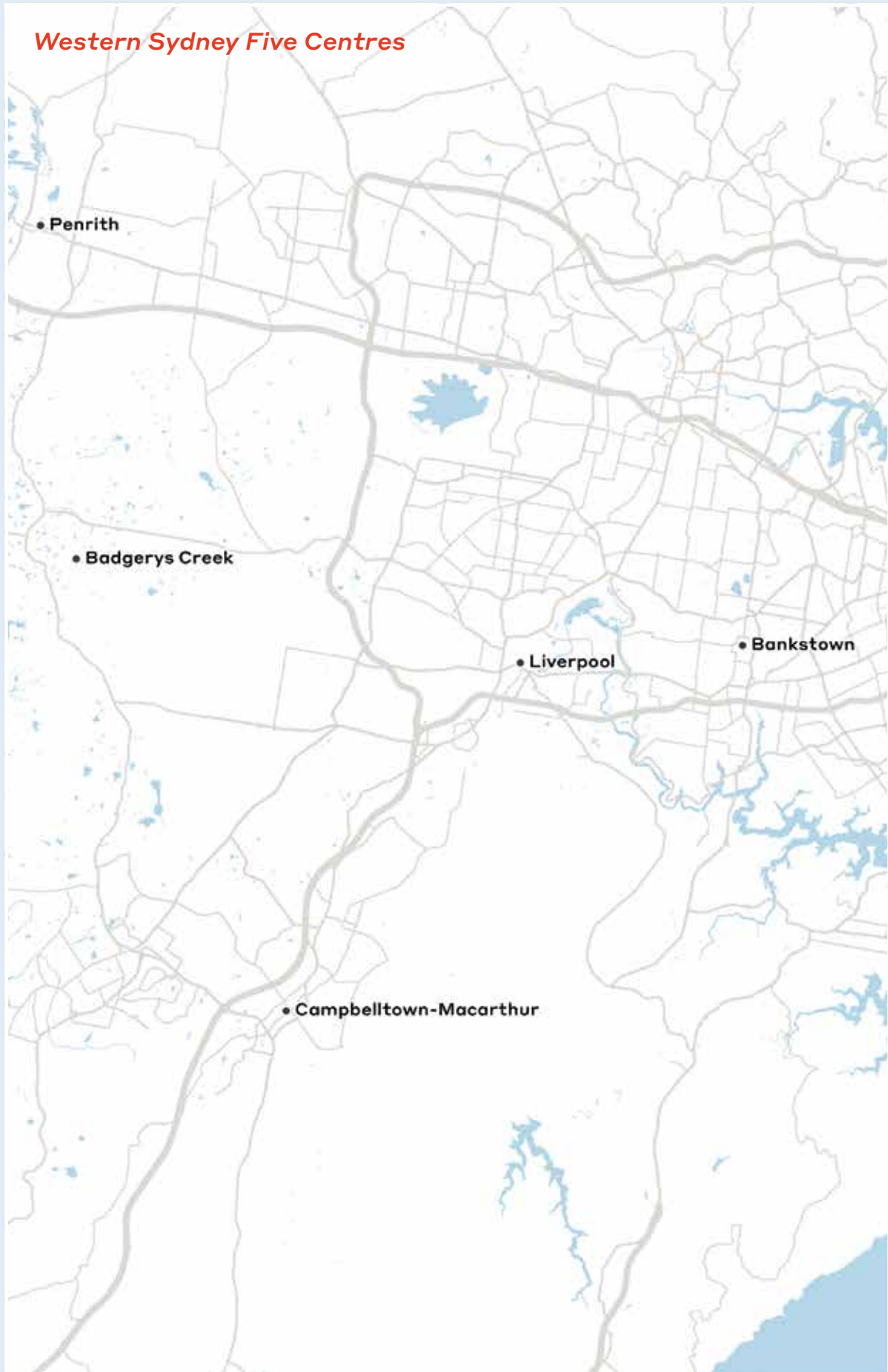# Western Sydney Centres: *Beyond Recovery*

Great Places Leading Our Liveability and Economic Success

**Western Sydney Five Centres**

- Penrith
- Badgerys Creek
- Bankstown
- Liverpool
- Campbelltown-Macarthur

# Table of Contents

# Introduction

Investment in major infrastructure has, and will, continue to play a significant role in shaping the future of Western Sydney, however, it's not the only key to unlocking the long-term success of the region.

*Western Sydney Centres: Beyond Recovery*, produced by WSP, the Centre for Western Sydney and the Western Sydney Leadership Dialogue, looks beyond the well-known, 'big-ticket' projects synonymous with the region's growth story. This report, instead, focuses on key accessibility elements critical to driving economic development and delivering improved social and environmental outcomes.

As we reflect on 2020, COVID-19 has not only changed the way Western Sydney's residents work, live and play, it has also impacted how the region's cities and local centres function. Emerging from the pandemic and associated recession, there is an opportunity, and a need, to recalibrate the Western Sydney growth agenda. It is critical the region is well equipped to respond to the future aspirations of its communities and to enhance its economic development role.

This report is focused on understanding the issues that underpin Western Sydney's future economic growth, particularly as they relate to:

— **Healthy and accessible places** – Using active and public transport, how well is the population of Western Sydney linked to the regional centres which provide local and convenient jobs, health and education services, recreation and arts and culture? It is well understood that Western Sydney is generally more car-dependent than most other areas of Sydney. What can be done to improve this and create more accessible and healthy places for all parts of the population?

— **Retention and attraction of talent** – As the jobs market in Western Sydney grows and matures towards higher value jobs of the future, home-grown talent will need to be retained and new talent attracted. Talented and skilled workers are highly mobile and will be attracted not only to the best companies, but also to the best working environments, where they can achieve career goals, while also having access to quality of life and lifestyle choices, collaboration and networking opportunities with peers and enhanced environmental settings. Place making for the work environments of the future is an important consideration in the planning of Western Sydney's employment precincts. The development of Innovation Precincts globally provides insight to the manner in which place-making can assist in achieving talent retention outcomes.

— **Understanding people and place** – As the Western Parkland City grows through the development of infrastructure, housing and economic centres, there is a risk that place outcomes will be a secondary consideration. Opportunities to 'humanise infrastructure' and focus on the intersection between the built environment and citizens' experience of place, to ensure the quality of day-to-day-life remains central, are considered in the context of community and stakeholder values and aspirations.

The WSP Customer Connectivity Tool, and its measurement of transport networks against accessibility indicators, forms the basis of this study, benchmarking the region's planning and development against access to employment, education and medical care.
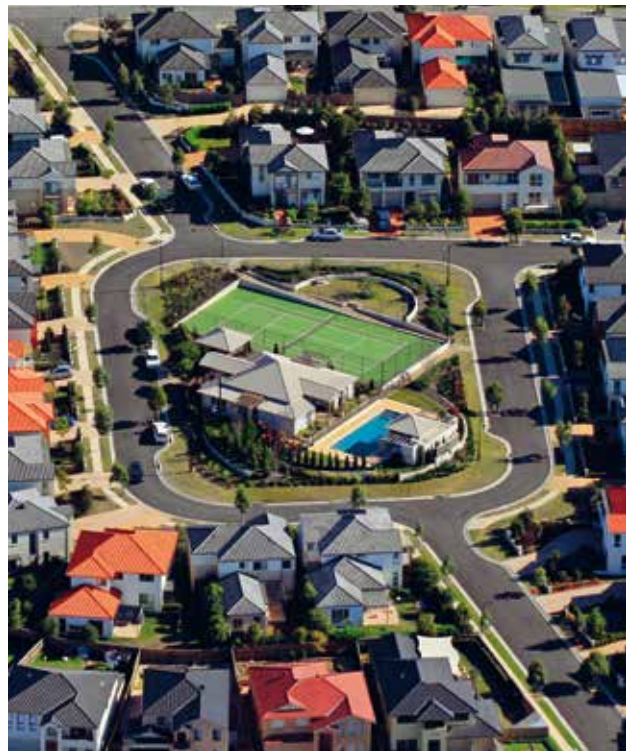
Structural connectivity is examined alongside liveability and environmental factors including access to recreation, arts and culture and public space. This intersection of social and economic accessibility measures recognises the convergence of sociocultural access with economic in, for example, investment and talent attraction, and employment generation.

This report is spatially focussed on the urban centres of South-West Sydney and the Western Parkland City; specifically: Liverpool, Bankstown, Campbelltown-Macarthur, Penrith and 'the Aerotropolis' (Badgerys Creek). It makes a number of recommendations—through the lens of accessibility—to support jobs and industry growth. Importantly, these recommendations are framed in relation to the broader imperative of improving the way communities and cities connect.

