zone substations.

11kv Feeder No.	Feeder Name	Zone Substation
1	Belcon 8VB SWNDNLAMP	Belconnen
2	Belcon 8XB BATTYE	Belconnen
3	Belcon 8+FB EARDLEY	Belconnen
4	Belcon 8UB SHANNON	Belconnen
5	Belcon 8WB HAYDON	Belconnen
6	Civic 8YB DRYANDRA	Civic
7	Civic 8+QB BELCWAYNT	Civic

The map in the following page shows the feeder layout from Evo Energy’s annual planning data portal. Most of the existing loads in the proposed area and its surroundings are supplied by feeders 1, 2, 3, 5, and 6, while feeders 4 and 7 are in the vicinity of the proposed site.

Electrical Infrastructure Assessment:

1. The existing 11kV network allows extensions and connection points to supply the rising demand from the proposed development via the existing 11kV feeder network.
2. The existing 11kV network is a semi-mesh distribution network designed to ensure increased redundancy and load-transfer capability.
3. The ability to transfer loads depends on the existing feeder wires and cables, as well as the capacity and availability of the zone substation. According to Evo Energy’s Distribution Annual Planning Report 2025, the estimated load transfer to the Belconnen zone substation from other zone substations is 36MW in summer and 33.8MW in winter. Civic zone substation expects to receive 45.1MW in summer and 49.7MW in winter.
4. The forecast capacity transfers as above allow Evo Energy to manage the increased demand during peaking periods of the year.
5. Some large existing demands are situated near the proposed development area. These load centres are supplied by multiple feeders for enhanced reliability. The Next Gen Data Centre is an example and is reported to have an ICT load of 4.4MW.
6. The feeders supplying this area have less PV solar and battery integration, which increases peak demand on the zone substation and feeder infrastructure.
7. According to the Evo Energy Distribution Annual Planning Report 2025, a transformer is to be added in the Belconnen zone substation to cater for the increasing demand in the catchment area, including the proposed development area. This project has been tentatively marked for the 2029–2034 regulatory period.
8. If the forecast maximum demand over the decade increases by approximately 10MVA Evo Energy will need to consider the installation of a third transformer. This project will provide new 11kV feeders and is to be installed from the zone substation towards the load centre via Ginninderra Drive.

