Greater Sydney Commission

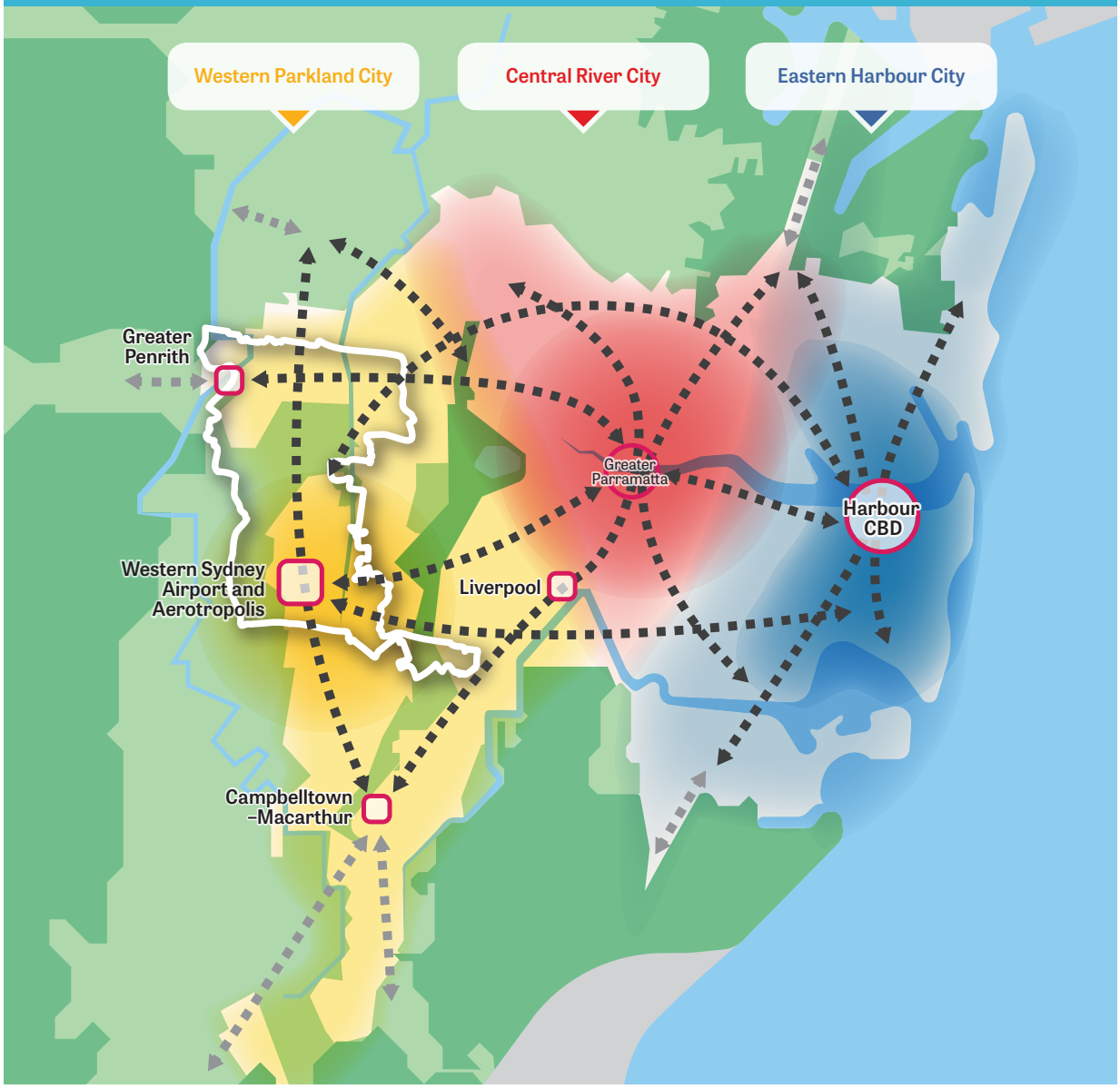
Making the Western Parkland City:

Initial Place-based Infrastructure Compact (PIC) Area

Draft PIC Report

2020

Initial Place-based Infrastructure Compact Area within the Western Parkland City



Metropolitan Centre	Initial PIC area
Metropolitan Cluster	Regional Transport Corridor
Waterways	Protected Natural Area
City-shaping Transport Corridor	Metropolitan Rural Area

Western City District Commissioner's Message

Elizabeth Dibbs

Western City District Commissioner

Great cities, with the right mix of infrastructure and services, help people to live prosperous, healthy and more connected lives. When planned with a people-first focus, infrastructure transforms a collection of homes, shops, factories or offices into vibrant, connected places. It can foster a strong sense of place and facilitates ecosystems where people exchange knowledge, goods and services.

In this way, infrastructure is a fundamental **connector** and **shaper** in cities. As the Western Parkland City transforms, we will see this at every level: from the once-in-a-100 years opening of a 24/7 international airport, Sydney Metro – Western Sydney Airport, the creation of the Aerotropolis and digital infrastructure; to the walking and cycling paths, parks and open spaces, waterways and sports grounds that will bring people together across thriving communities of every size.

What you'll read in the *Making the Western Parkland City: the Initial Place-based Infrastructure Compact (PIC) Area* (draft PIC report) is undoubtedly exciting. It is also an evidence-based reminder of why we must plan today for what the city will be like in the decades ahead.

In 2020, we've all been reminded of the importance of promoting resilience in our planning and ensuring that we are focused and purposeful in where and when we invest for the future. The Commission is proud to present the draft 'compact' that will guide decision-makers at all levels of government – working closely with the community, private and not-for-profit sectors – to move the vision for the Western Parkland City further to reality.

The highly collaborative process that underpins the draft PIC has been made possible by the Western Sydney City Deal, between the Australian and NSW Governments and eight Western Sydney councils.

From the outset, councils representing their communities made it clear that we must ensure that:

- the new cluster of activity around the Western Sydney Airport and Aerotropolis **benefits the entire Western Parkland City** and complements the region's diversity of industries;
- the metropolitan centres of Liverpool, Greater Penrith and Campbelltown-Macarthur, that have been the foundation for Western Sydney's growth for generations **continue to grow as distinct and vibrant places** for business, work, education, retail and leisure
- that we plan for the **whole north-south Metro line** all the way from Schofields in the north, through the Aerotropolis to Campbelltown-Macarthur and a connection to Leppington in the south.

Our collaborative efforts have worked to these directions and the vision in the District Plan. The draft PIC seeks to find the right balance between certainty for developers and business to invest with confidence in the Western Parkland City, and flexibility to respond as the city grows and changes or as we face adverse or challenging events in the future.

This is an opportunity for you to test the thinking, analysis and process used in the draft PIC, and the actions it proposes.

Finally, we have the opportunity to work with First Nations people who have lived on Country since time immemorial. We must make genuine efforts to set out together to create the Western Parkland City in a way that respects Aboriginal culture that always has been and always will be, part of this wonderful place.

We look forward to your feedback and comments as we continue to work together to realise the Western Parkland City.

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Acknowledgement of Country

The Greater Sydney Commission acknowledges the traditional owners of the lands that include Greater Sydney and the living culture 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.


Penrith

Executive summary

The city makers of every successful city must have a vision for the future, and then a plan for how to achieve that vision. Building and making a city, requires a pathway that is clearly understood by everyone involved in the city-making process – a pathway that can be easily adapted to address the uncertainties of the future.

The *Greater Sydney Region Plan – A Metropolis of Three Cities* sets out a future for Greater Sydney to flourish over the next 40 years as a more liveable, productive and sustainable **metropolis of three cities**: the Eastern Harbour City, Central River City and Western Parkland City.

Of these three cities, the Western Parkland City is set to benefit from unprecedented change. The opening of the Western Sydney International (Nancy-Bird Walton) Airport in 2026, the Sydney Metro – Western Sydney Airport and the creation of the Western Sydney Aerotropolis are three catalysts for this transformation.

At the heart of the Western Parkland City is the initial Place-based Infrastructure Compact (PIC) area, which is the subject of this initial phase of the Western Sydney PIC Program.

It includes the vast mix of urban and rural lands along the first stage of a new north-south Metro line (*Figure 9*), with the emerging Airport and Aerotropolis at its heart.

It is set to support economic hubs of new industries in the centre of the Western Parkland City, generating a range of new jobs for workers across the city.

For it to succeed it must be well connected with the established metropolitan cluster of Liverpool in the east, Greater Penrith in the west and Campbelltown-Macarthur in the south so people can easily enjoy and participate in the life across the whole Western Parkland City.

Making great places that thrive requires upfront catalytic investment – like the new Airport, Sydney Metro and Aerotropolis, major motorways and roads. In addition, the area will need sustained investment in the enabling water, electricity, gas and smart digital infrastructure; and local schools, health hubs, sporting fields, clean waterways, open space, emergency services; and places for arts and culture.

With all the activity and investment in the initial PIC area, now is the time to set the right course to create one of the most dynamic parts of the Western Parkland City, so the benefits can be spread far and wide. This requires setting of a clear pathway, that incorporates cost and funding sources, to align growth in jobs and homes with the timely provision of infrastructure and services.

Further, as climate change, a health pandemic and a seismic shift to a digital world combine to change people's lives – there is an opportunity to closely engage with all stakeholders to start a rich conversation on what must be worked on together to create an adaptive and resilient Western Parkland City.

The Western Sydney City Deal

The Western Sydney City Deal is a shared commitment of the Australian and NSW governments and eight Western Sydney councils to plan for the Western Parkland City in a way that puts people and the community at the heart of decision-making.

The PIC Program was established in early 2019 as part of the City Deal. It is designed to create great places using the Greater Sydney Commission's new PIC model.

The new PIC model is a highly collaborative model that looks holistically at a place to identify the most effective way of sequencing growth aligned with the provision of infrastructure over time. With so many places to potentially grow in the Western Parkland City, decision-makers need to make good choices that will benefit the entire community.

The PIC process started with 28 precincts in the initial PIC area. The intention remains for other areas to be incorporated into the Western Sydney PIC Program to ensure current and emerging infrastructure and service needs are understood, costed and prioritised.

Initial PIC area

The initial PIC area comprises almost 36,000 hectares of land spanning from Greater Penrith through to the planned Airport to Glenfield. This central area of the Western Parkland City – being a rich mixture of urban and semi-rural land – is already home to 280,000 people and around 83,000 jobs.

Consistent with the vision set out in the *Greater Sydney Region Plan*, people living in and around this area would live within 30 minutes by public transport of their nearest strategic centre, within a new cool and green parkland setting created by a restored Wianamatta-South Creek corridor.

Wianamatta has always been an important meeting place and movement corridor for Aboriginal people. Beginning near Narellan and flowing north to the Hawkesbury-Nepean system, its enhancement will not only support the vision for a cool, green Western Parkland City but help to create richer physical and cultural connections for everyone.

The Western Parkland City is home to the largest Aboriginal community in Australia – around 32,000 people – with almost half living in the initial PIC area. This young and growing Aboriginal population must share in the growing prosperity of the city, along with all people in the city.

The initial PIC area comprises three parts, organised into 28 precincts, known broadly as:

- **Greater Penrith to Eastern Creek** is around 19,200 hectares north of the Airport, and will support urban renewal, new land releases and a burgeoning health, education and innovation hub.
- **Western Sydney Aerotropolis Growth Area** spans 12,800 hectares around the Airport including the western edge of the Western Sydney Employment Area, and will support an increase in jobs and skills across a breadth of industries.
- **Austral to Glenfield Corridor** spans 3,650 hectares east of the Aerotropolis and will support new communities around existing rail stations and transit corridors.

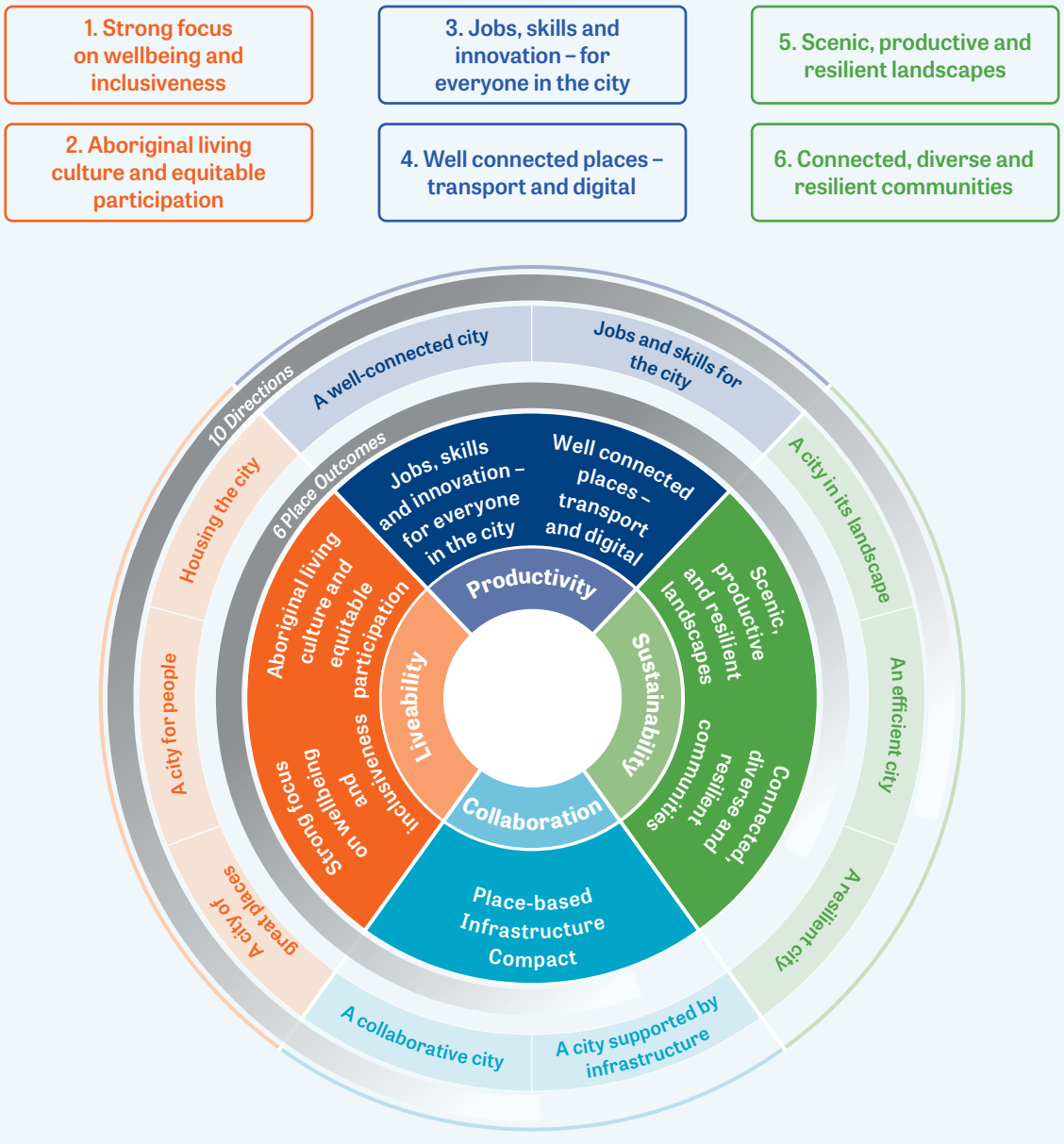
Applying the new PIC model

The collaboration that underpins the PIC Program is founded on setting place outcomes to establish what needs to be achieved for people right across the Western Parkland City. These place outcomes are relevant to this initial PIC area and to future areas to benefit from the PIC process.

These outcomes align with the intent of the **10 Directions** of the *Greater Sydney Region Plan*, the supporting *Western City District Plan* and the local and community planning by councils.

Reflecting the collaborative nature of the PIC process and building on *The Pulse of Greater Sydney*, **20 indicators** and **25 measures** have been identified to track achievement of these outcomes.

Figure 1: Six Place Outcomes for the Western Parkland City aligned with the 10 Directions for Greater Sydney



Taking a Western Parkland City-wide view, three scenarios were created to consider how the city, with its unique metropolitan cluster, could grow and change:

Growing Parkland City:

A Western Parkland City created under existing planning opportunities without any further rezoning of land to deliver more suburban communities and jobs in centres, with some transport improvements through already committed infrastructure.

Thriving Aerotropolis:

A Western Parkland City is underpinned by a connected metropolitan cluster, where communities have access to new industries and career opportunities in a **thriving Aerotropolis**, with stronger centres in **Liverpool**, **Greater Penrith** and **Campbelltown-Macarthur**, that are well connected to surrounding compact, urban and renewed communities and centres.

Thriving Metropolitan Cluster:

A Western Parkland City is underpinned by the **metropolitan cluster**, where people have easy and better access to industry and jobs in **Liverpool**, **Greater Penrith** and **Campbelltown-Macarthur**, surrounding employment areas and the **emerging Aerotropolis**.

Over an 18-month period, a collaboration of more than 30 partner organisations set out to test the implications of potentially doubling the number of jobs and homes across 28 precincts in the initial PIC area over the next 20 years under these three different scenarios.

Infrastructure were identified with relevant agencies, utility providers and, in some aspects, councils. Costs as well as potential sources of funding were estimated for the 28 precincts.

Finally, scenarios were evaluated to identify the most effective and equitable way to sequence growth, using a cost effectiveness and cost-benefit analysis, with an equity overlay given the impetus to rebalance opportunity across Greater Sydney.

A sequencing plan, informed by a set of principles, including the cost of infrastructure, was prepared. Three sequencing options were developed: a maximum, targeted and minimum approach.

COVID-19

The COVID-19 pandemic will influence land use and infrastructure planning. Inevitably population, housing and job forecasts will be disrupted, although the local, national and global impacts of the pandemic are not yet well understood and the recovery effort is continuing.

This solidifies the need to plan under scenarios and plan for resilient cities and communities that allow people, businesses, places, infrastructure and services to adapt to change.

The fundamental disruption of COVID-19 will shape the making of Western Parkland City, which is set to benefit from a recovery effort that will be significant at the local, state and national level.

Finding 1: **The scale of the opportunity is significant and the choices are vast**

The initial 36,000 hectare PIC area is a significant part of the Western Parkland City. The opportunities for transformation over the century ahead, catalysed by the Airport, will enhance the area's local, national and global attractiveness to investors and visitors.

The initial PIC area is nestled in between the Western Parkland City's growth fronts spanning from precincts such as Vineyard and Riverstone in the North West Growth Area to Wilton in the Greater Macarthur Growth Area. It incorporates highly valuable land – a finite resources at the spatial limits of the Sydney Basin, bound by the Nepean River and the Blue Mountains.

The PIC process found that not all the land already rezoned or under investigation in the initial PIC area will be needed in the next 15 to 20 years. There are several areas where new jobs and homes could be focused and there is a need to strike the right balance between having enough land to facilitate orderly growth and having too many areas that it becomes difficult to service with infrastructure.

In the initial PIC area, the choices range from focusing on urban renewal in centres already served by rail; to opening up new greenfield areas where there are consolidated major land holdings to benefit from Sydney Metro; to converting semi-rural and agricultural areas like Badgerys Creek, Rossmore and Kemps Creek precincts.

Overall, the PIC process found that the scale of developable land, the demand for new jobs and housing, the cost of creating great places and the uncertainty of global trends necessitates a strategic approach to managing growth.

Finding 2: **Rebalancing jobs will deliver community benefits and better equity**

The PIC process found the Thriving Aerotropolis and Thriving Metropolitan Cluster scenarios are likely to provide the greatest liveability, productivity and sustainability benefits. These benefits outweigh costs in today's dollars.

By contrast, the benefits of the Growing Parkland City scenario do not outweigh the costs, as changes in land use would not effectively leverage the significant infrastructure investment already underway.

The net benefits for the community under the Thriving Aerotropolis and Thriving Metropolitan Cluster scenarios equate to $3.5 to $4 billion. This is based on present value costs of $15 to $16 billion.

Not leveraging investment already made in the area would result in a net cost of $1.1 billion to the community and the lost opportunity to rebalance Greater Sydney and improve equity. This based on a present value of $5.9 billion in costs.

While the Thriving Aerotropolis achieves a slightly lower net benefit than the Thriving Metropolitan Cluster scenario, it is forecast to create **86,000 more local jobs across the Western Parkland City in 2056** – including a greater number of knowledge-intensive jobs.

A successful Airport and Aerotropolis is key to avoiding these jobs otherwise locating outside of the Western Parkland City and into the Eastern Harbour and Central River City. This will help create far better equity and choice of jobs and careers for people living in the Western Parkland City.

Figure 3: Capital costs by sector (Thriving Aerotropolis scenario) – 20 years

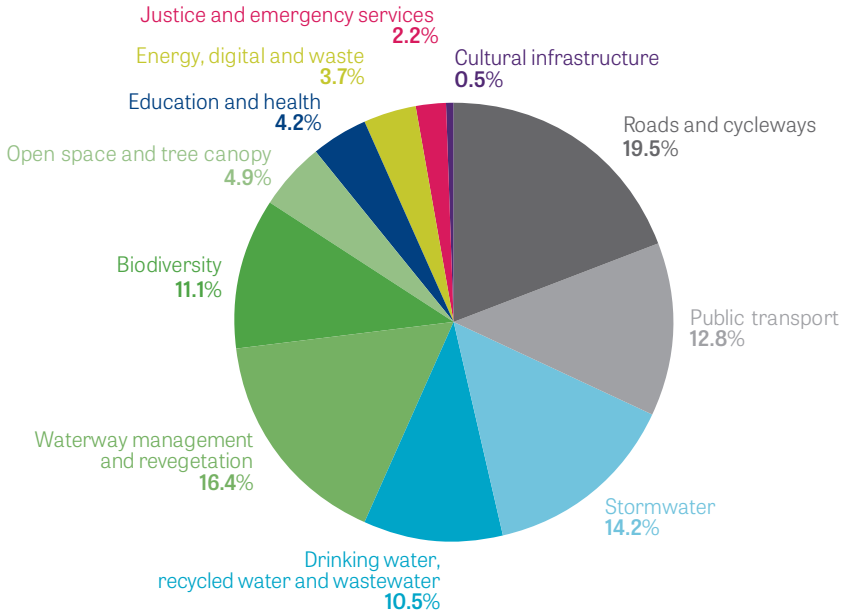
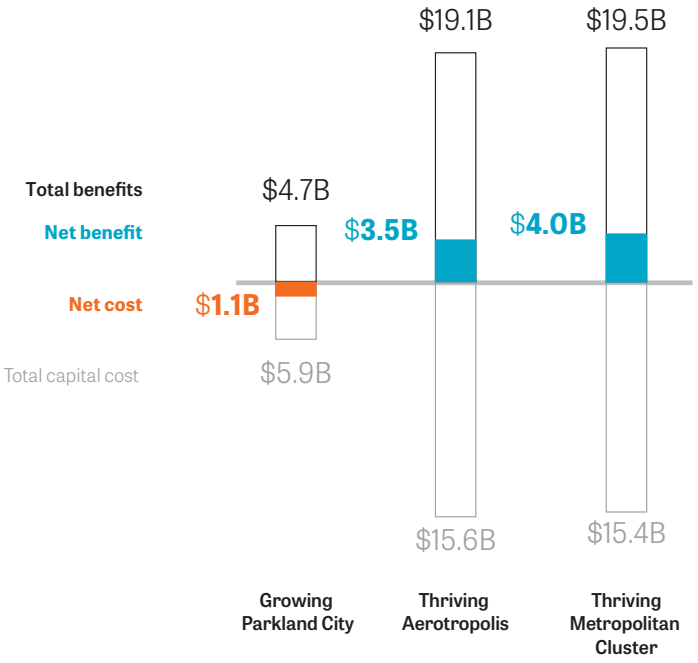


Figure 2: Net benefits of each scenario



Finding 3: **The Western Parkland City vision needs upfront and sustained investment**

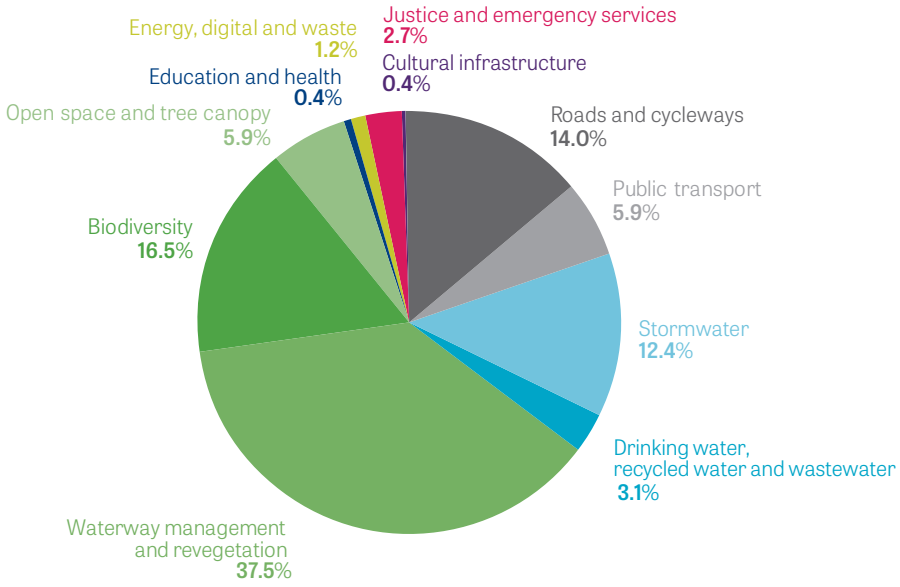
To double the number of jobs and homes in the initial PIC area over the next 20 years (85,000 new jobs and 90,000 new homes) requires a focus on city *building* and city *making* infrastructure.

The total capital cost of infrastructure is estimated to be around $100 billion over 20 years, while the cost apportioned to the initial PIC area is estimated to be around $62 billion. This equates to an average total annual investment of around $5 billion over 20 years, with some funding sources beyond those of the NSW Government.

Based on the strategic assessment for the initial PIC area, roads and public transport; drinking water, recycled water and wastewater; and the management of biodiversity, waterways and stormwater account for almost 90 per cent of these costs. The remaining 10 per cent are associated with the infrastructure and services essential to great local places.

This infrastructure requires 7,100 hectares, beyond what the NSW Government has already acquired and owns (around 6,000 hectares). Most of this land is required for waterway management, protecting biodiversity and managing stormwater.

Figure 4: Identified land requirements by sector (Thriving Aerotropolis scenario) – 20 years



Finding 4: **Co-funding infrastructure to make great places is key**

The PIC model recognises that the scale of necessary infrastructure requires a clear understanding of costs to guide better decision-making. It also considers the fundamental question of who should contribute to paying for the provision of infrastructure aligned to growth.

Of the estimated $62 billion in capital costs apportioned to the initial 28 precincts, 20 per cent would need to be jointly funded by the Australian and NSW governments.

A further 23 per cent would need to be funded by the NSW Government and around 13 per cent through direct customer charge for utilities such as water, wastewater and utilities.

Around 27 per cent, or around $17 billion, would need to be funded through a combination of NSW Government and development contributions. A fair and transparent contribution from developers would need to be established.

The PIC process found around 13 per cent of costs would need to be funded from regional and local sources such as rates, special rates and levies for elements such as regional stormwater management, open space, sporting facilities, walking and cycling paths and the tree canopy.

A further four per cent of infrastructure costs had a private funding source, mainly related to the private provision of essential services and requirements in meeting development consents.

Finding 5: **Early insights can inform better decision-making**

The scale of urban development presents many options to the NSW Government, councils and the community in terms of where to align growth with infrastructure and services.

Overall, the PIC process found that to realise benefits for the community as a whole, Greater Penrith to Eastern Creek, the Western Sydney Aerotropolis Growth Area and the Austral to Glenfield Corridor must grow together.

The likely future land use of precincts in the initial PIC area varies between residential, mixed use and employment (industrial, commercial and agribusiness). This is reflected in the results of the cost effectiveness and cost benefit analysis used in the PIC model. For example, the cost of accommodating a new resident or job varied from less than $50,000 to more than $400,000, depending on the precinct.

Greater Penrith to Eastern Creek is best positioned to be a place for a mix of uses, such as new homes – including private, affordable rental and social housing – to leverage existing infrastructure.

The more cost-intensive Western Sydney Aerotropolis Growth Area is best planned to provide high value jobs, skills and training opportunities. The Austral to Glenfield Corridor will support a mix of uses with a focus on new homes.

Precincts that are suitable for industrial and urban services, while relatively costly on a per-job accommodated measure, are essential to the productivity and functioning of the Western Parkland City and Greater Sydney.

Figure 5: Identified funding sources for capital costs apportioned to the initial PIC area (Thriving Aerotropolis scenario) – 20 years

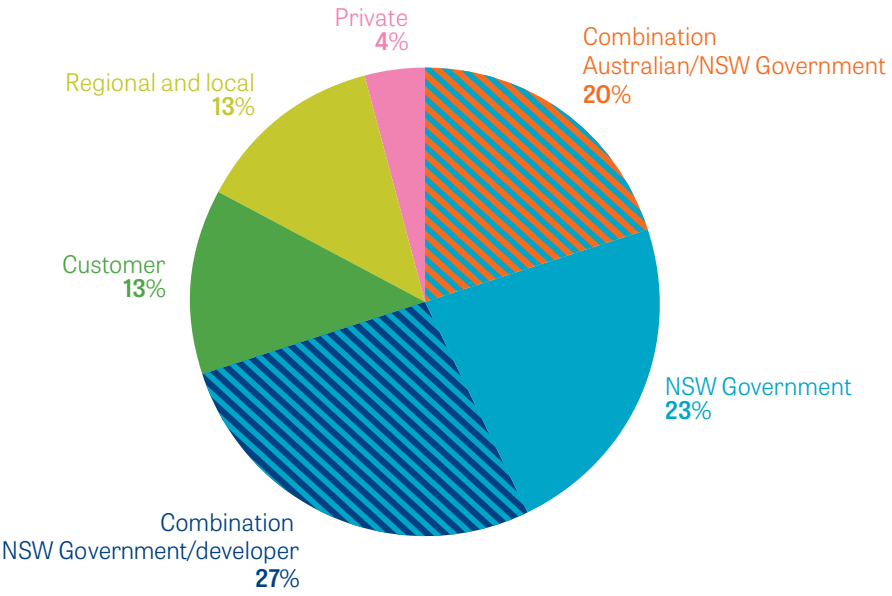
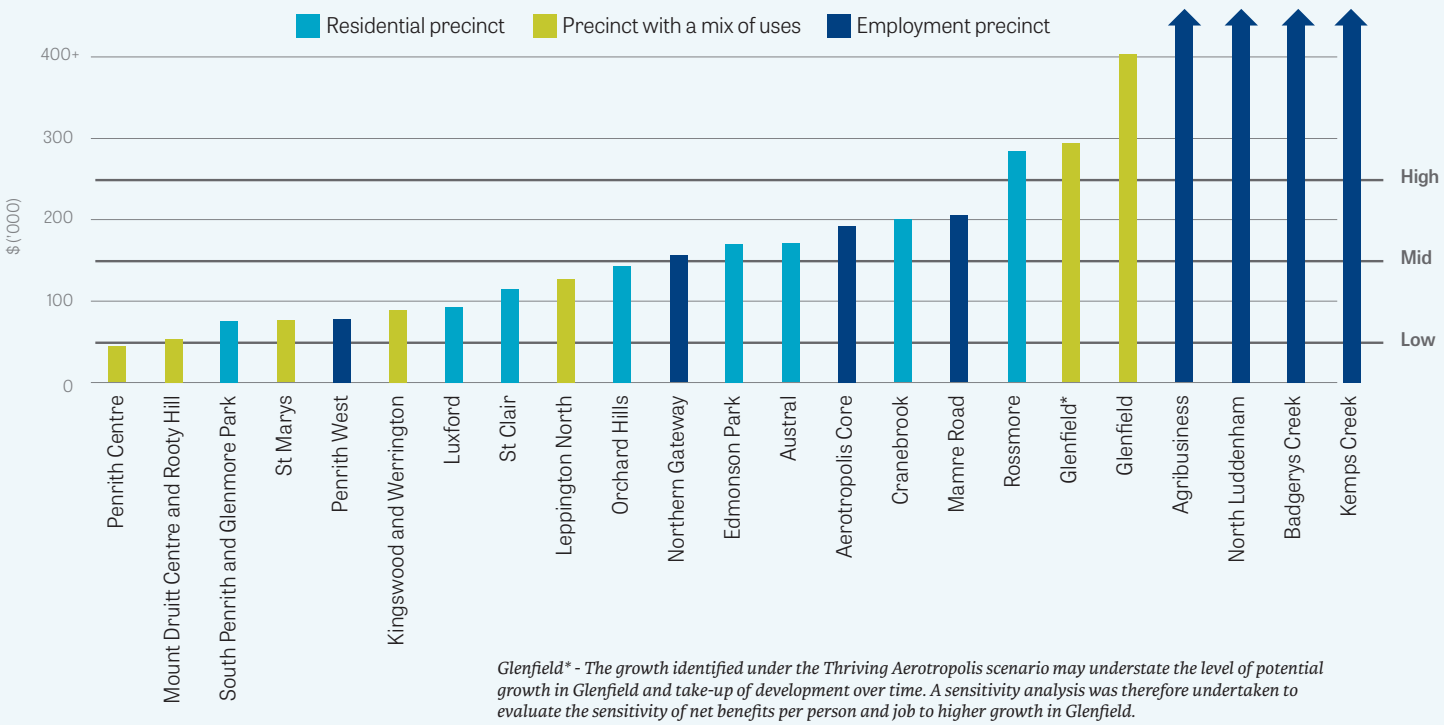
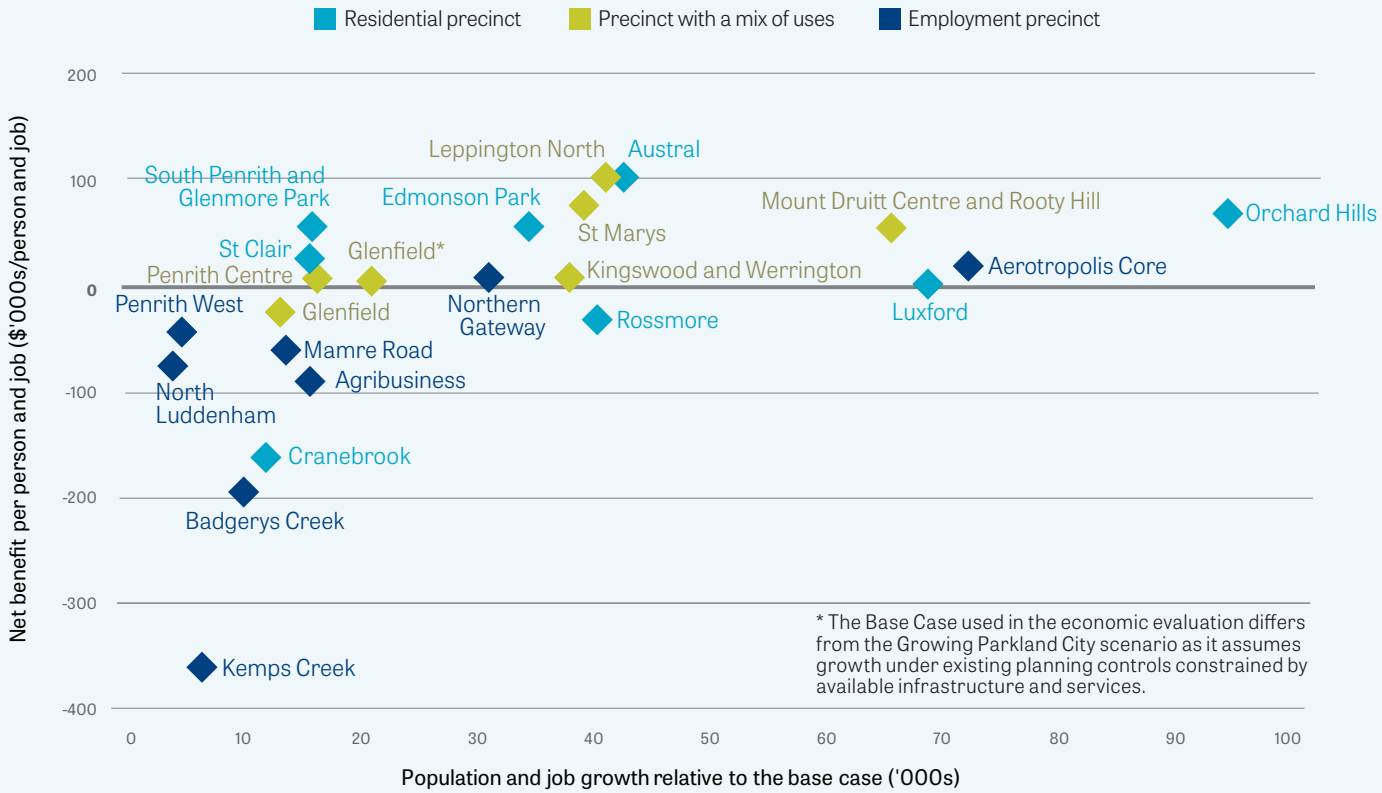


Figure 6: Cost of accommodating a new resident or job (undiscounted) (Thriving Aerotropolis scenario) at 20 years



Glenfield - The growth identified under the Thriving Aerotropolis scenario may understate the level of potential growth in Glenfield and take-up of development over time. A sensitivity analysis was therefore undertaken to evaluate the sensitivity of net benefits per person and job to higher growth in Glenfield.*

Figure 7: Net benefit of accommodating a new resident or job (discounted)* (Thriving Aerotropolis scenario) at 40 years



Finding 6: **New ways of thinking are essential to resilience**

Transformative growth in the Western Parkland City's economy and population, extreme weather events driven by climate change such as the recent bushfires, heat and drought, and new ways of living and working accelerated by the onset of COVID-19, will require a different approach to shape a new normal.