*Western Sydney Centres: Beyond Recovery* promotes the delivery of more accessible, connected and liveable places, ensuring that the region's human capital, is recognised and prioritised, as much as its infrastructure pipeline.

## Healthy and Accessible Places

Better transport options will deliver better health, wellbeing and quality of life outcomes for Western Sydney residents.

### 75–85%

of all trips are taken by car in the five centres which form the focus of this report

### 68%

of all trips are taken by car in Parramatta

### 25%

of all trips are taken by car in the City of Sydney

**RECOMMENDATION**

Western Sydney residents need better support across all levels of government to address the root causes of car-dependence and encourage strong modal shift towards public and active transport. This can be achieved through planning, policy and investment settings, aligned to achieve mode shift targets.

## Retention and Attraction of Talent

WSU's mission is to prepare its almost-45,000 students to be active and positive agents in their communities; taking up roles as innovative entrepreneurs, future thinkers, global citizens and sustainability advocates.

### #37

Sydney ranks 37th on the Global Innovation Index – below Eindhoven, The Netherlands, a city with a population of just 223,209[1].

Place-making is a major factor in driving innovation and jobs creation and can contribute towards mitigating the large disparity in University attainment between parts of Western Sydney and other parts of Sydney.

**RECOMMENDATION**

The centres of Western Sydney should be both planned and de-regulated to enable the evolution of integrated Innovation Precincts, incorporating mixed-use activities around core public spaces. Within this context, rapid transport options must be pursued that intersect and disrupt spaces rather than simply connect them.

## Understanding People and Place

Opportunities exist to grow thriving and connected urban centres that feature jobs, learning, transport and amenity, based on leading practice approaches to placemaking, to support great places for people.

Visionary thinking, collaborative partnerships, place based planning and effective engagement underpin the future success of South West Sydney's centres as they grow and emerge.

**RECOMMENDATION**

Embed human centred design into infrastructure planning processes. This includes Co-Design processes, iterative prototyping and testing, and integration of arts and cultural practice to support place based outcomes. In doing so, more focus needs to be brought to communicating and engaging with communities in all their diversity to ensure that visioning processes and public communications are inclusive and respond to people's diverse needs and aspirations for place.

# Strengthening the Accessibility of Local Hubs

## Context

Western Sydney is entering an unprecedented phase of development spurred by the Western Sydney City Deal, the coming Airport, Aerotropolis and large scale infrastructure program. The Greater Sydney Region Plan envisions 'a Metropolis of Three Cities', with Western Sydney taking in the Western Parkland City and parts of the Central River City.

Despite this economic growth, the region faces transport challenges to ensure that existing and future residents enjoy levels of accessibility and connectivity comparable to residents in the more established eastern districts of Greater Sydney, particularly without relying on private transport. At present, Western Sydney is notoriously car dependent because of its exceedingly low jobs

density, sprawling land use patterns, fragmented public transport network, poorly developed cycling and pedestrian networks, and recurrently prohibitive urban heat issues. The five centres within the scope of this report are very car-dependent, with between 75 and 85 per cent of all trips taken by car and around 10 per cent mode share each for public and active transport. This is in stark contrast to the City of Sydney where only 25 per cent of all trips are taken by car and the balance are taken by public and active transport.

*The Greater Sydney Region Plan* envisions a city in which most people live within 30 minutes of their jobs, schools, health facilities, other services and leisure destinations, using public and active transport. This raises important questions for Western Sydney. How do we measure access to, and quality of these



Figure 3.1: Mode Share in Western Sydney's Centres Compared With Other Areas of the City

Source: Household Travel Survey 2018/19, Statistical Area Level 3
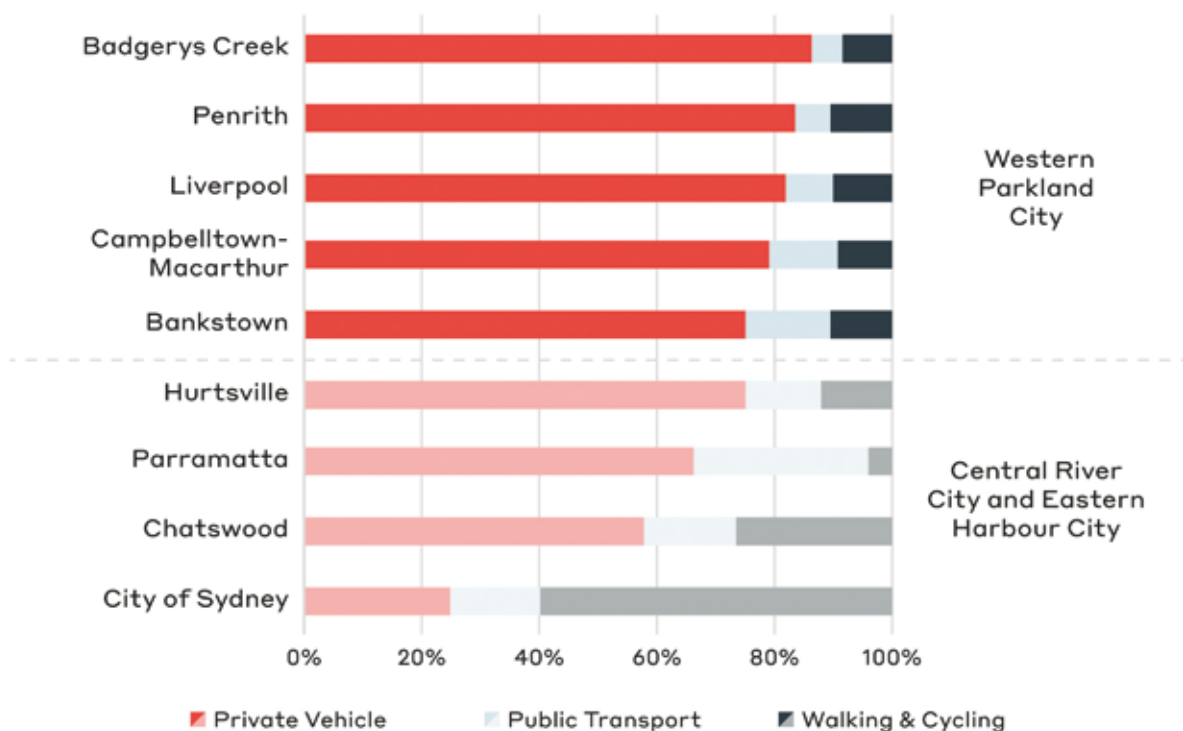
amenities? What quality of access do residents have now? How can quality of access (and therefore quality of life) be improved as the city develops?

The NSW Government is investing heavily in improved public transport for Western Sydney, focused around Metro West, Metro South-West and Metro-Greater West, which in time is expected to significantly improve transport connectivity. A significant gap, however, is apparent in relation to active transport (cycling and pedestrians). Much of the literature on the liveability of cities focuses on the quality-of-life attributes associated with easy access to safe and convenient active transport networks; specifically, networks which:

— Serve all age groups
— Are increasingly accessible with the rise of '3rd speed' mobility (e-bikes and e-scooters')
— Promote 'active' modes, accessible within a 15-minute travel range
— Contribute to healthy lifestyles
— Relieve congestion
— Support community preferences for alternative transport, post-COVID.

There are inherent socio-economic challenges presented by significant and longstanding transport accessibility gaps and network exclusions across Western Sydney, along with profound imbalances in jobs distribution. This structural inequity has largely necessitated the greater use of private vehicles (compared with other areas of Greater Sydney), with associated economic imposts and poorer health outcomes the result.

The NSW Government's *Future Transport 2056* sets a series of desired 'customer outcomes' for the next 40 years across Greater Sydney without setting firm commitments and timelines for the resolution of pronounced accessibility gaps, particularly those in Campbelltown-Macarthur.

Renewed focus, under the *Western Sydney City Deal* (2018) on the Western Parkland City, including the Aerotropolis, provides a unique opportunity to put a greater focus on realising active transport networks that encourage better access and healthy living outcomes, whilst supporting the resolution of larger scale network gaps, and the redress of employment density shortfalls across large sections of the South West.

### Accessibility Analysis

The WSP Customer Connectivity Tool measures public and active transport networks against accessibility indicators such as access to employment, education and medical care. It does this by determining how far a person can travel within a given travel time by public or active transport, before measuring locations that can be accessed within that catchment to create accessibility indicators. This type of locational analysis measures the quality of access that places have based on the locations that are important to residents such as employment, education, medical care, open space and cultural facilities. The Customer Connectivity Tool measures access to physical locations, and therefore does not measure access to all aspects of indicators such as creativity and amenity. Rather, it provides a baseline to compare accessibility by location. The results of the accessibility analysis and selected locations are discussed overleaf.

