



WESTERN SYDNEY
UNIVERSITY

WICKED URBAN CHALLENGES IN WESTERN SYDNEY:

RESEARCHERS RESPOND

2022

WESTERN PROFILE & CONTACT DETAILS

PROFESSOR NICKY MORRISON	https://apo.org.au/person/315753	nicky.morrison@westernsydney.edu.au
DOCTOR CECELIA CMIELEWSKI:	https://apo.org.au/person/101281	c.cmielewski@westernsydney.edu.au
PROFESSOR PHILLIP O'NEILL:	https://apo.org.au/person/17646	p.oneill@westernsydney.edu.au
ASSOCIATE PROFESSOR SEBASTIAN PFAUTSCH:	https://apo.org.au/person/198421	s.pfautsch@westernsydney.edu.au
ASSOCIATE PROFESSOR EMMA POWER:	https://apo.org.au/person/66065	e.power@westernsydney.edu.au

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1. INTRODUCTION

PROFESSOR NICKY MORRISON

PROFESSOR OF PLANNING, DIRECTOR URBAN TRANSFORMATIONS RESEARCH CENTRE AND FORMER URBAN LIVING FUTURES AND SOCIETY RESEARCH THEME CHAMPION

1.1 WESTERN SYDNEY WITNESSING UNPRECEDENTED CHANGE

The Western Sydney region is growing – and fast. It is now Australia’s third-largest economy and one of the fastest-growing population and employment centres. Tens of thousands of new residents make their home here every year, from over 170 countries. The latest pandemic-adjusted projections from the Australian Government Centre for Population show that another 400,000 people will settle in the eight local government areas (LGAs) that make up the Western Parkland City by 2030 (NSW Department of Planning and Environment 2021). By 2031, Western Sydney will be home to over half of Sydney’s population (Morrison & Van Den Nouwelant 2020).

The significance attached to the development of the Nancy-Bird Walton International Airport at Badgerys Creek, alongside accompanying infrastructure, positions Western Sydney at a pivotal moment. Whilst unprecedented investment is taking place to provide jobs, homes, and infrastructure for the region’s

existing and new residents, it comes at a time when the global pandemic has laid bare the fundamental challenges that Western Sydney faces. Stark job-housing imbalances, inadequate infrastructure investment, declining housing affordability, a deficit in cultural infrastructure, and extreme urban heat represent increasing and cumulative stresses for Western Sydney’s local communities, economies, and ecosystems. Concurrently, the destructive impacts of climate change are felt most intensively in the western part of the Sydney basin. The rapid succession of shocks like drought, bushfires, storms, floods, and heatwaves place additional pressures on NSW and local governments grappling with the ongoing needs of the growing and changing population in Western Sydney (Morrison et al 2020, Lawton & Morrison 2022).

What is planned and built today must guarantee the livelihoods and wellbeing of Western Sydney’s local communities now and into the future. Yet, do we have the right set of policies in place to tackle these complex wicked urban challenges and create a functional and resilient region?

1.2 TACKLING WICKED URBAN CHALLENGES

The term ‘wicked’, as intended by Rittel and Webber (1973) four decades earlier, focuses on policy issues that (in contrast to tame issues) cannot be tightly defined and successfully treated with traditional linear analytical approaches. Nor can ‘quick fix’, singular-focused solutions be readily found (Rittel & Webber 1973).

Tackling wicked policy challenges requires problem-solving that grasps the bigger picture. The interconnected causal factors creating these challenges need to be understood. Adding to this complexity, policy makers trying to tackle these longstanding challenges face ever-changing legislation, scientific evidence, resources, and political alliances. In effect, they are faced with solving--or at least managing--a moving target.

The Australian Public Service Commission (2007) recognises that tackling complex wicked urban challenges goes beyond the capacity of any one organisation to understand and respond to them. Policy responses

require the involvement, commitment, and co-ordination of multiple organisations and stakeholders working together and in much more collaborative, innovative ways. Working across organisational boundaries, and engaging a wide range of stakeholders and citizens, is required to build the institutional capacity and deal with complex urban challenges. The Commission concludes that resolving wicked challenges requires a reassessment of our current systems, frameworks, existing governance structures, and ways of working. Traditional policymaking and program implementation must be called into question and bolder solutions need to be explored. Fifteen years later, have we heeded this advice?

1.3 BOLD THINKING AND BOLD SOLUTIONS ARE NEEDED

The purpose of this publication is to provide critical insights and perspectives around how to tackle four of Western Sydney's wicked urban challenges, and ensure our region is prepared for the future, namely:

- » job/housing imbalances and inadequate infrastructure investment.
- » declining housing affordability.
- » cultural infrastructure disparities.
- » extreme urban heat.

Our aim is that this publication continues the debate generated in the online forum, 'Wicked urban challenges in Western Sydney: researchers respond', held in October 2021. The event was sponsored by Western Sydney University (WSU). The university is a modern, forward-thinking, research-led university, located at the heart of the Western Sydney region. Boasting 12 campuses (many in CBD locations) and more than 170,000 alumni, 48,000 students and 3,000 staff, the university has 14 Schools with an array of well-designed programs and courses carefully structured to meet the demands of future industry. The event was organised through the University's Urban Living Futures and Society Research Theme and formed part of the University's 2021 Research Week, called 'Bold Research Futures'. This theme had real resonance with what was discussed that day.

Over 160 people attended this highly interactive forum, right across the built environment profession and other key professions. The invitation, however, had gone wider, to many people living and working in Western Sydney and beyond. The event brought together our researchers, government, industry, and our local community to challenge conventional policy thinking and offer new ways to solve these four wicked urban challenges in Western Sydney (as outlined above).

1.4 HOW OUR REPORT IS STRUCTURED

The remainder of this report provides a summary of four of WSU's leading urban researchers' presentations, as delivered on the day. Each of the academics draw from the strategic programs of work being carried out by multi-disciplinary teams across our university. Each brings fresh perspectives and insights to our understanding of the challenges that Western Sydney faces and offers bold policy solutions and initiatives.

The key ingredient to dealing with wicked challenges, however, is collaboration. We therefore invited our participants to provide **one bold action** to create change in Western Sydney. These bold actions are captured in Section 9 of the report.

We also called on three of our industry partners, with whom we work closely, to share how they are making use of our research, and how they are delivering change on the ground. The panellists' responses to the questions we posed are captured in Section 7.

First, we invited Alex O'Mara, the then-Group Deputy Secretary of Place, Design and Public Spaces at NSW Department of Planning and Environment (DPE), to give the keynote speech on the NSW Government's policy approach to Western Sydney. An overview of Alex's presentation follows.

2. SETTING OUT NSW GOVERNMENT POLICY APPROACH

ALEX O'MARA

FORMER GROUP DEPUTY SECRETARY - PLACE, DESIGN AND PUBLIC SPACES, NSW DEPARTMENT OF PLANNING AND ENVIRONMENT

Through the collaboration of the NSW Department of Planning and Environment (DPE) with Western Sydney University (WSU), we share a fantastic goal: a determination to address the wicked challenges of the heart of our city. These come at a time when Western Sydney is experiencing unprecedented investment and transformational growth, but also challenges like job-housing imbalances, housing affordability and urban heat island effect. The 'Wicked urban challenges in Western Sydney: researchers respond' forum called upon on all participants to be daring and bold in our thinking, and our approach to solving problems within housing, jobs, infrastructure, quality public space and environmental challenges.

2.1 THE ROLE AND REACH OF DPE

At DPE¹, our role is to enable, influence and deliver great places for the benefit of the people of NSW – now and for the future. Our mandate is to lift the bar in our built environment, creating long-term public benefit through liveability, good growth, and sustainability. Our work integrates the whole arc, from strategic planning and acquisition of land for public benefit, to infrastructure planning and delivery, design, and public space. Our jurisdiction incorporates many precious places in Western Sydney, including Western Sydney Parklands, Parramatta Park, Fernhill, Mount Tomah, Mount Annan, and Sydney Olympic Park. Significantly, we are also leading the delivery of two of the Premier's priorities:

1. 'Greening the city' – planting a million trees by 2022, and;
2. 'Greener public spaces' – improving walkable access to quality public spaces by 10% across the state by 2023.
3. One of the key functions of DPE is to act as an economic lever to drive productivity. In the 2020/21 fiscal year, of the 1,071 projects that were approved, 25% of these were in Western Sydney (including the West Planning System Acceleration program) – about \$11 billion in capital investment value. At DPE, our focus is on collaboration – on delivering great communities in Western Sydney in partnership with local councils and industry, improving planning and place outcomes, and improving the timeliness of decisions.

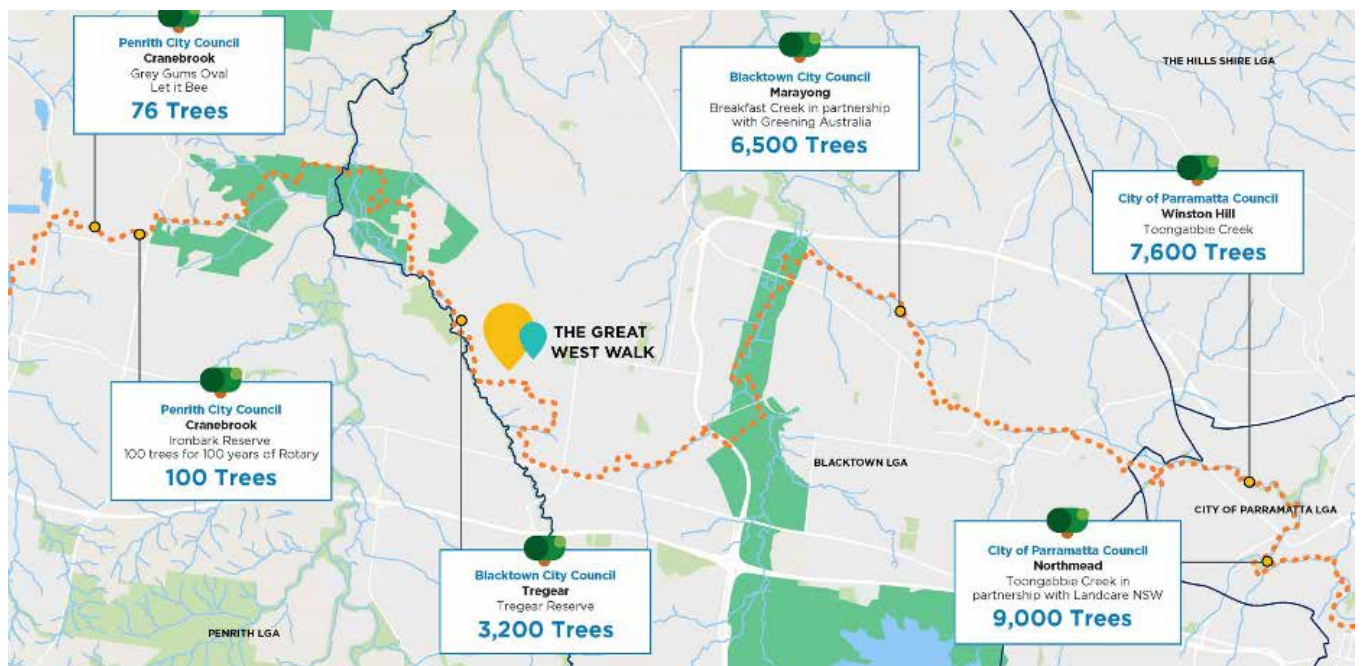


FIGURE 1: © NSW Government

1: In April 2022 certain functions, such as the activation of open space and the responsibility for the Greater Sydney Parklands were shifted from the Department of Planning and Environment to Transport for NSW as part of the creation of the Active Transport and Cities Portfolio.

