

Greater Penrith to Eastern Creek (GPEC) Investigation Area

Strategic Framework

June 2023





Acknowledgement of Country

We acknowledge the Traditional Owners and Custodians of Country across Greater Penrith Eastern Creek (GPEC), the Dharug people, whose voices we seek to empower through this project.

We respect and acknowledge their continued connection to Country, which takes in everything within the physical, cultural and spiritual landscape-landforms, waters, air, sky, trees, rocks, plants, animals, foods, medicines, kinship, knowledge, pathways, songs, stories and art, as well as spiritual beings and people.

We acknowledge the importance of waterways to Dharug people, who come equally from water and from land, and who find healing and peace in the waterways of this Country. We respectfully acknowledge their resilience despite the ongoing impacts of colonisation. We also acknowledge the many other Aboriginal people who have been connected to this Country for generations.

We extend our respect to the other Aboriginal communities within GPEC and acknowledge the strength and diversity of the broader Aboriginal community.

This strategic framework is based on a foundation of recognising Country; learning and understanding from Country and how to better plan with her. The waterways, open green spaces and remaining bushland are significant features of this Country, and must be respected and cared for.

Through our engagement program, we have sought to embed the voices of Traditional Custodians and Aboriginal communities. We hope the future GPEC is a place that honours and celebrates Country and the vibrant cultural identity of Aboriginal communities.

We acknowledge that Dharug people have always, and will always, physically and spiritually live on and with Country.

This acknowledgement has been prepared by the GHD/Zion project team based on conversations with Dharug Traditional Custodians and the Department of Planning and Environment, and outcomes of engagement activities with Aboriginal communities.

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Greater Penrith to Eastern Creek (GPEC) Investigation Area

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Image on front cover: Nepean River, Penrith

Credit: Destination NSW

Artwork (left) by Nikita Ridgeway.

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Executive summary

This Greater Penrith to Eastern Creek (GPEC) Investigation Area Strategic Framework has been prepared to implement the *Greater Sydney Region Plan*, the Western and Central City district plans and the Western Parkland City Blueprint.

It identifies areas where there is capacity for new housing and urban renewal and supports growth that aligns with infrastructure investment associated with significant State and Commonwealth investment in the Western Sydney International (Nancy-Bird Walton) Airport and the new Bradfield City Centre.

This strategic framework is an important next step in strategic planning for the Western Parkland City. It outlines a clear vision for GPEC, together with a series of priorities and actions to guide future precinct planning and development.

Detailed investigation into strategic planning contexts and drivers for growth identified 6 precincts for growth and change to 2056. Much of this change

will be in the form of urban renewal around major transport infrastructure in precincts such as St Marys, Kingswood and Werrington, Penrith Centre and Mount Druitt and Rooty Hill.

New urban development in Orchard Hills will see a transition from a rural area to new housing, infrastructure and services around a new Sydney Metro station and mixed use local centre. Longer term change will take place in Luxford to align with the provision of future transport infrastructure.

The strategic framework identifies regional social infrastructure and open space, utilities and services and transport projects to be investigated to support growth within the identified growth precincts.

The strategic framework will guide future rezoning and precinct-scale planning in parts of the Penrith and Blacktown local government areas (LGAs).



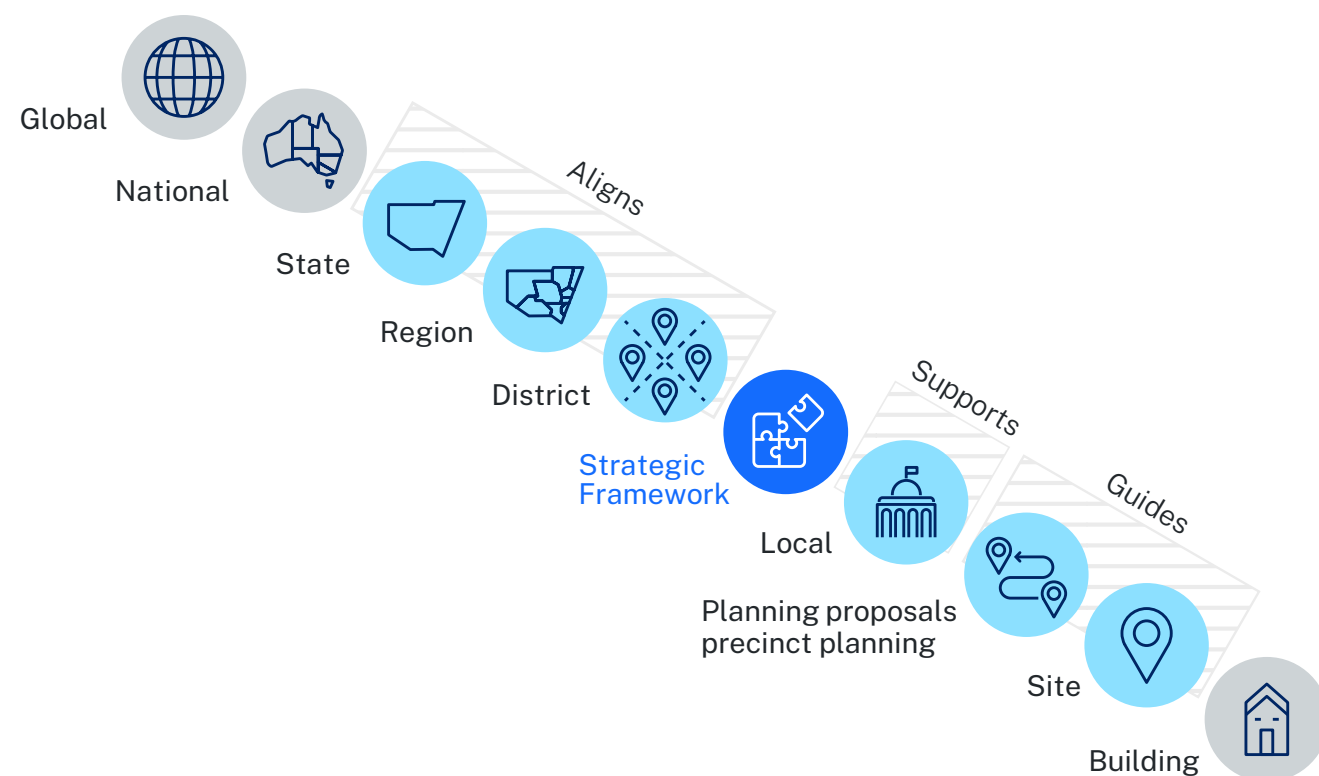
Tench Reserve overlooking the Nepean (Dyarubbin) River, Jamisontown

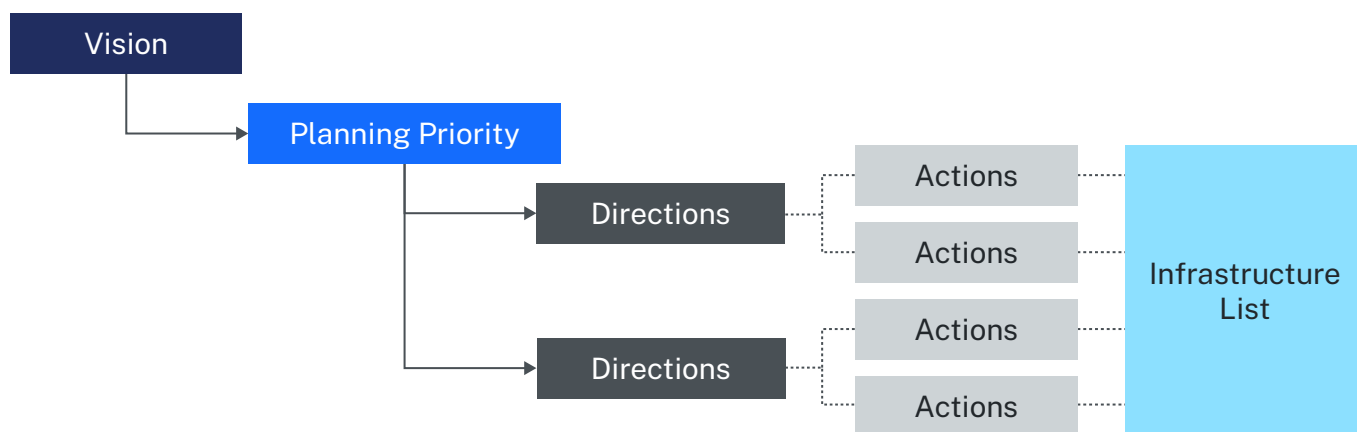
About this strategic framework

The GPEC Investigation Area Strategic Framework consolidates and builds on strategic land use and infrastructure planning to set a direction for future growth and development. The strategic framework will inform regional and local planning decisions and NSW Government-led planning and provision of infrastructure, asset management and services.

Local and state government planners, and proponents, can use the strategic framework when preparing or assessing planning proposals.

It will also be used by planners developing precinct plans, local planning strategies (LGA-wide or place-based) or new or revised development control plans and in the preparation and assessment of site-specific proposals, at the discretion of the consent authority.





Strategic framework approach

Purpose

The strategic framework sets a shared vision for GPEC. Along with its supporting documents, it identifies:

- a vision for feedback from the community and stakeholders
- the elements that make the area special and the characteristics that the community value, to ensure that these characteristics are celebrated and protected
- a spatial framework that includes:
 - locations to focus new development and supporting investment and enable growth and innovation
 - areas of limited or no change
 - places to be retained for open space, cultural heritage or environmental purposes
- regional and district scale infrastructure required to support growth.

Structure

The strategic framework sets out:

- a vision for growth
- planning priorities to achieve the vision
- directions and actions to implement the planning priorities
- infrastructure requirements at the regional and district level needed to support growth.

It comprises 8 parts:

Part 1: Introduction

Introduction to the GPEC Investigation Area, its location and community

Part 2: Strategic context

A summary of the strategic planning, transport and infrastructure context

Part 3: GPEC vision

The vision and a structure plan that illustrates key features of anticipated growth and change

Part 4: Planning priorities

6 planning priorities with supporting directions and actions

Part 5: Infrastructure

A preliminary assessment of the regional and district level infrastructure requirements

Part 6: Implementation, monitoring and review

Proposed implementation mechanisms, the approach to monitoring and review, and next steps

Part 7: Glossary

Part 8: Reference list

Part

1

Introduction

The investigation area

In 2018, the Western Sydney City Deal and *Greater Sydney Region Plan* identified the Greater Penrith to Eastern Creek (GPEC) Investigation Area as an area suitable for future growth and change.

GPEC spans approximately 19,000 ha, connecting the Central River City and Western Parkland City. It sits within both Penrith and Blacktown local government areas (LGAs) (see **Figure 1**).

At the 2021 Census, GPEC was home to around 293,000 people and accommodated more than 75,000 jobs. We expect this to increase by around 135,000 people by 2056, with the number of jobs projected to approximately double.

The new Sydney Metro will become the transport spine for the Western Parkland City, connecting communities and travellers with the new Western

Sydney International (Nancy–Bird Walton) Airport and the growing region, helping to unlock land for new homes and catalyse urban renewal opportunities.

A significant portion of the new population will live around new Sydney Metro stations at St Marys and Orchard Hills. Jobs growth will occur in Penrith CBD, while Kingswood and Werrington will be locations for jobs in health and education. St Marys and Mount Druitt will be GPEC's strategic centres that cater for the needs of surrounding communities. The Dunheved Business Park in St Marys will be preserved and enhanced.

The Department of Planning and Environment has worked with councils and agencies to investigate the area and to identify how the expected growth in jobs and homes could occur in a sustainable way.

Community

A continuous connection to Country

Past

The land that stretches from Penrith to Eastern Creek has been home to the Dharug people for 60,000 years. Aboriginal people used the area for living, gathering and trade due to its proximity to waterways and the abundance of plants and wildlife.

Country in GPEC is characterised by the soft undulating hills and grasslands of the Cumberland Plain with important creeks forming and connecting to the main water courses - Wianamatta (South Creek) and Dyarubbin (Hawkesbury–Nepean). Ridgelines and highpoints were important pathways and connectors across Country.

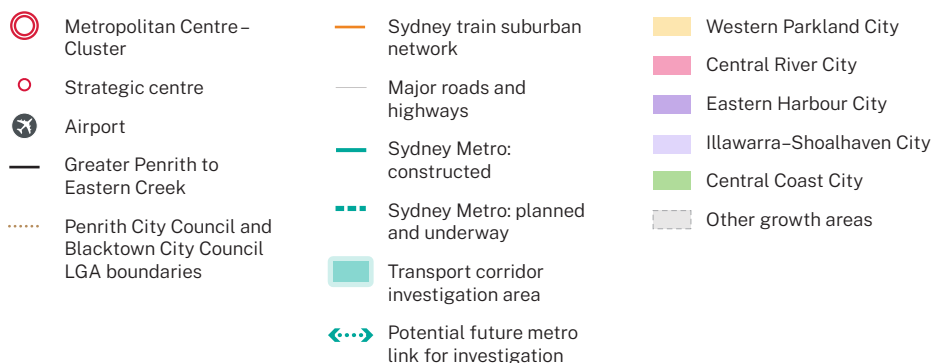
GPEC has always been a place of movement. Aboriginal people moved north to south along ridgelines and the banks of the Wianamatta or Dyarubbin, or east to west from the coast to the mountains. Just outside the boundaries of the GPEC, the Dyarubbin is an important gathering place and resource area for mob. This area is named Yarramundi after an important Aboriginal person.

Once British colonists arrived, many Aboriginal communities including Dharug people died due to disease or massacre. Aboriginal communities in the Sydney basin were forced to move further west; the area now known as St Marys became a place for Dharug people and others to shelter and take refuge. Over the following generations, GPEC remained a place where Aboriginal communities would seek safety and housing after they were relocated from other Country, either due to policy or widespread development.

Many places across GPEC are significant for Dharug people and broader Aboriginal communities. This includes the Blacktown Native Institution, established to house Aboriginal children who were removed from their families and taught how to conform with European customs. This site is both a place of sadness and trauma, and a place of enduring connection for Dharug people.



Figure 1: GPEC in the context of Greater Sydney





View over GPEC looking west across Orchard Hills

Today

GPEC today is home to a diverse and resilient Aboriginal community, made up of Traditional Owners and Custodians who have continued to live on Country, Aboriginal people from off-Country who have lived in the area for generations, and many other Aboriginal people who continually relocate to the area to seek employment opportunities and be close to family and community.

This is a large, diverse and strong community, yet people are disadvantaged, disconnected and displaced. There is much to be done to help the community to reconnect and thrive.

Aboriginal communities across the area deeply value the open space, waterways and wildlife that keep them connected to Country. Wianamatta and Dyarubbin hold a special significance to the community and there is a strong desire to enable access for connecting to Country. Yarramundi remains an important place for the community to visit and practice culture.

Future

The Aboriginal community seeks places in GPEC to come together, connect with Country or with each other, and feel a sense of cultural safety. Country in this area has already changed so much because of development; we need to collectively protect and value what remains, especially areas of open space and waterways. This requires us to consider the cultural values of the landscape including ridgelines, Wianamatta, Dyarubbin and the creeks within these systems. A Country-centred approach to planning and design will enhance and celebrate these important landscape features.

The future GPEC is a place that is honest and truthful about the ongoing impacts of colonisation. Dharug people have an ongoing connection to this place, and it is important to continually use present tense language to respectfully acknowledge their unbroken ties to this Country.

This section has been prepared by the GHD/Zion project team based on engagement with Aboriginal communities.

A young and diverse community

GPEC's wider population is young and diverse, representing people from many cultures and backgrounds. This is reflected in the median age of 34 and the large proportion of primary school aged children (38.1% compared to 32.6% for Greater Sydney at the 2021 Census).

Households are generally larger than the Greater Sydney average, particularly within Blacktown LGA. Newer suburban areas like Glenmore Park tend to have a higher proportion of primary school-aged children given the large number of families.

Almost 40% of Blacktown LGA GPEC residents and 24.5% of Penrith LGA GPEC residents were born overseas. Ropes Crossing is home to the highest proportion of overseas-born residents. Large Filipino and Indian communities call GPEC home.

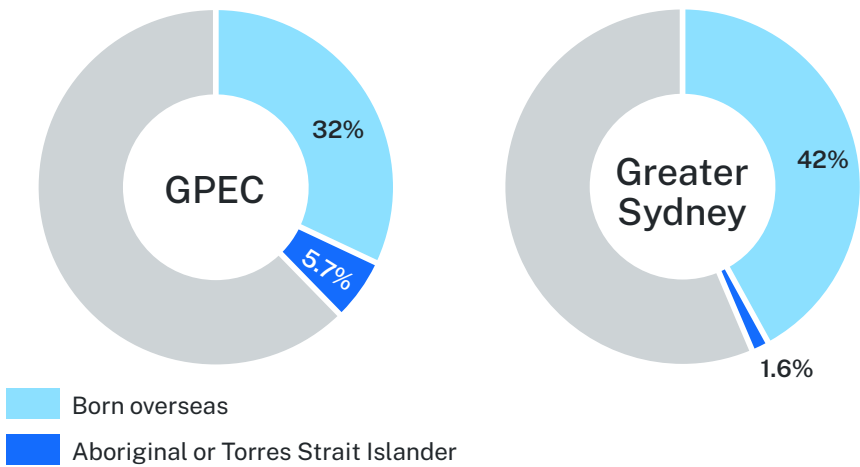
GPEC's Aboriginal community is one of the largest in Australia, with 5.7% or 15,245 people identifying as Aboriginal or Torres Strait Islander at the 2021 Census.

Compared to Greater Sydney, there is a higher proportion of people living in community or social housing. There is also a slightly higher proportion of people living in GPEC who require assistance with core activities (self-care, communication, and mobility) compared to Greater Sydney.

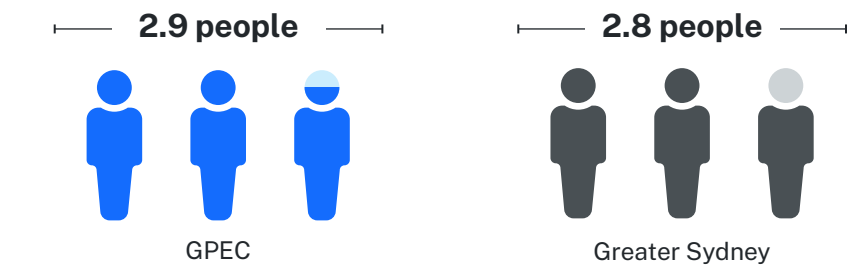
GPEC Community Snapshot

(Sourced from Profile ID using 2021 Census data)

Diverse backgrounds



Average household size



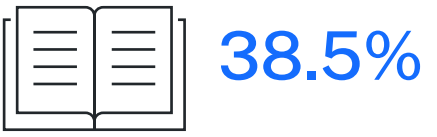
<div>GPEC</div>	<div>Greater Sydney</div>
Median age	
34 years old	36.5 years old
Low income households (>\$800 per week)	
18.7%	17.9%
Unemployed on Census night	
3.6%	3.2%

University education



37% in Greater Sydney

Education level below Year 11



24.9% in Greater Sydney

Social housing



4.4% in Greater Sydney

Travel to work by car on Census day



78% in Greater Sydney

Households without a car



11.7% in Greater Sydney

Need assistance due to disability



5.3% in Greater Sydney

2

Part

Strategic context

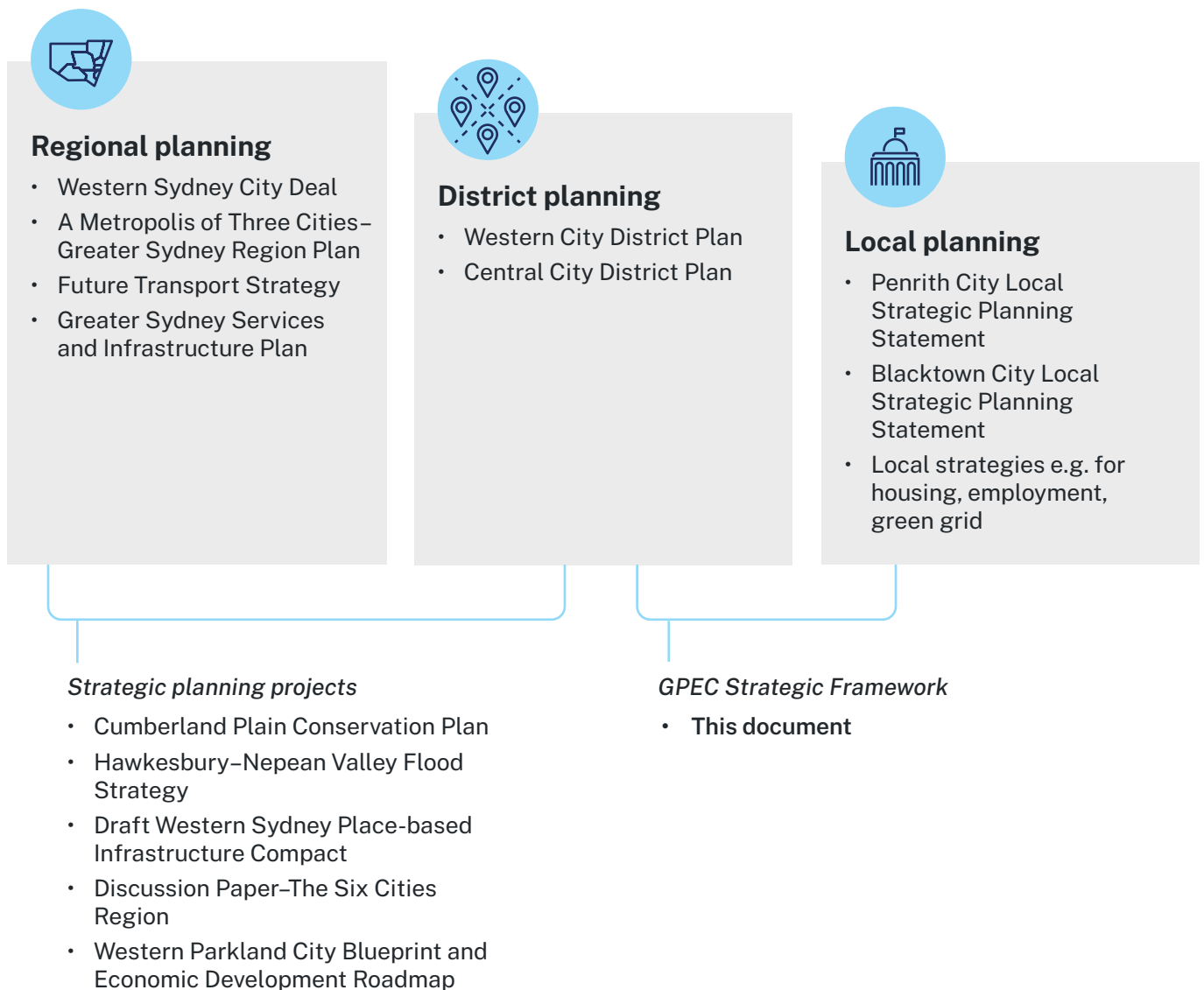


The diagram below shows where the strategic framework sits within a wider context of strategic planning.

We prepared the strategic framework in consultation with Penrith City and Blacktown City councils as well as other state agencies. It is supported by a detailed

urban design study that identifies constraints and opportunities across GPEC.

Part 5 identifies regional-level infrastructure items that may be suitable for investigation to enable development in identified focus precincts.



Strategic planning context

Strategic planning

Region and district plans

The *Greater Sydney Region Plan – A Metropolis of Three Cities* is a 40-year vision and 20-year plan to manage growth and change across Greater Sydney. It is built on a vision of Greater Sydney as a single metropolis of 3 interconnected cities, where most residents live within 30 minutes of their jobs, education and health facilities, services and recreation places. The strategic framework supports this ambition.

Most of GPEC is in the Western Parkland City, with the eastern precincts of Luxford, Ropes Crossing and Mount Druitt and Rooty Hill in the Central River City.

The Western and Central City district plans, released in 2018, set the policy for the planning for GPEC to identify capacity for new housing and urban renewal in association with investment in transport infrastructure connecting to the Aerotropolis and Western Sydney International (Nancy-Bird Walton) Airport.

Six Cities Region

The Greater Cities Commission is responsible for strategic planning for the Six Cities Region – the multi-city region that is a network of 6 connected cities: Lower Hunter and Greater Newcastle City, Central Coast City, Illawarra Shoalhaven City, Eastern Harbour City, Central River City and Western Parkland City.

The Commission is developing a region plan for the multi-city region, as well as city plans for the 6 connected cities. These will be exhibited in late 2023 and will align with the *Western Parkland City Blueprint*, local strategic planning statements and other local government strategies. The new suite of region and city plans will also consider the vision for GPEC established in this strategic framework.

Future Transport Strategy and future transport plans

Future Transport Strategy aims to achieve world-leading mobility for customers, communities and businesses. It is part of a suite of government strategies, policies and plans that integrate and guide land use and transport planning across NSW.

The strategy will inform future transport plans and place-based transport plans. The future transport plans will replace the Greater Sydney and Regional NSW services and infrastructure plans.

Greater Sydney Services and Infrastructure Plan is Transport for NSW's 40-year plan for transport in Sydney. It supports the land use vision outlined in the Greater Sydney Region Plan and establishes the outcomes transport customers in Greater Sydney can expect.