Accessibility to employment in the five centres was measured using the *Travel Zone Projection 2019*'s employment estimates for 2021, based on the NSW Government's *Common Planning Assumptions*. It's important to note that this dataset represents a 'pre-COVID' baseline for December 2019, however remains useful in comparing the quantum of access between different centres. To focus this analysis on the employment opportunities within the centres, employment areas were defined based on the 'indicative location of existing jobs and services in centres' according to the *A Metropolis of Three Cities - Greater Sydney Region Plan* and associated district plans. It's important to note that most people leave Western Sydney for work each day as there are more employment opportunities concentrated in the east of the city. While the figures seem low, they represent local employment opportunities so that residents of Western Sydney can work closer to where they live.

Penrith, Liverpool and Campbelltown Macarthur are the strongest employment centres with over 20,000 jobs clustered within their CBDs. Bankstown is somewhat weaker with fewer than 15,000 jobs, and the Aerotropolis Core that currently has almost no existing employment. Across Western Sydney, 250 to 300,000 residents have access to at least 5,000 jobs in these centres within either a 15-minute cycling journey or 30-minute public transport journey. When considering access to 20,000 potential jobs or more, this is reduced to 65 to 90,000 residents.
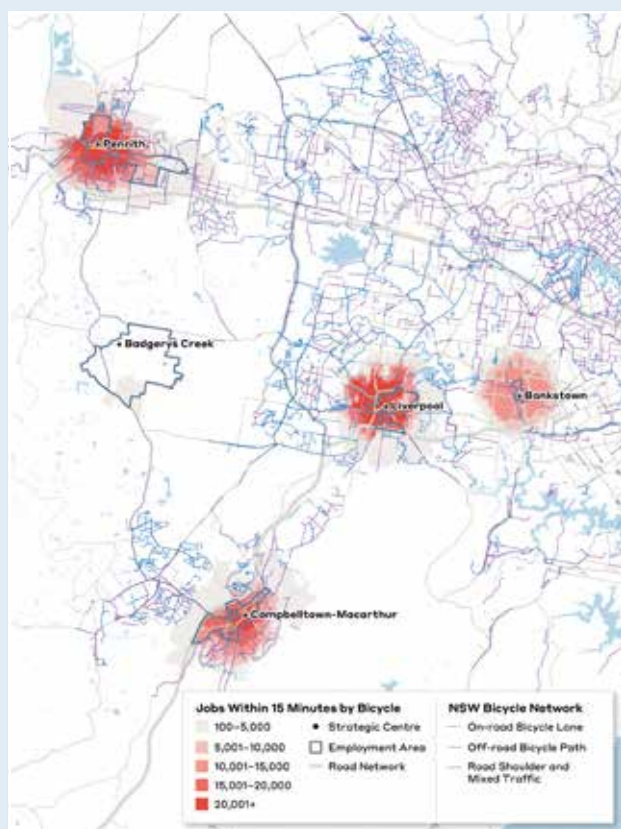


**Figure 3.2** Access to Employment in Western Sydney Within a 15-Minute Cycling Journey
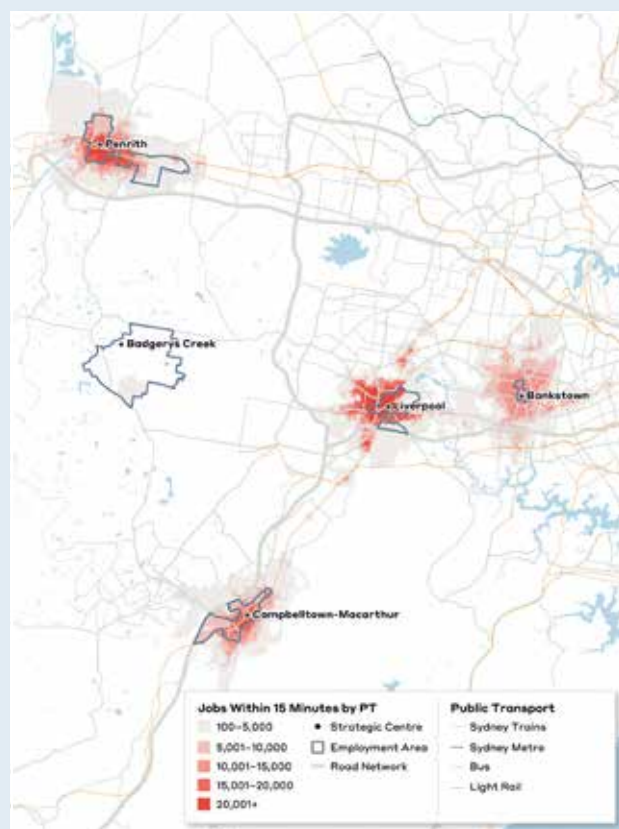


**Figure 3.3** Access to Employment in Western Sydney Within a 30-Minute Public Transport Journey

|  | 5,000+ Jobs | 10,000+ Jobs | 15,000+ Jobs | 20,000+ Jobs |
|---|---|---|---|---|
| **15-min Cycling Journey** | 250,000 | 148,500 | 126,000 | 90,000 |
| **30-min Public Transport Journey** | 290,000 | 138,500 | 101,500 | 64,000 |

**Table 3.2** Population in Western Sydney with access to various levels of employment within 15-minute cycling and 30-minute public transport journeys \ **Source:** WSP Customer Connectivity Tool

## Health Services

Access to health services is measured by using the location of major hospitals in Western Sydney.

Of the five centres, only the Aerotropolis Core does not have access to a hospital within 15 minutes. Roughly 350,000 residents in Western Sydney have access to a hospital within 15 minutes by cycling or 30 minutes by public transport.

Aside from acute and routine care, it's also important to consider that hospitals are an important cluster of local jobs, economic activity and community services.
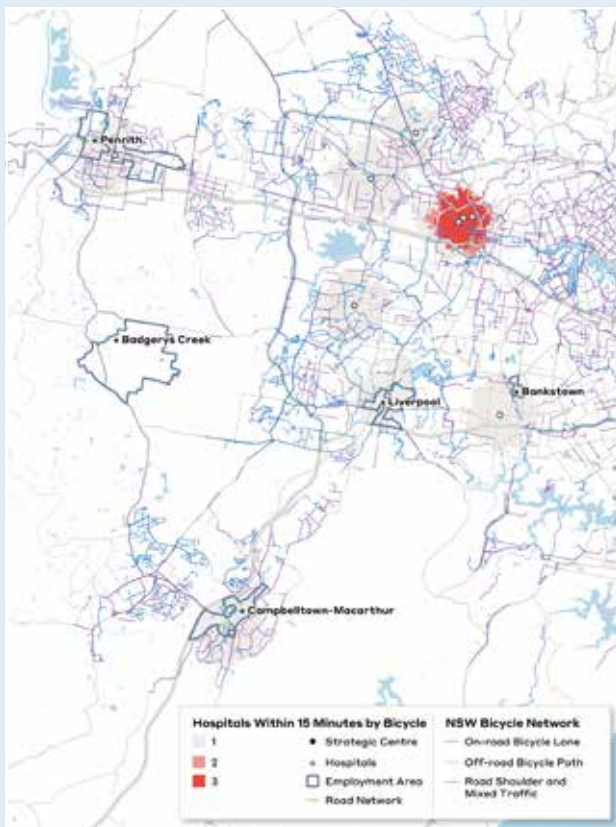




**Figure 3.4** Access to hospitals in Western Sydney within a 15-minute cycling journey
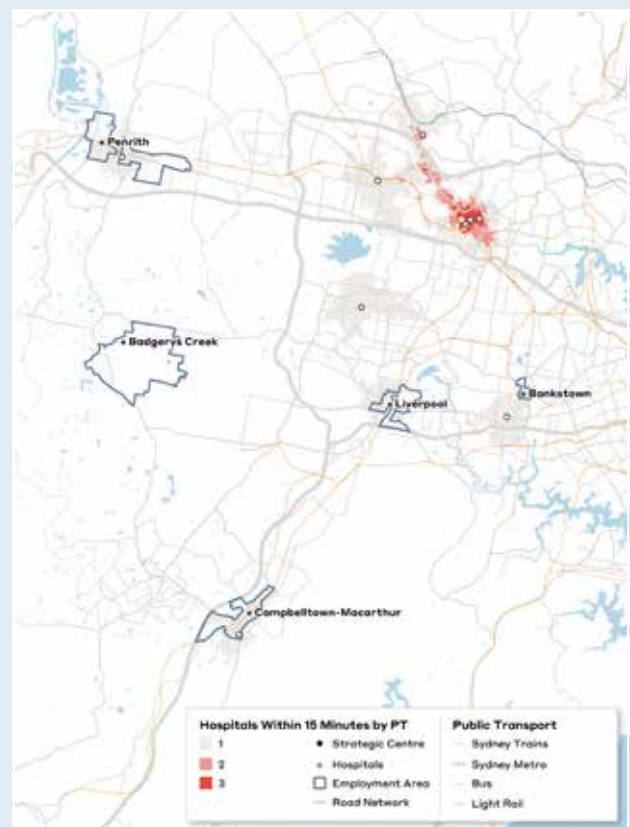
**Figure 3.5** Access to hospitals in Western Sydney within a 30-minute public transport journey

|  | 1 Hospital | 2 Hospitals | 3 Hospitals |
|---|---|---|---|
| **15-min Cycling Journey** | 362,000 | 91,000 | 73,500 |
| **30-min Public Transport Journey** | 344,000 | 86,000 | 22,000 |

**Table 3.3** Population in Western Sydney with access to hospitals within 15-minute cycling and 30-minute public transport journeys \ **Source:** WSP Customer Connectivity Tool

## Education

Educational facilities include the major campuses of universities and TAFE colleges in Western Sydney.