2.1 NEW CONNECTIONS, NEW COMMUNITIES

A key priority for DPE is housing. Recently, this has been enabled through several significant re-zoning packages. We are helping to build new communities in these re-zoned precincts, and such areas as Oran Park, Turner Road, East Leppington, Austral, Leppington North, and Catherine Field. We are planning for additional communities in Merrylands and connecting new suburbs through the planned airport at Badgerys Creek. We are also investing in major infrastructure, such as the Camden Valley Way,

Bringelly Road and Northern Road upgrades, and the Southwest Rail link. We are releasing more land for housing and ensuring that residents have access to a range of homes that suit different needs, budgets, and lifestyle choices. This will help to place downward pressure on housing prices. DPE is ensuring funding for new essential services, such as main roads, water mains and sewer carriers – plans that aim to provide more certainty on timing for land release for the community, business, and local government.

DPE is investing in infrastructure needed to support both new and existing communities. Around \$1.8 billion in funding has recently been directed to 188 projects in Western Sydney. Through the first Accelerated Infrastructure Fund, for example, \$75.6 million was provided to 14 projects across Blacktown and The Hills (including Balmoral Road, Kellyville), with another round of funding having been made available to eight Western Sydney councils.



FIGURE 2: Balmoral Road, Kellyville in The Hills LGA. © The Hills Shire Council

2.3 SUPPORTING NSW ON THE GROUND AND ONLINE

In the 2020/21 financial year, DPE oversaw the approval of more than 25,500 dwellings in Western Sydney, with strong growth in completions in areas such as Oran Park, Edmondson Park, and North Kellyville. As well, DPE has created two new online platforms to better support planning and investment in NSW:

1. The Greater Sydney Urban Development Program – which shares real time data on the trends affecting the housing market, and;
2. The **Housing Evidence Centre** – which aligns with the Housing Strategy 2041 to address four key areas to combat housing stress in NSW (housing supply, diversity, affordability, and resilience).

2.4 PLACES TO LIVE, PLACES TO WORK

The NSW government is focused on how to better deliver and co-ordinate jobs from a place perspective. Part of that anchoring is delivering on the vision of a 30-minute city, ensuring new jobs built around key precincts, a new economy, and opportunities enabled by public transport. In Western Sydney, some of those important precincts are centred on places like Camellia, Rose Hill, Parramatta, Westmead, the aerotropolis and clusters at Liverpool, Campbelltown-Macarthur, and Penrith. Our place-strategy approach means we do more than just identify the land use controls; we also look at how economics, urban design, green infrastructure and planning come together. We want to ensure we are looking at new employment ecologies – locations where different job types are developed through interaction and collaboration (for example, health and medical research, defence and aerospace, and freight and logistics). We also aim to support communication, higher education, creative and cultural industries, and the more traditional industries.

Through the aerotropolis, 60,000 new homes will be built, and a new high-skilled employment hub will be created in Western Sydney. Around 200,000 jobs will open up across aerospace, defence, manufacturing, healthcare, freight, logistics, agribusiness, education, and research. The Mamre Road precinct (in Penrith), recently re-zoned, will deliver 850 hectares of industrial land, 5,000 construction jobs, 17,000 ongoing jobs with a warehousing industrial hub, 50 hectares of open space, new cycling, and walking paths, and 70 hectares of conservation land. A re-zoned area in Glenfield (in Campbelltown) will enable 7,000 homes, 3,000 jobs, an educational hub centred around Hurlstone Agricultural High School (in Campbelltown), and 30 hectares of additional public open space (with planning controls to deliver 5% of affordable housing). Ongoing re-zoning in Wilton (in Wollondilly) will enable 15,000 new homes and 15,000 new jobs. DPE's focus is on ensuring that we have all that is needed to make a place work.



FIGURE 3: Glenfield in Campbelltown LGA. Artist impression only. © NSW Government

2.5 PROTECTING PEOPLE AND THE ENVIRONMENT

In its planning, DPE is constantly striving to overcome wicked urban challenges. In Wilton, for example, the development control plan provides for a 40% tree canopy target in low-density residential areas and encourages the use of light-coloured building materials and finishes to reduce the urban heat island effect. It also aims to maximise the recycling of water, to reduce water demand, and to make the precinct greener. Further, it seeks to reduce

discharge to surrounding river and creek systems, and to designate the Wilton Town Centre as a safe refuge for current and future Wilton and Wollondilly residents in bushfire season.

Through the Premier's 'Greening the city' project, DPE is working closely with councils in Western Sydney. In Campbelltown, for example, the 'Shade for shared pathways and sport precincts' project has seen the planting of 2,000 trees across six sporting precincts to increase canopy cover and reduce the

impacts of urban heat. The community is being encouraged to join the tree planting movement, with the 'Everyone plant one' program. The 'Greening the West walk' project is another example of collaboration, partnering with three councils, Greening Australia, and Landcare to plant 26,000 trees along a 65 km strip that traverses local, state and national parks from Parramatta to the Blue Mountains.



FIGURE 4: Tench Reserve in Penrith LGA. © Context Landscape Architecture.

Through DPE's collaboration with WSU and local councils, new ways of planning are being developed. For example, Georges River, Cumberland, and Penrith are transforming car parks into green spaces, and Blacktown is installing green roofs on Blacktown Showground. The 'Cooling the schools' program, in partnership with Greening Australia, is being guided by WSU research into the schools most vulnerable to urban heat and will see 72,000 trees being planted at schools.

2.6 A CITY WITHIN A PARK

The government's vision is for Sydney to be 'a city within a park' and DPE is trying to realise that goal through the '50-year vision for parklands and open space', released in 2021. The proposal sets out a vision for how to bring life to the blue-green grid, deliver an interconnected network of open space to keep our city cool, encourage healthy living by diversity, and ensure ecological resilience. That vision will be delivered through the new entity, Greater Sydney Parklands, which is

already a working towards its goals through an 86-hectare BMX and mountain biking hub being created in partnership with Liverpool Council, and a new herbarium planned for Mount Annan (in Camden), through the Australian Institute of Botanical Science.

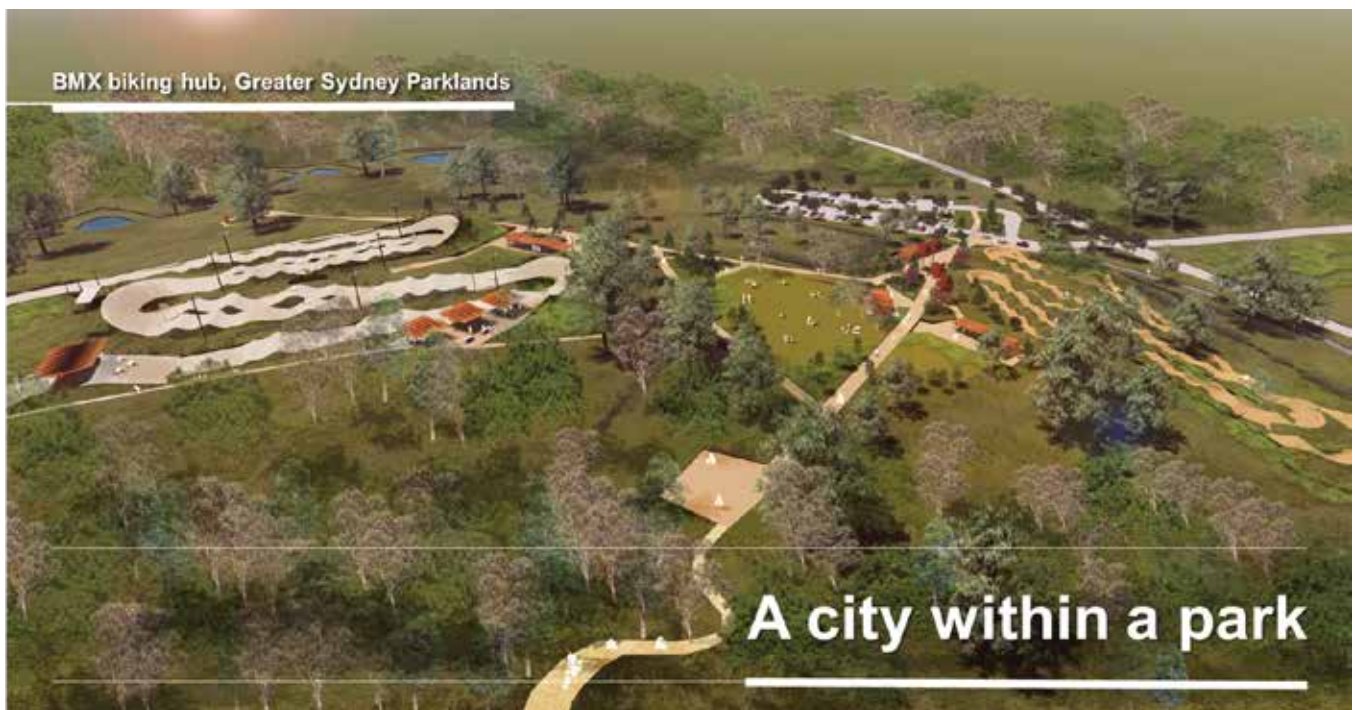


FIGURE 5: BMX biking hub, Greater Sydney Parklands. © DPE.

2.8 LOVING THAT PEOPLE LOVE WHERE THEY LIVE

DPE has people and communities at the heart of its planning for the future of public spaces. This is particularly true of Western Sydney, through previous programs such as ‘Streets as shared space’, and ‘Healthy, active Fairfield’, which aimed to encourage walkability in centres like Fairfield and Cabramatta. The ongoing ‘Places to love’ program establishes partnerships with councils. With Penrith in 2020, for example, the program funded the ‘Live, play, work grid’, which was an opportunity to bring women’s voices into the design of local public spaces in Kingswood.

DPE seeks to design a better future through policy reform, to enable healthy communities, and to place people’s needs at the forefront of development. A proposal will be released soon – an urban design guide which will include targets around tree canopy and public domain, among others. DPE is also leading work on benefit valuation methodologies in consultation with Treasury, to more accurately value public-facing green infrastructure and drive greater investment in place-making in public domain.

DPE will continue to partner with WSU and other universities, local government, industry, and additional stakeholders, because it knows the best place-based outcomes come when we work together. We are all united in this goal to boldly address the challenges of Western Sydney--and our country--so that ultimately, people now and in the future love the place they live.





RESEARCHERS RESPOND TO WESTERN SYDNEY'S WICKED URBAN CHALLENGES

3. JOB/HOUSING IMBALANCES & INADEQUATE INFRASTRUCTURE INVESTMENT

PROFESSOR PHILLIP O'NEILL
PROFESSOR OF ECONOMIC GEOGRAPHY

There is stark environmental, social, and economic illogic in the ongoing development of housing estates at ever-increasing distances from those locations to which residents must travel for work, and this is wholly to the benefit of property development. While the focus of this chapter is jobs, there are obvious implications for housing and infrastructure provision in the Western Sydney region.

3.1 SHARPENING OUR FOCUS

Western Sydney University (WSU)'s research on the development of housing, jobs and infrastructure in the region dates back over a decade. Our first report was entitled, 'Work, places and people in Western Sydney' (Fagan & O'Neill 2015), but our approach sharpened with the release of subsequent reports, entitled, 'Addressing Western Sydney's jobs slide' (O'Neill 2016), 'Youth unemployment in Western Sydney' (O'Neill 2017), and then the three-part series, 'Where are the jobs?' (O'Neill 2020a; O'Neill 2020b; O'Neill 2020c).

Our most recent report, 'Future directions' (O'Neill & Tannous 2021), examined:

1. labour market change and spatial-social mismatches in Western Sydney over three decades, in the context of globalisation and population growth;
2. the drivers and transformative impact of Western Sydney's economic boom and the efficacy with which these factors translated into sustainable job access, commuting landscapes and sound institutional planning, and;
3. the economic trajectory of the Central City District economies of Western Sydney (Blacktown, Cumberland, Parramatta, The Hills).