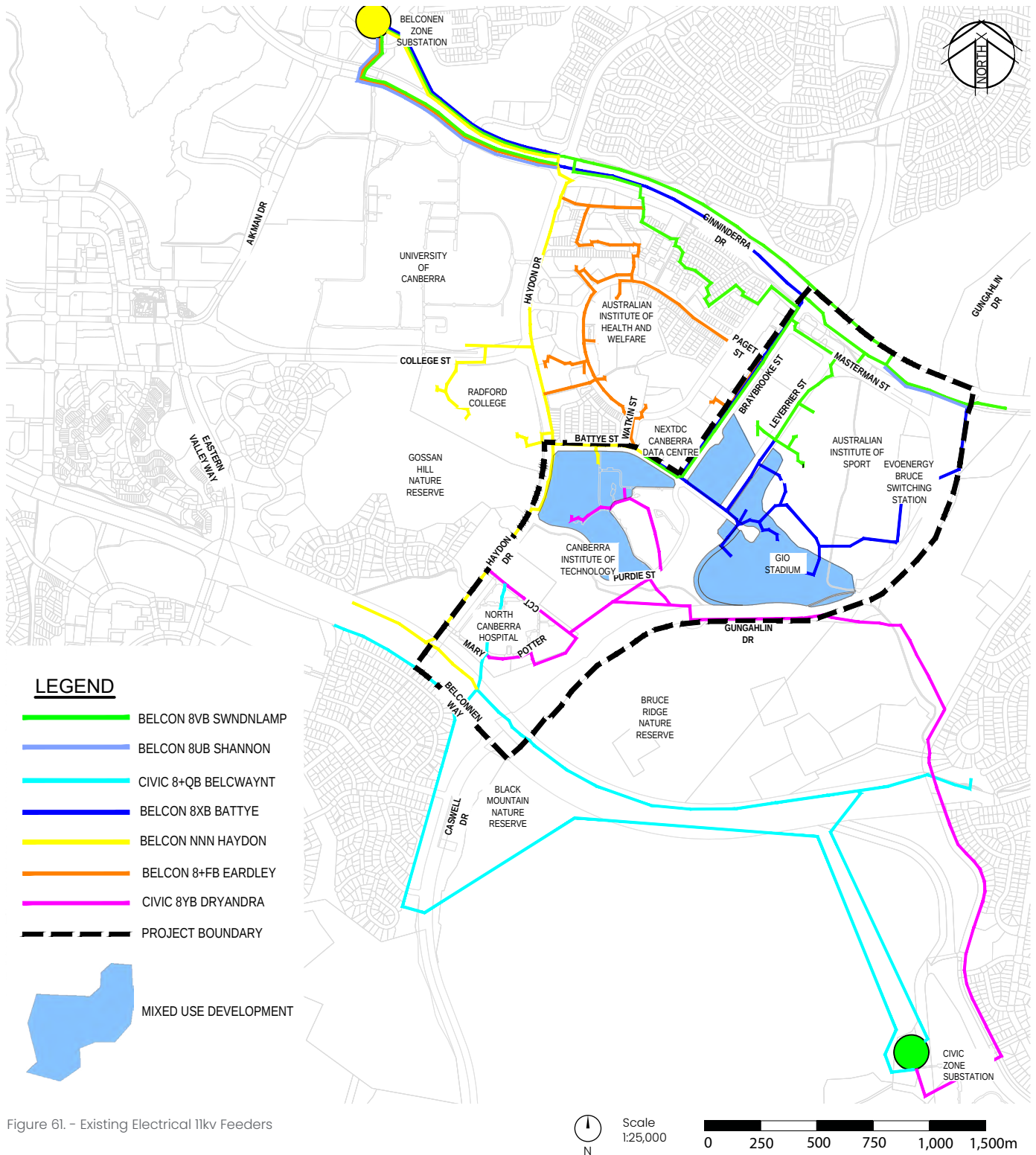


Figure 61. - Existing Electrical 11kV Feeders

Infrastructure and Servicing

ELECTRICAL (CONT.)

Maximum Demand Estimation

The maximum demand for the proposed development area has been calculated using the typical after-diversified maximum demand allocation for the proposed dwelling type, and standard allocations in accordance with AS/NZS3000:2018 have been applied to the commercial area developments.

The demand in the Active sports area has been determined based on the type of sports lighting to be installed. The daily demand variation for each of these categories has not been deemed necessary at this stage, but the overall maximum demand might be lower than the total outlined in Table 1.

Further assessment of the Evo Energy network is necessary, including technical network studies to identify constraints, identify potential feeder candidates for future load transfers, and construct new 11kV feeders along Ginninderra Drive. These network technical studies will be carried out by Evo Energy, and detailed information will be needed to commence them.

Non-network solutions, such as medium-scale battery storage with pad substations, can be used to manage demand peaks and cut distribution network development costs. These options should be discussed with Evo Energy in detail during the later stages of this project, especially as development specifics such as the number and type of dwellings, sports lighting needs, and usage times are further clarified and agreed upon.

It is noted that while the AIS Podium project will introduce additional electrical demand, the proposed facilities are not considered major electrical load centres, with the primary higher-demand component being sports lighting associated with the Indoor Sports Dome. Based on the available information, the additional demand is not expected to be significant relative to the broader Bruce Precinct development. Evo Energy has planned for future growth within the broader precinct, and the cumulative electricity demand associated with future development across the Bruce Precinct should be considered as part of ongoing network planning and engagement with Evo Energy at subsequent stages.

It is reiterated that servicing requirements for the North Canberra Hospital upgrade are being assessed independently as part of the current Design and Construct phase being undertaken by the ACT Government. Accordingly, this component has been excluded from the above preliminary electrical servicing assessment.

Ref	Load Type	No of Dwellings	kVA per Dwelling	Total (MVA)
1	Dwelling 2 people living	5800	2.5 kVA ADMD	14.5
		No of SQM	Watts per SQM	
2	Commercial Area	41400	150	6.21
3	Active Sports area	90000	15	1.35
	Pro TV Broadcast Standard			
4	Miscellaneous (street and pathway lights, car parks, etc.).			0.25
Total				22.31

Figure 62. Table 1



4.6

**DELIVERING A LEGACY
OF RESILIENCE FOR
GENERATIONS TO COME**

Environmental Sustainability and Resilience

Environmental Sustainability and Resilience for Bruce Precinct seeks to leverage collaboration opportunities between multiple stakeholders to inspire a connected, net zero enabled, and socially inclusive precinct.

The purpose of this section is to align Bruce Precinct's stakeholders around a common vision, clear priorities, and actionable initiatives. It has been designed to enhance innovation, attract investment, and create long-term value for users and the broader community.

It comprises the following strategic components: relevant regulatory frameworks and guidelines, principles from the United Nations Sustainable Development Goals (SDGs), and precinct ambition.

Precinct ambitions and priorities were identified during an interactive sustainability workshop with stakeholders.

Strategic Alignment

Regulatory Frameworks and Guidelines

The site is informed by the strategic planning for the Belconnen District and ACT policies to guide sound sustainability planning and alignment with statutory strategic goals.

