WESTERN SYDNEY PLANNING PARTNERSHIP

ARUP

The Western Sydney Neighbourhoods Project

Discussion Paper

January 2025

Acknowledgement of Country

The Western Sydney Planning Partnership acknowledges more than 60,000 years of continuous Aboriginal connection to the land that makes up NSW.

We acknowledge and pay our respects to the traditional custodians of Country within Western Sydney. As part of the world's oldest living culture, the traditional Aboriginal owners and custodians share a unique bond to the Country – a bond forged through thousands of years of travelling across lands and waterways for ceremony, religion, trading, and seasonal migration.

We acknowledge that Western Sydney is home to the highest number of Aboriginal people of any region in Australia and that the primary Aboriginal custodians with obligations for Country and connection to the place for many generations including the Dharug/Darug, Dharawal/Tharawal, Gundungurra/Gandangara, and Darkinjung people.

Western Sydney Planning Partnership partner organisations:

Blacktown City Council, Blue Mountains City Council, Camden Council, Campbelltown City Council, Fairfield City Council, Hawkesbury City Council, Liverpool City Council, Penrith City Council, Wollondilly Shire Council, NSW Department of Planning, Housing and Infrastructure, Transport for New South Wales, and Sydney Water.

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Disclaimer

The information contained in this publication is based on knowledge and understanding at the time of writing (January 2025) and may not be accurate, current, or complete.

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1. Introduction

Arup have prepared the Western Sydney Neighbourhoods Project for Western Sydney Planning Partnership (WSPP).

The purpose of the project is to investigate, develop and test a framework for improvement of 15-minute neighbourhood outcomes suitable for implementation in Western Sydney, informing the development of planning and design guidance documents.

This work is the first stage of a collaborative project with multiple partners, aimed at mobilising planning actions that lead to the delivery of 15-minute neighbourhood outcomes as part of the transformation of Western Sydney.

As Western Sydney continues to take a high proportion of Sydney's rapid population growth, the promotion of accessible, inclusive and sustainable neighbourhoods will be essential to generating community wellbeing for generations to come.

This project comes in the context of a renewed attention on transport-oriented density, the creation of liveable neighbourhoods as a means of facilitating housing supply (rather than being seen as a barrier or cost), and increasing community support for walkable, engaged and liveable places.

The process of developing the 15-minue Neighbourhood Framework has involved the following phases:

- Phase 1: Establishment of the problem and key causes.
- Phase 2: Development of the 15-minute Neighbourhood Framework.
- Phase 3: Testing the framework in a variety of contexts based on performance metrics.
- Phase 4: Discussion on testing outcomes and next step considerations.
- Phase 5: Recommendations on urban design guidance and next steps for planning.

2. 15-minute Neighbourhoods

This section defines 15-minute neighbourhoods which forms the basis for this project.

It explores case studies on how 15-minute neighbourhoods have been applied to localities across Australia and globally to understand whether learnings from other jurisdictions can be applied to the 15-minute neighbourhood in the context of Western Sydney.

2.1 Defining 15-minute Neighbourhoods

The Future Transport Strategy published by Transport for NSW (TfNSW) sets the direction to connect communities, support successful places and enable economic activity. To support successful places, the Strategy introduces thriving 15-minute neighbourhoods defined as follows:

> *Neighbourhoods support(ing) local communities and healthy lifestyles by prioritising place making walking, cycling, micro-mobility, and last mile freight. The 15-minute neighbourhood concept will revitalise local centres, promote sustainability and independent mobility for children. Thriving 15-minute neighbourhoods feature shops, transport, and facilities easily accessible by walking or cycling. They have tree canopy cover and shade, quality public spaces, well-designed roads and pathways with safe speeds, and a concentration of activities that bring people onto streets.*

It is recognised that the 15-minute neighbourhood is a concept applied globally and there are many variances in how 15-minute neighbourhoods is defined. However, for the purpose of this project, the definition established by TfNSW forms the basis of how 15-minute neighbourhoods is defined.

2.2 Case studies – learning from others

Five case studies have been explored as part of this project. These case studies were chosen based on a shortlisting process with the Arup and WSPP project team. This shortlisting was based on the following factors:

- Located in comparable urban settings to Western Sydney.
- Providing a range of locations that can speak to a variety of technical solutions relevant to Western Sydney's planning and development context.
- Examples of policy and technical solutions that have mixed or nuanced success, enabling an understanding of lessons learnt.
- Examples of innovative or radical departures from 'business as usual' to achieve exemplary outcomes.

To provide a consistent framework for the desktop review of case studies, a criteria has been developed, including:

- Features,
- Principle
- Technical solutions
- Impact.

These are described in the following diagram and each case study responds to the criteria.

Features

Guiding question: what are the physical characteristics of this place that make it a good example of a 15-minute neighbourhood?

The relevant features are drawn from the 15-minute neighbourhood definition in TfNSW's *Future Transport Strategy*.

These features are distilled as:

- Walking, cycling and micro-mobility
- Last mile freight
- Accessible shops
- Accessible public transport
- Accessible health and community facilities
- Tree canopy cover and shade
- Quality public spaces
- Well-designed roads and pathways with safe speeds
- Concentration of activities that bring people onto streets.

Principles

Guiding question: what are the more intangible factors that help government and the industry to successfully create a thriving 15-minute neighbourhood?

These principles were drawn from both the TfNSW *Future Transport Strategy* definition and City of Melbourne's *20-minute Neighbourhoods Framework*.

These principles are distilled as

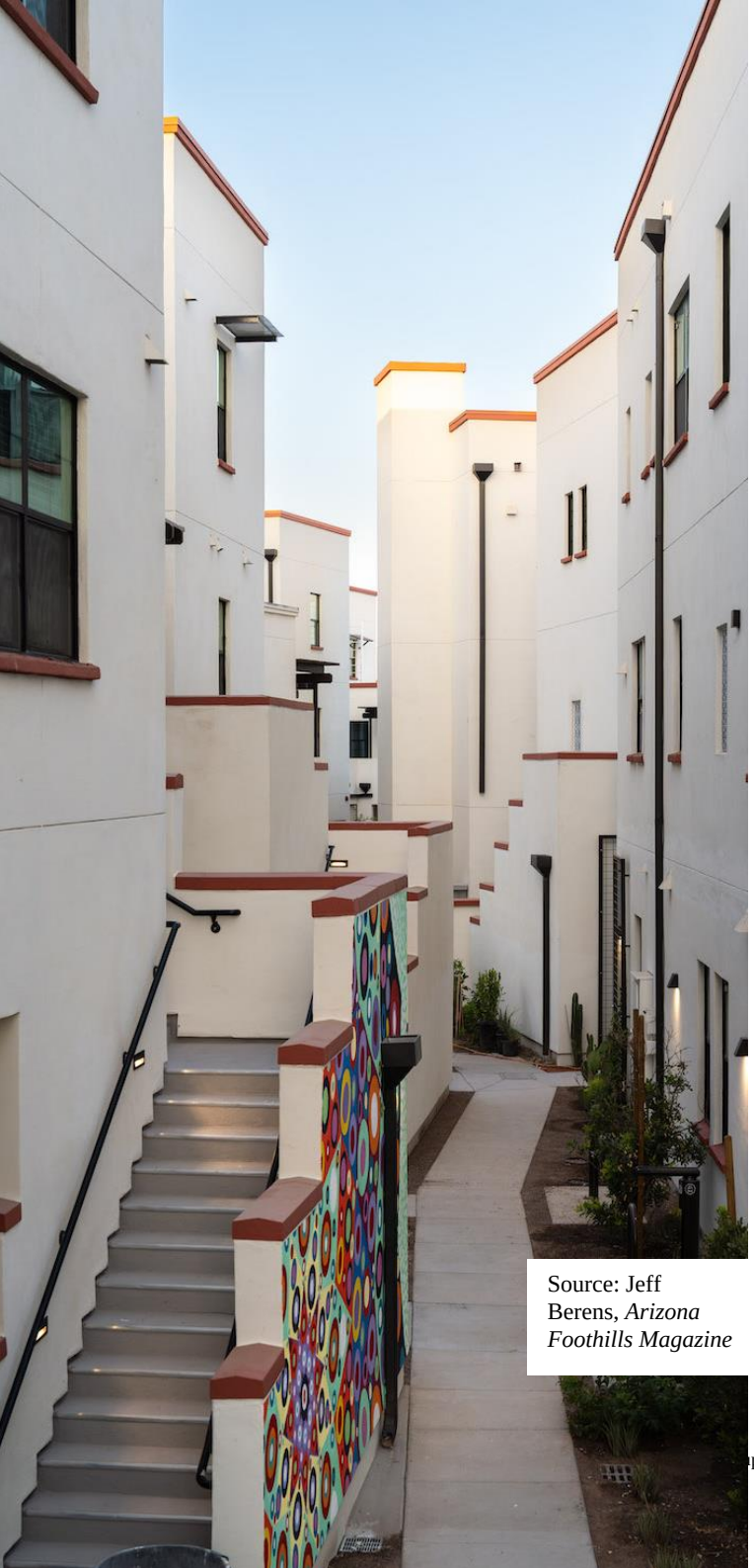
- Place making and community building
- Viable densities
- Thriving local economies
- Long term investment and stewardship
- Compelling vision, well-communicated
- Research, data and analysis
- Public private partnership
- Adopting policy.

Technical solutions

Guiding question: what were the technical planning, infrastructure and policy solutions employed in this case study that enabled the creation of a 15-minute neighbourhood?

Impact

Guiding question: what was the overarching impact of this case study in terms of implemented, evidenced and tangible success?



Source: Jeff Berens, *Arizona Foothills Magazine*

2.2.1 Culdesac Tempe, Arizona (USA)

Culdesac Tempe demonstrates the role of 'working backwards' from desired built form outcomes to ensure that local ordinances, planning controls and policy supports 15-minute neighbourhoods.

With Arizona described as 'the Capital of Sprawl'[i], Culdesac Tempe (by Culdesac) is a world-renowned example of a 'car-free', medium density neighbourhood displaying many of the features of a 15-minute neighbourhood. Spanning 2.8 hectares, it achieves:

- Mixed use and walkable access to community facilities, with 1,500sqm of retail and a population of 1,000 residents.
- 100% of housing built to rent, with a future option of sale.
- Climate-sensitive design.
- 55% open and community space.
- No car parking spaces.

There are some limitations with this development. For example, residents must sign a contract saying they won't park a car within 400 metres of the neighbourhood which prohibits access for the less mobile, elderly and other cohorts of the community.

Nevertheless, with a similar climate, however lower car dependency and different development pattern and tenure arrangement to Western Sydney, this case study demonstrates a departure from business as usual, highlighting the capacity of planning controls and market demand to support the evolution of this neighbourhood.

Features

This development focuses on creating walkable streets and pedestrian-friendly streetscapes, as well as last-mile freight. Some neighbourhood amenities bring people onto the streets, although many daily services are currently located outside the neighbourhood, relying on car access.

Principles

First, place-making and community-building are supported by viable densities to support them. Second, long-term investment and stewardship was supported by a compelling vision, which was well-communicated to local authorities and future residents.

Technical solutions

Permissive zoning controls allowing medium densities.[ii]

Targeted amendment to local planning controls in partnership with local government.[iii]

Single developer enabling greater control over the final outcome at a larger scale.

Impact

Low vacancy rate for commercial floorspace (95% occupancy compared to Arizona average of 65% as at 2022).

Some doubt as to viability of mobility incentives given to residents to encourage sustainable mode choice including free metro travel, discounted e-bike rentals and ride hailing services (Lyft, Waymo, etc.).

Source: Draft Gungahlin District Strategy ACT Government

2.2.2 Gungahlin, Canberra

Gungahlin demonstrates the pivotal role of a government delivery authority, promoting the co-location of complementary uses and shorter trips centred around an urban village.

Gungahlin formed part of the original 1957 plan for development in the ACT. High ecological value shifted the role of the neighbourhood core from a town centre to an urban village design.

Features guiding the urban village in the Gungahlin Town Centre Planning Report (2010) include:

- Different land uses mixed together.
- A mix of building types and heights (two to four storeys).
- Transit oriented design.
- Open-air shopping fronting the main street.
- Streets designed to keep vehicle speeds low and encourage walking and cycling.
- Smaller rather than larger-scale development.
- Capacity for change and adaptation over time.

The governing authority shifted from the National Capital Development Commission to the Gungahlin Development Authority in 1996. A local approach changed the urban village design, rezoning commercial and community core to residential use. This resulted in an undersupply of commercial and community floorspace within the context of insufficient access to public transport. In response, interim plans rezoned undeveloped land to commercial and community uses and connectivity was increased once Light Rail was delivered in 2019.

Features

This case study focuses on the role of the urban village with a mix of land uses, building types and heights with streets designed for low vehicles speeds and active movement.

Principles

Creating densities through an urban village balancing commercial and community floorspace. Focus on compact village through smaller rather than larger scale.

Technical solutions

Provision of employment and community facilities in the urban village.

Controls permitting residential buildings up to four storeys and locating taller buildings in locations with minimal solar impact on public spaces .

Inclusion of residential in the urban village with a range of heights.

Impact

Gungahlin is a key example of designing an urban village and transport infrastructure following. Ensuring vision and principles are in place sets a place up to allow for change in land uses over time. .

Source: Jeff Berens, *Hatch Roberts Day*

2.2.3 Jindee, Perth

Jindee is an example of design frameworks developed collaboratively between a developer and local council for positive built form outcomes in a land release precinct.

Located on the outer fringe of Perth, Jindee (by Estates Development Company's (EDC)) adopted three key principles to achieve a place-based design outcome including built form diversity, quality streetscapes, and planning approaches.

Jindee responded to an aspiration to achieve diversity in built form both in density and appearance. Streetscapes are pedestrian-focused with rear lane driveways and slowed traffic approach which enables wider tree-lined footpaths. Outcomes are guided through the Jindee Design Code which sets out built form, streetscape, and public space standards.[iv] The project achieves:

- Design for 1200 dwellings across 120 Ha.
- Low-medium density.
- Pedestrian oriented streets with footpaths on both sides of the street.

Jindee presents an approach to urban development that considers community outcomes including planning for civic spaces distributed across neighbourhoods alongside larger regional reserves. Additionally, the development aspires to a diverse delivery of housing without compromising place-based and architectural outcomes. This is achieved through the Form-Based Code, Structure Plans, and a Pattern Book approach.[v]

Features

Tree canopy cover, shade and quality public spaces are key features in the Jindee Local Structure Plan. Local economies supporting local retail are part of future stage to support local resident needs.

Principles

Place-making, long-term investment and stewardship was supported by a vision to create a place for people to live, work and play.

Technical solutions

Form-Based Code setting public space, streetscape and built form standards (the 'Jindee Design Code').

Engagement with approval agencies to rewrite planning regulations with an outcomes-led approach (e.g. exemption from state planning policy, R-Codes and a coastal land swap with state government).

Impact

Delivering infrastructure to support active transport and higher community activity in a low density, outer-suburb, land release context. Realised 700m to nearest shop.

2.2.4 Edmondson Park, Liverpool NSW

Edmondson Park demonstrates the catalysing impact of transport infrastructure and varied densities on the creation of 15-minute neighbourhoods in Western Sydney.

Edmondson Park was rezoned for urban development in 2008 as part of the NSW Government's South West Growth Area. Fraser's development of Ed Square and the surrounding demonstrates a different approach to land release development in Western Sydney.

The precinct condenses high density residential and retail at Edmondson Park train station, stepping down to medium density residential with low-rise apartments and terraces. This is achieves a population density of 2,400 persons per square km, significantly greater than the rest of Liverpool City Council at 800 persons per square km.

Car parking remained at grade rather than basement which was likely driven by revenue return. However, to respond to market demand for car parking, the design incorporated at grade basement box with residential wrapped around it. The terraces open onto the roof of the car park and still have backyards.

The long period between planning and delivery has meant there are varied place outcomes as safe pedestrian links from the terraces to Ed Square are yet to be delivered until Landcom deliver the public open space part of the last phase. The gated private open space is a concern from an equity and access perspective.

Features

This case study focuses on the role of access to the centre with local streets on Community Title (a unique land arrangement) (*Accessible shops; accessible public transport; accessible health and community facilities*).

Principles

The viable densities and local street design create the opportunity for improved walkability and access to Ed Square and the train station, despite the infrastructure not fully delivered yet.

Technical solutions

Delivered as part of the NSW Government's South West Growth Area. This included funding for essential infrastructure, rezoning of land, a structure plan, and the allocation of regional open spaces (noting the open space now forms part of the Landcom delivery).[vi]

Impact

Quality built form model with higher densities clustered at the train station, stepping down to medium density typologies. A new approach to land release planning in Western Sydney.

Source: Polaris Town Centre, *Clarke Hopkins Clarke*

2.2.5 20-minute neighbourhoods in Melbourne

Melbourne's 20-minute neighbourhoods policy is internationally recognised as best practice. Its application demonstrates the success of such policies in generating better urban outcomes.

The 20-minute neighbourhoods' policy creates neighbourhoods with access to daily needs locally within a 20-minute return trip. It is established through 6 'hallmarks' to guide inclusive, vibrant, and healthy neighbourhoods.[vii] These are:

1. **Safe, accessible, and well-connected:** safe, accessible and well connected for pedestrians and cyclists to optimise active transport.
2. **Thriving local economies**: facilitate thriving local economies.
3. **Services and destinations**: provide services and destinations that support local living.
4. **Climate resilient**: support climate resilient communities.
5. **High quality public realm** and open spaces
6. **Viable densities**: deliver housing/population at densities that make local services and transport viable.

The policy aims to improve the quality of life at the neighbourhood scale by enabling safe pedestrian movement and accessibility to local services and facilities. This has been integrated through an update to Plan Melbourne, embedding the 20-minute neighbourhood approach into infrastructure and masterplanning.

Features

This policy comprehensively addresses the features of 15-minute neighbourhoods outlined in the TfNSW *Future Transport Strategy*.

Principles

This policy and the way that it has been applied to land release and infill neighbourhoods of Melbourne exemplify the role of adopting policy in delivering 15-minute neighbourhoods.

Key to this success has been the significant cross-governmental buy-in to the policy, ease of use and well-communicated vision, objectives and design guidance, and enforceability through its integration into Plan Melbourne.

