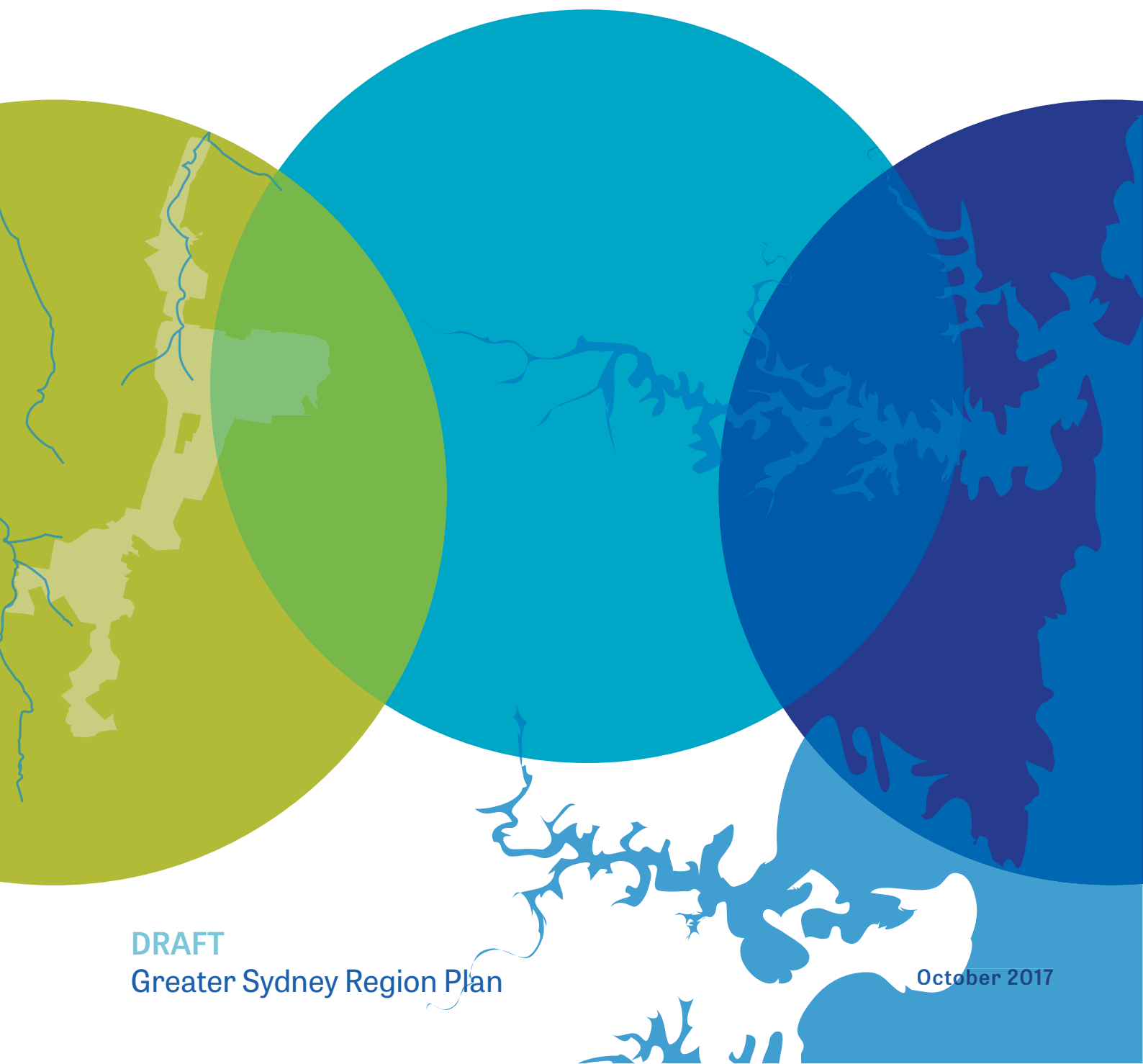


OUR GREATER SYDNEY 2056

A metropolis of three cities

– connecting people



How to be involved

The draft *Greater Sydney Region Plan* sets out a vision, objectives, strategies and actions for a metropolis of three cities across Greater Sydney. It is on formal public exhibition until 15 December 2017.

You can read the entire draft Plan at www.greater.sydney

You can make a submission:

by visiting www.greater.sydney/submissions

by emailing submissions@gsc.nsw.gov.au

by post to:

Greater Sydney Commission

Draft Greater Sydney Region Plan

PO BOX 257

Parramatta NSW 2124

Before making a submission, please read the Privacy Statement at www.greater.sydney/privacy. If you provide a submission in relation to this document using any of the above addresses, you will be taken to have accepted the Privacy Statement.

Please note that all submissions and comments will be treated as public and will be published in a variety of mediums. If you would like to make a submission without it being made public or if you have any questions about the application of the Commission's privacy policy, please contact the Commission directly on 1800 617 681 or submissions@gsc.nsw.gov.au

A metropolis of three cities will transform land use and transport patterns and boost Greater Sydney's liveability, productivity and sustainability by spreading the benefits of growth to all its residents.

Chief Commissioner
Lucy Hughes Turnbull AO



I am delighted to present the Greater Sydney Commission's first draft regional plan to the people of Greater Sydney and the Minister for Planning, Minister for Housing and the Special Minister of State.

The draft Greater Sydney Region Plan is broad in its vision and detailed in its strategies and actions. The vision for a global metropolis of three cities, enabling the majority of people to commute to their nearest city within 30 minutes, will transform Greater Sydney. It is a pivotal structural change that is needed over the next 40 years as the population grows.

This draft Plan is people based. Its strategies will foster jobs, services, cycling and walking paths and quality public spaces within easier reach of people's homes which will ease congestion,

take the pressure off housing affordability and maintain and enhance our natural resources.

This is the first regional plan by the Greater Sydney Commission, an independent agency responsible for leading metropolitan planning for Greater Sydney. It is therefore not Government policy. However it was developed in collaboration with a range of State agencies and councils so that the delivery of new housing and jobs can be supported by transport and local infrastructure.

I encourage the people of Greater Sydney to review this draft Plan and provide us with their comments. Feedback will be integral in the development of a final Plan that meets the needs of current and future generations.

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Vision to 2056

Greater Sydney is Australia's global city; an economic powerhouse of 4.7 million people, endowed with the natural beauty of its Harbour, bushland, beaches and the Blue Mountains. Greater Sydney's people have embraced this place for its opportunities and its potential.

This draft Plan is built on a vision where the people of Greater Sydney live within 30 minutes of their jobs, education and health facilities, services and great places. This is consistent with the 10 Directions in *Directions for a Greater Sydney* which establish the aspirations for the region over the next 40 years and are a core component of the vision and a measure of the Plan's performance.

The vision seeks to meet the needs of a growing and changing population by transforming Greater Sydney into a metropolis of three cities – the Western Parkland City, the Central River City and the Eastern Harbour City. It brings new thinking to land use and transport patterns to boost Greater Sydney's liveability, productivity and sustainability by spreading the benefits of growth.

As the population of Greater Sydney grows to 8 million over the next 40 years, and with almost half of that population residing west of Parramatta, this rebalancing will leverage that growth and deliver the benefits more equally and equitably across Greater Sydney.

Residents will have quick and easy access to jobs and essential services, housing will be more affordable and the environment and precious resources will be protected. Importantly, infrastructure will be sequenced to support growth and delivered concurrently with new homes and jobs.

Having three cities will put workers closer to knowledge-intensive jobs, city-scale infrastructure and services, and entertainment and cultural facilities. Residents and businesses in an inclusive Greater Sydney will find that freedom of expression and creativity are

supported and acknowledged as part of the innovation economy.

Walking and cycling will become increasingly important in daily travel arrangements with well-designed and safe paths in popular thoroughfares improving the sustainability of the region and the wellbeing of residents.

Each of the three cities has its own opportunities and challenges.

The emerging **Western Parkland City** with the Western Sydney Airport and Badgerys Creek Aerotropolis as a catalyst for the city cluster will grow a strong trade, logistics, advanced manufacturing, health, education and science economy and be the most connected place in Australia. It will produce knowledge-intensive jobs close to new well-designed neighbourhoods. Liveability for residents will be key – such as more trees to provide shade and shelter and walkable neighbourhoods within easy reach of shops and services.

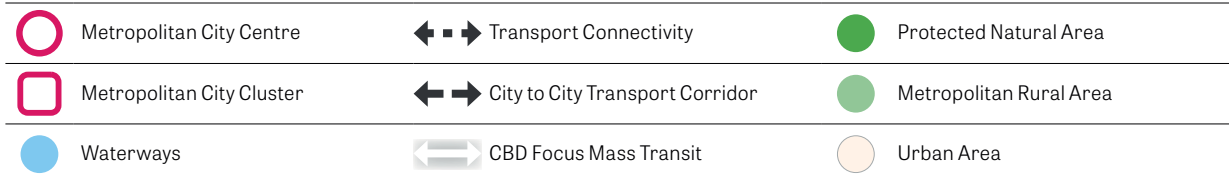
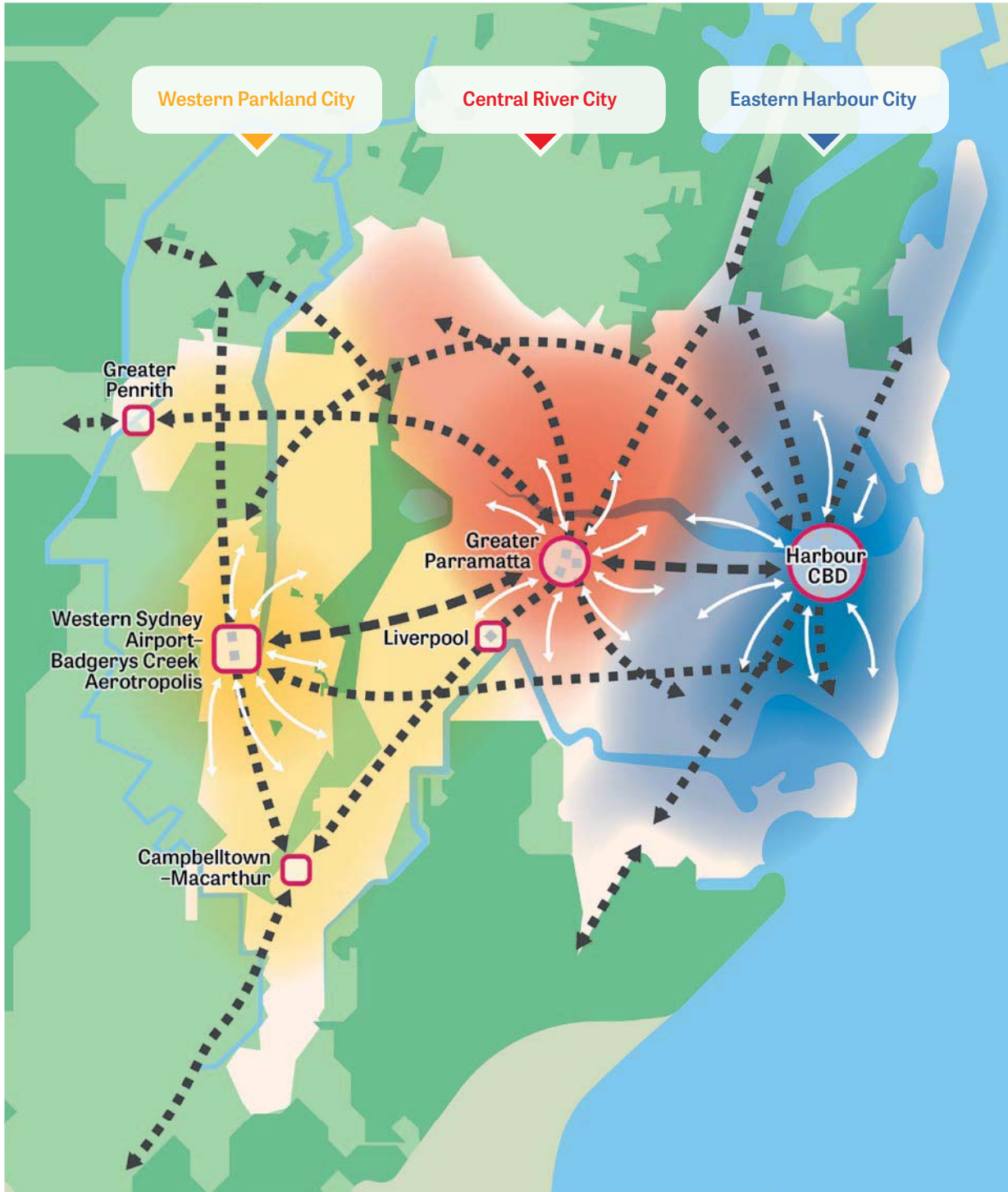
The **Central River City** will capitalise on its location in the centre of Greater Sydney and with enhanced radial transport links will continue developing its world-class health, education and research institutions as well as its finance, business services and administration sectors to drive the economy. High quality urban renewal

and new neighbourhoods will be matched with quality public places, green spaces and infrastructure to attract skilled workers and top 100 businesses.

The **Eastern Harbour City** will build on its credentials and leverage its strong financial, professional, health and education sectors and extend its capabilities with an innovation precinct that will boost productivity and global connections. Large and small scale urban renewal will acknowledge local identity, amenity and the famous Harbour and coastal setting.

The vision for a metropolis of three cities will be achieved by collaborations between all tiers of government, and between governments and key stakeholders including the community, interest groups, businesses, industry groups and non-government organisations.

Greater Sydney is already an outstanding global city with a reputation for liveability and cultural diversity that attracts international investment and appeals to visitors. A metropolis of three cities will build on its economic, social and environmental assets to improve the quality of life for all its residents and to uphold its status as one of the top cities of the world.



Snapshot of the Plan

Why does Greater Sydney need a new plan?

Eight million people will call Greater Sydney home by 2056. This requires a 40-year vision and 20-year plan that:

- responds to the unique geography of the Greater Sydney basin
- respects the great places and communities people love in Greater Sydney
- facilitates a minimum of 725,000 dwellings
- generates an extra 817,000 jobs
- takes advantage of changing technological, lifestyle and economic trends.

What opportunities does the Plan create?

A new plan for Greater Sydney presents opportunities to:

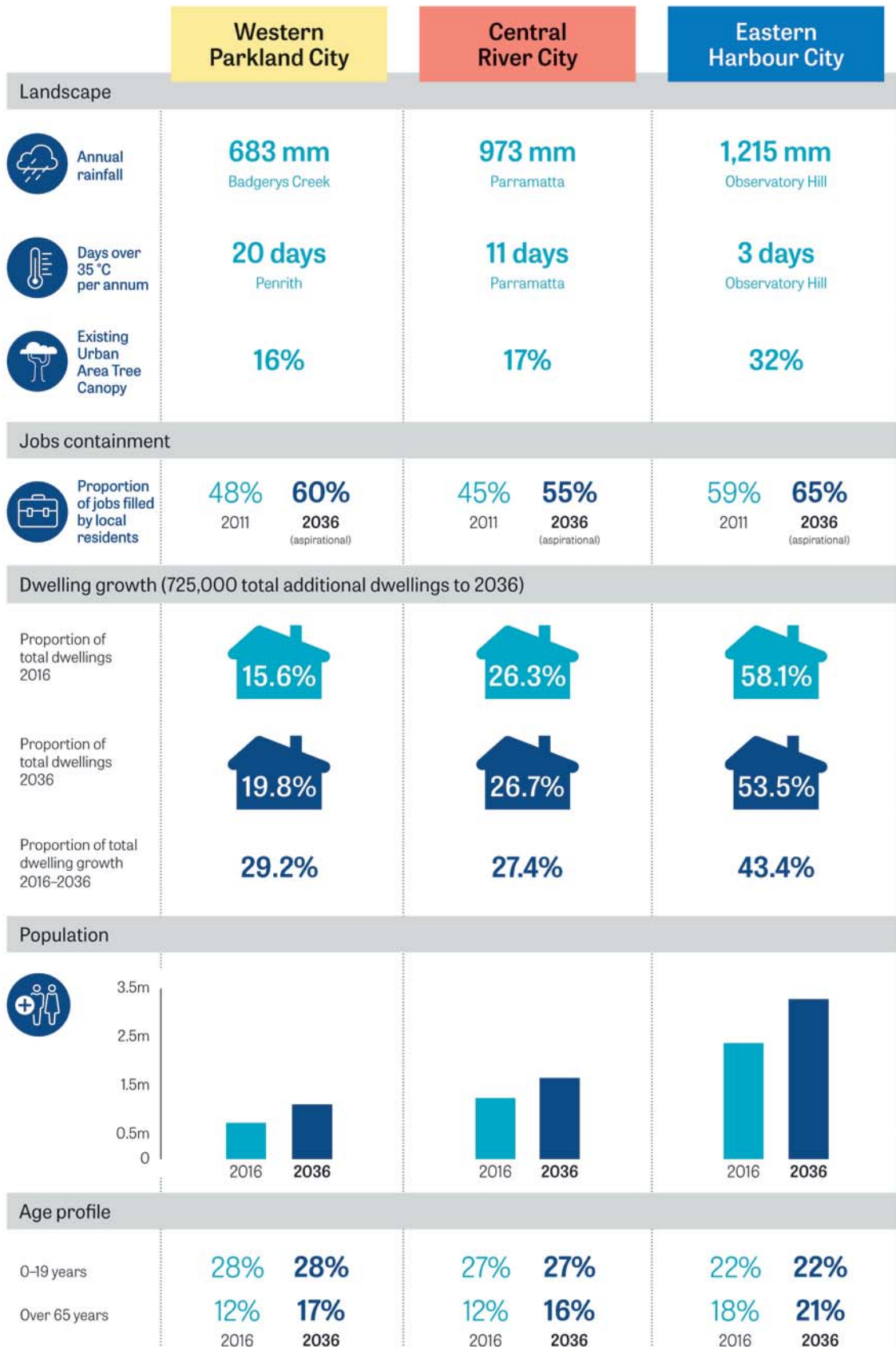
- enhance Greater Sydney's natural and built environment
- create more liveable neighbourhoods and well connected and resilient communities
- better connect people with opportunities for education, housing and jobs across Greater Sydney
- leverage unprecedented infrastructure investment and provide the right transport connections across the city and within neighbourhoods
- elevate Greater Sydney from a top 20 to a top 10 global city.



What does the Plan deliver?

The draft Greater Sydney Region Plan:

- is the first plan concurrently developed with the metropolitan transport plan, *Future Transport 2056*, and the *State Infrastructure Strategy*, meaning better connections for people across Greater Sydney
- creates a metropolis of three cities, rebalancing growth and opportunities for people across Greater Sydney
- uses the airport as a catalyst to generate a diversity of jobs in the Western City
- improves housing affordability and choice aligned with local infrastructure across the city
- plans and prioritises infrastructure early to support a growing Greater Sydney through growth infrastructure compacts
- protects and enhances the city's unique landscape by recognising its environmental diversity
- creates great local places by protecting heritage and biodiversity, while enhancing the Green Grid and tree canopy cover
- uses quality design to create great places, walkable communities and shared spaces
- delivers a 30-minute city to provide better access to jobs, schools, and health care within 30 minutes of people's homes.



The Plan on a page

Bringing the principal elements together

	Metropolitan City Centre		Protected Natural Area and Open Space
	Metropolitan City Cluster		Metropolitan Rural Area
	Health and Education Precinct		Urban Area
	Strategic Centre		Waterways
	Economic Corridor		Existing Train Link
	Trade Gateway		Committed Train Link
	Western Sydney Employment Area		Mass Transit Investigation
	Land Release Area		Light Rail Existing and Committed
	Urban Renewal Area		Motorway Existing and Committed
	Transit Oriented Development		Road Investigation
	Urban Investigation Area		Freight Rail Investigation
	Priority Growth Area Investigation		

NOTE: Committed projects of: Western Harbour Tunnel & Beaches Link, F6 – WestConnex to President Avenue Kogarah, Parramatta Light Rail Stage 2 and Sydney Metro West are subject to final business case, no investment decision yet. Routes and stops for some transport corridors/projects are indicative only.





Principal spatial elements

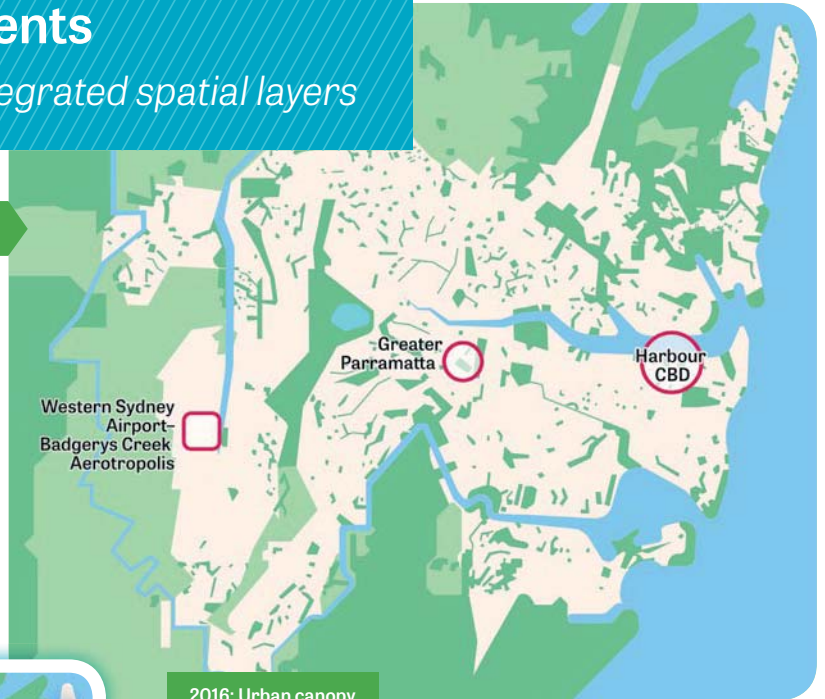
The Plan is made up of four integrated spatial layers



Landscape

A parkland city, a river city and a harbour city with increased urban tree canopy and a network of open space, framed by a protected natural area.

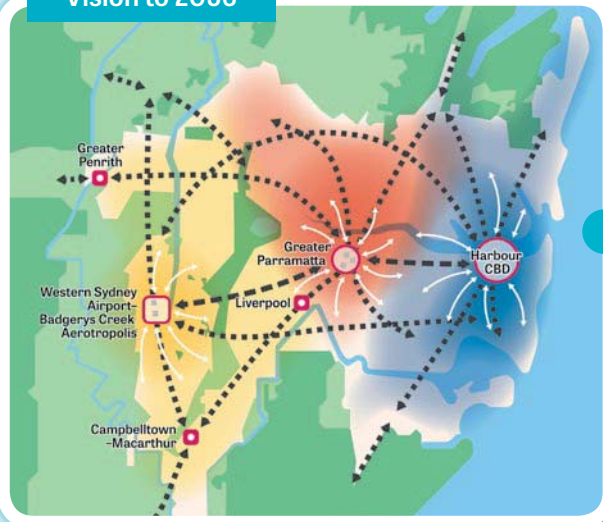
- Waterways
- Metropolitan Rural Area
- Protected Natural Area and Open Space



2016: Urban canopy

16%	17%	32%
Western Parkland City	Central River City	Eastern Harbour City

Vision to 2056



29.2%	27.4%	43.4%
Western Parkland City	Central River City	Eastern Harbour City

2036: Share of housing



Housing + Great Places

An additional 725,000 dwellings creating new communities and urban renewal areas that support new and existing centres and enhance local character.

- Existing Urban Area
- Urban Renewal Area
- Transit Oriented Development
- Land Release Area
- ▨ Priority Growth Area Investigation
- ▨ Urban Investigation Area





Jobs



Places for 817,000 jobs with a strong focus on economic corridors, health and education precincts and strategic centres.

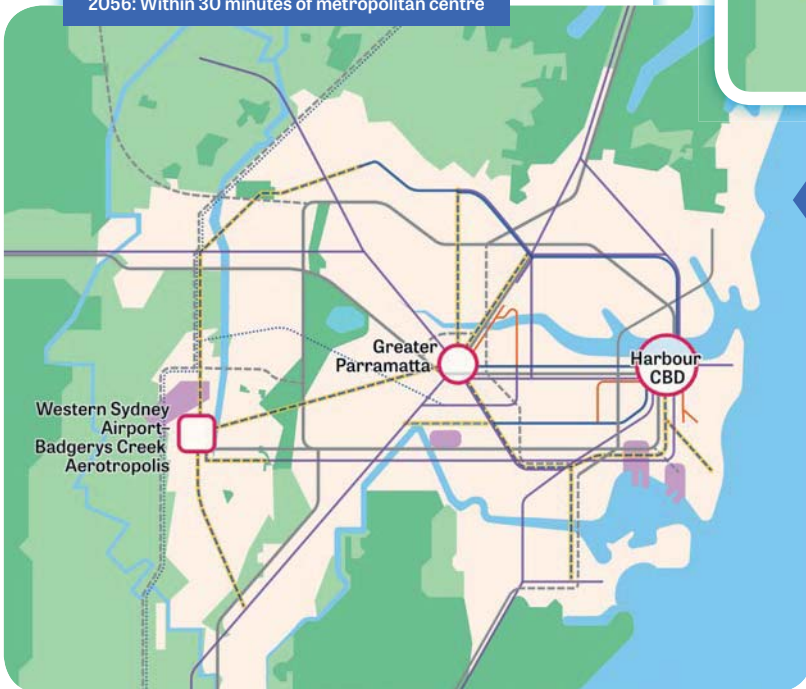
- Economic Corridor
- Health and Education Precinct
- Strategic Centre
- Western Sydney Employment Area

2036: Job containment

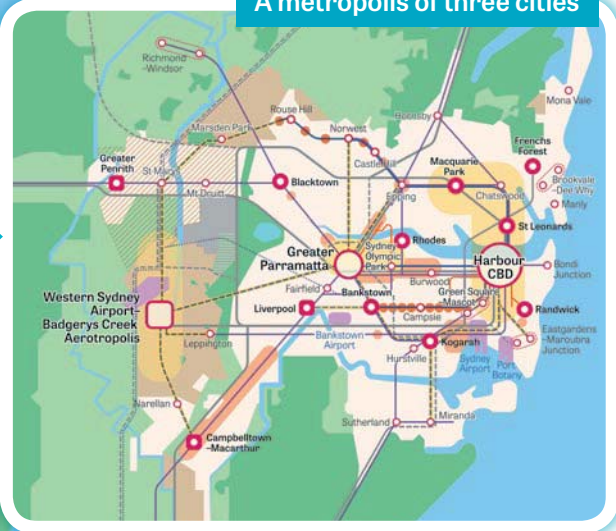
60%	55%	65%
Western Parkland City	Central River City	Eastern Harbour City

39%	64%	71%
2016	2036	2056

2056: Within 30 minutes of metropolitan centre



A metropolis of three cities



Connectivity








A 30-minute city that connects people to jobs, businesses, schools and services, supporting the economic efficiency of trade gateways.






- Road
- Existing Train Link
- Committed Train Link
- Mass Transit Investigation
- - Road Investigation
- Freight Rail Investigation
- Trade Gateway

NOTE: Committed projects of Western Harbour Tunnel & Beaches Link, F6 – WestConnex to President Avenue Kogarah, Parramatta Light Rail Stage 2 and Sydney Metro West are subject to final business case, no investment decision yet. Routes and stops for some transport corridors/projects are indicative only.

Ten Directions

Delivering and monitoring the Plan – objectives and metrics

Directions	A city supported by infrastructure	A collaborative city	A city for people	Housing the city	A city of great places
	Infrastructure supporting new developments 	Working together to grow a Greater Sydney 	Celebrating diversity and putting people at the heart of planning 	Giving people housing choices 	Designing places for people 
Metrics	Number of land use plans supported by infrastructure plans (NSW Department of Planning and Environment, Greater Sydney Commission, Councils)	Proportion of agreed outcomes achieved in Collaboration Areas	Annual survey of community sentiment	<ul style="list-style-type: none"> • Number of councils on track to deliver housing targets • Number of councils with schemes that implement Affordable Rental Housing Targets 	<ul style="list-style-type: none"> • Percentage of dwellings within walking distance of a local or strategic centre • Percentage of dwellings within walking distance of open space
Objectives	<p>Objective 1: Infrastructure supports the three cities</p> <p>Objective 2: Infrastructure aligns with forecast growth – growth infrastructure compact</p> <p>Objective 3: Infrastructure adapts to meet future needs</p> <p>Objective 4: Infrastructure use is optimised</p>	<p>Objective 5: Benefits of growth realised by collaboration of governments, community and business</p>	<p>Objective 6: Services and infrastructure meet communities' changing needs</p> <p>Objective 7: Communities are healthy, resilient and socially connected</p> <p>Objective 8: Greater Sydney's communities are culturally rich with diverse neighbourhoods</p> <p>Objective 9: Greater Sydney celebrates the arts and supports creative industries and innovation</p>	<p>Objective 10: Greater housing supply</p> <p>Objective 11: Housing is more diverse and affordable</p>	<p>Objective 12: Great places that bring people together</p> <p>Objective 13 : Environmental heritage is conserved and enhanced</p>

A well connected city	Jobs and skills for the city	A city in its landscape	An efficient city	A resilient city
<p>Developing a more accessible and walkable city</p>  <ul style="list-style-type: none"> Percentage of dwellings located within 30 minutes by public transport of a metropolitan city centre/cluster Percentage of dwellings located within 30 minutes by public transport of a strategic centre <p>Objective 14: A metropolis of three cities – integrated land use and transport creates walkable and 30-minute cities</p> <p>Objective 15: The Eastern, GOP and Western Economic Corridors are better connected and more competitive</p> <p>Objective 16: Freight and logistics network is competitive and efficient</p> <p>Objective 17: Regional transport is integrated with land use</p>	<p>Creating the conditions for a stronger economy</p>  <ul style="list-style-type: none"> Growth in jobs in targeted metropolitan and strategic centres. Change in number of people employed locally (five yearly) <p>Objective 18: Harbour CBD is stronger and more competitive</p> <p>Objective 19: Greater Parramatta is stronger and better connected</p> <p>Objective 20: Western Sydney Airport and Badgerys Creek Aerotropolis are economic catalysts for Western Parkland City</p> <p>Objective 21: Internationally competitive health, education, research and innovation precincts</p> <p>Objective 22: Investment and business activity in centres</p> <p>Objective 23: Industrial and urban services land is planned, protected and managed</p> <p>Objective 24: Economic sectors are targeted for success</p>	<p>Valuing green spaces and landscape</p>  <p>Proportional increase in Greater Sydney covered by urban tree canopy</p> <p>Objective 25: The coast and waterways are protected and healthier</p> <p>Objective 26: A cool and green parkland city in the South Creek corridor</p> <p>Objective 27: Biodiversity is protected, urban bushland and remnant vegetation is enhanced</p> <p>Objective 28: Scenic and cultural landscapes are protected</p> <p>Objective 29: Environmental, social and economic values in rural areas are maintained and enhanced</p> <p>Objective 30: Urban tree canopy cover is increased</p> <p>Objective 31: Public open space is accessible, protected and enhanced</p> <p>Objective 32: The Green Grid links parks, open spaces, bushland and walking and cycling paths</p>	<p>Using resources wisely</p>  <p>Number of precincts with low-carbon initiatives</p> <p>Objective 33: A low-carbon city contributes to net-zero emissions by 2050 and mitigates climate change</p> <p>Objective 34: Energy and water flows are captured, used and re-used</p> <p>Objective 35: More waste is re-used and recycled to support the development of a circular economy</p>	<p>Adapting to a changing world</p>  <p>Number of local government areas undertaking resilience planning</p> <p>Objective 36: People and places adapt to climate change and future shocks and stresses</p> <p>Objective 37: Exposure to natural and urban hazards is reduced</p> <p>Objective 38: Heatwaves and extreme heat are managed</p>
				<p>Implementation</p>
				<p>Objective 39: A collaborative approach to city planning</p> <p>Objective 40: Plans refined by monitoring and reporting</p>

1

About the draft Plan

The Greater Sydney Commission (the Commission) is an independent agency responsible for leading the metropolitan planning for the Greater Sydney Region.

The Commission uses this independence to integrate planning and decision-making across the three tiers of government and NSW Government agencies. The Commission is engaging consistently and transparently with the community, businesses, councils, and State agencies throughout this process.

In line with the Commission's legislative responsibilities and directions from the Minister for Planning, the Commission has prepared a new draft *Greater Sydney Region Plan*. The draft Plan is not Government policy and includes numerous new policy initiatives, such as the growth infrastructure compact, Affordable Rental Housing Targets and an approach to managing industrial land. It is a document by the Commission for consultation and ultimately for the NSW Government's consideration.

Purpose of the draft Plan

The purpose of the draft Plan is to:

- set a 40-year vision (up to 2056) and establish a 20-year plan to manage growth and change for Greater Sydney in the context of economic, social and environmental matters
- inform district and local plans and the assessment of planning proposals
- assist infrastructure agencies to plan and deliver for growth and change and to align their infrastructure plans to place-based outcomes
- inform the private sector of the vision for Greater Sydney and infrastructure investments required to manage growth

- inform and engage the wider community so the draft Plan can best reflect the values and aspirations of all.

The draft Plan applies to the Greater Sydney Region, as shown in Figure 1 and sets the planning framework for the five districts which make up the region. The local government areas for the five districts are listed in Figure 1.

Integrated planning

The draft Plan has been prepared by the Commission concurrently with the Government's *Future Transport 2056* and Infrastructure NSW's *State Infrastructure Strategy* to align land use, transport and infrastructure outcomes for Greater Sydney for the first time in a generation.

In this context all the transport initiatives outlined in this draft Plan are sourced from *Future Transport 2056*. The transport initiatives are divided into four categories: committed, investigation 0–10 years, investigation 10–20 years and visionary 20+ years. The latter three categories require further investigation and ultimately decisions of Government on commitments to funding; none have funding commitments.

All data in this draft Plan is based on current Government approved and published data sourced from the relevant State agency. Housing targets are as per the November 2016 Draft District Plans. However, Central City and North Districts now reflect changes to council boundaries.

The draft Plan also outlines how the 10 Directions identified in *Directions for a Greater Sydney* are the starting point for delivering integrated planning and how this alignment moves from setting directions to implementing directions. This relationship is shown in Figure 2.

Figure 1: Greater Sydney Region



- Region Boundary
- District Boundary
- Local Government Area (LGA)
- Waterways

DISTRICTS

- Central City** Blacktown, Cumberland, Parramatta, The Hills
- Eastern City** Bayside, Burwood, Canada Bay, City of Sydney, Inner West, Randwick, Strathfield, Waverley, Woollahra
- North** Hornsby, Hunters Hill, Ku-ring-gai, Lane Cove, Mosman, North Sydney, Northern Beaches, Ryde, Willoughby
- South** Canterbury - Bankstown, Georges River, Sutherland
- Western City** Blue Mountains, Camden, Campbelltown, Fairfield, Hawkesbury, Liverpool, Penrith, Wollondilly

The requirements of the draft Plan

The draft Plan has been prepared in accordance with section 75AC of the *Environmental Planning and Assessment Act 1979* which requires the draft Plan to include or identify: the basis for strategic planning in the region, having regard to economic, social and environmental matters; a vision statement; objectives consistent with that vision; strategies and actions for achieving those objectives; as well as an outline of the basis on which the implementation of those actions will be monitored and reported.

In line with legislative requirements, the Commission has prepared a review of the current regional plan for Greater Sydney, *A Plan for Growing Sydney* (2014). The review outlines changes in policy, trends and the relevance of the directions and actions in that plan to inform a new Greater Sydney Region Plan. The review identified that while the directions in *A Plan for Growing Sydney* are still relevant to regional planning, they require updating or strengthening, to respond to new challenges for planning Greater Sydney to 2056. The review is available on the Commission’s website at www.greater.sydney.

The draft Plan complements a range of existing State and Australian Government requirements for managing growth and change across Greater Sydney, such as State Environmental Planning Policies and the *Heritage Act 1977 (NSW)*.

This draft Plan incorporates feedback from community and stakeholder engagement. It incorporates submissions to the draft amendment to *A Plan for Growing Sydney*, called *Towards*

Our Greater Sydney 2056 and draft District Plans exhibited from November 2016 – March 2017.

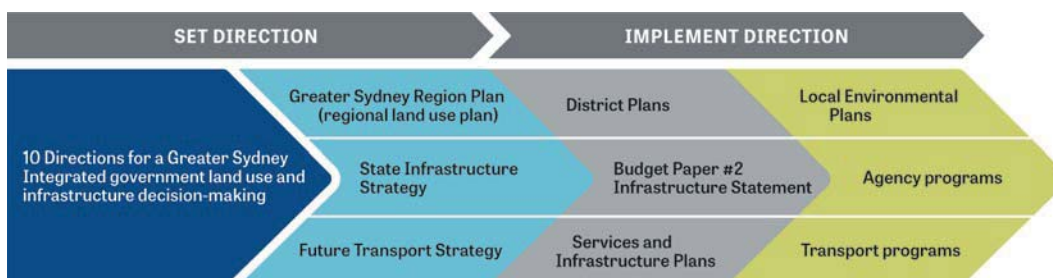
During the exhibition period the Commission received 2,341 formal submissions and engaged with over 7,750 people via deliberative workshops, community meetings, roundtables, forums, technical working groups and on-line chats. A submissions report is available on the Commission’s website.

Submissions indicated support for the three cities concept, the protection of the existing Metropolitan Rural Area, the protection and expansion of open space, and the concept of affordable housing targets. The submissions also identified the need to plan for, commit to and provide infrastructure and services when planning for additional housing.

Submissions to this draft Plan will inform finalisation of the Plan.

The source of population, dwellings and household data in this draft Plan is from the NSW Department of Planning and Environment, 2016 NSW State and Local Government Area Population and Household Projections and Implied Dwelling Requirements 2016 to 2036. Population projections provide an indication of the size and age-sex structure of the future population if specified assumptions about future fertility, mortality and migration are realised. The projections are based on final 30 June 2011 Estimated Resident Populations (ERPs) supplied by the Australian Bureau of Statistics (ABS). Finalised ERPs incorporating the 2016 Census of Population and Housing are not expected from the ABS until mid-2018.

Figure 2: State plans working together for Greater Sydney



2 Past, present and future

Greater Sydney has grown from the home of Aboriginal peoples to an internationally-significant economic metropolis.

In the past 25 years, it has grown by 1.3 million to reach 4.7 million people today (refer to Figure 3).

Its evolution, through population growth, urbanisation and technological advances, can be traced through seven major planning strategies since 1909. This draft Plan represents another quantum shift in driving Greater Sydney's future as a successful economy and one of the world's most beautiful and liveable places.

In looking to the future, many of the lessons of the past remain relevant today.

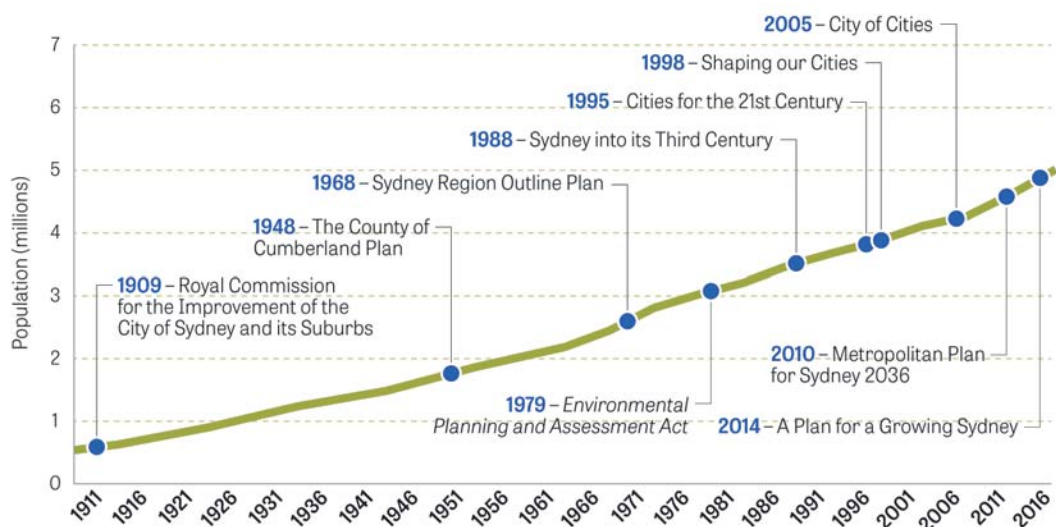
Greater Sydney's past

Rapid population growth in Greater Sydney, by the turn of the 20th century, led to the 1909 Royal Commission for the *Improvement of the City of Sydney and its Suburbs*. Its emphasis was on providing basic sanitation and improved living standards for the working class, and to beautify the city. At the time, growth followed the tram and rail corridors.

The 1948 *County of Cumberland Plan* moved families from inner-city slums to the west, along new rail lines radiating from what is now the Eastern Harbour City, and established the first green belt.

In the 1960s, post-war immigration, the baby boom and falling household occupancy rates were addressed in the 1968 *Sydney Region*

Figure 3: Greater Sydney Region population growth and metropolitan planning



Outline Plan which promoted new centres within the metropolitan area, each planned for growth along road and rail corridors. It embraced connections to Newcastle and Wollongong and had a stronger focus on the areas now referred to as the Central River and Western Parkland cities.

Four subsequent plans – *Sydney into its Third Century* (1988), *Cities for the 21st Century* (1995), *City of Cities* (2005) and *A Plan for a Growing Sydney* (2014), differed from the earlier plans by focusing on economic issues as well as the physical form of growing a polycentric city and urban renewal.

The 1988 Plan was designed in collaboration with a transport strategy and was the first to recommend higher development densities in established and greenfield areas, a policy that continues to evolve today, and saw development densities in greenfield areas increase from eight lots per hectare in 1988 to close to 20 lots per hectare today.

The 1988 Plan included a new airport in Greater Sydney’s West, reinstated in the 2014 Plan and was the first to introduce sub-regional (district) planning together and a strong focus on urban design. The 2005 and 2014 plans continued to refine the framework of Greater Sydney as a series of sub-regions and promote the role of centres across Greater Sydney.

Greater Sydney’s present

Greater Sydney’s most pressing challenge today is to support population growth and demographic change, while improving liveability.

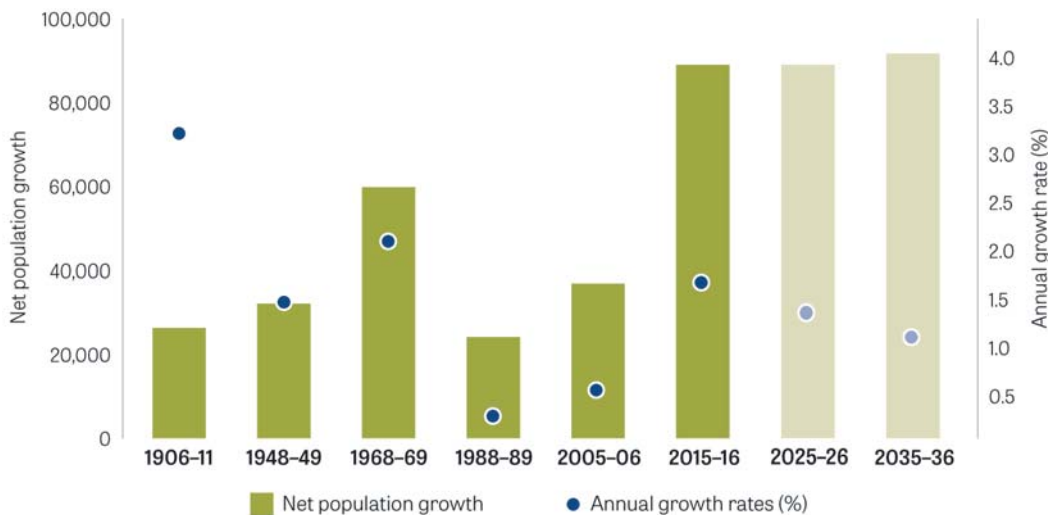
For most of the 20th century, Greater Sydney’s population grew at an annual rate of around 2.5 per cent (refer to Figure 4).

Today, Greater Sydney is one of the top 10 fastest-growing regions in the Western world and by 2036 will be home to another 1.7 million people, or 3.2 million more people by 2056.

Greater Sydney’s footprint has grown not only through an increasing population, but a decline in dwelling occupancy rates; down from 5.24 and 6.08 people per dwelling in 1909 (depending on whether the resident lived in the suburbs or the city) to an average of 2.7 in 2011.

Density has declined from 13 people per hectare in 1909 to an average of 4.25 people per hectare across Greater Sydney.¹ While there are 31 people per hectare in the Eastern Harbour City, this is low compared to an average density of 109 per hectare across New York City (the five boroughs).

Figure 4: Greater Sydney Region population growth rates at past regional plan and forecast dates



In addition, Greater Sydney is currently seeing a higher number of births, with around 63,500 births each year. At the other end of the spectrum, the proportion of over-85s will almost triple in the next 25 years. These two statistics alone generate the need for greater housing choice and affordability as well as community facilities from baby health care, child care and schools, to support services for older people.

Greater Sydney's housing market today is recognised as one of the most expensive in the world with median detached dwelling prices exceeding \$1 million and reaching 10.5 times the median annual household income. This will drive a change in expectations from the quarter-acre block of the 1948 and 1968 plans to smaller lots with compact and innovative forms of housing (refer to Objective 10 and Objective 11). The Eastern Harbour and Central River cities are increasingly attractive for inner-city living, with higher densities bringing greater vibrancy, reduced travel times and economic opportunities.

While the 1909 Commission sought to improve equity and living standards for key workers by moving them to suburban areas along transit corridors, today more opportunities for key workers to live closer to their jobs are needed: more affordable homes and better access to educational opportunities in each of the three cities (refer to Objective 10, Objective 11 and Objective 21).

Approaches to connecting the city have also changed and, arguably, have come full circle since the 1909 Commission found: "The only effective method of dealing with this rapidly growing traffic lies in the construction of the City and Suburban railway systems" (refer to Figure 5).

Today, rail systems need to be expanded to better serve the three cities, particularly the Western Parkland and Central River cities, and to accommodate new travel modes and technologies such as drones, electric and autonomous vehicles (refer to Objective 3).

Just as in 1948, when Greater Sydney was challenged to provide sewerage, public transport, schools or nearby jobs for the rapidly growing city, funding and providing infrastructure remains a challenge today. Development areas need to be delivered in sequence

so that adequate infrastructure can be funded and delivered (refer to Objective 2).

The growth of Greater Parramatta as the Central River City was first mooted by the 1968 Plan and confirmed by the 2005 Plan. Together with the emergence of the Western Parkland City and the reinforcement of the Eastern Harbour City, Greater Sydney will become a more equitable and connected city that makes the most effective use of its infrastructure (refer to Objective 1 and Objective 3).

A polycentric city is supported by the centres policy (refer to Objective 22) which reinforces an objective of the 2005 plan, that close to half of all Greater Sydney's jobs are to be in major centres. These centres need to be serviced by public transport to create a 30-minute city and to raise the use of public transport.

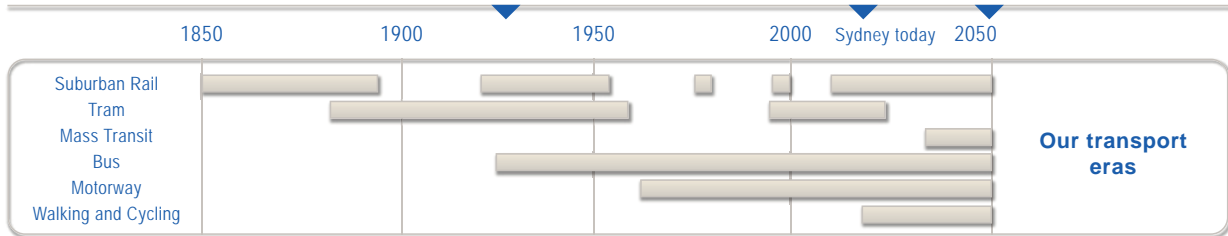
Strengthening centres is a key objective across all three cities, particularly the Western Parkland City where job numbers are well below workforce demand. At the last census, 45 per cent of residents, or nearly 217,000 people travelled outside the Western Parkland City to their place of work. A more sustainable and resilient region includes easier access for all.

Centres across Greater Sydney need to be supported by sufficient industrial and urban services land, also consistent with the 1988, 1995 and 2005 plans.

Every plan since 1909 has sought to beautify the region through good quality design and the protection of natural assets. This draft Plan too, seeks to uphold the importance of enhancing cultural, historic and natural icons, from Sydney Harbour to the Blue Mountains and Scenic Hills, while reinforcing the quality of public spaces such as Parramatta's Civic Square and Circular Quay.

This draft Plan builds on the green web of 1948 with the Green Grid, (refer to Objective 32) including re-envisioning Prospect Reservoir for tourism and greater leisure activities. It revitalises the waterways of the Western Parkland City around South Creek (refer to Objective 26) and recognises the importance of tree canopy for visual appeal and for managing heat, particularly in the western part of the region where it can be over seven degrees Celsius hotter than in the eastern part of the region.

Figure 5: Transport investment 1850–2050



Source: Transport for NSW

Greater Sydney's future

Rapid technological change is inevitable, particularly around key areas of access and mobility and in creating a lower carbon future.

Electric and autonomous vehicles, robotics, drones, artificial intelligence, battery storage, automation, computing speed and device connectivity will change how residents live and, in turn, the shape of the region. They may reduce demand for car parking or new roads, allowing existing infrastructure to be adapted for other uses (refer to Objective 3).

Technology may also increase demand for local employment hubs, or shared office spaces, to support localised production through developments such as 3D printing (refer to Objective 24). There may be on-demand bus services, and the sharing of vehicles, smartphone-based bike sharing, autonomous vehicle hubs and electric charging stations.

The economy may also change with a greater reliance on knowledge-intensive jobs and tertiary education, particularly in the fields of science, technology, engineering and mathematics (referred to as STEM). Already, education and health care are significant growth industries forming precincts at Randwick, Camperdown-Ultimo, Liverpool and Greater Parramatta-Westmead (refer to Objective 21).

The gig economy – a labour market characterised by the prevalence of short-term contracts or freelance work as opposed to permanent jobs – may grow, potentially shifting traditional workplace and commuting patterns as a greater

number of workers are based at home. In aged care and health services, robots may increasingly take the load of routine tasks, so workers can concentrate on engagement and patient care.

The future will require people to adapt to climate change, to mitigate future impacts and to be more efficient with resources (refer to Objective 36). Infrastructure needs to be not only resilient but adaptable to technological transformation such as renewable energy, smart energy networks, distributed energy and water systems and energy-efficient homes and buildings (refer to Objective 34).

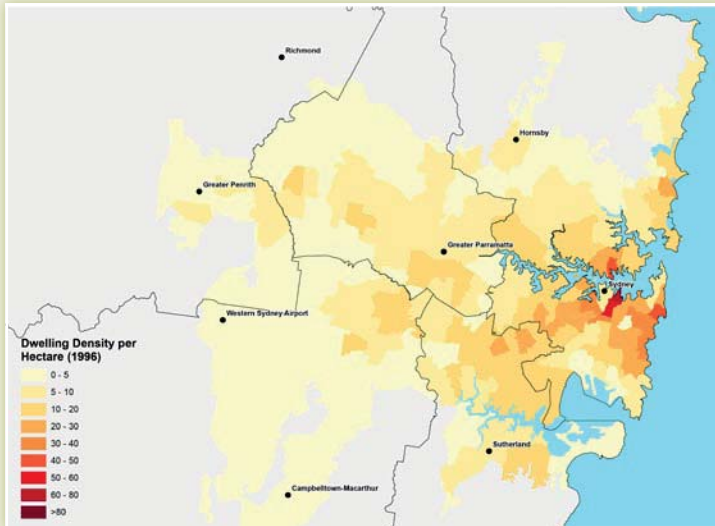
Development will need to better capitalise on air rights rather than making space by expanding the urban footprint (refer to Objective 33). This will not only require good quality apartment buildings and commercial towers but mixed-use buildings including schools, roof top gardens, vertical farms and energy sources (refer to Objective 34).

Some things stay the same

While population growth, urbanisation and technologies change, many things stay the same – the importance of well-located housing, beautiful public places, efficient transport, local infrastructure and planning that is people focused.

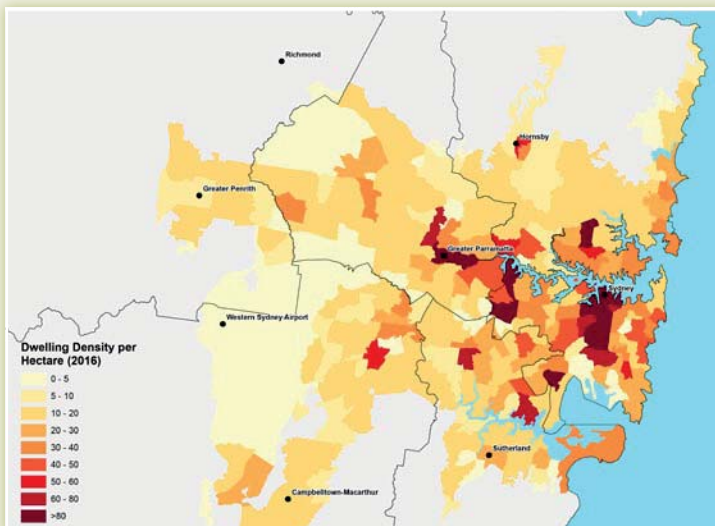
This draft Plan continues the strong legacy of strategic metropolitan planning. It seeks to protect what people love about Greater Sydney and safeguard opportunities for future generations.

Greater Sydney's changing urban form: 1996–2016–2036



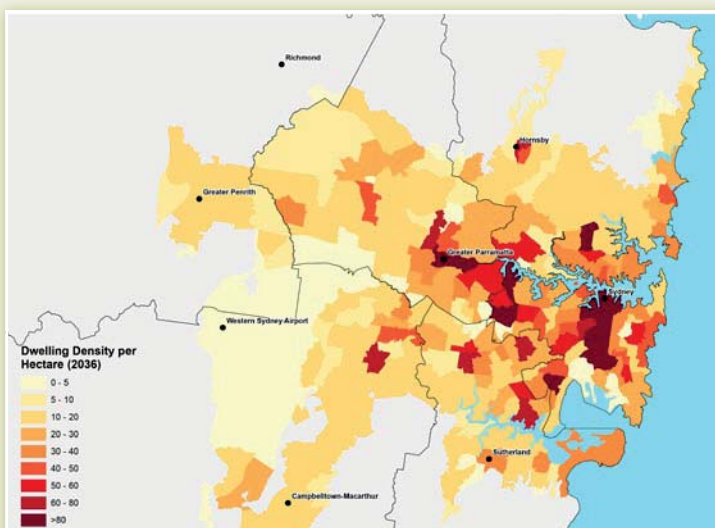
1996

Most of the urban area comprises detached low density housing on suburban quarter-acre blocks with some medium density semi-detached housing in the inner suburbs; higher density dwellings limited to city east (Potts Point/Kings Cross/Darlinghurst/Surry Hills), Eastern Beaches, North Sydney and Inner West



2016

Density has increased across the urban area; in the central and eastern areas the traditional quarter-acre block has diminished in size; more intense development is evident from the City of Sydney to Mascot and in Parramatta, Chatswood, Rhodes, Strathfield, Burwood and Hurstville; some increase in centres along the Western, Bankstown and Illawarra rail lines and in Hornsby and Liverpool



2036

Little change in the outward spread of intensification; increase in intensity of development in existing centres and within the existing urban area

Source: Australian Bureau of Statistics Census and NSW Department of Planning and Environment dwelling forecasts

Note: Data based on Australian Bureau of Statistics SA2s; but due to small geographies, unable to pick up changes in land release areas



Directions for infrastructure and collaboration



A city supported by infrastructure

Metric: Number of land use plans supported by infrastructure plans (NSW Department of Planning and Environment, Greater Sydney Commission, Councils)

Providing adequate infrastructure to support population growth is essential to creating strong communities. Therefore, the Commission is developing a series of mechanisms to better align growth with infrastructure. One mechanism is the growth infrastructure compact which would assess the nature, level and timing of infrastructure required for an area in light of its forecast housing and employment growth, including analysis of growth scenarios. This approach would demonstrate the correlation between growth and infrastructure, such as public transport, schools and open space, to allow for timely integration and more effective expenditure on infrastructure by location. The sequencing, optimising and adaptability of infrastructure are also considered for managing infrastructure delivery with growth.



A collaborative city

Metric: Proportion of agreed outcomes achieved in Collaboration Areas

Managing the competing needs of a city requires all levels of government, industry and the community to work together. This is particularly important as development pressures grow. Collaboration between government, industry and local communities will result in the best use of resources such as public spaces, school ovals and community facilities. Communities will be involved in planning for their local infrastructure and services.

3

Infrastructure and collaboration

Past plans for Greater Sydney have been successful in creating additional capacity for housing, employment and population growth. With continuing strong population growth and the current strength in the housing market, it has become viable to develop additional growth capacity across a broader section of Greater Sydney. This has resulted in unprecedented levels of housing development which is leading to increased demand on infrastructure and services across the three cities. In tandem, community standards for the quality and timely provision of infrastructure, amenity and place have also increased.

As Greater Sydney grows and becomes more complex there is a need to design better ways of supporting growth and delivering appropriate infrastructure in the right places. This will give the community confidence that the region is being planned and developed both responsibly and sustainably.

The NSW Government is a major contributor to much-needed housing supply through the Priority Growth Areas and Priority Precinct Programs.

Housing supply is also supported by acceleration of council-led rezonings, faster housing approvals and using surplus government lands.

It is imperative this growth is supported by essential services, such as education and health. Coordinating an integrated planning approach will also enable employment and job creation opportunities across Greater Sydney to be maximised.

The Priority Precincts will be consistent with the objectives and strategies of the *Greater Sydney Region Plan* and the relevant District Plans to enhance liveability, sustainability and productivity. These precincts will be well planned and designed and will be delivered in collaboration with councils and informed by key government agencies and

their asset plans. This planning will be supported by a Special Infrastructure Contribution or similar satisfactory arrangement to help fund the delivery of essential community infrastructure such as health, schools, open space and roads.

As a starting point, this draft Plan has collected information regarding when and where growth is anticipated or planned across the three cities. The Commission is sharing this information transparently, by identifying housing targets and where growth is being delivered through priority precincts and growth areas. The Commission has also worked with the NSW Government on a common platform and source of data including fiscal, population, demographic and employment planning assumptions which informs both long-term strategic planning and the preparation of business cases for infrastructure.

Unprecedented levels of housing development is leading to increased demand on infrastructure and services.

The Commission neither funds nor builds infrastructure, nor does it have the legislative ability to require others to do so. Instead, its role is to co-ordinate a whole-of-government approach that can provide the appropriate infrastructure in the right places to support the growing cities. In partnership with *Future Transport 2056* and *State Infrastructure Strategy*, this draft Plan plays a critical role in providing the basis for this collaborative approach in the future. This alignment connects policy and investment directions for business and community.

To achieve this new methodical, proactive and collaborative approach, the draft Plan sets out four overarching objectives (refer to Figure 6) to improve the planning and provision of infrastructure across Greater Sydney as it grows and evolves.

These objectives are supported by new and refined strategies for implementation, in collaboration with Infrastructure NSW, State agencies and councils. Each of these objectives is explained in the following sections.

The Commission has also initiated the concept of Collaboration Areas that focus on creating great places particularly as centres of economic productivity. The responsibility for delivering great places does not rest with any one organisation. As a non-statutory initiative, Collaboration Areas offer a new way of working to deliver collective responses that support growth and change. This will be undertaken by identifying and aligning the activities and investments of government and key stakeholders, based on evidence, to respond to the unprecedented levels of growth and investment in Greater Sydney. The outputs of the collaborations are a Place

Strategy and an Infrastructure Plan, that provide certainty to the community and the private sector, and align the Government's investment and policies to achieving great places.

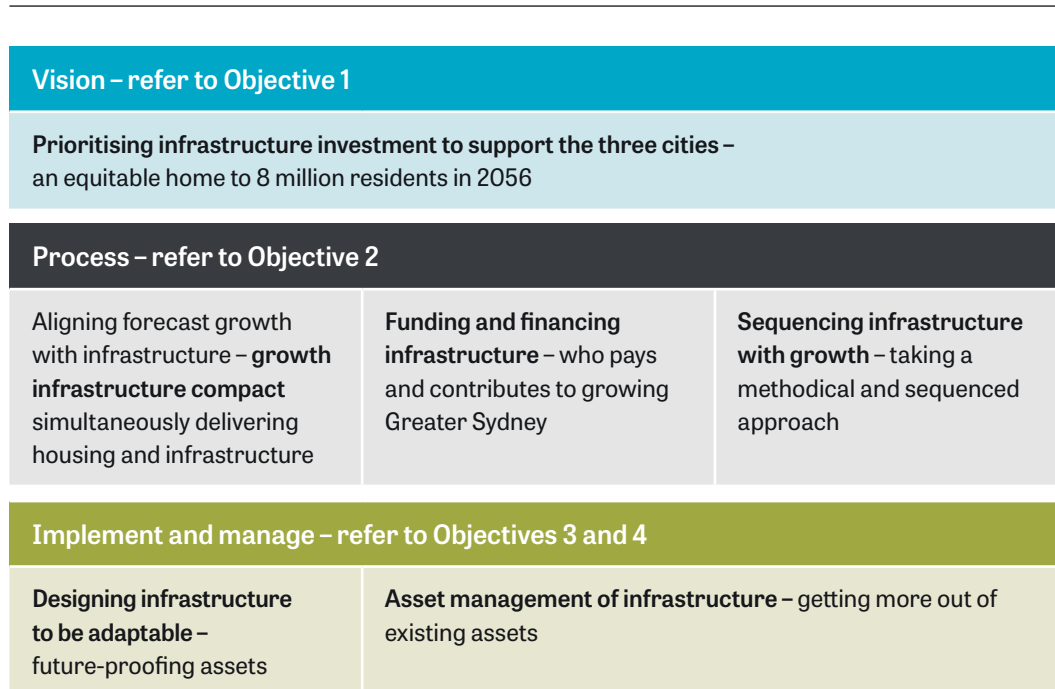
This chapter outlines the Commission's infrastructure and collaboration recommendations for objectives and strategies. A number of these recommendations are not government policy.

Actions

The following metropolitan significant action will deliver infrastructure and collaboration objectives.

- Identify, prioritise and deliver Collaboration Areas (refer to Objective 5).

Figure 6: Strategies to align infrastructure with a growing city



A city supported by infrastructure



Objective 1

Infrastructure supports the three cities

The metropolis of three cities provides the spatial foundation for more effective and efficient planning for city shaping infrastructure and enhanced utilisation of infrastructure.

The three-city metropolis vision moves away from the historical radial focus on the Eastern Harbour City to a new one requiring more interconnections within each city and between the cities. This will facilitate greater opportunities for learning, labour participation, industry growth and development, and access to housing and services across Greater Sydney.

This critical spatial shift will transform future infrastructure plans by providing a more specific approach to the infrastructure needs, timing and response required for each city. While each of the three cities will require new infrastructure, the focus will vary according to:

- existing infrastructure and services, capacity and industry and housing activity
- existing levels of committed investment
- the time scale of the development.

For example, the Eastern Harbour City has a significant rebuilding program in place, together with the need to make better use of existing assets and adapt them to new technologies (refer to Objective 18). The Central River City is also undergoing a rebuilding program in a high-growth environment which will also require existing infrastructure to be optimised (refer to Objective 19). Major new infrastructure will be required for the Western Parkland City, where the focus will be on planning growth and sequencing new infrastructure and services to support shaping a new city, connected to the north, east and south.

The metropolis of three cities must form the basis of future infrastructure decisions if future investment decisions are to better connect the three cities as well as support major economic drivers such as:

- digital technology, providing international gateways for business interactions
- transport services, enabling the movement of goods and labour participation
- the location and timing of critical support infrastructure, such as health and education facilities for job creation and agglomeration benefits.

Planning needs to improve connections to existing infrastructure in the three cities and, importantly, safeguard corridors for future infrastructure investment as well as locations for future centres.

Planning decisions need to support new infrastructure – including cultural, education, health, community and water infrastructure – in each city, so as to fairly balance population growth with infrastructure investment. These decisions are required to equitably enhance local opportunities, inclusion and connection to services. In this way, planning can move from a focus on network-based services to a place-based service approach for infrastructure provision.

Strategy 1.1

Prioritise infrastructure investments to support the vision of a metropolis of three cities.

Strategy 1.2

Sequence growth across the three cities to promote north-south and east-west connections.

Objective 2

Infrastructure aligns with forecast growth – growth infrastructure compact

This draft Plan identifies a range of areas that are forecast to experience significant residential and employment growth. All these areas will require new and/or enhanced local and regional infrastructure to support these changes.

Many of these areas have existing infrastructure challenges, particularly those areas experiencing growth and increasing demand for appropriate infrastructure. In order to better understand, plan for and address these existing challenges as well as new ones, the Commission has designed and is recommending to the NSW Government a new approach known as the growth infrastructure compact (refer to Figure 7).

The growth infrastructure compact aims to:

- model the growth potential of a place and explore scenarios for the long-term future
- encourage openness about the range of infrastructure and services needed to grow a place, the costs involved and how this could feasibly be funded
- get smarter about staging growth by being selective about where, when and what to invest in to deliver of successful places
- make the roll out of new places more certain, cost effective and easier to understand for investors, developers and the local community.

In this way, the growth infrastructure compact sets out to assess the nature, level and timing of the infrastructure investment required for an area, considering its forecast housing and employment growth and analysis of growth scenarios.

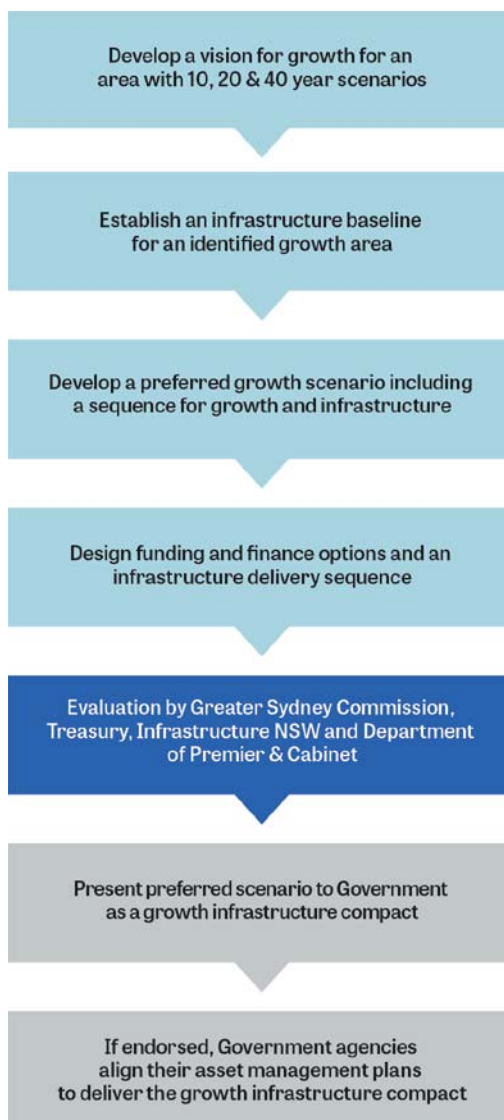
The growth infrastructure compact is based on a series of questions such as:

- to what extent can investment in existing infrastructure be maximised
- to what extent does this infrastructure need to be enhanced, extended, embellished or replaced

- what new infrastructure is required to support various growth scenarios
- how does this work with agency programs and priorities?

This leads to an assessment of the potential cost of infrastructure plus methods to fund and deliver it.

Figure 7: Growth infrastructure compact



The growth infrastructure compact differs from existing approaches. It could provide a broader level of collaboration and a place-based business case, using a triple bottom line methodology, to determine the necessary level of investment to support the appropriate growth scenario. Input from all infrastructure agencies would be critical to the process. This approach would lead to an infrastructure delivery plan that is co-designed and co-delivered by State and local governments together with industry.

Align growth with infrastructure

The growth infrastructure compact would model the best outcome by place and compare this across places in Greater Sydney. This would provide a tool to best determine the most effective and appropriate locations for growth, taking into consideration a wider range of variables within a local context. Taken together, growth infrastructure compact locations would have the potential to form a set of priority locations that inform city-wide government and business service and infrastructure planning.

Working with Infrastructure NSW, the Commission is piloting this innovation to plan for the optimal level of growth in the Greater Parramatta and the Olympic Peninsula (GPOP) area (refer to Objective 5). In time, this initiative should provide an important benchmark for understanding the relative costs and benefits of new development. These benchmarks would provide regional and district planning activities with a greater understanding of potential infrastructure priorities and planning decisions. In delivering on the growth infrastructure compact initiative existing Priority Precincts and Priority Growth Areas will be unaffected.

Across Greater Sydney significant areas have already been committed to growth and change. At the same time the NSW Government is allocating unprecedented levels of investment in transport, education and health (refer to Figure 8).

The Commission recognises that there is room to better align growth with infrastructure. On this basis, it is working with the NSW Government to provide advice on place-based infrastructure priorities.

In time, and as appropriate, this approach could be expanded to include local infrastructure requirements for an area.

Fund and finance infrastructure

Resources are finite so infrastructure investments need to be carefully prioritised to deliver maximum benefit to the community. Even with the potential to improve decision-making inputs from the growth infrastructure compact, multiple sources of funding would be required to cover the cost of new infrastructure across Greater Sydney.

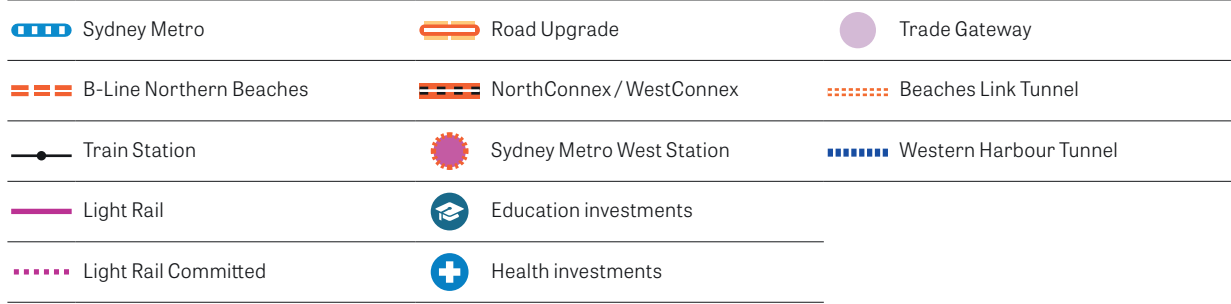
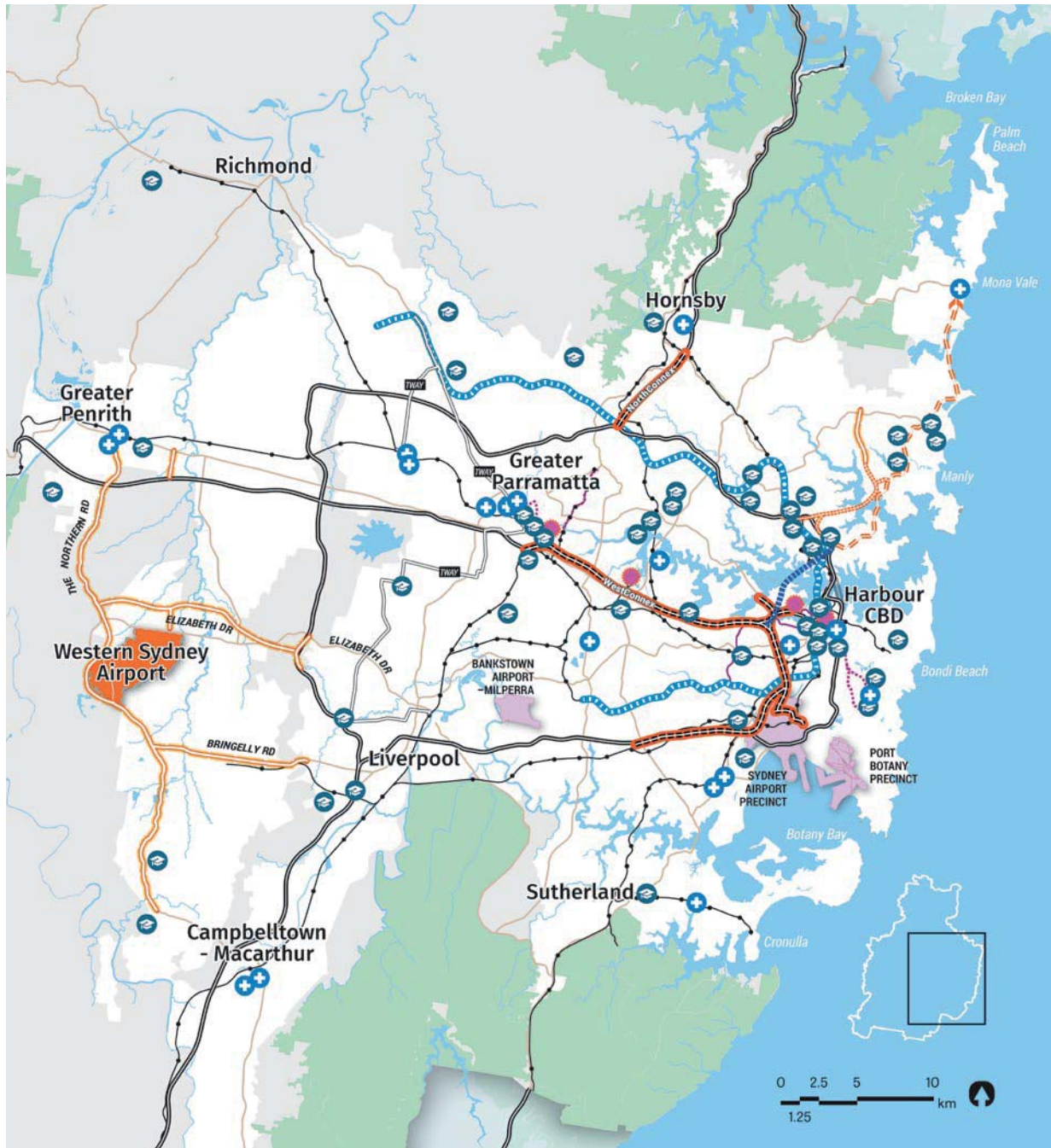
Many sources of funds are in place already, including funding from consolidated revenue and asset recycling, user charging, contributions by local development, voluntary planning agreements, council rates and private investment. The NSW Government is also expanding the consideration of Special Infrastructure Contributions to Priority Precincts to fund critical infrastructure.

Working with Infrastructure NSW, the Commission is piloting the growth infrastructure compact to plan for the optimal level of growth in the Greater Parramatta and the Olympic Peninsula area.

Many of the funding sources are provided via contributions from development. The Commission recognises that development needs to support the funding of infrastructure at an appropriate level, but should not be unreasonably burdened to the extent that development becomes unviable. Part of the solution to this challenge could rely on the growth infrastructure compacts identifying the most cost-effective locations for growth, based on existing and future infrastructure capacity. Another part of this solution relates to industry and governments being certain of cumulative development costs. The Commission has therefore identified the need for Government to prepare guidance to address the cumulative impacts of development contributions on development feasibility and delivery across Greater Sydney.

These established cost recovery mechanisms for infrastructure can operate alongside the other major project value sharing mechanisms. Value sharing is about identifying and raising funds additional to those which come through business-as-usual development activities. Value sharing assessments should be undertaken as part of the business case development process. Whilst value sharing may

Figure 8: Existing infrastructure investment in Greater Sydney



Source: NSW State Budget 2017-18

provide a useful contribution to project funding, the Commission recognises that it will not form a major part of the funding equation in most cases.

Several infrastructure funding mechanisms are sourced from State and local governments. Whilst the NSW Government is presently investing at unprecedented levels in Greater Sydney's infrastructure, many councils are limited in their ability to invest in infrastructure and its maintenance within the current settings for rates and Section 94 development contributions for local infrastructure. Accordingly, there is a need to continue to work within fiscal limits and manage community expectations for infrastructure whilst achieving this Plan's objectives to create great places (refer to Chapter 4) and support growing communities (refer to Objective 6).

There is also the need to consider the broader multi-jurisdictional impacts. One approach could be to expand the scope of infrastructure that is subject to development contributions however, this expense could create a greater burden on the sector and could ultimately lead to development being hindered, which is not in the interests of Greater Sydney.

Planning for infrastructure therefore needs to:

- carefully balance requirements to fund infrastructure without burdening private development unreasonably, by better understanding the cumulative impacts of developer contributions in different markets across Greater Sydney
- explore and, where appropriate, trial opportunities to share value created by the planning process and infrastructure investment (such as rail) to assist funding infrastructure
- increase collaboration with the private sector to finance infrastructure
- better leverage capacity and the efficiency of existing infrastructure
- investigate the potential of further user charging to support infrastructure delivery
- explore and implement new delivery models to improve services to the community.

The Commission will continue to plan for infrastructure that is closely aligned with land use planning at its earliest stages to enable infrastructure to be delivered efficiently by relevant government and private sector processes to meet the needs of Greater Sydney's growing population.

Sequence infrastructure with growth

No matter what the provisions for funding and financing infrastructure, it is not possible to cover the cost of new or improved infrastructure across the entire city simultaneously. To effectively align infrastructure with growth calls for a methodical and sequenced approach to development, such as a place-based approach. This enables planners to support infrastructure alignment with areas of growth and transformation before additional areas are rezoned and ready for development. This new approach supports the appropriate growth and infrastructure being provided at the right time.

Using the growth infrastructure compact approach could improve understanding of where there is existing infrastructure capacity and which are the most cost effective areas for growth and therefore what areas should be sequenced ahead of others. At a district or regional level it could provide a valuable context for decision making.

Use of the Commission's existing governance frameworks – namely the Infrastructure Delivery Committee (comprising key State agencies including Health, Education, Transport, Treasury and Planning) – enables planning that will best align growth with the provision of infrastructure.

Using insights from growth infrastructure compact assessments, the Commission via its Infrastructure Delivery Committee could provide advice to the NSW Government on the sequencing of development.

Strategy 2.1

Align forecast growth with infrastructure.

Strategy 2.2

Sequence infrastructure provision across Greater Sydney using a place-based approach.

Objective 3

Infrastructure adapts to meet future needs

In designing infrastructure to support Greater Sydney, there is a need to be able to adapt and transition with technological change and mega trends.² For example:

- design transport and infrastructure that responds to demands for use
- design places for electric vehicle recharging and to accommodate decentralised utilities
- adjust city management to changing lifestyles and preferences
- promote digital technology to improve the provision of services
- design car parks and drop-off bays that can be adapted to alternative uses (commercial uses, storage, logistics hubs, depots or community uses) in the event that autonomous vehicles reduce the requirements for car parking.

Infrastructure could soon experience a major productivity gain from innovative technologies promising new operating and maintenance solutions. Recent innovations in digital technologies, such as remote sensing, advanced analytics, autonomous operations, and integrated scheduling and control mean that traditional bricks-and-mortar infrastructure can now be used more effectively, and operated and maintained more efficiently.

Digital-led business models are likely to disrupt today's services and infrastructure. Therefore, infrastructure needs to be planned in ways that can be responsive to change.

Flexible designs and agreements for shared use provide new opportunities for social infrastructure – including sporting fields, meeting rooms, schools and community facilities that can be adapted for use by a cross section of the community.

As future technologies evolve, a precinct based approach to community and public infrastructure, including car parking, needs to be taken to maximise adaptability, access and utilisation.

Strategy 3.1

Consider the adaptability of infrastructure and its potential shared use when preparing infrastructure strategies and plans.



Objective 4

Infrastructure use is optimised

Operating within appropriate fiscal limits calls for getting the most out of existing infrastructure assets. This will be particularly important for the established Eastern Harbour City but also in planning the new Western Parkland City. Achieving better utilisation of existing assets increases infrastructure capacity to better support communities and has the potential to minimise or avoid the need to fund additional infrastructure.

Before implementing new infrastructure responses, the demands on existing infrastructure need to be evaluated and managed. This can be achieved by exploring opportunities to:

- adopt new technologies such as smart traffic management systems and real time energy and water metering systems
- use land more efficiently by co-locating similar or mixed services, or by allocating road space to support increased mass transit services
- change behaviours through charging users, so that consumers are motivated to use services off peak.

To maximise asset utilisation, new precincts and new developments are to incorporate demand management, and where appropriate, be sequenced to be contiguous with existing developments so that existing demand management initiatives can be leveraged. Improved asset planning calls for consideration of the higher-level objectives that place-based infrastructure investments seek to achieve (outcomes) in terms of the overall economy, society and environment.

Because current planning and appraisal processes treat infrastructure as discrete, sector specific assets, agencies are not always able to identify and exploit potentially valuable place-based interdependencies. Similarly, these approaches are unable to identify potentially hazardous and costly interdependencies in a systemic manner. A functional corridor for example should incorporate essential utilities such as digital connectivity and energy. This approach



reinforces the need for a place-based assessment of infrastructure through measures such as the growth infrastructure compact.

A major challenge for providers of infrastructure is to realise the innovative opportunities in place-based interdependencies, and so increase value for money, sustainability and resilience. It is necessary to recognise that real-world infrastructure systems are highly interconnected, both with each other and with the socio-economic and natural systems in which they are located.

Strategy 4.1

Maximise the utility of existing infrastructure assets and consider strategies to influence behaviour changes, to reduce the demand for new infrastructure, including supporting the development of adaptive and flexible regulations to allow decentralised utilities.



A collaborative city

Objective 5

Benefits of growth realised by collaboration of governments, community and business

Collaboration across the three tiers of government and across State agencies is essential for coordinating land use and infrastructure planning and delivery.

Engagement with the community and stakeholders is central to all collaboration and is addressed in Objective 8 and Objective 9.

The complexities of a growing region mean different approaches are required depending on the context which ranges from nationally significant investment,

corridors of renewal and land release, to a focus on a specific strategic centre or precinct. The role of the collaboration also varies; it may be for the development of integrated strategy where alignment of agencies is critical, for coordination of investment across different tiers of government to achieve land use outcomes or for the delivery of specific projects. The current suite of approaches supporting land use and infrastructure planning and delivery are outlined in Table 1.

Table 1: Approaches to supporting land use and infrastructure planning and delivery

Collaboration	Agency	Focus
Western Sydney City Deal	Australian; State and local government	Domains for action: - governance, city planning and regulation - infrastructure and investment - housing - jobs and skills - innovation and digital opportunities - liveability and sustainability
Collaboration Areas	Greater Sydney Commission	Strategy development including: - integrated place management (strategic centres and health and education precincts) - strategy drivers: economic productivity, liveability, sustainability - infrastructure alignment
Priority Growth Areas Urban Renewal Corridors	NSW Department of Planning and Environment	Transformative corridor delivery including: - new land release areas - city shaping transport investment and urban renewal - infrastructure schedules and funding options
Priority Precincts	NSW Department of Planning and Environment	Transformative precinct delivery: - targeted development focused on housing diversity around a centre and transit node/rail station - infrastructure schedules and funding options
Urban Transformation	UrbanGrowth NSW Development Corporation and Landcom	Project delivery: - focus on optimisation of government-owned land and urban renewal

Collaboration Areas and City Deal

The delivery of the Western Sydney Airport and Badgerys Creek Aerotropolis will be driven by a Western Sydney City Deal through the collaboration of all tiers of government. It will transform the Western Parkland City into a thriving, productive and sustainable area, with the Western Sydney Airport as the economic catalyst (refer to Objective 20).

Place-based planning in other parts of Greater Sydney can be achieved through Collaboration Areas. Collaboration Areas are nominated places where the Commission will facilitate the establishment of governance arrangements and support the coordination of activities across agencies and governments to deliver significant productivity, sustainability and liveability outcomes.

The Commission is facilitating a strategic, whole-of-government approach to each Collaboration Area with District Commissioners chairing the collaborations. Greater Parramatta and the Olympic Peninsula (GPOP) is the most advanced of these Collaboration Areas.

A GPOP vision was released by the Commission in October 2016 (refer to Objective 15).

Collaboration Areas may be set up to deal with the coordination of development with infrastructure funding, delivery and staging; and alignment of the activities of councils and government agencies at the NSW and/or Australian Government level.

Collaboration Areas across Greater Sydney are at different stages of development and require tailored, place-based approaches. The Commission's priority Collaboration Areas are outlined in Table 2.

The Commission has also identified St Leonards, Frenchs Forest and Macquarie Park as Collaboration Areas. As these are also Priority Precincts or Priority Growth Areas, the NSW Department of Planning and Environment is facilitating interagency engagements and inputs from the Commission.

The roles of the Western Sydney City Deal, the suite of Collaboration Areas and the Priority Growth Area and Priority Precincts are highlighted throughout this draft Plan and the District Plans.

Table 2: Priority Collaboration Areas

Priority	Collaboration Area	Local Government Area
2017-18	Liverpool strategic centre and environs	Liverpool
	Greater Penrith	Penrith
	Camperdown-Ultimo health and education precinct	Sydney
	Randwick health and education precinct	Randwick
	Rhodes East precinct	Canada Bay
2018-19	Kogarah health and education precinct	Georges River and Bayside
	Campbelltown - Macarthur	Campbelltown
	Australian Nuclear Science and Technology Organisation (ANSTO)	Sutherland
	Bankstown Airport/Milperra industrial and urban services precinct	Canterbury-Bankstown



Action 1

Identify, prioritise and deliver Collaboration Areas

The Commission will continue to identify, prioritise and lead Collaboration Areas across Greater Sydney. It will annually review the Collaboration Area program and priorities.



Directions for liveability



A city for people

Metric: Annual survey of community sentiment

A growing Greater Sydney presents an opportunity to build social and cultural connections and networks. Strategic planning will capitalise on local identity, heritage and cultural values, together with easier access to services to foster a more resilient and connected society. The changing demographics of neighbourhoods across Greater Sydney will influence the local demands for social infrastructure.



Housing the city

Metric: Number of councils on track to deliver housing targets

Metric: Number of councils with schemes that implement Affordable Rental Housing Targets

Sustained population growth over the coming decades will require a minimum of 36,250 new homes every year. Combined with changing demographics and housing affordability challenges, greater housing choice will be needed. This relates to a range of housing types, tenures and price points together with rental accommodation for lower income households and social housing for the most vulnerable. The provision of more housing will occur concurrently with the creation of liveable neighbourhoods close to employment opportunities, public transport, walking and cycling options for diverse, inclusive multi-generational and cohesive communities.



A city of great places

Metric: Percentage of dwellings within walking distance of a local or strategic centre

Metric: Percentage of dwellings within walking distance of open space

Great places recognise local characteristics and the qualities people value. As Greater Sydney grows and changes, its places will offer more than just new homes and jobs. They will enhance well-being and a sense of community identity by delivering safe, inclusive and walkable mixed use areas that exhibit urban design excellence and are connected to social infrastructure and open spaces. These places will respect heritage and foster interaction and healthy lifestyles by encouraging exercise, creativity, enterprise and innovation.

4 Liveability

The quality of life that residents enjoy in neighbourhoods, work places and cities is central to liveability. Planning for people recognises that liveability not only contributes to productivity and sustainability, but is also an important influence on individual wellbeing and community cohesion.

The metropolis of three cities will enable great places to meet people's essential housing, transport, employment and social needs. Better access to economic, social, recreational, cultural and creative opportunities – and easier connections with family, friends and the broader community – will assist people to fulfil their potential.

The population of Greater Sydney is 4.7 million and is projected to grow by 1.7 million people to 2036. This growth is driven by the natural increase of the existing population, and domestic and international migration.

Planning for the next 20 years involves providing services and infrastructure locally to meet the needs of the growing population (refer to Figure 9) and changes to demographics. This includes health and education services and facilities, as well as accessible neighbourhoods and homes, for an increasing proportion of people over 65 years of age.

The region's Aboriginal communities, their histories and contemporary cultures and connections to country and community make a valuable and continuing contribution to the region's heritage, culture and identity.

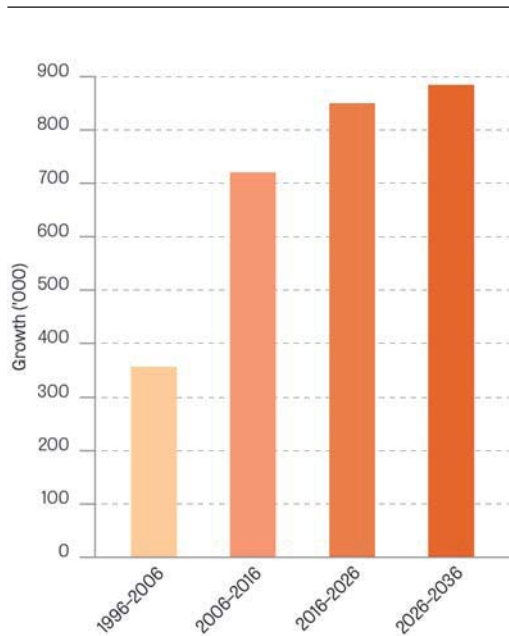
Beginning with the first settlement of Australia by Europeans, many migrants and refugees have made Greater Sydney their home, and also made significant contributions to shared history and identity.

Greater Sydney is home to a diversity of people from many cultures. Across the region 40 per cent of residents come from 230 countries. This cultural diversity finds expression in events such as NAIDOC Week and Reconciliation Week, Parramasala Indian festival in Parramatta, Multicultural Eid Festival in Fairfield, Haberfield Italian Festa and the Sydney Gay and Lesbian Mardi Gras. Diversity is evident from the more than 250 languages spoken across the region. Refer to Figure 12 for the top 10 non-English languages spoken at home.

Greater Sydney's growth reflects the worldwide trend towards city living and the better access this provides to people, services, resources, jobs and opportunities. Being an in-demand global city brings growth, which in turn brings opportunities to leverage the benefits of growth.

It also brings challenges. The biggest of these is housing affordability, which is a pressing social and economic issue across Greater Sydney. Housing affordability can affect job and lifestyle choices, and for some will determine whether they can live in Greater Sydney. Housing affordability is a primary focus of this draft Plan's approaches to improve liveability.

Figure 9: Greater Sydney Region population growth 1996–2036



The NSW Government has identified demand for 725,000 homes to meet growth over the next 20 years. In recent years, Greater Sydney has seen strong growth in new housing which, for the first time in a decade is reaching the level of supply that is needed to support growth.

The draft Plan sets out a process to deliver a steady pipeline of supply to meet forecast housing demand and to improve Greater Sydney's housing affordability. Housing targets have been established to support the creation of supply for delivery over the next ten years and to create capacity for the longer term. A suite of measures that address housing affordability are included, with the implementation of Affordable Rental Housing Targets the focus of current initiatives.

Although parts of Greater Sydney have significant capacity to provide new dwellings, housing preferences mean that market demand is a major factor in addressing housing supply. Research indicates that the people of Greater Sydney have strong neighbourhood preference. Over 80 per cent of people moving locally within the city move less than 15 kilometres.³

The Commission is planning for communities, not simply housing. The creation and renewal of great places for people, together with better local accessibility through walking and cycling will achieve local liveability that attracts and retains residents and workers.

When services and infrastructure like schools, health, recreation, arts and sports are co-located at the heart of a neighbourhood, designed for walking and cycling, they provide better opportunities for people to meet and develop strong ties (refer to Objective 7). For these reasons, great places exhibit design excellence and start with a focus on open spaces and a people-friendly realm.

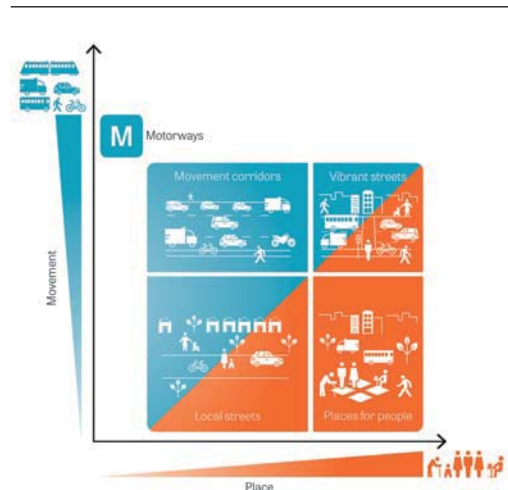
This draft Plan and *Future Transport 2056* adopt a common approach, illustrated in Figure 10, to creating great places and better connecting them. It recognises the dual function of streets as places for people and movement and how the prioritisation of transport movements, walking, cycling and social opportunity influences the function of streets and determines their character and identity.

Place-based planning

Place-based planning is a design-led and collaborative way of examining the complexity of the city by viewing it as a mosaic of different places, each with unique potential and characteristics. Focusing on how specific places work for people, collaborative processes are used to develop a shared vision and values that capitalise on locally distinctive attributes and strengths.

The shared vision and a spatial framework for a place provide the basis for future development, governance and allocation of responsibilities. The outputs of place-based planning detail how the vision will be implemented and the place activated, monitored, managed and re-visited over time to shape decision-making, strategic plans, development proposals and assessment, and ongoing management.

Figure 10: Movement and place framework



Source: *Future Transport 2056 and Greater Sydney Commission*

Improving liveability leads to better mental and physical health outcomes and community cohesion, and provides productivity and sustainability benefits.