Framework / Guideline	Jurisdiction	Description	Relevance to Bruce Precinct
Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)	Federal	National legislation protecting matters of national environmental significance.	Ensures precinct's planning and development avoid or mitigate impacts on protected species, habitats, and cultural heritage.
Belconnen District Strategy	ACT	Provides district-specific planning outcomes, priorities, and assessment criteria.	Ensures alignment of Bruce Precinct with broader Belconnen growth, transport connections, and land use priorities.
Territory Plan	ACT	Statutory framework for land use, zoning, and development controls in the ACT.	Provides the legal basis for zoning, density, and land use decisions in Bruce Precinct.
ACT Climate Change Strategy 2019-2025	ACT	Sets a pathway to net zero emissions by 2045, with interim targets and a focus on electrification, resilience, and active transport.	Informs Bruce Precinct's energy strategy, building performance, and climate adaptation measures.
ACT Government's Active Travel Plan	ACT	Sets out priorities and design guidance to make walking, cycling, and micromobility safer and more accessible.	Promotes active transport infrastructure, reducing emissions, enhancing community health and connected movement networks in Bruce.
ACT Government's Water Sensitive Urban Design	ACT	Provides principles and practical guidance for integrating water management into urban design.	Supports stormwater reuse, water quality, and biodiversity in Bruce's open space and streetscapes.
Gender Sensitive Urban Design Framework	ACT	Toolkit for inclusive, safe public spaces.	Promotes equitable access and safety for all genders in Bruce's public realm.
ACT Urban Design Guide	ACT	Design principles for public realm, streetscapes, and built form.	Enhances quality, accessibility, and sustainability of Bruce's urban environment.

Figure 63. Overview table of Sustainability Regulatory Frameworks and Guidelines

Environmental Sustainability and Resilience *(continued)*

Sustainability Approach

United Nations Sustainable Development Goals

The United Nations Sustainable Development Goals (SDGs) provide a globally recognised framework for guiding sustainable development outcomes across environmental, social, and economic dimensions.

Adopted as part of the 2030 Agenda for Sustainable Development, the SDGs comprise 17 interconnected goals that collectively aim to address key global challenges, including climate change, resource efficiency, social equity, and resilient infrastructure.

The strategies outlined in the following pages have been developed through the multidisciplinary analysis presented in preceding sections of this report and are mapped against this global best practice framework to ensure alignment with internationally recognised sustainability objectives and outcomes.

SUSTAINABLE DEVELOPMENT GOALS





Make cities and human settlements inclusive, safe, resilient and sustainable.

A highly connected and walkable precinct that supports vibrant, inclusive, and active communities.



Figure 64. Traffic calming measures including bricked roads, vegetation and lower speeds in the a neighbourhood in The Netherlands.



Figure 65. Separated car and pedestrian paths in Rotterdam, The Netherlands.



Figure 66. Protected cycling and pedestrian paths in The Hague, The Netherlands.



Figure 67. Mid-block links provide opportunities for community amenities in a neighbourhood in The Netherlands.

KEY STRATEGIES:

- **Connected Public Domain Network:** Establish a highly connected network linking key destinations across the precinct, including AIS, CIT, health facilities, and surrounding neighborhoods, incorporating mid-block links, safe crossings, universal access, and clear wayfinding to support intuitive movement.
- **Precinct-Wide Coordination:** Establish coordinated working groups to support delivery of transport initiatives, alignment across stakeholders, and precinct-wide connectivity outcomes.
- **Integrated Active and Public Transport Networks:** Prioritise active transport by connecting with existing and future public transport systems, including easy and safe pedestrian access. Provide uninterrupted and protected cycling infrastructure for safer, stress-free commuting. Place all cycling and pedestrian infrastructure on the left of parked cars for a safe active travel network.
- **A Car-Lite Precinct:** Limit on-street parking to loading zones and options for future road dieting to improve amenity and increase utility of public space. Introduce pedestrian-priority low-speed zones. Embrace a fine-grain pedestrian network with car-free mid-block links or laneways.
- **Safer Movement:** Enhance safety and comfort through traffic calming measures such as raised crossings and textured surfaces. Develop a detailed wayfinding strategy with signage and lighting to promote enjoyable movement and passive surveillance.
- **Inclusive, Accessible and Culturally-Led Design:** Ensure universally accessible and inclusive movement networks with step-free routes, tactile guidance, and safe, legible environments, while incorporating culturally-led design principles to enhance identity and sense of place.
- **Nature-Based and Climate-Responsive Movement Corridors:** Provide active movement opportunities that integrate with the site's blue-green corridors. Support access to shade from tree canopies and interaction with surrounding bushland. Include wildlife connectivity across roads and footpaths.
- **Enhanced Precinct Integration:** Strengthen physical and visual connections between key land uses, institutions, and surrounding areas to improve cohesion, reduce fragmentation, and support efficient movement across the precinct.
- **Future Adaptive Reuse:** Design structures to accommodate future adaptive reuse or increased densification through providing building structures capable of supporting additional future levels and the conversion of carpark floors.
- **Preservation of Existing Natural and Cultural Heritage:** Preserve and protect the endemic flora and fauna species. Design lighting to be wildlife-friendly, aligned with dark-sky principles.
- **Green Building Certifications:** Require all significant buildings to have holistic sustainability certification, such as a Green Star Buildings rating.

Environmental Sustainability and Resilience *(continued)*



Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation.