Technical solutions

By embedding the 20-minute neighbourhood policy into Plan Melbourne there is influence over and coordination between infrastructure and planning projects and agencies. This enables delivery of infrastructure that supports place-based planning.

Pilot projects were initially focused around activation plans regenerating high streets and improving access for existing neighbourhoods.

Source: Strathmore Opportunities Map, *Victoria State Government*

Initial projects under the 20-minute neighbourhood policy were smaller scale activation plans which focused on improving accessibility. Located within the mid-ring suburbs, Croydon South and Strathmore were chosen as pilot projects for the policy.[viiiix]

As the policy has become more established within the city, a number of neighbourhoods have been designed within the 20-minute neighbourhoods policy framework including Polaris Town Centre, Soho Village and Cloverton. Key characteristics of these developments include:

1. Diversity in housing density.
2. Mixed use neighbourhood cores.
3. Delivery of public transport infrastructure alongside development.
4. Focus on community amenity including local services, public space, and community facilities.
5. Pedestrian oriented streets.

Connectivity to the Melbourne CBD is a core focus of these developments enabling access to employment. In addition, a focus on community outcomes is apparent in its vision and guidance on masterplanning.[xxi]

Impact

The 20-minute neighbourhoods policy was one of the first to be implemented internationally following the Portland Plan.[xii]

The policy went through a number of amendments in the early stages of implementation. An initial focus on access to goods and services was later expanded to meeting daily (non-work) needs locally within a 20-minute return trip or 800m catchment.

Community consultation formed a large aspect of pilot projects. Outcomes of this influenced decision making around improvements to specific areas within the neighbourhood.

A number of successful neighbourhoods have been developed under the policy. This reflects the ability to embed this approach at an early stage of design. Larger scale developments in the middle-ring suburbs demonstrate the success of the policy as infrastructure is delivered in line with 15-minute neighbourhood outcomes.[xiii]

3. Planning and Development Context

This section summarises the planning and development control framework guiding urban growth in Western Sydney.

The focus is on the influence the planning and development control framework has on 15-minute neighbourhoods. This establishes the context for the project to enable an understanding of the mechanisms whereby technical solutions may influence positive outcomes.

3.1 Planning and development control framework

There are three important scales influencing how urban growth is planned for (refer to the diagram below). Each scale plays a role in shaping how 15-minute neighbourhoods function and evolve within the context of Western Sydney.

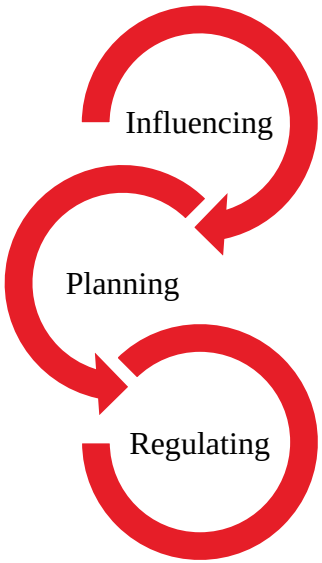


Figure 1 Role of planning and development control framework

Source: Arup, 2024

Influencing

The vision and objectives outlined in NSW Government strategies and plans set the direction for how urban growth will be managed and the priorities for population, housing and job growth and future transport in Western Sydney, including:

- The Greater Sydney Region Plan (former Greater Cities Commission, 2018)
- Future Transport Strategy 2056 (Transport for NSW, 2018)
- Western City District Plan (former Greater Cities Commission, 2018)

Planning

Filtering down to the strategic planning for the implementation of the vision and objectives for urban growth, directly impacting the role and function of neighbourhood centres and in turn, the outcomes of 15-minute neighbourhoods, including:

- Local Strategic Planning Statements
- Local Strategic Housing Strategies
- Local Structure Planning and Masterplanning

Regulating

The statutory planning framework implements the vision and objectives for urban growth in Western Sydney, including:

- Local Environmental Plan
- Development Control Plan
- State Environmental Planning Policy

Table 1 Overview of planning and development control framework

	Framework/ document		**Application**		**Evaluation**
	How does the framework/ document guide urban growth in Western Sydney?	***Why is it a relevant framework to 15-minute neighbourhoods?***	***How is it applied in Western Sydney?***	***How effectively does it address 15-minute neighbourhood features?***	
The Greater Sydney Region Plan – A Metropolis of Three Cities (former GCC)	Sets the strategic vision for Sydney's three metropolitan cities, including the Western Parkland City and meeting its regional infrastructure and growth demands.	Recognising the Plan is centred on a vision for a 30-minute City, it establishes a hierarchy for the role and function of centres. This is important to 15-minute neighbourhoods as they are typically the lower order centres, yet critical to influencing what the neighbourhood centre contains and how residents access it. More locally, the Plan provides an urban renewal framework to influence the following characteristics at a neighbourhood scale: • The transition from suburban to highly connected public transport and walkable environments for an integrated 15-minute journey. • The types of infill development and infrastructure required to support housing with access to amenities within 15-minutes.	Directions set for lower order centres filter down to council plans and strategies in Western Sydney. A number of growth areas and urban renewal corridors have been identified in the Western Parkland City including Greater Macarthur and Greater Penrith to Eastern Creek. The approach to urban renewal and liveability in the Western Parkland City: *Is about new great places, with well-connected communities which have access to a range of jobs and services.* *A place-based approach that starts with public places, open spaces and transit-oriented developments.* *The timely delivery of infrastructure to support new communities to develop social connections will bring vibrancy and activation and improve liveability.*	Aspects of the Plan addressing features of 15minute neighbours include: • The creation of walkable neighbourhoods through designing for finer grain urban fabrics and human scale intervention. • Expanding the green grid and public realm to improve links to accessible open spaces with multi-use purposes. • Investigate opportunities for local infill development to provide additional medium density opportunities in the right locations (linked to walking and cycling networks as well as public transport). • Reference to Low Rise Medium Density Design Guide is made in the Plan to outline how better infill development can be achieved. Higher densities within 10km of metropolitan centres are also encouraged under this plan in line with the Future Transport Strategy 2056. • Focus on high density development (over 60 dwellings per hectare) to be located within 200m of quality open space. • Encourages increased tree canopy cover within Western Sydney to provide shade and support walkable neighbourhoods. These should be provided along routes connecting neighbourhoods with shops and services.	Influencing (Direct) **The role of the Plan in setting the tone and overarching strategic direction for population. Housing and job growth, and setting the role and function of lower order centres, critical to achieving 15-minute neighbourhoods.**
Future Transport Strategy 2056 (TfNSW) and other TfNSW related 15-minute neighbourhood policy	As a significant player in the NSW planning system, TfNSW has a substantial legislative capacity and role as thought leader in shaping urban growth outcomes in Western Sydney. The Future Transport Strategy sets the vision for transport policy and integrated land use planning in NSW and guides TfNSW's key policy positions.	The strategy introduced the 15-minute neighbourhood concept in NSW as a key outcome. It is important to note that the strategy introduced the concept to provide a language to enable a shared vision for a future Sydney, and was not intended as a strict measure to assess performance. As this is a fairly new concept, stakeholder feedback as part of this project has identified they are still grappling with what this means. Subsequent to the strategy additional policies and studies have applied the concept, testament to its influence in the Transport group and throughout the industry.	The 15-minute neighbourhood concept presented in the Future Transport Strategy has informed subsequent Transport documents that seek to apply that work. Examples include: • Active Transport Strategy (public) • 15-Minute Neighbourhoods Definition (NSW Government-use) • Freight in 15-minute Neighbourhoods (NSW Government-use) • Six Cities Network Plan (In development) • Strategic Cycleway Corridors (NSW Government-use) • Network Planning in Precincts Guide (public) This influence is testament to the role of such policy documents in setting the direction for 15-minute neighbourhood policies and providing a common language and direction to enable more detailed, implementation focused policy to be developed.	The Future Transport Strategy defines the 15m-minute neighbourhood and related TfNSW documentation comprehensively address the features of 15-minute neighbourhoods.	Influencing (Direct) **Future Transport Strategy sets the definition of 15-minute neighbourhoods.**

	Framework/ document		**Application**		**Evaluation**
	How does the framework/ document guide urban growth in Western Sydney?	***Why is it a relevant framework to 15-minute neighbourhoods?***	***How is it applied in Western Sydney?***	***How effectively does it address 15-minute neighbourhood features?***	
Local Environmental Plan (LEP) / Standard Instrument LEP	A council wide statutory framework for land use zoning and development controls.	As the overarching statutory planning framework for council, this instrument can have a pronounced impact on: • Housing typologies relevant to character/role and function of a locality and the population density enabling greater access to services within 15-minutes. • The separation of low density residential from commercial, retail and community uses, which can limit 15-minute neighbourhood outcomes. • The co-location of uses and implementing more mixed-use zones with better integration of residential and commercial, retail and community use zoning can improve 15-minute neighbourhood outcomes. • The location and centralisation of zoning around public transport corridors can influence the opportunity for 15-minute public transport journeys. Building height controls under the LEP influence the density and scale permissible in neighbourhoods, which is strongly linked to compact centres and walkable neighbourhoods. • Minimum subdivision lot size under the LEP influences population and dwelling density in Western Sydney with larger minimum lot sizes minimising opportunity for diversity in dwelling typologies. • Secondary dwellings permissible under the planning framework promoting opportunity for diverse housing options, compacting centre outcomes close o the neighbourhood centre.	As an example of how the LEP can influence outcomes, the Standard Instrument LEP includes objectives for • MU1 Mixed Use Zone: *To ensure that new development provides diverse and active street frontages to attract pedestrian traffic and to contribute to vibrant, diverse and functional streets and public spaces.* *To encourage business, retail, community and other non-residential land uses on the ground floor of buildings.* • E1 Local Centre: *To provide a range of retail, business and community uses that serve the needs of people who live in, work in or visit the area.* • R1 General Residential: *To provide for a variety of housing types and densities.* Edmondson Park zoned MU1 under Liverpool LEP 2008 adopts objectives of the Standard Instrument LEP. Liverpool's R1, R4, E1 and E2 zoning objectives include a focus on increasing public transport patronage. The Blue Mountains LEP 2015 has no mixed-use zones. However, its E1 zoning aims to enable vibrant residential development and ground floor business activation in its Local Centres. The E1 zoning in Campbelltown's LEP 2015 works towards an accessible, safe and attractive public domain.	Examples of how LEPs address 15-minute neighbourhood features are: Liverpool has concentrated intensive land uses and dense housing typologies around Liverpool Station, increasing the likelihood of integrated 15-minute journeys for residents or workers using both public and active transport for first or last mile travel. In Part 6 of the Blue Mountains LEP's (Additional Local Provisions), the area's distinctive undulating topography is considered with constraints to development for slopes greater than 20%. Gradients can be a crucial mitigating factor for the walkability of a 15-minute neighbourhood. In Campbelltown, the suburb of Airds is a prime conflicting example, with E1 Local Centres in proximity to schools and recreational areas. However, the urban structure may be prohibitive to realising 15-minute neighbourhoods as it is predominantly low density with a street network of cul-de-sacs prohibiting walkability which becomes an urban design challenge. However, it is recognised a council may have the intention for 15-minue neighbourhoods established through land use zoning, however the reality of the dwellings delivered differs to the objectives of the land use zone due to external factors such as market demand and economic feasibility.	Planning (Direct) **The LEP has a strong impact on aspects of creating 15-minute neighbourhoods (such as population density and co-location of uses) that are influenced by land use zoning, height and FSR, and other regulatory components. The examples provided do, however, demonstrate limitations in the LEP's ability to influence more detailed built form outcomes, such as street typology and layout.**
State Environmental Planning Policy (SEPP) applying to government identified priority growth areas and precincts.	NSW Government planning provision to facilitate development of new housing, coordinate release of land for urban development and facilitate growth of regional sites of economic, environmental or social significance. SEPPs relevant to 15-minute neighbourhoods include: • SEPP (Precincts – Western Parkland City) 2021. This consolidates the former SEPP.	Sets out the provisions for accommodating population, housing and job growth in NSW Government identifies precincts (infill development) and growth areas (land release). The former Growth Centres SEPP has been a key instrument in the establishment of the more mature land release communities in the north west such as Marsden Park and north Kellyville and in the south west such as Oran Park. The SEPP was relevant to 15-minute neighbourhoods providing a regulatory framework on: • Land use controls for precinct wide planning to coordinate residential or employment opportunity. • Development standards for different growth centres and redevelopment with supporting infrastructure.	Identified locations to accommodate future growth in Western Sydney, such as Greater Macarthur and Leppington, are subject to structure planning investigation for new communities through growth centre land release or infill development. For growth centres in Western Sydney, the SEPP (Precincts – Western Sydney Parkland City) aims to *enable the establishment of vibrant, sustainable and liveable neighbourhoods that provide for community well-being and high quality local amenity*. The performance objectives in the SEPP (Precincts – Western Sydney Parkland	Components in the SEPP (Precincts – Western Sydney Parkland City) require zoomed in local specific planning (relevant to 15-minute neighbourhood features), such as precinct plans, including the vision and objectives and performance objectives. Structure planning under the former SEPP (Sydney Region Growth Centres) 2006 resulted in new communities such as Marsden Park, Schofields and Riverstone in Blacktown LGA. As the planning process can be timely, access to community services, public amenity and open space and local retail provision within 15-minutes can be impacted by development staging. The challenge is ensuring the assumptions made during the early phases create flexibility for priority growth areas and ensuring precincts are adaptable to changing context, such as community need and transport infrastructure investment, as well as being integrated within the centre hierarchy to ensure adequate access to services within 15-minutes.	Planning (Direct) **Precinct planning (vision and objectives) and the performance objectives in SEPP directly impact NSW Government identified location for growth (urban renewal of precincts and growth areas).**

	Framework/ document		Application		Evaluation
	How does the framework/ document guide urban growth in Western Sydney?	***Why is it a relevant framework to 15-minute neighbourhoods?***	***How is it applied in Western Sydney?***	***How effectively does it address 15-minute neighbourhood features?***	
	• SEPP (Housing) 2021 (amendment SEPP, July 2024)	• Conservation of biodiversity, waterways and heritage and enhanced access for neighbourhoods. The SEPP (Precincts – Western Sydney Parkland City) includes provisions relevant to the 15-minute neighbourhood: • Precinct plans are to be prepared with a vision and objectives. Performance objectives setting out the desired environmental, social and economic outcomes for development on the land. Under the performance objectives, urban form focuses on satisfying a range of community needs, close proximity (comfortable walking distance) to public transport, human services, retail, community and recreation facilities. • The provision of transport infrastructure and services is to be coordinated with the staging of development. The introduces reforms to tackle the housing crisis and increase the supply of social and affordable housing for low-income households and essential workers. The role of the SEPP is to facilitate new development to deliver housing in the right locations, critical to creating greater housing choice and inclusive neighbourhoods. Amendments to the SEPP (Housing) in July 2024 allowed dual occupancies and semi-detached homes in all R2 low-density residential zones in NSW (excluding listed LGAs impacted by flooding and bushfire). The intent is to fill the housing gap between detached houses and high-rise apartments. It is also noted that a new amendment to the SEPP (Housing) was introduced in 2024 via a new chapter 5, Transport Oriented Development, which amends planning controls within 400m of 37 well-located metro and rail stations (including St Marys within Western Sydney). This is to allow for increased residential development that is affordable and within walking distance of public transport.	City) respond differently to how precinct planning was previously undertaken under the former SEPP (Sydney Region Growth Centres) 2006. Outside of priority growth areas and precincts, the SEPP (Housing) create a pathway for developers with a capital investment over $75 million to receive bonus floor space and height of 20-30% if at least 10-15% affordable housing is supplied. For Western Sydney neighbourhoods, this creates opportunity for urban renewal of neighbourhood centres that typically don't have housing choice or the population density to justify retail or commercial activity. Development feasibility is a key component that may inhibit this.		
Greenfield Housing Code (sits under the SEPP [Exempt and Complying Development Codes] 2008) and fast-tracked approval mechanisms	The former Department of Planning and Environment initiated fast-track approval mechanisms, such as the Greenfield Housing Code, guides urban growth in Western Sydney by influencing the approvals process for new developments. For example, the Greenfield Housing Code, contained in the Codes SEPP, provides	These codes and fast-track approval mechanisms generally are relevant to 15-minute neighbourhoods because they: • Influence the level of control of state as opposed to local government at a development application phase, highlighting the importance of cross-government alignment on 15-minute neighbourhood outcomes. • Strongly affect built form outcomes by providing development standards.	The Greenfield Housing Code is a prime example of a fast-track approvals mechanism influencing land release outcomes in Western Sydney. For example, the Code creates a complying development pathway that prioritises one and two storey houses, making it simpler for that delivery. It also institutes development standards for these dwellings that may supersede other documents (such as a DCP).	While this mechanism influences outcomes relating to built form, facades, and density – it does not impact other features of a 15-minute neighbourhood.	Regulatory **The Greenfield Housing Code provides design standards and the interaction with the streetscape which can influence 15-minute neighbourhoods.**