While the PIC model focuses on better aligning infrastructure with an increase in the number of jobs and homes, this must be considered in the context of the evolving environmental, social and economic conditions of the place. The successive major events in 2020 has highlighted the imperative to acknowledge and plan for uncertainty and to constantly monitor plans over time.

There is an opportunity to deliberately pursue new solutions to old problems and to build and plan a more resilient Western Parkland City for the safety and wellbeing of local communities. There is also the opportunity to leverage traditional solutions to new problems, drawing on the depth of knowledge about Caring for Country held by Aboriginal people.

Proposed actions

The key findings confirm the need to be selective about where, when and what to invest to create over time the Western Parkland City. This is important for all investors across the public, private and non-for-profit sectors.

The most effective way of aligning growth with the provision of infrastructure is through a high-level sequencing plan, even when vast areas have already been rezoned, as is the case in the initial PIC area.

A sequencing plan can set out a clear direction for more orderly development, that is logical and easy to understand for infrastructure and service providers, investors, developers and the local community.

Ten proposed actions have been identified through a collaborative and evidence-based process.

The first **five proposed actions** put forward an efficient and equitable way to align growth with the provision of infrastructure through a sequencing plan that takes a moderate 'targeted stimulus' approach.

This proposed sequencing plan includes the already rezoned six initial precincts, in part or full, identified in the final *Western Sydney Aerotropolis Plan* and *State Environmental Planning Policy (Western Sydney Aerotropolis) 2020* (Aerotropolis SEPP). It targets opportunities most likely to stimulate public and private investment activity in the initial PIC area in a way that achieves the identified place outcomes.

Four overarching principles have guided the development of the proposed sequencing plan:

1. Align with tri-level government policies and directions
2. Leverage investment to maximise the use of land for job creation, skills and industry
3. Leverage consolidated land holdings in public and private ownership
4. Minimise cost of enabling and supporting infrastructure and services.

As currently proposed, the sequencing plan aligns with the draft precinct plans for the initial precincts in the final Western Sydney Aerotropolis Planning Package on public exhibition over November and December 2020.

Proposed actions 6 to **10** build on the platform of the City Deal and rely on the Western Parkland City Authority to step into a new leading role in coordination and delivery, in collaboration with relevant partners.

These proposed actions are intended to inform government decision-making, particularly capital investment plans and budget processes over the next 5, 10 and 20 years as well as key policy decisions.

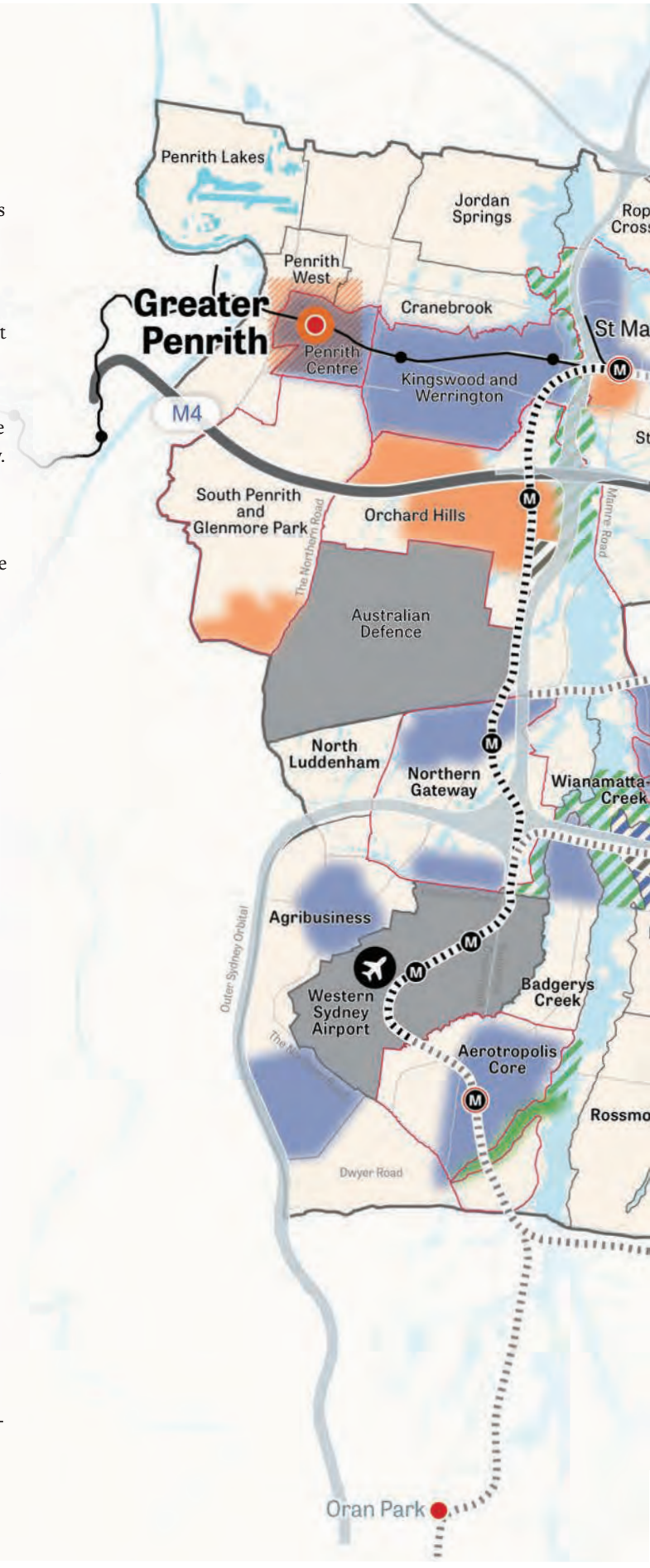
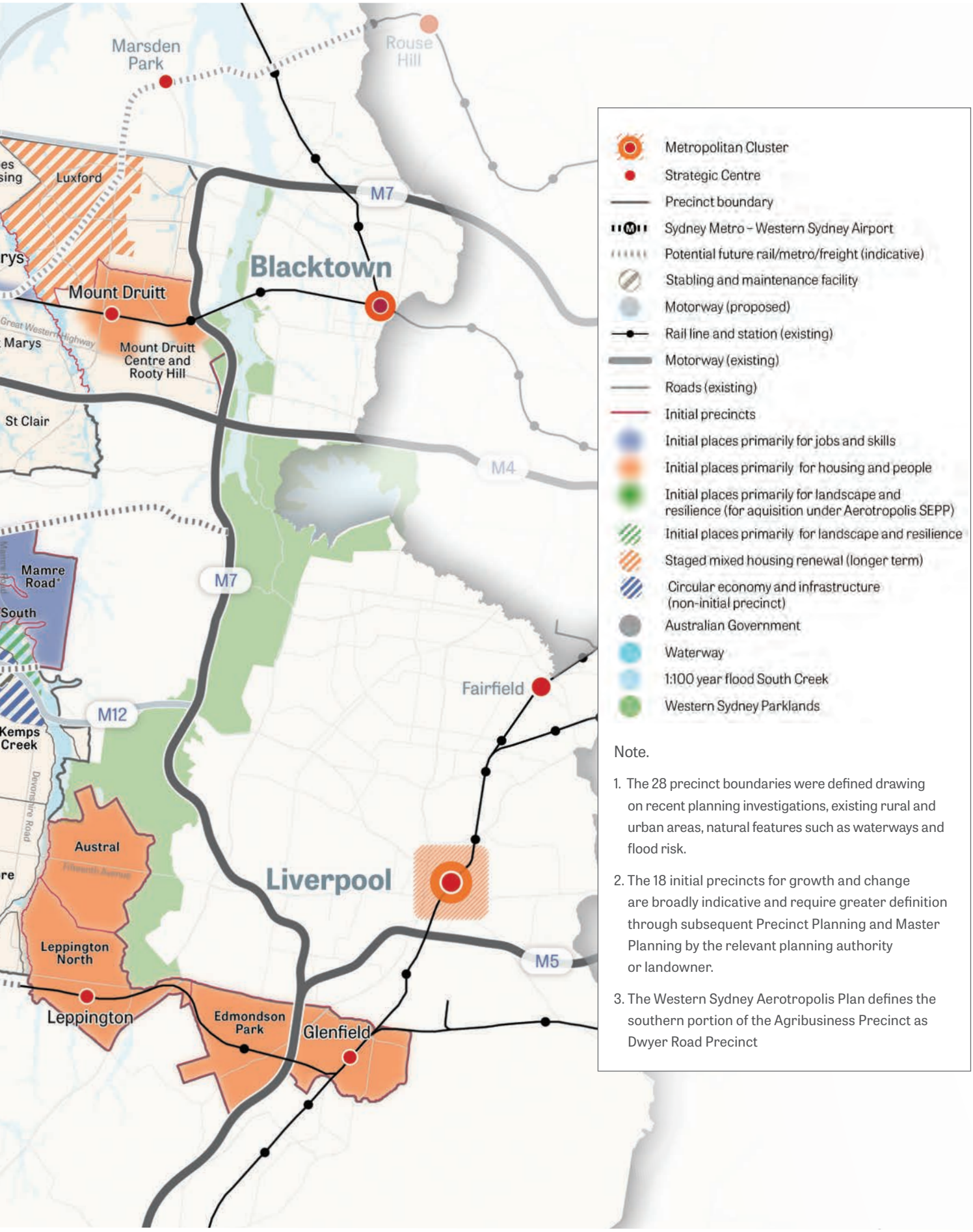


Figure 8: Proposed sequencing plan – Initial places for working, living, landscape and resilience



Note.

1. The 28 precinct boundaries were defined drawing on recent planning investigations, existing rural and urban areas, natural features such as waterways and flood risk.
2. The 18 initial precincts for growth and change are broadly indicative and require greater definition through subsequent Precinct Planning and Master Planning by the relevant planning authority or landowner.
3. The Western Sydney Aerotropolis Plan defines the southern portion of the Agribusiness Precinct as Dwyer Road Precinct

Proposed action 1: **Initial places for jobs and skills**

The suggested initial places primarily for jobs and skills are areas within:

- **Penrith Centre Precinct**
- **Kingswood and Werrington Precinct**
- **Aerotropolis Core Precinct (east)**
- **Northern Gateway Precinct (north and south)**
- **Agribusiness Precinct (north and south)**
- **Mamre Road Precinct**
- **Badgerys Creek Precinct (north)**
- **Kemps Creek Precinct (north).**

This is where infrastructure and service investment can stimulate, enable and support new and existing industries and jobs; places for education and training; and vibrant centres with some housing.

These are also places that can accommodate more traditional industrial, warehousing and logistics, and future-focused industries for emerging sectors such as agribusiness and the circular economy. The northern part of the Kemps Creek Precinct, while not an initial precinct under the *Western Sydney Aerotropolis Plan*, has been identified as a place for circular economy and infrastructure to support a clustering of activity north of Elizabeth Drive (Badgerys Creek, Kemps Creek and Mamre Road precincts).

While largely employment precincts, some will offer a mix of uses including Penrith Centre and the Aerotropolis Core.

Proposed action 2: **Initial places for housing and people**

The suggested initial places primarily for housing and people are:

- **South Penrith and Glenmore Park precincts (south)**
- **Mount Druitt Centre and Rooty Hill Precinct (north)**
- **St Marys (central)** and **Orchard Hills (north and east) precincts**
- **Austral, Leppington North** and **Edmondson Park precincts**
- **Glenfield Precinct.**

Together these precincts can offer all types of new housing – from social housing to private ownership. New housing in these initial places should be planned to meet the needs of each unique community, including people across the income, age and diversity spectrums.

While largely housing precincts, some will offer a mix of uses, including St Marys, Mount Druitt Centre and Rooty Hill, Leppington North and Glenfield.

Proposed action 3: **Initial places for landscape and resilience**

The suggested initial places for landscape and resilience are areas within:

- Wianamatta-South Creek in **Kingswood and Werrington, St Marys** and **Orchard Hills precincts**
- The confluence of **Badgerys Creek**, **Kemps Creek** and **Wianamatta-South Creek** (north of Elizabeth Drive to Mamre Road)
- **Thompsons Creek** and **Wianamatta-South Creek** (The Northern Road to Kelvin Park Road) which has been identified for acquisition under the *Western Sydney Aerotropolis Plan*.

Prioritising investment in Wianamatta-South Creek will improve water quality and enhance existing biodiversity and open space through a new whole-of-water cycle management across the catchment. This will help to achieve the Western Parkland City vision, foster a more resilient city and reduce the impact of extreme heat.

Proposed action 4: **Subsequent places for growth and change**

While the Aerotropolis Core, Agribusiness, Northern Gateway and Badgerys Creek precincts have already been rezoned in their entirety under the *Western Sydney Aerotropolis Plan*, and offer development potential, they are likely to retain current uses until they are needed to accommodate demand for new jobs and homes and can be feasibly prioritised for infrastructure and service delivery. These suggested places include:

- **Dwyer Road** and **Rossmore precincts**
- the western and southern parts of **Orchard Hills Precinct**
- **Luxford Precinct**
- the southern parts of the **Kemps Creek Precinct.**

The exact timeline for when these areas will be needed to support growth is not known. As timing becomes clearer, landowners and business must be kept reasonably informed to avoid unfairly raising expectations, creating uncertainty and confusion.

This will help to inform the decisions made by landowners, businesses and government, and ensure that land prices are not artificially inflated based on undue expectations about the timing of development.

The Luxford Precinct is identified for staged mixed housing renewal over the longer term, and only when Sydney Metro is delivered.

In the interim there is the opportunity to support the relocation of some tenants into new and well designed housing in nearby suburbs to benefit from Sydney Metro - Western Sydney Airport. It will be critical to retain land in government ownership to facilitate longer term renewal with the long-term extension of the metro through the Luxford Precinct.

Proposed action 5: **Out-of-sequence development**

Development outside the initial places identified in the proposed sequencing plan is discouraged. Doing so diverts spending away from higher priority planned locations, placing an additional burden on the NSW Government, utility providers, councils, other service providers and communities, for which they cannot adequately prepare.

Accelerating spending for an area outside the initial places would mean diverting infrastructure and service spending away from higher priority planned locations. In principle, this is counter to the collaborative and coordination effort driven by the PIC process.

Should the market seek to pursue a development outside of an identified initial place, any proposals are diligently assessed leveraging principles of the NSW Government's:

- *Public Private Partnership Guidelines* (2017)
- *Unsolicited Proposals – Guide for Submission and Assessment* (2017)
- Provisions on out-of-sequence development under the Aerotropolis SEPP.

The **subsequent five proposed actions** put forward ways of coordinating place and infrastructure priorities in high transformation areas like the initial PIC area.

These actions build on the platform of the City Deal and rely on the Western Parkland City Authority to step into a new leading role in coordination and delivery, in collaboration with relevant partners.

These proposed actions are intended to inform government decision-making, particularly capital investment plans and budget processes over the next 5, 10 and 20 years, as well as key policy decisions.

Proposed action 6: **'Fit-for-Place' Program**

This action proposes a program led by the Western Parkland City Authority and the Department of Planning, Industry and Environment. The program would oversee the alignment of growth with the provision of infrastructure across the initial places identified in the sequencing plan with other high growth areas of the Western Parkland City. It is proposed to involve:

- quarterly two-way dialogue between State agencies, utility providers, councils, the development industry and private and not-for-profit providers
- regular engagement on the development pipeline needing to be serviced with infrastructure in the short to medium term, as advised by the Department of Planning, Industry and Environment through the newly established and digitally enabled Urban Development Program so there is a shared understanding of priorities
- reporting on the place outcomes alongside established city-wide reporting through *The Pulse of Greater Sydney*.

Proposed action 7: **Forward public land and property program**

This action proposes the Department of Planning, Industry and Environment maintain a forward property strategy and acquisition program beginning with initial PIC area to facilitate a strategic and cost-effective approach to support the creation of great places for people of the Western Parkland City.

The program would fund and prioritise the strategic acquisition of land for future infrastructure, open space and services across the NSW Government in a way that identifies and prioritises land needed within affordability limits, and opportunities for the transfer of land between State agencies and the co-location of infrastructure and services.

This program should also consider innovative delivery approaches involving other levels of government, and the private and not-for-profit sectors to reduce the overall need for land acquisition and, therefore, to reduce costs to the NSW Government and the community.

Proposed action 8: **Shifting to place-based business cases**

This action proposes the Western Parkland City Authority lead a shift towards strategic place-based business cases to stimulate public and private investment in the initial places, where required.

A place-based approach can address barriers to growth, such as fragmented land ownership, while optimising, prioritising and aligning infrastructure and service investment within the fiscal constraints of delivery agencies.

This means taking the infrastructure needs identified in the PIC process and:

- reconciling needs in accordance with the sequencing plan
- optimising and prioritising proposals across multiple sectors
- balancing these needs within the limits of what the NSW Government can afford.

Proposed action 9: **Regional whole-of-water cycle and stormwater management reform as part of place-making**

This action proposes the Department of Planning, Industry and Environment lead a process to clarify the desired infrastructure requirements and service levels; roles and responsibilities; and appropriate funding mechanisms to create the Western Parkland City as a cool, green place with water as its defining structural element.

This must involve whole-of-water cycle management, regional stormwater and landscape-led design that reduces the duplication of effort, costs and inconsistent outcomes as land is developed and places renewed in a way that customers and the community can afford.

This process should involve councils, the development industry, Sydney Water and relevant State agencies, and determine a way forward to efficiently, effectively and affordably manage regional stormwater in the landscape for the generations to come.

Proposed action 10: **Renewing and increasing the provision of social and affordable housing as part of place-making**

This proposed action aims to increase the provision and improve the quality, location and mix of social and affordable housing with private housing in the initial PIC area where feasible.

This could involve the early provision of social and affordable housing around new Sydney Metro stations where residential and mixed use communities will be built in areas such as in the **Aerotropolis Core**, **Northern Gateway**, **St Marys** and **Orchard Hills** precincts.

Some social housing tenants living in the **Luxford Precinct**, north of Mount Druitt and Rooty Hill, could be supported to relocate into new and well designed housing in nearby suburbs to leverage the benefit of the new Sydney Metro line (operational when Western Sydney International airport opens for passenger services), while retaining valuable connections with the area they know.

This could mean a diversity of people will benefit sooner from investment in Sydney Metro thanks to easy access to the growing mix of jobs, skills and training in the Aerotropolis.

The alternative would be to defer major housing renewal in the Luxford Precinct until the planned extension of Sydney Metro – Western Sydney Airport from St Marys to Tallawong which is not expected in the next 20 years.

Where to from here?

Feedback on the findings and proposed actions from this initial work of the Western Sydney PIC Program will be incorporated into the Commission's recommendations to the NSW Government for its consideration and response.

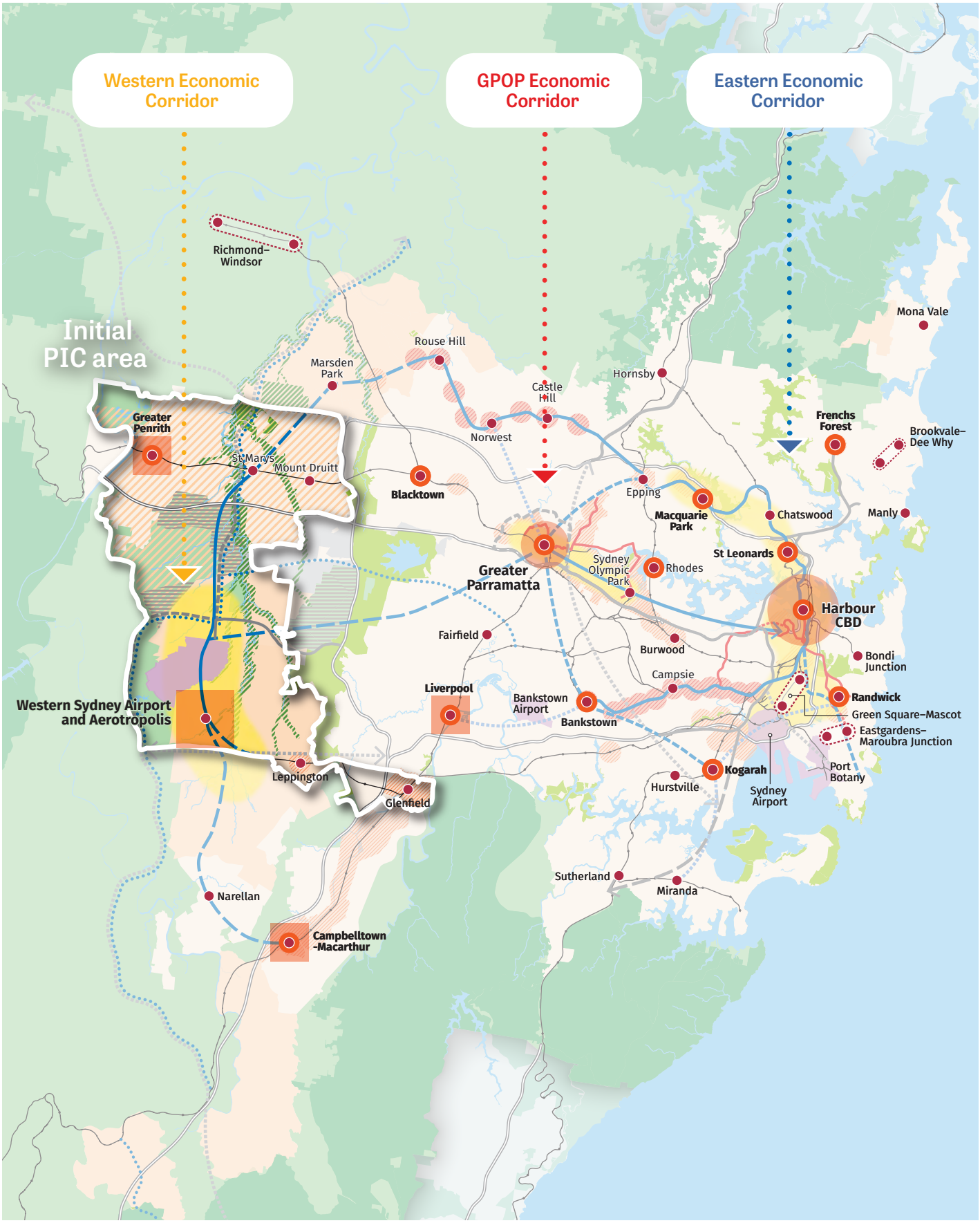
While the work and cost involved in building and making the initial PIC area is immense, it is essential for reshaping Greater Sydney into a metropolis of three cities and the success of the Western Parkland City.

Realising the vision for the Western Parkland City requires sustained input, commitment and determination from all levels of government, the community, business and the development industry over the next 5, 10, 20 and 40 years at the least.

If adopted, the next steps would involve:

- amendments to the relevant strategic and statutory plans to reflect the proposed sequencing plan outlined in **proposed actions 1 to 5**, with more detailed planning to include further community consultation
- the program-based approach outlined in **proposed actions 6 to 10** to coordinate place and infrastructure priorities and monitor performance using the outcomes framework established
- the ongoing work of the Greater Sydney Commission, Western Parkland City Authority, Western Sydney Planning Partnership, the Department of Planning, Industry and Environment and councils to collaboratively develop the planning framework - including feasible state, regional and local development contributions.

Figure 9: Initial PIC area



1 Introduction

Greater Sydney is evolving to a metropolis of three cities – one that is liveable, productive and sustainable, shaped around the Eastern Harbour City, Central River City and Western Parkland City. Of these, the Western Parkland City will be subject to unprecedented levels of growth and change.

The Western Sydney Place-based Infrastructure Compact (PIC) Program, established under the Western Sydney City Deal, seeks to set the right course to create dynamic places in the Western Parkland City, where the benefits of growth and investment are realised for all residents and businesses.

The PIC Program uses the new PIC model, developed by the Greater Sydney Commission to set a clear pathway that aligns the increase in people, jobs and homes with the timely delivery of infrastructure and services.

Applying the new PIC model in high transformational areas in the Western Parkland City provides:

- clarity about where development could most effectively and equitably occur over time, and the implications for mostly State and regional infrastructure and utilities
- clear directions for places when there are updates to state environmental planning policies (SEPPs), district plans, local strategic planning statements or amendments to local environmental plans (LEPs)
- a more predictable framework to better utilise, plan, prioritise and fund services and infrastructure, and achieve a more cost-effective and equitable use of resources
- coordinated and aligned activities across different levels of government with the opportunity for better integration
- better place outcomes for the community, industry and governments brought about by a collective understanding of the high-level sequencing of place and infrastructure priorities.

The Western Sydney PIC Program has commenced in the initial PIC area, as it comprises the catalyst Western Sydney Airport and the first stage of the north-south Metro line.

The area sits between the North West and South West growth areas, established in 2004-05 to increase housing supply; and is west of the Western Sydney Employment Area, established in 2005 to increase employment lands.

It comprises three planning areas and 28 precincts:

- **Greater Penrith** to **Eastern Creek** over 19,200 hectares north of the Airport, which will support new land releases and urban renewal (14 precincts)
- **Western Sydney Aerotropolis Growth Area** spanning 12,800 hectares surrounding the Airport including the Airport precinct and the western front of the Western Sydney Employment Area (10 precincts)
- **Austral** to **Glenfield Corridor** spanning 3,650 hectares east of the Aerotropolis, which will support new communities anchored around existing rail stations and transit corridors (four precincts).

1.1 A new collaborative approach

In 2016, the then Minister for Planning asked the Commission to develop a list of city-shaping game changers for Greater Sydney.

The Commission's Infrastructure Delivery Committee, after assessing a list of more than 90 potential game changers and listening to feedback, jointly agreed to a single recommendation: to pilot a Growth Infrastructure Compact in the GPOP area in the Central River City.

A City Supported by Infrastructure – Place-based Infrastructure Compact Pilot was exhibited in November 2019. After considering feedback, the Commission provided its final recommendations to the NSW Government in March 2020.

1.2 Western Sydney PIC Program

The **Western Sydney PIC Program** focuses on the Western Parkland City and responds to feedback on the new PIC model, received following consultation during 2019 and 2020. It is also integral to meeting the commitments of the **Western Sydney City Deal**.

While broad support for the new PIC model was consistent among stakeholders, this was subject to the Commission enabling greater collaboration and transparency in the process.

This initial work as part of the PIC Program has addressed this through:

- much stronger partnerships with councils through the City Deal
- earlier engagement with the community, peak groups, industry and regulators
- enhanced coordination across government and utility providers with greater transparency of technical inputs into key steps in the PIC model.

The Commission is now seeking feedback to the initial PIC area of the Western Sydney PIC Program through:

- **First draft PIC for feedback**: Key findings and proposed actions (this document)
  - Place outcomes for the Western Parkland City
  - Proposed sequencing plan for the initial PIC area
  - Proposed place and infrastructure program
- **Technical Report**: Evidence and analysis underpinning the draft PIC
  - Assumed housing, population and job forecasts
  - Proposed infrastructure and service needs, and the approach taken to costing and apportioning costs
  - Economic evaluation methodology and results to inform sequencing.

In addition to the collaborative approach at the heart of the new PIC model, consultation with industry, peak groups, landowners and members of the community throughout 2020 has informed the draft PIC.

1.3 Structure of this paper

This draft PIC should be considered a companion document to a detailed **Technical Report**.

After introducing the initial PIC area, the draft PIC details the methodology behind the PIC model, then the key findings. From here, the draft PIC identifies the proposed actions that draw from the findings and detailed collaboration.

The draft PIC then details how the proposed actions would be implemented, before outlining next steps.

Key Concept

Place-based infrastructure compacts

A PIC is a highly collaborative model that looks holistically at a place to identify at a high level the most cost-effective sequencing for growth aligned with the provision of infrastructure over 10, 20 and 40 years.

The aims of a PIC, as set out in Objective 2 of *the Greater Sydney Region Plan*, are to:

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

What do you think?

The Commission is seeking feedback on the draft PIC, particularly:

Key findings

- Thinking about the key findings, is there enough technical evidence to support them?
- Are there parts of the technical work that you think need more explanation?
- Are there parts of the technical work that should be highlighted?
- These plans were made before the current COVID-19 pandemic. Do you think any changes are needed to reflect how life might now be different in the future?

Proposed actions

- What do you think about the proposed sequencing across the 28 precincts? What, if anything, could be clearer or changed?
- Thinking about the priorities for places and infrastructure, what is your main feedback?
- Do you think you - or any other organisation - has a role contributing to these place and infrastructure priorities?
- In what ways could the proposed actions be improved?

Realising the PIC proposals

- Does the framework for measuring outcomes contain the right mix of measures and indicators to monitor success?
- Are there any important things missing from the framework to better measure outcomes?
- What needs to be done to complete the proposed actions?
- What role do you see for the new Western Parkland City Authority?

Visit *Chapter 8* to find out how to provide feedback.

Feedback will inform the Commission's recommendations to the NSW Government. It will also help the NSW Government in its decision-making processes for land use planning and infrastructure investment, during the 2020s and beyond.

2 The Western Sydney City Deal

The vision for the Western Parkland City builds on the area's natural beauty, vibrant communities and economic prosperity. Through once-in-a-generation investment in infrastructure, the Western Parkland City will be linked globally and locally, with a new airport, new Metro, and bus and road connections.

This aspiration requires three tiers of government to work together and contribute resources through the Western Sydney City Deal.

In March 2018, the Australian Government, NSW Government and the councils of the Blue Mountains, Camden, Campbelltown, Fairfield, Hawkesbury, Liverpool, Penrith and Wollondilly signed the historic City Deal as a partnership between the three levels of government.

The City Deal is a shared commitment to create the Western Parkland City in a way that puts people and the community at the heart of decision-making. In 2020, the reality of the impacts of climate change, a health pandemic and a seismic shift to a digital world means the City Deal is an opportunity to closely engage with all stakeholders to create an adaptive and resilient Western Parkland City.

At the time of drafting the City Deal in 2017-18, all three levels of government acknowledged the imperative to identify the most cost-effective and equitable sequencing for growth that aligns with the provision of infrastructure. The PIC,[1] as a strategic planning model, addresses this imperative.

The PIC model looks holistically at a place to better align growth with the provision of infrastructure. After the pilot in GPOP, the Commission then established the three-year Western Sydney PIC Program in early 2019, supported by joint funding from the Australian and NSW governments.

The Western Sydney PIC Program meets two commitments of the City Deal:

- P5 – The NSW Government will establish PICs for the Western Parkland City. The compacts will coordinate planning and delivery of new housing supply and ensure that the required infrastructure is delivered as it is needed.
- P7 – The NSW and Australian Governments will develop transport and water infrastructure models to innovatively plan for future infrastructure needs. These models will accelerate development assessment processes, streamline infrastructure provision, and support the PICs.

[1] The model was originally called the Growth Infrastructure Compact, but quickly evolved into the Place-based Infrastructure Compact (PIC), recognising the primary significance of place in achieving liveability, productivity and sustainability

2.1 Applying the PIC model to the Western Parkland City

Applying the new PIC model in the Western Parkland City will help to rebalance opportunities so that all residents have greater access to jobs, shops and services. This requires integrated planning and collaboration, where stakeholders work together to consider the provision of services for both existing and planned new communities, as well as the principles of intergenerational equity.

Currently, 49 per cent of Western Parkland City workers commute to other parts of Greater Sydney compared to only nine per cent of Eastern Harbour City workers; further, 15 per cent of Greater Sydney's jobs are in the Western Parkland City, compared to 22 per cent of the population.

Seizing the opportunity to accelerate new industries and jobs arising from investment in the Airport and Aerotropolis will rebalance Greater Sydney as a metropolis of three cities and broaden the city's global economic footprint not only in the city's east, but west of Parramatta.

Getting started on the initial PIC area

At establishment, the PIC Program identified several options (*Figure 10*) that could be subject to the detailed analysis and assessment undertaken when using the Commission's new PIC model.

To make best use of resources – while acknowledging existing zoning, planning and development; potential infrastructure backlog and emerging needs; and existing budgetary and other constraints – it was clear that all four potential areas could not be progressed at once. Instead, the area subject to this initial phase of the Western Sydney PIC Program is considered as the **initial PIC area**.

It was selected as the place for the initial PIC due to:

- the funding commitment to Sydney Metro – Western Sydney Airport, which connects the area, and announcement of six station locations on the line
- the further connecting element of Wianamatta-South Creek, where early work can begin to create a true city in its landscape as the Aerotropolis evolves
- the opportunity to accelerate a necessary focus on jobs, skills and innovation around the Airport to attract the private investment that will drive a true rebalancing of Greater Sydney.

The Western Sydney PIC Program is intended as an enduring program for the Western Parkland City – its scope will be continually monitored and reviewed. As this occurs, the intent is for the remaining option areas to benefit from the use of the new PIC model. This recognises concerns raised by councils, on behalf of their communities, that fast-growing areas outside the initial PIC area also require infrastructure aligned with growth.

Strategic planning for the Western Parkland City

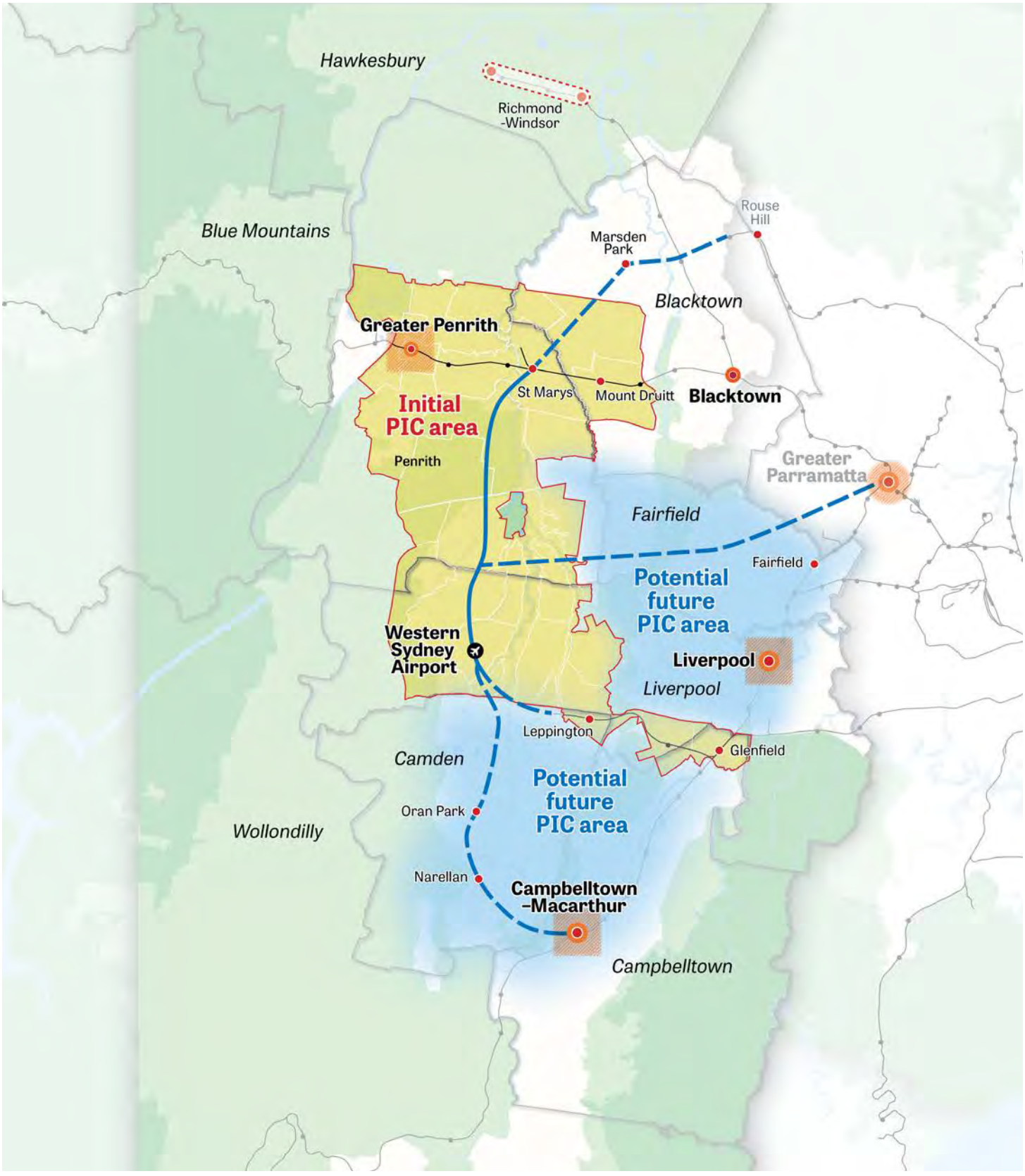
The *Greater Sydney Region Plan* and *Western City District Plan* set the overall strategic objectives for the Western Parkland City. They present a vision for the Western Parkland City that can only be achieved through strong and enduring collaboration across all levels of government, utility providers, and the private and not-for-profit sectors.