Evolve as a collaborative innovation hub that brings together institutions, industry, and government to drive integrated outcomes across sport, health, and education.



Figure 68. Map of the district covered by the Kendall Square Association, an example of a precinct-wide collaboration framework.



Figure 69. Provide consistent wayfinding throughout the precinct. Example from the St Kilda Arts Precinct.

KEY STRATEGIES:

- **Formal Collaboration Framework Development:** Develop a precinct-wide collaboration framework, such as a charter or alliance model, to align key stakeholders (e.g. AIS, CIT, North Canberra Hospital and government) around shared objectives, governance arrangements, and coordinated delivery of initiatives.
- **Institutional and Industry Partnerships:** Facilitate structured partnerships between major institutions, industry, and private sector stakeholders to support joint research, shared facilities, and innovation-led economic development within the precinct.
- **Co-Location of Complementary Uses:** Enable the co-location of sport, health, education, research, and commercial uses to promote knowledge exchange, cross-sector collaboration, and the development of innovation clusters.
- **Employment Pathways for Traditional Custodians:** Engage climate adaptation services and vegetation management led by Traditional Custodians. Interweave Non-Human Kin Country materials into the landscape, buildings and urban areas.
- **Coordinated Governance Structures:** Establish coordinated governance structures and working groups to manage precinct-wide initiatives, support stakeholder alignment, and enable delivery of innovation outcomes at a whole-of-precinct scale.



Figure 70. Pingshan Sports Park blending sports facilities with the surrounding urban fabric.



Ensure access to affordable, reliable, sustainable and modern energy for all.

A grid-optimised, fully electric precinct that embraces the energy transition to renewable sources.



Figure 71. A win-win solution with shade and renewable energy generation.



Figure 72. Community battery in Cammeray, NSW.

KEY STRATEGIES:

- **Full Electrification:** Support the transition to fully electrified buildings by eliminating reliance on fossil fuels for heating, hot water, and cooking, and aligning new development with all-electric design principles. Provide no new piped gas connections and phase out existing.
- **Precinct-Scale Energy Networks:** Enable integrated precinct-scale energy infrastructure, including microgrids and energy sharing networks, to optimise electricity grid operation and increase access to locally generated renewable energy across institutions such as AIS, CIT, and health facilities.
- **Solar Generation:** Maximise solar photovoltaic (PV) generation across large roof areas and carparking structures, including potential solar shading over car parks.
- **Distributed Energy Storage Systems:** Integrate battery storage at building and precinct scale to support load balancing, improve resilience, and enable effective use of on-site renewable energy.
- **Waste Heat Recovery:** Investigate waste heat recovery opportunities by capturing and reusing excess heat from the neighbouring datacentre for pool water heating or domestic hot water systems.
- **Electric Vehicle Infrastructure:** Provide EV charging infrastructure across the precinct, including public, commercial, and fleet charging, to support the transition to low-emission transport.
- **High-Performance Buildings:** Improve energy efficiency through high-performance building envelopes, efficient plant and services, smart controls, and alignment with best-practice sustainability benchmarks.
- **Staged Retrofit of Existing Assets:** Facilitate progressive upgrades to existing buildings and infrastructure to improve energy performance, recognising the constraints of retrofitting legacy assets.
- **Coordinated Energy Planning and Governance:** Coordinate energy planning across stakeholders to optimize precinct-wide outcomes, including demand management, infrastructure planning, and integration of emerging technologies.

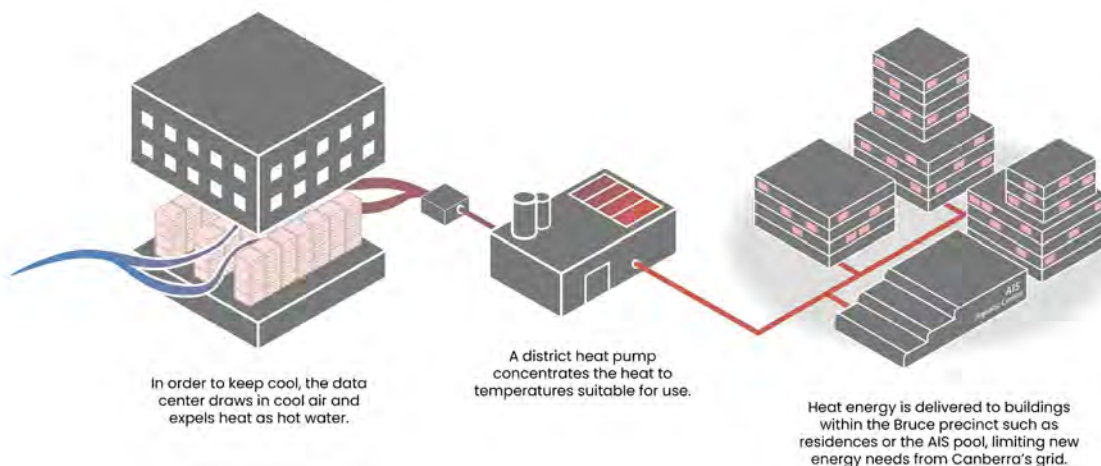


Figure 73. A datacentre located adjacent to the precinct which could provide waste heat energy for water or space heating

Environmental Sustainability and Resilience *(continued)*



Take urgent action to combat climate change and its impacts.