The plan identifies corridors that could be used for new transport infrastructure to improve connections within GPEC and to the wider region. These include:

- the potential Outer Sydney Orbital, a motorway and freight link that is planned to run north-south through GPEC connecting Western Sydney with the Central Coast and Illawarra, and connect to the future Western Sydney Freight Line
- Sydney Metro – Western Sydney Airport to be operational when the airport opens to passenger services
- a potential Sydney Metro link to connect St Marys to Tallawong
- the future road freight connections and the Castlereagh Connection, which would link Kurrajong to Sydney's motorway network and provide an alternative route to the Blue Mountains.

State Infrastructure Strategy 2022-2042

State Infrastructure Strategy 2022-2042 sets out Infrastructure NSW's advice on NSW's infrastructure needs and priorities for the next 20 years and beyond. This strategic framework aligns with many of the strategy's objectives, strategic directions and recommendations, including to:

- plan for housing in great neighbourhoods for all parts of the community
- achieve an orderly and efficient transition to net zero emissions
- embed reliability and resilience into infrastructure
- capitalise on blue-green infrastructure opportunities
- ensure secure high-speed digital connectivity in key precincts
- coordinate infrastructure, land use and service planning to meet housing, employment industry and community needs.

Western Parkland City Blueprint and Economic Development Roadmap Phase 1

Western Parkland City Blueprint prioritises the infrastructure, funding and investment required to realise the vision for the Western Parkland City. It seeks to guide NSW Government decision-making by identifying directions under the themes of a connected, green and advanced city.

The associated *Economic Development Roadmap –Phase 1* outlines 3 economic directions to unlock investment and growth within the Western Parkland City, including to foster innovation and build global competitiveness, leverage city strengths and develop 22nd century workforce skills.

Actions within this strategic framework align with many of the priorities within these documents and provide complementary detail specific to GPEC.

Draft Western Sydney Place-based Infrastructure Compact (PIC)

The draft *Western Sydney Place-based Infrastructure Compact* (PIC) is a strategic planning model that examined staged growth across 3 high growth areas in the Western Parkland City –GPEC, Western Sydney Aerotropolis Growth Area and Austral to Glenfield.

It was prepared with state agencies, utility providers and councils, setting out what infrastructure may be needed, the costs, priorities, potential timing and potential funding sources.

The PIC breaks GPEC into 14 precincts and considers 3 scenarios for development to test the implications of growth on infrastructure requirements. From this, the PIC identifies the most effective and equitable way to sequence growth, using cost effectiveness and a cost-benefit analysis.

The strategic framework adopts the precincts established in the PIC and reflects the PIC findings where appropriate. Further refinement of infrastructure requirements will form part of detailed council and agency infrastructure planning processes, such as investigations into urban release and urban renewal areas like Orchard Hills and St Marys.

The release of the *Blueprint and Economic Development Roadmap –Phase 1* finalised the PIC process.

Western Parkland City Authority is evolving the PIC methodology to develop tools and processes to report annually on progress. This will support the coordination of infrastructure delivery and inform funding decisions on the prioritisation of infrastructure investments for the Western Parkland City.

Greater Sydney Water Strategy

Greater Sydney Water Strategy identifies a pathway to deliver an enduring supply of water in Greater Sydney, irrespective of extreme weather conditions. It sets priorities and actions to ensure high quality water and wastewater systems and building resilience within these systems.

The strategy proposes to:

- increase focus on water conservation and efficiency
- invest in upgrades, new connections and leak management
- make better use of existing assets through integrating development with the delivery of water infrastructure
- continue planning for new rainfall-independent supply sources to support growth
- make much greater use of stormwater and recycled water and ensure stormwater and recycled water infrastructure is considered early in the land-use planning process
- prioritise alternative water sources for greening and cooling
- integrate water and land use planning more effectively
- take a place-based approach to embed integrated water cycle management into the planning system.

Several directions and actions within the GPEC strategic framework support these objectives.

Cumberland Plain Conservation Plan

Cumberland Plain Conservation Plan applies a strategic conservation planning approach and secures biodiversity approvals upfront in the planning process to identify land capable of urban development and land that should be protected for biodiversity. This allows for the development of land for housing, jobs and infrastructure while protecting threatened plants and animals. Importantly, the Aboriginal community will be involved in the plan's implementation.

The plan provides for strategic biodiversity certification under the NSW *Biodiversity Conservation Act 2016* and strategic assessment under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999*, meaning no further biodiversity approvals are needed in certified areas.

Orchard Hills, one of the GPEC precincts, presents a unique opportunity to develop a town centre amongst Cumberland Plain Woodland – a place defined by green links, creek lines and open spaces where people can connect with the landscape around them.

Local strategic planning

Penrith City and Blacktown City councils' local strategic planning statements reflect district plan commitments to investigate where new homes and workplaces can be sustainably located within GPEC.

Penrith City Council's statement commits to investigating urban investigation areas at Orchard Hills and Glenmore Park South as well as urban renewal within St Marys Town Centre. Blacktown City Council's statement identifies opportunities for growth in the area north of Mount Druitt (Luxford Precinct) following additional transport infrastructure commitments by the NSW Government, as well as in the Mount Druitt and Rooty Hill centres.

This strategic framework recognises that these areas will contribute to long-term housing and jobs targets in both LGAs. Further work is required to ensure that the right infrastructure can be provided to enable growth in these areas.

Both councils have prepared local strategies that contribute to local planning and community outcomes and to the future of the wider Western Parkland City. The aims and objectives of these strategies are generally reflected in this strategic framework.

Penrith City Council

- Places of Penrith Strategic Framework:
 - Local Housing Strategy (endorsed 2022)
 - Green Grid Strategy (endorsed 2021)
 - Employment Lands Strategy (endorsed 2021)
 - East-west Corridor Interim Centres Strategy (endorsed 2020)
 - Rural Lands Strategy (endorsed September 2022)
- Sport and Recreation Strategy (endorsed 2020)
- St Marys Town Centre Structure Plan (endorsed November 2022)

Blacktown City Council

- Housing Strategy (endorsed 2020)
- Recreation and Open Space Strategy (endorsed 2017)
- Integrated Transport Management Plan (endorsed 2013)

Major projects

Sydney Metro

Sydney Metro is planning for the Western Sydney Airport line to be operational when the airport opens to passengers.

This is a key catalyst for change in GPEC, with the line connecting GPEC to the Aerotropolis via stations at Orchard Hills and St Marys.

The NSW Government has also proposed connecting the Metro North West line at Tallawong and Western Sydney Airport line at St Marys in the long term. This would support the 30-minute city by making it easier for people living in GPEC to connect to jobs across Greater Sydney.



Artist's impression of the new St Marys metro station (Sydney Metro 2022)

Outer Sydney Orbital Stage 1

The Outer Sydney Orbital Stage 1 (OSO 1) corridor will provide for a future motorway and freight rail connection between Richmond Road in the north, and the Hume Motorway near Menangle in the south.

The proposed motorway would:

- provide a road network connecting the Western Parkland City and a future link to the Illawarra and Central Coast
- allow for a transport link between the North West and South West growth areas, reducing travel times between these areas
- connect the airport with Western Sydney Employment Area
- support inter and intra-regional connections.

A dedicated future freight rail line in the OSO 1 corridor would:

- connect the existing Main South and Main West rail lines for freight movement
- provide a freight rail connection between Port Botany, Western Sydney and regional NSW, reducing the number of trucks travelling through these areas, travel times, congestion, costs and local air pollution while increasing safety and amenity in Western Sydney
- help to further separate freight and passenger rail, which will then improve passenger services
- support future intermodal terminals, allowing rail freight to move efficiently in Western Sydney.

Transport for NSW, in collaboration with the Greater Sydney Commission, Department of Planning and Environment, the community and stakeholders identified a recommended corridor in 2018. Following feedback, Transport for NSW has refined the OSO 1 corridor to reduce impacts on people's properties. This includes removing the Dunheved Loop and narrowing the corridor where possible.

A section of the OSO 1 through the Western Sydney Aerotropolis has been protected. The corridor is also considered in the Cumberland Plain Conservation Plan ecological offset program.

Identifying and protecting land provides certainty on where infrastructure will be built, even though construction may not happen for many years. It means land is available when it is needed and ensures the right kind of land uses can be planned for in surrounding areas.

Further investigations will identify corridors to connect the OSO with the Illawarra (Stage 2) and the Central Coast (Stage 3).

Net Zero Plan Stage 1: 2020-2030

This strategic framework supports the implementation of the *NSW Net Zero Plan 2020-2030*, which sets out the NSW Government's commitment to achieve a 50% reduction in emissions by 2030 (on 2005 levels), as part of the wider commitment to reach net zero by 2050.

As well as driving uptake of emission reduction technologies, the plan commits to:

- diversifying the state's energy supply and improving transmission infrastructure
- improving electric vehicle infrastructure
- embedding sustainable building material standards and targets into the design and construction of major NSW Government infrastructure
- continuing investment in the NSW Biodiversity Conservation Trust to support biodiversity conservation and habitat protection.

2022 NSW Flood Inquiry

The NSW Government commissioned the 2022 independent flood inquiry into the preparation for, causes of, response to and recovery from the 2022 flood events across NSW. The *2022 Flood Inquiry Report* provided 28 recommendations intended to provide practical, proactive and sustained mechanisms to support readiness for and resilience to floods and other disasters. Ten of these recommendations relate to land use planning.

The NSW Government has accepted all the inquiry's recommendations either in full or in principle and is working with state agencies and key stakeholders like councils to implement the response to the report.

Planning in GPEC will align with the NSW Government's response to the flood inquiry and consider appropriate resilience measures.

Hawkesbury–Nepean Valley Flood Strategy

Parts of GPEC are within the Hawkesbury–Nepean Valley and are impacted by regional flooding. The Hawkesbury–Nepean Valley covers around 500 sq km from Bents Basin, near Wallacia, to the Brooklyn Bridge. Floods in the Hawkesbury–Nepean Valley pose a significant risk due to the valley's unique landscape, the size of its population and the constrained road evacuation capacity. There is no simple solution to managing or reducing the valley's high flood risk.

The NSW Government is undertaking the *Hawkesbury–Nepean Valley Flood Strategy* program with councils, businesses and the community. Managing existing and future flood risk in the Hawkesbury–Nepean Valley requires an integrated approach to infrastructure, land use and emergency management planning.

Future decisions on flooding policy, including building in the Hawkesbury–Nepean, will be guided by the recent recommendations of the 2022 NSW Flood Inquiry.

Penrith City Centre Adaptive Management Framework

Penrith City Centre sits adjacent to the Nepean River and is impacted by flooding up to and beyond the 1 in 100 chance per year flood. Penrith City Council has carefully managed the flood risks up to the 1 in 100 chance per year flood, but the challenges of more severe and extreme events require greater collaboration.

The department has worked closely with Penrith City Council, Infrastructure NSW, Roads and Maritime Services and NSW State Emergency Service to create an Adaptive Management Framework to manage the flood risk within the Penrith City Centre.

The *Development Assessment Guideline: An Adaptive Response to Flood Risk Management for Residential Development in the Penrith City Centre* guides planning decisions so that future development does not impact the safe evacuation of the people from the area in the event of a flood.

2020 NSW Bushfire Inquiry

The NSW Government commissioned the NSW Bushfire Inquiry to understand what happened during the 2019–20 bushfire season, how it was different to earlier seasons, and to improve how NSW plans and prepares for, and responds to, bushfires.

The Final Report of the NSW Bushfire Inquiry made 76 recommendations for change to ensure that when bushfires happen again, there is less damage to property and the environment. The NSW Government accepted all the recommendations of the inquiry.

As part of this, the department and the NSW Rural Fire Service (NSW RFS) are finalising Phase 1 of Recommendation 27 which includes a draft NSW Bush Fire Policy and draft Risk Framework for Strategic Land Use Planning.

Australian Defence

The defence industry has a significant and growing presence in the Western Parkland City. Aerospace and defence industries are key drivers of the manufacturing sector in this area and make a significant contribution to the local economy and employment. The attraction of aerospace and defence manufacturing industries and capabilities to the Western Parkland City is a priority of the Economic Development Roadmap and Blueprint, and the NSW Government Defence and Industry Strategy.

In addition, the ongoing viability of the Department of Defence's Defence Establishment Orchard Hills will attract defence projects, particularly those that align with the industrial strengths and capabilities of the Western Parkland City. Future planning for urban areas adjoining the facility needs to safeguard ongoing operations and future requirements.

The strategic framework and planning proposals

The strategic framework identifies precincts in GPEC that will be prioritised due to their location near existing or future mass transit links or the potential efficiency of infrastructure provision.

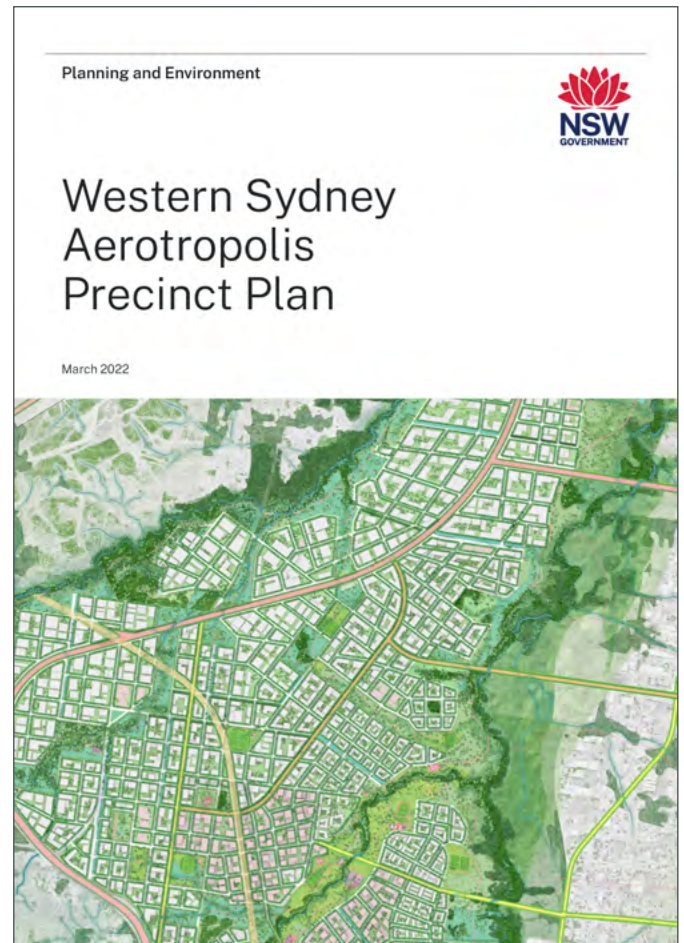
Planning proposals should consider the strategic framework and demonstrate that the key actions and outcomes have been incorporated in the planning and design process.

Aerotropolis planning

The 2022 Aerotropolis Planning Package and supporting technical studies for initial precincts supports a significant portion of development that will provide capacity for 100,000 new jobs on GPEC's southern doorstep. These will be high-skill jobs across aerospace and defence, manufacturing, healthcare, freight and logistics, agribusiness, education and research industries.

The Aerotropolis is essential to the NSW Government vision for a 30-minute city, where people live within 30 minutes by public transport to their nearest strategic or metropolitan centre.

GPEC provides the opportunity for residential growth and local employment uses that are connected to the Aerotropolis, helping to achieve the 30-minute city vision.



Aerotropolis Precinct Plan

3

Part

GPEC vision



Vision statement

GPEC's future will build on the area's existing character, community and culture to embrace Country and create inclusive and diverse communities.

GPEC will be the urban heart of sustainable, liveable and green Western Parkland City, comprised of resilient neighbourhoods that support healthy residents.

New homes and renewed centres will integrate with iconic natural assets – the Blue Mountains, Dyarubbin–Hawkesbury–Nepean River, the central green spine of Wianamatta–South Creek, Ropes Creek, Western Sydney Parklands and Eastern Creek. Wianamatta Regional Park and a future national park in Shanes Park to the north of GPEC will provide opportunities to connect people with nature and conserve valuable biodiversity.

Diverse housing will meet the different cultural needs of the community. Residential areas will be embedded in the natural environment, with public open spaces and vibrant community facilities that people can easily walk or cycle to.

Residents will be able to work close to home or choose to travel on priority public transport, walking and cycling corridors to jobs in and around GPEC as the Western Sydney Aerotropolis evolves.

Structure plan

The structure plan, shown in **Figure 2**, illustrates the vision in terms of the 6 GPEC planning priorities to:

- connect with and care for Country
- provide for focused and responsive growth
- support diverse and accessible employment
- provide infrastructure to support growth
- protect key natural areas and biodiversity and create quality public open space and green infrastructure
- increase resilience to natural and man-made hazards.

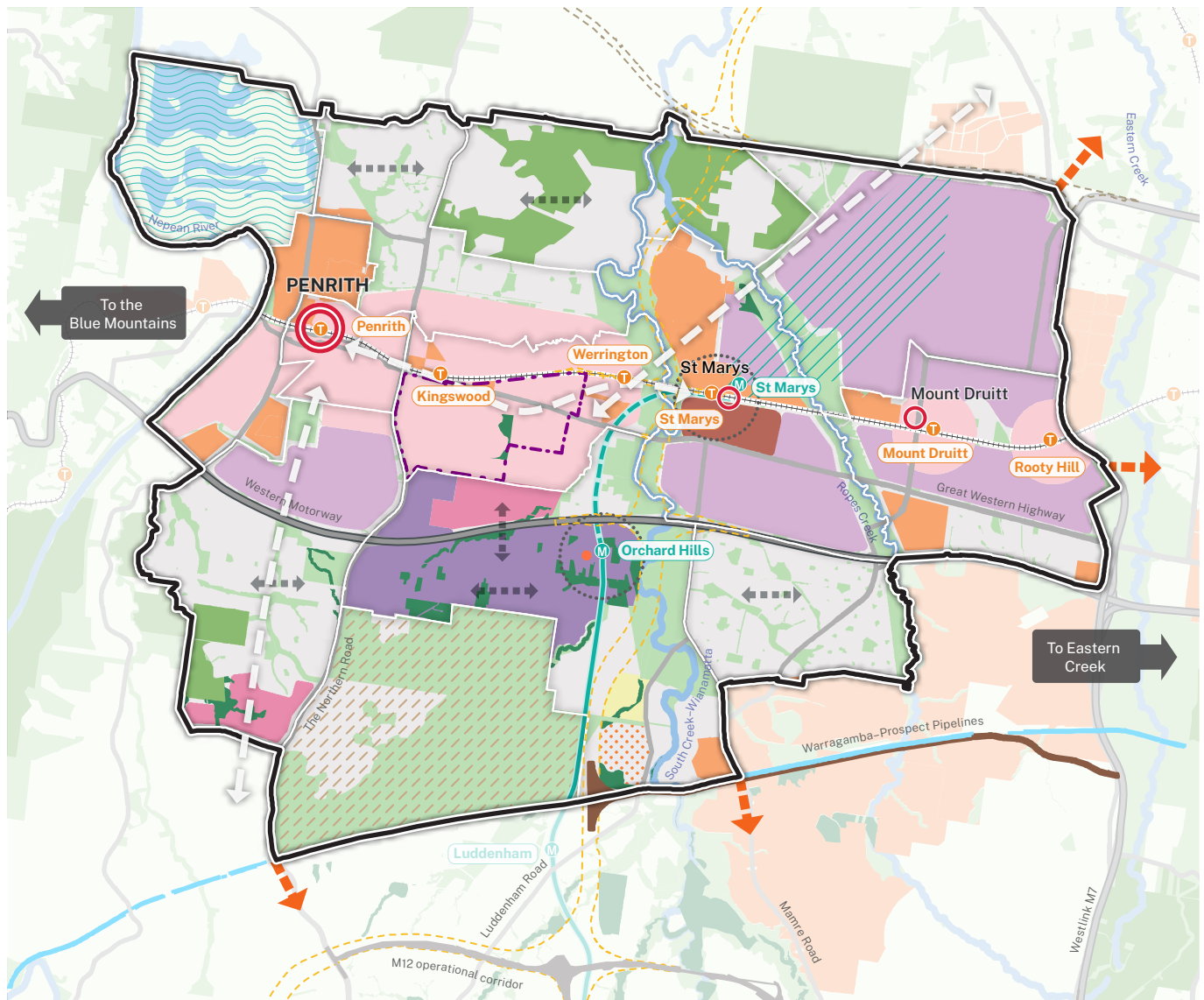


Figure 2: GPEC structure plan



GPEC precincts

We have divided the GPEC Investigation Area into precincts based on physical boundaries such as creeks, roads, character areas, LGA boundaries, and the outer extent of infrastructure easements where relevant, such as the boundary of the Warragamba Pipelines Corridor (**Figure 3**).

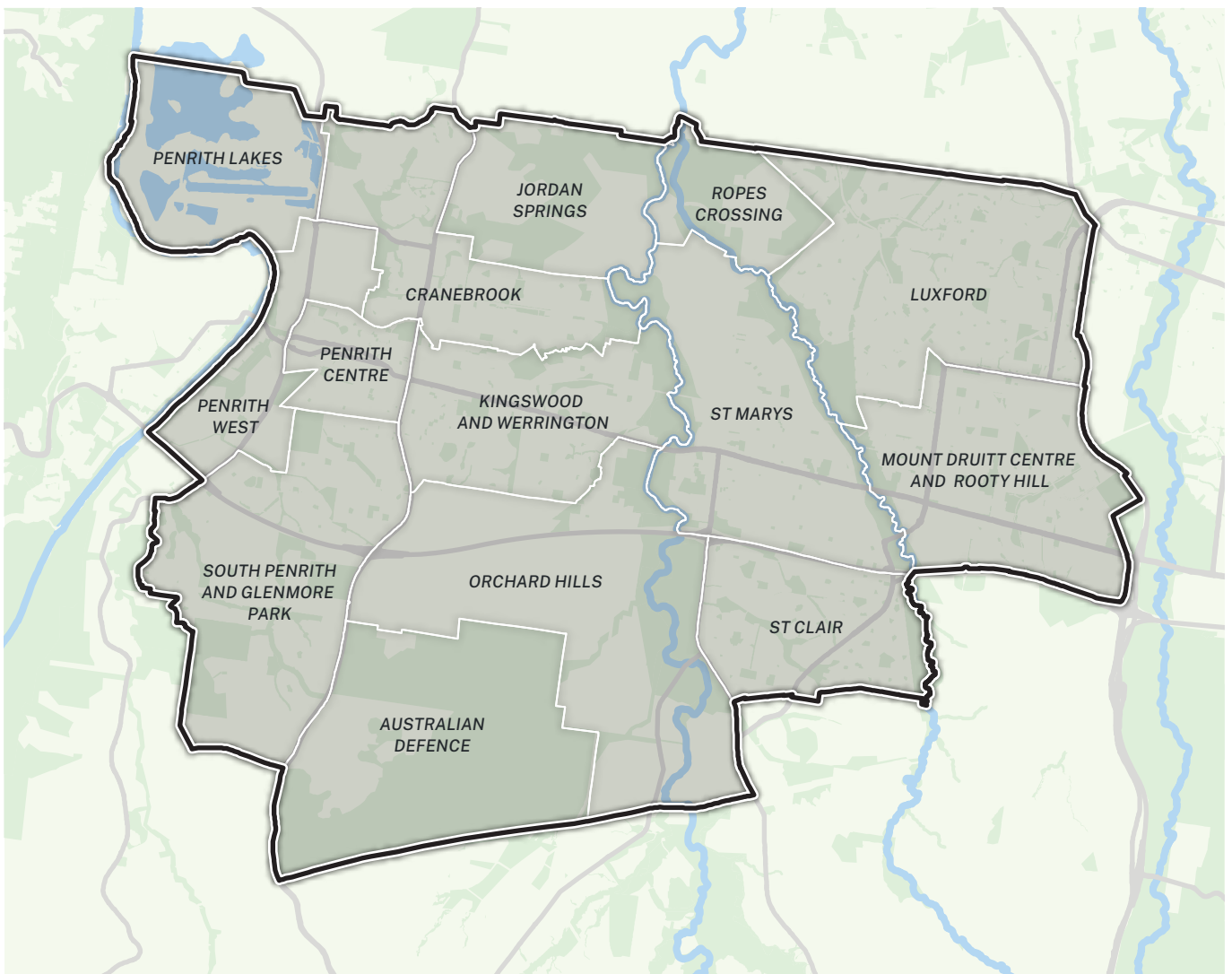
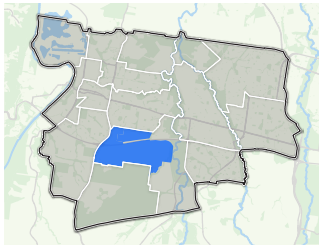


Figure 3: GPEC precincts

Focus precincts

We have identified 6 key precincts for growth, including 2 priority precincts and one precinct for potential longer term growth. The information below identifies each of these precincts and their strategic role.



ORCHARD HILLS

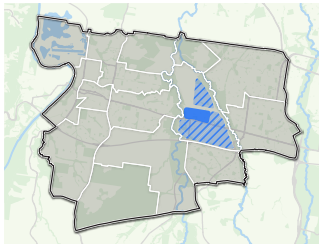
Priority area
(priority urban release area – short term)

Strategic role:

Focus area for change around the Sydney Metro to facilitate a new mixed use centre with potential transport connections to adjoining areas, in particular Orchard Hills North.

Planning pathway:

NSW Government-led rezoning.



ST MARYS TOWN CENTRE*

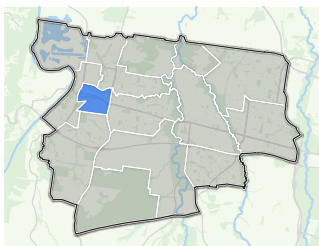
Priority area
(priority urban renewal area – short term)

Strategic role:

A renewed town centre and transport interchange, with improved public areas. Employment growth to support St Marys as an emerging strategic centre. Increased residential density and renewal of LAHC social housing.