All centres except for the Aerotropolis Core have University or TAFE campuses located nearby, generally with two campuses accessible by walking or cycling within 15-minutes.

More than 450,000 residents have access to an educational campus within 15 minutes by cycling or 30 minutes by public transport, however far fewer residents can access two or three campuses within these timeframes.



Image courtesy of Sally Tsoutas
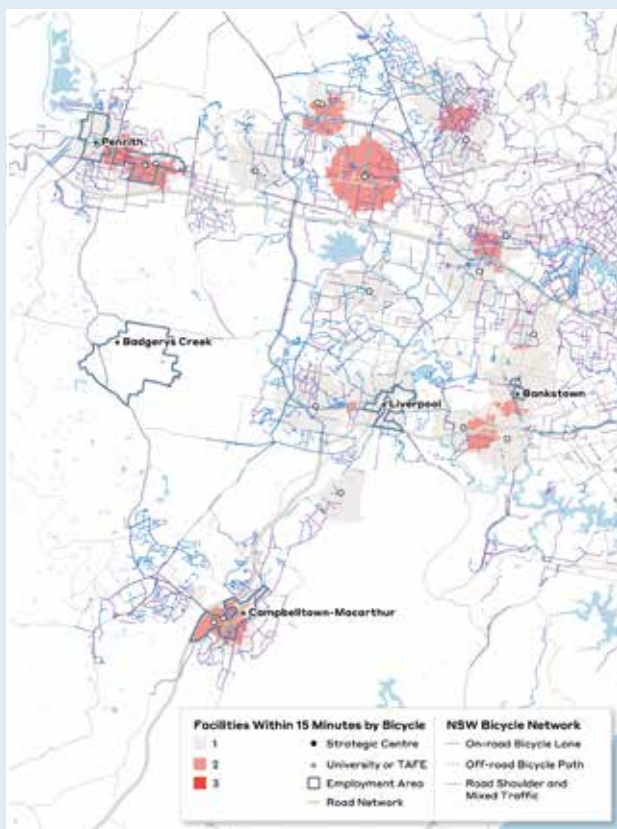


**Figure 3.6** Access to university and TAFE campuses in Western Sydney within a 15-minute cycling journey
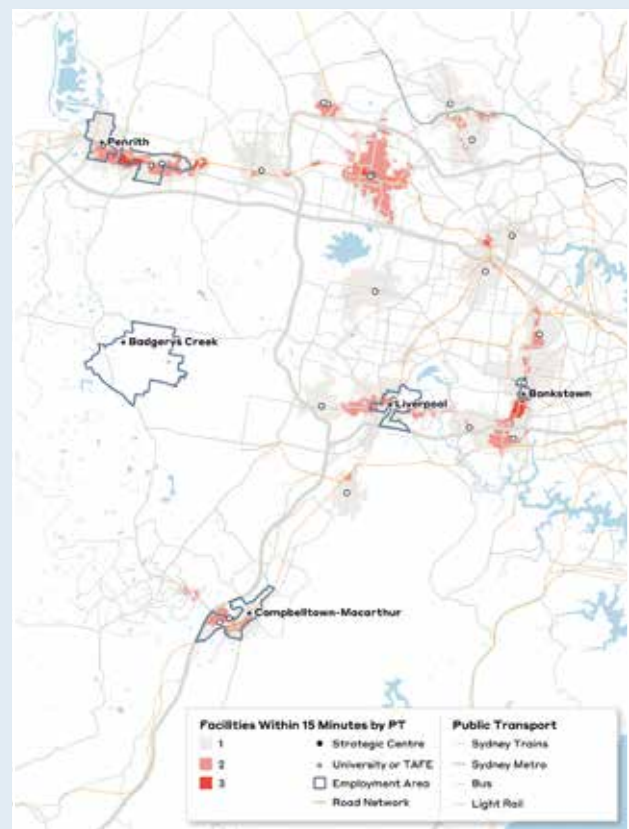


**Figure 3.7** Access to university and TAFE campuses in Western Sydney within a 30-minute public transport journey

|  | 1 Campus | 2 Campuses | 3 Campuses |
| --- | --- | --- | --- |
| **15-min Cycling Journey** | 481,500 | 173,000 | 1,600 |
| **30-min Public Transport Journey** | 464,000 | 168,500 | 26,500 |

**Table 3.4** Population in Western Sydney with access to university and TAFE campuses within 15-minute cycling and 30-minute public transport journeys \ **Source:** WSP Customer Connectivity Tool

## Arts and Cultural Facilities

The accessibility indicator for arts and cultural facilities was created by using the Google Places API to identify the locations of places of interest in Western Sydney that are tagged as *museums*, *art galleries*, *libraries* or *tourist attractions*. It is recognised that the artistic and cultural capital of a region cannot be measured entirely by the location of these facilities and institutions, nor does access encapsulate the quality of a facility. As the City of Parramatta's *Cultural Plan* outlined, sites of artistic and cultural production and consumption can be 'grand' institutions like museums and galleries, as well as 'on the streets and laneways, sporting grounds, open spaces'[2]. Through a locational analysis, this paper focuses on understanding the quality of access that residents of Western Sydney's centres have to such facilities, especially in comparison to more established centres like Parramatta. Western Sydney University has conducted further research on arts and culture in Western Sydney that discusses both formalised institutions and other creative activity that is not as easily identified through location-based analysis[3]. It recognises the emergence and importance of less formal creative activity in Western Sydney, despite limited access to more formal arts and cultural facilities in the region.

Of the five centres, Penrith and Liverpool have the highest concentration of arts and cultural facilities with up to 20 locations accessible within a 15-minute active transport journey for residents in these centres. Campbelltown-Macarthur has fewer facilities with residents accessing up to 10 facilities at most, while the area surrounding Bankstown has access to five or fewer arts and cultural facilities. Most suburban areas of Western Sydney have access to at least one facility within 15 minutes. By comparison, Parramatta has over 30 cultural facilities in and around its CBD reflecting the considerable investment as Sydney's second CBD.
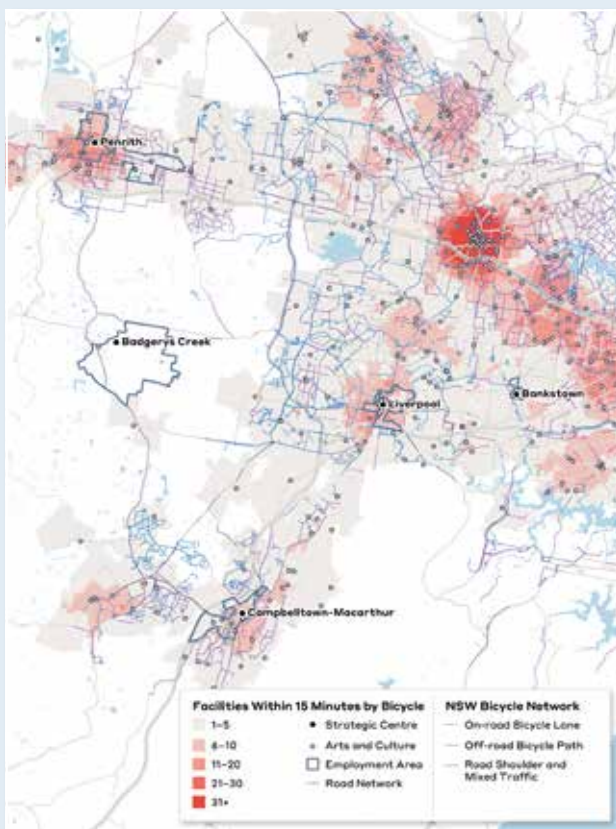