A climate-resilient neighbourhood that responds proactively to the impacts of higher temperatures and extreme weather events.

KEY STRATEGIES:

- **Tree Canopy and Green Infrastructure:** Provide extensive tree canopy and green infrastructure to streets, public spaces, and open areas to provide shade, reduce heat, and enhance ecological performance.
- **Urban Heat Mitigation Measures:** Integrate urban heat mitigation strategies, including shading structures, high-albedo and cool materials, and water-based cooling elements within the public realm and built environment.
- **Precinct-Wide Climate Adaptation Planning:** Develop a coordinated precinct-wide climate adaptation strategy that addresses resilience to heat, flooding, and extreme weather across all development phases.
- **Integration of Natural Landscapes and Bushland:** Preserve and integrate existing bushland, green corridors, and natural landscapes within the precinct to support biodiversity, cooling, and long-term resilience.



Figure 74. Shaded footpath with wayfinding signage along Lake Ginninderra, Canberra.

PROJECTED CHANGES						
	 Low-emissions scenario		 Medium-emissions scenario		 High-emissions scenario	
	2050	2090	2050	2090	2050	2090
 Increase in average temperature	+1.1°C	+1.2°C	+1.4°C	+2.5°C	+1.8°C	+3.7°C
 Increase in hot days per year	+2.6	+3.2	+3.6	+8.0	+5.3	+12.8
 Decrease in cold nights per year	-19.1	-22.3	-26.8	-46.6	-32.4	-67.7
 Decrease in average spring rainfall	-9.9%	-16.6%	-12.6%	-22.6%	-16.8%	-21.8%

Figure 75. Projected changes to the climate (2025, Australian Capital Territory, Climate Change Snapshot, NARClIm)



Figure 76. The rise in average temperatures is projected to be 2-2.5 degrees Celsius by 2090 under a medium-emissions scenario. (2025, Australian Capital Territory, Climate Change Snapshot, NARClIm)



Ensure availability and sustainable management of water for all.

A water-sensitive urban precinct with a resilient, efficient, and regenerative water cycle that enhances environmental performance and supports sustainable water use.

KEY STRATEGIES:

- **Precinct-wide WSUD Measures:** Integrate passive watering, biofiltration or wetland-based treatment systems, soakaways, tree pits, infiltration trenches, and permeable surfaces to improve stormwater quality and support on-site infiltration.
- **Blue Corridors:** Provide water body connectivity throughout the site and neighbouring site, linking these with green spaces in blue-green infrastructure to improve water quality and strengthen landscape outcomes.
- **On-site Retention and Reuse:** Retain stormwater on site through passive watering approaches that direct runoff into adjacent landscape areas, and harvesting in the existing ponds, reducing potable water demand and supporting tree canopy and vegetation health.
- **Road Runoff Infiltration Systems:** Incorporate soakaways, gravel trenches, and similar subsurface systems along roads and streets to slow, filter, and infiltrate runoff on site.
- **Environmentally-Sensitive Water Release:** Incorporate stormwater leakage on-site to mimic natural environmental flows and enhance landscape health.



Figure 77. WSUD educational art on drains in Auckland, New Zealand.



Figure 78. Raingardens with nature-based filtration in Sydney, NSW.



Figure 79. Porous paving on Barry Drive, Canberra.

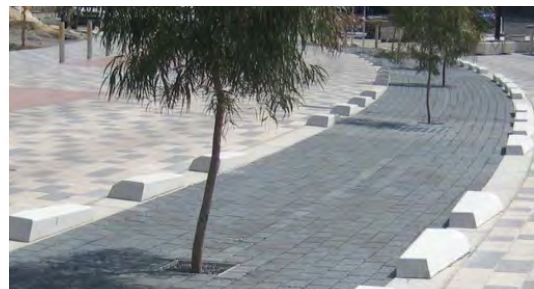


Figure 80. Permeable paving for on-site infiltration in Broadmeadows, Victoria.



Figure 81. Passively watered trees in Braybrook, Victoria.

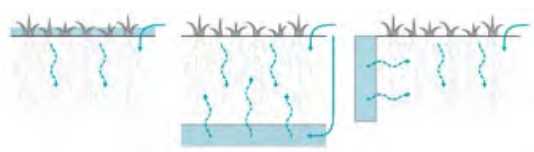


Figure 82. Passive irrigation diagrams from Designing for a Cool City (2020, CRC for Water Sensitive Cities).

Environmental Sustainability and Resilience *(continued)*



Ensure sustainable consumption and production patterns.

A resource-efficient and low-carbon environment that minimises waste and reduces material consumption across all stages of development and operation.