This research focused on the boom years prior to the COVID-19 recession, with the effects of the recession evaluated in the context of the strengths and weaknesses of these local economies. Pathways to the future were also assessed, particularly those relating to the role of local lead firms, the importance of strengthening value chains, and the role of strategic centres.

3.2 RISING UNEMPLOYMENT PRE-DATES COVID

While the 'Where are the jobs?' reports came at the end of Western Sydney's jobs boom, they revealed that the jobs surge from 2014 to 2019 did not dent the region's jobs gap. In 2019--pre-COVID--as the housing boom dampened, a downturn in the Western Sydney economy was under way. Our 'Future directions' report revealed the close link between Western Sydney's economic boom and its record level of population growth. The driving force of the jobs boom was the construction sector, however, the building boom was entering decline before COVID.

Quarterly unemployment rate



Source: Australian Bureau of Statistics, Labour force survey, catalogue number 6202.0, and Department of Employment, Small Area Labour Markets, December 2018. Compiled and presented in economy.id by .id (informed decisions).



FIGURE 6: Quarterly unemployment rate of Blacktown City, 2011-2021. Source: Australian Bureau of Statistics.

Quarterly unemployment rate

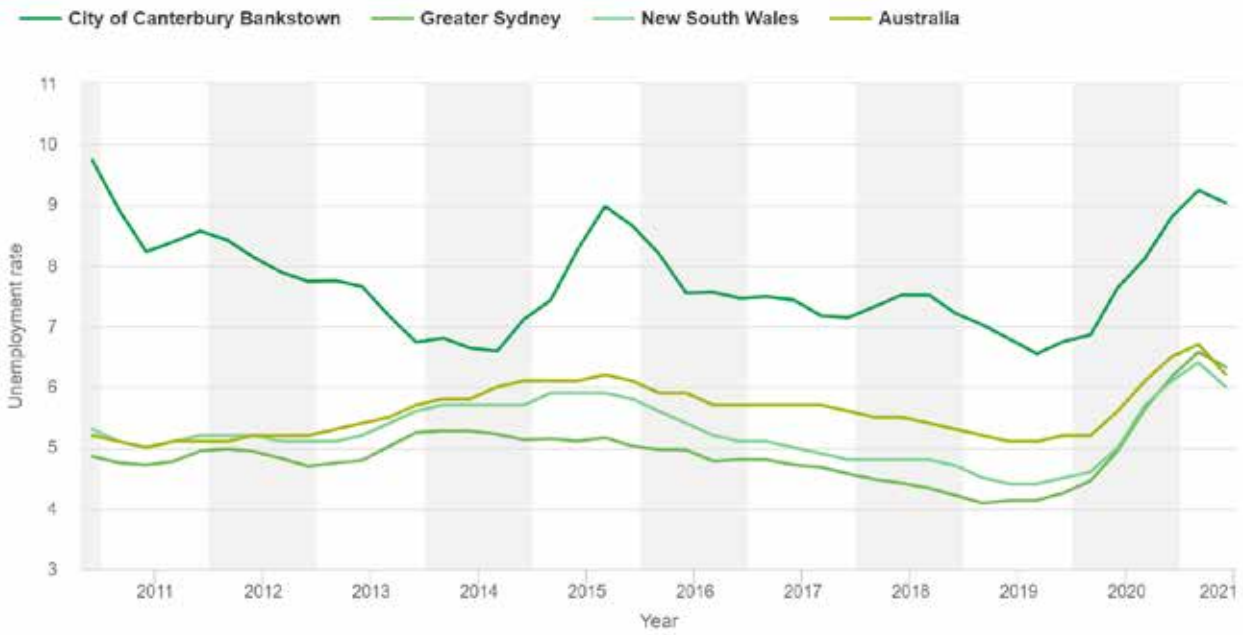


Source: Australian Bureau of Statistics, Labour force survey, catalogue number 6202.0, and Department of Employment, Small Area Labour Markets, December 2018. Compiled and presented in economy.id by .id (informed decisions).



FIGURE 7: Quarterly unemployment rate of Campbelltown City, 2011-2021. Source: Australian Bureau of Statistics.

Quarterly unemployment rate

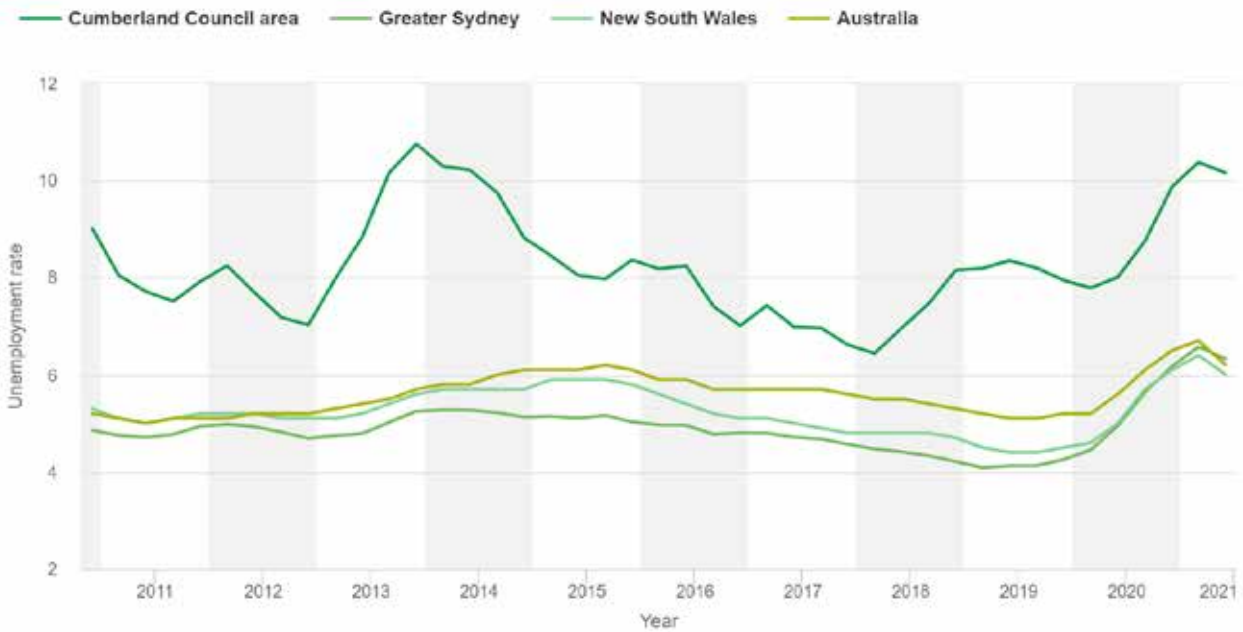


Source: Australian Bureau of Statistics, Labour force survey, catalogue number 6202.0, and Department of Employment, Small Area Labour Markets, December 2018. Compiled and presented in economy.id by .id (informed decisions).



FIGURE 8: Quarterly unemployment rate of Canterbury Bankstown, 2011-2021. Source: Australian Bureau of Statistics.

Quarterly unemployment rate



Source: Australian Bureau of Statistics, Labour force survey, catalogue number 6202.0, and Department of Employment, Small Area Labour Markets, December 2018. Compiled and presented in economy.id by .id (informed decisions).



FIGURE 9: Quarterly unemployment rate of Cumberland Council Area, 2011-2021. Source: Australian Bureau of Statistics.

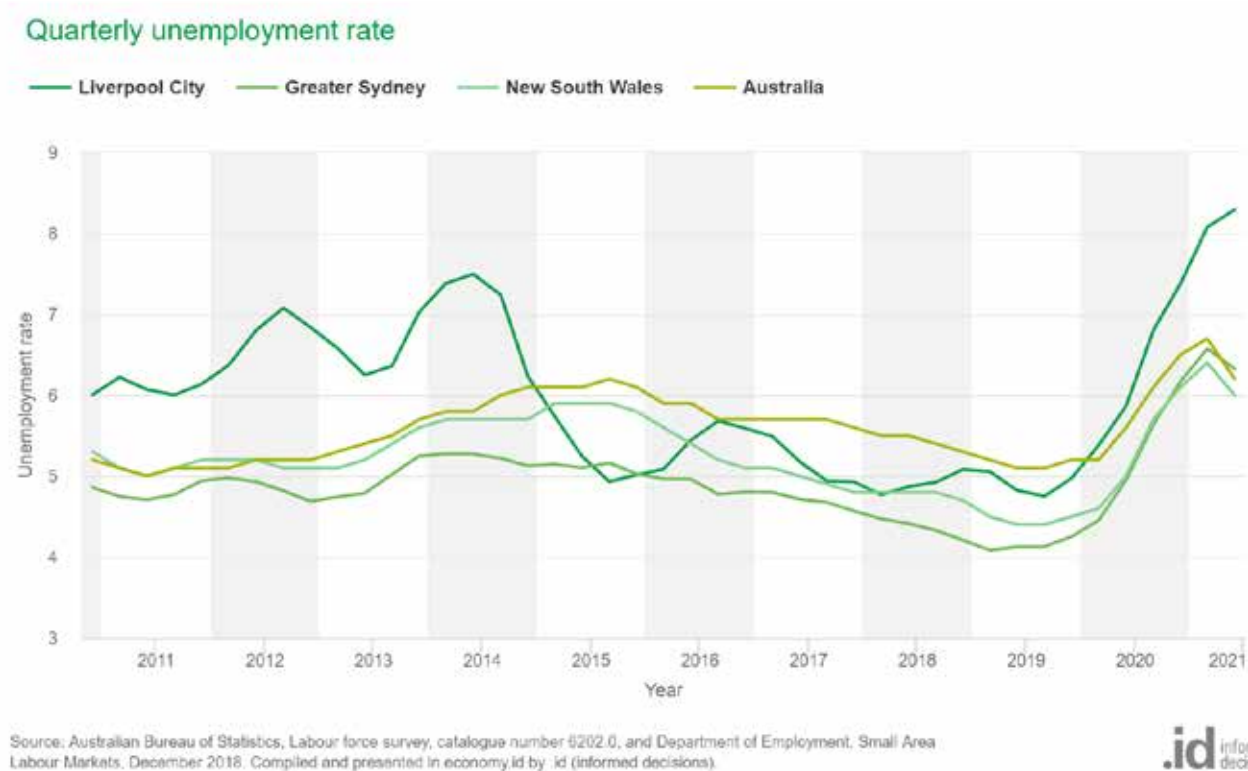


FIGURE 10: Quarterly unemployment rate of Liverpool City, 2011-2021. Source: Australian Bureau of Statistics.

Small area labour force statistics for the June 2021 quarter (see above) show levels of unemployment in Western Sydney local government areas (LGAs) prior to the most recent lockdown, and well after the heavy COVID hits of 2021. The local economies of Parramatta, Penrith and The Hills (not shown), track state and national averages. For Campbelltown, Liverpool, Fairfield, Canterbury-Bankstown, Cumberland and Blacktown, however, unemployment rates of 10% have returned. In each LGA, the upswing in unemployment starts pre-COVID.

In brief, the jobs gap in Western Sydney remains. The housing and population boom from 2014 to 2019 had no positive legacy. Our reports show there are still insufficient jobs overall. There are still insufficient jobs for the region's rising number of graduates. The absolute annual growth of the professional labour force in our region is higher than Brisbane, Perth and Adelaide combined. Aside from Parramatta CBD, however, there are no growing concentrations of jobs for graduates in Western Sydney. Meanwhile, continued jobs dispersal across all sectors means ongoing car dependency, and the region's historical deficits in regional training and access perpetuate jobs inequality – especially for women and youth.