	Framework/ document		Application		Evaluation
	How does the framework/ document guide urban growth in Western Sydney?	***Why is it a relevant framework to 15-minute neighbourhoods?***	***How is it applied in Western Sydney?***	***How effectively does it address 15-minute neighbourhood features?***	
	tailored development standards to suit market demand, housing types, and typical lot sizes which has a strong impact on built outcomes.	Have a high potential for future 15-minute neighbourhood policies because of their attractiveness as a fast-track approvals framework to developers and their ability to generate standardised benchmarks and outcomes.			
Development Control Plan (DCP)	Detailed framework for urban design outcomes in designated areas. DCPs can apply at different scales, with Councils having a range of LGA-wide, precinct and site specific DCPs.	Development regulations and buildings controls can closely impact: • The scale of local character areas and the intensity of built form influencing the quantity of services or housing accessible to a 15-minute neighbourhood. • How development interacts with the streetscape and public domain influencing activity and vibrancy of places. • Vehicular access and the number of parking influence car dependency and discourage sustainable 15-minute neighbourhoods. • The design of building frontages, vegetation, streetscapes and wayfinding can enhance the public domain and facilitate or protect pedestrians or cyclists travelling to destinations within 15-minutes. • The ability for different mode share journeys within 15-minutes by co-ordinating routes and the locations of servicing infrastructure such as bus stops and bicycle parking.	Example of application: Liverpool LGA. A key element from each Liverpool DCP was highlighted to reflected implications of 15-minute neighbourhoods: • Car parking and access in the Liverpool DCP 2008 is centred on convenient parking spaces for vehicles. • Public transport in the Edmondson Park South DCP 2012 aims to integrate sustainable travel and social infrastructure by locating services in proximity. • The street network and layout in the Liverpool Growth Centres DCP 2021 is working towards a grid-like street network to enhance connectivity. • The Western Sydney Aerotropolis DCP 2022 includes a sub-section dedicated to mitigating the urban heat island effect.	Specific control implications from the Development Control Plans with bearing on 15-minute neighbourhood outcomes include: • Liverpool DCP: 1 space per staff member vs 1 bicycle space per 10 staff. There are also provisions for bicycle parking for residential flats/multi-dwelling housing which is 1 bicycle space per 2 units, or 1 for every 4 bedrooms (whichever is greater). • Edmondson Park DCP: The locations of bus stops are to be located in safe places, in proximity to the Town Centre, schools and parks and well connected by cycle or walking paths to encourage a highly integrated neighbourhood with different choices of travel modes for students, workers and residents. A separation distance of 200m for bus stops in the town centres allows walkable distances for integrated journeys. • Liverpool Growth Centres Precinct DCP: There are restrictions to limit cul-de-sacs to encourage through site links and a permeable travel grid for different public, private and active users. • Western Sydney Aerotropolis DCP: DCP benchmarks solutions such as the orientation of buildings for wind ventilation, minimising energy use in buildings, and increasing green infrastructure such as tree canopy can mitigate urban heat and create a more comfortable environment for active users when travelling outdoors for 15-minutes.	Regulating **The ability of DCPs to determine 15-minute neighbourhoods is in part limited by them not being statutory instruments. Site specific and precinct-specific DCPs, often associated with a master plan, can be effective as they can be tailored to individual site circumstances.** **The way that Liverpool Council has used the DCP framework to guide 15-minute neighbourhood outcomes in different areas of its LGA, and in a coordinated, target manner, highlight the ability of DCPs to generate nuanced, place-specific outcomes.**
Council Strategic Plans and Policy (Local Housing Strategy; Neighbourhood Plan; Local Strategic Planning Statement)	Strategic planning by councils providing the vision, priorities and actions for housing, land use, growth and community infrastructure.	Council strategic-level plans and policy documents can influence place-based outcomes at a high level and set the direction for where growth occurs. Documents can inform LEPs, DCPs and contributions plans based on its key objectives: • Setting a 20-year vision for the types of and relationships between land uses in creating diverse activities in centres and the role and function of centres. • Quantifying housing needs, locations identified for additional housing and desired densities to manage population change. • Identifying and upholding a community's key values and what special characteristics can be found within the local character the neighbourhood. • Identifying community infrastructure needs, priorities for public domain improvements and access to open space and recreation.	Councils have a sweep of strategic plans and policy, however the LSPS and Local Housing Strategy are mandatory documents each council is required to prepare and update at the end of the plan period. This means there is consistency for councils in Western Sydney in setting a vision and supporting actions. However, where there is not consistency is coordination between neighbouring councils that sit on boundaries of areas experiencing urban renewal/targeted council master planning or strategic planning. NSW Government set a Local Housing Strategy guideline to guide local councils. The strategies use a place-based planning approach aiming to provide walkable neighbourhoods that support active and	As an example, the Penrith LSPS aims for neighbourhoods to be great places that are: • Well-designed with an attractive built-environment that is enjoyable, safe and clean. • Inclusive of people of all ages and abilities, with a range of local experiences and opportunities for social interaction and connection. • Walkable and provide a mix of land uses with local shops and services at the heart of communities. An action in the LSPS is to develop a funding strategy for the delivery of new neighbourhood facilities. Penrith identifies the intent of the Local Housing Strategy to better define the character of existing neighbourhoods, explore the right locations for growth including the areas suitable for new housing, close to open space, shops and services. It notes the opportunity for low density neighbourhoods to accommodate diversity with townhouses, villas and dual occupancies.	Influencing / Planning (Direct) **Council Strategic Plans and Policy Documents influence urban growth outside the centre hierarchy, creating a vision for lower order centres and connecting their surrounding suburbs.** **Council Strategic Plans and Policy Documents provide a framework for other planning documents, including LEPs and DCPs.**

	Framework/ document		Application		Evaluation
	How does the framework/ document guide urban growth in Western Sydney?	***Why is it a relevant framework to 15-minute neighbourhoods?***	***How is it applied in Western Sydney?***	***How effectively does it address 15-minute neighbourhood features?***	
			healthy lifestyles as well as create and renew great spaces. NSW Government set a guideline for LSPSs, requiring a 20-year vision, context (social, economic, environmental), planning priorities, actions and implementation.	As an example, the Fairfield LSPS identifies five key themes for the council to support a share of the 464,000 additional people expected to reside within Western Sydney by 2040. Council have undertaken urban design studies for key town and neighbourhood centres and included that within their centre hierarchy. As per one of their priority planning actions, the vision for these areas is to provide attractive, healthy, accessible and safe places for the whole community.	
Developer Contributions Frameworks	The NSW Infrastructure contributions frameworks and delivery system is an important statutory framework that guides the who, what, where, and when of essential supporting and community infrastructure in land release and infill environments of Western Sydney. These include: Section 7.11, Section 7.12 plans, state and infrastructure programs, and Housing and Productivity charge.	This framework influences 15-minute neighbourhood outcomes by: • Determining the delivery of public infrastructure, including community facilities and open space. • The way that this framework is set up also influences the quality of this delivery, including the size and location of parks and community facilities relative to complementary uses. By regulating who delivers infrastructure and the level of influence over this delivery by government, it also impacts the extent to which open space, community facilities, active transport and street design supports the principles of 15-minute neighbourhoods and the level of alignment with council policy or applicable structure planning. • Importantly, it influences the pace at which infrastructure delivery occurs and may be attributed to the current mis-timing between growth and infrastructure provision in land release neighbourhoods. It is noted that the 2020 Infrastructure Contributions Review provided 29 recommendations for state government to tailor efficient funding and resources. These recommendations can influence the likelihood for developers to contribute 15-minute place-based outcomes, particularly important for untouched areas requiring incentivisation. State funded infrastructure can include new and upgraded public transport infrastructure, and regional scale open space. However, local council funds is required for 15-minute neighbourhood facilities such as footpaths, local cycling routes and local opens spaces.	Community infrastructure, open space and active transport is currently delivered using a variety of funding and delivery approaches. As an example, the Liverpool Contributions Plans 2008 Edmondson Park has clear directions for developer contributions surrounding: • New community facilities encouraging multi-use functions. • Dedicating land for recreation including bushland reserves, sports fields, active transport networks and outdoor passive surveillance. • Improved transport connections by allowing public land uses and frontages and pedestrians infrastructures.	The Edmondson Park Plan describes small scale infrastructure delivery such as pocket packs and active frontages to be provided by developers through works in kind, at different stages of the project lifecycle. These types of land uses can increase the emergence of passive recreation in the community. However, the private open space delivered at Edmonton Park by the developer is fenced-off and not integrated with the streetscape and wider community. It is anticipated that NSW Government (Landcom) undeveloped land at Edmonton Park will deliver publicly accessible open space. In some instances in master planned neighbourhoods, the value of contributions versus the actual cost of infrastructure do not necessarily always align. This can therefore lead to a lag in delivery staging, inadequate delivery of community infrastructure, open space and/or active transport provisions within a development.	Planning (direct) **The timing and delivery of public infrastructure is a contributing component to the amenity of neighbourhoods.**

3.2 15-minute Neighbourhood challenge

Understanding the challenge for delivering 15-minute neighbourhoods in Western Sydney requires a close analysis of the **challenges and causes** influencing planning and development outcomes in land release and infill environments.

Consultation with key stakeholders across local and state government was essential to ensuring that this project considers diverse and informed perspectives on these challenges. The findings and direction of the project is enhanced from discussions with council and state agency officers who have direct and extensive experience in delivering 15-minute neighbourhood outcomes on the ground.

Throughout March and April 2024, Arup held a series of online interviews with groups of stakeholders. Each interview ran for approximately 45 minutes with between two and six participants in attendance at each interview. Attendees were nominated by the relevant stakeholder and represented a broad perspective, including strategic and statutory planners, urban designers, transport planners, and policy officers.

The following stakeholders participated in the interviews:

- Blacktown City Council
- Blue Mountains City Council
- Camden Council
- Campbelltown City Council
- Fairfield City Council
- Hawkesbury City Council
- Liverpool City Council
- Transport for NSW
- Western Sydney Health Alliance
- Wollondilly Shire Council.

The following section provides a summary of the key challenges and causes relevant to 15-minute Neighbourhoods in Western Sydney.

3.2.1 Economic barriers to neighbourhood-scale retail and services

A common problem raised by stakeholders is the way that economic and market pressures dictate some of the outcomes seen in Western Sydney which do not accord to 15-minute neighbourhood principles. These include the dominance of larger-scale retail and commercial in shopping centre formats which reduce the viability of neighbourhood-scale retail and services, and an economic imperative for lower densities and a car-dominant format (see also related 3.2.3 Consumer Preference which has a role in informing these economic drivers).

Key contributing, linked causes identified by stakeholders include:

- **Established legislative, behavioural and financial processes** for low-rise housing delivery weighing against denser mixed-use zoning. This was linked to a schism between pre and post 1970s planning which introduced a planning paradigm of separated land uses. It was also noted that there is some lobbying and pressure placed on the planning regime by developers to reinforce this separated land use pattern.
- **The large-lot development style of commercial and retail**, or a 'shopping mall' approach, is a dominant style of development in Western Sydney that strongly encourages car-based transport. This was identified as primarily driven by current and perceived land economics.
- **Current patterns of land ownership**. There was some debate amongst stakeholders about whether a diversity of land ownership is beneficial or if it limits the potential for coordinated neighbourhood delivery (see further 3.2.6 below).
- **Sometimes, economic factors can drive an organic growth pattern** that goes against centres hierarchy enshrined in LSPS. For example, stakeholders noted that Gregory Hills is a good example of the organic growth of an activity centre around retail, within a primarily industrial precinct. This has negative outcomes in terms of the urban design in that precinct not being suitable for these uses, and a duplication of service and increased competition with the designated Local Centre.
- **Viable densities to shift underlying land economics** are a problem that is itself prohibitive and contributes to many of the other issues note by stakeholders. As a root cause, a lack of viable density contributes to:

- A lack of critical mass or high level of demand to support transport improvements.
- Car dependency, which is conducive to the separation of land uses over long distances.
- Economic structures that favour larger-lot shopping mall formats over local neighbourhood retail.

- **Cost of land being prohibitive for the provision of services**. For example, it was noted that there are significant land premiums to acquire land in land release areas to set up services like pharmacies and medical centres.

Creating economic activity and the sense of a town or village in Western Sydney was linked to understanding the qualities that people enjoy in some of the more historic areas of Sydney, and the economic and property drivers that led to these outcomes.

Stakeholders noted that if government can understand the fundamental property drivers that led to the creation of places that people enjoy, and how this has changed in current economic environments, there may be levers and incentives available to government to shift delivery towards 15-minute neighbourhood outcomes.

3.2.2 Clarity around the 15-minute neighbourhood definition

There is some potential lack of clarity around what a 15-minute neighbourhood means amongst stakeholders which may lead to a lack of alignment. Without alignment, the buy-in necessary to generate effective policy will be harder to attain.

Key contributing, linked causes identified by stakeholders include:

- **Limited realised examples** of well-planned, 15-minute neighbourhood precincts in Western Sydney. While some stakeholders noted success stories, there was relatively limited awareness of good, delivered examples of 15-minute neighbourhood precincts that exemplify more neighbourhood scale centres.
- **Lack of distinction and awareness of 15-minute neighbourhoods and the 30-minute city**. This includes a need to communicate with stakeholders and community about the way that these two concepts interrelate and the different scales addressed.
- **A perception that the 15-minute neighbourhood is a purely *Future Transport Strategy* concept**. This may be contrasted with the presence of the vision in other strategic planning documents, such as the Western City District Plan.
- **The need for the 15-minute neighbourhood concept and definition** to be aligned across multiple agencies, including NSW Schools Infrastructure and NSW Health Infrastructure and other state agencies and local government in Western Sydney.
- **The lack of current policy attention on the neighbourhood scale**, and the dominance of planning attention on Strategic Centres, making the 15-minute neighbourhood harder to visualise and readily comprehend.
- **The need for an inclusive definition**, appreciating that 15-minute neighbourhoods will mean something different between persons who are able bodied and persons experiencing disabilities, and for seniors and children.
- **The diversity of what a 15-minute neighbourhood means** in the context of a diversity of urban forms and contexts in Western Sydney. For example, there are differences in how the concept is and can be applied in development from different historical eras, for example between pre-war and post-war housing estates, and newer land release developments. The definition will need to acknowledge that spatially Western Sydney is very diverse in its development and each phase has its own history and urban form.

3.2.3 Planning and development mechanics

A common problem with delivering 15-minute neighbourhoods raised by stakeholders was with how the mechanics and process of the planning and development industry influence the way that land release development occurs.

As one example, multiple stakeholders identified that neighbourhood centres are often staged out of step with the bulk of residential development, potentially as a factor of commercial viability (see 3.2.1 above). Not only does this embed consumer preferences and habits (see 3.2.4 below), but it can also make it difficult for integration once delivered.

Key related causes and challenges of planning and development process identified by stakeholders include:

- **Some stakeholders identified that the planning system may actively discourage the incremental, organic growth of centres**. This was linked to the identification by other stakeholders that modern planning regulations may actively restrict urban form and place design that are seen in more traditional areas and often associated with the 15-minute neighbourhood concept (e.g. more permeable, pedestrian friendly streets and human-scale design and density).
- **Bus planning is not coordinated and timed with housing delivery** and there is a lack of integration with structure planning.
- **There is a lack of mandatory nexus** between items on special infrastructure lists and delivery in the locality where funds are collected from. This has the potential to skew funding outside of Western Sydney, where large scale projects occur in the Eastern City. With the SICs under review, stakeholders identified an opportunity to inform that process in line with delivering 15-minute neighbourhoods.
- While stakeholders noted that many aspects of the Western Sydney design specifications for land release subdivision were successful, there was an opinion amongst some stakeholders that **the guidelines over-engineer aspects of street design, layout and form**. This over-engineering can result in enforced outcomes that reduce walkability and permeability, and do not assist in bringing people into the street. A road carriage is an example where a 2.4m turn radius may be generous for a local residential street (as per the Engineering Design Manual).

3.2.4 Consumer preference

A key problem identified by a number of stakeholders interviewed is the role of consumer preference in generating planning outcomes that do not necessarily align with the 15-minute neighbourhood vision.

It is important to note, and as was raised by some stakeholders, that the formulation of this problem should not be attributed to a ‘cultural issue’ or the blame of residents. Rather, there should be a focus on the role of policy in ensuring that the15-minute neighbourhood frameworks in Western Sydney are adapted to the variety of consumer preferences and diverse housing typologies.

Key contributing, linked causes identified by stakeholders include:

- **A consumer trend amongst new purchasers** of housing in Western Sydney generally to prioritise lower density dwellings in response to increases in density and housing prices in other parts of Sydney. This was noted particularly amongst more peri-urban council areas. Simply put, there is a perception that one moves to areas of Western Sydney in order to afford a detached dwelling with a large amount of land.
- **A lag in the delivery of infrastructure, services, and amenity** suitable to a 15-minute neighbourhood generating habits amongst new residents that ingrain the use of private motor vehicles for daily needs. This has a corresponding impact on the economic viability of local shops and services that might contribute to 15-minute neighbourhoods.
- **A culture that responds to a perceived ‘car culture’** in Western Sydney and ingrains patterns of behaviour and planning regulations that reinforce this.
- **A belief amongst residents and stakeholders that alternative modes of transport to the car are ‘competitors’ in road space** and will make traffic worse. Stakeholders identified a need to communicate the benefits of mode-shift in improving traffic by diversifying travel options, as a way to gather political will and buy-in needed to make policy changes.

This was linked to the need to understand what a 15-minute neighbourhood means in different environments and typologies, recognising the diversity of Western Sydney urbanism (see 3.2.2 above).

Stakeholders suggested that to decouple from the car, a cultural change is needed to boost alternative modes of transport, driven by an ease, convenience, reliability and affordability. However, it is recognised that a car still may be useful, but not necessarily the right tool for every trip people make.

This cannot be driven purely from a top down approach but must seek to find a middle ground that recognises the current need and desire of residents to drive to daily needs. Stakeholders suggested that this project needs to be aspirational, while recognising that a 15-minute neighbourhood in Western Sydney is going to look different to more inner-city locations.

3.2.5 Inter-government cooperation and strategic alignment

A common problem raised by stakeholders was a lack of cooperation and alignment on desired outcomes and pathways to achieve 15-minute neighbourhoods between local government and state government agencies.

Key contributing, linked causes identified by stakeholders include:

- **Limited involvement of State government to assess masterplans (for both council and developer-led masterplans)**, and reporting line challenges between local and state governments.
- **A need for cross-council and state government collaboration on zoning** given the trans-LGA boundary of many transport corridors.
- **Infrastructure coordination to enable placemaking**, including mechanisms for Council and TfNSW to effectively collaborate on state road corridors to prioritise community access and benefits. It was noted by stakeholders that the presence of signal crossings on a road significantly limited local council ability to influence decision-making for that street.
- **A lack of successful implementation of key policy and strategy**. For example, the place-based infrastructure compact policy was raised by stakeholders as a useful approach in theory, but one that has not necessarily materialised into implementation.
- **A need to have all stakeholders across local and state government equally committed to strategic outcomes**. For example, some stakeholders noted that in-principle support for walkability and 15-minute neighbourhoods in, say, a council LSPS very rarely translated into implementation on the ground. This was also noted across numerous stakeholders in relation to the implementation of the Movement and Place Framework being applied inconsistently within state agencies.
- **Current attention on housing reform consuming significant council resources in context of existing under-resourcing**. Stakeholders identified that this had the potential to limit resources and attention on delivering 15-minute neighbourhood outcomes by working with developers on proposals in land release precincts. Additionally, recent planning reform was noted as contributing to councils being less willing to participate for fear of losing control over planning processes.
- **A number of stakeholders identified a perception that there are coordination challenges**. While stakeholders have noted some success on some projects where cross-government collaboration has been high, there are other instances noted where there is room for improvement. This was identified particularly in relation to tackling local issues where they intersect with the wider rail or bus networks.