The Western Parkland City is one of the three cities within the vision for Greater Sydney as a metropolis of three cities.

Beyond this metropolitan-wide vision for the city, strategic planning occurs at a district level. Of the five districts in Greater Sydney, the Western City District and Central City District will both be influenced by the growth and evolution of the Western Parkland City.

The future of the Western Parkland City is also shaped by the local strategic planning statements created by councils with their communities during 2018 and 2019.

Figure 10 : Initial PIC area and potential future PIC areas for the Western Sydney PIC Program



Metropolitan Centre	Committed Train Link	Potential future PIC area
Metropolitan Cluster	Train Link/Mass transit investigation	Waterway
Strategic Centre	Local Government Area boundary	1:100 year flood South Creek
Rail line and station (existing)	Initial PIC area	Western Sydney Parklands

2.2 Partners in the Western Sydney PIC Program

The Western Sydney PIC Program is founded on a spirit of collaboration and cooperation with partners involved in city making. This includes State agencies, utility providers and councils:

- Commonwealth Department of Infrastructure, Transport, Regional Development and Communications
- Blacktown City Council
- Blue Mountains City Council
- Camden Council
- Campbelltown City Council
- Create NSW
- Department of Premier and Cabinet
- Endeavour Energy
- Environment Protection Authority
- Fairfield City Council
- Fire and Rescue NSW
- Hawkesbury City Council
- Jemena Gas Networks
- Land and Housing Corporation
- Landcom
- Liverpool City Council
- NSW Department of Communities and Justice
- NSW Department of Education
- NSW Department of Planning, Industry and Environment
- NSW Ministry of Health
- NSW Police
- NSW Treasury
- NSW Office of Sport
- Penrith City Council
- Property NSW
- Sydney Metro
- Sydney Water
- TAFE NSW
- TransGrid
- Transport for NSW
- Western Sydney Planning Partnership
- Western Parkland City Authority
- Wollondilly Shire Council.

2.3 Concurrent planning activities in the Western Parkland City

While it is focused on the initial PIC area, this work is informed by and will inform other relevant planning processes in the Western Parkland City where they intersect with the initial PIC area. This can be confusing for the community, landowners and developers with multiple parts of the NSW Government involved in the process.

However, planning activities are complex, and require policies and processes to resolve competing interests. Planning activities evolve over time and can span several years. What follows is a brief explanation of relevant past and present planning activities that relate to the Commission's work in developing the draft PIC.

Western Sydney Aerotropolis

The **Western Sydney Planning Partnership** consists of Blacktown, Blue Mountains, Camden, Campbelltown, Fairfield, Hawkesbury, Liverpool, Penrith and Wollondilly councils with key State agencies. It released the final Western Sydney Aerotropolis Planning Package in September 2020 and draft precinct plans for initial precincts in November 2020.

The package includes the *Western Sydney Aerotropolis Plan*, *State Environmental Planning Policy (Western Sydney Aerotropolis) 2020* (Aerotropolis SEPP) and *Western Sydney Aerotropolis Development Control Plan - Phase 1*.

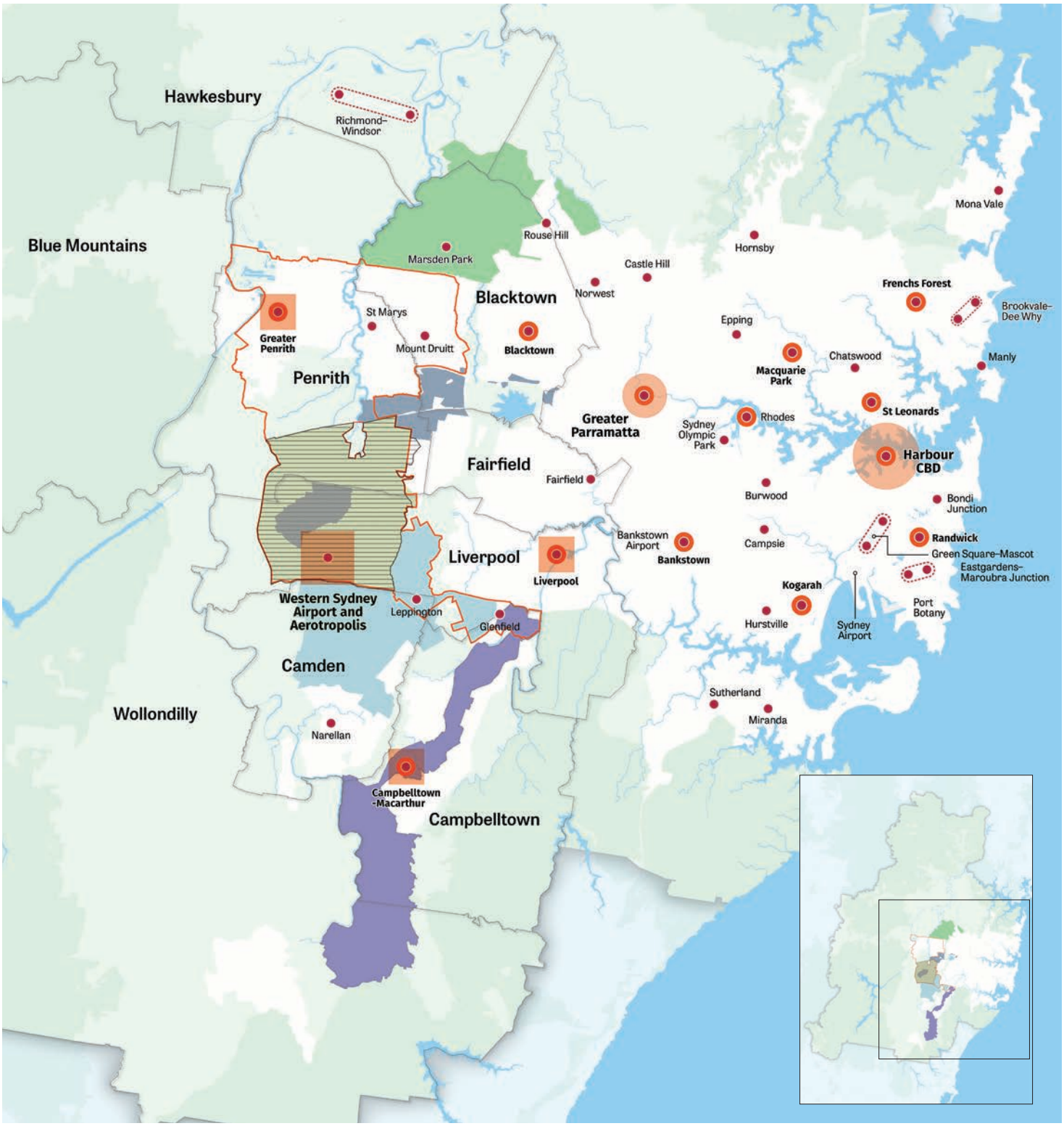
The Aerotropolis Plan contains 10 precincts with six precincts nominated for the focus of initial rezoning and precinct planning:

- Aerotropolis Core
- Agribusiness
- Badgerys Creek
- Mamre Road
- Northern Gateway
- Wianamatta-South Creek.

While included in the Western Sydney Aerotropolis, the Mamre Road Precinct is managed by the Department of Planning, Industry and Environment and was rezoned under the Western Sydney Employment Area SEPP in June 2020.

The **Department of Planning, Industry and Environment** has developed a new special infrastructure contribution (SIC) for the Western Sydney Aerotropolis, informed by the PIC process and by the analysis presented in the **Technical Report**.

Figure 11: Initial PIC area in relation to concurrent planning in the Western City District



Metropolitan Centre	Western Sydney Airport	South West Growth Area
Metropolitan Cluster	*Western Sydney Aerotropolis Plan*	Western Sydney Aerotropolis
Health and Education Precinct	Initial PIC Area	Western Sydney Employment Area
Strategic Centre	Greater Macarthur Growth Area	
Local Government Area boundary	North West Growth Area	

The **Western Parkland City Authority** is preparing master plans for government-owned land in the Aerotropolis Core (Stage 1) and the Agribusiness Precinct (Stage 1) to enable the preparation of development applications for catalyst sites. It is also leading investment attraction activities, and oversees implementation of the 38 City Deal commitments.

Greater Penrith to Eastern Creek

The *Greater Sydney Region Plan* identified Greater Penrith to Eastern Creek as a future investigation area given the potential for some lands within the Metropolitan Rural Area to change to urban uses to leverage the new Sydney Metro station at Orchard Hills.

The **Department of Planning, Industry and Environment** is developing a vision for the area with Penrith and Blacktown councils, Transport for NSW, Sydney Metro, the Western City Parkland Authority and the Greater Sydney Commission.

The vision document will be the first tool for discussion with the community in developing a 20-year vision and Land Use and Infrastructure Implementation Plan (LUIIP) for GPEC, consistent with the City Deal commitment for this area. The vision and LUIIP is being developed alongside, and informed by the early findings of, the draft PIC.

Western Sydney Employment Area

The Western Sydney Employment Area was established to supply employment land and jobs close to major road transport. Since 2009, most precincts have been rezoned including:

- Former Wonderland
- Eastern Creek
- Huntingwood
- Raceway
- Ropes Creek
- Erskine Park Employment Lands
- South of Warragamba Pipelines
- Quarantine Station
- Greystanes Northern Employment Lands
- Mamre West
- Mamre Road Precinct.

While the Mamre Road Precinct was identified as an initial precinct in the draft *Western Sydney Aerotropolis Plan*, it was rezoned in June 2020 under the Western Sydney Employment Area SEPP 2009. This occurred ahead of the other initial precincts identified in the Aerotropolis Plan to facilitate the early release of employment lands and meet growing demand for serviced industrial land in Western Sydney. The Western Sydney Growth Area SIC that applies to the Mamre Road Precinct will be replaced by the new Western Sydney Aerotropolis SIC once finalised.

Greater Macarthur Growth Area

The Greater Macarthur Growth Area incorporates the established Glenfield to Macarthur corridor along the existing railway line and the greenfield land release precincts south of Campbelltown such as Menangle, Gilead and Appin.

The interim *Greater Macarthur 2040 Plan* released in 2018 sets out actions for the Greater Macarthur Growth Area, including the priority to rezone Glenfield Precinct.

Work by Campbelltown City Council and the Department of Planning, Industry and Environment on the precinct planning and associated SIC for Glenfield has informed and will be informed by the draft PIC.

South West Growth Area

Established in 2005, the South West Growth Area sits within the LGA boundaries of Liverpool, Camden and Campbelltown. It is made up of 18 precincts over approximately 17,000 hectares, with around 5,500 hectares now rezoned.

Edmondson Park Precinct was rezoned in 2008 and Austral and Leppington North precincts in 2013. The take up of development opportunities in Austral and Leppington North, while serviced by a new rail station, has been limited due to fragmented land ownership and constraints in the provision of enabling infrastructure and services.

The Department of Planning, Industry and Environment initiated a planning investigation to review the planning controls in the Leppington Town Centre in 2017. Liverpool and Camden councils now lead planning for Leppington Town Centre with support from the Department.

Camden Council, with support from the Department, is planning the Lowes Creek – Maryland and South Creek West precincts to the south of the Western Sydney Aerotropolis Growth Area. Given the South West Growth Area's location and forecast demand in the broader area, the supply of infrastructure and services will cross Bringelly Road.

Cumberland Plain Conservation Plan

The draft *Cumberland Plain Conservation Plan* (CPCP) applies to the initial PIC area. It seeks to support the planning for new homes and infrastructure alongside biodiversity outcomes in Western Sydney. It was publicly exhibited between August and November 2020. The Plan takes a strategic approach to assessing and conserving biodiversity upfront in the planning process for large scale development, to ensure the unique and diverse plants and animals of the Western Parkland City are protected, while also identifying areas suitable for development for housing and infrastructure for local communities.

The CPCP initiates an integrated approval process for strategic biodiversity certification under the *Biodiversity Conservation Act 2016* (NSW) and strategic assessment under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) in the Western Sydney Aerotropolis, Wilton Growth Area, Greater Macarthur Growth Area, Greater Penrith to Eastern Creek Investigation Area and major infrastructure corridors.

Under the Plan, parts of precincts in the initial PIC area such as Orchard Hills, parts of South Penrith and Glenmore Park, Agribusiness, North Luddenham, Mamre Road, Badgerys Creek and Kemps Creek are proposed to be certified as urban capable, or suitable for development, under the CPCP. Other precincts in the Aerotropolis to the east of the Airport site and south of Elizabeth Drive were biocertified within the South West Growth Area under *State Environmental Planning Policy (Sydney Region Growth Centres) 2006* (Growth Centres SEPP).

Where does the PIC process fit within the NSW planning framework?

The PIC process is a relatively new - and transformative - concept for planning in Greater Sydney.

It tackles the problems that occur when strategic policy and land use decisions precede due consideration of the impact they will have on State agency 10-year infrastructure capital investment plans.

Preparation of a PIC is a strategic non-statutory planning process that assists the NSW Government in integrating land use and infrastructure plans and investment decisions. It is designed to fit within the district and local-level planning, as shown in *Figure 12*.

Uniquely, the PIC process provides in **independent advice** to the NSW Government based on the expertise of all project partners. If supported by the NSW Government, the PIC process can then be used to inform statutory and non-statutory land use plans and infrastructure investment plans.

Figure 12: The PIC process and different levels of planning

Source: adapted from the Department of Planning, Industry and Environment's Strategic Toolkit

COVID-19

The COVID-19 pandemic will influence strategic infrastructure planning for many years. It solidifies the need to plan for resilient cities and communities that allow people, businesses, places, services and infrastructure to be adaptable to change, and it sets a new disruptive agenda that will shape the Western Parkland City.

COVID-19 is changing how people live, work and interact. Closely following the 2019-20 bushfires, drought and floods, its spread means Greater Sydney will need to recover simultaneously from three once-in-a-century events.

It will fundamentally change the air travel industry and will mean the new Airport can be designed and built for the post-COVID world, to be more responsive to shocks and stresses.

Already, it is evident that:

- Local places are seeing an increase in activity, including more people out walking.
- Public open spaces are more important than ever.
- Larger commercial or strategic centres are suffering or being used in different ways.
- The trend towards employment decentralisation and flexible working can be optimised.
- Changes in work practices then influence travel patterns and demand.
- Digital opportunities will transform how services are delivered.
- There will be challenges in terms of population and economic forecasts, with implications unknown at this stage.

3 The Western Parkland City

With almost half of Greater Sydney's forecast population of six million expected to live west of Greater Parramatta by the mid 2030s, and a new 24/7 international airport and metro line under construction, there is a national and state focus on the Western Parkland City, as evidenced through the City Deal. The area is one the fastest growing areas in Australia, and home to a rich mosaic of diverse and globally connected multicultural communities.

3.1 Always was, always will be

Aboriginal people have had a continuous connection with the Country encompassed by the Western Parkland City since time immemorial. Aboriginal Country and living culture are as intrinsic to the Western Parkland City as the shape of the natural landscape and the centres and suburbs where people live, work and travel between.

Wianamatta–South Creek runs like a spine to connect the Western Parkland City. It provides fresh water and fertile soils, with abundant ironbark and Sydney black wattle.

The landscape as inhabited tens of thousands of years ago has changed, with human modification and ecological processes. Now, the expected transformation of the Western Parkland City will see change throughout the broader region; for the initial PIC area, the connection of Wianamatta-South Creek will be complemented by new north-south transport connections.

Of all years, 2020 illustrated the direct interaction of a city and its landscape, land and climate, with bushfires, drought and flood experienced in the Western Parkland City. Drawing more extensively from the knowledge of Country will be essential to managing the natural landscape through the area's transformation, and its inherently hot and dry summers.

Wianamatta: The natural connector

In Dharug language wiana or wiyana relates to 'mother' and matta refers to 'a place of water', which is why Wianamatta is known as 'the mother place'. Beginning near Narellan and flowing north to the Hawkesbury-Nepean system, and rich with resources, Wianamatta, also known as South Creek, is an important meeting place and movement corridor throughout the Western Parkland City. It is one example of the cultural significance of waterways in Aboriginal culture for their connection to Dreaming stories, songlines, movement corridors, and resources.

Creating equitable participation and jobs for all

Many places in the Western Parkland City have cultural value and significance for Aboriginal people and there are opportunities to engage with more Aboriginal people as the initial PIC area develops.

There are also opportunities to respectfully embed Aboriginal culture in planning and place-making to strengthen identity and social cohesion and deliver more culturally responsive services and infrastructure.

The scale of public and private investment occurring in the Western Parkland City presents an opportunity to advance employment and economic outcomes for the local Aboriginal population of more than 32,000 people.

Engagement highlighted the potential to increase participation through employment and procurement targets so that more Aboriginal people living in the Western Parkland City can share and prosper in the transformative city building and city making agenda.

The evolution of the Western Parkland City

Aboriginal and Torres Strait Islander readers are advised that this diagram contains images and names of people who have died.

People and places >>>

1813
Liverpool Hospital made permanent

1797
Pemulwuy and his Bidjigal people resist colonisation

1816
Dharawal men, women and children died in the Appin Massacre, considered to be one of the worst colonial massacres in the history of NSW

Colebee and Nurragingy Land Grant in Blacktown LGA, the first land grant ever given to Aboriginal people in Australia

1810
Five Macquarie towns in the Hawkesbury Valley - Windsor, Richmond, Castlereagh, Wilberforce and Pitt Town – and Liverpool township established

1818
Penrith established

1820
Campbelltown established

1820s
Area becomes known as Black Town

1823
Blacktown Native Institution established as one of the earliest known examples of institutional removal of Aboriginal children from their families

1833
First land grant to an Aboriginal woman, Maria Lock, comprising 40 acres at Liverpool

1903
Plumpton Mission established on land owned by William Locke

1840
Camden established

1800 1900

Aboriginal movement corridors for trade since time immemorial

1815
Great Western Road construction commenced

Infrastructure networks and systems >>>

1833
Great South Road (old Hume) opened

1856
Main South Line extended to Liverpool

1890
Penrith serviced by electricity, lighting the streets

1858
Main South Line extended to Campbelltown

1863
Main Western Line extended to Penrith

1888
Prospect Reservoir opened

1868
Main Western Line extended across the Blue Mountains

1988
Australian Botanic Gardens at Mount Annan opened

1982-84
Gandangara Local Aboriginal Land Council (1983) Deerubbin Local Aboriginal Land Council (1983) and Tharawal Local Aboriginal Land Council (1984) are formed

1989
Hawkesbury Agriculture College and Nepean College of Advanced Education become University of Western Sydney

1991
Penrith Panthers win first Grand Final

1971
The Aboriginal Medical Service (AMS) established in Redfern to provide free medical support to Aboriginal people living in Sydney

1960s
Social housing estates developed in Mount Druitt

1995
Sydney International Regatta Centre built in Penrith for 2000 Sydney Olympics

1945
Post-war mass immigration

1999
The Murru Mittigah Cultural Centre opens in Penrith

1939
An estimated 3000 Aboriginal and Torres Strait Islander people serve as formally enlisted soldiers, sailors or airmen in World War Two

2018
The Blacktown Native Institution site is handed back to the Dharug people (2018)

2000

1916
Richmond Royal Australian Air Force base built

1968
Western Sydney Parklands established

2015
South West Rail Link to Leppington opened

2005
Westlink M7 opened

2018
Western Sydney Airport construction starts

2002
The Gully, located in the Blue Mountains, is designated an Aboriginal Place being of special significance to Aboriginal Culture

2000
Blue Mountains National Park inscribed on the World Heritage List

1938
First inland sewerage schemes built at Fairfield, Camden and Campbelltown

1959
Blue Mountains National Park established

1994
M5 South-West Motorway opened

1940
Liverpool Sewage Treatment Plant construction begins

1987
East Hills line extended to Glenfield

1940's
Need for airport in Western Sydney identified

1948
Warragamba Dam construction begins

1974
M4 Western Motorway (Prospect to Emu Plains) opened

3.2 A vast, cosmopolitan and growing place

The Western Parkland City is distinct from any other part of Greater Sydney, and indeed many other global cities in the Asia-Pacific. The urban area spans over 110,000 hectares - about 36 per cent of Greater Sydney's urban area.

The diversity of residents, workers and businesses who call this most cosmopolitan part of the world home are proud of their city and its living heritage and are ready embrace its future.

Much of the city is framed by a Protected Natural Area and highly valuable Metropolitan Rural Area, and supported by a network of urban centres from the Hawkesbury River in the north through the historic Mulgoa Valley, the hills and ridges of Campbelltown LGA and Wollondilly Shire, and areas of that have held cultural value for generations.

Today, the Western City District contains 370,000 jobs, with more than one million people living in more than 365,000 homes. Most of these homes are in the Western Parkland City. To put this in context, it is almost the same population as Adelaide in South Australia (1.3 million people), in an area about two and a half times larger.

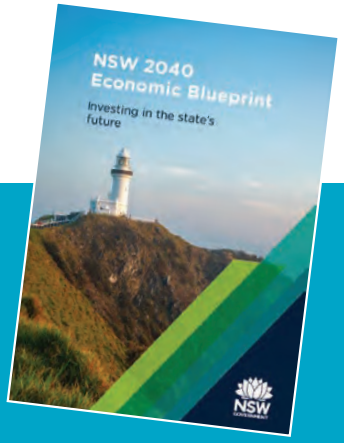
3.3 Catalysts for today's transformation

The initial PIC area from Greater Penrith to Glenfield is today a rich mixture of urban and rural land spanning 36,000 hectares. It is home to about 280,000 people living in 93,000 homes and generates around 83,000 jobs.

The Western Sydney International (Nancy-Bird Walton) Airport – due to open in 2026 – and the planned Western Sydney Aerotropolis are set to transform the area, and the Western Parkland City as a whole, over the next 40 years or more.

Sydney Metro – Western Sydney Airport will link St Marys to the Airport and the Aerotropolis, creating more than 14,000 jobs during construction. It forms the first stage of an ambitious plan for central transport spine that will connect communities and travellers with the new Airport and the region.

The development of a new Western Economic Corridor with the Airport and Aerotropolis at its heart will agglomerate distinct types of economic activities for the city linked to aviation, defence, advanced manufacturing and food exports.



NSW 2040 Economic Blueprint

The NSW Government's *NSW 2040 Economic Blueprint: Investing in the State's Future* sets the direction for the State's continued success in a changing world and expanding global economy.

The blueprint highlights several sectors that are increasingly important to the NSW economy and which will be located within the vicinity of the Airport. This includes education, arts, culture and creative industries, digital technology, waste management/circular economy, advanced manufacturing, agtech, food production, aerospace and defence.

Further, the Western Sydney Investment Attraction Office has been established to provide a coordinated approach across all levels of government for investors seeking opportunities in Western Sydney.

This office will target investment into the Aerotropolis that will be developed around the Western Sydney Airport as well as facilitating investment in areas where councils are signatories to the City Deal.

Transitioning to a 'circular city' will support communities and people to be resilient, sustainable and have a choice of jobs and careers in NSW. There is a strong nexus between city making and a transition to a circular city – and the Western Parkland City is an opportune place to drive this transition.

3.4 Strong and vibrant centres already here

The Western Parkland City is founded on the concept of a **metropolitan cluster** that comprises the existing metropolitan centres of Greater Penrith, Liverpool and Campbelltown-Macarthur and the emerging Western Sydney Aerotropolis.

Greater Penrith, Liverpool and **Campbelltown-Macarthur** have been places for people from the earliest times. The shape of today's built form provides opportunity to leverage their long history of commerce and trading.

Today, Greater Penrith is a cosmopolitan and cultural place that offers relaxed living and a diversity of job opportunities. Liverpool has a leading health and education precinct, horse-racing precinct and includes nearby residential and industrial lands.

In the south, Campbelltown and Macarthur offer essential and lifestyle services and facilities, including health and education, transport connections and higher-order employment for the local, district and regional catchment.

The Aerotropolis is yet to unfold and emerge as a planned place, shifting the dynamic of Western Sydney and creating a new complement to the existing cluster.

This unique cluster provides excellent potential to **rebalance opportunities** for all residents to have greater access to jobs, education, businesses and services, no matter where they live.

3.5 Growing opportunities for where people live

Greater Sydney's current structure – with economic activity and the transport network centred on the east – has served it well, yet a singular focus on one city centre cannot continue as Greater Sydney grows, particularly when the city centre sits at the geographic edge, rather than at its geographic heart.

The location of the majority of jobs in the east, combined with an increasing number of people living in the west, has created capacity constraints such as higher levels of congestion, lower rates of housing affordability and uneven access to employment choices.

With economic and population growth, a strong pipeline of planned investments and the need to respond to the fundamental challenges of Greater Sydney's geographic structure, now is the right moment to shape a positive transformation, notwithstanding the global and local impacts of COVID-19.

These moments are rare in Greater Sydney's history and the ability to grab them is even rarer. Just as Sydney Harbour Bridge was more than just building a connection between two sides of the harbour and the 2000 Sydney Olympic Games were more than a sporting event, the Airport will do more than create opportunities for air travel.

Starting with a Place-based Outcomes Framework

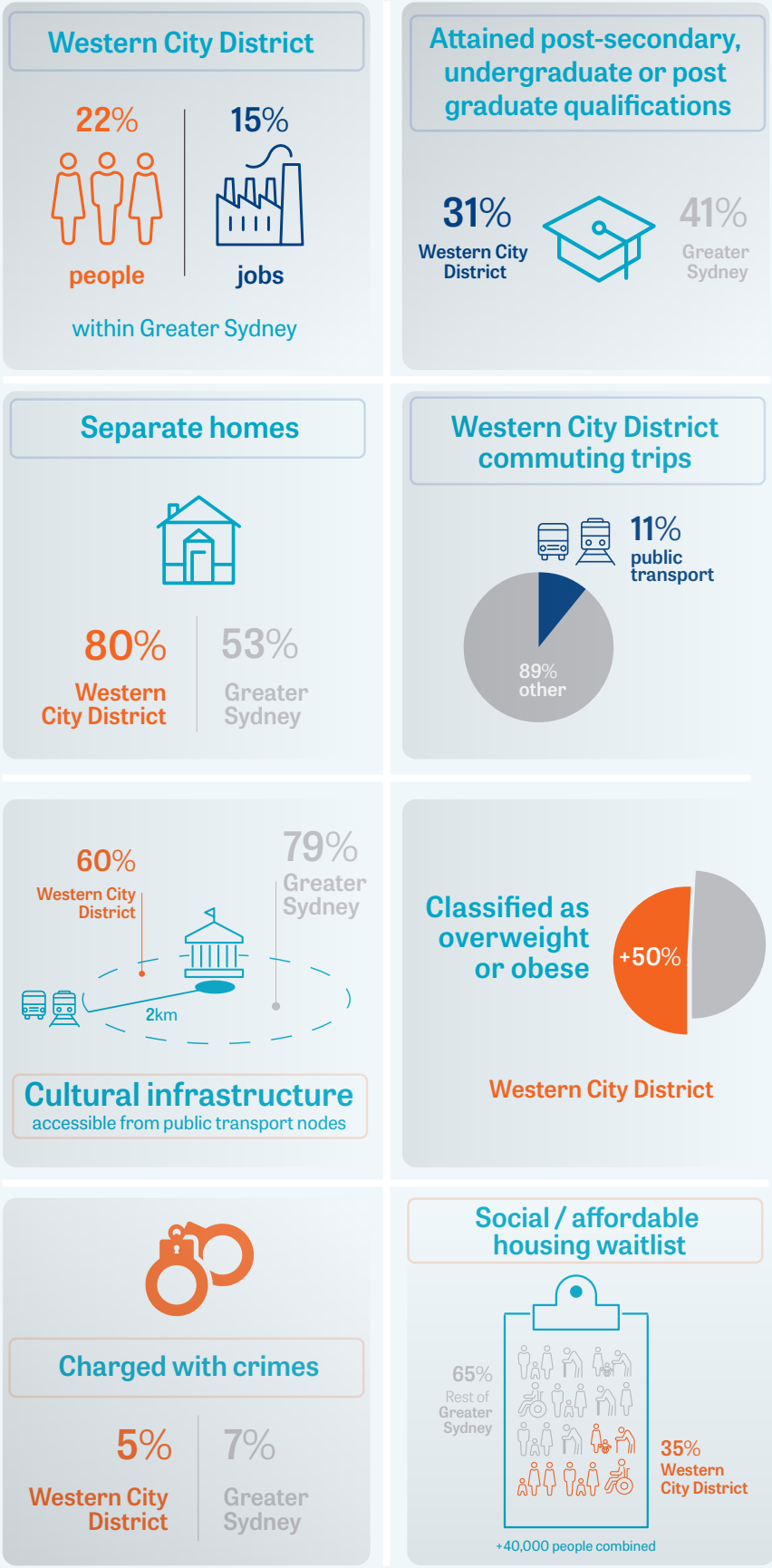
The Greater Sydney Commission developed *The Pulse of Greater Sydney* in July 2019 to measure progress against the vision of the *Greater Sydney Region Plan*.

Drawing on this framework, a bespoke Western Parkland City Place Outcomes Framework has been developed to similarly measure progress and understand the changes taking place. The framework is presented in *Chapter 7*.

The framework set a baseline that measures performance today and compares it to Greater Sydney, generally using the Western City District as the basis for comparison (*see right*).

This contextual analysis informed the establishment of the PIC Program, and where a particular focus is required to achieve more equitable outcomes for people in the Western Parkland City.

The proposed actions are designed to relate and contribute to the six place outcomes set out in the Framework.



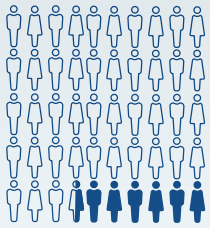
The digital ability

51%
Western City District

54%
Greater Sydney

The Australian Digital Inclusion Index (ADII), 2020

Temporary teaching spaces



13%

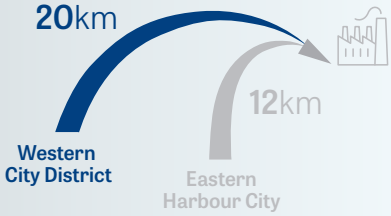
Western City District schools and TAFEs

Knowledge and professional service jobs

17%
Western City District

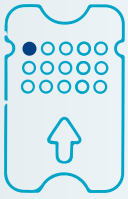
33%
Greater Sydney

Commuter distance average



Greater Sydney public transport passenger trips

7%
Western City District



Carbon emissions

12.3
Western City District

10.8
Greater Sydney

Tonnes per annum/house

Social housing

25%
Western City District

75%
Rest of Western City District

97%
poor quality within sites assessed in initial PIC area

Water quality

Wianamatta-South Creek and tributaries

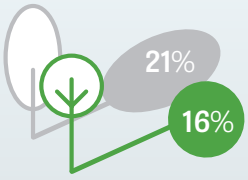
1/4

Western City District

Fatal and serious injury road crashes (Greater Sydney)

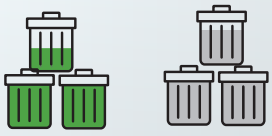
102 combined (five year average)

Urban tree canopy



21%
Greater Sydney

16%
Western City District



2.4
Western City District

2.8
Greater Sydney

Average annual waste

Tonnes per annum


Unpacking instructions:
1.Open the box cover, and tear two
adhesive fixed tapes one by one
from "digit 1" side of module
frame (keep taping), and then pull
modules fixing, vertically from box.
2.Tear adhesive fixed tape in
out the module, and pull out other
sequence, orderly according to
modules orderly
direction.
than Spec
side
force
WAZ
BRONCO

4 Using the new PIC model

The Commission's new PIC model has generated new insights into the future of the initial PIC area to enable better decision-making by the NSW Government about land use and infrastructure.

This 18-month process during 2019 and 2020 has led to the key findings and proposed actions that form this draft PIC. While the preparation of the draft PIC marks a significant shift in place-based planning for the Western Parkland City, there is scope to continuously improve the model over time and with stakeholder feedback.

4.1 Understanding the new PIC model

Combining the expertise of service and infrastructure providers with the best data, information and methodology, the PIC considers:

- the growth potential for a place under different scenarios
- the services, infrastructure and utilities that will be needed
- a place-based evaluation of costs and benefits focused on liveability, productivity and sustainability
- a high-level sequencing plan to better align growth and infrastructure
- affordable infrastructure priorities.

The PIC model developed in the pilot has three interrelated components:

1. A collaborative approach across State agencies, utility providers and councils
2. A six-step method integrating land use, infrastructure and economic evaluation
3. A digital and data tool providing analytics and insights that are important in keeping the PIC dynamic and up-to-date.

Fundamentally, the PIC relies on people working together and sharing information so that a shared knowledge of a place can be developed.

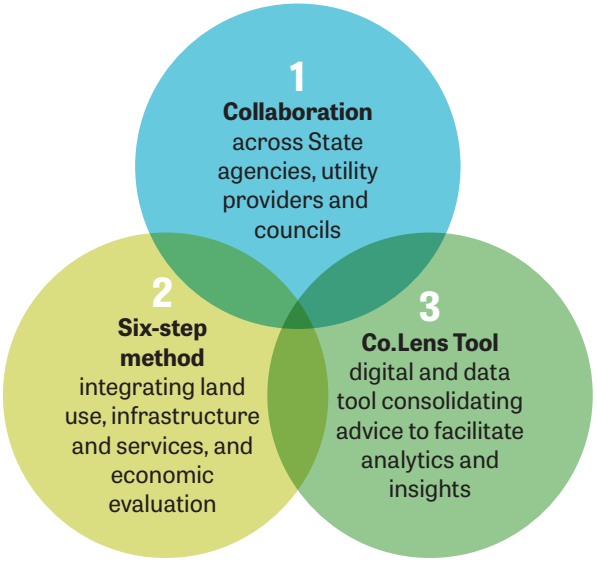
It uses a six-step method that emerged from practical testing and application in the pilot of the PIC model.

It also utilises the 'Co.Lens', the Commission's purpose-built tool that stores the data, information and advice generated through the PIC model.

Co.Lens enables inputs such as population, housing and job forecasts, and service and infrastructure costings under each scenario and for each precinct to be viewed, integrated and analysed.

It also enables detailed analysis of cost effectiveness and funding source. It will be essential as the draft PIC is monitored and reviewed.

Figure 13: The new PIC model



4.2 Applying the six-step method

The six-step method is:

Step 1: Setting the vision and place outcomes, developing different scenarios and forecasting land use change for 10, 20 and 40 years.

Step 2: Identifying infrastructure needs and estimated capital costs and integrating them for precincts under each of the scenarios developed in Step 1.

Step 3: Evaluating the costs and benefits to identify a preferred scenario or scenarios and the high-level sequencing of precincts for more orderly development.

Step 4: Refining infrastructure proposals to align with the high-level sequencing of precincts and prioritisation for funding over 10 years through a Strategic Business Case/s (SBCs).

Step 5: Concurrent implementation of the PIC and Strategic Business Case/s through the land use planning system and NSW Budget processes.

Step 6: Monitoring development in the place and reviewing the PIC as market conditions, community preferences and policy decisions evolve.

Of these steps, this paper details the first three steps, reflecting the work to date.

Step 1: **Outcomes setting, scenario development and land use forecasting**

Outcomes setting

Six **place outcomes** were adopted by the Commission, following engagement with partners, stakeholders and through community research (see *Figure 15*).

Working with State agencies and utility providers, and thinking about the place outcomes and the appropriate indicators to complement those already in *The Pulse of Greater Sydney – Measuring what matters*, further indicators were developed with infrastructure agencies and utility providers.

Chapter 7 describes the alignment between the place outcomes, the 10 Directions of the *Greater Sydney Region Plan* and the four indicators from the Pulse. It also illustrates the further 16 Western Sydney system and service indicators developed with State agencies and utility providers.

Baseline data was then collected to provide real insights into the Western Parkland City, how it compares to the Greater Sydney, and to practically set the 25 Western Sydney measures to monitor the potential impacts of growth and investment over time.

Figure 14: The six-step method

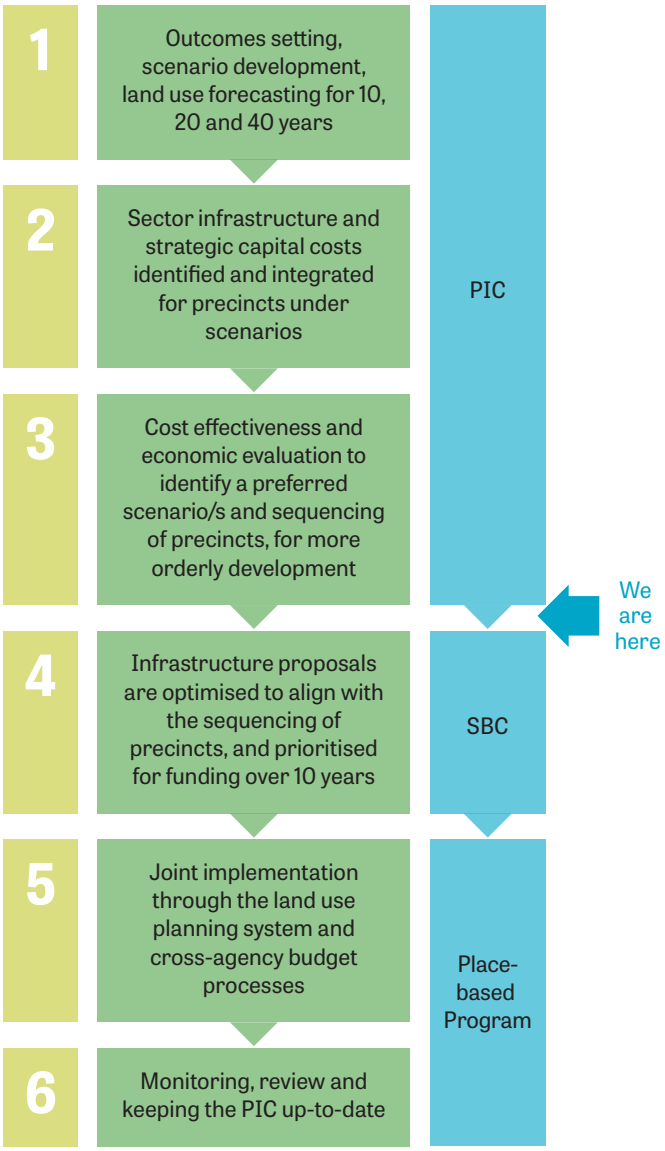


Figure 15: Six Place Outcomes aligned with the 10 Directions for Greater Sydney

Figure 16: Three scenarios for the Western Parkland City

Scenario development

Scenario development in high transformation areas like the Western Parkland City helps to explore uncertainty and unknowns that are an inherent part of planning for the future.