**Figure 3.8** Access to arts and cultural facilities in Western Sydney within a 15-minute cycling journey
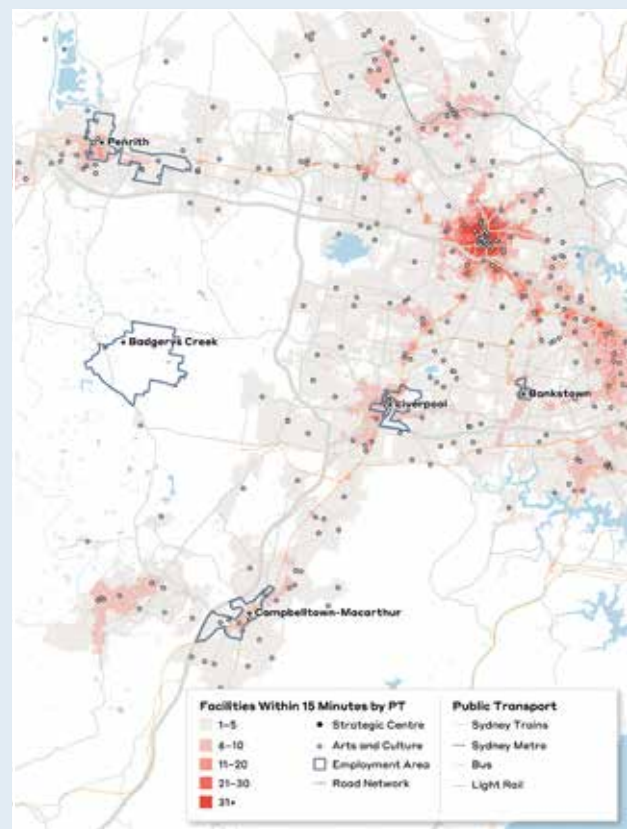


**Figure 3.9** Access to arts and cultural facilities in Western Sydney within a 30-minute public transport journey

|  | 1–5 | 6–10 | 11–20 | 21–30 | 31+ |
|---|---|---|---|---|---|
| **15-min Cycling Journey** | 1,128,000 | 546,500 | 257,500 | 101,500 | 85,500 |
| **30-min Public Transport Journey** | 1,188,000 | 427,000 | 187,500 | 84,000 | 66,000 |

**Table 3.5** Population in Western Sydney with access to arts & cultural facilities within 15-minute cycling and 30-minute public transport journeys \ **Source:** WSP Customer Connectivity Tool

## Open Space and Recreation Facilities

Open space and recreation facilities provide opportunities for play, personal and community wellbeing, and physical and social connections to Sydney's communities. The importance of access to parks and open space is recognised in the *Premier's Priorities* to increase the proportion of homes within a ten minute walk of green, open and public space by 10 per cent by 2023[5]. The accessibility indicator for open space and recreation facilities was created using a combination of geospatial analysis and the Google Places API.

Access to parks and open space areas is important for residents, particularly those living in higher density locations. Parks included in the analysis were those with an area of over 7,000m² or 2ha for district parks. Other recreational facilities were added to this dataset by using the Google Places API to identify *sporting facilities, amusement parks, bowling alleys, camping*

*grounds* and *zoos*. As with the analysis of arts and culture, the methodological approach taken here has its limitations. For example, it does not assess the perceived safety of a park which might impact on accessibility by some members of the community, such as women. Rather, what this approach does provide is a baseline analysis for access to recreation for residents across different areas of Western Sydney.
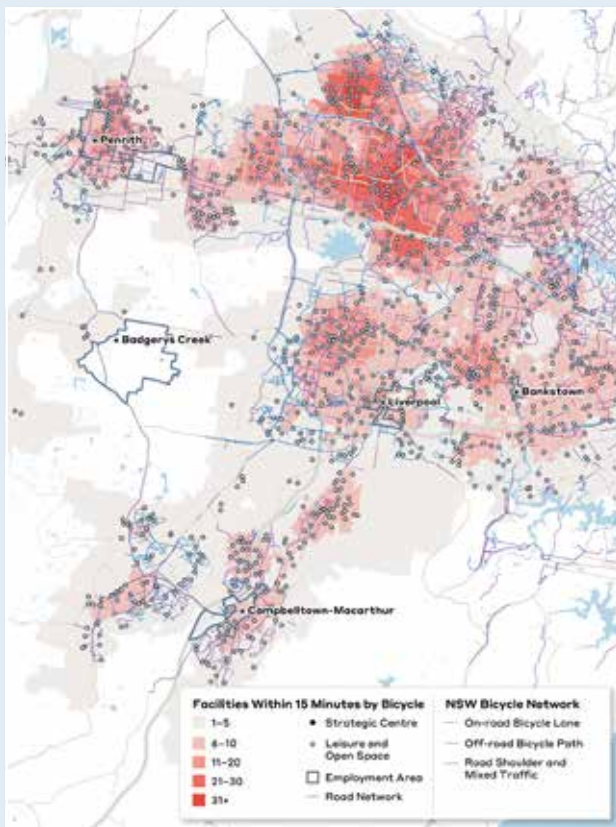


Figure 3.10 Access to leisure and open space facilities in Western Sydney within a 15-minute cycling journey
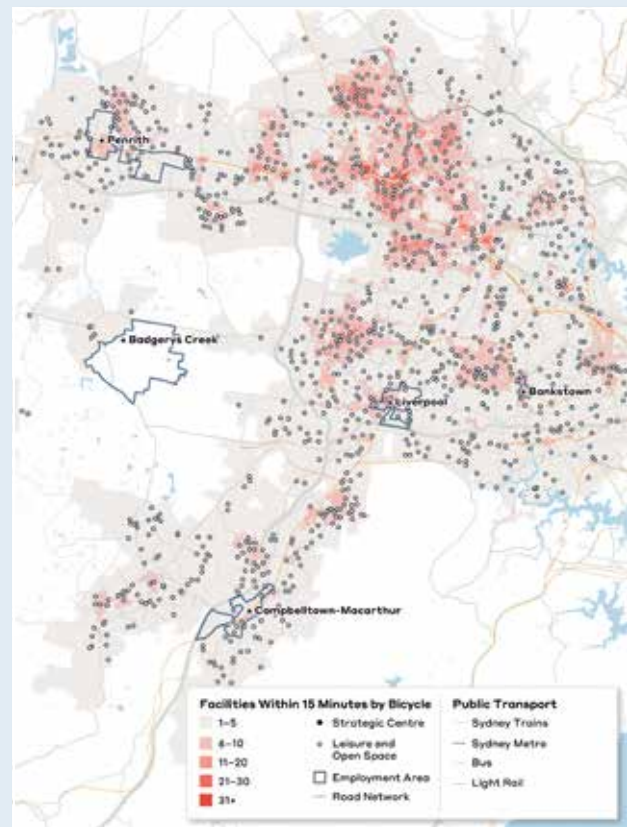


Figure 3.11 Access to leisure and open space facilities in Western Sydney within a 30-minute public transport journey

|  | 1–15 | 16–30 | 31–45 | 46–60 | 61+ |
|---|---|---|---|---|---|
| **15-min Cycling Journey** | 1,171,500 | 708,500 | 196,500 | 51,500 | 12,500 |
| **30-min Public Transport Journey** | 1,214,500 | 366,500 | 93,000 | 21,000 | 3,500 |

Table 3.5 Population in Western Sydney with access to leisure & open space facilities within 15-minute cycling and 30-minute public transport journeys \ **Source:** WSP Customer Connectivity Tool

# Building a Knowledge Economy

## *Foundations of Innovation*

Increasingly, economic success is determined by a region's ability to create and use knowledge in the production and delivery of high value-added goods and services. The knowledge economy is fueled by human capital, or the mobilisation of an educated and highly-skilled population to create, acquire, and utilise knowledge in innovative ways.

Many governments around the world are vigorously pursuing innovation agendas. In Asia for example, Tokyo-Yokohama, Shenzhen-Hong Kong-Guangzhou, Seoul, and Beijing are the top four most vibrant science and technology clusters in the world. These clusters are highly competitive, in part, because of their reliance on a highly educated and skilled STEM-literate workforce. According to the Global Innovation Index, Sydney ranks 37th – below Eindhoven, The Netherlands, a city with a population of just 223,209[1].