3.2.6 Lack of enforceability leading to high outcome variability

Local councils and state government agencies can face some barriers to enforcing 15-minute neighbourhood outcomes in Western Sydney. This can lead to a high variance in the success of new land release precincts and in the retrofit of existing suburbs.

Key contributing, linked causes identified by stakeholders include:

- **Stakeholders identified that a large part of this high variance is driven by variability in developer behaviour and the quality of product delivered**. Without regulation, there are limited options for government to ensure consistent outcomes are achieved. For example, a lack of enforceable policy to embed low-speed road environments and

place functions that translate between higher-order objectives and implementation on the ground can lead to variable outcomes.

- **Areas with fragmented land ownership were identified by some stakeholders as being more difficult to plan and design cohesively**. Stakeholders gave the feedback that consolidated land ownership meant a higher potential to work collaboratively with a single or small group of developers, and can lead to better outcomes when compared to areas with highly fragmented land ownership. For example, and related to the issue of regulation, stakeholders commonly raised the issue of developers not being required to connect beyond grid line boundary of development or council and states. It is possible that the preference for consolidated land ownership is in part a response to the existing regulatory landscape, as it avoids some of the gaps in regulation inherent where there is fragmented ownership.
- **The extent to which outcomes rely on proactive developers with a strong sense of custodianship** and experience delivering cohesive neighbourhoods in land release environments. This was also linked by stakeholders to an understanding of the financial incentives recognised by some developers to delivering 'better' products (i.e. they can sell housing or land in a 15-minute neighbourhood easier and for a higher premium than in a development that lacks this amenity).
- **A lack of enforceability means getting pushback from developers** where some of the 15-minute neighbourhood features are seen as 'add-ons' that are not necessary in the regulatory process. For example, stakeholders noted that is it difficult to regulate development to achieve pedestrian footpaths on both sides of a road if neighbouring development has not been required to deliver this.

3.2.7 Catalysing impact of major public transport infrastructure

A key problem, and corresponding opportunity, identified by all council stakeholders interviewed is the catalysing role of major public transport infrastructure delivery in the generation of good planning and urban design outcomes in Western Sydney. Conversely, however, there is notable difficulty in delivering 15-minute neighbourhoods outside of areas with a major public transport investment, either existing or planned. Generally, heavy rail was seen as one of the primary factors influencing the delivery of 15-minute neighbourhoods in Western Sydney.

Key contributing, linked causes identified by stakeholders include:

- **Unwillingness by councils to zone medium density areas** without a major transport commitment.
- **Mis-timed or delayed infrastructure investment**, including transport infrastructure, limiting the ability for activity nodes to centre on major transport hubs.
- **Uncertainty regarding planned rail and metro connections**, which has flow-on effects for planning around station envelopes, structure planning, and the wider corridor.

3.2.8 Barriers to delivering key features

Delivering 15-minute neighbourhoods requires a wide variety of urban design and planning features to coalesce (see, for example, the features identified in the TfNSW *Future Transport Strategy*). There are, however, many interrelated barriers to delivering many of these features which could, in and of themselves, be the topic of much study and discussion.

For example, numerous stakeholders noted the current policy debate regarding micromobility and the catalysing impact that more permissive laws and regulations could have on generating shorter trips into and between activity centres. This is one example of a related technical issue in urban policy that has a contributing impact on the creation of 15-minute neighbourhoods.

Described as a 'chicken and egg' or a 'vicious cycle' by some stakeholders, barriers to delivering key 15-minute neighbourhood features have a number of root causes in technical issues which themselves can be traced back to historical, social and economic factors (which are addressed separately above). These key technical barriers identified by stakeholders include:

- Wide, almost uncrossable road corridors that divide communities (corridor width).

- Infrastructure that isn't coordinated or doesn't have the supporting population densities to fund (as discussed elsewhere in this section). This was particularly identified in relation to school infrastructure.
- Lack of alternative transport and mobility infrastructure.
- Areas with limited tree canopy cover.
- Urban heat island effect reducing the viability of walking and cycling, and conversely cementing car-centric planning that reduces tree canopy and increases urban heat.
- Lack of and difficulty delivering mixed use development.
- Pressure from business owners to retain loading in front of shops and parking instead of back of house.
- School sizes increasing to a point where they are limiting the creation of local, walkable neighbourhoods and embedding long distances and travel times for students and their families.
- Difficulty providing the continuous provision of footpaths or cycling paths to Local Centres, which can be attributed to a lack of an orderly sequence of development.
- Council funding and capacity constraints.
- Restrictiveness of the s 7.11 and s 7.12 developer contributions framework. While this framework is essential in providing transport and other socially-oriented spaces that contribute to 15-minute neighbourhoods, the framework is relatively constrained for land release sites. This also limits what can be funded, for instance libraries and cultural facilities cannot be funded by 7.11 or 7.12 contributions.
- A lack of understanding of the impact of visitation on infrastructure demand (for example, impacting the Blue Mountains LGA).
- Community and political contestation regarding increasing densities in different parts of Western Sydney.

4. Western Sydney Neighbourhoods Framework

4.1 The Framework on page

The process of developing the Western Sydney Neighbourhoods Framework has been informed by the challenges and causes of 15-minute neighbourhoods established in this report and through engagement with councils across Western Sydney, WSPP, Transport for NSW and NSW Department of Planning, Housing and Infrastructure.

The Framework presented in Figure 2 sets out three dimensions for how neighbourhoods' function, supported by the principles that make a great neighbourhood.

The framework has been set up to cover the three dimensions of how neighbourhoods' function - *What's in the neighbourhood centre? Ways of getting around the neighbourhood? Is it an enjoyable experience*? Each dimension is supported by three objectives.

The objectives have been framed through engagement with state and local government stakeholders and drawing on the case studies learnings from other jurisdictions that are applicable to Western Sydney.

The framework is centred on a vision for neighbourhoods in Western Sydney:

> ***Every resident in Western Sydney has safe, comfortable and easy access to the places that make a thriving and liveable neighbourhood.***

The following sections provide more detail on each dimension of the framework.

Figure 2 The Western Sydney Neighbourhoods Framework

Source: Arup, 2024

4.2 What's in the neighbourhood centre?

Table 2 Principle and options for performance metric

	Principles that make a great neighbourhood	Options for performance metric
Gentle density in the neighbourhood centre	• Scale, mass and density influence the viability and vibrancy of neighbourhoods. • Gently density at human scale. • Gently density that reflects character of place. • Gentle density, supported by the right infrastructure and urban design, should make shorter trips by walking or cycling just as easy or easier than reliance on car. • Gentle density also creates inclusive neighbourhoods, opening the opportunity for greater mix in residential typologies and size of housing, which diversifies price points and enables people the option of aging in place.	• Engagement with the community to ensure housing is of an appropriate scale and character to meet the needs of residents. • Population density (people per hectare). • Housing density (dwellings per hectare). • Land use zones permitting a diversity of housing types.
Access to local opportunities and convenient facilities to meet daily needs	• Social, environmental and economically sustainable neighbourhoods with equal access for everyone, reducing inequalities. • Access to local opportunities that reflect the needs and expectations of the community in the neighbourhood. • Access to daily needs within the neighbourhood, particularly in retail "cold spots". • Access to affordable fresh food. • Less reliance on driving to higher order centres to access local opportunities and daily needs. • Access to medical services (e.g. GPs) through means that don't involve driving, to enhance accessibility for older people.	• Presence of one or more shops selling fresh food in a neighbourhood centre. • Clustering of services in the neighbourhood centre (e.g. how close shops are, whether there is a focal point). • Presence of three or more shops in a neighbourhood centre. • Presence of at least one health service (e.g. GP, pharmacy). • Presence of a primary school and/or early childhood learning centre.

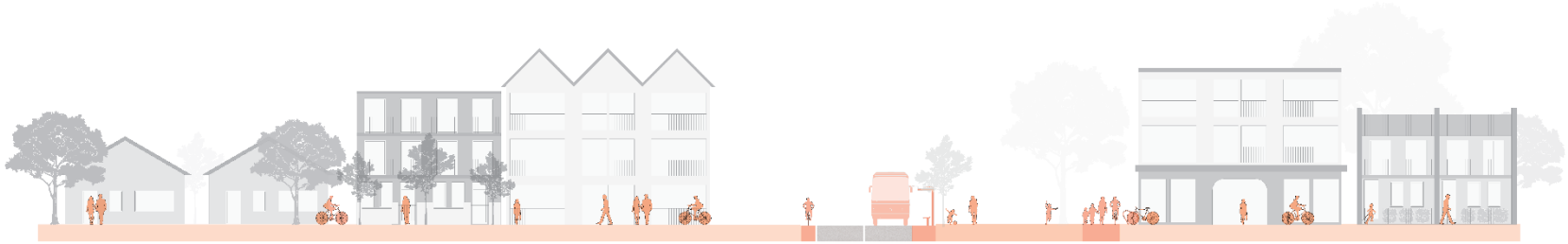
Quality spaces for people to gather, play and connect with their community	• Quality spaces reflect community composition and identity. • Process of designing quality spaces with and for the community e.g, community gardens, community facilities/recreation, public street furniture. • Quality spaces that encourage people to stop, stay, play and connect, promoting social cohesion. • Quality spaces that promote health and wellbeing. • Quality spaces suitable for last resort in an emergency evacuation (e.g, open fields, indoor with amenities such as community centre, RSL, school).	• Engagement with the community to ensure spaces are designed by and for the community. • Percentage of residents within a 15-minute walk to open space and/or playground. • Qualitative measures of quality. • TfNSW Movement and Place Framework touches on indicators for the built environment relevant to improving the quality and access to public spaces in Western Sydney.

4.3 Ways of getting around the neighbourhood?

Table 3 Principle and options for performance metric

Principles that make a great neighbourhood		Options for performance metric
Streets for people	• Sustainable mode choice is a part of all trips in the neighbourhood – whether people are catching public transport, cycling, walking or other (e.g, scooter). • For slightly longer trips, or trips where people want to travel a little faster or carry heavier loads, cycling should be a fun, safe and convenient option. • Parking is on the periphery of the neighborhood centre to promote streets for people and vibrancy. • Places to stop and rest.	• Proportion of streets with pathways on both sides of the street. • Proportion of streets with speed limit of 40km/h or less. • Accessible streets with kerb ramps and continuous footpaths. • Intersection density (permeability). • Cycling infrastructure type (TfNSW Movement and Place Built Environment Indicators ('M&P'). • Distance between rest areas (M&P).
Connectivity to the neighbourhood centre	• People in Western Sydney have transport choice. • Public transport is reliable. • Streets and paths are easy to navigate by foot and bike. • Sustainable transport modes feature urban design elements such as accessible paths, streets that connect the neighbourhood at a human scale and an appropriate amount of separation from other road users. • The infrastructure enables access and connection for everyone, from children, teens, adults to seniors, safely and with ease. • There is somewhere safe to store bikes at both ends of the journey.	• Average effective footpath width (M&P) or proportion of streets with footpaths wider than e.g. 1.2m. • Connected cycling network (M&P). • Length of cycling infrastructure (M&P).

Connectivity to larger centres	• Higher order centres (local, strategic, metropolitan) are important for where people go to access jobs, education, health, specialist goods and services. • Public transport to key destinations is reliable and within an easy walk from home for everyone including off-peak journeys. • Cycling networks enable access and connection to nearby neighbourhoods and beyond, including to higher order centres.	• Access to bus, train and tram stops with an average service interval of no more than 30 minutes between weekday hours of 7am and 7pm. • Percentage of dwellings within 400m based on walkable road network distance (Australian Urban Observatory metrics ('AUO').



4.4 Is it an enjoyable experience?

Table 4 Principle and options for performance metric

Principles that make a great neighbourhood		Options for performance metric	
Everyone feels safe in the neighbourhood and getting around	• Lighting, including consistent and appropriate lighting and gender-sensitive lighting. • Safety in spaces, including clear sight lines, passive surveillance and other CPTED principles. • Safe active transport infrastructure for users of all ages and abilities. Reducing the risk of injury associated with active travel modes. • Streets are designed for people to easily get around and feel comfortable making short trips.	• Engagement with the community to understand perceptions of safety for different people. • Comfort percentile of pedestrians (M&P). • Crime density through BOSCAR data analysis (number of crimes per 100,000 people in an area). • Street lighting, through both quantitative (i.e density on a street) and qualitative (i.e how well does it perform to increase perceptions of safety).
Everyone feels comfortable in any season and time of day	• Built form and infrastructure is designed for all seasons and time of day. • Reduced urban heat through shade and greening. • Topography sensitive neighbourhood design to encourage walkability. • Provision of shelter infrastructure to enhance community resilience. • Access to water infrastructure in the centre and on journeys (e.g. refill stations, bubblers).	• Comfort percentile of pedestrians (M&P). • Tree canopy for shade (40% canopy in residential neighbourhoods). • Provision of infrastructure to make active transport a viable option in wet weather (e.g. shade structures, awnings in town centres, etc.).
Everyone feels a strong sense of place, community and belonging	• The process of planning for and designing for the future of neighbourhood with the community. • Community champions, 355 communities, and community committees to enhance sense of ownership and place in the neighbourhood centre.	• Engagement with the community to understand what makes their places great and contributes to a sense of belonging. • Percentage of residents who know others in their (a) street and/or (b) neighbourhood.

	• strong Chambers of Commerce for businesses to connect and grow together. • Connection to place. • Connection to Country and the natural environment. • Residents show a sense of ownership and belonging in their neighbourhood.	• Level of volunteerism. • Social inclusion index. • Provisional/meeting places: social infrastructure (community centres) /open space/public domain meeting places.

5. Testing the Framework

This section of the report tests the application of the Western Sydney Neighbourhoods Framework against ten locations in Western Sydney. The purpose of testing is to understand the challenges and limitations to the function of neighbourhoods. This forms the basis for identifying broader solutions to address the common challenges facing neighbourhoods across Western Sydney, from structural changes requiring significant resources and investment, through to low level interventions that generate positive place-based outcomes.

5.1 Approach to testing

Arup worked with WSPP to select from a long list of potential metrics (as presented in Section 4) to test the three dimensions of the Framework - *What's in the neighbourhood centre? Ways of getting around the neighbourhood? Is it an enjoyable experience?*

Appendix 1 provides further detail on the methodology, how the scores are applied and the data sources applied to the ten metrics.

The ten metrics used in the testing process are presented below.

What's in the neighbourhood centre?

- **Housing density**: Average dwelling density (dwellings / hectare) across the neighbourhood.
- **Cluster of local services**: Qualitative indicator of how well the centre is performing in terms of providing local services (i.e., fresh food, post office).
- **Open space:** Proportion of dwellings within 7.5-minute walk of open space or playground
- **Take-up**: Proportion of housing supply that aligns with the medium/high density residential zone (i.e., the proportion of medium density dwellings in the R3 Medium Density zone).

Ways of getting around the neighbourhood?

- **Footpaths:** Proportion of streets in the neighbourhood with footpaths on both sides of the road.
- **Cycling:** Proportion of dwellings within 100m of a separated cycling facility (shared path, separated on-road cycleway, Shared Zone or street with posted speed limit of 40 km/h or less)[1].
- **Public Transport:** Proportion of dwellings within 400m of a transit stop with a frequency of 30 minutes or less between 7am and 7pm (week days only).

Is it an enjoyable experience?

- **Lighting**: Qualitative indicator on the provision of lighting.
- **Canopy cover**: Proportion of the neighbourhood with tree canopy.
- **Social inclusion**: Qualitative indicator on provision of third spaces as providing opportunities to gather and connect.

Western Sydney is a significant geography with diverse neighbourhoods. To identify ten locations to test the Framework, Arup worked with WSPP to sift a long list to a short list including six established neighbourhoods and four master planned neighbourhoods (including neighbourhoods recently constructed and master planning under way).

The ten locations identified for the purpose of this project are presented in Table 5 and Figure 3 below.

[1] It should be noted that the NSW Cycleway Design Toolbox does not recommend shared on-road cycling where speed limits are greater than 30 km/h. This analysis found that 40 km/h speed zoning is not commonly applied in Western Sydney LGAs and the inclusion of these streets did not have significant impact on the calculated reach of the cycling network.

Table 5 List of ten locations for testing

No.	LGA	Location	Established or Master Plan
1	Blacktown	The Ponds	Established
2	Blue Mountains	Faulconbridge	Established
3	Camden	Spring Farm	Established/ greenfield under development
4	Campbelltown	Claymore	Established
5	Fairfield	Canley Vale	Established
6	Hawkesbury	Kurrajong	Established
7	Liverpool / Camden	Leppington	Master Planned
8	Liverpool	Edmondson Park	Established/ greenfield under development
9	Wollondilly	Bingara Gorge	Established/ greenfield under development
10	Penrith	Jamisontown	Established

Source: Arup, 2024

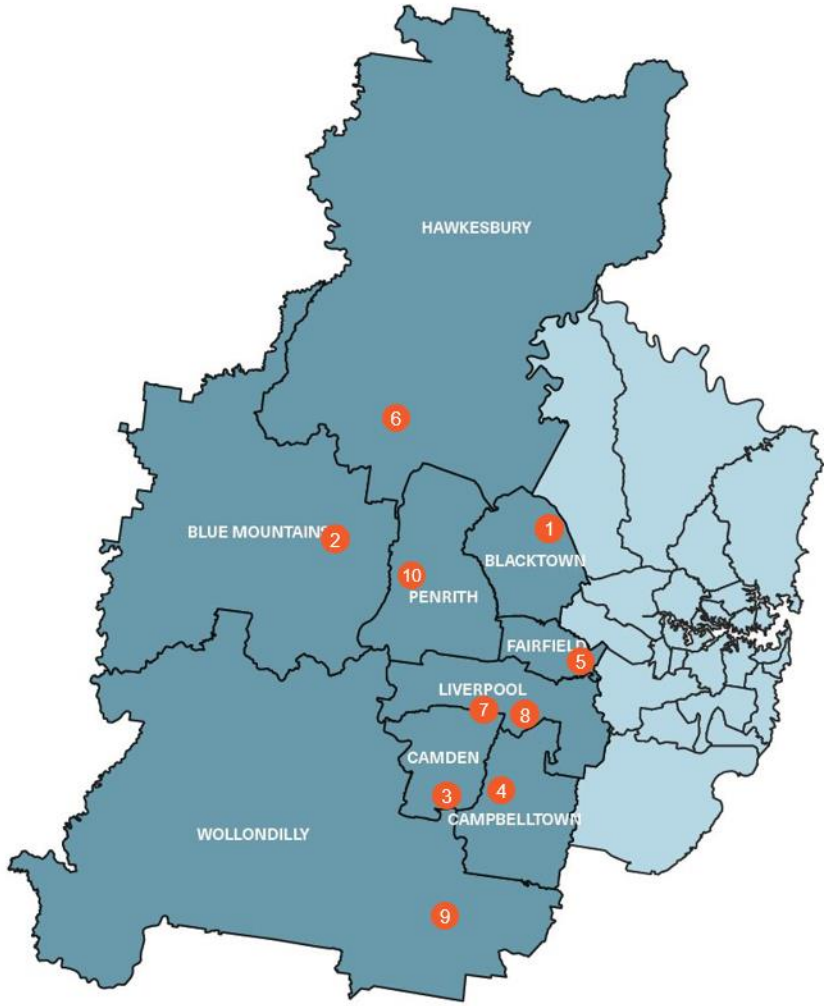


Figure 3 The Western Sydney Neighbourhoods Framework

Source: Arup, 2024

The following section reports the results from testing the framework against the ten metrics across the confirmed neighbourhoods in Western Sydney.