As a process, it considers different pathways that can either be deliberately taken or may practically unfold over time. As 2020 has shown, major events such as the extended bushfire season, drought or the COVID-19 pandemic can rapidly shift how communities, businesses and governments need to evolve and adapt to changing circumstances.

Three scenarios were developed based on the liveability, productivity and sustainability assumptions that may to shape the Western Parkland City over the next 10, 20 and 40 years.

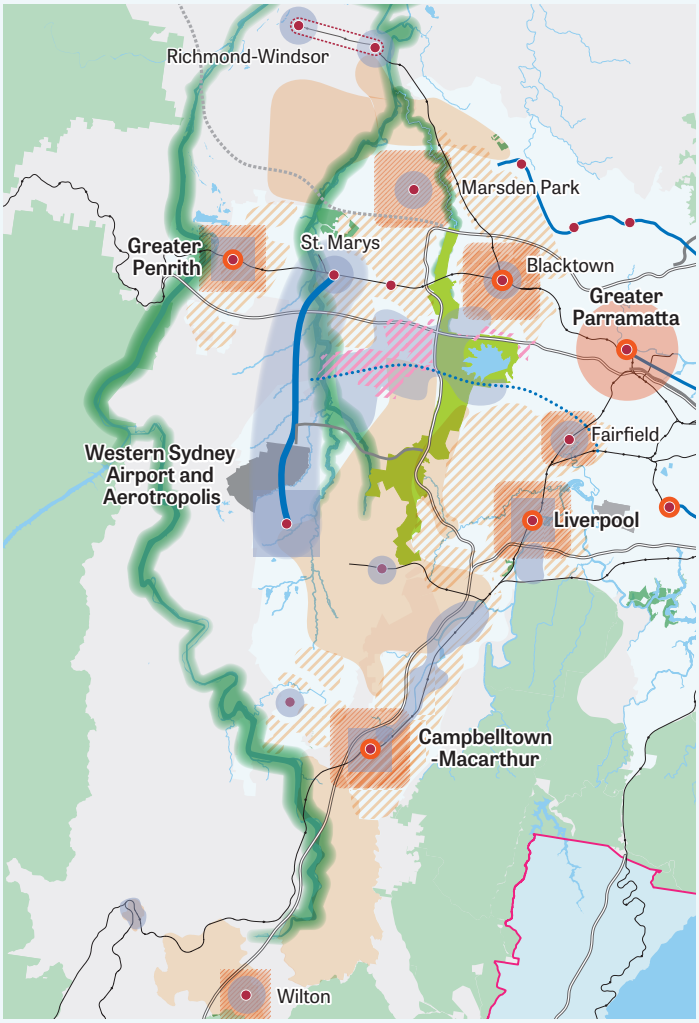
These include assumptions about when city-shaping infrastructure might be provided, which influences the broad location and the amount of population, housing and jobs growth that may occur, as well as the extent to which the vision for the Western Parkland City is pursued.

- Metropolitan Centre
- Metropolitan Cluster
- Health and Education Precinct
- Strategic Centre
- Trade Gateway
- Western Sydney Employment Area
- Suburban areas
- Compact Urban Centres
- Compact Urban Areas
- Primary Job Areas
- Urban Area
- Metropolitan rural area
- Major Urban Parkland including National Parks and reserves
- Creeks and adjoining open space
- Waterways
- Train Station
- Committed Train Link
- Train Link/Mass transit investigation
- Freight Rail Investigation
- Motorway
- Committed Motorway

Towards the Western Parkland City vision

Growing Parkland City

A Western Parkland City created under existing planning opportunities without any further rezoning of land to deliver more suburban communities and jobs in centres, with some transport improvements through already committed infrastructure.



Limited land use change aligned to current rezonings* with:

- Western Sydney International Airport
- Sydney Metro - Western Sydney Airport
- M12 Motorway
- Gradual renewal of social housing areas providing a greater mix of housing options
- Business as usual – water, wastewater, stormwater, electricity, gas and waste.

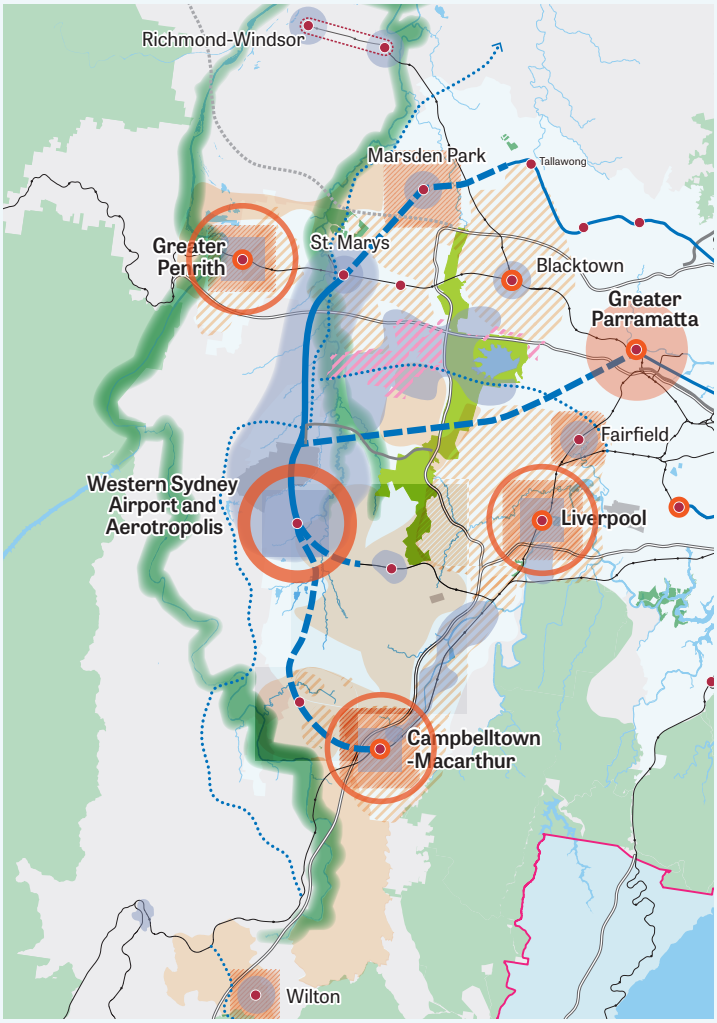
*Before the rezoning of land through the Aerotropolis SEPP and Western Sydney Employment Area SEPP

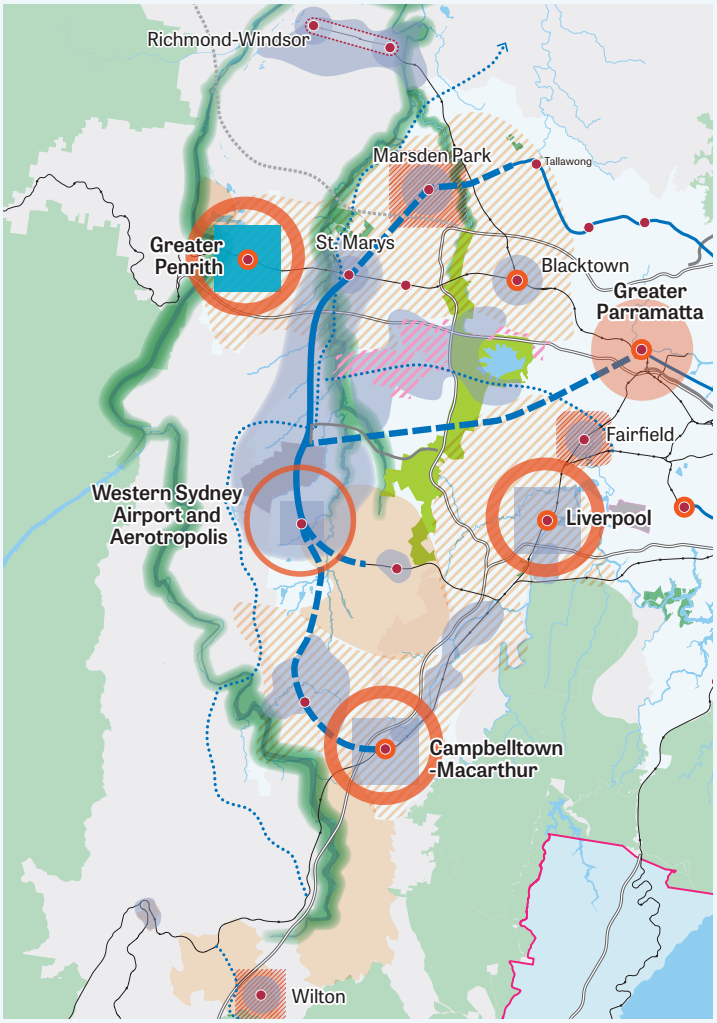
Thriving Aerotropolis

A Western Parkland City is underpinned by a connected metropolitan cluster, where communities have access to new industries and career opportunities in a **thriving Aerotropolis**, with stronger centres in **Liverpool**, **Greater Penrith** and **Campbelltown-Macarthur**, that are well connected to surrounding compact, urban and renewed communities and centres.

Thriving Metropolitan Cluster

A Western Parkland City is underpinned by the **metropolitan cluster**, where people have easy and better access to industry and jobs in **Liverpool**, **Greater Penrith** and **Campbelltown-Macarthur**, surrounding employment areas and the **emerging Aerotropolis**.





Land use change in scenarios 2 and 3 aligned in the next 20 years with:

- Western Sydney International Airport
- Sydney Metro - Western Sydney Airport
- M12 Motorway and Outer Sydney Orbital (Stage 1)
- Rapid bus to the Aerotropolis and Airport from Penrith, Liverpool, Campbelltown, Blacktown
- South West Rail Link Extension
- Potential metro extensions: St Marys to Tallawong, Aerotropolis to Campbelltown/Macarthur, Aerotropolis to Parramatta
- Western Sydney Freight Line
- New Western Sydney Education Super Precinct (Multiversity) at the Aerotropolis
- Targeted progressive renewal of social housing areas providing a greater mix of housing options linked with major transport improvements
- Mainstreamed whole-of-water cycle management in Wianamatta-South Creek catchment and across all new and renewed areas
- Enhanced resource recovery, energy generation and shift to a circular economy.

The Growing Parkland City scenario represents a business as usual future, building on the pathway the Western Parkland City is already on today. The Thriving Aerotropolis and Thriving Metropolitan Cluster scenarios recognise that to achieve the vision for the Western Parkland City, investment in new transport connections to connect places within the Western Parkland City to Greater Sydney is essential, as is investment in tertiary education and mixed housing options.

They also recognise that enhancing and improving open spaces, bushland and waterways with a focus on Wianamatta is essential to creating a cool, green city.

All three scenarios recognises the need to support investment in city-serving infrastructure such as schools, community health centres, digital infrastructure, utilities, clean waterways and taking care of natural environments to create more liveable and sustainable places.

Land use forecasting

Population, housing and job forecasts over 10, 20 and 40 years were developed under each scenario for two geographic areas: firstly, the Western City District and Blacktown LGA, and secondly, the initial PIC area. Councils contributed to the preparation of the forecasts through a co-design process by the Commission, Western Sydney Planning Partnership, Transport for NSW and the Department of Planning, Industry and Environment.

This process used the 2016 common planning assumptions travel zone projections, which were then based on the 2016 Census and were the best available at the time. It commenced prior to the release of the 2019 housing projections and their disaggregation beyond LGA level.

The Growing Parkland City scenario assumes no further rezoning of land and has the lowest land use forecasts. It predates the rezoning of land in the Western Sydney Growth Area. By contrast, the Thriving Aerotropolis and Thriving Metropolitan Cluster scenarios assume rezoning across the Western Parkland City.

These later scenarios support a similar level of growth for the Western City District and Blacktown LGA over the first 20 years, as envisaged in the housing targets set in the *Western City District Plan*, yet differ in terms of where the growth occurs.

The *Western City District Plan* sets out the need for plan for 189,000 homes and 200,000 jobs (excluding Blacktown LGA).

Beyond 20 years, they differ both in terms of the level of growth and where the growth occurs, as the 20 to 40 year time horizon need not align to housing targets set in the district plans.

Importantly, undertaking land use forecasts for the three scenarios across the whole Western Parkland City as part of the establishment of the PIC Program allows the same basis to be used in the initial PIC area and any future PIC areas.

Western City District and Blacktown LGA

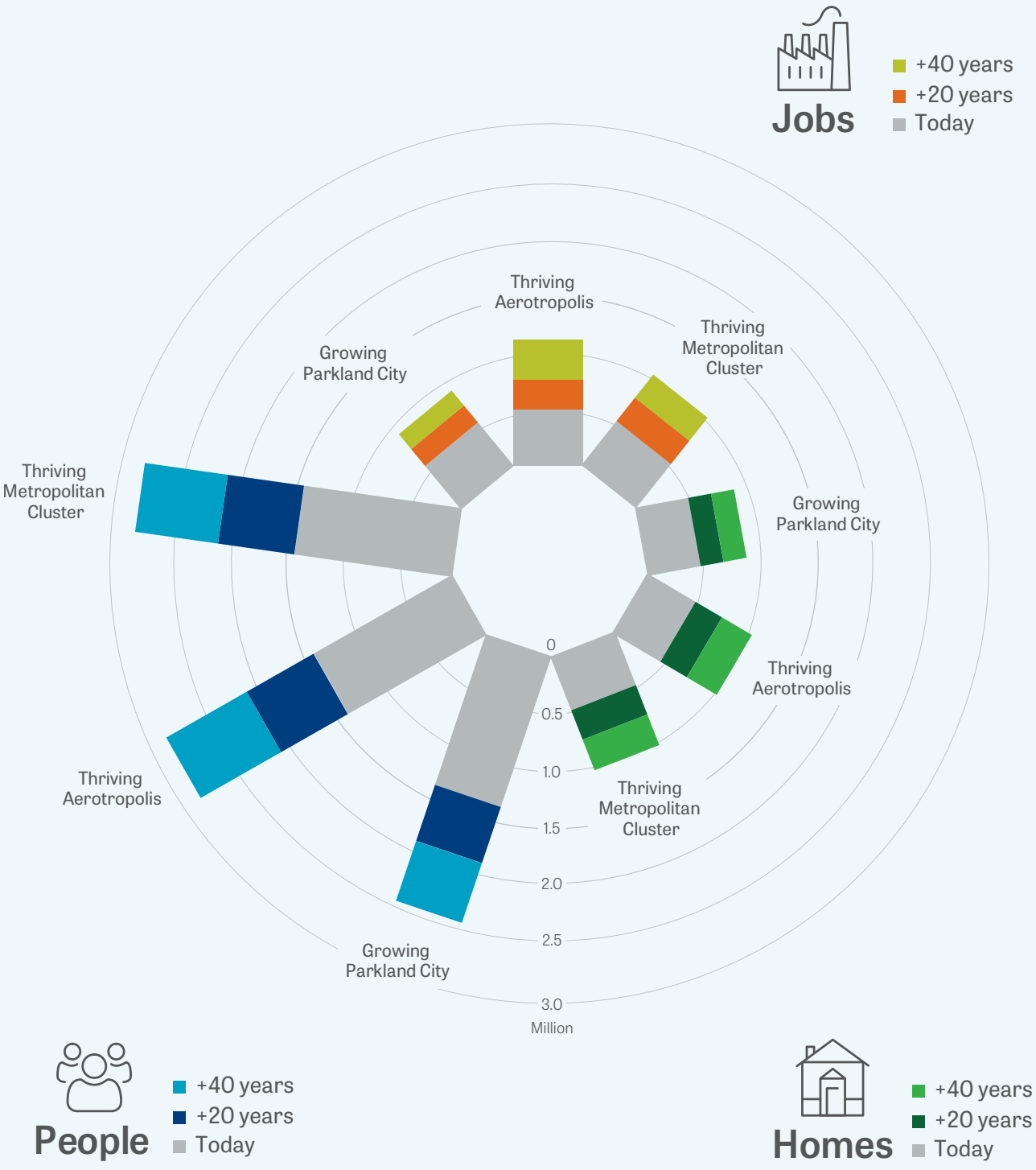
Figure 17 shows the range of population, housing and job forecasts for the Western City District and Blacktown LGA under the three scenarios over 20 and 40 years. The analysis shows that the Thriving Aerotropolis scenario is likely to have the greatest positive impact on rebalancing opportunities in Greater Sydney as the Airport and Aerotropolis mature as unique places for employment for the Western Parkland City.

Over the 40-year horizon a stronger Airport and Aerotropolis would attract more high-value knowledge-intensive jobs into the Western Parkland City. If not for a successful Airport and Aerotropolis in an attractive parkland city and within easy reach of high quality housing, many of these jobs may locate to the high skilled and knowledge intensive areas of the Eastern Harbour City and Central River City.

The uniqueness of the Airport and Aerotropolis is expected to provide an impetus for other industries to also locate and interact with the new knowledge-intensive businesses and workers, increasing the overall number of jobs in the Western Parkland City.

This means the Thriving Aerotropolis scenario is forecast to accommodate around **86,000 more jobs** than the Thriving Metropolitan Cluster scenario (or 1,114,000 new jobs compared to 1,028,000) in the Western City District and Blacktown LGA by 2056. It is expected that without a strong Aerotropolis to attract more knowledge-intensive jobs to the Western Parkland City these will be lost to other parts of Greater Sydney.

Figure 17: Forecast jobs, homes and population for the Western City District and Blacktown LGA - 2036 and 2056



Initial PIC area

The number of additional jobs in the initial PIC area ranges from 38,000 under the Growing Parkland City scenario to 90,000 under the Thriving Metropolitan Cluster scenario over 20 years, and between 74,000 to 178,000 over 40 years.

Given the 83,000 jobs in the initial PIC area in 2016, this represents an increase of between 45 and 96 per cent over 20 years and 90 and 200 per cent over 40 years. The difference in jobs between the Thriving Aerotropolis and Thriving Metropolitan Cluster scenarios is mostly realised in the 20 to 40-year horizon, once the Airport and Aerotropolis are established and integrated into the Western Parkland City, Greater Sydney and the national and global economy.

For housing, the forecast ranges from an additional 50,000 homes under the Growing Parkland City scenario to 94,000 homes under the Thriving Metropolitan Cluster scenario over 20 years and 82,000 to 198,000 over the 20 to 40 year horizon. With the area accommodating 97,000 homes in 2016, this represents an increase of between 52 and 97 per cent over 20 years and 84 and 200 per cent over 40 years.

Figure 19 shows the proportion of jobs needed in the Western City District plus Blacktown LGA that could be accommodated in the initial PIC area over 20 years, and the proportion of the housing target for the Western City District plus Blacktown LGA that could be met by the initial PIC area under each scenario over 20 years, if unchanged.

The Region Plan anticipates that Greater Sydney would need to generate 817,000 new jobs over the next 20 years. Of these, 264,000 would be in the Western City District plus Blacktown LGA. The forecast jobs growth for the initial PIC area represents between 5 and 10 per cent of the jobs required in Greater Sydney and between 15 and 33 per cent of the jobs required in Western City District plus Blacktown LGA.

The Western City District has the second highest target for new homes of all districts in Greater Sydney (following the Central City District) at 189,000 by 2036, a 52 per cent increase from 2016. Including Blacktown LGA, this increases to 264,000 homes. Testing of forecast growth suggests that between 19 and 36 per cent of the housing target for the Western City District and Blacktown LGA could be achieved in the initial PIC area.

Figure 18 : Forecast jobs, homes and people for the initial PIC area - 2036 and 2056

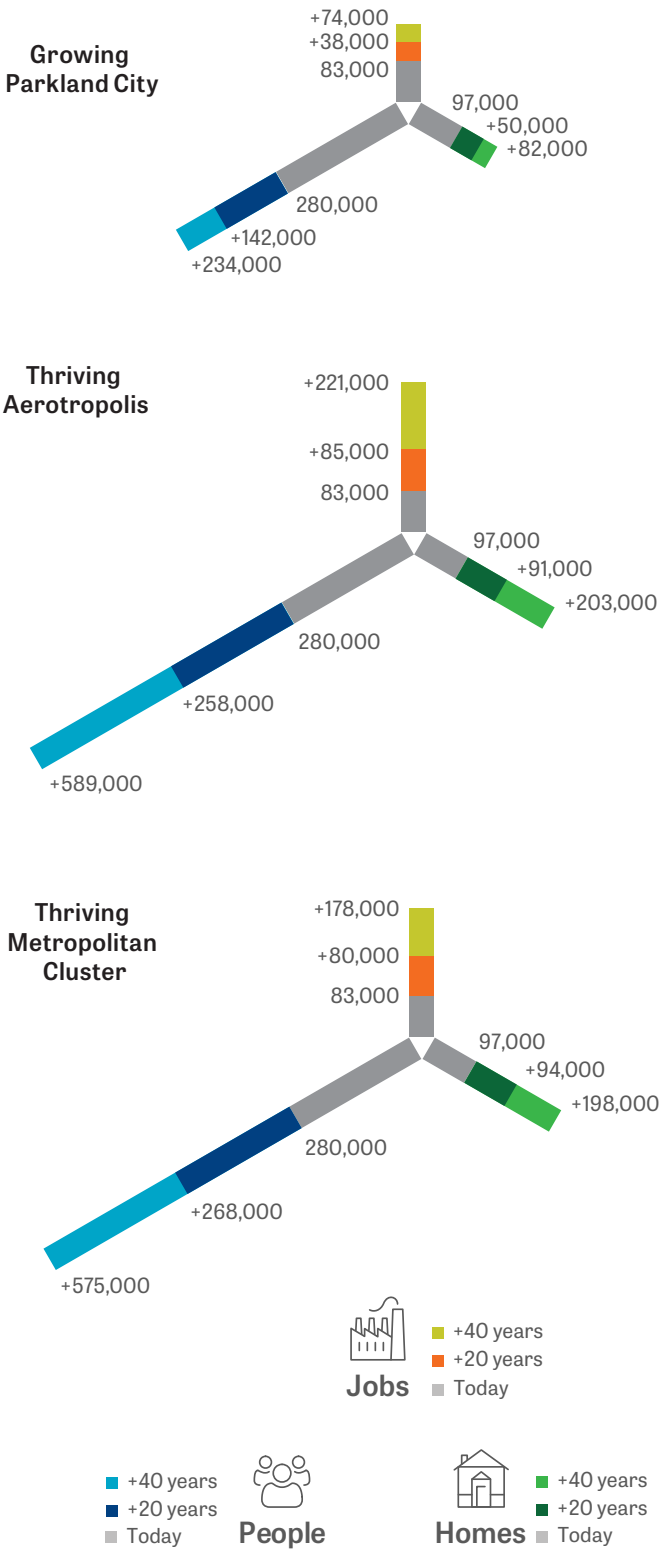
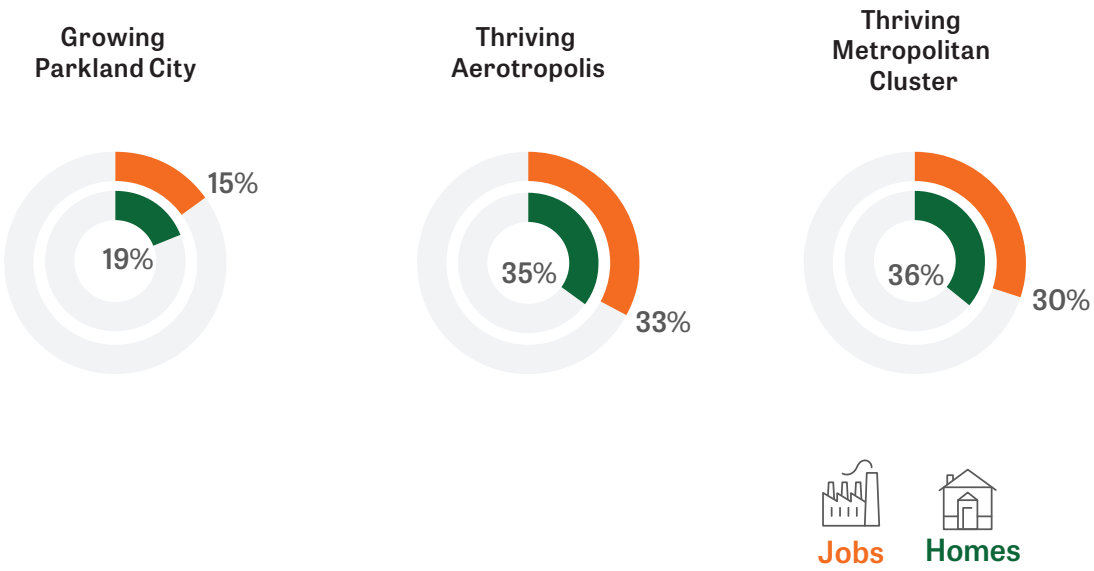


Figure 19: Proportion of housing target for the Western City District and Blacktown LGA and jobs needed for the Western City District and Blacktown – 20 years



Common planning assumptions and population and housing projections

Common planning assumptions are agreed NSW Government information assets (data sets, models and analytical tools) that provide a consistent basis for policy development and service delivery planning. The data sets and projections include population growth, economic growth, housing supply and transport demand, with a planning horizon up to 40 years. There are also guidelines for employment projections, and future temperature and climate events.

The Department of Planning, Industry and Environment produces population, household and implied housing projections at an LGA level across NSW. These are further disaggregated into smaller areas by Transport for NSW to produce Travel zone-level projections (TZP) of population and employment for Greater Sydney. Travel zones (TZs) are the smallest standard geography used in strategic transport modelling and characterised by similar land uses and level of trip generation and are essential to the PIC model.

Population projections are a point-in-time estimate of the future based on assumptions for fertility, life expectancy and migration. They use known new housing supply and infrastructure investments to guide the distribution of this population across Greater Sydney. Although the projections also include an estimate of implied housing demand, this assumes household formation numbers drawn from the Census data at an LGA level.

The implied housing demand by LGA is therefore not an indication of the optimal location for new housing or actual homes required in each LGA, as household sizes differ depending on the type and location of new homes. The PIC process aims to optimise the location of new housing on a range of factors through a scenario-based approach

COVID-19 will influence future common planning assumptions and population and housing projections given impacts on migration, the economy and population growth in general. While the PIC process uses assumptions developed prior to the pandemic, it is **premised on adaptability**; hence it can incorporate new assumptions so long as all partners remain committed to the PIC process, which includes monitoring development and reviewing the PIC as market conditions, community preferences and policy decisions evolve (Step 6).

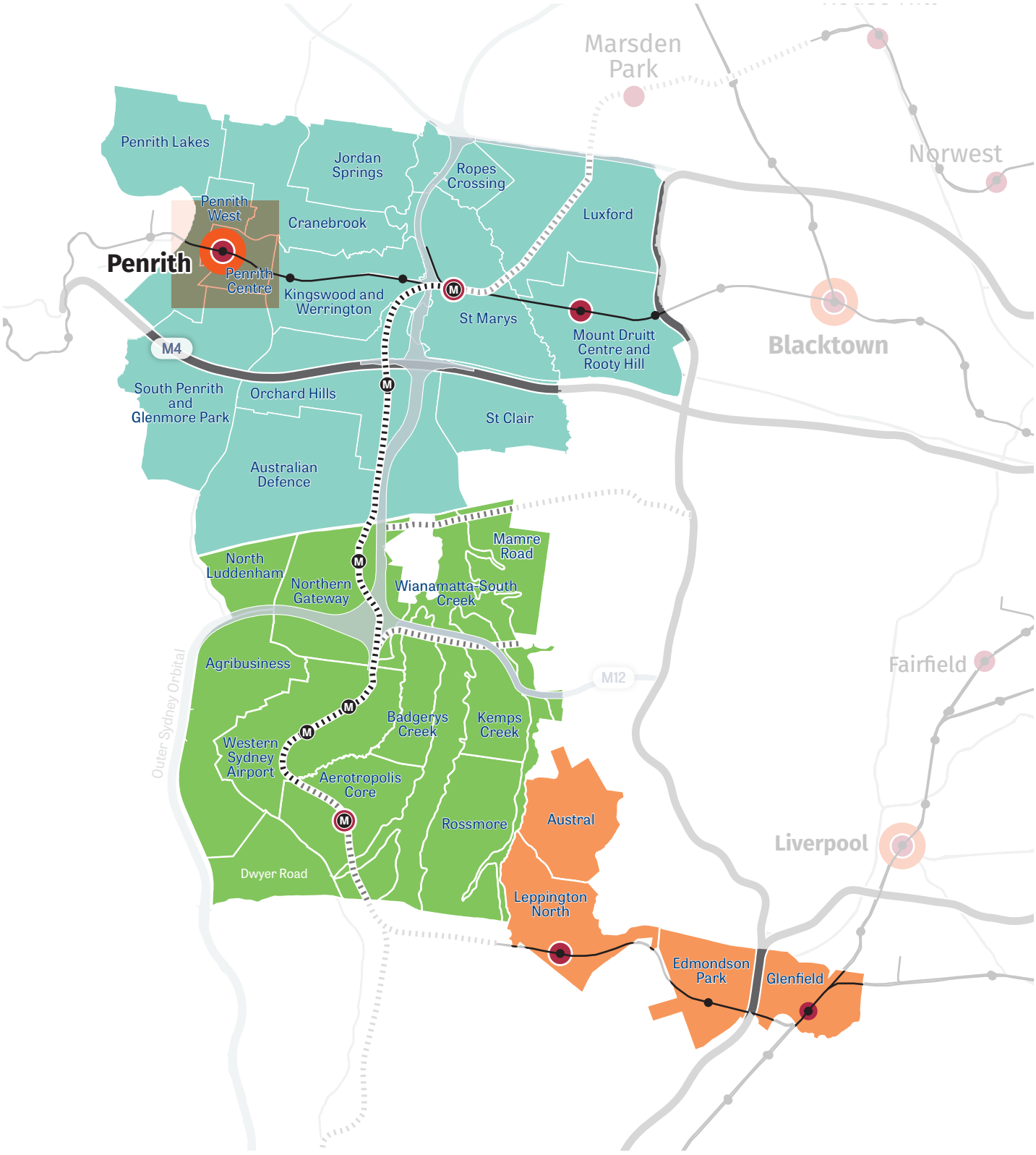
Precincts used in the analysis

The 28 precincts in the analysis align with precincts developed by the Department of Planning, Industry and Environment through precinct planning in the South West Growth Area and the Western Sydney Aerotropolis. New precincts in Greater Penrith to Eastern Creek were identified in collaboration with the Department and Penrith and Blacktown councils.

Precinct boundaries were defined by drawing recent planning investigations, existing suburbs and physical borders such as waterways and major transport corridors. Technical needs mean that some precinct boundaries do not align with current planning documents, and some were also modified through the process in concurrent planning activities. For example, the Dwyer Road Precinct in the *Western Sydney Aerotropolis Plan* was created during the PIC process by excising part of what was known as the Agriculture and Agribusiness Precinct (referred to the Agribusiness Precinct in this draft PIC).

Jobs, housing and population forecasts for each of the scenarios for each of the 28 precincts enable subsequent analysis of infrastructure and service needs at a place-based level. The forecasts for each of the precincts are detailed in the **Technical Report** accompanying the draft PIC.

Figure 20: The 28 precincts in the initial PIC area



Metropolitan Cluster	Potential future rail/metro (indicative)	Greater Penrith to Eastern Creek
Strategic Centre	Outer Sydney Orbital (proposed)	Western Sydney Aerotropolis Growth Area
Precinct boundary	Rail line and station (existing)	Austral to Glenfield Corridor
Sydney Metro – Western Sydney Airport	Motorway (existing)	

Step 2: **Cross-sector infrastructure needs, costings and funding source**

State agencies and utility providers strategically analysed infrastructure needs and costings, including land requirements, for the scenarios and 28 precincts over 10, 20 and, for major utilities and transport proposals, 40-year horizons. The Commission integrated this analysis using Co.Lens.

The types of infrastructure assessed in the PIC model primarily include State and regional infrastructure, with local infrastructure only partially incorporated. More detailed planning for local infrastructure planning will occur in subsequent precinct and master planning processes.

Of note, the PIC process includes stormwater management; this is typically considered as local infrastructure. Its inclusion supports a whole-of-water cycle approach that considers water, wastewater and stormwater holistically at the regional level, and requires reform to implement.

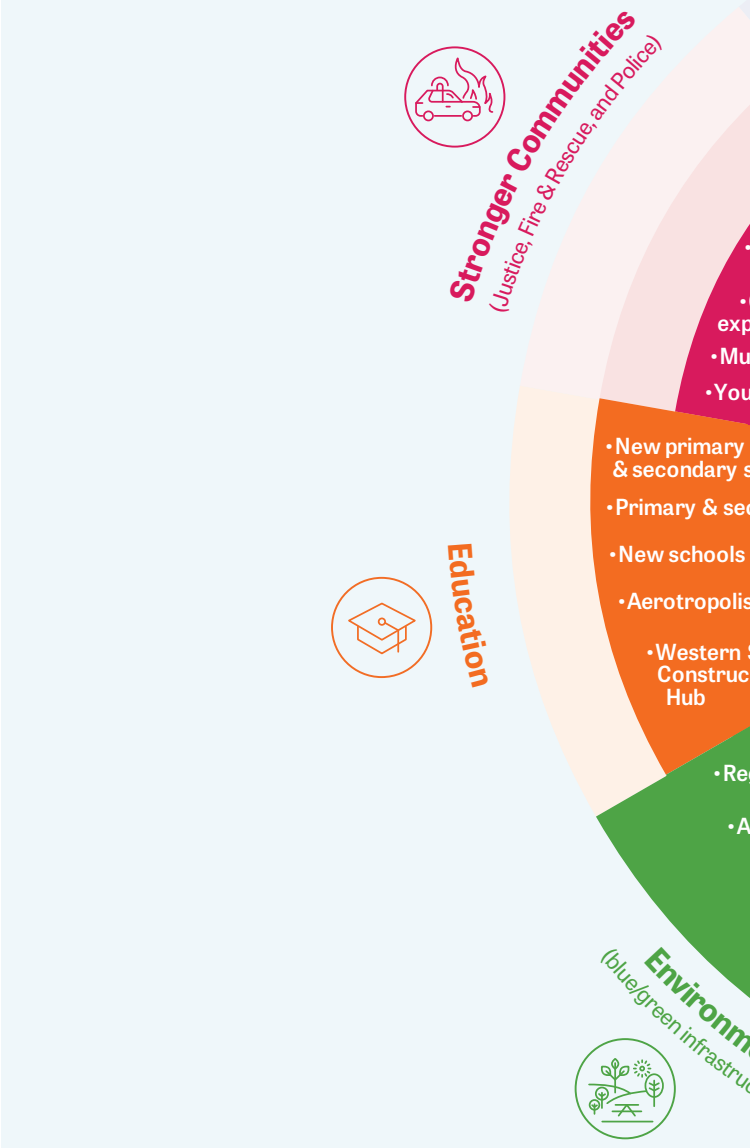


Figure 21: Infrastructure types assessed in the PIC (*These infrastructure types include some local and regional infrastructure)

Step 3: **Analysis of scenarios and precincts to identify preferred sequencing**

A cost-benefit analysis (CBA) and cost-effectiveness analysis (CEA) evaluated each scenario for the initial PIC area and the 28 precincts. This informed the high-level sequencing of `initial places' within precincts.

Liveability, productivity and sustainability criteria enabled the place-based benefits of each scenario to be measured in monetary terms relative to costs over a 40-year horizon.

The CEA determined the cost of accommodating a new resident or job in each of the 28 precincts. For both the CBA and CEA, precincts are distinguished by their main function as either 'employment', 'mixed use' or 'residential' to enable reasonable comparison.

The results of this analysis and alignment with strategic policy, committed investment and realising the vision of the Western Parkland City – as well as targeted engagement with partners and stakeholders – have guided the high-level sequencing presented in *Chapter 6*.

Several sensitivity tests evaluated the impact of changes to key assumptions on the economic evaluation results at the scenario level, in the event that these assumptions changed unexpectedly or could be altered. Sensitivities tests included a higher and lower discount rate, lower stormwater costs, lower population growth due to COVID-19, lower density residential development and increased value of commercial and industrial land.