Planning pathway:

Master planning by Penrith City Council.



PENRITH CENTRE

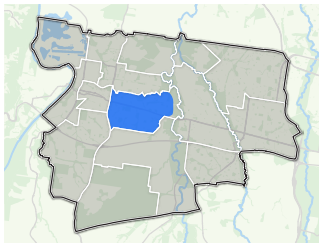
Renewal area – short term

Strategic role:

A metropolitan centre with a growing commercial and civic function and limited residential growth due to flood evacuation constraints.

Planning pathway:

Penrith City Council's strategic planning framework (referencing *Development Assessment Guideline: An Adaptive Response to Flood Risk Management for residential development in the Penrith City Centre*). Current and future planning proposals.



KINGSWOOD AND WERRINGTON

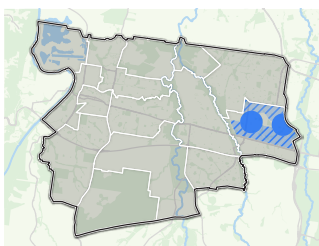
Renewal area – short term

Strategic role:

Continued growth to support the east-west economic corridor, focused on the emerging Penrith Health and Education Precinct (The Quarter).

Planning pathway:

Penrith City Council's strategic planning framework. Current and future planning proposals.



MOUNT DRUITT AND ROOTY HILL

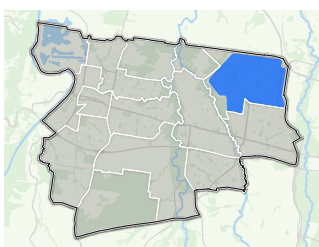
Renewal area – short term

Strategic role:

Mixed use areas focused on Mount Druitt as a strategic centre and Rooty Hill entertainment precinct with surrounding residential development and employment lands.

Planning pathway:

Blacktown City Council's strategic planning framework. Current and future planning proposals.



LUXFORD

Renewal area – long term

Strategic role:

Renewal opportunities aligned with future transport infrastructure investment.

Planning pathway:

Blacktown City Council's strategic planning framework.

*Remainder of St Marys and Mount Druitt and Rooty Hill precincts shown in blue diagonal hatch are considered renewal areas – long term.

Other planned developments

Other planned developments in GPEC will contribute to growth and change. Glenmore Park Stage 3 and Orchard Hills North are both subject to planning proposals that intend to provide new housing near existing residential areas.

There is also potential for growth in the Penrith Health and Education Precinct (The Quarter), with a vision to expand the area's health, education and research offering.

Established precincts

Limited land use change is expected in the remaining established GPEC precincts of South Penrith, Ropes Crossing, St Clair, Jordan Springs, Cranebrook, Penrith Lakes and Penrith West. Any proposed land use changes will be subject to an assessment of strategic merit and impact on existing character.

4

Part

Planning priorities

We have identified 6 planning priorities to achieve the vision for growth in GPEC:

- Connect with and care for Country
- Focused and responsive growth
- Diverse and accessible employment
- Infrastructure delivery
- Public open space, biodiversity and landscape
- Resilience.

Each planning priority will be implemented through directions and actions. The priorities, directions and actions need to be considered and addressed together, to achieve integrated outcomes.

The actions include commitments and considerations for detailed planning and design, together with indicative timeframes and the key agencies and stakeholders involved in their implementation.

We categorise the indicative timeframes for actions under the following planning horizons:

- short term – 1-5 years
- medium term – 5-10 years
- longer term – 10+ years
- ongoing.

In listing the state agencies, we use the following shortened terms:

- Department of Planning and Environment (**DPE**)
- NSW Environment and Heritage (**EHG**)
- Western Parkland City Authority (**WPCA**)
- Greater Cities Commission (**GCC**)
- National Parks and Wildlife Service (**NPWS**)
- Planning Ministerial Corporation administered by the Office of Strategic Lands (**OSL**)
- Transport for NSW (**TfNSW**)
- Sydney Water
- School Infrastructure NSW (**SINSW**)
- Rural Fire Service (**RFS**)
- Land and Housing Corporation (**LAHC**)
- Water NSW
- NSW Reconstruction Authority
- Nepean Blue Mountains Local Health District (**NBMLHD**)
- Health Infrastructure NSW (**HINSW**)

PRIORITY 1: Connect with and care for Country

Strengthen connection with Country and incorporate the knowledge of Traditional Custodians

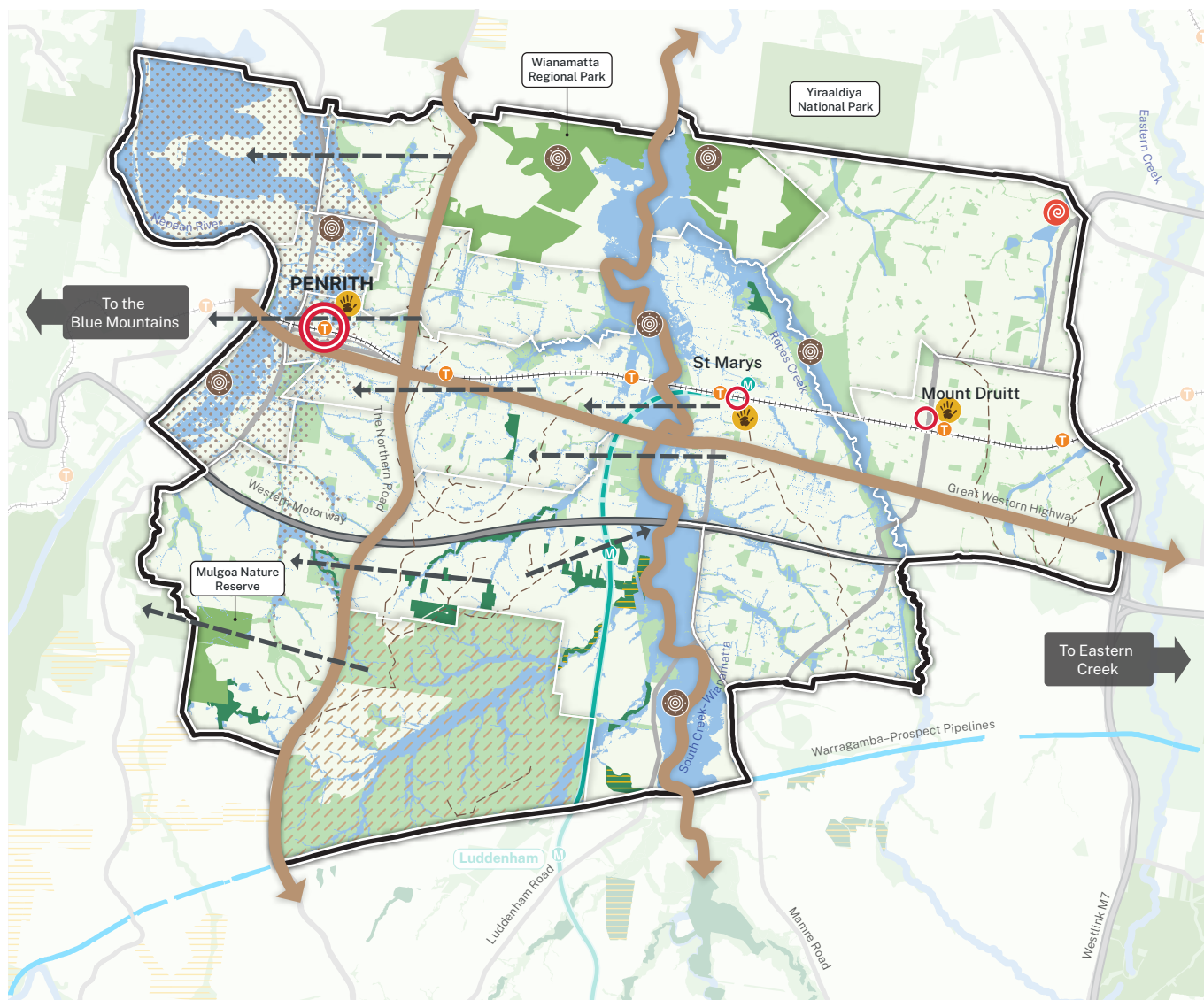


Figure 4: Opportunities to connect with and care for Dharug Country



Direction 1.1: Provide opportunities to connect with, design for and care for Country

Ref.	Action	Lead	Time frame
1.1.1	Ensure development prioritises Country and enhances connections to Country, particularly connections to natural water systems, topography, fauna, vegetation, earth, sky, cultural places and practices.	DPE, councils, proponents	Ongoing
1.1.2	Ensure development prioritises design that is sympathetic and responsive to cultural places, landscape features, practices and values, particularly in and around important places for connecting with Country and places of shared culture for the Aboriginal community due to their historical and contemporary cultural and community significance.	DPE, councils, proponents	Ongoing
1.1.3	Work with the Aboriginal community and Traditional Owners and Custodians to co-develop appropriate governance methodologies and to identify ways to involve Traditional Custodians in management of Country.	DPE, EHG, NPWS and councils, proponents	Ongoing
1.1.4	Ensure proposed development activities in the Cranebrook Terrace Formation consider conservation of potential Aboriginal heritage and conserve deep time deposits.	Penrith City Council, DPE	Ongoing
1.1.5	Ensure suitable investigations are undertaken in relation into potential archaeological deposits where development is proposed in Penrith Lakes that may affect the Cranebrook Terrace Formation.	DPE	Ongoing
1.1.6	Collaborate with the Dharug Strategic Management Group to explore the future of the Blacktown Native Institute site.	DPE, Blacktown City Council	Short term

Ref.	Action	Lead	Time frame
1.1.7	<p>Ensure planning proposals and precinct planning:</p> <ul style="list-style-type: none"> i. consider Country in the first instance and reflect cultural values in the design of development ii. for sites with an interface to a watercourse and/or significant developments of over 1000 dwellings, demonstrate that effective, targeted and meaningful consultation has been undertaken in line with established governance arrangements (refer to 1.1.3) with a range of Aboriginal stakeholders to enable consideration of Country, including: <ul style="list-style-type: none"> – Traditional Owners, elders and knowledge holders from the Dharug nation – The Koori Perspectives Circle (through collaboration with the Western Parkland City Authority) – council Aboriginal liaison officers – Deerubbin Local Aboriginal Land Council iii. undertake an Aboriginal Cultural Heritage Assessment (ACHA) for development within 300m of Wianamatta-South Creek, Blaxland Creek and Ropes Creek iv. support and encourage living cultural practices such as protecting cultural sites in suitable land use and development controls, addressing accessibility, and providing all-weather gathering spaces within the open space network and public areas v. prioritise planting and design outcomes that honour the health and wellbeing of Country such as restoring landscape through regeneration of native vegetation vi. demonstrate that the following have been considered: <ul style="list-style-type: none"> – the provision of social infrastructure to support cultural practice and the sharing of culture – views to the Blue Mountains (as identified in Figure 4) and integrating these views into future development – views to and from ridgelines and highpoints – the significance of waterways and their connection to ridges and highpoints in the landscape – opportunities to connect with Country at locations identified in Figure 4 – the inclusion of Aboriginal art that supports cultural heritage values and Country – opportunities to incorporate Dharug language, such as in place names and wayfinding. 	State and local government, proponents	Ongoing

PRIORITY 2: Focused and responsive growth

Diversity of new housing limits urban sprawl and increases housing choice.

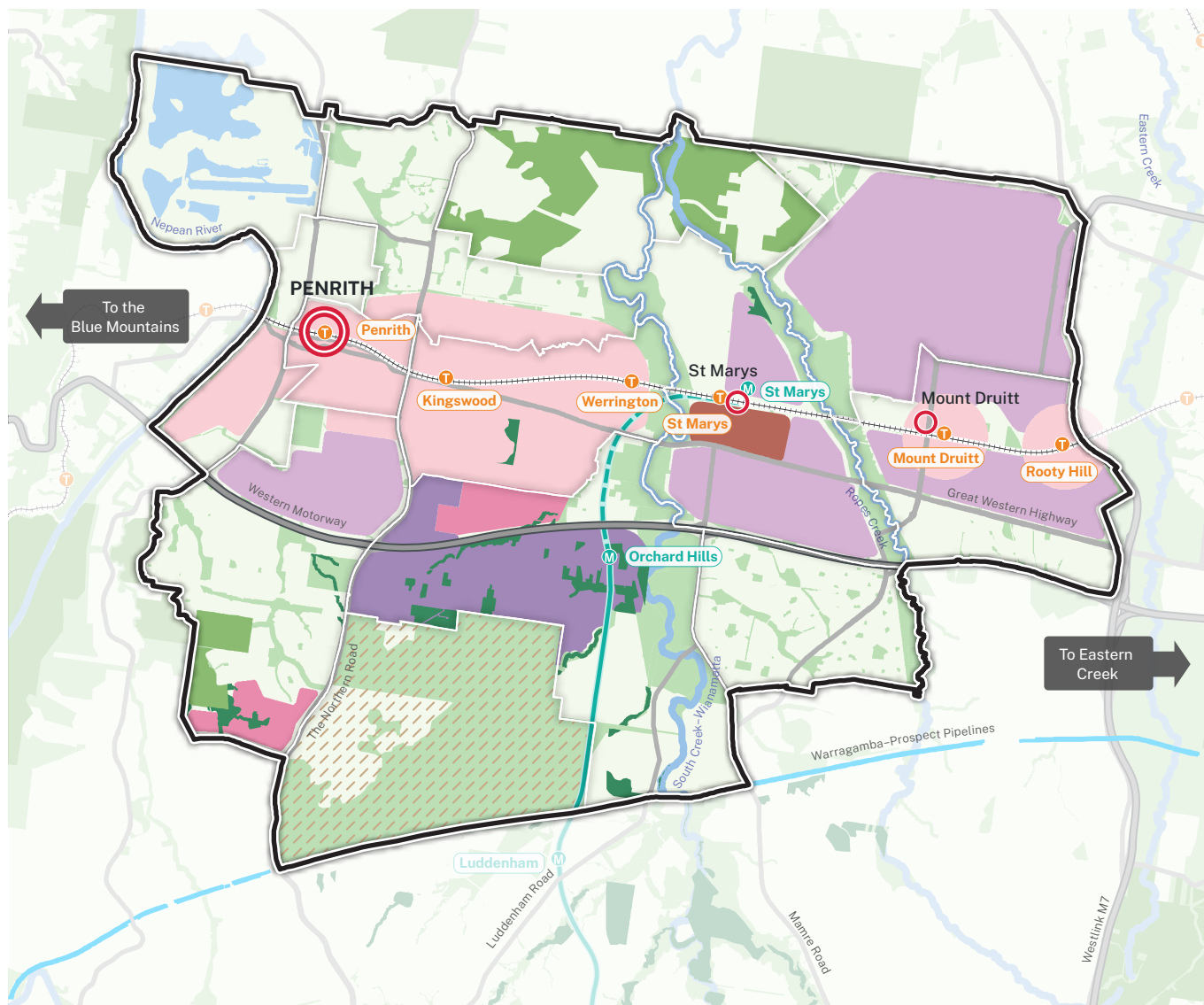


Figure 5: Priority areas for growth



- | | | | |
|--|---|--|---|
| | Metropolitan Centre-Cluster | | Urban release area |
| | Strategic centre | | Priority urban release area |
| | Railway station | | Priority urban renewal area |
| | Metro station | | Renewal area (short term) |
| | Greater Penrith to Eastern Creek boundary | | Renewal area (long term) |
| | Precinct boundaries | | Australian Defence site* |
| | Railway | | Cumberland Plain Conservation Plan avoided land |
| | Motorway | | National Parks and Wildlife Service Estate |
| | Road | | Open space |
| | Metro alignment | | Water body |
| | Metro alignment underground | | |
| | Warragamba-Prospect pipelines | | |

*Note: Open space within the Australian Defence site is not public

Direction 2.1: Focus strategic planning efforts on Orchard Hills and St Marys

Ref.	Action	Lead	Time frame
2.1.1	Work with Penrith City Council, state agencies, Commonwealth agencies and the community to prepare structure plan options for Orchard Hills and explore the capacity of government and landowners to provide infrastructure to support a new town centre and connect to areas north of the M4 Motorway.	DPE	Short term
2.1.2	Subject to 2.1.1, undertake precinct planning and work with state and Commonwealth agencies to rezone land to support a new mixed use centre at Orchard Hills that capitalises on the new Metro station; provides for diverse housing, supporting infrastructure, new employment opportunities, retail and local services; and supports the <i>Cumberland Plain Conservation Plan</i> and preservation of Cumberland Plain Woodland south of the M4 Motorway.	DPE	Short term
2.1.3	Work with state agencies, Commonwealth agencies, Penrith City Council, industry and the community to align infrastructure provision in Orchard Hills with housing growth and safeguard defence requirements at Defence Establishment Orchard Hills.	DPE	Short term
2.1.4	Explore opportunities to address land fragmentation to facilitate renewal in St Marys Town centre and development in Orchard Hills.	Penrith City Council DPE	Short term
2.1.5	Continue working with the community and state agencies on the strategic planning for St Marys, including a clear vision, comprehensive plan for growth, the public domain, integration with the new Metro station, multi-modal connections within the centre and to surrounding areas, social infrastructure, open space and capacity for growth consistent with its strategic centre role.	Penrith City Council, DPE	Short term
2.1.6	Further investigate the desired future character of the lots directly to the north of the railway corridor, between Harris Street and the rail corridor in St Marys, for employment-generating uses as identified in the endorsed St Marys Town Centre Structure Plan.	Penrith City Council	Short term
2.1.7	Ensure planning proposals in St Marys Town Centre demonstrate alignment with the St Marys Town Centre Structure Plan and support increased density of development within a 15-minute walk of the new metro station and interchange.	Penrith City Council, proponents	Ongoing
2.1.8	Ensure any proposed areas for housing and infrastructure align with the principles of the NSW Strategic Guide to Planning for Natural Hazards and the recommendations of the 2022 NSW Flood Inquiry.	DPE, councils	Ongoing

Direction 2.2: Ensure GPEC contributes to Western Sydney's supply of housing

Ref.	Action	Lead	Time frame
2.2.1	Work with state agencies to plan for a diversity of new homes in the Orchard Hills precinct (south of the M4 and west of the Orchard Hills North planning proposal area), including rural properties, single dwellings, terraces, apartments, dedicated affordable housing and executive housing.	DPE	Short term
2.2.2	Collaborate with Penrith City Council and state agencies to assess precinct-scale planning proposals and coordinate infrastructure in Glenmore Park Stage 3 and Orchard Hills North.	DPE, Penrith City Council	Short term
2.2.3	Work with Penrith City and Blacktown City councils and state agencies to ensure short-and long-term growth in urban renewal areas such as Kingswood and Werrington, Penrith Centre and Luxford facilitates housing diversity, renewal of social housing, and supports adequate provision of infrastructure.	DPE, councils	Ongoing

Direction 2.3: Protect the landscape and create a cooler, greener, low-carbon future

Ref.	Action	Lead	Time frame
2.3.1	Support the implementation of <i>Cumberland Plain Conservation Plan</i> to protect important biodiversity including threatened plants and animals.	DPE	Ongoing
2.3.2	Protect areas of important biodiversity by encouraging landowner uptake of biodiversity stewardship agreement opportunities for long-term biodiversity protection with financial incentives, where feasible.	DPE, Biodiversity Conservation Trust, councils, proponents	Ongoing
2.3.3	Investigate how the development of Orchard Hills can preserve the sense of topography and water in the landscape and establish the desired future character for the area.	DPE	Short term
2.3.4	Investigate appropriate transitional land uses between the Metropolitan Rural Area and Urban Investigation Area identified in the Region Plan, district plans and Penrith City Council's endorsed Rural Lands Strategy.	DPE	Short term
2.3.5	Ensure development proposals consider supporting and enhancing ecological systems through restoration or other actions to protect and enhance biodiversity.	DPE, councils	Ongoing
2.3.6	Design new residential precincts to support walking and cycle-friendly neighbourhoods; and safe and efficient connections to the existing, and planned active transport network in accordance with the principles of the Movement and Place Framework and its Built Environment Indicators and the Design of Roads and Streets Guide.	DPE, councils	Ongoing

Ref.	Action	Lead	Time frame
2.3.7	<p>Ensure planning proposals and precinct planning in GPEC:</p> <ul style="list-style-type: none"> i. protect areas of high biodiversity value land and achieve biodiversity outcomes consistent with the Cumberland Plain Conservation Plan including its Mitigation Measures Guidelines, and Ministerial Direction 3.6 Strategic Conservation Planning ii. preserve and protect the metropolitan rural lands and rural edge in accordance with the priorities in local councils' rural lands strategies and consider appropriate transitional land uses on the urban fringe to protect rural landscapes iii. contribute to the Blue-Green Grid established by Government Architect NSW and councils, where appropriate iv. provide direct linear green connections between waterways and ridgelines and regional open space such as Western Sydney Parklands in precinct-scale rezoning v. maximise access, open space and biodiversity benefits along the Wianamatta–South Creek corridor vi. protect views to the Blue Mountains and other iconic landscape features by sensitively orienting new development and consider integrating quality scenic vantage points in public land uses vii. retain as much water in the landscape as possible by preferencing natural methods for stormwater control and integrating passive landscape elements and water-sensitive urban design viii. provide high amenity and connected walking and cycling networks to encourage active transport use for short trips. 	State and local government, proponents	Ongoing

Direction 2.4: Growth considers cultural, social and economic needs

Ref.	Action	Lead	Time frame
2.4.1	Identify targets for culturally responsive and diverse housing in Orchard Hills and St Marys that establishes a precedent for precinct-scale renewal in other parts of Penrith LGA.	DPE, Penrith City Council	Short term
2.4.2	Explore the feasibility of affordable housing targets and development incentives for affordable housing in Orchard Hills Precinct and St Marys Town Centre.	DPE, Penrith City Council	Short term
2.4.3	Support Penrith City Council's implementation of an LGA-wide affordable housing strategy.	Penrith City Council and DPE	Short term
2.4.4	Continue to collaborate on opportunities for affordable housing in renewal areas.	DPE, councils, OSL	Ongoing
2.4.5	Identify appropriate locations for regional and local cultural infrastructure in Orchard Hills.	DPE, Penrith City Council	Short term
2.4.6	Work with DPE, Penrith City Council and the community to progress renewal of social housing in St Marys (Ridge-top Living Precinct), establishing desired future character and principles for retention of social housing.	LAHC, Penrith City Council	Short term
2.4.7	Investigate renewal opportunities for Luxford Precinct should there be investment in Metro services in this area in the future and explore opportunities to renew social housing aligned with NSW Government investigations into extending Sydney Metro–Western Sydney Airport from St Marys to Tallawong.	DPE, TfNSW, Blacktown City Council, LAHC	Long term
2.4.8	Explore opportunities with councils to embed the <i>Recognise Country Guidelines</i> for new development.	DPE, councils	Short term
2.4.9	Ensure planning proposals and precinct planning in GPEC: <ul style="list-style-type: none"> i. prioritise walking, cycling, micromobility and last-mile freight within 15 minutes of important local destinations ii. investigate the provision of social and affordable housing and delivery mechanisms where land use change is proposed iii. consider the potential to achieve housing diversity and culturally responsive housing. 	State and local government, proponents	Ongoing

Direction 2.5: Consider land use compatibility with future major infrastructure

Ref.	Action	Lead	Time frame
2.5.1	Preserve corridors for transport infrastructure (focusing on sustainable modes) to safeguard connectivity to meet the needs of future communities.	TfNSW, DPE	Ongoing
2.5.2	Work with Transport for NSW and councils to protect existing and future transport corridors from land use impacts including the OSO and other key connections set out in Direction 4.1 and Figure 8 .	DPE, TfNSW, OSL	Ongoing
2.5.3	Explore planning mechanisms to design in mitigation measures that protect new housing and sensitive uses (including schools) from noise and vibration during the construction and operation of major infrastructure.	DPE	Short term
2.5.4	Maximise the benefits of future transport infrastructure, including by planning for higher growth in and around Sydney Metro and rapid bus stations.	DPE, councils	Ongoing
2.5.5	Undertake land use planning and development adjoining the Warragamba Pipelines Corridor in accordance with the <i>WaterNSW Guideline for Development Adjacent to the Upper Canal and Warragamba Pipelines</i> .	DPE, councils	Ongoing
2.5.6	Consider the capacity of the existing and proposed road network for evacuation from flood and bushfire events when planning for growth.	DPE, councils, TfNSW	Ongoing

Direction 2.6: Enable vibrant places and neighbourhoods

Ref.	Action	Lead	Time frame
2.6.1	Provide housing diversity through a mix of housing types and tenures that reflects the needs of communities and promotes affordability for families, key workers or older people who want to stay in their local area.	DPE, councils	Ongoing
2.6.2	Use precinct planning to support centres and public transport services by achieving the following minimum gross residential densities: <ul style="list-style-type: none"> i. 30 dwellings/ha within a 5-minute walk of neighbourhood shops, neighbourhood centres or local centres; within a 15-minute walk of strategic and metropolitan centres; and within a 15-minute walk of high-frequency public transport except on land zoned for industrial purposes and identified as industrial lands to be preserved and enhanced, or ii. 15 dwellings/ha if not in the catchments specified at (i) above. 	DPE, councils	Ongoing
2.6.3	Support increased density within a 15-minute walk of existing and new train stations and metro stations, except on land zoned for industrial purposes and identified as industrial lands to be preserved and enhanced.	DPE, Penrith City Council, TfNSW, Sydney Metro	Ongoing
2.6.4	Prioritise walking and cycling in and around centres to activate local places and improve travel choices within a 15-minute walk of important local destinations, reflecting the Movement and Place Framework and its Built Environment Indicators and the Design of Roads and Streets Guide.	DPE, TfNSW, councils	Ongoing
2.6.5	Ensure planning proposals and precinct planning focus new precinct scale development around quality public spaces clustered with social infrastructure and supporting uses.	DPE, councils	Ongoing

PRIORITY 3: Diverse and accessible employment

Employment opportunities are boosted in major GPEC centres, and people can connect to jobs within and outside of GPEC, strengthening the 30-minute city.