5.2 The Ponds

5.2.1 Context

The Ponds is a master planned neighbourhood in Blacktown LGA, delivered as a joint venture between Frasers Property Australia and Landcom.

The neighbourhood has a population of 16,315 (suburb geography, Census, 2021). The newer residential development is characterised by a finer and more permeable grid layout compared to the more established Kellyville Ridge on the western side of the riparian corridor.

The Ponds exemplifies a greenfield project that has created a self-contained neighbourhood as a place for people by integrating environmental sustainability, water sensitive design, community development and public art initiatives.

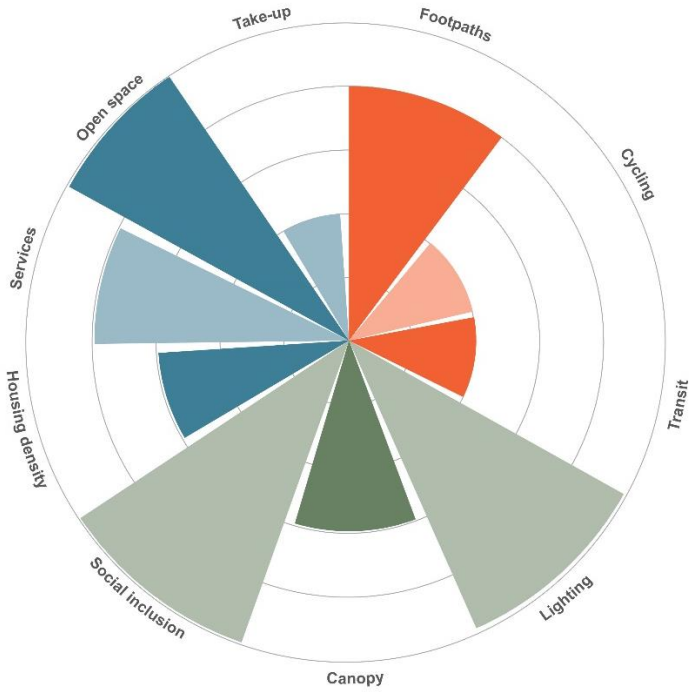


Figure 4 Testing The Ponds
Source: Arup, 2024

5.2.2 What's in the neighbourhood?

- Over 80% of dwellings are detached, aligned with the high proportion of couples with children households (Census, 2021). The residential take-up scored low given the volume of detached houses in areas zoned for medium density, only 15% of total dwellings offer diversity in the form of townhouses and notably no apartments in the neighbourhood.
- Local services metric scored high as services are concentrated at The Ponds Shopping Centre. The centre is located on the eastern side of the Seconds Pond Creek riparian corridor, and residents to the west may have access via pedestrian links through the riparian corridor, however there may be perceptions of safety at night.
- The local services and community infrastructure at The Ponds service a larger catchment beyond the neighbourhood, attracting a volume of cars, however the centre has been designed to co-locate the uses with the public domain, promoting opportunities for social cohesion.
- All residents have walkable access to open space given preservation of the riparian corridor and the creation of two sporting fields nearby resulting in a high score for open space.

Figure 5 Typical housing topology in the neighbourhood
Source: Google maps, 2024

Figure 6 Local retail in the neighbourhood
Source: Mainbrace Constructions, 2018

5.2.3 Ways of getting around the neighbourhood?

- Footpaths in The Ponds are scoring well. Typically, there is a footpath on both sides of main roads and collector roads, however, most local streets have only one or no footpath. Footpaths are provided on both sides around the schools (John Palmer Public School) and local services.
- The local cycle network is concentrated along the main road corridors and the borders of The Ponds. There is a shared path along the central riparian spine and around local sports fields, however only 34% of dwellings are located within 100 metres of a cycleway. There is cycling access towards Rouse Hill (local services and Metro Station) via a shared path, but no continuous cycling connection to Blacktown CBD (see image).
- Access to public transport is scoring reasonably with 49% of dwellings within a 400m walk of a transit stop serviced at least every 15 minutes from 7am to 7pm.

Figure 7 Example of on road cycling route
Source: Google maps, 2024

Figure 8 Example of bus stop infrastructure
Source: Google maps, 2024

5.2.4 Is it an enjoyable experience?

- There is a high provision of street lighting in The Ponds. Streetlights are closely and consistently spaced along all streets, with a higher provision outside shops and schools.
- The tree canopy score is low, currently accounting for 21% of the total landscape. Notably this score sits at the average range across the case studies. The highest concentrations of tree canopy is along the central riparian corridor and in the local parks. These align with parts of the shared path network, creating a shaded opportunity for pedestrians and cyclists, however reduced benefit on local streets.
- Social inclusion scores high given the provision of third spaces and open space, attracting opportunities for increased social interaction with places/activities encouraging people to stop and stay and connect with the community.

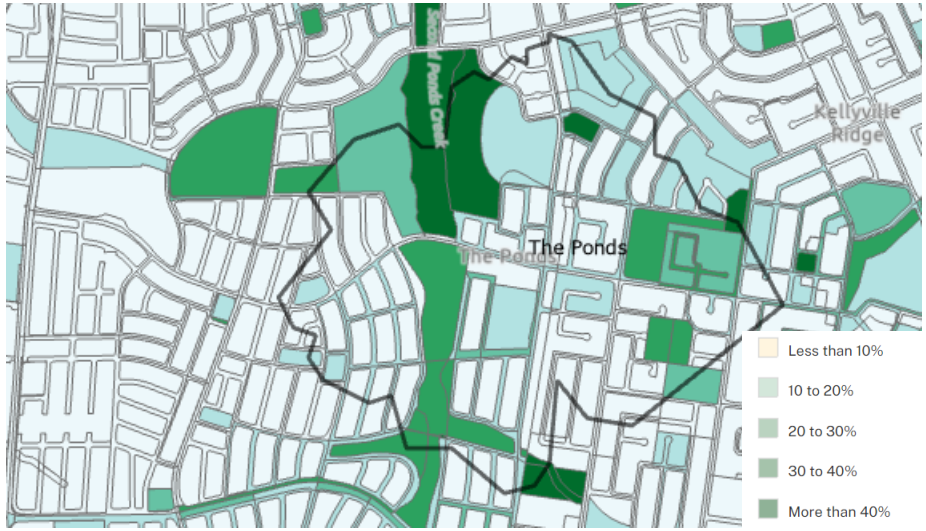


Figure 9 Canopy Cover Data
Source: Arup based on data from NSW DPHI, 2024

5.3 Faulconbridge

5.3.1 Context

Faulconbridge in the Blue Mountains LGA is an established neighbourhood around 2km west of Springwood. The neighbourhood has a population of 4,156 and made up of a mix of family households, couples and older persons (suburb geography, Census, 2021).

The neighbourhood is intersected by the Great Western Highway and the railway line situated along the ridgeline. The footprint of the neighbourhood is constrained by the Blue Mountains National Park and the topography.

The urban structure of the neighbourhood is unique with local services distributed in two locations, along the Great Western Highway east of the neighbourhood and a smaller cluster at St George Crescent to the west. Notably the neighbour centre is not co-located with the train station which is surrounded by low density residential making urban design and planning interventions a challenge.

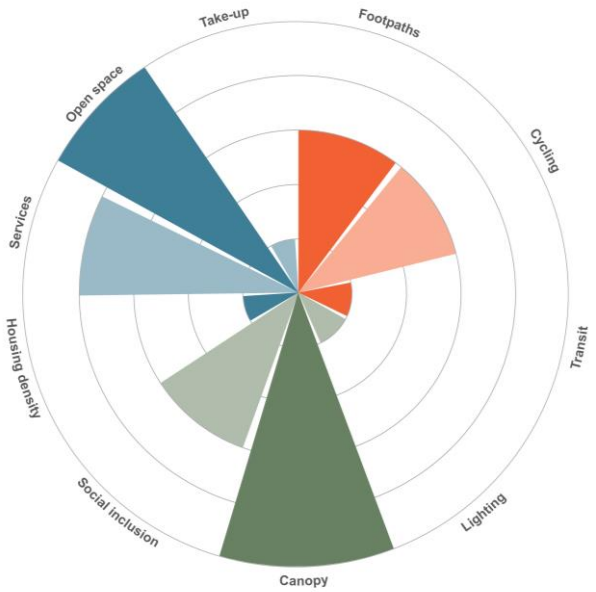


Figure 10 Testing Faulconbridge

Source: Arup, 2024

5.3.2 What's in the neighbourhood centre?

- Dwellings in the neighbourhood are predominately detached on large blocks reflecting the character of the area (see image). Despite the R1 General Residential Zone, take up of more diverse housing is not as prevalent.
- Local services scores well given the provision across two locations in the neighbourhood, along the Great Western Highway (see image) and St George Crescent, however there is opportunity for the amenity and access to be improved given the highway interface. Notably, the neighbourhood is within proximity to Springwood (less the 2km east) which has a greater retail offering.
- Community infrastructure isn't co-located with local services with Faulconbridge Public School located at the midpoint between the centres and the Faulconbridge community hall in a cul-de-sac residential street.
- Given the context of natural bushland in the Blue Mountains and provision of local parks, access to open space is high in the neighbourhood.

Figure 11 Weatherboard detached houses along the Great Western Highway

Source: Google maps, 2024

Figure 12 Local retail on the Great Western Highway
Source: Google maps, 2024

Figure 13 Bus stop and footpath next to the Great Western Highway.
Source: Google maps, 2024

5.3.3 Ways of getting around the neighbourhood

- The Faulconbridge train station has two services per hour in the peak direction. By comparison, Springwood Station, the neighboring centre to the east has three services per hour in peak travel. Overall, access to transport during peak travel scores poorly, mainly driven by the infrequency of the local bus service during peak travel.
- Footpath provision in the neighbourhood scores poorly. Along the Great Western Highway and outside local schools are the only locations where footpaths are provided on both sides of the road.
- The Faulconbridge train station is a 20-minute walk to the neighbourhood centre on the Great Western Highway, however there are topography, amenity and safety challenges making driving an easier option.
- There are some shared paths in the neighbourhood, including at the train station, primary school and aquatic centre. On the Great Western Highway, the shared path on the southern side runs directly adjacent to the kerbside traffic lane with no separation provided by a road shoulder, fencing or nature strip (see image).

Figure 14 Shared path on Plateau Road
Source: Google maps, 2024

5.3.4 Is it an enjoyable experience?

- The provision of street lighting is poor. There is little to no street lights provided on local streets or outside local services in the two neighbourhood centres.
- The tree canopy makes up 41% of the suburban landscape, and already meets the Greater Sydney 2036 projected targets. Many residential streets provide a walkable shaded environment all year round. It is recognised this score is influenced by the national park setting.
- There are opportunities for social inclusion with third places (cafes and community halls) offering places for people to stop and stay and connect. Parks and open space aren't co-located with local services or in the neighbourhood centre which is often an enabled of social inclusion. It is recognised the LGA has a high percentage of volunteerism which does create opportunities for social inclusion and community participation.

Figure 15 Canopy Cover Data
Source: Arup based on data from NSW DPHI, 2024

Figure 16 Planting along the Great Western Highway
Source: Google maps, 2024

5.4 Spring Farm

5.4.1 Context

Spring Farm is a newly established neighbourhood in the Camden LGA delivered through master planning. The population at Census 2021 was 9,868 and given it is a growth area with staged housing delivery, the estimated resident population in 2023 increased to 11,069 (suburb geography, Profileid, 2023).

The neighbourhood is directly north of the Nepean River with access to open space along the river and around Springs Lake.

The development pattern has been predominantly separate houses, accounting for almost 94% of total dwellings (Census, 2021). The neighbourhood centre is located at the intersection of Springs Road and Richardson Road and comprises of large format retail centre and associated at-grade car park.

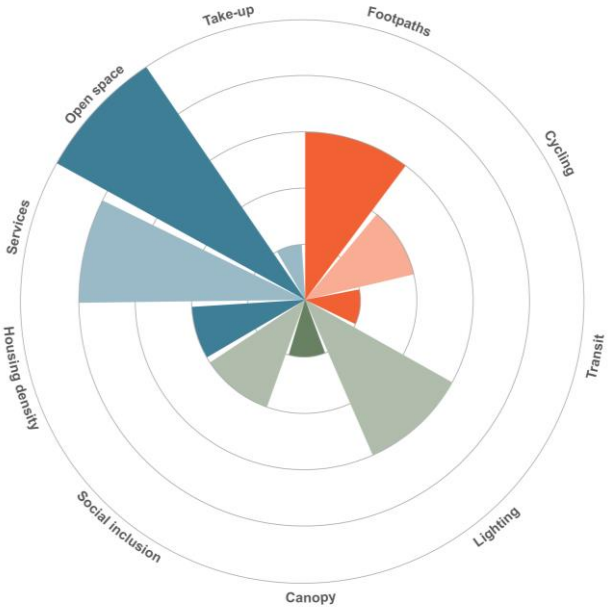


Figure 17 Testing Spring Farm

Source: Arup, 2024

5.4.2 What's in the neighbourhood centre?

- The neighbourhood predominately consists of small lot detached housing under the R1 General Residential zone. The residential up-take scored poorly given the low supply of smaller housing typologies in the R1 General Residential and E1 Local Centre zones, noting a small number of detached terraces on the eastern boundary of the neighbourhood centre along Brookner Road. There are undeveloped parcels presenting an opportunity.

- Access to local services scores well for the neighbourhood. Spring Farm Shopping Centre is in the middle of the neighbourhood, surrounded by C2 Environmental Conservation land to the north and east. Woolworths is the anchor tenant with retail, a medical centre and pharmacy. The centre is designed to support a catchment beyond the population of the neighbourhood with trips likely made by car.

- A very high proportion of households (90%) have walkable access to a variety of open space, parks, reserves and open space along the Nepean River. However, the C2 Environmental Conservation land around Spring Farm Shopping Centre is fenced and not publicly accessible, reducing access for sustainable modes to the centre.

Figure 18 Spring Farm Shopping Centre

Source: Google maps, 2024

5.4.3 Ways of getting around the neighbourhood

- While there are footpaths along both sides of most major roads and near schools, local residential streets typically do not have footpaths on both sides hence the mid-point score for the neighbourhood. Spring Reserve located to the west of the neighbourhood is newly delivered open space and has pedestrian infrastructure with connection points to surrounding local streets.

- Around 40% of residents live within 100m of a shared path. As pictured, there are dedicated cycling facilities on spine roads and local roads in the neighbourhood.

- The main bus route runs approximately every 30 minutes. This infrequency scores poorly for the neighbourhood, however the bus route

does provide connections to jobs, education and services in higher order centres in Narellan town centre, Campbelltown CBD, Macarthur Square and Western Sydney University – each centre within around a 15-minute bus ride.

Figure 19 Marked cycleway on Hampshire Boulevarde
Source: Google maps, 2024

5.4.4 Is it an enjoyable experience?

- In the neighbourhood, street lighting is prevalent along main roads yet not on local streets which may impact people's choice of how they travel and perceptions of safety at night.
- The neighbourhood benefits from tree canopy from established trees in the conservation area. It is a recently delivered greenfield community and trees have been planted on most local streets (as pictured) and once the trees mature, the tree canopy will contribute to shading footpaths and realising environmental benefits such as urban cooling.
- The Spring Farm Community Centre is co-located with the Spring Farm Shopping Centre providing indoor space for social cohesion. There are playgrounds and parks offering outdoor gathering places for social connection and recreation.
- The urban structure of the neighbourhood centre has been designed around car movement, separated by Richardson Road and at-grade car parking. There are pedestrian footpaths and refuge islands.

Figure 20 Tree planting along a local residential street
Source: Google maps, 2024

Figure 21 The Spring Farm Community Centre and associated at-grade
Source: Google maps, 2024

5.5 Claymore

5.5.1 Is it an enjoyable experience?

Claymore is an established neighbourhood in Campbelltown LGA. The current population of the neighbourhood is 2,579 (suburb geography, Census, 2021). A high proportion of housing (70%) is rented, reflecting the presence of Homes NSW assets in the neighbourhood.

The NSW Government is in the process of implementing an urban renewal program to provide a mix-tenure community to improve the public housing system in Claymore Estate, south of the neighbourhood.