Providing opportunities for people to participate in quality arts, cultural and heritage experiences inspires understanding of differences and innovation. Strengthening social connections within and between diverse peoples and cultures promotes resilience and collaborative responses to growth and change. Key to these outcomes are opportunities to participate in local sporting clubs and activities.

Planning for the infrastructure needs of Greater Sydney also requires planning for cemeteries and crematorium infrastructure. In the life of this plan, there will be a need to create substantial additional capacity to meet future local and regional demand.

Each of the three cities requires different approaches to improving liveability outcomes.

The Western Parkland City is a mix of well-established suburban and rural communities, emerging neighbourhoods and new centres. In the Western City, improving liveability is about new great places, with well-connected communities which have access to a range of jobs and services.

Creating the best city into the future requires a place-based approach that starts with public places and open spaces and transit oriented developments. The timely delivery of infrastructure to support new communities to develop social connections will bring vibrancy and activation and improve liveability.

The Central River City is transforming from a suburban to a more urban environment, with a mix of well-established and developing neighbourhoods along existing and new transit corridors. It is a focus for large transport, social and cultural infrastructure improvements. Providing local infrastructure to support its transformation and developing fine grain urban form and land use mix are essential for improving liveability.

The Eastern Harbour City is a mature mix of well-established communities from traditional suburban to Australia's most highly urban neighbourhoods. Growth will bring urban renewal and infill development with increased need for infrastructure and services. The quality of the public realm for people and access to open space and services are primary considerations for improving liveability.

This chapter outlines the Commission's liveability recommendations for objectives and strategies. A number of these recommendations are not government policy.

Actions

The following metropolitan significant actions will deliver liveability objectives.

- Prepare housing strategies (refer to Objective 10).
- Develop 6–10 year housing targets (refer to Objective 10).
- Work with the NSW Department of Planning and Environment to implement Affordable Rental Housing Targets (refer to Objective 11).



A city for people.

Objective 6

Services and infrastructure meet communities' changing needs

Greater Sydney is growing at the same time as major demographic changes are occurring.

By 2036 the number of infants aged 0–4 years will increase by 85,000 and there will be 333,000 more children and young people aged 5–19 than today. Over the same period, the proportion of the population over 65 years of age will increase from 13 to 18 per cent. Also, the number of working age people aged 20–65 will decrease from 62 to 58 per cent. These changing demographics will affect the types and distribution of services and infrastructure required in neighbourhoods and cities, which will be supported by a smaller working population.

Schools

Schools are essential local infrastructure. The Department of Education estimates that an extra 260,000 students will need to be accommodated in government and non-government schools in Greater Sydney by 2031. Demand for school places will vary across Greater Sydney. The NSW Department of Education's high-level *School Assets Strategic Plan* coordinates planning for, and delivery of, both new and expanded schools.

The NSW Government will spend \$4.2 billion over the next four years on school buildings, which it estimates will create 32,000 more student places and 1,500 new classrooms. Many new and expanded schools will be in growth areas including Camden, Riverstone, Penrith and Bella Vista. Innovations such as contemporary design, flexible learning spaces and more efficient use of land will be essential responses to growth and changing spatial demands. Shared use

of facilities and increased opportunities for students to walk and cycle to school will better connect schools with local communities.

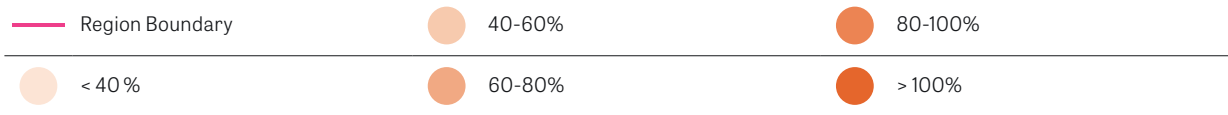
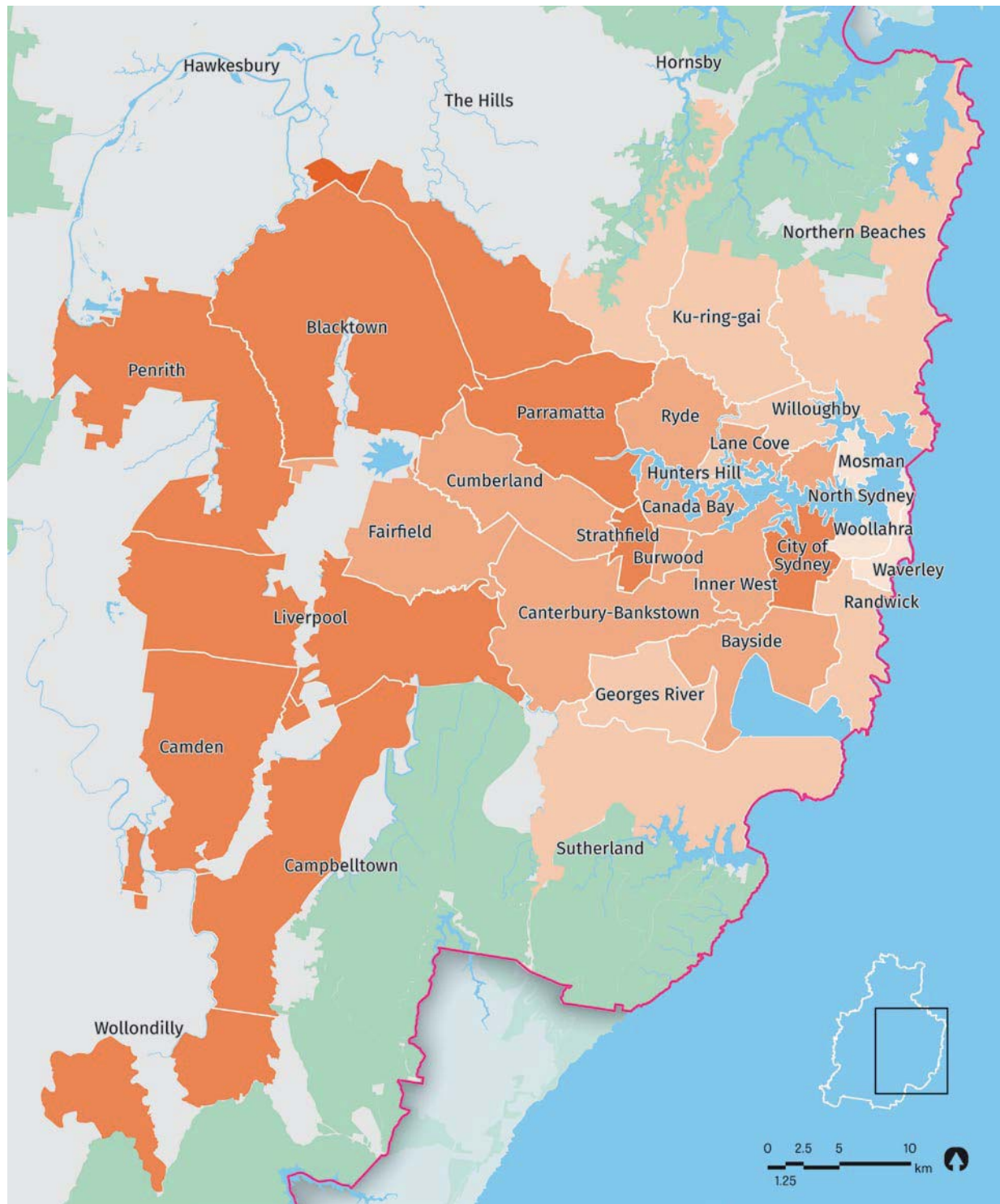
However, the needs of children and young people go beyond schools. With families increasingly living in higher density areas, planning and design responses need to place greater importance on how open space and the public realm are inclusive for children and young people (refer to Objective 12).

Health services

Integrated planning for health services will make it easier for people to access a comprehensive health system including general practice, community health services, in-home and aged care, medical centres, pharmacies, dental and related services. Strategic planning will continue to respond to the changing nature of health service delivery – providing accessibility for patients, visitors and staff in well-located health facilities. The co-location of health, higher education and related activities such as research, housing for health workers and students, short-term accommodation, and complementary commercial uses will support collaboration, innovation and accessibility outcomes.

Figure 11 shows greater proportional increases in people over 65 years in local government areas within the Western Parkland and Central River cities. These places will experience much greater demand for health, social and aged care services than currently exist.

Figure 11: Projected spatial pattern of population increase over 65 years from 2016 to 2036



Source: NSW Department of Planning and Environment

Tailored services and infrastructure will be required for people to age within their communities where being close to friends, family and support networks improves their wellbeing. This will require accessible local services including in-home care with associated parking and housing diversity for downsizing.

Providing accessible services and facilities for the aged will require innovative approaches to their delivery (refer to Objective 3). While digital technologies are increasingly improving the capacity of health and social services to be accessed from home, there will be increased demand for local aged care facilities.

Physical, social and spatial accessibility is important across all ages and abilities. A region that is female-friendly is safer and more accessible for all – people of all abilities including people with disability, older people and children.

Universal design

Universal design is a term used to describe homes and places that can be accessed, understood and used by all people, regardless of their age, size, ability or disability. Universal design provides safer homes that are easier to enter, move around and live in, and that can be adapted to the changing needs of occupants over time. It benefits residents, visitors and all the community.⁴

If 20 per cent of new homes were of universal design, savings to the Australian health system of \$37–\$54.5 million per year could arise through reduced hospital stays, accommodation, health and in-home care. Construction costs are approximately one to two per cent more for universal housing.⁵

Improved health, public transport and accessibility outcomes can be achieved through the provision of schools, recreation, transport, community and health facilities in walkable mixed use places co-located with social infrastructure and local services (refer to Objective 7).

Delivery of the necessary facilities and services to meet people's changing needs requires integrated planning and collaboration amongst a broad range of stakeholders. This includes considering both the provision of services and the overall outcomes for the community and inter-generational equity.

Strategy 6.1

Deliver social infrastructure to reflect the needs of the community now and in the future.

Strategy 6.2

Optimise the use of available public land for social infrastructure.

Related government initiatives:

- School Assets Strategic Plan Summary

Useful links:

- Mapping the NSW Budget 2017–18

Objective 7

Communities are healthy, resilient and socially connected

Active and socially connected people are healthier and better able to adapt to change. Strong social networks help communities respond to the challenges of urban life, such as housing affordability and access to work and education. They give people access to knowledge, resources and opportunities. Great places for people are shaped by healthy and connected communities that share values and trust, and can develop resilience (refer to Objective 12 and Objective 36).

Street life, meeting and gathering places and emerging sharing and digital networks sustain social networks. Streets allow spontaneous social interaction and community cultural life when designed at a human scale for walkability.

Managing growth and change requires meaningful engagement with local communities. Understanding and building on a community's unique strengths, networks and potential is key. Existing social network strengths across the three cities include:

- playgrounds, libraries, education facilities and active street life
- farmers' markets, eat streets, street verge and community gardens
- creative arts centres, theatres, live music and co-working spaces
- bushcare groups, outdoor gyms, sports fields and aquatic centres, and community spaces.

These generate the greatest social opportunities when they are inter-generational, multipurpose and co-located at the heart of walkable neighbourhoods.

Well-planned neighbourhoods can improve the health of people, which is particularly important given the rising incidence of people with chronic lifestyle related diseases such as type 2 diabetes and childhood obesity. Mixed-use neighbourhoods with homes and schools close to centres and public transport improve the opportunities for people to walk and cycle to local shops and services. This has many flow-on benefits including increasing patronage of local businesses and transport, more successful centres and reduced traffic congestion.

Good access to fresh food and walkable opportunities for sport and recreation encourages more active and healthier people. With families increasingly living in higher density neighbourhoods, open spaces and public places need to be inclusive for children and young people.

A 20-minute walk built into a person's daily routine reduces the risk of early death by 22 per cent and increases a person's mental health by 33 per cent.⁶

Being connected – including physically, socially, economically, culturally and digitally – is central to building healthy, resilient and diverse communities. Delivery of places for people is an important consideration at every scale, from large transformation projects to local public realm improvements which are also addressed in Objective 14. These require coordination across a range of stakeholders and agencies, councils and communities, developers and service providers.

Strategy 7.1

Deliver inclusive places for people of all ages and abilities that support healthy, resilient and socially connected communities by:

- providing walkable places with active street life and a human scale
- co-locating schools, social, health, sporting, cultural and shared facilities.

Related government initiatives:

- Make Healthy Normal
- NSW Active Travel Charter for Children
- NSW Healthy Built Environment Checklist

Objective 8

Greater Sydney's communities are culturally rich with diverse neighbourhoods

Across Greater Sydney diverse neighbourhoods are home to people of different cultural and linguistic backgrounds. This cultural richness brings to the region a wide array of skills, languages, cultures and experiences.

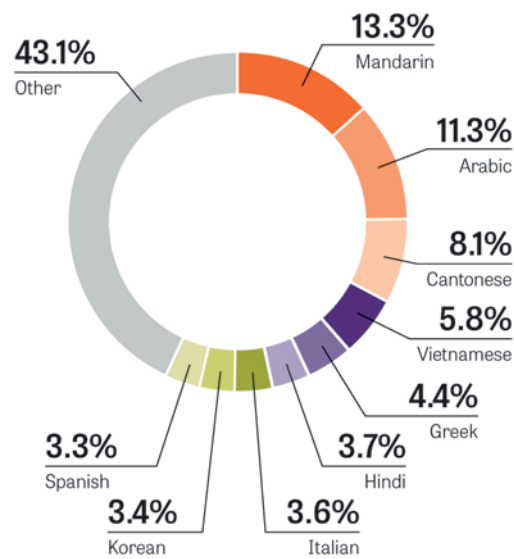
Greater Sydney's Aboriginal people have long standing and continuing connections with land, community and culture across the region. These are fundamental to Greater Sydney's heritage, culture and identity.

Greater Sydney is the site of the first European settlement in Australia. Its colonial history and heritage makes a significant contribution to the region's culture and identity. Since then, many migrants and refugees have brought diverse stories, heritage, tradition and customs that also celebrate diversity and contribute to the co-creation of distinctive places.

Recognition of diversity is one of Greater Sydney's key strengths. It fosters social and economic opportunity, individual wellbeing and community cohesion. Sporting participation is an important social and recreational pursuit that builds resilience and social connections in diverse communities.

To deliver rich and diverse neighbourhoods requires engagement across cultures to develop an understanding of local culture and needs, to capitalise on community strengths.

Figure 12: Top 10 non-English languages spoken at home in Greater Sydney



Source: Australian Bureau of Statistics Census 2016

Engagement with Aboriginal communities should be founded on self-determination and economic participation and mutual respect. This includes facilitating the ability of Local Aboriginal Land Councils to more readily derive economic, community and cultural use of Aboriginal land acquired under the *Aboriginal Land Rights Act 1983*.

Strategy 8.1

Consider cultural diversity in strategic planning and engagement.

Objective 9

Greater Sydney celebrates the arts and supports creative industries and innovation

Greater Sydney is an innovative and creative region where cultural and artistic expression is encouraged and respected. Artistic and creative expression is central to Greater Sydney's identity and international image and is also a hallmark of an innovative economy. Artists develop and communicate ideas and new ways of thinking.

Great places for people are made when artistic, cultural and creative works are visible, valued, distinctive and accessible. Providing local opportunities for artistic, cultural and creative expression through support for, and access to, arts, literature, screen, performance and cultural experiences, public art and events encourages a culture of creativity and innovation and contributes to local identity. Growing the arts sector will draw greater participation from both residents and visitors, contributing to the economy and attracting investment.

Greater Sydney's Aboriginal people also continue to contribute to Greater Sydney's rich cultural and creative identity.

While there is an historic concentration of arts and cultural organisations in the Eastern Harbour City, there are also important arts facilities and strong local arts networks that give the Central River and Western Parkland cities distinctive arts cultures. These include Bankstown Arts Centre, Blacktown Arts Centre, Casula Powerhouse Arts Centre, Campbelltown Arts Centre, Penrith Performing and Visual Arts and the Riverside Theatres in Parramatta. However more facilities to support arts and culture are required in the Central River and Western Parkland cities to balance the three cities.

Arts and cultural experiences provoke thought and understanding of difference in shared spaces, venues, theatres, cinemas and eat streets, and through events. Increased connections between creative organisations can help support artistic

practice and build sector capacity. Multi-functional and shared spaces are also required, with opportunities for artists and makers to live, work and learn locally. Greater use of the public realm for interim and temporary uses can increase audience and artist participation.

A vibrant and safe night-time economy enhances Greater Sydney's standing as a global city, while meeting the social and recreational needs of shift workers, young people, tourists and visitors. Stimulating the night-time economy will support dynamic places and boost local economies. This can generally occur in mixed-use centres with adequate noise control, locally appropriate operating hours and safe late-night travel options.

Strategy 9.1

Facilitate opportunities for creative and artistic expression and participation, wherever feasible with a minimum regulatory burden, including:

- creative arts and cultural enterprises and facilities
- creative interim and temporary uses
- appropriate development of the night-time economy.

Related government initiatives:

- Create in NSW: NSW Arts and Cultural Policy Framework



Housing the city

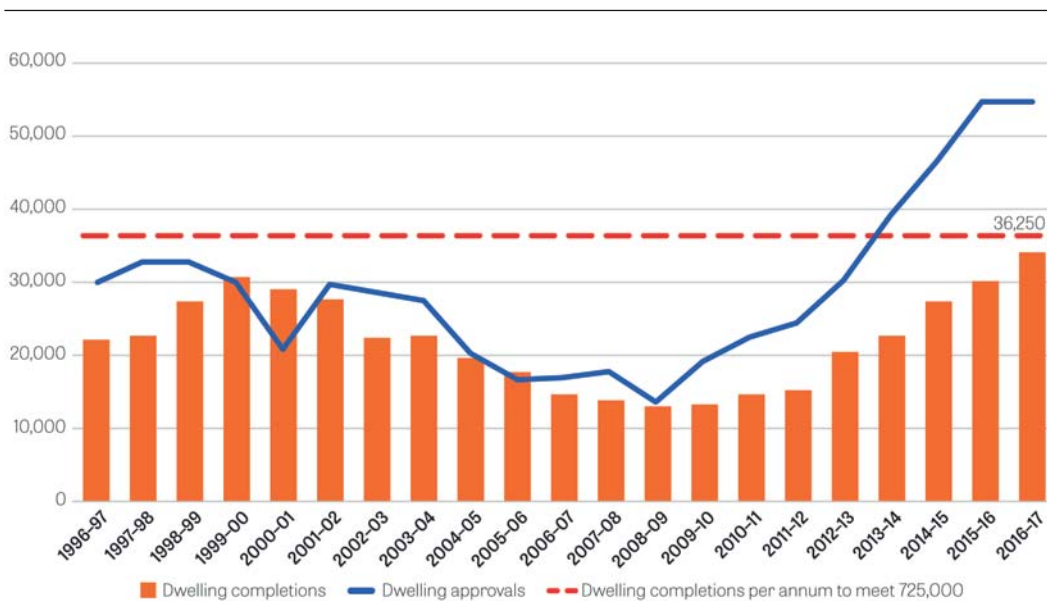
Objective 10 Greater housing supply

Providing ongoing housing supply and a range of housing types in the right locations will create more liveable neighbourhoods and support Greater Sydney’s growing population.

The NSW Government has identified that 725,000 new homes will be needed to meet demand based on current population projections to 2036. By 2056, it is anticipated that significant further housing supply will be required to meet Greater Sydney’s continued strong population growth.

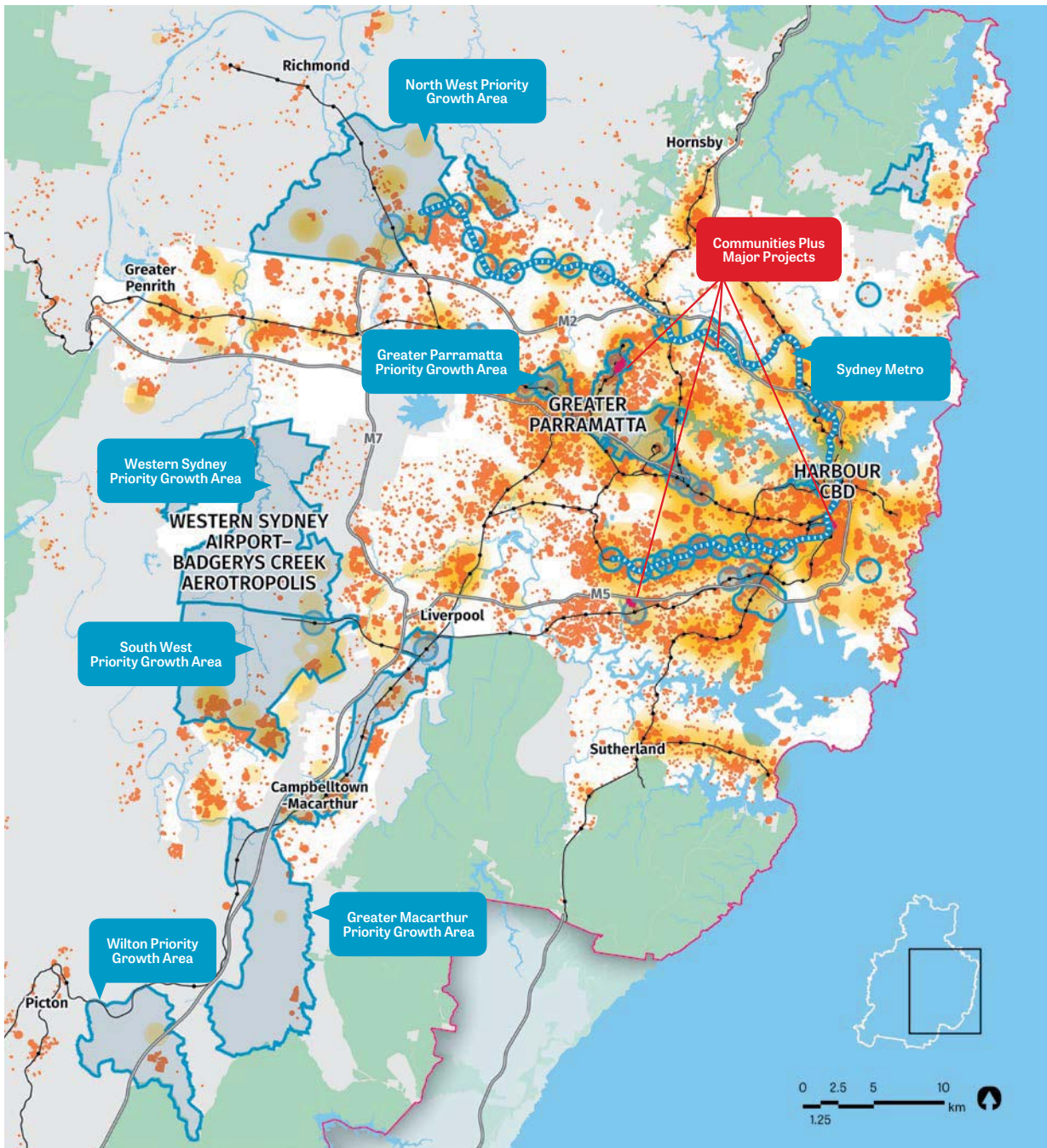
Between 2000 and 2010, dwelling completions across Greater Sydney declined substantially with less than half the number of homes completed in 2010 compared to 2000 (refer to Figure 13). However, the population continued to rise and household occupancy rates declined. In recent years, there has been a significant turnaround with more homes being built than at any time in Greater Sydney’s history, with approximately 34,000 new homes in the year to June 2017. The NSW Government’s current programs are significantly contributing to housing supply (refer to Figure 14).










Figure 13: Historic dwelling approvals and completions: 1996–97 to 2016–17



Source: NSW Department of Planning and Environment Metropolitan Housing Monitor Sydney Region

Figure 14: Historic and future housing supply



 Region Boundary	 Priority Growth Areas, Priority Precincts, Transit Oriented Development
 Waterways	 Communities Plus Projects (Land and Housing Corporation) Major Projects
 Protected Natural Area	 Dwelling Completions 2012 to 2016
 Metropolitan Rural Area	 Forecast Dwelling Completions 2016 to 2021
 Sydney Metro	

Source: Greater Sydney Commission, NSW Department of Planning and Environment & NSW Government Housing Affordability Package

As part of this unprecedented level of supply, a range of housing types, tenures and price points will be needed across the housing continuum to meet demand. The housing continuum refers to all types of houses, apartments, terraces and villas; to different tenures including dwellings that are owned outright, mortgaged or rented; to homes occupied by single people, families and groups (refer to Objective 11).

A range of housing types provides for the needs of the community at different stages of life and caters for diverse household types. It means that as people age they can move into smaller homes and age in their own neighbourhoods, while young adults leaving home can stay close to their families and communities.

Good strategic planning can link the delivery of new homes in the right location with local infrastructure. Strong collaboration by State and local governments can best achieve the coordination required for local infrastructure to support additional housing supply and create liveable neighbourhoods.

Importantly, this draft Plan recognises that not all areas of Greater Sydney are appropriate for significant additional development. Challenges relating to a lack of access to shops, services and public transport or other necessary infrastructure and local amenity constraints require careful consideration. Good planning is also required to enhance and not detract from local amenity.

Housing Affordability Package⁷

– A Fair Go for First Home Buyers

The NSW Government's 2017 Housing Affordability Package outlines a range of initiatives to make it easier for people to own their own homes, including an allocation of more than \$2.1 billion for infrastructure to support growth.

The NSW Government wants to ensure there are enough homes built to meet the growing population. However supply needs to be in the right areas, and the housing needs to be the right type and take into consideration the unique character of local neighbourhoods. Communities and councils have the lead role in determining where new housing can be delivered and how this can be done with respect to the character of the local neighbourhood.



More housing in the right locations

Creating capacity for new housing in the right locations requires clear criteria for where capacity is to be located. Accommodating homes for the next generation needs to be linked to local infrastructure - both to optimise existing infrastructure use and to maximise investment in new infrastructure. Opportunities for capacity can be realised by urban renewal, local infill developments and land release areas (refer to Figure 156).

Urban renewal

Opportunities for urban renewal need to be considered by location and by capacity of existing and proposed infrastructure. In older more established parts of Greater Sydney, urban renewal opportunities may exist around regional transport and strategic centres where links for walking and cycling promote a healthy lifestyle and contribute to liveability.

Where there is significant investment in transit corridors, both existing and proposed, urban renewal may best be investigated in key nodes along the corridor. Corridor investigations can provide a longer term strategic context while the development of precincts within the corridor is sequenced over time.

The Commission proposes locational criteria for urban renewal investigation opportunities to include:

- Alignment with investment in regional and district infrastructure. This acknowledges the catalytic impacts of infrastructure such as Sydney Metro Northwest and Sydney Metro City & Southwest, NorthConnex, WestConnex, CBD and South East Light Rail, Parramatta Light Rail, Northern Beaches Hospital together with other possible future NSW Government investments such as Western Harbour Tunnel and Beaches Link and Sydney Metro West. It also acknowledges the opportunities created by enhancements to existing infrastructure such as upgrades to schools, open space including sporting facilities and transport.
- Accessibility to jobs, noting close to half of Greater Sydney's jobs are generated in strategic centres.
- Accessibility to regional transport, noting that high-frequency transport services can create efficient connections to local transport services and expand the catchment area of people who can access regional transport.
- The catchment area that is within walking distance of centres with rail, light rail or regional bus transport.

Other matters to be carefully considered include:

- the feasibility of development, including financial viability across a range of housing configurations (one, two, three or more bedrooms) and consistency with market demand

- heritage and cultural elements, visual impacts, natural hazards such as flooding, special land uses and other environmental constraints
- local features such as topography, lot sizes, strata ownership and the transition between different built forms
- the staging of enabling infrastructure, upgrades or expansions of social infrastructure such as local schools, open space including sport and community facilities.

Local infill development

Medium density housing which includes villas and town houses within existing areas can provide greater housing variety while maintaining the local appeal and amenity of an area.

Councils are in the best position to investigate and confirm what areas their local government areas are suited to additional medium density opportunities. In doing this the Commission proposes that Councils should consider:

- transitional areas between urban renewal precincts and existing neighbourhoods
- residential land around local centres where links for walking and cycling help promote a healthy lifestyle
- areas with good proximity to regional transport where more intensive urban renewal is not suitable due to challenging topography or other characteristics
- lower density parts of suburban Greater Sydney undergoing replacement of older housing stock.

Design guidelines set out in the NSW Department of Planning and Environment's *Draft Medium Density Design Guide* show how this infill can promote good design outcomes.

New communities in land release areas

The Priority Growth Area programs of the NSW Department of Planning and Environment guide the development of new communities in land release areas. The largest growth areas are the North West, South West and Wilton Priority Growth Areas and the southern part of the Greater Macarthur Priority Growth Area. The current programs include significant capacity into the medium and longer term.

The Western Sydney Airport Priority Growth Area will include new communities at the same time as the development of the Western Economic Corridor, which includes Western Sydney Airport and Western Sydney Employment Area.

Housing targets

The development of housing supply targets (refer to Table 3 and Figure 15) has been informed by an assessment of data and information sets, in particular, the NSW Department of Planning and Environment dwelling projections; the NSW Department of Planning and Environment housing supply forecasts⁸; the NSW Intergenerational Report; Housing Market Demand Areas⁹; housing market preferences; and the assessment of existing local infrastructure capacity. These targets are as published in November 2016 draft District Plans.

To inform the preparation of housing strategies district plans are to provide housing supply targets for a 0–5 year timeframe by local government area.

Councils are to work with the Commission to establish agreed 6–10 year housing targets for their local government area. In addition Councils are to identify attributes that make local areas suitable for housing supply beyond 10 years. These attributes include proximity to transport interchanges, and strategic and local centres (especially those with a supermarket) that can support walkable neighbourhoods with access to jobs, schools and open space and opportunities to optimise infrastructure use.

Table 3: Housing targets 2016–2036

District	0–5 year housing supply target: 2016–2021	20-year strategic housing target: 2016–2036
Central City	53,500	207,500
Eastern City	46,550	157,500
North	25,950	92,000
South	23,250	83,500
Western City	39,850	184,500
Greater Sydney	189,100	725,000

Note: Central City and North District targets have been updated from November 2016 Draft District Plans due to changes to council boundaries.

Planning for housing supply beyond 2026 is more strategic to allow for a range of changing circumstances and industry responses to market changes. Therefore the 20-year strategic housing targets at the district level, provide the longer-term context for housing strategies. Where housing market areas cross local government boundaries and where infrastructure to support growth is of city-shaping significance, a district level housing strategy may be appropriate.

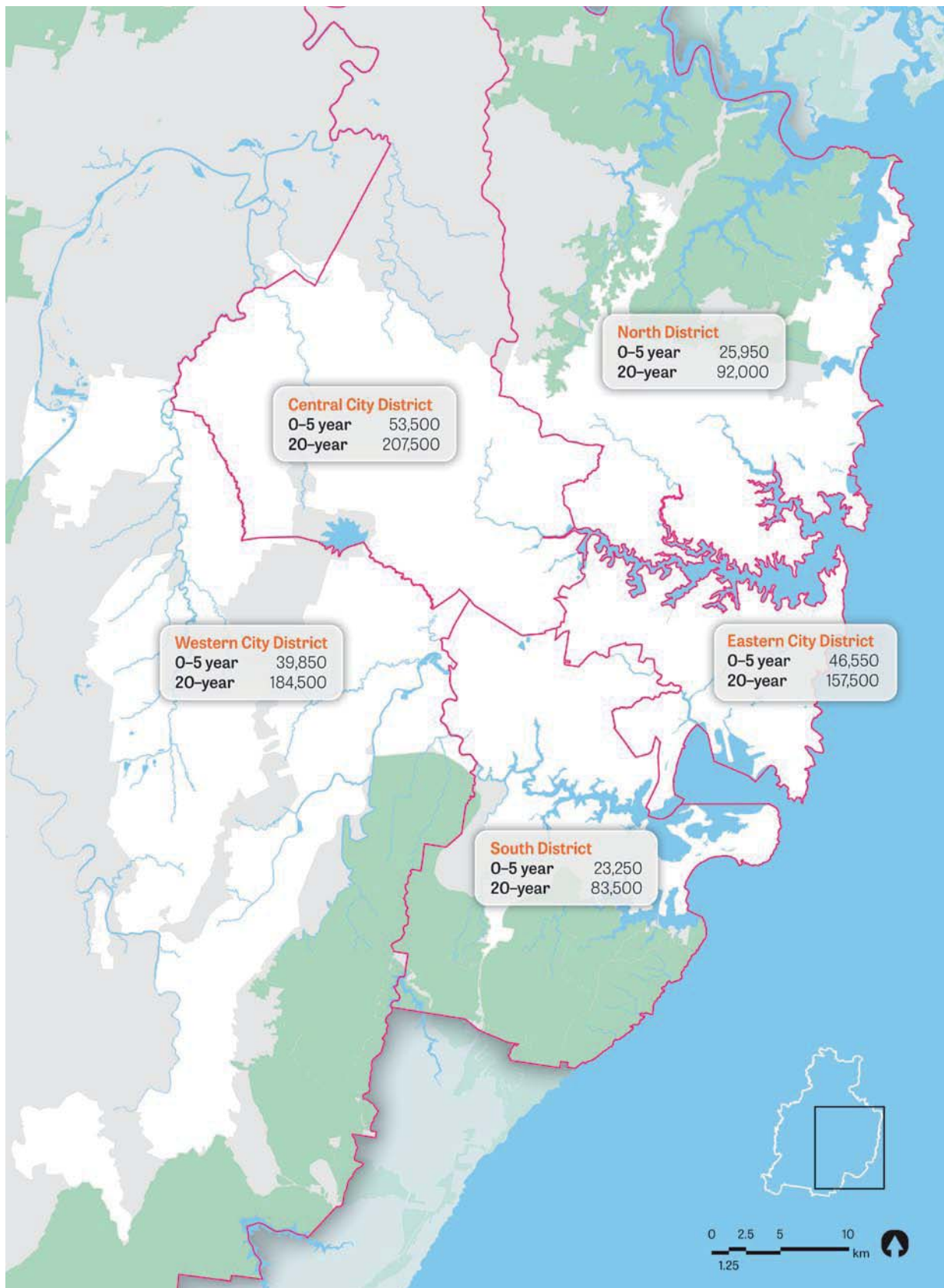
Councils are to investigate opportunities for supply and a diversity of housing particularly around centres to create more walkable neighbourhoods. For councils, the main tool for understanding the need and planning for housing and infrastructure delivery is housing strategies. Councils’ housing strategies will need to address the 0–5 and 6–10 year local (when agreed) or district housing targets as well as 20-year strategic district targets outlined in this draft Plan.

The 0–5-year housing supply targets are a minimum and councils will need to find additional opportunities to exceed their target to address demand.

The 6–10 year housing targets will build on the five-year targets and will be agreed with councils over the next 18–24 months in collaboration with the Commission as councils develop their housing strategies and identify the right locations to meet their area’s housing needs.

Developers play an important role in supporting housing outcomes. The development industry needs to continually provide new housing and translate the development capacity created by the planning system into approvals and supply.

Figure 15: Housing targets 2016–2036



Housing strategies

Housing strategies are to be prepared by councils for a local government area or district and be given effect through amendments to local environmental plans. To deliver co-ordinated outcomes the development of housing strategies is to be aligned with councils' community strategic planning and to inform council infrastructure investments and service programs.

Housing strategies need to identify:

- where in their local government areas the 0–5 and 6–10-year housing targets (when agreed) would most appropriately be applied to align with existing and proposed improvements to local infrastructure and open space improvements (refer to Objective 12 and Objective 31)
- the right locations for growth, including areas that are unsuitable for significant change in the short to medium term.

Housing strategies play an important role in planning new housing that creates more liveable neighbourhoods and meet demand by responding to:

- **Housing need:** The projected housing need and demographic characteristics of the existing and growing community, including different cultural, socio-economic and age groups and the availability of a range of housing types, tenures and price points required across the housing continuum.
- **Diversity:** including a mix of types, a mix of apartments, residential aged care, adaptable and student housing, group homes, student accommodation and boarding houses.
- **Market preferences:** Market demand considerations that drive the take-up of housing, including local housing preferences reflecting where people want to live.¹⁰
- **Alignment of infrastructure:** Opportunities to optimise transport infrastructure enabling access to jobs, health, education and recreation facilities, that align with State and local government infrastructure priorities.
- **Displacement:** Managing potential impacts of growth on existing communities such as displacement by understanding the location and volume of affordable rental housing stock.

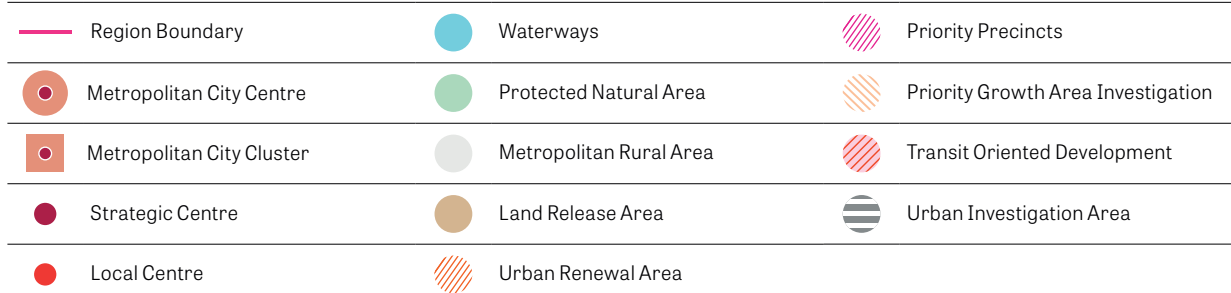
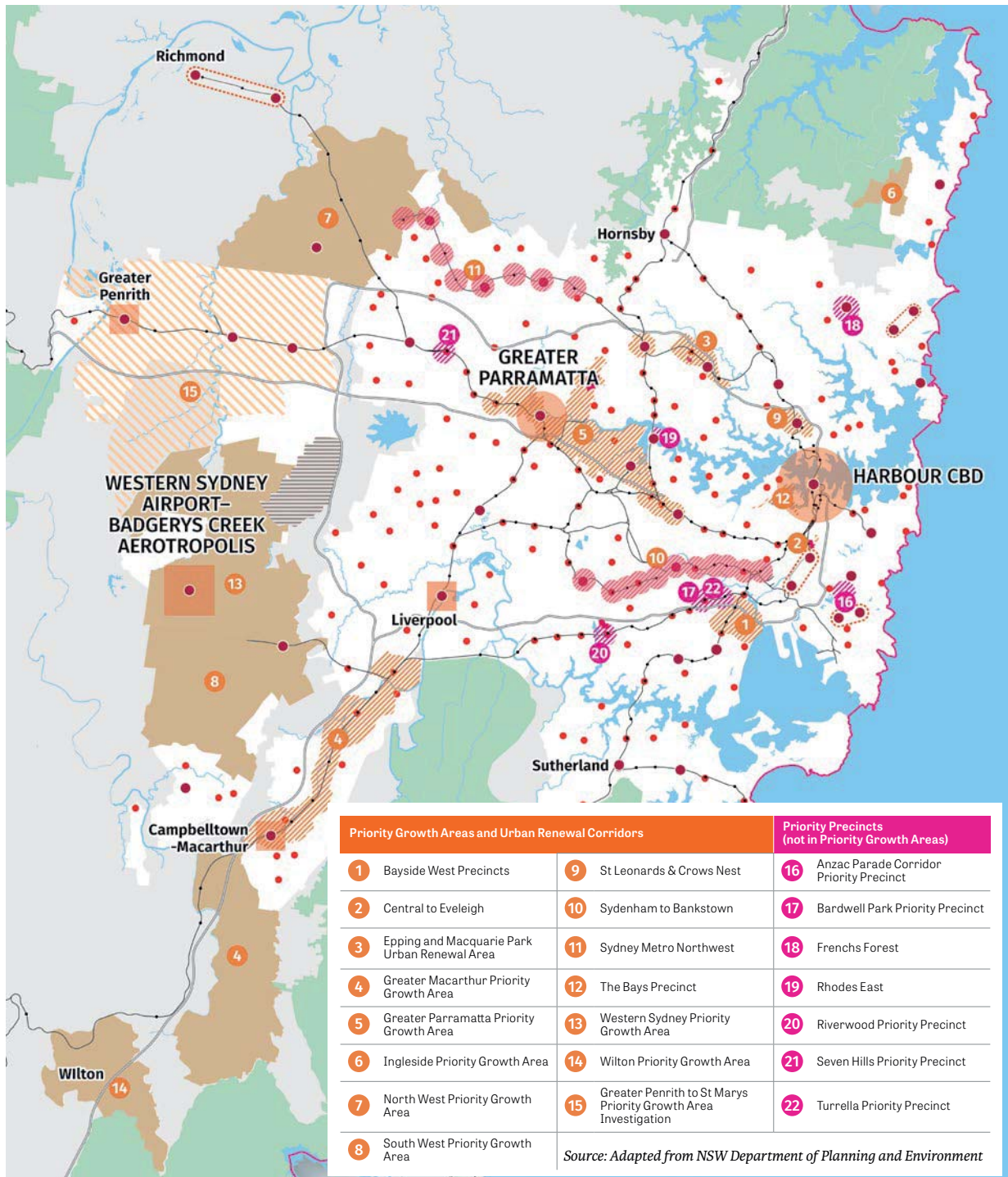
- **Amenity:** Opportunities for place-based planning that improve amenity including recreation, the public realm, increased walkable connections to centres and local jobs (refer to Objective 12).
- **Engagement:** Engaging the community on a range of options and neighbourhood priorities that can be integrated with new housing and benefit existing and future communities.
- **Efficiency:** Opportunities for innovations in waste, water and energy provision by determining the nature of growth, location and demand for utilities.

Housing strategies play an important role in planning new housing that creates more liveable neighbourhoods.

The draft District Plans provide assistance on the key technical aspects of preparing a housing strategy to improve housing affordability and choice. This will be further supported by a new planning circular and guidelines to be prepared by the NSW Department of Planning and Environment. Key aspects will include:

- **Capacity:** land with potential for rezoning for residential development whether in land release or existing urban areas.
- **Viability:** the assessment of new areas and whether the capacity created is financially viable for the market to develop, consistent with the extent of planning controls.
- **Good design:** neighbourhoods that are walkable, connected to transport and services, and have a mix of land uses.
- **Mix:** a mix of housing types within local housing market areas that allows people to relocate within their local area and stay connected to community services, friends and family.
- **Supply:** land zoned for residential development and served by adequate infrastructure.
- **Affordable rental and social housing:** access to supported and/or subsidised housing for low and very low income households (refer to Objective 11).

Figure 16: Future housing: government programs and preferred locations for consideration



- **Local infrastructure:** includes schools, health facilities and public spaces required to support the forecast housing supply (refer to Chapter 3 and Objective 6).
- **Delivery:** homes completed and ready for occupation.

To help resource councils to bring forward housing supply, the NSW Government's housing affordability package *A Fair Go for First Home Buyers* has allocated more than \$25 million for 10 councils to prepare their housing strategies and update their local environmental plans as a priority. The Commission is to nominate to Government the 10 priority councils. Additional funding is also available, for up to five other councils seeking to accelerate the updating of their local environmental plans.

Creating a long-term housing pipeline by district

The Commission's research has identified a need to create a long-term housing pipeline across Greater Sydney for the next 10 years and beyond.

The NSW Department of Planning and Environment's Priority Growth Areas and Priority Precincts programs play a role in supporting this supply. However, given the scale of Greater Sydney's housing challenge and the associated timescale to rezone land and to bring houses to market, additional capacity is required to meet 20-year timeframes. As such it is necessary to take a longer-term view and where needed start planning for the longer-term – the 10 to 20-year horizon (2026–2036).

The Priority Precincts will be planned consistent with the objectives and strategies of the *Greater Sydney Region Plan* and the relevant draft District Plans to enhance liveability, sustainability and productivity. These well planned precincts are the NSW Government's infrastructure priority and will be designed and delivered collaboratively with councils and informed by key government agencies and their asset plans. This planning will be supported by a Special Infrastructure Contribution or similar satisfactory arrangement to help fund the delivery of essential community infrastructure such as health, schools, open space and roads.

The identification of opportunities for new housing is only part of the solution. Linking new housing to infrastructure is equally, if not more, important to realising supply. This has been shown in city-shaping transport projects such as Sydney Metro which will deliver 31 new and refurbished stations and unlock significant opportunities for urban renewal and connectivity.

The Commission's Infrastructure Delivery Committee will improve coordination across State agencies to align high growth areas with infrastructure delivery. The Committee is a whole-of-government approach with membership from Treasury, transport and planning agencies and health and education agencies. The Infrastructure Delivery Committee oversees the pilot process for the coordination of growth and infrastructure delivery – growth infrastructure compacts (refer to Chapter 3).

To create long-term housing supply across Greater Sydney, the Commission and the NSW Department of Planning and Environment will work with councils to understand local needs and local opportunities for the right housing in the right locations.

Investigate a new Greater Penrith to St Marys Priority Growth Area

The Greater Penrith to St Marys corridor is a hub of economic activity that links the Penrith City Centre, and the Penrith health and education precinct, to the development opportunities around St Marys. A future transport corridor, running north to south between Macarthur, Narellan, Western Sydney Airport and Cudgegong Station, will connect with the existing heavy rail corridor running east to west. This will provide access to new jobs and services in the Western Parkland City and the new Western Sydney Airport.

A Greater Penrith to St Marys corridor growth area would provide for an integration of land use and transport planning to plan for a connected, vibrant Western Parkland City with more homes, jobs and services with open space opportunities. It will guide redevelopment opportunities and identify the infrastructure required to support continued growth.



Action 2

Prepare housing strategies

Councils will prepare local or district housing strategies that respond to housing targets set by the Commission.

Housing strategies will outline how housing growth is to be managed and what the right locations are for additional housing supply in each local government area, and inform updates of local environmental plans.

Updated local environmental plans that respond to housing strategies are to be submitted within three years of the finalisation of district plans, or two years in the case of priority councils where funding has been provided.



Action 3

Develop 6–10 year housing targets

To inform the development of updated local environment plans and housing strategies the Commission will work with each council within Greater Sydney, to develop 6–10 year housing strategies.

Related government initiatives:

- NSW Government, *A fair go for first home buyers – A plan to improve housing affordability*
- NSW Department of Planning and Environment/Plans for your Area, Priority Growth areas and precincts
- NSW Department of Planning and Environment, *Draft Medium Density Design Guide*

Useful links:

- NSW Department of Planning and Environment, 2016, 2016 New South Wales State and Local Government Area Population, Household and Implied Dwelling Projections
- NSW Treasury, 2016, NSW Intergenerational Report

Objective 11 Housing is more diverse and affordable

Housing has a dual social and economic role across Greater Sydney. Communities require housing that meets changing demographic needs over time and that provides stability. At the same time housing has an economic productivity role by providing housing choice and affordability for a cross section of workers.

Greater Sydney has been measured as being one of the least affordable housing markets globally¹¹ and is the least affordable Australian city – with challenges for both purchasing and renting. This has been exacerbated in the past five years by rapid price growth. Other factors that contribute to affordability challenges include:

- limited availability of smaller dwellings to meet the growing proportion of small households
- a relatively poor choice of rental housing options, with short and insecure rental agreements for tenants against a backdrop of an increasing trend to rent rather than buy
- the growing distance between areas where housing is affordable and the location of employment and education opportunities.

Meeting the challenges across the housing continuum

The Commission’s research and testing of needs through stakeholder and community consultation reaffirms the critical importance of providing a diversity of housing outcomes across the housing continuum in Greater Sydney. The continuum recognises the fundamental importance of household income on the ability to access housing of different types, cost and tenure (refer to Figure 17).

Housing costs are an increasingly critical issue for lower income and key worker households in Greater Sydney. Lower income households (earning up to approximately \$67,600 per annum) without other financial support cannot afford the average rental cost for even more moderately priced areas of Greater Sydney, which are generally on the outskirts of Greater Sydney (refer to Figure 18). Many key workers such as police, nurses and firefighters also do not have access to affordable rental outcomes anywhere but the outskirts of Greater Sydney.

Figure 17: Housing continuum, initiatives and programs



The trend to rent is also strengthening with 70 per cent of people aged 25–34 now renting in Greater Sydney. This trend is driven by the ageing of first home buyers to over 35 years and the changing preference of younger generations to rent, partly through a desire for greater mobility.¹²

Existing government policies to specifically address housing affordability

Ensuring a steady supply of market housing in locations well supported by existing or planned services and amenity with an emphasis on public transport access is set out in Objective 10.

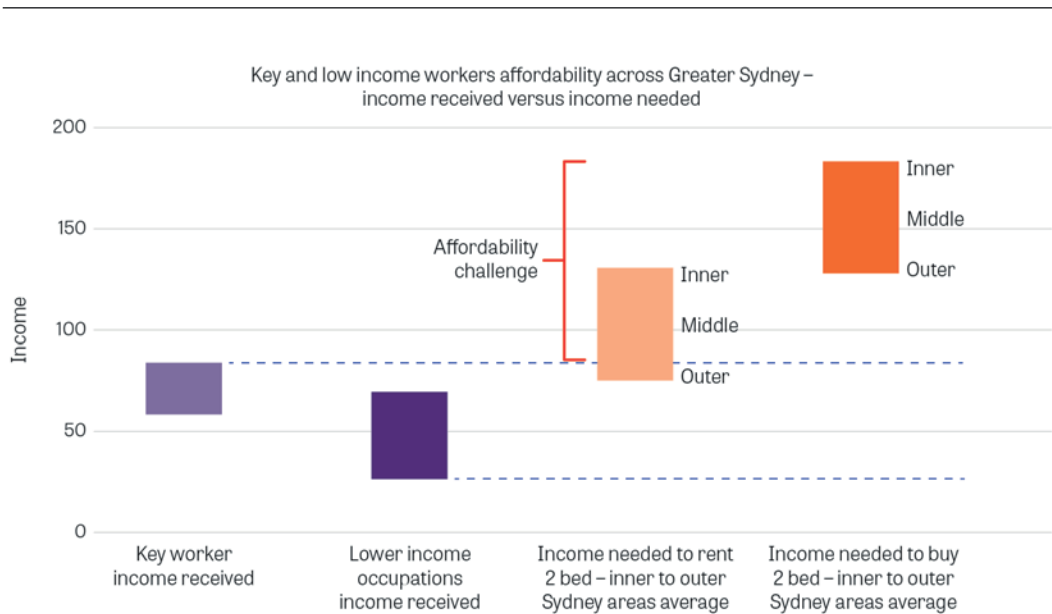
The Affordable Rental Housing State Environmental Planning Policy provides incentives for development projects to include a 10-year term for affordable rental housing dwellings for very low to moderate income households, however the areas where this is being applied are limited.

Social housing supply and renewal is being addressed through programs such as Communities Plus and the Social and Affordable Housing Fund. Social housing supports households experiencing

the highest housing stress and social disadvantage, however it addresses only part of the housing continuum. Recent research shows that Greater Sydney requires an estimated 4,000–8,000 additional affordable dwellings per annum to meet the needs of lower income groups.¹³ More affordable rental dwellings distributed across Greater Sydney will assist as they create a layer of housing that helps social housing residents transition to more independent housing which frees more social housing to support the most vulnerable.

This draft Plan recommends the NSW Government adopt Affordable Rental Housing Targets for very low to low-income households in Greater Sydney as a mechanism to deliver a supply of affordable housing. Affordable Rental Housing Targets would be applied in defined future precincts that are entering the rezoning process, so as not to limit the development of projects already underway with land transactions largely in place. In order not to hinder the supply outcomes being sought and to not impact existing home and property owners, the viability of the targets would be calculated on the increased residential floor space in each case.

Figure 18: Housing affordability for key and lower income workers



Source: FACS Rent and Sales Reports, PayScale salary survey 2017

The NSW Department of Planning and Environment and the Commission will jointly investigate ways to facilitate housing diversity through innovative purchase and rental models.

Further opportunities for planning to support housing affordability and diversity measures in the following areas are indicated in Figure 17.

They include:

- provision of affordable rental housing to support working households in the community most vulnerable to housing stress
- application of the Affordable Rental Housing State Environmental Planning Policy for very low to moderate-income households
- more compact housing, either on smaller land lots or through a proportion of smaller apartments of clever design to support moderate-income households and particularly key workers and skilled workers in targeted employment areas such as health and education precincts
- new owner-developer apartment models that support lower cost and more flexible delivery of apartments for like-minded owner groups.

Affordable rental housing for very low and low-income households

The Commission’s research and testing on the application of Affordable Rental Housing Targets has included wide engagement with stakeholders. This has confirmed a number of key parameters required for successful implementation. These include:

- the uplift in land value created as a result of a rezoning decision should be measured using a consistent viability test and core assumptions
- the inclusion of other government development charges for essential local and state infrastructure (known as Section 94 Development Contribution and Special Infrastructure Contribution charges) and scope of any Voluntary Planning Agreement is essential to accurately reflect the viability so that communities do not forgo local amenity and services
- the necessary allowance for an increase in value for land vendors so that land is willingly sold into development projects that create housing supply

Affordable rental housing eligibility

Who is eligible for housing provided through this Affordable Rental Housing Target?

Affordable housing is defined under the *Environmental Planning and Assessment Act 1979* as housing for very low-income households, low-income households or moderate-income households.

Low and very low-income households are the most vulnerable to housing stress because proportionally they have less money for living costs once they have paid their housing costs.

This draft Plan identifies the most vulnerable households (the low to very low income households) as eligible for housing secured by Affordable Rental Housing Targets as defined by the ranges in the table below.

Specific income ranges by household type are provided by the Department of Family and Community Services and available at www.housing.nsw.gov.au/centre-for-affordable-housing/

Household income	% of median Sydney income	2016/17 income range
Very low	< 50%	< \$42,300 per annum or \$813 per week
Low	50%–80%	up to \$67,600 per annum or \$1,300 per week

Source: Department of Family and Community Services

- the necessary allowance for development companies to achieve a normal profit margin on the capital invested and risk taken on projects
- the requirement to have a separate approach for land release areas and urban infill areas given the differing circumstances in relation to development costs, development processes and land acquisition processes.

The Commission's testing reaffirms that across Greater Sydney targets generally in the range of 5–10 per cent of new residential floor space are viable, including the parameters set out above, noting that these parameters will be tailored to each nominated area. The Commission will work with the NSW Department of Planning and Environment to develop the mechanisms required for delivery of the proposed Affordable Rental Housing Targets.

Planning for moderate income households to support Greater Sydney's workforce

Many moderate-income households face housing diversity and affordability challenges – typically households with incomes of \$67,400–\$101,400 per annum.¹⁴ Recent research indicates that about half of young Greater Sydney residents are considering leaving Greater Sydney in the next five years¹⁵, with housing affordability being a key issue. It also highlighted that smaller dwellings are considered an acceptable approach to reducing housing cost.

A smaller and smarter home initiative was announced in the NSW Government's housing affordability package *A Fair Go for First Home Buyers*. Commission research indicates that smaller homes of excellent design – including apartments, medium density dwellings and small land lots in the right locations – could create housing at around 20 per cent less than current market prices. Innovative models for smaller homes are introducing elements such as shared facilities, including shared living spaces, to complement the smaller dwelling design.

This draft Plan also supports market-led affordable housing programs such as owner-developer apartment models for small to medium scale projects that aim for excellence and more flexible design and delivery outcomes. Commission research indicates that in appropriate locations this could create housing at around a 10–30 per cent discount compared to current market prices.

The proportion of households choosing to rent rather than buy, through need or preference, is growing quickly in Greater Sydney – with over one-third of all households in Greater Sydney renting their home (refer to Figure 19).¹⁶ This is also the case in most global cities where support for more choice and supply of rental accommodation is underway. The pressures driving the trend to rent include:

- the increasing age of first-home owners – now over 35 years old in Greater Sydney – creating a necessity to rent before a sufficient deposit is available
- the increasing preference to rent for many younger workers who desire lifestyle mobility and increased workplace mobility
- a common approach to purchase a dwelling or investment property at lower cost outside Greater Sydney while choosing to rent in Greater Sydney to access work opportunities.

The largest providers of general rental accommodation in Greater Sydney are private property investors renting standard dwellings of variable conditions on short six to 12 month leases. Tenants are exposed frequently to uncertain tenure and rental costs under this model.

This draft Plan encourages investigation of an institutionally delivered and managed rental accommodation model in purpose-designed rental buildings – referred to as build to rent. This form of rental accommodation would need to be delivered close to public transport and centres, offer longer lease terms (greater than three years) and offer the opportunity to include affordable rental housing schemes if viable. This model would complement student accommodation and the new generation boarding houses (under the Affordable Rental Housing State Environmental Planning Policy) as specialised rental accommodation models for specific tenant segments.

This draft Plan supports NSW Government initiatives to improve tenant tenure security and longer lease terms of three to five years, together with improved certainty for tenants and landlords on potential rent increases.

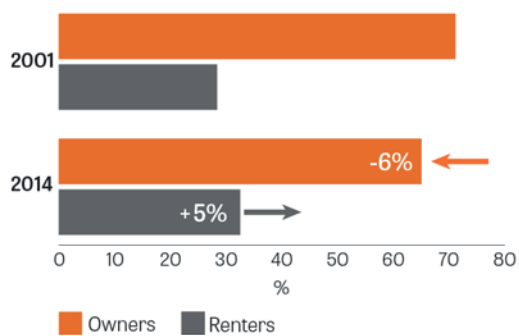
Strategy 11.1

Prepare Affordable Rental Housing Target schemes.

Strategy 11.2

State agencies, when disposing or developing surplus land for residential or mixed use projects include, where viable, a range of initiatives to address housing diversity and/or affordable rental housing.

Figure 19: Proportion of renters and owners



Source: Australian Bureau of Statistics 4130.0 – Housing Occupancy and Costs, 2013–14

Related government initiatives:

- NSW Department of Finance, Services and Innovation, *Property Infrastructure Policy*



Action 4

Work with the NSW Department of Planning and Environment to implement Affordable Rental Housing Targets

The Commission will work closely with the NSW Department of Planning and Environment to streamline implementation of new programs particularly in respect to the workings of the Affordable Rental Housing State Environmental Planning Policy and State Environmental Planning Policy No 70 – Affordable Housing (Revised Schemes).

Tasks will include finalising a consistent viability test for the targets to support councils and relevant planning authorities and ensuring that housing strategies include a sufficient affordable housing needs analysis and strategy to identify preferred affordable housing areas in each local government area.

A city of great places



Objective 12

Great places that bring people together

Greater Sydney's cities, centres and neighbourhoods each have a unique combination of people, potential, history, culture, arts, climate, built form and natural features creating places with distinctive identities and functions. Great places build on these characteristics to create a sense of place that reflects shared community values and culture. Great places have a focus on the public realm and open space that attracts residents, workers, visitors, enterprise and investment.

To create great places the mechanisms for delivering public benefits need to be agreed early in the planning processes, so that places provide a combination of the following elements, as illustrated in Figure 20 and Figure 21.

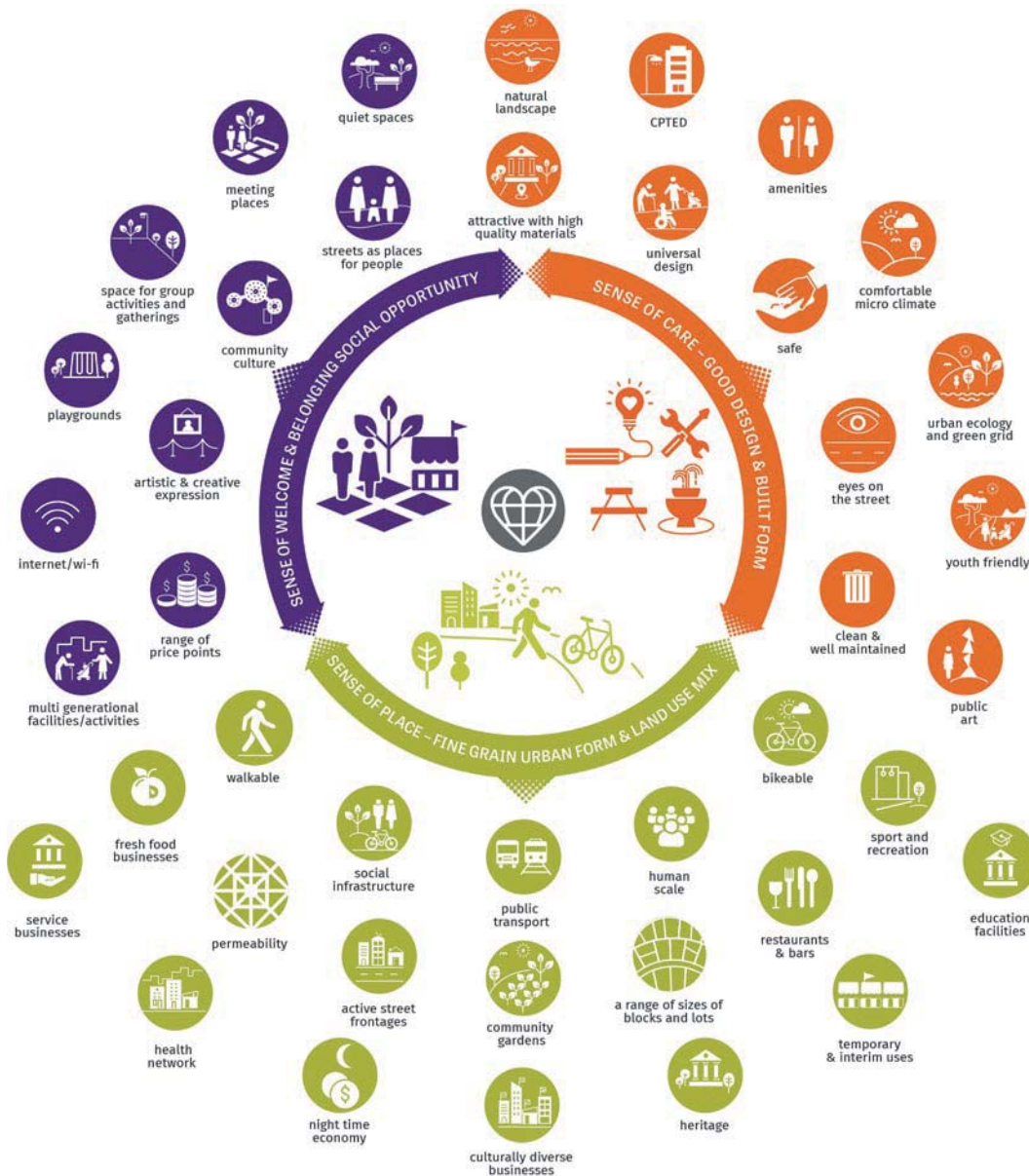
- **Well-designed built-environment** – great places are enjoyable and attractive, they are safe, clean and flexible with a mix of sizes and functions.
- **Social infrastructure and opportunity** – great places are inclusive of people of all ages and abilities, with a range of authentic local experiences and opportunities for social interaction and connection.
- **Fine grain urban form** – great places are of human scale, walkable with a mix of land uses including public buildings at the heart of communities.

Figure 20: Fine grain walkable places



Great places are characterised by a mix of land uses and activities that provide opportunities for social connection in walkable, human scale, fine grain neighbourhoods.

Figure 21: Elements of great places



Great places comprise a unique combination of locally distinctive elements. They build on local strengths and shared community values to create local identity that fosters enterprise, investment and innovation. Great places are delivered through place-based planning, design and development responses to local conditions and meaningful community engagement.

Streets are the most common places in any city. The way streets meet different people's needs is fundamental to the way the city is experienced. They shape the accessibility and liveability of a city, centre or neighbourhood. Street life enhances community safety and business, which improves social and economic participation.

Streets have transport functions, including cycling, but are also places for pedestrians. This draft Plan and *Future Transport 2056* adopt a common approach to balancing the dual functions of streets (refer to Figure 10).

Recognition of the dual function of streets as places for people and movement is of paramount importance as transport technologies transform the way streets are used. Balancing walking, cycling and social opportunities can make streets lively, safe places that also meet people's transport needs.

Every place and every community is different, the task of maintaining, making and renewing great places relies on local expertise, insight and participation. Local people, stories, experiences and expression generate a sense of place, which is key to attracting residents, workers and visitors and meeting the many and varied liveability needs of communities (refer to Objectives 7, 8 and 9).

The Government Architect NSW has prepared guidelines in *Better Placed: A strategic design policy for the built environment of New South Wales*, which support the creation and renewal of great places, for use by all practitioners including State and local government, business and community.

Strategy 12.1

Deliver great places by:

- prioritising a people-friendly public realm and open spaces as a central organising design principle
- recognising and balancing the dual function of streets as places for people and movement
- providing fine grain urban form, high amenity and walkability
- integrating social infrastructure to support social connections and provide a community hub
- encouraging contemporary interpretation of heritage where possible
- using a place-based and collaborative approach throughout planning, design, development and management.

Strategy 12.2

In Collaboration Areas, Priority Precincts and planning for centres:

- investigate opportunities for precinct based provision of adaptable car parking and infrastructure in lieu of private provision of car parking
- ensure parking availability takes into account the level of access by public transport
- consider the capacity for places to change and evolve, and accommodate diverse activities over time.

Related government initiatives:

- Better Placed: A strategic design policy for the built environment of New South Wales

Objective 13

Environmental heritage is conserved and enhanced

Conserving, interpreting and celebrating Greater Sydney's heritage values facilitates a better understanding of history and respect for the experiences of diverse communities. Heritage identification, management and interpretation are required so that heritage places and stories can be experienced by current and future generations.

Environmental heritage describes natural and built heritage and Aboriginal places and objects as well as stories, traditions and events inherited from the past. It is protected under the *Heritage Act 1977*, *National Parks and Wildlife Act 1974* and local environmental plans. This statutory framework requires identification of the values of environmental heritage, and context specific design and development that conserves heritage significance. This includes the tangible and intangible values that make places special to past, present and future generations.

Sympathetic adaptive re-use of heritage is an important way to conserve significance. Respectfully combining history and heritage with modern design achieves an urban environment that demonstrates shared values and history and contributes to a sense of place and identity.

Heritage identification, management and interpretation are required so that heritage places and stories can be experienced by current and future generations.

Improved public access and connection to heritage through innovative interpretation is also required. A well-connected region (Objective 14), creating great places (Objective 12) and developing the Greater Sydney Green Grid (Objective 32) will improve the connectivity and accessibility of the region's heritage.

Understanding the significance and community values of heritage early in the planning process provides the greatest opportunity for conservation and management. Protection and management of heritage is a community responsibility undertaken by a broad range of stakeholders including Aboriginal people, State and local governments, business and communities.

Strategy 13.1

Conserve and enhance environmental heritage by:

- engaging with the community early in the planning process to understand Aboriginal, European and natural heritage values
- conserving and interpreting Aboriginal, European and natural heritage to foster distinctive local places.





Directions for productivity



A well-connected city

Metric: Percentage of dwellings located within 30 minutes by public transport of a metropolitan city centre/cluster

Metric: Percentage of dwellings located within 30 minutes by public transport of a strategic centre

By 2036, the number of journeys across Greater Sydney is projected to increase to 22 million trips a day (up 40 per cent from 2016). To address this increase, the NSW Government will plan for quick, efficient and more localised connections to jobs, schools and services. A key outcome is for more people to have 30-minute public transport access to one of the three cities and to services in their nearest strategic centre seven days a week. This requires the integration of land use, transport and infrastructure planning. Co-locating jobs and services, improving transport efficiency and creating more efficient freight networks will also improve productivity. Enhancing transport connections to adjacent cities and regional NSW will strengthen economic links and provide more opportunities for long-term growth management.



Jobs and skills for the city

Metric: Growth in jobs in the following metropolitan and strategic centres: Blacktown, Campbelltown–Macarthur, Greater Parramatta, Greater Penrith, Harbour CBD, Kogarah, Liverpool, Macquarie Park and Western Sydney Airport / Badgerys Creek Aerotropolis

Metric: Change in number of people employed locally (five yearly)

Enhancing Greater Sydney's productivity, export sectors and global competitiveness will be critical to increasing the region's economic activity to \$655 billion by 2036. This will require greater choice for where development can occur to enable the required employment growth of 817,000 jobs.¹⁷ Strategic planning will guide the locations of business growth and investment and provide better freight connections, economic agglomerations and skills development. Building on health and education strengths and growing the advanced manufacturing sector will be central to delivering an innovative and internationally competitive economy.

5

Productivity

Greater Sydney is Australia's global economic gateway and a regional hub for global financial markets. This strength puts Greater Sydney in the top 20 global economic cities, with the potential to become one of the top 10.

Greater Sydney is Australia's financial capital with the location of the ASX (Australian Securities Exchange) and the Reserve Bank, the headquarters of the majority of Australia's top 50 ASX-listed companies and the highest concentrations of professional workers of any capital city in Australia. The Eastern Economic Corridor between Macquarie Park and Sydney Airport alone accounted for 24 per cent of Australia's growth in GDP in the 2015–16 financial year. The scale of Greater Sydney's economy is highlighted in Figure 26 and Figure 27).

Greater Sydney also has a strong global advantage in education, being the second biggest exporter of higher education in the world, behind only London. It has two of the world's top 100 universities.¹⁸ In addition, Greater Sydney is linked across the world by its medical research institutions at the Westmead, Randwick and Royal Prince Alfred Hospitals and at the Australian Nuclear Science and Technology Organisation.

There are significant productivity benefits from growing health and education clusters into innovation districts (refer to Objective 21 and Figure 24).

Productivity is boosted by Greater Sydney's high liveability and international tourist appeal. The region is instantly recognisable by icons including the Sydney Opera House, the Sydney Harbour Bridge and the Greater Blue Mountains World Heritage Area.

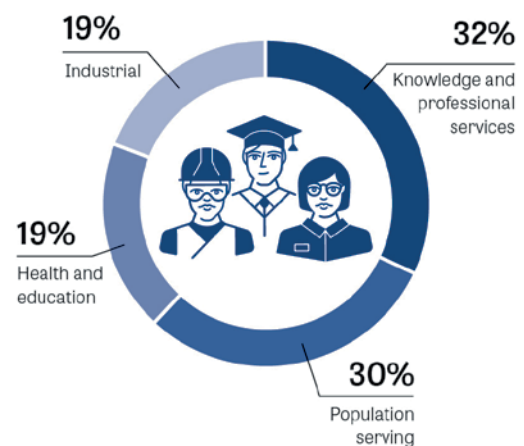
Greater Sydney is the manufacturing capital of Australia with industry gross value added

of \$21.5 billion. The region's share of national manufacturing gross value added grew from 21.6 per cent in 2005–06 to 22.2 per cent in 2015–16.

Electronic and medical devices are high growth industries in the advanced manufacturing sector and exports of elaborately transformed manufactures have recorded significant gains in the two years to 2015–16.

Efficient trade gateways and freight and logistics networks are required for the region to be more internationally competitive. The development of the Western Sydney Airport as a 24/7 airport to complement Sydney Airport will enable Greater Sydney to accommodate significant projected passenger growth. In addition, it is likely that Port Botany will need to be complemented by Port Kembla to handle the projected growth in shipping trade, especially containers (refer to Objective 16).

Figure 22: Proportions of jobs by type (2016)



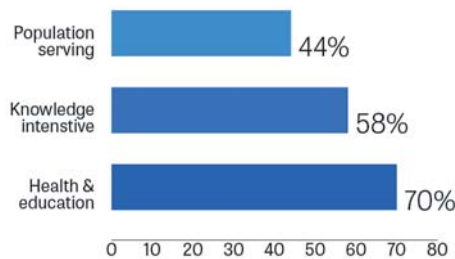
Source: *Transport Performance and Analytics 2016*, published in *Greater Sydney Commission 2016 Productivity Profile*

Greater Sydney is at a stage where changing its structure, from one city on the eastern edge to a metropolis of three cities, is needed to maximise economic growth and manage population growth. International research indicates that a monocentric region experiencing growth can eventually suffer from increasing business occupancy costs, increasing costs of living and housing, increasing costs of labour that impact on labour supply, spatial polarisation, social segregation, congestion, air quality problems, and heat island effects.¹⁹

Many major cities are responding by polycentric development that delivers:

- improved choice of spaces, costs and locations for businesses
- opportunities for economic specialisation
- better growth management and more agile land uses
- diversification of commuting patterns to reduce infrastructure stress
- new locations for housing closer to jobs at more affordable average prices
- competition between, and fostering innovation within, districts
- more even distribution of prosperity
- improved quality of life.

Figure 23: Highest growing job sectors % 1996-2016



Source: *Transport Performance and Analytics 2016*, published in *Greater Sydney Commission 2016 Productivity Profile*

Greater Sydney has a strong eastern bias in the location of its main economic attractors and job types, which means many residents in the growth areas of the Western City are increasingly remote from these activities and have less choice of local jobs.

This draft Plan outlines the strategies and actions to deliver a metropolis of three cities and rebalance opportunities for all residents to have greater access to jobs, shops and services. International experience shows that sustained actions are required to achieve the benefits of a metropolis of three cities.

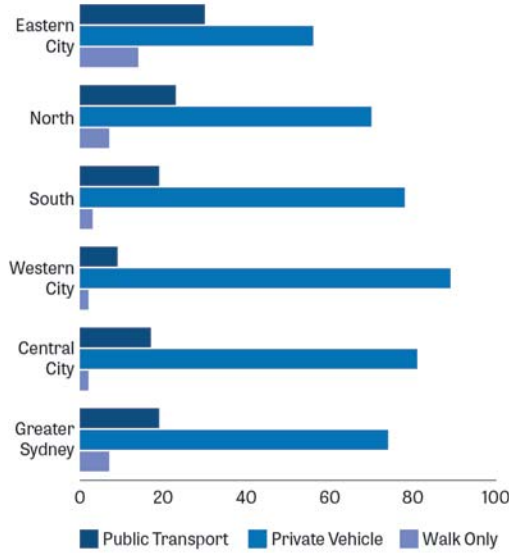
By rebalancing as three cities, Greater Sydney will broaden its global economic footprint to support net jobs growth of 817,000 to 2036. This will occur not only in the east, but west of Parramatta largely arising from the Western Sydney Airport and Badgerys Creek Aerotropolis. Currently 45 per cent of Western Parkland City workers commute to other parts of Greater Sydney compared to only eight per cent of Eastern Harbour City workers²⁰ (refer to Figure 25).

A metropolis of three cities requires a well-connected Greater Sydney with new jobs, shops and services in well-located centres with efficient transport connections and safe and convenient walking and cycling routes. This creates a 30-minute city.

A 30-minute city is where most people can travel to their nearest metropolitan city centre by public transport within 30 minutes; and where everyone can travel to their nearest strategic centre by public transport seven days a week to access jobs, shops and services. This is integral for economic competitiveness and will make Greater Sydney a more attractive place for investment, businesses and skilled workers. The percentage of jobs accessible within 30 minutes of Greater Sydney's districts are shown in Figure 24.

It also requires a structure within the three cities that builds on the network of strategic centres, particularly those with health, education and large commercial assets, which provide opportunities for strong economic growth.

Figure 24: Journey to work by mode



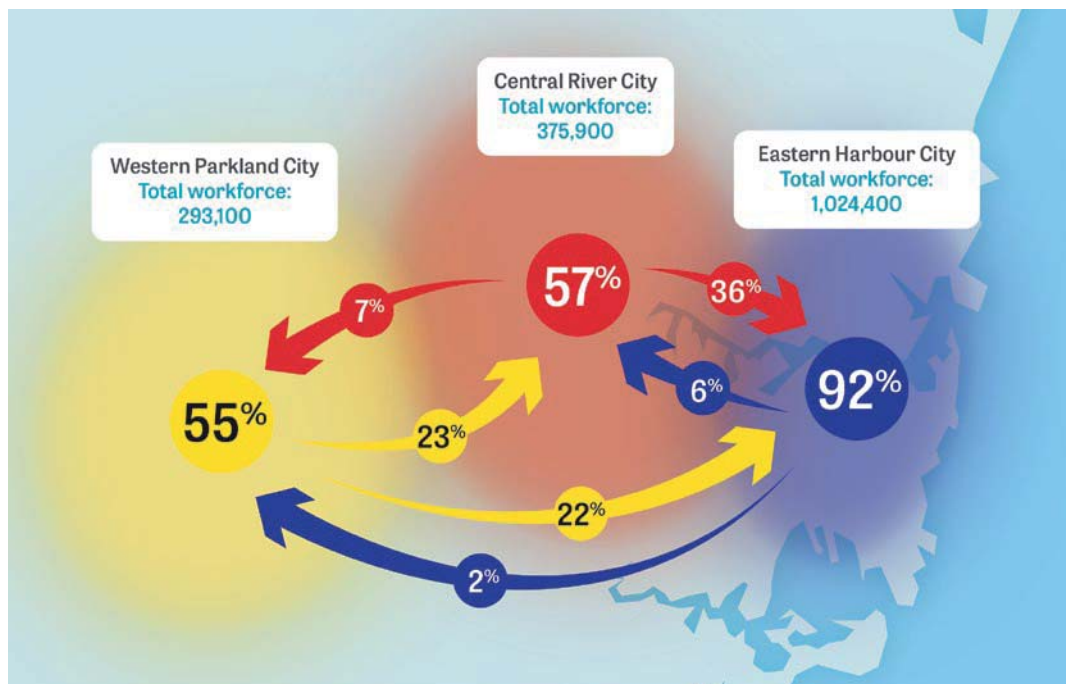
Source: Australian Bureau of Statistics, 2011 Census of Population & Housing²¹

Many businesses and services seek to locate close to the populations they serve – from shops, schools and local health services to urban services which range from motor mechanics to waste management. Planning needs to enable these businesses, services and an efficient transport network with population growth. This will drive local employment for local communities.

Delivering the metropolis of three cities will be achieved by investments in infrastructure that are integrated with targeted land use decisions. This is particularly important in the Central and Western cities which need more local jobs.

Western Parkland City: The Western Sydney Airport will be the economic catalyst to transform the Western Parkland City over the next 40 years. It will attract globally significant defence and aerospace activities, and have significant freight and logistics strengths. The development of a new Western Economic Corridor with north-south access for the Western Parkland City and the Western

Figure 25: Proportion of people who live and work in each city



Source: Australian Bureau of Statistics Census 2011

Sydney Airport and Badgerys Creek Aerotropolis at its heart, will agglomerate the economic activities of the city. The established centres of Liverpool, Greater Penrith and Campbelltown-Macarthur will be critical locations for commercial and retail businesses and health, education and other services as the city grows.

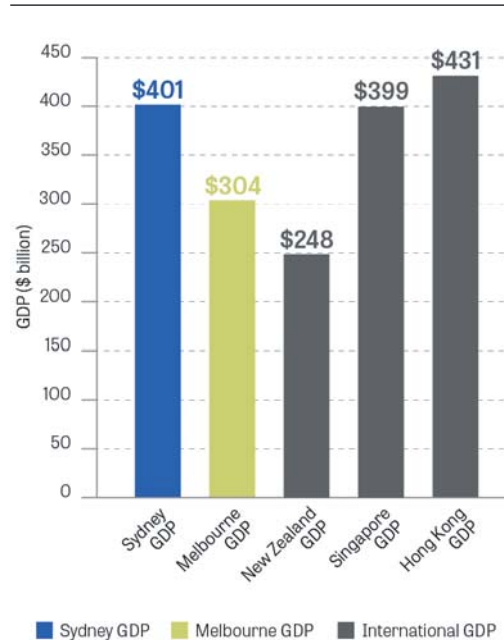
Central River City: Economic growth will leverage the world-class research activities of Westmead Hospital by creating a unique innovation cluster based around this and the other health, education and research institutions and the growing professional, business and administrative services of Greater Parramatta. This will be supported by \$10 billion of public and private investments in Greater Parramatta and potential new transport connections to skilled labour markets and the surrounding centres of Macquarie Park, Norwest, Sydney Olympic Park and Bankstown.

Eastern Harbour City: Ongoing investment and new opportunities for businesses will be needed for the continued global growth of the Eastern Economic Corridor. In addition, agglomerating the benefits from the assets on the western edge of the Harbour CBD such as the universities, tertiary teaching hospital, international innovation companies and fast-growing start-ups will support an Innovation Corridor. Growth will be supported by protecting the operations of the international gateways of Sydney Airport and Port Botany.

Connecting the three cities: Improving connections between the three cities will maximise the productivity and competitiveness of Greater Sydney.

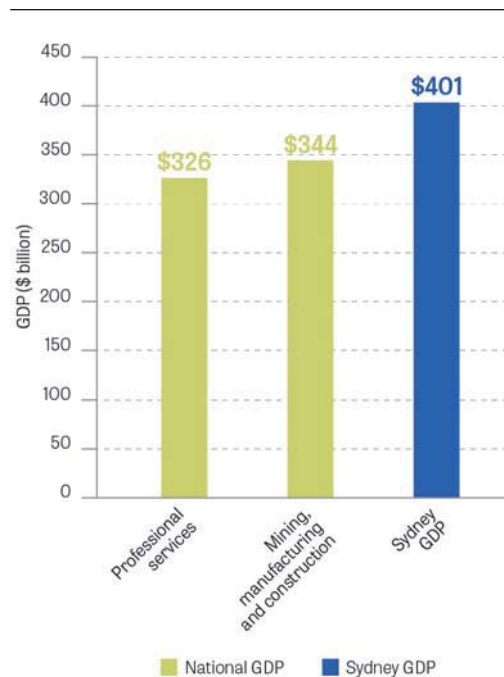
By 2056 the wider region including the Lower Hunter, Central Coast and Wollongong will have a population approaching 10 million. Research suggests that enhancing connections between regions can create opportunities to grow benefits-of-scale advantages, increase opportunities for specialisation and complementary sectors and potential growth management choices for the long term (refer to Objective 17). Over the life of this Plan, these connections will become more important as Greater Sydney will increasingly rely on access north and south to these areas. In the short term the initial objective is to protect these corridors (refer to Strategy 14.2).

Figure 26: Sydney GDP – international comparisons



Note: Sydney GDP covers Greater Sydney Capital City Statistical Area
Source: World Bank 2016

Figure 27: Sydney GDP compared to national sector GDPs



Note: Sydney GDP covers Greater Sydney Capital City Statistical Area
Source: World Bank 2016 and Greater Sydney Commission Productivity Profile

This chapter outlines the Commission's productivity recommendations for objectives and strategies.

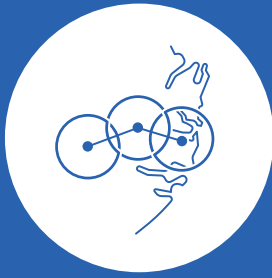
A number of these recommendations are not government policy.

Actions

The following metropolitan significant actions will deliver productivity objectives.

- Collaborate to deliver the Greater Parramatta and the Olympic Peninsula (GPOP) vision (refer to Objective 15).
- Develop a growth infrastructure compact for GPOP (refer to Objective 15).
- Support the growth of the Camperdown-Ultimo Collaboration Area (refer to Objective 18).
- Collaborate to deliver the Western Sydney City Deal (refer to Objective 20).
- Facilitate the whole-of-government place-based outcomes through Collaboration Areas for targeted strategic centres, including Liverpool, Greater Penrith and Randwick (refer to Objective 22).
- Review industrial and urban services land in the Central River City and the South West and North West Priority Growth Areas (refer to Objective 23).





A well-connected city

Objective 14

A metropolis of three cities – integrated land use and transport creates walkable and 30-minute cities

The productivity outcomes for a metropolis of three cities are to:

- drive opportunities for investment and business across Greater Sydney
- deliver an internationally competitive freight and logistics sector
- support a diverse economy
- support a network of centres
- rebalance the city’s eastern economic focus
- deliver a 30-minute city.

Critical in achieving these outcomes is a well-connected city with transport and other infrastructure investments, which can:

- deliver more efficient supply chains, reducing business costs
- increase access to markets, facilitating growth
- enhance business access to a greater number of skilled workers, which increases their employment opportunities and productivity
- enhance business-to-business interactions.

Realising these benefits requires integrated land use and transport planning and a clear understanding of the long-term spatial pattern of land use activities, together with a long-term regional transport network.

The principal elements in achieving the productivity outcomes are:

- Establish a land use and transport pattern around a metropolis of three cities which includes:
 - metropolitan city centres/clusters, refer to Objective 22
 - an Eastern Economic Corridor, refer to Objective 15
 - a Western Economic Corridor refer to Objective 15
 - GPOP Economic Corridor, refer to Objective 15.
- Establish a metropolitan transport network which reinforces the metropolis of three cities particularly:
 - the delivery of a 30-minute city where most residents in each city can access their metropolitan city centre or city cluster within 30 minutes by public transport
- Develop a network of 34 strategic centres which provides the residents of Greater Sydney with access to jobs, goods, services supported by a public transport, cycling and walking network that provides residents with a 30-minute public transport service to their nearest strategic centre seven days a week and generally improves access.
- Co-locate activities in metropolitan, strategic and local centres and attract housing in and around centres to create walkable neighbourhoods.
- Over the life of the draft Plan, improve connections north-south to the wider regions.

An overview of the principal transport components which will support the delivery of integrated land use and transport outcomes are outlined in *Future Transport 2056* (see overleaf).

In this context all the transport initiatives outlined in this draft Plan are sourced from *Future Transport 2056*.

The transport initiatives are divided into four categories: committed, investigation 0–10 years, investigation 10–20 years and visionary 20+ years. The latter three categories require further investigation and ultimately decisions of Government on commitments to funding; none have funding commitments.

Strategy 14.1

Integrate land use and transport plans to deliver the 30-minute city.

Infrastructure corridors

A number of major committed and potential transit corridors that will improve connectivity in the Eastern, Central and Western cities have been identified in *Future Transport 2056*. Strategic land use and infrastructure planning across Greater Sydney can reinforce the opportunities created by the existing and proposed mass transit systems by integrating land use and infrastructure planning.

Where possible the proactive and early reservation of corridors to protect longer term linear infrastructure opportunities should be undertaken to provide greater clarity and certainty for landowners, communities and businesses. The early preservation of corridors also reduces the potential for conflict in the future.

Strategy 14.2

Investigate, plan and protect future transport and infrastructure corridors.

An adapting city

Greater Sydney's transport network is facing major capacity constraints, particularly during the morning peak. As the population grows, the challenges of congestion, average speed and

unreliability of journeys will spread to larger areas of the network and will increase in locations that already experience these constraints.

Addressing the capacity challenges of the transport network is not limited to the investment in new services and infrastructure, or fine tuning management of the existing networks. Changes to how businesses, education facilities, and other activities are operated, together with behaviour changes, can enable customers to use the transport network differently.

Future Transport 2056, Services and Infrastructure Plans include strategies and actions for travel demand management and better use of the transport network. Optimising the integration of transport and land use helps to address the congestion challenges of the transport network by channelling demand where there is capacity.

Effective planning promotes travel behaviour change to leverage the off-peak spare capacity of the network through strategies such as more flexible institutional arrangements (such as work and school hours).

Strategy 14.3

Support innovative approaches to the operation of business, educational and institutional establishments to improve the performance of the transport network.



Future Transport 2056

Source: Transport for NSW

Greater Sydney transport objectives	
1	<p>Safely, efficiently and reliably moving people and goods</p> <p>The most fundamental task of the transport system is to enable safe, efficient and reliable journeys for people and goods. This requires a network of services and infrastructure that is also easy to understand and delivers equitable access across the city</p>
2	<p>Connecting people and places in a growing city</p> <p>As Greater Sydney becomes a metropolis of three cities, the transport system will enable efficient access for customers to their nearest centre and enable mobility across the city. Faster journeys by public transport and easy interchanging will underpin this</p>
3	<p>Sustaining and enhancing the liveability of our places</p> <p>The transport system will support the liveability of our places with a road network that supports movement and place functions and walking and cycling facilities around centres that make healthy transport choices attractive</p>
4	<p>Accessible for all customers</p> <p>Transport in Greater Sydney will be accessible to all customers. Stations, stops, wharves and transport services will meet accessibility regulations and deliver on the expectations of customers that require easy access</p>
5	<p>Convenient and responsive to customer needs</p> <p>Transport services will be convenient and responsive to customer needs. This means services will be integrated, customers will have comfortable journeys and we will harness new forms of mobility for the benefit of customers</p>
6	<p>Makes the best use of available resources and assets</p> <p>Transport services will be affordable for customers. The transport system will also be financially and environmentally sustainable through sound asset management and a network that is resilient and has a net zero emissions impact</p>

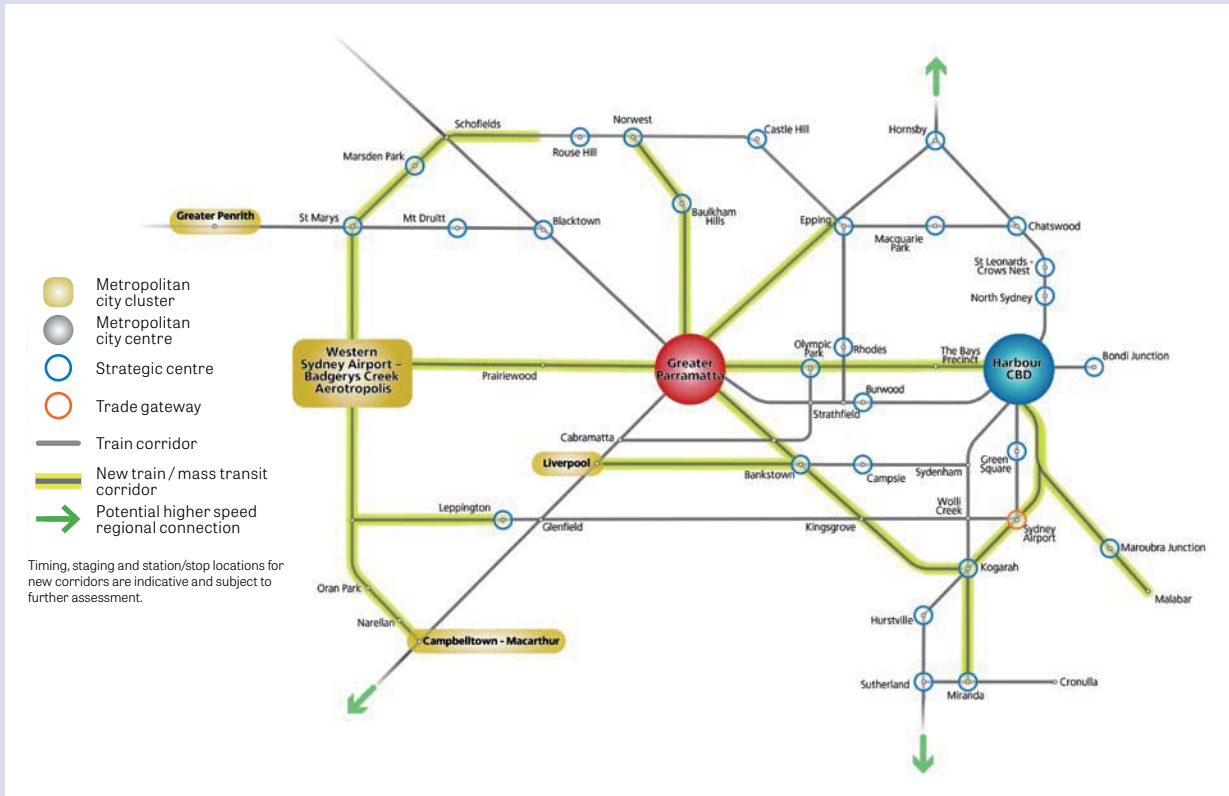
Future Transport 2056 vision for the Greater Sydney mass transit network

Trains form the backbone of Greater Sydney's public transport system, enabling large numbers of customers to access centres reliably and efficiently. The future vision for our train system is to build on this role, supporting 30 minute access for customers to their nearest Metropolitan Centre and providing high capacity transport between these centres. This demands a more extensive network that delivers better access to Greater Parramatta and the WSA-Badgerys Creek Aerotropolis while continuing to support growth in the east.