KEY STRATEGIES:

- **Precinct-Scale Material Reuse Systems:** Support precinct-scale initiatives for material reuse and sharing, including opportunities for salvaging, stockpiling, and redistributing reusable materials across development stages. Collaborate to develop strategies and identify opportunities across institutions.
- **Sustainable Procurement:** Align procurement processes with circular economy principles by prioritising materials with recycled content, low embodied carbon, and verified sustainability credentials.
- **Operational Waste and Organics Management Systems:** Support precinct-scale systems for ongoing waste management, including organics recycling, to reduce operational waste streams and enable circular resource use across businesses and facilities.



Figure 83. Wheelstops made from recycled plastic in Burwood, Victoria.



Figure 84. Vermicomposting units part of Canberra's Worms Downunder for management of organic waste.



Figure 85. Provide space for an item library, swap shop or recycling centre like the Recyclery in Harrison, ACT.



Figure 86. Support the local Bruce UC Repair Café, by helping them to expand from clothing repairs.

Measurable Targets

Translate sustainability ambitions into measurable targets that guide delivery and position the master plan as a benchmark for best practice.

Establishing clear sustainability targets is essential to guiding the Bruce Precinct Master Plan towards

measurable environmental, social and economic outcomes. Targets provide a framework for accountability, help align design decisions with broader policy goals and ensure that the development contributes meaningfully to climate resilience, resource efficiency, and community wellbeing. By setting ambitious yet achievable benchmarks, the master plan can lead by example.

Category	Targets	Sources
Water Use	40% reduction in mains water	WSUD Central Code
Stormwater Quality	80% reduction in average annual stormwater pollutant loads	ACT WSUD Guidelines
Stormwater Reuse	Stormwater to be used on site	WSUD Central Code
Construction Water	Use non-potable water sources for construction where feasible	Sustainable Civil Works Framework
Urban Canopy	30% urban tree canopy cover	ACT Climate Change Strategy / Urban Forest Act / Urban Forest Strategy
Surface Permeability	30% surface permeability	ACT Climate Change Strategy
Electrification / Energy	Electrification of buildings and precinct systems	ACT Climate Change Strategy
GHG Emissions Reduction	Reduction in GHG emissions	Climate Change and GHG Reduction Act
Renewable Energy	Increase renewable energy use and generation	Climate Change and GHG Reduction Act
EV Infrastructure	Expansion of EV charging network	ZEV Strategy
Transport Mode Share	80% of trips by walking, cycling, or public transport	ACT Active Travel Plan / One Planet Living
Green Space / Biodiversity	20–30% of site area as green space or habitat	Green Star Communities
Affordable Housing	20–30% of dwellings as affordable/social housing	ACT Housing Strategy / Best practice precincts
Construction Waste	98% of construction and demolition waste diverted from landfill	Sustainable Civil Works Framework
Material Reuse	100% of usable spoil to be beneficially reused	Sustainable Civil Works Framework
Recycled Materials	Increase recycled content in construction materials	Sustainable Civil Works Framework / Circular Economy Strategy
Operational Carbon	Net zero operational carbon (buildings)	Green Star Buildings / Living Building Challenge
Embodied Carbon	40–60% reduction from baseline	Green Star / NABERS Embodied Carbon Guide
Residential Energy Performance	7.5–8.5 NatHERS star rating	Green Star Communities / ACT Housing Strategy
Design Process / Governance	100% of design phases include co-design with community and Traditional Custodians	Connecting with Country / Gender Sensitive Urban Design

Figure 87. Overview table of Sustainability Regulatory Frameworks and Guidelines

Indicative Costing

This report identifies the high-level enabling infrastructure, public realm, environmental, sustainability and planning costs required to support the future development of the Bruce precinct.

Using benchmarks of urban development rates (rather than detailed design), the estimate is based on a site area for development of approximately 497,573m² and green space area of 283,339m², which assumes the delivery of infrastructure to support around 5,800 dwellings, including transport upgrades, utility networks, public open space improvements, planning approvals, further investigations/studies and gross construction costs.

The estimate specifically excludes the construction costs of residential and commercial buildings and any development within AIS precinct and North Canberra Hospital developments. This represents the cost of enabling infrastructure and precinct-wide improvements rather than the full development cost of the Bruce Precinct.

ASSUMPTIONS:

- Site area assumed for development to be approximately 497,573m².
- Green space area assumed to be approximately 283,339 m².
- Based on 260626_BPM_Final Scenarios Report_DRAFT_Optimized.
- Assumes most works are undertaken during normal working hours.
- Rates current as of July 2026.
- Scope not fully defined; costs developed using urban development benchmarks.
- Assumes residential development is split 50/50 between high and low density.