3.3 A STAGNANT AND LOW-SKILLED LABOUR FORCE

Despite the jobs gap in Western Sydney, the labour market is changing, and, as our reports show, the shifts are quite remarkable. Note that the manufacturing sector has consistently been Western Sydney's largest employer and the most valuable generator of multiplier effects, and this sector has not experienced a decline in jobs in recent years, but nor has it experienced jobs growth.

In the boom, we saw two job types dominate: construction jobs for men, care jobs for women. As we demonstrate in 'Future Directions', the construction boom, while it lasted, generated handsome multiplier effects, spinning off work into local manufacturing, supply chains, equipment hire, the transport sector and so on.

Construction has generated jobs mainly for men, while for women, major jobs growth has been in the low-skilled side of health care and social assistance, workers engaged in child care, aged care, and disability support. The positive aspect of this situation is that the sector is underpinned by long-term Commonwealth government funding. The drawback is that the sector is low-wage, low-skilled, and has minimal multiplier impacts. It is not a sector that drives general economic betterment.

Alongside construction and social assistance, the next most important growth sector has been transport and logistics. Indeed, for some LGAs in Western Sydney, especially Blacktown, transport and logistics has been the standout growth sector for this entire century. Again though, we find the multiplier effects of transport and logistics are poor. Global firms like Logos, DHL, Amazon, and FedEx are expanding in the region. Big investors like Australian Super partner in the acquisition of key assets like the Moorebank Intermodal. While this means there are Western Sydney jobs driving trucks and staffing e-commerce distribution centres, advanced skills jobs in logistics (such as in data warehousing, finance, supply chain management, robotics, and customer relations) grow elsewhere – to the east or offshore. If Western Sydney is unable to secure these degree-jobs in a rapidly growing logistics sector in the 2020s, it is difficult to envision how an aerotropolis with 200,000 advanced skills jobs will rise from the western plains in decades to come.

3.4 BUT WHAT ABOUT PARRAMATTA?

Our 'Future Directions' report makes two key observations about Parramatta. The first is that Parramatta's rising density of young professionals, living in all its new apartments, are readily soaking up Parramatta CBD jobs growth. Parramatta isn't exporting a growing number of jobs to workers elsewhere in Western Sydney. Our second observation in 'Future Directions' is that the nature of professional jobs growth in Parramatta--underpinned as it is by the relocation of government departments--means the impact on local professional services has been minimal. An office block is built, desks are installed, and a public servant pockets a salary for spending back in their home suburb. This is not 'backbone economy' development, such as we find in CBDs dominated by concentrations of private sector, advanced services firms. The Parramatta project has much to do to warrant the acclaim it is getting.

3.5 UNSUSTAINABLE COMMUTES, UNSUSTAINABLE ECONOMIES

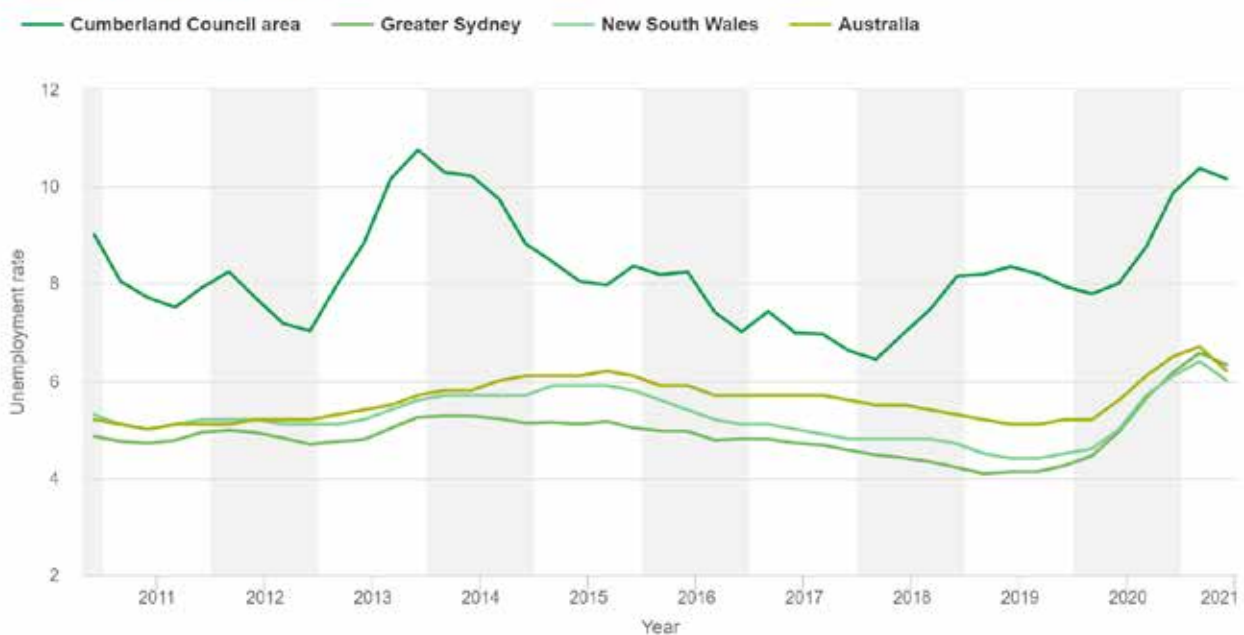
The consequence of the failure to generate giant concentrations of professional jobs in Western Sydney is that 60% of each new cohort of Western Sydney professional workers (numbering 10,000 each year) are forced to do 'the big commute' every day. If you live along a railway corridor, especially the well-served T1 corridor, the commute is feasible, perhaps even tolerable. If you live away from a train line, however, such as in Oran Park, the city commute is a nightmare, unsustainable for a young professional couple with a family. Yet new suburbs, such as Figtree Hill (the next Oran Park), and then the next, and the next, down the Hume Highway to Wilton, keep getting approved. There are tens of thousands in each housing batch, but no rail line, no jobs. Where are these workers' promised jobs?

The June 2021 unemployment figures are arresting. They show the ongoing fragility of the region's labour market. In a boom--especially one driven by record population growth--jobs spring up in construction. When

the boom is over, they disappear just as readily. Build a new care sector based on government funding in health care, aged care, child care and disability support, and Western Sydney women, eager for work, will sign on. Neither of these sectors, though--neither construction nor care--nor the rising logistics sector, is generative of a sustainable, fair, prosperous regional economy.

A 21st century economy will only prosper on the back of a highly educated, innovative, creative workforce. Western Sydney currently exports the bulk of the region's new young professionals at 6.30am each day, grinding down their energy, enthusiasm, and family life, on the long commute. Right now, what are the Western Sydney dividends from its transformation from those dark days of economic restructuring in the early 1990s? Where is the dividend from the infrastructure investments, from the sale of public utilities, from all that new housing, all those new apartments?

Quarterly unemployment rate



Source: Australian Bureau of Statistics, Labour force survey, catalogue number 6202.0, and Department of Employment, Small Area Labour Markets, December 2018. Compiled and presented in economy.id by .id (informed decisions).

.id informed decisions

FIGURE 11: Quarterly unemployment rate of Fairfield City, 2011-2021. The rate is 1 in 8, an unpublicised statistic. Source: Australian Bureau of Statistics.

3.6 OPEN AND HONEST RESEARCH – NEEDED NOW

Captured in the graph above is Fairfield: one in eight was unemployed in the middle of the pandemic.

Fairfield's labour market experience is a bellwether for Western Sydney. The Western Sydney jobs gap is not closing. Where do we find solutions that close the Western Sydney jobs gap? Our reports offer a number of suggestions. We make no claim for a total solutions package, but in the third of our 'Where are the jobs?' reports, we show

how existing government policies will not address the jobs problem in the long term. Then in 'Future directions' we show the need for policies to address three key issues: the region's lead firms; the need for thicker, more embedded value chains, and; the need to regenerate our strategic centres. New housing, big item infrastructure and folders full of memoranda of understanding for the dream of an aerotropolis all have their place, but so much more needs to be done.

4. HOUSING AFFORDABILITY

ASSOCIATE PROFESSOR EMMA POWER

ASSOCIATE PROFESSOR OF HUMAN GEOGRAPHY AND URBAN STUDIES

Western Sydney has a higher proportion of households in housing stress than any other region in Sydney. In Australia, we commonly use the 30/40 rule to assess housing affordability stress: if households in the bottom 40% of incomes are paying 30% or more of their income to meet their housing costs, then we recognise them as being in housing stress. This income bracket typically includes essential workers, such as support workers, cleaners and hospitality workers, as well as income support recipients (for example, the Aged Pension, Disability Support Pension, JobSeeker). These households are especially vulnerable to escalating housing costs and they are over-represented in Western Sydney.

4.1 A REGION IN CRISIS

In 2019, Western Sydney University (WSU) partners, Wentworth Community Housing (now Link Wentworth) and the Western Sydney Community Forum, found more than 100,000 households in the region--and as many as 1 in 5 households in Fairfield, Cumberland and Canterbury-Bankstown--are experiencing housing affordability stress (McIntyre & Sankovic 2021). Housing stress is especially high amongst renters, with nearly a third of renters in the region in rental stress (and 2 in 5 renter households in Fairfield, Cumberland, and Canterbury-Bankstown). Consequently, homelessness is growing faster in Western Sydney than in Greater Sydney, with Cumberland local government area (LGA) experiencing the second-highest rate of homelessness in the state, and the fourth-highest nationally (Cumberland Council Social Research and Planning Team 2018). People experiencing homelessness in the region are more often living in severely overcrowded dwellings than sleeping rough on the streets.

Since 2019, housing stress has risen more rapidly in Western Sydney than in Greater Sydney because:

- » housing costs have increased faster than incomes, and this gap has grown more in Western Sydney than Greater Sydney over the last decade;
- » the number of households renting has grown faster in the region than in the rest of Sydney;
- » during the pandemic, the prices of detached houses accelerated while incomes stayed relatively static;
- » during lockdowns, households in Western Sydney were also over-exposed to job and income loss.

Renting and investment in rental housing is growing in Western Sydney. One recent Western Sydney University project points to the impact of investors on housing prices in the region (Bangura & Lee 2020). There are now more rented properties in Western Sydney than in the eastern and northern regions combined, and the proportion of private dwellings that are rentals is almost 35% in Western Sydney versus 19% in the eastern region and 25% in the northern region. Investors in Western Sydney appear to be attracted by the relative low value of properties and potential for capital gains. Based on lodgments with the ATO in 2016, investors also appear willing to make a loss, accounting for approximately 49% of total investment losses across Greater Sydney. This is driven by collective market speculation and attraction to low-value properties, and underpinned by tax settings such as negative gearing. These practices are driving a housing bubble in Western Sydney that risks shutting out lower-income households who are unable to leverage against other property assets.