4.3 Next steps

Before making recommendations to the NSW Government and proceeding through all the steps in the PIC model, the Commission is seeking feedback on the key findings and proposed actions from the collaborative work and engagement completed so far.

The preparation of a sequencing plan is a pivotal outcome of the entire process, and if supported, will set the direction for all related work, including:

- **Step 4**: Refining infrastructure proposals to align with the high-level sequencing plan and prioritisation of infrastructure proposals within NSW Government affordability limits through place-based strategic business case/s.
- **Step 5**: Joint implementation of the NSW Government's response to the PIC recommendations through land use planning and budget processes.
- **Step 6**: Monitoring, reviewing and keeping the PIC up-to-date through use of the Co.Lens tool and ongoing partnering and engagement with key stakeholders.

Key Concept

Why use cost-benefit and cost effectiveness analyses?

Cost benefit analysis (CBA) is a methodology to estimate the net social benefit of a project or policy.[1] The net social benefit is equal to total benefits minus total costs.

In the context of the PIC model, a CBA measures the costs and benefits of growth aligned with infrastructure through scenario and precinct analysis to determine those with the greatest net social benefit.

CBA is useful to help choose between options that achieve different outcomes. For example, the three scenarios and 28 precincts are subject to different levels and distribution of growth and infrastructure investment to drive liveability, productivity and sustainability outcomes. As a result, measuring the benefits of each option as well as the costs helps to assess the relative merits of each option to inform decision-making.

Another tool used to evaluate options for government investment or policy is cost effectiveness analysis (CEA).

CEA measures the cost of achieving an outcome. It is a simple metric that can be used to measure the cost per unit of the outcome obtained. For example, precincts can accommodate different levels of growth in homes and jobs (unit) supported by the infrastructure and services (cost) they need.

CEA is a good supplement to CBA where there is insufficient data to estimate benefits, but there is sufficient data to estimate outcomes using another common unit such as homes and jobs.

Typically, CBA and CEA will provide the same ordering of options where they achieve the same benefits and outcomes. Each metric has its benefits. Where both are available, cost-benefit metrics will always provide a better indication of the relative merits and cost effectiveness of relative affordability.

1. Abelson, P., 2012, Public Economics: Principles and Practice, online edition, Chapter 8, available at: http://www.appliedeconomics.com.au/publications/public-economics/

Engagement during the PIC process

A key learning from the PIC pilot is the importance of early and ongoing engagement with stakeholders to build understanding and trust in applying the PIC model, what results from it and the directions it seeks to set for an area.

Engagement between July and October 2020 included more than 20 sessions with the Commission's Industry, Environment, Social and Youth panels to discuss the scenarios, growth forecasts, outcomes framework, and sequencing principles and options.

A session was held with major landowners through an existing and established forum of the development industry, and one-on-one sessions were also held with various stakeholders.

In addition, four focus groups and two deliberative forums where held with general community members during COVID-19.

The feedback and insights gathered from this process are presented in the Consultation Outcomes Report.

5 Key findings

5.1 The opportunity is significant and the choices are vast

Finding 1: The initial 36,000-hectare PIC area is a significant part of the Western Parkland City, anchored by the existing Greater Penrith and the emerging Western Sydney Aerotropolis. The opportunities for transformation over the century ahead, catalysed by the new 24/7 international Airport, will enhance the area's local, national and global attractiveness to investors and visitors.

The initial PIC area is nestled in between the Western Parkland City's growth fronts spanning from precincts such as Vineyard and Riverstone in the North West Growth Area to Wilton in the Greater Macarthur Growth Area.

It incorporates highly valuable land - a finite resources at the spatial limits of the Sydney Basin, bound by the Nepean River and the Blue Mountains.

Of the entire initial PIC area:

- Around 2,600 hectares has been rezoned for urban development in the last 15 years, including around 2,050 hectares not yet built on.
- An additional 7,500 hectares were rezoned through the Aerotropolis SEPP, including 3,500 hectares for rural land uses.
- An additional 1,000 hectares were rezoned through the Western Sydney Employment Area SEPP, including 850 hectares for industrial purposes.
- Around 5,500 hectares is within the Metropolitan Rural Area, including 2,400 hectares under investigation for urban development in the vicinity of new Metro stations.

The PIC process found that not all the land already rezoned or under investigation will be needed in the next 15 to 20 years. There are several areas where new jobs and homes could be focused and there is a need to strike the right balance between having enough land to facilitate orderly growth and having too many areas that it is difficult to service with infrastructure.

In the initial PIC area, there are many choices on where to align growth with infrastructure, ranging from:

- focusing on urban renewal in centres already served by rail, such as Glenfield, St Marys and Mount Druitt
- opening up new greenfield areas where there are consolidated major land holdings to benefit from Sydney Metro, such as in the Aerotropolis Core and Northern Gateway precincts
- converting semi-rural and agricultural areas like Badgerys Creek, Rossmore and Kemps Creek precincts.

Overall, the PIC process found that the scale of developable land, the demand for new jobs and housing, the cost of creating great places and the uncertainty of global trends necessitates a very strategic approach to managing growth.

How much land is needed for different types of jobs and housing?

Density refers to the spatial distribution of people, homes and jobs over a given surface-volume area.

The *Greater Sydney Region Plan, Western City District Plan* and council local strategic planning statements are aligned in the ambition for more compact cities, achieved by densifying existing urban areas and creating new urban forms in greenfield areas, supported by high quality transport options, shifting away from more car-dependent urban forms.

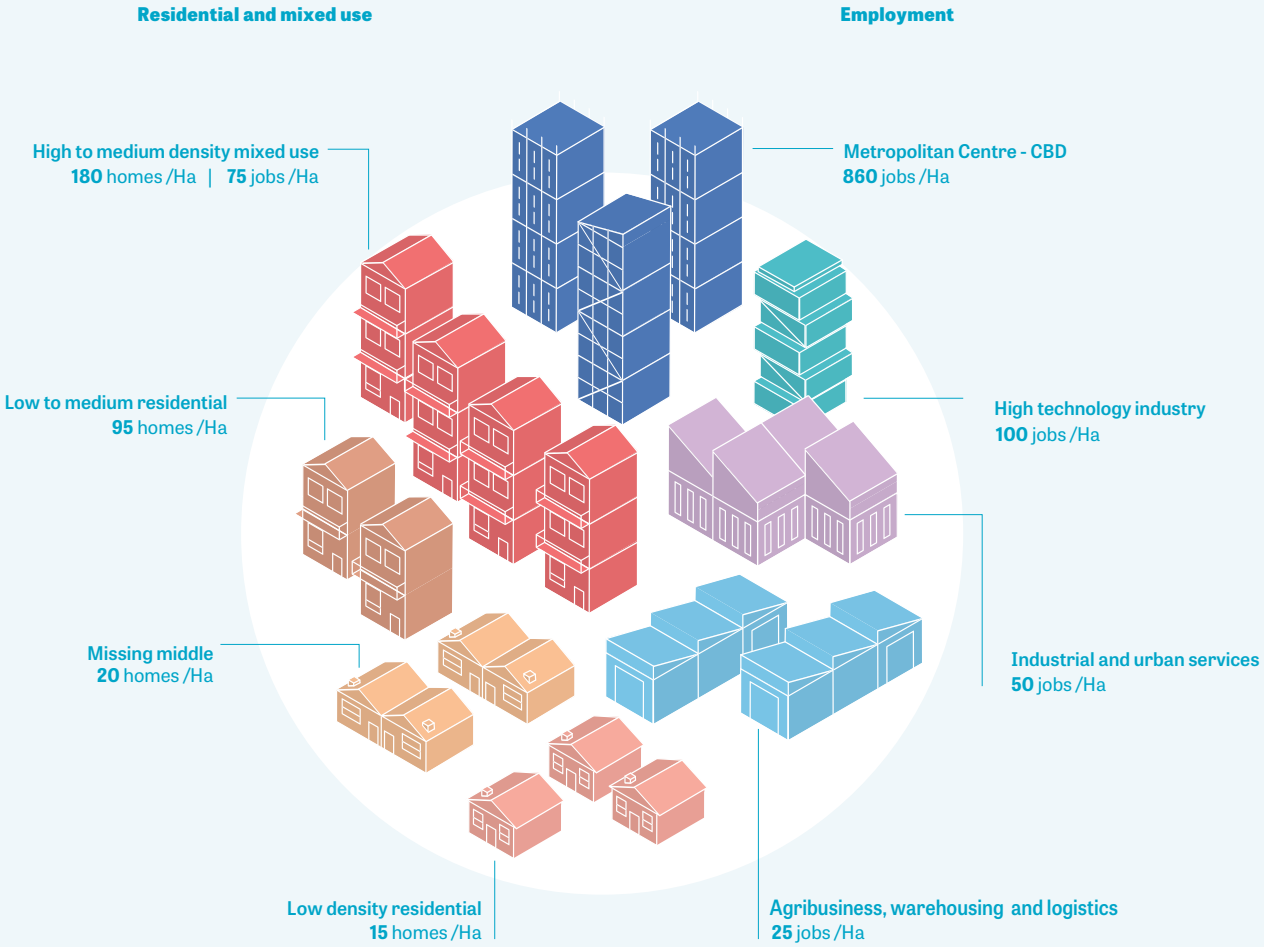
Several different employment and housing typologies – designed well – can accommodate densification.

The PIC process adopted a typologies approach, which shows how many new jobs and new homes can be accommodated on one hectare of land through different types of development. A mix of typologies were tested in the initial PIC area precincts under each scenario.

This has helped to understand the extent of serviced land that is likely to be needed and taken up by the market over the next 20 years, compared to the availability of already rezoned land for development and further land under investigation for development.

This is fundamental to understanding the rationale for the first two proposed actions of the draft PIC (see *Chapter 6*).

Figure 22: Sample typologies for jobs and housing intended in the Western Parkland City



5.2 Rebalancing jobs will deliver community benefits and better equity

Finding 2: The visionary Thriving Aerotropolis and Thriving Metropolitan Cluster scenarios will provide the greatest liveability, productivity and sustainability benefits. These benefits outweigh costs in today's dollars. By contrast, the benefits of the more business-as-usual Growing Parkland City scenario do not outweigh the costs, as the level of growth would not effectively leverage the infrastructure investment underway.

When evaluating the scenarios, the PIC process considered key factors that provide optimal outcomes for the wider community. In simple terms, this means considering how the initial PIC area becomes a place:

- where people want to live, and more people can live (**liveability**)
- where businesses want to be and that attracts new businesses (**productivity**)
- with greater positive environmental outcomes, resource efficiency and resilience (**sustainability**)
- with lower cost to government and less negative environmental impacts (**spillovers**).

The physical changes that would occur in the initial PIC area within these categories were measured and given a monetary value to compare against the cost of infrastructure and services.

Across all three scenarios, the greatest benefits related to liveability.

Liveability value is primarily created through the value of new homes developed for people to live in, with better access to a greater number of jobs and to metropolitan and strategic centres with important services such as tertiary education, justice services and specialist medical and legal providers.

The PIC process found that growing industry and jobs near where people live or that people can access is essential to improving liveability in the initial PIC area, and the whole Western Parkland City. People value and are willing to pay to live near their work. This is essential to creating better equity in opportunity across Greater Sydney, as there are vast differences in accessibility to jobs, job types and career opportunities in the different parts of the city.

Productivity benefits are mostly derived from the value businesses place on locating in the initial PIC area. When businesses can be more easily accessed by workers and other businesses, due to road and public transport infrastructure, productivity benefits increase.

Investing in digital infrastructure, such as real-time monitoring of the city environment and a predictive maintenance platform, as foreseen in the more visionary scenarios, can also bring travel time savings and smarter transport management technologies can help to reduce the number of accidents.

The most significant sustainability benefits are from increased tree canopy cover, which improves air quality, provides urban cooling and local amenity and provides higher health benefits. Benefits are also derived from the value the community places on protecting native vegetation and improved water quality from vegetation improvements and channel stabilisation along Wianamatta-South Creek.

However, as the initial PIC area urbanises, there is a cost associated with lost value from productive agricultural land. Continuing agricultural uses in some locations not needed for urban development over the next 15 to 20 years (or on land not suitable for urban development such as flood affected areas) while also creating new areas for intensive production near the Airport can build the resilience of the local supply of fresh food, improving health outcomes.

As shown in *Figure 23*, the net benefits for the community under the Thriving Aerotropolis and Thriving Metropolitan Cluster scenarios represents $3.5 to $4 billion over 40 years, on the basis of costs having a present value of around $15 to $16 billion. Not leveraging investment already made in the area would result in a net cost of $1.1 billion to the community on the basis of costs having a present net value of around $5.9 billion – and the opportunity to rebalance Greater Sydney and improve equity of opportunity would be lost.

The Thriving Aerotropolis scenario forms the basis of reporting the remaining key findings. While it achieves a slightly lower net benefit than the Thriving Metropolitan Cluster scenario, it is forecast to create **86,000 more local jobs by 2056 across the Western Parkland City** with about half in the initial PIC area – including a greater number of knowledge-intensive jobs. This would create far better equity outcomes for workers in the Western Parkland City with more jobs near where people live, trading off the more efficient and lower cost alternative scenario. See more about efficiency and equity under Finding 5.

Under sensitivity testing, a scenario of lower population and jobs due to COVID-19 resulted in a reduction in the net benefits by around $1 billion for the Thriving Aerotropolis and Thriving Metropolitan Cluster scenarios.

Similarly, lower density residential development assumptions also reduce net benefits; however, the community impact would be greater, as net benefits would decrease by more than $1.5 billion for both scenarios.

While the PIC model demonstrates the net benefits of the Thriving Aerotropolis scenario, the NSW Government in consultation with the Australian Government has yet to decide on the affordability of funding and building all the infrastructure and services identified to achieve this visionary scenario.

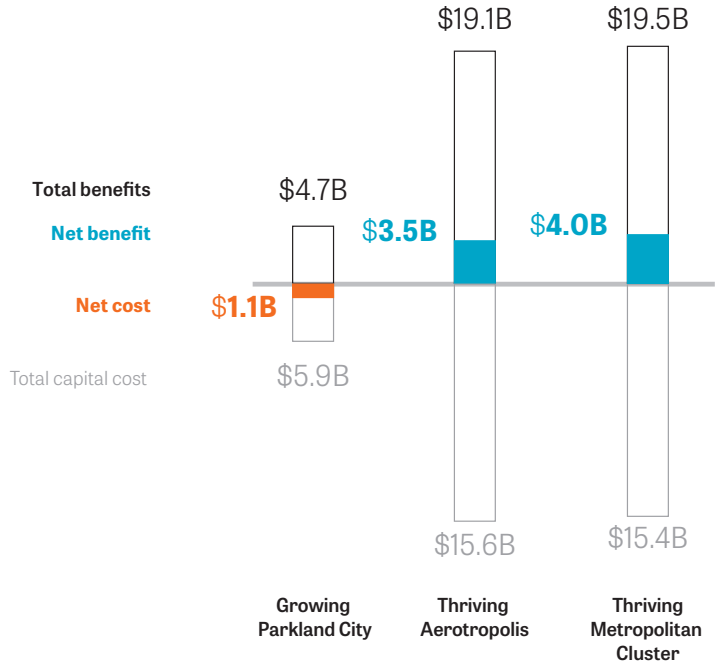
The total capital cost of infrastructure is estimated to be around $100 billion over 20 years, while the cost apportioned to the initial PIC area is estimated to be around $62 billion. This equates to an average total annual investment of around $5 billion over 20 years, with some funding sources beyond those of the NSW Government.

Infrastructure and service priorities must be tested over time against other priorities across Greater Sydney, where they are funded by the NSW Government. A process of continuous engagement with the community, councils and the development industry will inform priorities for infrastructure investment.

While the total estimated cost of $100 billion is high, it includes more than $20 billion already committed by the NSW and Australian Governments which covers:

- $11 billion for **Sydney Metro – Western Sydney Airport**
- $1.7 billion for the **M12 Motorway** to the Airport
- $1.6 billion for **The Northern Road** upgrade – Oran Park to South Penrith
- $1.5 billion to upgrade **Liverpool**, **Campbelltown** and **Blacktown** hospitals
- $1.39 billion for the **Westmead Hospital** Upgrade Stages 1 and 2
- $695 million for the **M4 Smart Motorway** – Penrith to Mays Hill
- $509 million for the **Bringelly Road** upgrade
- $105 million for the **Mulgoa Road** upgrade – Union Road to Museum Drive
- $51 million for a new primary school at **Jordan Springs** (opened in 2020)
- $4 million for 7.6 hectares of strategic open space in **Leppington**.

Figure 23: The net benefits of each scenario relative to the base case*



* The base case used in the economic evaluation differs from the Growing Parkland City scenario as it assumes growth under existing planning controls constrained by available infrastructure and services.

Further, in June 2020 the NSW Government confirmed corridor protection for Sydney Metro from St Marys to Campbelltown via the Airport, the South West Rail Link Extension from Leppington to the Aerotropolis and the Western Sydney Freight Line (Stage 1).

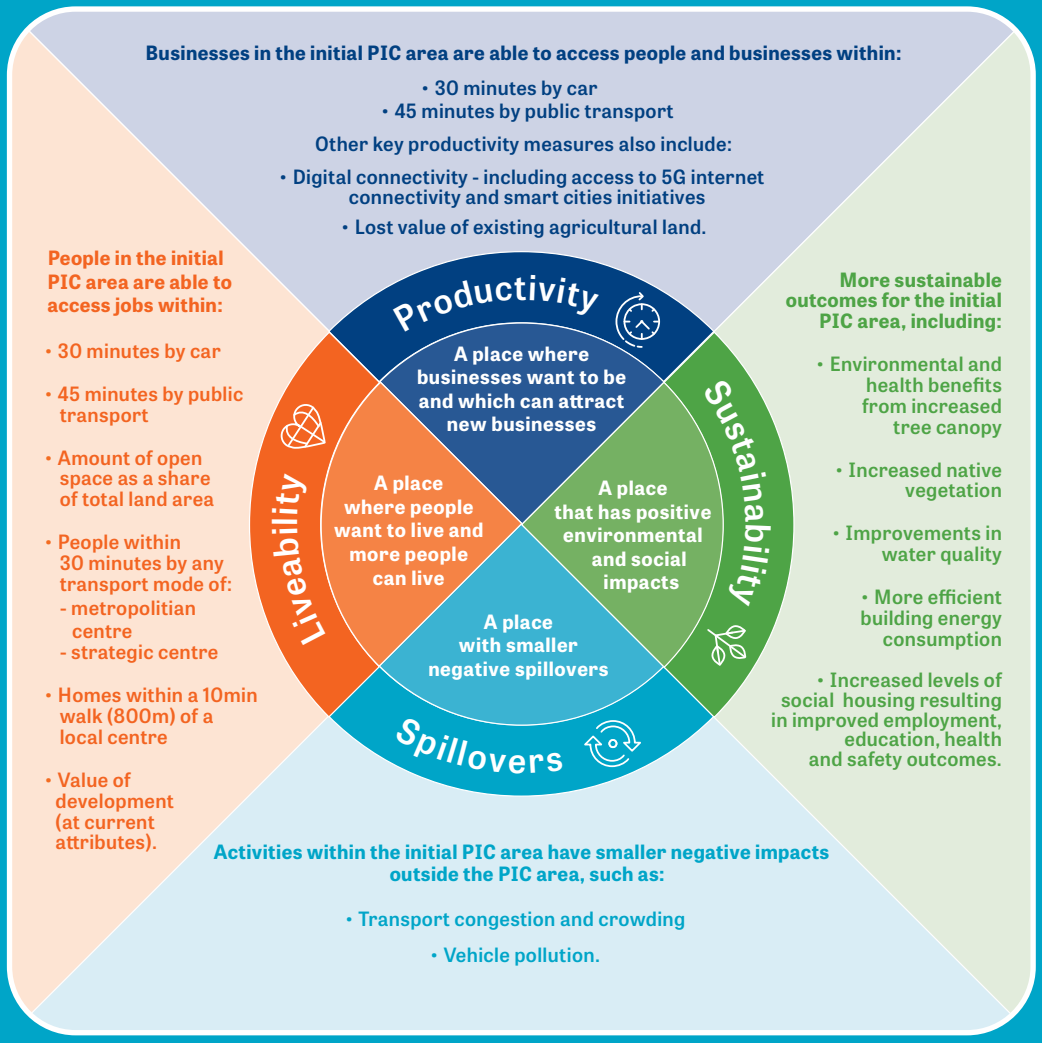
Property owners have been notified and the land for these corridors will be gradually acquired over time to enable the construction of these projects over the 20-year plus horizon. These transport corridors will form the backbone of strategic development in the Western Parkland City.

What place-based benefits are measured?

Figure 24 illustrates the physical changes measured and given a monetary value in the cost-benefit analysis. Taking a place-based approach in the PIC process has involved measuring physical benefits and giving them a dollar value across liveability, productivity and sustainability categories.

Key Concept

Figure 24: Measures given a monetary value to identify a preferred scenario



5.3 The Western Parkland City vision needs upfront and sustained investment

Finding 3: To effectively double the number of jobs and homes in the initial PIC area requires investment in city *building* and city *making* infrastructure across the Western Parkland City. Significant investment in infrastructure and services is needed over 20 years to serve the forecast level of growth and achieve the vision for the Western Parkland City.

When considering the growth and renewal of a place, the NSW Government needs to understand the wider costs involved in providing all types of services and infrastructure, including those that can be delivered through partnerships between government and the private and non-profit sectors, and innovative solutions such as the co-location and sharing of infrastructure.

While the NSW and Australian governments have already committed to an upfront investment of $20 billion in required infrastructure and services, further investment is required in a wide range of social, economic and environmental infrastructure to drive place-based outcomes for the whole Western Parkland City.

Figure 25 shows a breakdown of the estimated infrastructure costs as apportioned to the initial PIC area under the Thriving Aerotropolis scenario. These infrastructure costs are for capital expenditure only (including land), and primarily State and regional infrastructure including stormwater management. Planning and funding local infrastructure – such as local roads and community facilities – remains the responsibility of councils.

Of the $62 billion in investment required over 20 years in the PIC process found around 90 per cent comprises:

- **waterway management, revegetation and stormwater management** (30 per cent), reflecting the need to integrate high-quality natural waterways into the making of the Western Parkland City, improving the degraded condition of the catchment to create liveable places and managing a unique landscape that is susceptible to flooding
- **roads and public transport infrastructure** (32 per cent), reflecting the need to build new networks in the initial PIC area to connect to the Western Parkland City so people can benefit from the new Airport and Aerotropolis
- **biodiversity conservation, open space and recreation facilities, and tree canopy** (16 per cent), reflecting the amount of land that needs to be acquired for essential infrastructure
- **drinking water, recycled water** and **wastewater services** (11 per cent), reflecting the need to build new wastewater treatment and recycling facilities, drinking water reservoirs and networks as well as new and upgraded services in the southern precincts and in the north.

The remaining 10 per cent is associated with all the **infrastructure and services** essential to making great local places for local communities, such as:

- social infrastructure, including **health, education, cultural, justice** and **emergency services facilities**, with new communities able to use existing capacity and sites already owned by the NSW Government
- digital costs to realise a smart Western Parkland City, including the installation of **high-speed internet connections** and **technologies** embedded in infrastructure and utilities, such as smart transport, street furniture and lighting, and environmental sensors
- energy costs, including **electricity** and **gas**, with some latent capacity in Greater Penrith to Eastern Creek and established networks in areas rezoned in the mid-2010s including Austral and Leppington.

These infrastructure and services require around 7,100 hectares of land, beyond the 6,000 hectares the NSW Government has already acquired and owns. Most of this land is required for waterway management, protecting biodiversity and managing stormwater consistent with the ambition of the Western Parkland City vision, as well as the provision of road and public transport critical to existing and future residents across the city.

This land would need to be progressively acquired by the NSW Government and other infrastructure and service providers from private landowners as infrastructure projects are planned and constructed or earlier, on a case-by-case basis, where a statutory authority has been determined.

Figure 25: Capital costs by sector apportioned to the initial PIC area – Thriving Aerotropolis scenario, 20 years

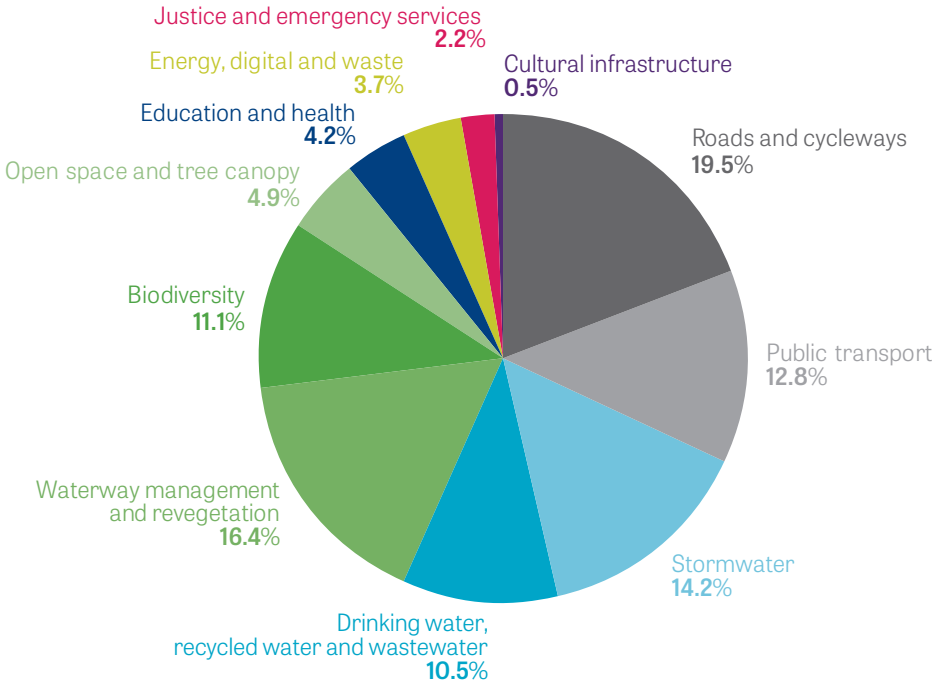
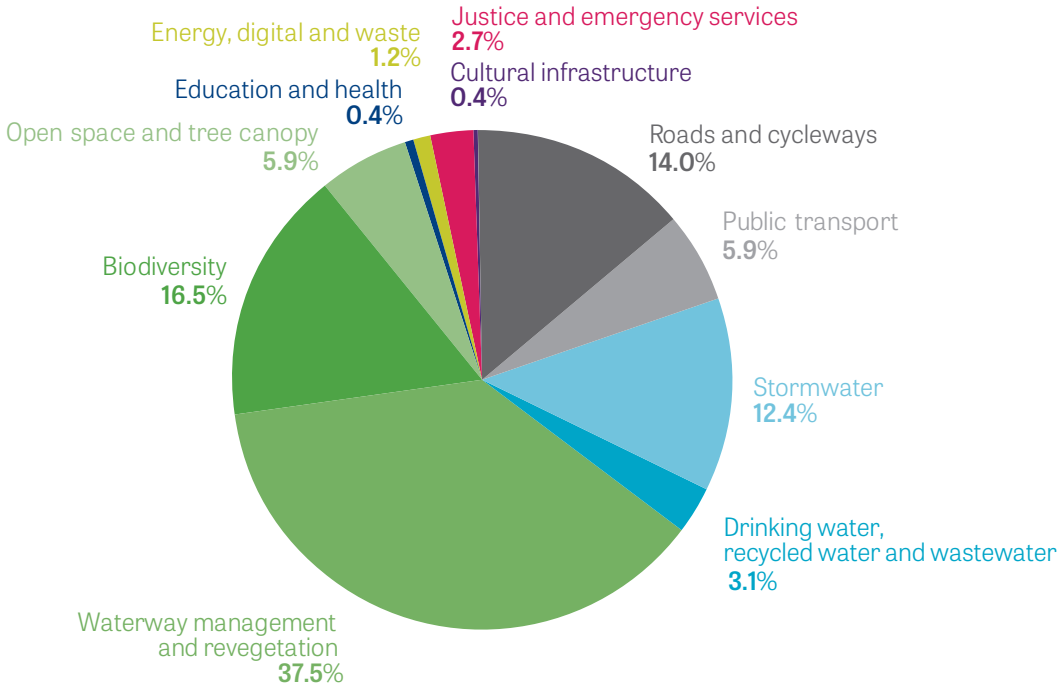


Figure 26: Identified land requirements by sector – Thriving Aerotropolis scenario, 20 years



Key Concept

How are costs apportioned?

Place-based planning requires a consistent method for apportioning the capital costs of infrastructure and utilities to an area. Infrastructure and utilities often serve varying catchments and users outside an area being planned. Therefore, costs need to be estimated for the specific area being planned, particularly where contributions from developers are sought.

When apportioning costs for a growing area, it is important to identify who will benefit – the existing community or those who will live and work there in the future. The PIC model adopts the following approach:

- **Total costs**: the capital investment required to support the initial PIC area and provide benefits outside the area across the Western Parkland City and beyond.
- **Costs beyond the initial PIC area**: capital investment providing benefits outside the PIC area only
- **Initial PIC area costs**: capital investment that provides benefits inside the initial PIC area only in terms of the:
  - existing community: capital costs apportioned to beneficiaries already in the area
  - future community: capital costs apportioned to future beneficiaries generated by new development.

This applies to all types of infrastructure from the *city building* infrastructure like M12 Motorway and the new advanced water recycling centre proposed at Kemps Creek to *city making* infrastructure such as schools and fire stations.

Of the $100 billion total cost identified to service the initial PIC area, only $62 billion is apportioned to the area. This means that $38 billion of the total cost needs to be invested to benefit the rest of the Western Parkland City.

Figure 27 uses the Sydney Metro – Western Sydney Airport as a practical example of how costs are apportioned. In this case, while the new 23 kilometre line traverses the full length of the initial PIC area between St Marys and Aerotropolis Core, the *total cost* is attributed to all customers who will use this new Metro line, including those travelling through and well beyond the initial PIC area.

Costs apportioned to the initial PIC area are confined to the customers that benefit from access provided by the new stations. This apportionment is informed by modelling the origin and destination of customer trips using the line.

Using forecast growth figures, these costs are then apportioned to the existing and future community.

When calculating the cost of accommodating a new resident or job in each of the initial PIC areas, only the PIC costs for the future community are used.

The **Technical Report** outlines the apportionment approach for all sectors.

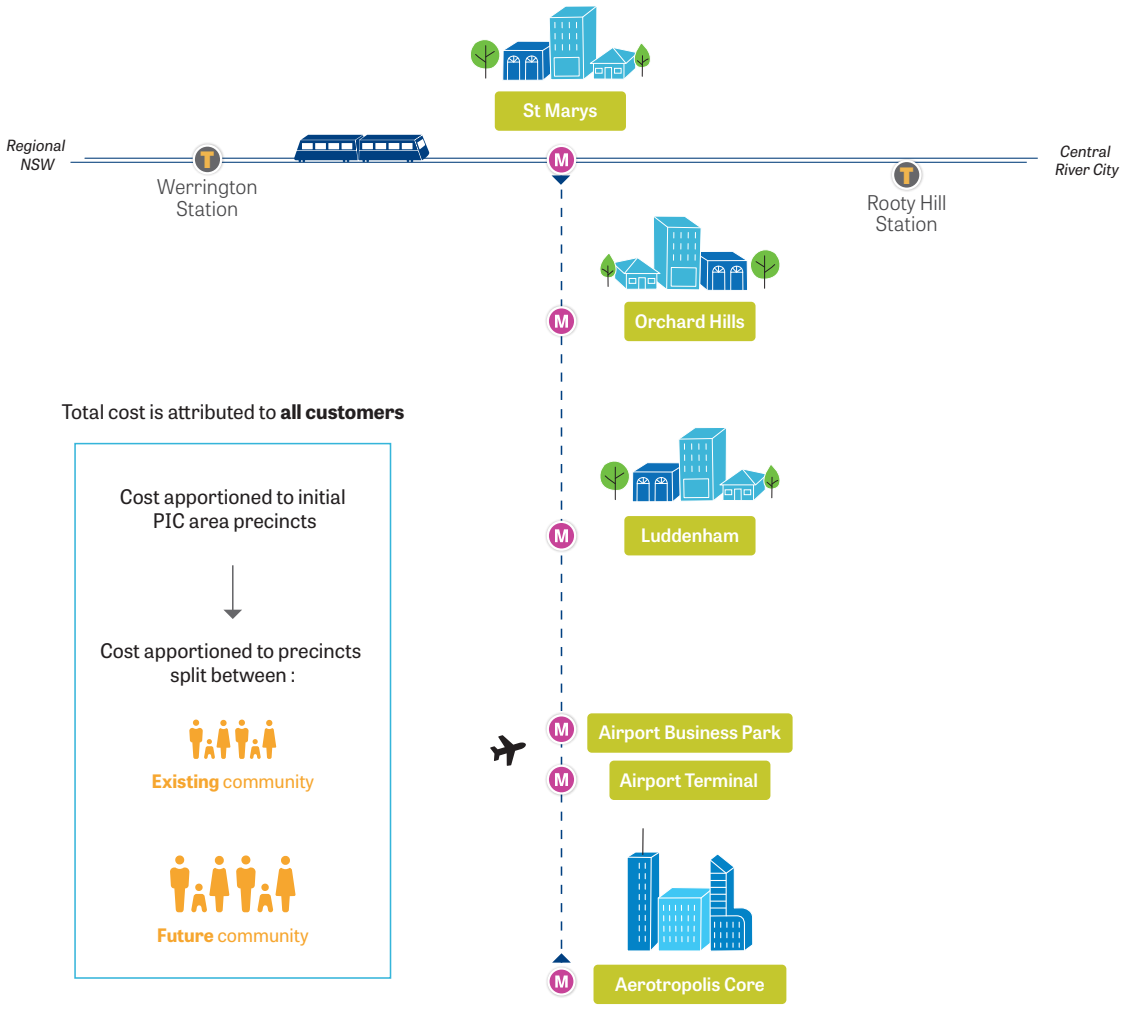
Upfront fixed costs to build the city

The PIC model assesses infrastructure and service costs for growth across the whole initial PIC area, and before any consideration of the sequencing of growth aligned with infrastructure. This means the identified infrastructure and costs assume growth **across all 28 precincts** in response to the land use forecasts prepared by the Commission jointly with the Western Sydney Planning Partnership, Transport for NSW and the Department of Planning, Industry and Environment.

While the PIC model sets out to reduce the cost burden of growth to the NSW Government and everyone involved in delivering infrastructure and services, in the initial PIC area the sequencing of growth achieves only relatively modest savings. Most of the infrastructure and services investment required to service the initial PIC area is considered fixed. The infrastructure and services are needed upfront and the costs will largely be incurred to catalyse and enable growth, regardless of the *extent* of growth realised in the early transformation of land in and around the Aerotropolis.

There is some scope to defer costs for social infrastructure that typically follows population growth through a logical sequencing of precincts, although this is a relatively modest component. Rather than enable residential growth in several precincts concurrently, which requires multiple investment social infrastructure, growth could be consolidated in less precincts, with fewer sites needing to be acquired, built or improved.

Figure 27: An example of the apportionment of the capital infrastructure costs of Sydney Metro - Western Sydney Airport



An unprecedented level of investment is required in new grey, green and blue infrastructure to create and connect the Western Parkland City. Further, this infrastructure, and the development it enables, will need to fit within the landscape, which is prone to flooding and extreme heat, includes areas of high value vegetation and in some places is contaminated.

The fixed costs are largely driven by the need to **connect** the new Airport and Aerotropolis to existing transport systems in the Western Parkland City – rail, Metro, roads, bus and cycleways - given the Airport was deliberately sited on the western edge of Greater Sydney to effectively plan for and mitigate the noise impacts of a 24/7 international airport. The Airport and Aerotropolis will are around 20 kilometres from the established areas of Greater Penrith, Liverpool and Campbelltown-Macarthur where many workers, passengers and students live. The extent of the new and upgraded networks of required water, electricity, gas and digital infrastructure was determined through inputs and advice from existing providers.

There is potential to service the initial PIC area differently with more localised integrated services that are decentralised from existing systems, or off-the-grid, particularly for greenfield areas around the Aerotropolis. The PIC process also identified opportunities to better integrate and co-locate linear infrastructure to reduce physical barriers within the design of the city, enhance future operations and reduce disruption to the community during maintenance.

Major new and upgraded networks and systems identified – 20 years

The extent of investment in enabling linear infrastructure – above and below ground – in the Western Parkland City is both significant and ambitious.

Delivery will need commitment to a sustained program of investment. The PIC process identified and costed over 30 kilometres of new passenger rail lines, more than 150 kilometres of the bicycle network, more than 200 kilometres of new or upgraded roads, more than 500 kilometres of new trunk water, wastewater, gas and electricity, and about 250 hectares of regional open space.