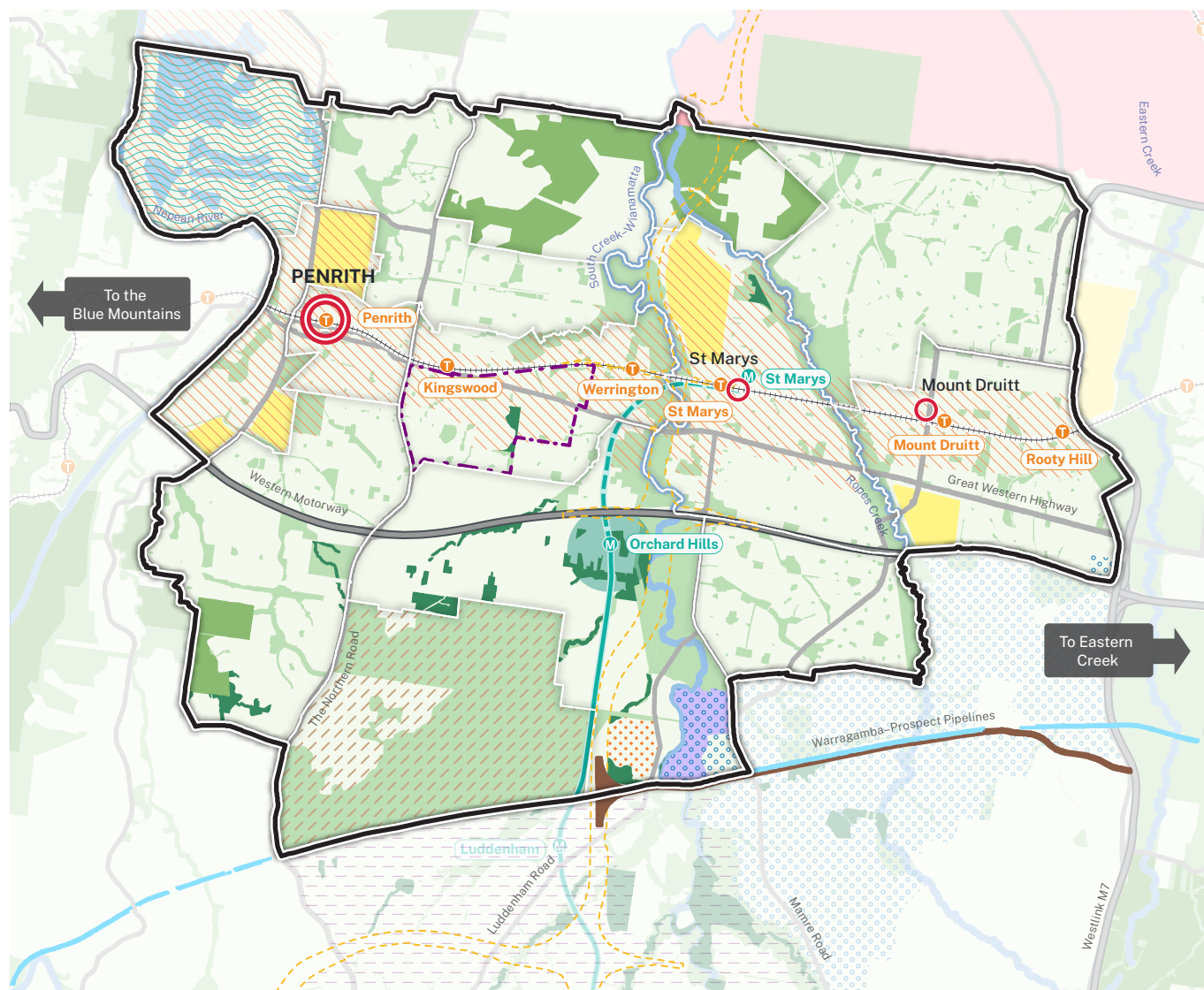


Figure 6: Employment focused on centres and an east-west economic corridor



*Note: Open space within the Australian Defence site is not public

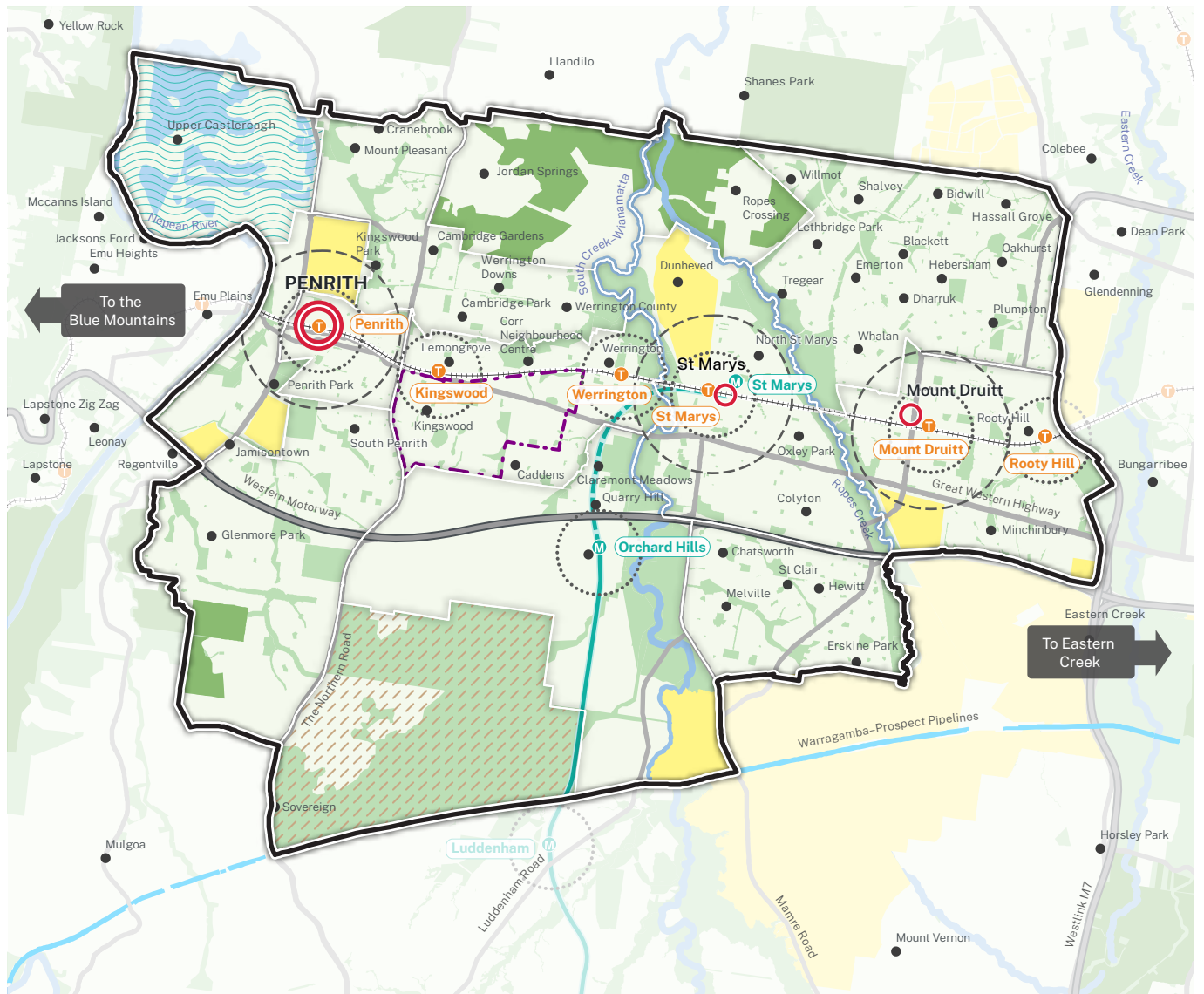


Figure 7: Centres and catchments



Direction 3.1: Create a network of centres with identified roles

Ref.	Action	Lead	Time frame
3.1.1	Support Penrith Centre as the metropolitan cluster and main destination for retail, entertainment, civic, community and professional service jobs in GPEC, with a target of 25,000 jobs by 2056, and ensure this intent is reflected in the revised city plan.	DPE, Penrith City Council	Ongoing
3.1.2	Support St Marys as an emerging strategic centre for employment in high technology, manufacturing, professional, knowledge, research, retail and short-term accommodation jobs, accommodating between 5,600 and 9,100 jobs for St Marys Town Centre by 2041 and more than 20,000 jobs across the precinct by 2056, and ensure this intent is reflected in the revised city plan.	DPE, Penrith City Council	Ongoing
3.1.3	Use St Marys Town Centre Master Plan to test capacity for jobs growth in St Marys Town Centre as per action 3.1.2.	Penrith City Council	Short term
3.1.4	Support Mount Druitt as a strategic centre offering retail and services, with a focus on health and education, with up to 8,500 jobs in the centre and up to 25,000 jobs across the precinct by 2056.	Blacktown City Council	Ongoing
3.1.5	Explore opportunities to support employment growth and job density in industrial and urban services jobs in the Dunheved Business Park and Penrith North employment areas.	Penrith City Council	Ongoing
3.1.6	Explore opportunities to support employment growth and job density, and diversity in higher order jobs in the Penrith Health and Education Precinct (The Quarter).	Proponents, Penrith City Council	Ongoing
3.1.7	Investigate the need for additional employment land in Orchard Hills Precinct.	DPE	Short term
3.1.8	Review Rooty Hill centre as part of the local centres review for the Blacktown LGA.	Blacktown City Council	Ongoing
3.1.9	Explore interim or accelerated servicing arrangements to create a new mixed use centre around Orchard Hills Sydney Metro station.	DPE, Sydney Metro	Medium term

Direction 3.2: Establish or improve connections to jobs

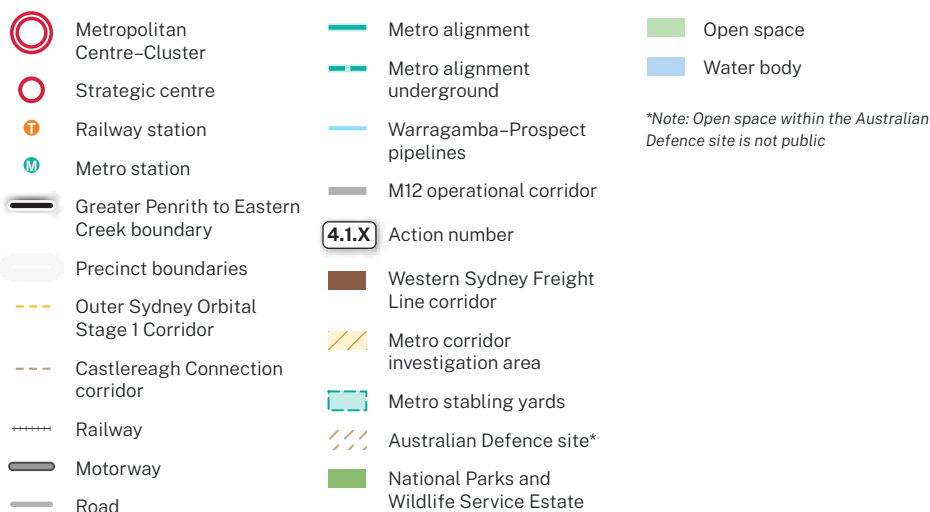
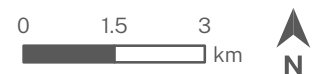
Ref.	Action	Lead	Time frame
3.2.1	Increase the population living within a 30-minute public transport trip and 15-minute walking catchment of key centres, except on land zoned for industrial purposes and identified as industrial lands to be preserved and enhanced.	DPE, councils	Ongoing
3.2.2	Provide additional public transport services and high quality, safe and inclusive walking and cycling connections between local communities and employment locations including the Penrith Health and Education Precinct (The Quarter), Western Sydney Employment Area, the Aerotropolis and Marsden Park, reflecting the principles of the Movement and Place Framework and its Built Environment Indicators and the Design of Roads and Streets Guide.	TfNSW, councils	Ongoing
3.2.3	Work with Penrith City Council to maximise north-south accessibility and the safety of pedestrians and cyclists across the rail corridor at St Marys Town Centre.	TfNSW, Penrith City Council	Short term
3.2.4	Explore efficiencies in the public transport network to connect to Western Sydney Employment Area, Norwest, the Aerotropolis and Blacktown and Parramatta CBDs.	TfNSW	Ongoing
3.2.5	Ensure planning for future Sydney Metro stations and precincts provides opportunities for travel by priority bus, cycling and walking that feed into the broader active transport network.	TfNSW, Sydney Metro and DPE	Long term
3.2.6	Ensure planning proposals and precinct planning consider strategies for sustainable mode shift with a focus on increasing active transport and public transport accessibility.	DPE, councils, TfNSW, proponents	Ongoing

PRIORITY 4: Infrastructure delivery

State and local infrastructure is prioritised to support a growing population, with clear mechanisms to fund provision.



Figure 8: Transport opportunities



Direction 4.1: Integrate land use planning with transport planning

Direction 4.1 seeks to support:

- a comprehensive and connected public transport network
- movement of people to centres and destinations
- 15-minute neighbourhoods and a comprehensive walking and cycling network
- how we maximise the value of catalysing places
- links to places outside GPEC.

We will continue to collaborate with Transport for NSW to further define these directions and actions as part of future integrated planning.

Ref.	Action	Lead	Time frame
4.1.1	Explore opportunities for increased efficiencies on the T1 Western rail line.	TfNSW	Ongoing
4.1.2	Collaborate to improve active and public transport connections between Penrith Centre and St Marys, through Kingswood and Werrington, integrating the Penrith Health and Education Precinct (The Quarter).	TfNSW, Penrith City Council	Ongoing
4.1.3	Identify and protect additional active transport, public transport and local connections between St Marys, Luxford and Marsden Park.	TfNSW, councils and DPE	Ongoing
4.1.4	Ensure land use changes consider safeguarding of corridors and compatibility with future major infrastructure.	DPE, councils	Ongoing
4.1.5	Improve east-west connectivity north and south of the M4 Motorway.	DPE, councils	Ongoing
4.1.6	Explore opportunities for north-south connectivity in Orchard Hills.	DPE, TfNSW, Penrith City Council	Short term
4.1.7	Investigate proposed and potential future active transport links to St Marys Town Centre during master-planning.	Penrith City Council	Short term
4.1.8	Continue collaboration to successfully integrate new Sydney Metro stations into the surrounding transport network.	DPE, TfNSW, Penrith City Council, Sydney Metro	Ongoing
4.1.9	Explore increased connectivity to key employment areas outside GPEC (refer 3.2.4).	TfNSW	Ongoing
4.1.10	Investigate a rapid bus link between Penrith and Western Sydney Airport.	TfNSW	Short term
4.1.11	Investigate strategic cycleway immediate opportunity corridors between Penrith and Kingswood, and Kingswood and St Marys.	TfNSW	Short term
4.1.12	Investigate routes and alignments and work with councils and the community to expand the strategic cycleway corridor network across GPEC.	TfNSW, councils	Ongoing
4.1.13	Explore opportunities for improved connectivity between the Great Western Highway, Werrington and Marsden Park.	TfNSW	Ongoing

Ref.	Action	Lead	Time frame
4.1.14	Ensure any proposed transport and infrastructure crossings of the Warragamba Pipelines Corridor are consistent with the <i>WaterNSW Guideline for Development Adjacent to the Upper Canal and Warragamba Pipelines</i> and that WaterNSW is consulted in early stages of planning and design.	TfNSW, Penrith City Council, WaterNSW	Ongoing
4.1.15	Collaborate to improve green active transport links identified in Penrith City Council's <i>Interim Centres Strategy</i> including improved north-south links across the T1 Western rail line.	TfNSW, Penrith City Council	Ongoing
4.1.16	<p>Ensure planning proposals and precinct planning:</p> <ul style="list-style-type: none"> i. address relevant transport guidelines including: <ul style="list-style-type: none"> – alignment with the intent set out in Figure 8 – alignment with the <i>Network Planning in Precincts Guide</i>, the <i>NSW Transport Sustainability Plan 2021</i> and the Movement and Place Framework and its Built Environment Indicators and the <i>Design of Roads and Streets Guide</i> – enabling multi-modal outcomes and maximising the convenience of walking and cycling for short everyday trips, reflecting the principles of the Movement and Place Framework. ii. consider the integration of electric vehicle charging infrastructure in new developments iii. consider efficient integration with the wider transport network. 	Proponents	Ongoing

Direction 4.2: Provide upgraded and new utility infrastructure

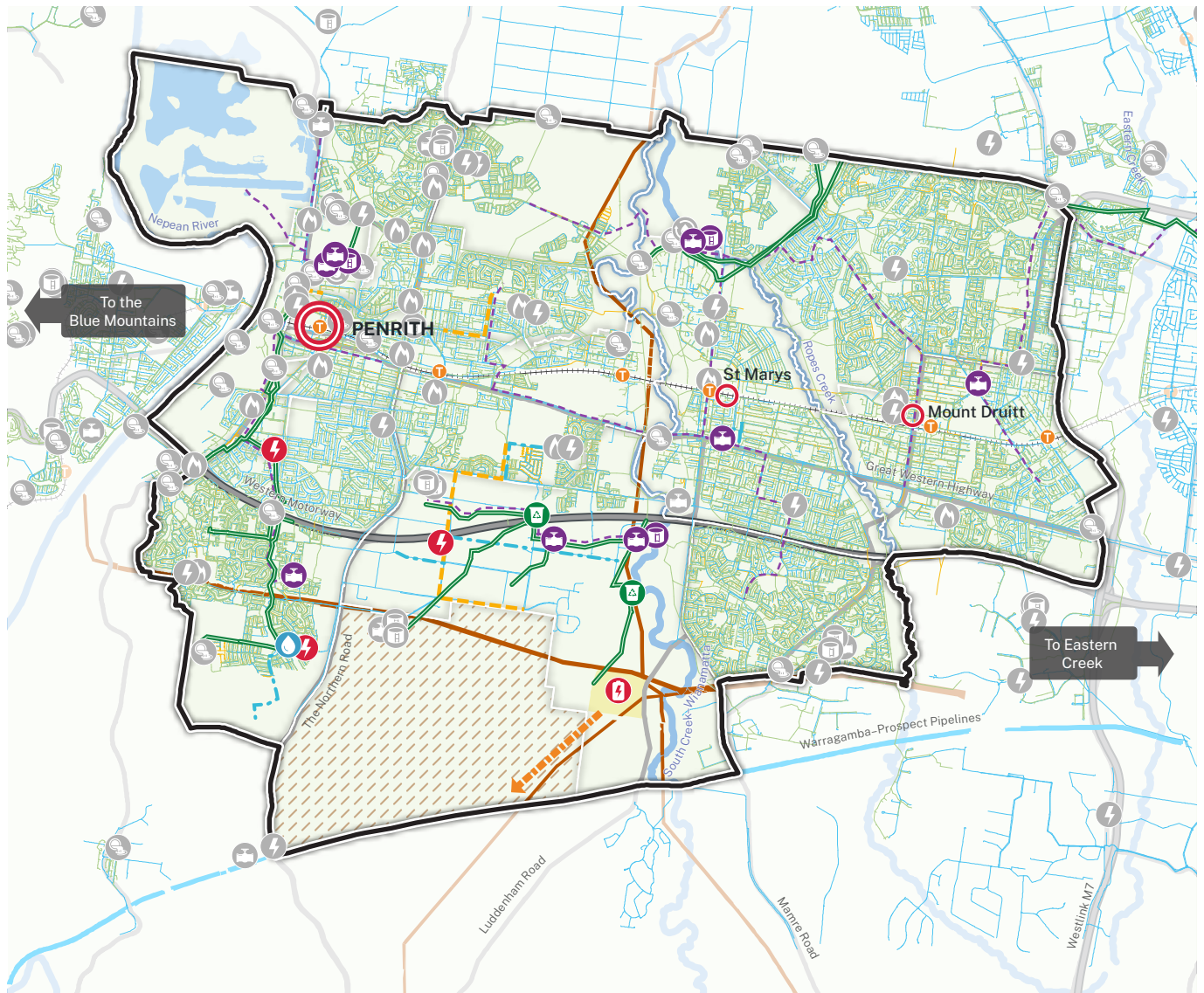
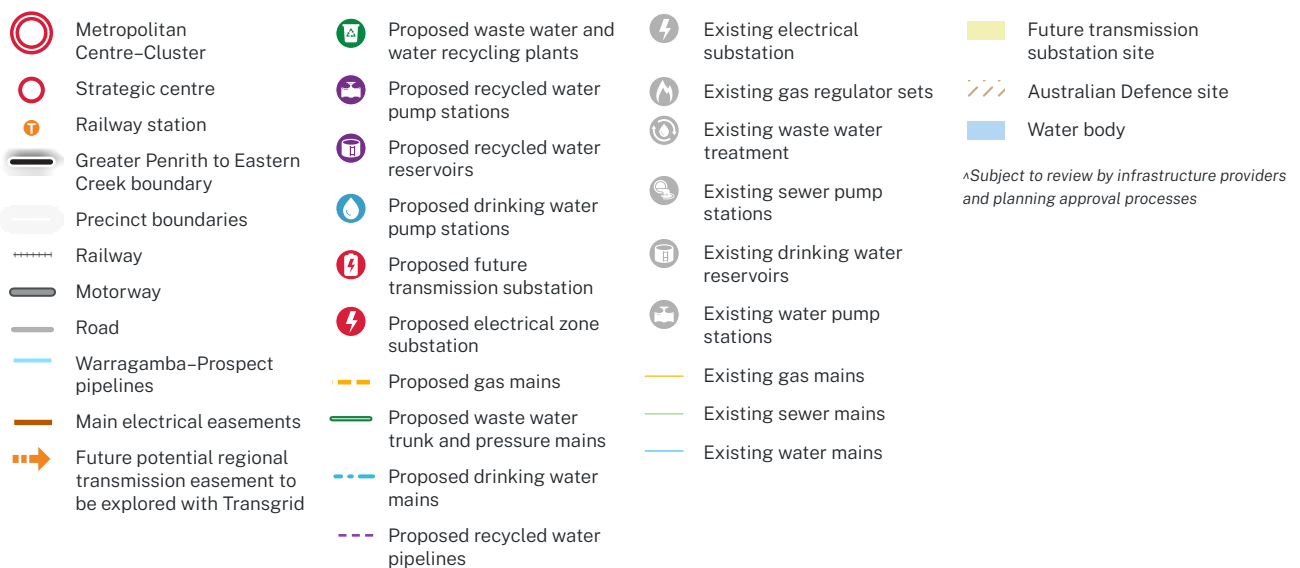
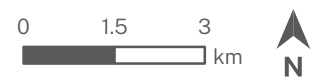


Figure 9: Indicative utilities plan*



Ref.	Action	Lead	Time frame
4.2.1	Continue to progress reforms to the state infrastructure contributions framework.	DPE	Short term
4.2.2	Ensure that new development contributes to the provision of regional infrastructure through state infrastructure contributions.	NSW Treasury, state agencies	Ongoing
4.2.3	Collaborate on the pilot Urban Development Program for the Western Parkland City to coordinate infrastructure planning if the pilot is adopted.	DPE	Short term
4.2.4	Facilitate the timely provision of new trunk drinking water, wastewater and recycled water networks throughout GPEC, extending to unserved areas such as Orchard Hills, particularly if not serviced by alternative service providers.	Sydney Water	Medium term
4.2.5	Identify and protect adequate road reserve sizes early to cater for transport and utility servicing needs.	DPE, utility providers, councils	Ongoing
4.2.6	Provide extended secondary gas mains and secondary regulating sets at Mount Druitt Centre and Rooty Hill, Luxford, St Marys, Orchard Hills, Kingswood and Werrington and Penrith Centre.	Jemena	Medium term
4.2.7	Investigate new local electricity infrastructure to support growth, including: <ul style="list-style-type: none"> i. new zone substations at South Penrith, Orchard Hills, East Orchard Hills and Mulgoa ii. new distribution mains in all GPEC precincts iii. alternative supply source/s at Glendenning and South Penrith. 	Endeavour Energy	Medium term
4.2.8	Explore improved energy and sustainability for precinct-scale development through alternative energy sources such as renewables, distributed power grids and a regional approach to water management.	DPE, Penrith City Council	Short term
4.2.9	Develop and implement an integrated stormwater management plan as part of the St Marys Town Centre Master Plan, that contributes to the broader integrated water cycle management approach for Western Sydney.	Penrith City Council, Sydney Water	Short term
4.2.10	Include forecast growth in GPEC in Sydney Water's Growth Servicing Plan.	Sydney Water, DPE	Short term
4.2.11	Ensure utility infrastructure is costed, funded and aligned with anticipated ultimate and staged growth projections.	Utility providers, DPE, proponents	Ongoing
4.2.12	Explore options and efficiencies associated with a regional stormwater management approach.	DPE, Sydney Water, Penrith City Council	Short term
4.2.13	Encourage the use of recycled water, particularly by government agencies in maintaining quality green and cool public open spaces.	Sydney Water, Sydney Metro, councils	Ongoing