INCLUSIONS:

- Road infrastructure upgrade; Belconnen Way/Haydon Dr intersection, signalisation Battye/Braybrooke/Purdie St intersection, Masterman St extension,
- Active travel paths upgrade
- Green space and landscaping and outdoor recreation space allowances.
- Upgrades of stormwater trunk, sewer trunk, water supply and fire network.
- Electrical network supply and NBN Infrastructure to 5,800 dwellings.
- Further investigations, reports, approvals etc; Territory planning and development approvals, environmental investigations, Indigenous design advisory, transport and traffic studies, infrastructure investigations, sustainability studies, business case and surveys and investigations.
- On-costs to construction costs; 13% trade cost preliminaries, 5% builder's margin, 2% allowance for hazardous materials risk, 15% design development contingency, and 2% staging allowance.

EXCLUSIONS:

- Work at penalty rates for out of hours construction (if required)
- Construction cost of dwellings and commercial buildings
- Developments within the AIS precinct and the North Canberra Hospital precinct,
- Off-site works other than the intersection upgrades.
- HV Supply upgrades
- Legal costs
- Australian Goods and Services Tax (GST).



SITE AREAS INCLUDED FOR COST ESTIMATION

- Developable area: 497,573 sqm
- Green Space area: 283,339 sqm

Figure 88. – Costing Area Map

Infrastructure	Estimated Cost
Transport infrastructure	\$42,371,127
Water	\$7,723,344
Sewer	\$2,327,284
Stormwater and WSUD	\$10,584,664
Electrical	\$15,855,339
Communications	\$2,045,848
Public Space, Community, and Stadium	
Public domain and landscape	\$13,689,856
Community and cultural infrastructure	\$3,288,124
Stadium and anchor related enablement	Excluded
Sustainability	
Sustainability Initiatives	\$2,557,310
Incidental Works	
Incidental Works	\$4,091,695
Further Studies and Design Fees	
Phase 1 – Due Diligence	\$1,141,120
Phase 2 – Detailed Master Plan	\$3,828,960
Phase 3 – SDA and Approval	\$2,100,400
Phase 4 – Detailed Design	\$1,783,120
Other Cost	
Gross Construction Cost (GCC)	\$41,765,104
Statutory Fees and Charges	\$1,564,294
Goods and Service Tax (GST)	Excluded

Infrastructure
\$80,907,606

Open Public Space
\$16,977,980

**Sustainability
Initiatives**
\$2,557,310

Further Studies
\$8,853,600

05

CONCLUSION

Next Steps

The development potential of Bruce Precinct described within this document through a multidisciplinary lens—including transport, landscape, infrastructure, sustainability, planning and economic development— will guide decision-making and facilitate the highest and best use.

This document, commissioned by Commonwealth to provide advice for future decisions, is a critical foundational step to ensure that the precinct ambitions can be practically achieved balancing place outcomes with technical and commercial realities.

Government decisions will be required on a number of issues including in relation to:

Land ownership,

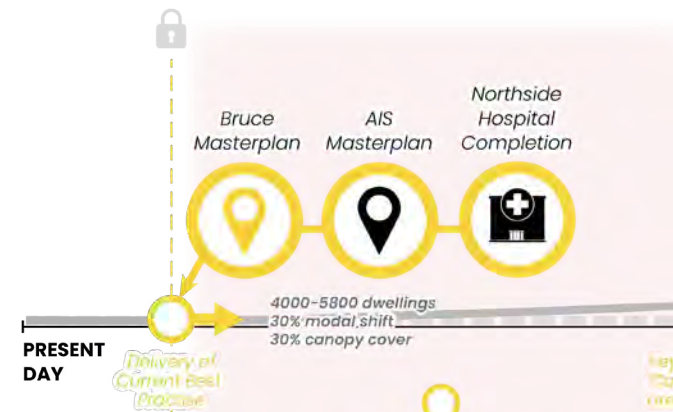
The future of the stadium, and

Upgrades to the related movement network.

In order to realise the long-term vision for Bruce Innovation Precinct, a number of next steps are required. These steps are not required to be sequential but are critical to unlocking future development for Bruce Precinct.

In addition to those listed above, government decisions will be required on issues in relation to:

- Divestment arrangements across the sites to optimise the Bruce Precinct.
- Structure Planning for the Bruce Innovation Precinct that detail land use, density and networks for redevelopment areas that may include the CIT site and the Stadium Precinct.
- Market Sounding and analysis to determine accommodation typologies in terms of supply, demand and value.
- Governance model.
- Nomination of a Local Custodian representative as a member of the PWG.
- Determination of a detailed planning pathway.