Roads and public transport

- Sydney Metro – Western Sydney Airport (23 km)
- Rapid bus services between the Aerotropolis Core/Airport and Campbelltown, Liverpool and Penrith
- South West Rail Link extension from Leppington to the Aerotropolis Core (8.5 km)
- Western Sydney Freight Line (length to be determined)
- Principal Bicycle Network (more than 150 km)
- M12 Motorway (16 km) to connect the Airport with the M7 Motorway, improving the movement of freight in and through Western Sydney
- Northern Road upgrade (35 km) to improve regional north-south connections and freight access to the new Airport and surrounding industries
- Mamre Road upgrade (11 km) to service the Mamre Road Precinct and support road freight access associated with an intermodal terminal planned with the proposed Western Sydney Freight Line
- Southern Link Road (7.5 km) from Wallgrove Road to Mamre Road to service the expanding Western Sydney Employment Area including the Mamre Road precinct
- Elizabeth Drive upgrade (14 km) to support access to the Airport and future commercial and industrial developments
- Fifteenth Avenue upgrade and extension, to connect Liverpool with the Airport and Aerotropolis, and provide rapid bus services to support compact development
- Mulgoa Road/Castlereagh Road corridor upgrades (6.5 km) to reduce congestion, improve access to the Penrith CBD and accommodate future growth in the area
- Luddenham Road upgrade (8 km) to service growth in the Northern Gateway Precinct including the rezoned Sydney Science Park
- Devonshire Road upgrade and extensions (9 km) from a new connection with Bringelly Road to Mamre Road including an M12 interchange
- Cambridge Ave extension (1.7 km) from Glenfield to connect Moorebank Intermodal Terminal with Campbelltown Road and to provide access to development on the Hurlstone Agricultural School site
- Werrington Road upgrade (2 km) to improve access to North St Marys and Cambridge Park
- An Eastern (Airport) Ring Road (7.5 km) from Elizabeth Drive to The Northern Road as a bypass around the centre of the Aerotropolis Core.

Utilities

- **Upper South Creek Advanced Water Recycling Centre** in the north of the Kemps Creek Precinct on a 50-hectare site, that could evolve into a hub where water, waste, gas, biosolids and other resources are managed and recycled locally
- Upgrades to the existing **Glenfield, St Marys, Penrith and Quakers Hill water recycling plants** to ensure a sustainable source of water for growing irrigation demands
- New **trunk drinking water, wastewater** and **recycled water networks** throughout the area, to extend networks into unserved areas, particularly if not serviced by alternative service providers (472 km)
- **Extended secondary gas mains** and **new secondary regulating sets** (25 km)
- A new 132kV **electricity transmission** backbone through the greenfield area, new electricity bulk supply points in Austral and Orchard Hills and expanded capacity at the existing bulk supply point to transmit energy from the national energy market (40km)
- New **electricity zone substations** and **distribution feeders** for targeted precincts mostly in the greenfield area to further distribute to new domestic, retail, commercial and industrial consumers, particularly where alternative technologies are not yet achievable.

Early collaboration on the PIC process provided insights into the preferred location of different types of linear infrastructure and potential places for co-location.

This supports transition to a more organised and efficient grid of infrastructure networks such as open space, walking and cycling networks, water, wastewater, stormwater, digital, gas and electricity.

The Western Parkland City Authority is already working with utility providers, private sector and its Foundation Partners to explore world-class solutions to utility delivery.

This includes the potential for integrated servicing in the creation of the Aerotropolis Core Precinct and a multi-utility corridor, including the option for new underground multi-utility tunnel, in and around the Aerotropolis , as has been built in other world-class cities.

Investing in the full water cycle to make the city

The vision for the Western Parkland City - with the Wianamatta-South Creek corridor at its heart - will require investment in restoring and revegetating waterways, more naturalised stormwater management (basins with gross pollutant traps; biofiltration; harvesting and storage in open water bodies; and flood detention basins), enhanced biodiversity, irrigated open spaces and an enhanced tree canopy.

The PIC process found that the costs of creating the blue and green elements of the Western Parkland City are a standout, in terms of all infrastructure and service costs. The economic analysis of the three scenarios showed the benefits also outweigh the costs.

These costs reflect the higher service levels and targets envisaged for blue and green infrastructure in the Western Parkland City, to help create a place for people to live and work in a way that is fit for the century ahead, and the risk of climate change.

The efficiency and affordability for customers to pay of these new standards will need to be explored with relevant regulators.

Through more detailed investigation and engagement there may be a trade-off between solutions costed, efficient delivery and affordability. The prospect of managing stormwater at a regional level is an emerging area of investigation as it is traditionally a council responsibility in the Western Parkland City.

Sydney Water's experience in other parts of Greater Sydney, where it has a role in regional stormwater management, has informed the PIC process and the different approach taken.

Infrastructure costs for regional stormwater services

There is a high cost associated with stormwater infrastructure, regardless of whether a business-as-usual or whole-of-water cycle management approach is adopted.

A whole-of-water cycle management approach achieves more positive environmental and social outcomes, including urban cooling, waterway health and public amenity and is the approach required to realise the vision for the Western Parkland City.

The South Creek Sector Review undertaken by Infrastructure NSW identified potential significant economic value from a regional approach to waterways and stormwater management, including a potential saving in capital expenditure.

Further, alternative water servicing approaches and the relative costs and benefits have been investigated in Sydney Water's Western Sydney Regional Master Plan (2020).

The plan identified significant net benefits of associated with adopting alternative whole of water cycle management approaches for the Western Parkland City.

The following table shows example costs for land release areas in Western Parkland City that rely on a conventional approach to stormwater management where construction costs are typically funded through local contribution plans.

Stormwater management costs for individual precincts, such as Marsden Park, Austral and Leppington North, range from $63 million to over $170 million (excluding land acquisition). This averages to about $127,000 to $254,000 per hectare.

Taking a whole-of-water cycle approach to stormwater infrastructure in the initial PIC area equates to about $150,000/ha (excluding land acquisition) - well within the average costs for stormwater solutions in the Western Parkland City that rely on a conventional approach.

Table 1: Infrastructure costs for stormwater services

Precinct	Total construction cost ($)	Land cost/Ha ($)	Land acquisition ($)	Total cost ($)
Marsden Park Industrial*	63,384,000	175,000	99,742,000	163,126,000
Marsden Park Residential*	86,523,000	127,000	141,887,000	228,410,000
Schofields*	68,855,739	254,000	30,062,000	98,917,739
Austral and Leppington North^	172,850,000	151,000	66,017,000	238,867,000

Note: All costs have been indexed from their respective Contribution Plan base cost to June 2020 values.

*Blacktown City Council

^Liverpool City Council

Reimagining social and affordable housing in the city

Engagement in developing the initial PIC area found the relative affordability of housing in the Western Parkland City is a key benefit of living in the area. While providing social and affordable housing infrastructure has not been assessed in the initial PIC area, the state of existing social housing has been assessed. The NSW Government provides social housing across the Western Parkland City to accommodate families and individuals including low income workers, working families, retirees and immigrants.

There are 7,700 social housing homes on 520 hectares, representing 15 per cent of the State's social housing stock in the area. Most of these are in the northern precincts, particularly the St Marys, Mount Druitt and Luxford, which accommodate more than 5,000 social housing homes. By contrast, in the southern precincts there are 175 social housing homes in Glenfield, nearly all of which are medium density townhouses.

Social housing stock in the initial PIC area is ageing, with the average age of 45 years in the most concentrated areas which includes the suburbs of Bidwell, Willmont and Tregear. At the same time, demand is increasing with over 2,700 households on the waiting list for social housing in the initial PIC area.

The PIC process found long-term opportunities to redevelop areas of high concentrations of deep disadvantage – by national standards – if enabled by the extension of Sydney Metro – Western Sydney Airport north from St Marys to Tallawong and new Metro stations.

Connecting these currently isolated areas to jobs and education presents a long-term opportunity to break cycles of disadvantage, particularly for young people and Aboriginal communities, while retaining the strong pride and sense of community in these suburbs.

Due to changing demographics since many of the suburbs were created, the number of existing teaching spaces exceed demand for most primary and secondary schools. More than half of all primary and secondary schools also have an Aboriginal population of 20 per cent or greater.

There are significant longer term opportunities to reimagine this area with mixed tenure housing – well designed private, affordable and social housing – in the context of the wider transformation set to occur around Sydney Metro – Western Sydney Airport in the short to medium term in a way that encompasses the community's needs and aspirations.

5.4 Co-funding great places and infrastructure is key

Finding 4: The scale of necessary infrastructure requires a clear understanding of costs, and of who should be contributing to them to guide decision-making. In considering the fundamental question of who should contribute to infrastructure aligned to growth, the PIC process found that of the estimated $62 billion capital costs apportioned to the initial PIC area, around half would need to be funded by the NSW Government.

There are multiple funding sources for new infrastructure in the initial PIC area. Given the nationally significant transformation underway, six funding categories were identified:

- combination of Australian and NSW governments consolidated revenue
- NSW Government consolidated revenue
- combination of NSW Government and developer contributions.
- direct customer charges
- regional and local charges
- private charges.

As detailed in the **Technical Report**, for each infrastructure proposal costed, the infrastructure or utility provider identified the likely funding source or combination of sources.

Of the estimated $62 billion capital infrastructure costs apportioned to the initial PIC area:

- 20 per cent will need to be jointly funded by the Australian and NSW Governments
- 23 per cent funded by the NSW Government
- 13 per cent through customer charges for utilities such as water, wastewater and utilities.

Around 27 per cent, or around $17 billion, would need to be funded through a combination of NSW Government and development contributions. A fair and transparent contribution from developers would need to be considered, in close consultation with industry. Examples of infrastructure in this category include:

- upgrading a State road to reduce existing congestion and increase capacity to enable and support new growth, such as the Mamre Road upgrade
- upgrading a school that is at capacity and no longer meets service standards, where capacity is increased to support growth
- funding that is no longer in an appropriate location but can be relocated and expanded to support growth.

Within this category, the Department of Planning, Industry and Environment will need to work with the development industry, councils and the community to identify where there are direct relationships with proposed new development, which would need to be funded through developer contributions.

The draft SIC scheme prepared by the Department of Planning, Industry and Environment for the Western Sydney Aerotropolis Growth Area is consistent with the NSW Government's draft *Special Infrastructure Contributions Guidelines* released in April 2020.

The NSW Productivity Commissioner's review of infrastructure contributions system of NSW is ongoing and will form a report to be presented to the NSW Government in late 2020. The draft *Special Infrastructure Contributions Guidelines* include five key principles, including priorities expressed by the development industry that the SIC must be reasonable, fairly apportioned, transparent and predictable.

During engagement for the PIC process, the development industry emphasised that a reasonable developer contribution rate needs to be set early in the planning process, ahead of rezoning of land, so that the contribution can be factored in to the price paid to existing landowners for development sites.

A contribution rate that is established early, that may be subject to change as better information becomes available and market conditions change, was considered preferable to the uncertainty of not knowing what the rate would be.

The Commission also heard from local councils that there is a need for better and upfront understanding of the cumulative impact of state and local contributions and the capacity of developers to make combined contributions.

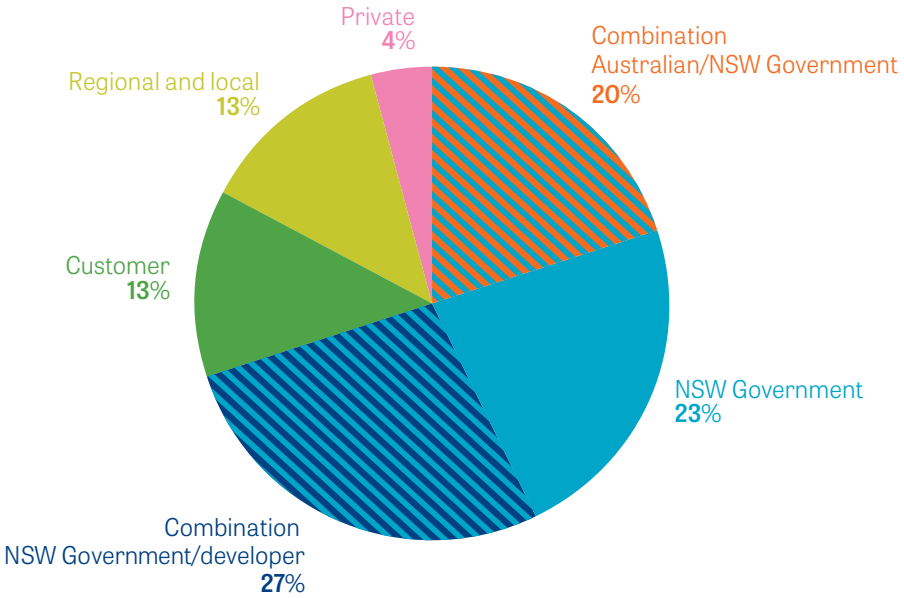
The *Greater Sydney Region Plan* recognises that new development needs to support the funding of infrastructure at an appropriate level without being unreasonably burdened to the extent that it becomes unviable. This is important to realise jobs growth and new industries in the Western Parkland City to support jobs close to where people live.

While the draft PIC is focused on state and regional infrastructure, with limited inclusion of local infrastructure, it provides a basis for the NSW Government, councils and the development industry to move forward on this complexity in the NSW planning system. This discussion must also consider the feasibility of delivering more affordable rental housing, consistent with the policy in the *Greater Sydney Region Plan.*

The draft *Special Infrastructure Contributions Guidelines* require the SIC to maintain a reasonable balance between funding infrastructure and facilitating private sector investment in development and will not duplicate charges for infrastructure covered by local contributions.

The draft Guidelines also outline the approach to a SIC feasibility analysis, which gives due consideration to both local contributions and affordable housing alongside development and construction costs, planning uplift and public consultation.

Figure 28: Identified funding sources for capital costs apportioned to the initial PIC area – 20 years



Who pays for infrastructure?

Providing the right infrastructure at the right time requires coordinated funding from a range of sources:

- **Australian** and **NSW governments**: This is a combination of NSW and Australian government funding for infrastructure that will strengthen the national economy.
- **NSW Government**: This includes NSW consolidated revenue or any special-purpose funds or grant programs for State and regional infrastructure for items such as Sydney Metro, rail, motorways, schools, hospitals or arts and cultural facilities.
- **Developer contributions - state and regional**: These fund the State and regional infrastructure required under planning legislation to support new communities, such as roads, schools, health centres, biodiversity conservation, regional open space and police stations.
- **Combination of NSW Government and developer contributions**: Often needed where there are multiple drivers for infrastructure investment and multiple beneficiaries. This typically includes infrastructure needed to improve or expand a service bringing benefits to existing and future communities.
- **Direct customer charges**: This is where an existing customer base is the primary funding source, as applies to utilities such as water, wastewater, electricity and gas.
- **Local and regional**: Funding sources including developer contributions, rates, special rates and levies primarily for regional and local infrastructure associated with stormwater management, open space, tree canopy, green links and sporting facilities.
- **Private investment**: Includes service provision through development application consents, such as tree planting, as well private owner-operators who provide telecommunications, digital and waste services.

While not explicitly identified as a funding source, value sharing also be considered in addition to developer contributions for state and regional infrastructure.

Value sharing mechanisms should be used to help fund major infrastructure, such as Sydney Metro – Western Sydney Airport, where significant land value uplift is created around new stations due to public investment in infrastructure.

These mechanisms seek to capture a fair portion of the value uplift enjoyed by private beneficiaries and reduce the burden on taxpayers to provide infrastructure that will benefit more people.

Key Concept

The PIC process found around 13 per cent of costs would be funded through direct customer charges, including utilities such as water, wastewater, electricity and gas. Where major water and wastewater infrastructure meets a test of prudent and efficient (least cost) investment, it is paid for by Sydney Water's broader customer base.

The use of recycled water to create a cool, green Western Parkland City is envisaged under the Thriving Aerotropolis and Thriving Metropolitan Cluster scenarios. Negotiation with pricing regulators would be required for customers to directly pay for this. It is essential to demonstrate to regulators the value of avoided costs from not taking the least cost option, and customers' willingness to pay for higher levels of service. Given these issues are yet to be negotiated with the pricing regulator, providing recycled water for greening and cooling has been assumed to be funded from NSW Government sources.

Thirteen per cent of infrastructure costs have a funding source in the `regional and local' category. These costs are mainly related to stormwater management, local open space, sport and recreation infrastructure and improving the tree canopy.

A further four per cent of infrastructure costs have a private funding source, mostly related to the private delivery of essential services and in meeting development consents.

Given the PIC process has found that around half of costs would have to be funded by the NSW Government (including where it jointly funds with the Australian Government), the NSW Government needs to understand the full extent of its expected contribution early and ideally before major land use and development decisions are made.

It also needs to explore new ways to partner with the private and not-for-profit sectors to deliver the scale and full quantum of services and infrastructure.

A greater role for the private and not-for-profit sectors

The PIC creates opportunities for the private and not-for-profit sectors to provide high-quality services and infrastructure and suggest ways of doing it more efficiently.

Increasingly, infrastructure and services are provided by the private and not-for-profit sectors through established government procurement models and regulation. This includes pre-schools, independent schools, social and community housing, commercial galleries, cinemas and live music venues.

The role of the non-government school sector in the Western Parkland City is noteworthy. In greenfield areas, the PIC process assumed that 30 per cent of primary school aged students and 40 per cent of secondary school aged students will be serviced by the non-government school sector in line with community demand.

The PIC process gives the private and not-for-profit providers better and more predictable information to plan and deliver services (see **Technical Report**).

5.5 Early insights can inform better decision-making on where to focus

Finding 5: The scale of urban and employment land presents many options to the NSW Government, councils and the community around where to align growth with infrastructure and services. To realise benefits for the community as a whole, parts of the Greater Penrith to Eastern Creek, the Western Sydney Aerotropolis Growth Area and the Austral to Glenfield Corridor must grow together.

The likely future land use of the 28 precincts in the initial PIC area vary considerably – residential, mixed use and employment (industrial, commercial and agribusiness). This is reflected in the results of the CEA and CBA. For example, the cost of accommodating a new resident or job varied from less than $50,000 to significantly more than $400,000.

The PIC process found that the costs vary across precincts due a range of factors, such as:

- the higher cost of development in greenfield areas due to the extensive road and public transport, utility and green and blue infrastructure networks and hubs needed as land transitions from rural to urban uses
- some precincts already benefiting from investment in road and public transport and utility provision, making them development ready and more cost effective than other precincts that require new investment before growth can occur
- the varying capacity of existing infrastructure that can be leveraged to provide new services more cost effectively, such as existing public schools on generous sites that have capacity to accommodate new teaching spaces
- the varying job and residential densities for proposed future uses in precincts, with higher density precincts often more cost effective due to the high proportion of fixed costs, but not necessarily more productive in terms of economic value.

Spatially, the predominately employment precincts found to be the most cost effective are Mamre Road, Aerotropolis Core and Northern Gateway precincts, ranging from $150,000 to $200,000 per new job or resident accommodated.

The Aerotropolis Core and Northern Gateway precincts will be higher density mixed use precincts with both employment and residential uses, while Mamre Road is an industrial precinct contiguous with the established and serviced Western Sydney Employment Area.

The Agribusiness, Badgerys Creek, Kemps Creek and North Luddenham precincts are more costly owing to the fewer number of jobs forecast due to the nature of lower density agricultural and urban service uses, with estimated cost of more than $400,000 per new person and job.

Infrastructure costs apportioned to these precincts are spread across a fewer number of new jobs (with few residents) making them less cost effective on a comparison basis. However, these precincts fulfil very different functions by providing valuable industrial, urban services and agribusiness for export that are critical to the Western Parkland City's and Greater Sydney's operations and productivity.

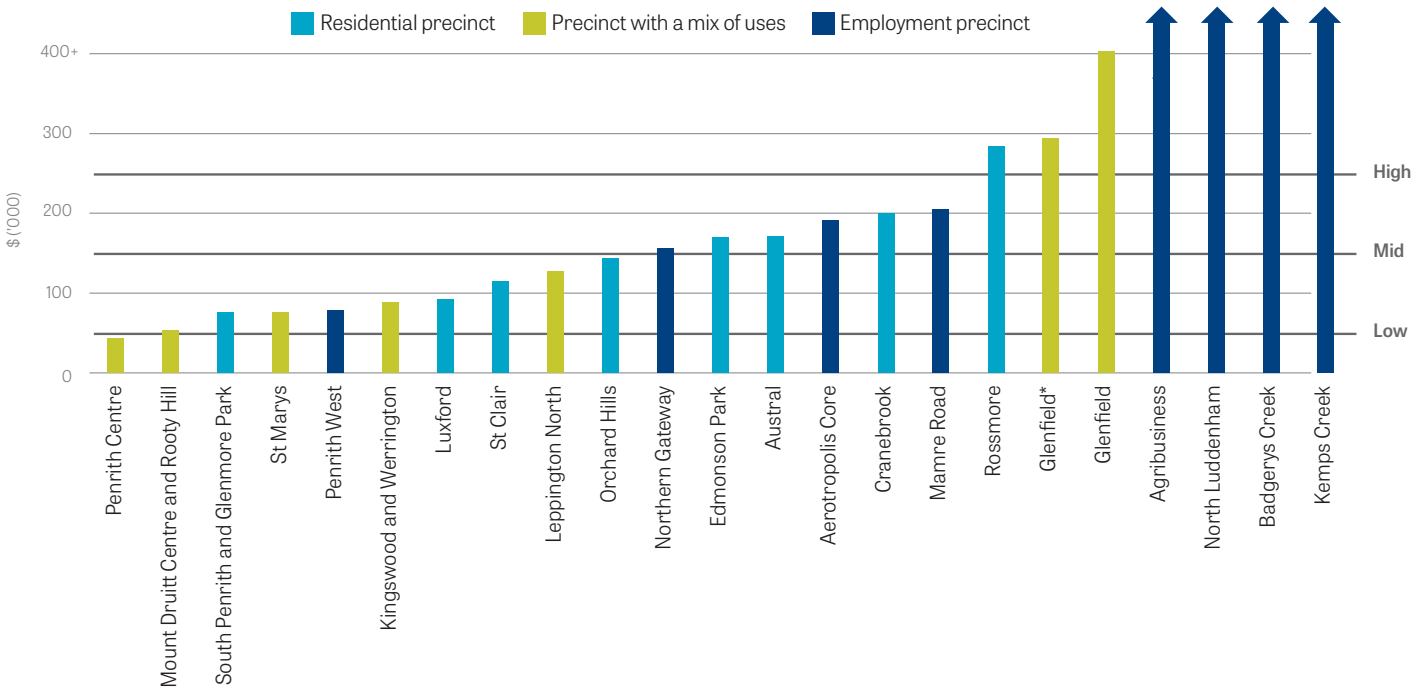
Spatially, the predominately residential precincts found to be the most cost effective are those in Greater Penrith to Eastern Creek, all with a cost of less than $100,000 per new resident or job accommodated. This included the Mount Druitt Centre and Rooty Hill, Luxford, St Marys, Kingsford and Werrington, Penrith Centre, South Penrith and Glenmore Park and Penrith West precincts – generally established areas.

The Orchard Hills, Leppington North, St Clair and Cranebrook precincts are of moderate cost effectiveness, with estimated cost of between $100,000 to $200,000 per new resident or job. Orchard Hills and Leppington North are both higher density precincts where costs can be spread across a high number of homes. By contrast, the St Clair and Cranebrook precincts would accommodate mostly infill or missing middle housing with modest costs associated with improvements to blue and green infrastructure.

At more than $200,000 per new resident or job, Rossmore, Austral, Edmondson Park and Glenfield are less cost effective. This is due to relatively lower population and jobs growth (or limited remaining growth in the case of Edmondson Park), and comparatively higher wastewater, water and stormwater costs. Sensitivity testing that assumes a higher growth rate in Glenfield in line with more recent growth forecasts, resulted in the lower cost per person and job.

Unlike the cost effectiveness measure, the cost-benefit measure considers the cost of infrastructure to service a place beyond what is already committed and funded by the NSW Government. This measure considers the Sydney Metro - Western Sydney Airport, including six new Metro stations; the M12 Motorway; and final stages of the Northern Road and Bringelly Road upgrades as a 'sunk cost'.

Figure 29: Cost of accommodating a new resident or job (Undiscounted) – Thriving Aerotropolis scenario, 20 years



Glenfield - The growth identified under the Thriving Aerotropolis scenario may understate the level of potential growth in Glenfield and take-up of development over time. A sensitivity analysis was therefore undertaken to evaluate the sensitivity of net benefits per person and job to higher growth in Glenfield.*

On this measure, the predominately employment Aerotropolis Core and Northern Gateway precincts are standout places for jobs as benefits outweigh costs and they are expected to attract industries with the capacity to generate a relatively high number of jobs. Using the same measure, the Agribusiness, Badgerys Creek and Kemps Creek precincts offer fewer benefits compared to cost. While the cost-benefit measure is useful, the ability to monetise all benefits of the more diverse employment uses is limited.

Analysis of the Mamre Road Precinct, while considered comparatively cost effective compared to other precincts, found that the benefits associated with the forecast higher concentration of jobs and mix of job types did not outweigh the associated costs of servicing. In practical terms, however, there is a need to increase the supply of industrial land due to growing demand for warehousing and logistics.

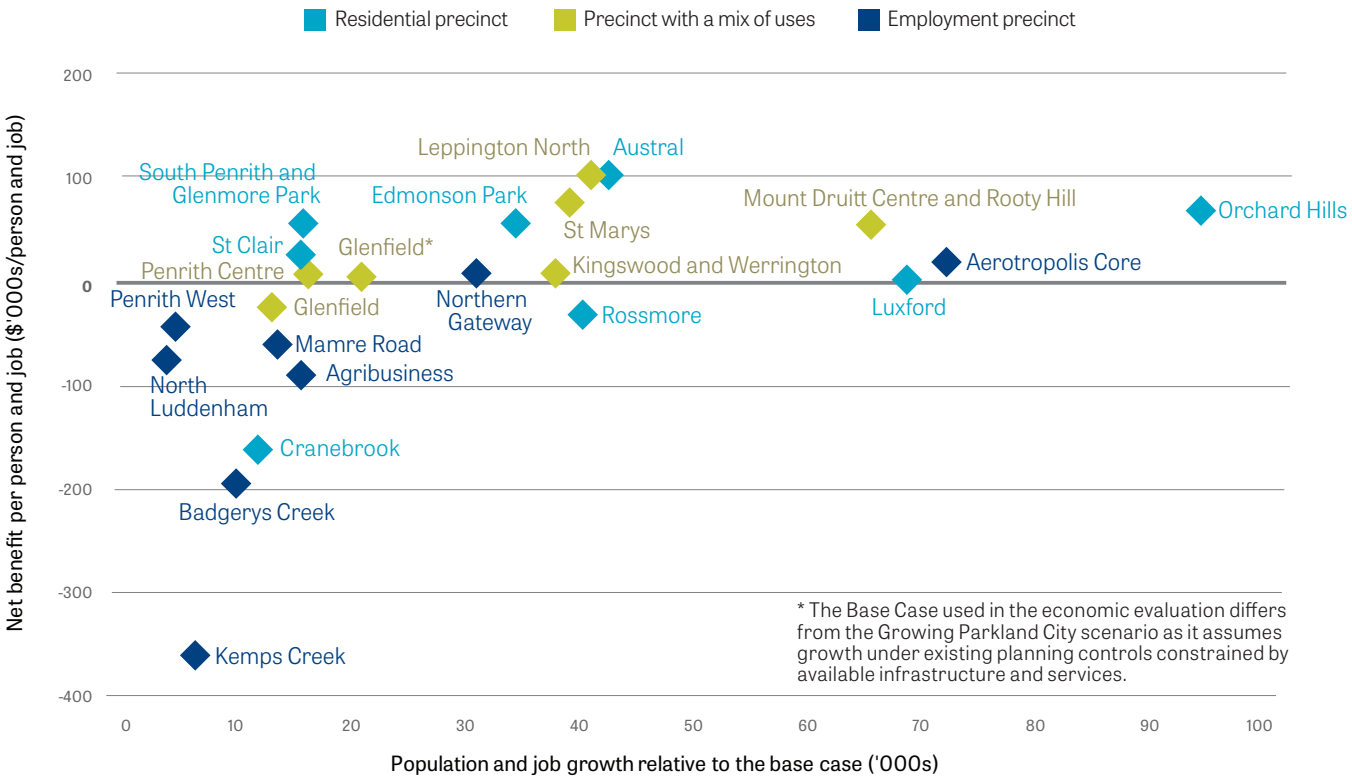
Using the cost benefit measure, the case for the predominately residential Orchard Hills and Luxford precincts (assuming the extension of Sydney Metro – Western Sydney Airport line north from St Marys to Tallawong in the future), Mount Druitt Centre and Rooty Hill, St Marys, Edmondson Park, Leppington North and Austral precincts are standout places for residential growth as benefits outweigh costs and these areas can provide land for a sizeable quantum of new housing.

Sensitivity testing for Glenfield shows that higher levels of growth, as now expected with the partial development of the Hurlstone Agriculture High School site, result in a positive net benefit per person and job relative to the base case. This assumes that the infrastructure identified for Glenfield Precinct has capacity to support the higher level of growth.

The analysis excludes the Jordan Springs and Ropes Crossing precincts as they have been substantially developed and the Penrith Lakes Precinct as limited growth is forecast. The Western Sydney Airport and Australian Defence precincts are also excluded as they are special-purpose precincts owned by the Australian Government.

While this analysis provides useful insights to relative costs it is not intended to be the single determining lens to select the precincts or extent of a precinct for growth in the near term. Rather, the PIC process seeks to consider the logical sequencing of growth from multiple perspectives, to make growth and change more certain, cost effective, outcomes-focused and easier for the local community, landowners, developers and investors to understand.

Figure 30: Net benefit of accommodating a new resident or job (Discounted) – Thriving Aerotropolis scenario, 40 years



What is the difference between efficiency and equity of outcomes?

City makers in most global cities around the world focus on equitable outcomes for citizens. Understanding the differences between equity and efficiency is important, as these concepts can inform decision-making in the Western Parkland City.

Economic **efficiency** means that society is getting the maximum benefits from its scarce resources, whereas **equity** means that those benefits are distributed more uniformly – and fairly - among society's members.

The *Greater Sydney Region Plan* sets an ambition to achieve more equitable outcomes through the 30-minute city and rebalancing opportunities through a metropolis of three cities. As an alternative, it could have focused on efficiency alone by pursuing a more efficient spatial pattern that would focus growth where it could be accommodated at lower cost and where the value of living is higher, as reflected in house prices.

Thinking about these concepts in relation to the PIC process findings, the cost benefit analysis is focused on efficiency. Measures of benefits and costs are not weighted differently depending on who in society is gaining or incurring these.

While efficiency is important, as the PIC model seeks to understand how to align the provision of infrastructure with growth, this must be considered in the context of striving for the vision for a metropolis of three cities.

The work on the initial PIC area, and future work on potential other PIC areas, seeks to contribute to that vision by ensuring better equity in access to a diversity of jobs, high quality cultural and social infrastructure, as well as recreation facilities and open space.

While there are lower efficiency outcomes for some of the precincts, particularly higher cost job precincts that will ultimately be closer to where people live, trade-offs between efficiency and equity need to be considered. Pursuing more equitable outcomes – that are less efficient than alternatives – ensures intergenerational liveability and sustainability.

Key Concept


CIGWELD
WeldSkill

Managing transformative growth while supporting existing industries

Owing to the sheer size and scale of the initial PIC area, land undergoing gradual transformation will need co-exist with existing businesses in mostly rural and resource recovery industries that will continue to operate. In practical terms, this means that some places will stay much the same for some time, while others prioritised for growth aligned with infrastructure will transform rapidly.

There is an underlying tension between landowners who seek early benefits from the need for urbanisation to meet the demands of population growth, the establishment of the Aerotropolis to create new jobs, and those who own or manage vital businesses and want to continue to operate.

Figure 31 illustrates major rezonings either recently completed or under consideration and State Significant Development Applications for resource recovery businesses, warehousing, distribution and logistics businesses within or near the initial PIC area.

The Aerotropolis Plan and SEPP provide the advantage of flexibility - with extensive rezoning of land and more land under investigation in Greater Penrith to Eastern Creek. They also have the disadvantage of potentially enabling ad hoc development without an understanding of how cumulative state, regional and local infrastructure may be afforded and prioritised by all parties involved in its provision. There is a risk of artificially inflating land values adding to the cost of acquiring land for infrastructure and services needed to support growth, without appropriate signals to the market.

Transitioning to a circular economy

A circular city aims to reduce consumption and keep resources in use through resource recovery, remanufacturing and recycling, water recycling and water sensitive urban design, transport sharing (ride/car/bike share), and renewable energy generation and storage.

A 'circular city' approach provides an alternative to traditional linear cycles of consumption, where goods are made, used and disposed of, often to landfill. A transition to a circular city, involves:

- supporting and developing local, regional and state circular economy hubs, renewable energy, water sensitive urban design as part of achieving a more resilient city
- regional wastewater treatment plants, resource recovery facilities including for construction materials, recycling facility and alternative waste treatment facilities
- creating new job opportunities, improving environmental efficiency and contributing to a more resilient economy
- innovation and collaboration across the private and public sector, institutions and the community.

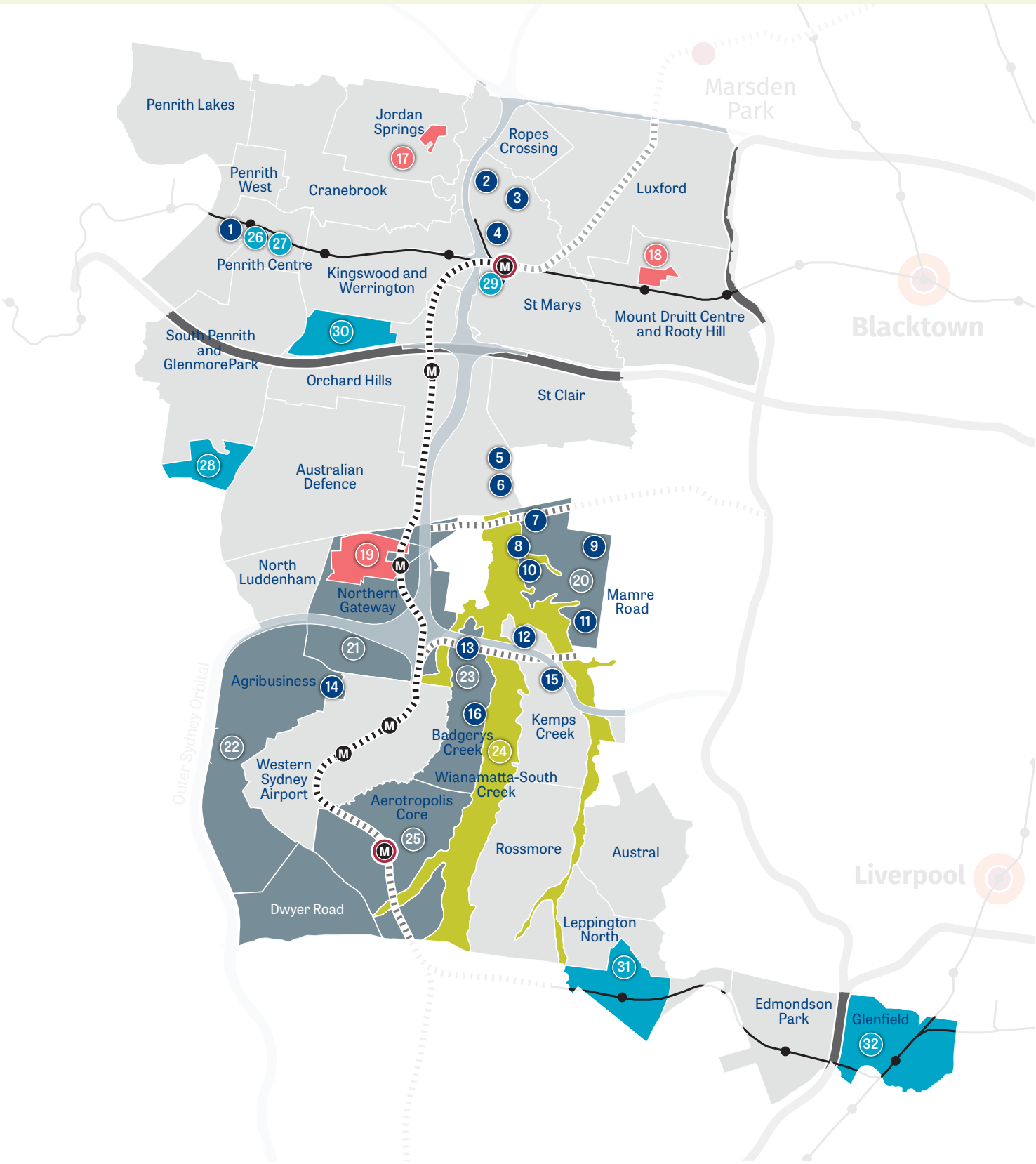
The waste export ban in Australia, to be introduced from January 2021 through the National Waste Action Plan 2019, further highlights the need for circular economy hubs to better manage waste and create value from waste products.

The early integration of circular economy principles and identifying hubs in planning can mean that a city's infrastructure and urban form can more readily facilitate and drive the effective re-use, collection, and redistribution of resources.

Providing city-scale (centralised) and local (decentralised) approaches to resources including waste management, water and energy, organics, industrial by-products, construction waste, and household recyclables ensures the city can function efficiently and sustainably into the future.

Safeguarding industrial and urban services land is a significant challenge in protecting existing and developing new facilities. The early identification of new hubs can help prevent land use conflicts and urban encroachment and provide opportunities to co-locate facilities and foster new industry clusters of innovation.

Continued long term private sector investment in small and large scale businesses, including utility providers, is crucial in supporting growth of the industry, accelerating the transition to a circular economy and creating jobs in the Western Parkland City.