Ref.	Action	Lead	Time frame
4.2.14	Collaborate with NBN Co to ensure delivery of high-speed internet connectivity to support growth and development.	NBN Co, DPE	Ongoing
4.2.15	Collaborate with NBN Co to explore potential extensions to the NBN Business Fibre Zone.	NBN Co, DPE	Short term
4.2.16	Continue to support a range of NBN projects to increase network and connection capability in GPEC.	NBN Co, DPE	Ongoing
4.2.17	Establish a new bulk electricity supply point at Orchard Hills and expand capacity at existing bulk supply points to transmit energy from the national market.	TransGrid	Medium term
4.2.18	Ensure planning proposals and precinct planning: <ul style="list-style-type: none"> i. demonstrate consideration of staging and sequencing that will allow efficient delivery of utilities and services ii. consider the TransGrid Easement Guidelines in the preparation of proposals iii. ensure effective planning for infrastructure utilities via the use of the NSW Online and Concurrence Referral System and Major Projects portals. 	Proponents, councils, DPE	Ongoing

Direction 4.3: Ensure social infrastructure serves and reflects community culture

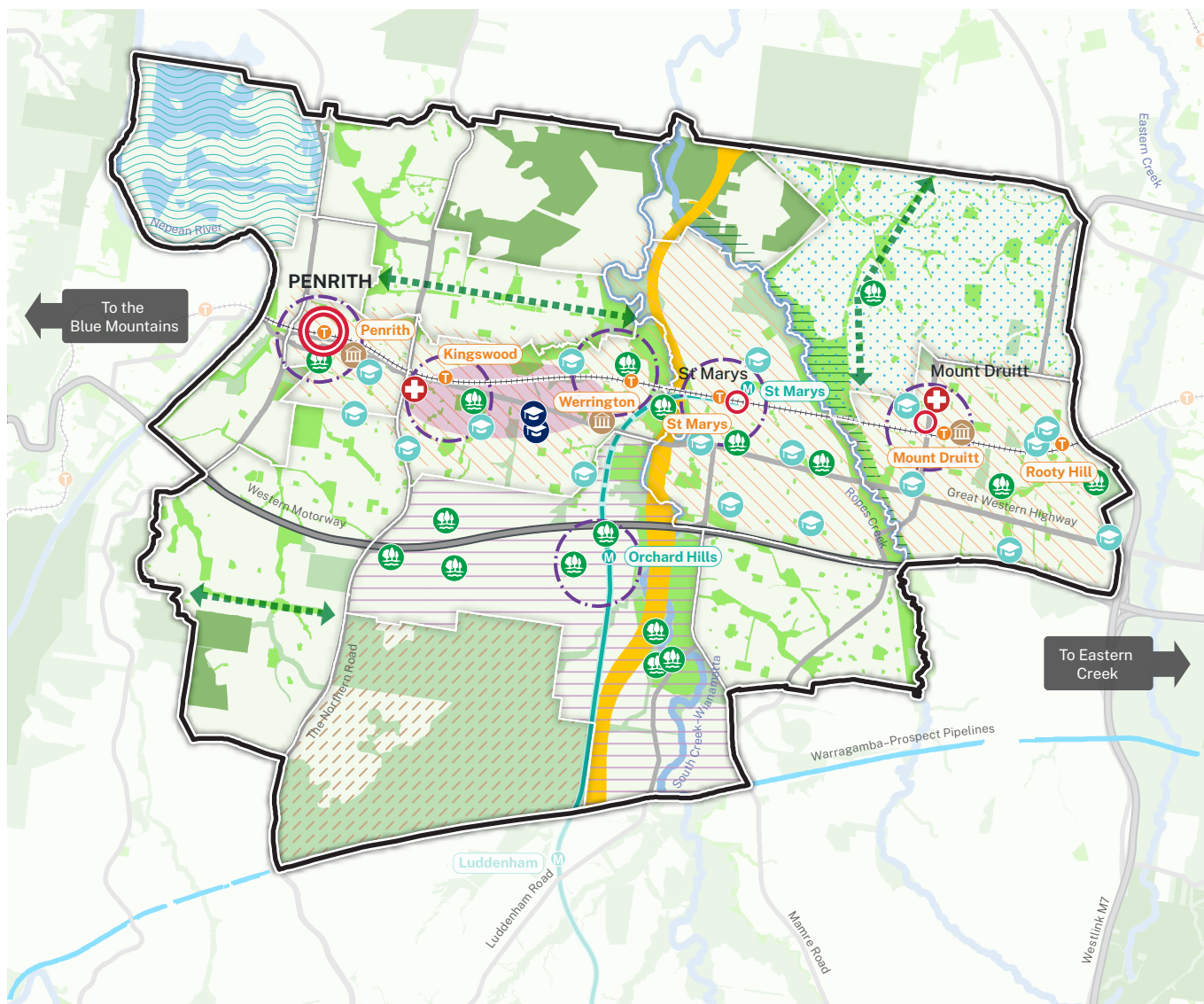


Figure 10: Social infrastructure plan



Ref.	Action	Lead	Time frame
4.3.1	Use precinct planning for Orchard Hills to identify social infrastructure needs in collaboration with stakeholders and agencies, including infrastructure to support the Aboriginal community.	DPE	Short term
4.3.2	Work with councils and state agencies to progress recommendations around social infrastructure in the <i>Greater Penrith to Eastern Creek Social Infrastructure Needs Assessment Report 2022</i> .	DPE, councils	Ongoing
4.3.3	Work with School Infrastructure NSW to identify potential future locations for education infrastructure in future land use planning, and investigate whether school upgrades and/or expansions are needed in key centres and the wider GPEC area*.	DPE, SINSW	Short term
4.3.4	Continue to work with councils and School Infrastructure NSW on new and upgraded education facilities supported by quality walking, cycling and public transport connections to reduce car dependency for school trips*.	SINSW, DPE, councils	Ongoing
4.3.5	Consider using school facilities to increase usable open space via co-location and shared community and school use arrangements*.	SINSW, councils	Ongoing
4.3.6	Investigate potential locations for a community hub incorporating a library in St Marys as part of the St Marys Town Centre Structure Plan and Master Plan.	Penrith City Council	Short term
4.3.7	Work with Aboriginal stakeholders to create a multipurpose arts and creative space.	Create NSW	Medium term
4.3.8	Consider expanding the Joan Sutherland Performing Arts Centre to improve functionality and a new regional gallery in Penrith CBD.	Penrith City Council	Medium term
4.3.9	Plan for new or expanded multipurpose community hubs in Penrith Centre, Mount Druitt, Kingswood and Werrington (Arthur Neave Hall), Orchard Hills and Luxford precincts.	Councils	Medium term
4.3.10	Expand existing central and branch libraries and investigate opportunities to include library services as a component of services offered in new or expanded multipurpose community hubs.	Councils	Ongoing
4.3.11	Use local development contributions plans to contribute to local infrastructure that responds to cultural and community needs, including requirements for public areas, transport and other infrastructure works to support key social infrastructure such as schools.	Councils	Ongoing
4.3.12	Complete Stage 2 of the Nepean Hospital Redevelopment; investigate whether existing and planned capacity within hospitals and community health centres can accommodate the additional health needs generated by the growing GPEC community; and identify future requirements.	NSW Health	Medium term
4.3.13	Consider expanding Penrith and Mount Druitt courthouses and Cobham Youth Justice Centre.	NSW Communities and Justice	Medium term
4.3.14	Consider providing health services within (or in adjacent standalone facilities) proposed new multipurpose community hubs in Penrith Centre, Kingswood and Werrington, and Luxford precincts, and for the potential expansion of the Mount Druitt Hub.	HINSW and NBMLHD	Medium term

Ref.	Action	Lead	Time frame
4.3.15	Continue to work with The Quarter steering group on the vision for a world-class health and education precinct, using a place-based approach that integrates health services and expanded and diverse education and research facilities with other social infrastructure, employment and complementary and supporting housing uses such as student accommodation and dedicated affordable rental housing.	DPE and Penrith City Council	Ongoing
4.3.16	Work with emergency service providers to ensure new developments can be adequately serviced by police, fire, ambulance and the State Emergency Service.	DPE	Ongoing
4.3.17	Investigate refurbishment, expansion and/or redevelopment of existing aquatic centres and indoor sport and recreation facilities as multipurpose facilities.	Councils	Ongoing
4.3.18	Investigate the need for a new district-level community facility in Orchard Hills with access to the metro station; consider opportunities to co-locate with a potential new high school; and consider the need to expand the facility beyond 2036.	DPE, Penrith City Council	Short term
4.3.19	Where planning proposals generate additional demand, ensure they provide for new and upgraded community assets that are: <ul style="list-style-type: none"> i. appropriately located ii. integrated with and connected other community assets such as green and blue corridors, public open space and the wider network of diverse community facilities iii. in line with the relevant councils' social infrastructure requirements iv. informed by consultation with the relevant state agencies. 	Proponents	Ongoing

* Development of educational establishments within GPEC is subject to ongoing investigations and confirmation by SINSW and the Department of Education.

PRIORITY 5: Public open space, biodiversity, and landscape

Growth in GPEC provides opportunities to recognise and connect with green infrastructure and landscape features, enabling the protection of biodiversity and increasing public open space.

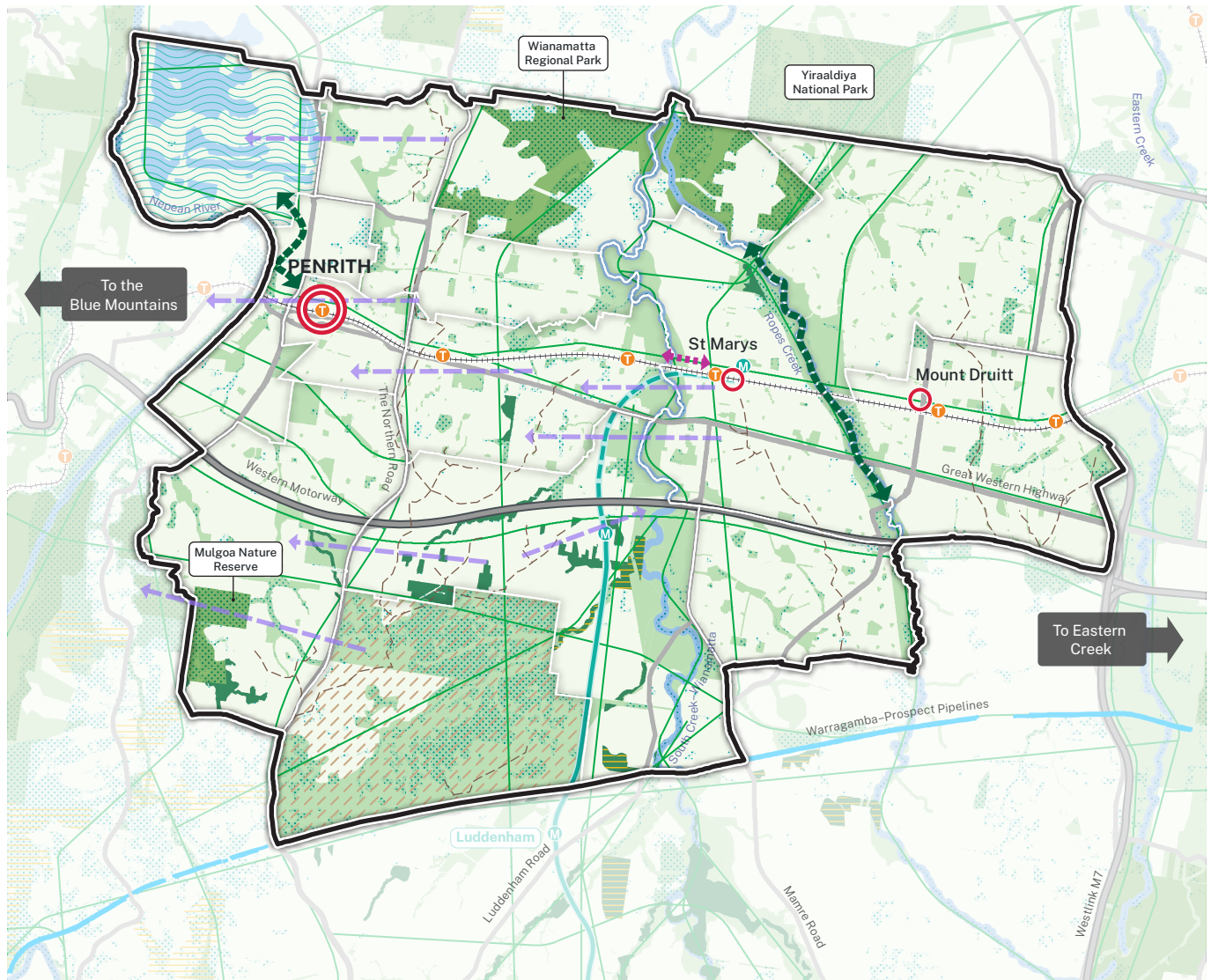
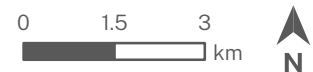


Figure 11: Existing open space and opportunities to support blue green networks



Direction 5.1: Provide opportunities to connect and support blue and green networks

Ref.	Action	Lead	Time frame
5.1.1	Ensure development respects natural systems, the conservation of natural landscapes, soil networks and biodiversity corridors, and achieves the waterway health objectives established by the NSW Government's <i>Risk-based framework for considering waterway health outcomes in strategic land use planning decisions</i> to protect and enhance state and local Blue-Green Grid networks identified in Figure 11 .	DPE, councils, proponents, OSL, Sydney Water, NPWS	Ongoing
5.1.2	Consider how development can support natural systems through revegetation along creek lines with endemic species, and strategies to enhance soil retention and re-use, increase water quality and waterway health, and support the health and wellbeing of Country (refer to Direction 1.1 for additional details).	DPE, councils, proponents, OSL, Sydney Water	Ongoing

Direction 5.2: Make public open space accessible and usable for all GPEC residents

Ref.	Action	Lead	Time frame
5.2.1	Investigate opportunities to provide active transport connections to and through public open spaces to support the Blue-Green Grid and cycling network and increase opportunities for unstructured recreation, including between Penrith CBD and Penrith Lakes.	Penrith and Blacktown Councils, OSL, TfNSW, NPWS	Short term
5.2.2	Work with councils and relevant state agencies to progress recommended directions for improvement, expansion and provision of open space contained in the <i>Greater Penrith to Eastern Creek Social Infrastructure Needs Assessment Report 2022</i> .	DPE, OSL	Ongoing
5.2.3	Secure funding and explore opportunities to consolidate land along the Wianamatta-South Creek corridor, including opportunities to bring remaining private landholdings into NSW Government ownership.	DPE, OSL	Medium term
5.2.4	Investigate potential opportunities for regional open space and recreation uses in the Ropes Creek corridor.	OSL and councils	Short term
5.2.5	Investigate potential future impacts of OSO infrastructure on key open spaces.	DPE, Penrith City Council, TfNSW	Short term
5.2.6	Explore a public open space link between Queen Street and Wianamatta-South Creek in St Marys, and progress master planning of South Creek Park.	Penrith City Council	Short term
5.2.7	Investigate potential locations for a new St Marys Central Park as part of St Marys Town Centre Master Plan.	Penrith City Council	Short term
5.2.8	Protect and enhance open space in town centres.	Councils	Ongoing
5.2.9	Implement planning controls for Penrith Lakes to facilitate tourism and regional recreation uses.	DPE	Ongoing
5.2.10	Support councils to consider Government Architect NSW open space targets in revised local recreation and open space strategies.	DPE	Ongoing

Ref.	Action	Lead	Time frame
5.2.11	<p>Ensure planning proposals and precinct planning:</p> <ul style="list-style-type: none"> i. for lower density residential proposals: <ul style="list-style-type: none"> – where it can be demonstrated that the proposed development does not create demand for additional open space, provide access to quality public open space for all new development consistent with the criteria identified in Table 1. Open space provision is also to consider the relevant council's strategic open space planning and/or public domain plans – where it cannot be demonstrated that the open space needs of the proposed development can be met through access to existing quality open space, provide additional open space to Council's satisfaction consistent with the criteria identified in Table 1, or in line with the relevant council's strategic open space planning and/or public domain plans ii. for medium and high density residential and mixed use proposals that include residential uses: <ul style="list-style-type: none"> – where it can be demonstrated to be feasible and supported by the relevant council, provide open space in line with Council's strategic open space planning – where it is not feasible to provide open space in line with the relevant Council's strategic open space planning, provide a minimum 15% net developable land (NDL) as freely accessible public open space, excluding regional open space (see Appendix 1 for NDL calculation methodology and rationale) iii. consider dual/joint use opportunities and pathways for implementation in consultation with relevant state agencies. 	DPE, councils, proponents	Ongoing

Table 1: Open space criteria (aligns with draft Greener Places Design Guide)

Net dwelling density	Provide access to	Minimum size	Minimum catchment and mode	Capacity threshold	Qualitative aspects
High density areas - 60 dwg/ha or greater	Small park	0.15-0.5 ha	200 m (2-3 min. walk, barrier free)	At capacity if more than 1,500 residents to 5,000 sqm of parkland are within 500 m	All public open space should enhance connectivity, be accessible and flexible in its use across all scales. Access to adjoining open space may be considered if it can be demonstrated the existing open space is within the designated walking catchment and has sufficient capacity to service the additional population.
Medium -low density areas less than 60 dwg/ha	Local park	0.5-2 ha	400 m (5 min. walk, barrier free)	At capacity if more than 1,500 residents to 5,000 sqm of parkland are within 500 m	
All densities	Linear parks/ green corridors	15-40 m wide	No maximum distribution criteria for linear parks; instead base on the creation of a strategic local network of streets, parks and natural site features	1,000 people per km within 800 m	
	District park	2 ha	2 km (25 min. walk)	At capacity if more than 5,000 people to 5000 sqm of parkland are within 5 km	
	District sport precinct	>10 ha	2 km (25 min. walk)	1,000 people per hectare of active open space	
	Regional park*	>5 ha	Up to 30 mins travel time by public transport or private vehicle		
	Regional sport precinct	>20 ha	Up to 30 mins travel time by public transport or private vehicle		

* Regional parks do not contribute to the minimum 15% public open space target and are generally provided by state agencies. They are an important component of planning an equitably distributed network of new local open spaces.

Refer to **Appendix 1** on the method for calculating open space provision and applying the open space criteria in **Table 1**.

PRIORITY 6: Resilience

Resilience to natural and man-made hazards is boosted.

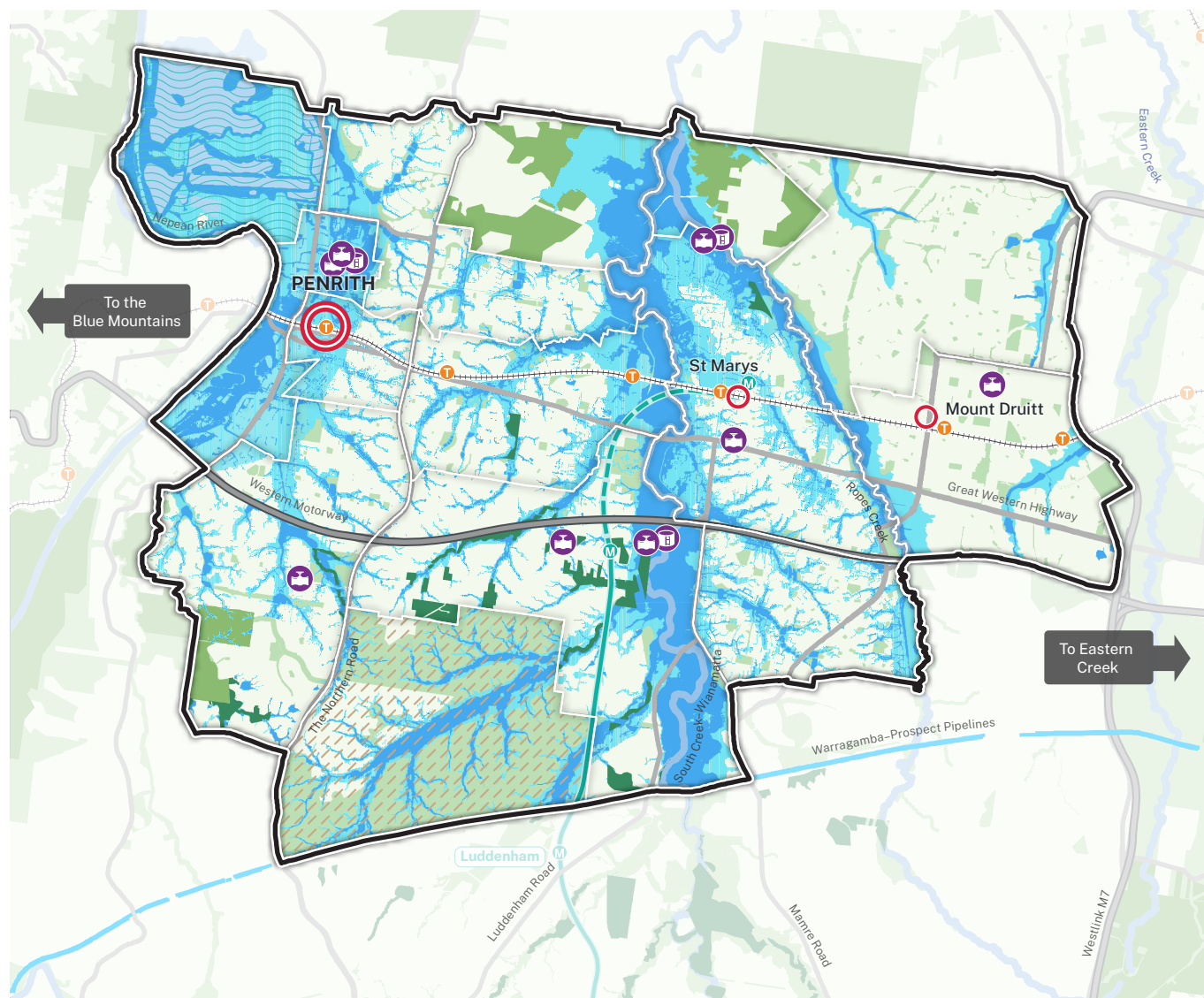


Figure 12: Ecological resilience and sustainability



- | | | | |
|--|---|--|--|
| | Metropolitan Centre-Cluster | | Proposed recycled water pump stations |
| | Strategic centre | | Proposed recycled water reservoirs |
| | Railway station | | Flood risk – 1% AEP |
| | Metro station | | Flood risk – PMF |
| | Greater Penrith to Eastern Creek boundary | | Australian Defence site* |
| | Precinct boundaries | | Tourist, recreation and public open space precinct |
| | Railway | | Cumberland Plain Conservation Plan avoided land |
| | Motorway | | National Parks and Wildlife Service Estate |
| | Road | | Open space |
| | Metro alignment | | Water body |
| | Metro alignment underground | | |
| | Warragamba-Prospect pipelines | | |

*Note: Open space within the Australian Defence site is not public

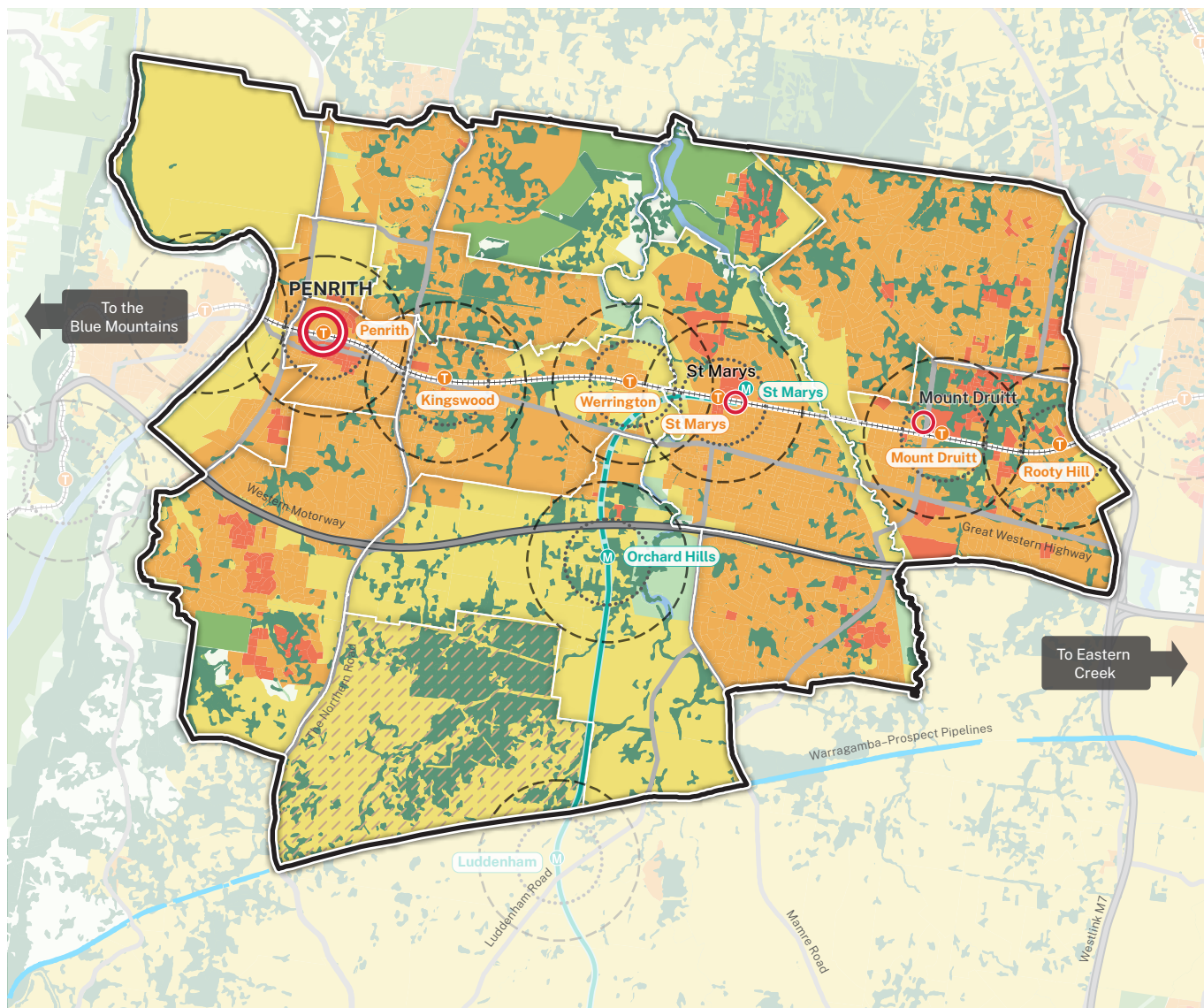
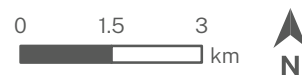