If Western Sydney is to seriously compete as a national, and indeed, international, science and technology leader—as the state and federal government is planning—the educational outcomes of the region need to markedly improve. While education attainment levels in Western Sydney have almost doubled in the past 30 years, the region must continue to invest in education to build the human capital required to deliver workforce capacity and to leverage regional opportunities. At present, below-average university attainment rates undermine the opportunity to mobilise the human capital potential of Western Sydney to further the creation of a broad-based knowledge economy to fill the knowledge jobs of tomorrow. For example, local government areas across Western Sydney including Fairfield (11.3%), Campbelltown (15.3%), Liverpool (15.7%), and Canterbury-Bankstown (19.7%) are below the nation-wide (22.0%), state-wide (23.4%), and Sydney-wide (28.3%) university attainment rates. Some low Socio-Economic Indexes for Areas (SEIFA) in parts of South-Western Sydney have rates of university education attainment as low as 4.0%. In contrast, Parramatta has a 37.2% university attainment rate, hosting among the largest concentration of people with a PhD in the country.



COMPETITIVE WESTERN SYDNEY

GOAL
For Western Sydney to compete as a science and technology leader

CHALLENGE
It will have to improve the educational outcomes of the region

WESTERN SYDNEY UNIVERSITY ATTAINMENT

37.2%
**Parramatta** has the highest concentration of people with a PhD

4.0%
While **other areas of Western Sydney** are well below national average

UNIVERSITY ATTAINMENT

22.0%
Nation-wide

23.4%
State-wide

28.3%
State-wide

Further, skills shortage in areas of national priority such as information technology are a significant risk for the development of nascent high-tech industries in Western Sydney. The digital transformation of the regional economy—once underpinned by manufacturing with the potential to lead the country in advanced manufacturing—can only be delivered by a large, diverse, locally-based, highly-skilled technology workforce. Building and future-proofing the regional knowledge economy, however, is no easy task because it requires planning for a future marked by a disruptive labour market and non-linear career trajectories. By large, this non-linearity will be driven by emerging technologies such as processes of automation, artificial intelligence, blockchain, 3D/4D printing and immersive reality. A 2019 McKinsey report, estimated that '25-46 per cent of current work activities in Australia could be automated by 2030. Most of these jobs are middle-class, white-collar, professional occupations, undertaken largely by university graduates.

This technological proliferation will be set against a backdrop of broader fluctuations such as global warming, increasing income inequality, a growing ageing population, and the re-organisation of the global geopolitical order. Collectively, these will reshape the economic, social, and political fabric of the world in which graduates will work and live. What is certain in these uncertain times is that the jobs of the future will require hybrid skills. It will no longer be adequate for graduates to leave university with knowledge and skills built around a single discipline. Institutions such as Western Sydney University (WSU), through its 21Century Curriculum, are already exercising leadership to identify solutions to these challenges and to co-create at-scale, transdisciplinary curriculum to address these questions. WSU's mission is to prepare its almost-45,000 students to be active and positive agents in their communities; taking up roles as innovative entrepreneurs, future thinkers, global citizens, and sustainability advocates.

WSU is building its future curriculum around the trends shaping employment markets, as well as industry and community needs. The University is continually scanning the horizon to consider opportunities to renew its academic course profile. The economic transformation of the region is generating many opportunities, particularly around innovation precincts. These precincts are framed by open innovation – a process whereby, companies and firms openly develop new ideas and bring them to market. The geographic concentration of related industries, universities, and hospitals, and research institutes in a single location considerably broadens the possibilities for partnership pedagogy.

The COVID-19 pandemic accelerated the digital transformation of the economy and placed an increased emphasis on digital skills and coding. The current recession also led many professionals to consider whether their existing skillsets and knowledge will serve them well in the post-COVID world. As a solution, WSU worked with the Federal Government to deliver short courses based on areas of national priority. In response to the successful uptake of these courses by the community, the University is building an alternative credentialing platform and strategy. This will position the University to respond with agility to the rapidly changing needs of students, graduates, staff, industries and the broader WSU community.

# Understanding People and Place

As the Western Parkland City grows through the development of infrastructure, housing and economic centres, there is a risk that place outcomes will be a secondary consideration. Opportunities to 'humanise infrastructure' and focus on the intersection between the built environment and citizens' experience of place, to ensure the quality of day-to-day-life remains central, are considered in the context of community and stakeholder values and aspirations. This chapter explores the role of innovation precincts in supporting thriving local centres—and the importance of diverse elements of place including those that may be considered less tangible—to enable appealing and enduring centres in Sydney's west.

## The Role of Innovation Precincts

A selection of case studies of leading innovation precincts that contribute to social, economic and environmental aspects of place are presented in this chapter. They include one international (Roosevelt Island, New York City) and two local exemplars from Western Sydney (the Westmead Precinct and Penrith Bridge to Bridge Walk). While the former is complete, each of the latter projects offers opportunities for further and far reaching impacts beyond those that currently exist.

## Community and Stakeholder Aspirations

Great places are not created. They evolve. Engaging with communities and other knowledge holders to understand what matters most about their neighbourhoods and centres is an integral aspect of supporting socially sustainable places. Taking cover in the cool shade provided by decades old trees, looking out over our city from one of its many natural vantage points, the joy of social connections made walking the dog or exercising in a local park: these are some of the simple but important experiences and pleasures offered by great places.

As our centres grow and change, engaging with the people who live, work and visit remains critical to their renewal and emergence as appealing, adaptable and enduring places for people. International placemaking organisation Project for Public Spaces refers to placemaking as a collaborative process by which local community members can shape the public realm in order to maximise shared value. According to the Project for Public Spaces 'place' model, robust engagement to support great places needs to consider the fundamentals of four key elements: sociability; access and connections; uses and activities; and comfort and image.

Further to this, a layered understanding of people and place—that builds in ongoing opportunities for community voice—is critical. In order to support desirable and active centres where people from all walks of life with diverse expertise and talents can thrive, we need to understand and respect community values and aspirations. As part of renewal and infrastructure projects this means learning from people's lived experience, involving them in the process of testing and refining options, and seeking their input into meaningful opportunities for legacy that respond to local priorities within their regional context. For instance, through targeted opportunities for jobs and training, and design of community facilities and public spaces that reflects local culture and stories.

![WSP logo]

### 🌳 Sydney's Open Space and Parklands

Elton Consulting recently worked with the Department of Planning, Industry and Environment to support a discussion with Sydneysiders about the future of our city's open space and parklands – in response to *A 50-Year Vision for Greater Sydney's Open Space and Parklands: Discussion Paper*. The Vision for parks and open space across Sydney's diverse landscapes and neighbourhoods is underpinned by four strategic directions: Growing a city of parks for people; Connecting neighbourhoods to parks; Keeping Sydney green and captivating; and Being smart and resilient. Together the four strategic directions recognise and reflect the depth and breadth of community values for Sydney's national, regional and local parks, waterways, and the links between these open spaces – including green corridors, streets and walking and cycle paths. The Vision highlights the critical importance of parks and open space areas as critical social infrastructure in Western Sydney—and showcases leading practice case studies in Penrith, Blacktown and Parramatta—that make a strong contribution to their neighbourhoods, the region and Sydney as a whole.

### ✈ Western Sydney Aerotropolis

The Western Sydney Aerotropolis will surround the planned Western Sydney International Nancy-Bird Walton Airport and will contribute towards the 200,000 jobs target for the Western Parkland City. Jobs will be offered in technology, logistics, science, creative industries and agribusiness, within a cool, connected green environment.

Elton Consulting, a WSP company, was engaged by Western Sydney Planning Partnership to assist Hassell, a multidisciplinary architecture, design and urban planning practice, with preparation of two urban design precinct plans for the Western Sydney Aerotropolis. The work involved the delivery of specialised planning advice on the existing and future planning controls and policies that need to be considered through the urban design work. After reviewing all technical studies, planning implications for the precinct plans are being prepared to inform the new planning framework. As part of this engagement, the *Western Sydney Aerotropolis Precinct Plan* was was drafted for the five initial precincts of the Aerotropolis. The Precinct Plan achieves the place-based planning principles and themes identified in the *Western Sydney Aerotropolis Plan* including sustainability, connectivity, productivity, liveability, place and built form. It uses a landscape-led approach to planning for the Aerotropolis; an approach that recognises Aboriginal cultural values in terms of design, heritage and urban systems.

### 🚆 Sydney Metro West

WSP was engaged to deliver scoping and definition design services for the proposed Sydney Metro West line. The Central City Metro Joint Venture selected stations, interchanges and precincts in both green and brownfield locations to support the growing employment, residential, health, research and education precincts along the newly defined corridor. The primary aim was to ensure the project was designed with the needs, wants and behaviours of current and future users at heart. This was achieved through developing an internal 'design thinking' capability and knowledge of the human-centred design process among the project's team of technical experts.

### *No Place Without Emotion*

Maps of cities usually show roads, landmarks and places of interest. Yet, memories and experiences, emotions and aspirations are just as important as the visible aspects of the city when it comes to navigating, understanding and (re)imagining the city.