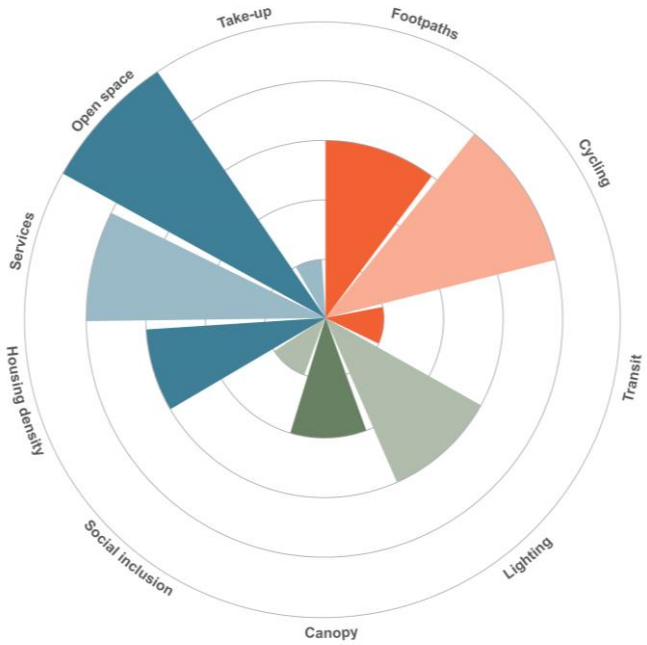


Figure 22 Testing Claymore
Source: Arup, 2024

5.5.2 What's in the neighbourhood centre?

- The neighbourhood centre is located on Dobell Road, providing local services including a medical centre, pharmacy, Australia Post and other small retail. Claymore public school bounds the centre to the west and a large amount of open space (RE1 public recreation) to the north.
- Housing in the neighbourhood is made up of a mix of detached and semi-detached dwellings with the urban structure typical of is time - 1970's suburban development pattern. Most of the neighbourhood is zoned R2 Low Density, however there is capacity for greater take-up in the Mixed-Use Zone on undeveloped land around the centre and public school.
- Residents have walkable access to open space, including Brady Park which provides an east-west green corridor across the neighbourhood, as

well as several local parks near the Claymore Estate. It is recognised that there is a quantum of open space available and there are opportunities for the quality to be improved.

Figure 23 Older parts of Claymore feature low-rise medium density
Source: Google maps, 2024

Figure 24 The neighbourhood centre
Source: Google maps, 2024

5.5.3 Ways of getting around the neighbourhood

- Local walking routes are limited in Claymore. Main spine roads such as Dobell Road and Glenroy Drive do not have footpaths on both sides of the street. Claymore Estate which has been subject to redevelopment includes footpaths on both sides of the streets on most local streets. There are also footpaths on both sides of the street at Claymore Public School.
- Cycling infrastructure in Claymore is largely limited to shared paths that run through the parks and reserves. The infrastructure needs upgrading, and in some instances, the narrow width of the shared path and barriers (as pictured) reduce access for cycling or using mobility aids.
- The metric for access to public transport during peak travel periods performs poorly. However, the two bus routes (878 is hourly and 880 provides 3 services per hour in peak) connects the neighbourhood to Campbelltown and Macarthur Square.

Figure 25 Pedestrian cut-throughs between residential cul-de-sacs
Source: Google maps, 2024

Figure 26 The southern part of Claymore and provision of footpaths

Source: Google maps, 2024

Figure 27 Canopy Cover Data

Source: Arup based on data from NSW DPHI, 2024

5.5.4 Is it an enjoyable experience?

- Street lighting in Claymore is generally good. Street lights are consistently provided throughout the neighbourhood, though often widely spaced.
- The amount of tree canopy in Claymore is 14%, less than half the Greater Sydney target. As Claymore is an established neighbourhood, the tree canopy is mature and concentration distributed.
- The Claymore community centre is around 300m east of the neighbourhood centre which does need investment in upkeep and maintenance. The overall social inclusion metric scores low for the neighbourhood given the absence of third spaces for social interaction and places that promote people to stop and stay.

Figure 28 Footpaths on both sides of the local road

Source: Google maps, 2024

5.6 Canley Vale

5.6.1 Context

Canley Vale is located immediately north of Cabramatta in the Fairfield LGA and has a population of 10,300 (suburb geography, Census, 2021).

Canley Vale has evolved into a residential centre known for its migrant heritage, culture and vibrant food scene. The neighbourhood is divided by the railway line, and urban centre is mostly concentrated west of the Canley Vale station.

This is a diverse population with a significant South-East Asian community. A high proportion of households are couples with children as well as single parent households.

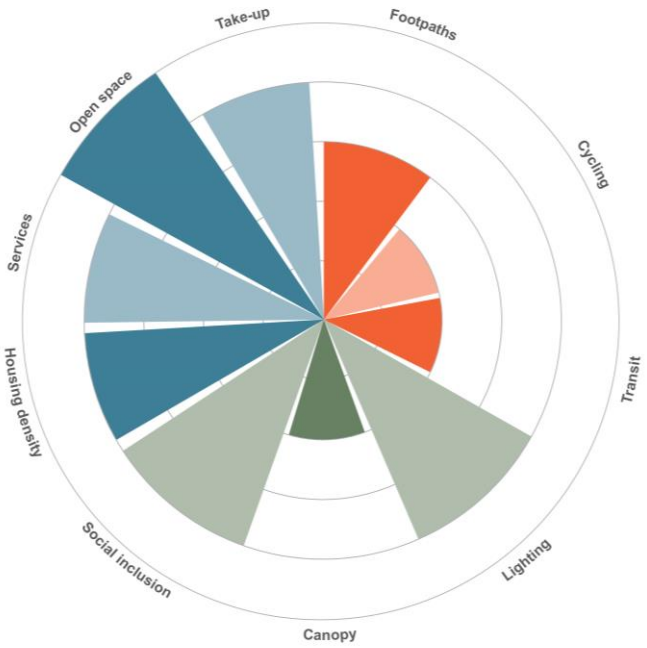


Figure 29 Testing Canley Vale

Source: Arup, 2024

5.6.2 What's in the neighbourhood centre?

- Canley Vale achieves moderate housing densities, with a mix of low-medium density housing. Apartments represent less than 10% of dwellings.
- There is some capacity for increased density in Canley Vale – over 80% of dwellings are located in areas zoned for medium or high density, which has been 56% realised.
- Despite its density and proximity to the railway, the services available in Canley Vale are limited in scope. There is commercial strip on Canley Vale Road, just west of Canley Vale Station that includes a variety of restaurants and takeaway shops, personal services, a post office and a bakery.
- There is nowhere to purchase fresh food ingredients and residents in Canley Vale are reliant on commercial areas in Cabramatta for daily shopping needs, around a 15-minute walk from the centre of Canley Vale to the south, or Canley Heights, around a 20-minute walk to the west.
- All residents have walkable access to open space, including large reserves and sporting facilities such as Adams Park.

Figure 30 Vietnamese restaurants along Canley Vale Road

Source: Google maps, 2024

Figure 31 Open space near Canley Vale Station
Source: Google maps, 2024

5.6.3 Ways of getting around the neighbourhood

- Parts of the neighbourhood closer to Cabramatta have streets with footpaths on both sides, elsewhere only streets in shopping strips, near Canley Vale Station and outside local schools have footpaths on both sides.
- 31% of dwellings are within 100m of the cycling network, primarily driven by the shared path network.
- With walkable access to Canley Vale Station and Cabramatta Station, 56% of dwellings in the neighbourhood are within 400 metres of stops that meet the service threshold. Both stations provide direct services to Liverpool and the Sydney CBD.

Figure 32 Wider footpaths in the shopping and station precinct
Source: Google maps, 2024

5.6.4 Is it an enjoyable experience?

- There is a high provision of street lights in Canley Vale. Street lighting can be found on all street types and is closely spaced.
- At 13%, tree canopy coverage is typical for the case study neighbourhoods. There are few trees along main roads or around local shops, limiting shade around key walking destinations.
- Canley Vale only has informal community facilities such as cafes in the Town Centre. The closest community centre is located in Cabramatta, a 10-minute walk south along Railway Parade.

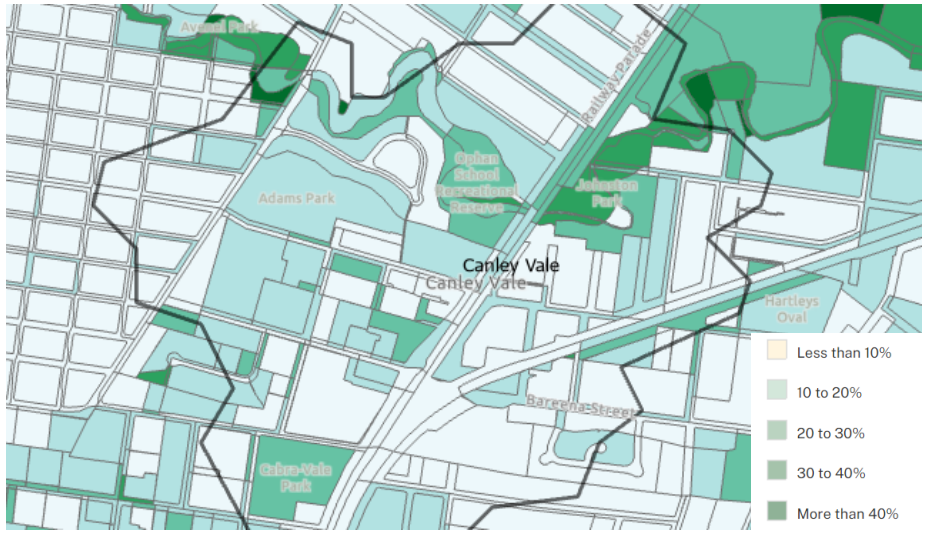


Figure 33 Canopy Cover Data
Source: Arup based on data from NSW DPHI, 2024

Figure 34 Typical tree planting along a residential street
Source: Google maps, 2024

5.7 Kurrajong

5.7.1 Context

Kurrajong is a small neighbourhood, located in the northern foothills of the Blue Mountains above the Hawkesbury Plain, around 10km north west of Richmond.

The neighbourhood is relatively small with a population of 3,113 (suburb geography, Census, 2021). The population has a median age of 46 and is made up of couples households and families with children households.

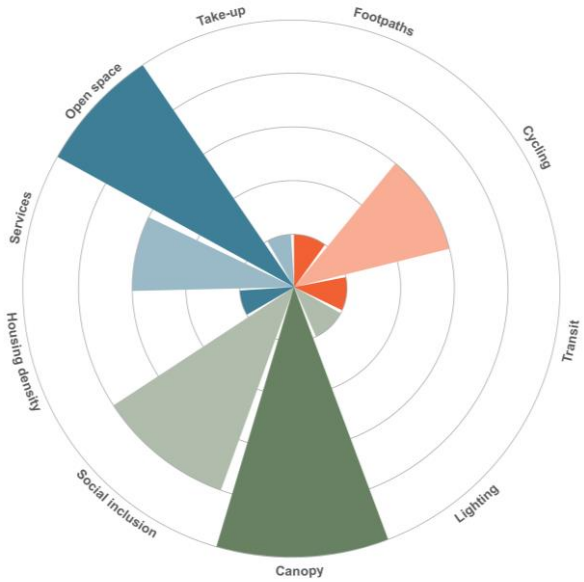


Figure 35 Testing Kurrajong
Source: Arup, 2024

5.7.2 What's in the neighbourhood centre?

- The average dwelling density in Kurrajong is very low (3 dwellings per hectare), as anticipated for a rural village. Almost all dwellings are detached housing on low-density zoned residential land.
- The village Town Centre comprises a long commercial strip on the Old Bells Line of Road/ Grose Vale Road with a mix of shops and cafes servicing both local residents and tourists. There is a local primary school in the neighbourhood, and the nearest high school is around 6 km away in Colo Heights.
- 92% of dwellings have access to open space, driven by proximity to Kurrajong Memorial Park. Much of the land surrounding Kurrajong is farmland rather than public open space.

Figure 36 Kurrajong Local centre
Source: Google maps, 2024

5.7.3 Ways of getting around the neighbourhood

- Only the commercial strip along the Old Bells Line of Road has footpaths on both sides of the road. Elsewhere, there is a footpath outside Kurrajong Public School, but generally there are no footpaths on local residential streets.
- There are no separated cycling facilities in Kurrajong. While traffic on surrounding streets is low, streets are typically narrow and there are a number of blind corners and crests that would reduce visibility of cyclists.
- Kurrajong is serviced by two bus routes (680 and 682) with the 682 providing the most direct connection to a higher order centre at North Richmond / Richmond. There are up to 3 services per hour in peak hour, oriented at connecting rail services, and typically one service per hour during the daytime.

Figure 37 Reduced speed through the neighbourhood centre
Source: Google maps, 2024

Figure 38 Bus stop and footpath near shops on Grose Vale Road
Source: Google maps, 2024

Figure 39 Canopy Cover Data
Source: Arup based on data from NSW DPHI, 2024

5.7.4 Is it an enjoyable experience?

- There is a very limited provision of street lighting. Streetlights are provided on streets in small sections outside local shops or schools.
- The tree canopy in Kurrajong is relatively high at 37%, and highest in residential areas bordering the village centre.
- The social infrastructure in the Town Centre along Old Bells Lined Road is limited. There are a few cafes and an event venue, although this is fairly dated. The closest community centre is located in McMahon Park, a 12-minute walk west of the Town Centre.
- Digital connectivity in Kurrajong may be inadequate, with a score of 34 (out of 100) according to the NSW Digital Connectivity Index, against a metro average of 64. This may impact residents' ability to, for example, work or run a business from home.

Figure 40 Street lighting and street plantings in the Neighbourhood Centre
Source: Google maps, 2024

5.8 Leppington

5.8.1 Context

Leppington is located within the South West Growth Area identified by NSW Government. It is a greenfield neighbourhood that has been rezoned is currently undergoing planning to leverage the development of Western Sydney International Airport.

The population is currently 9,423 (suburb geography, Census, 2021), however is expected to reach 53,700 residents by 2046. The Leppington Town Centre proposal relates to the area near the existing Leppington Station and extends over the border of the Camden and Liverpool LGA boundaries.

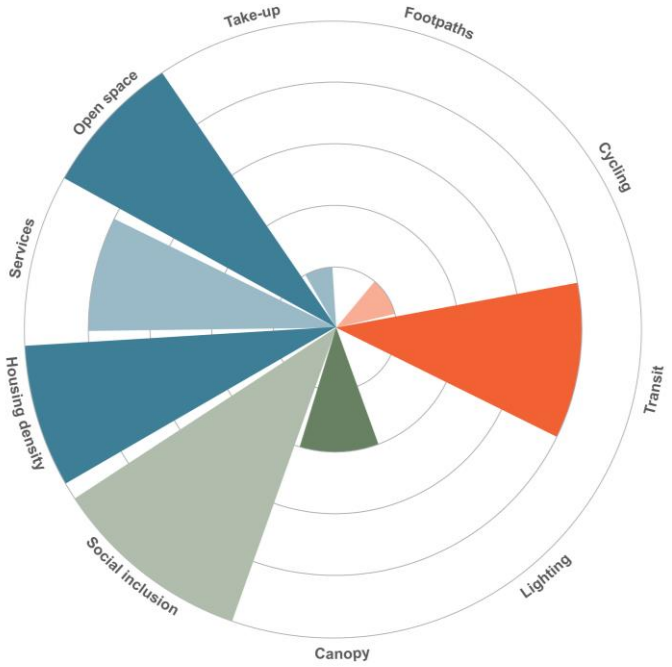


Figure 41 Testing Leppington

Source: Arup, 2024

5.8.2 What's in the neighbourhood centre?

- Leppington currently has low average housing density, but this will change following its Town Centre Planning Proposal. The Proposal targets a mix of housing typologies with new terraces and apartments around the Leppington Rail Station.
- The Planning Proposal promotes a new provision of community services including an extension of the existing primary school (Leppington Public School), as well as a new primary school and new high school, as shown to the right.
- The Planning Proposal also targets new public recreation with linear parks along the green spine and along arterial roads. This will include two playing fields in the east and one to the north.

Figure 42 Draft Masterplan Proposal

Source: Planning Proposal, 2023

Figure 43 Artist's Impression of Residential Streets in Leppington Town Centre
Source: Planning Proposal, 2023

Figure 44 Artist's Impression of Town Centre Development and Leppington Station
Source: Planning Proposal, 2023

5.8.3 Ways of getting around the neighbourhood

- Footpaths were not able to be assessed in the Planning Proposal.
- The Planning Proposal briefly outlines new pedestrian laneways and cycleways will be provided to improve connectivity.
- Public transit was not able to be assessed through the Planning Proposal, however Leppington Station would be expected to maintain or exceed its current frequencies.

Figure 45 Artist's Impression of Rickard Road transit Boulevard
Source: Planning Proposal, 2023

5.8.4 Is it an enjoyable experience?

- Lighting was not able to be assessed in Planning Proposal.
- At 10%, the current tree canopy cover in Leppington is very low compared to the other neighbourhoods. The landscape is comprised of large grass acreages, and this is likely to discourage pedestrian walkability to the different neighbourhood convenience stores.
- There are a few community facilities dispersed in Leppington, but its planning proposal will provide new central services. There are currently three sports clubs and three cafes that can be found across the suburb.

Figure 46 Artist's Impression of Town Centre Street with Linear Plaza
Source: Planning Proposal, 2023

Figure 47 Artist's Impression of a Sports Field
Source: Planning Proposal, 2023

5.9 Edmondson Park

5.9.1 Context

Edmondson Park is a new urban neighbourhood in Liverpool. The population is 12,080 (suburb geography, Census, 2021) and is expected to grow to 30,100 residents by 2046.

Edmondson Park was rezoned for urban development in 2008 to allow for a mix of residential, business and special uses. Now, undergoing Master Plan redevelopment, the neighbourhood is expanding developable land and increasing residential and employment capacity. The urban area is currently known for its shopping and entertainment centre; 'Ed. Square' led by Frasers Property.

The community is made up of a mix of families, couples and lone persons households.

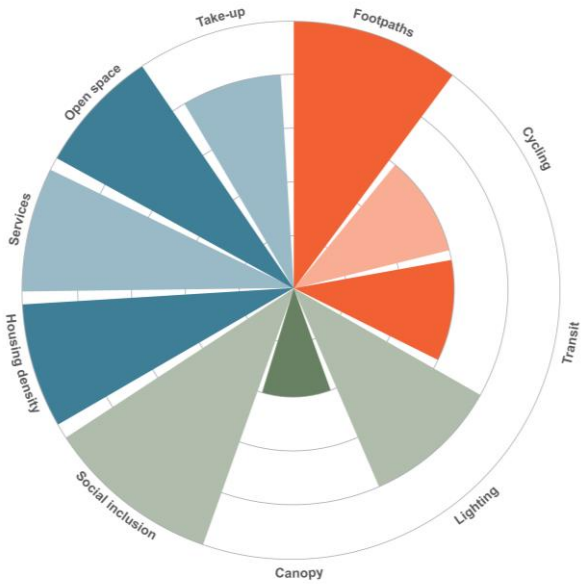


Figure 48 Testing Edmondson Park

Source: Arup, 2024

5.9.2 What's in the neighbourhood centre?

- The private developer, Landcom, is focused on delivering a new diverse mix of housing typologies for 8,000 dwellings. The predominant housing type will feature detached suburban homes on small lots of land.
- The primary infrastructure is clustered near the privately developed town centre; Ed. Square. This include a vibrant mix of shops and entertainment services, a local health centre, a high school, and a few primary schools and childcare centres.
- Strategic plans aim to deliver a variety of pocket parks within the surrounding parkland.