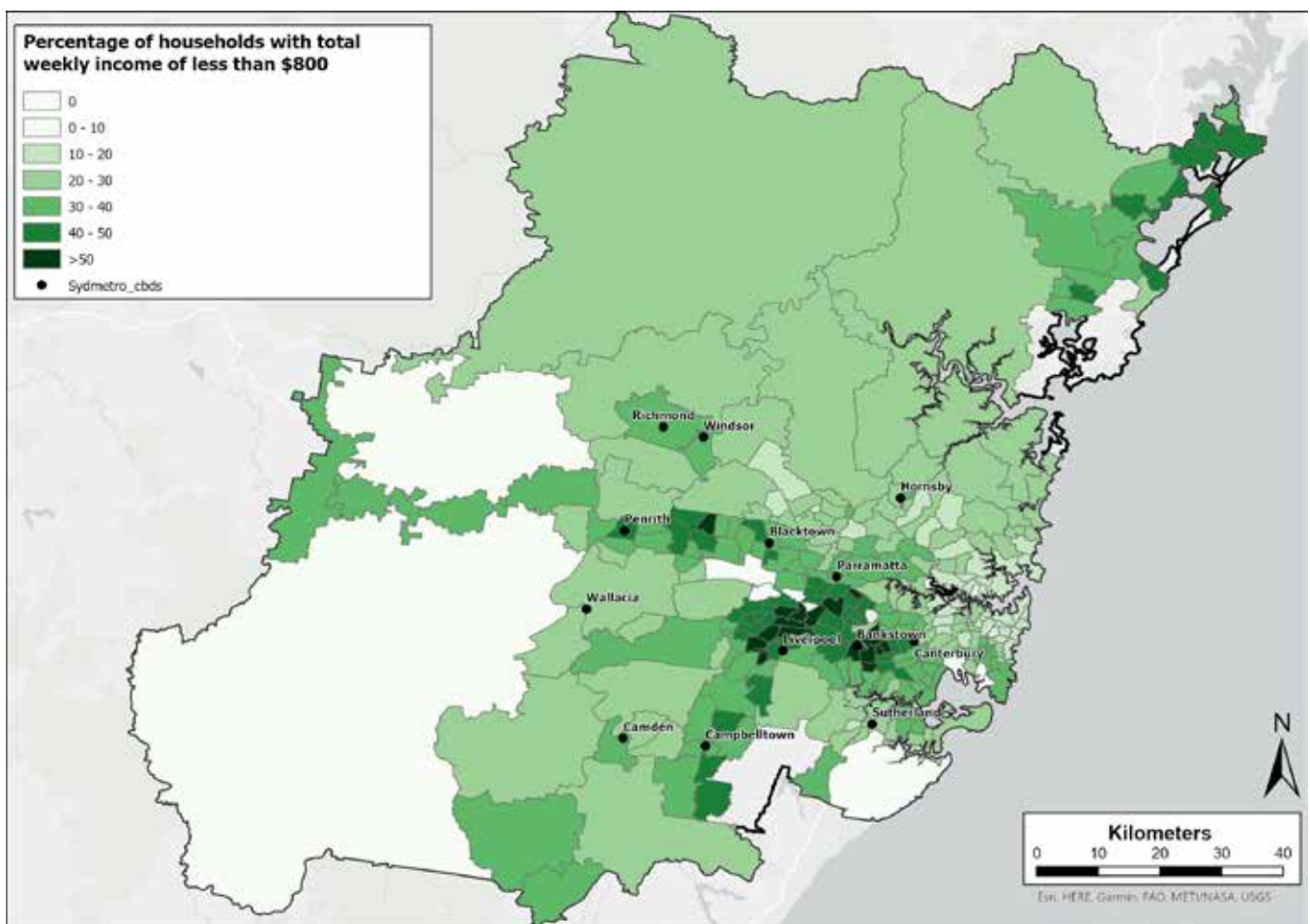


FIGURE 12: Percentage of households with total weekly income of less than \$800, based on Census 2016 data. © Susanna Rouillard.

4.2 WOMEN AT RISK

Greater competition for housing and higher housing prices is manifesting as a crisis of housing affordability and household finances in Western Sydney. In my recent research, funded by the Australian Research Council (ARC), I interviewed women experiencing homelessness and life on the edge of homelessness (Power 2020). Stories from women who live in Western Sydney are illuminating, and give a troubling picture of housing experiences in the region. Experiences of homelessness were not

uncommon, with women reporting sleeping in their cars to stay safe. For example, one woman described ‘couch-surfing’ with friends until her welcome wore out. She was then forced to live in her car while she waited several months to gain approval for social housing. Another described living in her car with her cat and dog for 12 months, relying on the local swimming pool to shower and using the local library to access housing information. Another woman recounted secretly sleeping in her car in the carpark behind her friend’s apartment in the Greater Parramatta area. She survived by

eating cans of baked beans and tuna, which she stored in her car, underneath the cleaning equipment she needed for her job.

Rent increases that left women in poverty were common. One woman, for example, described how an increase in her rent left her with \$30 a week in hand. She depicted her efforts to survive as being ‘like a job’, explaining how she relied on local charity for a monthly food voucher and access to a weekly food pantry. Another woman described her experience of aged-based discrimination as she searched

for a more secure job and told how she was struggling on a low-paid contract during school terms and JobSeeker over the break. At certain times in the year, she relied on a local church that opened a weekly food pantry. She described how, as a low paid community worker living in an area with a significant number of disadvantaged families, she needed to collect food alongside her clients.

4.3 COVID INCREASES VULNERABILITY

COVID-19 has brought new challenges to our region. Households in Western Sydney are over-exposed to low-paying frontline jobs that are more vulnerable to shutdowns during the pandemic, and they are also overexposed to overcrowded housing. This creates a perfect storm, where residents face increased likelihood of sickness and exposure to conditions that enable the domestic spread of COVID-19. Households also face higher risk of financial crisis. Housing is one of the largest and highest priority costs borne by households, and with the loss of work comes housing, energy and food insecurity. During the 2021 lockdown, OzHarvest, for instance, reported a 500% growth in demand for food hampers, with the greatest need arising in the central west and southwest regions of Sydney (Rachwani 2021).

4.4 SEEKING TO SUPPORT

An important focus within our work is on how households experiencing affordability challenges manage, and how they might be supported better. With growing numbers of households living below the poverty line and housing costs continuing to increase, a new ARC-funded project based in our region investigates the connections between formal and informal supports that households mobilise to make ends meet (Power et al 2021). We are interested in how family, friendship and

informal community support networks come together to support households in need, and how they interface with formal community services to shape the nature of demand that these services see. Part of this work is learning more about the housing situations of low-income households in the region, and how these shape households' experiences and needs. For instance, what is the impact of living in an overcrowded dwelling or with limited access to kitchen and bathroom facilities? A second focus of the work is on formal and informal community sectors and the infrastructures that support them over time, from organisational needs through to the needs of staff such as local, affordable housing.

How can we address these challenges? The necessity for further structural reform for affordable housing at state and federal levels is clear, and demonstrated by established research showing that welfare, tax, and pension systems are reducing the fairness of our housing system and disadvantaging lower income households. Many of these households are in Western Sydney. Increasing volumes of social and affordable housing need to be provided to the growing numbers of households who are missing out. If our housing system continues its current trajectory, it will foster a growing housing crisis that is particularly marked in our region.

4.5 SEEKING SOLUTIONS

Firm and clear social and affordable housing quotas are required to reverse the course, with government, developers and the not-for-profit community housing provider sector working together to deliver secure housing. In the short term, local government can also look to innovative responses like using temporarily vacant buildings to immediately increase social and affordable housing. The Addison project in Kensington has provided low-income housing

and space for an OzHarvest supermarket for several years while the developer, TOGA, works toward longer-term redevelopment (*TOGA Group of Companies* nd). The partnership of Women's Community Shelters with Twilight Aged Care has allowed 'meanwhile use' of vacant aged care facilities for transitional housing of homeless older women, and women and children leaving family violence (*Women's Community Shelters: Beecroft House*, nd). Local governments and their urban and social planning teams can play a small but important role in identifying and activating opportunities like these through their urban and social planning teams, exploring the creative re-use of under-utilised council and private sector assets. They can also offer short-term crisis support for communities in need through temporary accommodation and incorporating affordable housing into redevelopment plans.

There are also opportunities to try new things and explore options for housing diversity, such as affordable built-to-rent and housing cooperatives, working inside existing planning, legal and financial instruments, as well as identifying opportunities for change. WSU researchers are leading the way, building new knowledge of innovative housing opportunities like co-living housing and housing cooperatives. An ARC Industry Linkage project with the Australian Cooperative Housing Alliance (ACHA) is developing a new framework for assessing the benefits of co-operative housing (Crabtree-Hayes et al 2020). An important outcome of this project will be an evidence base of work in co-operative housing that can support sustainable growth and policy support for socially beneficial housing. This must go hand-in-hand with broader structural change, so that our housing system overall is made fair and accessible for all.

5. CULTURAL INFRASTRUCTURE DISPARITIES

DOCTOR CECELIA CMIELEWSKI

DOCTOR AND RESEARCH OFFICER OF INSTITUTE FOR CULTURE AND SOCIETY

5.1 WHAT IS CULTURAL INFRASTRUCTURE?

Culture is fluid and cultural activities can take place in any context. The Institute for Culture and Society (ICS) classification framework identifies five activities and their associated spaces:

1. performance and exhibition (for example, concert halls, museums)
2. commercial and enterprise (for example, creative businesses)
3. community and participation practice (for example, community centres, libraries)
4. practice education and development (for example, art schools, rehearsal facilities), and
5. festivals, events and public spaces (for example, parks).



FIGURE 13: Blue Mountains Cultural Centre. © Cecelia Cmielewski.



FIGURE 14: Counting and Cracking, Belvoir St Theatre, 2019. © Brett Boardman.

5.2 WHY IS CULTURAL INFRASTRUCTURE IMPORTANT?

Socially, culture and creativity can bring urban, regional and remote communities and institutions together. Culture and creativity are tremendous assets for local communities through:

- » improving urban quality of life and amenities
- » enabling social network formation at the neighbourhood level
- » enabling creative networks to form and advance innovation and growth
- » potentially facilitating post-conflict resolution recovery
- » creating opportunities for those who are often socially and economically excluded (especially women, young people and marginalised groups), and
- » strengthening tourism destinations.

5.3 WICKED CHALLENGES FACING WESTERN SYDNEY

The historical gap in cultural infrastructure investment in Western Sydney, as described by SGS Economics & Planning (2018), presents a serious challenge. The few creative and cultural spaces are already being crowded out by rapid urban expansion and growth. There is also a shortage of cultural facilities that embrace First Nations cultural production and multicultural creative inclusion as core elements of creative innovation. Western Sydney needs training in the specialist arts. The importance of an inclusive night-time economy has only increased as residents and tourists, particularly the young, seek out the possibilities of a culturally attractive 15-to-24-hour city. New urban developments are lacking context-sensitive cultural infrastructure, resulting in endless swathes of roofs in suburban areas. There are not enough creative production facilities to serve as rehearsal, event and exhibition spaces.

Planning and resourcing issues constrain access to heritage or similar buildings for cultural production, presentation and exhibition, and even limits the re-purposing of new, purpose-built structures for other creative ventures.

Another significant driver comes from growing downward pressure on local government to deliver culturally rich environments, stemming from diminished ancillary funding and support, despite a willingness from local government to do more.



FIGURE 15: TAFE NSW Lidcombe campus Maker space. © Cecelia Cmielewski.

5.4 BEING AN ARTIST IN WESTERN SYDNEY

Artists and creative practitioners living or practising in Western Sydney perceive the region to be more tolerant and accepting of differences than in the eastern regions. This perception underpins a community that can work across different generations and cultures, with a strong sense of demographic diversity, working class solidarity and shared stigmas. 75% of those in creative practices are in multiple artistic or creative disciplines, involving work across commercial, professional (local council), and volunteer sectors. While the preference is to work on personal practice, commercial work is undertaken to support livelihoods. There is a commitment to working with community as facilitators, trainers, and collaborators, which are employment opportunities to be considered in the overall job mix for Western Sydney. The high degree of artistic freedom experienced 'out west' is distinct and valued (Stevenson et al 2017).

5.5 CASE STUDY: CREATIVE PRODUCTION SYNERGIES IN PENRITH AND THE BLUE MOUNTAINS

The research project, 'Creative production synergies in Penrith and the Blue Mountains' (Cmielewski et al 2020), importantly brought two local government areas (LGAs) together to work together beyond their individual boundaries. The research aimed to identify how they could best co-operate in building the creative capacities of artists and audiences in their region. The study found that regional leadership in arts and cultural production is evident in Penrith and the Blue Mountains through the different yet complementary approaches of each council.