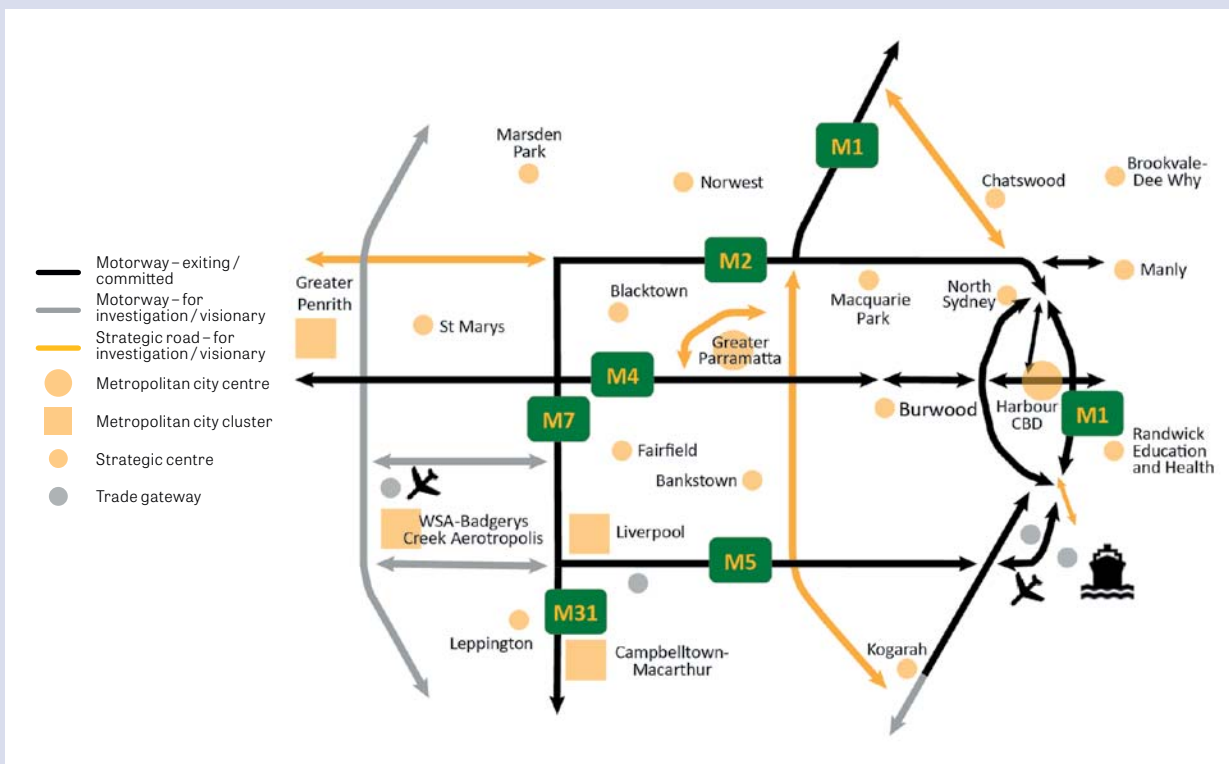
Future Transport 2056 vision for the Greater Sydney strategic road network

With the growth of Greater Sydney, the share of trips by public transport and the share of freight moved by train will need to increase to enable efficient and reliable journeys and support 30 minute access to centres. However, roads will continue to have an important role in Greater Sydney, supporting freight, on-road public transport and trips best served by car, and – in some places – being destinations that people visit to shop and eat. This will require a network that is easy-to-understand, has a clear hierarchy of roads to support different types of journeys and balances movement and place needs.

Future Transport 2056 vision for the Greater Sydney mass transit network



Future Transport 2056 vision for the Greater Sydney strategic road network



Objective 15

The Eastern, GOP and Western Economic Corridors are better connected and more competitive

Greater Sydney's Eastern Economic Corridor (refer to Figure 39) has high concentrations (agglomerations) of jobs with good road and public transport connectivity, which allow high levels of interaction between business and people. The economic benefits of the agglomeration of activities in this corridor are reflected in its contribution to two-thirds of the State's economic growth over the 2015–16 financial year.

This draft Plan seeks to further strengthen the economic opportunities of this corridor and the GOP Economic Corridor and plan and develop a new Western Economic Corridor.

The Eastern Economic Corridor

The well-connected Eastern Economic Corridor from Macquarie Park to Sydney Airport is of national significance and currently contains approximately 775,000 jobs. The major assets of the corridor include:

- Macquarie Park, Chatswood, St Leonards, Harbour CBD including North Sydney and the emerging Green Square
- four major university campuses, four principal referral hospitals and six of the 10 office precincts in Greater Sydney
- Sydney Airport and Port Botany trade gateways
- major industrial areas of Artarmon, South Sydney and Marrickville which provide for essential trades and services that support specialised economic activities.

A number of committed and potential transport infrastructure projects will improve accessibility between the well-established economic agglomerations along and near the corridor and significantly increase the size of the labour market which can access the corridor by public transport, boosting productivity. These transport infrastructure projects include the following:

- The committed Sydney Metro Northwest and Sydney Metro City & Southwest will extend the reach and capacity of the existing rail network beyond Rouse Hill and significantly enhance the accessibility to, and between, approximately 1 million jobs which will exist between Rouse Hill and Sydney Airport by 2036.
- The committed NorthConnex will, among other wider benefits to Greater Sydney, improve accessibility to Hornsby and the Central Coast.
- The committed CBD and South East Light Rail will improve connections to the health and education precinct at Randwick, and better connect it into the Corridor.
- The potential Northern Beaches to Chatswood bus improvements will better connect the major new Northern Beaches Hospital at Frenchs Forest and the Northern Beaches with the Corridor.
- A potential mass transit link from Parramatta to Epping would significantly improve the connection between Greater Sydney's (and in fact Australia's) two largest suburban centres of Macquarie Park and Greater Parramatta.

The NSW Government is also directly facilitating economic activity in the Eastern Economic Corridor through the work of the NSW Department of Planning and Environment, UrbanGrowth NSW Development Corporation and Landcom in the following initiatives:

- Macquarie Park Urban Renewal Area, where NSW Department of Planning and Environment will assess opportunities for new community facilities, vibrant spaces and homes close to transport links and jobs
- St Leonards and Crows Nest, where the NSW Department of Planning and Environment is working with Lane Cove, North Sydney and Willoughby City councils to undertake a strategic planning investigation of the St Leonards and Crows Nest Station Precinct
- Central to Eveleigh, where in November 2016, UrbanGrowth NSW released an Urban Transformation Strategy for approximately 50 hectares of government land in and around the rail corridor from Central to Erskineville Station
- Green Square Town Centre Project where Landcom is a major landowner within the town centre and the lead agency collaborating with key stakeholders on this, one of the most significant transformation programs in Greater Sydney.

The GOP Economic Corridor

In 2016, the Commission commenced work on its first Collaboration Area – Greater Parramatta and the Olympic Peninsula (GOP) – which involves councils and multiple State agencies co-creating a vision for GOP. It is the first Collaboration Area where a growth infrastructure compact will be piloted (refer to Objective 2).

In October 2016, the Commission published a vision for GOP focusing on four distinct quarters (refer to Figure 28):

- Parramatta CBD and Westmead health and education precinct
- Next Generation living from Camellia to Carlingford
- Essential Urban Services, Advanced Technology and Knowledge Sectors in Camellia, Rydalmere, Silverwater and Auburn
- Olympic Park Lifestyle super precinct.

The economic activities form a corridor from Westmead to Sydney Olympic Park (refer to Figure 39).

GPOP is integral to the vision of a metropolis of three cities and the Central River City. The transformation of GPOP will assist in rebalancing opportunities across the Greater Sydney metropolis.

GPOP is envisaged to become Greater Sydney's connected and unifying heart. Both the Parramatta Light Rail and the potential Sydney Metro West will be catalysts for realising this vision. New north-south connections will also be essential.

Sydney Metro West has the potential to significantly enhance Greater Parramatta's inter-city linkage with the Harbour CBD through improved journey times and frequency of service.

Improved transport connections within GPOP and to the nearby strategic centres would deliver the economic benefits of agglomeration including enhanced opportunities for business-to-business interactions and access to larger skilled labour pools. They have the potential to create a cluster of economic activity with up to 370,000 jobs within a 10–15 minute public transport service provision.

Improved transport connections ... have the potential to create a cluster of economic activity with up to 370,000 jobs within 10–15 minutes of public transport.

Equally important is the creation of high quality, new places for people to enjoy a more urban lifestyle. Parramatta's CBD will be the first of these.

The Commission is providing a new platform for collaboration across State and local governments, businesses and the community in delivering the GOP vision. A place-based approach to planning for the future in the most central part of Greater Sydney is core to this new way of working. The Commission's key focus areas are to:

- pilot a whole-of-government and place-based approach to new social and economic infrastructure to support city-scale growth in GOP in the form of the growth infrastructure compact

- plan for the Parramatta Light Rail and the potential Sydney Metro West to enhance GPOP as a place for new business, housing choice, education, research, entertainment and tourism
- grow and diversify employment ranging from medical research at Westmead to clean technology at Camellia to sports science at Sydney Olympic Park
- enhance Parramatta CBD, Parramatta North and Westmead as walkable and cyclable places, with enjoyable access through Parramatta Park and along Parramatta River day and night
- design spaces for the arts and culture in Parramatta CBD that are flexible, inclusive and suitable for exhibitions, performances, creating, making and learning
- optimise the renewal of government-owned lands within GPOP, and align infrastructure and renewal planning to deliver value to the community
- engage with industry and research institutions to assess the potential for a 21st century clean-tech cluster around Camellia, Rydalmere, Silverwater and Auburn and protection of urban services in these areas
- reinvent Sydney Olympic Park and surrounds as a place that inspires a lifestyle of wellbeing, healthy activity and celebration in a unique setting that attracts allied and like-minded business.

An interim planning framework to deliver this vision has been outlined by the NSW Department of Planning and Environment. This includes an Interim Land Use and Infrastructure Implementation Plan across a range of precincts and a program for the development of a State Infrastructure Contribution and further Priority Precinct investigations.

The GPOP collaboration is looking to wider opportunities to improve liveability outcomes that maximise benefits in the surrounding areas such as walking and cycling and greater collaborations with Land and Housing Corporation.



Action 5

Collaborate to deliver the Greater Parramatta and the Olympic Peninsula (GPOP) vision

The Commission is leading the collaboration of councils, State agencies, the community and industry to deliver the GPOP vision. Being the connected and unifying heart of the Central City, the Commission is championing GPOP as a place for new business, homes and services; for diverse employment; for great walkable and cyclable places; and to facilitate spaces for arts and culture.



Action 6

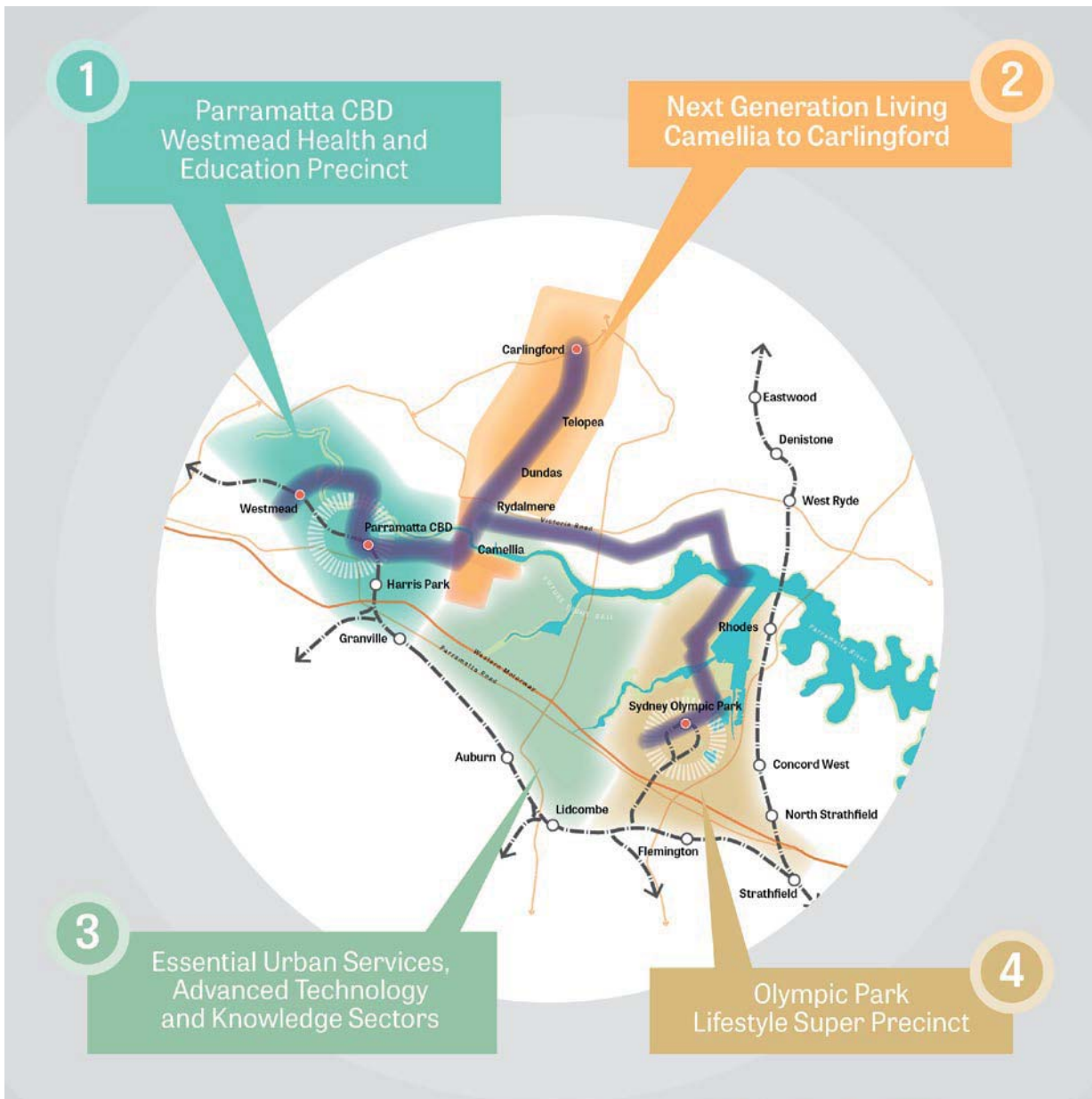
Develop a growth infrastructure compact for GPOP

The Commission will coordinate, seek expertise and insight from councils, agencies, industry and the community to develop the growth infrastructure compact.

The growth infrastructure compact will outline the order, priority sequencing and funding of local and regional infrastructure aligned to growth.

It will be submitted to the NSW Government by December 2018.

Figure 28: Greater Parramatta and the Olympic Peninsula (GPOP)



Source: Adapted from Greater Sydney Commission 2016 GPOP Vision

The Western Economic Corridor

The Australian Government’s investment in the Western Sydney Airport and participation in the Western Sydney City Deal (refer to Objective 5), will see the emergence of a new international airport for Greater Sydney and Badgerys Creek Aerotropolis.

These new economic agglomerations, together with the need for planning and delivering a transport network to support the significant projected population growth, create the opportunity for a potential north-south mass transit corridor which can act as a catalyst for a new Western Economic Corridor for Greater Sydney (refer to Figure 39).

In developing a Western Economic Corridor, consideration needs to be given to:

- maximising the opportunity to have major centres located on the north-south mass transit corridor taking advantage of local economic activity which will be created by well over 1.5 million people who will live west of the M7 Motorway in the long term
- providing east-west transport links which directly connect to centres on the potential north-south train corridor
- connecting the potential north-south train corridor through to the Sydney Metro Northwest at Cudgegong which would:
 - enhance the opportunities for economic activity at Marsden Park
 - create a range of development opportunities at the likely interchange with the Richmond rail line at Schofields
 - provide residents of the Western Parkland City with access to tertiary education and knowledge-intensive jobs along the Sydney Metro Northwest corridor

- connecting the potential north-south train corridor through to the health and education assets at Campbelltown-Macarthur and the existing centres of Narellan and Campbelltown-Macarthur, further connecting economic activity and access for labour to a wider number of jobs
- providing for a train link between the Western Sydney Airport – Badgerys Creek Aerotropolis and Greater Parramatta.

The delivery of a new Western Economic Corridor is integral to the approach of creating more jobs and a diversity of jobs in the Western Parkland City (refer to Objective 20).

Delivery

A range of strategies support the delivery of the economic corridors.

In addition to enhancing accessibility within the corridors, growing investment and business in the centres and trade gateways is fundamental to their ongoing success. Objective 22 outlines how the draft Plan seeks to grow jobs in Greater Sydney’s centres and Objective 16 provides similar guidance for trade gateways.

Strategy 15.1

Prioritise public transport investment to deliver the 30-minute city objective for strategic centres along the economic corridors.

Strategy 15.2

Co-locate health, education, social and community facilities in strategic centres along the economic corridors.

Objective 16

Freight and logistics network is competitive and efficient

Greater Sydney's trade gateways

The traditional manufacturing, transport, distribution, warehousing and intermodal functions found across Greater Sydney underpin the creation and success of global value chains, which in turn support trade growth through Port Botany and Sydney Airport. The Western Parkland City has the largest supply of these lands and substantial future supply yet to be developed, which will support large-scale logistics growth with two planned intermodal terminals. In addition to Port Botany, the Eastern Harbour City contains seven of Greater Sydney's 10 intermodal terminals and therefore will have an ongoing role in large-scale freight and logistics for the foreseeable future, with substantial growth in the west.

Port Botany and Sydney Airport are Greater Sydney's two nationally significant trade gateways. Both have significant growth projected – with the container traffic at Port Botany projected to grow from 2.4 million TEU (twenty-foot equivalent unit – a standard container measure) to 8.4 TEU by 2050 and passenger trips at Sydney Airport forecast to grow from 37 to 74 million passengers by 2033.²² Each of the trade gateways also has substantial areas of industrial land in its immediate environs which are critical to the operations, in providing support services. Also, each location is served by substantial road and rail infrastructure which is vital to its operations.

Retaining internationally competitive operations at both these locations is vital for a productive NSW economy. Preventing the encroachment of sensitive uses that can impact on these operations and ensuring transport networks can support the needs of the trade gateways is of national significance.

The forecast TEU growth is beyond the future capacity of Port Botany. This growth will trigger the need to develop an additional container port location to service Greater Sydney's container logistic needs. This is most likely to be Port Kembla which has an approval to expand container handling capacity at a cost of \$1 billion. This will help manage some projected growth, but not all.

With the development of the **Western Sydney Airport and Badgerys Creek Aerotropolis** it will be critical, from the outset, to secure the access requirements for the airport and off-site industrial land for its 24/7 operation. The Commission is preparing a draft Structure Plan for the Western Sydney Airport Priority Growth Area to achieve this (refer to Objective 20).

Bankstown Airport currently caters for fixed wing and helicopter flight training, charter flights, air freight and emergency services. The airport is also the location of significant aviation and non-aviation related businesses within its 313 hectares. Up to 130 hectares of the site is occupied by a mix of industrial, commercial and retail tenancies, vacant sites or has been identified as suitable for release for development. Protecting its operational activities is important.²³

A statewide approach to implementing the National Airport Safeguarding Framework is being developed by the NSW Department of Planning and Environment.

Likewise, the operational requirements of the **RAAF Base Richmond** need to be protected.

Strategy 16.1

Manage the interfaces of industrial areas, trade gateways and intermodal facilities by:

Land use activities

- providing buffer areas to nearby activities that are sensitive to emissions from 24-hour port and freight functions such as residential uses
- protecting industrial lands for port, intermodal and logistics uses from the encroachment of commercial, residential and other non-compatible uses which would adversely affect industry viability to facilitate ongoing operation and long-term growth
- requiring sensitive developments within the influence of port and airport operations to implement measures that reduce amenity impacts

- improving communication of current and future noise conditions around Port Botany, airports, surrounding road and rail networks, intermodals and supporting private lands
- improving the capacity of existing stakeholders to implement existing planning noise standards for incoming sensitive developments
- protecting prescribed airspace from inappropriate development, for example height of building controls that would allow buildings to penetrate prescribed airspace and reduce the capacity of existing airport operations
- preventing inappropriate development within the high noise corridor on the Kurnell Peninsula
- identifying and preserving land for future port and airport, intermodal and rail infrastructure
- accommodating advanced manufacturing where appropriate by zoning that reflects emerging development models.

Transport operations

- providing the required commercial and passenger vehicle, and freight and passenger rail access
- preventing uses that generate additional private vehicle traffic on roads that service Port Botany and Sydney Airport such as large scale car based retail and high density residential, to reduce conflicts with large dangerous goods vehicles (for example, Foreshore Road and Denison Street, Banksmeadow)
- improving the road connectivity from Villawood to Eastern Creek, via Yennora, Smithfield and Wetherill Park to improve business-to-business and supply chain connectivity along this industrial corridor.

Greater Sydney’s freight and logistics sector

Greater Sydney’s freight task is forecast to more than double in the next 40 years. Policies and investment to reduce the cost of moving freight and increase efficiency and productivity while minimising traffic and amenity impacts on adjacent urban uses are essential.

The freight network needs to support future need – allowing movements that feed communities, deliver their consumer goods and provide the materials required to build the city.

Providing for a growing Greater Sydney requires an efficient and effective road and rail freight network integrated with ports and airports.

Most of Greater Sydney’s freight is moved on the road network. The current higher levels of congestion over long periods of the day negatively impact freight operations and increase business costs. Rail-based freight movements are restricted where networks are shared with passenger services.

Major improvements are planned. In particular, a dedicated freight rail connection from Port Botany to the Western Parkland City will increase the proportion of freight moved by rail. This will boost the economic potential of surrounding industrial precincts in Western Sydney such as Smithfield and Wetherill Park.

With this investment comes the commensurate need to maintain buffers to nearby residential areas and restrict further encroachment by residential uses.

Increasing land values, major inland intermodal terminals such as at Moorebank, and plans for the new curfew-free Western Sydney Airport support the momentum for major freight and logistics operations to gravitate further west.

Demand for centrally located resources for parcel deliveries is increasing. Urban consumers require a more diverse range of products and services to be delivered either directly to their homes, or to nearby commercial and retail hubs. On-street car parking capacity and loading zones affect the delivery of goods.

An efficient and effective road and rail freight network will integrate with ports and airports. Figure 29 shows strategic freight corridors and intermodal terminals that will be required by 2056.

Strategy 16.2

Optimise the efficiency and effectiveness of the freight handling and logistics network by:

- protecting current and future freight corridors
- balancing the need to minimise negative impacts of freight movements on urban amenity with the need to support efficient freight movements and deliveries
- identifying and protecting key freight routes
- limiting incompatible uses in areas expected to have intense freight activity.

Figure 29: Greater Sydney freight network



Source: Future Transport 2056

Objective 17

Regional transport is integrated with land use

By 2056 the combined population of Greater Sydney, Newcastle and Wollongong will be approximately 10 million. Improving the north-south transport connections between Greater Sydney, Newcastle and Wollongong will enable greater economic efficiencies and opportunities, particularly in the Western Parkland City where a number of committed and potential transport connections converge including the Outer Sydney Orbital corridor, the Bells Line of Road, the Western Sydney Freight Line and the new Western Sydney Airport and Badgerys Creek Aerotropolis.

Improving north-south connections between these cities will allow greater opportunities for residents of all cities to access a wider range of job opportunities and enhance business-to-business links collectively enhancing their productivity (refer to Figure 30). Improved regional connections of this type are increasingly a characteristic of numerous cities across the world. Equally, improved connections will provide greater choices for where people can live and in the long term provide increased growth management choices.

Regional transport connections will connect Port Botany, Port Kembla and the Port of Newcastle which are internationally important trade gateways, facilitating the import and export of significant volumes of container and bulk freight such as coal, motor vehicles and other agricultural products.

Improving north-south connections will allow residents of all cities to access a wider range of job opportunities and enhance business-to-business links.

Within 40 years Port Kembla will elevate its status and operate as a container port servicing Greater Sydney. There will be a need to develop enhanced new road and rail connections from Port Kembla to freight networks, specifically intermodal facilities in the Western Parkland City. Most likely this will include freight rail connections via the Maldon-

Dumbarton corridor and road connections linking to the proposed Outer Sydney Orbital corridor.

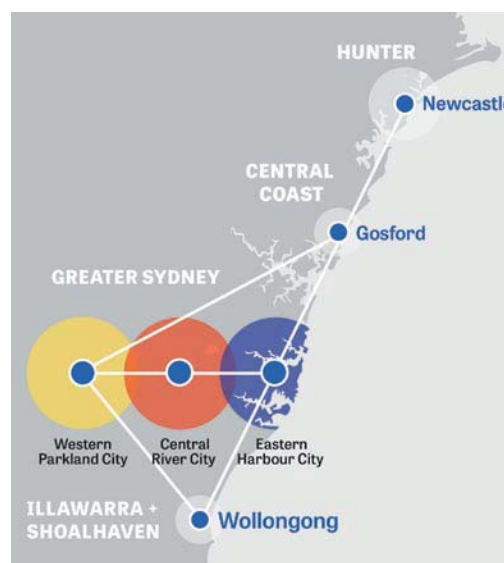
These longer-term transport upgrades will significantly influence land use opportunities in Wilton, Appin, West Appin, Mount Gilead and Campbelltown-Macarthur and their economic relationships to Wollongong.

Thus for the Western Parkland City there will be a strong temporal element to its growth with, in the first instance, opportunities being driven within the city and from connections to the Central and Eastern cities. In the longer term further growth opportunities will arise from north-south connections to the Illawarra and the Central Coast/Hunter regions.

Strategy 17.1

Investigate and plan for the land use implications of potential long-term transport connections.

Figure 30: Regional connections



Jobs and skills for the city



Objective 18

Harbour CBD is stronger and more competitive

The Harbour CBD includes the areas of Sydney CBD, North Sydney CBD, Barangaroo, Darling Harbour, Pyrmont, The Bays Precinct, Camperdown-Ultimo health and education precinct, Central to Eveleigh, part of Surry Hills and Sydney East.

Global financial capital

Greater Sydney's economic strength globally and nationally is due to its role as a regional hub within global financial markets. The concentration of the financial services sector in the Harbour CBD includes:

- the headquarters of the ASX and Australia's monetary and finance institutions and regulators such as the Reserve Bank of Australia, Australian Securities and Investment Commission and the Australian Prudential Regulation Authority
- 63 per cent of the ASX 100 financial services companies, which is more than double the 31 per cent of the next highest capital city, Melbourne
- 82,100 jobs in the Finance and Insurance Services industry, which is the highest concentration of jobs per sector at 28 per cent
- the headquarters of 15 of the top 20 global investment banks, 18 of which have an Australian presence.

The implications of a strong financial services sector include high demand for premium-grade office space and high demand for associated knowledge-intensive industries such as legal, accounting, real estate and insurance. Therefore it is critical that planning controls enable the growth needs of the financial and professional sector.

The strength of the Harbour CBD is reinforced by the Eastern Economic Corridor – refer to Objective 15.

A diversity of activities

Distinct assets have emerged to support the Harbour CBD's global role. These include:

- entertainment cultural, tourist and conference assets
- an internationally competitive health and education precinct
- a robust creative sector providing entrepreneurial and job opportunities
- high-amenity, high-density residential precincts.

The Sydney Opera House and Sydney Harbour Bridge are internationally recognised icons of Greater Sydney, which serves as Australia's gateway for 30 million visitors²⁴ a year who are drawn to internationally renowned attractions, arts and cultural events. Destination NSW leads the delivery of tourism and events to support Greater Sydney's visitor economy.

Innovation underpins global 21st century cities, and along the western edge of the Harbour CBD an Innovation Corridor is emerging (refer to Figure 31). It extends from The Bays Precinct, to high-tech and start-up hubs in Pyrmont and Ultimo, to the health and education institutions of the University of Technology Sydney, Notre Dame University, the University of Sydney, the Royal Prince Alfred Hospital, and on to the Australian Technology Park. Facilitating the attraction and development of innovation activities will enhance

Greater Sydney's global competitiveness. Planning controls need to have flexibility to allow for the needs of the innovation economy.

The Harbour CBD, like many other capital cities, is becoming a more attractive place to live, in line with worldwide trends which are seeing global city centres as much about living as they are about jobs. Supporting both outcomes calls for a 24/7 economy – a night-time economy. This requires careful consideration and management of the activities of a night-time economy in the context of noise, safety and other amenity issues.

Building heights in the Harbour CBD are constrained by limitations relating to safety requirements for the management of flight paths for Sydney Airport.²⁵ The protection of the amenity of public spaces from overshadowing is also important. With identified future office supply limited to around 10 years there is a need to maximise vertical opportunities and outward extensions where possible, for example southward along the Central to Eveleigh corridor.

Facilitating office development can be complex, especially as residential development also competes with commercial development for scarce CBD space. Maintaining a long-term supply of office space is critical to maintaining Greater Sydney's global economic role, and should not be compromised by residential development.

Well connected

The Harbour CBD is well served by a long-established public transport network with radial connections to most parts of Greater Sydney.

Committed public transport infrastructure such as Sydney Metro Northwest, Sydney Metro City & Southwest, the CBD and South East Light Rail and the Northern Beaches B-Line bus will significantly increase and improve accessibility to and from the Harbour CBD. Planning is also underway for the delivery of the potential Western Harbour Tunnel and Beaches Link which will further improve accessibility from the Northern Beaches to the Harbour CBD and remove through traffic from the Harbour CBD.

Improving walking and cycling links will improve amenity and attract more businesses to the Harbour CBD. Walking and cycling connections are particularly important for the Innovation Corridor, where pedestrian connections can spur an exchange of ideas.

Strategy 18.1

Prioritise:

- public transport projects to the Harbour CBD to improve business-to-business connections and support the 30-minute city
- infrastructure investments which enhance walkability and cycling, particularly those focused on access to the transport network, and within five kilometres of any strategic centre or within 10 kilometres of the Harbour CBD.

Strategy 18.2

Develop and implement land use and infrastructure plans which strengthen the international competitiveness of the Harbour CBD and grow its vibrancy by:

- further growing an internationally competitive commercial sector to support an innovation economy
- providing residential development without compromising the objectives for commercial development
- providing a wide range of cultural, entertainment, arts and leisure activities
- providing for a diverse and vibrant night-time economy, in a way that responds to potential negative impacts.

 Action 7

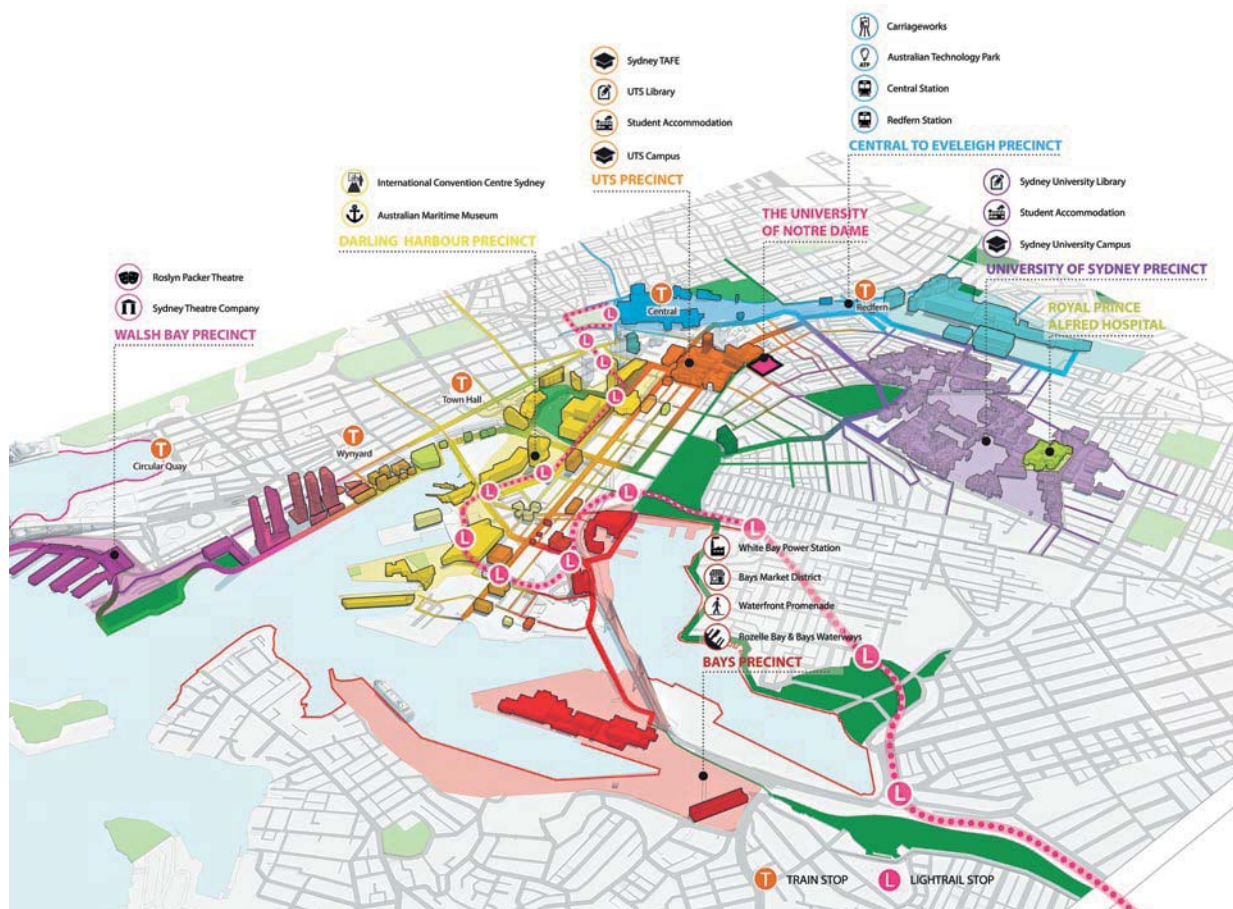
Support the growth of the Camperdown-Ultimo Collaboration Area

The Commission will lead private, government and education sector stakeholders in the ongoing planning of the Camperdown-Ultimo Collaboration Area through the preparation of a Place Strategy.

This multi-stakeholder approach will support and leverage existing infrastructure to improve urban amenity to grow jobs and business opportunities.

The Commission's Strategic Planning Committee will consider a Place Strategy within 18 months of the finalisation the Greater Sydney Region Plan.

Figure 31: Innovation Corridor, Harbour CBD



Objective 19

Greater Parramatta is stronger and better connected

Parramatta was settled the same year as Sydney Cove and has had a long and important role in the growth of Greater Sydney.

The 1968 *Sydney Region Outline Plan* identified that Parramatta should become “a very major commercial employment centre”. This was the first time that Parramatta was distinguished from other centres across Greater Sydney. By the time of the next plan in 1988, the designation of Parramatta had been elevated to be equivalent to the Sydney CBD.

Since that time, the progressive relocation of State agencies from the Eastern Harbour City to Parramatta has solidified Greater Parramatta as a major office market. It now has approximately 700,000 square metres of office space.²⁶

Greater Parramatta is at the core of the Central River City, encompassing Parramatta CBD and the Westmead health and education precinct, connected via Parramatta Park (refer to Figure 32).

Today Greater Parramatta has close to 85,000 jobs with a diversity of activities including significant government and civic administration, businesses, major health and education institutions and significant lifestyle activities such as restaurants and theatres.

Greater Parramatta’s emergence as a metropolitan significant centre is now entering a period of transformational change driven by an unprecedented level of government and institutional investments into health, education, recreation, entertainment and amenity improvements. These include:

- Parramatta Square, including a new Western Sydney University campus – \$2 billion
- Parramatta North Urban Transformation Program
- Western Sydney Stadium Upgrade – \$360 million
- Old King’s School primary school and Arthur Phillip High School – \$100 million
- Parramatta Light Rail

- Museum of Applied Arts and Sciences
- Westmead Hospital Upgrade Stage 1 – \$900 million; including \$750 million for the acute services building; \$95 million for Sydney Children’s Hospital Network and \$72 million for car parking
- University of Sydney Westmead campus expansion – \$500 million
- Western Sydney University Westmead redevelopment – \$450 million
- New Parramatta aquatic centre
- Parramatta Road Urban Amenity Improvement – \$123 million.

Greater Parramatta’s potential is also being enhanced as a consequence of the activities of a wider State and local government initiative – the GPOP (refer to Objective 15).

Internationally significant health and education precinct

Greater Parramatta is one of the largest integrated health, research, education and training precincts in Australia and is a key provider of jobs for the Central River City. Westmead Hospital provides health services to almost 10 per cent of Australia’s population. By 2026, the Westmead Hospital precinct will have over 2.8 million outpatient visits and over 160,000 emergency department presentations every year.

Westmead Hospital is leading innovation in the Central River City and is a major contributor to the Australian Government’s National Innovation and Science Agenda through its training of world leading scientists, scientific analysis and successful global collaborations.

A range of activities is underway which will boost the role of the Westmead health and education precinct as an economic catalyst for Greater Parramatta, including:²⁷

- the attraction of private sector investment and business to the precinct, with a focus on Hawkesbury Road through the Westmead Alliance
- improved metropolitan accessibility from the potential Sydney West Metro which would provide enhanced access between Parramatta, the Harbour CBD, The Bays Precinct and Sydney Olympic Park
- enhanced local accessibility with Parramatta Light Rail.

Growing opportunities

The City of Parramatta has a proposal to amend the planning controls for the Parramatta CBD.

The proposal seeks to:

- strengthen Parramatta's position as the dual CBD for metropolitan Sydney
- increase the capacity for new jobs and dwellings to create a dynamic and diverse city
- encourage a high quality and activated public domain with good solar access
- facilitate the provision of community infrastructure to service the growing city
- strengthen opportunities for the provision of high quality commercial floor space
- future proof the city through the efficient and sustainable use of energy and resources
- manage risks to life and property from flooding.

The investment and business opportunities of a location are enhanced when its accessibility to a wider labour pool and other economic agglomerations are improved. For Greater Parramatta, the potential mass transit connections to Macquarie Park, Norwest, the Harbour CBD

and Sydney Olympic Park, as outlined in *Future Transport 2056*, would significantly boost economic opportunities with skilled labour and markets that are currently constrained.

Strategy 19.1

Prioritise:

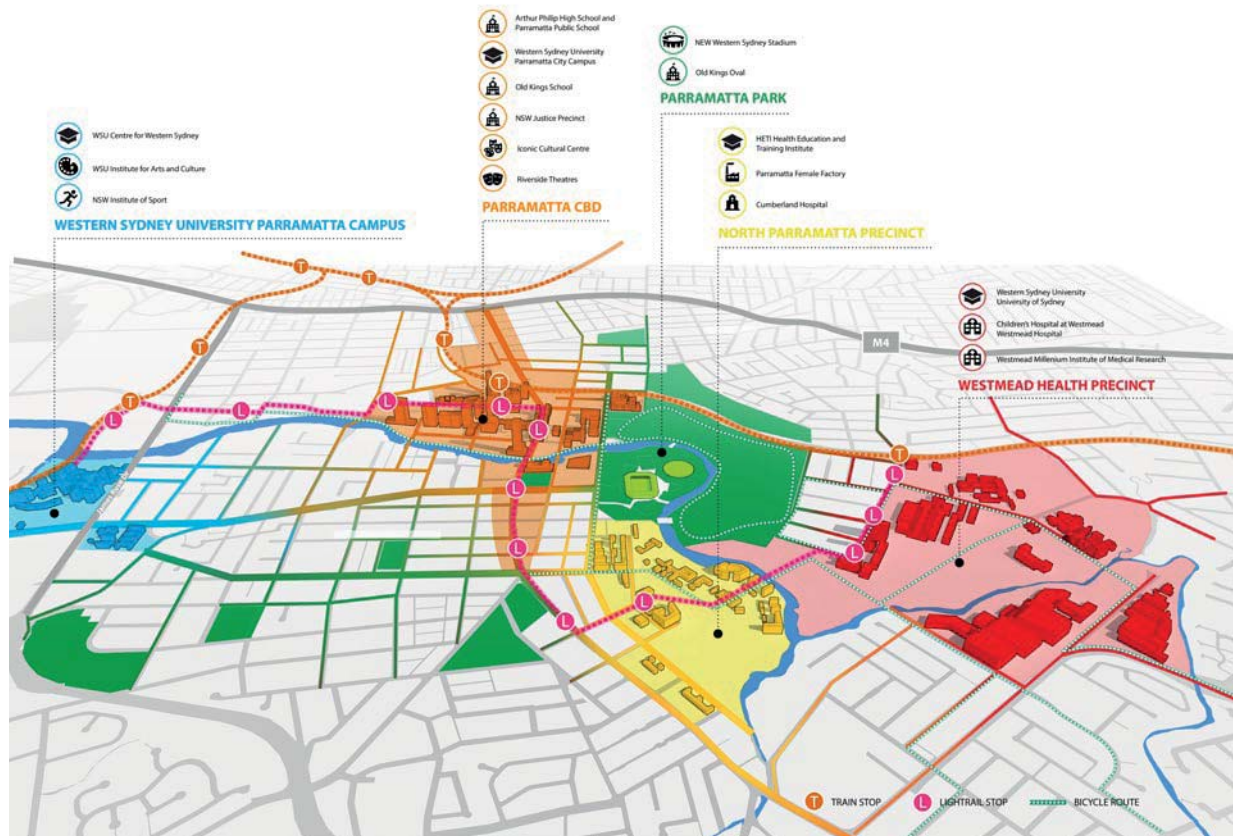
- public transport investments to improve connectivity to Greater Parramatta from the Harbour CBD, Sydney Olympic Park, Westmead, Macquarie Park, Norwest and Kogarah via Bankstown
- infrastructure investments which enhance walkability and cycling, particularly those focused on access to the transport network, and within five kilometres of any strategic centre or 10 kilometres of Greater Parramatta.

Strategy 19.2

Develop and implement land use and infrastructure plans which strengthen the economic competitiveness of Greater Parramatta and grow its vibrancy by:

- enabling the development of an internationally competitive health and education precinct at Westmead
- creating opportunities for an expanded office market
- balancing residential development with the needs of commercial development, including, if required, a commercial core
- providing for a wide range of cultural, entertainment, arts and leisure activities
- improving the quality of Parramatta Park and Parramatta River and their walking and cycling connections to Westmead and the Parramatta CBD
- providing for a diverse and vibrant night-time economy in a way that responds to potential negative impacts.

Figure 32: Greater Parramatta



Useful links:

- Greater Sydney Commission, GOPP Vision
- Greater Sydney Commission, GOPP Connecting the Heart of Greater Sydney: Evidence Pack

Objective 20

Western Sydney Airport and Badgerys Creek Aerotropolis are economic catalysts for Western Parkland City

In the long term, well over 1.5 million people will live and work in the new Western Parkland City, with mass transit connections to existing strategic centres, the Western Sydney Airport and Badgerys Creek Aerotropolis as economic catalysts, and South Creek providing a green spine to improve amenity and environmental outcomes.

The Western Sydney City Deal, a collaboration across three tiers of government, will drive the delivery of the Western Sydney Airport and Badgerys Creek Aerotropolis. The area of focus for the City Deal will be Western Sydney Airport Priority Growth Area, in the context of planning and delivering Western Parkland City.

The vision for the Western Parkland City is a first in the history of planning for Greater Sydney. It is a vision which focuses west, where the development of the airport and aerotropolis are catalysts for re-imagining the Western Parkland City. It is a vision where:

- the central organising principle to guide development are two north-south corridors – South Creek and a train corridor
- the Western Sydney Airport and Badgerys Creek Aerotropolis are catalysts for attracting globally significant job types and over a 20–40 year period significantly improving job containment for the city
- the centres of Liverpool, Greater Penrith and Campbelltown-Macarthur provide the foundation for growing health and education precincts, complemented by the Badgerys Creek Aerotropolis, in the long term creating a ring of university cities
- in the longer term its economic importance will facilitate the delivery of a mass transit system which will connect all three cities
- the setting creates a unique identity, a parkland city, a place where the city meets the country and where national parks frame the city.

The vision is for a city with its own identity, creating its own destiny.

The emerging new city will be driven by the economic opportunities created by the Western

Sydney Airport and Badgerys Creek Aerotropolis and significant population growth, which will bring with them city-scale infrastructure and new advanced manufacturing, logistics and research industries providing hundreds of thousands of jobs over the long term. The catalytic benefits of the airport and aerotropolis will be influenced by their connectivity to labour markets and other economic agglomerations.

Aerospace and defence

The aerospace and defence industry is technologically advanced, dealing with state-of-the-art systems and operations. The air transport sector is anticipated to benefit most from the Western Sydney Airport, growing to \$6.4 billion. The capability of Western and Central cities in relation to the design, engineering and manufacture of aerospace and defence components include:

- manufacture of electronic aviation and software systems
- engineering of tooling systems for the manufacture of aircraft bodies and components
- manufacture of aircraft engines and internal and external body components
- design and manufacture of defence systems for guided missiles, sonar and unmanned vehicles.

Western Sydney is home base for significant Australian Defence Force capabilities, including the RAAF Heavy Air Lift Group, Australian Army Special Forces, and Navy Afloat Support, Minehunters and Clearance Diving Teams. This concentrated presence means the region is home to a large pool of defence-capable companies and organisations, including a number of prime contractors.

Western Sydney Airport will trigger regional growth in these industries, given the availability of land, skilled labour, research and development opportunities and key transport linkages. There is capacity to grow more high-value, tradeable jobs and further develop globally competitive capabilities in skills and technology.

The Western Sydney City Deal

The Australian and NSW governments will work together with local government towards a landmark agreement for Western Sydney that will unlock public and private investment in key infrastructure, support jobs and economic growth, and help improve the liveability of Sydney's outer west.

The Australian and NSW governments will work with Penrith, Liverpool, Camden, Campbelltown, Fairfield, Wollondilly, the Blue Mountains and Hawkesbury councils.

Delivering change for Western Sydney:

- An increase in infrastructure investment, including transformative public transport projects to unlock the economic potential of the region, reduce congestion and support local needs.
- A program of employment and investment attraction to support the development of the

region through reduced business regulation, investment in skills and removing barriers to employment, including a focus on youth and Indigenous employment.

- Improving housing affordability through support for increase supply and housing diversity, including improvements to planning and zoning regulations and higher density developments in appropriate locations.
- Improved environmental and liveability outcomes, including streamlined and coordinated biodiversity conservation, support for clean air, green spaces, vibrant arts and cultural experiences.
- Coordination between governments to deliver regulatory reforms that integrate infrastructure, land use, housing and environmental planning decisions to facilitate growth.

Figure 33: Campbelltown-Macarthur



Western Sydney aerospace and defence industries precinct

The NSW Department of Industry is leading the development of a world-class aerospace and defence industries precinct adjacent to the Western Sydney Airport. It will entail the physical and virtual cluster of the aerospace, defence and related industry businesses, research and development facilities and training institutions. It will be an advanced technologies hub, with horizontal capabilities (information and communications technologies, data analytics, cyber security, advanced electronics, advanced manufacturing and systems integration) across both the aerospace and defence sectors with the potential to expand to other sectors.

A feasibility study has projected that the precinct could create approximately 5,000 jobs and over \$15 billion of Gross Value Add over the next 30 years.

In May 2017, a leading global security company committed to a \$50 million investment in a new advanced defence electronics maintenance centre in the precinct. This is the first of a range of businesses expected to establish a presence in the precinct.

The commitment of \$5.3 billion of funding by the Australian Government in the 2017–18 Budget to

build the Western Sydney Airport by 2026 has positive implications for precinct. The development of the precinct will align with this schedule to leverage the once-in-a-generation opportunity of the new airport. It represents a critical economic growth opportunity for the Greater Sydney Region.

The RAAF Base Richmond Precinct will complement the airport and aeropolis activities. Precinct activities include aerospace activities (defence and civilian); a Western Sydney University campus, TAFE NSW Richmond and a range of equine activities.

Advanced manufacturing, logistics and trade

As the lower-value-adding manufacturers move offshore, the Australian manufacturing sector has been transforming with growth in the advanced high value sector. The expanding sector is characterised by significant investment in innovation, research and development as well as the use of technology and the production of goods that have a relatively high value. The research and development component includes opportunities to work closely with universities. The Western Parkland and Central River cities are manufacturing leaders in NSW, with well-developed specialisations in advanced manufacturing.

Figure 34: Greater Penrith



The Western Sydney Employment Area immediately to the north of the Western Sydney Airport was created to act as a long-term metropolitan land supply for industrial and employment activities. Its significance has been enhanced with the commitment to the Western Sydney Airport.

The existing freight and logistics activities of the Western Parkland City will be boosted by a number of transport initiatives which will significantly improve the accessibility of the Western Parkland City with Greater Sydney and regional NSW. These initiatives include the Western Sydney Freight Line, the Outer Sydney Orbital – a major orbital transit corridor for Greater Sydney – and a potential new intermodal terminal. Agribusiness opportunities will be supported by the allocation of land within the airport precinct for agricultural export logistics improving links to new markets. The NSW premier quarantine and biosecurity facility, Elizabeth Macarthur Agricultural Institute at Menangle, will play an important role and increase opportunities for agriculture research and education jobs.

Liverpool, Greater Penrith and Campbelltown-Macarthur

The new Western Parkland City will be founded on the existing centres of Liverpool, Greater Penrith and Campbelltown-Macarthur and their commercial, health and education assets will support the growing communities (refer to Figure 33, Figure 34 and Figure 35). They form part of the metropolitan city cluster serving the Western Parkland City (refer to Objective 22). Their importance in providing a focus for commercial activities and population services as the Western Parkland City develops over the next 20 years cannot be overstated. There is an opportunity to substantially enhance the city's economic growth through their development as a ring of 'university cities', building on the existing tertiary facilities in each.

Over time, the Badgerys Creek Aerotropolis could become a fourth university city. The strategy to deliver the university cities will seek to:

- enable each university campus to focus on a full faculty or university presence with a minimum of 10,000 students in each co-located with TAFE facilities where there is adjoining land
- anchor the university presence for Liverpool, Greater Penrith and Campbelltown-Macarthur around the NSW Government's investment in hospitals and facilitate the emergence of the health and education precincts in each location
- enable Badgerys Creek university city to be anchored around the development of airport related industries such as defence and aerospace, avionics, cyber security, food manufacturing and advanced manufacturing.

There are already a number of investments underway to support the delivery of the university cities and their complementary health activities including:

- Nepean Hospital – \$550 million upgrade
- Campbelltown Hospital – \$632 million upgrade
- New University of Wollongong, Liverpool campus.

Significant greenfield urban development is still to occur along the South Creek corridor. People will live in and around new centres along the length of South Creek and its tributaries, providing a high level of liveability in a quality urban environment adopting best practice from cities around the world. High quality living will attract and retain businesses, skilled workers, international and domestic clients, students and service providers.

Figure 35: Liverpool



The spatial pattern of this new city will be based on the integration of land use, transport and other infrastructure over the life of this Plan:

- A potential new north-south train corridor will deliver a Western Economic Corridor (refer to Objective 15). It will connect the Western Sydney Airport and Badgerys Creek Aerotropolis as well as the Sydney Science Park to St Marys, Marsden Park and Rouse Hill in the north and to Oran Park, Narellan and Campbelltown-Macarthur in the south and create opportunities for new centres.
- Liverpool, Greater Penrith and Campbelltown-Macarthur centres will be better connected to the rail network and will leverage the associated benefits to drive their education and commercial strengths.
- New east-west mass transit corridors will better connect neighbourhoods in the Western Parkland City to the existing rail lines.

- South Creek and its tributaries will underpin the sustainability features of the Western Parkland City, from tree canopy cover to cool and green the city, to water sensitive urban design.
- South Creek will form the central organising design element when planning new communities.
- Centres and neighbourhoods will be integrated with the South Creek parkland.

Detailed decisions on the alignment of roads, mass transit and urban development are important to the long-term economic prosperity and liveability of the city. The early adoption of planning principles to inform these decisions will be critical in delivering this. Objective 26 provides initial principles for the development of South Creek.

Strategy 20.1

Prioritise:

- public transport investments to improve the north-south and east-west connections to the metropolitan city cluster
- infrastructure investments which enhance walkability and cycling, particularly those focused on access to the transport network, and within five kilometres of any strategic centre or 10 kilometres of the metropolitan city cluster.

Strategy 20.2

Develop and implement land use and infrastructure plans for the Western Sydney Airport, the metropolitan city cluster, the Western Sydney Employment Area and strategic centres in the Western Parkland City by:

- supporting commercial development, aerospace and defence industries and the innovation economy
- supporting internationally competitive freight and logistics sectors
- planning vibrant strategic centres and attracting health and education facilities, cultural, entertainment, arts and leisure activities
- creating high quality places with a focus on walking and cycling
- improving transport connections across the District.



Action 8

Collaborate to deliver the Western Sydney City Deal

The NSW Government, the Australian Government and eight local councils are collaborating to deliver the Western Sydney City Deal.

It will be accompanied by a draft Structure Plan that will indicate potential land uses for the Western Sydney Airport Priority Growth Area.

The Western Sydney City Deal will be an implementation plan for the Western Parkland City, and will have commitments to be delivered over a 20-year timeframe in the domains of connectivity, jobs for the future, skills and education, liveability and environment and housing.

The different levels of government are to finalise the Western Sydney City Deal.

Objective 21

Internationally competitive health, education, research and innovation precincts

Universities, hospitals, medical research institutions and tertiary education facilities are significant contributors to Greater Sydney's economy. By 2036, 21 per cent of all jobs in Greater Sydney are projected to be in the health and education sectors, up from 19 per cent today.

Planned investment in major health facilities at Westmead, Nepean, Campbelltown, Randwick and the Northern Beaches is more than \$3.58 billion, creating significant local opportunities for direct jobs and growth in ancillary services. Housing location and choice for key workers and students are also important considerations and become economic infrastructure.

In addition to these current investments the NSW Government has identified the need for future a hospital in the north west.

For this draft Plan the health and education precincts are identified in Figure 36. It is anticipated that over time some additional health and education precincts have the potential to emerge. Related tertiary education is an important element for emerging health and education precincts.

Greater Sydney's health and education precincts are drivers of export services. In 2016, NSW had the highest number of overseas student enrolments in Australia, with 106,000 enrolments in higher education and 139,000 enrolments in vocational and English language courses.²⁸

International enrolments are growing at a faster rate than domestic enrolments. As a result, education is the largest export service industry in NSW. New campuses are continuing to open – Western Sydney University has expanded into Greater Parramatta and is expanding into Liverpool. University of Wollongong has a campus in Liverpool, with commitments for a new facility.

Health care is provided through a comprehensive network of services across Greater Sydney ranging from large principal referral hospitals providing highly complex emergency and planned services, through to care in people's homes and community health centres. It includes ambulance services, population health and preventative services, mental health, primary care including general practice, allied health services, pharmacy, dental and residential aged care. There is a wide range and diversity of services delivered by different levels of Government as well as the private and not-for-profit sectors.

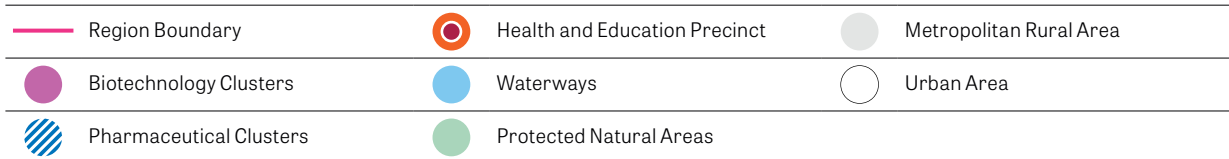
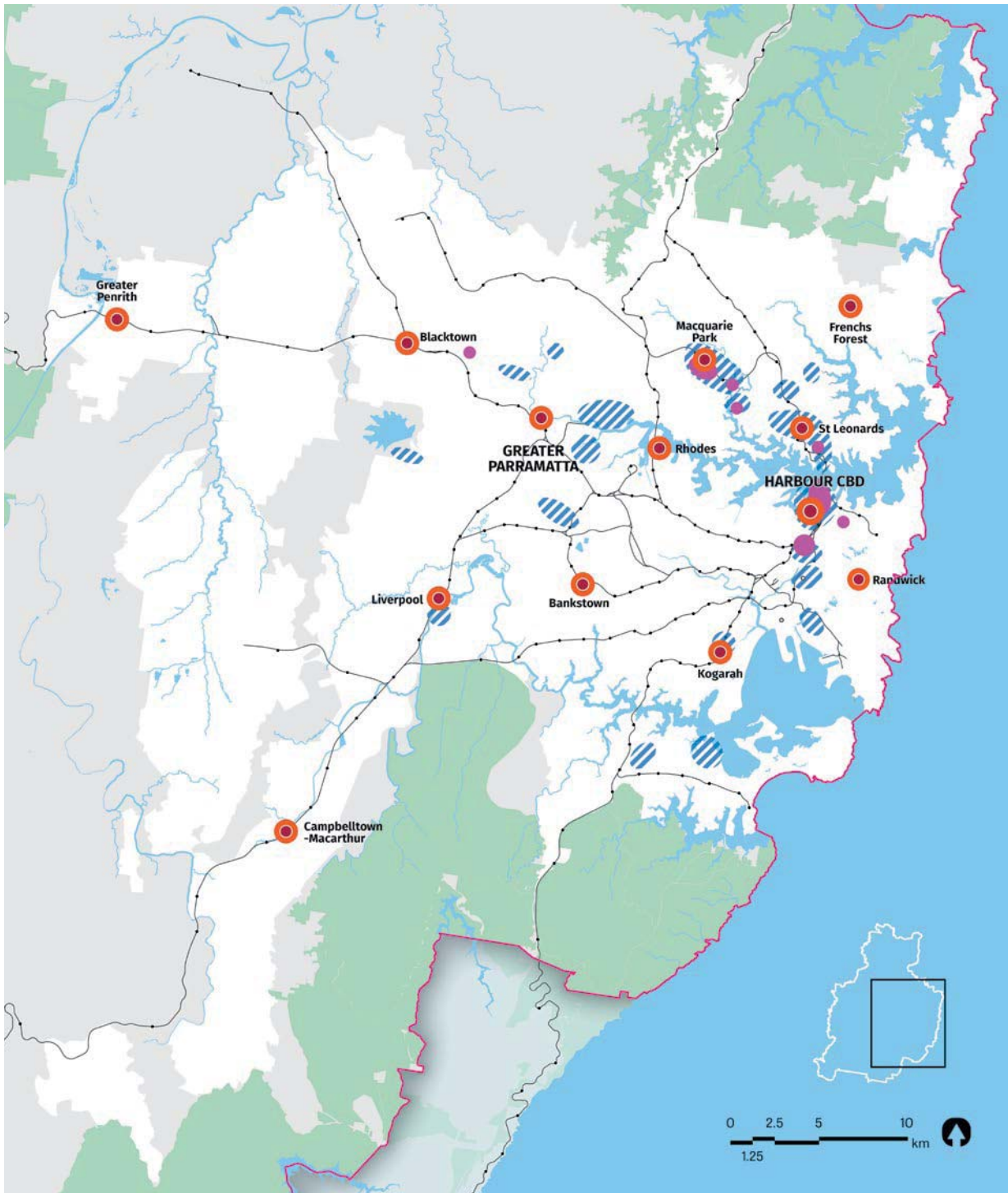
Integration across all services is pivotal to efficient and effective delivery of health care. The acute hospital system on its own cannot meet the changing needs of the community where people are living longer, often with chronic and complex healthcare needs, including mental illnesses. The challenge is to develop models of care, partnerships across the health sector, funding streams, new workforce models and eHealth solutions to create the connected healthcare system that is needed now and for the future.

There are three key stakeholders in the development of health and education precincts – government, academia and industry.

Technology is being used to support the healthcare system as it changes and evolves, by embedding eHealth into everyday models of care that help link patients, service providers and communities in a connected, smarter healthcare system. eHealth and other technologies will enable a stronger approach to delivery of care in the home, leading to different approaches to accessing and delivering health care.

In Greater Sydney, health and education precincts offer the opportunity to both drive and support the capability to achieve international competitiveness.

Figure 36: Health and education precincts



The health and education precincts will effectively connect the community's healthcare services, education and digital economy infrastructure. The precincts, together with the Government's initiatives to implement alternatives to hospital-based models of care, improve system integration, reduce variation in care, and implement preventative health measures. They will deliver strong social, environmental and economic benefits to the community.

From health and education precinct to Innovation District

The most successful health and education precincts are more accurately described as Innovation Districts.²⁹ These Innovation Districts are transit-accessible precincts with an active ecosystem that includes health and education assets, surrounded by a network of medical research institutions, a mix of complementary industry tenants, housing, ancillary facilities and services. Economic productivity is created by the agglomeration benefits flowing from an active innovation ecosystem.

A benchmarking study indicates that the evolution of health and education precincts follow a Maturity Pathway. As precincts evolve, the economic productivity of the precinct increases substantially. This corresponds to three general models, which become progressively more complex: Clusters, Precincts and Innovation Districts. This Maturity Pathway and the corresponding models is shown in Figure 37.

The identified health and education precincts are at different points along the Maturity Pathway and therefore need differing responses (refer to Figure 38). To be truly internationally competitive and achieve sufficient critical mass, it is not expected that all precincts should or will be able to develop into an Innovation District.

There are three key stakeholders in the development of health and education precincts – government, academia and industry. The role of these key stakeholders changes over time:

- **Government:** heavy initial investment in hospitals and infrastructure, with ongoing planning and policy support as precincts mature

- **Academia:** initial research collaboration or satellite training campus, expanding to a multi-disciplinary university campus which is co-located with the hospital and supports specialisation and innovation
- **Industry:** (anchor institutions) initial establishment of medical research institute with organic 'medtech' growth, supported by accelerators and venture capital firms – ultimately creating an active innovation ecosystem.

The governance of health and education precincts may involve a Collaboration Areas approach. Collaboration Areas provide a governance and policy framework to coordinate placed-based innovation and investment.

Governance arrangements for Collaboration Areas will vary from precinct to precinct but will usually be formed around the following principles:

- **Government:** strategy setting and infrastructure coordination
- **Anchors:** asset owners and operators with long term investment plans
- **Precinct-shaping projects:** projects involving one or more of the anchors aligned to deliver against broader precinct objectives.

Strategy 21.1

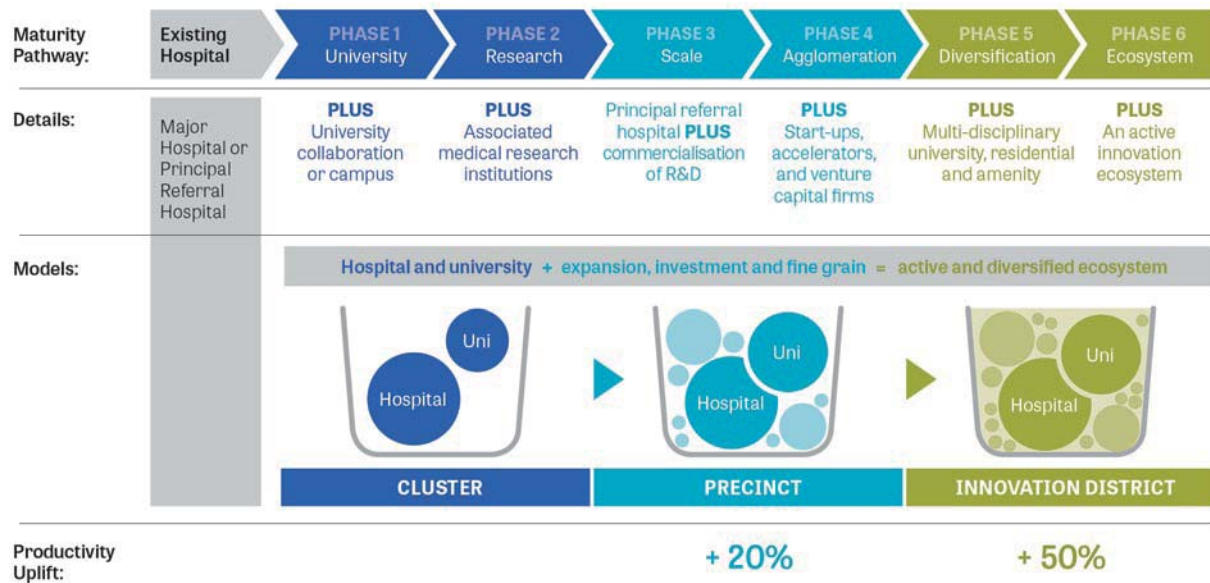
Develop and implement land use and infrastructure plans for health and education precincts that:

- create the conditions for the continued co-location of health and education facilities, and services to support the precinct and growth of the precincts
- have high levels of accessibility
- attract associated businesses, industries and commercialisation of research
- facilitate housing opportunities for students and workers within 30 minutes of the precinct.

Major Hospital expenditure




- Westmead Redevelopment, Stages 1A, 1B & The Children’s Hospital – \$900M
- Nepean Redevelopment – \$550M
- Campbelltown Hospital Redevelopment, Stage 2 – \$632M
- Blacktown & Mount Druitt Hospitals Redevelopment, Stages 1 & 2 – more than \$700M
- Northern Beaches Health Service Redevelopment – \$600M
- Randwick Campus Redevelopment – \$720M
- Concord Hospital Redevelopment – \$341M
- Hornsby Ku-ring-gai Hospital Redevelopment, Stage 2 – \$200M
- St George Hospital Redevelopment – \$277M
- Sutherland Hospital Redevelopment – \$62.9M

Figure 37: Maturity pathway for health and education precincts



Source: Deloitte 2016³⁰

Figure 38: Characteristics of selected health and education precincts

Camperdown/Ultimo	Liverpool	Randwick	Westmead
 Health			
Royal Prince Alfred Hospital	Liverpool Hospital Sydney South West Private Hospital	Prince of Wales Hospital Sydney Children's Hospital Prince of Wales Private Hospital Royal Hospital for Women	Westmead Hospital Children's Hospital Cumberland Hospital Westmead Private
 Education			
University of Sydney University of Technology Sydney TAFE Ultimo University of Notre Dame University of Sydney – Rozelle Campus	TAFE Liverpool <i>Opening 2018</i> Western Sydney University – Liverpool Campus <i>Students commence in 2018</i> University of Wollongong – Liverpool Campus Liverpool Hospital <i>principal teaching hospital for Uni. of NSW and Western Sydney Uni.</i>	UNSW TAFE Randwick	Western Sydney University – Paramatta Campus Western Sydney University – Westmead Campus Western Sydney University – Westmead Campus
 Research			
<ul style="list-style-type: none"> • Baird Institute • Brain and Mind Research Institute • Heart Research Institute • Centenary Institute of Cancer – Medicine and Cell Biology • George Institute for Global Health • Woolcock Institute of Medical Research • Sydney Research 	<ul style="list-style-type: none"> • Ingham Institute for Applied Medical Research • South Western Sydney Clinical School • Research and Ethics Institute 	<ul style="list-style-type: none"> • The Kirby Institute • Scientia Clinical Research • Lowy Cancer Research Centre • The Bright Alliance • Translational Cancer Research Network (TCRN) • Children's Cancer Institute of Australia (CCIA) • National Drug and Alcohol Research Centre (NDARC) • The Ageing Research Centre • Prince of Wales Medical Research Centre • Black Dog Institute • Eastern Hearth Clinic • NeuRa (Neuroscience Research Australia) • SEALS North, Randwick Campus • Southern Radiology, Randwick Neuroscience Building • Southern Radiology Nuclear Medicine 	<ul style="list-style-type: none"> • Children's Medical Research Institute Australia (CMRI) • Clinical Research Centre • Westmead Institute for Medical Research • Crown Princess Mary Cancer Centre

Objective 22

Investment and business activity in centres

Greater Sydney continues to benefit from the policy of locating major centres on rail corridors, particularly following decisions in the 1960s to co-locate major retail centres at rail based centres. The benefits of well-connected centres include:

- Jobs are closer to homes – today 10 suburban centres have more than 20,000 jobs, providing a strong polycentric centres foundation on which to build a metropolis of three cities.³¹
- The public transport network is more effective and efficient.
- Businesses are connected to a large skilled workforce.

These benefits maximise opportunities to attract higher density and higher amenity residential developments, which in turn enhance the vibrancy of centres and support walkable neighbourhoods. Walkable neighbourhoods require infrastructure including walking paths on each side of the road, pedestrian crossings, wayfinding, lighting, shading and natural surveillance.

As Greater Sydney grows towards 8 million people over the next 40 years there will be a need to grow existing centres and develop new ones. This draft Plan emphasises that all centres are important. The 2015 retail audit identified over 1,394 centres across Greater Sydney ranging from the Harbour CBD with nearly half a million jobs across multiple precincts to local centres with a small cluster of shops.³² To maximise the liveability, productivity and sustainability benefits of all centres, a targeted approach will focus on:

- managing and expanding the network of existing centres
- planning and growing new centres
- delivering walkable, accessible and high-amenity centres
- facilitating innovation in retail operations.

New delivery approach

The draft Plan seeks to grow centres across Greater Sydney. It importantly proposes two new metropolitan-scale approaches for delivering the intended outcome. They are:

- the Western Sydney City Deal which will, among other things, facilitate the growth of the four centres which make up the metropolitan city cluster for the Western Parkland City (refer to Objective 20)
- the Commission's Collaboration Areas as an approach to delivering whole-of-government place-based outcomes (refer to Objective 5).

Managing a network of centres

As Greater Sydney grows, it is important to provide clarity on the expectations of where growth should occur and the role of governments in supporting that growth. With all centres being different, the objective is to build on their individual strengths within a common framework. These differences mean that the importance of centres in delivering on the wider productivity and liveability objectives for Greater Sydney also varies depending on the activity mix, scale and location of individual centres. In this context to grow jobs across Greater Sydney and improve communities' access to goods and services, this draft Plan simplifies existing approaches to establish a three-level hierarchy of centres. They are metropolitan, strategic and local centres.

The provision of infrastructure, specifically transport, health and education infrastructure, can significantly influence the contribution that centres make and their importance at a local, strategic or metropolitan level. There is an important temporal aspect to the evolution of centres, especially as from east to west across Greater Sydney centres can be seen to change from mature evolving centres, through developing and growing, to emerging and growing.

The status of centres, in terms of the hierarchy, needs to be reviewed with each review of the *Greater Sydney Region Plan*.

Metropolitan city centres

Growing the global competitiveness of Greater Sydney is fundamental to the vision of a metropolis of three cities. Underpinning this objective are two metropolitan city centres and a metropolitan city cluster which will drive productivity outcomes.

These are:

- metropolitan city centres
 - Harbour CBD
 - Greater Parramatta
- metropolitan city cluster
 - Western Sydney Airport and Badgerys Creek Aerotropolis (to be developed over the life of the Plan)
 - Liverpool
 - Greater Penrith
 - Campbelltown-Macarthur.

This draft Plan affirms the economic significance of these places. They will continue to be a major focus of NSW Government investment, and as such are identified as metropolitan city centres. The focus for these centres will be on delivering very high levels of development with high levels of amenity.

They are central to delivering a well-connected city – a 30-minute city – where transport investments will improve the ability of residents to access the large number of diverse jobs. For the foreseeable future in the Western Parkland City, the focus will be on improving access to Liverpool, Greater Penrith and Campbelltown–Macarthur as the centres forming the Western Parkland City.

Strategic centres

Creating opportunities to attract investment, business activity and jobs in centres across Greater Sydney will rebalance the opportunities of the community to access to jobs and services close to home.

There are 34 centres (refer to Figure 39) where the mix of activities, size and location enable the community to access a wide range of goods, services and jobs. They also reinforce the success of the three cities. Considering their attributes, this draft Plan identifies them as strategic centres.

Each of the strategic centres differs in scale and opportunities to provide jobs and services. For example, only a few have major commercial precincts. Others such as Leppington, Frenchs Forest, Marsden Park and Narellan have significant opportunities to grow driven by population growth or new infrastructure.

However, as strategic centres, expectations for all are similar, including:

- high levels of private sector investment
- flexibility, so that the private sector can choose where and when to invest
- co-location of a wide mix of land uses, including residential
- high levels of amenity and walkability
- areas identified for commercial uses, and where appropriate, commercial cores.

Job targets are an important tool for investment and business growth.

The NSW Government will enhance public transport access to strategic centres as part of the 30-minute city – that is 30-minute access by public transport to the nearest strategic centre seven days a week to access major retail, entertainment and other needs. This will improve both productivity and liveability.

In recognition of the differing opportunities and scale of the strategic centres, the NSW Government will prioritise infrastructure investment to:

- unlock significant private sector investment
- attract businesses and provide a range of services
- improve the attractiveness of the centres as a place to live, work and enjoy and provide community services
- allow continued expansion to increase the number of jobs close to where people live.

The Commission will explore opportunities to enhance initiatives which deliver jobs and investment in strategic centres. With a need to create 817,000 jobs over the next 20 years to 2036, job targets are seen as an important tool in driving opportunities for investment and business growth. District plans will include job targets for all metropolitan city and strategic centres. To support job targets the draft Plan has a jobs growth metric, (refer to Objective 40).

To deliver on this approach, strategic plans need to outline how the opportunities identified above can be delivered, including determining the infrastructure required to enable jobs growth and the planning regime to support this. Research indicates that the barriers which need to be addressed to unlock the economic potential of centres include:

- land fragmentation
- restrictive planning controls
- accessibility
- amenity.³³

Local centres

The remainder of centres across Greater Sydney have been classified as local centres. Local centres are important for people to access day-to-day goods and services.

Approximately 200 local centres have a supermarket. Supermarket based local centres are important in facilitating walkable communities. Increasing the level of residential development within walking distance of centres with a supermarket is an important liveability outcome.

Supermarket based centres also have an important role in providing local employment. They account for close to 18 per cent of all of Greater Sydney's jobs (Census 2011).

The management of local centres is predominantly led by councils. Considerations for a local hierarchy of centres within this classification should be informed by a strategic planning process at a local level including an assessment on how the proposed hierarchy influences decision-making for commercial, retail and other uses.

Commercial office precincts

The majority of Greater Sydney's stand-alone office market is located in nine centres:³⁴

- Harbour CBD – including North Sydney
- St Leonards
- Chatswood
- Macquarie Park
- Norwest
- Greater Parramatta
- Sydney Olympic Park
- Rhodes
- Green Square-Mascot.

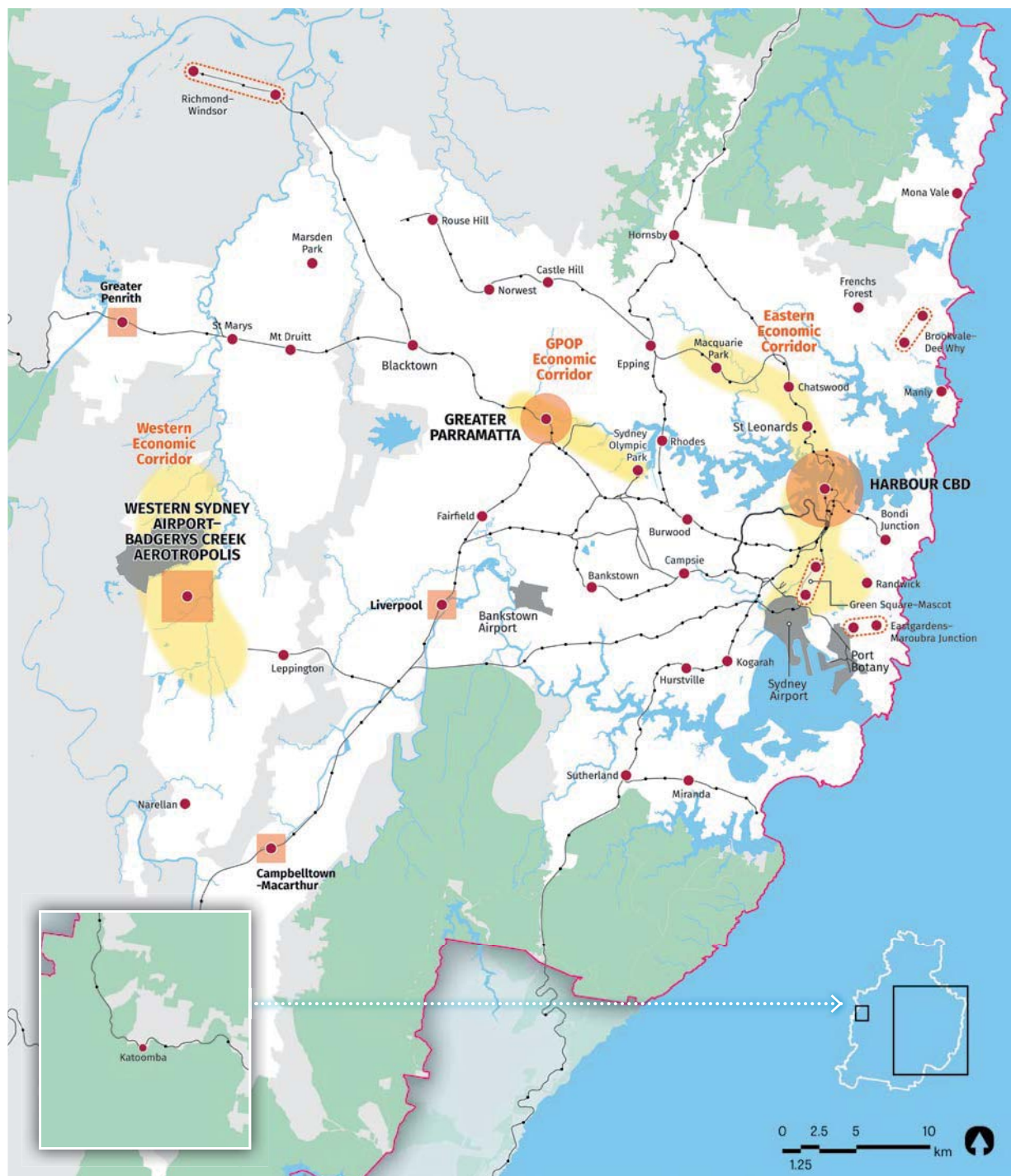
Greater Sydney's office market reveals an overflow market influenced by property and economic cycles where development opportunities are influenced by the availability of sites, planning settings, critical mass (perception of a precinct, generally seen to be 100,000m² of office floor space); access to labour and employers, proximity to health, education and legal activities, and government support.³⁵

The importance of metropolitan and strategic centres as locations that support knowledge, health and education jobs is reflected in their increased share in the proportion of total jobs for Greater Sydney from approximately 41 per cent to 50 per cent between 1996 and 2011.

Interchanges

Future Transport 2056 identifies the importance of transport interchanges as places which will have a high level of accessibility as service times are improved. There will be potential for interchanges to deliver mixed-use, walkable centres and neighbourhoods. Councils will be encouraged to consider whether the local conditions of these interchanges warrant their becoming more substantial and potentially places which could be classified as strategic centres.

Figure 39: Metropolitan and strategic centres



	Region Boundary		Urban Area		Economic Corridor
	Waterways		Metropolitan City Centre		Trade Gateway
	Protected Natural Areas		Metropolitan City Cluster		Train Station
	Metropolitan Rural Area		Strategic Centre		

Strategy 22.1

Provide access to jobs, goods and services in centres by:

- attracting significant investment and business activity in strategic centres to provide jobs growth
- diversifying the range of activities in all centres
- creating vibrant, safe places and quality public realm
- balancing the efficient movement of people and goods with supporting the liveability of places on the road network

- improving the walkability within and to the centre
- completing and improving a safe and connected cycling network to and within the centre
- improving public transport services to all strategic centres
- creating the conditions for residential development within strategic centres and within walking distance, but not at the expense of the attraction and growth of jobs, retailing and services; where appropriate, strategic centres should define commercial cores informed by an assessment of their need.



Useful links:

- BIS Shrapnel, 2015, Forecasting the Distribution of Standalone Office Employment across Sydney³⁶
- Urbis, 2016, Sydney Strategic Centres Barriers to Growth³⁷
- Hill PDA, 2015, Strategic Centres Enabling Economic Growth and Productivity³⁸



Action 9

Facilitate whole-of-government place-based outcomes through Collaboration Areas for targeted strategic centres, including Liverpool, Greater Penrith and Randwick

The Commission will coordinate the established governance arrangements and drive the delivery of place-based outcomes.

Opportunities for new centres

As Greater Sydney's population grows over the next 20 years, there will be a need for over five million square metres³⁹ of additional retail floor space and new office precincts. For Greater Sydney to remain competitive the market needs to be able to deliver this floor space in an efficient and timely manner. Numerous regulatory reviews across Australia have emphasised this issue.

There will be a need to grow existing centres, particularly strategic centres and supermarket-based local centres, create new centres including business parks and attracting health and education activities into centres. The principles for developing new centres are outlined below:

- **Existing centres:** Expansion options will need to consider building heights and outward growth. In some cases, directly adjacent industrial land may be appropriate for centre expansions to accommodate businesses. Quality design and adequate infrastructure provision will be critical to enable expansion. This approach needs to be informed by local government industrial strategies.
- **New centres:** These will be required across the whole of Greater Sydney.
 - In land release areas, this will include a range of centre types, including local and large centres which will grow and evolve into new strategic centres.
 - In land release areas, strategic plans should maximise the number and capacity of centres on existing or planned mass transit corridors. To deliver this outcome centres need to be identified early to allow their incorporation into transport infrastructure plans.
 - In the Western Parkland City, where South Creek is to be planned as the central organising element for the city, opportunities for new centres to address South Creek are to be maximised.
- In established areas, there are likely to be innovative approaches to creating new centres as part of urban renewal and mixed-use developments.
- All new centres are to have good public transport commensurate with the scale of the centre.
- **Business parks:** Not all centres will start as retail centres. Creating jobs and providing services to local communities can be initiated within business parks. However, the built form of these business parks is critical – that is, they need to be developed as urban places which can transition into higher amenity and vibrant places while maintaining their main role as an employment precinct. Councils' retail and employment strategies should provide guidance on the transition of business parks into mixed employment precincts including where appropriate ancillary residential to support the business park.
- **New health and tertiary education facilities** such as hospitals and community health centres: These should be located within or directly adjacent to centres, and ideally co-located with supporting transport infrastructure. Built form is also critical to facilitate the transition of centres with health and education uses into more mature innovation precincts (refer to Objective 21).

In all cases delivering centres that create walkable neighbourhoods is a high priority, and in this context additional centres which improve walkability are encouraged.

Land use and infrastructure plans inform decisions for the location of new centres and the expansion of existing centres.

Where there is a prevalence of retail in an industrial area, there may be exceptional cases to support the development of a new centre. Any such opportunities should be informed by a net community benefit test supported by a strategic review of centres (which identifies the need for the centre) and an industrial land review (which identifies that the loss of industrial activity can be managed) for the local government area. These reviews are to be prepared by councils, and endorsed by the Commission. The centre should be:

- located where public transport services are commensurate with the scale of the centre
- directly opposite a residential catchment accessible by a controlled pedestrian crossing
- more than a stand-alone supermarket
- of quality urban design with amenity, informed by a master plan
- supported by planned and funded infrastructure commensurate with the needs of the centre.

For new centres in industrial areas, the economic impact of the centre should be assessed and deemed to have an acceptable impact on the operation of existing businesses in the locality and the viability of surrounding centres.

Strategy 22.2

Create new centres in accordance with the stated principles in the draft Plan.

Useful link:

- Deep End Services, 2016, Sydney Retail Demand and Supply

Enable innovations in retail operations

Over the past few decades, the retail industry has been affected by a broad range of trends and new technologies. In 2016, Australians spent an estimated \$21 billion on online retail with NSW contributing 34.9 per cent of this, well ahead of Victoria (23.7 per cent), Queensland (18.2 per cent) and Western Australia (11.2 per cent).⁴⁰

Online retail remains a relatively small proportion of spending on bricks and mortar retail compared to other countries at 7.1 per cent in 2016.⁴¹ However, Australia's adoption of consumer technology, increasing desire for innovative experiences, and the rise of online-only stores such as Amazon and Alibaba, has retailers reviewing their store formats, improving their online presence and in some cases significantly reducing their retail floor space.

While physical shop fronts will continue to play an important role, their functions and purpose will change depending on the market capacity to adopt new technology and digital platforms.

This technological transformation will go beyond improvements to the online shopping experience. The digital economy will change the way retailers obtain and use market intelligence, how they manage stock and deliver products, how they communicate with suppliers and respond to customers, and the type of physical space they need.

The future of retailing will have as yet unknown impacts on planning for cities. However, ongoing considerations for planning include:

- protection of urban services land that provides just-in-time logistics supply chains to support future retail in centres and deliveries
- the adaptation or re-use of existing urban forms such as car parking
- public domain design measures that enhance centre activation and vibrant street life.

Strategy 22.3

Engage with the retail sector on its changing planning requirements and update planning controls as required.

Objective 23

Industrial and urban services land is planned, protected and managed

Much of Greater Sydney's manufacturing wealth is created on industrial and urban services land, 74 per cent of which is located in the Central City and Western City Districts. Across Greater Sydney, 19 per cent of all jobs are on industrial and urban services land⁴² yet only eight per cent of developable land in Greater Sydney does not permit residential uses.

The range of activities in industrial areas varies from manufacturing and advanced manufacturing, to freight and logistics to urban services such as motor vehicle services, printing, waste management, courier services and concrete batching plants.

The importance and scale of the freight and logistics sector (refer to Objective 16) has grown in line with:

- increased imports of goods which are no longer manufactured in Australia
- the establishment of national distribution networks

- automation in the warehousing of goods
- the impacts of online retailing
- the rise of 'white van' delivery services.

The NSW Department of Planning and Environment monitors changes in industrial land supply and annually publishes its findings in the *Employment Lands Development Monitor*. A summary of existing supply across Greater Sydney showing the main activities in each district is outlined in Table 4.

While the table shows 2,927 hectares are undeveloped, discussions with industry identify that much of this land is not serviced. At the current rate of development, Greater Sydney only has two to three years of serviced industrial land supply.

Table 4: Zoned employment land stocks by district at January 2016

District	Hectares			Activity Mix
	Undeveloped	Developed	Total	
Eastern City	45	1,455	1,500	Manufacturing and Retail Trade are the dominant industries, followed by Professional and Scientific Services, other Wholesale Trade and Health Care.
North	40	531	572	Other industrial profiles are evenly distributed throughout the North District's precincts, due to the lack of major precincts.
South	141	1,521	1,663	Manufacturing dominates the South District's urban services precinct with a relatively even distribution of other industries behind it.
Western City	1,411	3,792	5,203	Urban services followed by manufacturing and Health Care and Social Assistance. Other industries are relatively evenly distributed.
Central City	1,290	3,349	4,639	Manufacturing is by far the most dominant non-Urban Services industry across Central City District's precincts, with Wholesale Trade second, although with far less prevalence.
Total	2,927	10,648	13,577	

Source: NSW Department of Planning and Environment, *Employment Lands Development Monitor*

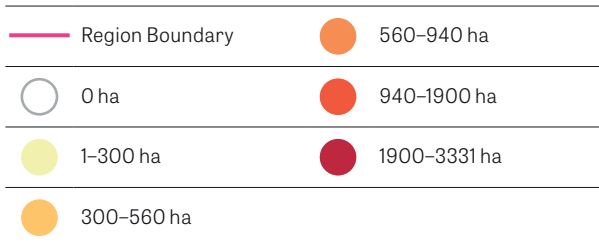
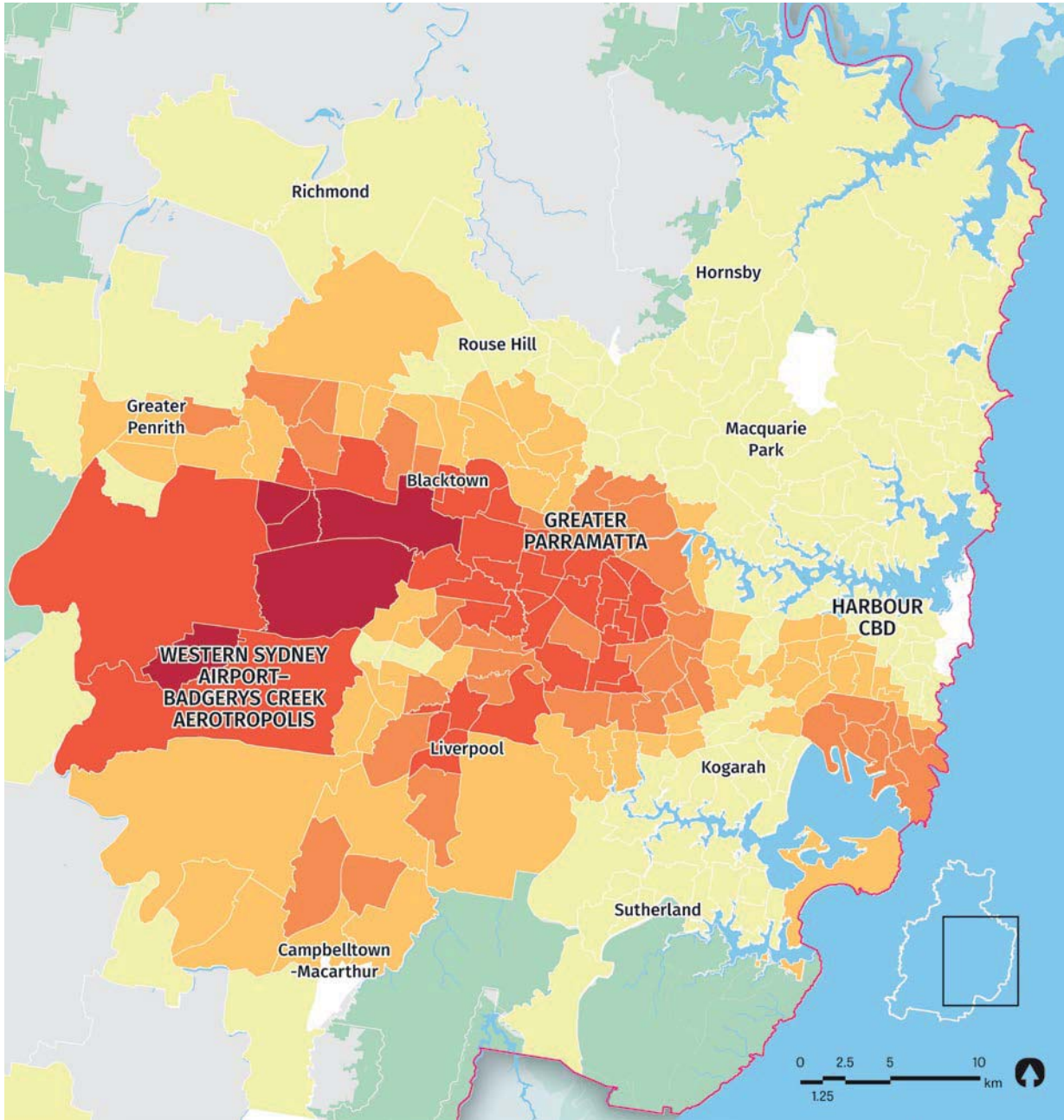
Industrial and urban services land supply

This draft Plan's approach to managing industrial and urban services land considered several issues:

- The nature of industrial activities and their locational needs:
 - Manufacturing and freight and logistics activities are often more flexible in regard to preferred location, influenced by the availability of large, lower priced sites with very good access to transport networks, specifically motorways, major arterial roads, the freight rail network, intermodal terminals, ports and airports. Therefore, they are often found on the fringe of cities and around trade gateways.
 - Urban services often serve local communities and businesses, therefore they locate closer to their markets, including residential areas and commercial centres.
- In the past, industrial land in the Eastern Harbour City experienced substantial conversions to mixed-use residential zoning, much of which is being developed in response to unprecedented demand for residential supply. While some of these land use changes meet longer-term growth and productivity requirements, the provision of services and jobs close to business and where people live are considered as critical to Greater Sydney's productivity.
- Buffers to protect the operations of various industries (including concrete batching plants, waste handling facilities, freight activities) should not be compromised by encroachment from sensitive land uses like residential, which are impacted by noise, light and odours.
- High land values have been found to negatively impact on the amount of land per capita occupied by urban services. Therefore there is a need to provide a sufficient supply of industrial land and have a consistent policy position to keep downward pressure on land values.
- A review of industrial land adjacent to train stations, which are potential sites for conversion to residential development, reveals there are only a few remaining sites across Greater Sydney. Where industrial land is located adjacent to train stations, it is, in the main, part of large intact industrial precincts or directly linked to the freight rail network and therefore highly valuable industrial land.
- In the Eastern Harbour City, there are many smaller industrial precincts which have a higher than average proportion of urban services activities. Therefore while they may appear to be only a small part of the industrial land supply they are important for providing urban services and in some cases creative industries.
- In greenfield areas there is a need to consider the likely long-term population of the area, and therefore the need for land locally for urban services, as distinct from simply considering a 20-year population projection as the end state.
- Automation is driving the adaptation of buildings to accommodate high-bay automation, which requires building heights greater than existing buildings and current planning limits. Increased building heights are needed for the evolution of buildings in areas such as the Central River City, that have logistics functions linked to freight infrastructure networks.
- Manufacturing techniques are changing rapidly in response to technological and digital improvements creating new business models and advanced manufacturing. These changes may require a review of planning regulations which may be placing unnecessary barriers to the growth of advanced manufacturing.
- The currency and comprehensiveness of council studies and strategies that inform industrial and urban services land policy and planning controls varies by council.

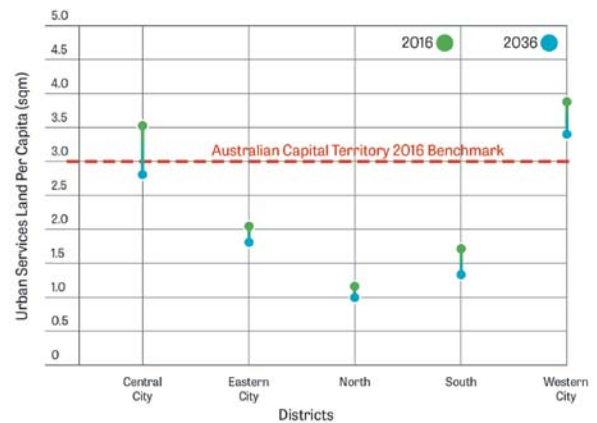
Research prepared for the Commission has identified a benchmark requirement of three square metres of industrial land per capita and the need

Figure 40: Access to industrial land



Area (ha) of Industrial Lands in 5 km of SA2

Source: Derived from the NSW Department of Planning and Environment Employment Land Precincts 2016



Source: SGS 2017

to protect this minimum amount, as required, in each District.⁴³ The current and projected per capita levels for each district are outlined in Figure 40. Note that the per capita provisions in the Eastern Harbour City are already well below three square metres per capita; and while the Western Parkland City will benefit from the Western Sydney Employment Area, there may be a need to provide additional industrial and urban services areas across the extensive footprint of the Western City to accommodate significant levels of population growth which will occur beyond 2036. Whilst the Central River City currently exceeds this minimum benchmark, it too will experience significant population growth and these lands represent notable opportunities to transition to higher order employment, technology and advanced manufacturing uses.