To demonstrate and explore this concept, the Centre for Western Sydney at Western Sydney University has developed an online map and app titled Invisible City. Invisible City brings the city to life by capturing how people feel about it. People can contribute their emotion reports online or via the app on a smart phone.

# wsp

## *Case Study: Roosevelt Island*

### Current Status

In the shadow of the global financial crisis, the City of New York identified the importance of increasing the pool of Science, Technology, Engineering, and Maths (STEM) graduates to fuel growth in New York's knowledge-intensive economy. In response, the City of New York partnered with Cornell University and Technion-Israel Institute of Technology to deliver a five-hectare STEM education and entrepreneur campus on Roosevelt Island.

The Roosevelt Island Innovation Precinct brings together academia and industry to catalyse pioneering technologies and create new leaders for the digital age. Four new buildings, including a residence for students and faculty, opened in 2017 with the full project currently scheduled for completion in 2043.

### Lessons for Western Sydney and Beyond

New York City is often viewed as the centre of the world for finance, advertising, media, the arts and international commerce. By harnessing the engineering expertise of Cornell University and the entrepreneurial spirit of Technion-Israel Institute of Technology, Roosevelt Island aims to strengthen New York City's future competitiveness through building a reputation as an internationally recognized hub of cutting-edge science and technology.

Roosevelt Island will create impact beyond its campus through building and diversifying New York City's tech talent pipeline so that more people can share in the rapid growth of the tech economy. This will be achieved through:

— Ensuring that the design of the campus allows for dedicated publicly-accessible open space

— Fostering cross-industry collaboration beyond the confines of the campus to encourage diverse economic activity that facilitates and benefits from the exchange of ideas, innovation, and talent

— Providing affordable housing and service offerings which will attract and retain a strong talent base

— Providing a strong, collaborative governance model and regulatory environment that enables and rewards innovation

### Success Factors

Key learnings from Roosevelt Island can be leveraged to enhance innovation precincts and a culture of innovation within Australia. Key elements of Roosevelt Island's success include:

— Identifying an anchor tenant who possesses a strong, established legacy of academic excellence and adopts progressive approaches to globally-applied research and education

— Utilising a 'work, live, play' model, rather than focusing purely on commercial uses as in the traditional technology park model

— Creating a co-located, connected precinct with physical infrastructure that facilitates affordable connectivity and movement of goods, services and labour

### Facts and Figures

— To achieve the ambitions of Roosevelt Island the City of New York provided **city-owned land, a seed investment of city capital,** and offered full support of the administration to **remove roadblocks to the development.**

— When fully completed, the **$2 billion, 12-acre campus will be home to more than 2,000 graduate students** and hundreds of faculty and staff.

— Cornell Tech will **double the number of engineering faculty and graduate students in NYC**, improving NY's ability to compete in the knowledge and information economy.

— Cornell Tech is expected to generate up to **8,000 permanent jobs** and foster hundreds of spin-off companies generating more than **$23 billion in economic activity over the next 35 years**.

# WSP

## Case Study: The Westmead Precinct

### Current Status

Westmead Health and Education Precinct is a leading example of the transformative qualities of innovation precincts that build on an active network of medical research institutions, facilities and complementary industry tenants. WSP Cities Advisory team (with Cox Architecture) managed the preparation of the *Westmead Innovation District Master Plan* in 2018–19, aimed at delivering an aspirational outcomes for an innovative precinct, driven by connectivity, sustainability and lifestyle. Western Sydney University and Charter Hall plan to develop a $350 million health research and commercial precinct in the heart of Westmead—the Innovation Quarter—bringing the university's total investment in Westmead to $700 million. Stage One construction of the Innovation Quarter commenced in late 2019.

### Benefits for Western Sydney and Beyond

The world-class Innovation Quarter is part of the Westmead Precinct and Western Sydney University's 'Western Growth' strategy. This ambitious program of works is reshaping the University's campus network and transforming the face of education and place across the Western Sydney region – in partnership with industry, government and higher education providers. The Westmead Precinct will facilitate significant health, social and economic benefits for Western Sydney and beyond. It will:

— Create an environment for strategic research partnerships and collaborations with government and industry

— Be a place for researchers, industry partners and clinicians to collaboratively address critical health challenges facing Australia

— Provide a home for Western Sydney University's world-leading research institutes – the MARCS Institute for Brain, Behaviour and Development, the Translational Health Research Institute, and the NICM Health Research Institute

— Be a walkable city incorporating strong public transport links

— Provide homes for a diverse community including key workers and students

— Be an appealing, active and connected place for people to live, work, learn and enjoy shopping and community life.

The precinct has the potential to transform Western Sydney into Australia's most advanced innovation district.

### Success Factors

Beyond its own contribution to Western Sydney, key learnings from Westmead can be leveraged to enhance innovation precincts and a culture of innovation more widely. Key elements of Westmead's success include:

— A visionary masterplan for Westmead will be delivered by the WSP/Cox Architecture consortium. Successful implementation will be supported by a three-staged Integrated Development Strategy for the Westmead Innovation District that maximises its connection to Parramatta as Sydney's second CBD.

— Key stakeholders including City of Parramatta Council and the Westmead Alliance have played an integral role in shaping the future of this place through all stages of the project. This includes identification of challenges and opportunities, generating ideas to support a vision for the precinct and providing input to scenario testing.

— As the third joint-venture between Western Sydney University and Charter Hall, the Innovation Quarter project has built on the earlier successes of the partnership: the Engineering Innovation Hub (Hassall Street, Parramatta) and the Peter Shergold Building (Parramatta Square).

### Facts and Figures

— **75 hectare site comprising 400,000 square metres** of high-end health, research, innovation and education related developments plus transport, retail and diverse accommodation

— **One of Australia's largest health, education, research and training precincts**

— **Provides direct health services to almost 10 per cent of Australians** through four major hospitals, three research institutes and two major university campuses

— **One in three of Sydney's science, health, engineering and IT jobs** will be located in Westmead

— **Growth potential to provide 50,000 jobs and 40,000 students by 2046**

## Case Study: Penrith Bridge to Bridge Walk

### Current Status

The Penrith Bridge to Bridge Walk is an example of how the vision for the Western Parkland City is being realised. The seven kilometre walking and cycling loop track creates an active transport link along the edge of the Nepean River, connecting Emu Plains to Penrith. Located along the walk is the Penrith Regional Gallery as well as several cafes and parks, playgrounds, lookouts and picnic and BBQ facilities.

The Penrith Bridge to Bridge Walk is a part of the broader strategy, the Great River Walk, for the Hawkesbury Nepean River which aims to strengthen green and blue links between urban centres, public open spaces and the Hawkesbury Nepean River and encourage the uptake of active transport to improve health and wellbeing outcomes in Western Sydney.

Upon completion, the Great River Walk will provide a walking track that follows the Hawkesbury Nepean River from the south of Goulburn to its mouth at Broken Bay just north of Sydney - a total distance of 570 km. A southern extension of the Penrith Bridge to Bridge Walk to Fernhill Estate is expected to be completed by 2040.

### Benefits for Western Sydney and Beyond

The Hawkesbury Nepean River is one of the most distinguishing natural features of the Western Parkland City. Increasing permeability to and along the river's edge at key destinations will provide diverse social, economic and environmental opportunities for Western Sydney. As increases in density occur within nearby centres, the importance of the river as a recreational destination will also increase.

The Penrith Bridge to Bridge Walk demonstrates the broader social, economic and environmental outcomes which can be achieved through the delivery of similar projects along the Hawkesbury Nepean River and beyond. The delivery of such projects will:

— Improve and expand access to quality open space that is safe and located close to pockets of urban density
— Protect, enhance and connect important ecological communities
— Increase local and regional accessibility to the river edges, creating a series of connected public open spaces and walking and cycling trails along the length of the river and east to other key urban areas
— Provide opportunities to stimulate economic opportunities in key destinations along the edge of the river, including opportunities for outdoor dining, pop-up markets, activations and live entertainment.

While this project enhances people's access to this important Sydney waterway, opportunities to improve water quality are important to ensure Western Sydney's communities are able to enjoy water-based recreational activities such as swimming.