The need for investment in creative production capacity building has now significantly increased in the region. Flexible, cutting-edge cultural infrastructure is needed more than ever. By taking bold actions that include the establishment of a Cultural Technology Centre, a Contemporary Art Centre, and creating dispersed creative hubs with high-level digital capacity, creative momentum will be increased.

The emerging aerotropolis, government attention under the Western Sydney City Deal and the investment in the existing regional facilities, all provide opportunities for cultural and creative practitioners, with the aid of both local governments, to become involved in reshaping the region's cultural landscape. The Quarter Health Precinct, for example, could also be encouraged to develop an internationally renowned arts and cultural program.

Bold investment in cultural infrastructure signals a creative and socially responsible agenda on the part of councils, state government, educational and philanthropic institutions for the benefit of the entire region.



FIGURE 16: Joan Sutherland Performing Arts Centre. © Cecelia Cmielewski.



FIGURE 17: Blue Mountains Cultural Centre. © Cecelia Cmielewski.

5.6 WHAT NEEDS TO CHANGE?

I have identified three out of the multiple areas of attention that will enable change in Western Sydney's cultural needs: recognition, understanding and partnerships.

RECOGNITION

- » The importance of investing in cultural infrastructure needs to be recognised as essential to the quality of life in urban development.
- » The roles and needs of artists need to be recognised. This includes paying artists for their work. Artists can no longer be considered volunteers who manage the load for community change. These are professional positions, the importance of which have been highlighted by COVID through society's awareness of the need for the kind of connection the arts provide.
- » The capacities of each LGA need to be recognised and supported to realise the creative ambitions and cultural needs of its residents.

UNDERSTANDING

- » The understanding and detailed mapping of the local, interrelated components of artistic production is essential (The World Bank and UNESCO 2021).
- » It is important to understand and include cultural needs at the point of infrastructure design, ideally with experts – artists, creative practitioners and cultural researchers.

PARTNERSHIPS

Partnerships will enable:

- » targeted planning and investment in the already small number of creative and cultural spaces that are crowded out by rapid urban expansion and growth.
- » support for First Nations cultural production and representation, multicultural creative inclusion as core elements of creative innovation.
- » stimulation of a diverse, inclusive, night-time economy for residents and tourists, particularly the young, who seek out the

possibilities of culturally attractive (15 or) 24-hour city. This stimulus needs to enable appropriate diverse, inclusive, night-time economies (for example, alcohol doesn't always need to be the main driver);

- » engagement with commercial, corporate and civic institutions to develop context-sensitive cultural infrastructure, such as through residential and retail developments that incorporate creative hubs.
- » development of creative production facilities, such as rehearsal, event and exhibition spaces which are essential for cultural participation and consumption.
- » adaptation and retrofitting of heritage and other buildings for cultural production, presentation and exhibition (in addition to new, purpose-built structures), for a complex built environment and a culturally rich cityscape, and;
- » development and investment in different arts training models.

6. EXTREME URBAN HEAT

ASSOCIATE PROFESSOR SEBASTIAN PFAUTSCH

ASSOCIATE PROFESSOR OF URBAN MANAGEMENT AND PLANNING

The Intergovernmental Panel on Climate Change (IPCC) Report (2022) highlights that urbanisation exacerbates temperature extremes in cities, especially during warm nights. Known as the ‘urban heat island effect’, it is further increased in cities that lack vegetation and water bodies. This is seen not only in Australia, but also around the world, with extreme events happening in Russia, Canada, North-West US, parts of the Orient and sub-Saharan areas associated with intensively urbanising areas. Future urbanisation will amplify the projected air temperature change in cities, regardless of the characteristics of the background climate, resulting in a warming signal on minimum temperatures that could be as large as the global warming signal.

Climate Central, in collaboration with the World Meteorological Organization (2017), has indicated that, without emissions cuts, summer temperature highs in Sydney, Australia, could rise from 26.4°C to 29.4°C by 2100, a climate typically experienced today in places like Port Moresby, Papua New Guinea. Western Sydney local weather data since 2005 has shown a clear trend towards more hot weather (>35°C), with a strong trend towards more days with extreme heat (>40°C) (Figure 18). If these trends remain, then in 2050 we can expect 93 days of hot weather and 26 days with extreme heat. The mitigation potential for these extreme temperatures is very unclear. Planting trees is helping, but not solving the problem. There needs to be a holistic look into adaptation strategies that exist and can be implemented into the built environment immediately.

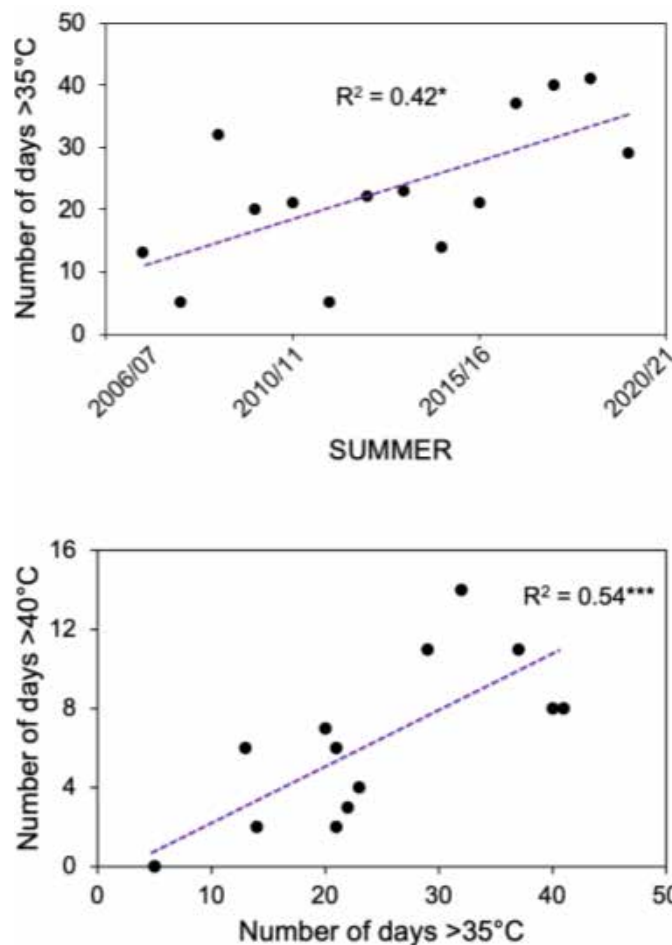


FIGURE 18: Total number of hot days (top) and the relationship between the occurrence of hot and extreme heat days (bottom). Data were recorded at the Hawkesbury Forest Experiment in Richmond. Dashed lines show linear trends, and coefficients of correlation (R^2) indicate the strength of the relationship.

6.1 WHERE TO COOL FIRST?

Research involving local government, state government, private developers and not-for-profits can help identify solutions for where changes are needed. But where to start implementing cooling work? In Penrith, we measured air temperatures across the entire local government area using 120 sensors during the summer of 2019/20 (Pfautsch, Wujeska-Klaue & Rouillard 2020). We used these data to map the spatial extent of heat and identify hot zones. Comparisons with the NSW Government Heat Vulnerability Index and our data recorded during heatwave nights

where air temperatures did not fall below 30°C revealed a clear relationship between vulnerability of local communities to heat and their exposure to very high night-time air temperatures. Both maps identified St Marys and the southern suburbs of Penrith as ideal locations to implement urban cooling programs. We were able to provide location-specific recommendations to deliver effective programs to areas where they are most needed, increasing the efficiency of cooling projects and initiatives when operating with limited resources.

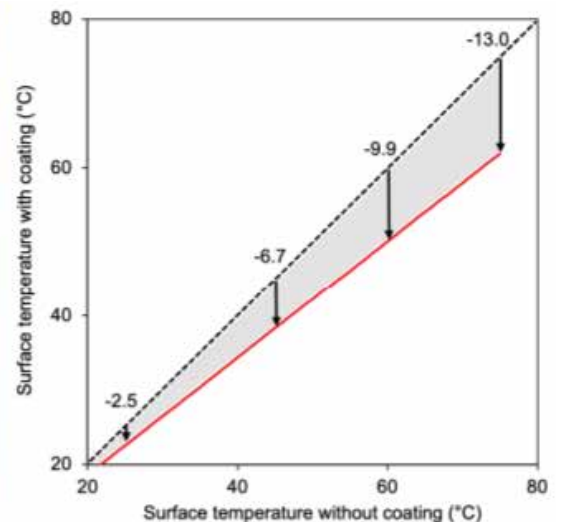


FIGURE 19: Cool Roads Trial 2021. The left image shows the application of the reflective surface paint. The right-side graph shows the cooling potential of the coated surfaces is larger when surfaces get hotter. © George Gittany.

6.2 START WITH SIMPLE CHANGES

There is clear evidence that simple changes to essential structures in the built environment can make a huge difference to surface temperatures and the wider urban heat island effect. Changing roof colour of residential and commercial buildings from dark to lighter tones will reduce surface temperatures, radiant heat and related warming of ambient air. It will also lower the cooling energy requirements of buildings. Next to dark roofs, unshaded asphalt roads and carparks are also notorious heat emitters. Their surface temperatures can be lowered by coating them with specialised surface sealants. Together with Parramatta, Blacktown, and Campbelltown local governments, a project was carried out between February 2020 to August 2021 to paint 45,000m² of residential streets and car parks with Cool Seal, which acts like sunscreen for black surfaces (Figure 19). Our accompanying environmental monitoring program assessed changes in air and surface

temperature of the painted and adjacent unpainted areas. It showed that the coating can reduce surface temperatures by up to 13°C, which will help reduce heat emissions from roads, especially during the evening and early night (Pfautsch & Wujeska-Klaue 2021a).

For urbanising populations, public parks and playgrounds are often the only places where children can spend time outdoors to learn about physical risks and undergo important social, physical and cognitive development. Western Sydney University, Cumberland Council and nine project partners put together Australia's first UV-Smart Cool playground at Memorial Park, which opened to the public in October 2020 (Pfautsch & Wujeska-Klaue 2021b). The transformation process reduced UV exposure by nearly 100%. The modular design of the shade dome allows for moving the structure to the next unshaded playground once the newly-planted trees at Memorial Park are large enough to provide natural shade. This approach not only provides additional safety to children from UV, but also demonstrates

resource-sensitive urban design for cooling. During the transformation, we also replaced hot bark mulch and rubber surfaces that reached 80°C surface temperatures in the sun with lighter-coloured rubber materials that are now up to 50°C cooler (because they are completely shaded). Importantly, a new water fountain was also installed alongside trees. This ultimately allows kids to play longer in a cool playground and stay well hydrated during increasingly hot summers.

The last example to mention is the work on green tracks for Transport NSW. 'Green track' is the term used when describing track beds for light rail infrastructure where the concrete or asphalt between rails is replaced by vegetation cover. Our work analysed under what environmental conditions green track was operating across the world. We assessed different types of track beds, vegetation cover and irrigation systems that could be used in the new light rail line across the Parramatta LGA. The benefits of including green track in Parramatta are manifold, and include urban



FIGURE 20: Urban sprawl in Western Sydney (Marsden Park, NSW). © Nearmap.

cooling, noise reduction, improved air quality, stormwater management and improved amenity. The green track beds are currently installed and will be fully operational by May 2023. The project resulted in the installation of more than 13,000m² of open, porous and green surface in the hardscapes of the Parramatta CBD. The total 1.2 km of green track is the longest in Australia, demonstrating how cooling surfaces can be brought into densely-populated metropolitan zones where the value of land is high and the existence of open, vegetated space is limited. This is a great win for our applied research and the communities and commuters that will use the light rail line in the future. In June 2022, our 'Green Track' report for Parramatta Lightrail (Pfautsch & Howe 2018) won two prestigious awards in the Australian Institute of Landscape Architects (AILA) NSW Awards, in the categories of 'Research, Policy & Communication' and 'Infrastructure'.