Figure 49 Artist's Impression of Ed. Square Shopping Centre

Source: Frasers Property

Figure 50 Artist's Impression of a Playground with Residential Flats in Background

Source: Frasers Property

5.9.3 Ways of getting around the neighbourhood

- The tight street grid in Edmondson Park supports a permeable environment for walking and cycling.
- There is a high provision of footpaths with a footpath provided on both sides of all residential street types. This supports a highly-connected pedestrian environment.

- There is a shared cycle network along all main streets and arterial roads, connecting the Town Centre to recreation and open space.

Figure 51 Existing shared path network along key arterial road; Bernera Road
Source: Google maps, 2024

5.9.4 Is it an enjoyable experience?

- There is a high provision of street lighting in Edmondson Park. Street lights are provided on all street types and in a consistent network.
- At 12%, the current tree canopy cover in Edmondson Park is low compared to the other neighbourhoods, however given the development is recent, it is difficult to measure master planned neighbourhoods as the newly planted green infrastructure cannot be adequately measured.
- Edmondson Park has a strong provision of formal and informal community facilities in the Town Centre. This includes a community centre and several cafes.

Figure 52 New street lights on residential streets
Source: Google maps, 2024

5.10 Bingara Gorge

5.10.1 Context

Bingara Gorge is a developing semi-rural neighbourhood adjacent to Wilton in the Wollondilly LGA. The population is relatively small with 1,318 residents (suburb geography, Census, 2021). The wider LGA is comprised of a variety of mixed farming land uses.

Council Plans for Bingara Gorge also describe a recreational hub with an 18-hole Golf Course that attracts residents and visitors.

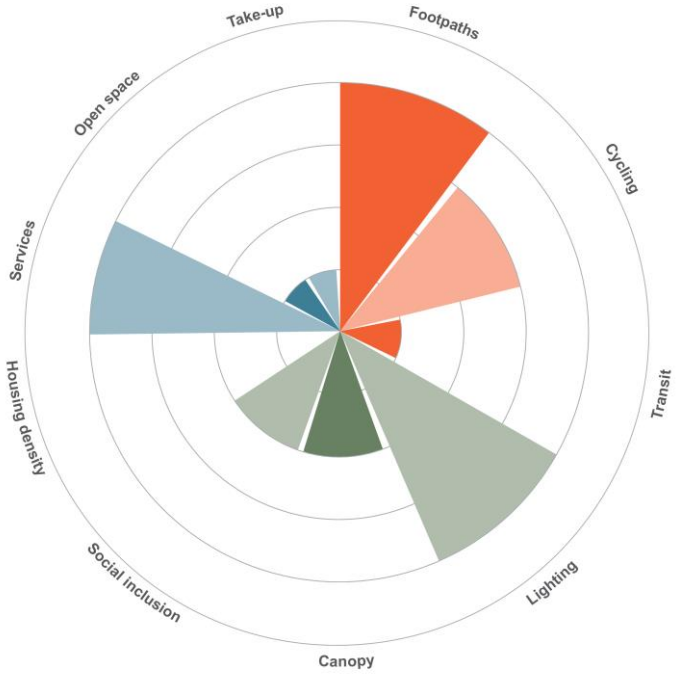


Figure 53 Testing Bingara Gorge

Source: Arup, 2024

5.10.2 What's in the neighbourhood centre?

- The neighbourhood has a relatively low average housing density at 4 dwellings per hectare (hence the low score), reflecting the R2 Low Density residential zone and development staged delivery at the time of 2021 Census.
- Services are clustered in the central shopping plaza on Greenbridge Drive and adjacent primary school. A green corridor separates the north western part of the neighbourhood from the shopping centre, with the only access via Fairway Drive.
- The vast majority of open space is associated with the golf course or bushland around Stringybark Creek. There are sporting facilities at Wilton Recreation Ground, about 1.5km from the neighbourhood centre. Measured access to open space is low (17% of dwellings) as the Stringybark Creek corridor and surrounds is zoned as residential (R2) land.

Figure 54 Green corridor between two residential areas in Bingara Gorge

Source: Google maps, 2024

Figure 55 On-street parking outside Wilton Plaza on Greenbridge Drive
Source: Google maps, 2024

Figure 56 Fairway Drive with footpaths, street plantings and on-street parking
Source: Google maps, 2024

5.10.3 Ways of getting around the neighbourhood

- The provision of footpath network is generally good, with a footpath on both sides of higher order and collector roads, and outside schools. Generally, local residential streets do not have footpaths on both sides.
- 60% of dwellings are within 100m of the network of shared paths, with the greatest gap on the western side of the neighbourhood near Highland Park.
- Bingara Gorge is serviced by the 901 bus route (Wilton to Picton). There is a single service per day Monday – Saturdays and none on Sunday.

5.10.4 Is it an enjoyable experience?

- Bingara Gorge has a generally good provision of streetlighting, which is evenly spaced across the street network.
- Tree canopy cover in Bingara Gorge is relatively low at 14%. This canopy cover is also concentrated in pockets of native bushland.
- Some street plantings are deciduous species that do not provide any canopy during winter.
- Bingara Gorge has no formal community facilities; however, its Town Centre has two local cafes.

Figure 57 Streetlights and tree canopy outside local school

Source: Google maps, 2024

5.11 Jamisontown

5.11.1 Context

Jamisontown is a mixed residential and industrial neighbourhood, located on the western fringe of Penrith. It has a population of 5,351 residents (suburb geography, Census, 2021).

The neighbourhood is dispersed among large retail outlets and industrial warehouses. The neighbourhood is bounded by the Jamison Road, the Western Motorway and the Nepean River to the west.

The community's largest household structure is lone person households, followed by a similar split of families and couple households.

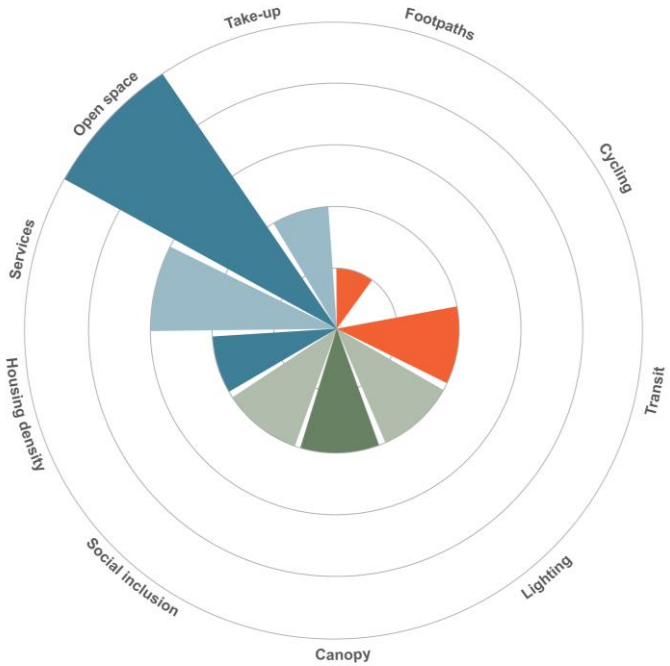


Figure 58 Testing Jamistown

Source: Arup, 2024

5.11.2 What's in the neighbourhood centre?

- Jamisontown has a low average dwelling (5.3 dwellings per hectare). However it provides some housing diversity; apartments represent 12% of dwellings within 15 minutes' walk of the centre.
- There is a significant lack of diversity in the commercial and retail offering; which is primarily comprised of large-format retail and fast-food outlets.
- All dwellings have walkable access to open space, due to the proximity of the Surveyors Creek corridor as well as traditional parks such as Robinson Park.

Figure 59 Some everyday services are part of the Penrith Homemaker Centre
Source: Google maps, 2024

5.11.3 Ways of getting around the neighbourhood

- The footpath provision in Jamistown is generally poor; while Mulgoa Road and streets outside the primary school have footpaths on both sides, other streets typically do not.
- There are shared paths along much of Mulgoa Road and along the Surveyors Creek green corridor.
- 33% of residents have walkable access to stops with 15-minute frequency (or better) between 7am and 7pm weekdays.
- The motorway corridor also severs the neighbourhood centre shops from areas to the south.

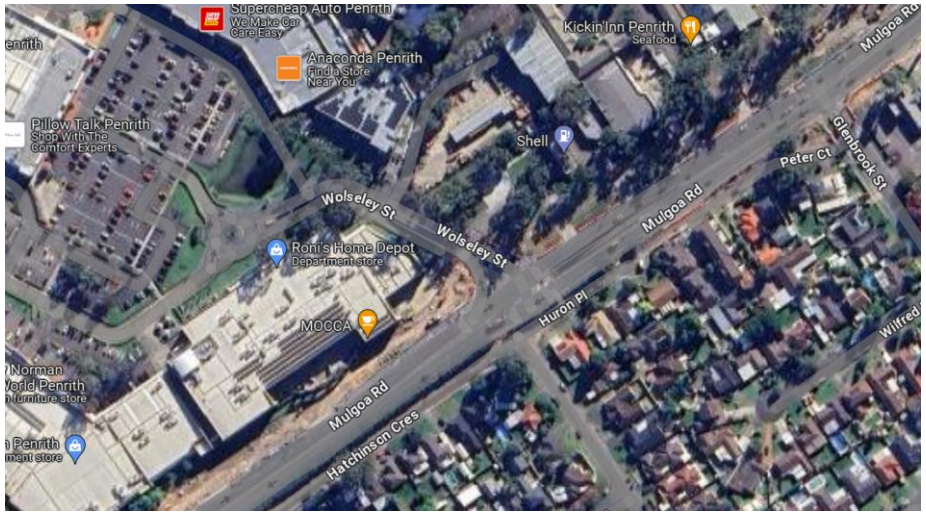


Figure 60 The road network has a high through movement function for cars
Source: Google maps, 2024

5.11.4 Is it an enjoyable experience?

- Jamisontown has an uneven provision of streetlighting. Streetlights are provided along the central Mulgoa Road thoroughfare, but there are significant gaps on local streets.
- The average canopy cover is 14%; this is primarily driven from street planting and small pockets of trees in local parks.
- There are only informal community facilities in Jamisontown; two cafes toward the centre of town and a scout hall on the east suburban fringe.

6. Discussion

The 15-minute neighbourhood is a global concept that is applied to local-scale planning, grounded on sustainable modes of travel. As outlined in Section 4, the 15-minute Neighbourhood Framework developed as part of this project sets out three dimensions for how neighbourhoods in Western Sydney function, their role in shaping the fabric of communities and the key features that make great places.

The framework recognises that neighbourhoods across Western Sydney are diverse in their people, culture, natural environment, transport access, urban structure, and character.

The process of testing the framework has identified challenges and limitations to achieving 15-minute neighbourhoods in Western Sydney. As a result, poor neighbourhood outcomes are being delivered, particularly evident in new release neighbourhoods (master planned).

The testing process identifies where there may be room for improvement and opportunities for solutions-led urban design and planning intervention. This recognises the need for place-based solutions, responding to challenges unique to each location across Western Sydney.

6.1 Overview of key challenges and limitations

An overview of the key challenges and limitations is outlined in the table below, followed by a discussion with specific examples.

Table 6 Overview of key challenges and limitations

Challenge	Limitation this creates
What's in the neighbourhood?	
Density Limited take-up of gentle density in neighbourhood centres	Without gentle density at a human scale and the population mass to support a neighbourhood centre in Western Sydney, there are limitations on the quantum and diversity of retail and commercial offering in walking and cycling access, diverse housing choice and overall social inclusiveness. This challenge is particularly evident in new release neighbourhoods (master planned) in Western Sydney where the planning framework is set up to permit medium density housing, yet detached housing is delivered (refer to examples in discussion below).
Retail and commercial Limited access to day-to-day local services with infrequent occurrence of neighbourhood centres, poor viability for retail and car-dependent design.	Closely linked with density, the viability of retail and commercial uses in the neighbourhood centre is reliant on a population mass and access (walking, cycling, public transport and private vehicle). In planning for new release neighbourhoods, the role and function of the neighbourhood centre can be influenced by the urban structure and how the centre is designed. In recently established neighbourhoods, there are limitations with some neighbourhood centre outcomes, such as large format retail centres, as the neighbourhoods they serve become car dependent. This entrenches travel behaviours and prevailing street designs that limit the opportunity for streets for people and public places to stop and stay.
Public, social, and community spaces Limited provision and in some instances, the type of spaces not reflecting diverse needs	Access to public, social, and community spaces is critical to creating community cohesion and celebrating culture and wellbeing. There are neighbourhoods in Western Sydney that do not have access to the provision of public, social and community spaces and others where these uses are not co-located with retail and commercial in the centre. These spaces are

Challenge	Limitation this creates
	critical in creating inclusive, vibrant, and resilient places.
Ways of getting around?	
Enabling infrastructure Timing and scale of enabling infrastructure misaligned with growth	Enabling infrastructure is critical in ensuring people can make the choice to walk or cycle, for example – the provision of shared footpaths, cycle lanes, trees (shade and shelter), and places to stop and rest. There is an infrastructure deficit facing neighbourhoods in Western Sydney and enabling infrastructure for new development is a key challenge for planning and funding development. When this infrastructure is not present it is challenging to change consumer preferences and behaviours.
Connectivity within neighbourhoods Limited access to safe active transport to enable movement around the neighbourhood	Safe active transport infrastructure is critical to ensuring everyone is able to travel within the neighbourhood with ease. In some neighbourhoods in Western Sydney, shared footpath infrastructure is provided, yet wayfinding could be improved. When this infrastructure is lacking, poorly designed, or not maintained, it inhibits people's ability to travel and increases the likelihood of car dependency even for short trips to the neighbourhood centre.
Connectivity between centres Limited frequent access to public transport connections to higher order centres	Access to reliable public transport connecting to higher order centres enables people to access jobs and higher order education opportunities. Some neighbourhoods in Western Sydney are supported by local bus routes, however where public transport access is limited, car dependency is likely to increase.

Challenge	Limitation this creates
Is it an enjoyable experience?	
Perceptions of safety Low levels of lighting infrastructure in neighbourhoods	Lighting influences perceptions of safety and the provision of lighting is low across the tested neighbourhoods. When people don't feel safe in or travelling to a place, they are less likely to spend time there, may choose to use other modes of travel, or may only visit at certain times of the day. This can limit social inclusion and vibrancy of neighbourhoods and disproportionately impacts women and girls and other vulnerable groups.
Comfort The experience and level of comfort influences how people travel, and health and wellbeing	Comfort at all times of the day, across all seasons, is determined by the design of spaces. Mitigating urban heat is a major challenge for Western Sydney and with low levels of tree canopy cover in some neighbourhoods, the environments are hotter and more exposed to extreme weather events. This can limit the uptake of walking and cycling for trips around the neighbourhood, and limits how long people are able to spend in a public space.
Community cohesion and identity The role of the neighbourhood in fostering a sense of place, community and belonging.	Celebration of culture, community, identity, and place is place specific, and requires engagement with the community to understand specific needs. Recognising the diversity of communities across Western Sydney, neighbourhoods with low levels of access to third spaces or public spaces to gather limit the opportunity for social inclusiveness and cohesion.
Other	

Challenge	Limitation this creates
Data Inconsistent data and availability	Testing the 15-minute Neighbourhood Framework as part of this project has used data sourced from publicly available datasets at consistent geographies for each of the ten locations. Moving forward, if councils were to adopt the framework, there may be limitations to monitoring and measuring as councils collect different data at different geographies. It is important to ensure that information can be gathered and measured at a consistent geography, and across appropriate time scales.
Planning and development The role of the planning and development framework in governing neighbourhoods	There is an opportunity to target neighbourhood planning in the upcoming revision of the Greater Sydney Region Plan. Some councils have set a clear vision and priorities for neighbourhoods in the Local Strategic Planning Strategy or Local Housing Strategy, however there are inconsistencies in how the future role and function of neighbourhoods are planned for. As our neighbourhoods evolve to accommodate growth or urban renewal, the role of strategic planning is to guide the change. In the absence of strategic planning, there may be limits on realising 15-minute neighbourhood outcomes as policy is the hook for place-based priorities.

6.1.1 Density and scale

Density and scale influence the performance of neighbourhoods. The greater the density in the neighbourhood centre (recognising gentle density is appropriate), the shorter the length of the journey, increasing the likelihood the journey will be undertaken by walking. The scale is the population of the neighbourhood that supports the economic viability and circular economy of local services in the neighbourhood centre.

The *Living with Beauty* report (UK Government, 2020) suggests that a walkable neighbourhood cannot be achieved at the current average dwelling densities of 31 dwellings per hectare and more dwellings need to be developed as gentle density. The challenge for Western Sydney is most neighbourhoods are low density and car-dependent requiring improvement to ensure density and scale are at the forefront of neighbourhood planning.

Spring Farm and The Ponds are recently established neighbourhoods where new housing supply has seen detached houses in areas zoned for medium density housing. In Bingara Gorge, the newly delivered neighbourhood has co-located Wilton Public School, Wilton Plaza and the pre-school in the neighbourhood centre. There are some row terrace houses that have been delivered in the MU1 Mixed Use zone opposite Wilton Public School, however mostly detached houses have been delivered in the neighbourhood centre, attributing to the character of the area.

The neighbourhood centres in Spring Farm and The Ponds both have a major retailer as an anchor occupier and the large format retail centres have been designed around the car and to service a wider catchment, resulting in poor outcomes for pedestrians. The missed opportunity here is density in the centre to promote a people focused centre that facilitates walking and cycling trips and public spaces that encourage people to stop and stay.