Protect, increase and enhance industrial and urban services areas

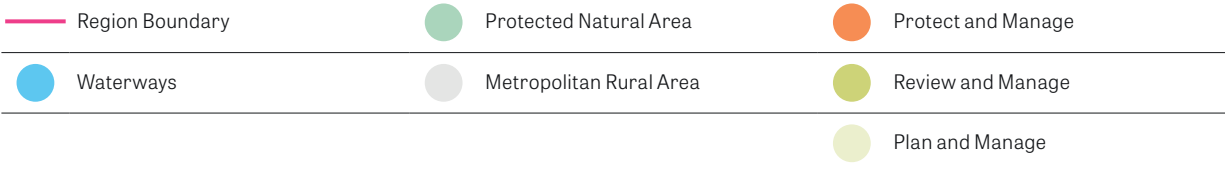
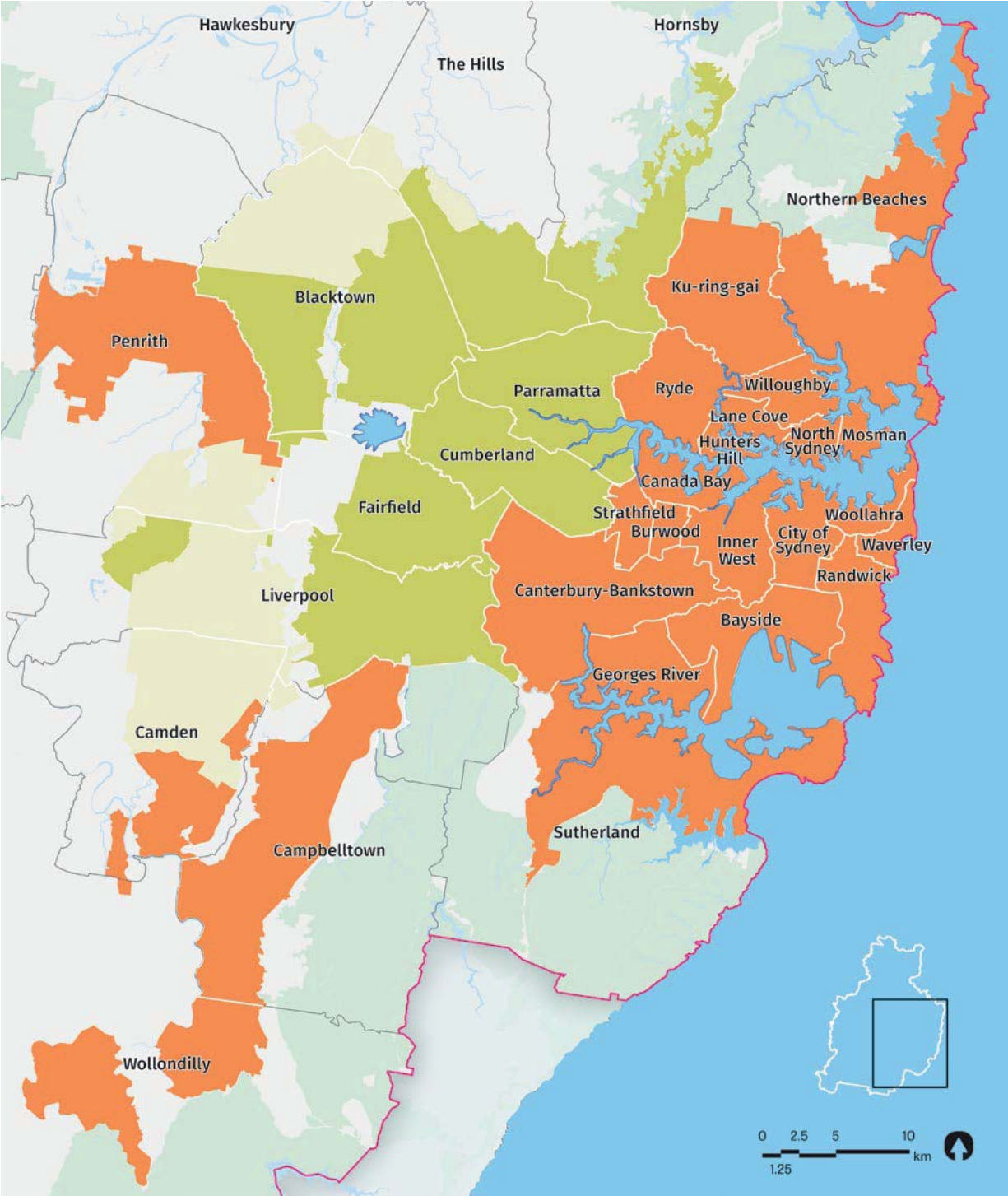
The protection and enhancement of industrial and urban services land should reflect the needs of each of the three cities providing a wide range of businesses that support the city's productivity and integrated economy (refer to Figure 41). Therefore, the Commission is recommending to the NSW Government that planning authorities should use the following approaches to manage industrial zoned land are (noting that these principles are not Government policy):

- **Eastern Harbour City:** Protect all industrial zoned land from conversion to residential development, including conversion to mixed-use zonings. In the context of retaining industrial and urban services activities there will be a need, from time to time, to review the list of appropriate activities within any precinct in consideration of evolving business practices and how they can best be supported through permitted uses in local environmental plans. Any review should take into consideration findings of industrial, commercial and centres strategies for the local government area and/or district.
- **Central River City:** Considering the levels of supply and the transformation occurring across this city, the Commission will undertake a review of all industrial land to confirm its protection or transition to higher order uses (such as business parks) and appropriate controls to maximise business and employment outcomes in light of the changing nature of industries in the area. In limited cases, where conversion to other uses is identified as appropriate to the needs of the city, the Commission will take a more tailored approach. Equally in some locations such as GPO, specifically Camellia and Silverwater, the protection of industrial activities will be a starting objective. The Commission will collaborate with councils and seek input from stakeholders as part of the review.
- **Western Parkland City:** Parts of this city are well established and need to be protected and managed in similar ways to the Eastern Harbour City. However, owing to the substantial long-term projected population and development growth in greenfield areas there will be a need for additional industrial and urban services land. The Commission will work with the NSW Department of Planning and Environment and local councils as strategic plans are prepared to determine whether additional land is required. In considering the industrial lands needs of the Western Parkland City, the Western Sydney Employment Area is to be considered as a regional resource serving Greater Sydney.

Strategy 23.1

Industrial land in the three cities is to be managed in line with the principles set out in this draft *Greater Sydney Region Plan*.

Figure 41: Industrial land approaches



Creating local employment opportunities

Stakeholder engagement to inform the draft Plan has emphasised the need to grow and diversify local employment opportunities. In the South District and Western City District, major stand-alone office precincts are largely absent, increasing the need for residents to travel longer distances to access a variety of jobs. A total of 10 locations account for 75 per cent of Greater Sydney’s stand-alone development and they are in the Central, Eastern City and North Districts. This draft Plan proposes initiatives to facilitate the development of local office markets and therefore create a broader diversity of jobs close to home.

The objective is to create local office markets by supporting the consideration of offices as a permissible use in an industrial area. Delivering on this outcome is not seen as a first step in transitioning an industrial area into, for example, a business park zone, nor is it about allowing retail to support the office activity. The decision to allow this outcome is to be council led. Delivering on this objective should not compromise the operations of existing industrial activities.

Strategy 23.2

Consider office development in industrial zones where it does not compromise industrial activities in the South and Western City Districts.

Useful link:

- SGS, 2017, Sydney’s Urban Services Land – Establishing a Baseline Provision



Action 10

Review industrial and urban services land in the Central River City and the South West and North West Priority Growth Areas

The Commission will undertake a review of all industrial and urban services land in the Central River City.

The review will be undertaken in close collaboration with councils and with industry input.

The review will confirm protection of industrial and urban services land and in limited cases their transition to higher order uses.

The Commission will work with the NSW Department of Planning and Environment to review the industrial and urban services land provision in the North West and South West Priority Growth Areas.

Objective 24

Economic sectors are targeted for success

The NSW Government is working closely with the Australian and local governments to drive key industry and economic development activities that will create a future where Greater Sydney has a highly skilled workforce that is able to access high-quality jobs in their local area. Key to the NSW Government achieving this vision requires:

- local jobs growth aligning with population growth, and jobs, skills and educational pathways that are increasingly available in resilient and productive knowledge-intensive sectors
- an increasing proportion of jobs and services that are more accessible as more high growth companies locate in Greater Sydney
- an increasing number of people choosing to live, work and visit a dynamic, vibrant, amenable and affordable Greater Sydney and spend their discretionary income in the local service economy and contribute to its cultural life.

Different economic sectors in Greater Sydney require targeted consideration. An important part of strategic planning is managing competing opportunities and protecting land values for activities that are fundamental to the overall

economy. This is required around a wide range of sectors, from the areas needed to undertake industries that build and grow the city, through to areas of agriculture that feed the city and the special places that attract visitors to Greater Sydney (refer to Table 5).

The majority of the NSW Government's initiatives to support sector growth apply to the whole of Greater Sydney, therefore each city. They include:

- Knowledge Hubs
- NSW Data Analytics Centre
- Jobs for NSW Funding Programs
- Jobs for Tomorrow Scholarship Program
- Sector Strategy Delivery
- Creative Industries Award
- Business Connect Advisory services and Easy to Do Business program
- NSW Government Western Sydney Industry Development Support Team
- Boosting Business Innovation Program
- Smart and Skilled Funding

Table 5: Key economic sectors by city

Eastern Harbour City	Central River City	Western Parkland City
Financial and professional services (including insurance and superannuation)	Advanced manufacturing (including defence industries)	Advanced manufacturing
Creative industries	Medical technology	Aerospace and defence industries
Information, communication and technology (including cyber security)	Tertiary education	Agricultural processing and export
Construction and infrastructure	Financial and professional services (including insurance, real estate)	Construction and infrastructure
Health and medical technology	Public / Government administration and safety	Transport and warehousing
Tertiary education	Health and health education	Visitor economy
Visitor economy	Visitor economy	Education and training

- Infrastructure Skills Legacy Program
- The Refugee Employment Support Program
- Skills for Small Business Program
- Western Sydney Procurement Toolkit
- StudyNSW
- Destination NSW Visitor Economy Strategy
- Investment attraction and Export Services
- Aboriginal Centre for Excellence.

A number of Government initiatives target specific cities. They are Launch Pad and Aerospace and Agriport precincts in the Western Parkland City and NSW Government's Decentralisation Program in the Central River City.

Industry sector strategies

The NSW Department of Industry is leading the development and coordination of sector-specific industry development strategies to grow and globally position key sectors of the economy. Priority sectors are selected on their significant contribution to economic growth and jobs creation.

The NSW Government recognises that these sectors are important in fostering innovation in the development of highly-skilled jobs which drive productivity and global competitiveness.

The strategies are being developed in consultation with industry, government partners and other key stakeholders. They build on and leverage existing industry and government activities and plans, and focus on delivering high impact practical initiatives to drive sector growth through industry, academia and government collaboration.

Strategy initiatives are in the areas of:

- industry skills and capability building
- investment attraction
- export growth and facilitation
- industry showcasing and promotion
- opportunities through government procurement
- government and industry partnerships.

Strategies in development and to be delivered during 2017–18 are: cyber security; advanced

manufacturing; medical technologies; financial services; and creative industries. The NSW Government launched *Defence and Industry Strategy, NSW: Strong, Smart and Connected*, in February 2017. The strategy prioritises the defence industry as a key driver of growth and innovation across the State. It focuses on leveraging strengths in critical capability areas, future workforce, regional growth and increased opportunities for innovation, commercialisation and research.

The NSW Government is also committed to the development of key precincts to drive economic activity and job growth in Western Sydney:

Westmead Precinct

The Westmead Precinct is currently the largest health hub in NSW. The Westmead Precinct is a priority for employment and business growth. The NSW Government will work with stakeholders to develop an integrated vision for the precinct and lead efforts to cluster health, education and research activities.

Western Sydney Aerospace Precinct

The NSW Government, in partnership with the Australian Government, is leading the development of a world-class aerospace and defence industries precinct, adjacent to the Western Sydney Airport. The Precinct aims to create approximately 7,500 jobs and over \$15 billion of gross value add over the next 30 years.

Cross-sectoral initiatives

Boosting Business Innovation Program

The \$18 million *Boosting Business Innovation Program* is accelerating innovation in NSW by supporting greater collaboration between the 11 NSW universities and CSIRO, start-ups, and small to medium enterprises. The program has established a network of innovation spaces including incubators and maker spaces.

Through the Boost program, Western Sydney University is establishing an advanced manufacturing community of practice assisting early stage and established businesses to scale-up, through exposure to leading edge technologies in Western Sydney.

The Launch Pad is a business and innovation support program that provides facilities, assistance and resources for start-up and high-growth technology businesses in Western Sydney. Part of the Boosting Business Innovation Program is the *Tech Vouchers* scheme funds new research collaborations between small to medium enterprises (referred to as SMEs) and Western Sydney University.

Knowledge hubs

The NSW Government established the *Knowledge Hubs* to drive collaboration between the Government and industry in five key sectors - financial services, medical technology, creative industries, transport and logistics, and energy and resources. Hubs in these priority industries deliver projects that build better collaboration and encourage economic growth. Each knowledge hub is a central point for people in an industry to collaborate and connect with the Government and universities.

Government procurement

Through the Department of Industry, the NSW Government is connecting businesses to the procurement process for major infrastructure projects such as the WestConnex, Parramatta Light Rail, redevelopment of the Parramatta CBD, new public schools (Bass Hill, Oran Park, Spring Farm, Parramatta) and the Western Sydney Airport.

The *Western Sydney Procurement Toolkit* has been developed by the Australian and NSW Governments, AiGroup, RDA Sydney, Western Sydney Business Connection, Western Sydney Business Chamber, and ICN NSW partnership to assist business in Western Sydney. It will complement specialist NSW Government's Business Connect procurement advisory services.

NSW Data Analytics Centre

NSW Government's Department of Finance, Services and Innovation has developed a boutique scholars' program for data science and analytics.

Jobs for Tomorrow scholarship program

The NSW Government is investing \$25 million in 25,000 Jobs for Tomorrow scholarships in eligible science, engineering and technology (STE) related qualifications from 2016 to 2019.⁴⁴

International investment attraction and export support

NSW Trade & Investment helps develop industry sectors through international investment attraction, export support for NSW businesses and the promotion of NSW as a globally competitive, strong and agile economy.

In May 2017 *Competing Globally: NSW Trade and Investment Action Plan 2017-18* was released to provide a framework and pathway for growing the NSW economy. It is a whole-of-government plan that outlines practical actions to improve global competitiveness, focus efforts in areas of competitive advantage, engage effectively with priority markets and work collaboratively with partners.

These actions are supported and driven by an investment and markets team in Sydney, StudyNSW, an export team with strategic positions in the regions and a network of international trade commissioners and business development managers in the key markets of China, Japan, USA, UK, Korea, India, UAE, Singapore, Malaysia and Indonesia.

NSW Trade & Investment also works closely with domestic and international partners, including business chambers, industry bodies, not-for-profits and private enterprise on targeted sector events and investment activities.

NSW Trade & Investment launched an Export Capability Building Workshop Program at Parramatta in November 2016. The Program will include Introduction to Exporting and Advanced Exporting, Export awards and Skills events – eCommerce, Market and Sector Briefings and Networking, with the Export Council, NSW Business Chamber and Asialink. The Program will also include an Expert Advisor dedicated to Western Sydney.

Jobs for NSW programs

The *Jobs for the Future* report, by Jobs for NSW, identifies 11 segments that NSW should target as part of its whole-of-government agenda to create 1 million new jobs in NSW by 2036. These are tradeable segments with the potential to be globally competitive and create additional, resilient jobs.

The segments are:

- international education
- financial and professional services
- regional headquarters of multinationals
- tourism
- start-ups and digital innovation
- food and other quality goods to Asia
- infrastructure and smart cities
- creative industries
- advanced manufacturing
- life sciences
- environmental technologies.

Together, these segments could deliver up to 43 per cent of jobs growth in the next several years, while representing only 28 per cent of current jobs.

Jobs for NSW is undertaking a range of strategic initiatives to support job creation and acceleration of the target segments through the \$190 million Jobs for NSW Fund. Jobs for NSW's support is particularly focused on the start-up sector, SMEs that are scaling, and companies developing new and innovative technologies. Jobs for NSW has a range of different financial products which it uses to directly fund businesses to grow and create jobs.

Strategy 24.1

Consider the barriers to the growth of internationally competitive trade sectors including engaging with industry and assessing regulatory barriers.

Supporting small business

The NSW Government's Small Business Strategy aims to make NSW the easiest place to start or grow a business.

Through the Easy to Do Business program, managed by the Department of Finance, Services and Innovation, the NSW Government has invested over \$15 million to create an online, one-stop shop for business customers, streamlining the way businesses transact with government, and cutting time and costs.

The \$30 million Business Connect business advisory program, managed by the Department of Industry, provides advice through a network of business advisors across NSW to support digital readiness and increase industry capabilities, to reach new markets and support business growth.

The NSW Government also provides opportunities for leading NSW companies to showcase their capabilities by trade shows at major industry events and shows.

Eleven job segments could deliver up to 43 per cent of jobs growth in the next several years.

In the **Eastern Harbour City**: mobile Business Advisors are based at Harbour CBD, Inner West, Randwick, Ryde, North Sydney and Northern Beaches. Specialist services include digital, creative industries, access to finance, disability sector, skills and disruption along the Sydney Light Rail construction route. The top three industries supported in 2017 have been Transport, Postal & Warehousing; Professional, Scientific & Technical Services and Retail Trade.

In the **Western Parkland City**: mobile Business Advisors are based at Katoomba, Narellan, Penrith and Springwood. Specialist services include digital, creative industries, access to finance, disability sector, skills and multicultural. The top three industries supported in 2017 have been Professional, Scientific & Technical Services; Retail Trade and Health Care & Social Assistance.

In the **Central River City**: mobile Business Advisors are based at Castle Hill, Fairfield and Parramatta. Specialist services include digital, creative industries, access to finance, disability sector, skills and multicultural. The top three industries supported in 2017 have been Professional, Scientific & Technical Services; Retail Trade and Health Care & Social Assistance.

The NSW Government has also developed a Western Sydney SME funding referral program that supports Western Sydney businesses to access appropriate NSW Government funding.

Education and training

International Education Strategy

StudyNSW collaborates with education institutions, industry and local government in Western Sydney on implementing programs that enhance the student experience for international students. Western Sydney University is a main provider of higher education in Central River City and Western Parkland City. Other campuses include University of Sydney (at Camden, Cumberland, and Westmead), Charles Sturt University (Parramatta) and University of Wollongong (Liverpool).

Training Services NSW

Training Services NSW has three offices in Greater Sydney with responsibility for driving skill development to meet the needs of local employers. These are located at Chatswood covering Sydney north, CBD and east; Parramatta covering Sydney north west, west and Blue Mountains; and Bankstown covering Sydney south and south west. Training Services NSW is responsible for the implementation of funded programs, including Smart and Skilled, apprenticeships and traineeships, adult and community education and Aboriginal employment and business development.

Smart and Skilled funding

This program is available to support full and part qualifications in the vocational education and training sector. Much of the expected expansion in Western Sydney will require people with these qualifications. Smart and Skilled funding can be used to prepare people for employment by providing foundation and basic technical skills. It can also be used to up-skill existing workers.

SkillsPoints are being established by TAFE NSW to deliver industry based training products and contribute to innovation to support the growth and development of the region.

The Infrastructure Skills Legacy Program

This is a program to enable NSW to benefit from an employment and skill development outcome from the \$73.3 billion infrastructure investment. Targets have been set, as part of the tender

process for demonstration pilots for apprentices, learning workers, women in non-traditional pathways including trade occupations, Aboriginal participation, youth and local employment.

Training Services NSW is working with a number of government agencies and principal contractors to embed the Infrastructure Skills Legacy Program targets in projects for Western Sydney. \$10 million over four years for project coordination state-wide has been allocated to the program.

The Refugee Employment Support Program

This Refugee Employment Support Program supports refugees and asylum seekers into sustainable and skilled employment. It helps participants develop career plans and links them to employers, and assists with recognition of their overseas skills and qualifications, education and training. The program will assist up to 4,250 refugees and 1,000 asylum seekers across Western Sydney. \$22 million over four years has been allocated to this program.

Aboriginal Programs for Western Sydney

Training Services NSW provides support for Aboriginal people in NSW. These programs include: Smart and Skilled, the Way Ahead Aboriginal Mentoring Services, Aboriginal Enterprise Development advisory services and the New Careers for Aboriginal People job brokerage service.

The Aboriginal Centre for Excellence is a \$20 million investment in a cultural and skills hub for Indigenous youth in the Western Sydney region. Western Sydney has a significant Aboriginal population and is also an area of significant population and economic growth. As well as providing opportunities for strengthening individual and community resilience this initiative will have a particular focus on ensuring that local Aboriginal people, particularly young people are equipped to seize opportunities stemming from this region's growth. A key objective of the facility will be to deliver programs and services that support Aboriginal young people making the transition from the school environment into further education and employment.

Tourism

As Australia's prime international gateway, Greater Sydney welcomes around 3.75 million international visitors who stay 77.7 million nights and spend \$9.03 billion a year. The tourism industry contributed \$15.4 billion to the economy (4.7 per cent of Gross Domestic Product) and directly employed 74,300 people in 2014–15. Strong growth in the visitor economy is across all facets including business, leisure and visiting friends and family. Destination NSW has developed the Western Sydney Visitor Economy Strategy and will continue to secure and grow events in Western Sydney.

Visitors' experiences are shaped by major attractions and events and equally by the places they visit, the facilities available and how their needs are met. In the Eastern Harbour City, alongside iconic landmarks, beaches and harbour is the network of cultural institutions and conference centres. Linking business and leisure visits provides better experiences and has widespread benefits.

The Western Sydney Airport creates opportunities for the Western Parkland City to become an alternative to the Eastern Harbour City for international tourists with more affordable accommodation and attractions like the Greater Blue Mountains World Heritage Area, Aboriginal heritage, historic rural villages and scenic landscapes.

Alliances between councils and key industry stakeholders create opportunities to cross-promote events, develop and support a wider range of activities and importantly realise the opportunities as the Western Sydney Airport and Badgerys Creek Aerotropolis develops.

The Central River City tourism offer is multifaceted. Sydney Olympic Park is a major attractor, hosting sporting and cultural events, and investment in institutions which is set to increase with the Western Sydney Stadium, ANZ Stadium and the Museum of Applied Arts and Sciences.

Strategy 24.2

Consider the following issues when preparing plans for tourism and visitation:

- encouraging the development of a range of well-designed and located facilities
- enhancing the amenity, vibrancy and safety of centres and township precincts
- supporting the development of places for artistic and cultural activities
- improving public facilities and access
- protecting heritage and biodiversity to enhance cultural and eco-tourism
- supporting appropriate growth of the night-time economy
- developing industry skills critical to growing the visitor economy.

Rural industries – agriculture and resources

The main rural industries of the Metropolitan Rural Area of Greater Sydney are agricultural production on relatively small land parcels used for intensive agriculture and resource extraction in the Western Parkland City with some activity in the North District.

The value of agricultural production in Greater Sydney in 2015–16 was \$645 million or five per cent of the value of NSW's agricultural output.⁴⁵ The Metropolitan Rural Area (refer to Objective 29) is of specific importance for poultry, eggs, vegetables including mushrooms, nurseries, cultivated turf and cut flowers.

Significant mining and extractive resources include existing underground coal mining operations and coal seam gas primarily in the south west of Greater Sydney, and extractive industries more broadly distributed. Extractive industry resources are used to produce construction materials for roads, concrete, bricks, building stone and landscaping. Mining and extractive resources are expected to have an ongoing role in meeting energy needs, generating continuing export income and providing cost competitive inputs into the region's growing infrastructure and construction needs.

The proximity of rural residential development to agricultural, mining and extractive industries that generate odour, noise and other pollutants can be a source of conflict. There is a need to provide important rural industries with certainty so that their operations can continue without encroachment from incompatible land uses. At the same time the protection of biodiversity (offsetting the biodiversity lost in other areas of Greater Sydney) and the rehabilitation of exhausted resource extraction areas supports the re-establishment of significant ecological communities in the Metropolitan Rural Area into the future.

The Department of Primary Industry's Agriculture Industry Action Plan and International Engagement Strategy provide the direction for government and industry to work together to accelerate growth in NSW agribusiness.

The management of agricultural and extractive activities in this draft Plan is integrally linked to the general approach of managing the Metropolitan Rural Area, which is discussed in Objective 29.

Strategy 24.3

Protect and support agricultural production and mineral resources (in particular construction materials) by preventing inappropriately dispersed urban activities in rural areas.

NSW Government's Decentralisation Plan

The NSW Government is delivering on its commitment to implement the Government's Decade of Decentralisation policy. The aim of the policy is to relocate public sector jobs from the Harbour CBD to Greater Sydney with a particular focus on Western Sydney. The target is to relocate and consolidate more than 3,000 public servants to new offices in Parramatta, Liverpool, and Penrith to stimulate economic growth, long-term job generation and provide jobs closer to home.

Adapting to changing technologies

The digital economy is disrupting businesses and the workforce worldwide with emerging technologies and innovations including the development of artificial intelligence, quantum computing and big data, robotics, autonomous vehicles, 3D printing and nanotechnology.

It is also dramatically changing the way people and goods move around, providing more efficient transport services.

Digital technology has improved efficiencies in administration, manufacturing, wholesale and retail and is increasingly transforming the knowledge and professional service sectors. While advancements can reduce demand for certain types of jobs, they enable innovation, new knowledge-intensive jobs and business opportunities.

Economic development strategies must embrace the digital economy and capture its benefits and productivity improvements. They must focus on sectors that will enhance Greater Sydney's global competitiveness and the creation of high-value jobs.

Embracing economic opportunities from new technologies relies on education, ongoing workplace training and building business and worker resilience. Businesses and governments must continually engage with industry, assess regulatory barriers and manage data.

The NSW Government supports the expansion of the State's Information Communications Technology (ICT) sector by providing businesses with information on NSW and Australia's ICT markets, site selection and government incentives. The NSW Data Analytics Centre is a boutique scholars' program for data science and analytics. NSW is investing \$25 million in 25,000 Jobs for Tomorrow scholarships in eligible STEM related qualifications from 2016 to 2019.

Strategy 24.4

Provide a regulatory environment which enables economic opportunities created by changing technologies.



Directions for sustainability



A city in its landscape

Metric: Proportional increase in Greater Sydney covered by urban tree canopy

Greater Sydney has evolved within outstanding natural and scenic landscapes. As it grows, strategic planning will manage the effects of urban development to protect, restore and enhance these landscapes, waterways, coastline, natural areas, tree canopy and open spaces. Delivering on these outcomes will require careful management of the environmental, social and economic values of the Metropolitan Rural Area. A healthy natural environment will be important to improve liveability, create healthy places, and mitigate the effects of climate change. New approaches to water management and urban design will be part of the response to climate change and will help to cool the region, particularly the Western Parkland City.



An efficient city

Metric: Number of precincts with low carbon initiatives

As Greater Sydney grows, innovative management of water, energy, resources and waste will be required in strategic land use, transport and infrastructure planning to reduce costs, carbon emissions and environmental impacts.



A resilient city

Metric: Number of local government areas undertaking resilience planning

Resilient cities are those where the capacity of individuals, communities, institutions, businesses, and systems survive, adapt, and grow notwithstanding chronic stresses and acute shocks. This means building capacity in social and ecological systems to adapt and respond to both known and unforeseen impacts, including changes in technology and climate. Optimising the use of new city shaping technologies can support resilience to improve quality of life and productivity.

6

Sustainability

Sustainability for Greater Sydney starts with a city in its landscape. Greater Sydney is one of the world’s most attractive and liveable regions. It has a diverse, beautiful and iconic natural landscape that includes a unique coastline, waterways, mountains, vegetation and a favourable climate.

Planning for sustainability involves taking a long-term approach to managing Greater Sydney’s waterways, biodiversity and bushland, rural lands, its connected green spaces and corridors. It also involves greening streets and neighbourhoods with increased tree canopy cover.

For tens of thousands of years, people have cared for and protected Greater Sydney’s natural landscapes and today, half of Greater Sydney is protected in national parks and reserves. The natural environment supports biodiversity as well as the economy and enhances residents’ quality of life and wellbeing.

Greater Sydney’s four major landscape types shown on Figure 43, are:

- Protected Natural Area
- Metropolitan Rural Area
- Urban Area
- Coast and Harbours.

The Protected Natural Area frames the city to the north, west and south and includes the Greater Blue Mountains World Heritage Area, and the coastal sandstone plateaux and estuaries of the Royal National Park – the world’s second oldest national park – and Ku-ring-gai Chase National Park. The Protected Natural Area is distinct from the Metropolitan Rural Area.

The Metropolitan Rural Area has a diversity of farmland, bushland, mineral resources, rural towns and villages. It includes the floodplains of the Hawkesbury-Nepean Valley, the hills and

steep ridgelines of the Wollondilly Shire, and areas of outstanding cultural heritage value (refer to Objective 29).

The Urban Area includes a mosaic of places from quiet neighbourhoods to vibrant business districts. Within the Urban Area the climate changes from east to west, with less rainfall, hotter summer days and colder winter nights in the Western Parkland City (refer to Figure 42). The steeper and more heavily vegetated landscapes of the northern and north-eastern neighbourhoods contrast with the flatter, more open landscapes of the Cumberland Plain.

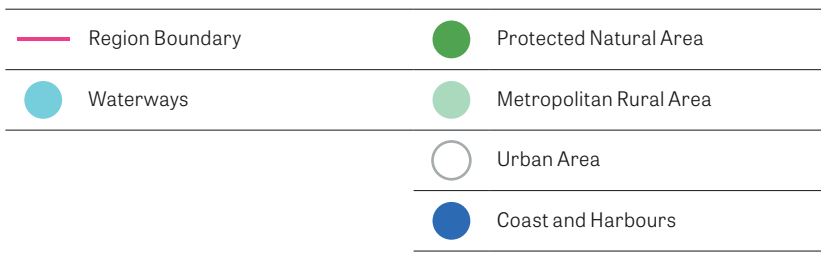
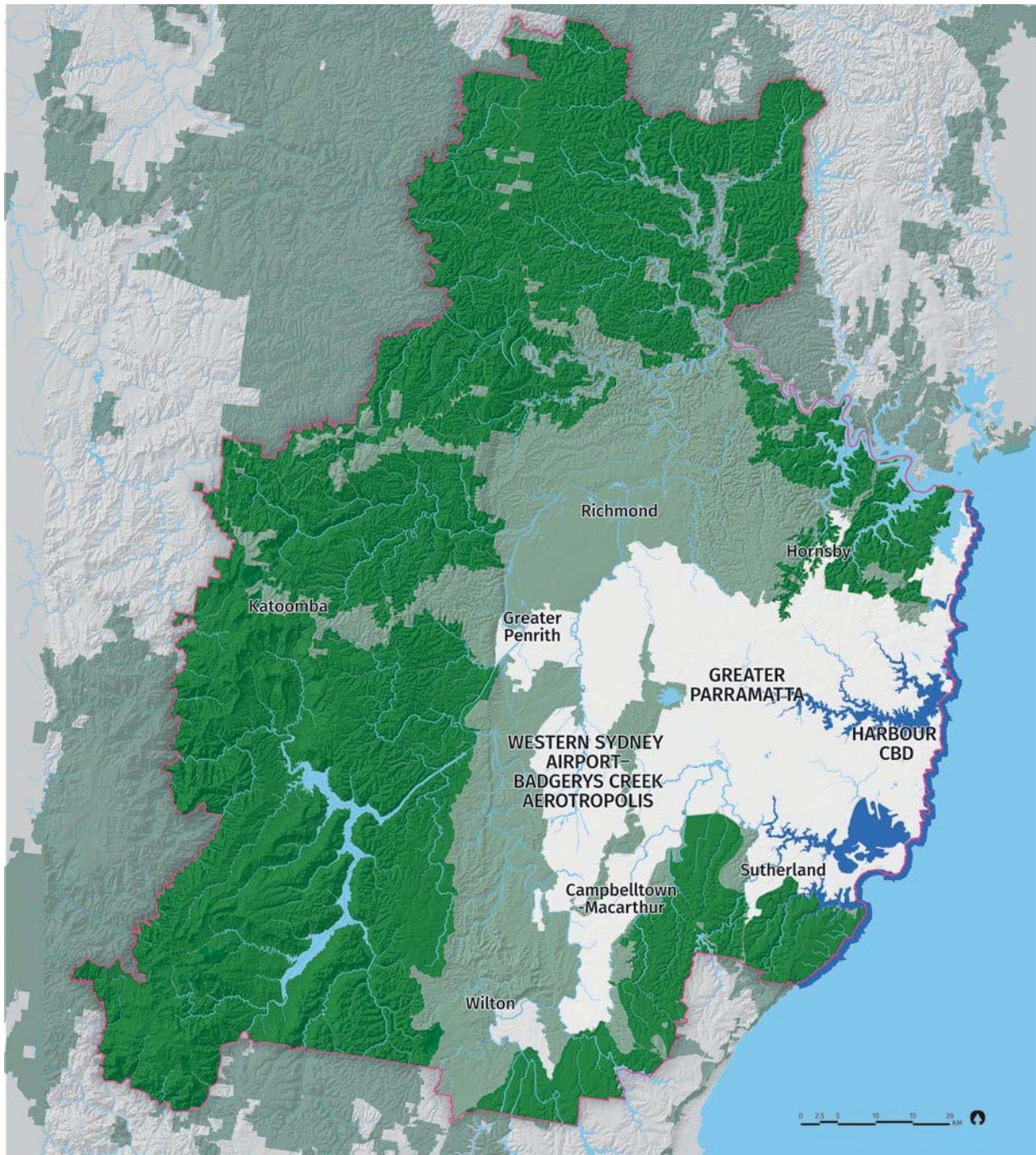
The Coast and Harbours from Broken Bay and Pittwater in the north to Port Hacking in the south are valued and protected. They support aquatic ecosystems and are important for recreation, tourism and Greater Sydney’s cultural identity (refer to Objective 8).-

Figure 42: Climate variations across Greater Sydney



*Urban Area – refer to Figure 51
Source: Climate statistical data, Bureau of Meteorology

Figure 43: Four major landscape types of Greater Sydney

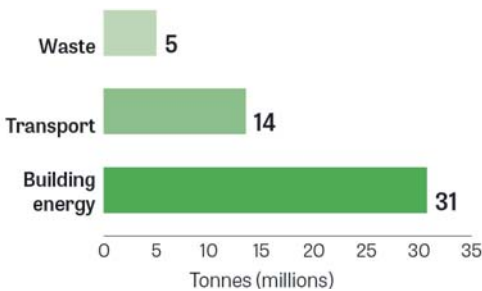


Across Greater Sydney, past urban development and industrial activities have impacted on natural landscapes and the environment. Even today, waterways are being affected by pollution. These practices, and the continued reliance on fossil fuels for energy and transport are creating environmental problems for future generations.

A sustainable region minimises its use of resources, and its impacts on global systems and climate change. It embraces the principle of capacity building to adapt to future changes. The region can become more sustainable through more cost effective and efficient ways to reduce environmental impacts, reduce emissions of greenhouse gases, re-use waste and increase recycling. Greater Sydney has the potential to become a leader and innovator in environmental technology and management of energy, water and waste.

For example, the combined emissions from electricity and gas used in buildings, transport and waste in Greater Sydney contributed 50 million tonnes of greenhouse gases into the atmosphere, equal to 54 per cent of NSW's emissions from these sources⁴⁶ (refer to Figure 44).

Figure 44: Greenhouse gas emissions by source (2015-16)



Note: Analysis of emissions does not include emissions from agriculture and land clearing

Source: Greater Sydney Commission, 2017, Exploring Net Zero Emissions for Greater Sydney, unpublished report prepared by Kinesis for the Greater Sydney Commission

Greater Sydney, the nation's largest city, has an important role in Australia's response to climate change. The communities within Greater Sydney, with their differing characteristics, require targeted responses to climate change, focusing on the design of neighbourhoods and managing land use, infrastructure and transport. This supports the use of renewable energy, reduces consumption of energy and water, reduce waste and greenhouse gas emissions and helps to deliver a more efficient and sustainable city.

This can reduce costs for households and businesses, while contributing to global efforts to combat climate change.

A resilient region reduces its exposure and vulnerability to natural and urban hazards and becomes more resilient and able to withstand shocks and stresses. Planning for the region builds on the NSW Government's support of the 100 Resilient Cities network.⁴⁷

Many places, like Greater Sydney, are exposed to natural hazards like flooding, bushfires, severe storms and heatwaves. Urban hazards such as air pollution and noise need to be managed to protect the region's liveability and sustainability. One of the most significant natural hazards in Greater Sydney is flooding in the Hawkesbury-Nepean Valley. The largest flood there on record occurred in 1867, when the river level reached 19.7 metres in Windsor. If a flood of this size happened in the Hawkesbury-Nepean Valley today, 12,000 residential properties would be impacted, 90,000 people would need evacuation and damages would cost an estimated \$5 billion.⁴⁸

Many sustainability goals are incorporated into existing environmental laws, regulations and government policies and frameworks, including protection of waterways, coastlines and biodiversity, and provisions to reduce pollution and waste. However, these often single-issue approaches mean that balancing economic, social and environmental factors in decision-making is challenging. This draft Plan promotes integrated approaches to deliver sustainable outcomes.

One integrated approach is through planning and delivering for green infrastructure. Green infrastructure is the network of green spaces, natural systems and semi-natural systems that support sustainable communities. It has four connected elements: waterways; urban bushland; urban tree canopy and green ground cover; parks and open spaces (refer to Figure 45).

Greater Sydney's Green Grid will connect communities to green infrastructure. Scenic and cultural landscapes and rural landscapes complement green infrastructure.

Greater Sydney's environment, and its sustainability, are linked to its liveability and productivity. Several of the objectives and strategies in the liveability and productivity chapters of this draft Plan support more sustainable communities. For example, Objective 7 – Communities are healthy, resilient and socially connected – helps create stronger communities that are less vulnerable to natural and urban hazards; Objective 23 – Industrial and urban services land is planned, protected and managed – supports local retention of recycling and waste management facilities; Objective 14 – A metropolis of three cities – integrated land use and transport creates walkable 30-minute cities – helps to lower the region's greenhouse gas emissions.

This chapter outlines the Commission's sustainability recommendations for objectives and strategies. A number of these recommendations are not government policy.

Figure 45: Green infrastructure has four connected elements



Actions

The following metropolitan significant actions will deliver sustainability objectives.

- Develop and implement the South Creek Corridor Plan (refer to Objective 26).
- Deliver the open space toolkit (refer to Objective 31).

Green infrastructure and greener places

Green infrastructure is fundamental to creating a high quality of life and is important in creating a region that is climate resilient and adaptable to future needs. The Government Architect NSW is working on a Green Infrastructure framework to guide the delivery of green infrastructure across NSW through planning, designing and managing green infrastructure as an interconnected network.

The Green Infrastructure framework will have three key components :

- Bushland and Waterways – delivering green infrastructure for habitat and ecological health
- The Urban Tree Canopy – delivering green infrastructure for climate change adaptation and resilience
- Parks and Open Space - delivering green infrastructure for people.





A city in its landscape

Objective 25

The coast and waterways are protected and healthier

Greater Sydney has been a managed landscape since it was settled by Aboriginal people more than 30,000 years ago. The beauty of Greater Sydney's scenic landscapes is world renowned – natural waterways and ridgelines, the Greater Blue Mountains World Heritage Area and rural landscapes, the coastline, harbours and urban landscapes such as the World Heritage-listed Sydney Opera House.

The landscape of Greater Sydney is characterised by waterways – from the biodiversity in and around environmentally sensitive waterways to the economic productivity of its working harbours and the international attractions of its beaches. Its water systems provide drinking water, water for agriculture and for the disposal of stormwater and wastewater.

Across Greater Sydney there is a strong cultural attachment to waterways that provide important lifestyle and recreational assets, amenity and scenic quality. Penrith Lakes is a world-class recreational asset in the Western Parkland City; Lake Parramatta has become a popular destination for swimming and the Parramatta River is a water-based recreational asset that helps define the Central River City; Greater Sydney's beaches and Sydney Harbour are internationally recognised icons attracting millions of locals and visitors each year. Improving the health of these waterways is essential to the liveability of Greater Sydney.

Waterways support coastal, marine and groundwater dependent ecosystems which benefit from continuing protection and management. The health of coastal and marine waterways is interconnected with the health of catchments. The Marine Estate

Management Authority is preparing a Marine Estate Management Strategy which will support a clean, healthy and productive marine environment.

The *Fisheries Management Act 1994* protects aquatic biodiversity, as do other state and local plans.

Councils will undertake management of coastal catchments in accordance with the new *Coastal Management Act 2016* and the draft State Environmental Planning Policy Coastal Management as these policy settings take effect.

Waterways are part of the green infrastructure that supports the vision of Greater Sydney as a metropolis of three cities. While two-thirds of Greater Sydney's urban areas are within coastal and harbour catchments, the most significant change in Greater Sydney is set to occur on the Cumberland Plain centred around South Creek which flows north into the Hawkesbury-Nepean River (refer to Figure 46). This drier and flatter inland catchment is characterised by a network of creeks and intermittent waterways and extensive floodplains. Sydney Regional Environmental Plan No.20 – Hawkesbury-Nepean River (No. 2 – 1997) sets out approaches for protecting the environment of the Hawkesbury-Nepean River system.

The South Creek corridor is central to the future sustainability and liveability of the Western Parkland City (refer to Objective 26).

The waterways of the Central River and Eastern Harbour cities largely flow east to the coast. In recent decades, there have been efforts to restore and improve the quality of waterways affected

by past contamination. This is being delivered as part of establishing new parklands and urban renewal developments such as the reinstated public foreshores along the Parramatta River.

The community values access to waterways for recreation and cultural events just as it values the protection of environmentally sensitive waterways. Quality natural waterways and a temperate climate make water-based activities part of the culture and identity of Greater Sydney.

Councils across Greater Sydney protect waterways by applying the *Water Management Act 2000* and through their local environmental plans. Opportunities to protect waterways and at the same time enhance liveability and productivity, are part of an integrated approach to managing green infrastructure.

In many of the older more urbanised areas, waterways have been converted into underground pipes or concrete channels. Clear Paddock Creek in Fairfield is an example where reinstatement of a more natural system has improved water quality and provided significant amenity improvements to local open space, in particular supporting trees and canopy cover that improve the local micro-climate.

There is a cultural attachment to waterways that provide important lifestyle and recreational assets, amenity and scenic quality.

For local waterways where ownership is mixed, a green infrastructure approach can inform innovative outcomes that respond to community values.

The *2017 Metropolitan Water Plan* contains strategies to improve the contribution that water makes to the liveability and the resilience of urban communities. It sets out the NSW Government's commitment to release environmental flows from Warragamba Dam. This will help reduce the impact of high nutrient levels and other pollutants on the Hawkesbury-Nepean River.

However, management is fragmented. An integrated approach to the protection and management of waterways relies on comprehensive monitoring and reporting of water quality and waterway health. It also requires strategic alignment of science, urban design, land management and planning frameworks to be effective.

Greater Sydney's drinking water is supplied from catchments covering over 16,500 square kilometres.⁴⁹ The main sources are in the Blue Mountains and the Southern Highlands. Protections for drinking water catchments are in the State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011.

Outside drinking water catchments, waterway protections for aquatic ecosystems and cooler, greener environments are managed by councils, Sydney Water and State agencies. Management can be fragmented, as stakeholders have different roles across council boundaries. To improve the health of catchments and waterways, the cumulative impacts of strategic planning, development controls and management need to be considered.

The Office of Environment and Heritage and the Environment Protection Authority promote the use of a risk-based decision framework⁵⁰ across catchments to help improve the health of catchments and waterways and to manage the cumulative impacts of development and land management practices. The framework:

- provides a structured approach to consider the effects of land use change, development and the management of public land on waterways
- shows how better management of development can help meet environmental targets for waterways
- provides options for appropriate management responses across entire catchments.

Prospect Reservoir – Prospect Nature Reserve

Prospect Reservoir is the largest body of water within the landscape of Central River City. The 5.2 square kilometre lake is surrounded by Prospect Nature Reserve which contains urban bushland, picnic grounds and bicycle tracks, and is part of the larger Western Sydney Parklands.⁵¹ Prospect Reservoir remains an integral part of Greater Sydney's drinking water supply and is required in times of high demand for water.

The Commission is working with the Western Sydney Parklands Trust, Sydney Water and WaterNSW to investigate further opportunities to transform Prospect Reservoir into a significant nature-based destination to meet the recreational needs of the community while protecting its important role in Greater Sydney's water supply. In time, Prospect Nature Reserve could become a great destination for the Central River City and the Western Parkland City.

Securing water supplies for Greater Sydney

A secure and sustainable supply of water is essential for Greater Sydney to grow and prosper. Reliable and affordable water is vital for households, businesses and industries to thrive and remain economically competitive.

Water is a limited natural resource that needs to be managed for the benefit of the community. Population growth, drought, climate change and changing community expectations present challenges and can increase demand for water. The *2017 Metropolitan Water Plan* outlines the measures that help provide Greater Sydney (and the Illawarra) with enough water to meet community needs into the future.

The NSW Government is implementing the *2017 Metropolitan Water Plan* and will continue to review plans to secure a sustainable supply of water for Greater Sydney, as required.

Strategy 25.1

Protect environmentally sensitive coastal areas and waterways.

Strategy 25.2

Enhance sustainability and liveability by improving and managing access to waterways, foreshores and the coast for recreation, tourism, cultural events and water-based transport.

Strategy 25.3

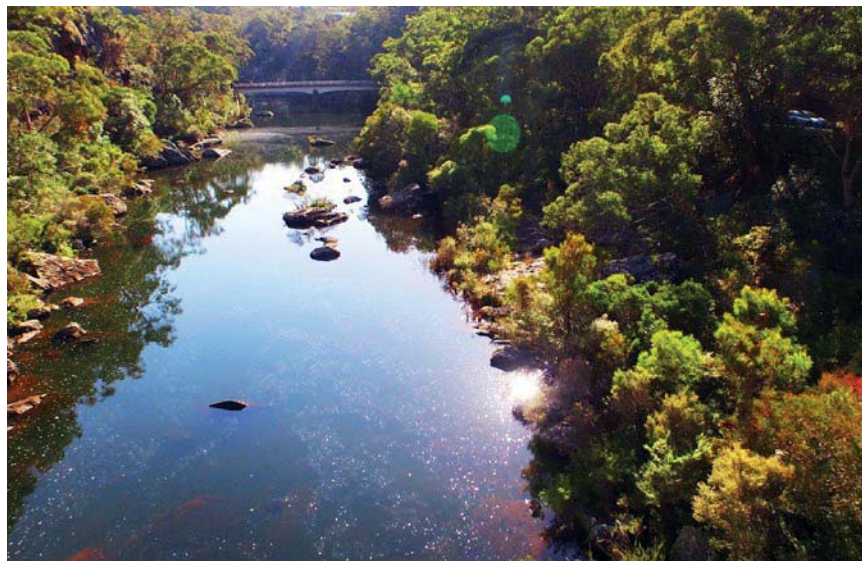
Improve the health of catchments and waterways through a risk-based approach to managing the cumulative impacts of development including coordinated monitoring of outcomes.

Strategy 25.4

Reinstate more natural conditions in highly modified urban waterways.

Related government initiatives:

- 2017 Metropolitan Water Plan



Objective 26

A cool and green parkland city in the South Creek corridor

By 2056, well over 1.5 million people will call the Western Parkland City home. Rapid and sustained growth in the South Creek corridor will radically transform the landscape and increase the amount of water moving through it. Around 80 per cent of the Western Parkland City is in its large catchment (refer to Figure 46). This will place pressure on the health of waterways and create challenges for managing stormwater, wastewater and floods.

South Creek flows through one of the flattest, hottest and driest parts of Greater Sydney. South Creek and its tributaries can form the basis for cool, green and attractive urban communities by retaining more water in the landscape and integrating waterways in the design of new neighbourhoods. Green spaces around South Creek and its tributaries will be attractive locations for new communities and provide the amenity that supports liveability and productivity.

Infrastructure NSW, in collaboration with the Commission, is leading a whole-of-government plan and approach for the South Creek corridor. The Commission's vision is that the South Creek corridor is the central element of the urban design of the Western Parkland City. This recognises the role of water in supporting healthy, liveable and sustainable communities (refer to Figure 47).

As an urban parkland, the South Creek corridor will be designed to respond to its landscape setting. Areas of higher density and high quality public spaces will be orientated towards waterways. Walking and cycling trails will connect continuous open space along South Creek. Regularly spaced bridge crossings of South Creek will provide people with a way to experience the parkland landscape and will connect communities on either side of the creek. The design of bridges will respect the local environment and not obstruct the movement of wildlife.

Riparian corridors will be maintained in public ownership creating opportunities for new open spaces including sporting facilities for people to enjoy, and helping to support habitat and healthy waterways by managing flows of water and nutrients.

The management of the South Creek corridor is being supported by the Environment Protection Authority's investigation for an integrated approach to waterway health and the potential use of a Protection of the Environment Policy for the South Creek catchment.

Strategy 26.1

Implement the South Creek Corridor Plan and use the design principles for South Creek to deliver a cool and green Western Parkland City.



Action 11

Develop and implement the South Creek Corridor Plan

Infrastructure NSW will lead the South Creek Corridor Plan, working with the Commission.

The outcome will be the creation of a greener and cooler Western Parkland City along South Creek and its tributaries. South Creek will be a defining structural element of the Western Parkland City. A continuous open space corridor along South Creek and its tributaries will be created. Water in the landscape will be managed to improve waterway health and the liveability of communities.

Figure 46: South Creek catchment

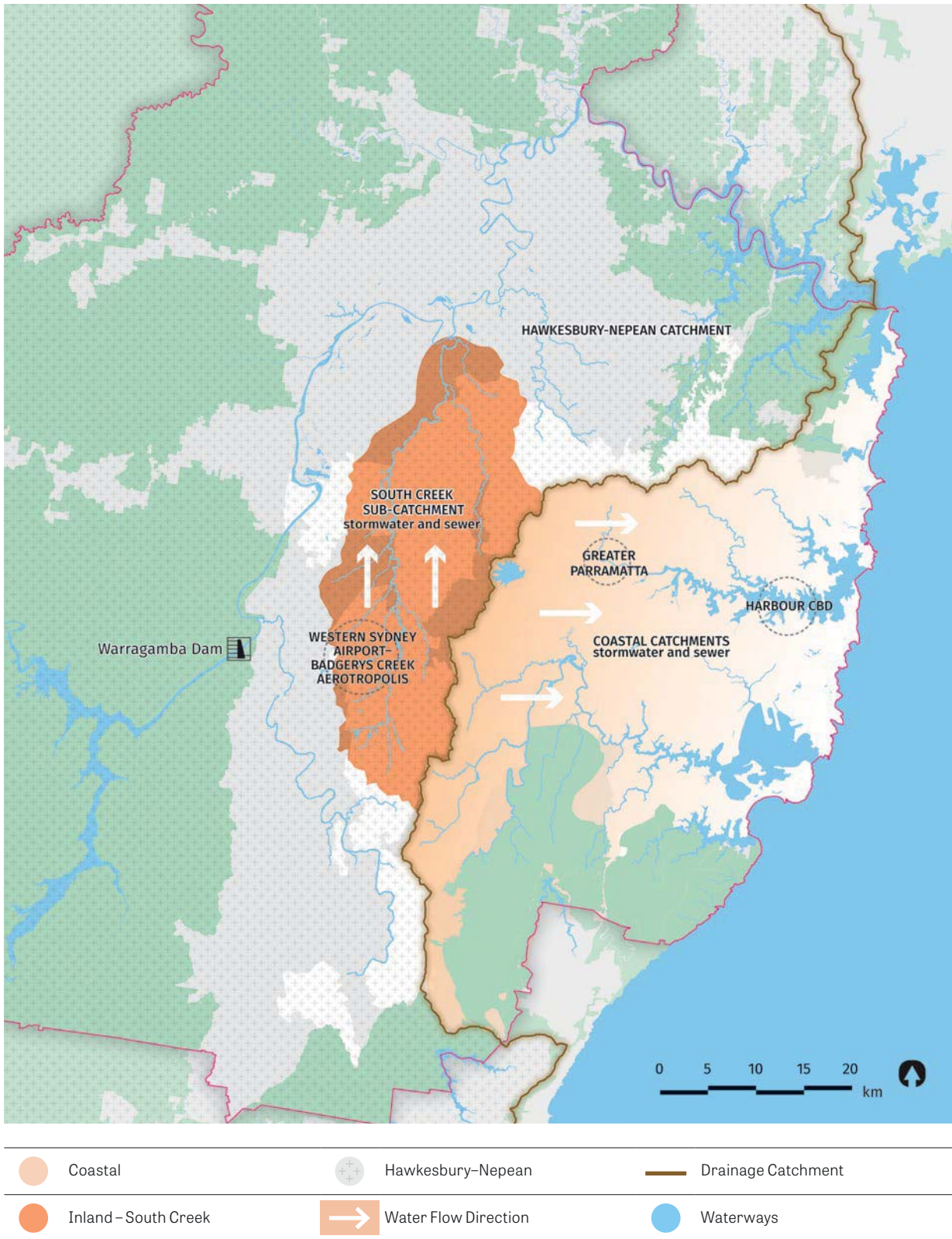


Figure 47: South Creek urban design principles.

 <p>Orientate urban systems towards the creek corridor</p>	 <p>Create a transect of creek-oriented place types and things to do</p>	 <p>Build a network of everyday uses within a walkable creek catchment</p>	 <p>Provide creek connections and encourage waterfront activity</p>
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New city centre

- Pedestrian-oriented promenade with active frontages
- Density and fine grain
- 300-400m bridge spacing
- Mass transit 1-2 blocks from creek
- Regional civic anchors
- High transport connectivity



New inner city neighbourhood

- Fine grain residential – terraces and mid rise apartments
- 400-600m bridge spacing
- Mass transit 2 blocks from creek
- Local civic anchors



Established suburbs

- Studios and apartments added
- Connections between streets and to creek
- Programmed activity space
- Multiple pedestrian walkways
- Shared street promenade



New business and industrial areas

- Creek-facing employment hubs
- Realigned car parking
- Recreation spaces for workers
- Accessible transit plaza
- Pedestrian only promenade



Objective 27

Biodiversity is protected, urban bushland and remnant vegetation is enhanced

The Sydney Basin bioregion is one of the most biodiverse areas of Australia and its biodiversity is protected through a range of State and Commonwealth legislation. Over 5,200 square kilometres of land in Greater Sydney, containing some of the highest environmental values, is protected in national parks and reserves primarily in the Protected Natural Area (refer to Figure 48).

As Greater Sydney has grown and changed, impacts on biodiversity have been managed through a range of approaches. With the expansion of the urban footprint into the south west and north west, and major transport infrastructure like the Outer Sydney Orbital corridor and the Western Sydney Airport, there will be continuing demand for offset sites where biodiversity can be protected.

The Office of Environment and Heritage maintains and continually updates information on areas of high environmental value.

The *Biodiversity Conservation Act 2016* seeks to avoid or minimise impacts on biodiversity through the biodiversity certification of land. The Act includes the concept of strategic biodiversity certification, which provides tools for landscape-scale conservation planning.

The restoration of degraded bushland complements the protection of corridors with the highest environmental values and enhances the protection of biodiversity.

To support investment in biodiversity, the Office of Environment and Heritage has produced the *Cumberland Subregion Biodiversity Investment Opportunities Map* to direct funding and investment in biodiversity to strategic locations for the greatest benefit.⁵²

Allowing limited intensification of rural and rural-residential development in the Metropolitan Rural Area that enables the protection of high value biodiversity in corridors will help support landscape-scale conservation. This provides an incentive for landowners in the Metropolitan Rural Area to protect the environmental values of their land, creates greater opportunities for offset sites and delivers better outcomes for biodiversity (refer to Objective 29).

Urban bushland, particularly bushland on public land, will be protected and managed as it provides clean air and water, cooler urban environments and local habitat.

In the Western Parkland City, urban bushland including degraded or remnant vegetation should be considered for incorporation into the planning and design of new neighbourhoods, and where possible be maintained on public land as part of the Greater Sydney Green Grid and for urban tree canopy.

The important relationship of riparian vegetation, habitat and waterways is multi-faceted and provides water quality and amenity outcomes. Public ownership of riparian corridors will better manage habitat and vegetation and improve waterway health.

Strategy 27.1

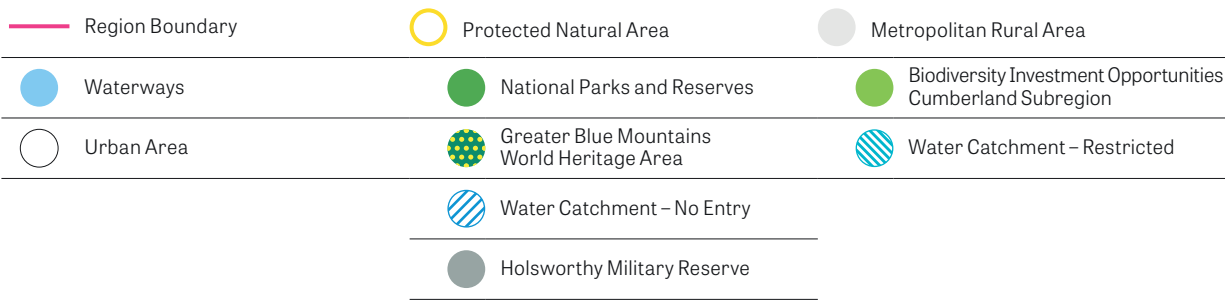
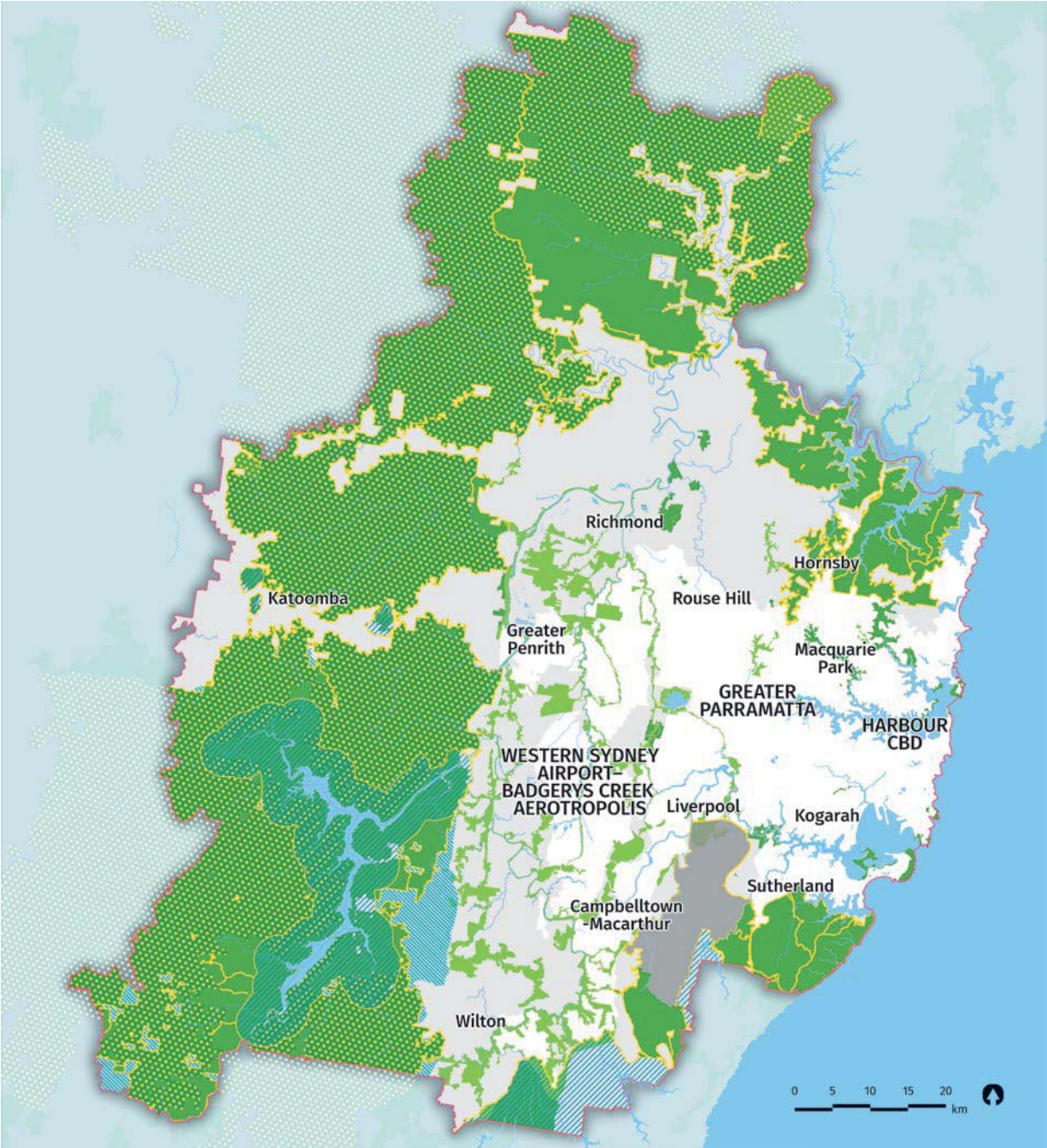
Protect and enhance biodiversity by:

- supporting landscape-scale biodiversity conservation and the restoration of bushland corridors
- managing urban bushland and remnant vegetation as green infrastructure.

Useful link:

- [Cumberland Subregion Biodiversity Investment Opportunities Map \(BIO Map\)](#)

Figure 48: Protected Natural Area and Metropolitan Rural Area



Objective 28

Scenic and cultural landscapes are protected

Scenic and cultural landscapes create symbols of Greater Sydney and connect the contemporary urban environment with natural and historic urban landscapes. Their continued protection is important to the character of the region and for their aesthetic, social and economic values. They create a sense of identity, preserve links to Aboriginal, colonial and migrant era heritage and culture, and create opportunities for tourism and recreation (refer to Figure 49).

In the Western Parkland City historic homesteads and significant views are protected through heritage curtilages under State heritage provisions. Other significant scenic landscapes such as the Scenic Hills around Campbelltown are protected through local environmental plans.

Views to the escarpment of the Blue Mountains to the west and to the ridgelines of the Western Sydney Parklands to the east may be highlighted by retaining or creating vistas along east–west road links. In the flatter and drier landscape of the Cumberland Plain water may be featured in the environment to improve amenity and emphasise its many creek crossings.

In the Central River City parklands associated with rivers and creeks, street tree plantings, and the public spaces in centres provide a diversity of landscapes. In recent years, the development of tall buildings in strategic centres has reinforced the need for quality design to enhance new skylines.

In the Eastern Harbour City enhancing views of Sydney Harbour will come with renewal projects such as The Bays Precinct. Renewal across the Eastern Harbour City can protect and maintain views to the coast, harbours and waterways from public spaces.

The **Metropolitan Rural Area** and the **Protected Natural Area** create a range of attractive visual settings such as the Mulgoa Valley which has been recognised by the local community as an important scenic and cultural landscape. As traditional forms of agriculture continue within the Metropolitan Rural Area, and value of biodiversity protection increases through offsets, more opportunities to protect and enhance natural landscapes can be realised.

While consideration of scenic landscapes occurs through a range of mechanisms relevant to heritage, biodiversity and major project delivery, there is a role for local planning to consider that scenic landscapes as part of growth and change across Greater Sydney.

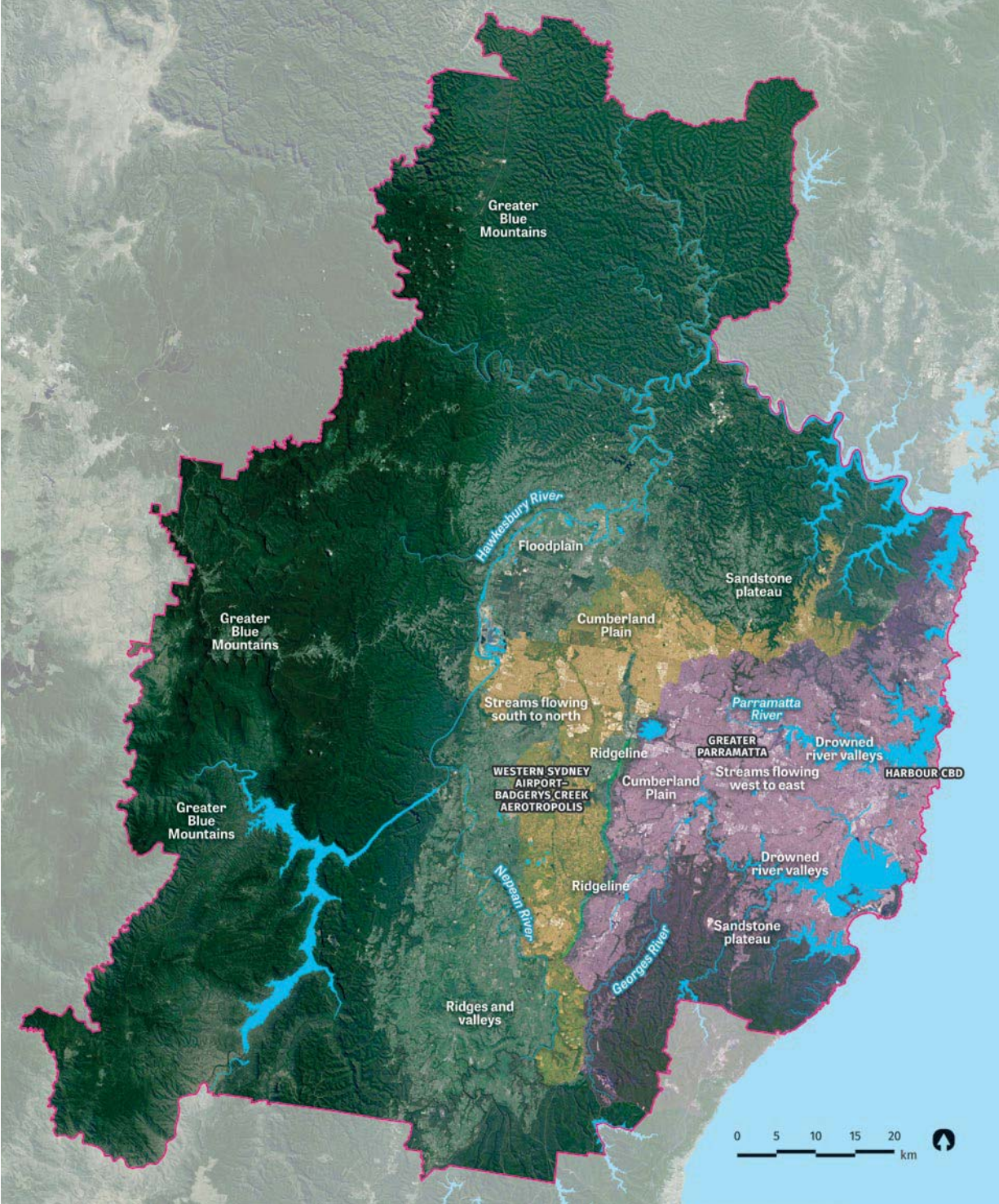
Strategy 28.1

Identify and protect scenic and cultural landscapes.

Strategy 28.2

Enhance and protect views of scenic and cultural landscapes from the public realm.

Figure 49: Landscape features of Greater Sydney



Objective 29

Environmental, social and economic values in rural areas are maintained and protected

The Metropolitan Rural Area has a wide range of environmental, social and economic values (refer to Figure 48). It covers almost one quarter of Greater Sydney and contains farms; rural towns and villages; rural residential developments; heritage, scenic and cultural landscapes; mineral resources; and locations for recreation and tourism. Its areas of high environmental value have been mapped by the Office of Environment and Heritage.

The Metropolitan Rural Area also has large areas of underutilised land that have the potential to be used more productively, as well as areas where natural hazards such as flooding need managing.

Farming in the Metropolitan Rural Area has been integral to the supply of Greater Sydney's fresh food for over two centuries. Agricultural production bolsters Greater Sydney's resilience, and agriculture is supported by a growing interest in local food production.

The Metropolitan Rural Area also contains mineral resources, particularly in the Western City District where commercial quantities of coal and coal seam gas are being extracted. Valuable supplies of sand, stone, clay and other materials are sourced from within Greater Sydney. Protection of these resources is important in supporting the construction industry.

Heritage assets, scenic cultural landscapes, rural towns and villages provide a setting for recreation and tourism – both of which have potential to grow. The Metropolitan Rural Area attracts people who want to live in a rural location.

Urban development is not consistent with the values of the Metropolitan Rural Area. Priority Growth Areas in the Western Parkland City generally provide a long-term supply of land for the growth of Greater Sydney and eliminate the need for urban expansion into the Metropolitan Rural Area.

This draft Plan identifies that Greater Sydney has sufficient land to deliver its housing needs within the current boundary of the Urban Area, including existing Priority Growth Areas. The draft Plan also recognises there is a need to consider three small areas proximate to the Western Sydney Airport for urban development. This is due to the infrastructure and investments from the airport (refer to Figure 50).

From time to time, there may be a need for additional land for urban development to accommodate Greater Sydney's growth, but not at this stage. Future region plans will identify if additional areas of land in the Metropolitan Rural Area are required for urban development.

Land use in the Metropolitan Rural Area will be influenced by:

- increasing demand for biodiversity offset sites in the Metropolitan Rural Area creating additional value for landowners with native vegetation which could become offset (refer to Objective 27)
- opportunities for more tourism and recreation, linked to Western Sydney Airport and improved transport infrastructure, which can bring more visitors to the Metropolitan Rural Area and the Protected Natural Area
- new opportunities for growing fresh food close to a growing population and freight export infrastructure associated with the Western Sydney Airport (refer to Objective 20).

Urban Investigation Areas

The new metropolitan city centre at Western Sydney Airport and Badgerys Creek Aerotropolis in the wider Western Parkland City will change the relationship between urban and rural lands to the north and east of the airport. Three areas require investigation as future urban areas due to their proximity between existing urban areas and the emerging Western Parkland City.

To the north of the Western Sydney Airport Priority Growth Area there are two areas that form part of the Greater Penrith to St Marys Priority Growth Area investigations:

- Orchard Hills, north of The Defence Establishment Orchard Hills and west of St Clair
- east of The Northern Road at Luddenham between the Western Sydney Airport Priority Growth Area and the water pipeline.

The Defence Establishment Orchard Hills land has been included in the Priority Growth Area Investigation to ensure coordination of existing and future land uses in the corridor.

To the east of the Western Sydney Airport Priority Growth Area is the third area:

- Horsley Park and Mount Vernon located west of the M7 Motorway.

Restricting urban development in the Metropolitan Rural Area will help manage its environmental, social and economic values, help to reduce land speculation, and increase biodiversity from offsets in Priority Growth Areas and existing urban areas.

Careful planning of additional rural residential development in Metropolitan Rural Area can help maximise the productive use of the land, create buffers around farms and rural industries, and generate opportunities for greater investment in the protection of waterways and bushland.

Place-based approaches for landscape units within the Metropolitan Rural Area will help manage its environmental, social and economic values and maximise the productive use of the land.

Mineral resources supporting construction

Mineral resources supply construction materials that are vital to building housing and infrastructure across Greater Sydney. Access to construction materials from local sources within Greater Sydney is critical for continued growth and for minimising construction costs.

Across Greater Sydney, there are few areas where the geology includes mineral resources suitable for viably extracting construction materials. In some areas, the potential to extract construction materials can be lost or constrained by other forms of development. When this happens, construction materials extracted elsewhere need to be transported to Greater Sydney, congesting roads and increasing costs and environmental impacts.

Managing the use of land so the initial extraction of construction materials is followed by rehabilitation and redevelopment of sites for other activities supports economic activity and helps maintain a more affordable and sustainable supply of construction materials. There are many locations across Greater Sydney where quarries have been successfully rehabilitated to create new residential areas, rural land, open space and community infrastructure, demonstrating the value of continued access to mineral resources with the rehabilitation and redevelopment of land.

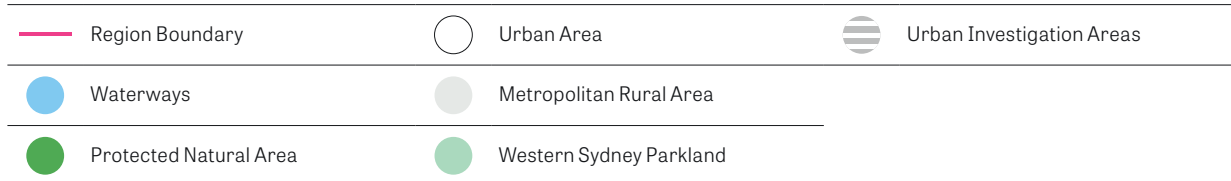
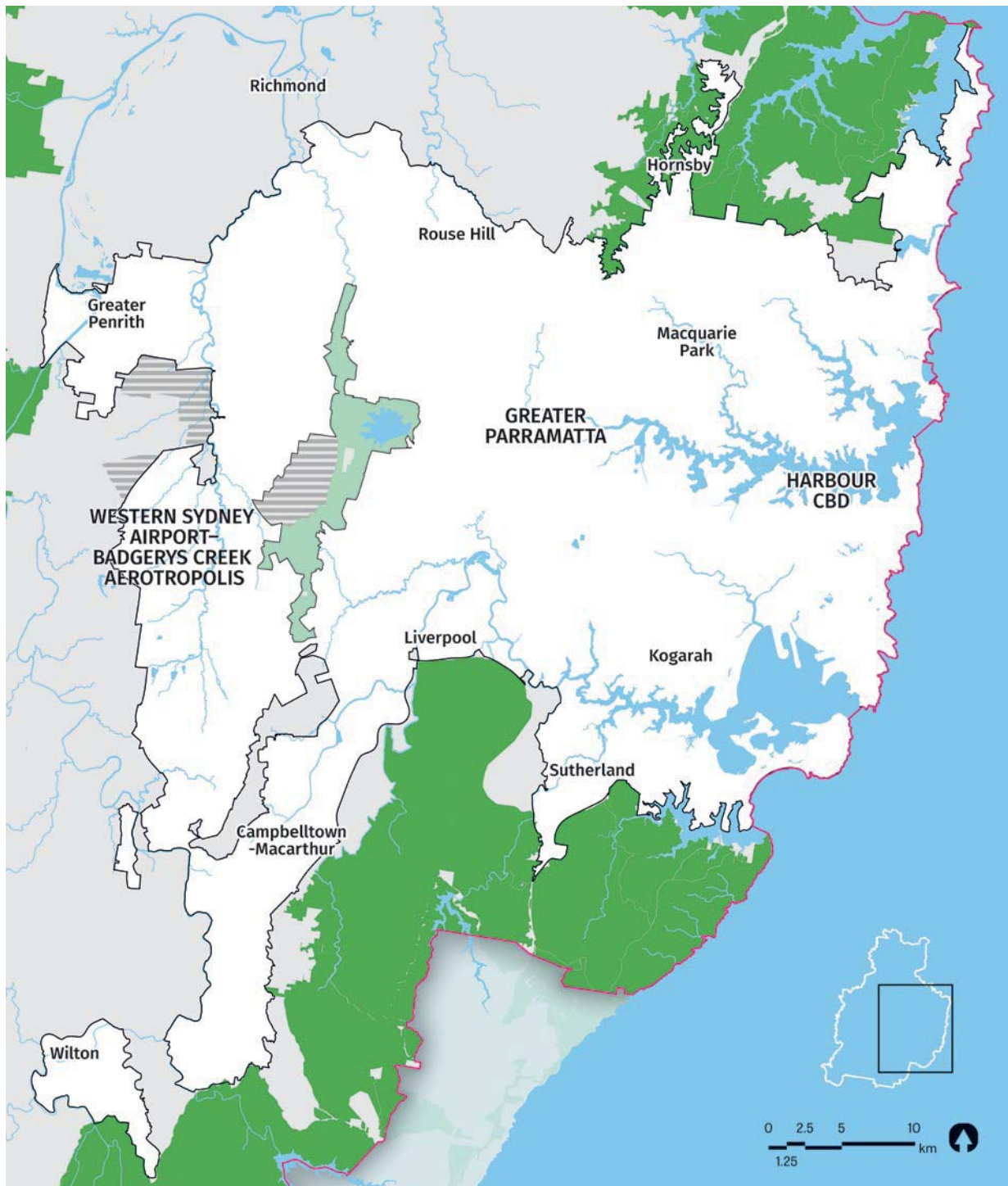
Strategy 29.1

Maintain or enhance the values of the Metropolitan Rural Areas using place-based planning to deliver targeted environmental, social and economic outcomes, including rural residential development.

Strategy 29.2

Limit urban development to within the Urban Area, except for the investigation areas at Horsley Park, Orchard Hills, and east of The Northern Road, Luddenham.

Figure 50: Boundary of urban area



Objective 30

Urban tree canopy cover is increased

The urban tree canopy is a form of green infrastructure providing shade, which reduces ambient temperatures and mitigates the heat island effect. The heat island effect is where urban development, with large amounts of hard and dark coloured surfaces like roads and roofs, causes localised warming (refer to Objective 38).

Every 10 per cent increase in tree canopy cover can reduce land surface temperatures by 1.13 °C.⁵³

The urban tree canopy also has environmental benefits. It provides habitat, helps protect the health of waterways and removes fine particles from the air to improve air quality. Recent research shows that urban tree canopy is greatly valued by communities and that it increases property values. A 10 per cent increase in street tree canopy can increase the value of properties by an average of \$50,000.⁵⁴

Urban tree canopy along streets and in the public domain contributes to Greater Sydney's Green Grid and makes walking and cycling more pleasant.

Greater Sydney's urban tree canopy is made up of trees along streets, in parks and other public spaces, and on privately owned land including front and backyards. It includes native vegetation and exotic and deciduous trees (refer to Figure 51).

As Greater Sydney grows and urban areas become denser, extending urban tree canopy is one of the most effective ways to improve amenity. Urban tree canopy can be complemented by green ground cover, rain gardens, green roofs and green walls.

A major challenge in many areas is the lack of sufficient space within existing street corridors to extend urban tree canopies. In other areas, urban tree canopies compete for space with other forms of infrastructure both above and below the ground. Creating space for urban tree canopy should be balanced with the need to allow sunlight into homes and onto roofs for solar power.

Technical Guidelines for Urban Green Cover in NSW provides practical information for planning and expanding urban tree canopy and green ground cover.

The NSW Government has prepared the draft *Greenfield Housing Code*, which will help to provide more space for trees, in both front and backyards, in new residential areas. To complement this, up to 5,000 trees a year will be provided over the next three years, under the *Free Tree Initiative*, to owners of new homes approved under the complying development code in Greater Sydney's greenfield areas.⁵⁵

Several councils have developed innovative strategies, such as Sutherland Council's Greenweb program, to enhance and extend the urban tree canopy.⁵⁶

Planning and designing new communities and urban renewal should prioritise expanding urban tree canopy in the public realm. Setting neighbourhood benchmarks for tree canopy cover is a useful approach. Planning controls need to protect urban tree canopy on privately owned land and provide incentives for residents to develop green roofs and green walls. Councils should collect and publish data on the urban tree canopy alongside other local infrastructure assets.

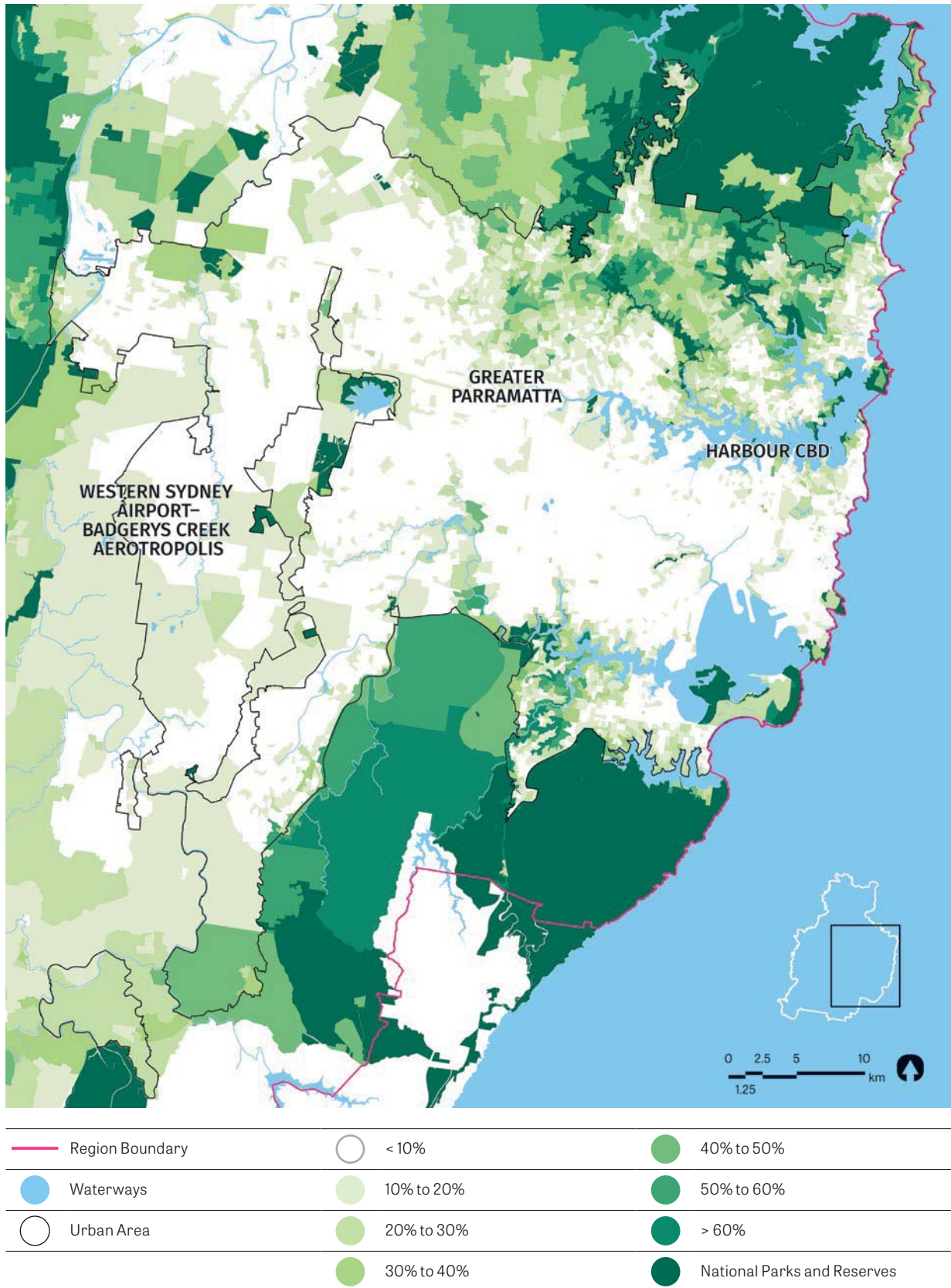
Strategy 30.1

Expand urban tree canopy in the public realm.

Related government initiatives:

- Technical Guidelines for Urban Green Cover in NSW

Figure 51: Greater Sydney tree canopy cover as at 2011



Data Source: SPOT5 Woody Extent and Foliage Projective Cover (FPH) 5-10m, 2011, NSW Office of Environment and Heritage. Averaged to SA1 (2016)

Objective 31

Public open space is accessible, protected and enhanced

National parks, harbours, beaches, coastal walks, waterfront promenades, rivers, parks and playgrounds are integral to the character and life of Greater Sydney. This network of open spaces, which includes sporting facilities, is a form of green infrastructure which supports sustainable, efficient and resilient communities. Open space expands people's sense of home to include the wider local area and shared communal spaces and facilities.

The key considerations for planning open spaces are quantity, quality and distribution (see Figure 52). Understanding the open space, sport and recreation needs of the community will help determine the quantity, quality and distribution that will be required. The Greater Sydney Green Grid (refer to Objective 32) helps to connect open spaces to communities.

Access to high quality open space is becoming increasingly important as higher housing densities, more compact housing and changing work environments develop. Where land for additional open space is difficult to provide, innovative solutions will be needed, as well as a strong focus on achieving the right quality and diversity of open space.

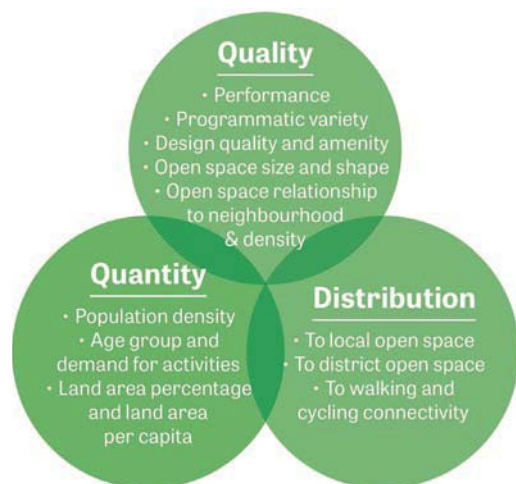
Enhancing open space so that it can meet a wider range of community needs is an important approach in areas where it is difficult to provide additional open space. This can include better landscaping, more durable high quality facilities, better lighting and multi-use playing fields and courts.

Using existing open space assets wisely, and sharing them more broadly, is an important response to rising demand for open space. Open spaces within school grounds are a potential asset that could be shared by the wider community outside of

school hours. The use of golf courses may also be examined to provide a wider range of sport and recreational facilities for local communities. In addition, there may be opportunities to use surplus government-owned land as open space including sport and recreational facilities.

Urban renewal needs to begin with a plan to deliver new, improved and accessible open spaces that will meet the needs of the growing community, particularly where density increases. High density development (over 60 dwellings per hectare) should be located within 200 metres of quality open space, and all dwellings should be within 400 metres of open space.

Figure 52: Considerations for planning open space





Strategy 31.1

Maximise the use of existing open space and protect, enhance and expand public open space by:

- investigating opportunities to expand a network of diverse, accessible, high quality open space that responds to the needs and values of communities as populations grow
- investigating opportunities to provide new open space so that all residential areas are within 400 metres of open space and all high density residential areas are within 200 metres of open space
- requiring large urban renewal initiatives to demonstrate how access to high quality and diverse local open space is maintained or improved
- planning new neighbourhoods with a sufficient quantity of new open space
- delivering shared and co-located sports and recreational facilities including shared school grounds and repurposed golf courses
- delivering on, or complementing, the Greater Sydney Green Grid.



Action 12

Deliver the open space toolkit

The Government Architect NSW will develop the toolkit working with the Commission and other State agencies.

The toolkit will provide guidelines for planning, delivering and managing open spaces to meet the needs of local communities.

Objective 32

The Green Grid links parks, open spaces, bushland and walking and cycling paths

The Greater Sydney Green Grid connects communities to the landscape. It sets a long-term vision for a network of high quality green areas – from regional parks to local parks and playgrounds – that connect town centres, public transport and public spaces to green infrastructure and landscape features. Links are fostered within the public realm by enhancing waterway corridors, transport routes, suburban streets, footpaths and cycleways.

The Greater Sydney Green Grid offers a network of green spaces that is far greater than the sum of its parts. It will keep the region cool, encourage healthy lifestyles, enhance bushland and support ecological resilience. Planning and delivery of the green grid will be influenced by the ways people move through places, the multiple roles of green grid corridors, supporting walking and cycling and better access to open spaces.

The delivery of the Greater Sydney Green Grid will build on past investments in the Regional Tracks and Trails Framework. Transport for NSW is establishing the Principal Bicycle Network which will provide high quality priority cycling routes across Greater Sydney. It will be integrated with the Greater Sydney Green Grid.

The Greater Sydney Green Grid will be delivered incrementally over decades, as opportunities and connections are refined and funded. Councils and the NSW Government will continue to use a range of land use planning tools, funding programs such as the Metropolitan Greenspace Program and transport initiatives to deliver the Greater Sydney Green Grid.

In the **Western Parkland City** the green grid will be integral to the creation of cool and green neighbourhoods and a continuous parkland corridor along South Creek that is an attractive place for recreation, retains water in the landscape and helps manage stormwater and flooding. The Western Parkland City's green grid will connect to Western Sydney Parklands, areas of high environment value and waterways in the nearby Metropolitan Rural

Area, providing more viable areas of habitat and links to scenic rural landscapes.

In the **Central River City** the green grid will leverage off existing open spaces along the Parramatta River, Duck River, Georges River and Prospect Reservoir. It will use urban renewal initiatives as opportunities to enhance and extend connections into growing communities. Connections to Western Sydney Parklands will link the Central City to the Western City, and connections along waterways flowing to the east will link the Central City to the Eastern City.

Open space along the foreshores of beaches, harbours and bays of the **Eastern Harbour City** form the backbone of its green grid. The popular walking tracks along the coast and Sydney Harbour will be enhanced and complemented by improved connections from dense urban communities, through tree-lined streets and established urban parks, towards open space along coastal waterways, such as the Northern Beaches Coastal Lagoons, Cooks River and Georges River.

Figure 53 shows the priority opportunities, as well as other options across Greater Sydney to form the long-term vision for the Greater Sydney Green Grid. District plans will provide more details on delivering the priority opportunities.

Strategy 32.1

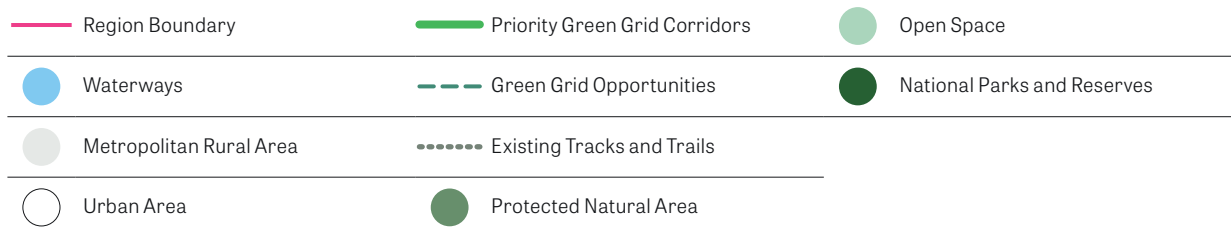
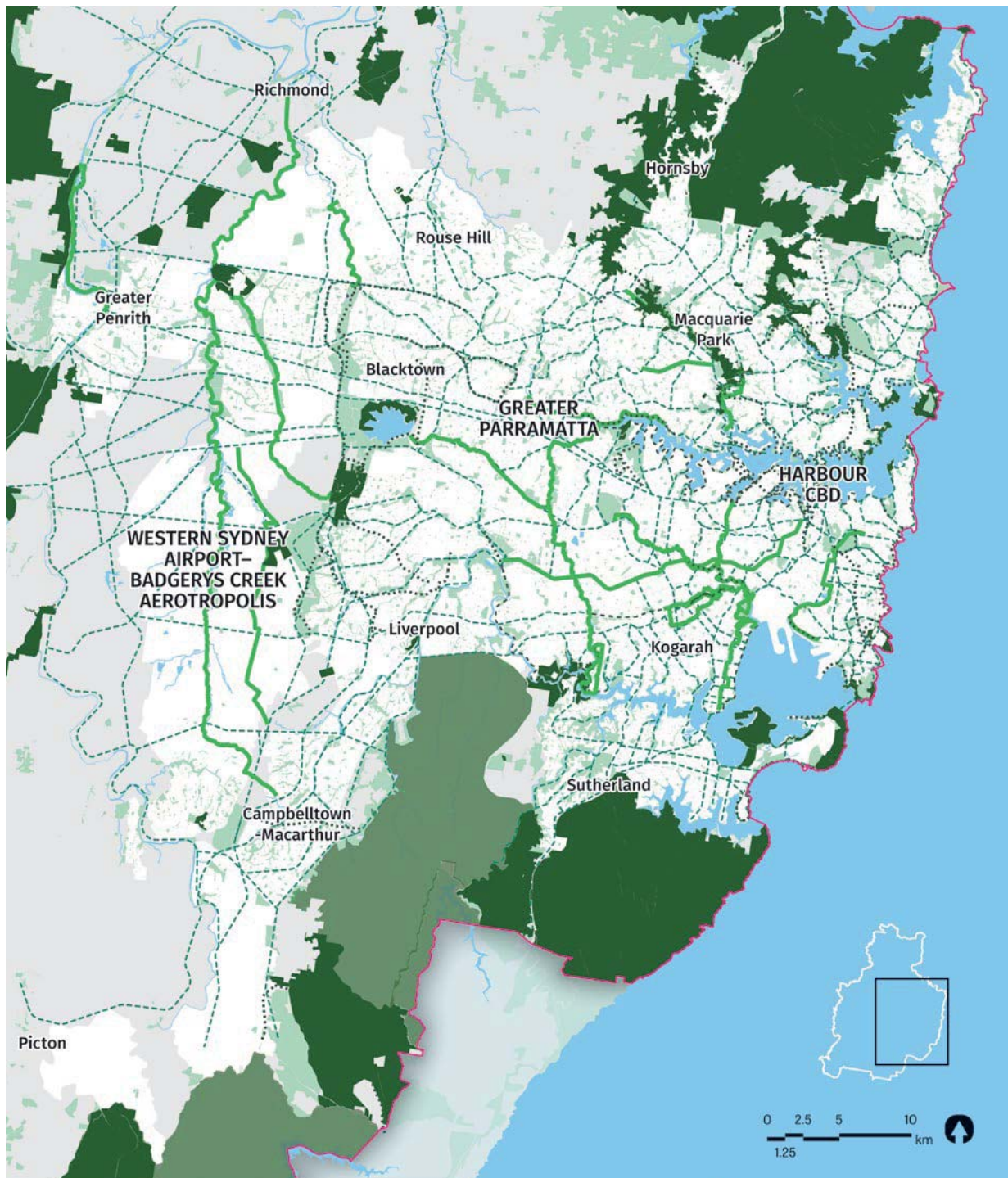
Progressively refine the detailed design and delivery of:

- Greater Sydney Green Grid priority opportunities
- connections that form the long-term vision of the network.