Current Best Practise
meets the present needs of Bruce

Land Use, Built Form, Density & Planning

- Divestment & Consolidation of land within the Precinct for best use
- Development of 'Bruce Village' character areas

Country Systems & Sustainability

- Designing with Country
- Cultural Knowledge
- Sustainable Design Solutions

Health, Education, Sport & Economics

- Catchment/Population-based Retail
- Proximate/Complementary uses
- Formal MOU or Partnership Agreement

Movement & Infrastructure

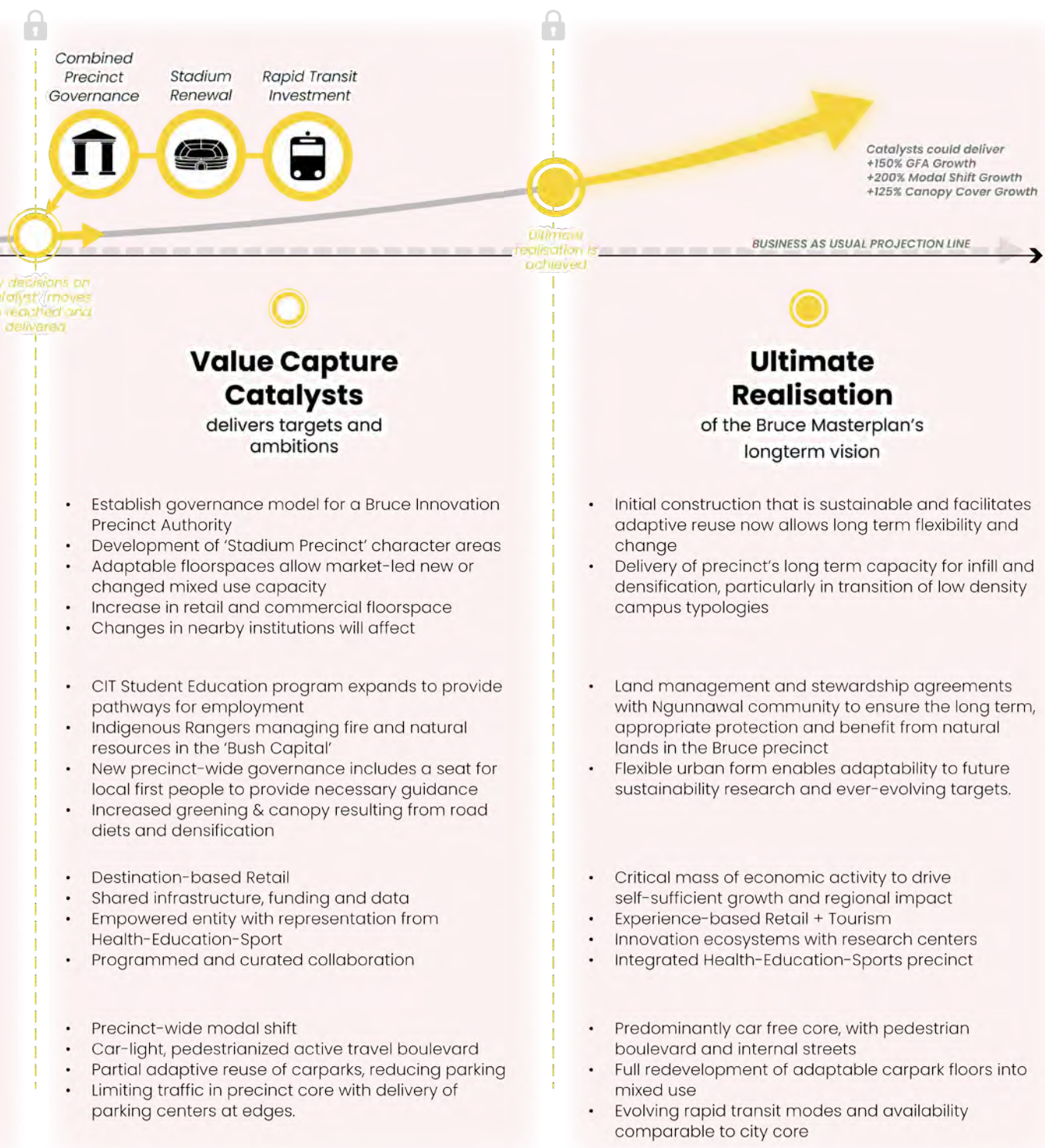
- Off-peak carpark uses
- Purpose-built adaptable parking
- Decoupled parking models
- Early encouragement of modal shift through a walkable public realm



Decisions needed to unlock



Key deliverable or investment decision





APPENDIX

B

APPENDIX

DISCLAIMER & COPYRIGHT

This document was prepared for the exclusive use of DITRDSCA. Hatch acts in all professional matters as a faithful advisor to its clients and exercises all reasonable skill and care in the provision of its professional services. The information presented herein has been compiled from a number of sources using a variety of methods. Hatch does not attempt to verify the accuracy, validity or comprehensiveness of any information supplied to Hatch by third parties. The development parameters (dwelling yields, stages etc) referred to in this report may vary over time. The figures contained herein are estimates; they represent a good approximation of likely development outcomes to a sufficient level of accuracy for the purposes of this report. Hatch makes no warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, validity or comprehensiveness of this document, or the misapplication or misinterpretation by third parties of its contents. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favouring by Hatch.

This document cannot be copied or reproduced in whole or part for any purpose without the prior written consent of Hatch.

© Hatch Pty Ltd, 2025

Hatch
Level 3, 50 Carrington Street, Sydney NSW 2000
T: +612 8202 8000