Figure 13: Urban resilience and liveability



- | | | | |
|--|---|--|--|
| | Metropolitan Centre-Cluster | | Metro alignment |
| | Strategic centre | | Metro alignment underground |
| | Railway station | | Warragamba-Prospect pipelines |
| | Metro station | | Existing tree canopy cover |
| | Greater Penrith to Eastern Creek boundary | | Australian Defence site* |
| | Precinct boundaries | | National Parks and Wildlife Service Estate |
| | 800m station buffer | | Open space |
| | 1500m station buffer | | Water body |
| | Railway | | |
| | Motorway | | |
| | Road | | |

URBAN HEAT ISLAND (2016 – DEGREES ABOVE NON-VEGETATED REFERENCE AROUND SYDNEY)**

- 3–6 degrees warmer
- 6–9 degrees warmer
- More than 9 degrees warmer

*Note: Open space within the Australian Defence site is not public

** Source: State Government of NSW and Department of Planning and Environment 2019

Direction 6.1: Promote the importance of waterways and prioritise their health

Ref.	Action	Lead	Time frame
6.1.1	Collaborate on waterway management, revegetation and integrated water cycle management opportunities in GPEC.	NSW Government, Sydney Water, councils	Ongoing
6.1.2	Use precinct planning in Orchard Hills to develop an integrated water cycle management strategy that implements the waterway health objectives and targets established by the NSW Government using the <i>Risk-based Framework for Considering Waterway Health Outcomes in Strategic Land-use Planning Decisions 2017</i> .	DPE, Sydney Water, Penrith City Council	Short term
6.1.3	Use master planning for St Marys Town Centre to develop an integrated water management plan.	Penrith City Council	Short term
6.1.4	Ensure planning proposals and precinct planning: <ul style="list-style-type: none">i. prioritise the health and natural state of waterways including the Nepean River, Wianamatta–South Creek, Ropes Creek and their tributariesii. enhance river and creek corridors as natural bushland environments, (including naturalisation of constructed drainage channels); explore opportunities to reinforce blue corridors with public open space and active transport routes; and provide quality public interfaces and street edges that orientates development towards themiii. consider relevant local strategies related to water management, Blue-Green Grid and biodiversity.	NSW Government, councils, proponents	Ongoing

Direction 6.2: Help to cool the Western Parkland City

Ref.	Action	Lead	Time frame
6.2.1	<p>Ensure development contributes to tree canopy by:</p> <ul style="list-style-type: none"> i. retaining healthy mature trees and ensuring the presence of deep soil in the design of places ii. meeting place-based tree canopy targets set out in relevant local strategies iii. where place-based tree canopy targets do not exist in local strategies, meet the tree canopy targets as set out in Table 2 including: <ul style="list-style-type: none"> – in residential land including streets (in all typologies permissible within R1, R2, R3 and R4 zones) – in industrial and business land (including streets) – in new and existing open space – on new and existing streets (excluding high streets, arterial roads and intersections). 	NSW Government, councils	Ongoing
6.2.2	Work with councils to incorporate tree canopy cover criteria into site-specific planning controls that apply to areas within GPEC to ensure tree canopy can remain in place over time.	DPE, councils	Ongoing
6.2.3	Collaborate with Sydney Water to implement the use of alternative water sources including recycled water and integrated water cycle management approaches for new development.	Sydney Water, DPE, councils, proponents	Ongoing
6.2.4	<p>Ensure planning proposals and precinct planning:</p> <ul style="list-style-type: none"> i. support the blue and green grid established by Government Architect NSW and councils (as per action 2.3.7 iii) ii. facilitate the retention of as much water in the landscape as possible, where supported by salinity and sodicity assessments, by allowing for natural methods for stormwater control, passive landscape elements and water-sensitive urban design (as per action 2.3.7 vii) iii. adopt tree canopy targets and develop strategies for delivery and ongoing health of tree canopy iv. consider all opportunities for shade and cooling in open space, along active transport routes and at public transport stops v. enable sustainable design measures such as green roofs or facades to support urban ecology and biodiversity, reduce stormwater runoff, reduce urban heat and increase amenity vi. facilitate a network of interconnected undisturbed soil across the development that connects to the broader soil network so that vegetation and tree canopy can thrive vii. support place-based considerations to minimise any impacts on the floodplain and up/downstream conditions, and ensure risk from bushfire is not increased. 	DPE, councils, proponents	Ongoing

Direction 6.3: Manage place-based risks responsibly

Ref.	Action	Lead	Time frame
6.3.1	Avoid urban development or intensification of development in areas of high flood and or bushfire risk, by carefully locating development, distributing land uses and siting built form and new infrastructure to minimise risk to ongoing operability.	DPE, councils, proponents	Ongoing
6.3.2	Locate new educational establishments and community facilities on risk-free land and design them to allow for utilisation in emergency management situations such as flooding or extreme heat events.	SINSW, councils	Ongoing
6.3.3	Implement recommendations from the regional flood evacuation work undertaken by the Hawkesbury–Nepean Valley flood risk management directorate and other emergency evacuation management by the State Emergency Service and Rural Fire Service.	NSW Government, councils, all stakeholders	Ongoing
6.3.4	Continue interagency collaboration to implement relevant recommendations of the 2020 NSW Bushfire Inquiry including preparation of a draft NSW bushfire policy and draft risk framework for strategic land use planning.	DPE, RFS, NSW Reconstruction Authority	Ongoing
6.3.5	Collaborate with agencies to implement recommendations of the 2022 NSW Flood Inquiry.	DPE	Ongoing
6.3.6	Plan for the future OSO to function as an additional evacuation route.	TfNSW	Long term
6.3.7	<p>Ensure planning proposals and precinct planning:</p> <ul style="list-style-type: none"> i. align with Ministerial Direction 4.1 Flooding ii. consider bushfire risk at a strategic level and demonstrate consistency with Ministerial Direction 4.3 Planning for Bushfire Protection iii. adopt a risk-based approach to planning in flood affected areas by preparing a flood impact risk assessment (FIRA), and ensure rezoning responds to flooding constraints by considering the cumulative impact of fill and development up to the probable maximum flood level iv. demonstrate adequate emergency management strategies, such as evacuation, from hazard events such as bushfire and flooding through consideration of the requirements of the NSW Reconstruction Authority and <i>State Disaster Management Plan</i> v. consider community resilience by providing opportunities for or unencumbered access to safe zones and/or cool refuges for use in emergency management and extreme heat events vi. improve interconnections between urban habitat areas to support ecological resilience and, if applicable, be consistent with the <i>Cumberland Plain Conservation Plan</i> and Ministerial Direction 3.6 Strategic Conservation Planning vii. consider and address the impacts of climate change viii. consider opportunities to mitigate the impacts of urban heat ix. incorporate principles within <i>Planning for a more resilient NSW-A strategic guide to planning for natural hazards 2021</i>. 	DPE, Penrith and Blacktown City Councils, Proponents	Ongoing

Table 2: Urban tree canopy targets*

Type	Canopy cover target
Site targets – Public open space	
Open spaces (<5 ha) without sports courts and fields	45%
Open spaces (<5 ha) with sports courts and fields	45% (applies to areas outside of courts and fields)
Regional open space	No net loss of canopy Contribute to strategic canopy targets
Site targets – Street canopy	
New residential streets with underground power (12-20 m reserve)	70%
Existing residential streets with underground power (12-20 m reserve)	50%
Existing residential streets with overhead power (12-20 m reserve)	40%
New industrial streets with underground power (20-25 m reserve)	60%
Existing industrial streets with underground power (20-25 m reserve)	45%
Existing industrial streets with overhead power (20-25 m reserve)	35%
Other local street environments	Apply local council canopy targets
Note: targets exclude intersections and arterial roads. These street types are highly variable and subject to specific design standards, therefore canopy targets for these roads should be developed on a site-specific basis.	
Precinct targets	
Residential zoned land (R1, R2, R3, R4) including streets	40%
Industrial zoned land (IN1, IN2) including streets	35%
Business zoned land (E3 Productivity Support – formerly B5, B6 and B7) including streets	35%
Open space (RE1) including streets	45%
Land uses not listed	Determine through site-specific analysis
Note: These targets are not intended to reduce or support the reduction of canopy cover	

* These targets are based on extensive analysis and evidence-based testing and set a high, consistent and achievable standard for tree canopy. Tree canopy targets can translate into measurable planning controls for various development types and provide methods for setting canopy targets for precincts. The targets draw from evidence in the Urban Tree Canopy Targets and Development Controls Report, published by the Department of Planning and Environment. This demonstrates how targets can be achieved with minimal design changes to retain functionality. If targets cannot be met, they can be used to identify where and how green infrastructure alternatives are needed.

The Department of Planning and Environment's *Greener Neighbourhoods Guide (2021)* also guides specific canopy targets and deep soil provisions for development categories that can be applied at later stages of planning.

Legislation and policies, including those relating to bushfire protection, and state and local planning controls should be considered when planning for the targets. If local canopy targets in a statutory environment interact with other legislation such as bushfire protection regulations, consult with councils on an appropriate place-based response.

5

Part

Infrastructure

Infrastructure

Our preliminary assessment of the regional and district level infrastructure needs has resulted in a high-level summary of the potential infrastructure needed in each of the 6 focus precincts. These are indicative only.

This analysis is based on strategic-level investigation of growth and infrastructure needs to 2056. As this is a long-term time horizon, the indicative locations and sequencing of these items will need to respond to shifts in planning and development over time. They are subject to change and planning approval processes. Many of the items listed are not yet funded and require cost-benefit analysis to determine investment viability and future budget commitments from the NSW Government.

In addition to these items, local infrastructure such as local parks will be needed to support growth. Future detailed planning of urban release areas and urban renewal areas will identify these items.

The indicative timeframes and potential funding sources may evolve and will be refined to align with growth and future agency funding budgets over time.

Each infrastructure item includes:

- an indicative delivery program under the following time horizons:
 - short term – 1-5 years
 - medium term – 5-10 years
 - longer term – 10+ years
 - ongoing
 - unknown

- categorisation as either:
 - enabling infrastructure – required for development to progress (e.g., sewer infrastructure)
 - supporting infrastructure – supports proposed development, yet development can continue without this infrastructure being provided upfront (e.g., tree canopy coverage)
 - ongoing – elements required iteratively to meet growth demands
- a potential funding source/sources, resolution of which is subject to future planning, NSW Budget allocations and agencies' due processes
- key agency involvement required to progress planning and provision.

We have nominated a variety of potential funding sources, including state infrastructure contributions and state voluntary planning agreements (VPAs) for state and regional infrastructure; local development contributions and VPAs for local infrastructure; and NSW Government funding in the form of grants or set aside in the NSW Budget.

Social infrastructure and open space

Regional and district social infrastructure and open space includes education, civic, health and community facilities, together with public open space requirements.

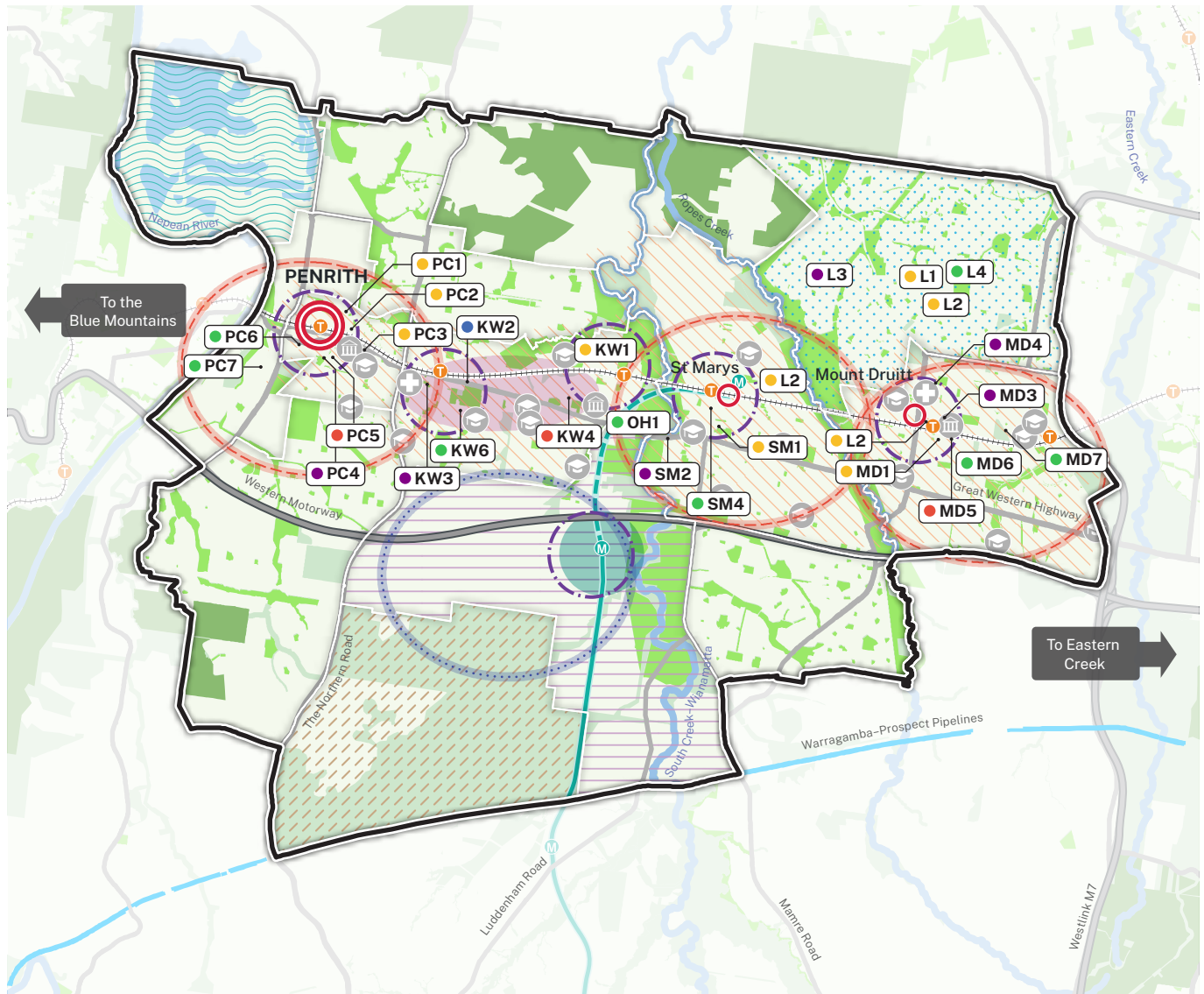


Figure 14: Indicative social infrastructure*



*Locations of facilities are subject to agency review and assessment processes

*Note: Open space within the Australian Defence site is not public

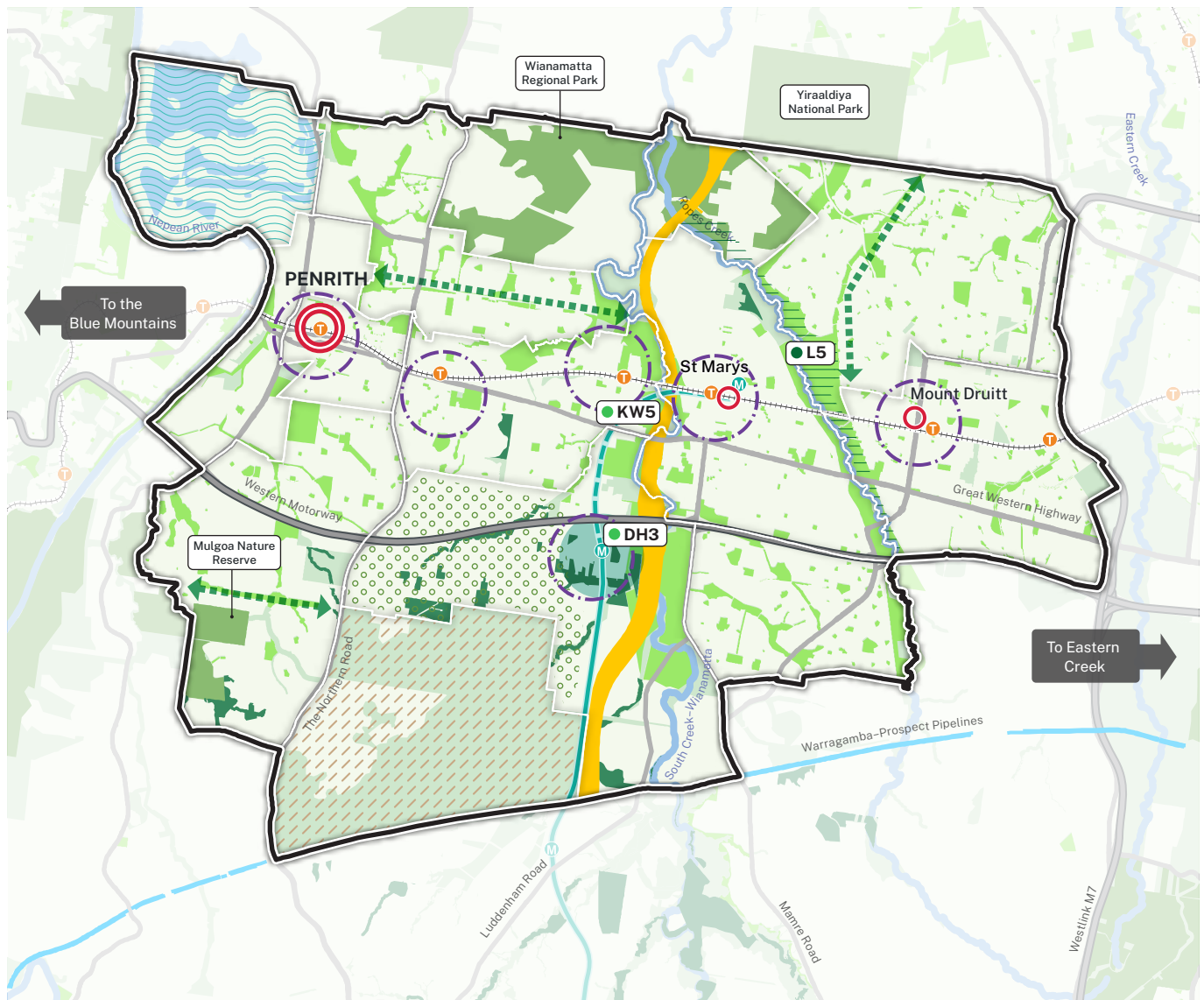


Figure 15: Indicative open space infrastructure^a

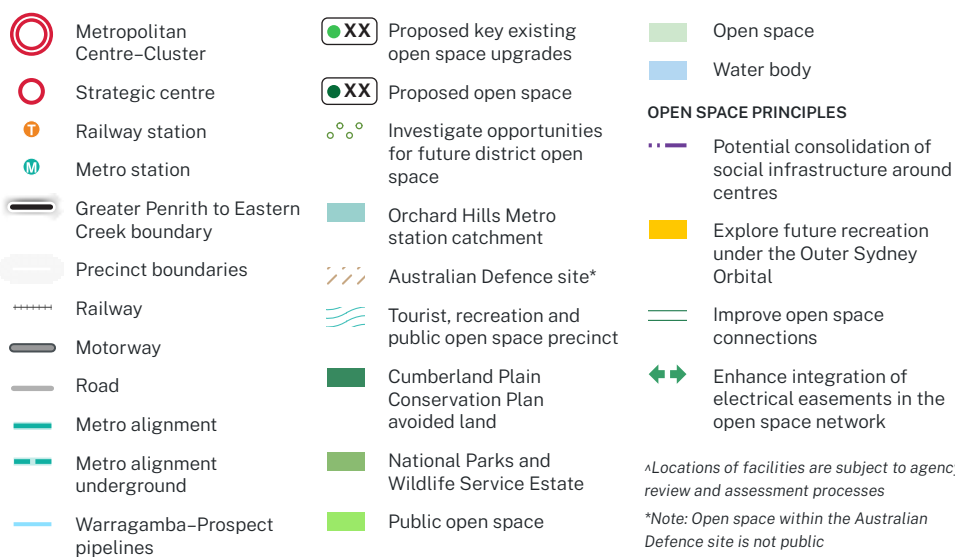
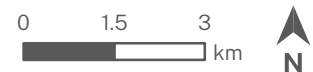


Table 3 is intended as a guide to future detailed planning and infrastructure assessments.

Table 3: Regional and district social and open space infrastructure list -2056

Category	Infrastructure item	Indicative delivery timeframe	Function	Potential funding source/s	Key agency involvement	Map Ref
Kingswood and Werrington						
Community facilities	Multipurpose community hub (Expand Arthur Neave Hall)	Medium	Supporting	State infrastructure contributions, local development contributions, grants	Penrith City Council	KW1
Education	School infrastructure capacity aligned with growth	Medium-long	Supporting	NSW Government, state infrastructure contributions, State Planning Agreement	SINSW	Various
	Potential TAFE Western Sydney and Kingswood upgrade	Short	Supporting	NSW Government, State Planning Agreement	TAFE	KW2
Health	Nepean Hospital redevelopment	Short	Supporting	NSW Government	NSW Health	KW3
Civic	Cobham Youth Justice Centre expansion	Short	Supporting	NSW Government	NSW Communities & Justice	KW4
Open space and recreation	The Kingsway sporting fields and South Creek Park precinct (master plan)	Short	Enabling	State infrastructure contributions	Penrith City Council	KW5
	New indoor sport and recreation facility in Kingswood	Medium	Supporting	State infrastructure contributions, local development contributions, grants, council funding	Penrith City Council	KW6
Luxford						
Community facilities	Luxford Community Hub (new)	Medium	Supporting	State infrastructure contributions, local development contributions, grants, council funding	Blacktown City Council	L1
	Aboriginal artist and creative industries precinct potentially in Mount Druitt and Rooty Hill, Luxford or St Marys	Short-medium	Supporting	NSW Government, state infrastructure contributions, grants	Blacktown or Penrith City councils, Create NSW	L2
Health	Tregear ambulance station upgrade	Medium	Supporting	NSW Government	NSW Health	L3

Category	Infrastructure item	Indicative delivery timeframe	Function	Potential funding source/s	Key agency involvement	Map Ref
Open space and recreation	Indoor sport and recreation facility (new or expand existing facility)	Medium	Supporting	State infrastructure contributions, local development contributions, grants, council funding	Blacktown City Council	L4
	Enhancement of Ropes Creek	Short	Supporting	NSW Government, state infrastructure contributions	NSW Government, councils	L5
Mount Druitt and Rooty Hill						
Community facilities	Mount Druitt Community Hub (expand)	Short	Supporting	State infrastructure contributions, local development contributions, grants, council funding	Blacktown City Council	MD1
	Aboriginal artist and creative industries precinct potentially in Mount Druitt and Rooty Hill, Luxford or St Marys	Short-medium	Supporting	NSW Government, state infrastructure contributions, grants	Councils, Create NSW	L2
Education	School infrastructure capacity aligned with growth	Unknown	Supporting	NSW Government, state infrastructure contributions, State Planning Agreement	SINSW	Various
Health	New Doonside ambulance station	Short	Supporting	NSW Government	NSW Health	Location TBC
	Mount Druitt hospital (investigate)	Short-medium	Supporting	NSW Government	NSW Health	MD3
	Mount Druitt Community Health Centre (investigate upgrades)	Short-medium	Supporting	NSW Government, state infrastructure contributions	NSW Health	MD4
Civic	Mount Druitt courthouse expansion	Short	Supporting	NSW Government	NSW Communities & Justice	MD5
Open space and recreation	Enhancement of Ropes Creek	Short	Supporting	NSW Government, state infrastructure contributions	State agencies and councils	L5
	Indoor sport and recreation facility in Mount Druitt (new or expanded)	Medium	Supporting	State infrastructure contributions, local development contributions, grants, Council funding	Blacktown City Council	MD6
	Mount Druitt Swimming Centre (expanded)	Medium	Supporting	State infrastructure contributions, local development contributions, grants, council funding	Blacktown City Council	MD7