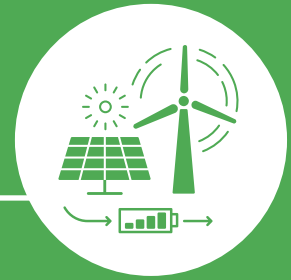
Useful links:

- Tyrrell Studio, March 2017, Sydney Green Grid Spatial Framework and Project Opportunities

Figure 53: Green Grid vision and opportunities



An efficient city



Objective 33

A low-carbon city contributes to net-zero emissions by 2050 and mitigates climate change

Mitigating climate change is a complex and ongoing challenge both globally and locally. It requires reducing the emission of greenhouse gases to prevent more severe climate change and adapting to manage the impacts of climate change.

The *NSW Climate Change Policy Framework* sets out the aspirational long-term objective for NSW to achieve net-zero emissions by 2050. The NSW Government has released a draft plan – the *NSW Climate Change Fund Draft Strategic Plan*. It supports the implementation of the framework and sets out priorities for investing in clean energy, energy efficiency and resilience for climate change adaptation.

The way Greater Sydney's urban structure and built form develops over time can support NSW's transition towards net-zero emissions.

In Greater Sydney, the sectors that contribute most to greenhouse gas emissions are energy (electricity and gas) used in buildings, transport and waste (refer to Figure 44).

Developing a metropolis of three cities and aligning land use with transport planning will help slow emissions growth by planning the location of new homes near public transport, walkways and cycling paths. It will also help to better manage congestion, improve air quality and increase mobility.

Costs savings for households, businesses and local government can be realised by improving the design and operation of buildings through energy, water and waste efficiency measures. Increasing the uptake of solar panels can reduce reliance on

centralised energy. The objectives for energy and waste (refer to Objective 34 and Objective 35) also set out contributions to net-zero emissions.

The pathways towards net-zero emissions by 2050 vary across Greater Sydney, and depend on local circumstances and characteristics of each neighbourhood. In areas undergoing transformative change, more comprehensive approaches delivering greater reductions in greenhouse gas emissions are possible. For example, greater use of public transport and changes to parking supply in locations such as GPOP can reduce greenhouse gas emissions by nine per cent.⁵⁷ The pathways are summarised in Figure 54.

The *NSW Climate Change Fund Draft Strategic Plan* includes proposals to identify pathways for NSW to reduce emissions.

Strategy 33.1

Support initiatives that contribute to the aspirational objective of achieving net-zero emissions by 2050 especially through the establishment of low-carbon precincts in Priority Growth Areas, Priority Precincts and Collaboration Areas.

Related government initiatives:

- NSW Climate Change Policy Framework
- NSW Climate Change Fund Draft Strategic Plan

Objective 34

Energy and water flows are captured, used and re-used

Greater Sydney currently consumes energy, water and waste resources well beyond what can be managed within its boundaries. Recycling wastewater and stormwater can recover resources and energy and diversify the sources of water to meet growing demand, irrigate open spaces, keep waterways clean and contribute to Greater Sydney's water quality objectives.

When State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004 was introduced, it marked a significant step in the efficient use of energy, water and sustainability in NSW. The BASIX energy targets were recently increased by 10 per cent, supporting NSW's transition to net-zero emissions.⁵⁸ While BASIX will continue to make a major contribution to the efficiency and sustainability of Greater Sydney, the next step is to examine how entire precincts can be planned and designed with shared infrastructure to produce even greater efficiencies.

Advances in technology will increase opportunities to generate energy more sustainably, and to store, distribute and use energy more efficiently. Organic waste also has the potential to contribute to a sustainable generation of energy.

An integrated approach to water use, embracing opportunities for local energy generation and using waste as a local renewable energy source, supports a circular economy (refer to Figure 55). A circular economy reframes the traditional way of using resources so energy, water and waste are used efficiently and continually recycled and re-used.

These efficiencies, productivity benefits and cost savings can be realised at the local and precinct scale. Efficient and sustainable precincts such as Rouse Hill, Barangaroo and Chippendale reduce pressure on existing energy, water, waste, wastewater and transport infrastructure and lower carbon emissions.

Other opportunities to achieve more efficient use of energy, water and waste are through sustainable utilities infrastructure in precincts. For example, Sydney Water carried out a trial at the Cronulla wastewater treatment plant to convert organic waste from local councils into energy to power waste treatment plants.

The WaterSmart Cities Program is investigating new ways to deliver more integrated water systems in a cost-effective and sustainable way.

Strategy 34.1

Support precinct-based initiatives to increase renewable energy, and energy and water efficiency especially in Priority Growth Areas, Priority Precincts, Collaboration Areas and State Significant Precincts.

Related government initiatives:

- WaterSmart Cities Program

Figure 54: Pathways towards net-zero emissions in Greater Sydney



Objective 35

More waste is re-used and recycled to support the development of a circular economy

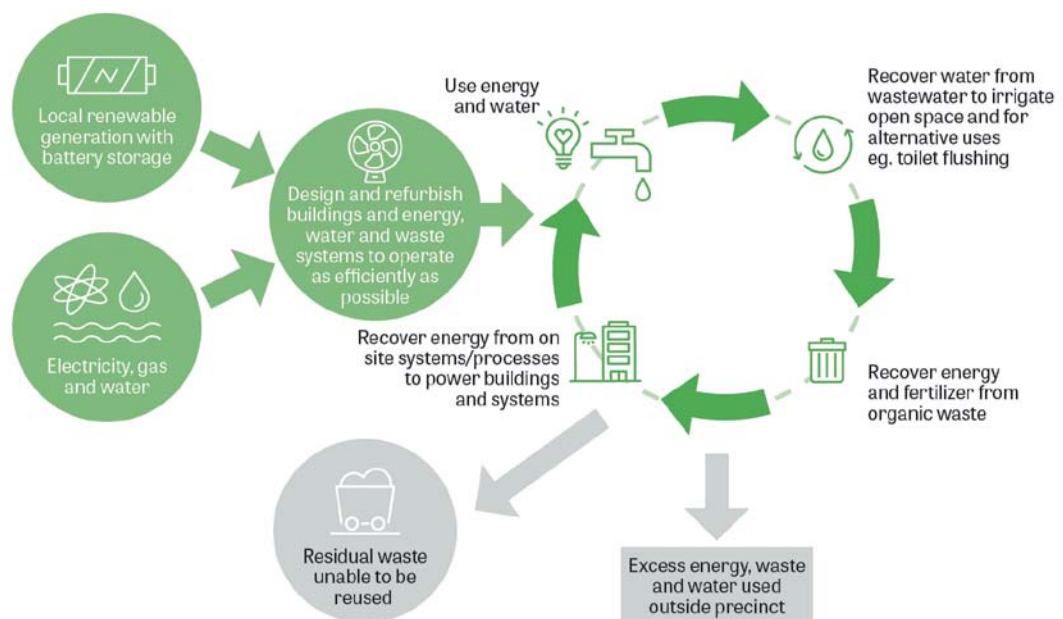
Greater Sydney faces challenges providing and managing waste services as the population grows. Existing waste management facilities do not have the capacity to accommodate projected growth. Councils working with private sector contractors manage much of Greater Sydney's waste collection and processing. Many contractors rely on waste facilities outside the local area due to limited waste infrastructure in Greater Sydney.

Approaches for reducing the environmental impacts of waste, re-using materials and using resources more efficiently are set out in the *NSW Waste and Resource Recovery Strategy 2014–21*. The strategy highlights the importance of having recycling and

waste management facilities distributed throughout the urban area. This contributes to increasing the proportion of waste that is recycled and reducing inefficiencies from transporting waste.

Existing waste management facilities need to be protected from residential encroachment and at the same time they need to address ongoing environmental issues such as odour, noise, truck movements and dust. As set out in Objective 23, industrial and urban service land provides important locations for waste management facilities and the recycling of municipal, commercial and industrial waste and hazardous materials.

Figure 55: Circular economy



In coming years, several large landfills in Greater Sydney will close as they reach capacity, meaning more waste will be transported outside the region. This limits economic and transport efficiency and increases costs. Additional sites for waste management within Greater Sydney would improve efficiencies for the management of waste. Identifying suitable sites is challenging due to the potential impacts of odour, truck traffic and noise. Support is required for councils and the private sector to identify and develop additional sites to deliver more efficient waste management for Greater Sydney.

Land use plans need to address opportunities for the private sector to develop recycling and waste management facilities.

Strategy 35.1

Protect existing, and identify new, locations for waste recycling and management.

Strategy 35.2

Support innovative solutions to reduce the volume of waste and reduce waste transport requirements.

Related government initiatives:

- NSW Waste and Resource Recovery Strategy 2014–21



Image source: NSW EPA

A resilient city



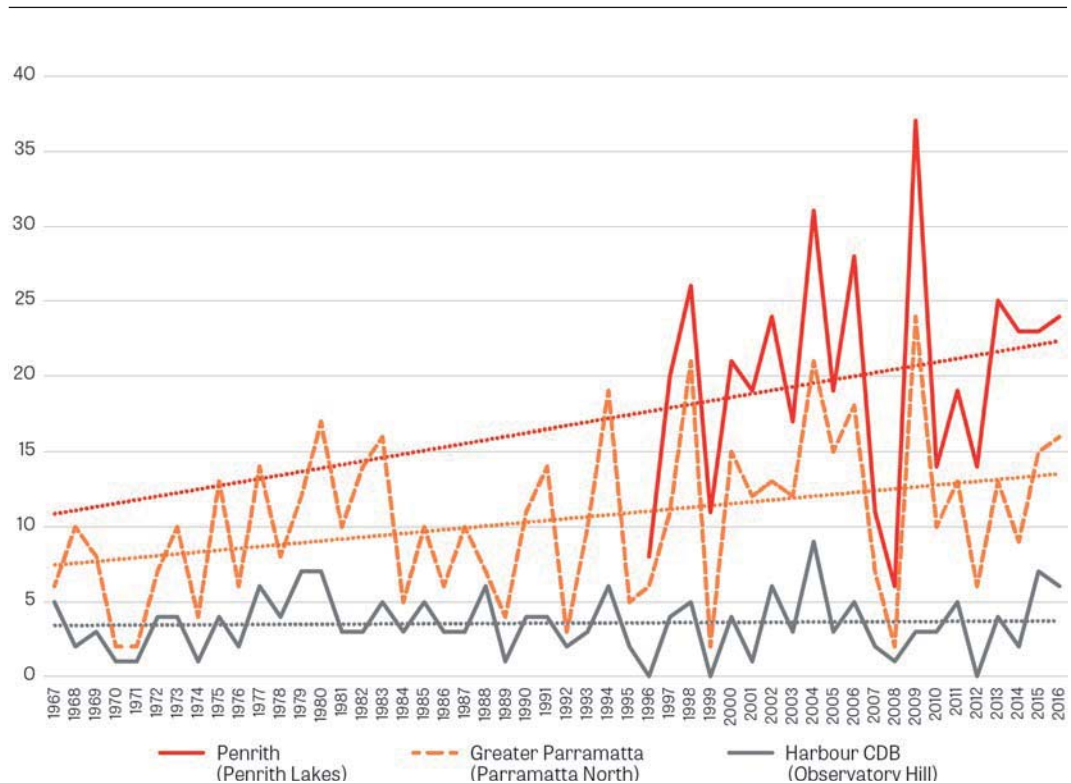
Objective 36

People and places adapt to climate change and future shocks and stresses

Planning for resilience has largely been driven by environmental issues, but is increasingly being used as a way to consider a wide range of economic and social issues. In 2016, the City of Sydney, in collaboration with councils across Greater Sydney, commenced the 100 Resilient Cities network.

100 Resilient Cities describes urban resilience as the capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks it experiences.

Figure 56: Number of days above 35 °C in Harbour CBD, Greater Parramatta and Penrith



Source: Greater Sydney Commission (2017) using data from the Bureau of Meteorology

Adapting to climate change will be critical to Greater Sydney's future resilience. The *NSW Climate Change Policy Framework* has set an aspirational objective for NSW to be more resilient to a changing climate. It is internationally acknowledged that with the amount of carbon and other greenhouse gases already in the atmosphere, climate change will be inevitable with some impacts already being felt today. *The National Climate Resilience and Adaptation Strategy* outlines the risks of climate change to cities and the built environment including greater risks of human injury, disease and death.

The Office of Environment and Heritage's *AdaptNSW*, provides background information, analysis and data as well as information to explain and address climate change risks. This includes projections of higher temperatures, higher evaporation, changes to the distribution and intensity of rainfall and how severe and more frequent heatwaves contribute to more severe bushfire weather and a longer bushfire season.

The Intergovernmental Panel on Climate Change has developed a range of future sea level rise projections associated with different greenhouse gas emission scenarios. The potential implications of sea level rise over time include higher storm surge and inundation levels, the erosion of sandy shorelines, saltwater intrusion into freshwater ecosystems, impacts of stormwater infrastructure, and altered flood behaviour in the catchment of coastal lagoons.

Investigations⁵⁹ have shown that the key challenges for Greater Sydney are:

- managing the worsening impacts of natural hazards on communities
- managing risks to energy, water and communications utilities and transport infrastructure, particularly for older infrastructure, from sea level rise, floods, bushfires and heatwaves
- maintaining capacity on transport routes to evacuate communities at risk from natural hazards
- managing damage to biodiversity and ecosystems, as well as natural systems that provide essential services such as clean air and clean drinking water
- adapting communities to cope with more very hot days.

Figure 56 shows the number of very hot days in Parramatta has increased by 81 per cent since the late 1960s and even more significant increases in Penrith.

The *NSW Climate Change Fund Draft Strategic Plan* includes proposals for providing information about climate change impacts, best practice approaches to adaptation and managing the impacts of climate change on natural resources, ecosystems and communities.

Strategy 36.1

Support initiatives that respond to the impacts of climate change.

Related government initiatives:

- AdaptNSW

Useful links:

- 100 Resilient Cities
- Australia's Strategy for Protecting Crowded Places from Terrorism

Objective 37

Exposure to natural and urban hazards is reduced

Greater Sydney is subject to a range of natural and urban hazards which can be exacerbated by climate change. Vulnerability and exposure to these hazards are shaped by environmental, social and economic factors. To be resilient, communities need social cohesion and access to economic resources.

The NSW Government and councils use a range of policies and tools to reduce risks from natural and urban hazards. Improved coordination between all levels of government, including effective communication about exposure to hazards, helps protect communities.

Bushfires and flooding are significant natural hazards across many areas of Greater Sydney. These hazards are addressed through NSW Government guidelines, including the *Floodplain Development Manual 2005* and *Planning for Bush Fire Protection 2006* (which is currently being reviewed). The NSW Government's emergency services are vital in preparing communities for natural hazards and responding to events and disasters.

The Hawkesbury-Nepean Valley has a high flood risk and climate change may increase the severity and frequency of floods in the future. The NSW Government has launched *Resilient Valley, Resilient Communities – Hawkesbury-Nepean Valley Flood Risk Management Strategy* to reduce the potential risk to life, the economy and communities. As part of this strategy ongoing work will focus on managing development in areas at risk of flooding.

Transport, particularly freight transport, can produce air pollution and noise. However, advances in technology and the adoption of standards will help reduce these environmental impacts over the long term. Although Greater Sydney's air quality continues to improve and is very good by world standards, air pollution can exceed national standards at times.

Hazards such as noise pollution and soil and water contamination are also caused by a range of human activities. State Environmental Planning Policy

No 55 – Remediation of Land and its associated guidelines manage the rezoning and development of contaminated land. The Environment Protection Authority and councils manage waste management, agricultural activities and industrial processes like construction, manufacturing and mining. Some of these require buffers to manage odour and noise. Australian Standards are in place to manage impacts from aircraft noise, and NSW Government licensing manages impacts from industrial emissions and the disposal of waste products such as treated waste water.

Effective land use planning can reduce the exposure to natural and urban hazards and build resilience to shocks and stresses.

Greater Sydney, particularly its rural lands, is at risk from biosecurity hazards such as pests and diseases that could threaten agriculture, the environment and community safety. Biosecurity hazards are being managed by the NSW Government through the *Greater Sydney Peri Urban Biosecurity Program*.

Effective land use planning can reduce the exposure to natural and urban hazards and build resilience to shocks and stresses. Growth and change needs to be considered at a local level when making structural decisions about the region's growth, and when considering cumulative impacts at district and regional levels. Current guidelines and planning controls minimise hazards and pollution by:

- avoiding placing new communities in areas exposed to existing and potential natural hazards
- managing growth in existing neighbourhoods that are exposed and vulnerable to natural hazards
- in exceptional circumstances, reducing the number of people and the amount of property vulnerable to natural hazards, through the managed retreat of development
- using buffers to limit exposure to hazardous and offensive industries, noise and odour

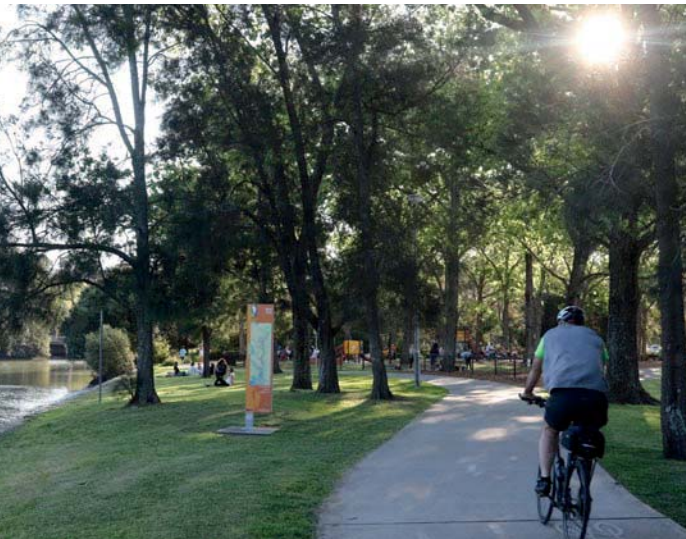


- designing neighbourhoods and buildings that minimise exposure to noise and air pollution in the vicinity of busy rail lines and roads, including freight networks
- cooling the landscape by retaining water and protecting, enhancing and extending the urban tree canopy to mitigate the urban heat island effect (refer to Objective 30 and Objective 38).

The wellbeing and social cohesion of a community can affect a community's ability to prepare, respond to and recover from acute shocks, noting there are different levels of vulnerability between communities. Planning to build strong and cohesive communities is set out in the Liveability Chapter.

Strategy 37.1

Respond to the direction for managing flood risk in the Hawkesbury-Nepean Valley as set out in *Resilient Valley, Resilient Communities – Hawkesbury-Nepean Valley Flood Risk Management Strategy*.



Related government initiatives:

- Floodplain Development Manual 2005
- Planning for Bush Fire Protection 2006
- Planning for Bush Fire Protection (draft) 2017
- Greater Sydney Peri Urban Biosecurity Program

Objective 38

Heatwaves and extreme heat are managed

Greater Sydney's climate means that communities are exposed to both heatwaves (more than three consecutive days of abnormally high temperatures) and extreme heat (days above 35 °C). This is more pronounced in the Western Parkland City which is more exposed to extreme heat. Climate change is likely to increase exposure to extreme heat and heatwaves. The urban heat island effect can also increase localised exposure to heat.

Heatwaves and extreme heat have a significant impact on human health. Heatwaves are estimated to cause more deaths in Australia than any other natural hazard. In addition, heatwaves and extreme heat can lead to more illness, which places pressure on communities, emergency services and the health system. Older people, young children and people with existing illnesses are generally more vulnerable, as are people who work outdoors. Bushfires triggered by heatwaves and extreme heat also have impacts on human health and safety.

Heatwaves and extreme heat also place great pressure on infrastructure, particularly on the electricity network during times of peak demand. Heat-related power shortages have the potential to place further pressure on vulnerable people and communities.

Increased demand for electricity for air-conditioning and other forms of cooling also contributes to increased greenhouse gas emissions, further exacerbating extreme heat linked to climate change.

Extreme heat makes it less attractive for people to walk and cycle and spend time outdoors.

The planning of great places and liveable local communities needs to consider how the urban heat island effect can be mitigated, particularly in areas with a higher proportion of vulnerable people.

The NSW Government has released the *NSW State Emergency Management Plan* which includes the *State Heatwave Sub Plan*. The Sub Plan details the control and coordination arrangements across State and local government for the preparation for, response to, and immediate recovery from a heatwave.

Objective 26 describes the vision for a cool and green city in the South Creek Corridor and Objective 30 highlights how the urban tree canopy can help mitigate the urban heat island effect, keep Greater Sydney cool and improve the amenity of local communities. In some limited circumstances where it is difficult to expand the urban tree canopy, innovative design measures are to be used to increase shade and reduce heat.

Strategy 38.1

Mitigate the urban heat island effect and reduce vulnerability to extreme heat.

Related government initiatives:

- NSW State Emergency Management Plan
- State Heatwave Sub Plan

7

The Greater Sydney Structure Plan

The Greater Sydney Structure Plan 2056 highlights the principal spatial elements for managing growth and change across Greater Sydney based on a metropolis of three cities (refer to Figure 57 and Figure 58). The elements in the draft Plan can be seen as integrated layers and draw on components from *Future Transport 2056*.

The Structure Plan shows:

- **Landscape elements** which emphasise that Greater Sydney is a city defined by its landscape of Protected Natural Areas and Metropolitan Rural Areas which frame the Urban Area (refer to Objective 29).
- **Economic agglomerations** which account for more than 50 per cent of Greater Sydney’s jobs, including the Western, GOP and Eastern Economic Corridors, the health and education precincts, the metropolitan city and strategic centres, the Western Sydney Employment Area and trade gateways (refer to Objective 15, Objective 16, Objective 21, Objective 22 and Objective 23).
- **Mass transit and strategic road networks** which connect the economic agglomerations and connect residents to jobs, goods and services (refer to Objective 14 and Objective 17).
- **Government-led housing supply program areas** which will provide a substantial proportion of Greater Sydney’s housing supply, including Priority Growth Areas, Priority Precincts and Land and Housing Corporation renewal areas (refer to Objective 10).

District Plans will provide more detail on these elements.



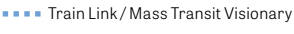











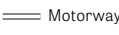








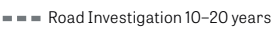


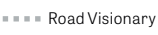

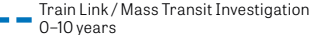

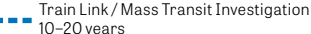
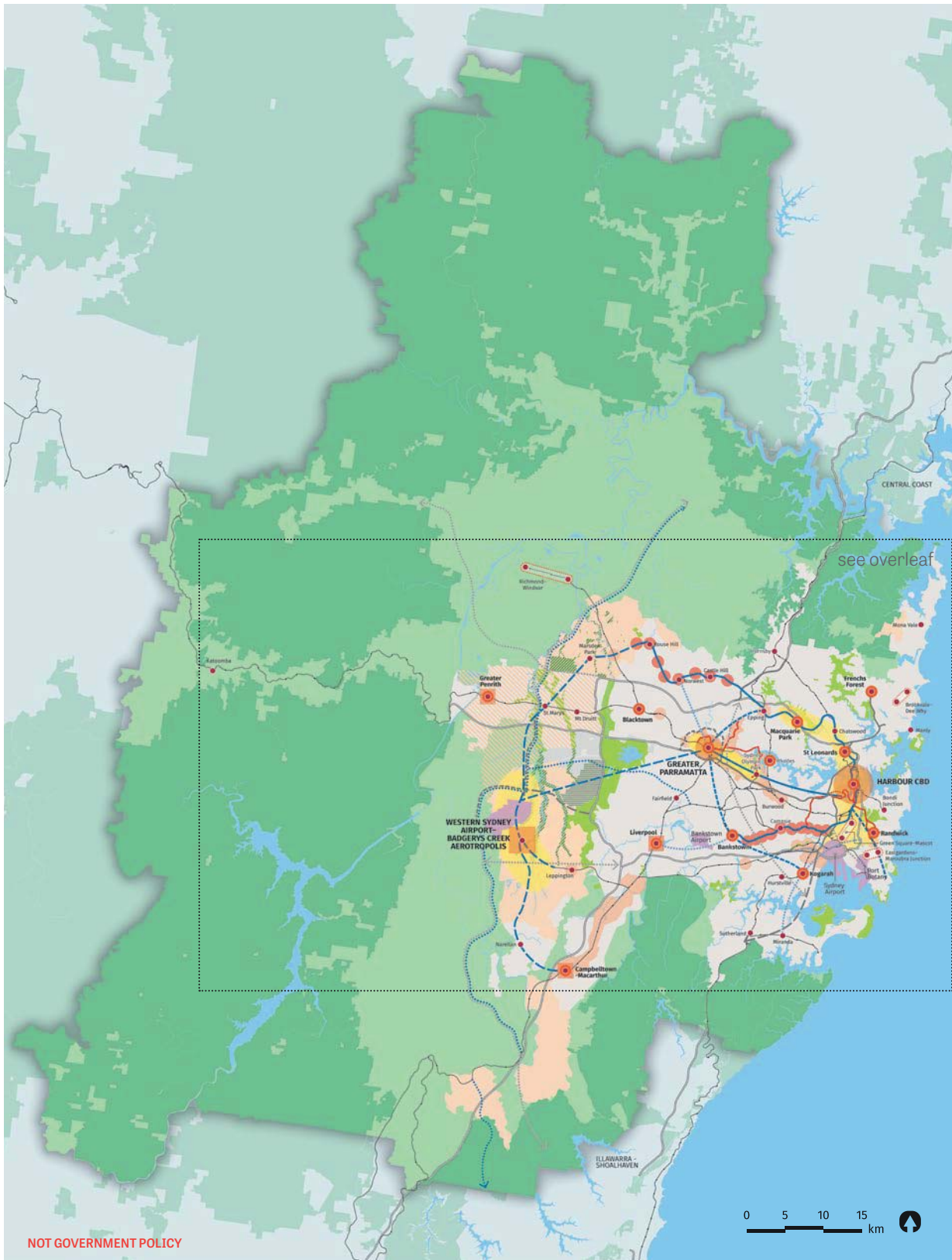
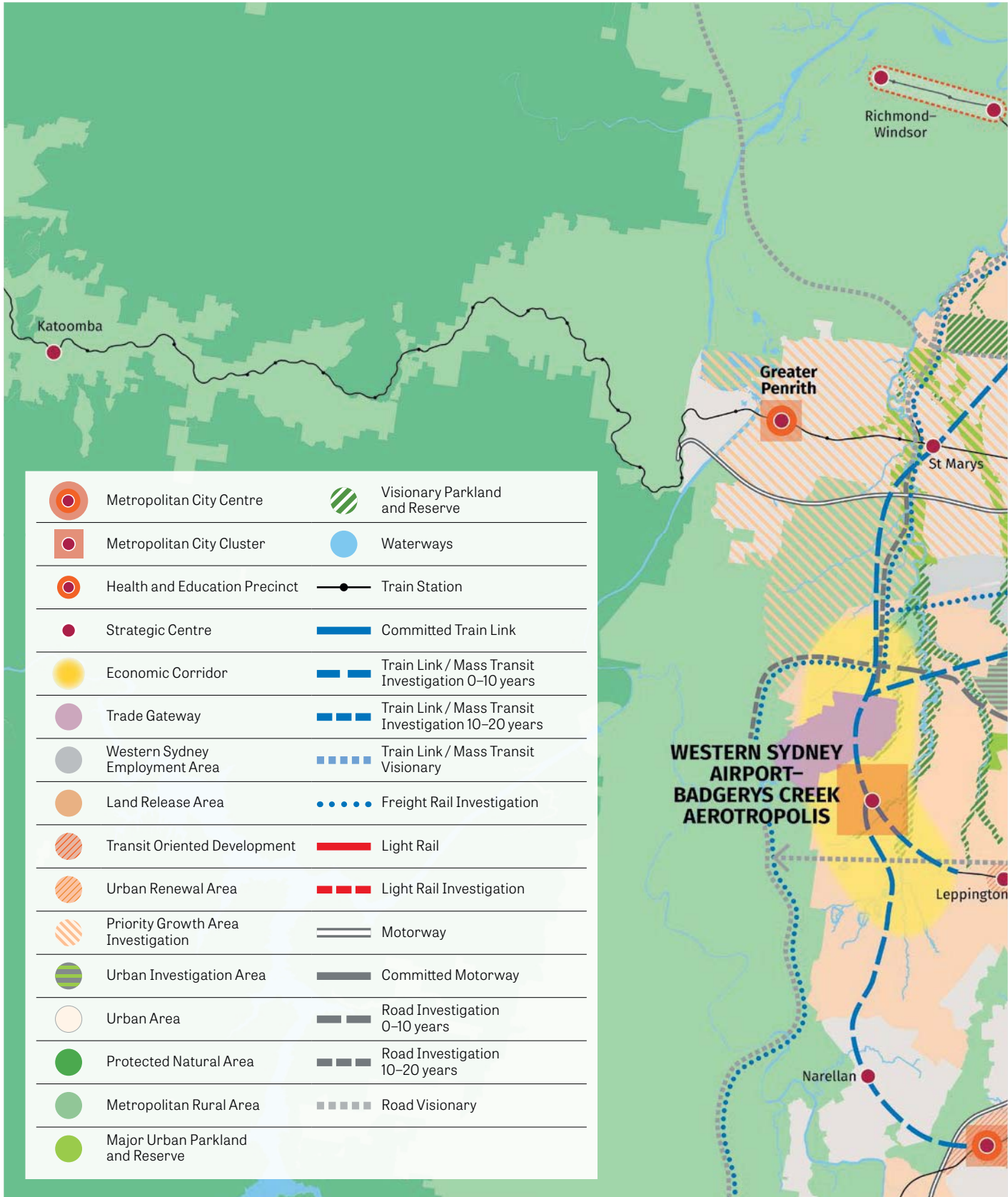
 Metropolitan City Centre	 Urban Investigation Area	 Train Link / Mass Transit Visionary
 Metropolitan City Cluster	 Urban Area	 Freight Rail Investigation
 Health and Education Precinct	 Protected Natural Area	 Light Rail
 Strategic Centre	 Metropolitan Rural Area	 Light Rail Investigation
 Economic Corridor	 Major Urban Parkland and Reserve	 Motorway
 Trade Gateway	 Visionary Parkland	 Committed Motorway
 Western Sydney Employment Area	 Waterways	 Road Investigation 0–10 years
 Land Release Area	 Train Station	 Road Investigation 10–20 years
 Transit Oriented Development	 Committed Train Link	 Road Visionary
 Urban Renewal Area	 Train Link / Mass Transit Investigation 0–10 years	
 Priority Growth Area Investigation	 Train Link / Mass Transit Investigation 10–20 years	

Figure 57: Greater Sydney Structure Plan 2056



NOTE: Committed projects of: Western Harbour Tunnel & Beaches Link, F6 – WestConnex to President Avenue Kogarah, Parramatta Light Rail Stage 2 and Sydney Metro West are subject to final business case, no investment decision yet. Routes and stops for some transport corridors/projects are indicative only.

Figure 58: Greater Sydney Structure Plan 2056 – the three cities



NOTE: Committed projects of: Western Harbour Tunnel & Beaches Link, F6 – WestConnex to President Avenue Kogarah, Parramatta Light Rail Stage 2 and Sydney Metro West are subject to final business case, no investment decision yet. Routes and stops for some transport corridors/projects are indicative only.



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Implementation

There are multiple aspects to the successful implementation and delivery of the draft

Greater Sydney Region Plan:

- Using the draft Plan as a framework for decision-making will inform district plans and local environmental plans, and provide context for councils' community strategic plans.
- The draft Plan's integration with *Future Transport 2056* and the *State Infrastructure Strategy*, will align major land use, transport and infrastructure planning.
- Private sector investment, will be guided by the draft Plan that gives clarity on the priorities and vision of the NSW Government, to enable the building of homes, retail space, office buildings, and factories across Greater Sydney.
- Regional, district and local planning will inform engagement with the wider community so that plans are co-created with the people of Greater Sydney.

Achieving the vision of a metropolis of three cities requires the involvement of a wide range of stakeholders with a diversity of responsibilities. Collaboration and engagement with the community, local government, businesses, and State agencies have helped inform the draft Plan and will be essential in implementing its strategies and actions.

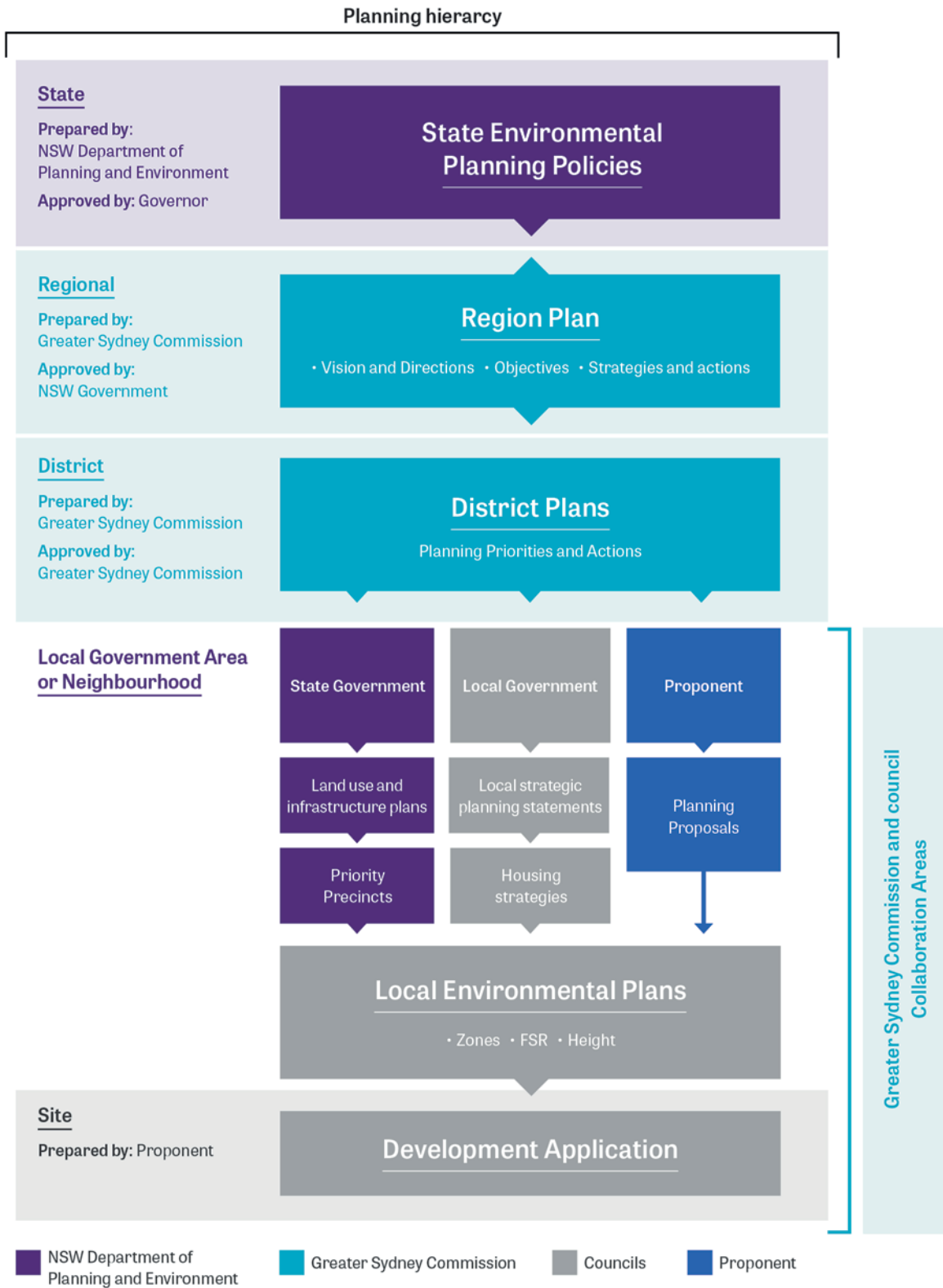
The delivery of the vision also requires regular monitoring and reporting on Greater Sydney's growth and change and on the progress of the delivery of the final Plan. Regular monitoring and reporting will provide the people of Greater Sydney with transparency on the delivery of the Plan's directions and actions. It will also yield critical information to allow for responses and refinements over time to the directions and actions in the final Plan as set out in Objective 40.

Actions

The following metropolitan significant action will deliver implementation objectives.

- Work with the NSW Department of Planning and Environment to develop its role in peer reviewing key land use and infrastructure plans prepared by NSW Department of Planning and Environment to provide assurance to the community that robust planning is being undertaken across Greater Sydney consistent with the directions, priorities and objectives of the District and Region Plans (refer to Objective 39).
- Report on actions (refer to Objective 40).

Figure 59: Roles of planning authorities in Greater Sydney



Objective 39

A collaborative approach to city planning

The role of the Commission is to lead metropolitan planning for the Greater Sydney Region, and to promote orderly development by aligning infrastructure decision-making with land use planning.

This draft Plan sets out the Commission's long-term vision for the Greater Sydney Region. To deliver the objectives and strategies of the vision the Commission needs to work collaboratively with the NSW Department of Planning and Environment and local government to complete the city's hierarchy of strategic plans and enable consistent, transparent and fair decision-making.

Figure 59 shows how each of the participants in the process can bring their strengths and legislated responsibility to create a holistic and successful planning system for Greater Sydney.

Next steps – district and local planning

It is the Commission's responsibility to provide the NSW Government with a final draft *Greater Sydney Region Plan* for consideration and to finalise the district plans for Greater Sydney.

The district plans, presented through the themes of liveability, productivity and sustainability, with a continued focus on infrastructure and collaboration, expand on the economic, social and environmental context and priorities for each district. This provides local guidance for State agencies, councils, industry and the community.

The region and district plans inform the preparation and assessment of local environmental plans and planning proposals. Councils are to implement the region and district plans over a two-year or three-year timeframe (see text box) following the finalisation of the district plans. This involves councils reviewing their existing local environmental plans, undertaking necessary studies and strategies and preparing an update in accordance with the requirements

of the *Environmental Planning and Assessment Act 1979* and the NSW Department of Planning and Environment's *A guide to preparing local environmental plans*.

A key part of preparing local environmental plans is the preparation of a housing strategy to inform the local plan (refer to Objective 10). Prepared at local government or district area these housing strategies play a crucial role in catering for needs of projected population growth and local infrastructure.

State environmental planning policies also form part of the planning framework for Greater Sydney. As noted throughout this document, these policies cover specific economic, social and environmental matters that may impact on a local government area. The NSW Department of Planning and Environment is currently reviewing state environmental planning policies as part of initiatives to simplify the NSW planning system and reduce complexity. This review process will modernise, simplify and improve the effectiveness and usability of policies. The review intends to remove policy and controls that are duplicated in strategies, regional plans and local environmental plans.

To accelerate the local planning process, the Housing Affordability Package announced by the NSW Government in June 2017 requires the Commission, as part of a suite of policy measures, to nominate 10 Priority Councils in Greater Sydney, who will each receive up to \$2.5 million to assist with updating their local environmental plans to give effect to the district plans, within two years of the Commission releasing final district plans.

Several State agencies have a role in the delivery of housing supply. Land and Housing Corporation delivers social housing and renewal through a range of programs including Communities Plus. The NSW Government is committed to improving housing affordability by increasing housing supply, including by accelerating rezoning and building infrastructure such as roads, schools and utilities that can enable development. The NSW Government will work with councils to provide the right conditions for developers to supply enough new housing in the right places.

Under Section 117 of the *Environmental Planning and Assessment Act 1979*, there are a suite of Ministerial directions which require consideration for local plan making that cover issues such as employment, environment and heritage, and housing, infrastructure and urban development.

Local planning is also informed by councils' community strategic plans. These community focused plans provide the strategic framework for the planning and delivery of services over a 10-year period for each local government area. They set the economic, social and environmental context for local government areas and are part of the broader Integrated and Reporting Framework under the *Local Government Act 1993*.

Community engagement underpins each community strategic plan and provides detailed local considerations to be addressed in councils' local environmental plans, operational plans and information management.

Once the Commission has completed an engagement program on this draft Plan, it will submit a final draft Plan to the Minister for Planning for the NSW Government's consideration.

Further supporting information for this draft Plan is available on the Commission's website.



Action 13

Work with the NSW Department of Planning and Environment to develop its role in peer reviewing key land use and infrastructure plans prepared by NSW Department of Planning and Environment to provide assurance to the community that robust planning is being undertaken across Greater Sydney consistent with the directions, priorities and objectives of the District and Region Plans

This approach allows for a differentiation between the NSW Department of Planning and Environment undertaking more detailed planning work in growth areas and Priority Precincts and the role of the Commission in preparing District and Region Plans together with other key plans nominated by the Minister or the Commission. This approach will be developed to capitalise on the independence of the Commission and the expertise of its Commissioners and planners.

Objective 40

Plans refined by monitoring and reporting

The Commission will monitor a range of metrics and report annually on the performance of the final Plan. Monitoring and reporting will provide transparency to the community and other stakeholders on the progress of achieving the objectives and the vision. The metrics will be available on the Commission's data hub.

Monitoring is integral to the successful implementation of the final Plan. It will provide the information needed to determine how well the plan is being implemented and whether it is succeeding. It will inform the Commission on what improvements or changes are needed to and reflect current directions for the city.

As a result, the final Plan will be dynamic and evolve as needed. It is based on a long-term vision with strategies and actions that will be updated over time. While monitoring will be regular, overall reviews of the Plan will occur at least every five years, consistent with the *Environmental Planning and Assessment Act 1979*.

Monitoring of the final Plan will focus on its contribution to delivering on the 10 Directions with metrics for each as set out in Table 6.

The Commission will provide an annual report to the NSW Government on the performance of the actions in the final Plan. The report will assess the status of the actions (refer to Table 7) to inform the NSW Government's infrastructure delivery program and the place-based plans of other agencies.



Action 14

Report on actions

The Commission will report annually to the NSW Government on the delivery of the Plan, by reporting on the status of each action.

Table 6: Metrics to monitor the Plan

10 Directions	Plan metric (service)
 1. A city supported by infrastructure	<ul style="list-style-type: none"> Number of land use plans supported by infrastructure plans (NSW Department of Planning and Environment, Greater Sydney Commission, Councils).
 2. A collaborative city	<ul style="list-style-type: none"> Proportion of agreed outcomes achieved in Collaboration Areas.
 3. A city for people	<ul style="list-style-type: none"> Annual survey of community sentiment.
 4. Housing the city	<ul style="list-style-type: none"> Number of councils on track to deliver housing targets. Number of councils with schemes that implement Affordable Rental Housing Targets.
 5. A city of great places	<ul style="list-style-type: none"> Percentage of dwellings within walking distance of a local or strategic centre. Percentage of dwellings within walking distance of open space.
 6. A well-connected city	<ul style="list-style-type: none"> Percentage of dwellings located within 30 minutes by public transport of a metropolitan city centre /cluster. Percentage of dwellings located within 30 minutes by public transport of a strategic centre.
 7. Jobs and skills for the city	<ul style="list-style-type: none"> Growth in jobs in the following metropolitan and strategic centres, Blacktown, Campbelltown - Macarthur, Greater Parramatta, Greater Penrith, Harbour CBD, Kogarah, Liverpool, Macquarie Park and Western Sydney Airport / Badgerys Creek Aerotropolis. Change in number of people employed locally (five year).
 8. A city in its landscape	<ul style="list-style-type: none"> Proportional increase in Greater Sydney covered by urban tree canopy.
 9. An efficient city	<ul style="list-style-type: none"> Number of precincts with low carbon initiatives.
 10. A resilient city	<ul style="list-style-type: none"> Number of local government areas undertaking resilience planning.

Table 7: Actions to deliver the Plan

Action	Lead Agency
1. Identify, prioritise and deliver Collaboration Areas.	Greater Sydney Commission
2. Prepare housing strategies.	Local Government
3. Develop 6-10 year housing targets.	Greater Sydney Commission, Local Government
4. Work with the NSW Department of Planning and Environment to implement Affordable Rental Housing Targets.	Greater Sydney Commission
5. Collaborate to deliver the Greater Parramatta and the Olympic Peninsula vision.	Greater Sydney Commission
6. Develop a growth infrastructure compact for GPOP.	Greater Sydney Commission
7. Support the growth of the Camperdown-Ultimo Collaboration Area.	Greater Sydney Commission
8. Collaborate to deliver the Western Sydney City Deal.	Australian Government, NSW Government, Local Government
9. Facilitate whole-of-government place-based outcomes through Collaboration Areas for targeted strategic centres, including Liverpool, Greater Penrith and Randwick.	Greater Sydney Commission
10. Review industrial and urban services land in the Central River City and the South West and North West Priority Growth Areas.	Greater Sydney Commission
11. Develop and implement the South Creek Corridor Plan.	Infrastructure NSW
12. Deliver the open space toolkit.	Government Architect NSW
13. Work with the NSW Department of Planning and Environment to develop its role in peer reviewing key land use and infrastructure plans prepared by NSW Department of Planning and Environment to provide assurance to the community that robust planning is being undertaken across Greater Sydney consistent with the directions, priorities and objectives of the District and Region Plans.	Greater Sydney Commission
14. Report on Actions.	Greater Sydney Commission

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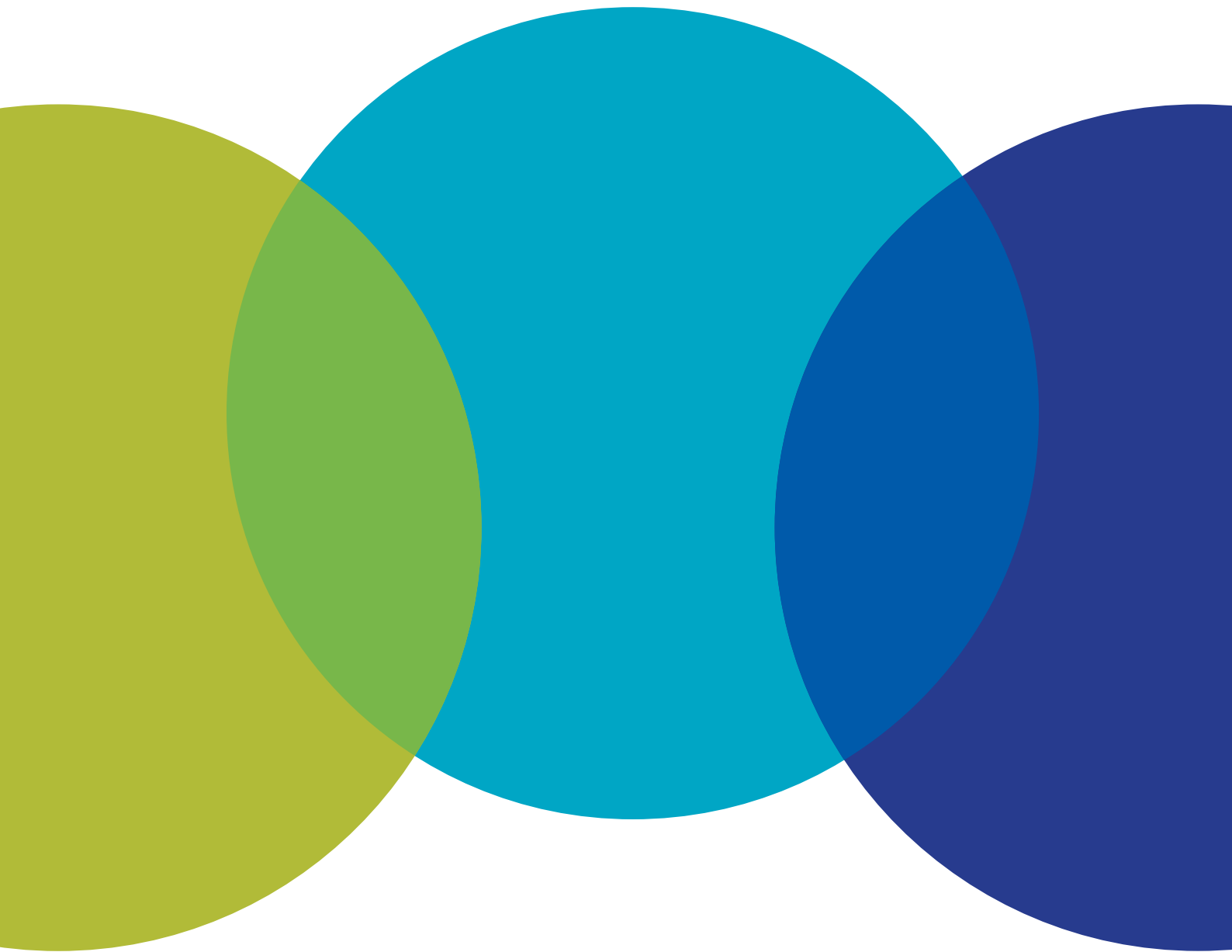
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OUR GREATER SYDNEY 2056

Draft Western City District Plan

– connecting communities



Acknowledgement of Country

The Greater Sydney Commission acknowledges the traditional owners of the lands that include Western City District and the living culture of the traditional custodians of these lands. The Commission recognises that the traditional owners have occupied and cared for this Country over countless generations, and celebrates their continuing contribution to the life of Greater Sydney.

Western City District

Blue Mountains
Camden
Campbelltown
Fairfield
Hawkesbury
Liverpool
Penrith
Wollondilly



How to be involved

This draft *Western City District Plan* replaces the draft South West District and West District plans, released in November 2016.

You can read the entire draft District Plan at:

www.greater.sydney

This draft District Plan is on formal public exhibition until 15 December 2017.

You can make a submission:

by visiting:

www.greater.sydney/submissions

by emailing:

submissions@gsc.nsw.gov.au

by post to:

Greater Sydney Commission
Draft Western City District Plan
PO Box 257
Parramatta NSW 2124

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Chief Commissioner
Lucy Hughes Turnbull AO



This draft District Plan sets out planning priorities and actions for growth and development in the Western City District.

The draft District Plan recognises what the Commission has heard – particularly that the District’s natural landscape is a great asset and attractor, sustaining and supporting a unique, parkland city.

We know that over the next 20 years, the Western Sydney Airport will be transformational, including for employment opportunities. We also know that changes in our social make-up – such as the expected increase in people aged over 65 – will require specific planning for housing and social infrastructure.

Now we want to know how we can build on the District’s assets, and major infrastructure investment, as the population grows.

Collaboration will be the key for clarity and guidance on our city’s growth. The Greater

Sydney Commission is bringing together all parties with an interest in the District’s future and is channelling the collective energy into improved planning outcomes. By taking a leadership role we are bringing together public resources and expertise to create a more liveable, productive and sustainable city.

The Western City District brings together the former South West and West districts. I acknowledge and appreciate the important contributions to the Western City District from its former District Commissioners, Sean O’Toole OAM (West) and Sheridan Dudley (South West). Their vision and knowledge have been invaluable.

I encourage all stakeholders with an interest in the Western City District to review and provide feedback on this draft Plan. Your suggestions and comments are important in making this draft District Plan a living and working document to guide the Western City District’s future.

Interim Western City
District Commissioner
Geoff Roberts



The Western City District is Greater Sydney’s parkland city, a place surrounded by World Heritage-listed landscapes, with a sprinkling of towns and centres that combine village charm and heritage character.

This iconic landscape is more than a backdrop – it is the District’s underlying asset. People travel from around the world to experience the mountains, escarpments, rural hinterland and rivers. The landscape is the foundation for how we plan for the District – it resonates in our places and informs the District’s design and structure.

The development of Australia’s first 21st century international airport will drive population growth, improve transport links and create new jobs and economic opportunities. This is a unique chance to grow new markets in international and domestic tourism, advanced logistics,

aerospace industries, freight, transport, health, education and the knowledge economy. The Western Sydney City Deal between the Australian and NSW governments and local government will drive this growth.

With such change, we will protect and enhance the character of our places and make it easier for residents to access services and facilities. With more jobs, more residents will be working locally and experiencing shorter commutes. To support this, we will need a greater diversity of homes so that people can afford to live here and can choose a home that better suits their lifestyle.

I’m eager for as many people as possible to get involved. This conversation is an important step in helping to shape the decisions that will drive the District’s future.

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Future of the Western City District

The vision for Greater Sydney as a metropolis of three cities – the Western Parkland City, the Central River City and the Eastern Harbour City – means residents in the Western City District will have quicker and easier access to a wider range of jobs, housing types and activities.

The Western City District is part of the Western Parkland City. It connects to the Central River City through Blacktown and Fairfield local government areas. The Western Sydney Airport and Badgerys Creek Aerotropolis will create a once-in-a-generation economic boom, bringing infrastructure, businesses and knowledge-intensive jobs for residents.

The draft *Western City District Plan* guides the growth of the District within the context of Greater Sydney's three cities to improve the District's social, economic and environmental assets.

The District's unique and rich tapestry of urban, rural and natural environments, combined with access to jobs, quality health care, education, recreation, cultural and natural experiences create a great quality of life for its communities.

It is a place where opportunity, success and prosperity are forged from humble beginnings, where innovation thrives, smart jobs are created, international business connections are established and global investment is supported. Local people form the basis of a highly skilled and educated workforce that continues to grow and invest in itself and its future.

The draft District Plan guides the District's transformation as part of the Western Parkland City over the next 20 to 40 years by building on the communities and natural assets that exist today. In contrast to the dormitory neighbourhoods of the past, the new Western City District will be more contained, with a greater choice of local jobs, and transport and services aligned with growth.

The District will be polycentric, with the strong relationship and collaboration between Liverpool, Greater Penrith and Campbelltown-Macarthur reinforced by the emerging Badgerys Creek Aerotropolis. This unique metropolitan city cluster will be connected by high quality public transport.

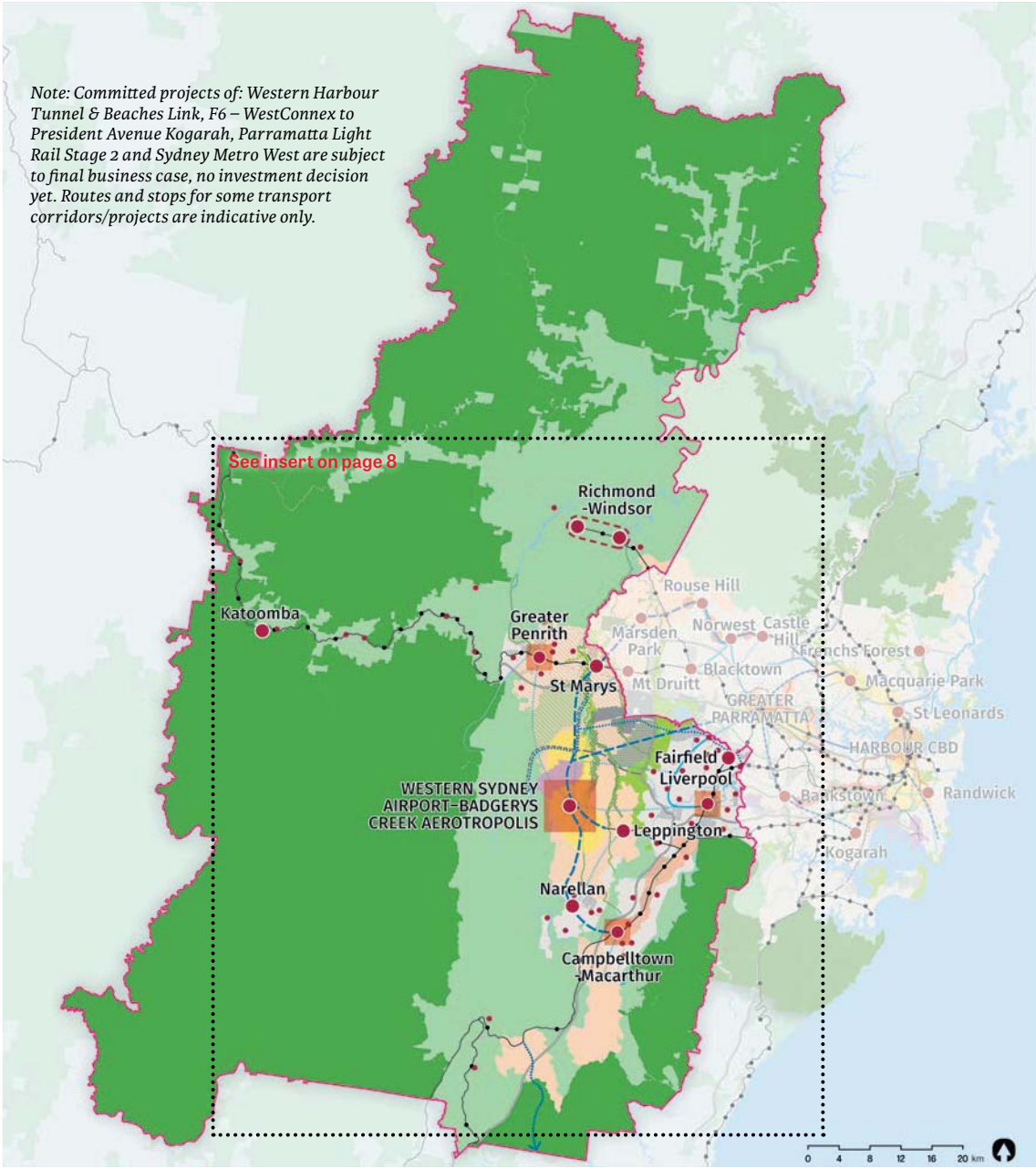
Unprecedented transport investments will provide major links for people and freight between the District's strategic centres, and to Greater Sydney's north and south, in addition to traditional economic anchors in the east.

The South Creek, Georges River and Hawkesbury-Nepean River systems will become the spatial framework for the District, with attractive and safe walking and cycling paths, bushland and a green, urban landscape framed by the Greater Blue Mountains World Heritage Area.

Extensive urban tree canopy will mitigate the heat island effect and provide cooler, more beautiful places. The substantial land release areas to house the District's new residents will become neighbourhoods with a range of housing types, access to public transport and infrastructure including schools, hospitals and community facilities.

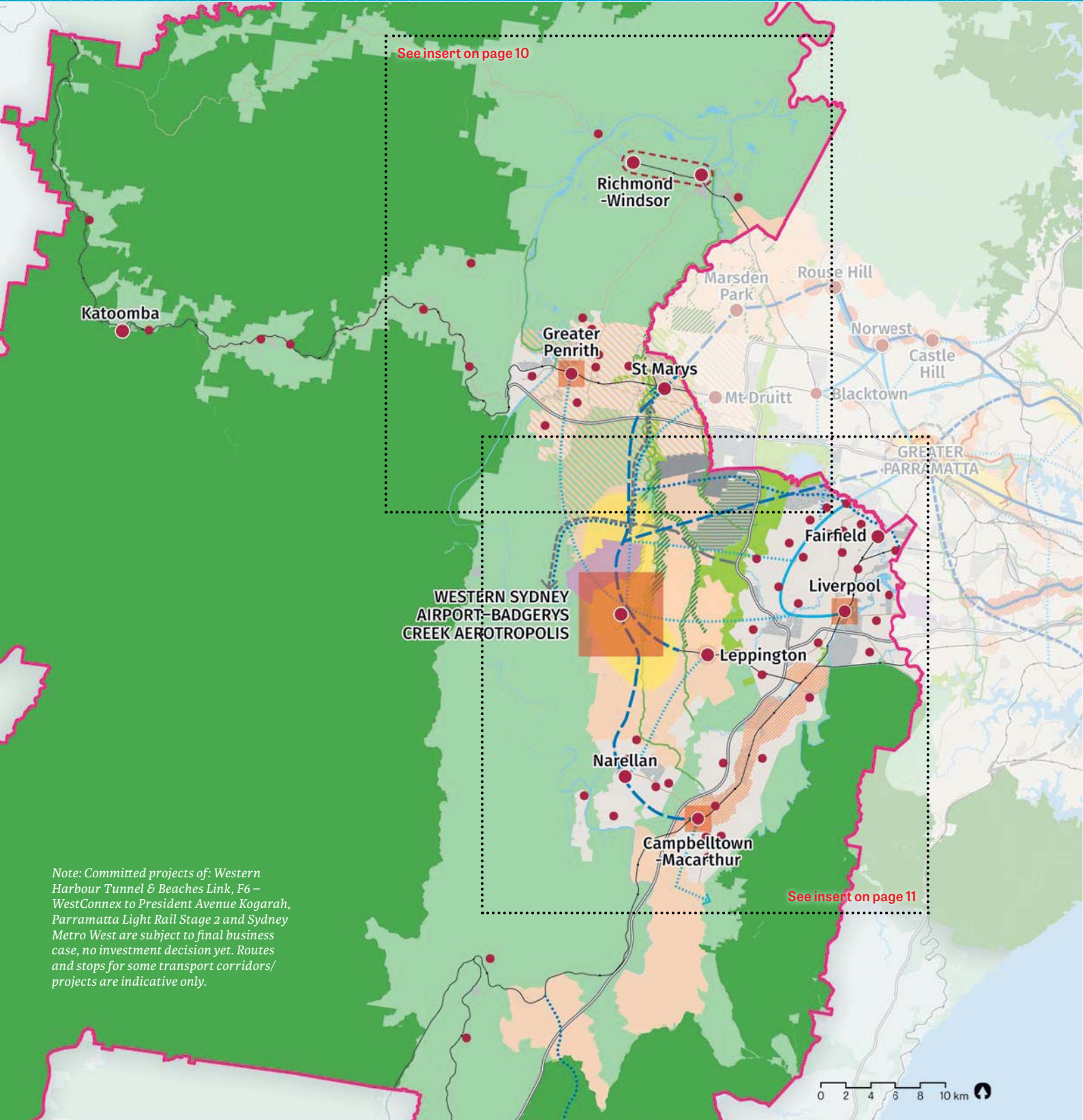
The District will retain its unique rural areas and the economic benefits of rural land so close to a metropolis, and protect its natural areas, heritage and tourism assets and the unique character of its smaller centres and villages.

Figure 1: Western City District Structure Plan 2036



	Metropolitan City Cluster		Industrial Land		Metropolitan Rural Area		Freight Rail Investigation
	Health and Education Precinct		Land Release Area		Major Urban Parkland and Reserve		On Street Rapid Transit
	Strategic Centre		Urban Renewal Area		Visionary Parkland and Reserve		Rapid Bus
	Local Centre		Priority Growth Area Investigation		Waterways		Motorway
	Economic Corridor		Urban Investigation Area		Train Station		Committed Motorway
	Trade Gateway		Urban Area		Train Link / Mass Transit Investigation 0-10 years		Road Investigation 0-10 years
	Western Sydney Employment Area		Protected Natural Area		Train Link / Mass Transit Investigation 10-20 years		Road Investigation 10-20 years

Western City District Structure Plan 2036 – urban area



Note: Committed projects of: Western Harbour Tunnel & Beaches Link, F6 – WestConnex to President Avenue Kogarah, Parramatta Light Rail Stage 2 and Sydney Metro West are subject to final business case, no investment decision yet. Routes and stops for some transport corridors/projects are indicative only.

Housing



Existing and projected dwellings	2016	2036
Western City District	388,000	572,500

Jobs

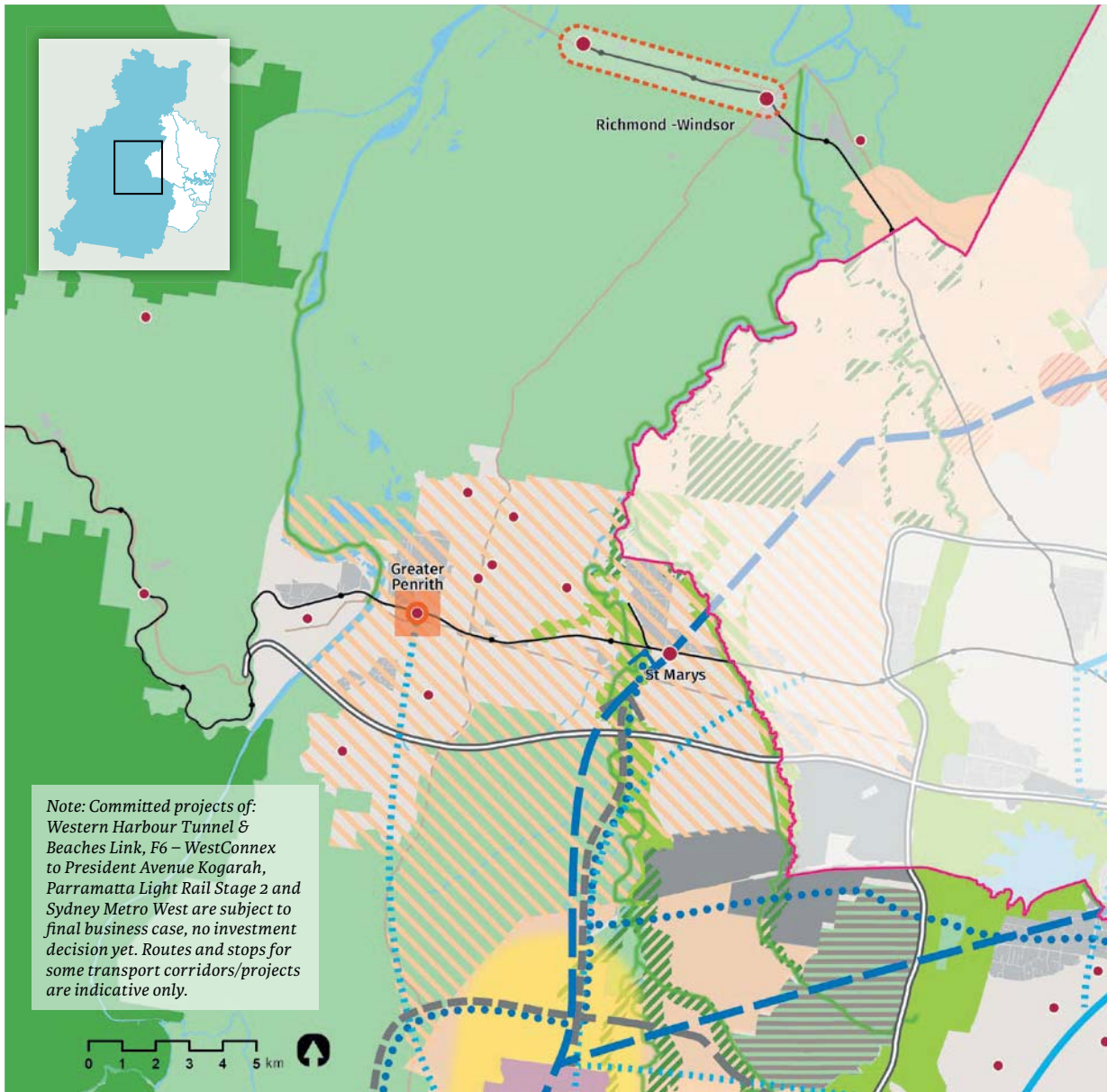


Centre job target ranges	2016	2036
Campbelltown-Macarthur	20,400	27,000–31,000
Fairfield	5,400	6,000–10,000
Greater Penrith	33,400	44,000–45,000
Katoomba	2,700	3,000–5,500
Leppington	400	7,000–12,500
Liverpool	29,000	36,000–39,000
Narellan	10,600	14,000–16,500
Richmond-Windsor	10,300	12,000–16,500
St Marys	8,300	10,000–11,500
Western Sydney Airport	2,400	29,000–34,000

	Metropolitan City Cluster		Priority Growth Area Investigation		Train Link / Mass Transit Investigation 10–20 years
	Health and Education Precinct		Urban Investigation Area		Freight Rail Investigation
	Strategic Centre		Urban Area		On Street Rapid Transit
	Local Centre		Protected Natural Area		Rapid Bus
	Economic Corridor		Metropolitan Rural Area		Motorway
	Trade Gateway		Major Urban Parkland and Reserve		Committed Motorway
	Western Sydney Employment Area		Visionary Parkland and Reserve		Road Investigation 0–10 years
	Industrial Land		Waterways		Road Investigation 10–20 years
	Land Release Area		Train Station		
	Urban Renewal Area		Train Link / Mass Transit Investigation 0–10 years		

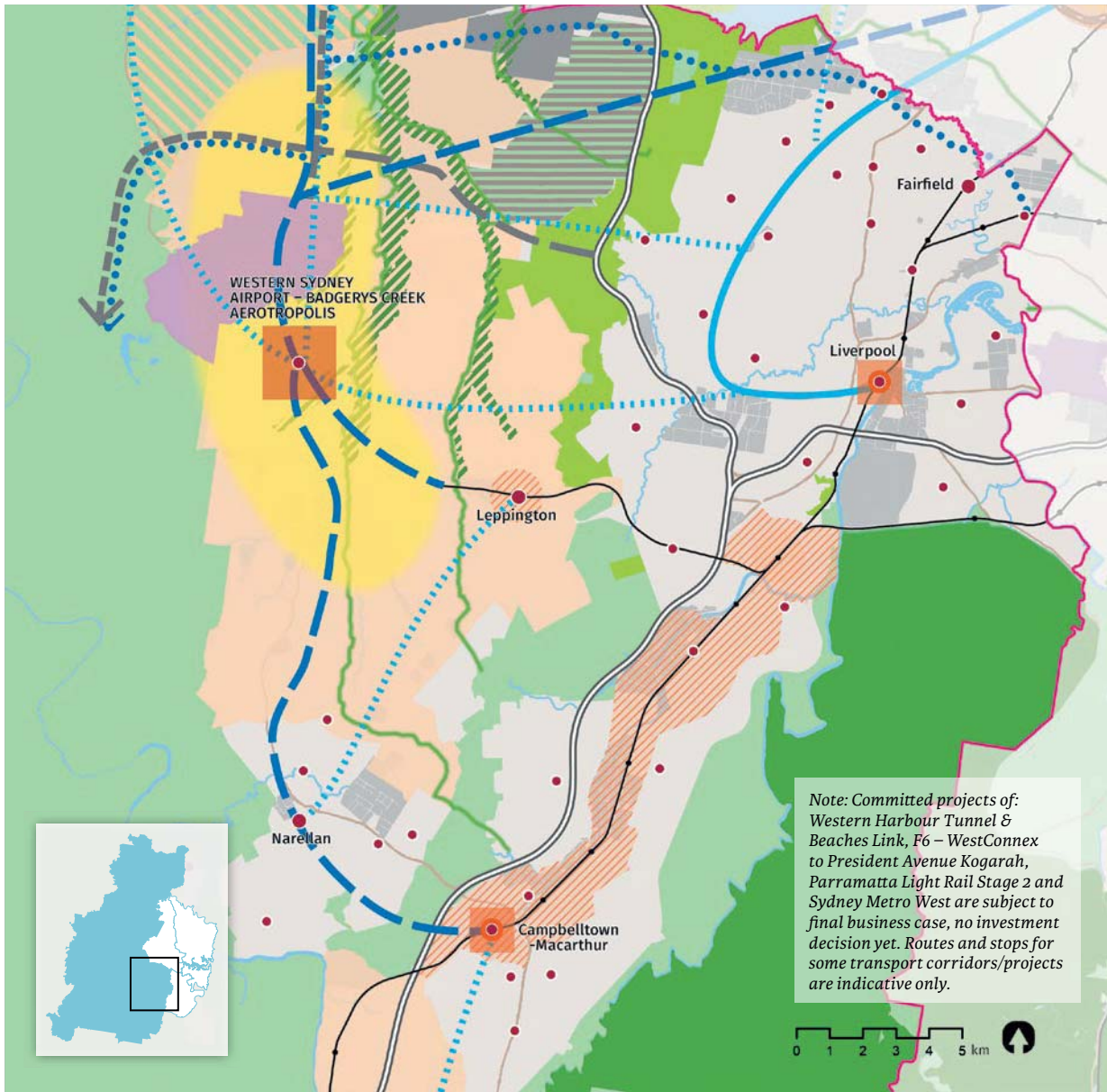
Note: Committed projects of: Western Harbour Tunnel & Beaches Link, F6 – WestConnex to President Avenue Kogarah, Parramatta Light Rail Stage 2 and Sydney Metro West are subject to final business case, no investment decision yet. Routes and stops for some transport corridors/projects are indicative only.

Figure 2: Western City District Structure Plan 2036 – urban area north



	Metropolitan City Centre		Land Release Area		Waterways		Rapid Bus
	Metropolitan City Cluster		Urban Renewal Area		Train Station		Motorway
	Health and Education Precinct		Priority Growth Area Investigation		Committed Train Link		Committed Motorway
	Strategic Centre		Urban Investigation Area		Train Link / Mass Transit Investigation 0-10 years		Road Investigation 0-10 years
	Local Centre		Urban Area		Train Link / Mass Transit Investigation 10-20 years		Road Investigation 10-20 years
	Economic Corridor		Protected Natural Area		Freight Rail Investigation		Green Grid Priority Project
	Trade Gateway		Metropolitan Rural Area		Light Rail		
	Western Sydney Employment Area		Major Urban Parkland and Reserve		Light Rail Investigation		
	Industrial Land		Visionary Parkland and Reserve		On Street Rapid Transit		

Figure 3: Western City District Structure Plan 2036 – urban area south



	Metropolitan City Centre		Land Release Area		Waterways		Rapid Bus
	Metropolitan City Cluster		Urban Renewal Area		Train Station		Motorway
	Health and Education Precinct		Priority Growth Area Investigation		Committed Train Link		Committed Motorway
	Strategic Centre		Urban Investigation Area		Train Link / Mass Transit Investigation 0-10 years		Road Investigation 0-10 years
	Local Centre		Urban Area		Train Link / Mass Transit Investigation 10-20 years		Road Investigation 10-20 years
	Economic Corridor		Protected Natural Area		Freight Rail Investigation		Green Grid Priority Project
	Trade Gateway		Metropolitan Rural Area		Light Rail		
	Western Sydney Employment Area		Major Urban Parkland and Reserve		Light Rail Investigation		
	Industrial Land		Visionary Parkland and Reserve		On Street Rapid Transit		

Greater Sydney context



Figure 4: Metropolis of three cities

Planning for the five districts of Greater Sydney will support the vision for a metropolis of three cities (refer to Figure 4).

- The emerging **Western Parkland City** with the Western Sydney Airport and Badgerys Creek Aerotropolis will grow a strong trade, logistics, advanced manufacturing, health, education and science economy within a Western Economic Corridor and will be the most connected place in Australia.
- The developing **Central River City** will capitalise on its location in the centre of Greater Sydney and with radial transport links will continue developing its world-class health, education and research institutions, its finance, business services and administration sectors, and its logistics and urban services to drive the economy and support a growing population.
- The established **Eastern Harbour City**, Australia's global gateway, will build on its economic credentials and leverage its strong financial, professional, health and education sectors and push its capabilities with an innovation precinct that boosts productivity and global connections.

This vision will transform land use and transport patterns and rebalance Greater Sydney so the benefits of growth are shared more equally and equitably to all residents as Greater Sydney's population increases from 4.7 million to 8 million over the next 40 years.

Each of the three cities is at a different stage of development so implementation requires a targeted approach to growth.

Economic growth is to be commensurate with population growth across Greater Sydney. Increasing productivity, global competitiveness and the region's export sectors are expected to increase economic activity to \$655 billion with 817,000 new jobs by 2036.

Greater Sydney's Eastern Economic Corridor has high concentrations of jobs with good road and public transport connectivity and high levels of interaction between business and people. This corridor contributed two-thirds of the State's economic growth over the

2015–16 financial year. Planning and investment will strengthen the established Eastern Economic Corridor and will complement it by growing the Greater Parramatta and the Olympic Peninsula (GPOP) and Western Economic Corridors.

People want to live close to jobs and services, so each of the three cities will have more housing in the right places which will assist with housing affordability. Housing and jobs will be aligned with new or improved infrastructure from transport to schools, health facilities and public places under the new growth infrastructure compacts.

Improved transport within and between each of the three cities will produce a 30-minute city where most commuters can travel to their nearest metropolitan city centre by public transport within 30 minutes, and where everyone can travel to their nearest strategic centre by public transport seven days a week to access jobs, shops and services.

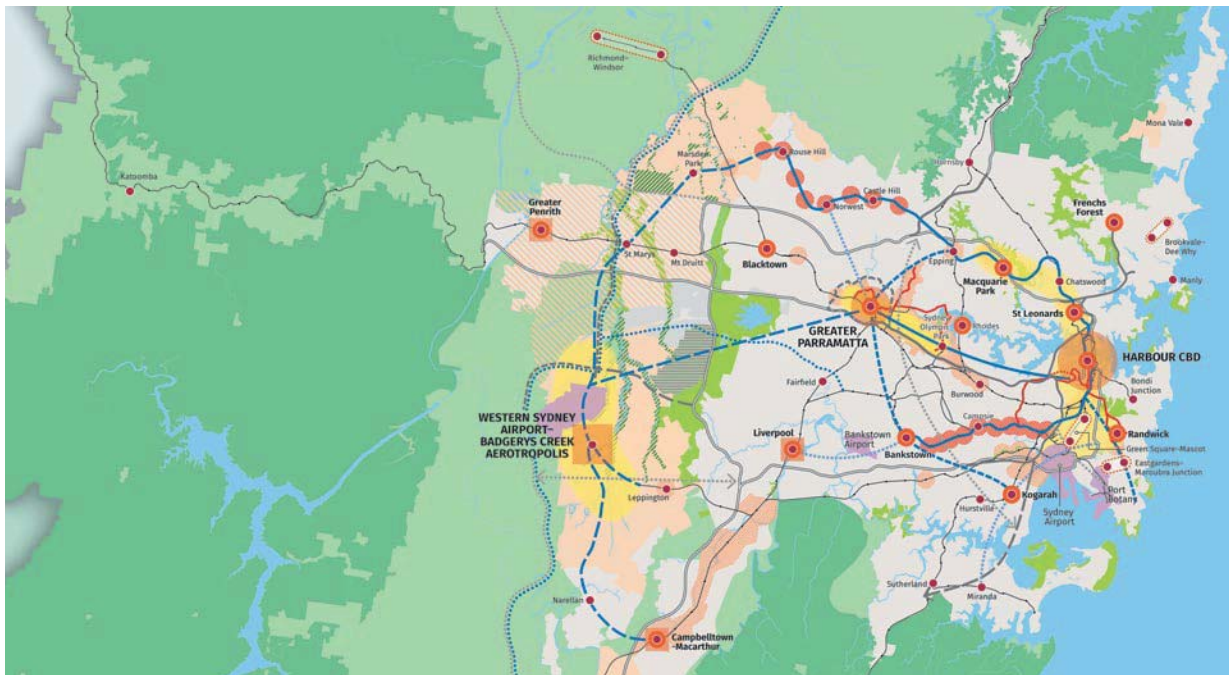
Better transport means people will be closer to knowledge-intensive jobs, city-scale infrastructure and services, and lifestyle features like entertainment, sporting and cultural facilities.

Walking and cycling will become increasingly important as part of daily travel with well-designed paths in popular thoroughfares improving the sustainability of the region and the wellbeing of residents. Growth within each of the three cities will be accompanied by higher quality public places and green spaces leading to opportunities for healthy lifestyles and community cohesion. Creativity, culture and the arts will be supported and acknowledged as part of the innovation economy.

The Greater Sydney Green Grid will connect green areas including parks, bushland and playgrounds to town centres, public transport and public places encouraging healthy lifestyles, enhancing biodiversity and supporting ecological resilience.

A metropolis of three cities brings liveability, productivity and sustainability benefits to all parts of Greater Sydney. It is consistent with the 10 Directions in *Directions for a Greater Sydney* which establishes the aspirations for the region over the next 40 years. The 10 Directions have been key to integrating land use, transport and infrastructure planning – they are foundational building blocks for the draft *Greater Sydney Region Plan*.

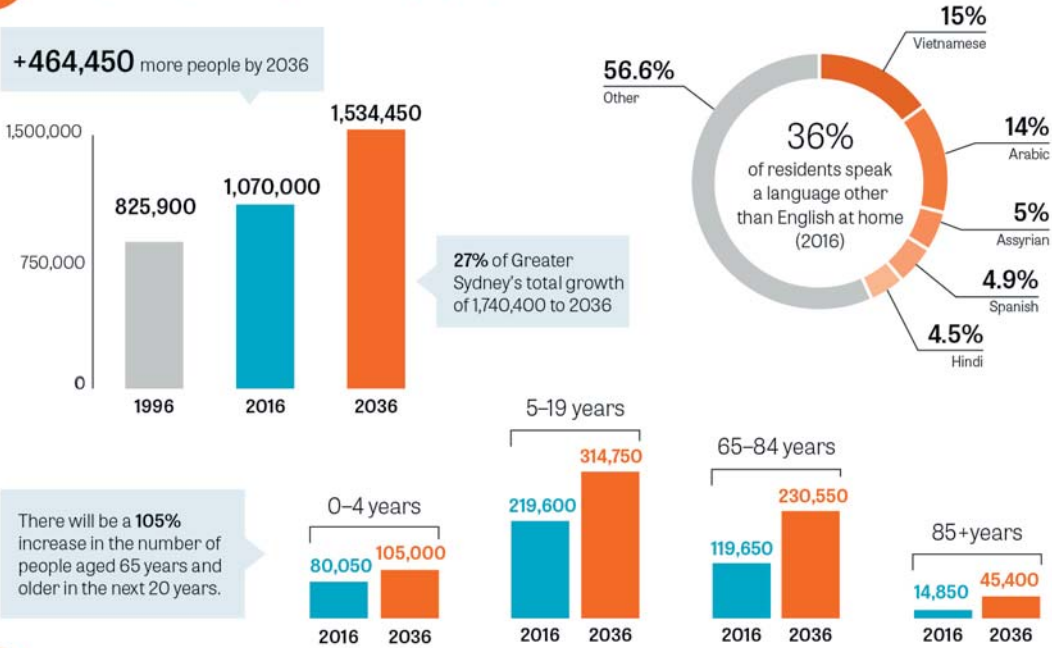
Figure 5: Greater Sydney Structure Plan 2056 – the three cities



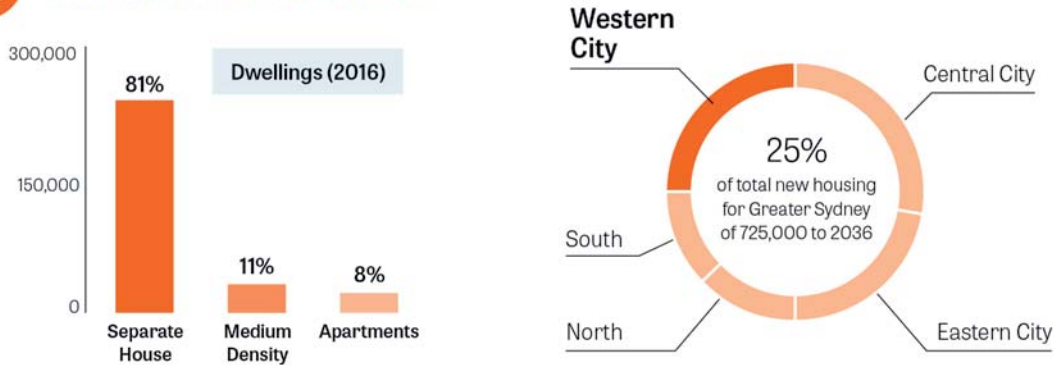
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Western City District snapshot

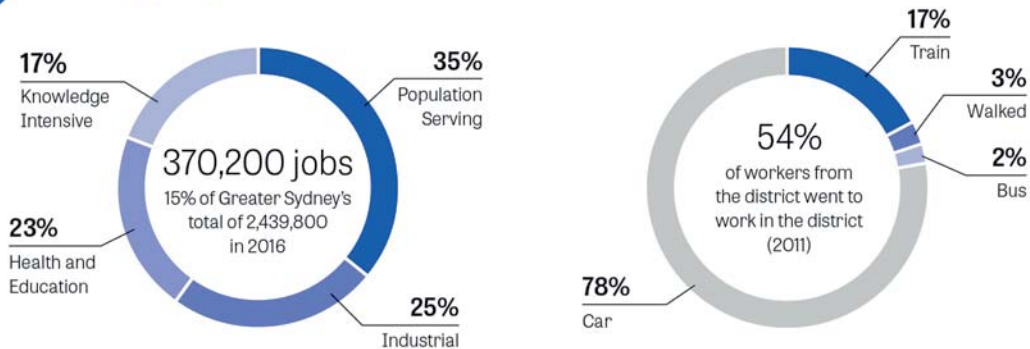
People – Population, age and languages spoken



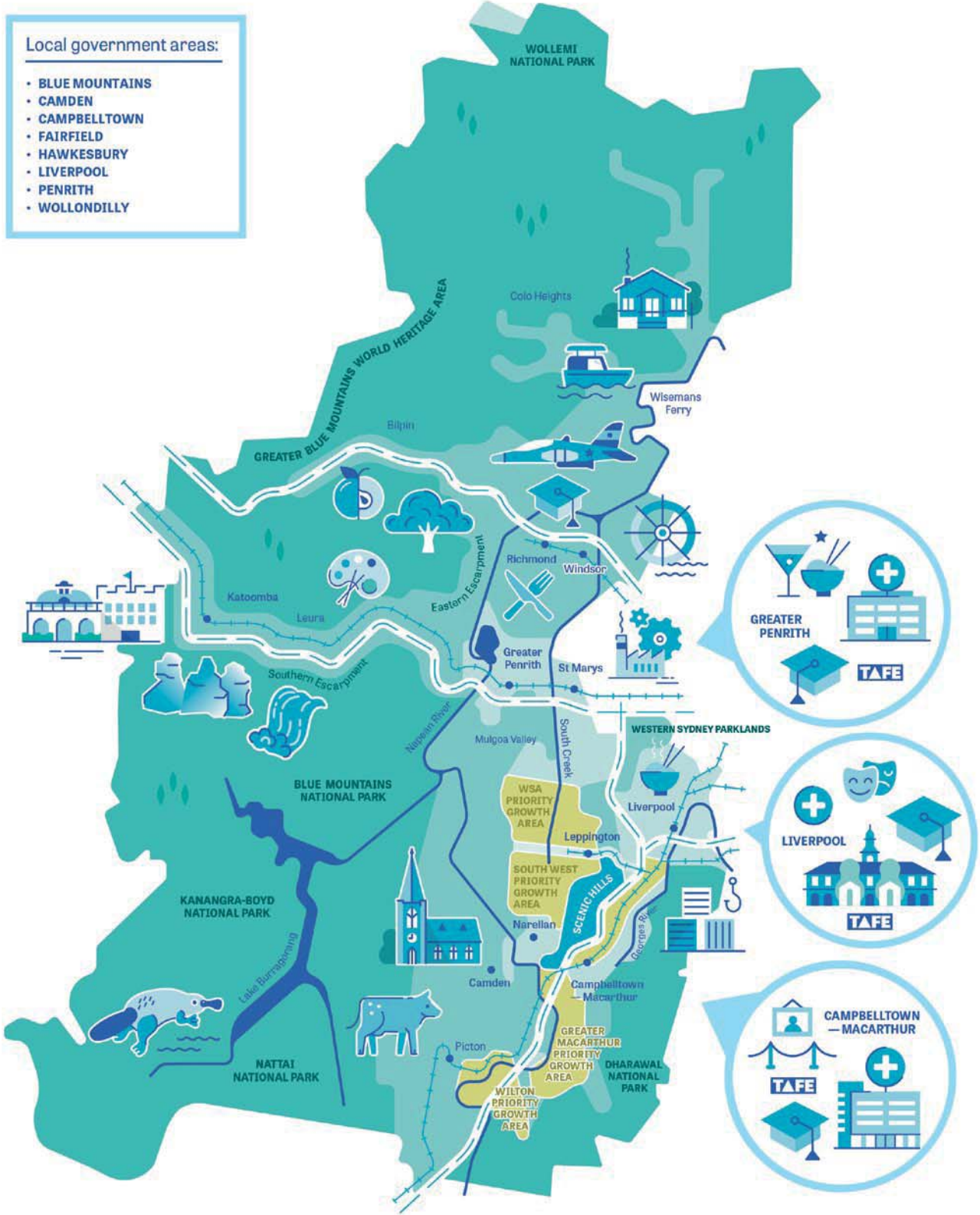
Dwelling demand and dwelling types








Jobs and journey to work








District context



Ten Directions and Planning Priorities

Directions	A city supported by infrastructure	A collaborative city	A city for people	Housing the city	A city of great places
	<p>Infrastructure supporting new developments</p> 	<p>Working together to grow a Greater Sydney</p> 	<p>Celebrating diversity and putting people at the heart of planning</p> 	<p>Giving people housing choices</p> 	<p>Designing places for people</p> 
Metrics	<p>Number of land use plans supported by infrastructure plans (NSW Department of Planning and Environment, Greater Sydney Commission, Councils)</p>	<p>Proportion of agreed outcomes achieved in Collaboration Areas</p>	<p>Annual survey of community sentiment</p>	<ul style="list-style-type: none"> • Number of councils on track to deliver housing targets • Number of councils with schemes that implement Affordable Rental Housing Targets 	<ul style="list-style-type: none"> • Percentage of dwellings within walking distance of a local or strategic centre • Percentage of dwellings within walking distance of open space
Western City District Planning Priorities	<p>Planning Priority W1 Planning for a city supported by infrastructure</p>	<p>Planning Priority W2 Working through collaboration</p>	<p>Planning Priority W3 Providing services and social infrastructure to meet people's changing needs</p> <p>Planning Priority W4 Fostering healthy, creative, culturally rich and socially connected communities</p>	<p>Planning Priority W5 Providing housing supply, choice and affordability, with access to jobs and services</p>	<p>Planning Priority W6 Creating and renewing great places and local centres, and respecting the District's heritage</p>

A well connected city	Jobs and skills for the city	A city in its landscape	An efficient city	A resilient city
<p>Developing a more accessible and walkable city</p>  <ul style="list-style-type: none"> Percentage of dwellings located within 30 minutes by public transport of a metropolitan city centre/cluster Percentage of dwellings located within 30 minutes by public transport of a strategic centre 	<p>Creating the conditions for a stronger economy</p>  <ul style="list-style-type: none"> Growth in jobs in targeted metropolitan and strategic centres. Change in number of people employed locally (five yearly) 	<p>Valuing green spaces and landscape</p>  <p>Proportional increase in Greater Sydney covered by urban tree canopy</p>	<p>Using resources wisely</p>  <p>Number of precincts with low carbon initiatives</p>	<p>Adapting to a changing world</p>  <p>Number of local government areas undertaking resilience planning</p>
<p>Planning Priority W7 Establishing the land use and transport structure to deliver a liveable, productive and sustainable Western Parkland City</p>	<p>Planning Priority W8 Leveraging industry opportunities from the Western Sydney Airport and Badgerys Creek Aerotropolis</p> <p>Planning Priority W9 Growing and strengthening the metropolitan city cluster</p> <p>Planning Priority W10 Maximising freight and logistics opportunities and planning and managing industrial and urban services land</p> <p>Planning Priority W11 Growing investment, business opportunities and jobs in strategic centres</p>	<p>Planning Priority W12 Protecting and improving the health and enjoyment of the District's waterways</p> <p>Planning Priority W13 Creating a Parkland City urban structure and identity, with South Creek as a defining spatial element</p> <p>Planning Priority W14 Protecting and enhancing bushland and biodiversity</p> <p>Planning Priority W15 Increasing urban tree canopy cover and delivering Green Grid connections</p> <p>Planning Priority W16 Protecting and enhancing scenic and cultural landscapes</p> <p>Planning Priority W17 Better managing rural areas</p> <p>Planning Priority W18 Delivering high quality open space</p>	<p>Planning Priority W19 Reducing carbon emissions and managing energy, water and waste efficiently</p>	<p>Planning Priority W20 Adapting to the impacts of urban and natural hazards and climate change</p>

1

About the draft Plan

The Western City District covers the Blue Mountains, Camden, Campbelltown, Fairfield, Hawkesbury, Liverpool, Penrith and Wollondilly local government areas (refer to Figure 6).

This draft *Western City District Plan* is a 20-year plan to manage growth in the context of economic, social and environmental matters to achieve the 40-year vision for Greater Sydney. It is a guide for implementing the draft *Greater Sydney Region Plan* at a district level and is a bridge between regional and local planning.