Precinct boundary	State Significant Development Application
Sydney Metro – Western Sydney Airport	Recently rezoned – Agribusiness, enterprise, mixed-use or industrial
Outer Sydney Orbital (proposed)	Recently rezoned – Environment and recreation
Rail line and station (existing)	Recently/previously rezoned – Mixed use, business park, commercial and residential
	Precinct or Planning Proposal - under consideration (not rezoned)

Figure 31: Recently rezoned development or development under consideration/investigation

State Significant Development Application	
1	Penrith Waste Recycling and Transfer Facility (Approved May 2020)
2	St Marys Resource Recovery Facility (EIS under preparation)
3	Waste Management Facility St Marys (EIS under preparation)
4	St Marys Resource Recovery Facility (EIS under preparation)
5	Snack Brands Warehouse and Distribution Facility, Orchard Hills (Approved)
6	Atlis Proposed Warehouse and Logistics Hub, Orchard Hills (Construction underway)
7	Kemps Creek Warehouse, Logistics and Industrial Facilities Hub (Under assessment)
8	Kemps Creek Resource Recovery Facility (Approved May 2020)
9	200 Aldington Road Industrial Estate, Kemps Creek (EIS under preparation)
10	Aspect Industrial Estate, Kemps Creek (EIS under preparation)
11	ESR Kemps Creek Logistics Park (EIS under preparation)
12	Upper South Creek Advanced Water Recycling Centre, Kemps Creek (EIS under preparation)
13	Western Sydney Resource Recovery Facility, Badgerys Creek (EIS under preparation)
14	Luddenham Resource Recovery Facility (Response to submissions)
15	Clifton Avenue Resource Recovery Facility, Kemps Creek (SEARs)
16	Badgerys Creek Resource Recovery and Landscaping (EIS under preparation)

Recently/previously rezoned	
17	St Marys SREP 30 Amendment No. 3 (38.4 hectares, 500 homes) Rezoned 2020
18	Mount Druitt CBD (24ha, 15,000 jobs and 2,800 homes) Rezoned 2020
19	Sydney Science Park (287 hectares, 12,000 jobs and 3,400 homes) Rezoned 2016
20	Mamre Road (850 hectares, 17,000 jobs) Rezoned 2020
21	Northern Gateway (1,594 hectares, 13,908 jobs and 3,760 homes) Rezoned 2020
22	Agribusiness Precinct (2,342 hectares, 5,075 jobs and 681 homes) Rezoned 2020
23	Badgerys Creek (590 hectares and 1,844 additional jobs) Rezoned 2020
24	Wianamatta-South Creek (1,952 hectares forming the green spine of the Western Parkland City) Rezoned 2020
25	Aerotropolis Core (1,312 hectares, 11, 827 jobs, and 3,374 homes) Rezoned 2020

Precinct or Planning Proposal - Under Consideration (Not rezoned)	
26	39-49 Henry Street, Penrith (0.6 hectares, 445 homes + 100 Room Hotel) (Post exhibition)
27	57 Henry Street, Penrith (1 hectare, 454 homes, 64 jobs) (Post exhibition)
28	Glenmore Park Stage 3 (206 hectares, 2,558 homes) (Pre-exhibition)
29	33-43 Phillip Street, St Marys (1.2 hectares, 600 homes, 583 jobs) (Finalisation)
30	Orchard Hills North (146 hectares, approximately 1,700-1,900 homes) (Pre-exhibition)
31	Leppington Town Centre (approximately 430 hectares - Council led)
32	Glenfield precinct (approximately 590 hectares)

5.6 New ways of thinking are essential to resilience

Finding 6: Transformative growth in the Western Parkland City's economy and population, extreme weather events driven by climate change such as the recent bushfires, heat and drought, and new ways of living and working accelerated by the onset of COVID-19, will require new ways of thinking to shape a new normal. There is an opportunity to deliberately pursue new solutions to old problems to plan, build and make a more resilient Western Parkland City for the safety and wellbeing of local communities.

While the PIC model focuses on better aligning infrastructure with an increase in the number of jobs and homes, this must be considered in the context of the evolving environmental, social and economic conditions of the place. The successive major events in 2020 has highlighted the imperative to acknowledge and plan for uncertainty and to constantly monitor plans over time.

The Western Parkland City is already facing extreme weather events that impact communities and how people go about their daily lives. As much as possible, the impact of future events needs to be considered as the city is planned and built.

As the Western Parkland City becomes more urbanised and the impacts of climate change intensify, the risks that extreme weather events pose to communities will be further exacerbated. There is a need to both address and reduce the risk of catastrophic events to people and communities as well as better preparing and strengthening the community to enable people to recover.

A climate risk assessment to 2100 for the initial PIC area found that:

- risks of damage or failure of infrastructure would increase by approximately 20 per cent
- the probability of disruptive heatwaves would increase threefold over the next 80 years, placing electricity supply under pressure, putting vulnerable communities at risk
- the risk of damage from flooding would increase by around 40 to 50 per cent putting more people and property at risk
- the amount of land considered at a high or acute risk of flooding would increase by about 200 hectares in the northern part of the initial PIC area.

While these are significant climatic shifts, the assessment also demonstrated that early adaptations to infrastructure can reduce the risk of damage or failure of infrastructure and can be highly effective in reducing future risk.

For example, with urban heat, even a modest adjustment to electronic and mechanical systems in buildings and infrastructure to withstand an additional three degrees

Climate change risk assessment

To continuously improve the PIC model and its application, a climate risk assessment was undertaken to understand the risks that climate change and extreme weather will have on the initial PIC area.

The assessment also considered the impact this will have on current and future planning and decision-making.

This analysis of potential climate change impacts can inform decisions around where to locate growth and infrastructure and where climate adaptation strategies are need locally.

To calculate the risk of damage and disruptive failure between 2020 and 2100, the analysis included:

- established datasets on riverine flooding
- forest cover
- soils and topology
- meteorological datasets from the Bureau of Meteorology (BoM)
- forward looking climate change models from UNSW (NARCliM)
- engineering design specifications of buildings and roads.

The amount and location of land at risk from climate change and extreme weather such as floods were also analysed.

The climate change risk assessment report is available as part of the **Technical Report**.

Celsius coupled with urban greening techniques can reduce the impact of disruptive heatwaves.

Modifying the elevation of buildings at or above half a metre would in some circumstances mitigate the impact of flooding in high risk areas. Adaptations to buildings and infrastructure can increase resilience to extreme weather and climate change.

Infrastructure operates as a system across broad areas. Mitigations to improve the resilience of infrastructure located in high risk areas can improve the overall network's resilience to extreme weather and climate change.

It will be important to continually develop the Government's understanding of risk and embed the most up to date knowledge around climate change impacts into decision making. This can ensure that land use decisions are well informed and contribute to a more resilient Western Parkland City

Similarly, early consideration of climate change risk can inform better land use decision-making to avoid public and private investment in unsuitable land uses or development forms.

There is also significant opportunity to leverage traditional solutions to new problems, drawing on the depth of knowledge about caring for Country held by Aboriginal people.

More broadly, a community's resilience to shocks, stresses and natural disasters is influenced by a range of factors, from the social character and economic capacity of a place to the built environment.

With the initial PIC drafted in 2020, the reality of living in these times highlighted that planning for infrastructure and an urban form that is resilient to disasters and disruptions, and making decisions to reduce inequality and improve service provision, can improve the resilience of the people, businesses and environments of the Western Parkland City in the broadest sense.

COVID-19 highlights the importance of human connection not only to the environment but to each other, and where people work and study. The availability and quality of open spaces and natural places are vital to the community's health and wellbeing, physical and mental.

Accessible, quality community facilities, open spaces and healthy natural environments that people can engage and interact with are all central to connections.

Improved digital connectivity and broader access and use is also needed to support people to communicate, learn, work and reach out, including in emergency situations. The future expansion of digital connections will improve services such as online health consultations or online justice hearings.

What do you think?

- Thinking about the key findings, is there enough technical evidence to support them?
- Do the key findings line up with what you see as the main themes?
- Are there parts of the technical work that you think need explaining more?
- Are there parts of the technical work that you think we need to highlight?
- These plans were made before the current COVID-19 pandemic. Do you think any changes are needed to reflect how life might now be different in the future?

6 Proposed actions

The key findings confirm the need to be selective about where, when and what to invest to create the Western Parkland City. This is important for all investors across the public, private and non-for-profit sectors.

The most effective way of aligning growth with the provision of infrastructure is through a high-level sequencing plan, even when vast areas have already been rezoned, as is the case in the initial PIC area.

A sequencing plan can set out a clear direction for more orderly development, that is logical and easy to understand for infrastructure and service providers, investors, developers and the local community.

Such a sequencing plan, which identifies initial places for growth and change, would allow for:

- places to be well planned, with a more coordinated approach to the development of land, funding and delivering services and infrastructure aimed at enhancing liveability, productivity and sustainability outcomes for local communities
- more targeted investment in infrastructure and services to stimulate fewer but more complete new places, with priority focus on jobs and skills, and avoiding ad-hoc demands for development in disparate places that are unlikely to be met in a timely way
- market demand for new housing to be met in several strategically selected precincts, where new development and infrastructure can be feasibly delivered together to successfully create new communities rather than trying to facilitate growth everywhere, and across too large a spatial area.

This is a key step forward in implementing the first of the Region Plan's ten directions – 'A City Supported by Infrastructure'. It is consistent with the logic outlined in Chapter 3 of the Plan: 'Infrastructure and Collaboration'.

While the findings from the PIC process prompt a proposed sequencing of infrastructure and services to support land use changes, the initial PIC area is already a dynamic area with many places where growth and investment can occur under the rezonings of the last 5 to 10 years.

This creates the need for an effective platform and program for coordinated delivery that aim to inform government decision-making, particularly capital investment planning, budget process and key policy decisions.

Therefore, informed by the collaborative and evidence-based process and stakeholder engagement to date, there are 10 proposed actions. Five relate to the proposed sequencing plan and five to a proposed program to coordinate place and infrastructure priorities.

6.1 Proposed sequencing plan

The high-level sequencing of the 28 precincts is proposed to be implemented through:

- **Proposed action 1**: Initial places primarily for jobs and skills
- **Proposed action 2**: Initial places primarily for housing and people
- **Proposed action 3**: Initial places for landscape and resilience
- **Proposed action 4**: Subsequent places for growth and change
- **Proposed action 5**: Out of sequence development.

The proposed actions build on the **six initial precincts** identified in the Western Sydney Aerotropolis Planning Package. The proposed sequencing plan includes either all or part of these six initial precincts.

The sequencing plan reflects the findings that southern precincts are uniquely placed to grow primarily new high value jobs, skills and training leveraging the 24/7 international airport, existing urban services land uses, with some new residential communities along the existing rail from Glenfield to Leppington and the Fifteenth Avenue transit corridor.

Greater Penrith to Eastern Creek is well positioned mainly for new residential communities – greenfield and urban renewal, with growing employment, health and education uses in Penrith, Kingswood and Werrington.

While the sequencing plan sets out to communicate locations for jobs and skills and housing and people, in practical terms there will be a mix of uses within vibrant places where people can access a mix of activities and services.

Proposed actions

The key findings confirm the need to be selective about where, when and what to invest to create over time the Western Parkland City. This is important for all investors across the public, private and non-for-profit sectors.

The most effective way of aligning growth with the provision of infrastructure is through a high-level sequencing plan, even when vast areas have already been rezoned, as is the case in the initial PIC area.

A sequencing plan can set out a clear direction for more orderly development, that is logical and easy to understand for infrastructure and service providers, investors, developers and the local community.

Ten proposed actions have been identified through a collaborative and evidence-based process.

The first **five proposed actions** put forward an efficient and equitable way to align growth with the provision of infrastructure through a sequencing plan that takes a moderate 'targeted stimulus' approach.

This proposed sequencing plan includes the already rezoned six initial precincts, in part or full, identified in the final *Western Sydney Aerotropolis Plan* and *State Environmental Planning Policy (Western Sydney Aerotropolis) 2020* (Aerotropolis SEPP). It targets opportunities most likely to stimulate public and private investment activity in the initial PIC area in a way that achieves the identified place outcomes.

Four overarching principles have guided the development of the proposed sequencing plan:

1. Align with tri-level government policies and directions
2. Leverage investment to maximise the use of land for job creation, skills and industry
3. Leverage consolidated land holdings in public and private ownership
4. Minimise cost of enabling and supporting infrastructure and services.

As currently proposed, the sequencing plan aligns with the draft precinct plans for the initial precincts in the final Western Sydney Aerotropolis Planning Package on public exhibition over November and December 2020.

Proposed actions 6 to **10** build on the platform of the City Deal and rely on the Western Parkland City Authority to step into a new leading role in coordination and delivery, in collaboration with relevant partners.

These proposed actions are intended to inform government decision-making, particularly capital investment plans and budget processes over the next 5, 10 and 20 years as well as key policy decisions.

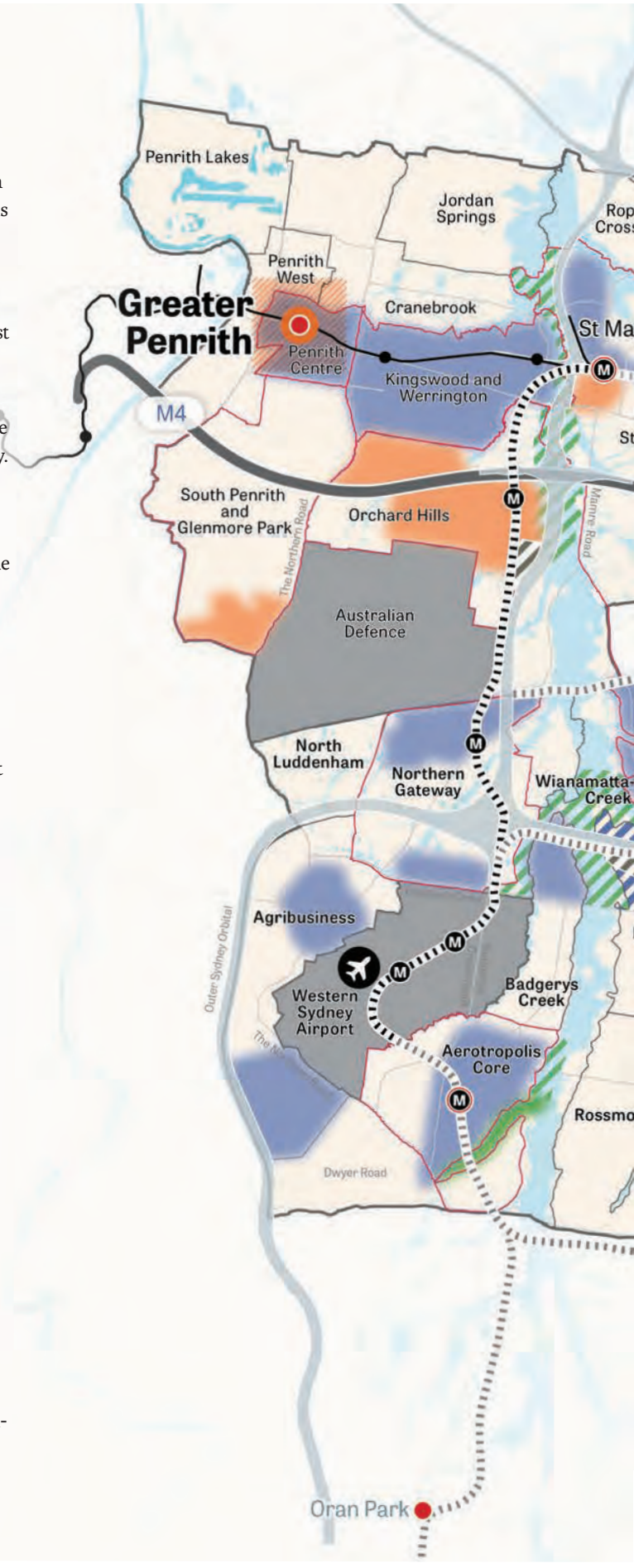
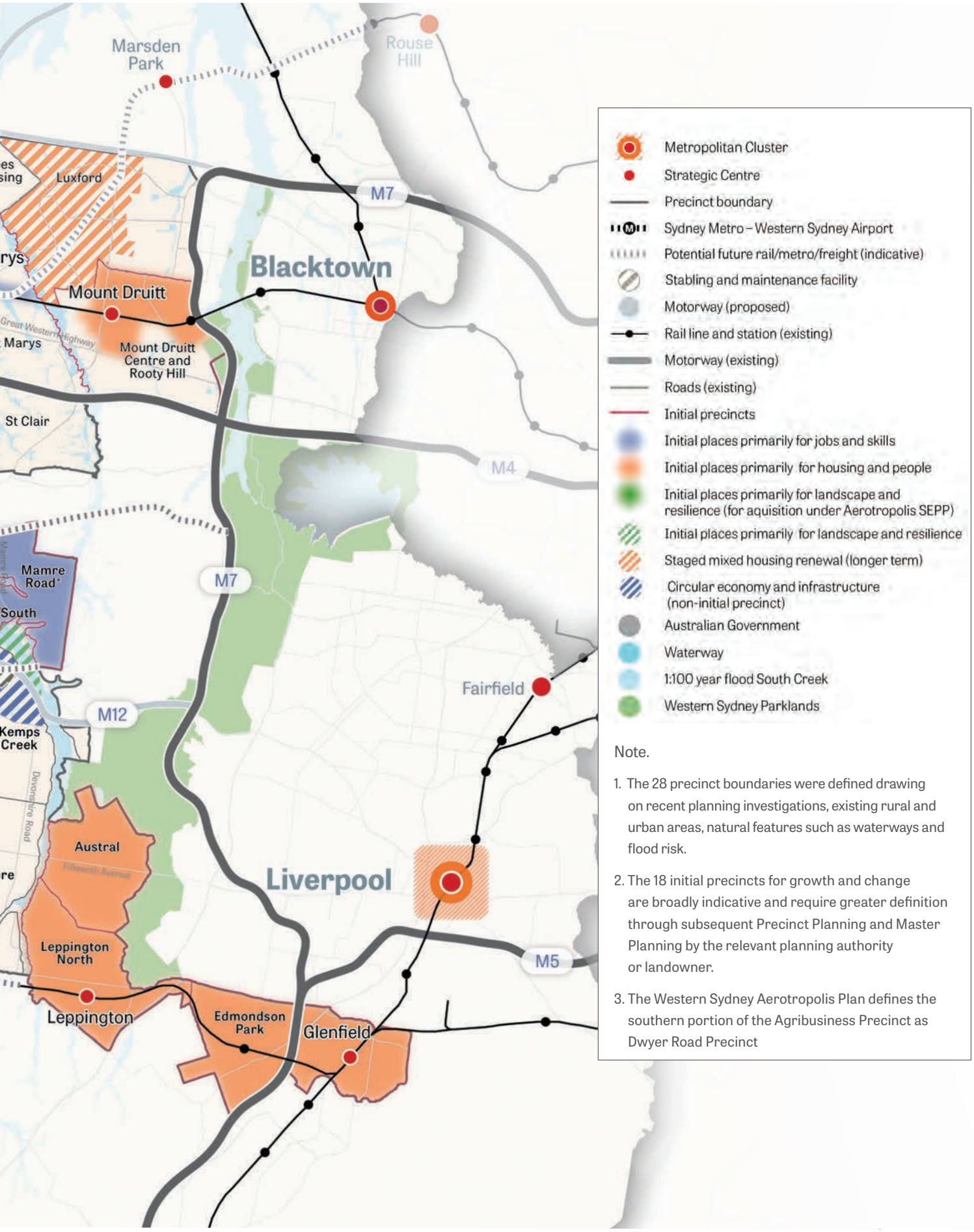


Figure 32: Proposed sequencing plan – Initial priority places for working, living, landscape and resilience



Note.

1. The 28 precinct boundaries were defined drawing on recent planning investigations, existing rural and urban areas, natural features such as waterways and flood risk.
2. The 18 initial precincts for growth and change are broadly indicative and require greater definition through subsequent Precinct Planning and Master Planning by the relevant planning authority or landowner.
3. The Western Sydney Aerotropolis Plan defines the southern portion of the Agribusiness Precinct as Dwyer Road Precinct

Key Concept

Sequencing principles and options framework

The process for developing the proposed sequencing plan involved working with partners, including State agencies, utility providers, councils and stakeholders to:

1. define sequencing principles
2. define a sequencing options framework
3. develop options for sequencing using the framework
4. evaluate options against sequencing principles
5. select and refine a preferred sequencing plan for feedback.

The **Consultation Report** outlines how stakeholders were engaged during the development of the draft principles and options framework, and the development options for evaluation by the technical team

Table 2 outlines the **sequencing principles** and *Figure 32* shows the **Sequencing Options Framework.**

Table 2: Summary of sequencing principles

Tri-level government policies and directions 	1. Strategically aligns with government policy, including City Deal Commitments, region and district plans and subsequent strategic planning directions that reinforce the need to sustainably plan for existing and new communities and the metropolitan cluster.
Job creation, skills and industry 	2. Leverages investment in city-shaping infrastructure in the Western Parkland City by maximising the use of land around these investments to support jobs, skills and new industry. 3. Prioritises early strategic employment creation and agglomeration in high vale and knowledge intensive jobs, new industries, learning and skills development to rebalance opportunities across Greater Sydney.
Property and land ownership drivers 	4. Leverages consolidated land holdings in Government and private ownership where new employment lands, mixed use and residential communities can be master planned. 5. Supports new solutions for constrained lands (e.g. fragmentation, flood affected) to create new opportunities for viable, productive and sustainable uses as part of the fabric of the Western Parkland City. 6. Supports a diversity of new highly urban housing (as distinct from suburban housing) that can be affordably delivered by industry, governments and utility providers, consistent with local strategic planning and in line with market demand. 7. Leverages opportunities early to improve the social sustainability of communities in the Western City, including through the transformation of concentrated areas of social housing.
Enabling and supporting infrastructure and service drivers 	8. Precincts are viably supported by existing, planned or cost effectively provided enabling infrastructure including water, electricity, gas, digital (5G), green, blue and transport networks and systems. 9. Precincts are viably supported by existing, planned or cost effectively provided supporting social infrastructure and by the public, private and not-for-profit sector. 10. Supports opportunities to co-locate activities and services in precincts, such as at the Aerotropolis and in health and education precincts; and for multi-utility/multifunctional corridors through upfront and early strategic alignment.

Table 3: Sequencing options framework

	Amount of land services	Infrastructure and service costs	Control over urban outcomes	Land prices	Likelihood of realising growth projections
Maximum land enabled for growth and development on multiple fronts	■■■	●●●	▲▲▲	●○○	▲▲▲
Moderate level of land enabled and serviced by targeted stimulus growth opportunities in strategic locations and industries	■■□	●●○	▲▲△	●●○	▲▲△
Minimum land enabled and services that is planned to progressively meet demands of growth	■□□	●○○	▲▲▲	●●●	▲△△

The three options were developed using the framework – which seeks to draw out the trade-offs between a 'maximum' and 'minimum' enabled land approach – and these were evaluated against the sequencing principles to determine the preferred approach in proposed actions 1 to 3.

The proposed sequencing plan reflects to moderate option enabled and serviced by **targeted stimulus**. More detailed information on the process and the results are in the **Technical Report**.

Proposed action 1: **Initial places for jobs and skills**

These are areas within the Penrith Centre, Kingswood and Werrington, and St Marys precincts, as well as, the Aerotropolis Core, Northern Gateway, Agribusiness, Mamre Road, Badgerys Creek and Kemps Creek precincts where infrastructure and service investment can be used to stimulate, enable and support new and existing industries, job creation, education, training and vibrant retail centres with some housing; more traditional industrial, warehousing and logistics; as well future focused industries for the emerging agribusiness and circular economy.

Place outcomes

1. Strong focus on wellbeing and inclusiveness
2. Aboriginal living culture and equitable participation
3. Jobs, skills and innovation – for everyone in the city
4. Well connected places – transport and digital

The following precincts, and nominated areas within them, were considered the most strategic places primarily for jobs and skills initially, based on all aspects considered in the PIC process:

- **Penrith City Centre Precinct**: There is an opportunity to reinforce the importance of Penrith City Centre's established commercial centre as an important jobs centre in the Western Parkland City. Penrith is dominated by rivers, creeks and waterways, along with wide floodplains, and the risk of flood is real and serious. Growing the commercial core and enabling more mixed use development, including some housing, will depend on the risk and cost of flooding being minimised and ensuring people can be safely evacuated during major flood events.
- **Kingswood and Werrington Precinct**: Known as 'The Quarter', the anchoring institutions of the Nepean Hospital, TAFE NSW and Western Sydney University are positioned well for industry clustering and agglomeration in health and education and are relatively cost effective and efficient places to grow in terms of servicing. The Quarter, with continued private and public investment, can foster a growing ecosystem of innovation centred on research and development to benefit of health firms, start-up businesses and the local supply of university graduates seeking to work locally.
- **St Marys (north) Precinct:** This area is already a highly valued industrial area with good road and rail access. It also provides space for functions such as waste and resource recovery and is positioned to transition to circular economy functions, as part of its growth and change.
- **Aerotropolis Core (east), Northern Gateway (north** and **south)** and **Agribusiness (north** and **south) precincts**: These three precincts are best located to leverage the catalysing effect of the Airport. The proposed approach to initiating development in these focus on:
  - **Aerotropolis Core** (**east**) around public and private land holdings, including 114 hectares of publicly owned land that will accommodate a Sydney Metro station, CSIRO, the Multiversity, Vocational Educational Training (VET) facility and other foundation partners. To enable and stimulate a vibrant Aerotropolis, it proposed that the internal network for the Aerotropolis core is established early and built in stages towards the existing city, to enable connections to Liverpool, Penrith and Campbelltown.
  - **Northern Gateway** (**north** and **south**) north and south of the future M12 Motorway and Outer Sydney Orbital interchange where there are larger land holdings adjacent to Elizabeth Drive and the main interface into Western Sydney Airport. The Northern Gateway will benefit from the new Sydney Metro station at Luddenham.
  - **Agribusiness** (**north** and **south**) incorporating land that is positioned to support intense fresh food production and handling and the pharmaceutical industry, with good access to The Northern Road and convenient airside/ landside connections given its adjacency to the 24/7 freight handling facilities at the Airport.

- **Mamre Road, Badgerys Creek (north)** and **Kemps Creek (north) precincts**: This will leverage and consolidate the use of lands broadly in the 'Triangle' bounded by the eastern side of Badgerys Creek, the western side of Mamre Road and north of Elizabeth Drive. This area is adjacent to the rezoned Mamre Road industrial precinct.

  It is used for agricultural and extractive industries (including resource recovery and management, quarrying, wholesale nursery and wholesale produce) and will be subject to aircraft noise in the future.
- Kemps Creek (north), while not an initial precinct under the Aerotropolis Plan, is a potential location for a future rail stabling yard for a proposed Metro extension to Parramatta and a future M12 interchange with a Devonshire Road extension.

It is also a place identified by Sydney Water for an advanced water recycling centre on a 50-hectare site owing to its location near bulk industries that need recycled water, and its location near a waterway for high quality discharge.

The location could be the beginnings of a signature urban services and circular economy hub for the Western Parkland City, and spark innovation near the industrial land on the eastern side of Mamre Road.

The Mamre Road Precinct also leverages the potential Western Sydney Intermodal Terminal, which has the potential to contribute to the development of a circular economy hub. Given its connection to transport links, this place has the potential for a 'hub and spoke' service model.

Developing this area would likely mean prioritising the Mamre Road upgrade south of Erskine Park Road along Elizabeth Drive to facilitate this precinct and support the evolution of the semi-rural service centre at Kemps Creek.

Creating the Aerotropolis

Macquarie Park's success in driving jobs attraction and research

Located 12 kilometres north west of Sydney CBD, today Macquarie Park has almost 50,000 jobs and over 20,000 residents. Spanning over 350 hectares, it is one of the fastest growing employment centres in Greater Sydney and a hub of global connected business specialising in knowledge intensive industries including pharmaceuticals, health, technology.

Macquarie Park began in the early 1960s on semi-rural land that was originally part of Sydney's Green Belt set in the 1948 County of Cumberland Planning Scheme. It was released as an employment area based on the idea of a similar hi-tech industrial area surrounding Stanford University in Palo Alto, California. It specifically targeted science and technology sector industries to locate close to Macquarie University, established in 1964, to promote business activities in areas of innovation, research and development.

During the 1970s companies such as Amalgamated Wireless Australasia, Beiersdorf and Johnson and Johnson located their corporate headquarters in the area. It experienced a rapid phase of development from the early 1990s, with businesses taking advantage of lower office rentals than major office markets in the CBDs and the generous on-site parking. This appealed to businesses with a significant distribution or sales function, requiring ease of access to markets or clients.

It is Australia's largest office market outside of a capital city core and sixth largest CBD (as a measure of GDP) in Australia with over 850,000 square metres of office space. It is home to many of Australia's Top 100 companies and multinationals including Optus, Orix, Canon, and Hyundai. The area is now at the next stage of its evolution, with new relatively more compact mixed commercial and retail developments planned or underway.

Macquarie Park includes a health and education precinct centred around Macquarie University and Macquarie University Hospital. Adjoining is Macquarie Centre, a major regional shopping centre, which opened in 1981. It is fringed by some older medium density housing units and townhouses dating from the 1960s and 1970s, which in the last 10 years have been or are progressively being redeveloped into new high density residential buildings.

Like Macquarie Park, the Aerotropolis is set to turn once rural land into a key employment area, complementing the metropolitan cluster so that workers in the Western Parkland City can enjoy good jobs and careers. Announced in July 2020, the CSIRO is due to open a new facility in the Aerotropolis Core by 2026, signalling the beginning of this transformation.

Proposed action 2: **Initial places for housing and people**

These are areas within the South Penrith and Glenmore Park, St Marys, Mount Druitt and Rooty, Orchard Hills, Austral, Leppington North, Edmondson Park and Glenfield Precincts where a diversity of new housing can initially accommodate the growing population. This new housing will need to cater for people living in housing across the continuum from social and crisis housing to private ownership; and be created as parts of high quality mixed tenure places, with the services needed for each unique community. This includes Aboriginal communities, and people across the income and age spectrum.

Place outcomes

1. Strong focus on wellbeing and inclusiveness

4. Well connected places – transport and digital

6. Connected, diverse and resilient communities

The following precincts, and areas within them, were considered the most strategic places for housing and people initially, based on all aspects considered in the PIC process:

- **South Penrith and Glenmore Park Precinct (south)**: Focuses on completing the final stage of the Glenmore Park estate, offering more suburban housing choices and lifestyles.
- **Mount Druitt Centre and Rooty Hill Precinct (north)**: Sets out to support the renewal of the Mount Druitt and Rooty Hill centres along the T1 Western Line including the revitalisation of housing around vibrant centres that offer a mix of retail, health, education and cultural facilities.
- **St Marys (south)** and **Orchard Hills (north and east) precincts**: Within walking distance of two new Sydney Metro stations at St Marys and at Orchard Hills and the improved east-west and north-south road network, there are opportunities to create a range of more suburban and urban forms of mixed tenure housing, including social, affordable rental and private housing. This means doing things differently and driving outcomes for all members of the community. The scale of housing that can be provided over the longer term is significant. Contemporary housing will be available for a range of workers from lower paid essential workers to highly skilled workers in the knowledge economy. These workers will be needed for the Airport and Aerotropolis and also for jobs in the community such as in the growing sectors of aged care and tertiary education.
- **Austral, Leppington North** and **Edmondson Park precincts**: Being long-planned precincts yet to be taken up by the market, the Austral and Leppington North precincts would benefit from a State agency such as Landcom or Housing and Property within the Department of Planning, Industry and Environment to assist in addressing fragmented land ownership, focusing initially on stimulating the Leppington Town Centre, as has occurred at Edmondson Park, ahead of rezoning land further west for residential purposes.
- **Glenfield Precinct**: Leveraging consolidated lands within walking distance of the strategically located Glenfield station, including land around the historic Hurlstone Agricultural High School provides an opportunity for high quality mixed tenure housing with, potentially, other commercial and institutional uses.

NSW Housing Strategy Discussion Paper

The Department of Planning, Industry and Environment released a NSW Housing Strategy Discussion Paper in July 2020, using the implied housing demand from the 2019 population projections as the basis.

The next step is to develop the NSW Housing Strategy to provide the direction on the optimal location and amount of housing to be provided that will:

- set an overarching 20-year vision for housing in NSW, providing an 'end-to-end' NSW Government position on all housing, from homelessness to home ownership
- include action plans for State agencies
- recognise the contribution of councils, industry and communities
- be supported by data and consultation, monitoring and evaluation and the network of agencies responsible for action plans.

The objectives in preparing an NSW Housing Strategy are to:

- coordinate diverse housing policy to most effectively respond to challenges
- ensure an agile, timely and evidence-based response to new opportunities and issues
- provide certainty to councils, industry and communities about the direction for housing in NSW
- provide a foundation to communicate with and complement the work of State agencies councils and the Australian Government
- ultimately, best plan for housing that responds to environmental, population and affordability changes and the preferences and needs of the community – now, over the next 20 years and beyond.

Along with local housing strategies, the NSW Housing Strategy will inform the future of housing as proposed in the sequencing plan.

Place outcomes

1. Strong focus on wellbeing and inclusiveness

2. Aboriginal living culture and equitable participation

5. Scenic, productive and resilient landscapes

6. Connected, diverse and resilient communities

Proposed action 3: **Initial places for landscape and resilience**

These are areas within St Marys, Orchard Hills, Mamre Road, Badgerys Creek, Kemps Creek and Aerotropolis Core precincts where the landscape-led vision for a Western Parkland City may be created in a way that respects Country, and reshapes degraded waterways and ecology/biodiversity to create new parklands, places and a whole-of-water cycle management to cool the city.

The following precincts and nominating areas within them were considered the most strategic places to contribute the realising the landscape and resilience elements of the Western Parkland City vision:

- **Wianamatta-South Creek** in **Kingswood and Werrington, St Marys** and **Orchard Hills precincts:** To support water quality, manage impacts of growth and improve amenity for nearby communities while utilising land that is already in government ownership (200 hectares in Kingswood and Werrington, 20 hectares in St Marys and 35 hectares in Orchard Hills for waterway management and biodiversity, primarily zoned for environment or recreation land uses).
- The confluence of **Badgerys Creek, Kemps Creek** and **Wianamatta-South Creek (north** of **Elizabeth Drive** to **Mamre Road)**: To support improved water quality outcomes and manage the impact of development in Mamre Road, Badgerys Creek and Kemps Creek as well as protecting vegetation of high biodiversity value.
- **Thompsons Creek** and **Wianamatta-South Creek (The Northern Road** to **Kelvin Park Road)**: To support the development of a high quality mixed-use centre in the Aerotropolis Core, providing high quality regional open space that also enhances biodiversity conservation and waterway health outcomes, supporting new communities in the Aerotropolis as well as established communities in Rossmore, Austral and Leppington North. This area has been identified for acquisition under the *Western Sydney Aerotropolis Plan*.

Investment in environmental infrastructure proposals, including those that improve waterway health and/or biodiversity conservation outcomes, will be required irrespective of anticipated growth. These investments will be critical to environmental functions, amenity for local communities and for realising the Western Parkland City vision.

Prioritising investment in blue and green infrastructure will achieve positive environmental and amenity outcomes, alongside the several other costly elements of city building and city making.

Creating the Wianamatta-South Creek Corridor – Learning from the Western Sydney Parklands

Make it multi-purpose, self-sustaining and a place people love

Spanning 27 kilometres from Leppington North to Quakers Hill and encompassing more than 5,000 hectares, the Western Sydney Parklands have continuously evolved since first conceived in 1968 into a much-loved part of Western Sydney's landscape, and its social and community fabric.

The Parklands always been and remains an important part of Country for Dharug people and falls within the interests of the Deerubbin and Gandangara Local Aboriginal Land Councils.

During COVID-19 operations were adapted with the annual Food Fest 2020 shifting online with a Virtual Kitchen, while usage of the 60 kilometres of tracks and trails doubled from the beginning of the pandemic to the end of June 2020.

The idea of a multi-purpose green, blue and grey corridors for Wianamatta-South Creek is not new. Greater Sydney's first regional land use plan, the 1948 County of Cumberland Plan, sought to control development within a 'Green Belt' and provide rural open space on the fringes of Sydney.

Later, the 1968 Sydney Region Outline Plan (SROP) adopted a corridor-based growth strategy and Principle 5 (of only seven) identified the need to 'reserve multi-purpose utility corridors'. This envisaged regional open space and special use corridors that serve a dual purpose – protecting the possibility of expansion for critical infrastructure across Sydney and providing land for recreational purposes.

The Parklands are nestled between today's broader visionary concepts of the Central River City and Western Parkland City.

Importantly, the Western Sydney Parklands are governed by legislation. The Western Sydney Parklands Plan of Management continues to acknowledge that some land within the Parkland is needed to meet the ongoing and expanding needs of the Western Sydney community for infrastructure such as electricity, gas, telecommunications, water and wastewater.

Parts of the Wianamatta-South Creek Corridor will gradually become part of the Greater Sydney's Green Grid, as can be afforded by the NSW Government. These parts will contribute to a network of high-quality regional open spaces that support biodiversity and waterway health and connects people to centres and public transport hubs.

Some parts will remain in private ownership for ongoing rural and productive uses like market gardens. It will also locate some of the Western Parkland City's essential linear utilities and transport connections as part of the city building efforts over the decades and century ahead, as occurred over 20 years in the Western Sydney Parklands.