Category	Infrastructure item	Indicative delivery timeframe	Function	Potential funding source/s	Key agency involvement	Map Ref
Orchard Hills						
Community facilities	Orchard Hills South community hub (new)	Medium	Supporting	State infrastructure contributions, local development contributions, grants, VPAs	Penrith City Council	Orchard Hills metro station catchment
Education	New primary schools, potentially with preschools	Short	Supporting	NSW Government, state infrastructure contributions, State Planning Agreement	SINSW	Location TBC
	Potential secondary school	Short	Supporting	NSW Government, state infrastructure contributions, State Planning Agreement	SINSW	Location TBC
	Potential school for special purposes	Short	Supporting	NSW Government, state infrastructure contributions, State Planning Agreement	SINSW	Location TBC
Health	Community health facility (new)	Medium	Supporting	NSW Government	NBMLHD and HINSW will continue to liaise with stakeholders on future opportunities for health facilities in Orchard Hills	Orchard Hills metro station catchment
Open Space & Recreation	Orchard Hills district and regional open space (new)	Short	Supporting	State infrastructure contributions, local development contributions, grants, VPAs	Penrith City Council, OSL	Orchard Hills metro station catchment
	Indoor sport and recreation facility in Claremont Meadows (new)	Medium	Supporting	WestInvest grant	Penrith City Council	OH1
	Aquatic facility Orchard Hills (new -post 2036)	Medium-long	Supporting	State infrastructure contributions, local development contributions	Penrith City Council	Orchard Hills metro station catchment
Emergency Services	Investigate the need for new emergency services including police, ambulance, fire and SES	Medium	Supporting	NSW Government	NSW Police, HINSW, Rural Fire Service, SES	Not yet defined

Category	Infrastructure item	Indicative delivery timeframe	Function	Potential funding source/s	Key agency involvement	Map Ref
Penrith Centre						
Community facilities	Penrith Centre Community Hub (investigate)	Medium	Supporting	Council funding, state infrastructure contributions, local development contributions, grants	Penrith City Council	PC1
	Joan Sutherland Performing Arts Centre (expand)	Medium	Supporting	NSW Government, state infrastructure contributions, grants	Penrith City Council	PC2
	Regional gallery in Penrith Centre (post 2036, investigate)	Long	Supporting	NSW Government, state infrastructure contributions, grants	Penrith City Council	PC3
Education	School infrastructure capacity aligned with growth	Unknown	Supporting	NSW Government, state infrastructure contributions, State Planning Agreement	SINSW	Various
	Penrith centre university campus (investigate)	Long	Supporting	Customer	Western Sydney University	Various
Health	Penrith community health facility (investigate)	Short-medium	Supporting	NSW Government, state infrastructure contributions	NSW Health	PC4
Civic	Penrith courthouse expansion	Medium	Supporting	NSW Government	NSW Communities & Justice	PC5
Open space and recreation	Indoor sport and recreation facility in Penrith Centre (new)	Medium	Supporting	State infrastructure contributions, local development contributions, grants	Penrith City Council	PC6
	Ripples Leisure Centre-Penrith (expand)	Medium	Supporting	Council funding, state infrastructure contributions, local development contributions, grants	Penrith City Council	PC7

Category	Infrastructure item	Indicative delivery timeframe	Function	Potential funding source/s	Key agency involvement	Map Ref
St Marys						
Community facilities	St Marys Community Hub (planned)	Short-medium	Supporting	Council funding, state infrastructure contributions, local development contributions, VPAs, grants	Penrith City Council	SM1
	Aboriginal artist and creative industries precinct potentially in Mount Druitt and Rooty Hill, Luxford or St Marys	Short-medium	Supporting	NSW Government, state infrastructure contributions, grants	Councils, Create NSW	L2
Education	School infrastructure capacity aligned with growth	Unknown	Supporting	NSW Government, state infrastructure contributions, State Planning Agreement	SINSW	Various
Health	St Marys community health facility (investigate)	Short-medium	Supporting	NSW Government, state infrastructure contributions	Health NSW	SM2
Open space & recreation	Indoor sport and recreation facility in Claremont Meadows (new)	Medium	Supporting	WestInvest grant	Penrith City Council	OH1
	Ripples Leisure Centre–St Marys (expand)	Medium	Supporting	Council funding, state infrastructure contributions, local development contributions, VPAs, grants	Penrith City Council	SM4

Utilities and services

Utilities and services enable and support housing development.

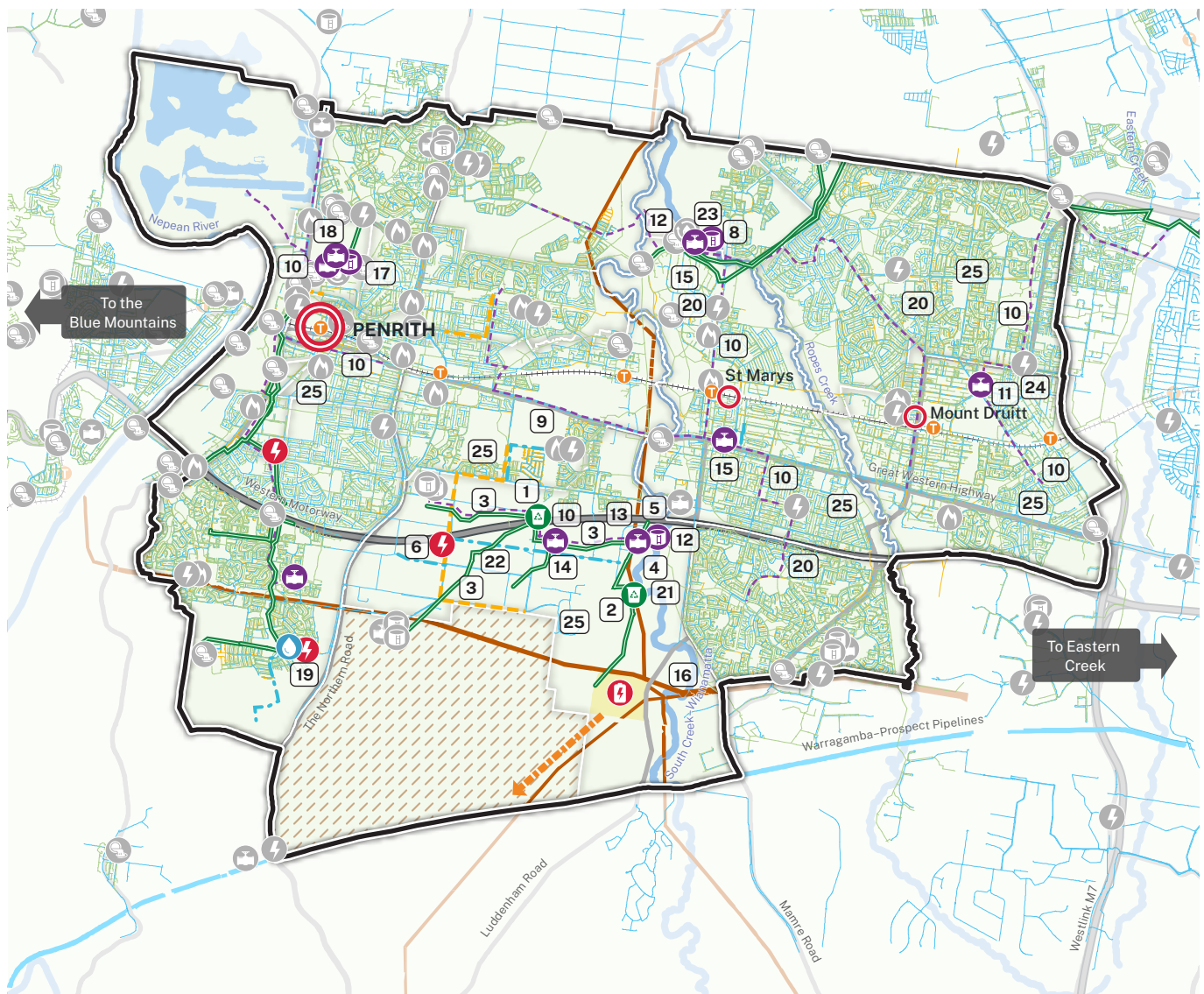


Figure 16: Utilities and servicing^a

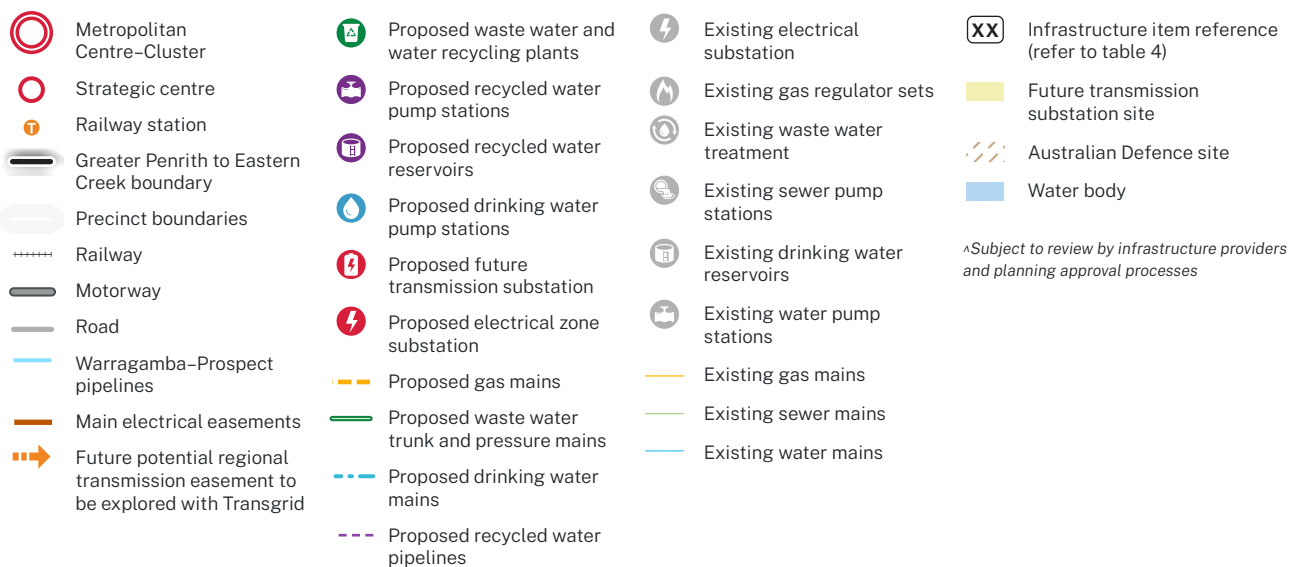


Table 4 is intended as a guide to future detailed planning and infrastructure assessments.

Table 4: Utilities and servicing infrastructure list

Category	Infrastructure item	Indicative delivery timeframe	Function	Potential funding source/s	Key agency involvement	Map Ref
Kingswood and Werrington						
Gas	2 gas secondary regulator sets	Long	Supporting	Customer	Jemena	Location TBD
Electrical	Electrical distribution works	Ongoing	Supporting	Customer	Endeavour Energy	25
Water	Trunk potable water mains	Short	Supporting	NSW Government	Sydney Water	9
Luxford						
Gas	2 gas secondary regulator sets	Long	Supporting	Customer	Jemena	Location TBD
Electrical	Electrical distribution works	Ongoing	Supporting	Customer	Endeavour Energy	25
Water	Recycled water trunk main	Short	Supporting	NSW Government	Sydney Water	10
Mount Druitt and Rooty Hill						
Gas	2 gas secondary regulator sets	Long	Supporting	Customer	Jemena	Location TBD
Water	Recycled water trunk main	Short	Supporting	NSW Government	Sydney Water	10
	Recycled water pumping station	Short	Supporting	NSW Government	Sydney Water	11
Electrical	11 kv high voltage feeders	Unknown	Enabling	Customer	Endeavour Energy	24
	Electrical distribution works	Ongoing	Supporting	Customer	Endeavour Energy	25
Orchard Hills						
Water	Sewer pump station and rising main 1	Short/medium	Enabling	NSW Government	Sydney Water	1
	Sewer pump station and rising main 2	Short/medium	Enabling	NSW Government	Sydney Water	2
	Sewer pump station and rising main 3	Short/medium	Enabling	NSW Government	Sydney Water	Location TBC
	Sewer pump station and rising main 4	Short/medium	Enabling	NSW Government	Sydney Water	Location TBC
	Sewer mains	Short	Enabling	NSW Government	Sydney Water	3
	Effluent transfer main and pump	Short	Enabling	NSW Government	Sydney Water	5
	Trunk potable water mains	Medium	Enabling	NSW Government	Sydney Water	22
	Trunk recycled water mains	Short	Supporting	NSW Government	Sydney Water	10

Category	Infrastructure item	Indicative delivery timeframe	Function	Potential funding source/s	Key agency involvement	Map Ref
	Recycled water reservoir	Unknown	Supporting	NSW Government	Sydney Water	12
	Recycled water pump station 1	Unknown	Supporting	NSW Government	Sydney Water	13
	Recycled water pump station 2	Unknown	Supporting	NSW Government	Sydney Water	14
Electrical	Bulk supply point (South Creek)	Medium	Enabling	Customer	TransGrid	16
	Orchard Hills zone substation	Short	Enabling	Customer	Endeavour Energy	6
	East Orchard Hills zone substation	Long	Supporting	Customer	Endeavour Energy	21
	Electrical distribution works	Ongoing	Supporting	Customer	Endeavour Energy	25
Penrith Centre						
Water	Sewer pump station upgrade (SP1180)	Medium	Enabling	NSW Government	Sydney Water	17
	Penrith water recycling plant upgrade	Medium	Enabling	NSW Government	Sydney Water	18
	Trunk recycled water mains	Short	Supporting	NSW Government	Sydney Water	10
	Wastewater overflow structures	Short	Enabling	NSW Government	Sydney Water	Location TBD
Electrical	South Penrith zone substation	Medium	Enabling	Customer	Endeavour Energy	19
	Electrical distribution works	Ongoing	Supporting	Customer	Endeavour Energy	25
St Marys						
Water	St Marys water recycling plant upgrade	Short	Enabling	NSW Government	Sydney Water	8
	Sewer pump station upgrade (SP0366)	Unknown	Enabling	NSW Government	Sydney Water	23
	Trunk recycled water mains	Short	Supporting	NSW Government	Sydney Water	10
	Recycled water reservoir	Short	Supporting	NSW Government	Sydney Water	12
	Recycled water pump station (1)	Short	Supporting	NSW Government	Sydney Water	15
	Recycled water pump station (2)	Short	Supporting	NSW Government	Sydney Water	15
Electrical	11kv high voltage feeders	Medium	Enabling	Customer	Endeavour Energy	20
	Electrical distribution works	Ongoing	Supporting	Customer	Endeavour Energy	25

Transport

The integration of transport and land use planning is essential.



Figure 17: Strategic transport infrastructure^a

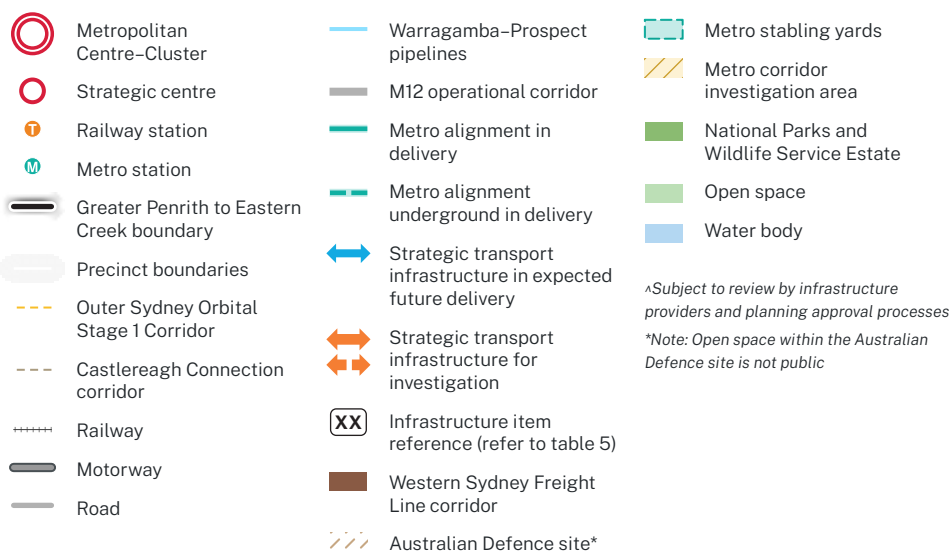


Table 5 is intended as a guide to future detailed planning and transport infrastructure assessments. It contains main transport infrastructure items to enable and support development. Individual projects should not be considered in isolation but as an integrated package to support multimodal outcomes for GPEC.

Table 5: Main transport infrastructure items

Project	Indicative delivery timeframe	Function	Potential funding source/s	Key agency involvement	Map Ref
In delivery					
Sydney Metro–Western Sydney Airport between St Marys and Aerotropolis	Short	Enabling	Australian and NSW governments	TfNSW	1
Expected future delivery					
Mulgoa Road Stage 1	Short	Supporting	NSW and Australian governments	TfNSW	3
Mulgoa Road Stage 2 and 5	Short	Supporting	NSW and Australian governments	TfNSW	4
Mamre Road Stage 1	Short	Supporting	To be determined during further detailed investigations	TfNSW	2
For investigation					
Strategic cycleway corridors – immediate opportunities	Short	Supporting	To be determined during further detailed investigations	TfNSW, Penrith City Council	13
Rapid bus link from Penrith to Western Sydney Airport	Short	Supporting	To be determined during further detailed investigations	TfNSW	12
Corridor for Metro from Tallawong to St Marys	To be determined during further detailed investigations	Supporting	To be determined during further detailed investigations	TfNSW	5
Corridor for OSO Stage 1	To be determined during further detailed investigations	Supporting	To be determined during further detailed investigations	TfNSW	6
Werrington Arterial Stage 2 between Great Western Highway, Werrington and Marsden Park	To be determined during further detailed investigations	Supporting	To be determined during further detailed investigations	TfNSW	7
M7 widening between the M5 interchange at Prestons and the Westlink M7 bridge, Richmond Rd	To be determined during further detailed investigations	Supporting	To be determined during further detailed investigations	TfNSW	8
Mamre Road Stage 2-Erskine Park Road to Kerrs Road	To be determined during further detailed investigations	Supporting	To be determined during further detailed investigations	TfNSW	9
Luddenham Road upgrade	To be determined during further detailed investigations	Supporting	To be determined during further detailed investigations	TfNSW, Penrith City Council	10
Corridor for Castlereagh Connection	To be determined during further detailed investigations	Supporting	To be determined during further detailed investigations	TfNSW	11
Strategic cycling corridors	To be determined during further detailed investigations	Supporting	To be determined during further detailed investigations	TfNSW, councils	N/A
Local walking and cycling networks	To be determined during further detailed investigations	Supporting	To be determined during further detailed investigations	Councils	N/A
Improvements to bus services	To be determined during further detailed investigations	Supporting	To be determined during further detailed investigations	TfNSW	N/A

Infrastructure sequencing

Scope and approach

The strategic framework prioritises the delivery of infrastructure to support short term growth across GPEC within a 5-year planning horizon.

Figure 18 and **Table 6** illustrate the utility and services infrastructure needed to enable development in the focus precincts within GPEC, together with the additional infrastructure needed to support development of the priority areas of Orchard Hills and St Marys Town Centre. Planning for these areas will identify the new and upgraded transport infrastructure that will also be essential to enabling development.

Enabling infrastructure unlocks development and includes items such as new or upgrades to existing wastewater and drinking water mains, pumping stations and treatment plants, electrical zone substations and access to transport infrastructure and services.

Supporting infrastructure may not be critical to allow development to commence, but ensures the community is supported by facilities and services. Supporting infrastructure includes social infrastructure, open space, schools and community, cultural and health facilities.

For the remaining focus precincts of Penrith Centre, Kingswood and Werrington, Mount Druitt Centre and Rooty Hill and Luxford, further work will confirm the infrastructure required and identify potential funding sources. This will be considered when we review the strategic framework. Transport infrastructure and funding requirements will need to be considered on an ongoing basis.

Orchard Hills

Critical to unlocking growth in the rural area of Orchard Hills is the provision of new transport, urban services and utilities, including new water supply, wastewater and electrical services. Precinct planning for Orchard Hills is determining the transport infrastructure required to support development.

The following utilities and services are required to enable development in Orchard Hills:

- new trunk water supply mains
- new sewer mains
- new sewer pump stations, rising mains, and effluent transfer main pump
- upgrades to the St Marys water recycling plant (subject to further collaboration and consultation with Sydney Water)
- upgrades to the Penrith water recycling plant and sewer pump station plant (subject to further collaboration and consultation with Sydney Water)
- new zone substation.

St Marys Town Centre

Growth and urban renewal of the St Marys Town Centre will require augmentation of existing services and a stronger focus on supporting infrastructure to cater for projected population growth.

As part of the St Marys Town Centre Master Plan, Penrith City Council will identify transport infrastructure and services required to support development and will prepare an infrastructure delivery plan and funding strategy to align infrastructure provision with anticipated ultimate and staged growth projections.

The following utilities and services are required to enable development in the St Marys Town Centre:

- upgrade to stormwater infrastructure, which is at capacity
- upgrades to the St Marys water recycling plant (subject to collaboration and consultation with Sydney Water)
- upgrade to the Penrith water recycling plant and sewer pump station plant (subject to collaboration and consultation with Sydney Water)
- a new electrical 11 kV high voltage feeder
- reconfiguration and enhancement of the Kingsway playing fields.

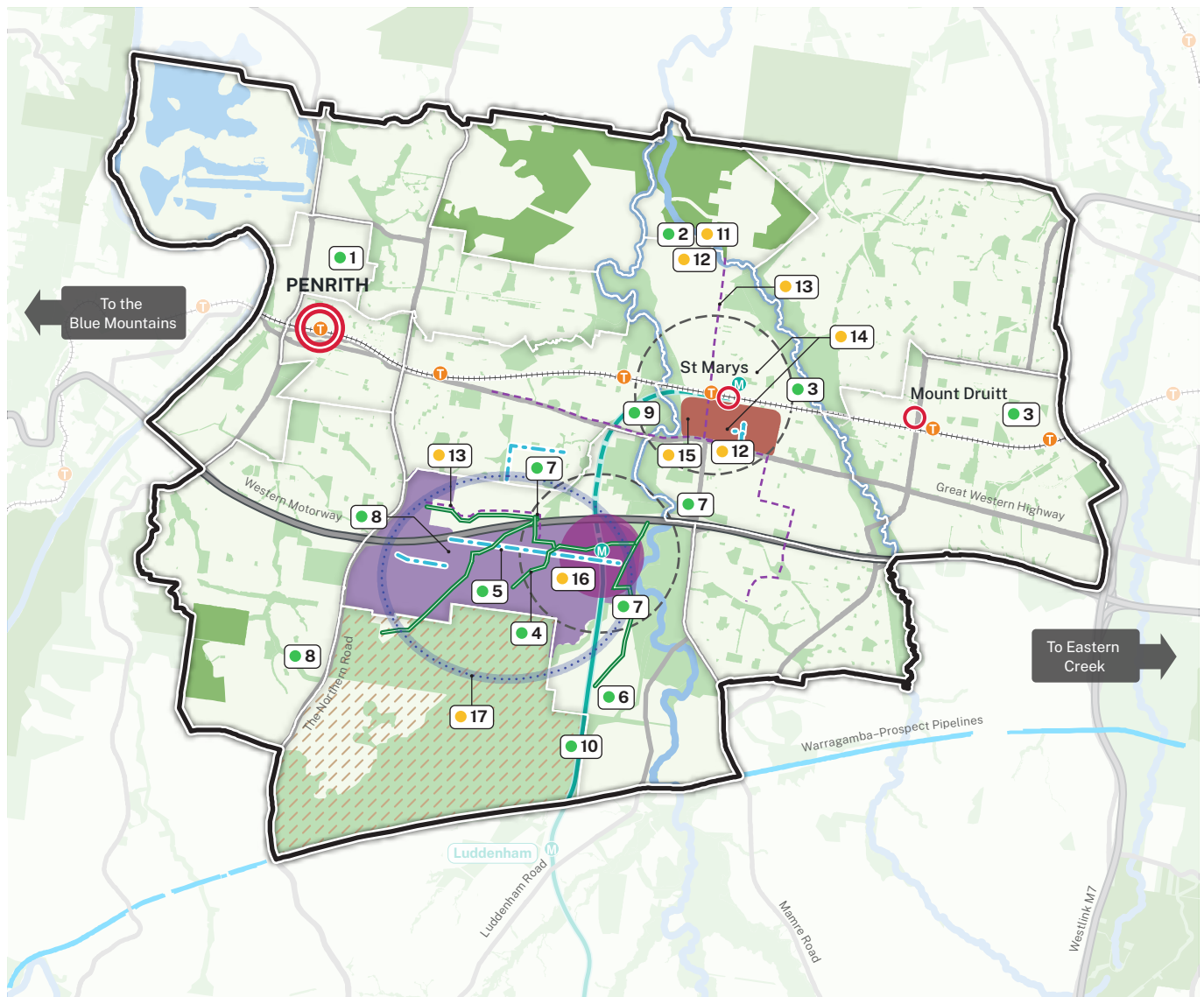
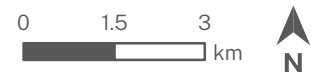