6.3 GREATER CHANGES ARE NEEDED

Cooling urban environments must go far beyond planting trees. It requires changes in the way suburbs are planned, in how open, vegetated spaces are valued, how space is allocated, how car dependency is addressed, how citizens select the size of their homes and the materials used for construction, all the way down to water harvesting and reuse to promote plant growth and associated cooling. The example from Western Sydney (Figure 20) depicts the disastrous outcomes of current practice for master-planned communities. They are deprived of open, green spaces and require transformation of large areas of peri-urban land, and use of the available space, materials and colours to accelerate urban overheating.

The progression towards heat-responsive urban design requires changes based on realistic targets. For example, empirical work

shows that well-watered trees are capable of lowering maximum air temperatures in urban environments by 1.2°C to 1.5°C. This amount of cooling seems insufficient to mitigate extreme heat or reduce the impacts of heatwaves on cities and people. But urban green infrastructure and artificial shade structures can be used more broadly and strategically to reduce surface temperatures in Western Sydney and beyond. Implementing these elements will have an effect on urban heat during the day, but importantly, also during the night. Other than the examples listed here, innovative vertical greening (Figure 21) can be used to cool buildings and public spaces, while solar car parks can help eliminate hot asphalt surfaces and generate valuable 'green' energy. Examples of such car parks can be found at the WSU Kingswood campus in Penrith but also at Sydney Olympic Park and Sydney Markets (Figure 21).

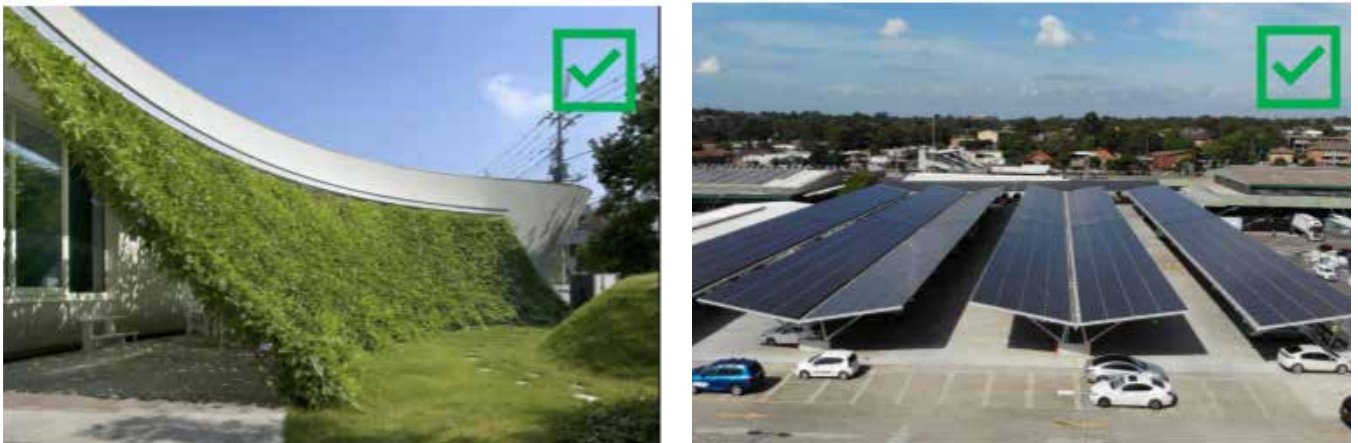
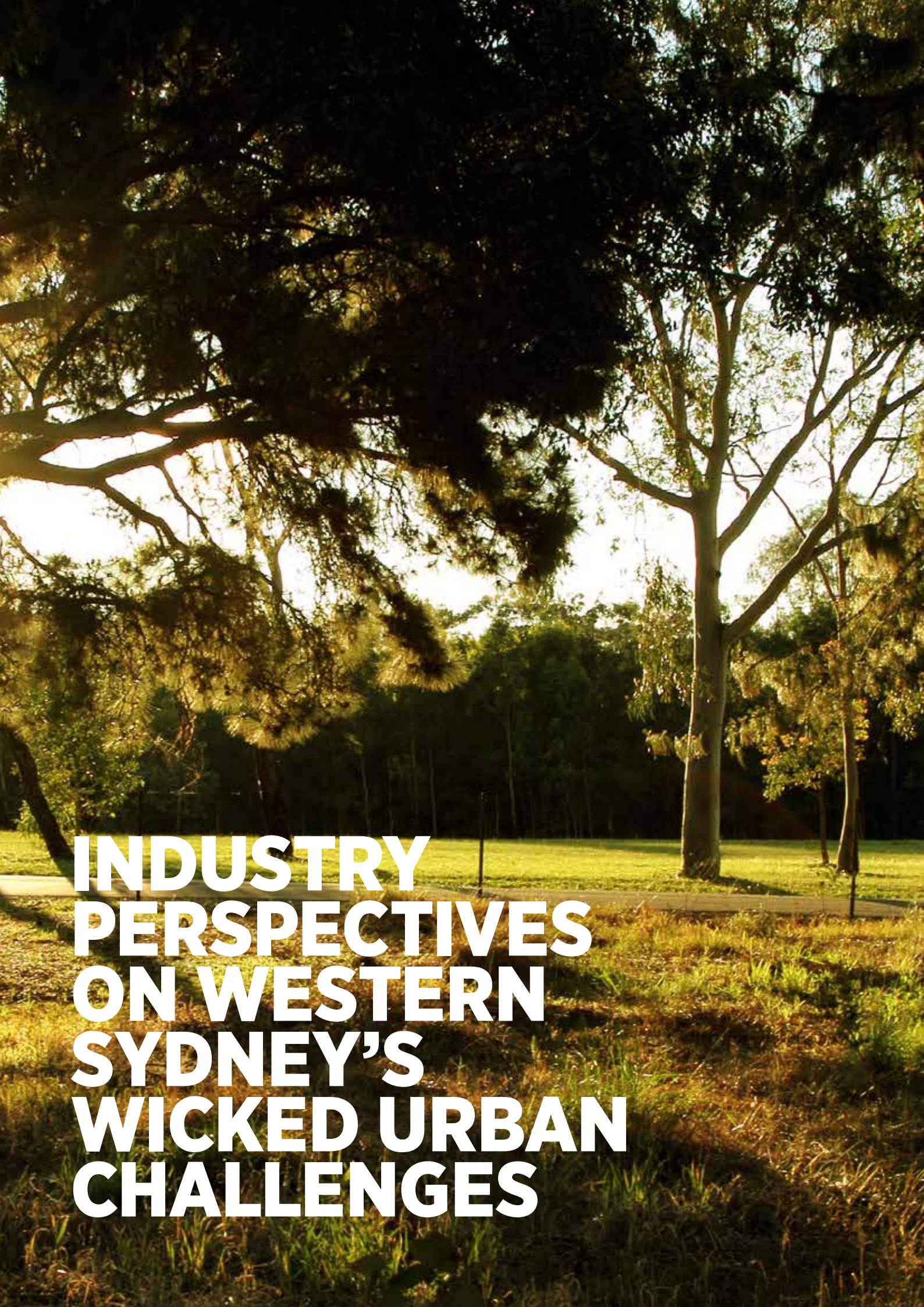


FIGURE 21: Examples of heat-responsive urban design. Vertical green and green curtains will reduce both surface and air temperatures (left). Solar parking and light coloured parking surfaces will reduce surface temperatures, produce electricity locally and reduce CO2 emissions from combustion engines. Credit: Inhabitat (left) and Sebastian Pfautsch (right).

These and other techniques to reduce urban heat will deliver the largest cooling effects only when used in combination and at scale. Heat-responsive cities will need to increase shade, operate more blue-green infrastructure, maximise stormwater storage for irrigation, and increase open space rather than decrease it. At the fringe of metropolitan Sydney, one of the most effective changes to reduce urban heat will be to stop building flat and wide sprawling seas of single dwellings.



**INDUSTRY
PERSPECTIVES
ON WESTERN
SYDNEY'S
WICKED URBAN
CHALLENGES**

7. INDUSTRY PARTNERS' PERSPECTIVES

Questions were asked of our panellists to consider the research findings being reported and ways their organisations can collaborate and contribute to solving some of Western Sydney's wicked urban challenges.

Q1. OUR RESEARCHERS HAVE PRESENTED RECOMMENDATIONS ON HOW TO DELIVER CHANGE ON THE GROUND. HOW ARE YOU MAKING USE OF ACADEMIC RESEARCH WITHIN YOUR ORGANISATION?

Elizabeth Dibbs, Former Western City District Commissioner, Greater City Commission

At the Commission, evidence and a determination to address these wicked issues is at the heart of our development of strategic plans for Greater Sydney. We are located in Western Sydney, and started with the region and district planning in 2018. Our goal was to create a 30 minute city, re-balancing Greater Sydney so we did not have these wicked problems of long commutes and so on. We are committed to measuring our progress in that respect.

Core to our plans are the pillars of collaboration and infrastructure, productivity, liveability, and sustainability. All of the research presented here has the highest of relevance to those pillars. Currently in the process of updating our region and district plans, this research allows us to measure our progress over the last three years – years that have been extraordinary in regard to climate and the pandemic. The Commission has also conducted international research (see our website under 'The business of cities'), which captures many aspects of the wicked urban challenges research, such as diversity of economic activity, climate change, social equity and housing. Another area of our research is digital access, which is as fundamental as water and electricity. For all the hardship caused by COVID, it gives us the opportunity to accelerate what we have been trying to achieve in Western Sydney.

In regard to all the research presented here today, as it relates to the Western Sydney region—on jobs, housing, creative and cultural industries, and urban heat—we are taking a multifaceted approach, and embedding this in our planning.

Judith Bruinsma, Project Coordinator, Western Sydney Regional Organisation of Councils

We are a membership organisation that represents councils across Western Sydney. Our mission is to improve the quality of life for the people of Western Sydney. I live and work in the region and believe there is a lot of untapped potential here, but also many critical issues that need to be addressed. The rigorous research being undertaken at Western Sydney University (WSU), as well as other universities, gives direction to our policy solutions and advocacy. Councils are the closest layer of government to the people so they are well-placed to ground that research in real communities.

We have been working on all aspects of the research presented in this forum with our research partners, with policy-makers and with private industry. In regard to urban heat, we know we need to plant trees, but we must also ensure we address the whole policy package – to ensure people can adapt and respond to extreme heat, and that our electricity grid is appropriately set out. We have developed the 'Cool suburbs' project (a design support tool for urban planners and industry to tackle heat), and an urban heat planning toolkit for councils. We are also working with WSU to investigate passive irrigation, and how to build resilience into our street trees.

In regard to jobs and housing, there needs to be a balance. There is a risk that there is too much focus on the aerotropolis, but we must also remember there are already over 2 million residents in Western Sydney who need access to facilities and services. Regarding housing affordability, we must ensure we safeguard the quality of housing – not only the cost of building a dwelling, but its lifetime running cost. Failure to do so merely shifts the cost to the occupants and the healthcare system.

Finally, regarding cultural infrastructure, there is a misconception that people in Western Sydney don't participate in the arts, but in fact they spend more than the average on arts consumption. Therefore, we need to invest in local arts production across the region.

Steve Mann, NSW CEO, Urban Development Institute of Australia

Western Sydney is the heartland of the Urban Development Institute of Australia (UDA). We began here in the 1960s. We now have 500 member companies that are focused on good outcomes in developments. We think it is a super important decade for Western Sydney. We think it is the chance to get it right for the west.