Place outcomes

5. Scenic, productive and resilient landscapes

6. Connected, diverse and resilient communities

Proposed action 4: **Subsequent places for growth and change**

There are areas across the initial PIC area with urban potential that will remain much as they are for some time until they are needed for urban purposes to accommodate growth. While there is uncertainty around when these areas are needed it is important that landowners and business are reasonably informed, and any expectations are not unfairly raised. This will assist in their own decision-making and ensure that land prices are not artificially inflated based on undue expectation about the timing of future uses.

The proposed sequencing plan targets investment to stimulate employment growth. This will address a comparative deficit of jobs, and range of job types in the Western Parkland City, compared to the rest of Greater Sydney.

The sequencing plan only identifies **initial places** for growth and change, and deliberately does not consider the timing for **subsequent places** for growth and change.

There is too much uncertainty - both in terms of demand and supply - to give clarity around what may be reasonably expected, and when, for every area.

Further, the initial places have capacity to accommodate growth forecast until the mid to late 2030s (or at least 15 to 20 years).

Areas not identified as **initial places**, including **Dwyer Road** (created in the Aerotropolis Plan) and **Rossmore** precincts; and parts of rezoned precincts like the **Aerotropolis Core** (**west** and **south**), **Agribusiness** (**central**), **Northern Gateway** (**central**), **Badgerys Creek** (**south**) as well as **Kemps Creek** (**south**) precincts should remain largely unchanged for the foreseeable future, noting that some of these areas have already been rezoned and are subject to precinct planning by the Western Sydney Planning Partnership.

While these areas are either designated with a new mixed use, agribusiness or enterprise zone through the Aerotropolis SEPP or relevant LEPs, any substantial change or development that would require public investment in infrastructure and services is not proposed. It should only occur when capacity for new jobs and housing is substantially exhausted in the initial places identified in the proposed sequencing plan.

Learning from the rate and location of development in the South West Growth Area over the last 10 to 20 years, parts of precincts with high land ownership fragmentation are generally seen as longer-term prospects, including the **Rossmore**, **Dwyer Road**, **Aerotropolis Core** (**south**), **Badgerys Creek** (**central**) and **Kemps Creek** (**south**) **precincts**.

Recognising that older social housing in the **Luxford Precinct** is isolated from centres and public transport, there is an opportunity to support some social housing tenants to relocate into new and well designed housing in nearby suburbs, in places that leverage the new Sydney Metro - Western Sydney Airport stations (due to open when the Airport opens for passenger services), while retaining valuable connections with where they currently live.

Keeping agriculture in the city

Learning from Kyeemagh Market Gardens on the doorstep of Sydney (Kingsford Smith) Airport

The Kyeemagh Market Gardens, located near Brighton-Le-Sands, have continuously operated as a market garden since the late 19th century and were typical of the Rockdale area and throughout Sydney. Today the remaining eight hectares are divided into four leasehold gardens, where vegetables are still grown and sold at markets in the local area.

The market gardens continue to provide fresh vegetables to nearby communities and represent the value in retaining agricultural land in an urban area and near Sydney (Kingsford Smith) Airport, which opened as a public airfield in 1924.

Although the urban context is very different in the Eastern Harbour City, the market gardens at Kyeemagh are similar to many of those in suburbs like Kemps Creek, Rossmore, Austral and Leppington, farmed by a diverse range of migrant communities, including Chinese, Vietnamese, Lebanese and Maltese farmers, reflecting decades of migration to Australia.

Retaining agricultural land as the initial PIC area grows also provides opportunity for more Aboriginal enterprise and employment opportunities on Country and through the continuation and advancing of Aboriginal cultural land practices.

Proposed action 5: **Out of sequence development**

Out-of-sequence development should be discouraged as it places a burden on the NSW Government, utility providers, councils, other service providers and communities, for which they are not able to adequately prepare. Accelerating spending for an out-of-sequence development most often means diverting infrastructure and service spending away from higher priority planned locations.

Place outcomes

- 4. Well connected places – transport and digital
- 5. Scenic, productive and resilient landscapes
- 6. Connected, diverse and resilient communities

The proposed sequencing plan seeks to enable enough land for the market to actively grow a number of places, to meet demand from for a growing number of businesses. When this is combined with a new `Fit-for-Place' Program (as per Proposed Action 6) that seeks to coordinate the location of public, private and not-for profit investment, the case for out-of- sequence development is diminished.

The notion that out-of-sequence development, primarily for housing and potentially other uses, can be feasibly delivered by landowners and developers at `no cost' to government - state and local - in practical terms is very difficult to achieve.

The PIC process findings demonstrate the very sizable contribution from the NSW Government to support the growth task and the many contributors required to fund the provision of infrastructure and services holistically for a place.

Evidently, it is not easy to precisely discern and further agree costs driven by the demands of growing new communities and costs associated with service improvements that benefit existing communities. While such proposals may be presented by landowners or developers as offering benefits in terms of accelerated housing supply to keep the cost of housing affordable for households, the economic costs, affordability and relative priority for government needs to be understood in any decision making process.

It is often difficult for approval authorities to determine that 'satisfactory arrangements' are in place to allow rezoning and development applications to be considered. Achieving this is a resource intensive process, and most often diverts limited resources from supporting development and infrastructure that are in sequence.

Should the market seek to pursue a development outside of an initial area, any proposals are diligently assessed leveraging principles of the NSW Government's:

- *Public Private Partnership Guidelines* (2017)
- *Unsolicited Proposals – Guide for Submission and Assessment* (2017)
- Provisions on out-of-sequence development under *State Environmental Planning Policy (Western Sydney Aerotropolis) 2020.*

6.2 Proposed program to coordinate priorities

The key findings confirm the need for an unprecedented level of coordination to maximise the unique opportunity of the initial PIC area.

Beyond the sequencing plan, the draft PIC proposes a new way of approaching the challenge of coordinating place and infrastructure priorities in high transformation areas with an ambitious city vision and existing local communities.

The most effective way of aligning the provision of infrastructure with growth is through a high-level **sequencing plan that is accompanied by a coordinated investment program** across government agencies, utility providers, private and non-for-profit providers.

While strategic plans provide a road map, and statutory plans development rights, the long-term delivery of these plans, requires an inclusive and committed program to monitor and review progress. This is critical for informing year on year infrastructure prioritisation and budget decisions across multiple providers.

This approach is at the heart the `Compact' aspiration of the PIC model - where there is agreement and cooperation from all involved in building and making great places to realise wider benefits for the community.

The following proposed actions build on the platform of the Western Sydney City Deal and rely on the Western Parkland City Authority to lead overall coordination and delivery efforts:

- **Proposed action 6**: 'Fit-for-Place' Program
- **Proposed action 7**: Forward public land and property program
- **Proposed action 8**: Shifting to place-based business cases
- **Proposed action 9**: Whole-of-water cycle and stormwater management reform as part of place-making
- **Proposed action 10**: Renewing and increasing the provision of social and affordable housing as part of place-making.

Proposed action 6: **'Fit-for-Place' Program**

This action proposes a program led by the Western Parkland City Authority and the Department of Planning, Industry and Environment to oversee the alignment of growth with the provision of infrastructure across the initial places identified in the sequencing plan for the initial PIC area and the wider high growth areas of the Western Parkland City.

Place outcomes

1. Strong focus on wellbeing and inclusiveness
2. Aboriginal living culture and equitable participation
3. Jobs, skills and innovation – for everyone in the city
4. Well connected places – transport and digital
5. Scenic, productive and resilient landscapes
6. Connected, diverse and resilient communities

The growth and development of the initial PIC area will occur over decades, with a true collaborative effort required from everyone in city making to create a thriving Western Parkland City.

The Australian and NSW governments, councils, the development industry, private sector and non-for-profit infrastructure and service providers will all have a role in making, building and growing the city consistent with the desired place outcomes.

The risks of not getting the Western Parkland City right are too great - for everyone with an interest in cities from the development industry, social and environmental interest groups through to the residents that will live in the city.

The 'Fit -for-Place' Program is proposed to involve:

- quarterly two-way dialogue between State agencies, utility providers, councils, the development industry and private and not-for-profit providers
- regular engagement on the development pipeline needing to be serviced with infrastructure in the short to medium term, as advised by the Department of Planning, Industry and Environment through the newly established and digitally enabled Urban Development Program so there is a shared understanding of priorities
- reporting on the place outcomes alongside established city-wide reporting through *The Pulse of Greater Sydney* led by the Commission.

The transition from a predominantly rural area with key agricultural and extractive industries to a thriving city will require a considered and careful approach to ensure the best outcomes from public and private investment.

While this transformation will occur over several decades, the sequencing of infrastructure and the monitoring of development will need to occur to avoid dispersed and inefficient growth and investment.

The proposed 'Fit-for Place' Program would monitor the supply pipeline and up-take of land for residential, employment and urban services land that will be required to ensure that an appropriate level of serviced land is available to the market to respond in a flexible yet efficient manner.

Members would include State agencies, utility providers, councils, the development industry, private and not-for-profit providers such as independent schools, private health or community housing so that everyone in the city building and making process is regularly engaged.

The program could also consider how developer contributions revenue and NSW Government funding could be best spent to realise place-based benefits and outcomes over time.

Western Parkland City Authority

Learning from the longevity of the Macarthur Development Board

The Macarthur Development Board was established in 1975 to coordinate infrastructure works for the South West Sector, which at the time included Campbelltown, Camden and parts of Wollondilly. Under the 1968 Sydney Region Outline Plan, the South West Sector was to accommodate 460,000 people by the turn of the century.

The Board used a model that saw major infrastructure works managed by State agencies such as the then Department of Main Roads and Department of Education; and subdivision of land carried out by the private sector and the-then Housing Commission and Land Commission.

This ensured that water, sewerage, roads, public transport and schools were aligned with growth. The process allowed the Board to address impediments to development – in Campbelltown, for example, it undertook major drainage works that allowed the development of industrial areas in Minto and Ingleburn.

These works were delayed due to a lack of forward funding and a lack of clarity around responsibility. The activity in Minto and Ingleburn then attracted major businesses such as Comalco, Unilever, Pirelli and Amco, helping to achieve one of the Board's main objectives: to promote employment.

While establishment of the Western Parkland City Authority is not modelled on the Macarthur Development Board, having remained in operation for 10 years before evolving into the Macarthur Development Corporation, it provides an excellent illustration of successful coordination between State agencies, councils and the development industry to expedite development and industry attraction through essential infrastructure provision.

Proposed action 7: **Forward public land and property program**

This action proposes the Department of Planning, Industry and Environment maintain a forward property strategy and acquisition program beginning with the initial PIC area to facilitate a strategic and cost-effective approach to support the creation of great places for people of the Western Parkland City.

Place outcomes

1. Strong focus on wellbeing and inclusiveness
2. Aboriginal living culture and equitable participation
3. Jobs, skills and innovation – for everyone in the city
4. Well connected places – transport and digital
5. Scenic, productive and resilient landscapes
6. Connected, diverse and resilient communities

The proposed program would fund and prioritise the strategic acquisition of land for future infrastructure, open space and services across the NSW Government in a way that:

- identifies and prioritises land needed within affordability limits
- considers opportunities for the transfer of land between State agencies and the co-location of infrastructure and services.

This program should also consider innovative delivery approaches involving other levels of government, the private and not-for-profit sectors to reduce the overall need for land acquisition and therefore cost to the NSW Government and the community.

As present, the NSW Government owns around 6,000 hectares of land in the initial PIC area, either in active use for the delivery of services, or purchased in anticipation of the need to deliver services.

The PIC process found that more than 7,100 hectares of land will need to be reserved, purchased or acquired by State agencies and utility providers for all of types of infrastructure and water management that is critical to delivering the Western Parkland City.

Though some land will be acquired directly by agencies to deliver on their existing commitments and for new projects in development for delivery in the short term, land for most other infrastructure projects may only be required for its intended purpose in the medium to longer term.

A coordinated multi-sector land and property acquisition program for the initial 28 precincts has the potential to reduce duplication of effort by multiple agencies and provide cost savings to the NSW Government and utility providers through early acquisition of land in advance of growth and land price speculation. If successful, the program could be extended across the Western Parkland City for future potential PIC areas.

This approach would support Transport for NSW in the reservation of long-term transport corridors in the Western Parkland City through the early acquisition of priority lands. It would provide greater certainty to directly-affected landowners by reducing the possibility of the land being subject to multiple acquisition efforts by different agencies or utility providers for separate portions of their land over time. This avoids fragmentation and severance, affecting the ability of private landowners to sell, causing prolonged uncertainty about their development rights and minimises hardship.

The program would regularly facilitate cross-functional perspectives of different agencies and utility providers on the size, locational preferences and infrastructure needs. It would also seek to optimise site selection, co-location and coordinate the needs of multiple agencies and utility providers competing for the same space.

The program would explore the most effective statutory framework and funding mechanisms for coordinated land reservation and acquisition in the Western Parkland City, such as the preparation of a multi-sector land reservation and acquisition business case.

Place outcomes

1. Strong focus on wellbeing and inclusiveness

2. Aboriginal living culture and equitable participation

3. Jobs, skills and innovation – for everyone in the city

4. Well connected places – transport and digital

5. Scenic, productive and resilient landscapes

6. Connected, diverse and resilient communities

Proposed action 8: **Shifting to place-based strategic business cases**

This action proposes the Western Parkland City Authority leads a shift towards strategic place-based business cases to stimulate public and private investment in the initial places identified in the proposed sequencing plan, where required.

The shift towards a place-based approach to strategic business cases (SBCs) can address opportunities and barriers to stimulating growth, such as taking advantage of consolidated land holdings or addressing fragmentated land ownership, while optimising, prioritising and aligning infrastructure and service investment within the fiscal constraints faced by the NSW Government.

This would involve taking the identified infrastructure needs identified through the PIC process and optimising and prioritising investment to service the initial places identified in the sequencing plan within the limits of the NSW Government can afford.

The State Infrastructure Strategy 2018-2038 promoted the preparation of place-based SBCs, recognising the challenges of business cases focused on one type of infrastructure or service in isolation.

A place-based SBC could focus on proposals identified through the PIC process over the 10-year horizon after consideration is given to revised forecasts that shift growth from `subsequent places' for growth and change into the `initial places' for jobs and housing over the 10 year horizon.

As a place-based SBC, it would seek to better integrate capital prioritisation and budget decisions with land use and development decisions. It would include service and infrastructure proposals across multiple sectors, removing the need for separate SBCs by individual agencies, improving coordination and delivery efficiencies, as well as NSW Government decision-making.

It is proposed that the place-based SBCs for the initial PIC area enable expedited final business cases by infrastructure delivery agencies or agencies supporting the delivery of infrastructure as funding is made available.

Acceleration of the digital Western Parkland City

The transformative vision for the Western Parkland City and its implementation can achieve technology-enabled solutions.

There is a level of disadvantage in the Western Parkland City's performance on the Australian Digital Inclusion Index, which measures access to internet, affordability and digital ability (skills, online activities, and attitudes toward digital technology). Parts of the Western Parkland City show a digital inclusion score of 58.4, compared to a score of 66.7 for Central Sydney.

With an influx of new jobs with a knowledge-centric focus, a 22nd century Western Parkland City could be globally competitive with other cities by using technology to spark innovation, monitor and improve environmental sustainability and increase economic prosperity.

Smart technology can be integrated to address urban issues and create an enabling environment for residents, businesses and government to thrive. New connectivity infrastructure like 5G and 6G radio antennae, sensor networks for monitoring and generating insights on places, cameras, and public Wi-Fi can be coordinated with other utilities in new growth precincts in the PIC area.

The installation of high-speed broadband fibre or smart poles concurrently with other utility infrastructure can occur in identified corridors.

Further, the 2020 Committee for Sydney Leadership Survey found that 83 per cent of Sydney businesses expect a permanent increase in how frequently their employees work from home given the change of circumstances during COVID-19.

In the future there is likely to be some experimentation with new work models and approaches with working remotely/working from office hybrids. Regardless of the preferred strategy for each business, the need for technology to be able to work from home seamlessly must be available in the Western Parkland City.

Place-based SBCs for the initial PIC area must include a focus on the use of smart technology in the city and more digital provision of public services to benefit people's many and varied needs.

Place outcomes

1. Strong focus on wellbeing and inclusiveness

2. Aboriginal living culture and equitable participation

5. Scenic, productive and resilient landscapes

6. Connected, diverse and resilient communities

Proposed action 9: **Whole-of-water cycle and stormwater management reform as part of place-making**

This action proposes the Department of Planning, Industry and Environment leading a process that clarifies the desired infrastructure requirements and service levels, roles and responsibilities, and appropriate funding mechanisms, and integrating water planning with land use planning to create the Western Parkland City as a cool, green place with water as its defining structural element.

The PIC process highlighted the significant costs involved in water servicing and the need to take up the challenge of water reform in the Western Parkland City as part of creating places.

Whole-of-water cycle and regional stormwater reform could reduce the duplication of effort, optimise public and private investment and develop better outcomes as land is developed and places are renewed.

Progressing this significant reform must involve the community, customers, councils, the development industry, Sydney Water and relevant State agencies. Further it must determine a sustainable and affordable way forward to efficiently and effectively manage water in the landscape in a way that is more effectively integrated with land use planning and development.

The realisation of the vision for the Western Parkland City, with Wianamatta-South Creek and its tributaries as an important natural, cultural and recreation asset, requires a fundamental shift in the way that stormwater is currently funded, managed and used.

The Western Sydney City Deal includes a commitment for the NSW Government to develop a strategy for Wianamatta-South Creek that will investigate its restoration and protection as part of the broader strategy of integrating land use and water management within the 63,000 hectare catchment.

The responsibility for managing stormwater across Greater Sydney is complex and shared between private landowners, councils and State-owned corporations. The responsibilities vary by location, as well as the type of stormwater infrastructure. Strategies for managing stormwater in an urban environment requires investment in riparian land, corridor stabilisation works, detention basins, bioretention basins/ raingardens/ swales, and drainage channels.

While PIC process identified the need to invest in significant land and infrastructure for waterway management and stormwater, further detailed work is needed to consider overall feasibility and affordability.

The roles, responsibilities and funding arrangements must be clarified and determined, with a suite of funding sources from the NSW Government, developer contributions and the private sector considered in the context of overall feasibility and implementation drivers.

New operating models should be investigated, including the potential for a new regional stormwater authority in the Western Parkland City.

Cross-government collaboration in Wianamatta-South Creek corridor

Infrastructure NSW and the Department of Planning, Industry and Environment, in collaboration with the Commission, the Western Parkland City Authority, Western Sydney City Deal partners and Sydney Water are already leading a whole-of-government initiative for the Wianamatta-South Creek corridor.

The initiative looks to an integrated land use and water cycle approach to support the Western Sydney City Deal commitment to restore and protect Wianamatta South Creek, and establish the corridor as the cool green spine of the Western Parkland City.

The Department of Planning, Industry and Environment is leading a feasibility assessment and preparing a business case to support a regional approach to waterways and stormwater management. This will include the statutory, regulatory and policy changes required as well as suitable funding arrangements. This will form part of the Greater Sydney Water Strategy.

The Environment Protection Authority is also investigating an integrated approach to waterway health and the potential use of a Protection of the Environment Policy for the catchment.

Proposed action 10: **Renewing and increasing the provision of social and affordable housing as part of place-making**

This proposed action proposes that all three levels of government, the not-for-profit and private sectors work together to increase the provision and improve the quality, location and mix of social and affordable housing with private housing in the initial PIC area, where feasible.

Place outcomes

- 1. Strong focus on wellbeing and inclusiveness
- 2. Aboriginal living culture and equitable participation
- 3. Jobs, skills and innovation – for everyone in the city
- 4. Well connected places – transport and digital
- 5. Scenic, productive and resilient landscapes
- 6. Connected, diverse and resilient communities

Increasing the provision, and improving the quality, location and mix of, social and affordable housing in the Western Parkland City could create homes for people that are better designed, in areas where place-making and transformation is prioritised. This could have a marked positive impact in areas of intergenerational disadvantage.

This action proposes collaborative efforts to support the earlier provision of social and affordable housing in residential and mixed use communities around new Sydney Metro stations in precincts such as the **Aerotropolis Core, Northern Gateway, St Mary**s and **Orchard Hills**.

Any proposal to support existing social housing tenants living in the **Luxford Precinct**, north of Mount Druitt and Rooty Hill, relocating into new and well designed housing in nearby suburbs to neighbouring precincts must consider the need for people to retain valuable connections with the area they know.

This approach could support a diversity of people – including a generation of young people – to benefit sooner from the investment in the Sydney Metro network and enable them to participate in the growth of jobs, skills and training set to occur in and around the Airport and Aerotropolis.

The alternative would be to defer major housing renewal in the Luxford Precinct until the planned extension of Sydney Metro – Western Sydney Airport from St Marys to Tallawong which is not expected in the next 20 years.

Leveraging the expertise and resources of all three tiers of government, consistent with the principles of the Western Sydney City Deal, and the not-for-profit and private sectors would drive positive social outcomes for both the residents of social housing as well as the surrounding community.

The NSW Government has previously been able to facilitate a greater supply of new private market and affordable homes and fit-for-purpose social housing by leveraging the value of existing social housing under the Communities Plus asset-recycling model. Councils can also enable housing affordability through the planning system, including through zoning controls and contributions (for example, boarding houses).

Deconcentrating disadvantage can help to breathe new life into local economies, re-energise social housing and enhance the inherent strong sense of community pride. This process takes time and early efforts could offer a strategic solution that is led by the needs of the local community, rather than the timing of major transport investment.

Any planning in the Luxford Precinct must be cognisant of the needs of current social housing tenants, as well as the opportunities presented by extending Sydney Metro – Western Sydney Airport north. Planning work for the extensive publicly owned land along the Metro line and around future stations should optimise place-making opportunities in Luxford.

Re-energising places for mixed communities

Learning from the Newleaf Communities Project in Bonnyrigg, Fairfield

Investment in major public transport investment creates opportunities to reimagine and reshape large areas of social housing to bring a broader demographic mix of people to an area, reducing concentrations of disadvantage. However, these processes take decades of sustained effort, public and private investment as demonstrated by the renewal of Bonnyrigg Estate catalysed by the Liverpool to Parramatta Transitway.

Operation of a new high-quality rapid bus service commenced in February 2003, more than 17 years ago, after some years of development and construction. The original 'Bonnyrigg Concept Plan' for the 81-hectare site was approved in 2009 for 2332 new social and private dwellings, with further amendments in 2012 increasing the yield to 2500 dwellings.

Under the Concept Plan, a large part of the Bonnyrigg Estate has now been redeveloped with 548 new properties, including 212 social housing homes. By the end of 2021, 690 new private and social homes will have been completed under Stages 6 and 7 of an 18 Stage program.

A modified concept plan has recently been lodged, and under this plan there will be a total of 3,000 new homes with a mix of 30 per cent social housing and 70 per cent private housing.

Greater housing choice, better access to the Bonnyrigg Town Centre and improvements to open space and road networks will also be provided.

A major revitalization of Bonnyrigg Plaza was completed in 2019, improving the retail experience and services available for the local community. The community provider St George Community Housing manage the estate on behalf of Land and Housing Corporation (LAHC). A new 840 square metre community facility will be delivered by LAHC as part of the project with construction expected to commence in early 2021

The whole community is already benefiting from the deconcentration of social disadvantage in the Fairfield local government area. It is becoming a better place to live for a variety of people, with diverse backgrounds, income levels and age.

Like the New Leaf Bonnyrigg experience, social housing tenants living in the Luxford Precinct, north of Mount Druitt and Rooty Hill, could be supported in stages and over time to relocate into new and well designed housing near public transport and other services, while retaining valuable connections with the area they know.

What do you think?

- What do you think about the proposed sequencing across the 28 precincts? What, if anything, could be clearer or should be changed?
- Thinking about the priorities for places and infrastructure, what is your main feedback?
- Do you think you – or any other organisation – has a role contributing to these place and infrastructure priorities?
- In what ways could the proposed actions be improved?

7 Realising the PIC proposals

7.1 Aligning decision-making

The initial PIC area is the first to be delivered under the Western Sydney PIC Program. The PIC process aims to better integrate land use planning and infrastructure investment decision-making processes of the NSW Government.

It sets out to provide greater certainty to the community and the development industry of where growth is supported by the provision of infrastructure – most equitably and efficiently.

Strategic land use decisions often precede the preparation of infrastructure capital investment plans by State agencies and the start of business case processes.

Consequently, decisions on infrastructure investment often are outpaced by the selection of new areas and precincts for growth. This is already occurring in the initial PIC area and presents a significant risk to realising the Western Parkland City vision.

Figure 35: Linking land use and infrastructure decision-making of government through the PIC model

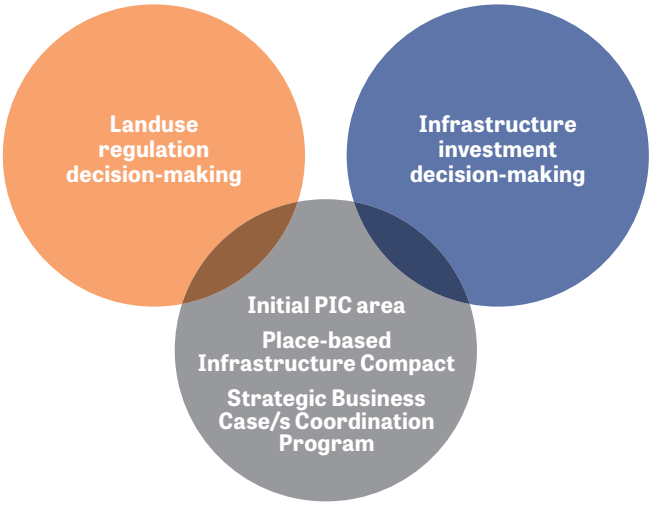


Figure 35 shows the linking of traditionally separate land use regulation and infrastructure decision-making into a new compact model that seeks to bind the two through the PIC process, subsequent place-based strategic business cases and a coordination program to drive implementation.

To implement the proposed actions for the initial PIC area, State agencies, councils, utility providers, private and not-for profit providers must work together with the community, the development industry and other stakeholders.

The provision of infrastructure and services must be prioritised in line with what can be afforded, and consideration of who contributes to infrastructure, how much they contribute, what for and when.

If the Commission's recommendations are adopted by the NSW Government, the next steps would involve:

- amendments to the relevant strategic and statutory plans to reflect the proposed sequencing plan outlined in Proposed Actions 1 to 5, with more detailed planning to include further community consultation
- the Western Parkland City Authority taking a leading role in the program-based approach outlined in Proposed Actions 6 to 10 to coordinate place and infrastructure priorities and monitor performance using the outcomes framework established
- the ongoing work to collaboratively develop a holistic framework for state, regional and local contributions alongside other revenue sources.

7.2 Strategic and statutory plans

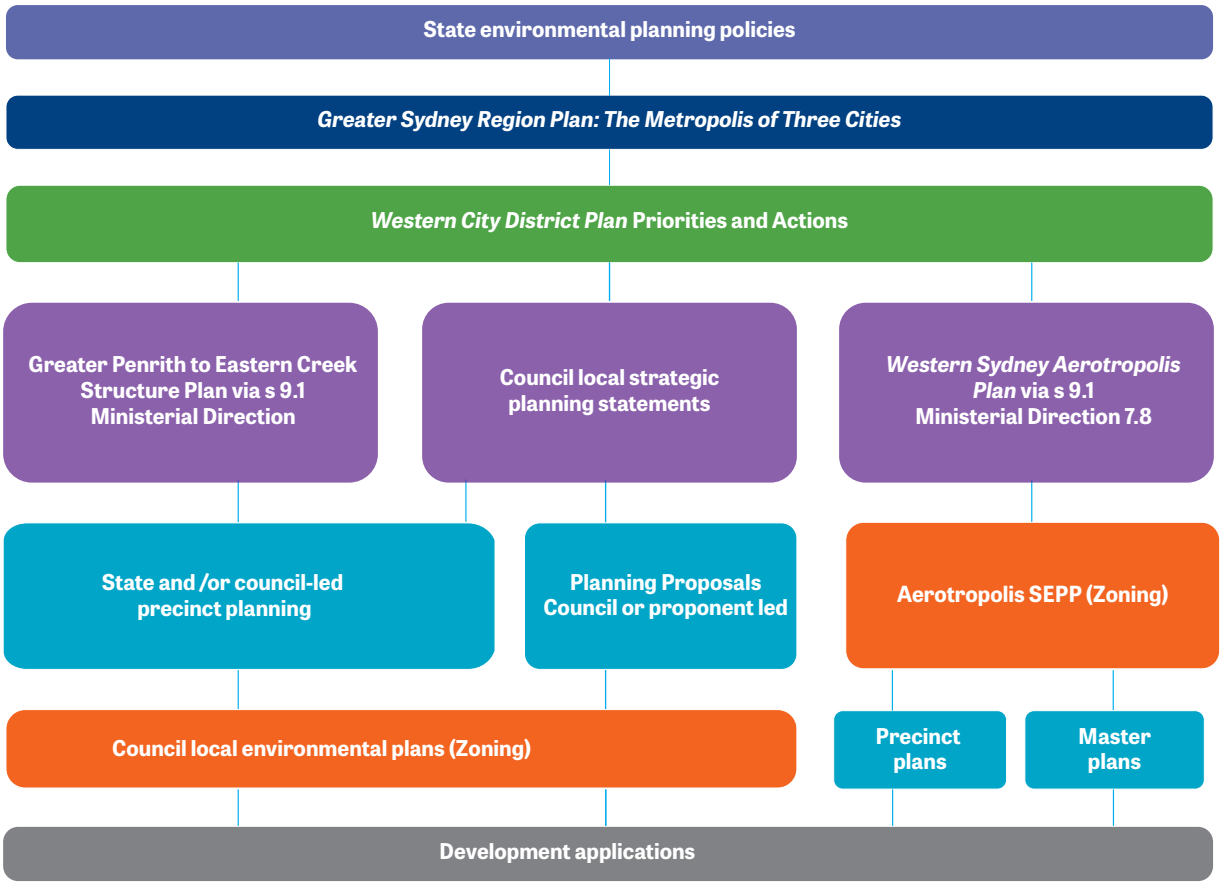
Consistent with this hierarchy of plans outlined in the *Greater Sydney Region Plan*, if the Commission's recommendations are adopted by the NSW Government, amendments will be required to the *Western City District Plan*. This will require further public consultation.

All other statutory and non-statutory plans would need to be amended and updated to align with the *Western City District Plan*, potentially including the W*estern Sydney Aerotropolis Plan*, the Greater Penrith to Eastern Creek Land Use and Infrastructure Implementation Plan (in development), local strategic planning statements and Local Environment Plans.

Implications, if any, for the Aerotropolis SEPP and associated precinct plans will need to be considered. The PIC process broadly aligns with the intent of the SEPP and the initial precincts identified in the *Western Sydney Aerotropolis Plan*, recognising the statutory work recently completed.

Feedback on the findings and proposed actions from this initial work will be incorporated into the Commission's recommendations to the NSW Government for its consideration and response.

Figure 34: Hierarchy of strategic and statutory plans relevant to the initial PIC area



7.3 Keeping the PIC up-to-date

Work undertaken for the initial PIC must remain relevant as the area transforms and will need to be formally reviewed, at least every five years. Just as critical is maintaining a regular two-way dialogue with key stakeholders as proposed.

The regular dialogue and formal review will respond to inevitable changes and refresh the direction for land use and infrastructure investment decision making. This will likely consider:

- changes to market conditions, community preferences and needs associated with factors such as COVID-19
- city shaping infrastructure decisions and the impact on infrastructure capacity and servicing for those delivered
- updates to land use plans and the uptake of development in rezoned areas.

The data and information in the purpose-built 'Co.Lens' tool, will be updated in collaboration with all the partners involved in the process as part of this review to ensure the PICs effectiveness as a decision-making support tool for the NSW Government.

The same tool will be used as a basis for the integration of future potential PICs in the Western Parkland City, to ensure consistency in approach.

Western Parkland City Place Outcomes (O)

- 1. Strong focus on wellbeing and inclusiveness
- 2. Aboriginal living culture and equitable participation
- 3. Jobs, skills and innovation – for everyone in the city
- 4. Well connected places – transport and digital
- 5. Scenic, productive and resilient landscapes
- 6. Connected, diverse and resilient communities

Greater Sydney Indicators (P)

Greater Sydney Measures (M)

P1 Jobs, education and housing

- M1 Job containment and distribution by type
- M2 Education participation
- M3 Housing types

P2 30-minute city

- M4 Access to metropolitan and strategic centres
- M5 Proportion of trips by walking
- M6 Travel mode to work

P3 Walkable places

- M7 Access to open space

P4 Addressing urban heat

- M8 Number of hot days (>35°C)
- M9 Urban heat
- M10 Tree canopy cover in the urban area

7.4 Monitoring and reporting

The performance of the initial PIC area as a place – and how well services are delivered – will be monitored using the *Western Parkland City Place Outcomes Framework*.

It will be used to measure performance in the initial PIC area and any further PIC areas completed as part of the Western Sydney PIC Program.

The framework comprises:

- **six place outcomes** that align with the 10 Directions of the *Greater Sydney Region Plan*
- **four indicators** from *The Pulse of Greater Sydney – Measuring what matters*
- **16 indicators** developed with State agencies and utility providers related to the provision of systems and services
- **25 measures** to quantify progress towards the outcomes that can be measured from a current baseline.

The **Technical Report** provides the current baseline performance for the initial PIC area, where the data is available, and most often for the Western City District compared to Greater Sydney.

The **Technical Report** also demonstrates how the infrastructure and services needs in the PIC process contribute to the six place outcomes.

Figure 35: Western Parkland City Place Outcomes Framework – Indicators and measures

Western Sydney Indicators (P)

Western Sydney Measures (M)

- **P5** Physical population health
  - M11 Overweight and obesity rates
- **P6** Population health and wellbeing
  - M12 Outpatient and community care
  - M13 Improving service levels in hospitals
- **P7** A safer community
  - M14 Crime rates
- **P8** Efficient justice services to meet the needs of people
  - M15 Efficient resolution of legal disputes
  - M16 Time to justice
  - M17 Court backlog
- **P9** Prevalence of cultural infrastructure
  - M18 Cultural infrastructure near transport nodes
- **P10** Accessible affordable and social housing
  - M19 Social and affordable housing that is well located
- **P11** Aboriginal participation
  - M20 Value of contracting by Aboriginal business in construction projects
  - M21 Value of contracting by Aboriginal business in goods and services contracts

Western Sydney Indicators (P)

Western Sydney Measures (M)

- **P12** Reliable, efficient and safe movement of people and goods
  - M22 Fatal and serious crashes on the transport network
  - M23 Public transport and active transport use
  - M24 A reliable transport network
- **P13** Reliable digital connectivity
  - M25 Australian Digital Inclusion Index (ADII)
- **P14** Provision of quality education
  - M26 Education space standards for emerging demand
  - M27 Skills-based training that leads to jobs, up-skilling and re-skilling
- **P15** Supporting optimal learning and student performance
  - M28 Maintenance of government schools

Western Sydney Indicators (P)

Western Sydney Measures (M)

- **P16** An environmentally efficient and healthy city
  - M29 Air quality
  - M30 Emissions profiles of greenfield and urban renewal areas
  - M31 Waste generation
- **P17** Clean, affordable and reliable energy
  - M32 Energy consumption and renewable energy generation
- **P18** A city that is resilient
  - M33 Community exposure to climate risk
- **P19** A city with healthy waterways and enhanced biodiversity
  - M34 Protection of ecosystems and biodiversity
  - M35 Waterways and water dependent ecosystems
- **P20** A city with sustainable water
  - M36 Water resource recovery
- **P21** A cool and green city
  - M37 Access to high quality public open space and recreation facilities
  - M38 Green grid connections


CREAM
HOT BREAD
HOT BREAD

8 Where to from here?

The work marks the start of a place-based approach to developing the initial PIC area, under the auspicious of the Western Sydney City Deal signed by three levels of government. Community and stakeholder feedback will inform the Commission's recommendations to the NSW Government.

8.1 Consultation

Everyone in the Western Parkland City should be well informed about the draft PIC and feedback is welcomed.

The Commission will actively engage with representative groups, industry, councils and the community to listen and understand people's thoughts on the findings and proposed actions.

This will include an online forum for people to engage with the information on the initial PIC area when and where suits them.

The online platform will provide opportunities for people to ask questions of the project team, discuss topics with others and provide their feedback for the Commission's consideration.

Details of this online forum will be available on the Commission's website.

8.2 Providing feedback

The Commission values and encourages the input of the community, business and the development industry. Everyone now has the opportunity to provide feedback between **9 November** to **18 December 2020**.

Visit the Commission's website **www.greater.sydney** to find out more about the Commission, the initial PIC area, and to provide feedback.

8.3 Contact details

Website: www.greater.sydney

Phone: 1800 617 681

Address: Greater Sydney Commission

PO Box 252 Parramatta NSW 2150

What do you think?

- Thinking about the framework for measuring outcomes, do you think it contains the right mix of measures and indicators to work out whether or not we've been successful?
- Are there any important things missing from the framework to measure if an outcome has been successful?
- What do you think needs to be done to make sure the proposed actions are achieved?
- What role do you see for the new Western Parkland City Authority?

Greater Sydney
Commission

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