Figure 18: Key short-term infrastructure*



- | | | |
|---|--|--|
| Metropolitan Centre-Cluster | Investigate opportunities for new schools | Priority urban release area |
| Strategic centre | 1500m buffer around station | Priority urban renewal area |
| Railway station | Proposed waste water trunk and pressure mains | Australian Defence site* |
| Metro station | Proposed drinking water mains | National Parks and Wildlife Service Estate |
| Greater Penrith to Eastern Creek boundary | Proposed recycled water pipelines | Open space |
| Precinct boundaries | Enabling infrastructure item reference (refer to table 6) | Water body |
| Railway | Short-term supporting infrastructure item reference in priority areas (refer to table 6) | |
| Motorway | Orchard Hills metro station catchment | |
| Road | | |
| Metro alignment | | |
| Metro alignment underground | | |
| Warragamba-Prospect pipelines | | |

Table 6: Schedule of key short-term infrastructure

Number on Figure 18	Description
Enabling infrastructure	
1	Upgrade needed at Penrith water recycling plant and sewer pump station
2	Upgrade needed at St Marys water recycling plant
3	New 11kV high voltage feeders needed in St Marys and Mount Druitt
4	New sewer mains in Orchard Hills
5	New trunk drinking water mains in Orchard Hills
6	New electrical bulk supply point in Orchard Hills
7	New sewer pump stations and rising mains and effluent transfer main and pump in Orchard Hills
8	New zone substations at South Penrith and Orchard Hills
9	Reconfigure and enhance the Kingsway playing fields
10	Sydney Metro–Western Sydney Airport
Short-term supporting infrastructure in priority areas	
11	New recycled water reservoir in St Marys
12	2 new recycled water pump stations in St Marys
13	New recycled water pipelines in St Marys and Orchard Hills
14	New community and cultural infrastructure in St Marys
15	New community heath infrastructure in St Marys
16	Investigate locations for new district/regional open space in Orchard Hills metro station catchment
17	Investigate locations for new schools in Orchard Hills

6

Part

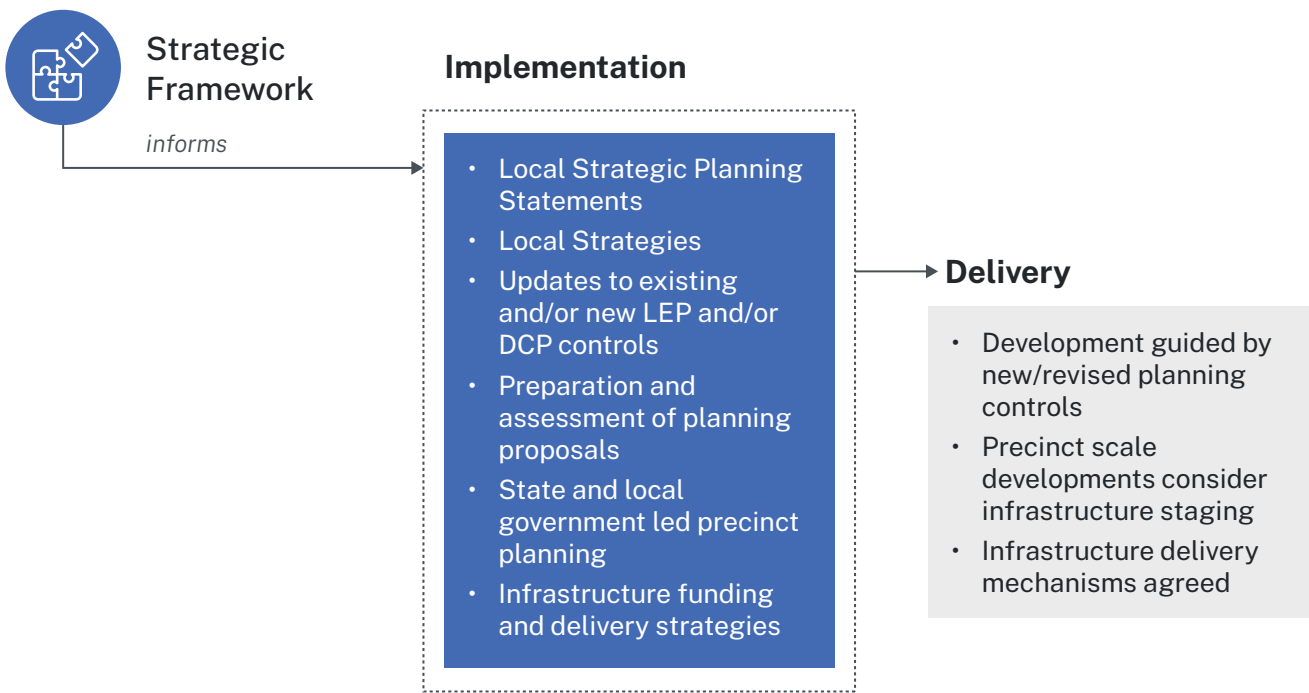
Implementation, monitoring and review



Implementation

The strategic framework sets the scene for more detailed planning to follow, and will inform future planning decisions such as assessment of planning proposals, changes to local environmental plans (LEPs) and new and revised development control plans (DCPs). The diagram below shows how the strategic framework will be implemented.

Planning



Implementation process

Monitoring and review

The *Greater Sydney Region Plan* requires plans to be refined through monitoring and review to ensure they remain relevant and up to date.

Monitoring and review of the strategic framework will focus on short-term actions and infrastructure provision within a 1 to 5 year planning horizon. Review of the strategic framework is recommended every 5 years to allow the framework to continue to guide and monitor outcomes for the following 5-year time horizon.

This will ensure the strategic framework reflects evolving strategic planning policies, updated resilience data, government funding decisions, the evolution of key centres and completion of major infrastructure projects.

Reviews will also identify actions that have been completed and where intervention or assistance may be needed to avoid delay.

The strategic framework may also need to be reviewed to align with and respond to key studies and policies in the region including but not limited to:

- the release of new city plans, once finalised
- additional detail that becomes available following precinct planning
- the NSW Government response to the 2022 NSW Flood Inquiry
- the Hawkesbury–Nepean Valley land use planning framework
- outcomes of the South Creek Cumulative Impact Study (Advisian 2023)
- new planning circulars
- demand pressures related to the Aerotropolis and the commencement of airport operations.

Next steps

Precinct planning

Orchard Hills

Precinct planning for the priority urban release area of Orchard Hills commenced in October 2022. This will support the new Orchard Hills station and unlock opportunities for people to live close to jobs and transport.

Precinct planning involves state agencies, Penrith City Council, Deerubbin Local Aboriginal Land Council and Traditional Owners.

Detailed investigations are underway to determine the area of land to be rezoned, and whether rezoning needs to happen in stages so that new infrastructure can be provided as development occurs.

For more information about Orchard Hills visit www.planning.nsw.gov.au/Orchard-Hills

As the planning process for Orchard Hills progresses, we will seek further feedback from the community, stakeholders and industry groups.

St Marys Town Centre

Penrith City Council is leading St Marys 2041 – a planning pathway to manage growth and change over the next 20 years in the priority urban renewal area of St Marys Town Centre, in collaboration with WPCA and the Greater Cities Commission. St Marys will become a major transport interchange within GPEC once the Sydney Metro–Western Sydney Airport line opens.

In November 2022, Penrith City Council endorsed the structure plan for St Marys Town Centre, which is the first stage of the planning pathway. The structure plan outlines existing environmental, social and economic conditions of and sets a vision and strategic and spatial planning directions to grow St Marys as a vibrant, welcoming, sustainable and authentic strategic centre that meets the changing needs of the community.

Council is progressing the second stage of the planning pathway – the St Marys Town Centre Master Plan. Supported by additional technical studies, the master plan will refine the directions of the structure plan, including more detailed investigations of infrastructure needs, costing, development stages, implementation mechanisms and a funding strategy. The master plan will inform Council's capital works program and potential amendments to planning controls.

The planning pathway for St Marys will also inform the development of a corridors and centres strategy for Penrith LGA. This will become a component of Council's Places of Penrith Strategic Framework.

For more information about St Marys planning pathway, visit yoursaypenrith.com.au/stmarys2041



7

Part

Glossary

Term	Definition
30-minute city	A planning concept for Greater Sydney in which people can easily access their nearest centre within 30 minutes by public transport, walking or cycling.
15-minute neighbourhood	A concept that seeks to support local communities and healthy lifestyles by prioritising place making, walking, cycling, micromobility and last-mile freight. Revitalisation of local centres can help achieve the 15-minute neighbourhood by creating quality public spaces and concentrating activities around shops, transport and facilities that are easily accessible by walking or cycling.
5-10 minute walk	A 5-minute and 10-minute walk aligns to actual walking routes of approximately 400 m and 800 m respectively. Place-based characteristics such as topography, physical barriers and climate need to be considered when determining walking catchments.
Accessibility	The ability for everyone, regardless of age, ability or where they live, to use and benefit from the transport system, open space, housing and services.
Active transport	Transport that requires individual physical effort to provide mobility. For personal travel, this includes walking, use of a wheelchair or mobility aid, cycling using a bicycle (without power assistance) and power-assisted micromobility (see below). Active forms of transport for freight delivery include pedal-powered and electric power-assisted cargo bikes.
AEP	Annual Exceedance Probability. The probability that a flood of a given (or larger) magnitude will occur within a period of one year. For example, a 1% AEP Flood means you have a 1-in-100 chance that a flood of that size (or larger) could occur in any one year.
Amenity	The extent to which a place, experience or service is pleasant, attractive or comfortable. Improved features, facilities or services may increase amenity.
Built environment	The extent of the human-made environment as distinguished from the natural environment, including cities and towns, neighbourhoods, parks, roads, buildings and utilities.
Built form	The function, shape and configuration of buildings as well as their relationship to streets and open spaces.
Character	The combination of the attributes, characteristics and qualities of a place.
Cool refuge	Provides temperatures of no more than 27°C on extreme heat days and should also aim to achieve between 40% to 60% relative humidity, principally through passive design for thermal comfort.
Culturally responsive housing	Housing designed to accommodate the diverse lifestyles of different cultural groups integrating flexible and adaptable spaces for extended families and community activities to facilitate caring and knowledge transfer.
Cranebrook Terrace Formation	A landform located within 300-800 m of the Hawkesbury-Nepean River, between Castlereagh and Mulgoa. It has the potential to contain intact and deep sediments with evidence of Aboriginal occupation in the form of cultural material from 36,000 years ago to the present.
Deep soil	Deep soil is a landscaped area connected horizontally to the soil system and local ground water system beyond and is unimpeded by any building or structure above or below ground with the exception of minor structures. Deep soil zones with a minimum dimension of 3 m allows sufficient space for the planting and healthy growth of new trees that provide canopy cover and assist with urban cooling and infiltration of rainwater to the water table. Deep soil also allows for the retention of existing trees.
Diverse housing	A mix of different types and sizes of housing to offer genuine choice in the housing market at a range of price points and accessibility levels. In addition to different housing types (terraces, semi-detached, multi-dwelling etc) diverse housing can include different tenure types and delivery models such as build-to-rent, social housing and affordable housing.
Green infrastructure	The network of natural and semi-natural systems including bushland, parks, private gardens, rivers and streams and native vegetation.

Term	Definition
Gross residential density	The ratio of the number of dwellings to the area of land they occupy, including public streets, local open space, local or neighbourhood shops, primary and secondary schools, local community services, local employment areas and half the width of adjoining arterial roads.
Health and education precinct	An area that encompasses a mix of health and education facilities to create a cluster.
High-frequency public transport	Public transport that operates at no less than a 5-minute service interval
Integrated water cycle management/strategies	A collaborative approach to planning for sustainable water infrastructure that considers all elements of the water cycle, including waterways, wastewater management, alternative supplies like recycled water, potable (drinking) water, stormwater management and water treatment. It aims to address environmental, social and economic benefits associated with holistic management of water-related systems and supply.
Landscape features	Natural elements within an area that add to its sense of place, such as sloping terrain, mountains, outcrops, views and ridgelines.
Last-mile freight	The final stage of the journey in which goods are being delivered to a destination.
Liveability	The quality of life within a given area considering social, economic and environmental factors. It encompasses the impact of the built environment on human health and community wellbeing.
Local centre	Provides access to day-to-day goods and services close to where people live.
Master plan	A visual document showing how development will occur in each place including parameters like height, density, shadowing and environmental concerns.
Metropolitan cluster	Four centres within the Western Parkland City (Penrith, Liverpool, Campbelltown–Macarthur and Bradfield) that together provide access to a large number and range of jobs and services.
Micromobility	Small, lightweight, power-assisted vehicles operating at low speeds, to carry one person plus a child or other passenger, or a small load, for example, e-bikes and e-scooters.
Mixed use	A building or area containing more than one type of land use.
Mobility	The ability to move or be moved easily and without constraints.
Movement and Place Framework	Seeks to ensure that ‘movement’ and ‘place’ are considered together as part of a place-based approach to the planning, design, provision and operation of transport networks. It considers how different parts of the network perform different functions – moving people and goods and being places for people, particularly in centres.
Neighbourhood centre	A small collection of shops and or services, where local communities can meet and take care of their daily needs
Place making	A multi-faceted approach to the planning, design and management of public spaces. Successful place making either preserves or enhances the character of public spaces, making them more accessible, attractive, comfortable and safe.
Places of shared culture	Places of shared culture are identified in figure 4 due to their importance as meeting places for the contemporary Aboriginal community, which includes community from off Country.
PMF	Probable maximum flood.
Precinct	A geographical area with boundaries determined by land use and other unique characteristics.
Public open spaces	Land reserved for recreation and sport, preservation of natural environments, and provision of green space.
Public spaces	Areas that are publicly accessible where people can interact with each other and make social connections, such as plazas, libraries or streets.

Term	Definition
Resilience	The ability of urban environments and infrastructure systems and services to withstand unexpected climate, weather and catastrophic events.
Road reserve	A legally defined area of land within which facilities such as roads, footpaths and associated features may be constructed for public travel.
Safe zone	A safe zone is a designated area in case of an emergency that prioritises safety considerations.
Social infrastructure	A range of education, community, religious facilities and services providing a hub for connections and interaction to meet the social needs of the local community.
Strategic centre	Provides access to a range of jobs and services close to people's homes. Strategic centres usually include a range of land uses such as a commercial area and should be accessible by a range of transport modes.
Strategic plan	Guides the implementation of a strategy for a particular area.
Sustainable	Relates to the endurance of systems, buildings, spaces, and processes—their ability to be maintained at a certain rate or level, which contributes positively to environmental, economic and social outcomes.
Traditional travelling routes	Traditional travelling routes promoted contact between local tribes and more distant groups, and facilitated many things including trade, marriage, fulfilment of cultural ceremonial responsibilities and kinship responsibilities, and allowed country to regenerate.
Urban release area	An area of land not used for urban purposes and identified for future urban development.
Urban renewal	A planned approach to the rehabilitation of city areas with new infrastructure, new commercial/mixed uses, improved services and renovation or reconstruction of housing and public works.
Urban tree canopy	The layer of leaves, branches and stems of a tree that provide coverage of the ground when viewed from above. Refers to trees on public or private land within urban areas and comprises a variety of tree types.
Walkable neighbourhood	A neighbourhood or place designed to encourage the pedestrianisation of local communities to promote walking to places of interest or destinations rather than relying on car travel.
Water-sensitive urban design	Includes techniques such as raingardens, constructed wetlands, bioretention infrastructure and swales, aiming to improve the ability of urban environments to capture, treat and re-use stormwater before it has the chance to pollute and degrade creeks and rivers.
Western Parkland City	One of the three cities of Greater Sydney, anchored by the Metropolitan Cluster that includes Penrith, Bradfield, Liverpool and Campbelltown–Macarthur.

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Part

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Appendix

1

Public open space

This section provides guidance on how to calculate and meet the public open space benchmarks in the strategic framework. It is based on testing carried out in 2021 by Government Architect NSW in collaboration with the Department of Planning and Environment for the draft Urban Design Guide.

Definition

Public open space is any open space that is publicly owned and accessible and that is publicly planned and managed for the community.

It encompasses parks, natural areas and linkages, foreshore areas, informal parkland, sportsgrounds and courts, children's playgrounds, active transport corridors, waterways and riparian corridors, historical sites, formal gardens, and linear walking, cycling and equestrian tracks.

Public open spaces are used for cultural and health-related activities, including outdoor recreation and exercise, organised sport and physical activity, appreciation of nature and heritage, socialising, picnicking, walking, informal group activities, providing visual and landscape amenity, as well as biodiversity and fauna conservation.

Open space types and settings include:

- natural areas of bushland and waterways, including linkages and foreshores (creeks, rivers, lakes, wetlands, beaches)*
- parklands and gardens
- sportsgrounds (field and courts)
- civic plazas and squares
- rooftops and podiums of public facilities
- streetscapes and shared zones*
- walking and cycling trails.

These types of open space contribute to the network of local, district and regional public open spaces and accessibility of places.

* These open space types are not included in the 15% public open space requirement.

Proportional approach

This strategic framework recommends consideration of a proportional approach to the provision of open space, (where a minimum of 15% of net developable land (NDL) is set aside for open space) for medium to high density residential proposals, and mixed use proposals where residential uses are included. This approach prioritises connection and site-responsive public space outcomes and does not rely on metrics alone.

It differs from the per capita approach, which aims for around 2.83 ha of open space to be supplied for every 1,000 residents, as most future growth in GPEC will be through urban renewal and infill development, including areas of high density around key public transport nodes. Applying a per capita approach in this context can result in a need for unfeasibly high amounts of open space.

The per capita approach considers the immediate population demand for open space; this does not allow for provision of open space to keep pace with incremental growth.

The proportional approach may allow for an appropriate and feasible amount of open space to be provided in line with development and provides a measure of flexibility over time to cater to the changing population.

Public open space components

Two types of parks can be combined to achieve the 15% public open space provision. Both types must be represented:

- parks, including district and local parks; in medium and high-density areas, small parks are also required
- linear parks and green corridors.

Requirements for public open space to contribute to the 15% provision include:

- **quantity:** size and distribution must be in accordance with the relevant density and development site size
- **quality:** site selection, open space uses, amenity and comfort, inclusivity, accessibility and safety
- **connectivity:** for recreational, ecological and tree canopy benefits
- **public amenity:** accessibility, usability, and recreational benefit.

Provision of regional parks and metropolitan parks is considered in addition to the 15%. They provide for a much larger catchment of the community and require planning at a metropolitan level. Regional and metropolitan scaled parks are not expected to be delivered by development proponents.

The following list of open space land types (often zoned RE1) are excluded from contributing to the 15% open space provision:

- drainage swales, detention basins, large waterbodies
- high-voltage powerline easements and land with limited recreational value due to easements
- inaccessible or fenced-off land
- biodiversity protection areas (including *Cumberland Plain Conservation Plan* avoided land)
- protected riparian corridor buffer zones
- road verges
- open space with little or no recreational benefit.

Open space must be located on safe land with clear and continuous public access.

Criteria for dual-use land

For areas of flood-prone land and riparian corridors, open space can be established but cannot exceed more than 10% of the total provision of public open space. (For example, if 100 ha of public open space are provided, then no more than 10 ha can be dual-use public open space.) For public open space provision, dual-use land must meet the following criteria:

- All public open space provided on dual-use land is high-quality, varied and adaptable.
- All public open space is freely and publicly accessible at all times, and available for use at all times.
- Any additional cost burden associated with delivering dual-use public open space is borne by the proponent.
- Active formal recreation (hard courts, sports fields etc.) are not located in these areas. All public open space infrastructure is designed and constructed to meet the requirements of the consent authority for flood management.
- All public open space is sited and designed to ensure user safety.
- All public open space is free of undue restrictions. Examples of undue restrictions include areas where tree planting is restricted, where sports fields and hard courts are restricted, or where there are limitations on landscape planting.
- Dual-use land applies to small and local parks only. District parks are not dual use and are not located in riparian corridors or on flood affected land.
- The public open space provision calculation does not include standing bodies of water. However, standing bodies of water may be included if they can be used for swimming and other forms of water recreation and meet the required water quality standards for human interaction.
- In riparian corridors, land that is within the vegetated riparian zones outlined in the *NSW Water Management Act 2000* cannot be included in the open space provision calculation (aligns with the *Guidelines for riparian corridors on waterfront land* (NSW Office of Water 2012)).

If the proponent can demonstrate that high quality and innovative open space outcomes can be achieved (such as wetlands, boardwalks and trails) the consent authority may consider the use of land such as detention basins, drainage swales and other stormwater infrastructure as public open space.

Method for providing public open space

This section outlines the 5-step process for councils and proponents to identify the amount, location and size of public open spaces for a development precinct or site.

Step 1: Identify opportunities

Identify all natural features and opportunities to support and connect natural systems and networks.

Identify all existing mature trees and stands of vegetation.

Identify opportunities for open space to strengthen and support natural landscape features, ecological connectivity and active transport network.

Step 2: Identify net developable land and quantify open space requirements

Identify the net developable land (NDL) for the site. A minimum of fifteen per cent of the NDL area is required to be provided as public open space.

The NDL includes the following land-use types:

- residential zoning (R1–R4)
- commercial zoning (E1–E3)
- public recreational open space (RE1)
- local roads and streets
- schools (SP2)
- local hospitals, community centres and facilities
- tourist facilities (including SP3)
- car parks
- environmental and bushland zones that are publicly accessible and can be used for public recreation (C2–C3).

The following land use types are excluded from the NDL:

- roads and motorways (SP1–SP2)
- rail corridors (SP1–SP2)
- utilities infrastructure (SP2)
- drainage infrastructure (SP2)
- private recreation (RE2)
- waterways, rivers, creeks, ponds (including W1–W3)
- national parks (C1)
- large lot residential (R5)

- environmental living (C4)
- rural (RU1–RU6)
- industrial lands (E4, E5, W4)
- universities.

Step 3: Locate parks according to size and catchment requirements

Lay out parks (local parks and district parks) in accordance with size and catchment distribution requirements.

Look for opportunity sites where open space can support urban ecosystems.

Seek to locate parks:

- near urban centres, urban attractors, or areas of natural amenity
- together with remnant trees and other existing planted areas
- where they might be joined by linear parks in the next step.

Step 4: Locate a network of linear parks

Create a linear park network that links together the following:

- opportunities identified in Step 1
- new parks laid out in Step 3
- urban centres and urban attractors including schools and community facilities.

Look for opportunities to co-locate linear parks along the fringes of landscape features including waterways, riparian corridors, high points, ridges and valleys.

Align the linear park network so it can link to adjacent development sites, other linear parks, and green grid corridors on nearby sites.

Create a network that provides active transport corridors throughout the development area and aligns with broader priority corridors.

Step 5: Check areas meet minimum 15 per cent open space provision and revise open spaces to suit

Review the open space provided and add open space to the network as required to meet or surpass the 15% public open space requirement.

This can be done in 4 ways:

1. **Extend parks** – some parks may benefit from being larger. This could include making the larger parks even larger or making the smallest parks larger so they can provide more uses.
2. **Add new parks** – provide new parks in areas that have minimal access to open space.
3. **Widen linear parks** – where linear parks are adjacent to major urban ecosystem corridors or align with green grid priority corridors or local government area priorities, consider making these linear parks wider to maximise their usable space. As shown in many linear park case studies, these could become local or district parks and linear parks combined.
4. **Add new linear parks** – where additional corridors would increase connectivity benefits, add new linear parks. Avoid providing linear parks where these are short or do not add value to linear parks already intended for the network.

Providing 15% open space at different sizes and densities

The minimum 15% public open space provision is to be made up of a mix of parks and linear parks. The exact mix will vary depending on the site and proposed development density.

In low density developments (8 to 20 dwellings/ha net), a mix of parks and linear parks should be provided that meet the minimum requirements. Any additional open space required to reach 15% can be provided by either increasing park size or linear park provision. Low density environments typically contain more opportunities to connect to existing ecological systems or provide linear parks through the less-connected areas of the street network.

For medium to high density developments (20 dwellings/ha net or greater), open space planning should prioritise increasing the sizes of parks over linear park provision to meet 15% public open space. This will maximise usability and solar access impacts so that small parks are not overshadowed for the entire day.

Some linear parks may be provided; however, the street network in high density environments often has potential to provide similar benefits if designed with generous tree planting, wide footpaths and active transport corridors. Street networks should be designed in this way to allow for parks to make up the bulk of the open space provision.

Exemptions

A series of exemptions to the open space benchmarks apply based on the site area of development.

Sites under 25 ha

Linear park length

Minimum length requirements of linear parks in developments of under 25 ha do not apply. Instead, linear parks should be provided to connect to adjacent existing or proposed linear parks, urban ecosystems or active transport corridors near attractors. Any linear corridors need to align with council green infrastructure, green grid or linear green network plans.

Linear park widths

The minimum width of linear parks in high density areas is recommended but not critical. If narrower linear parks are provided, they should generally be 8 to 15 m wide and provide tree canopy, planting, and active transport connections at a minimum.

Rather than a minimum width, it is more important that streets and linear parks are connected to surrounding active transport corridors, major links in adjacent development sites, urban attractors, high amenity walkable local streets or urban ecosystem corridors. Designing high amenity streets throughout the development should be prioritised.

Sites of 2 to 5 ha

Open space should be provided as a large, connected space for these sites to maximise solar access and usable space. The open space should also act as a linear connector through the site or to adjacent attractors.

Open spaces should align with council open space plans. If a local open space strategy does not consider open space appropriate on this site, the proponent will need to look for opportunities to provide connectivity and contribute to nearby open spaces.

Sites between 5 and 25 ha

For sites between 5 and 25ha, the recommended approach is to provide one local open space as large as comfortably possible within the site to maximise solar access and usable space.

The space should also seek to act as a linear connector through the site or to adjacent attractors.

An indicative size guide for this local open space should be 15% of the NDL for sites of 5 ha, up to 10% of NDL for sites of up to 25 ha. This park should be sited prominently in the site and act as the 'main' local park.

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