The draft District Plan informs local environmental plans and the assessment of planning proposals as well as community strategic plans and policies. The draft District Plan also assists councils to plan for and deliver growth and change, and align their local planning strategies to place-based outcomes. It informs infrastructure agencies, the private sector and the wider community of expectations for growth and change. Community engagement on the draft District Plan will contribute to a plan for growth that reflects local values and aspirations, in a way that balances regional and local considerations (refer to Figure 7).

The draft *Greater Sydney Region Plan* has been prepared by the Commission concurrently with the Government's *Future Transport 2056* and Infrastructure NSW's *State Infrastructure Strategy* to integrate land use, transport and infrastructure across the region for the first time in a generation. In this context, all the transport initiatives outlined in this draft District Plan are sourced from *Future Transport 2056*.

This draft District Plan has been prepared to give effect to the draft *Greater Sydney Region Plan*. The final District Plan will need to reflect the final

content of the *Greater Sydney Region Plan*. This draft District Plan identifies, where relevant, areas of state, regional and district significance, including priority growth areas.

In preparing this draft District Plan, the focus has been on identifying the Planning Priorities that are important to achieving a liveable, productive and sustainable future for the District. Relevant Objectives, Strategies and Actions from the draft *Greater Sydney Region Plan* are embedded in each of the Planning Priorities, to integrate the District's challenges and opportunities with the Greater Sydney vision of a metropolis of three cities.

Figure 6: Western City District



The concurrent preparation of the draft District Plans with the draft *Greater Sydney Region Plan* has maximised the opportunity to integrate these two plans. All data in this draft District Plan is based on current Government approved and published data sourced from the relevant State agency.

In undertaking strategic planning processes, and/or preparing or considering planning proposals, planning authorities must give effect to the draft District Plan, specifically the Planning Priorities and Actions.

This draft District Plan reflects feedback from the initial exhibition period and from consultation throughout the development of the draft *Greater Sydney Region Plan*.

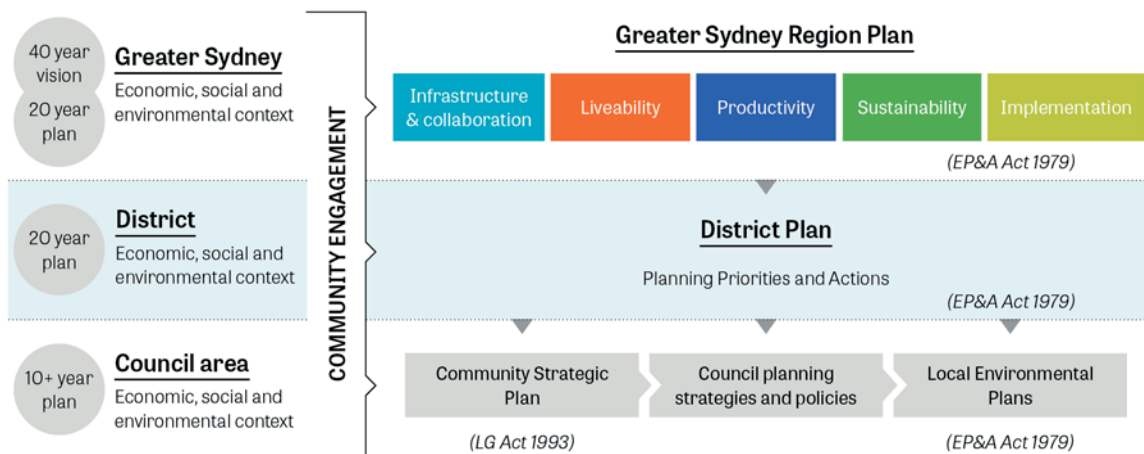
In preparing the draft District Plan, the Commission recognised there were Planning Priorities and Actions that were common to all districts – these have been incorporated into the draft *Greater Sydney Region Plan*.

The draft *Greater Sydney Region Plan* applies to the five districts that make up the region. The NSW Government declared six districts for the Greater Sydney Region on 27 January 2016. These were realigned to five districts on 22 September 2017. The Western City District comprises the former South West and West districts.

Changes from the 2016 draft District Plan

This draft *Western City District Plan* replaces the draft West District Plan and draft South West District Plans which were released in November 2016.

Figure 7: Relationship of regional, district and local plans



Feedback

This draft District Plan incorporates feedback from the exhibition of draft District Plans from November 2016 to March 2017. This draft District Plan is the Commission's formal response to the key issues raised in submissions. The top five issues raised in relation to the draft West and South West District Plans are outlined below.

Transport planning

- Need for access to efficient north–south and east–west transport links to reduce commuting times for residents.

Vision and priorities for the District

- Support for the protection of the natural landscape, including biodiversity and the Metropolitan Rural Area for food protection.
- Need for government coordination to efficiently deliver the scale of growth with high quality design whilst protecting biodiversity and the scenic values of the landscape.
- Support for the Greater Penrith Collaboration Area, including the health and education precinct.
- Support for the Liverpool Collaboration Area, and planning for health and education precincts at Liverpool and Campbelltown–Macarthur.

Western Sydney Airport

- Need for greater clarity around governance arrangements and supporting infrastructure, notably a rail line running north-south from the Western Sydney Airport.
- Opportunity of the Western Sydney Airport and the Badgerys Creek Aerotropolis to create additional jobs and transport connections for the emerging City.
- Concerns about the potential impacts of the Western Sydney Airport and growth of the Badgerys Creek Aerotropolis coupled with increasing 24/7 freight operations on the environment and residential liveability, and the need to carefully manage these potential impacts.

Open space (including recreation facilities and walking and cycling)

- Support for improved active transport networks including cycleways, and a regional strategy for South Creek as a landscape framework for delivering the Western Parkland City while mitigating the urban heat island effect.

Implementation

- Importance of government coordination to efficiently deliver the scale of growth with high quality urban design while protecting and enhancing the natural landscape.
- Importance of job creation and social infrastructure keeping pace with all growth.

View the *Interim Submissions & Engagement Report* and *Submissions Response Report* at <https://www.greater.sydney/what-weve-heard> to see a summary of the responses to the key issues.



2

Infrastructure and collaboration

Greater Sydney is a successful and growing city, but, to become more liveable, productive and sustainable, it needs additional infrastructure and services in the right places and at the right time.

Infrastructure planning requires collaboration – managing the competing needs of a city involves all levels of government, industry and the community. The draft *Greater Sydney Region Plan* emphasises the alignment of local environmental plans, transport programs and other agency programs. This involves the interface of NSW Government investment, such as transport interchanges, and local infrastructure programmed by councils, such as public domain improvements.

Planning for infrastructure includes consideration of how such investments contribute to the shape and connectivity of Greater Sydney as a metropolis of three cities. This draft District Plan responds to major transport, health and education investments either committed or planned across the District, including the Western Sydney Airport and aligns with *Future Transport 2056*.

The increasingly rapid change of technological innovations will influence the planning and delivery of infrastructure. Recognising and facilitating this adaptability in infrastructure is critical.

Infrastructure – planned to support orderly growth, change and adaptability – must be efficient. Optimal use of infrastructure increases the capacity to better support communities.

For the Western City District, this means the following Planning Priorities:

- Planning for a city supported by infrastructure.
- Working through collaboration.

Planning Priority W1

Planning for a city supported by infrastructure

In giving effect to the draft *Greater Sydney Region Plan*, this Planning Priority delivers on **Objective 1: Infrastructure supports the three cities; Objective 2: Infrastructure aligns with forecast growth – growth infrastructure compact; Objective 3: Infrastructure adapts to meet future needs and Objective 4: Infrastructure use is optimised** and the corresponding strategies.

Future infrastructure investment is to be considered in the context of how it will contribute to the shape of Greater Sydney as a metropolis of three cities. This considers the influence of metropolitan, district and local level infrastructure planning, and emphasises connections between each of the three cities.


For the Western City District, east-west and north-south links will provide access between the emerging Western Sydney Airport and Badgerys Creek Aerotropolis and Liverpool, Greater Penrith and Campbelltown–Macarthur. These links will also provide access between the centres of the Western City District and Greater Parramatta and the Harbour CBD.

To align infrastructure with growth, a growth infrastructure compact approach could be used. This approach is being piloted in Greater Parramatta and the Olympic Peninsula (GPOP). The compact would identify possible scenarios for

land use and infrastructure to assess optimal land use, infrastructure investment and community outcomes. The Commission will use this pilot to consider a broader application, particularly for areas set to experience high growth.

Planning for infrastructure considers infrastructure in terms of its function: catalytic infrastructure such as major transport investments that generates greater demand and influences land uses; enabling infrastructure such as electricity and water, without which development cannot proceed; and supporting infrastructure such as local bus services that meet demand in growing communities.

In terms of transport planning, for example, new public transport infrastructure such as taxis and rideshare will help connect residents to their nearest strategic or metropolitan city cluster within 30 minutes. In other areas, traditional facilities such as libraries are being reimaged as community hubs.

 Actions	Responsibility
1. Prioritise infrastructure investments to support the vision of a metropolis of three cities.	Councils, other planning authorities, State agencies and State-owned corporations
2. Sequence growth across the three cities to promote north-south and east-west connections.	Councils, other planning authorities, State agencies and State-owned corporations
3. Align forecast growth with infrastructure.	Councils, other planning authorities, State agencies and State-owned corporations
4. Sequence infrastructure provision using a place-based approach.	Councils, other planning authorities, State agencies and State-owned corporations
5. Consider the adaptability of infrastructure and its potential shared use.	Councils, other planning authorities, State agencies and State-owned corporations
6. Maximise the utility of existing infrastructure assets and consider strategies to influence behaviour changes, to reduce the demand for new infrastructure, including supporting the development of adaptive and flexible regulations to allow decentralised utilities.	Councils, other planning authorities, State agencies and State-owned corporations

Planning Priority W2

Working through collaboration

In giving effect to the draft *Greater Sydney Region Plan*, this Planning Priority delivers on **Objective 5: Benefits of growth realised by collaboration of governments, community and business** and the corresponding action.

Collaboration in the planning and delivery of infrastructure, housing, jobs and great places is essential to realise the full benefits of growth.

The complexities of a growing region mean different approaches are required depending on the context. This ranges from nationally significant investment, corridors of renewal and land release, to a focus on a specific strategic centre or precinct.

The role of the collaboration also varies: it may be for the development of an integrated strategy where alignment of agencies is critical, for coordination of investment across different tiers of government to achieve land use outcomes, or for the delivery of specific projects.

Table 1 outlines the approaches supporting land use and infrastructure planning and delivery.

The suite of collaboration areas, priority growth areas and priority precincts are highlighted throughout this draft District Plan.

The Commission's facilitation role in bringing together various parties with an interest in the District's future and channelling their collective energy into improved planning outcomes, is demonstrated by its Collaboration Areas. This collaborative approach is underpinned by *Directions for a Greater Sydney* and is central to the way the Commission works.

Planning for the Western Sydney Airport and Badgerys Creek Aerotropolis will be coordinated through the **Western Sydney City Deal** which will involve collaboration between the Commission, Australian Government, NSW Government and the local councils of Blue Mountains, Camden, Campbelltown, Fairfield, Hawkesbury, Liverpool, Penrith and Wollondilly (refer to Planning Priority W8).

The responsibility for creating great places does not rest with any one organisation. As a non-statutory initiative, Collaboration Areas offer a new way of working to deliver collective responses that support growth and change. This will be undertaken by identifying and aligning the activities and investments of government and stakeholders, based on evidence, to respond to unprecedented growth and investment.

The Commission has identified **Liverpool, Greater Penrith** and **Campbelltown-Macarthur** as Collaboration Areas as highlighted throughout this draft District Plan (refer to Planning Priority W9).

The outputs of the collaborations are a Place Strategy and an Infrastructure Plan that provide certainty to the community and the private sector, and direct the NSW Government's investment and policies to achieving great places.

The collaboration for health and education precincts will lead to the development of plans that increase the attractiveness and productivity of each centre, coordinate and leverage urban renewal opportunities to deliver greater liveability outcomes, promote advanced technology and knowledge sectors on industrial and urban services land and align infrastructure delivery with urban renewal.

The Priority Precincts will be consistent with the objectives and strategies of the *Greater Sydney Region Plan* and the relevant district plans to enhance liveability, sustainability and productivity. These projects will be well planned and designed and will be delivered in collaboration with councils and informed by key government agencies and their asset plans. This planning will be supported by a special infrastructure contribution or similar satisfactory arrangement to help fund the delivery of essential community infrastructure such as health services, schools, open space and roads.

The Commission is also collaborating with local councils to improve regional open space and deliver Greater Sydney's Green Grid through the administration and management of the Metropolitan Greenspace Program (refer to Planning Priority W15).

Table 1: Approaches to supporting landuse and infrastructure planning and delivery

Collaboration	Agency	Focus
City Deal	Australian, State and local government	Domains for action: <ul style="list-style-type: none"> – governance, city planning and regulation – infrastructure and investment – housing – jobs and skills – innovation and digital opportunities – liveability and sustainability
Collaboration Areas	Greater Sydney Commission	Strategy development including: <ul style="list-style-type: none"> – integrated place management (strategic centres and health and education precincts) – strategy drivers: economic productivity, liveability, sustainability – infrastructure alignment
Priority Growth Areas Urban Renewal Corridors	NSW Department of Planning and Environment	Transformative corridor delivery including: <ul style="list-style-type: none"> – new land release areas – city shaping transport investment and urban renewal – infrastructure schedules and funding options
Priority Precincts	NSW Department of Planning and Environment	Transformative precinct delivery: <ul style="list-style-type: none"> – targeted development focused on housing diversity around a centre and transit node/rail station – infrastructure schedules and funding options
Urban Transformation	Urban Growth Development Corporation and Landcom	Project delivery: <ul style="list-style-type: none"> – focus on optimisation of government-owned land and urban renewal



Actions

7. Identify, prioritise and deliver Collaboration Areas.

Responsibility

Greater Sydney Commission

3

Liveability

The Western City District offers suburban and rural lifestyles with city benefits such as varied shopping and dining experiences and opportunities for authentic cultural expression. Diverse and distinctive urban centres like Liverpool, Greater Penrith and Campbelltown-Macarthur contrast with the historic and picturesque towns of Richmond, Windsor, Camden and Picton and multi-cultural hubs like Cabramatta and Fairfield and new communities in priority growth areas. The District's bushland, rivers and panoramic views across Greater Sydney are international tourist attractions. The District is also rich in environmental heritage including Aboriginal places and areas of cultural and natural heritage significance.

As the District transitions through the emergence of the Western Sydney Airport and Badgerys Creek Aerotropolis into a major city area, the District's population will grow by around 464,000 people. As the overall population grows, it is also ageing. The number of residents aged over 85 is expected to grow by 206 per cent, while the number of single-person households is expected to grow by 72 per cent. Growth in these households is expected in the local government areas of Camden (238 per cent), Liverpool (91 per cent) and Wollondilly (87 per cent), although couples with children are expected to remain the dominant household type in the District. As a result, there will be comparatively fewer working-age people (20–64 years) living in the District.

Together with overall population growth of around 464,000 (2016–2036), these demographic changes mean that an additional 184,500 homes will be required in the District by 2036.

Liveability is about people's quality of life. Maintaining and improving liveability means housing, infrastructure and services that meet people's needs; and the provision of a range of housing types in the right locations with measures to improve affordability. This enables people to stay in their neighbourhoods and communities as they transition through life.

Creating and renewing great places, neighbourhoods and centres requires place-based planning and design excellence that builds on local strengths and focuses on public places and open spaces.

Great places are walkable – they are designed, built and managed to encourage people of all ages and abilities to walk or cycle for leisure, transport or exercise. This requires fine grain urban form and land use mix at the heart of neighbourhoods. Walkable, great places that demonstrate these characteristics promote healthy, active lifestyles and social interaction and can better support the arts, creativity, cultural expression and innovation.

A place-based and collaborative approach is required to maintain and enhance the liveability of the Western City District and can be achieved by the following Planning Priorities:

- Providing services and social infrastructure to meet people's changing needs.
- Fostering healthy, creative, culturally rich and socially connected communities.
- Providing housing supply, choice and affordability, with access to jobs and services.
- Creating and renewing great places and local centres, and respecting the District's heritage.



Planning Priority W3

Providing services and social infrastructure to meet people's changing needs

In giving effect to the draft *Greater Sydney Region Plan*, this Planning Priority delivers on **Objective 6: Services and infrastructure meet communities' changing needs** and the corresponding strategies.

As the District's population grows, major demographic changes are also occurring. Planning must recognise the changing composition of population groups in local places and provide services and social infrastructure that meet the changes in people's needs through different stages of life. This requires integrated planning and collaboration. This includes considering both the provision of services and the overall outcomes for the community and intergenerational equity.

Population projections and age profiles show distinct differences where specific demographic groups will live in the Western City District (refer to Figures 8 and 9). The greatest increase in population is expected in Camden Local Government Area (a 178 per cent increase over the 20 years to 2036) due to the South West Priority Growth Area and the strong growth across all age groups. The lowest growth is in the Blue Mountains Local Government Area (a 10 per cent increase over the 20 years to 2036) which is expected to see a decline in the age groups 0–4 years of two per cent and 20–64 years of three per cent.

Growth increases demand on existing services and infrastructure, particularly sport and recreation facilities that are, in some cases, at or nearing capacity. Residents need the right local mix of services, programs and social infrastructure at the heart of walkable neighbourhoods to support them to live socially connected, active and healthy lives.

This includes co-located schools, health services, aged care, community and cultural facilities, parks and recreation facilities, and accessible walking and cycling connections.

Improving safety, accessibility and inclusion by co-locating activities benefits all residents and visitors. It supports a fine grain urban form and land use mix which provides greater diversity of uses and users and thereby improves liveability.

Creating opportunities for increased shared use and more flexible use of underutilised facilities such as schools, sports facilities, church halls and creative spaces can support growth and respond to the different needs of local demographic groups. Multipurpose and intergenerational facilities are the key to better use of, and access to, infrastructure in new developments and is essential in land release areas.

Publicly owned land, including social housing in renewal precincts, may provide opportunities to optimise the co-location of social infrastructure and mixed uses at the heart of neighbourhoods.

Integrated and targeted delivery of services and infrastructure is needed to support growth and respond to the different needs of population groups. Accessible local health services and regional health infrastructure such as hospitals are important for all people across the District. South Western Local Health District and Nepean Blue Mountains Local Health District focus on delivering healthy communities through local health services including community health services, obesity prevention and promotion of the benefits of a healthy built environment (refer to Planning Priority W4).

Children and young people

Over the 20 years to 2036, projections show an expected increase of 24,950 children aged four years or younger, with 41 per cent of this growth in Camden Local Government Area.

Planning for early education and child care facilities requires innovative approaches to the use of land and floor space, including co-location with compatible uses such as primary schools and office buildings, close to transport facilities.

A projected increase in school-aged children of 43 per cent necessitates planning for new and more innovative use of existing schools. The NSW Department of Education estimates that an extra 77,978 students will need to be accommodated in both government and non-government schools in the District by 2036. Growth is projected to be greatest in Camden (26,403), Liverpool (21,072), Campbelltown (13,541) and Penrith (11,008) local government areas.

Schools play an important role in creating and supporting inclusive and vibrant neighbourhoods. Planning for new schools, and use of existing schools must respond to demand in innovative ways such as more efficient use of land, contemporary design, greater sharing of spaces and facilities, and flexible learning spaces. Safe walking and cycling links to schools maximises opportunities for young people to lead more active lifestyles.

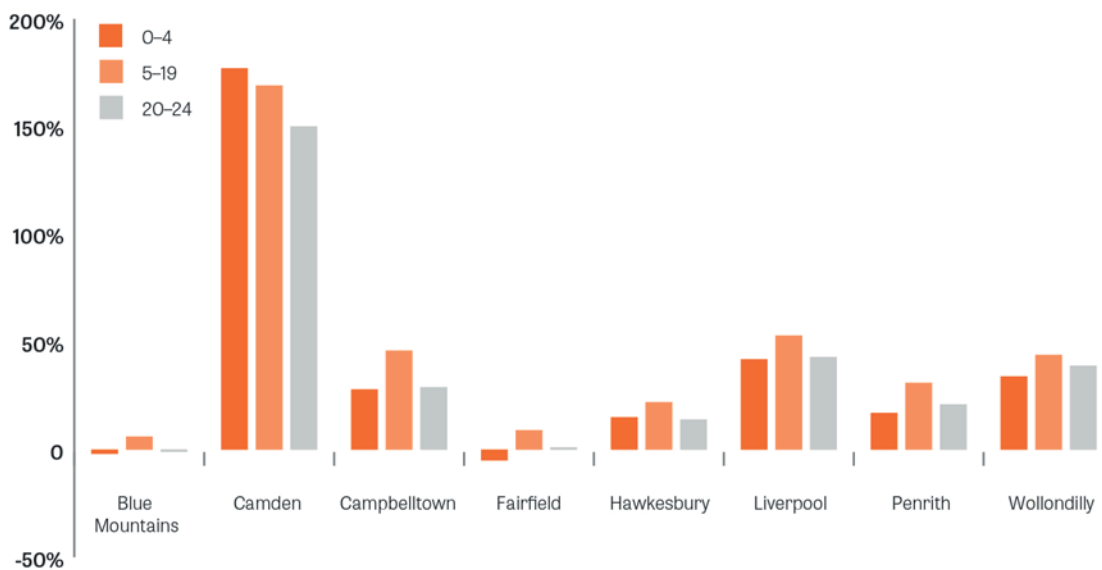
Education and Child Care SEPP

State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017 will make it easier for child care providers, schools, TAFEs and universities to build new facilities and improve existing facilities. It streamlines approval processes recognising the need for additional educational infrastructure with a focus on good design.

The accompanying *Child Care Planning Guideline* will assist in matters such as site selection, location and building design to meet national requirements for child care.

The NSW Department of Education's *School Assets Strategic Plan* sets the direction and framework for the future of school infrastructure. School Infrastructure NSW, a new specialist unit within the Department, will undertake school community planning and deliver the education infrastructure program, working with other State agencies and groups to develop schools as community hubs.

Figure 8: Western City District projected population change 2016 to 2036 by local government area: 0–4, 5–19 and 20–24 years



Source: NSW Department of Planning and Environment, 2016 New South Wales State and Local Government Area Household Projections and Implied Dwelling Requirements 2016 to 2036, NSW Government, Sydney.

The needs of children and young people go beyond schools. They also require careful consideration of the way that open spaces, cultural spaces and the public realm are designed and managed to include children and young people (refer to Planning Priority W6).

The Office of the Advocate for Children and Young People’s *NSW Strategic Plan for Children and Young People* is the first legislated three-year whole-of-government plan that is focused on all children and young people aged 0–24 years. It aims to help ensure children and young people have opportunities to thrive, get the services they need and have their voice heard.

Camden local government area is projected to see the largest growth in people aged 20–24 years across the District (150 per cent between 2016 and 2036). The District provides important opportunities for tertiary and vocational education and training. These allow people to gain and refine skills for employment and connect with other people in the community. TAFEs and universities are also employment hubs for knowledge-intensive industries.

Older people

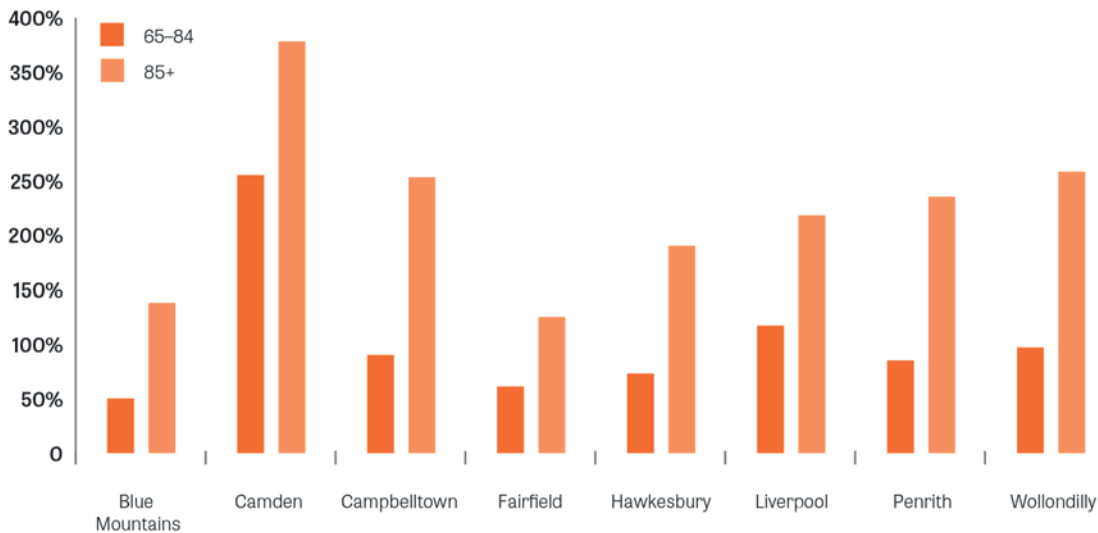
A 206 per cent proportional increase in people aged 85 and over, and a 93 per cent increase in the 65–84 age group is expected by 2036. This means 18 per cent of the District population will be aged 65 or over in 2036, up from 13 per cent in 2016.

Liverpool Local Government Area has the largest projected growth in the 65 to 84 age groups, with 23,750 more people. By comparison, Wollondilly Local Government Area will see a total growth of 5,650 people in these age groups.

More compact housing types and medium-density housing, as well as the design of walkable neighbourhoods, will create opportunities for older people to continue living in their community, where being close to family, friends and established health and support networks improves people’s wellbeing.¹

Walkable places that encourage older people to lead physically and socially active lives for as long as possible are required to facilitate ageing in community. Universal design– the design of homes and places that can be accessed, understood and used by all people, regardless of their age or ability – also improves accessibility for older people.

Figure 9: Western City District projected population change 2016 to 2036 by local government area: 65–84 and over 85 years



Source: NSW Department of Planning and Environment, 2016 New South Wales State and Local Government Area Household Projections and Implied Dwelling Requirements 2016 to 2036, NSW Government, Sydney

Coordinated and additional health, social and aged care services and collaborative responses across government and industry are needed to meet the expected increase in demand for local aged care facilities and respite services, including home care options (with associated visitor parking). This approach will also need to address care for people with specific needs such as those with dementia and the frail aged.

The *NSW Ageing Strategy 2016–2020*, prepared by the NSW Department of Family and Community Services, responds to the opportunities and challenges of the ageing population.

Accessibility

Public places including streets, parks, shopping precincts and community facilities must be designed so that people of all ages and abilities can participate in community life. In addition to the rapidly ageing population, the District includes over 61,500² people with disability. Walkable places and homes of universal design are essential to provide opportunities and participation for all people.

Joint and shared use

Infrastructure can be adapted and shared for different uses – school and open space facilities can be used for community, sports, arts, screen and cultural or recreational use when they are not otherwise required.

The Commission has identified a number of opportunities for developing a more collaborative city by enhancing shared use of spaces and greater connectivity between residents. These include the occasional use of streets for community events such as temporary markets, basketball and other sports or school fetes.

For example, within the Greater Sydney region, a memorandum of understanding and joint use agreement between the Hills Council and the NSW Department of Education enables co-funding and co-utilisation of a new outdoor sporting field and an indoor sporting centre at the Kellyville South Public School.

Shared use agreements increase opportunities for the community to access facilities and resources and facilitate programs and activities where resources and funding are limited. This is particularly important in urban environments with high land values and growing demand for access to open space and community facilities.

Related government initiatives:

- NSW Department of Education, *School Assets Strategic Plan Summary*, 2017
- NSW Government, *NSW Ageing Strategy*, 2016–2020
- Office of the Advocate for Children and Young People, *NSW Strategic Plan for Children and Young People*, 2016–2019
- NSW Health South Western Sydney Local Health District *Strategic and Healthcare Services Plan, Strategic Priorities in Health Care Delivery to 2011*
- NSW Health Nepean Blue Mountains Local Health District *Strategic Plan 2012 to 2017*

Useful links:

- Mapping the NSW Budget 2017–18
- State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017
- Livable Housing Design Guidelines



Actions

8. Deliver social infrastructure to reflect the needs of the community now and in the future.
9. Optimise the use of available public land for social infrastructure.

Responsibility

- Councils, other planning authorities and State agencies
- Councils, other planning authorities, State agencies and State-owned corporations

Planning Priority W4

Fostering healthy, creative, culturally rich and socially connected communities

In giving effect to the draft *Greater Sydney Region Plan*, this Planning Priority delivers on **Objective 7: Communities are healthy, resilient and socially connected**; **Objective 8: Greater Sydney's communities are culturally rich with diverse neighbourhoods** and **Objective 9: Greater Sydney celebrates the arts and supports creative industries and innovation** and the corresponding strategies.

To foster healthy, creative, culturally rich and socially connected communities this draft District Plan recognises cultural richness and diversity as some of Greater Sydney's key strengths. Strong social connections are key to these strengths and a foundation of resilience and healthy lifestyles among the District's residents. To support and deliver these outcomes a multi-faceted and place-based approach is required to focus on the local inter-relationships between healthy, creative, culturally rich and socially connected communities.

Healthy and active lifestyles

Research identifies three aspects of the built environment that support healthy lifestyles and improved health outcomes: strong social connections, physical activity and access to fresh food.³ Consequently, the design and management of streets, places and neighbourhoods are essential to achieving improved mental and physical health outcomes. These characteristics of the built environment are important preventative responses to the incidence of chronic lifestyle diseases like obesity and type 2 diabetes. This is important given that around 58 per cent of the adult population in the Western City District are overweight or obese.⁴

Walkable streets that provide accessible and safe connections to schools, daily needs and recreation facilities can encourage greater physical activity and social connection. Fine grain urban form and local mixed use places can provide better access to fresh food, together with opportunities for people to participate in arts, recreation and cultural activities. Connectivity of, and access to, diverse open space and opportunities for recreational physical activity are also essential.

Diverse neighbourhoods

Greater Sydney, like many global cities, has a diversity of people from differing socioeconomic circumstances and a range of social, cultural, ethnic and linguistic backgrounds. As the District grows and changes, supporting social connections, and cultural and creative expression will build resilience through understanding, trust and neighbourliness.

Targeted local responses to address spatial variations in socioeconomic disadvantage across the District are required, particularly in neighbourhoods that experience greater disadvantage.

The Western City District is home to people from many cultural and social backgrounds. The District is home to more than 320,000 people from 195 countries including Vietnam, Iraq, England, New Zealand and India. As a result, 36 per cent of the District's population speak 200 non-English languages in their homes.⁵

In Fairfield Local Government Area, 74 per cent of people speak 140 languages other than English. Vietnamese and Assyrian are the most commonly spoken languages in the area.

In Liverpool Local Government Area, 56 per cent of people speak 158 languages other than English. Arabic and Hindi are the most commonly spoken languages in the area. This compares with Hawkesbury and Wollondilly local government areas, where six per cent of residents speak around 70 languages other than English.

The Western City District is home to refugees from many parts of the world. Blue Mountains, Campbelltown, Fairfield, Hawkesbury, Liverpool and Penrith councils have declared Refugee

Welcome Zones and have made a commitment in spirit to welcoming refugees into communities and celebrating their diversity of cultures.

A diversity of housing types such as urban renewal, local infill – missing middle – and new communities in land release areas supports diversity of household types and community needs.

Place-based planning in the District's culturally diverse neighbourhoods utilises engagement that recognises the different ways people participate. Many councils have targeted approaches that consider specific linguistic or other needs to support greater participation.

A better understanding of people's social and economic aspirations and specific needs achieved through engagement and participation, enhances inclusion and identifies culturally appropriate responses to local needs, to deliver improved health and wellbeing outcomes.

Aboriginal people

The District's Aboriginal people, their histories and connections to Country and community make a valuable and continuing contribution to the District's heritage, culture and identity.

Supporting Aboriginal self-determination, economic participation and contemporary cultural expression will strengthen the District's identity and cultural richness.

The District contains landholdings acquired under the *Aboriginal Land Rights Act 1983* where Local Aboriginal Land Councils may be working towards planning outcomes that will help support self-determination and economic participation.

As this draft District Plan is implemented, engagement with Aboriginal communities will be founded on self-determination and mutual respect to foster opportunities for economic participation, culturally appropriate social infrastructure and contemporary cultural expression.

Supporting creative enterprise and social connection

Cultural and creative expression is a hallmark of innovation, and promotes understanding of differences. Place-based planning will build on the District's artistic, heritage, cultural, volunteering and creative strengths.

Co-locating artistic and creative organisations will support creative enterprises and precincts. This requires planning for multi-functional and shared spaces with opportunities for artists and makers to live, work, exhibit, sell and learn locally.

Cultural diversity is celebrated through a multitude of opportunities for cultural expression that develop and are nurtured by the communities of the Western City District. The District's artistic and cultural experiences include:



Western City District social connectors

Figure 10: Western City District social infrastructure

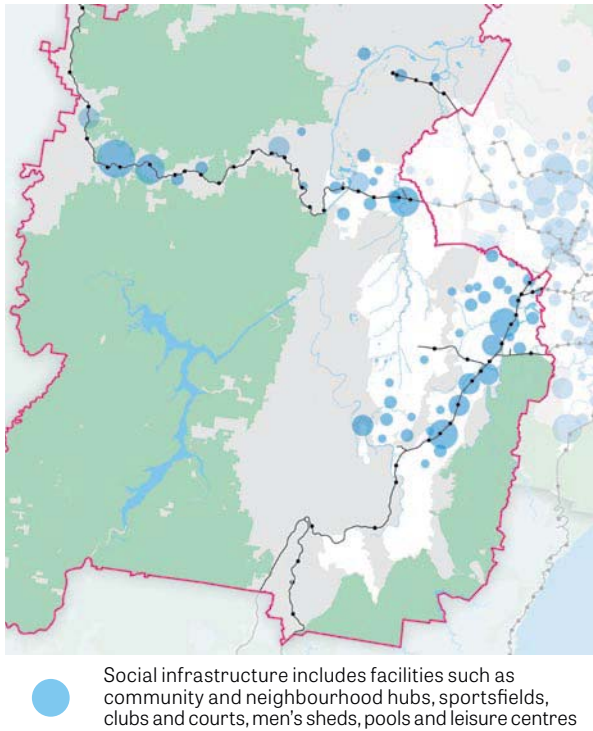


Figure 11: Western City District shared places

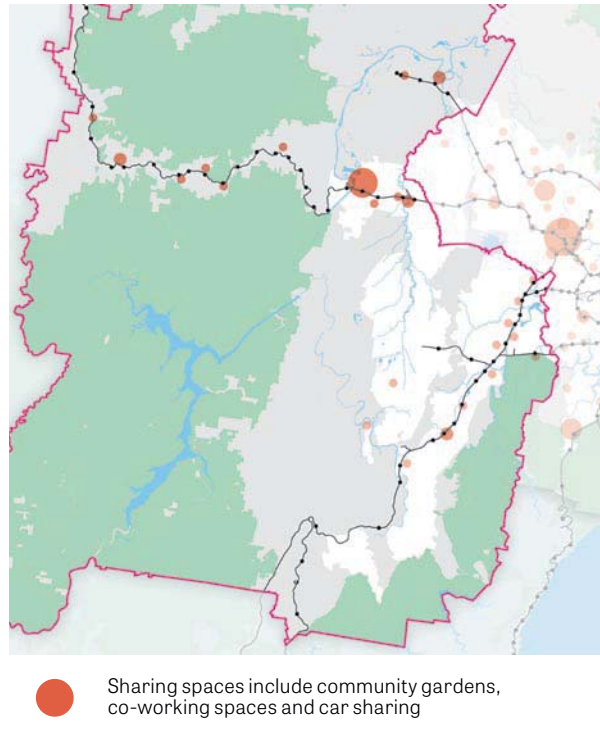


Figure 12: Western City District learning

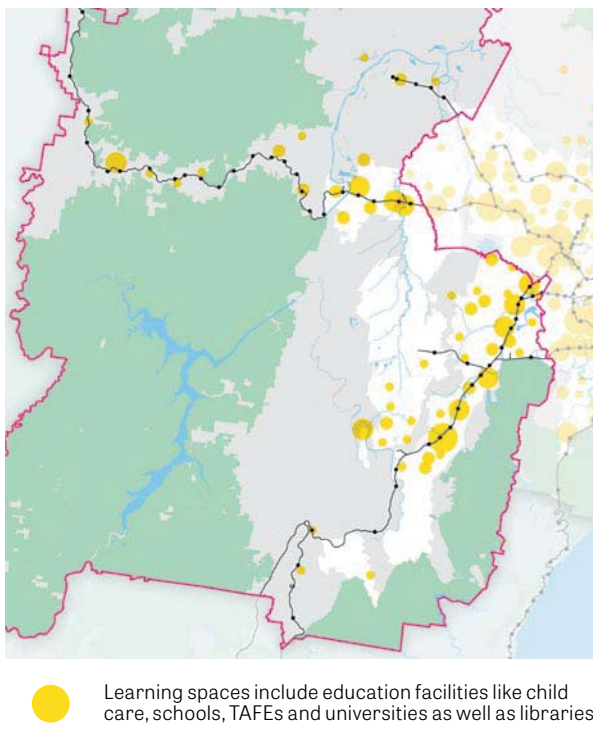
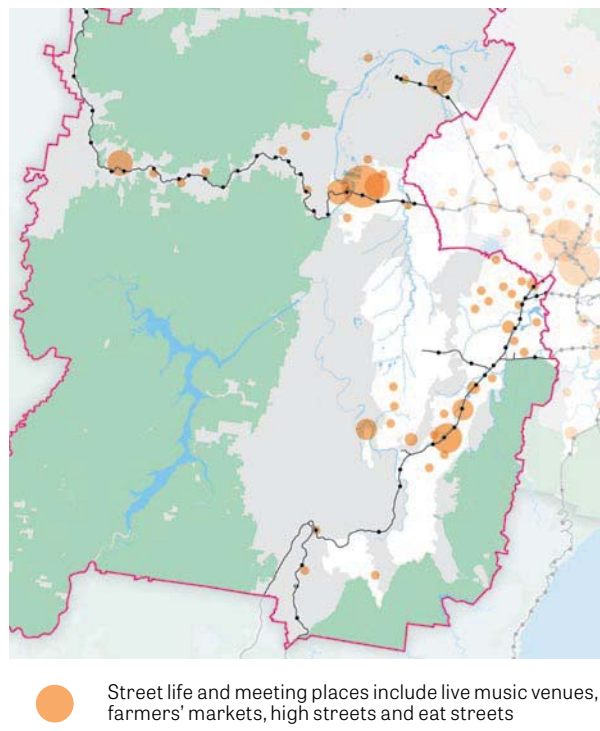


Figure 13: Western City District street life



Source: Greater Sydney Commission, 2017 adapted from Greater Sydney's Social Capital Study (2017), Cred Consulting.

- cultural events and celebrations such as NAIDOC Week, National Reconciliation Week, Cabramatta Moon Festival, Fairfield Multicultural Eid Festival, Warragamba Dam Fest and Blue Mountains Winter Magic and Music Festivals
- arts facilities such as Penrith's Joan Sutherland Performing Arts Centre, Lewers Bequest and Regional Gallery, Blue Mountains Cultural Centre, Norman Lindsay Gallery, Casula Powerhouse Arts Centre and Campbelltown Arts Centre
- cultural facilities, including the Hawkesbury Regional Art Gallery and Museum and Blue Mountains Theatre and Community Hub
- open space and sports facilities including Penrith Stadium and a high number of sports fields at Liverpool, Campbelltown and St Marys.

Support for a wide range of creative enterprises and opportunities for cultural expression will expand arts and cultural institutions, and support audience and artist participation. Locations to consider for creative industries and cultural enterprises may include underutilised mixed use areas and ground level retail or declining high streets. Greater use of public areas for interim and temporary uses through flexible regulatory settings can support activation of places and encourage participation. Continued investment in the arts, screen and cultural sector attracts a skilled workforce and encourages innovation in other sectors.

Consistent with the 2014 *State Infrastructure Strategy Update*, the Cultural Infrastructure Program Management Office is working with Infrastructure NSW to develop a cultural infrastructure strategy, which will include clear strategies and actions for Greater Sydney.

There are many educational and community facilities, social enterprises, community initiatives, clubs and sporting organisations and facilities that connect people with one another. These social connectors help foster healthy, culturally rich and networked communities which share values and trust and can develop resilience to shocks and stress.

Key social strengths and their multi-faceted nature are illustrated in Figures 10 to 13. These preliminary maps illustrate concentrations of social connectors in and around some local centres. These connectors

provide opportunities for people to connect with one another and include:

- social infrastructure such as community and neighbourhood hubs, sportsfields, clubs and courts, men's sheds, pools and leisure centres
- education facilities like child care, schools, TAFEs and universities as well as libraries
- sharing spaces like community gardens, co-working spaces and car sharing
- street life and meeting places including live music venues, farmers' markets, high streets and eat streets.

Stronger concentrations of social connectors are indicated by larger dots. The maps illustrate examples of centres where place-based planning can recognise and enhance existing community connections and provide a focus for strengthening and adding new social connectors. Focusing and augmenting social connectors in accessible places will help to improve individual and community health, inclusion and participation outcomes.

Social connectors are some of the characteristics on which the local identity and distinctive functions, of these centres are built. For example, street life is particularly evident in places like Cabramatta, Penrith City Centre and Katoomba.

Healthy, culturally rich and networked communities share values and trust.

The District's cultural vibrancy is reinforced by night-time activities that extend from popular eat streets, clubs and small bars to lifestyle activities like cinemas. Stimulating and diversifying the night-time economy in appropriate locations across the District will support local economies and culture. This can generally occur in mixed-use centres with adequate noise control, locally appropriate operating hours and safe late-night travel options.

Lifelong learning facilities and libraries continue to provide valuable opportunities to continue education and connect with others in the community. Digital connectivity is also emerging as key to building broad and diverse communities of interest that can cross traditional spatial boundaries.

In the Western City District places with high concentrations of social connectors are characterised by:

- access to trains or high frequency bus routes
- cultural and economic diversity
- high levels of volunteering
- high provision of social infrastructure
- access to education and learning
- walkable town centre / eat street
- diverse housing mix (density, tenure, affordability).

Place-based planning to enhance social connections within and across communities should focus these activities at the heart of neighbourhoods and in local centres to enhance social and economic participation.

This co-location of social infrastructure with daily needs and other services helps build connections – as is evidenced at multipurpose intergenerational facilities such as the Blue Mountains Cultural Centre.

In recognition of the importance of sporting participation as a key activity and social strength, the NSW Office of Sport will bring councils together across the District to develop a Sport and Recreation Participation Strategy and a Sport and Recreation Facility Plan for the District.

Related government initiatives:

- NSW Department of Planning and Environment, *Aboriginal Community Land and Infrastructure Programs*
- NSW Department of Planning and Environment, *Cultural Infrastructure Program*
- NSW Office of Sport, *A New Way of Delivering Sport and Active Recreation in NSW*

 Actions	Responsibility
10. Deliver inclusive places for people of all ages and abilities that support healthy, resilient and socially connected communities by: <ul style="list-style-type: none"> a. providing walkable places with active street life and a human scale b. co-locating schools, social, health, sporting, cultural and shared facilities. 	Councils, other planning authorities and State agencies
11. Consider cultural diversity in strategic planning and engagement.	Councils, other planning authorities and State agencies
12. Strengthen the economic self-determination of Aboriginal communities by engagement and consultation with Local Aboriginal Land Councils to better understand and support their economic aspirations as they relate to land use planning.	Councils, other planning authorities, State agencies and State-owned corporations
13. Facilitate opportunities for creative and artistic expression and participation, wherever feasible with a minimum regulatory burden, including: <ul style="list-style-type: none"> a. creative arts and cultural enterprises and facilities b. creative interim and temporary uses c. appropriate development of the night-time economy. 	Councils, other planning authorities, State agencies and State-owned corporations
14. Strengthen social connections within and between communities through better understanding of the nature of social networks and supporting infrastructure in local places.	Councils, other planning authorities, State agencies and State-owned corporations



Planning Priority W5

Providing housing supply, choice and affordability, with access to jobs and services

In giving effect to the draft *Greater Sydney Region Plan*, this Planning Priority delivers on **Objective 10: Greater housing supply**; and **Objective 11: Housing is more diverse and affordable** and the corresponding strategies and actions.

The draft *Greater Sydney Region Plan* sets out objectives to deliver housing supply and affordability. The location, type and cost of housing requires choices that have far-reaching impacts on quality of life, including time spent commuting, which affects people’s ability to spend time with family or in the community.

Housing is more than just dwellings and needs to be considered across the housing continuum and with a place-based approach that is designed to support communities and create great places (refer to Objective 11 of the draft *Greater Sydney Region Plan*).

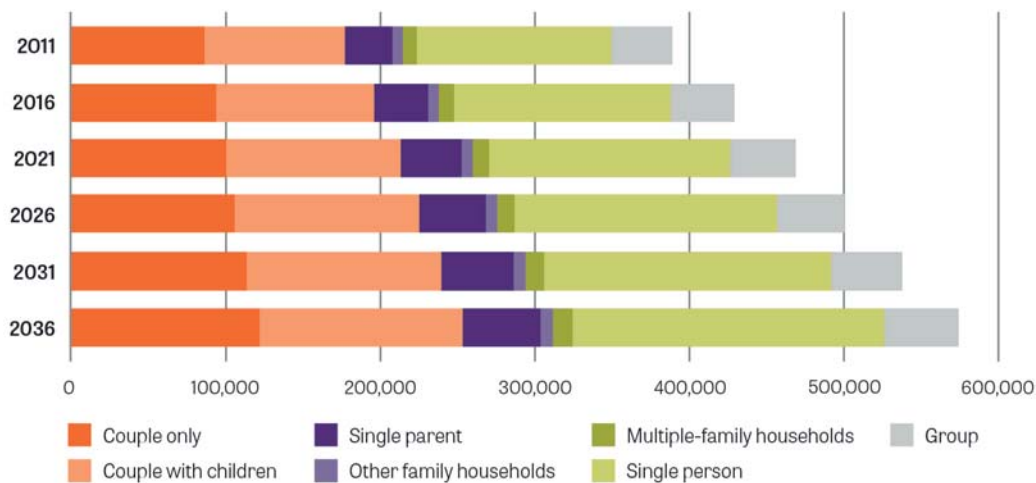
The NSW Department of Planning and Environment’s projections of population and household growth in the Western City District translate to a need for an additional 184,500 homes between 2016 to 2036.

Housing diversity and choice

New housing must be in the right places to meet demand for different housing types, tenure, price points, preferred locations and design. Housing supply must be coordinated with infrastructure delivery to create liveable, walkable, cycle-friendly neighbourhoods with shops, services and public transport. This means that some areas are not appropriate for additional housing due to natural or amenity constraints, or lack of access to services and public transport.

Planning for housing needs to consider the type of dwellings required to respond to expected changes in household and age structures (refer to Figure 14). The number of single-person households, for example, is expected to increase by 72 per cent over 20 years to 2036, with 44,300 more single-person

Figure 14: Western City District projected household structure 2011–2036



Source: NSW Department of Planning and Environment, 2016 *New South Wales State and Local Government Area Household Projections and Implied Dwelling Requirements 2016 to 2036*, NSW Government, Sydney.

households. Although the number of couples-with-children households is expected to increase by only 37 per cent, it is also expected that there will be 56,600 more couples-with-children households, which represents the largest household change. This requires additional flexible housing types, including smaller homes for single persons, larger homes for families and culturally appropriate housing that can accommodate several family groups or generations living together, as well as more accessible and adaptable housing of universal design.

Housing preferences

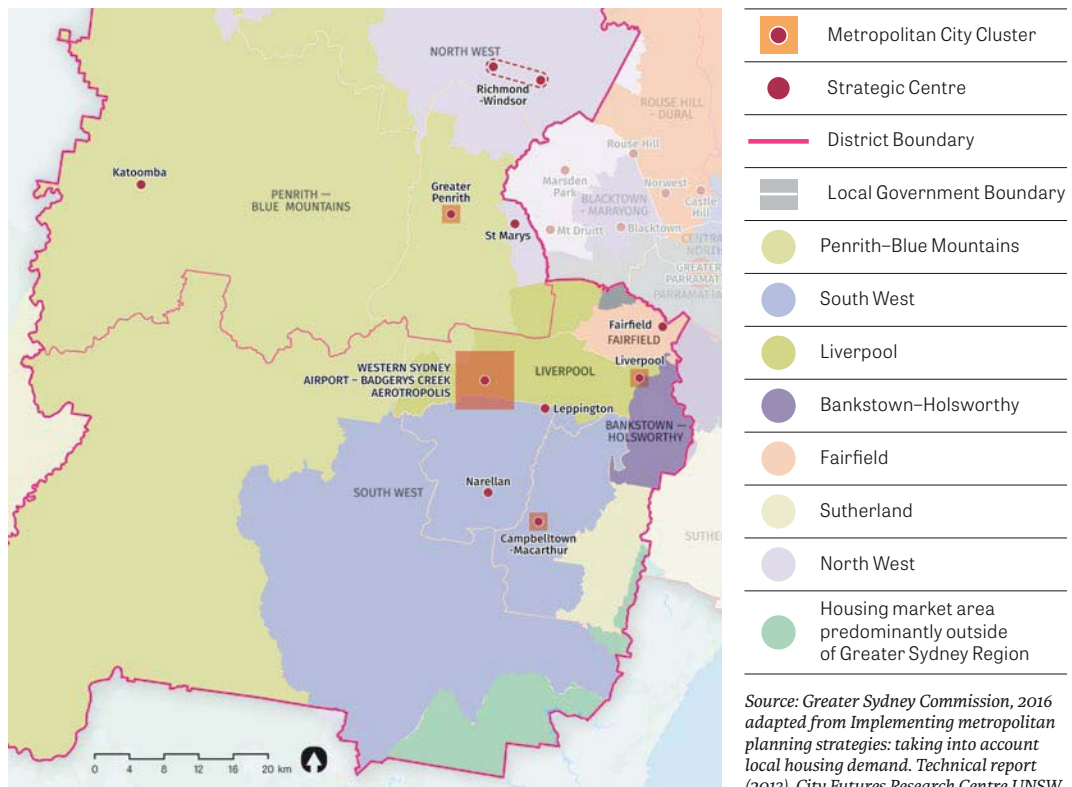
Research into housing preferences in Greater Sydney shows that people generally prefer to remain within their local area, with 82 per cent of residents moving into a new home within 15 kilometres of their former residence.⁶ There are five housing market demand areas in the Western City District (refer to Figure 15):

- **Fairfield** – centred on the established neighbourhoods of Fairfield, Cabramatta, Prairiewood and Bonnyrigg

- **Liverpool** – including land release areas such as the South West Priority Growth Area
- **South West** – including the South West Priority Growth Area, the proposed Greater Macarthur Priority Growth Area, Wilton Priority Growth Area, Claymore Urban Renewal and Airs Bradbury Renewal Project
- **Penrith-Blue Mountains** – Greater Penrith and the villages of the Blue Mountains
- **North West** – including St Marys, Vineyard, the towns and villages of the Hawkesbury, and the eastern part of the Penrith health and education precinct at Werrington.

These housing markets mean that providing supply in one market demand area may not satisfy demand in another. Understanding need and capacity in individual housing markets will better satisfy residents’ preferred housing locations.

Figure 15: Western City District housing market areas



The District also includes portions of the Sutherland, Bankstown-Holsworthy and Parramatta Housing Market Areas. They are addressed in the draft South and Central City District Plans respectively.

Historic housing supply

Dwelling completions are at their highest levels in 16 years in the District, with 7,693 completions in 2016-2017.⁷ In the five-year period from July 2012 to June 2017, 31,553 new dwellings were completed. Of these completions, 28 per cent were in Camden, 25 per cent in Liverpool and 20 per cent in Penrith local government areas.

In the past five years, 77 per cent of completions were detached dwellings and 23 per cent were multi-unit dwellings in the District. While the majority of housing completions were detached dwellings, there has been a relatively even growth in multi-unit dwellings and detached dwellings in Fairfield Local Government Area and this is expected to continue.

Multi-unit dwellings in the District provide transitional housing for seniors, homes for single persons and more affordable homes for young people and young families. Existing housing stock in the District continues to be dominated by detached dwellings.

Over the past 10 years the District has had an annual average dwelling completions rate of 4,527. Forecast supply of housing growth in the District has identified the potential for dwelling completions above this annual average in the next 5 years.

Current initiatives and opportunities

Additional capacity for housing supply is well progressed across much of the District, including the State-led projects through the Priority Growth Areas and Priority Precincts:

- Western Sydney Airport Priority Growth Area – surrounding the Western Sydney Airport and Badgerys Creek Aerotropolis
- South West Priority Growth Area including:
 - Leppington Priority Precinct
 - Precincts at Oran Park, Catherine Field and areas being investigated at Lowes Creek, Merrylands and Pondicherry

- Greater Macarthur Priority Growth Area comprising:
 - Glenfield to Macarthur Corridor – including Precincts at Macquarie Fields, Ingleburn, Minto, Leumeah, Campbelltown and Macarthur, as well as the:
 - Glenfield Priority Precinct
 - Menangle Park, Gilead and Appin
- Wilton Priority Growth Area
- Vineyard Precinct in the North West Priority Growth Area.

The Priority Precincts will be consistent with the objectives and strategies of the *Greater Sydney Region Plan* and the relevant district plans to enhance liveability, sustainability and productivity. These projects will be well planned and designed and will be delivered in collaboration with councils and informed by key government agencies and their asset plans. This planning will be supported by a special infrastructure contribution or similar satisfactory arrangement to help fund the delivery of essential community infrastructure such as health, schools, open space and roads.

Liverpool, Penrith and Fairfield councils are investigating opportunities for new homes close to transport and services.

In the short to medium term, Liverpool, Penrith and Fairfield councils are investigating opportunities for new homes close to transport and services.

The *Fairfield City Settlement Action Plan 2017–2019* plans for local housing options for humanitarian entrants, refugees, people seeking asylum and other vulnerable migrant groups. Between 2016–17, precincts in Fairfield have also been contributing to the missing middle with the emergence of duplex and triplex developments.

In the Metropolitan Rural Area, Blue Mountains City Council is master planning six towns and villages.

In the Hawkesbury Local Government Area, the NSW Government is progressing investigations into the Hawkesbury-Nepean Valley floodplain, to identify the extent of the constraints and considerations for extreme event floods. These extreme events don't necessarily mean development cannot occur, but consideration of the resilience of

the new development to flooding and recovery, as well as the ability to evacuate the areas need to be taken into account.

In the Campbelltown Local Government Area, redevelopment of older public housing estates at Minto, Airs, Bradbury and Claymore as well as Bonnyrigg in the Fairfield Local Government Area involve temporary and permanent re-housing of social housing tenants and creating new housing and recreational spaces, while reducing concentrations of public housing in these targeted communities.

Other local government strategies that identify opportunities to increase capacity for housing in the District include:

- Blue Mountains Residential Strategy and Addendum (2010)
- Camden Residential Strategy (2008)
- Campbelltown Residential Development Strategy (2014)
- Fairfield Residential Development Strategy East (2014)
- Hawkesbury Residential Land Strategy (2011)
- Liverpool Residential Development Strategy (2008)
- Penrith City Strategy (2013)
- Wollondilly Growth Management Strategy (2011).



More housing in the right locations

Creating capacity for new housing in the right locations requires clear criteria for where capacity is to be located. Accommodating homes for the next generation needs to be linked to local infrastructure – both to optimise existing infrastructure use and to maximise investment in new infrastructure (refer to Figure 16).

Urban renewal

Opportunities for urban renewal need to be considered by location and by capacity of existing and proposed infrastructure. In older more established parts of Greater Sydney, urban renewal opportunities may exist around regional transport and strategic centres where links for walking and cycling promote a healthy lifestyle.

Where there is significant investment in transit corridors, both existing and proposed, urban renewal may best be investigated in key nodes along the corridor. Corridor investigations can provide a longer-term strategic context while the development of precincts within the corridor is sequenced over time.

The Commission proposes locational criteria for urban renewal investigation opportunities to include:

- alignment with investment in regional and district infrastructure. This acknowledges the catalytic impacts of infrastructure together with other possible future NSW Government investments. It also acknowledges the opportunities created by enhancements to existing infrastructure such as upgrades to schools, open space including sporting facilities and transport
- accessibility to jobs, noting close to half of Greater Sydney's jobs are generated in strategic centres
- accessibility to regional transport, noting that high-frequency transport services can create efficient connections to local transport services and expand the catchment area of people who can access regional transport
- the catchment area that is within walking distance of centres with rail, light rail or regional bus transport.

Other matters to be carefully considered include:

- the feasibility of development, including financial viability across a range of housing configurations (one, two, three or more bedrooms) and consistency with market demand
- heritage and cultural elements, visual impacts, natural hazards such as flooding, special land uses and other environmental constraints
- local features such as topography, lot sizes, strata ownership and the transition between different built forms
- the staging of enabling infrastructure, upgrades or expansions of social infrastructure such as local schools, open space and community facilities.

The Greater Penrith to St Marys corridor is a hub of economic activity that links the Penrith City Centre, and the health and education precinct, to the development opportunities around St Marys. A future transport corridor, running north to south between Macarthur, Narellan, Western Sydney Airport and Cudgegong station, will connect with the existing heavy rail corridor running east to west.

Declaring the Greater Penrith to St Marys corridor a growth area will provide for an integration of land use and transport planning to plan for a connected, vibrant District with more homes, jobs and services with open space opportunities. It will guide redevelopment opportunities and identify the infrastructure required to support continued growth.

Local infill development

Medium density housing which includes villas and town houses within existing areas can provide greater housing variety while maintaining the appeal and amenity of an area.

Councils are in the best position to investigate and confirm what locations in their local government area are suited to additional medium density opportunities. In doing this the Commission proposes that councils should consider:

- transitional areas between urban renewal precincts and existing neighbourhoods
- residential land around local centres where links for walking and cycling help promote a healthy lifestyle
- areas with good proximity to regional transport where more intensive urban renewal is not suitable due to challenging topography or other characteristics
- lower density parts of suburban Greater Sydney undergoing replacement of older housing stock.

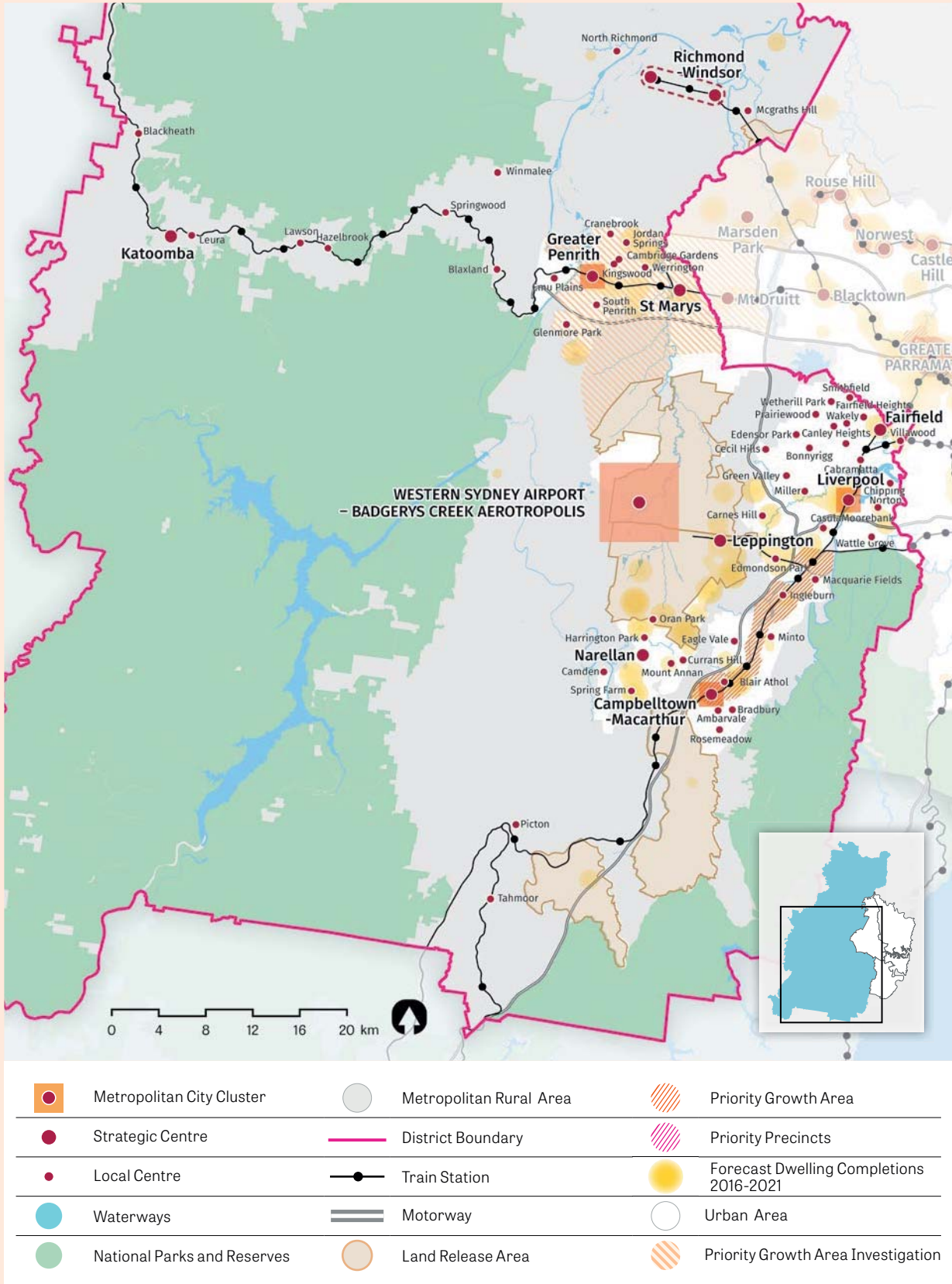
Design guidelines set out in the NSW Department of Planning and Environment's *Draft Medium Density Design Guide* show how this infill can promote good design outcomes.

New communities in land release areas

The Priority Growth Area programs of the NSW Department of Planning and Environment guide development in land release areas. In the medium and longer term, there is potential to accommodate new dwellings in large priority growth areas including the North West, South West and Wilton Priority Growth Areas and the southern part of Greater Macarthur Priority Growth Area.

The Western Sydney Airport Priority Growth Area will include new communities at the same time as the development of the Western Economic Corridor, which includes Western Sydney Airport and Western Sydney Employment Area.

Figure 16: Western City District future housing supply



Source: Greater Sydney Commission & NSW Department of Planning and Environment

Housing strategies and targets

To address housing supply, strategies are to be developed by councils to:

- make provision to meet the five and 10-year (when agreed) housing targets and identify capacity to contribute to a rolling program to deliver the 20-year district strategic supply
- inform the Affordable Rental Housing Target for development precincts
- coordinate the planning and delivery of local and State infrastructure.

The NSW Department of Planning and Environment will prepare guidelines to support housing strategies as outlined in the draft *Greater Sydney Region Plan* in Objective 10.

Table 2 sets five-year housing targets for the District, which are the same as published in the November 2016 draft District Plans. These are based on the District’s dwelling needs and the existing opportunities to deliver supply. They include all types of housing – traditional detached and attached houses, apartments, seniors housing, granny flats and aged care.

The five-year targets are generally consistent with known housing approvals and construction activity. These are minimum targets and largely reflect delivery potential under current planning controls.

Meeting the demand over 20 years requires a longer-term outlook. The draft *Greater Sydney Region Plan* sets a District 20-year strategic housing target of 184,500 equating to an average annual supply of 9,225 dwellings, or one in four of all new homes in Greater Sydney over 20 years.

The Commission will work with each council to develop 6-10 year housing targets.

Future Transport 2056 identifies city-shaping transport projects that will, in the long term, improve accessibility to jobs and services, and act as a stimulus for additional housing supply. To deliver the 20-year strategic housing target, councils should, in local housing strategies, investigate and recognise opportunities for long-term housing supply associated with city-shaping transport corridors, growing, emerging and new centres, and other areas with high accessibility. This includes precincts at North Bringelly and Rossmore in the Western Sydney Airport Priority Growth Area.

Table 2: Western City District housing targets by local government area

LGA	0–5 year housing supply targets: 2016–2021
Blue Mountains	650
Camden	11,800
Campbelltown	6,800
Fairfield	3,050
Hawkesbury	1,150
Liverpool	8,250
Penrith	6,600
Wollondilly	1,550
Western City District Total	39,850

Affordable Rental Housing Targets

Housing has a dual social and economic role across Greater Sydney. Communities require housing that meets changing demographic needs over time and that provides stability. At the same time housing has an economic productivity role by providing housing choice and affordability for a cross section of workers.

The Commission’s research and testing of needs through stakeholder and community consultation reaffirms the critical importance of providing a diversity of housing outcomes across the housing continuum in Greater Sydney.

Ensuring a steady supply of market housing in locations well supported by existing or planned services and amenity with an emphasis on public transport access is outlined in Objective 10 in the draft *Greater Sydney Region Plan*.

The Affordable Rental Housing State Environmental Planning Policy provides incentives for development projects to include a 10-year term for affordable rental housing dwellings for very low to moderate income households, however the areas where this is being applied are limited.

The NSW Department of Planning and Environment and the Commission will jointly investigate ways to facilitate housing diversity through innovative purchase and rental models.

This draft District Plan recommends the NSW Government adopt Affordable Rental Housing Targets for very low to low-income households in Greater Sydney as a mechanism to deliver a supply of affordable housing.

The Commission’s testing reaffirms that across Greater Sydney targets generally in the range of 5–10 per cent of new residential floor space are viable.

The Commission will work with the NSW Department of Planning and Environment to develop the mechanisms required for delivery of the proposed Affordable Rental Housing Targets.

Further opportunities for planning to support housing affordability and diversity measures include:

- more compact housing, either on smaller land lots or through a proportion of smaller apartments of clever design to support moderate-income households and particularly key workers and skilled workers in targeted employment areas such as health and education precincts
- new owner-developer apartment models that support lower cost and more flexible delivery of apartments for like-minded owner groups.

⚙️ Actions	Responsibility
15. Prepare local or district housing strategies that address the following: <ol style="list-style-type: none"> a. the delivery of five-year housing supply targets for each local government area b. the delivery of 6-10 year (when agreed) housing supply targets for each local government area c. capacity to contribute to the longer term 20-year strategic housing target for the District d. housing strategy requirements outlined in Objective 10 of the draft <i>Greater Sydney Region Plan</i> that include: <ol style="list-style-type: none"> i. creating capacity for more housing in the right locations ii. supporting planning and delivery of priority growth areas and precincts as relevant to each local government area iii. supporting investigation of opportunities for alignment with investment in regional and district infrastructure iv. supporting the role of centres. 	Blue Mountains City Council, Camden Council, Campbelltown City Council, Fairfield City Council, Hawkesbury City Council, Liverpool City Council, Penrith City Council, Wollondilly Shire Council
16. Prepare Affordable Rental Housing Target schemes.	Councils and other planning authorities

Planning Priority W6

Creating and renewing great places and local centres, and respecting the District's heritage

In giving effect to the draft *Greater Sydney Region Plan*, this Planning Priority delivers on **Objective 12: Great places that bring people together** and **Objective 13: Environmental heritage is conserved and enhanced** and the corresponding strategies.

Greater Sydney's cities, centres and neighbourhoods each have a unique combination of local people, history, culture, arts, climate, built form and natural features creating places with distinctive identities and functions. Great places build on these characteristics to create a sense of place that reflects shared community values and culture. Through this, they attract residents, workers, visitors, enterprise and investment.

Great places include all parts of the public realm such as open space, streets, centres and neighbourhoods. They exhibit design excellence and start with, and focus on, open space and a people-friendly public realm.

To create great places the mechanisms for delivering public benefits need to be agreed early in the planning process, so that places provide a combination of the following elements as set out in the draft *Greater Sydney Region Plan*:

- Well-designed built environment – great places are enjoyable and attractive, they are safe, clean and flexible with a mix of sizes and functions.
- Social infrastructure and opportunity – great places are inclusive of people of all ages and abilities, with a range of authentic local experiences and opportunities for social interaction and connection.
- Fine grain urban form – great places are of human scale, walkable with a mix of land uses including public buildings at the heart of communities.

The District's great places include local and strategic centres such as Katoomba, Picton and Camden and riverside neighbourhoods like Richmond and Windsor, together with major shopping precincts, and distinctive dining and night-time precincts at Penrith and Cabramatta.

The unique character and distinctive mix of land uses, activities, social connectors and functions in these places provide social and physical connectivity, local diversity and cultural richness, all of which contribute to the liveability of neighbourhoods and enhance people's quality of life.

Places best achieve these outcomes when they exhibit human scale and provide fine grain urban form and land use mix at the heart of neighbourhoods. Accessibility for people of all ages and abilities is central to creating and renewing great places, particularly walking and cycling connections to and within local places.

Improving liveability in urban environments necessitates planning for a mix of high quality places that engage, activate and connect people and communities. Co-locating activities and social infrastructure in mixed use areas delivers more efficient use of land and enhances the viability of, and access to, great places, centres and public transport.

To deliver high quality, community specific and place-based outcomes, planning for the District should integrate site-specific planning proposals with precinct-wide place and public domain outcomes through place-based planning. This is a method by which great places can capitalise on the community's shared values and strengths and the place's locally distinctive attributes through collaboration and meaningful community participation.

With growth and change, more high-quality public places will be required in and around centres. Renewal will increase opportunities to expand and connect these places and to explore opportunities for innovative public places, such as rooftops and podiums.

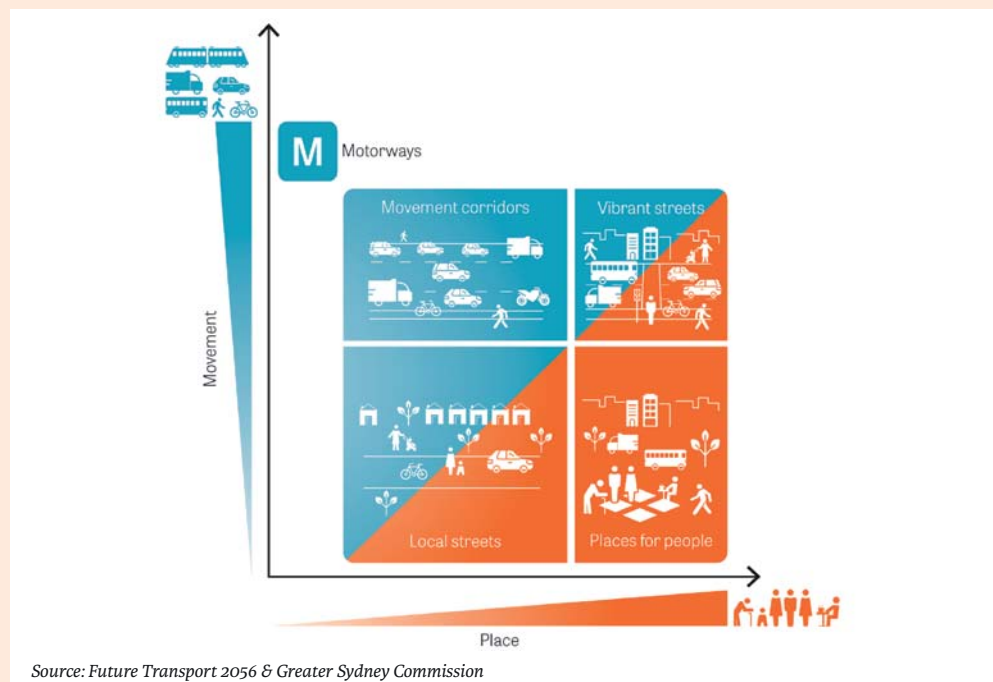
Streets as places

Creating and renewing great places also requires recognition of the function of streets as places (refer to Figure 17). Streets are important for moving people and goods between places, but are also important places for people and street life, enhancing social and economic participation.

Much of people's experience of the public realm is in a street environment. Consequently, the way the street meets people's different movement and place needs determines the character of the street and shapes people's experience of a city. Creating and renewing streets as great places is therefore key to improving liveability.

Although streets differ in their function and character, maximising opportunities for walking, safe-cycling and social interaction is a priority. This requires allocation of road space between footpaths, cycleways, public transport and vehicles that considers people's safety needs and balances movement and place functions in response to the type of street and local conditions.

Figure 17: Movement and place framework



Places for people like High Street, Penrith, Leura Mall and Katoomba perform intense place functions with highly significant local pedestrian movements.

Local streets are important places for people as they provide the principal opportunity for formal and informal connections with neighbours and the local community. They must also provide good local access.

Movement corridors like the Great Western Highway provide safe and efficient movement between centres, neighbourhoods and places.

Local centres

Local centres are the focal point of neighbourhoods and where they are a focus for public transport, they are an important part of a 30-minute city. Local centres with supermarkets greater than 1,000 square metres account for nearly 18 per cent of all jobs in Greater Sydney. They also meet residents' needs for shopping, social interaction, cultural and creative expression.

Local centres vary in size, function and character and meet a variety of needs, from a cluster of local shops like those at Canley Vale to large retail centres such as Penrith. Local centres also attract tourists, particularly in the Blue Mountains and Hawkesbury local government areas. They each perform a variety of functions but all form an important part of local community life as social connectors and they contain many of the District's great places.

Centres such as Leura and Camden serve as community hubs, with their scenic qualities that enhance their vibrant character. Richmond,

Glenbrook and Picton villages are emerging as destinations for new eateries, cafes offering unique neighbourhood qualities and cultural facilities.

Camden Council is developing an urban design framework which will be a long term strategic framework for decision making that seeks to create a resilient and sustainable future for the local centre.

The success of local centres and high streets should be supported through specific and flexible measures to improve activation and viability. This may include provision of creative workspaces, opportunities for social, creative or cultural enterprise, pop-up retail and other innovative uses. Activation of side streets may assist in some locations.

Rapid changes in technology and retail trends, emerging night-time economies and population growth require councils to be agile and responsive in their planning for the growth of centres. Adaptive and flexible spaces may be required because of an increasing demand for workspaces from start-up and creative industries.



A vibrant and safe night-time economy will enhance Greater Sydney's standing as a global city, while meeting the social and recreational needs of communities. Planning for a night-time economy in centres includes supporting a diverse range of small businesses such as retail, and cultural events and assets, accompanied by a suitable regulatory environment.

The accessibility of local centres with supermarkets greater than 1,000 square metres is illustrated in Figures 18 and 19. As a result of this walkability, many of these local centres will be increasingly supported by residential development. However housing should not compromise the ability of the centre to grow, expand and change over time. It is also recognised that some centres without supermarkets have specialised roles.

The management of local centres is predominantly led by councils. Considerations for a local hierarchy of centres within this classification should be informed by a strategic planning process at a local level including an assessment on how the proposed hierarchy influences decision-making for commercial, retail and other uses.

An understanding of the unique identity, size, land use mix, catchment and potential of each local centre and the local centres hierarchy will inform housing strategies. This draft District Plan identifies a range of specific matters for consideration in place-based planning for centres. They include:

- provide public realm and open space focus
- deliver transit-oriented development and co-locate facilities and social infrastructure
- provide, increase or improve local infrastructure and open space
- improve walking, cycling and public transport connections, including through the Greater Sydney Green Grid
- protect or expand retail and/or commercial floor space
- protect or expand employment opportunities
- support the night-time economy
- integrate and support arts and creative enterprise and expression
- augment or provide community facilities and services and cultural facilities

- conserve and interpret heritage values
- accommodate local festivals, celebrations, temporary and interim uses
- increase residential development in, or within a walkable distance of, the centre
- provide parking that is adaptable to future uses and takes account of access to public transport, walking and cycling connections.

Heritage and character

Heritage and history are also important components of local identity and are important attributes of great places. The District's rich Aboriginal, cultural and natural heritage reinforces its sense of place and identity. A wide variety of local heritage items and heritage streetscapes also form part of the character of centres throughout the District.

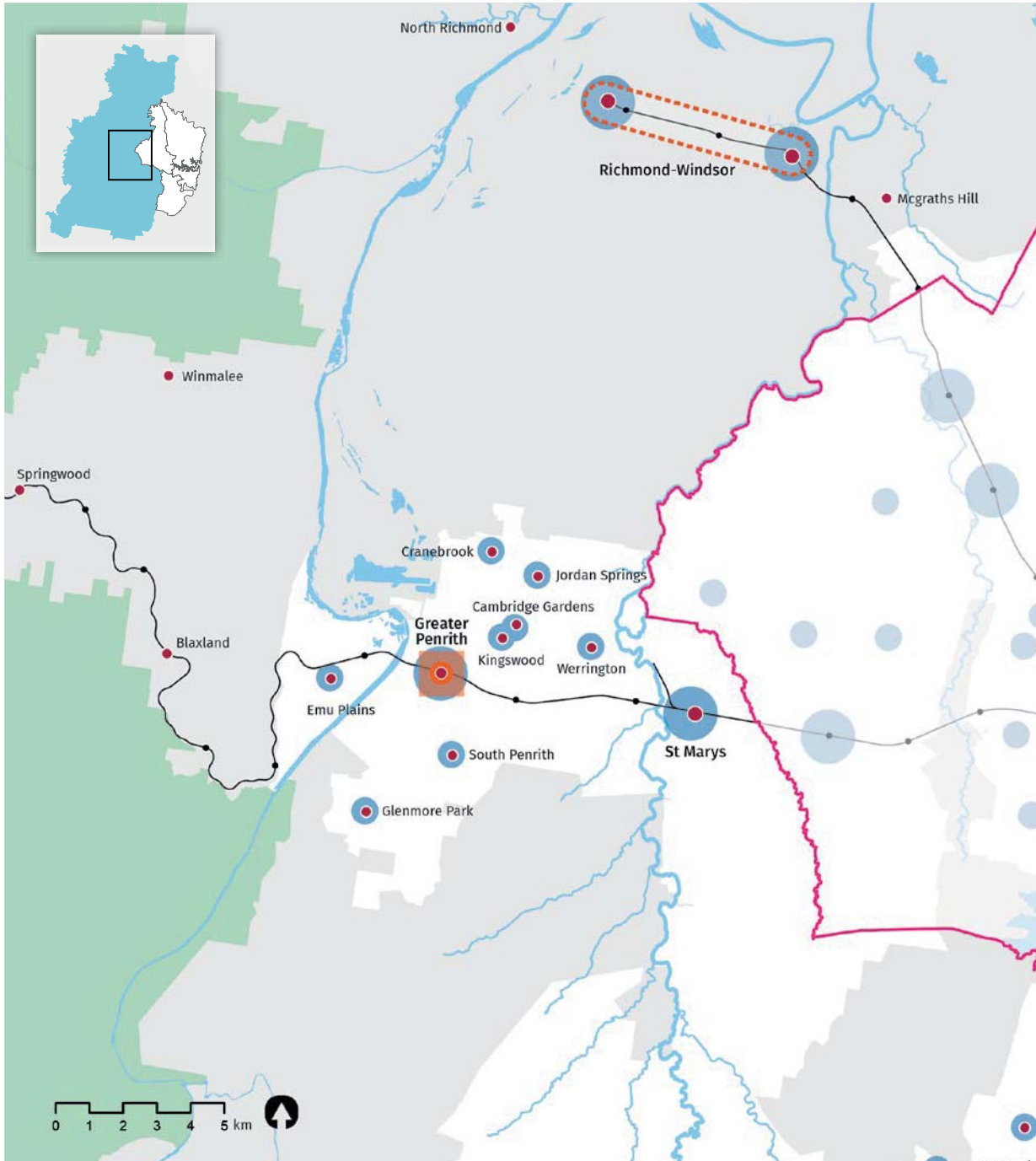
The District's communities share heritage items and historic places like Camden, Picton, Richmond-Windsor and Menangle. Camden town centre's heritage significance is founded by its associations with Australia's early agricultural industries, including the wool industry and its role in early colonial settlement. Historic buildings such as the Hydro Majestic in Medlow Bath, Fernhill Estate in the Mulgoa Valley and Tebbutt's Observatory in Windsor are rich in architectural heritage and have a distinctive local character. The Blue Mountains National Park has significant Aboriginal, cultural and natural heritage values.

The conservation and interpretation of places and values of heritage significance is required to give current and future generations a better understanding of history and people's past experiences. Sympathetic adaptive re-use of heritage is an important way to conserve significance. Improved public access and connection to heritage through interpretation is also essential.

Related government initiative:

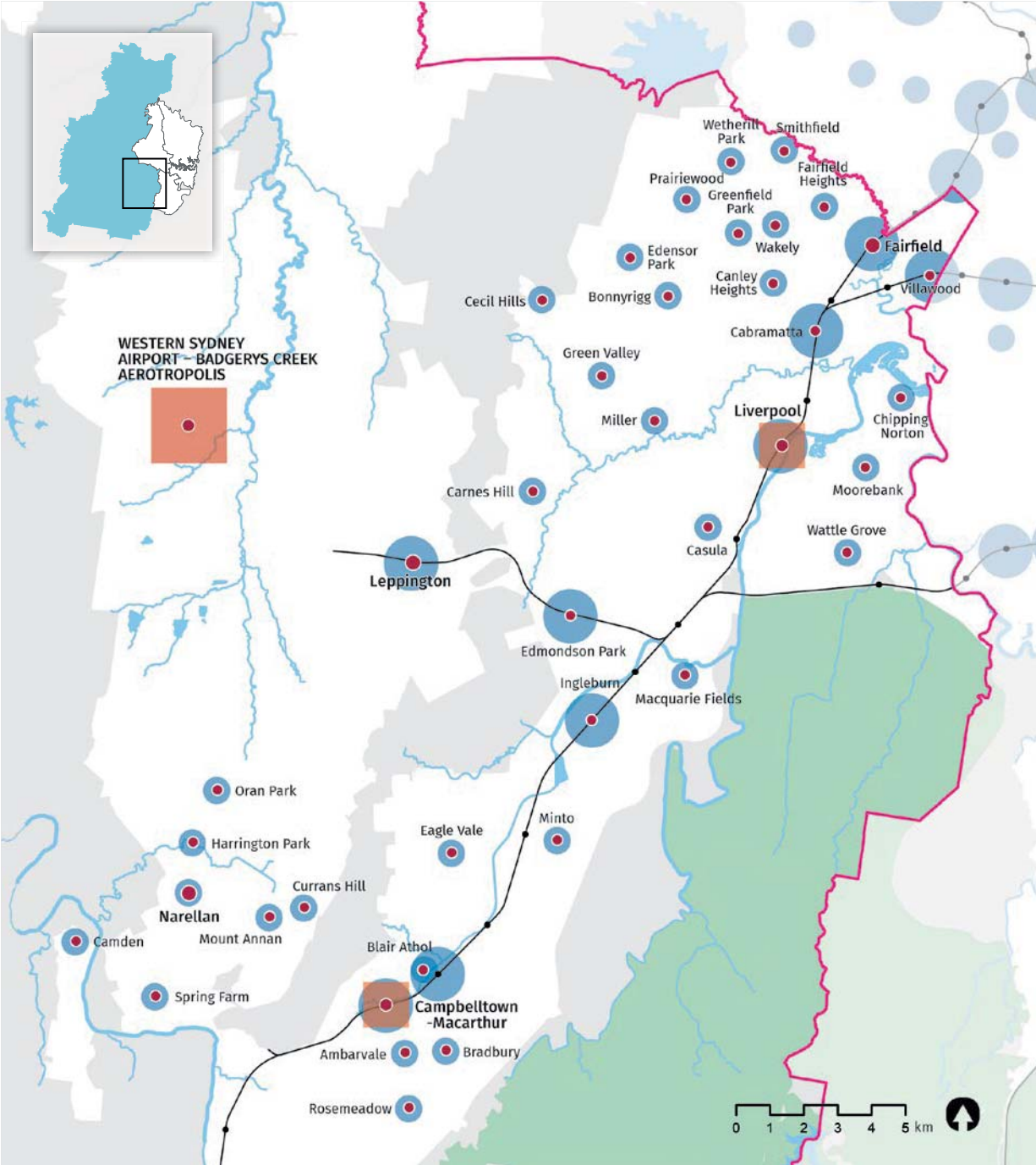
- Government Architect NSW, *Better Placed – An integrated design policy for the built environment of New South Wales*

Figure 18: Western City District – centres north



District Boundary	400m walking catchment	Waterways
Metropolitan City Cluster	800m walking catchment	Protected Natural Area
Strategic Centre	Metropolitan Rural Area	Railway
Local Centre	Urban Area	

Figure 19: Western City District – centres south



	District Boundary		400m walking catchment		Waterways
	Metropolitan City Cluster		800m walking catchment		Protected Natural Area
	Strategic Centre		Metropolitan Rural Area		Railway
	Local Centre		Urban Area		

Place-based planning

Place-based planning is a design-led and collaborative way of examining the complexity of the city by viewing it as a mosaic of different places, each with unique potential and characteristics. It responds to place-specific considerations, local qualities and community needs.

It is a way to manage change over time in places by recognising the value and need for local expertise, knowledge, responsibility and investment.

The process itself is a means of better understanding the place, and building relationships and collaboration to deliver solutions that respond to a place’s potential. Staging and sequencing in a place-based context also allows for continual adjustment and improvements.

People involved in the process will vary depending on the circumstances, nature and scale of the task and may include the community, local businesses, residents, State and local government and other stakeholders. A compelling and shared vision for a place that resolves different perspectives and interests can then be created.

The products of place-based planning extend beyond a shared vision. A spatial framework for a

place provides the basis for future development, governance and allocation of responsibilities. The outputs of place-based planning detail how the vision will be implemented and the place activated, monitored, managed and re-visited over time.

The place-based planning approach can be applied to streets, neighbourhoods, local centres, and larger scale urban renewal as well as the Metropolitan Rural Area. This approach also underpins the development of strategies in Collaboration Areas.

The District presents many opportunities for improved liveability outcomes through place-based planning, such as South Creek. In Collaboration Areas this approach can help deliver innovative approaches to change over time, particularly in relation to parking and infrastructure provision. For example, the provision of precinct-based adaptable car parking in lieu of the private provision of car parking taking into account public transport accessibility. Government Architect NSW’s *Better Placed: A integrated design policy for the built environment of New South Wales* supports the creation and renewal of great places for use by all place-makers including state and local government, businesses and the community.

 Actions	Responsibility
17. Deliver great places by: <ul style="list-style-type: none"> a. prioritising a people-friendly public realm and open spaces as a central organising design principle b. recognising and balancing the dual function of streets as places for people and movement c. providing fine grain urban form, high amenity and walkability d. integrating social infrastructure to support social connections and provide a community hub e. encouraging contemporary interpretation of heritage where possible f. using a place-based and collaborative approach throughout planning, design, development and management. 	Councils, other planning authorities, State agencies and State-owned corporations
18. Conserve and enhance environmental heritage by: <ul style="list-style-type: none"> a. engaging with the community early in the planning process to understand Aboriginal, European and natural heritage values b. conserving and interpreting Aboriginal, European and natural heritage to foster distinctive local places. 	Councils, other planning authorities, State agencies and State-owned corporations
19. Use place-based planning to support the role of centres as a focus for connected neighbourhoods.	Councils, other planning authorities and State agencies



4 Productivity

The vision for Greater Sydney as a metropolis of three cities – the Western Parkland City, the Central River City and the Eastern Harbour City – seeks to deliver a more productive region. This will be achieved by driving opportunities for investment, business and jobs growth; supporting economic diversity; supporting internationally competitive sectors; and rebalancing the region’s eastern economic focus so that all three cities benefit from growth.

A well-connected Greater Sydney will contribute to productivity by improving efficiency in supply chains and reducing business costs; increasing access to markets; enhancing access between businesses and large numbers of skilled workers; and enhancing business-to-business interactions.

The Western City District forms the majority of the Western Parkland City and its economy is powered by health and education industries, retail, hospitality, and industrial activities including advanced manufacturing, trade and logistics and tourism. It is anchored by three health and education precincts at Liverpool, Greater Penrith and Campbelltown-Macarthur as well as four Western Sydney University campuses and the new University of Wollongong campus in Liverpool (refer to Figures 20 and 21).

There is a strong university presence connected to the hospitals within each health and education precinct, with the University of NSW and Western Sydney University at Liverpool Hospital, University of Sydney at Nepean Hospital and Western Sydney University at Campbelltown Hospital.

The vision for the Western Parkland City is a first in the history of planning for Greater Sydney. It is a vision that focuses west, with the development of the Western Sydney Airport and Badgerys Creek Aerotropolis as its catalyst. City-shaping transport

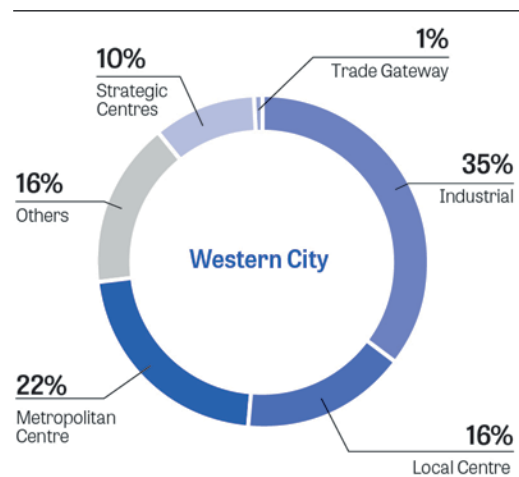
infrastructure, new industry agglomerations and collaboration with all tiers of government through the Western Sydney City Deal will support this vision.

The Western Sydney Airport and Badgerys Creek Aerotropolis will support tens of thousands of jobs. The Western Sydney City Deal will help to create new jobs, economic activities and knowledge-intensive industries to diversify the economy and attract a skilled workforce.

The District will build on its economic strengths in advanced manufacturing, aerospace and defence industries, agricultural processing and export, construction and infrastructure, transport and warehousing, visitor economy and education and training to create a new Western Economic Corridor.

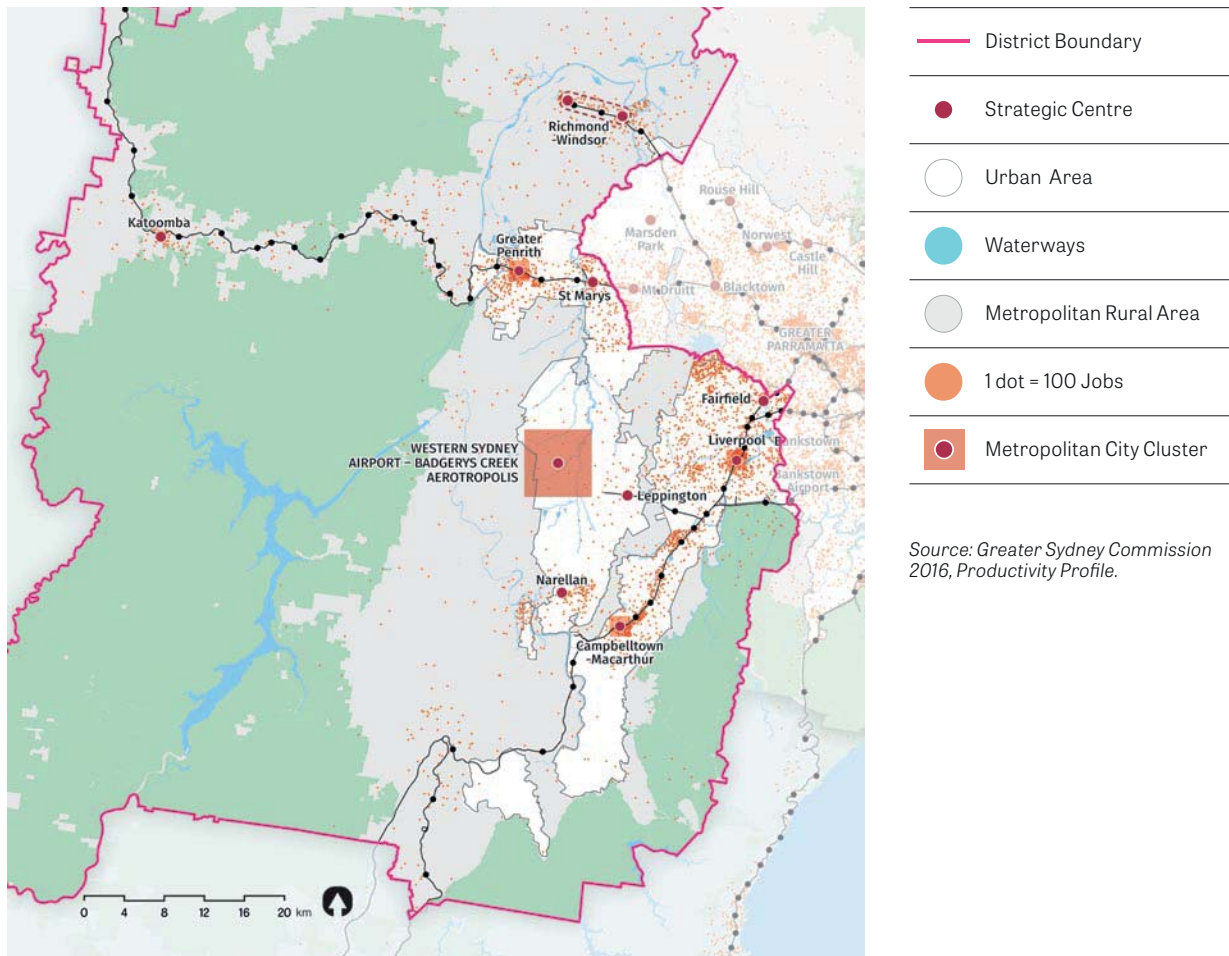
Integrated transport and land use planning will be key in planning for the Western Parkland City and the Western Economic Corridor. Critical transport planning elements involve enhancing the efficiency

Figure 20: Western City District job distribution by type of location



Source: Australian Bureau of Statistics Census 2011

Figure 21: Western City District job density



and competitiveness of the freight sector, and enhancing inter-regional transport connections and their integration with land use planning. Major transit connections, such as the potential north-south train link, Outer Sydney Orbital, Bells Line of Road-Castlereagh Connection and Western Sydney Freight Line, have the potential to create the structure for a more compact and connected Western Parkland City.