Working with government and industry leaders, we are studying six critical areas:

1. enabling infrastructure.
2. housing supply and affordability.
3. jobs and employment.
4. governance and planning pathways.
5. environment resilience, and.
6. social and cultural infrastructure.

Structures are extremely important to city shaping – to ensure everything comes together and is integrated. Technology is also important. WSU is a partner in our urban icon platform, which is helping us to develop engaged technology to help us to better understand our city. We have delivered about half a dozen new projects, one of which is the 'Urban pin board', which allows us to visualise a 3D city, the planning of that city and the new city within it. Other projects are 'Urban AI' (which allowed us to map and value the future city that could emerge), the 'Urban development program' (which allowed us to find the 'missing piece' that enables infrastructure for affordable housing and jobs) and the 'City life urban analytics platform' (which balances liveability and affordability in Western Sydney).

Q2. WE NEED ALL LEVELS OF GOVERNMENT, INDUSTRY AND UNIVERSITIES TO WORK TOGETHER WITH OUR COMMUNITIES - AND COLLABORATE. HOW DO WE ACHIEVE SUSTAINED COLLABORATION AND COMMITMENT, SO THAT WE MAKE SURE WE CREATE THE BEST OUTCOMES FOR OUR REGION AND GUARANTEE LIVELIHOODS AND WELLBEING OF OUR COMMUNITIES?

Elizabeth Dibbs, Former Western City District Commissioner, Greater City Commission

In the parkland city, we have an opportunity to really own advanced manufacturing, agri-tech, smart construction and freight and logistics. Not just those lower-level jobs, however – we can also own the embellishment of those knowledge and professional jobs. We have a 20-year city deal for Western Sydney and we need to not lose sight of that. We need to drive this agglomeration and personality of the precincts of Greater Sydney. It must continue to be a collaboration between local, state, and federal governments, as well as between research partners and industry, to get our place-making right within the community. After all, if it's not for the community--for our citizens--then what is it for?

Judith Bruinsma, Project Coordinator, Western Sydney Regional Organisation of Councils

We are representing, and trying to build better, more liveable, communities. If we all aim towards that goal, we will find pathways to really collaborate. Councils are that layer of government that is closest to those communities, and they should be a valued partner in the policy-making process.

Potentially lacking at the moment is the connecting of dots and need for overall co-ordination of the research, of the policies, of that experience on the ground. There may be an opportunity to formalise some of that co-ordination, for example, by creating a taskforce that links the local, state government and all those disciplines of research together to drive co-ordinated action.

Steve Mann, NSW CEO, Urban Development Institute of Australia

While it is key, collaboration alone is not enough. We need integrated delivery – to be scoring how we are achieving. The 'Urban development platform' involves industry and government talking about the gaps to infrastructure, water, sewer, power, roads, biodiversity offsets to land, digital access – and we need to ensure all this is linked.

8. CONTINUING TO RESPOND FOR WESTERN SYDNEY

PROFESSOR NICKY MORRISON

8.1 WESTERN SYDNEY UNIVERSITY NAMED WORLD'S BEST FOR SUSTAINABLE DEVELOPMENT

We remain firmly committed to tackling Western Sydney's wicked urban challenges. A further endorsement of our commitment was marked this year, in April 2022, when Western Sydney University was named number one in the world for its social, ecological, and economic impact in the latest Times Higher Education (THE) University Impact Rankings. Social justice, inclusive education, addressing inequalities, environmental stewardship, and resilience are at the core of our university's mission. As our Vice Chancellor, Professor Barney Glover (in Whibley 2022), summed up:

“As an anchor institution we are embedded in the economic, cultural and social life of Greater Western Sydney – a region experiencing first-hand many of the sustainability and resilience challenges of the 21st century, including rapid urban growth, urban heat and entrenched inequalities.”

It is in WSU's foundational principles and guiding mission statement that we, as an academic community, champion our region. For decades now, our university's world class, multi-disciplinary researchers have been engaging across Western Sydney councils, demonstrating collaborative partnerships with our regional stakeholders, and reaching multiple spaces and communities. Our remit is to deliver critical, evidence-based analyses to advance sustainable and equitable development across the region. We support our key stakeholders' long-term strategic work in the region, co-designing research agendas, helping build capacity, and sharing lessons with a whole array of state and local governments, private and not-for-profit sectors, and community agencies.

8.2 LAUNCHING THE URBAN TRANSFORMATIONS RESEARCH CENTRE

Given WSU's role as an anchor institution and our commitment to regional leadership, our research is vital. As such, the university has launched its newest research centre – Urban Transformations, funded under its Strategic Research Initiatives Program. Its aim is to harness the research capabilities across the university to address the global challenge in delivering people-centred, inclusive, healthy, safe, and resilient communities and infrastructure while reducing the impacts of climate change, reducing carbon emissions and minimising waste.

The Urban Transformations Research Centre is embedded in Western Sydney, allowing us to retain our close working relationships with our regional industry and society partners. We are also mobilising established partnerships across Australia and the globe, drawing on world-class researchers and working on innovative and transferable solutions to create long-lasting, sustainable communities and resilient urban economies. This alliance of international knowledge provides significant opportunities for our Western Sydney stakeholders to learn from others, as they equally respond to growth challenges and capitalise on the possibilities arising.

8.3 WE REMAIN COMMITTED

We remain committed to furthering this research agenda through ongoing research and collaborations to achieve urban transformations from which all will benefit. We also remain committed to developing future events on topics relevant to the region.

8.4 STAYING IN CONTACT

Tell us how we can support you, and work with us to share lessons and build capacity, strengthen collaborations, and continue advocacy. Our researchers' contact details can be found at the beginning of the report.

8.5 WITH THANKS

We would like to thank all those who joined our forum and shared their expertise and experience. The richness of insights shared by our keynote speaker, panellists, researchers, and participants speaks of the depth of knowledge and experience working and living in Western Sydney. If one thing is clear, the significant investments being made into new infrastructure and communities in Western Sydney mean the decisions being made now will impact communities for decades to come. This report has provided a substantial set of insights and perspectives that we hope can usefully inform the work of shaping, building, and creating sustainable, resilient, and just places for all.

Finally, by collating the material for this report, we hope to encourage not just the participants who attended the event, but others, to reflect on ways to tackle longstanding, complex policy issues that our region faces. We also encourage you to disseminate this report widely across your networks, and to carry on these discussions with us. It is paramount that we continue to share learnings and experiences, and foster cultures that facilitate collaborations. The time is ripe to take bold actions and make change.



9. BOLD ACTIONS TO CREATE CHANGE IN WESTERN SYDNEY

PANELLIST AND ATTENDEE INSIGHTS ON BUILDING A GREATER WESTERN SYDNEY

Put public health outcomes back into the core of urban planning and placemaking.

Ensure that the majority of people that make the policy for the region actually live and or work in the region.

Include cultural needs at the point of infrastructure design – ideally with artists and/or cultural experts.

Let's make collaboration strategic planning under the pillars of liveability productivity and sustainability business as usual.

LOCAL VOICES:

Shift the power in the planning process to give communities a stronger voice in the state-wide and national review processes for the National Construction Code (NCC) and State Environmental Planning Policies (SEPP).

Establish a diverse youth advisory committee that are consulted (in a powerful and meaningful way) in discussions, actions and policy decisions for Western Sydney futures.

Activate social media for community advocacy and climate action.

URBAN PLANNING AND PLACEMAKING:

Vertical farms built into the suburban landscape.

Tiny Forests planted wherever a tennis-court sized patch of land can be spared.

Acknowledge the role of recent migrants in Western Sydney as creators and not merely consumers of the regions cultural heritage.

HOUSING:

Ensure that all households in our region have access to secure, affordable housing.

Address open space shortfall in areas of high density within communities of social disadvantage.



URBAN HEAT:

Mandatory urban cooling strategies.

Build underground (sub-basement) to help homes of the future help deal with heat.

Stop building 'flat and wide' and start building heat-smart suburbs.

Think in bold intergenerational terms about climate readiness.

JOB:

Create sustainable employment opportunities for Western Sydney creatives.

Embed social innovation in all innovation precincts.

Diminish the power of property developers and their lobbyists by focusing on co-investment projects with the region's lead firms. Build value chains and concentrate on existing strategic centres.

CONNECTIVITY/TRANSPORT:

Radically increase public transport.

Build the whole north-south rail line.

Link cycleways between Western Sydney LGAs, so that they can be commuter routes not just recreational trails.



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11. CONTRIBUTORS

COORDINATOR (EVENT AND PUBLICATION):

Professor Nicky Morrison, Director, Urban Transformations Research Centre, Former WSU Urban Living Futures and Society theme champion, Western Sydney University

SESSION CONVENOR:

Associate Professor Anna Cristina Pertierra, Former WSU Urban Living Futures and Society theme champion, Western Sydney University

KEYNOTE SPEAKER:

Alex O'Mara, Former Group Deputy Secretary of Place, Design and Public Spaces, NSW Department of Planning and Environment

INDUSTRY PANELLISTS:

Elizabeth Dibbs, Former Western City District Commissioner, Greater City Commission and Deputy Chancellor, Western Sydney University; Judith Bruinsma, Project Coordinator, Western Sydney Regional Organisation of Councils; Steve Mann, NSW CEO, Urban Development Institute of Australia

PRESENTERS AND CHAPTER CONTRIBUTORS:

Professor Phillip O'Neill, Associate Professor Emma Power, Doctor Cecelia Cmielewski, Associate Professor Sebastian Pfautsch, Western Sydney University

PROFESSIONAL SUPPORT (EVENT AND PUBLICATION):

Melissa Lindeberg, Western Sydney University

PROFESSIONAL SUPPORT (EVENT):

Sandra Lawrence, Saada Bejjani, Western Sydney University

PUBLICATION ASSISTANCE:

Doctor Emily Rytmeister, George Greiss, Western Sydney University

12. FORUM PARTICIPANTS

- » Australian Catholic University
- » Blacktown Area Community Centres (BACC)
- » Blacktown City Council
- » Blue Mountains City Council
- » Casula Powerhouse Arts Centre
- » Cities Research Institute - Griffith University
- » City University of Hong Kong
- » Climate and Health Alliance
- » Committee for Sydney
- » Cumberland City Council
- » Curtin University
- » Earthwatch Institute
- » Fairfield City Council
- » Federal University Otuoke
- » Gem Developments and Marketing
- » Girl Guides NSWACT & NT
- » Global Directions
- » Greater Sydney Commission
- » Health Promotion, NBMLHD
- » Human Spaces
- » Inholland University of Applied Sciences
- » IRT, Retirement, Aged Care and Home Care Services
- » Liverpool City Council
- » MAAS
- » Macken Planning Solutions
- » Ministry of the Environment, Finland
- » Nanyang Technological University
- » NBN Co
- » Nepean Blue Mountains Local Health District (NBMLHD)
- » Nepean Blue Mountains Primary Health Network (NBMPHN)
- » NSW SES
- » Office of Shadow Minister for Planning & Public Spaces.
- » Out of the box
- » Pacific Partnerships
- » Penrith City Council
- » Reuben Real Estate
- » Riverstone Schofields Chamber Of Commerce
- » Sector Connect Inc
- » SGS Economics and Planning
- » ShipShape
- » South Western Sydney LHD
- » Sweltering Cities
- » The Central Highlands Center for Community Development and Climate Change Adapta
- » The Smith Family
- » The University of British Columbia
- » Universitas Negeri Manado (UNIMA)
- » University of Sydney
- » UNSW
- » Urbis
- » UTS
- » Wentworth Healthcare
- » Western Parkland Councils
- » Western Sydney Regional Organisation of Councils (WSROC)



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