### Success Factors

Beyond the existing outcomes achieved for Western Sydney, learnings and ambitions of the Penrith Bridge to Bridge Walk, and the Great River Walk more broadly, can be leveraged to improve social, economic and environmental outcomes across Western Sydney. Key elements of the project's success include:

— Driving collaborative partnerships between all levels of government and private landowners to realise the ambitions of local and regional strategies and projects
— Using place-based planning to enhance the diverse landscapes, reduce urban heat build-up and provide new economic and social opportunities in public open space across Western Sydney
— Expanding and linking key natural areas and movement corridors to strengthen Western Sydney's green and blue grid and encourage the uptake of active transport

### Facts and Figures

— At 7km, the Penrith Bridge to Bridge walk **makes up 1.2% of the entire Great River Walk**
— The Nepean Bridge which completed the Penrith Bridge to Bridge walk in 2018 has the largest main span—at 200 metres—of a cycling and pedestrian bridge in Australia
— Providing a walk of around an hour in length or run of 30 minutes, the Penrith Bridge to Bridge walk has grown increasingly popular during the COVID-19 period as a connection that supports recreation and social interaction

# Conclusion and Recommendations

## *Strengthening the Accessibility of Local Hubs*

Western Sydney's established strategic centres and the greenfield Aerotropolis face challenges in ensuring that current and future residents enjoy the same levels of accessibility and connectivity as other parts of Sydney, by all modes. Western Sydney today is highly car-dependent with low-density land use patterns and longer trip distances making it hard for public transport services to have competitive service levels or travel times. Residents often drive not only by choice, but are also often impacted by other structural and socio-economic factors. Extreme heat and a lack of shade are becoming stronger deterrents to walking and cycling with Penrith recording the highest temperature on earth at 48.9 degrees in January 2020.

Cycling is becoming more popular for recreation and commuting, partly due to a resurgence during the COVID-19 pandemic and governments' response in providing safe, separated pop-up cycling infrastructure. The proliferation of food delivery services has also seen a boom of gig-economy workers using e-bikes, increasing the overall number of cyclists on our streets. These trends show that more people are willing to cycle when high quality infrastructure is available, and e-bikes are further reducing the fitness and confidence barriers to active travel.

### Recommendation 1

Western Sydney needs strong policy settings from all levels of government to address the root causes of car-dependence and encourage strong modal shift towards public and active transport. At the district level, the Greater Sydney Commission should set strong and ambitious mode-share targets for the Western District to encourage mode shift, particularly for walking and cycling. These targets should be reflected by Transport for NSW and supported by a planning and investment strategy to establish a safe, connected active transport network. Following success in the Eastern Harbour City, early opportunities should be explored to implement pop-up cycleways in Penrith, Liverpool, Bankstown and Campbelltown-Macarthur, while infrastructure in the greenfield Aerotropolis should be designed to accommodate walking, cycling and 'third speed' e-mobility devices.

### Recommendation 2

At the local level, Councils can support walking and cycling by amending statutory planning instruments to require end of trip facilities and travel plans for new commercial developments. Councils should also adopt mode-share targets in line with TfNSW and the GSC and support other actors in delivering an early active transport network.

### Recommendation 3

The Western Sydney City Deal will deliver new rapid bus routes for the region, however these routes should be supported by on-demand services wherever possible to encourage mode shift in areas where a frequent local service can't yet be sustained. Providing public transport services early supported by car share programs will give residents transport options and reduce the need to own a car, supporting longer term behaviour change.

## *Building a Knowledge Economy*

Connecting Western Sydney's knowledge networks is critical in fully realising the substantial socioeconomic uplift the region's growing education and research sector has the potential to deliver. This is particularly important for south western Sydney's emerging health and education precincts at Liverpool and Campbelltown, and planned concentrations of research and development activity at, for example, Bankstown and the Aerotropolis.

Planning and urban design frameworks need to afford very significant scope for unplanned, kinetic and messy spatial interactions between research, education, industry and cultural sectors. Current planning frameworks are often too prescriptive and inhibit the ability for mixed uses to co-exist and find synergies. This is potentially a risk for the Aerotropolis in particular, where multiple layers of planning may inhibit organic and evolving outcomes for Universities, established businesses, start-ups and others to co-exist around core public spaces. This model of universities being integrated, or 'salt and peppered' with communities, businesses and other institutions is common in the US and Europe, and is emerging at UTS and UNSW.

Rapid transport options must be pursued that intersect and disrupt spaces rather than simply connect them. This approach must be promoted above zoning and planning designations that seek to corral and, perhaps inadvertently, segregate activity.

Achieving 'mess' in a setting like the Aerotropolis —where fixed economic, employment and strategic policy targets dominate broader planning objectives— is challenging. But blurred and intersectional uses of space, with dynamic transport fissures, is a principle that can in fact accelerate the realisation of economic imperatives pursued by more traditional methods. Unplanning may be the doctrine that, where astutely and collaboratively deployed, delivers accessibility outcomes far and above those achievable by more restrained approaches.

### Recommendation 1

The centres of Western Sydney should be planned and de-regulated to enable the integration of mixed-use activities around core public spaces. Within this context, rapid transport options must be pursued that intersect and disrupt spaces rather than simply connect them.

## *Understanding People and Place*

Understanding what members of the community and other stakeholders value about each of the centres examined in this document is essential to retaining and supporting a strong sense of their own individual place identity and appeal. At times, large infrastructure projects can prioritise efficient delivery over what is often considered the softer and less tangible elements of people and place.

Similarly, community spaces, public domain and active travel infrastructure that speak to the specifics of a place can be overlooked or provided as an 'add on'. This can translate into missed opportunities for realising vital urban centres as first and foremost, places that attract and offer enduring appeal for the people and communities who work, live and enjoy spending time in them.

Reaching out to diverse members of the community may be regarded as a challenge – within the constraints of project timeframes and resources. However, actively seeking out and considering diverse voices in planning and renewal of Western Sydney's centres has boundless value to offer, for creating truly sustainable centres in this growing region that reflect local character, culture and charisma.

The COVID-19 pandemic has highlighted the critical importance of strong and inclusive engagement in order to ensure that all members of our community have access to vital, and in that instance life saving health information. While city planning and infrastructure projects aren't as commonly about life and death, they are about ensuring our centres offer quality of life benefits and resilience in the face of emerging challenges. Inclusive planning processes that recognise the importance of communicating and engaging with people in all their diversity, in ways that are appropriate to meet their needs, is critical to support thriving centres.

### Recommendation 1

Embed human centred design into infrastructure planning processes. This includes Co-Design processes, iterative prototyping and testing, and integration of arts and cultural practice to support place based outcomes.

### Recommendation 2

Communicate and engage with communities in all their diversity to ensure that visioning processes and public communications are inclusive and respond to people's diverse needs and aspirations for place. This includes engaging with Aboriginal people and communities early and regularly, engaging with Western Sydney's culturally and linguistically diverse communities, and ensuring that young people have a voice in projects about the future of our centres.

WSP

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## Steering Committee

*Western Sydney Centres: Beyond Recovery* has been developed with input and guidance from our Steering Committee. Members include:

— **Helen Barcham**, Manager, Strategy and Projects, Western Sydney University
— **Victoria Black**, Head of Stakeholder Engagement and Strategic Partnerships, WSP
— **Christopher Brown AM**, Chairman, Western Sydney Leadership Dialogue
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## Footnotes

[1] Source: World Intellectual Property Organisation (WIPO) Statistics Database, March 2020. Please note, science and technology cluster rank is based on total share in patent filing and scientific publication using fractional counting and the publication period of 2014-2018.

[2] See: https://www.cityofparramatta.nsw.gov.au/sites/council/ files/2017-07/Culture%20and%20Our%20City%20-%20A%20 Cultural%20Plan%20for%20Parramatta%27s%20CBD%20 2017%20-%202022%20.pdf

[3] See: https://www.creativewest.com.au/ led by Western Sydney University's Katrina Sandbach; and file://ad.uws.edu.au/dfshare/ HomesPTA$/30037146/Downloads/Recalibrating_culture_ production_consump.pdf by the Institute for Culture and Society at Western Sydney University.

[4] NSW Government 2020, viewed 23 November 2020, https:// www.nsw.gov.au/premiers-priorities

[5] Project for Public Spaces, What Makes A Successful Place? 2009, viewed 23 November 2020, https://www.pps.org/article/ grplacefeat

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### *In Partnership*

*Western Sydney Centers: Beyond Recovery* has been produced as part of a partnership between:

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## Western Sydney Leadership Dialogue

A not-for-profit, community initiative leading a national conversation about Greater Western Sydney, Western Sydney Leadership Dialogue facilitates interactions between key opinion leaders, across industry, government, academia and the community, to inform public policy debate and to advance a regional agenda.

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## W | CENTRE FOR WESTERN SYDNEY

Since its creation in 2014, the Centre for Western Sydney at the University of Western Sydney, has established itself as a research entity of profound rigour. The Centre's work on jobs distribution and related economic, employment and planning policy is authoritative. Equally, it has brought to the fore a range of analysis exploring the impact of, and ways to mitigate, rising heat in Western Sydney.

The Centre acts as a leading source of collaborative and cross disciplinary research and advocacy on Western Sydney.

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