As the Western Sydney Airport and Badgerys Creek Aerotropolis takes shape over the next 20 years, Liverpool, Greater Penrith and Campbelltown-Macarthur will continue to support airport and employment activities, and service the needs of the Western Parkland City. Providing a framework to grow investment and business activity in centres is essential, along with planning, managing and protecting industrial and urban services land.

For the Western City District improving productivity can be achieved by the following Planning Priorities:

- Establishing the land use and transport structure to deliver a liveable, productive and sustainable Western Parkland City.
- Leveraging industry opportunities from the Western Sydney Airport and Badgerys Creek Aerotropolis.
- Growing and strengthening the metropolitan city cluster.
- Maximising freight and logistics opportunities and planning and managing industrial and urban services land.
- Growing investment, business and job opportunities in strategic centres.

Planning Priority W7

Establishing the land use and transport structure to deliver a liveable, productive and sustainable Western Parkland City

In giving effect to the draft *Greater Sydney Region Plan*, this Planning Priority delivers on **Objective 14: A metropolis of three cities – integrated land use and transport creates walkable and 30-minute cities; Objective 15: The Eastern, GOP and Western Economic Corridors are better connected and more competitive; Objective 16: Freight and logistics network is competitive and efficient; and Objective 17: Regional transport is integrated with land use** and the corresponding strategies and actions.

In planning for the Western City District today, there is a significant opportunity to set in place the long-term structure of the District to benefit future generations. Fulfilling this outcome will require the consideration of a number of the objectives from the draft *Greater Sydney Region Plan* which seek to deliver walkable and 30-minute cities through integrated land use and transport planning; better connected and more competitive economic corridors; competitive and efficient freight and logistics sector; and regional transport connections integrated with land use planning.

The Australian and State Government commitments to infrastructure for the Western Sydney Airport and Badgerys Creek Aerotropolis, including the joint Scoping Study to determine the rail transport needs for Western Sydney, create the opportunity to establish a structure for the management of land use and transport infrastructure to deliver a liveable, productive and sustainable Western Parkland City.

Building the foundations of the Western Parkland City will involve establishing a land use and transport structure which enables the development and growth of new and existing economic agglomerations. For the Western City District, these include the Western Economic Corridor, Western Sydney Airport and Badgerys Creek Aerotropolis, Liverpool, Greater Penrith, Campbelltown-Macarthur and the Western Sydney Employment Area; and the potential transport corridors including the north-south mass transit link (Cudgegong Road to Macarthur), the Outer Sydney Orbital corridor, the Bells Line of Road-Castlereagh Connection and the Western Sydney Freight Line.

The Western City District will need to be more than these economic agglomerations. The structure of the District also needs to deliver liveability and sustainability outcomes. In this context, the District has an opportunity to develop a new city founded in the parkland setting of the Metropolitan Rural Area and surrounding bushland, centred on South Creek. The setting can create a unique identity – by establishing a land use and transport structure which enables economic agglomerations. It is a place where the city meets the country and national parks frame the city.

By 2056, the combined population of Greater Sydney, Newcastle and Wollongong will be approximately 10 million. Potential north-south transport connections along the Outer Sydney Orbital corridor between Greater Sydney, Newcastle and Wollongong will enable greater economic opportunities for the District. These inter-regional links will also influence the development of a land use and transport structure for the Western City District.

Therefore, the development of a land use and transport structure for the District needs to consider the coordination of the numerous land use and infrastructure initiatives across the region including:

- Western Sydney Airport and Badgerys Creek Aerotropolis
- Priority Growth Areas: Greater Penrith to St Marys, Western Sydney Airport, South West, Greater Macarthur and Wilton
- Western Sydney Employment Area
- South Creek (Infrastructure NSW initiative)

- Urban investigation areas as identified in the draft *Greater Sydney Region Plan* including to the north of the Western Sydney Airport Priority Growth Area. There are two areas that form part of the Greater Penrith to St Marys Priority Growth Area investigations:
 - Orchard Hills, north of the Defence Establishment Orchard Hills and west of St Clair
 - east of The Northern Road at Luddenham between the Western Sydney Airport Priority Growth Area and the water pipeline.
- The Defence Establishment Orchard Hills land has been included in the Priority Growth Area investigation to ensure coordination of existing and future land uses.
- To the east of the Western Sydney Airport Priority Growth Area is a third area:
 - Horsley Park and Mount Vernon located west of the M7 motorway.
- potential new transport corridors (identified for protection and further investigation) and related infrastructure initiatives as identified in *Future Transport 2056* including:
 - north-south train link
 - Leppington to Western Sydney Airport and Badgerys Creek Aerotropolis train link
 - Outer Sydney Orbital
 - Bells Line of Road-Castlereagh Connection
 - Western Sydney Freight Line
 - Bankstown to Liverpool Metro link a potential extension of Sydney Metro City and Southwest to Liverpool.
- providing industrial and freight activities with good access to the freight network including motorways and rail
- utilising open space including South Creek and its tributaries, as the defining design element (refer to Planning Priority W13).

New Western Economic Corridor which is integral to the approach of creating more jobs and a diversity of jobs.

To achieve these outcomes, there are a number of planning initiatives that will shape the Western City District:

- the delivery of a new **Western Economic Corridor** which is integral to the approach of creating more jobs and a diversity of jobs in the Western City District; new economic agglomerations, together with the need for planning and investigating a transport network to support the significant projected population growth, create the opportunity for a potential north-south train link which will improve access and catalyse Greater Sydney's Western Economic Corridor.
- planning for centres including the **metropolitan city cluster** comprising the Western Sydney Airport and Badgerys Creek Aerotropolis as well as Liverpool, Greater Penrith and Campbelltown-Macarthur and their health and education precincts (refer to Planning Priority W9).
- the **Western Sydney Airport Priority Growth Area** to provide local people with better access to jobs within and around the Airport, as well as infrastructure and services for local residents; it includes parts of the **Broader Western Sydney Employment Area** and land south to Bringelly Road.
- the potential **Greater Penrith to St Marys Priority Growth Area** will build on the opportunities created by the Western Economic Corridor and seek to enhance the integration of land use and transport planning for this area. This integration will enable strategic planning for a coordinated, vibrant Western City District and will guide redevelopment opportunities and identify the infrastructure required to support continued growth (refer to Planning Priority W5).

Planning initiatives

In coordinating the integration of these land use and infrastructure initiatives, the outcomes being sought include:

- connecting (and improving) public transport access to new and existing major centres
- providing efficient north-south and east-west connectivity within and to the Western City District
- prioritising the identification and protection of infrastructure corridors

- the emerging **South Creek corridor** will be a key organising principle for the growing Western Parkland City. It will form an urban parkland with high liveability, including attractive neighbourhoods for future workers, allowing them to work and live within the District (refer to Planning Priority W13).
- the Western Parkland City is a place that meets the country and where the **Metropolitan Rural Area**, Western Sydney Parklands and the national parks and reserves of the **Protected Natural Area** including the Greater Blue Mountains World Heritage Area frame the city. This unique setting provides the opportunity to derive tourism benefits linked to the District's natural, recreational and agricultural assets.

Transport connections

Land use planning for the urban area of the Western City District has been historically built along rail lines. In 2004, a decision was made to expand the urban areas to the South West and North West. The District's connecting north-south and east-west areas to support these new areas are located many kilometres apart.

The 30-minute city aspiration will guide decision-making on locations for transport, housing, jobs, tertiary education, hospitals and other amenities.

During the morning peak, 54 per cent⁸ of residents commute within the District for work. Further, limited public transport access to the District's metropolitan city cluster or strategic centres means most journeys are made by car, which increases traffic congestion over short distances. Consequently, many of the District's residents have less choice about where they work. However, many enjoy the lifestyle benefit of living within a rural or bushland setting.

Future Transport 2056 and the draft *Greater Sydney Region Plan* propose a well-connected city based on the concept of 'a 30-minute city'. The 30-minute city is a long-term aspiration that will guide decision-making on new locations for transport,

housing, jobs, tertiary education, hospitals and other amenities. It means that more people will have public transport access to their closest metropolitan city or strategic centre within 30 minutes, enabling efficient access to workplaces, services and community facilities.

Delivering on a 30-minute city and integrating land use and transport planning, including attracting business investment and jobs must consider:

- the importance of establishing a north-south and east-west transport structure
- building on current commitments and projects under construction
- the long-term transport vision for Greater Sydney's mass transit, road and intermediate transit network
- the city-shaping influence of the potential north-south train link
- prioritising the identification and protection of infrastructure corridors.

Corridor protection

Corridors for future transport infrastructure are identified in *Future Transport 2056*, and the draft *Greater Sydney Services and Infrastructure Plan*.

They will define the shape, scale and function of the Western City District, and provide for future passenger, road and freight movements. The corridors currently identified for protection are:

- Western Sydney Freight Line, which connects the Southern Sydney Freight Line to a potential intermodal terminal site in Western Sydney and the Outer Sydney Orbital (motorway and freight rail) and will provide a connection with the Main West Railway Line
- the Outer Sydney Orbital, a future north-south corridor that could ultimately co-locate a future motorway and freight rail between the Central Coast and the Illawarra with connections to the Western City District and Badgerys Creek Aerotropolis
- Leppington to Badgerys Creek Aerotropolis train link, a potential extension of the South West rail link, facilitating interchange with the north-south train link

- the Bells Line of Road-Castlereagh Connection, a proposed strategic road between Kurrajong Heights and the motorway network at the junction of Richmond Road and the M7, which would improve east-west connectivity and access to regional NSW
- Bankstown to Liverpool train link, a potential extension of Sydney Metro City and Southwest to Liverpool.

The protection of additional longer-term transit corridors, as detailed above, will form part of an integrated land use and transport strategy to:

- provide greater certainty to landholders, the development industry and local councils
- enable significant cost savings to the NSW Government in the future
- provide for more efficient and effective private sector investment in infrastructure.

Potential north-south train link and Western Economic Corridor

The Australian Government's investment in the Western Sydney Airport and participation in the Western Sydney City Deal collaboration will see the emergence of a new international airport for Greater Sydney and the Western Parkland City. These new economic agglomerations create the opportunity for a potential north-south train link which can act as a catalyst for a new Western Economic Corridor for Greater Sydney. The delivery of a new Western Economic Corridor is integral to creating more jobs and a diversity of jobs in the Western City District. In developing a Western Economic Corridor, consideration needs to be given to planning for the following major transport connections as shown on page 58:

- maximising the opportunity to have major centres on the north-south train link taking advantage of local economic activity which will be created by well over 1.5 million people who will live in the Western Parkland City by 2056
- providing east-west transport links which directly connect to centres on the potential north-south train corridor

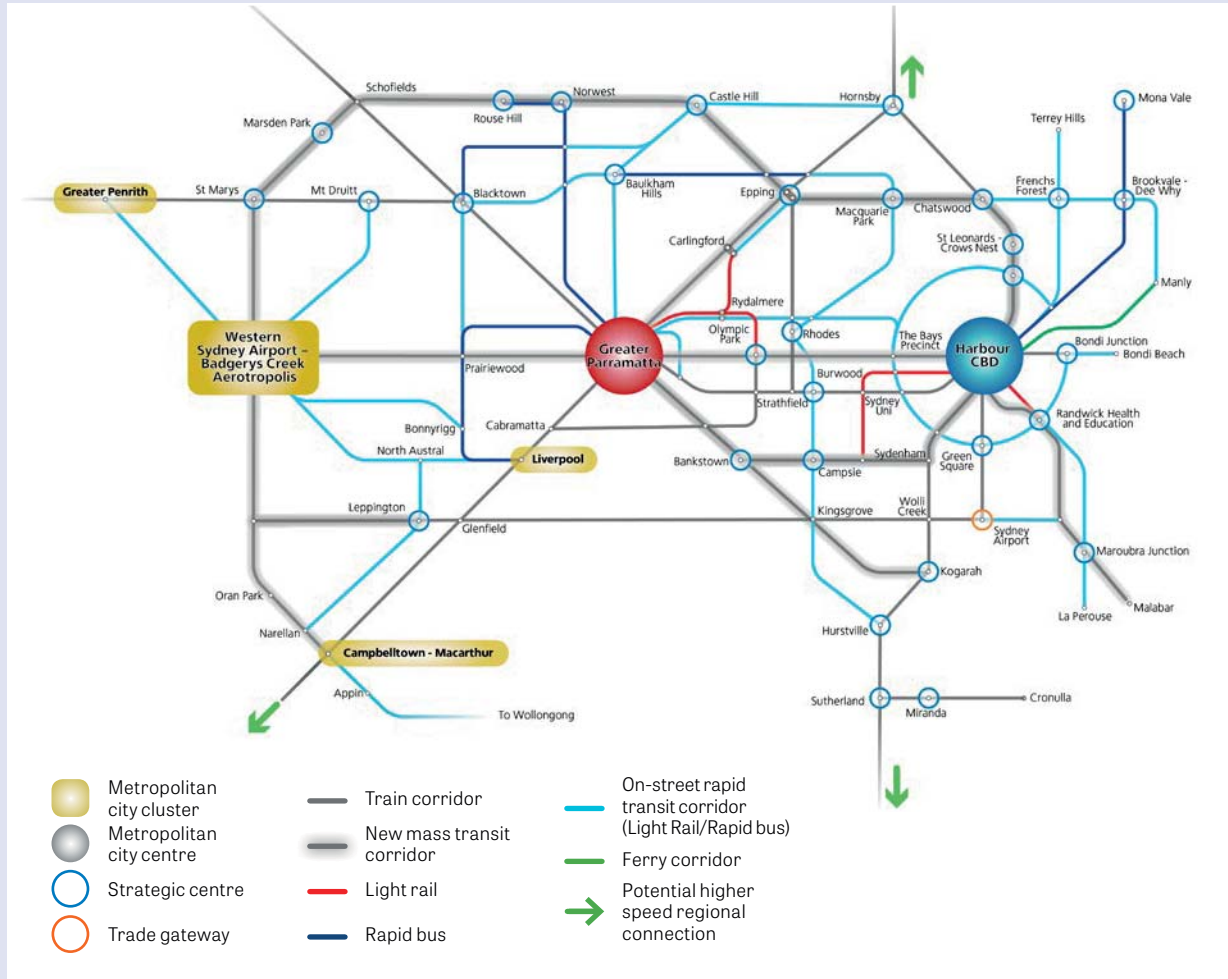
- connecting the potential north-south train link through to the Sydney Metro-Northwest and to the health and education assets at Campbelltown-Macarthur and the existing centres would:
 - enhance the opportunities for economic activity at Marsden Park
 - create a range of development opportunities at the likely interchange with the Richmond rail line at Schofields
 - provide Western City District residents with access to tertiary education and knowledge intensive jobs along the Sydney Metro Northwest corridor
 - further connect economic activity and access for labour to a wider number of jobs
 - connecting the potential north-south train corridor through to the health and education assets at Campbelltown-Macarthur and the existing centres of Narellan and Campbelltown-Macarthur, further connecting economic activity and access for labour to a wider number of jobs.
- in order to support further growth, higher capacity public transport and road links including Western Sydney Airport and Badgerys Creek Aerotropolis to Parramatta train link, and passenger train improvements south of Macarthur, will be investigated by Transport for NSW.

North-south and east-west structure

Existing urban areas to the east of the potential north-south train link, particularly Fairfield and Liverpool local government areas, are transitioning in terms of housing and jobs between the Central City and Western City Districts. **Efficient north-south and east-west** transport links will connect people to jobs and places to support the Western Economic Corridor. This will provide greater education, employment and business opportunities, and improve the efficiency of freight.

Intermediate transit 2036

Source: Transport for NSW



Note: Timing, staging and station/stop locations for new corridors are indicative and subject to further assessment.

Intermediate transit includes buses, ferries, light rail and point-to-point transport such as taxis and rideshare.

It has a key role in providing access for customers to the train network and serving customers on corridors where trains do not operate. These roles underpin the vision for the future intermediate transit network as one that will provide coverage for customers across Greater Sydney, be easy-to-understand and well-integrated with the train network.

As Greater Sydney transitions to a metropolis of three cities, public transport will play an increasingly important role in enabling customers to access their nearest metropolitan and strategic centre within 30 minutes and travel across the city.

This requires the public transport system to not only support reliable and efficient access to centres but also to reach destinations across Greater Sydney efficiently and reliably.

Intermediate transit will support this by:

- providing frequent, reliable and efficient transport between local areas and nearby train stations where customers can access high capacity transport to travel to their nearest centre and other destinations across Greater Sydney
- providing direct access to centres for customers on corridors where trains do not operate.

The future intermediate transit network will enable this by providing coverage across Greater Sydney through a combination of strategic routes and local routes, being easy-to-understand and connecting to interchanges on train lines. This means that new routes in the Western Parkland City will be investigated to support growth, additional connections to Greater Parramatta will be investigated, including light rail extensions to support urban renewal, and new routes will be investigated in the Eastern Harbour City to support more efficient access to train corridors. As the train network grows, the intermediate transit network will also evolve to enable customers to reach their nearest station.

Over time, it will be fundamental to the success of Greater Sydney's economic corridors of the Eastern, GOP and Western Economic Corridors. Planning for the Western City District, should consider:

- **East-west and north-south transport links** which directly connect to new centres on the potential north-south train link and provide access between Western Sydney Airport and Badgerys Creek Aerotropolis and Liverpool, Greater Penrith and Campbelltown-Macarthur:
- upgrades to The Northern Road and Narellan Road, the potential north-south train link and connections from Greater Penrith and Campbelltown-Macarthur that will provide north-south connections to Western Sydney Airport and Badgerys Creek Aerotropolis
- east-west links provided by an upgraded Bringelly Road, new M12 Motorway and potential connections to Liverpool. Transport for NSW will investigate connections to Western Sydney Airport and Badgerys Creek Aerotropolis, which could include an extension of the Liverpool-Parramatta T-way, a Western Sydney Airport and Badgerys Creek Aerotropolis – Parramatta train link, and a potential Leppington to Badgerys Creek Aerotropolis train link, facilitating interchange with the north-south train link
- east-west and north-south road-based transport links supporting the emerging Western Sydney Airport and Badgerys Creek Aerotropolis, such as Elizabeth Drive, Fifteenth Avenue and Devonshire Road, investigated as part of the integrated land use and infrastructure planning for the Western Sydney Airport Priority Growth Area
- prioritising the planning and delivery of east-west and north-south roads to Badgally Road transport corridor to Campbelltown, Spring Farm Parkway and The Horsley Drive.

Current commitments and projects under construction

In the **short term**, the structure and land use planning of the District will be influenced by the commitments from the *Western Sydney Infrastructure Plan* and *Western Sydney Growth Roads Program*.

These will deliver new roads and road upgrades across Western Sydney and meet traffic demand from the Western Sydney Airport and Badgerys Creek Aerotropolis and surrounding centres.

The *Western Sydney Infrastructure Plan* includes the new M12 motorway and The Northern Road and Bringelly Road upgrades. The *Western Sydney Growth Roads Program* includes upgrades to Narellan Road, Campbelltown Road, Jane Street and Mulgoa Road and Appin Road with intersection upgrades at Menangle Park.

Long-term transport network vision

Future Transport 2056 and the draft *Greater Sydney Region Plan* outline the principal elements of the vision for the mass transit network and strategic road network. This needs to be considered as part of the planning for Greater Sydney.

Future Transport 2056 also outlines the vision for the intermediate transit network, active transport and other future transport initiatives. Page 60 shows the intermediate transit network for 2036. This network provides access for customers to the mass transit network and services customers on corridors where mass transit does not operate. For this District initiatives include:

- improved on-road rapid transit between Western Sydney Airport and Badgerys Creek Aerotropolis and Liverpool, Greater Penrith and Campbelltown-Macarthur
- a trial of on-demand public transport where commuters can book a bus from or near their home to a local transport hub or other centre, including hospitals in Edmondson Park and Wetherill Park
- a Principal Bicycle Network which will provide high quality, high priority safe-cycling routes across Greater Sydney and will be integrated with the Greater Sydney Green Grid
- future transport technology integrated into the new metropolitan area that could include technology such as connected and automated vehicles.

Designing adaptable infrastructure

The 21st century is an era of unprecedented and rapidly accelerating change. Innovation and the digital economy are dramatically changing the way people and goods move around Greater Sydney, providing more efficient service delivery.

Technological advances have created new mobility options including automated vehicles, assisted mobility devices such as e-bikes, automated trains and buses, and enhanced aerial mobility. Strategic planning must harness innovation and accommodate new technologies to create new opportunities for improved productivity and accessibility to jobs, goods and services.

Throughout Greater Sydney there are many examples where councils and State agencies are embracing new technologies to promote adaptable infrastructure. The NSW Government is introducing intelligent technology known as a managed motorway system (or smart motorways), to Sydney's motorways, with work already commenced on the M4. This program will use real-time information, communication and traffic management tools to maximise the performance of the motorway and provide a safer, smoother and more reliable journey.

Transport for NSW is also trialling a driverless passenger bus to observe how automated vehicles can improve the mobility of customers and interact with other people. In planning for adaptable infrastructure, planning must consider opportunities for more flexible design of streets and public spaces, for example through car parking strategies.

Freight and logistics movement

Infrastructure commitments and potential projects such as staged investment in new north-south and east-west infrastructure – including new motorways, freight rail connections, and a new intermodal facility together with land availability in the broader Western Sydney Employment Area, will create a national competitive advantage for the Western City District.

Providing for a growing District requires an efficient and effective rail freight and road network integrated with trade gateways, in particular Western Sydney Airport. As most of Greater Sydney's freight is moved on the road network, an efficient road network will reduce congestion on roads and delays in freight and logistics movements.

Separating freight and passenger movements, particularly on train corridors, will create efficient and reliable freight journeys supported by 24/7 rail access between gateways and intermodal terminals and convenient access to centres. With the development of the Western Sydney Airport and Badgerys Creek Aerotropolis it will be critical, from the outset, to secure the access requirements for the airport and off-site industrial land for its 24/7 operation.

By 2036, the Western Sydney Employment Area will be a key destination for cargo, with metropolitan intermodal terminals being critical for managing the rapidly growing import container trade and enabling more freight to be moved by rail.⁹ Duplication of the Port Botany Rail Line and a dedicated freight line and intermodal terminal for Western Sydney that connects to the Outer Sydney Orbital will support economic growth, driving employment and increasing the amount of freight carried on rail that will reduce heavy vehicle trips on the Sydney Road Network.¹⁰

This infrastructure will be considered in a land use and infrastructure implementation plan for the Western Sydney Airport Priority Growth Area. This will coordinate the approach to employment-led planning and development and early urban development zones (aerospace, advanced manufacturing, intermodal trade, logistics and freight, industrial).

The Western Sydney Airport Priority Growth Area was declared to provide local people with better access to jobs within and around the Airport, as well as infrastructure and services for local residents. It includes parts of the Western Sydney Employment Area and land south to Bringelly Road. The Western Sydney Employment Area is expected to provide more than 57,000 jobs over the next 30 years.


As the Western City District grows, the need for freight movements, particularly delivery vehicles, will rise. Freight movements can have negative impacts on the amenity of neighbourhoods, such as noise and additional congestion on roads, particularly during the morning peak. Freight movements outside of peak can help reduce congestion, greenhouse gas emissions and freight costs. The planning and design of communities should take a balanced approach to minimising the negative impacts, and supporting more efficient freight movements. This could include considering how development addresses busy roads, the siting of loading docks and how more freight movements can happen out of peak hours.


Investment in potential dedicated freight corridors will allow a more efficient freight and logistics network. Transport for NSW with the Australian Government, are already committed to supporting efficient movement of goods close to the Moorebank Intermodal Terminal by facilitating freight rail and road access.

A **new intermodal terminal** in Western Sydney will be investigated by 2036. The location, yet to be determined, will be connected to the Western Sydney Freight Line. This intermodal terminal with its connections to Port Botany, and in the longer term a potential Maldon-Dombarton Freight Rail link and the Outer Sydney Orbital, will play an important role in providing a dedicated freight rail network in Greater Sydney. The intermodal terminal, essentially acting as an inland port, will strengthen connections between the Western City District, Port Botany and Port Kembla, supporting container movements by rail in Greater Sydney.

Freight initiatives that will be investigated by Transport for NSW include:

- potential Western Sydney Freight Line
- Southern Sydney Freight Line improvements
- Appin and Picton Road improvements
- potential Maldon-Dombarton freight rail link to provide dedicated freight rail connections between Sydney and the Illawarra
- potential Outer Sydney Orbital motorway and freight rail link
- Bells Line of Road improvements
- potential Western Sydney Fuel Pipeline.

 Actions	Responsibility
20. Integrate land use and transport plans to deliver the 30-minute city.	Councils, other planning authorities and State agencies
21. Investigate, plan and protect future transport and infrastructure corridors.	Councils, other planning authorities and State agencies
22. Support innovative approaches to the operation of business, educational and institutional establishments to improve the performance of the transport network.	Councils, other planning authorities and State agencies

 Actions	Responsibility
<p>23. Manage the interfaces of industrial areas, trade gateways and intermodal facilities by:</p> <p>Land use activities</p> <ul style="list-style-type: none"> a. providing buffer areas to nearby activities, such as residential uses, that are sensitive to emissions from 24-hour port and freight functions b. protecting industrial lands for port, intermodal and logistics uses from the encroachment of commercial, residential and other non-compatible uses which would adversely affect industry viability to facilitate ongoing operation and long-term growth c. requiring sensitive developments within influence of port and airport operations to implement measures that reduce amenity impacts d. improving communication of current and future noise conditions around airports, surrounding road and rail networks, intermodals and supporting private lands e. improving the capacity of existing stakeholders to implement existing planning noise standards for incoming sensitive developments f. protecting prescribed airspace from inappropriate development, for example height of building controls that would allow buildings to penetrate prescribed airspace and reduce the capacity of existing airport operations g. identifying and preserving land for future port and airport, intermodal and rail infrastructure h. accommodating advanced manufacturing where appropriate by zoning that reflects emerging development models. <p>Transport operations</p> <ul style="list-style-type: none"> a. providing the required commercial and passenger vehicle, and freight and passenger rail access b. improving the road connectivity from Villawood to Eastern Creek, via Yennora, Smithfield and Wetherill Park to improve business-to-business and supply chain connectivity along this industrial corridor. 	<p>Councils, other planning authorities, State agencies and State-owned corporations</p>
<p>24. Optimise the efficiency and effectiveness of the freight handling and logistics network by:</p> <ul style="list-style-type: none"> a. protecting current and future freight corridors b. balancing the need to minimise negative impacts of freight movements on urban amenity with the need to support efficient freight movements and deliveries c. identifying and protecting key freight routes d. limiting incompatible uses in areas expected to have intense freight activity. 	<p>Councils, other planning authorities, State agencies and State-owned corporations</p>
<p>25. Investigate and plan for the land use implications of potential long-term transport connections.</p>	<p>Councils, other planning authorities, State agencies and State-owned corporations</p>
<p>26. Plan for urban development, new centres and employment uses that are integrated with, and optimise opportunities of, the public value and use of the potential north-south train link.</p>	<p>Councils and other planning authorities</p>
<p>27. Protect transport corridors as appropriate, including the Western Sydney Freight Line and the Outer Sydney Orbital.</p>	<p>Councils, other planning authorities and State agencies</p>
<p>28. Create landscaped boulevards along new and major transport corridor upgrades as appropriate to the existing environment.</p>	<p>State agencies</p>
<p>29. Prioritise the planning and delivery of east-west and north-south roads to facilitate access to the strategic centres (including Badgally Road transport corridor to Campbelltown, Spring Farm Parkway and The Horsley Drive) and improve walking and safe cycling connections nearby.</p>	<p>State agencies</p>

Planning Priority W8

Leveraging industry opportunities from the Western Sydney Airport and Badgerys Creek Aerotropolis

In giving effect to the draft *Greater Sydney Region Plan*, this Planning Priority delivers on **Objective 20: Western Sydney Airport and Badgerys Creek Aerotropolis are economic catalysts for Western Parkland City** and **Objective 24: Economic sectors are targeted for success** and the corresponding strategies and action.

The draft *Greater Sydney Region Plan* outlines a vision for the Western Parkland City that is a first in the history of planning for Greater Sydney. It is a vision that focuses west, with the development of the Western Sydney Airport and Badgerys Creek Aerotropolis as its economic catalyst. This requires planning that is both spatial, in terms of the locations where new jobs will be created and the way in which people and businesses make connections; and sector-specific, in terms of the existing and emerging industries that can be harnessed to bring about both economic and social benefits for Western City District residents. This Planning Priority focuses on the District's industry opportunities and locations and how best to leverage these to create a larger pool of jobs closer to where people live, therefore creating a liveable and sustainable Western Parkland City.

Leveraging off the Western Sydney Airport and Badgerys Creek Aerotropolis is one of the principal objectives for delivering a metropolis of three cities, specifically their role in delivering more jobs and a diversity for jobs to the Western City District. This is critical in that jobs growth in the Western City District has not matched population growth over the last ten years - jobs growth in the District has averaged 0.8 per cent annually, compared to 1.7 per cent annually for Greater Sydney. In addition, the education qualifications of the resident workforce are lower than the average for Greater Sydney, which impacts on the ability for locals to fill the District's skilled jobs.

Enhancing the transport connections to the Western Sydney Airport, Badgerys Creek Aerotropolis and Western Sydney Employment Area together with integrated land use and transport planning are fundamental requirements for delivering on this outcome. Success in this area requires coordination across all levels of Government and the Western Sydney City Deal will drive this collaboration.

Maximising the opportunities of the infrastructure investment and planning for the area will achieve initiatives that support the growth of key industry sectors and skills development. In particular, the Western Sydney Airport will create opportunities to grow a number of existing sectors of the Western City District such as aerospace and defence, tourism, agriculture and freight and logistics.

The quality of the Western Sydney Airport and Badgerys Creek Aerotropolis as places is also fundamental in maximising the employment outcomes for the Western City District. This also includes the design quality of the transport corridors that are developed across the District.

The Western Sydney Airport and Badgerys Creek Aerotropolis as economic catalysts

The Western Sydney City Deal initiative will drive the development of the core economic catalysts for the Western Parkland City.

Western Sydney City Deal

The Australian and NSW governments will work together with local government towards a landmark agreement for Western Sydney that will unlock public and private investment in key infrastructure, support jobs and economic growth, and help improve the liveability of Sydney's outer west.

The Australian and NSW governments will work with Penrith, Liverpool, Camden, Campbelltown, Fairfield, Wollondilly, the Blue Mountains and Hawkesbury councils.

Delivering change for Western Sydney:

- An increase in infrastructure investment, including transformative public transport projects to unlock the economic potential of the region, reduce congestion and support local needs.
- A program of employment and investment attraction to support the development of the region through reduced business regulation, investment in skills and removing barriers to employment, including a focus on youth and Indigenous employment.
- Improving housing affordability through support for increase supply and housing diversity, including improvements to planning and zoning regulations and higher density developments in appropriate locations.
- Improved environmental and liveability outcomes, including streamlined and coordinated biodiversity conservation, support for clean air, green spaces, vibrant arts and cultural experiences.
- Coordination between governments to deliver regulatory reforms that integrate infrastructure, land use, housing and environmental planning decisions to facilitate growth.

The Western Sydney Airport will deliver up to 3,200 jobs during construction and around 9,000¹¹ airport jobs during operation over the next 20 years. The Airport is expected to support around 28,000 jobs by 2031, which will grow to nearly 48,000 by 2041.¹² This includes 5,600 jobs in manufacturing, 6,450 in retail and 5,600 in professional, scientific and technical services. This growth will create substantial employment opportunities for the workforce in the Western City District.

At full operation, the airport will create at least 60,000 jobs, as well as logistics, trade, aerospace and defence, advanced manufacturing and tourism. This agglomeration of knowledge jobs in the Western City District will be the anchor for developing the Western Economic Corridor.

The air transport sector is anticipated to benefit most from the future Western Sydney Airport. Global companies will be encouraged to locate to the Badgerys Creek Aerotropolis, bringing high quality engineering, robotics and agribusiness jobs.

The high-value and sustainable nature of economic activity from the aerospace and defence industries sector provides a strong foundation on which to build local communities and attract tertiary institutions. Given the inherent link to advanced technologies, the aerospace and defence industries also has the potential to support the local labour pool with a diverse mix of transferable skills that would be relevant to many industries.

Leveraging the benefits of north-south transport corridors

The opportunity for the Western Sydney Airport to anchor and catalyse a Western Economic Corridor is created by two potential transport initiatives: the north-south mass transit link and the Outer Sydney Orbital, both of which are planned to have connections to the Western Sydney Airport. These transport corridors would also connect the Western Economic Corridor to the existing economic activity of the Greater Penrith to Parramatta and Liverpool to Macarthur corridors.

To maximise the benefits of these opportunities a number of planning initiatives are underway which seek to integrate the land use, transport and infrastructure activity along the north-south transport corridors, including:

- North West Priority Growth Area
- Western Sydney Airport Priority Growth Area
- South West Priority Growth Area
- Greater Macarthur Priority Growth Area
- Wilton Priority Growth Area.

In addition, a new Priority Growth Area is to be investigated for the Greater Penrith to St Marys Area, refer to Objective 10 of the draft *Greater Sydney Region Plan*.

Industry sectors and skills

The draft *Greater Sydney Region Plan* highlights the importance and role of the NSW Government in leading the development and coordination of sector-specific industry development strategies to grow and globally position key sectors of the economy.

These sectors are important in fostering innovation in the development of highly-skilled jobs which drive productivity and global competitiveness.

The strategies build on and leverage existing industry and government activities and plans, and focus on delivering high impact practical initiatives to drive sector growth through industry, academia and government collaboration.

The draft *Greater Sydney Region Plan* outlines the strategies to support industry sectors. They cover the areas of:

- industry skills and capacity building
- investment attraction
- export growth and facilitation
- industry showcasing and promotion
- opportunities through government procurement
- government and industry partnerships.

The NSW Government also has two initiatives, LaunchPad and Aerospace and Agriport precincts, targeted specifically to the Western Parkland City.

To support these strategies, Objective 24 of the draft *Greater Sydney Region Plan* emphasises the need to work with internationally competitive trade sectors to identify the barriers to growth, including regulatory barriers.

The draft *Greater Sydney Region Plan* also identifies key economic sectors for Greater Sydney's three cities. The Western Parkland City's key economic sectors include:

- advanced manufacturing
- aerospace and defence industries
- agricultural processing and export
- construction and infrastructure
- transport and warehousing
- visitor economy
- education and training.

This Planning Priority reinforces the need to:

- support the growth of internationally competitive industry sectors.
- respond to changing technologies.
- plan for tourism and visitation activities.
- protect and support rural industries.

Aerospace and defence industries

The NSW Government, in partnership with the Australian Government, is leading the development of a world-class aerospace and defence industries precinct, adjacent to the Western Sydney Airport. The ambition is to create approximately 7,500 jobs and over \$15 billion of gross value add over the next 30 years.

This will build on existing aerospace and defence activities at RAAF Base Richmond which is now the hub of logistics support for the Australian Defence Force. The District's Australian Defence Force facilities are an important source of jobs and the RAAF bases at Richmond and Glenbrook, Holsworthy Military Reserve and the Defence Establishment Orchard Hills should be protected by allowing only appropriate and complementary uses around them.

Visitor economy

The Western Sydney Airport will create significant opportunities to grow the international and domestic tourism markets, and thus the District's visitor economy, by attracting visitors to the heart of the Western Parkland City. This will better connect visitors to attractions such as the Greater Blue Mountains Area, a UNESCO World Heritage Site. Opportunities will include the attraction of accommodation development for overnight stays.

The increased activity will also create a need for new and/or upgrades to tourism infrastructure. Amenity enhancements are also an important part of tourism infrastructure, such as the quality of road side landscaping, particularly on main roads leading to the airport and to major tourism destinations.

These opportunities build on the recognised strength of the District's visitor economy. The Western City District hosts approximately 12.4 million visitors each year. This compares to 7.5 million visitors in 2006. Many visitors are attracted to the Greater Blue Mountains World Heritage Area. The domestic overnight visitor market and the international visitor market are higher yielding and provide economic flow-on benefits to services like accommodation, hospitality, entertainment and leisure.

Visitors to the District represent 33 per cent of Greater Sydney visitors, 20 per cent of Greater Sydney visitor nights, and 23 per cent of expenditure in the Sydney and Blue Mountains Tourism Region.¹³ The largest visitor segment, domestic day trips, accounts for 74 per cent of all visitors, followed by domestic overnight (22 per cent) and international visitors (four per cent).

Tourism is the third largest employment sector in the Blue Mountains Local Government Area, accounting for 10.7 per cent of jobs.¹⁴

Leisure, cultural, sporting, educational and natural and cultural assets include:

- Greater Blue Mountains World Heritage Area which is recognised by Tourism Australia as one of the 16 significant national landscapes across Australia and other national parks
- rural and agricultural landscapes
- agri-tourism and food tourism

- sporting venues and recreational assets including adventure tourism
- the Australian Botanic Garden at Mount Annan and the Blue Mountains Botanic Garden at Mt Tomah
- multicultural attractions such as Canley Vale Road eat street and Cabramatta Moon Festival
- historical towns of Richmond and Windsor and tourist villages like Leura, Wentworth Falls and Blackheath
- affordable tourist accommodation in Liverpool with good access to the rest of Greater Sydney, the Blue Mountains and Canberra.

The District's multicultural population supports a robust tourist market from visiting friends and relatives market and attracts international visitation.

Growing the visitor economy through targeted activities and the development of new cultural and visitor infrastructure will help drive increased visitor numbers and develop significant employment opportunities. The Western Sydney Airport creates opportunities for the Western Parkland City to become an alternative to the Eastern Harbour City for international tourists with more affordable accommodation and attractions like the Greater Blue Mountains World Heritage Area, Aboriginal heritage, historic rural villages and scenic landscapes.

Alliances between councils and key industry stakeholders create opportunities to cross-promote events, develop and support a wider range of activities and importantly realise the opportunities as the Western Sydney Airport and Badgerys Creek Aerotropolis develops.

As the visitor economy has broad benefits, a district-wide strategy is needed to consider improvements to transport, visitor experiences and to plan for tourism, such as identifying tourist zones, site and activities in land use plans. *The Western Sydney Visitor Economy strategy 2017/18 – 2020/21* sets out a cohesive approach to destination management and marketing through Government, industry and commercial partnerships. The strategy outlines that government and industry will agree to a common Destination Management Plan focussing on the need to raise the profile and opportunities of the broader visitor economy with councils.

Agricultural processing and export

The draft *Greater Sydney Region Plan* seeks to support and protect agricultural production and mineral resources. In the Western City District, the Metropolitan Rural Area includes agricultural activities such as the production of eggs and poultry, cut flowers, turf and mushroom farms. Western Sydney University at Hawkesbury provides tertiary education in medical and forensic science, animal science, natural science, sustainable agriculture and food security with world-class research facilities in grasses, pastures, legumes, insects and ecology. Sydney University at Cobbitty also provides course in agriculture and veterinary science, and the Elizabeth Macarthur Agriculture Institute provides world-leading research that is improving Australia's agricultural competitiveness.

Agricultural industries provide produce, employment and tourism opportunities and require long-term certainty to enable investment and growth, especially as the Western Sydney Airport may provide new international markets. The Western Sydney Employment Area will develop agribusiness and will also provide opportunities to establish high value intensive agricultural industries and will enhance export capacity for NSW Primary industries to new international markets.

The NSW Government is currently working towards developing a concept for a potential agribusiness precinct that would look to be located adjacent to the new Western Sydney Airport. This initiative would aim to enhance export capability for farmers in NSW, link agribusiness to new markets, establish capacity for high value intensive agricultural industries, develop facilities to manage biosecurity risk, strengthen agricultural research and education, and help create future jobs and skilled workers to support the precinct and the agricultural sector.

The District's extensive rural areas also include mineral resources which supply construction materials to Greater Sydney and regional areas.

Advanced manufacturing

Accelerating high-value opportunities in advanced manufacturing, including developing a strategy to support advanced manufacturing and industry development. Existing clusters include aviation in Ingleburn and Richmond, electronics in Greater Penrith and automotive in Ingleburn. The NSW Department of Industry is also developing an Advanced Manufacturing Industry Development Strategy to maximise benefits.





Source: University of Western Sydney

Education and training

Objective 24 of the draft *Greater Sydney Region Plan* outlines the range of education and training initiatives delivered by the NSW Government. A number of initiatives will directly support the ability for residents to be engaged with the high level of infrastructure and development investment occurring in the Western City District:

- Training Services NSW is working with State agencies and principal contractors to embed the Infrastructure Skills Legacy Program targets in projects for Western Sydney. \$10 million over four years for project coordination state-wide has been allocated to the Program.
- The Refugee Employment Support Program supports refugees and asylum seekers into sustainable and skilled employment. The program will assist up to 4,250 refugees and 1,000 asylum seekers across Western Sydney. \$22 million over four years has been allocated to this program.
- The Aboriginal Centre for Excellence is a \$20 million investment in a cultural and skills hub for Indigenous youth in the Western Sydney region. As well as providing opportunities for strengthening individual and community

resilience this initiative will have a particular focus on ensuring that local Aboriginal people, particularly young people are equipped to seize opportunities stemming from this region's growth. A key objective of the facility will be to deliver programs and services that support Aboriginal young people making the transition from the school environment into further education and employment.

This draft District Plan acknowledges the growing metropolitan city cluster that includes Liverpool, Greater Penrith and Campbelltown-Macarthur. These agglomerations of health and education assets will be essential to the District's emergence as a major city region, while growing knowledge-intensive jobs, building the District's education and skills and servicing the growing population. Acting as a complement to the emerging Badgerys Creek Aerotropolis, these centres will, in the long term, become a ring of university cities (refer to Planning Priority W9).

Study NSW will collaborate with education institutions, industry and local government in Western Sydney on implementing programs that enhance the international student experience.

Adapting to changing technologies

Rapid technological changes and digital advancements are disrupting established business models and the workplace worldwide. These changes are dramatically changing the way people and goods move around, providing more efficient transport services. While technological changes can reduce demand for certain types of jobs, they also help to deliver innovation, new knowledge-intensive jobs and business opportunities. As governments continue to engage with industry, assess regulatory barriers and update governance and policies to capitalise on changes, strategic land use planning needs to respond by providing a regulatory environment which enables the economic opportunities created by changing technologies.

Related government initiatives:

- NSW Defence and Industry Strategy, *Strong, Smart and Connected*
- NSW Advanced Manufacturing Industry Development Strategy
- Western Sydney Visitor Economy strategy 2017/18–2020/21

 Actions	Responsibility
30. Protect and support agricultural production and mineral resources (in particular, construction materials) by preventing inappropriately dispersed urban activities in rural areas.	Councils and other planning authorities
31. Provide a regulatory environment which enables economic opportunities created by changing technologies.	Councils, other planning authorities and State agencies
32. Consider the barriers to the growth of internationally competitive trade sectors, including engaging with industry and assessing regulatory barriers.	Councils and other planning authorities
33. Create capacity for tourist accommodation in appropriate locations through local environmental plans.	Councils and other planning authorities
34. When preparing plans for tourism and visitation, consider: <ol style="list-style-type: none"> encouraging the development of a range of well-designed and located facilities enhancing the amenity, vibrancy and safety of centres, places and precincts supporting the development of places for artistic and cultural activities improving public facilities and access protecting heritage and biodiversity to enhance cultural and eco-tourism supporting appropriate growth of the night-time economy developing industry skills critical to growing the visitor economy. 	Councils and other planning authorities
35. Consider opportunities to implement place-based initiatives to attract more visitors, improve visitor experiences and ensure connections to transport at key tourist attractions.	Councils and other planning authorities
36. Consider opportunities to enhance the tourist and visitor economy in the district, including a coordinated approach to tourism activities, events and accommodation.	Councils, other planning authorities and State agencies

Planning Priority W9

Growing and strengthening the metropolitan city cluster

In giving effect to the draft *Greater Sydney Region Plan*, this Planning Priority delivers on **Objective 20: Western Sydney Airport and Badgerys Creek Aerotropolis are economic catalysts for Western Parkland City**; **Objective 21: Internationally competitive health, education, research and innovation precincts** and **Objective 22: Investment and business activity in centres** and the corresponding strategies and actions.

Central to the concept of a metropolis of three cities is the objective of a metropolitan city centre for each city. For the Western Parkland City and the Western City District this objective will be delivered over time beginning with a focus on four places – Liverpool, Greater Penrith, Campbelltown-Macarthur and Western Sydney Airport and Badgerys Creek Aerotropolis – a metropolitan city cluster.

Activities in these four locations will be influenced by both the significant population growth and the activities of Western Sydney Airport and Badgerys Creek Aerotropolis. The potential to grow these locations will be enhanced by investment and activities of government in health and education.

Education is the largest export service industry in NSW, with international enrolments growing at a faster rate than domestic. Government investment in, and the growth of, health and education precincts will:

- diversify job opportunities across Greater Sydney
- facilitate jobs closer to home
- strengthen the international competitiveness of the economy, particularly in innovation.

The evolution of health and education precincts follow a maturity pathway described in the draft *Greater Sydney Region Plan*.¹⁵ As precincts evolve, their economic productivity increases substantially. This corresponds to three general models, which become progressively more diverse: Clusters, Precincts and Innovation Districts. The Campbelltown-Macarthur health and education precinct is at the Cluster stage and the Liverpool and Greater Penrith health and education precincts are at the Precinct stage. Each will need a tailored response to progress along the maturity pathway. It is not expected that all Precincts should, or will, develop into an Innovation District (refer to Figure 22).

In terms of higher education, the vision for the metropolitan city cluster is to achieve a ring of university cities with collaboration between the three levels of government and the university sector. Each university campus will focus on a full faculty or university facility with a minimum of 10,000 students co-located with TAFE facilities where there is adjoining land.



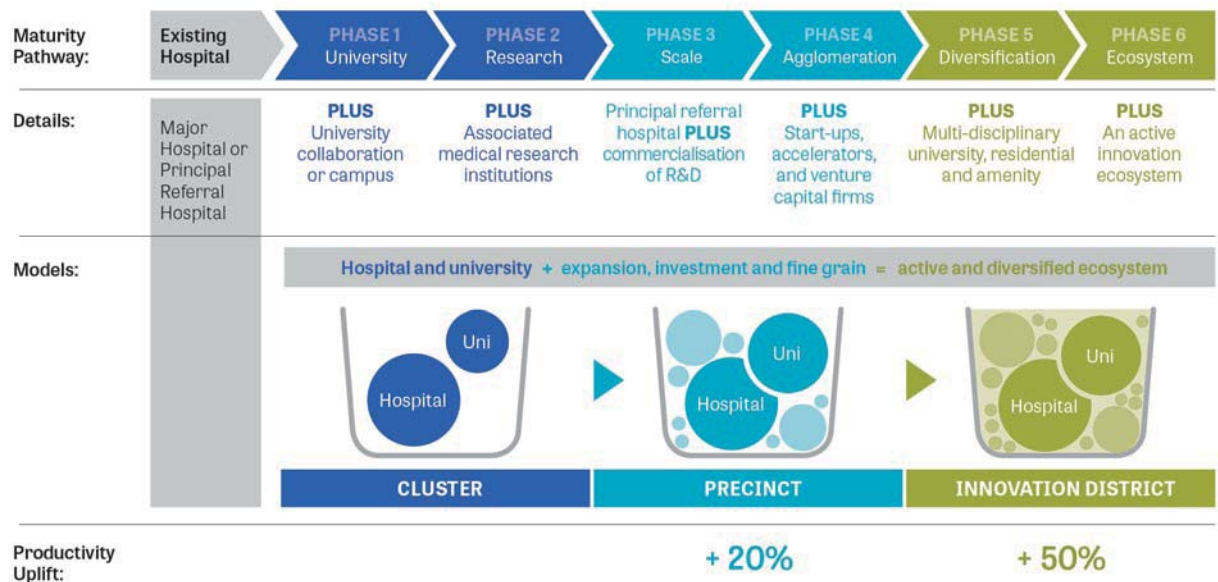
The Sydney Science Park aims to deliver 12,000 knowledge-intensive jobs and provide an industrial research and development business park by 2020. It will also include a retail and entertainment district, new homes, and an education precinct.

In light of the importance of delivering on these outcomes, specific governance arrangements have been established for each of these places. For the Western Sydney Airport and Badgerys Creek Aerotropolis the tri-government Western Sydney City Deal and the three established centres have been identified as Collaboration Areas.

These four locations will be the main focus for access to goods and services; entertainment, leisure and recreational activities; as well as cultural and arts experiences, planning to attract these land uses is critical.



Figure 22: Maturity pathway for health and education precincts



Source: Deloitte 2016, Westmead Innovation District: Building Western Sydney's job engine 2016-2036.

Liverpool

Liverpool CBD including its health and education precinct will grow by 7,000 new jobs (a 24 per cent increase) over the next 20 years. The precinct includes Liverpool Hospital, the Ingham Institute of Applied Medical Research and the clinical schools of the University of NSW and Western Sydney University, South West Private Hospital and South Western Sydney TAFE.

In addition to the CBD, health and education precinct and nearby residential and industrial land areas, the Collaboration Area also considers the Warwick Farm Precinct and the under-construction Moorebank Intermodal Terminal. Planning for the Collaboration Area will also consider the draft Georges River Masterplan, which aims to extend the Georges River Precinct on the eastern side of the river into the City Centre.

Considerations for the planning of the Collaboration Area include:

- strong developer interest in rezoning land for additional housing, including the currently industrial waterfront
- the University of Wollongong and Western Sydney University campuses integrated into the City Centre. Western Sydney

University is opening a new high-rise campus in the Liverpool CBD in 2018. It will use the most technologically advanced higher education teaching and research methodologies and platforms

- proximity to the M7 and M5 motorways and infrastructure upgrades to support the Western Sydney Airport
- WSA Co, the Australian Government agency established to develop the Western Sydney Airport will locate its offices in Liverpool CBD
- the University of Wollongong will build a 7,000 student campus and will set up a training facility for 700 nurses to work with Liverpool Hospital.

The Collaboration Area aims to:

- increase housing diversity and provide affordable housing
- improve and coordinate transport and other infrastructure to support jobs growth
- develop smart jobs around the health and education precinct, particularly in the areas of advanced manufacturing and logistics, automation and translational research

- improve the night-time economy, mixed-use and transport connections
- improve urban liveability and Liverpool’s sense of place
- improve environmental outcomes around the Georges River
- develop its Greater Sydney Green Grid projects
- capitalise on the Western Sydney Airport and the Western Sydney City Deal
- revitalise the Liverpool CBD
- examine flooding issues and water management
- consider the opportunities presented by the Liverpool Water Recycling Facility
- undertake urban renewal at Warwick Farm and retain a social housing mix.

Liverpool	Jobs
2016 estimate	29,000
2036 baseline target	36,000
2036 higher target	39,000

Actions	Responsibility
<p>37. In addition to the Collaboration Area process outlined above, carry out the following:</p> <ol style="list-style-type: none"> a. protect, develop and expand the commercial core b. improve and coordinate transport and other infrastructure to support jobs growth c. develop smart jobs around the health and education precinct d. build on the centre’s administrative and civic role e. improve public domain including tree-lined, comfortable open spaces and outdoor dining f. improve connectivity and links to the Georges River and prioritise pedestrian, cycle and public transport facilities g. encourage a vibrant mix of uses, new lifestyle and entertainment uses to activate streets and grow the night-time economy h. capitalise on the Western Sydney Airport and Western Sydney City Deal initiatives. 	<p>Liverpool City Council, Greater Sydney Commission and other planning authorities.</p>



Greater Penrith

The Collaboration Area for Greater Penrith covers the Penrith CBD, the health and education precinct and tourism precinct from Penrith Lakes along the current length of the Great River Walk to the M4 Motorway. It has the potential to grow up to 45,000 jobs – a 25 per cent increase – over the next 20 years.

As a Collaboration Area, Greater Penrith’s growth will be supported by a whole-of-government approach to align the activities and investments of government and key stakeholders in the area. The Penrith health and education precinct is based around Nepean Hospital, the Western Sydney University Werrington Campus and Nepean College of TAFE Allied Health Facility. It generated 6,000 jobs in 2011, representing almost 300 per cent growth from 2001.

The Penrith CBD is a significant commercial centre and serves a substantial catchment which extends to the west into the Blue Mountains. The \$550 million upgrade of Nepean Hospital will enhance innovation, research, health and education activities, and attract complementary businesses. The Sydney Medical School Nepean is at Nepean Hospital and is one of the eight Clinical Schools of the University of Sydney.

Nepean Hospital is supported by district-level services at Blue Mountains ANZAC Memorial and Hawkesbury Hospitals. Also, Greater Penrith will benefit from the construction and operation of the Western Sydney Airport, and forecast increases in tourism to the Blue Mountains and Metropolitan Rural Area.

The Collaboration Area aims to:

- develop an integrated land use and transport vision
- revitalise and grow the Penrith CBD
- develop a major tourist, cultural, recreational and entertainment hub
- protect and expand the health and education precinct
- address flooding issues
- implement Greater Sydney Green Grid projects and promote ecologically sustainable development
- improve housing diversity and provide affordable housing
- diversify the night-time economy
- implement healthy city initiatives and improve social infrastructure.





Actions


38. In addition to the Collaboration Area process outlined on page 76, carry out the following:
- support the transformation of the City Centre to grow to its ultimate potential
 - support and enhance a viable commercial core
 - reinforce, capitalise and support the expansion of the Penrith health and education precinct
 - facilitate the attraction of a range of uses that contribute to an active and vibrant City Centre
 - facilitate opportunities for a diverse economy that delivers jobs of the future, strong employment sectors and improves access to education and training
 - capitalise on opportunities associated with the Western Sydney Airport including Western Sydney City Deal initiatives
 - encourage new lifestyle, tourist and cultural uses to activate streets and grow the tourism and night-time economies
 - activate primary and secondary streets and deliver contemporary urban public spaces
 - improve transport connectivity and walkability within and to the Penrith City Centre
 - connect and activate the Nepean River as a focal point and a destination
 - promote urban living by improving amenity within the City Centre and activating public spaces
 - support and demonstrate innovation.

Responsibility

Penrith City Council,
Greater Sydney
Commission and other
planning authorities

Kingswood

Werrington

 Jobs and services

Campbelltown-Macarthur

Campbelltown-Macarthur is developing into Greater Sydney's newest health and medical hub with research and specialist community-based care in paediatrics and gastrointestinal disorders. It contains Campbelltown public and private hospitals, Western Sydney University Campbelltown Campus, and TAFE NSW Western Sydney. Collectively, these elements form the health and education precinct and the Collaboration Area also includes Macarthur Square, Campbelltown Mall and surrounding government services.

The centre has the potential to grow up to 31,000 new jobs (a 32 per cent increase) by 2036.

The Western Sydney University has a strong health focus linked to the hospitals and centred around its School of Medicine and Nursing and Midwifery. Programs of note include:

- 7,000 students enrolled at the Campbelltown campus, with 632 studying medicine
- almost 3,000 students enrolled in nursing and midwifery programs and approximately 2,100 enrolled in allied health programs

- the new NSW Government–University funded Macarthur Clinical School at Campbelltown Hospital.¹⁶

The NSW Government has committed \$632 million for the Campbelltown Hospital Redevelopment Stage 2, mental health services and paediatric services. This follows the completion of the \$134 million Stage 1.

The construction of the Campbelltown Sports and Health Centre of Excellence at Western Sydney University, planned for early 2018, will improve access to high-quality sport and recreation facilities and provide programs for sports science and sports business.

Health care and social assistance is the most significant employment category in the Local Government Area, with 16 per cent or 8,000 jobs. The sector is forecast to grow by 2.35 per cent a year, resulting in approximately 13,500 jobs by 2041.¹⁷

The Collaboration Area will enable a focus on opportunities to generate growth in economic activity, employment and investment. There are opportunities to:


- protect and grow core health and education activity
- provide new research facilities and related commercial premises
- plan for complementary uses and increased cultural, creative, digital or technology businesses and employees
- establish, enhance and promote the interdependencies between health and education to grow innovation, start-up and creative industries
- improve east-west connections and liveability of the area
- support affordable housing opportunities for students and moderate-income households.

Campbelltown-Macarthur	Jobs
2016 estimate	20,400
2036 baseline target	27,000
2036 higher target	31,000

Actions	Responsibility
<p>39. In addition to the Collaboration Area process outlined above, carry out the following:</p> <ol style="list-style-type: none"> a. protect, develop and expand the commercial core b. protect and grow the health, medical and education core precincts c. investigate opportunities for the growth of allied health and medical related businesses, research, science and advanced manufacturing d. enhance the centre's civic, cultural and heritage role e. increase opportunities for creative, digital and technology businesses and employees f. encourage new lifestyle and entertainment uses to activate streets and grow the night-time economy g. improve east-west pedestrian connectivity across the southern rail line h. support mixed-use development and surrounding high quality apartment and medium density residential development i. capitalise on the Western Sydney Airport and Western Sydney City Deal initiatives. 	<p>Campbelltown City Council, Greater Sydney Commission and other planning authorities</p>





 Actions	Responsibility
40. Facilitate health and education precincts that: <ul style="list-style-type: none"> a. create the conditions for the continued co-location of health and education facilities, and services to support the precinct and growth of the precincts b. have high levels of accessibility c. attract associated businesses, industries and commercialisation of research d. include housing opportunities for students and workers within 30 minutes of the precinct. 	Councils, other planning authorities and State agencies
41. Prioritise: <ul style="list-style-type: none"> a. public transport investments to improve the north-south and east-west connections to the metropolitan city cluster b. infrastructure investments which enhance walkability and cycling, particularly those focused on access to the transport network and within five kilometres of any strategic centre or 10 kilometres of the metropolitan city cluster. 	Councils, other planning authorities, and State agencies
42. Develop and implement land use and infrastructure plans for the metropolitan city cluster by: <ul style="list-style-type: none"> a. supporting commercial development, aerospace and defence industries and the innovation economy b. supporting internationally competitive freight and logistics sectors c. planning vibrant strategic centres and attracting health and education facilities, cultural, entertainment, arts and leisure activities d. creating high quality places with a focus on walking and cycling e. improving transport connections across the District. 	Councils, other planning authorities and Australian and NSW government agencies
43. In Collaboration Areas, Priority Precincts and planning for centres: <ul style="list-style-type: none"> a. investigate opportunities for precinct-based provision of adaptable car parking and infrastructure in lieu of private provision of car parking b. ensure parking availability takes into account the level of access by public transport. c. consider the capacity for places to change and evolve, and accommodate diverse activities over time. 	Councils, other planning authorities and State agencies
44. Deliver the Structure Plan and a Land Use and Infrastructure Plan for the Western Sydney Airport Priority Growth Area and the Western Sydney City Deal.	State agencies
45. Review the current planning controls and create capacity to achieve the job targets for the District's metropolitan city cluster.	Councils and other planning authorities

Planning Priority W10

Maximising freight and logistics opportunities and planning and managing industrial and urban services land

In giving effect to the draft *Greater Sydney Region Plan*, this Planning Priority delivers on **Objective 16: Freight and logistics network is competitive and efficient** and **Objective 23: Industrial and urban services land is planned, protected and managed** and the corresponding strategies and action.

Greater Sydney's existing industrial, manufacturing, warehousing and distribution facilities contribute to its role as Australia's manufacturing capital. These activities occur on industrial and urban services land that also accommodates freight and logistics services, and advanced manufacturing.

Urban services includes activities such as motor vehicle services, printing, waste management, courier services and concrete batching plants. These activities serve local communities and businesses and require adequate access to industrial land across the District. Demand for this land will increase commensurate with population growth. Good local

access to these services also reduces the need to travel to other areas, minimising congestion on the transport system.

Industrial land supply

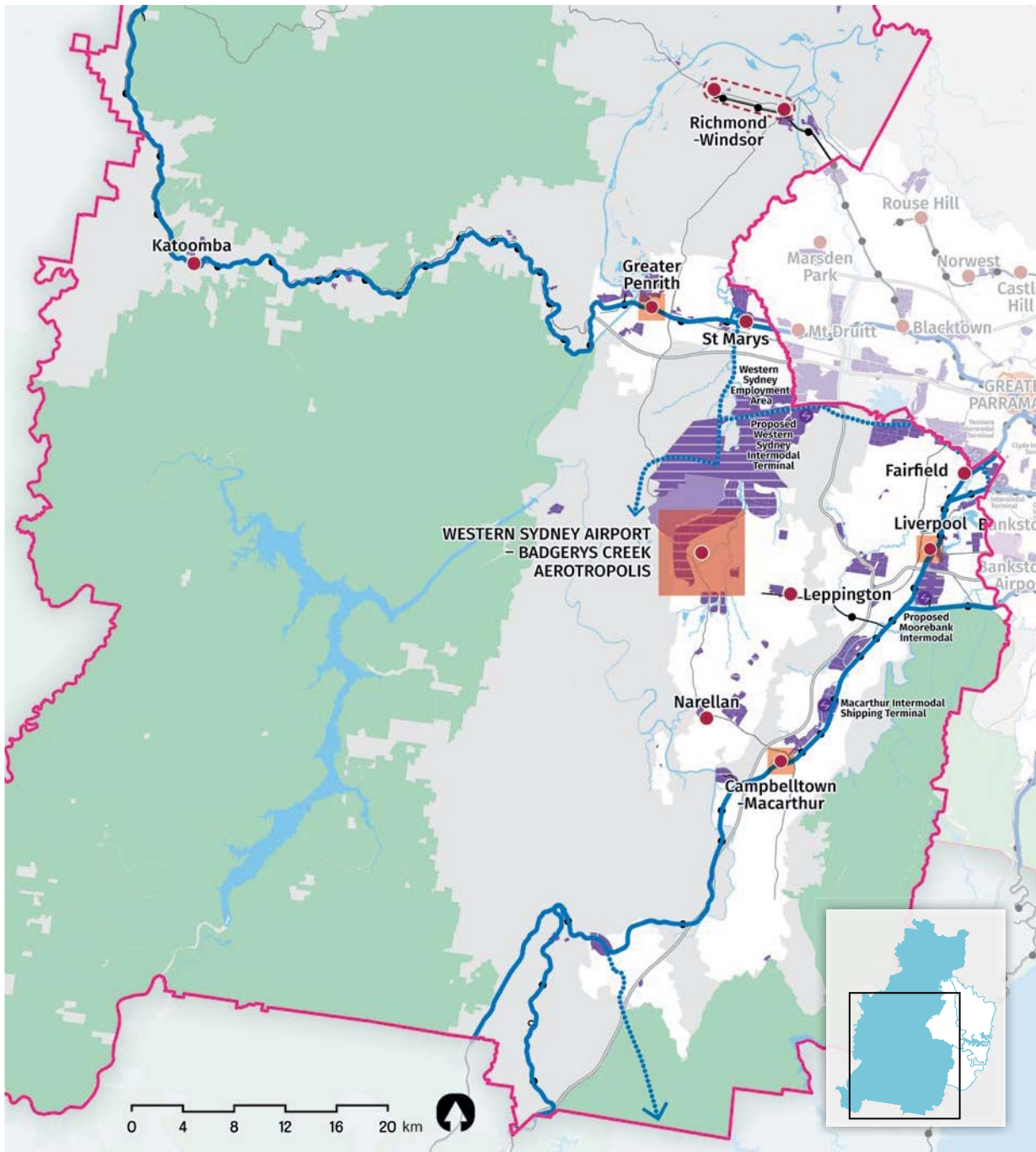
The Western City District has 3,792 hectares of industrial and urban services land, spread over 69 precincts (refer to Figure 23). This represents 38 per cent of Greater Sydney's total stock of industrial and urban services land. About 37 per cent (1,411 hectares) is undeveloped. The largest industrial and urban services precincts in the Western City District are listed in Table 3.

Table 3: Western City District's ten largest industrial and urban services precincts

Precinct	LGA	Undeveloped Land (ha)	Developed Land (ha)	Total (ha)
Wetherill Park	Fairfield	33	526	559
Ingleburn	Campbelltown	13	302	315
Minto	Campbelltown	16	241	257
South of Sydney Water Pipeline	Fairfield	77	176	252
Moorebank	Liverpool	12	324	336
Yarunga/Prestons	Liverpool	112	231	343
Erskine Park	Penrith	122	244	366
North Penrith	Penrith	92	168	260
South of Sydney Water Pipeline	Penrith	337		337
St Marys	Penrith	49	175	225

Source: NSW Department of Planning and Environment, *Employment Development Program 2015 Report (ELDP 2015 Report)*, NSW Government, Sydney

Figure 23: Western City District industrial and urban services land and freight assets



	District Boundary		Protected Natural Areas		Freight/Shared Rail
	Metropolitan City Cluster		Metropolitan Rural Area		Freight Rail Investigation
	Strategic Centre		Industrial Land		Urban Area
	Waterways		Future Industrial Land		

Industrial and urban services land includes the Western Sydney Employment Area, which attracts local, national and international businesses. The RAAF Base Richmond precinct and existing defence facility, Western Sydney University Hawkesbury campus, TAFE NSW Richmond, and Hurlstone Agricultural College will complement business activities around the Badgerys Creek Aerotropolis.

Major industrial and urban services sites include the corridor from Liverpool to Campbelltown and the Fairfield to Eastern Creek corridor. The latter includes Smithfield-Wetherill Park, Greater Sydney's largest industrial estate that employs more than 8,000 people. Further land is proposed to be rezoned for industrial and urban services in Western Sydney Employment Area, Erskine Park, Western Sydney Airport Priority Growth Area, Elizabeth Drive Enterprise, South West Priority Growth Area and Greater Macarthur Priority Growth Area.

Managing industrial and urban services land

While industrial activity and urban services remain important, the nature of this economic sector is changing, with emerging technologies and new industries with different requirements. Industrial land is evolving from traditional industrial and manufacturing lands, and freight and logistics hubs, into complex employment lands. This trend is consistent with other parts of Greater Sydney, particularly east of Parramatta.

Existing sites face pressure to rezone to residential uses, especially near Liverpool and north of Greater Penrith. While locations like Wetherill Park and North St Marys may absorb more industrial activities in the short term, the District's new communities need jobs and services close to home. It is therefore important to protect the existing sites and plan for more industrial and urban services land.

Protecting industrial and urban services land can facilitate industries of the future, including creative industries and environmental services such as waste management and recycling facilities.

Timely and cost-effective infrastructure delivery will support the development and competitiveness of these lands, which compete with other Australian capital cities for large tenants like national distribution centres.

Increasing demand for local urban services and an innovative and adaptable industrial sector will require well-connected, serviced and economically viable land for businesses such as mechanics, repair centres, wholesale warehousing, light manufacturing, creative industries, freight, logistics and construction materials warehousing and supply centres.

Future employment growth across all industries and urban services will require additional floor space, additional land or both. Urban services are often less able to increase their floor space efficiency or locate in multi-story buildings.

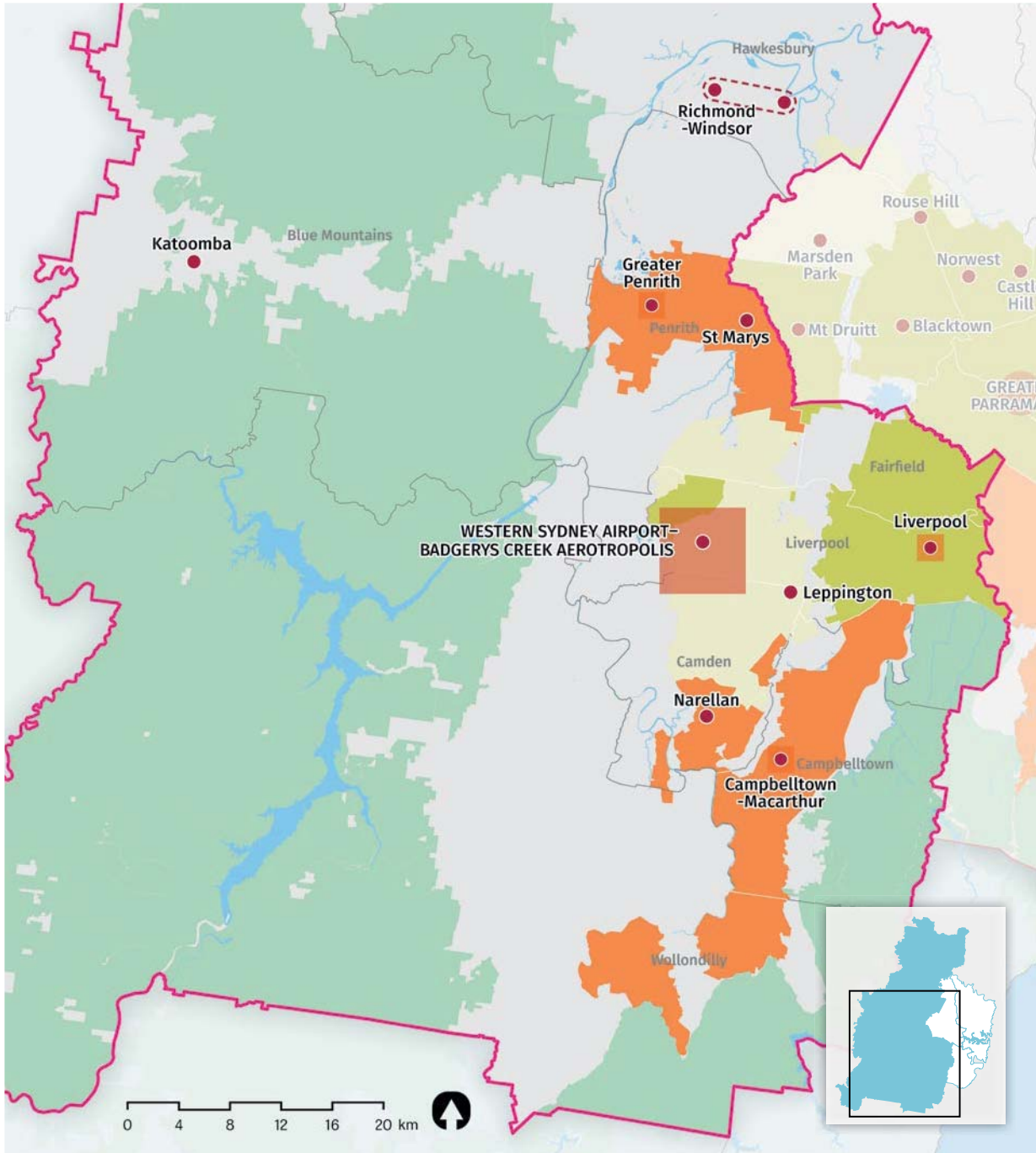
Research prepared for the Commission has compared urban services provision in Greater Sydney with the ACT benchmark of three square metres of urban services land per person. The research found that in the Western City District, the per person amount exceeds the benchmark in 2016, and the per capita amount is anticipated to reduce between 2016 and 2036.

However, owing to the substantial long-term population growth and development in land release areas, there may be a need for additional industrial and urban services land. The Commission will work with the NSW Department of Planning and Environment and councils as strategic plans are prepared to determine whether additional land is required. In considering the industrial land needs of the Western City District, the Western Sydney Airport Priority Growth Area is to be deemed a regional resource serving Greater Sydney.

Existing industrial and urban services land needs to be protected and managed to accommodate businesses supporting the local economy and serving the local population (refer to Action 46).

In the context of retaining industrial and urban services activities, there may be a need, from time to time, to review the list of appropriate activities within any precinct, considering evolving business practices and how they can best be supported through local environmental plans. Any review should take into consideration findings of the industrial, commercial and centres strategies for the local government area and/or District.

Figure 24: Western City District industrial and urban services land approaches



	District Boundary		Protected Natural Areas		Plan and Manage
	Metropolitan City Cluster		Metropolitan Rural Area		Urban Area
	Strategic Centre		Protect and Manage		
	Waterways		Review and Manage		

Delivering local jobs and creating a local office market

As Greater Sydney grows over the next 20 years, there will be a need for the efficient and timely delivery of new office precincts. Stakeholder feedback has emphasised the need to grow and diversify local employment opportunities.

In the Western City District, there are no major standalone office precincts, increasing the need for residents to travel longer distances to access a variety of jobs. The draft *Greater Sydney Region Plan* supports the consideration of offices as a permissible use in an industrial precinct to grow the local office market and support local jobs. However, this should not be seen as a first step in transitioning an industrial area into, for example, a business park, nor is it about allowing retail to support office activity.

Considerations should include:

- the context of industrial, commercial and centres strategies for the local government area and/or the District
- proximity to established business parks or office precincts, with the transition to accommodate new offices or uses which should only be supported in precincts not close to existing business parks or office precincts
- where access to the industrial precinct is constrained, transition to accommodate new uses or offices should be supported only where it will not compromise industrial activities in the precinct or the operation of trade gateways.

The Commission will work with the NSW Department of Planning and Environment and local councils to facilitate offices in industrial precincts, where this is identified as appropriate.

Freight and logistics

The District has the potential to become a nationally significant freight and logistics hub through its connections to the national and regional NSW transport networks. This includes primary freight links over the Great Dividing Range; the Main Western Rail Line that transports mineral and agricultural exports from regional NSW to ports and the M4 Motorway; the Hume Highway; and the Great Western Highway. These links form part of the National Land Transport Network that carries freight to and from Adelaide and Perth as well as locally and regionally to Dubbo, Newcastle, the Illawarra and Port Kembla.

The District has the potential to become a nationally significant freight and logistics hub through its connections to the national and regional NSW transport networks.

Development of the Western City District provides unprecedented opportunities to realise a national freight and logistics role for the District by building on its competitive advantages and leveraging off the Western Sydney Airport, existing freight infrastructure, inter-regional connections and a substantial supply of large lots of land.

Opportunities include prioritising the Western Sydney Freight Line, the Outer Sydney Orbital and a potential intermodal terminal; facilitating agribusiness by allocating land within the Badgerys Creek Aerotropolis for agricultural export logistics; and delivering the Western Sydney Airport Priority Growth Area, which is considered as a regional resource of industrial and employment land serving Greater Sydney.

A new Western Sydney intermodal terminal will be investigated by 2036. The location is yet to be determined but will be close to the Western Sydney Freight Line.

Freight and logistic services must locate to support the Western Sydney Airport. Buffer zones will avoid locating sensitive uses, like residential development, close to industrial and urban services land.


Some older industrial sites contain low buildings or constraints such as smaller lots that are unable to meet emerging freight logistics needs. A review of older sites will identify opportunities for new industrial uses with higher job densities.

As the Western City District develops, opportunities to improve freight network efficiencies, including a Western Sydney Fuel

Pipeline to the Western Sydney Airport, will become increasingly important. The District must also connect port and airport activities, linking the Western Sydney Airport, the Moorebank Intermodal Terminal and a potentially expanded container port at Port Kembla via the Outer Sydney Orbital.

A dedicated freight rail connection from Port Botany in the Eastern Harbour City to the Western Parkland City will increase the proportion of freight moved by rail. Separating freight and passenger services will increase the efficiency of freight movements and ease road congestion. The proposed Western Sydney Freight Line will boost the economic potential of surrounding industrial precincts such as Smithfield and Wetherill Park.

Actions related to freight and logistics are included in Planning Priority W7.

 Actions	Responsibility
46. Manage industrial land in the identified local government areas (refer to Figure 24) by protecting all industrial zoned land from conversion to residential development, including conversion to mixed-use zones.	Camden Council, Campbelltown City Council, Liverpool City Council, Penrith City Council, Wollondilly Shire Council and other planning authorities
47. Manage industrial land in the identified local government areas (refer to Figure 24) by undertaking a review of all industrial land to confirm their protection or transition to higher order uses (such as business parks) and prepare appropriate controls to maximise business and employment outcomes, considering the changing nature of industries in the area.	Greater Sydney Commission, Fairfield City Council, Liverpool City Council and other planning authorities
48. Manage industrial land in the identified local government areas (refer to Figure 24) by creating additional industrial and urban services land where required in land release areas to service the growing population.	Camden Council, Campbelltown City Council, Hawkesbury City Council, Liverpool City Council, Penrith City Council and other planning authorities
49. Consider office development in industrial zones where it does not compromise industrial activities.	Councils and other planning authorities
50. Facilitate the contemporary adaption of industrial and warehouse buildings through increased floor to ceiling heights.	Councils and other planning authorities

Planning Priority W11

Growing investment, business opportunities and jobs in strategic centres

In giving effect to the draft *Greater Sydney Region Plan*, this Planning Priority delivers on **Objective 22: Investment and business activity in centres** and the corresponding strategies and action.

The growth, innovation and evolution of centres will underpin the economy of the Western City District. Centres provide important services and jobs for local residents and places for communities to meet. Well-planned centres help to stimulate economic activity and innovation through the co-location of activities, provide jobs closer to where people live and use infrastructure more efficiently.

To manage the growth and change of the District's centres a centres hierarchy has been established as outlined below:

- Metropolitan city cluster: Liverpool, Greater Penrith and Campbelltown-Macarthur, Western Sydney Airport and Badgerys Creek Aerotropolis (refer to Planning Priority W9)
- Strategic centres: St Marys, Katoomba, Richmond-Windsor, Fairfield, Leppington and Narellan
- Local centres: approximately 53 centres (refer to Planning Priority W6).

All strategic centres will be the focus of public transport investments that seek to deliver the 30-minute city objective (refer to planning priority W7).

The strategic centres in the Western City District differ in size and scale of economic activity. However, as strategic centres they all have similar expectations, including:

- high levels of private sector investment
- flexibility, so that the private sector can choose where and when to invest
- co-location of a wide mix of activities, including residential
- high levels of amenity and walkability
- areas identified for commercial uses, and where appropriate, commercial cores.

Research has shown that the Western City District will need to accommodate more than 1.54 million square metres of additional retail floor space over the next 20 years. In addition, there will be significant demand for additional office floor space. Creating the opportunities to attract retail and office development locally brings jobs closer to where people live. This requires growth in either existing or new centres. The principles for developing new centres are outlined in this Planning Priority.

Delivering housing within a walkable distance of strategic centres encourages non-vehicle trips, which also fosters healthier communities. Housing within centres contributes to a sense of vibrancy, however delivery of housing should not constrain the ongoing operation and expansion of commercial and retail activities.



Jobs growth and community access to goods and services is the core objective for centres. For this reason, job targets, expressed as a range, have been projected for each strategic centre. These targets seek to inform planning authorities and infrastructure agencies of anticipated growth. They should not be seen as maximum targets.


The lower end of the range of these job targets reflects the baseline of projected jobs growth anticipated in the centre, while the upper end is an aspirational higher growth scenario to reflect outcomes in the case of future investment and land use planning in centres.

Smart work hubs offer the conveniences of a modern office – high-speed internet, meeting rooms, video conferencing facilities, informal lounges

and quiet booths – in local areas. They operate as shared workspaces with other small businesses, government and corporate organisations. There are smart work hubs at Penrith and Oran Park. Workers also access the internet from home. Opportunities for smart work hubs in strategic centres should be encouraged.

Related government initiatives:

- Transport for NSW, Transport Performance and Analytics, *Employment projections by travel zone*

 Actions	Responsibility
51. Provide access to jobs, goods and services in centres by: <ol style="list-style-type: none"> attracting significant investment and business activity in strategic centres to provide jobs growth diversifying the range of activities in all centres creating vibrant, safe places and quality public realm balancing the efficient movement of people and goods with supporting the liveability of places on the road network improving the walkability within and to the centre completing and improving a safe and connected cycling network to and within the centre improving public transport services to all strategic centres creating the conditions for residential development within strategic centres and within walking distance, but not at the expense of the attraction and growth of jobs, retailing and services; where appropriate, strategic centres should define commercial cores informed by an assessment of their need. 	Councils, other planning authorities and State agencies
52. Create new centres in line with the <i>Principles for Greater Sydney's Centres</i> .	Councils and other planning authorities
53. Engage with the retail sector on its changing planning requirements and update planning controls as required.	Councils and other planning authorities
54. Prioritise strategic land use and infrastructure plans for growing centres, particularly those with capacity for additional retail floor space.	Councils and other planning authorities
55. Encourage opportunities for new smart work hubs.	Councils and other planning authorities
56. Review current planning controls and create capacity to achieve the job targets for the District's strategic centres.	Councils and other planning authorities

Principles for Greater Sydney's centres

As Greater Sydney's population grows over the next 20 years, there will be a need for over five million square metres of additional retail floor space and new office precincts.

For Greater Sydney to remain competitive, the market needs to be able to deliver this floor space in an efficient and timely manner. Numerous regulatory reviews across Australia have emphasized this issue.

There will be a need to grow existing centres, particularly strategic centres and supermarket-based local centres; create new centres including business parks; and to attract health and education activities in centres. The principles for developing these centres are outlined below:

- **Existing centres:** expansion options will need to consider building heights and outward growth. In some cases, directly adjacent industrial land may be appropriate for centre expansions to accommodate businesses. Quality design and adequate infrastructure provision will be critical to enabling these situations. This approach needs to be informed by local government-based industrial strategies.
- **New centres:** these will be required across the whole of Greater Sydney.
 - In land release areas, this will include a wide range of centre types, including local and large centres which will grow and evolve into new strategic centres.
 - In land release areas, strategic planning should maximise the number and capacity of centres on existing or planned rail corridors. To deliver this outcome the centres need to be identified early to allow their incorporation into transport infrastructure plans.
 - In the Western Parkland City, where South Creek is to be planned as the central organising element for the city, opportunities for new centres to address South Creek are to be maximised.
 - In established areas, there are likely to be innovative approaches to creating new centres as part of urban renewal and mixed-use developments.
 - All new centres are to have good public transport, commensurate with the scale of the centre.

- **Business parks:** Not all centres will start as retail centres. Creating jobs and providing services to local communities can be initiated within business parks. However, the built form of these business parks is critical – that is, they must be developed as urban places which can transition into higher amenity and vibrant places while maintaining the main role as employment precincts. Councils' retail and employment strategies should provide guidance on the transition of business parks into mixed employment precincts including, where appropriate, ancillary residential to support the business park.
- **New health and tertiary education facilities,** such as hospitals and community health centres. There should be located within or directly adjacent to centres, and ideally be co-located with supporting transport infrastructure. Built form is also critical to facilitate the transition of centres with health and education uses to facilitate more mature innovation precincts.

In all cases, delivering centres that create walkable neighbourhoods is a high priority, and in this context additional centres which improve walkability are encouraged.

Land use and infrastructure plans inform decisions for the location of new centres and the expansion of existing centres.

Where there is a prevalence of retail in an industrial area, there may be exceptional cases to support the development of a new centre. Any such opportunities should be informed by a net community benefit test supported by a strategic review of centres (which identifies the need for the centre) and an industrial land review (which identifies that the loss of industrial activity can be managed) for the local government area. These reviews are to be prepared by councils, and endorsed by the Commission. The centre should be:

- located where public transport services are commensurate with the scale of the centre
- directly opposite a residential catchment accessible by a controlled pedestrian crossing
- more than a stand-alone supermarket
- of quality urban design with amenity, informed by a master plan
- supported by planned and funded infrastructure commensurate with the needs of the centre.

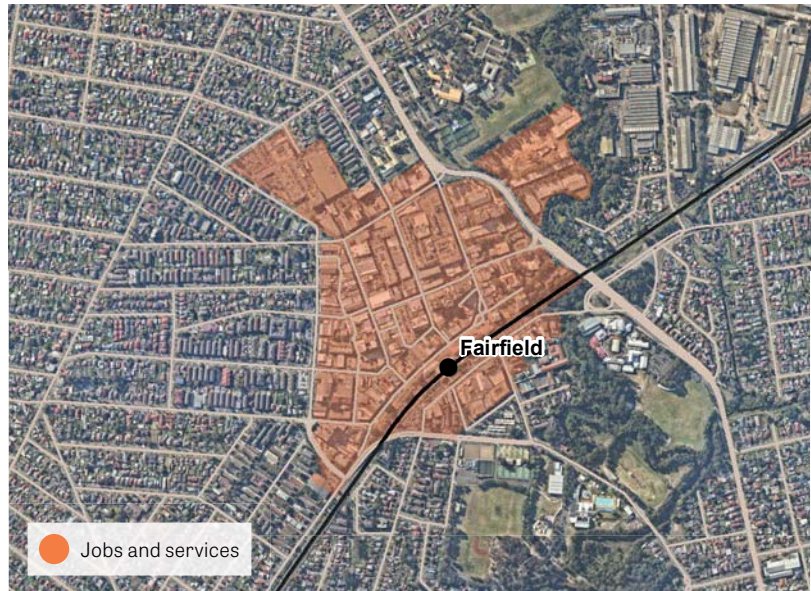
For new centres in industrial areas, the economic impact of the centre should be assessed and deemed to have an acceptable impact on the operation of existing businesses in the locality and the viability of surrounding centres.

Fairfield

Fairfield City Centre has the largest concentration of commercial office, retail and community services floor space to the population of the local government area. Its unique commercial and retail focus is driven by local culture, including main street and bazaar-style shops and services.

There is opportunity to create more spaces for business start-ups and social enterprise, grow the centre’s culturally specialised services including translation, re-training new arrivals, and health care, and develop its authentic cultural food and night-time economy.

Fairfield Park, a significant open space and leisure precinct, including a gymnasium and aquatic centre; Fairfield Youth and Community Centre; and Fairfield Adventure Park are within reach of Fairfield City Centre and transport interchange. This integrates into the Greater Sydney Green Grid via an extensive walking and cycling network along creek lines extending from Chipping Norton Lakes to Western Sydney Parklands.



Maintaining housing affordability for existing residents, and increasing the number of affordable rental units to welcome new residents will be a challenge into the future. Fairfield City Council is undertaking an urban design study for the redevelopment and revitalisation of key sites within the city centre. One of the core objectives of the study is to unlock additional housing potential close

to public transport, open space and services, making use of the centre’s strong connections to Liverpool and Parramatta.

Fairfield	Jobs
2016 estimate	5,400
2036 baseline target	6,000
2036 higher target	10,000

Actions	Responsibility
<p>57. Strengthen Fairfield through approaches that:</p> <ul style="list-style-type: none"> a. investigate opportunities for feasible redevelopment and increased density close to the Fairfield Transport Interchange b. enhance the public realm and encourage new connected civic plazas and public open spaces, including better walking and cycling links to nearby Fairfield Park and Prospect Creek corridor c. build on the emerging concentration of multicultural support services and support the current business and legal sector d. increase the liveability of the centre by activating the public realm, including developing the vision for an ‘eat street’ and growing the night-time economy e. facilitate the attraction of office/commercial floor space and allow for innovation including smart work hubs f. improve east-west connectivity within Fairfield City Centre from surrounding suburbs prioritising pedestrian, cycle and public transport facilities. 	<p>Fairfield City Council, other planning authorities and State agencies</p>

Katoomba

Katoomba is a significant tourist destination, with associated employment opportunities. Within the ‘City of the Arts’, Katoomba draws on its unique heritage, arts and cultural activities, supported by a Cultural Centre and World Heritage Exhibition. Katoomba has a transport interchange and a diverse mix of uses, including commercial, retail, health and education facilities. The centre provides services for the local community and includes large employers such as Blue Mountains City Council and Katoomba Hospital. There are opportunities to build on the centre’s assets to promote economic activity and consolidate Katoomba’s revitalisation.



Katoomba	Jobs
2016 estimate	2,700
2036 baseline target	3,000
2036 higher target	5,500

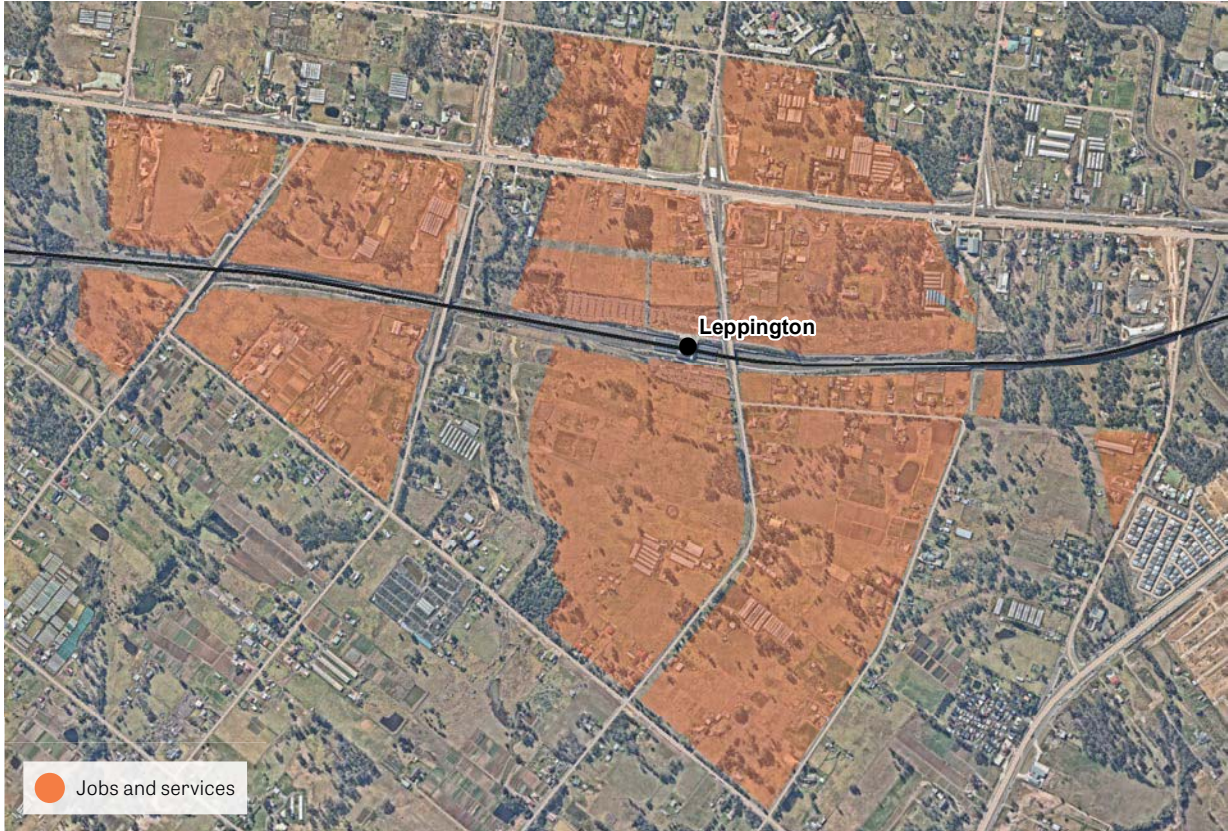
Actions

58. Strengthen Katoomba through approaches that:
- encourage new lifestyle and entertainment uses to activate streets and grow the tourism and night-time economies
 - facilitate the attraction of office/commercial floor space and provide opportunities to allow commercial and retail activities to innovate, including smart work hubs
 - enhance the public realm
 - activate secondary streets.

Responsibility

Blue Mountains City Council, other planning authorities and State agencies

Leppington



Leppington is a designated Priority Precinct. The NSW Department of Planning and Environment is working with Camden and Liverpool City councils to undertake the planning of the new centre on the T2 Inner West and Leppington and T5 Cumberland lines. Leppington Station services a catchment covering precincts such

as Leppington, Leppington East, Austral and Edmondson Park within the South West and Western Sydney Airport Priority Growth Areas. With Bringelly Road to serve as one of the major gateways to the Western Sydney Airport, Leppington is expected to be a prominent town centre in the future.

Leppington	Jobs
2016 estimate	400
2036 baseline target	7,000
2036 higher target	12,500

Actions	Responsibility
<p>59. Strengthen Leppington through approaches that:</p> <ul style="list-style-type: none"> a. develop a masterplan for the Leppington town centre in collaboration with Camden and Liverpool City Councils, stakeholders and the community b. coordinate the release and rezoning of land for residential, employment and other urban development in Leppington town centre in accordance with the State Environmental Planning Policy (Sydney Region Growth Centres) 2006 and to support the District's housing and job targets c. coordinate and deliver enabling infrastructure to support future development. 	<p>NSW Department of Planning and Environment, Camden Council, Liverpool City Council, other planning authorities and State agencies</p>

Narellan



The Narellan town centre has transitioned from a shopping centre to a hub providing all of the services and facilities that a community needs. It provides employment opportunities in a range of industries, services, professions and has potential for increased residential density and a range of dwelling typologies.

Narellan, at the heart of a rapidly growing district, has potential for increased commercial office, retail and community services to cater for the future population growth. The vision of the Narellan town centre will reflect the history and heritage of the Camden Local Government Area, while providing opportunities for the growing community.

Narellan	Jobs
2016 estimate	10,600
2036 baseline target	14,000
2036 higher target	16,500

Actions	Responsibility
<p>60. Strengthen Narellan through approaches that:</p> <ul style="list-style-type: none"> a. investigate the capacity of key infrastructure to support additional growth b. undertake an Urban Design Review for the Centre and review planning controls c. review the vision for the Narellan District Centre. 	<p>Camden Council, other planning authorities and State agencies</p>

Richmond-Windsor



Richmond and Windsor are two of the five original Macquarie Towns, established in December 1810. They are located upstream of the 20 original Macquarie Farms also established in 1810. Richmond-Windsor’s role and function has traditionally been to provide accommodation and services to support a rural population and agricultural activity.

Over time, the role of the centre has expanded to include retail and commercial services and major health facilities including the Notre Dame University medical teaching campus.

The centre has significant heritage values including some of the oldest

buildings in Australia and an emerging tourism base focused on colonial history, rural character, agriculture, environmental assets including UNESCO World Heritage areas and the Hawkesbury River.

Located at Clarendon – midway between the two original Macquarie Towns – is a cluster of aviation, University, TAFE and equine activities.

Over 450 aerospace workers work within the precinct, including Royal Australian Air Force, United States Air Force, Northrop, Airbus Group Australia Pacific, Lockheed Martin, Standard Aero, GEAviation, L3 Aviation Products and CAE.

The Western Sydney University Hawkesbury Campus, the Hawkesbury Institute for the Environment and the Hawkesbury Racing Club contribute significantly to employment research and training in the area.

Richmond-Windsor	Jobs
2016 estimate	10,300
2036 baseline target	12,000
2036 higher target	16,500

Actions	Responsibility
<p>61. Strengthen Richmond-Windsor through approaches that:</p> <ul style="list-style-type: none"> a. support complementary land uses around the agglomeration of education and defence uses in Richmond b. support master planning processes for Richmond and Windsor that encourage new lifestyle and entertainment uses, employment opportunities, activate streets and places, grow the tourism economy and respect and enhance the significant heritage value and assets c. facilitate the attraction of office/commercial floor space and provide opportunities to allow commercial and retail activities to innovate, including smart work hubs. 	<p>Hawkesbury City Council, other planning authorities and State agencies</p>

St Marys



St Marys has a mix of jobs, commercial and retail activities, with industrial and urban services land north of the rail line, and the town centre with retail, commercial and residential uses south of the rail line. There has been recent growth in apartment living opportunities in and around the centre.

St Marys	Jobs
2016 estimate	8,300
2036 baseline target	10,000
2036 higher target	11,500

Actions	Responsibility
<p>62. Strengthen St Marys through approaches that:</p> <ul style="list-style-type: none"> a. review and maximise opportunities from its location at the intersection of the north-south and east-west corridors b. support the role of St Marys as a centre by enabling a mix of land uses to encourage a diverse and active night-time economy c. facilitate the attraction of a range of uses that contributes to an active and vibrant place d. improve transport connectivity and walkability within and to St Marys e. support greater housing diversity and densities f. activate primary and secondary streets and deliver contemporary urban public spaces g. support and demonstrate innovation. 	<p>Penrith City Council, other planning authorities and State agencies</p>

5

Sustainability

Improving sustainability will involve: incorporating natural landscape features into the urban environment; protecting and managing natural systems cooling the urban environment; innovative and efficient use and re-use of energy, water and waste resources; and building the resilience of communities to natural and urban hazards, shocks and stresses.

All aspects of sustainability rely on maintaining and managing green infrastructure. Green infrastructure is the network of green spaces, natural systems and semi-natural systems that support sustainable communities. It has four connected elements: waterways; urban bushland; urban tree canopy and green ground cover; parks and open spaces.

The Western City District has large tracts of bushland, scenic hills, floodplains, rivers and major waterways set amongst urban neighbourhoods, farmland and rural towns and villages. The District is the hottest and driest part of Greater Sydney and will grow significantly over the next 40 years.

The Greater Sydney Green Grid will provide cool, green links throughout the District – the regional network of high quality green spaces that supports walking, cycling and community access to open spaces – and with urban tree canopy lining streets and neighbourhoods.

Maintaining and improving the health of the Hawkesbury-Nepean and Georges rivers and South Creek as natural, cultural and recreational assets also contribute to cooling the environment and providing habitat for aquatic ecosystems. As the South Creek corridor is developed, the creek and its tributaries will form the defining structural elements of the new Western Parkland City, its centres and its neighbourhoods.

The District's extensive rural areas include farmland and mineral resources which supply fresh local produce and construction materials as well as bushland which can provide habitat for local wildlife and offset sites for biodiversity.

Its climate and natural landscape can create natural hazards such as bushfire, flooding, storms and heatwaves. Natural and urban hazards will be exacerbated by climate change. Mitigating climate change is important as is supporting actions that assist communities to adapt to the impacts of climate change will be important.

For the District an integrated approach to improving sustainability can be achieved by the following Planning Priorities:

- Protecting and improving the health and enjoyment of the District's waterways.
- Creating a Parkland City urban structure and identity, with South Creek as a defining spatial element.
- Protecting and managing bushland and biodiversity.
- Increasing urban tree canopy cover and delivering Green Grid connections.
- Protecting and enhancing scenic and cultural landscapes.
- Better managing rural areas.
- Delivering high quality open space.
- Reducing carbon emissions and managing energy, water and waste efficiently.
- Adapting to the impacts of urban and natural hazards and climate change.

Green Infrastructure and Greener Places

Green infrastructure is fundamental to creating a high quality of life and is important in creating a region that is climate resilient and adaptable to future needs. The Government Architect NSW is working on a Green Infrastructure Framework to guide the delivery of green infrastructure across NSW through planning, designing and managing green infrastructure as an interconnected network.

The Green Infrastructure Framework will have three key components:

- **Bushland and Waterways** – delivering green infrastructure for habitat and ecological health
- **The Urban Tree Canopy** – delivering green infrastructure for climate change adaptation and resilience
- **Parks and Open Space** – delivering green infrastructure for people.



Planning Priority W12

Protecting and improving the health and enjoyment of the District's waterways

In giving effect to the draft *Greater Sydney Region Plan*, this Planning Priority delivers on **Objective 25: The coast and waterways are protected and healthier** and the corresponding strategies.

The Western City District's waterways shape its landscape and character. They are natural assets, cultural resources and recreational destinations. As the District grows, greater housing density around waterways, and more people looking to use waterways for recreation, will mean that these assets will need to be carefully managed so they continue to support a wide range of activities.

The Western City District is the hottest and driest in Greater Sydney. The waterways and rivers of the District are part of an overall natural system and contribute to the 'green infrastructure' that cools and greens the District. The District's waterways support groundwater dependant ecosystems, which benefit from continuing protection and management. They support threatened ecological communities and accommodate the disposal of stormwater and wastewater. More than 75 per cent of the District's population lives within a kilometre of a waterway (many of these are intermittent), highlighting the role waterways play in creating a sense of place and connecting communities to the natural landscape, even within a relatively hot and dry landscape. The District's catchments and waterways are shown on Figure 25.

The District's three major waterways – the Hawkesbury-Nepean River, South Creek and Georges River – are key elements of the District's landscape and character. Some of the District's waterways – such as the Grose and Colo Rivers, which are important tributaries of the Hawkesbury-Nepean River – are in a near-natural state and protected in World Heritage Listed national parks. Significant swamps and wetlands include the Blue Mountains Swamps, Cranebrook Wetland, and Georges River Voyager Point Wetlands. These provide habitat for threatened species and help to filter and clean water as it flows into creeks and waterfalls.

Many of the District's waterways have extensive floodplains, affecting significant areas of the Hawkesbury-Nepean Valley between Wallacia and Sackville, and parts of South Creek Valley. Flooding in the Georges River valley can affect communities in places such as Liverpool, Warwick Farm, Lansvale, and Lansdowne, with areas of greater risk in Chipping Norton and Moorebank. This draft plan addresses resilience to flooding and other hazards in more detail in Planning Priority W2o.

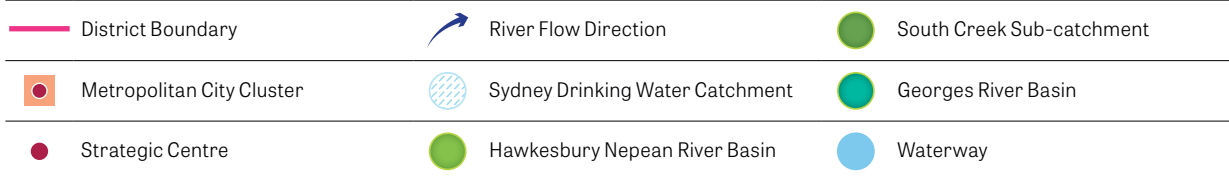
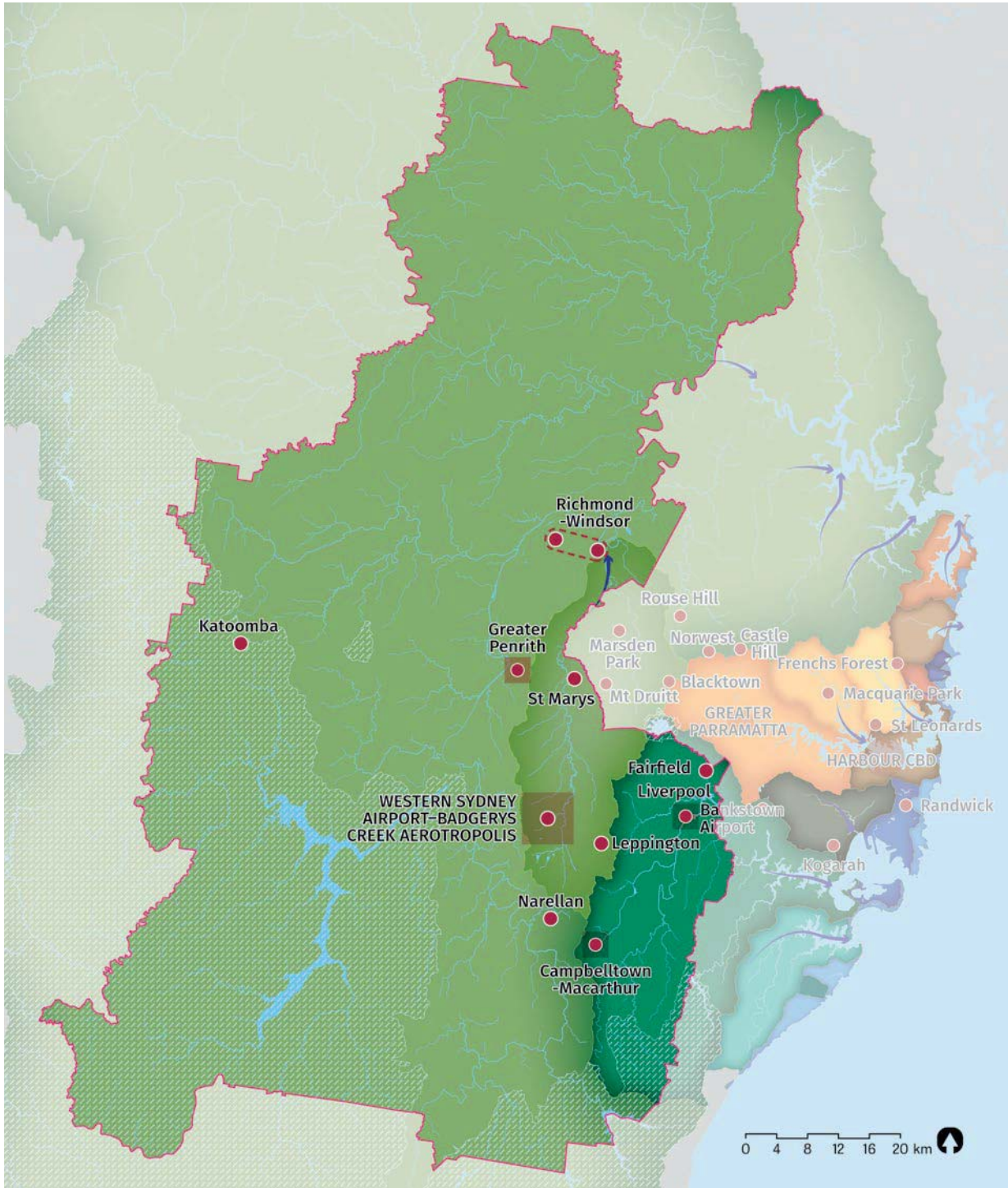
A legacy of historical land uses, contaminated land, aged infrastructure and the pattern of urban development have impacted some of the District's waterways. Other waterways, such as the Georges River are in better health, provide habitat and are popular for swimming.

Urban development, the clearing of vegetation and more impermeable surfaces have resulted in elevated run-off, reduced water quality and loss of habitat. Urban stormwater carries litter and contaminants into the District's waterways. The District's waterways often flow through more than one local government area and are managed by a number of agencies and stakeholders, so water quality and waterway health is best managed at a catchment and sub-catchment level.

Growth and new investment provide an opportunity to improve the necessary health and quality of the District's waterways and riparian corridors, through improving public access to, and along, the foreshores; providing connected green space around the foreshores; conserving cultural heritage; protecting flora and fauna, and urban bushland; and recovering and reinstating more natural conditions in highly modified waterways.

Enhancing community access to the waterways within the District should be prioritised. This includes access for pedestrians as well as boats and

Figure 25: Western City District catchment and waterways



other watercraft. The delivery of the Greater Sydney Green Grid connections (refer to Planning Priority W15) will enhance connections to the Hawkesbury-Nepean River and Georges River.

There is legislation, as well as policies and plans, already in place to improve the health of waterways and to manage water resources. For example, the *Fisheries Management Act 1994* protects aquatic biodiversity and the Sydney Regional Environmental Plan No. 20 – Hawkesbury-Nepean River protects the Hawkesbury-Nepean River system by ensuring that the impacts of future land uses are considered in a regional context. NSW Government agencies and councils also manage the health of waterways through planning and development decisions, environmental programs and through the management of public land.

The *Metropolitan Water Plan 2017* is the NSW Government's plan to ensure there is sufficient water to meet the needs of the people and environment, now and for the future. It established the WaterSmart Cities program, which will explore new ways to supply drinking water, and manage stormwater and wastewater in a more integrated, cost-effective and sustainable way.

Local land-use planning controls also protect environmentally sensitive coastlines, waterways and foreshores and the health of catchments.

Protecting and improving the environmental health of the District's waterways safeguards its health. An integrated approach to the protection and management of waterways will also rely on more comprehensive approaches to the monitoring and reporting of water quality and waterway health. Councils implement sustainable urban water management approaches and encourage water sensitive urban design.

The draft District Plan aims to integrate the objectives for waterways, that are set out in legislation, policies and plans, by prioritising the management of waterways as green infrastructure. This involves:

- reconceptualising waterways as an infrastructure asset that can provide environmental, social and economic benefits to communities
- integrating approaches to protecting environmentally sensitive waterways within a larger network of green infrastructure

- addressing the cumulative impacts of development and land management decisions across catchments in a way that improves water quality and waterway health.

Collaboration and coordination across levels of government and with the community is needed to deliver the green space, urban cooling and integrated water management outcomes for the District.

Future work will apply the lessons from previous management of the District's rivers, notably the Georges River Combined Councils' Committee, which facilitates a coordinated approach to the management of the Georges River.

Catchment-scale management and coordination can:

- solve multiple problems – for example, catchment condition and water scarcity, or addressing water quality impacts on aquifers, estuaries and the marine estate
- set objectives for the District's waterways and enable them to be achieved in innovative and cost-effective ways
- enable both public and private benefits to be achieved – for example, stormwater from private land could provide a benefit to public management of green space and urban waterways.

Strategic planning needs to manage the cumulative impact of activities and associated infrastructure such as mooring, marinas and boat launching facilities while ensuring public access to the waterways and opportunities for swimming, and small boat and kayak launching from publicly-owned land.

Hawkesbury-Nepean River

The Hawkesbury-Nepean River has a 21,400 square kilometre catchment – one of the State's largest catchments east of the Great Dividing Range. The river system extends beyond the boundaries of Greater Sydney, stretching from south of Goulburn, and west of Lithgow to the Brooklyn Bridge in the north. The river and its tributaries flow through remote bushland and mountainous terrain, fertile agricultural land and urbanised areas, and it joins the ocean at a spectacular estuary.

The river system provides drinking water to most of Greater Sydney, the Illawarra and Central Coast, with major water storages at Warragamba Dam, Nepean

Dam, Avon Dam, Cordeaux Dam, Cataract Dam and Mangrove Dam. The river system also supports a \$259 million agriculture industry.¹⁸ Its water quality and health can be threatened from the impacts of urban and rural runoff, mining, wastewater discharges and water extractions for irrigation and drinking water supply.

South Creek

South Creek is Western Sydney’s longest urban freshwater creek, rising near Oran Park and joining the Hawkesbury River near Windsor. Its catchment includes well-established urban areas, new and rapidly growing neighbourhoods and rural land. Rural activity and urban development has affected the health and liveability of the Creek and the Hawkesbury River downstream.

Significant population growth will occur within the catchment, particularly in new neighbourhoods being planned within South West and Western Sydney Airport Priority Growth Areas. This population growth, as well as growth in economic activity and the delivery of infrastructure to support Western Sydney Airport and the Badgerys Creek Aerotropolis, will provide an opportunity for careful management to enhance and improve the health of South Creek and its tributaries.

As the District grows, greater housing density around waterways, and more people looking to use waterways for recreation, will mean that these assets will need to be carefully managed so that they continue to support a wide range of activities. The size of the South Creek corridor, its character

and the scale of growth expected over the next few decades will require specific approaches, which are set out in Planning Priority W13.

Georges River

Georges River is a major feature of the Western City District, the Central River City and, as it flows east, the Eastern Harbour City. Its catchment flows through a varied landscape from the steep, heavily wooded upper reaches near Appin to the urbanised lower reaches. Vegetation communities in the catchment are primarily influenced by the distribution of shale (Cumberland Plain) and sandstone (Woronora Plateau) geologies.

Woronora Dam and Prospect Reservoir – both within the Georges River catchment – are part of Greater Sydney’s drinking water supply network. Tributaries include important creeks such as Cabramatta Creek and Prospect Creek which flow through suburban and urban areas of Fairfield and Liverpool. The river provides a riverside setting for Liverpool strategic centre and also flows through Chipping Norton Lakes, providing an attractive location for waterside recreation.

Related government initiative:

- NSW Office of Environment and Heritage, *Risk-based Framework for Considering Waterway Health Outcomes in Strategic Land-use Planning Decisions* (2017).

 Actions	Responsibility
63. Protect environmentally sensitive waterways.	Councils, other planning authorities, State agencies and State-owned corporations
64. Enhance sustainability and liveability by improving and managing access to waterways and foreshores for recreation, tourism, cultural events and water-based transport.	Councils, other planning authorities, State agencies and State-owned corporations
65. Improve the health of catchments and waterways through a risk-based approach to managing the cumulative impact of development including coordinated monitoring of outcomes.	Councils, other planning authorities, State agencies and State-owned corporations
66. Reinstate more natural conditions in highly modified urban waterways.	Councils, other planning authorities, State agencies and State-owned corporations

Planning Priority W13

Creating a Parkland City urban structure and identity, with South Creek as a defining spatial element

In giving effect to the draft *Greater Sydney Region Plan*, this Planning Priority delivers on **Objective 26: A cool and green parkland city in the South Creek corridor** and the corresponding strategy and action.

South Creek is at the heart of the Western Parkland City. Rapid and sustained growth in the Western Parkland City, particularly in Priority Growth Areas close to South Creek and tributaries such as Kemps Creek, Lowes Creek and Badgerys Creek, will see its population grow to well over 1.5 million by 2056.

The draft *Greater Sydney Region Plan* vision for South Creek is to transform its water management, while using the creek corridor to form the spine of the Western Parkland City (refer to Figure 26 and Figure 27). This conceptualises a green corridor that provides sites for parks, community facilities, and ecological services including nutrient capture, urban cooling, walking and cycling trails, and local habitat. Areas of higher density and high quality public spaces orientate towards waterways, making the most of this green infrastructure.

Walking and cycling trails will connect the creek's open spaces and regularly spaced bridge crossings will enable people to experience the landscape and connect communities. The design of bridges will respect the local context and environment, and support the movement of wildlife.

Maintaining riparian corridors in public ownership for future generations will support habitat, create opportunities for new open space, including sporting facilities, and help to support healthy waterways by managing flows of water and nutrients.

South Creek will be a green corridor that provides sites for parks, community facilities, and ecological services including nutrient capture, urban cooling, walking and cycling trails, and local habitat.

Retaining more water in the landscape, for example by creating new wetlands, irrigating the urban tree canopy and maximising opportunity that smaller intermittent streams provide, will help mitigate the urban heat island effect and manage flows of stormwater.

Creating contiguous corridors of public open space and expanding the urban tree canopy (refer to Planning Priority W15) will also help mitigate the urban heat island effect, manage flows of stormwater and create attractive locations for new and growing communities that support liveability and productivity.

Actions

- 67. Implement the South Creek Corridor Plan and use the design principles for South Creek to deliver a cool and green Western Parkland City.

Responsibility

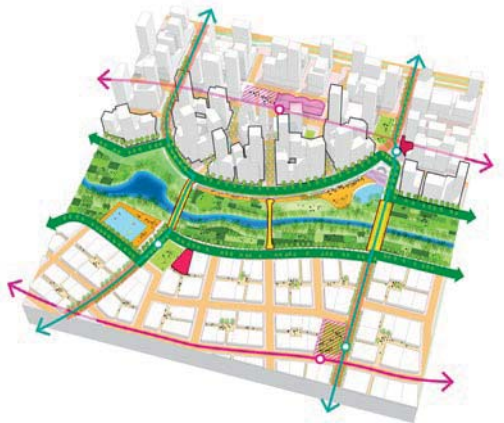
Councils, other planning authorities, State agencies and State-owned corporations

Figure 26: South Creek urban design principles

 <p>Orientate urban systems towards the creek corridor</p>	 <p>Create a transect of creek-oriented place types and things to do</p>	 <p>Build a network of everyday uses within a walkable creek catchment</p>	 <p>Provide creek connections and encourage waterfront activity</p>
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New city centre

- Pedestrian-oriented promenade with active frontages
- Density and fine grain
- 300-400m bridge spacing
- Mass transit 1-2 blocks from creek
- Regional civic anchors
- High transport connectivity



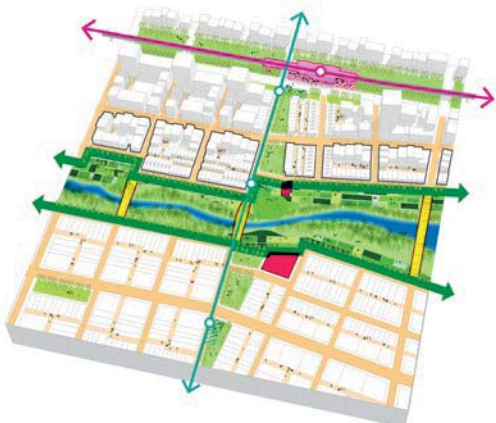
Established suburbs

- Studios and apartments added
- Connections between streets and to creek
- Programmed activity space
- Multiple pedestrian walkways
- Shared street promenade



New inner city neighbourhood

- Fine grain residential – terraces and mid rise apartments
- 400-600m bridge spacing
- Mass transit 2 blocks from creek
- Local civic anchors

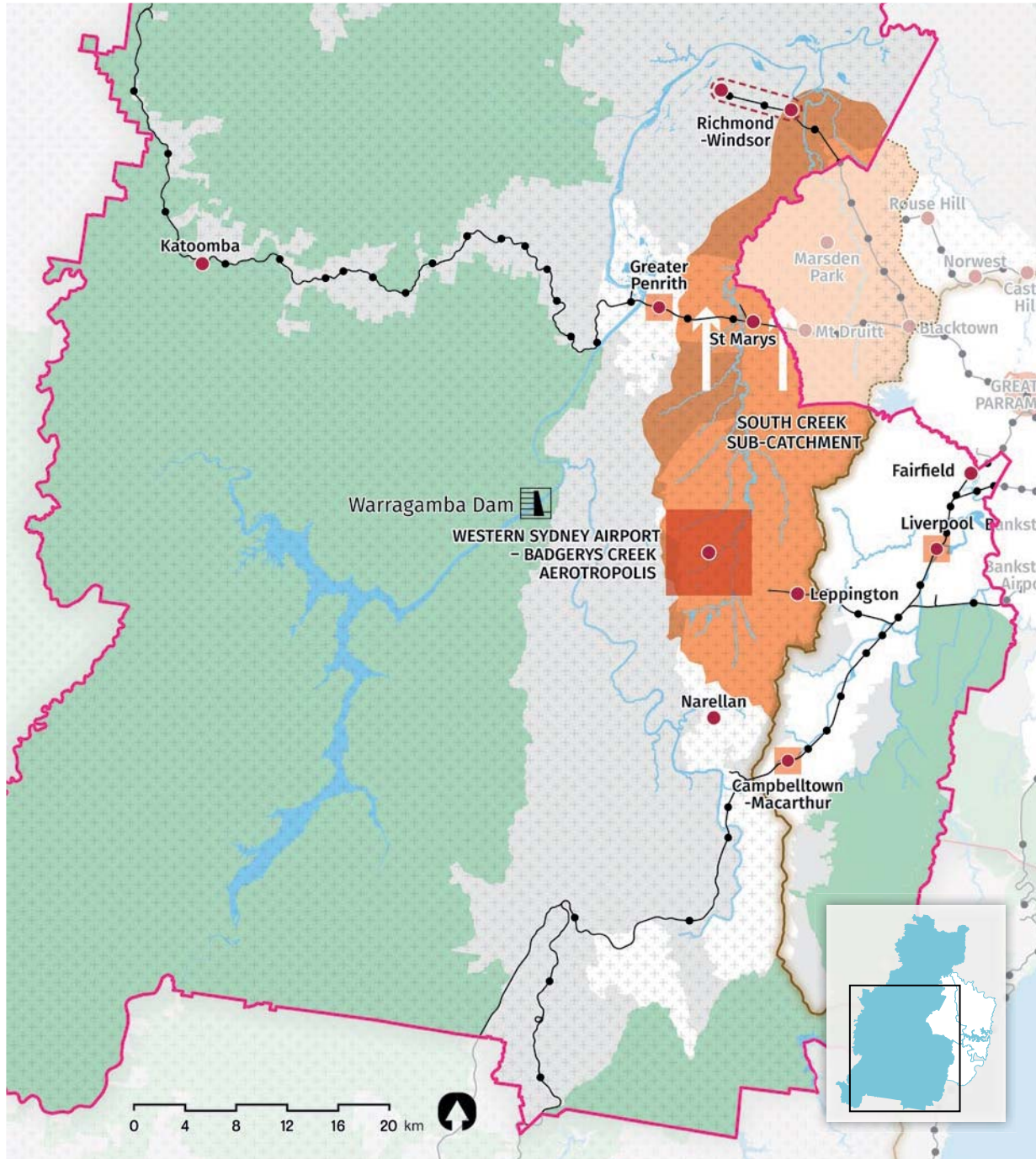


New business and industrial areas

- Creek-facing employment hubs
- Realigned car parking
- Recreation spaces for workers
- Accessible transit plaza
- Pedestrian only promenade



Figure 27: Western City District's South Creek catchment



	District Boundary		Inland (Creek) – South Creek		Waterways
	Metropolitan City Cluster		Hawkesbury–Nepean		Metropolitan Rural Area
	Strategic Centre		Water Flow Direction		Protected Natural Area
	Urban Area		Drainage Catchment		

Planning Priority W14

Protecting and enhancing bushland and biodiversity

In giving effect to the draft *Greater Sydney Region Plan*, this Planning Priority delivers on **Objective 27: Biodiversity is protected, urban bushland and remnant vegetation is enhanced** and the corresponding strategy.

Objective 27 in the draft *Greater Sydney Region Plan* outlines how the NSW Government seeks to protect and manage biodiversity values across Greater Sydney, from national and state biodiversity conservation legislation to information such as biodiversity mapping. This Planning Priority reinforces the importance of Objective 27 and provides a context to District issues.

Bushland areas protected in national parks and reserves support the District's significant biodiversity, while bushland and remnant vegetation throughout the District's urban and rural areas also provide habitat, help cool the environment and support cleaner waterways and air.

Bushland covers 60 per cent of the Western City District.¹⁹ While most of this bushland is located in the Protected Natural Area (the major landscape area at the western edge of the District, including the Greater Blue Mountains World Heritage Area), there are valuable areas of bushland and remnant vegetation within the urban and rural parts of the District as well (refer to Figure 28).

Many areas of urban bushland are on public land managed as green infrastructure by councils, while some is privately owned.

Urban bushland, close to some of the District's most densely populated areas, supports opportunities for nature-based recreation and enhance liveability. Areas of bushland at the edges of urban neighbourhoods need to be managed and enhanced to reduce impacts from urban areas, such as pollution and nutrients from stormwater, weeds and litter.

In delivering the Western Parkland City, strategies must be developed for the identification, protection and management of bushland and biodiversity.

A strategic approach to protecting the biodiversity in the District involves investing in connected bushland corridors and protecting larger pockets of remnant vegetation, as large and connected areas of bushland give the District's wildlife the greatest chance of survival. This strategic approach complements the delivery of the Greater Sydney Green Grid.

Strengthening the protection of bushland in urban areas will help to conserve the District's biodiversity, preserve its scenic landscape, and enhance its tourist and recreational values. Remnant vegetation should be recognised as an asset that can be incorporated into the planning and design of neighbourhoods, for example in parks, school grounds and as street trees.

Bushland in the District's rural areas will be protected and managed through place-based planning, including incentivising offset delivery.

The *Biodiversity Conservation Act 2016* provides a framework and tools to avoid, minimise and offset impacts on biodiversity through the planning and development assessment process.

Useful link:

- Cumberland Subregion Biodiversity Investment Opportunities Map (BIO Map)



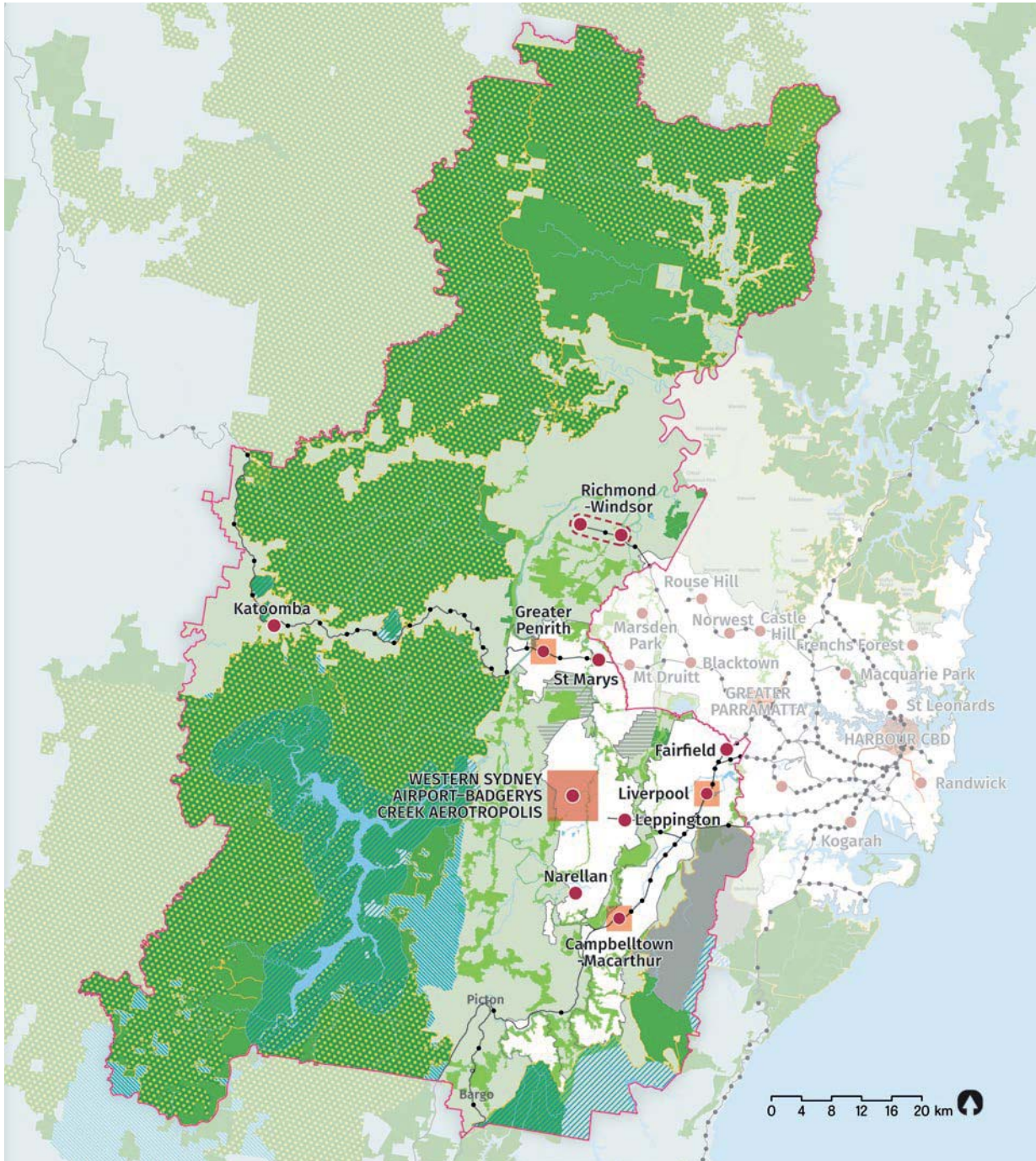
Actions

68. Protect and enhance biodiversity by:
- supporting landscape-scale biodiversity conservation and the restoration of bushland corridors
 - managing urban bushland and remnant vegetation as green infrastructure.

Responsibility

Councils,
other planning
authorities and
State agencies

Figure 28: Western City District Protected Natural Area and Metropolitan Rural Area



 District Boundary	 Protected Natural Area	 Holsworthy Military Reserve
 Metropolitan City Cluster	 National Parks and Reserves	 Urban Investigation Area
 Strategic Centre	 Blue Mountains World Heritage Area	 Metropolitan Rural Area
 Waterways	 Water Catchment – No Entry	 Urban Area

Planning Priority W15

Increasing urban tree canopy cover and delivering Green Grid connections

In giving effect to the draft *Greater Sydney Region Plan*, this Planning Priority delivers on **Objective 30: Urban tree canopy cover is increased** and **Objective 32: The Green Grid links parks, open spaces, bushland and walking and cycling paths** and the corresponding strategies.

The Greater Sydney Green Grid is a long-term vision for a network of high quality green spaces that connects communities to the natural landscape. It links tree-lined streets, waterways, bushland corridors, parks and open spaces to centres, public transport and public places. The Greater Sydney Green Grid builds on the District's established open space, the *Regional Tracks and Trails Framework* and the emerging Principle Bicycle Network.

Tree-lined streets, urban bushland and tree cover on private land form the urban tree canopy. The urban tree canopy is a form of green infrastructure that mitigates the urban heat island effect, with a 10 per cent increase in tree canopy cover reducing the land surface temperature by 1.13 degrees Celsius. The urban tree canopy also supports cleaner air quality and water and provides local habitat. Trees remove fine particles from the air and help insulate against urban noise pollution. This is particularly important along busy road corridors where air quality can be improved. The urban tree canopy can also help make communities more resilient, by reducing the impact of heat waves and extreme heat.

The urban tree canopy

In the Western City District, the urban tree canopy is widespread in the towns and villages of the Blue Mountains, which are close to national parks, but sparse in some urbanised areas including Prairiewood, Bonnyrigg and Green Valley. Nineteen per cent of the District's urban areas have tree canopy cover – lower than some other Districts in Greater Sydney. Figure 34 shows tree canopy cover in the urban area in 2011.

Trees are valued by residents and contribute to the streetscapes, character and amenity of the District.

As the District continues to grow and change, the urban tree canopy will come under pressure. This means that the urban tree canopy will become even more important for supporting sustainable and liveable neighbourhoods.

The tree canopy may be formed by a mix of native and exotic, deciduous or evergreen trees, which provide shade in summer while allowing sunlight into homes and onto roofs for solar power, particularly in winter.

Therefore, urban renewal and transformation projects will be critical to increase urban tree canopy cover. This can be complemented by other green cover, including rain gardens, green roofs and green walls. Green cover can help slow and store stormwater and improve water quality, filtering pollution before it reaches the District's waterways.

Extending the urban tree canopy in public and private areas requires the resolution of issues such as the design of road space, competition with above and below ground infrastructure and the need to protect access to sunlight for homes and solar energy panels.

Along many busy roads, where there is limited space to plant new trees, there may be opportunities to plant other forms of green ground cover, such as garden beds and hedges, that can help improve air quality.

The District's councils generally provide guidance on enhancing tree canopy and tree cover in the urban environment, and information on street trees. Some encourage permeable surfaces to allow rainwater to soak into the ground and reduce stormwater run-off, which supports the growth of canopy trees and vegetation, and reduces pollution, flooding and urban heat.

Where trees are lost as a result of development, some councils have developed programs to plant replacement trees in the public realm.

The NSW Department of Planning and Environment's *Apartment Design Guide* and the new *Greenfield Housing Code* guide the requirements for landscape areas that can support the urban tree canopy.

Connecting the Greater Sydney Green Grid

Enhancing the amenity and activity within, and accessibility to, the Greater Sydney Green Grid will promote a healthier urban environment, improve community access to recreation and exercise, encourage social interaction, support walking and cycling connections and improve resilience.

The draft *Greater Sydney Region Plan* describes how the Greater Sydney Green Grid sets a long-term vision for a network of high quality green areas. The long-term vision for the Greater Sydney Green Grid is shown in Figure 29.

This vision will be delivered incrementally over decades, as opportunities arise and detailed plans for connections are refined. Green Grid Priority Projects have been selected to provide District-scale connections that link open space, waterways and bushland. Table 4 lists the Green Grid Priority Projects for the District.

Councils will lead delivery of the Greater Sydney Green Grid through land use planning and infrastructure investment mechanisms such as development and land use controls, agreements for dual use of open space and recreational facilities, direct investment in open space, and other funding mechanisms such as Section 94 Contributions and Voluntary Planning Agreements.

State regional and district parklands and reserves form a principle element of the Greater Sydney Green Grid for both biodiversity and recreation purposes.

The NSW Government supports the delivery of regional open space and Green Grid connections through the Metropolitan Greenspace Program. The NSW Government also supports the delivery of regional open space using special infrastructure contributions.

Transport for NSW is establishing a Principal Bicycle Network in collaboration with councils. This network will be integrated with Green Grid.

In some areas, rail lines and other linear infrastructure prevent connectivity. Where feasible, planning and investment must consider opportunities for connections across rail lines, roads and other linear infrastructure.

Useful link:

- NSW Urban Green Cover Technical Guidelines


 Actions	Responsibility
69. Expand urban tree canopy in the public realm.	Councils, other planning authorities and State agencies
70. Progressively refine the detailed design and delivery of: <ul style="list-style-type: none"> a. Greater Sydney Green Grid priority opportunities b. connections that form the long-term vision of the network. 	Councils, other planning authorities and State agencies
71. Create Greater Sydney Green Grid connections to the Western Sydney Parklands.	Councils, other planning authorities and State agencies

Table 4: Western City District Green Grid Priority Projects

Priority Projects	
1	<p>South Creek</p> <p>Creating a continuous open space corridor along the entirety of South Creek that provides ecological protection and enhancement, better stormwater treatment and a regionally significant corridor for recreation uses. The 2017–2018 Metropolitan Greenspace Program provided \$500,000 grant funding for the Governor Philip Park Upgrade, which is linked to this priority project.</p>
2	<p>Kemps Creek and Kemps Creek Nature Reserve</p> <p>Creating a regionally significant open space corridor that provides ecological protection and enhancement, improved water quality and recreational opportunities for growing communities around Kemps Creek. While Kemps Creek Nature Reserve is not accessible to the public at present, it can form part of an important corridor with a mix of conservation areas and areas open to the public for recreation.</p>
3	<p>Penrith Lakes Parklands</p> <p>Creating diverse open space parklands and waterway facilities around the lakes and along the Nepean River, with pedestrian and cycle links from Penrith and important links with the Great River Walk project. The 2017–2018 Metropolitan Greenspace Program provided \$200,000 grant funding for Our River – Shared Path Tench Reserve, which is linked to this priority project.</p>
4	<p>Ropes Creek</p> <p>Protecting and enhancing ecologically valued lands, improving water quality and stormwater runoff, and providing a diverse and connected sequence of recreational open spaces, walking and cycling trails, including a green link to connect Cecil Hills, Erskine Park, Minchinbury, Mount Druitt, Oxley Park, St Marys and Ropes Crossing.</p>
5	<p>Scenic Southern Escarpment</p> <p>Connecting the north and south open spaces at Wentworth Falls Lake, providing access to the lake with a potential for education on natural heritage and increasing access to Pitt Park sports field and the TAFE.</p>
Other important projects to deliver the Greater Sydney Green Grid in the Western City District are:	
6	<p>Blaxland Creek and Bushland Reserve</p> <p>Protecting important future open spaces for the Western Sydney Airport Priority Growth Area.</p>
7	<p>Bunbury Curran Creek and Bow Bowling Creek</p> <p>Using the open space corridors along the creeks to provide open space, urban greening, active transport and stormwater treatment along the corridor.</p>
8	<p>Camden Park and Menangle to Georges River Open Space Corridor</p> <p>Connecting a band of open space in a unique geographic setting where the Nepean and Georges River are only four kilometres apart.</p>
9	<p>Cranebrook to Windsor Nature Reserve Corridor</p> <p>Planning for the Wianamatta Nature Reserve, Castlereagh Nature Reserve and Windsor Downs Nature Reserve to protect and enhance regionally significant ecological communities and connect them to improve resilience, while also improving the water quality and treatment of stormwater along Rickabys Creek and providing open space and links to other areas.</p>
10	<p>Eastern Escarpment open space and trails</p> <p>Connecting a series of recreational and tourist open space facilities along the escarpment to maximise unique landscape and views. The 2017–2018 Metropolitan Greenspace Program provided \$225,000 grant funding for Knapsack Reserve, which is linked to this project.</p>

-
- 11 Five Fairfield Creeks – Clear Paddock and Cabramatta Creeks**
 Expanding on existing parklands to create a continuous network on high quality parkland and walking and cycling corridors, from the Western Sydney Parklands to the Georges River. The Five Fairfield Creeks are a network of creeks that flow into the Georges River at Chipping Norton Lakes. They are Cabramatta Creek, Hinchinbrook Creek, Clear Paddock Creek, Orphan School Creek and Green Valley Creek.

 - 12 Georges River Parklands and Chipping Norton Lakes**
 Enhancing the Georges River as a regional open space and walking and cycling corridors, as well as protecting and enhancing the wetlands, ecological communities and improving stormwater management from surrounding development.

 - 13 Great Western Highway Penrith to Blackheath Corridor**
 Creating a safe and separated east-west walking and cycling connection from Penrith to Blackheath. The 2017-2018 Metropolitan Greenspace Program provided \$593,154 grant funding for the Great Blue Mountains Trail, which is linked to this project.

 - 14 Kayess Park Open Space Corridor, Ingleburn**
 Creating an east west green corridor that connects Georges River to communities at Ingleburn, Minto, Bow Bowing and Raby.

 - 15 Nepean Creeks – Peach Tree, Mulgoa and Surveyors Creeks**
 Enhancing and protecting these assets and increasing access and recreational opportunities.

 - 16 Prospect Creek and Prospect Reservoir Parklands**
 Creating a continuous open space and active transport corridor from the Western Sydney Parklands and Prospect Reservoir to the Georges River.

 - 17 Shanes Park and Wianamatta Regional Park**
 Protecting important areas of biodiversity that also provide connections to Ropes Creek and South Creek.

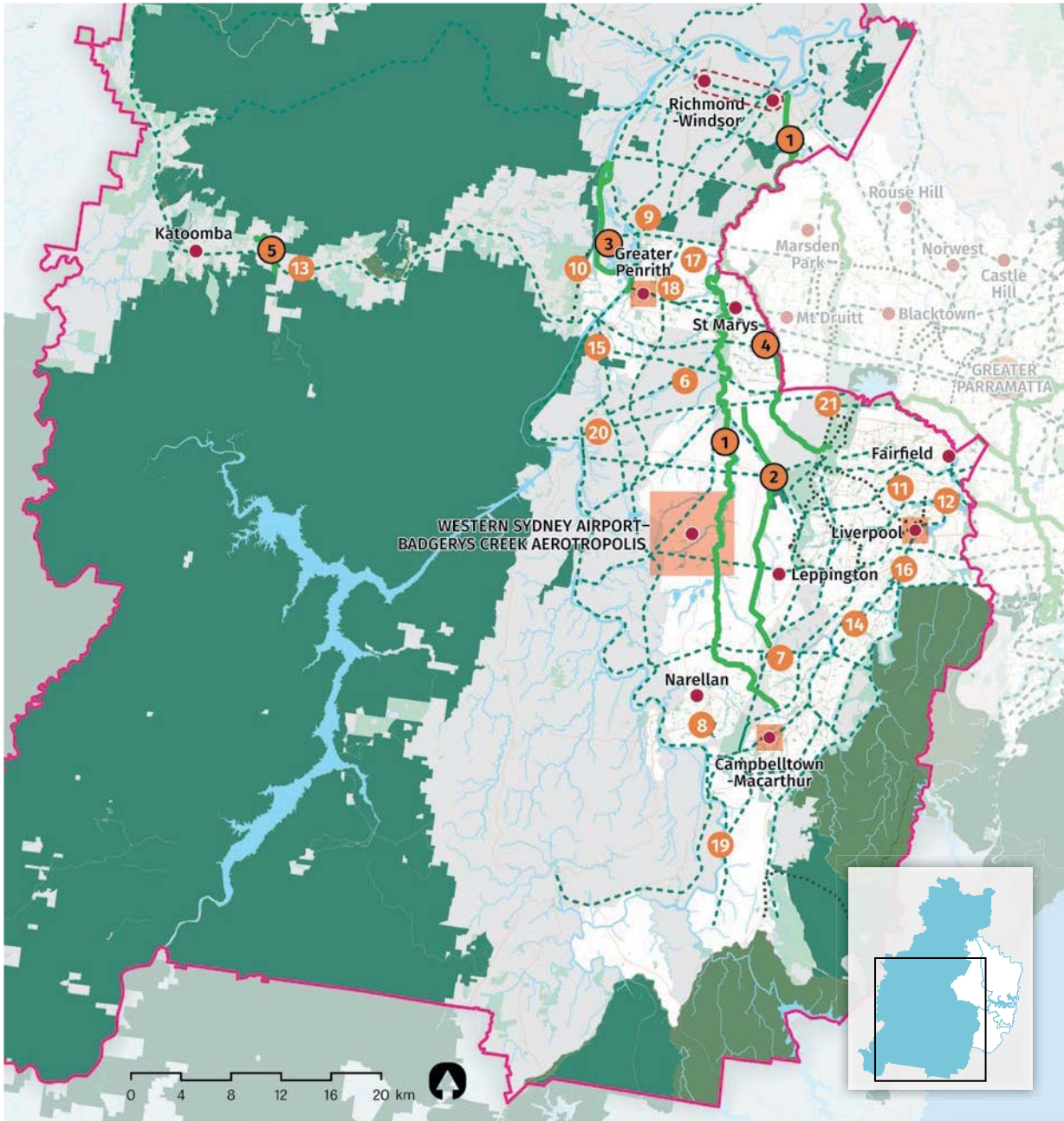
 - 18 South Western Creeks, Badgerys and Cosgrove Creeks**
 Planning for open space along tributaries of South Creek that will play an important role in providing open space for growing communities in the South West Priority Growth Area.

 - 19 The Upper Canal**
 Protecting drinking water infrastructure while making use of the space along the canal as open space, urban greening and active transport corridor.

 - 20 Warragamba Pipeline Open Space Corridor**
 Consider using surplus easement lands for recreational open space, urban greening and walking and cycling trails, connecting to Mulgoa, Badgerys Creek, Kemps Creek, Blaxland Creek and Horsley Park.

 - 21 Western Sydney Parklands and Eastern Creek**
 Improving connectivity from adjacent Green Grid projects such as the Five Fairfield Creeks and Prospect Creek and Prospect Reservoir Parklands into the Western Sydney Parklands.

Figure 29: Western City District Green Grid opportunities



	District Boundary		Projects Important to District		Road
	Metropolitan City Cluster		Existing Tracks and Trails		National Parks and Reserves
	Strategic Centre		Green Grid Priority Corridor		Protected Natural Area
	Metropolitan Rural Area		Future Green Grid Opportunities		Public Open Space
	Priority Corridors		Urban Area		Waterways

Source: Greater Sydney Commission, 2017, adapted from Sydney Green Grid, report published report prepared by Tyrell Studio and Office of the Government Architect for the Greater Sydney Commission.

Planning Priority W16 Protecting and enhancing scenic and cultural landscapes

In giving effect to the draft *Greater Sydney Region Plan*, this Planning Priority delivers on **Objective 28: Scenic and cultural landscapes are protected** and the corresponding strategies.

The scenic and cultural landscapes of the Western City District contribute to the identity and international profile of Greater Sydney. Scenic and cultural landscapes encourage an appreciation of the natural environment, protect heritage and culture, and create economic opportunities, particularly for recreation and tourism. Aboriginal culture is deeply entwined in the landscapes of Greater Sydney.

Scenic and cultural landscapes can complement green infrastructure, particularly where scenic landscapes include waterways and urban bushland. Scenic and cultural landscapes can often be prone to natural hazards, for example escarpments, which can be prone to land slip and erosion.


The Greater Blue Mountains World Heritage Area is internationally recognised and celebrated for its beauty and for the history of human interaction with its landscapes. Images of the Three Sisters and the escarpments of the Blue Mountains have become symbols of Greater Sydney as a green city within a magnificent landscape.

Other scenic landscapes in the Western City District, including the Western Sydney Parklands, Mulgoa Valley, the Razorback Range at Picton and the Scenic Hills between Campbelltown and Camden, and the rural hills and ridgelines of the Camden and Wollondilly areas, create a distinct setting for neighbouring urban communities. Within the District’s priority growth areas, vistas to historic colonial-era homesteads have been protected through the planning and design process.

The Wollondilly, Blue Mountains and Hawkesbury local government areas benefit from substantial areas of protected national parks, rivers and creeks, and water catchments that provide outstanding landscapes and views. Rural towns and villages in the valleys and plains to the east of the national parks are set between a series of hills and ridgelines that are special to the District’s character and identity.

Ridgelines are highly valued elements of scenic landscapes, and development should not diminish their scenic quality. Retaining or creating vistas along new east-west road links in priority growth areas could take advantage of views to the escarpment of the Blue Mountains to the west and to the ridgelines of the Western Sydney Parklands and Scenic Hills to the east and south east. Similarly, the flatter and drier landscape of the Cumberland Plain could feature scenic waterway crossings to improve liveability and emphasise connections with the natural landscape.

Continued protection of the Western City District’s scenic and cultural landscapes is important for the sustainability, liveability and productivity of the District. It can complement the protection of biodiversity and habitat, help manage natural hazards and support tourism. Protecting scenic and cultural landscapes can also help preserve links to Aboriginal cultural heritage.

 Actions	Responsibility
72. Identify and protect scenic and cultural landscapes, specifically the Scenic Hills and the escarpments of the Blue Mountains.	Councils, other planning authorities and State agencies
73. Enhance and protect views of scenic and cultural landscapes from the public realm.	Councils, other planning authorities and State agencies

Planning Priority W17 Better managing rural areas

In giving effect to the draft *Greater Sydney Region Plan*, this Planning Priority delivers on **Objective 29: Environmental, social and economic values in rural areas are maintained and protected** and the corresponding strategies.

The Western City District's rural areas contribute to habitat and biodiversity, support productive agriculture, provide mineral and energy resources, and sustain the local rural towns and villages. They are part of the larger Metropolitan Rural Area.

The District's rural areas are framed by bushland and national parks to the west, and cover 28 per cent of the District (refer to Figure 28). They include the floodplains along the Hawkesbury River, the historic Mulgoa Valley, the hills and steep ridgelines of Campbelltown and Wollondilly Shire, and areas of outstanding cultural heritage value.

Greater Sydney's agricultural production in 2015–16 was \$645 million – equal to five per cent of NSW total agricultural value.²⁰ Metropolitan Rural Area farmland has supplied Greater Sydney's fresh food for over two centuries, including oranges, apples, mushrooms and vegetables from this District.

The District's rural areas include poultry, egg production and dairy activities, irrigated horticulture such as leaf vegetables and mushrooms, and nurseries for cut flowers and turf.

The Western Sydney Airport will be a catalyst for agricultural exports from the region.

There are extractive industries around Londonderry and the Hawkesbury River producing materials such as clay and sand, while the Camden, Picton, Wilton, Appin and Bargo areas have coal and coal seam gas resources.

The District's rural areas provide opportunities for people to live in a pastoral or bushland setting. Urban development is not consistent with the values of the Metropolitan Rural Area. The draft *Greater Sydney Region Plan* takes a strategic approach to managing Greater Sydney's needs for new land

release areas. Therefore, urban development in the Metropolitan Rural Area will only be considered in the investigation areas identified in the draft *Greater Sydney Region Plan*.

To the north of the Western Sydney Airport Priority Growth Area two areas form part of the Greater Penrith to St Marys Priority Growth Area investigations:

- Orchard Hills, north of the Defence Establishment Orchard Hills and west of St Clair
- east of the Northern Road at Luddenham between the Western Sydney Airport Priority Growth Area and the water pipeline.
- The Defence Establishment Orchard Hills land has been included in the Priority Growth Area Investigation to ensure coordination of existing and future land uses in the corridor.

To the east of the Western Sydney Airport Priority Growth Area is a third area:


- Horsley Park and Mount Vernon located west of the M7 Motorway.

Design-led place-based planning in the Metropolitan Rural Area will help manage its environmental, social and economic values, maximise the productive use of land, and incentivise biodiversity protection for remnant vegetation. Increased demand for biodiversity offset sites and limiting urban development in the Metropolitan Rural Area will help make it more attractive for landowners to protect biodiversity on private land through stewardship agreements.

In some circumstances, careful planning of rural residential development can provide the necessary incentive to enable greater investment in the management of bushland, waterways and scenic landscapes, using effective buffers around rural industries.

The Western Sydney Airport will be a catalyst for agricultural exports from the region, with the District retaining significant peri-urban agricultural production. Current Western City District research and agricultural initiatives include:

- The **Western Sydney University's AgriPark Research Centre and campus** at Hawkesbury, which specialises in food technology and stone fruit horticulture
- The **Elizabeth Macarthur Agricultural Institute** at Menangle, which is the NSW Department of Primary Industries Centre of Excellence for Animal and Plant Health
- The **Sydney Science Park** in the Western Sydney Airport Priority Growth Area at Luddenham, which will be a fully integrated community creating more than 12,000 knowledge based jobs, catering to over 10,000 students and home to over 10,000 residents. Research and education partners include Birling National Avian Laboratories Centre; the CSIRO's first dedicated Innovation Zone and 'Urban Living Lab' in NSW; and the NSW Government's first STEM-inspired school (Catholic Education Diocese of Parramatta).

 Actions	Responsibility
74. Maintain or enhance the values of the Metropolitan Rural Areas using place-based planning to deliver targeted environmental, social and economic outcomes, including rural residential development.	Councils and other planning authorities
75. Limit urban development to within the Urban Area, except for the investigation areas at Horsley Park, Orchard Hills, and east of The Northern Road, Luddenham.	Councils, other planning authorities, State agencies and State-owned corporations



Planning Priority W18

Delivering high quality open space

In giving effect to the draft *Greater Sydney Region Plan*, this Planning Priority delivers on **Objective 31: Public open space is accessible, protected and enhanced** and the corresponding strategy and action.

Public open space is a form of green infrastructure that enhances the character of the Western City District's neighbourhoods, supports healthy and active lifestyles, and brings communities together. As the district grows, providing for and developing innovative ways to optimise open space areas for recreation, sport and social activity, as well as establishing physical links that support social networks and create a sense of community will become increasingly important.

The key considerations for planning open space are quality, quantity and distribution. The Greater Sydney Green Grid will help improve access and distribution. There will be relatively few opportunities to increase the quantity of public open space, and therefore greater emphasis will be needed on improving the quality and distribution of open space including sporting facilities.

Councils already identify innovative solutions for the shortfall in active open space, including making better use of existing sportsgrounds, converting existing open space into sports fields, and partnering with schools to share spaces outside school hours.

People in urban neighbourhoods should be able to walk to local open space. In high density neighbourhoods, public open space is used like a shared backyard, providing a green communal living space. Open space in high density neighbourhoods needs to be durable, multi-purpose and accessible to a wide variety of users. High density neighbourhoods also need to have high quality open space within close proximity.

Delivering connectivity of walking and cycling trails is an important objective to maximise their utility.

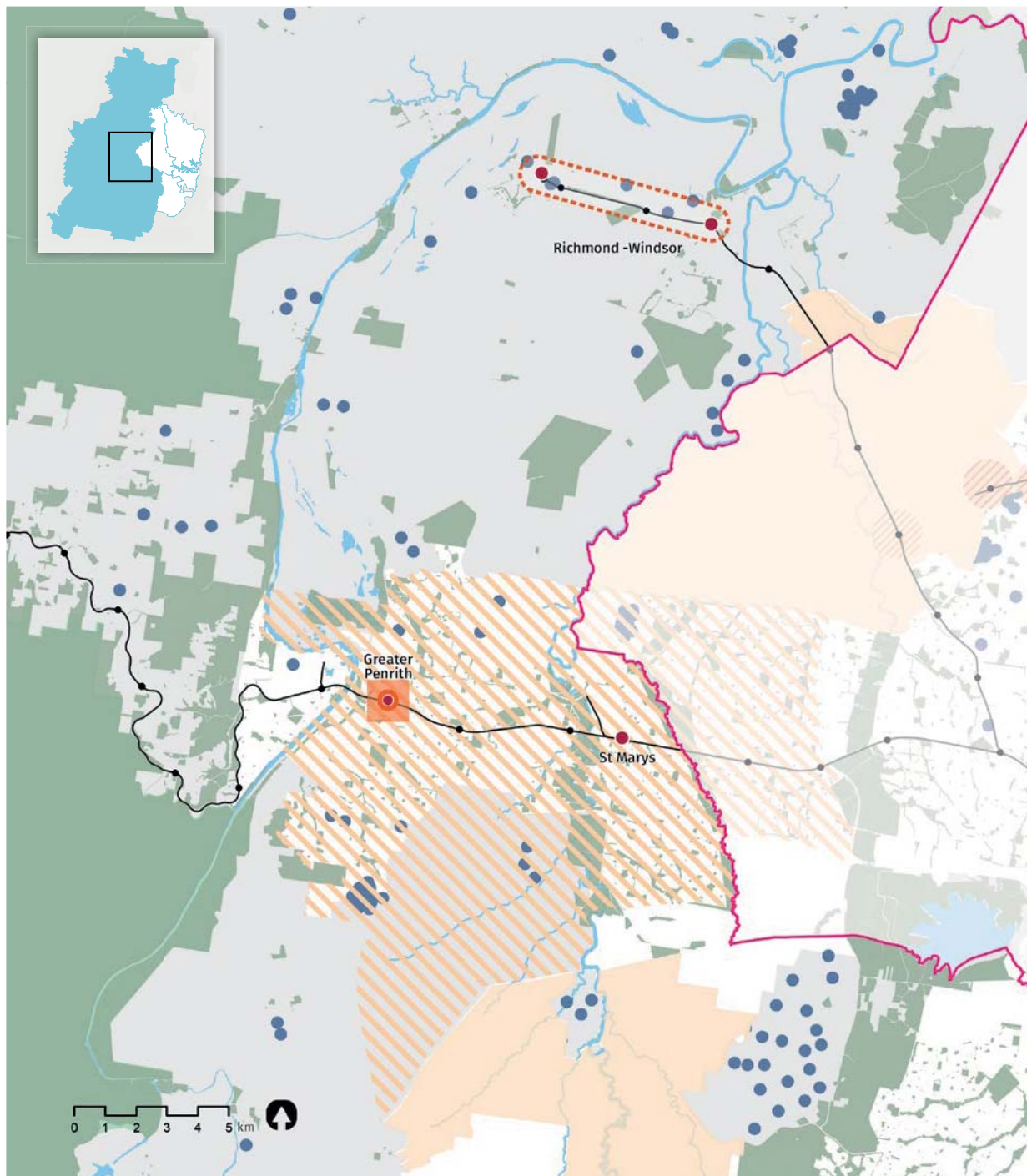
In local and strategic centres, local open space is important to provide places for workers to relax and for people to meet and socialise. It also provides for tree and vegetation planting in the centre. Place-based planning can identify opportunities to improve the quality, management and use of existing open space, and to provide new open space.

Almost 91 per cent of the District's residents live within 400 metres of open space (refer to Figures 30 and 31). Understanding the open space needs of the community will help determine the quantity, quality and distribution that will be required. The Greater Sydney Green Grid is one mechanism to deliver better regional-scale open spaces and walking and cycling links between open spaces. In the Western Sydney Airport and South West Priority Growth Areas, new areas of open space will be created to meet the needs of growing communities, including a major open space corridor along South Creek. New open space will also be created within Wilton Priority Growth Area and Greater Macarthur Priority Growth Area.

The District's Greater Sydney Green Grid projects will improve regional-scale open spaces and walking and cycling links.

The Government Architect's Office is developing an open space toolkit, a resource for councils to use for open space planning.

Figure 30: Western City District access to open space – north










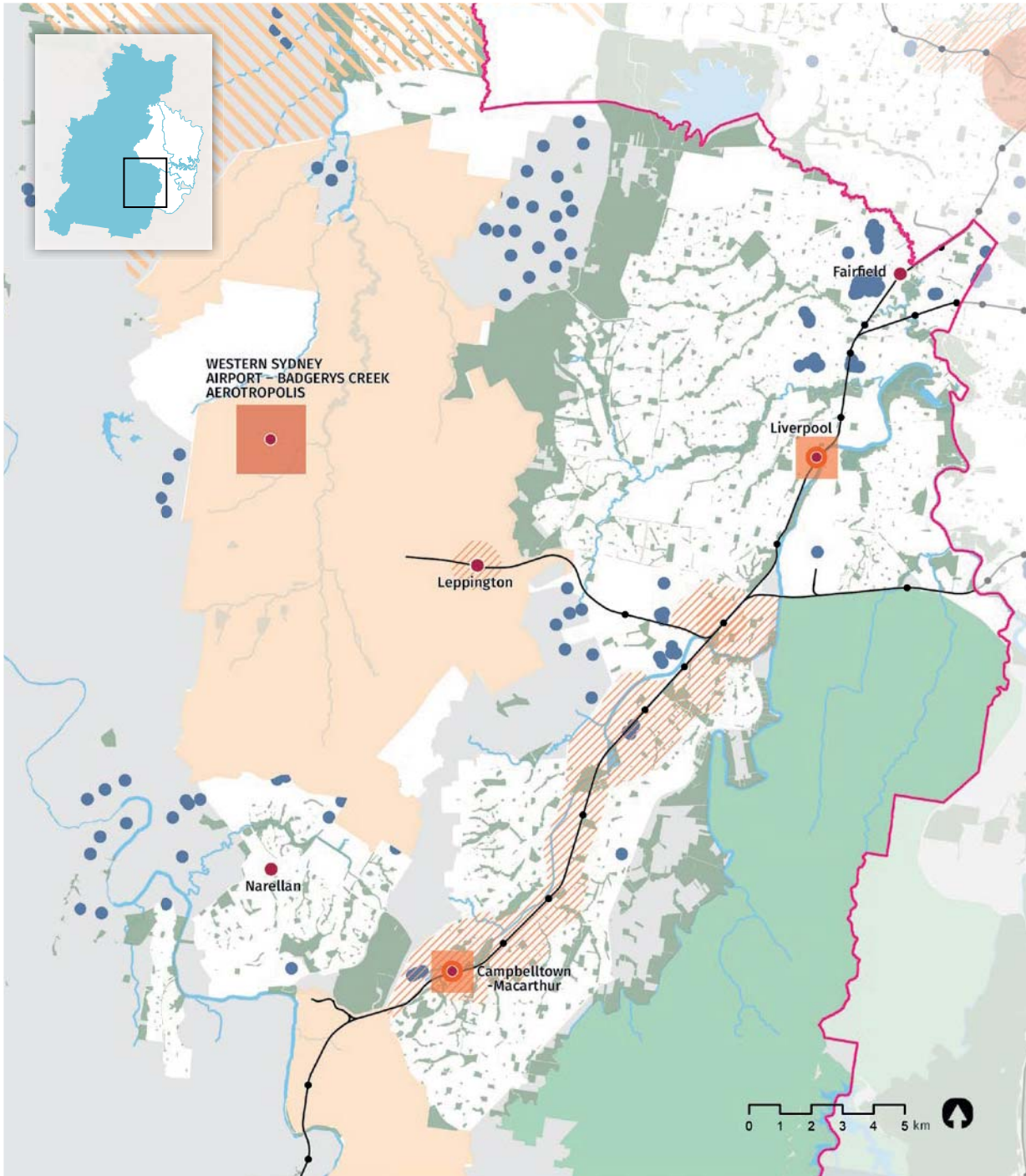
	District Boundary		Priority Growth Area		Metropolitan Rural Area
	Metropolitan City Cluster		Priority Precinct		Urban Area
	Strategic Centre		Residential Areas > 400m to open space		Priority Growth Area Investigation
	Railway		Existing Open Space		

Figure 31: Western City District access to open space – south



District Boundary	Priority Growth Area	Metropolitan Rural Area
Metropolitan City Cluster	Priority Precinct	Urban Area
Strategic Centre	Residential Areas > 400m to open space	Priority Growth Area Investigation
Railway	Existing Open Space	

 Actions	Responsibility
<p>76. Maximise the use of existing open space and protect, enhance and expand public open space by:</p> <ul style="list-style-type: none"> a. investigating opportunities to expand a network of diverse, accessible, high quality open space that responds to the needs and values of communities as populations grow b. investigating opportunities to provide new open space so that all residential areas are within 400 metres of open space and all high density residential areas are within 200 metres of open space c. requiring large urban renewal initiatives to demonstrate how access to high quality and diverse local open space is maintained or improved d. planning new neighbourhoods with a sufficient quantity of new open space e. delivering shared and co-located sports and recreational facilities, including shared school grounds and repurposed golf courses f. delivering on, or complementing, the Greater Sydney Green Grid. 	<p>Councils, other planning authorities, State agencies and State-owned corporations</p>



Planning Priority W19

Reducing carbon emissions and managing energy, water and waste efficiently

In giving effect to the draft *Greater Sydney Region Plan*, this Planning Priority delivers on **Objective 33: A low-carbon city contributes to net-zero emissions by 2050 and mitigates climate change; Objective 34: Energy and water flows are captured, used and re-used; and Objective 35: More waste is re-used and recycled to support the development of a circular economy** and the corresponding strategies.

The significant growth and development planned for the District will mean that demand for energy and water and the generation of waste will increase. Without new approaches to the use of energy and water and management of waste, greenhouse gas emissions are likely to increase.

The District has an opportunity to include precinct-wide energy, water and waste efficiency systems for land release, urban renewal, industrial and urban services land, centres and Collaboration Areas. Adopting a place-based approach is necessary to achieve the best sustainability outcomes, including renewing and replacing inefficient infrastructure and organising utilities, car parking, amenities, open space, urban green cover and public spaces.

Better design of precinct-wide energy, water and waste systems will encourage a circular economy that improves efficiency. A circular economy means designing waste out of the system. For example, a food manufacturing plant could send waste to an adjacent organic waste-to-energy facility.

A low-carbon District

More efficient use of energy and water in the District will reduce impacts on the environment and the District's greenhouse gas emissions. The Commission has been seeking to better understand greenhouse gas emissions for each District across Greater Sydney and will continue to explore opportunities for planning initiatives to support the NSW Government's goal of achieving a pathway towards net-zero emissions by 2050. Potential pathways towards net-zero emissions in the District include:

- new public transport infrastructure, electric vehicles and autonomous vehicles to connect

residents to their nearest strategic centre or metropolitan city cluster within 30 minutes

- new building standards and retrofits to design energy, water and waste systems to operate as efficiently as possible (for residential and non-residential buildings)
- building and precinct-scale renewables
- waste diversion from landfill.

How Greater Sydney's urban structure and built form develops in the future can support NSW's transition towards net-zero emissions. More closely integrating land use with transport planning will help slow emissions growth by locating new homes near public transport and high quality walkways and cycle paths.

Building on existing public transport connections with electric vehicle transport hubs, shared autonomous vehicles and other innovative transport technologies can further reduce greenhouse emissions, noise and air pollution. Emerging transport technologies will reduce the need for parking spaces and help reduce congestion. There is an opportunity to apply these new technologies in the Western Sydney Airport Priority Growth Area.

Designing high efficiency homes and incorporating renewables will reduce emissions and reduce costs. This means improving the energy and water efficiency of buildings, and reducing waste in urban renewal projects and infrastructure projects.

Recycling local water and harvesting stormwater creates opportunities for greening public open spaces including school playgrounds. Recycling water diversifies the sources of water to meet demands for drinking, irrigating open spaces, keeping waterways clean and contributing to Greater Sydney's water quality objectives.

Recycling and reducing waste

In coming years, several large landfills in Greater Sydney will close as they reach capacity, meaning waste will have to be transported outside of the region or new facilities developed. This limits economic and transport efficiency, and increases costs. Additional sites for waste management in Greater Sydney would improve efficiencies in managing waste.

The planning and design of new developments should support the sustainable and effective collection and management of waste. The Environment Protection Authority has prepared a range of guidelines and other information to assist in the sustainable management of waste.


Separating organics from other forms of waste, and valuing it as a resource which can be processed through a waste-to-energy facility to recover energy, will reduce waste being diverted to landfill.

Recovering energy and capturing methane through organic waste to energy also helps to reduce greenhouse gas emissions.

In higher-density neighbourhoods, innovative precinct-based waste collection, re-use and recycling would improve efficiency, reduce truck movements and boost the recycling economy. Where possible, additional land should be identified for waste management, reprocessing, re-use and recycling.

Useful links:

- Environment Protection Authority *Waste Guidelines and Information*
- Environment Protection Authority *NSW Waste and Resource Recovery Strategy 2014-21*
- NSW Office of Environment and Heritage *Climate Change Fund Draft Strategic Plan*

 Actions	Responsibility
77. Support initiatives that contribute to the aspirational objective of achieving net-zero emissions by 2050, especially through the establishment of low-carbon precincts in Priority Growth Areas, Priority Precincts, Collaboration Areas, State Significant Precincts and Urban Transformation projects.	Councils, other planning authorities, State agencies and State-owned corporations
78. Support precinct-based initiatives to increase renewable energy, and energy and water efficiency, especially in Priority Growth Areas, Priority Precincts, Collaboration Areas, State Significant Precincts and Urban Transformation projects.	Councils, other planning authorities, State agencies and State-owned corporations
79. Protect existing, and identify new, locations for waste recycling and management.	Councils, other planning authorities and State agencies
80. Support innovative solutions to reduce the volume of waste and reduce waste transport requirements.	Councils, other planning authorities and State agencies
81. Encourage the preparation of low-carbon, high efficiency strategies to reduce emissions, optimise the use of water, reduce waste and optimise car parking provision where an increase in total floor area greater than 100,000 square metres is proposed in any contiguous area of 10 or more hectares.	Councils, other planning authorities, State agencies and State-owned corporations
82. Investigate potential regulatory mechanisms such as a Protection of the Environment Policy (PEP) that sets low-carbon, high efficiency targets to be met through increased energy efficiency, water recycling and waste avoidance, reduction or re-use. This could include a framework for the monitoring and verification of performance for precincts in Priority Growth Areas, Priority Precincts, Collaboration Areas, urban renewal precincts and housing growth areas that are planned to have an increase in total floor area greater than 100,000 square metres.	Environment Protection Authority

Planning Priority W20

Adapting to the impacts of urban and natural hazards and climate change

In giving effect to the draft *Greater Sydney Region Plan*, this Planning Priority delivers on **Objective 36: People and places adapt to climate change and future shocks and stresses**; **Objective 37: Exposure to natural and urban hazards is reduced**; and **Objective 38: Heatwaves and extreme heat are managed** and the corresponding strategies.

The District's climate and natural landscape can create natural hazards such as heatwaves, bushfire, flooding and storms. Climate change will exacerbate these natural hazards, leading to higher temperatures and changes in rainfall, with consequent flooding. While planning for resilience has traditionally focused on responses to natural hazards and climate change, it is increasingly being used to consider a wider range of social and economic shocks and stresses.

Effective planning has a fundamental role in reducing the exposure to natural and urban hazards and building resilience to shocks and stresses. Growth and change needs to be considered at a local level, and when making decisions about growth and considering cumulative impacts at district and regional levels.

Natural and urban hazards

The climate, vegetation, topography and pattern of development in the District mean that bushfire and flooding will continue to be a hazard. Placing developments in hazardous areas or increasing the density of development in areas with limited evacuation options increases risk to people and property.

Climate change is likely to result in a longer bushfire weather season with more bushfires, and longer lasting heatwaves with more extremely hot days. Currently areas of the District such as Penrith experience on average 20 very hot days (above 35 degrees), with projections for an additional five to 10 days per year in the near future. Heatwaves kill more people than bushfires, with disadvantaged and elderly people most affected.

The size and topography of the Hawkesbury-Nepean Valley means it has the greatest flood exposure in NSW. Unlike most other river catchments in Australia, the Hawkesbury-Nepean Valley floodplain has significantly higher depths during flood events created by several narrow gorges in the Valley that constrict the flow of floodwater downstream. There is a complex interaction between the main flow of the river and the multiple rivers and creeks that contribute to the catchment creating what is known as a bathtub effect. Evacuation of people in extreme events is made complicated by the size of the area affected and the need to evacuate certain areas early before they become isolated by rising flood waters.

Some communities are built on 'flood islands' that can also become isolated during floods, and key evacuation routes can face congestion or inundation during higher floods. This creates challenges for urban development and emergency management planning in the catchment.

Penrith Lakes is a former quarry site being rehabilitated into lakes, wetlands and parklands, located mostly within the Metropolitan Rural Area. As Penrith Lakes is in the Hawkesbury-Nepean Valley floodplain, planning for any future development will need to carefully consider significant risk to people and property from flooding during extreme events. Investigations undertaken by the Hawkesbury-Nepean Flood Risk Management Taskforce identified that there is no ability for intensive urban development to occur at Penrith Lakes, due to the characteristics of the site as well as the limited ability of either existing or future infrastructure to create the necessary road evacuation capacity to service the new development and maintain evacuation routes for places such as Richmond and Londonderry.



Some alternate forms of development may be considered, where these avoid increasing risks to people and property, including evacuation impacts. The amendment to State Environmental Planning Policy (Penrith Lakes Scheme) 1989 allows tourism, employment and limited residential development in areas subject to operational plans that build flood resilience and avoid creating communities that require evacuation.

Flooding constraints also exist in other areas across the District, many of which are undergoing significant growth and redevelopment. This includes the Penrith City Centre, where drainage works are underway to manage flooding. Strategic planning for growth in flood-prone areas must consider flood resilience to ensure buildings and communities can withstand flood events and quickly return.

Past and present urban development and activities can also create urban hazards such as noise, air pollution and soil contamination. Compared to many cities around the world, Greater Sydney enjoys excellent air quality, which enhances its reputation as a sustainable and liveable city. However, the combined effect of air circulation patterns in the Sydney Basin, local topography, and proximity to different sources of air pollution such as wood-fire smoke, can lead to localised air quality issues.

Transport movements along major roads and rail corridors generate noise and are a source of air pollution. The degree of noise or air pollution can be related to the volume of traffic and the level of truck and bus movements. The design of new buildings and public open space can play a significant role in reducing exposure to noise and air pollution along busy road and rail corridors. Public transport, walking and cycling, as well as electric cars provide opportunities to reduce air pollution.

Soil and groundwater contamination is another urban hazard which will require careful management as the District grows, and land uses change. This is particularly important when planning for more sensitive land uses such as schools, open space and low-density residential neighbourhoods, in areas with potential for pre-existing contamination. State Environmental Planning Policy No. 55 – Remediation of Land and its associated guidelines manage the rezoning and development of contaminated land.

Greater Sydney, particularly its rural land, is at risk from biosecurity hazards such as pests and diseases that could threaten agriculture, the environment and community safety. Biodiversity hazards are being managed by the NSW Government through the *Greater Sydney Peri Urban Biosecurity Program*.



In planning for future growth, consideration of natural hazards and cumulative impacts includes avoiding locating growth and development in areas exposed to natural hazards and limiting growth in existing communities that are exposed and vulnerable to natural hazards. In exceptional circumstances, there may be a need to reduce the number of people and amount of property that are vulnerable to natural hazards, through managed retreat of development.

Traditionally, planning in NSW has considered the 1 in 100 chance per year flood event. Given the significant depths between the 1 in 100 chance per year flood and the probable maximum flood in the Hawkesbury-Nepean Valley, a risk based approach that considers the full range of flood sizes is more appropriate.

The impact of extreme heat on communities and infrastructure networks can also be significant. More highly developed parts of the District can be exposed to extreme heat as a result of the urban heat island effect. Increasing the tree canopy is important to help reduce those impacts. The *State Heatwave Sub Plan*, which sits under the *NSW State Emergency Management Plan*, details the control and coordination arrangements across State and local government for the preparation for, response to, and immediate recovery from a heatwave.

Current guidelines and planning controls also focus on minimising hazards and pollution by:

- using buffers to limit exposure to hazardous and offensive industries, noise and odour
- designing neighbourhoods and buildings that minimise exposure to noise and air pollution in the vicinity of busy rail lines and roads, including freight networks
- cooling the landscape by retaining water and protecting, enhancing and extending the urban tree canopy to mitigate the urban heat island effect.

More highly developed parts of the District can be exposed to extreme heat as a result of the urban heat island effect.

Minimising land that interfaces with hazardous areas can reduce risks. Clearing vegetation around developments on bushfire-prone land can help reduce risks from bushfire, but must be balanced with protecting bushland, and its ecological processes and systems. Planning on bushfire-prone land should consider risks and include hazard protection measures within the developable area. The Rural Fire Service requires new development to comply with the provisions of *Planning for Bush Fire Protection 2006*.

Figure 32: Vulnerability to heatwaves

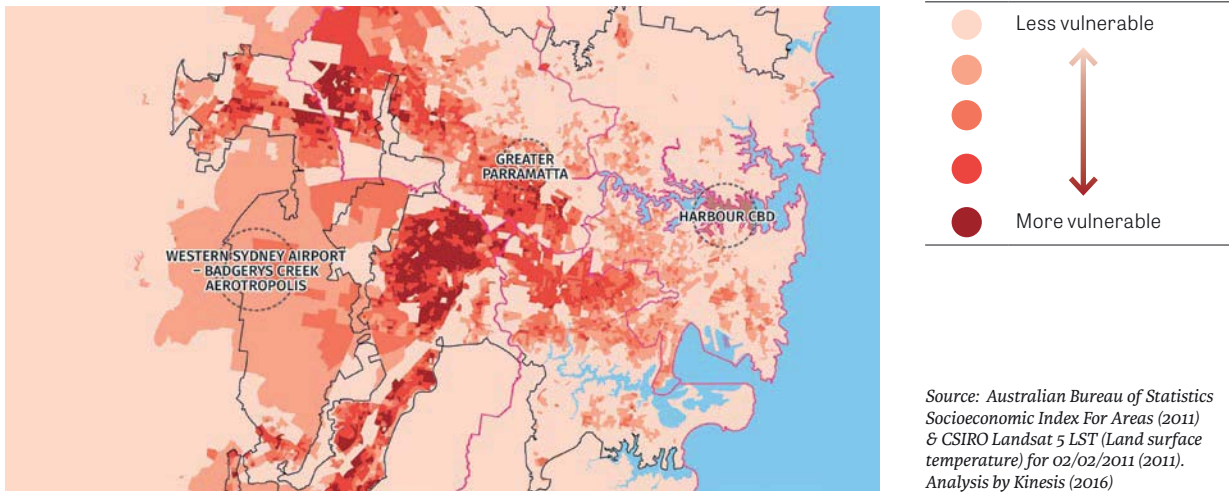


Figure 33: Land surface temperature during a heatwave

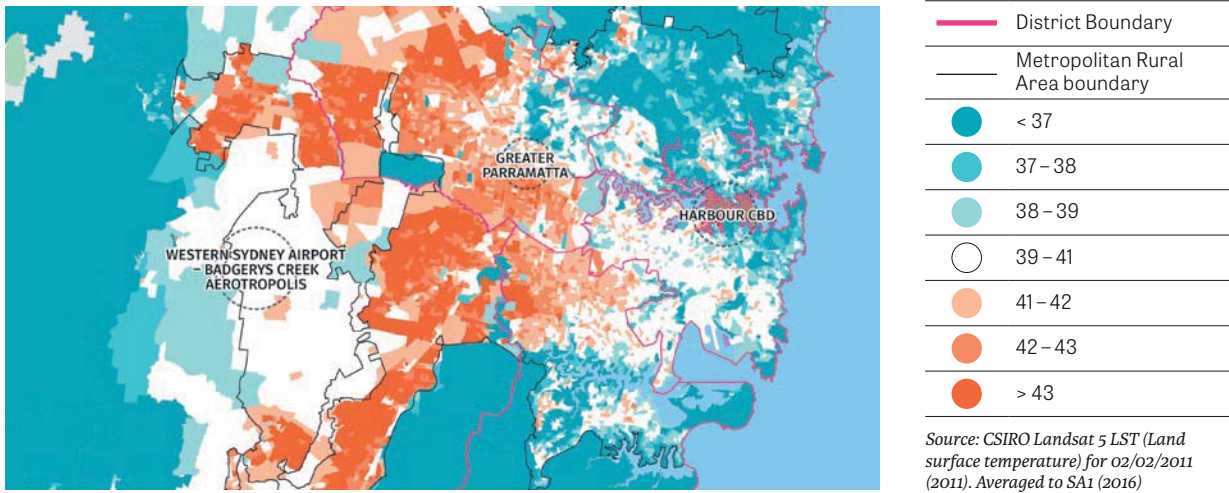


Figure 34: Tree canopy cover at 2011



Adapting to climate change

The most significant natural hazards and acute shocks that affect the District include bushfire, flooding and urban heat. These natural phenomena will be exacerbated by climate change.

Air temperatures in Greater Sydney are expected to increase due to climate change and increasing urbanisation. With projected increases in heatwaves and the number of extreme temperature days, taking action to cool the city, in conjunction with supporting the community to adapt to a changing climate, is increasingly important. Increasing the tree canopy is important to help reduce those impacts.

Figure 32 shows different levels of vulnerability to heatwaves. Areas are ranked by their combined level of socioeconomic disadvantage and exposure to heat during a heatwave and Figure 33 shows land surface temperatures during heatwave conditions. Figure 34 shows tree canopy cover as at 2011.

The way neighbourhoods and buildings are planned and designed can help communities adapt and be more resilient to extreme heat. Increased tree canopy and green ground cover, verandahs and awnings, and minimising dark coloured materials and surfaces will minimise these effects.

Water-play features and connections with water will become essential elements of urban areas. The incorporation of green walls, green roofs and initiatives such as rain gardens should be designed into urban environments. More cooling elements should also be used in construction and building materials. Retaining more water in the landscape and integrating waterways in the design of new communities will help create a greener and cool city.


Shocks and stresses

Councils across the District are participating in the 100 Resilient Cities initiative and considering ways to respond to shocks and stresses that could strengthen community resilience.

The Australian Government has released *Australia's Strategy for Protecting Crowded Places from Terrorism*, which provides a framework for making public places safer and more resilient. This strategy is accompanied by tools which councils, building owners and managers can use to implement protective measures that will strengthen community resilience.

Useful links:

- Floodplain Development Manual 2005
- Planning for Bush Fire Protection 2006
- State Heatwave Sub Plan
- Adapt NSW
- NSW Emergency Risk Management
- Australia's Strategy for Protecting Framework Crowded Places
- 100 Resilient Cities

 Actions	Responsibility
83. Support initiatives that respond to the impacts of climate change.	Councils, other planning authorities and State agencies
84. Mitigate the urban heat island effect and reduce vulnerability to extreme heat.	Councils, other planning authorities and State agencies
85. Respond to the direction for managing flood risk in the Hawkesbury-Nepean Valley as set out in <i>Resilient Valley, Resilient Communities – Hawkesbury-Nepean Valley Flood Risk Management Strategy</i> .	Councils, other planning authorities and State agencies

6

Implementation

District plans are the first step in the implementation of the region plan for the Greater Sydney Region. They must give effect to the region plan. More particularly, they have to outline the planning priorities consistent with the region plan, and the actions to achieve the priorities.

Successful implementation of the district plans is more than updating council local environmental plans. It also requires:

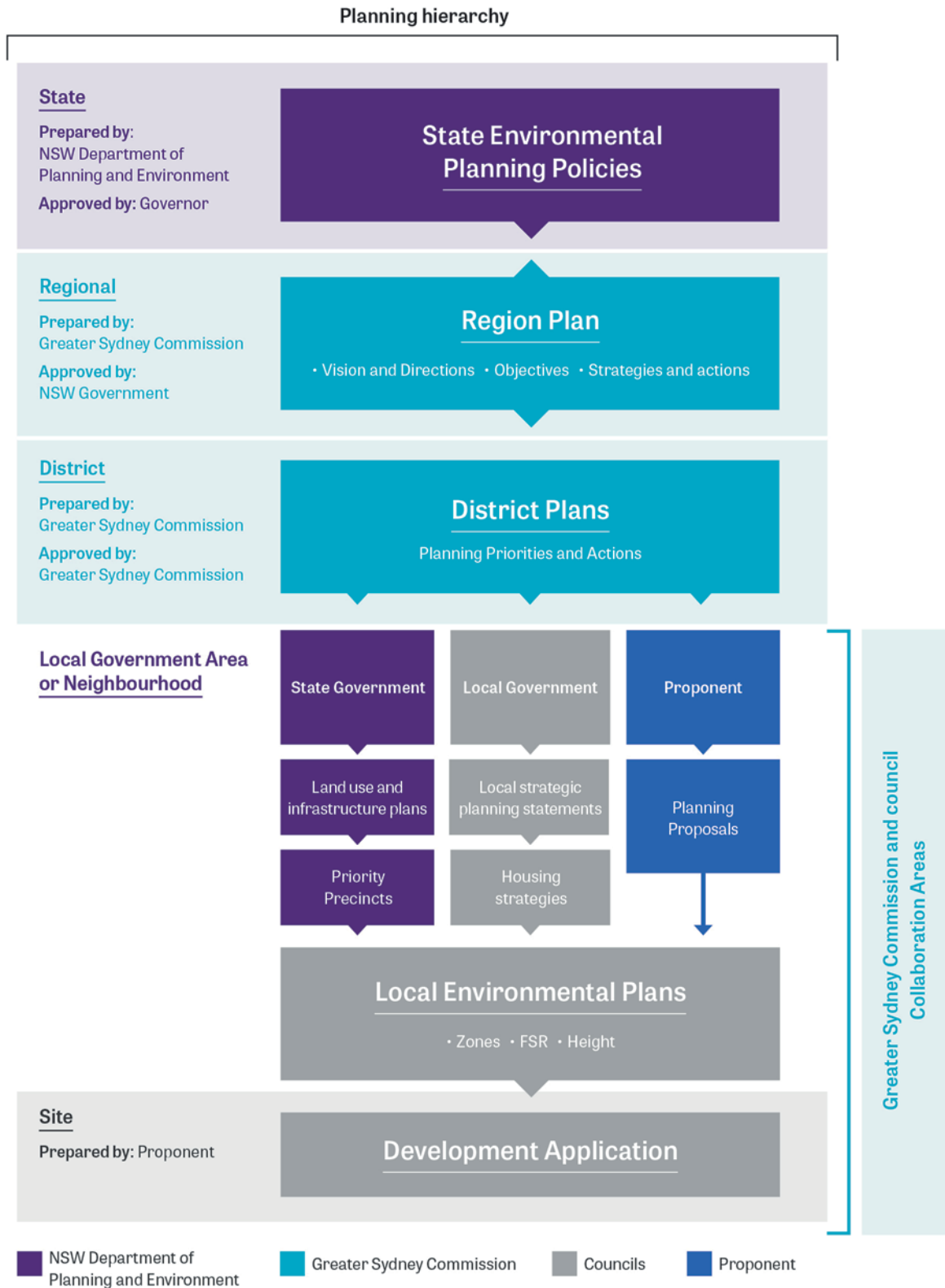
- collaboration across government and with local government and the private sector where each have clear roles and responsibilities (refer to Figure 35)
- private sector investment in line with the expectation for housing, commercial, retail and industrial development
- infrastructure delivery which is responsive to the draft District Plan's priorities and growth patterns across the District
- ongoing engagement to inform implementation activities
- annual monitoring of the performance of the draft District Plan and the status of delivering the actions.

On finalisation of the district plans, councils are required to update their local environmental plan to give effect to the district plan. The NSW Government has outlined, in the recently released *A Fair Go for First Home Buyers*, that councils are to complete the update of their local environmental plan within three years of the district plans being finalised or within two years for those councils receiving funding under the 'Priority Councils' initiative.

As drafts, district plans have a role in informing the preparation of planning proposals. Information Note 6, released concurrently with the draft district plans, outlines the status of the district plans in regard to planning matters.

In undertaking strategic planning processes, and/or preparing or considering planning proposals, planning authorities must give effect to the draft District Plan, specifically the planning priorities and actions.

Figure 35: Roles of planning authorities in Greater Sydney



Monitoring and reporting

The draft *Greater Sydney Region Plan* outlines metrics to monitor the performance of that Plan. The same metrics will be used to monitor the performance of this draft District Plan. The Commission will report annually to the NSW Government on the metrics as outlined in Table 5.

Monitoring and reporting will provide transparency to the community and other stakeholders. The Commission will also provide an annual report to the NSW Government on the status of the actions in this draft District Plan.

In addition, the Commission maintains a data hub — an online profile of the region. Incorporating data from the latest Australian Bureau of Statistics Census of Population and Housing, the data hub helps to track broad trends, identify geographic differences and explain how the region is changing. Data is regularly updated.

On the making of the District Plan, each council is to report to the Commission on the:

- review by the council of the local environmental plans for the area
- preparation of planning proposals under section 55 of the *Environmental Planning and Assessment Act, 1979* to give effect to the District Plan.

Next steps

This draft District Plan is on formal public exhibition until 15 December 2017. The draft District Plan is aligned with the draft *Greater Sydney Region Plan*.

Public exhibition is an opportunity to contribute to the future of the Western City District by providing feedback on the proposed planning priorities and actions in this draft District Plan.

A range of engagement activities will help the public to get involved in the future of the Western City District – visit the dedicated engagement portal at www.greater.sydney to find out more.

This is an opportunity to participate in the story of *Our Greater Sydney 2056 – A metropolis of three cities – connecting people*.

Table 5: Metrics to monitor the Plan

10 Directions	Plan metric (service)
 1. A city supported by infrastructure	<ul style="list-style-type: none"> Number of land use plans supported by infrastructure plans (NSW Department of Planning and Environment, Greater Sydney Commission, Councils).
 2. A collaborative city	<ul style="list-style-type: none"> Proportion of agreed outcomes achieved in Collaboration Areas.
 3. A city for people	<ul style="list-style-type: none"> Annual survey of community sentiment.
 4. Housing the city	<ul style="list-style-type: none"> Number of councils on track to deliver housing targets. Number of councils with schemes that implement Affordable Rental Housing Targets.
 5. A city of great places	<ul style="list-style-type: none"> Percentage of dwellings within walking distance of a local or strategic centre. Percentage of dwellings within walking distance of open space.
 6. A well-connected city	<ul style="list-style-type: none"> Percentage of dwellings located within 30 minutes by public transport of a metropolitan city centre /cluster. Percentage of dwellings located within 30 minutes by public transport of a strategic centre.
 7. Jobs and skills for the city	<ul style="list-style-type: none"> Growth in jobs in the following metropolitan and strategic centres, Blacktown, Campbelltown - Macarthur, Greater Parramatta, Greater Penrith, Harbour CBD, Kogarah, Liverpool, Macquarie Park and Western Sydney Airport / Badgerys Creek Aerotropolis. Change in number of people employed locally (five year).
 8. A city in its landscape	<ul style="list-style-type: none"> Proportional increase in Greater Sydney covered by urban tree canopy.
 9. An efficient city	<ul style="list-style-type: none"> Number of precincts with low carbon initiatives.
 10. A resilient city	<ul style="list-style-type: none"> Number of local government areas undertaking resilience planning.

7

Endnotes

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Note: The source of population, dwellings and household data in this draft Plan is from the NSW Department of Planning and Environment, 2016 NSW State and Local Government Area Population and Household Projections and Implied Dwelling Requirements 2016 to 2036. Population projections provide an indication of the size and age-sex structure of the future

population if specified assumptions about future fertility, mortality and migration are realised. The projections are based on final 30 June 2011 Estimated Resident Populations (ERPs) supplied by the Australian Bureau of Statistics (ABS). Finalised ERPs incorporating the 2016 Census of Population and Housing are not expected from the ABS until mid-2018.

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