Edmonson Park is an example of how a newly developed neighborhood has focused on people, through planning for the right level of density to support a centre and urban design principles such as pedestrian only links, fine grain shared streets in the centre and public spaces for gathering.

Figure 61 Example of a type of density at Edmonson Park

Source: Arup, 2024

6.1.2 Planning and development control framework

The planning and development framework influences the role and function of neighbourhoods and plays a role in facilitating the evolution of neighbourhoods. The recently delivered neighbourhood at Edmondson Park has adopted the MU1 Mixed Use land use zone for the centre, facilitating the delivery of apartments co-located with retail at the train station, stepping down to terraces and town houses on the periphery of the centre.

It is recognised that the built form outcome at Edmondson Park is unique to the master planned neighbourhoods traditionally delivered in Western Sydney. There are instances where councils have applied land use zones that permit gentle density within or on the periphery of the neighbourhood centre, however the take-up has not been utilised with detached housing the predominant dwelling type. For instance, in Spring Farm, the framework was set up to promote diversity in housing options through the E1 Local Centre land use zone yet small lot detached housing was the outcome. In this instance, the market and economic conditions play a significant role in the housing outcomes, particularly in master planned neighbourhoods. There may be a role for a detailed DCP or planning conditions to influence the type of houses being delivered in zones permitting gentle density.

The established low-density residential neighbourhoods are typical across Western Sydney, reflecting the suburban development pattern of the time. In the established neighbourhoods, the traditional car-centric design and limited human-scale density can be challenging to retrofit, yet there are opportunities for low scale interventions to guide 15-minute neighbourhood outcomes when investment and urban renewal becomes feasible in a neighbourhood.

The timing and delivery of enabling infrastructure in master planned neighbourhoods is a contributing component to the amenity of neighbourhoods. Section 3 of this report established that in some instances, the value of contributions versus the actual cost of infrastructure often do not align. This can therefore lead to a lag in delivery staging, inadequate delivery of community infrastructure, open space and/or active transport provisions within a development.

6.1.3 Economic barriers to neighbourhood-scale local services

Testing the framework highlighted economic barriers to neighbourhood-scale retail and services which validated the stakeholder findings in Section 3. In particular, large format retail centres are present in a number of neighbourhood centres, typically surrounded by at-grade car parking, with poor active transport connections and limited integration of public, social, and community spaces. In existing neighbourhoods, low-density development patterns and the ‘car-centric’ movement is inhibiting the ability to achieve the critical mass required to catalyse investment in economic growth of local businesses and improvements to active transport links. However, Canley Vale, a well-established neighbourhood, has diversity in housing with a mix of residential density and commercial and retail land uses clustered at the train station supports the opportunity for the neighbourhood to evolve over time in response to market demand.

In testing the framework, it became evident that the provision of local services in some neighbourhood centres is reliant on the critical mass from a mix of housing typologies and high volumes of active transport infrastructure enabling walkability and cycling. On the other hand, the economic viability of large format retail in master planned neighbourhoods are reliant on access to car parking given the nature of the catchments they typically serve. Edmondson Park and the master plan for Leppington are examples of how urban structures focus on people, through planning for the right level of density to support a centre and urban design principles such as a vibrant mix of community and retail services, fine grain shared streets in the centre and public spaces for gathering.

It is recognised that residents across Western Sydney have different needs and expectations of neighbourhood centres requiring place specific planning through mechanisms that involve the community as users of the centre such as a community-led or community champion to co-design the public spaces.

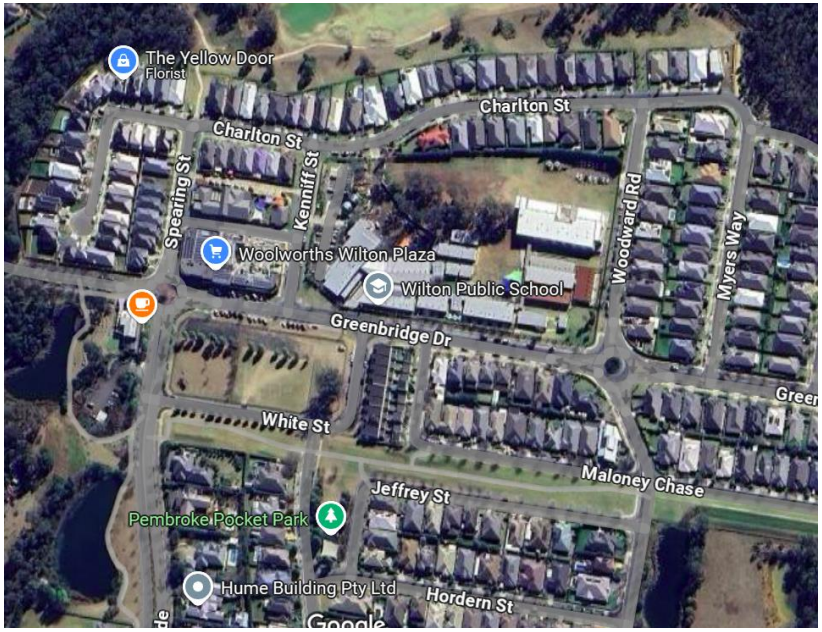


Figure 62 Example of a retail centre and surrounding uses at Bingara Gorge

Source: Google maps 2024

6.1.4 Access to active transport and public transport

Improving access to active transport and public transport connections is an enabler of realising 15-minute neighbourhood outcomes. Without safe, comfortable and attractive transport alternatives, most residents default to using cars for everyday trips, even over short distances. High car use contributes to a rapid cycle in which roads, streets and places are designed to prioritise access by cars rather than people, further discouraging uptake of public transport, walking or cycling.

In testing the framework, some neighbourhoods are close to rail stations. However, presence of a rail station was not sufficient for good access outcomes. For example, most shops and services in Faulconbridge are a 20-minute walk from the train station, and the challenging topography and amenity along the Great Western Highway make driving the easier option. In contrast, development in Canley Vale and Edmondson Park is clustered around the rail station, with shops and other amenities within a 5-minute walk. With frequent services to higher order centres such as Cabramatta and Liverpool, these stations have broader appeal beyond long-distance commuter trips.

Access to rail has also encouraged higher-density residential zoning which can support these services. To maximise the benefits of future investment in public transport infrastructure it is critical to provide greater certainty over the timing and location of investment. This would enable the right planning and development framework to be implemented, the delivery of enabling infrastructure at the right time, and incentivise growth in locations and at a density aligned with a contextually responsive 15-minute neighbourhood approach.

However, not every neighbourhood will have access to rail, and the role of mid-tier transport options like buses cannot be underestimated or overlooked. For example, in The Ponds, buses connect residents to Rouse Hill Metro Station (and shopping precinct), supported by on-demand services. Investment in bus priority infrastructure such as Bus Lanes and Bus Only Lanes increases the visibility and bus services and enables more reliable and frequent services along key corridors that can be fed by local and on-demand services. Parking policy should be made at a wider scale, acknowledging that travel behaviours are also impacted by the availability of parking at

destinations. For example, at Rouse Hill Station, commuter Park & Ride is not provided, unlike at neighbouring Tallawong and Kellyville Stations. Ultimately bus services will need to be improved between neighbourhoods and higher order centres with frequent public transport stops to avoid higher order centres becoming parking lots for commuters.

Bus stop quality is also important – for example at The Ponds Shopping Centre, the nearest accessible bus stop is a 200m walk from the shop entry, in contrast to ample parking located on-site. Neither bus stop has a shelter for waiting passengers, and only one has a seat. Councils responsible for installation and ongoing maintenance of bus stops should be adequately supported to plan where these stops are located and maintain them to a minimum standard.

In successful 15-minute neighbourhoods, walking and cycling are the preferred choice for short trips. Several neighbourhoods featured very few footpaths outside of major road corridors (Kurrajong, Jamisontown). This limits pedestrian access, particularly for people with a disability or using prams, and means that people who do walk may do so on roads where they are more exposed to vehicles travelling at speeds of up to 50 km/h. Recently master planned neighbourhoods like Bingara Gorge have greater provision of footpaths, while Edmondson Park makes use of shared zone street typologies to improve pedestrian access. Neighbourhoods like Claymore demonstrated use of modal filters and pedestrian cut-throughs through parks, though safety and passive surveillance issues may need to be addressed. Planning for 15-minute neighbourhoods must seamlessly traverse boundaries between public and private spaces and streets (such as at Edmondson Park) so that walking networks are permeable and seamless throughout.

Similarly, planners can ensure that cycling is considered from the outset, and in particular, that infrastructure should accommodate diverse cyclists and choice of bikes that fit a functional, rather than sporty, image (such as cargo bikes, e-bikes and upright bikes). Most neighbourhoods tested featured either no cycling infrastructure, prioritised recreational shared paths through green corridors or marked shared paths along arterial roads (such as the Great Western Highway in Faulconbridge, Mulgoa Road in Jamisontown) where users are affected by footpath clutter and low-priority at intersections and driveways. It is acknowledged that for most councils in Western Sydney it is not currently feasible to provide a comprehensive network of on-road separated cycleways. Nonetheless, the Cycleway Design Toolbox and forthcoming Western Sydney Street Design Guide address some of these issues, demonstrating how ‘infrastructure-lite’ solutions such as reduced speed limits and traffic calming on local streets can complement separated infrastructure along higher order streets.

Figure 63 Example of marked active transport in new release at Spring Farm
Source: Google maps, 2024

6.1.5 Urban design outcomes

To enable the successful design and delivery of neighbourhoods, key urban design outcomes can support the balance of liveability with density of both established and newly master planned neighbourhoods. Key urban design attributes of successful neighbourhoods have been identified through case studies and stakeholder engagement and broadly include neighbourhood structure, movement networks, and neighbourhood character.

Examples of key urban design considerations for the urban structures of neighbourhoods include the provision of through site links which are noticeably public are important to provide permeable neighbourhoods. This is exemplified in the design outcomes of The Ponds where width, lighting, and pavement design provide legible through-site connections. In addition, the

design and delivery of high-quality public spaces at varying scales including local, district, and regional parks are important in providing community focused areas to promote social cohesion and equitable access. This further enables future growth and mitigates the impacts of extreme heat.

The design of streetscapes is essential in delivering people-oriented neighbourhoods. The provision of footpaths, cycle paths, and successful wayfinding were identified to be important for both residents and in attracting visitors. In combination, these interventions promote walkability and community wellbeing. For example, Kurrajong, a small neighbourhood has a large quantum of open space and a well serviced main street however the provision of footpaths, cycle ways and lighting create inherent limitations to the accessibility of these assets and reduce the capacity for future growth. Alongside these larger infrastructure focused interventions, the inclusion and improvement of wayfinding design can increase walkability and enables better accessibility for visitors in neighbourhood centres.

Neighbourhood character reflects a number of urban design elements including canopy cover, community codesign, and lighting. These interventions create more resilient and inclusive neighbourhoods and promote a strong sense of community. Canopy cover and tree maturity is an ongoing limitation to the resilience of master planned neighbourhoods. Established neighbourhoods including Claymore often feature mature trees however do not meet canopy cover targets making them more susceptible to extreme heat. Master planned neighbourhoods with newly planted street trees are difficult to measure at this stage given the level of maturity, however critical in mitigating urban heat island effect. Neighbourhoods subject to construction and delivery such as Leppington and part of Edmondson Park could focus on mechanisms to increase urban treen canopy and biodiversity networks along fine grain active transport links.

The perception of safety in neighbourhoods is essential in creating equitable communities. This can be achieved through lighting and CPTED strategies which have a strong focus on community engagement throughout the planning and design stages. To further improve the character in established neighbourhoods, co-design can be undertaken to deliver assets which are recognised by the community and address the unique needs of different neighbourhoods. In conjunction with other urban design elements these projects create vibrant and diverse communities.

Figure 64 Example of shared zone outcome at Edmonson Park
Source: Arup, 2024

6.1.6 Community and partnerships

Western Sydney is one of Australia's most diverse communities with over 40% of households speaking a language other than English at home and 60% of new immigrants to Australia settle in Western Sydney. Around 70% of people born in western Sydney continue to live close to where they grew up. Under the dimension, *is it an enjoyable experience?* in the 15-minute Neighbourhood Framework, one of the principles that make a great neighbourhood is residents feeling a strong sense of place, community and belonging.

This principle is the foundation for positive social inclusiveness and community cohesion, reflecting the diverse characteristics and social make-up of neighbourhoods in Western Sydney. There are two components contributing towards improved outcomes for social inclusiveness, access to community spaces for people to gather and connect and partnerships supporting community co-operatives or businesses working together.

The provision of community spaces may not reflect what the needs are as the make-up of the community changes over time. As neighbourhoods continue to evolve, having processes and structures in place to plan and design for the future of neighbourhoods with the community as partners test what the community need rather than a top-down approach to planning for community spaces. In planning for new community spaces or embellishment of existing spaces, appointing a community champion or community committee to represent the needs of different place-based contexts will contribute towards building a sense of ownership and place in the neighbourhood centre.

Secondly, there is a role for partnerships to address the economic sustainability of neighbourhood centres in response to challenges outside the realm of the planning and development framework. There are different partnerships models such as community co-operatives which promote circular economy outcomes for neighbourhoods and local businesses, creating shared prosperity and allowing more people to participate in the economy. As many councils have connections and ongoing collaboration with local business chambers, there is an opportunity to explore how positive 15-minute neighbourhood outcomes can benefit local businesses through existing structures and processes.

7. Urban design guidance and next steps for planning

This section brings together the opportunities for 15-minute neighbourhood outcomes in Western Sydney based on findings from the previous phases of the project. For the purpose of this project, the next steps are focused on urban design and planning in facilitating improved outcomes for established neighbourhoods and master planned (new release) neighbourhoods in Western Sydney.

The urban design guidance is presented in Appendix 2.

Table 7 below outlines the recommended next steps for planning in achieving 15-minue neighbourhood outcomes. The recommended next steps put forward opportunities for planning intervention as well as further work to build on the findings of this project.

Table 7 Recommendations on next steps for planning

Focus area	Why?	Recommendation	Responsibility	Timeframe
#1 Strategic Planning for future 15-minute neighbourhoods	Strategic planning establishes the character of neighbourhoods, directing where growth occurs and sets the vision for the future role and function of centres. This project has highlighted the discrepancy in how lower order centres are planned for in long term strategies and plans. There is an important role for planning in embedding neighbourhood planning into local and state government policy to ensure there is a framework in place once development interest arises for retrofit of established neighbourhoods or for masterplanning new release neighbourhoods.	**Work with NSW Government to promote neighbourhood planning in strategy and policy** Recognising the presence of neighbourhood planning in TfNSW's Future Transport Strategy, work towards the inclusion of neighbourhood planning in NSW Government strategic planning documents to set a consistent narrative. Promote neighbourhood planning to be established as a key concept in the preparation of the Greater Sydney Regional Plan and Western Parkland City Plan. This could include promoting neighbourhood centres in the centre hierarchy and setting a growth vision and priorities for the region plan that reflect the objectives of the 15-minute neighbourhood framework established in section 4. Include the Western Sydney Neighbourhoods framework in The City Plan for the Western Parkland City to provide strategic context for lower order documents.	WSPP and Local Councils in collaboration with DPHI and TFNSW	Short term (0-3 years)

Focus area	Why?	Recommendation	Responsibility	Timeframe
		Promote consistency in how neighbourhoods are planned, including in council's long-term strategies and plans Local government mandated strategies including the Local Strategic Planning Statement, Local Housing Strategy and Citywide DCPs to include the Western Sydney Neighbourhoods Framework and take a consistent approach to planning for lower order centres. Establishing the character, vision for the future community and desired growth scenario at a strategic level would direct where development should occur and help forward plan funding and resources to invest in improvements to public spaces. **Ensure place-led approaches are included in strategic plans by identifying places, their context and drivers** Councils to identify the differentiating drivers and place-based contexts that represent the unique identity of neighbourhoods in Western Sydney (e.g. rivers, bushland, cultural diversity, character of the built form). Recognise uniqueness of each place in the development of targets, objectives and priorities in councils long term strategies and plans.	Councils	Short-term (0-3 years)
#2 Planning and development framework guiding built form outcomes	As outlined in section 3,1, the planning and development framework governs the type and scale of built form outcomes across Western Sydney. It is recognised that changes to the planning and development framework or legislation to address the challenges facing 15-minute neighbourhood outcomes would require significant investment, resources and time. There are opportunities to address the challenges in master planned neighbourhoods (new release) e.g. medium density outcomes and retail design via new planning and	**Investigate the role of the planning and development framework to support appropriate scale and density in neighbourhood centres** Investigate the role of changes to planning and development frameworks and mechanisms (e.g. MU1 Mixed Use zone in the neighbourhood centre and DCP controls) in incentivising the development industry to deliver medium density housing in neighbourhood centres within existing permissible land use zones for medium density housing. Include engagement with industry. **Investigate the role of the planning and development framework in influencing the urban structure of retail and commercial activity in neighbourhood centres**	WSPP and TfNSW with DPHI	Immediate (12 months)

Focus area	Why?	Recommendation	Responsibility	Timeframe
	development frameworks and planning tools	Closely linked to the urban design guidance in Appendix 2, Review the planning and development framework and its influence on the urban structure outcomes in neighbourhood centres, specifically the frequency of neighbourhood centres in new release areas and the design of large-scale retail format centres in master planned neighbourhoods. Considers alternatives such as high street models where there may be greater opportunity for improved active transport, planning and design outcomes. **Collaborate with Councils on developing an approach to street activation and investment to improve investment in neighbourhoods** Work with council stakeholders (economic development, place managers) to maximise opportunities for high street activation and investment. This could include a plan template to identify and target council and contributions spending on new or upgrades to infrastructure. **Advocate for infrastructure investment in NSW Government- led projects that enable 15-minute neighbourhoods** Councils to continue advocacy to influence the delivery of infrastructure projects outside council's remit, particularly advocating to NSW Government to deliver better public transport connections and better bus services to higher order centres (strategic centres).	Councils Council	Medium term (3-5 years) Ongoing
#3 Improving the design of neighbourhood centres	To promote good 15-minute neighbourhood urban design outcomes in established neighbourhoods facing urban renewal and release areas subject to master planning. To improve the quality of neighbourhood retail developments and consistency of centres with principles of the Western Sydney Neighbourhoods Framework	**Adopt Western Sydney Neighbourhoods Urban Design Guidance** Each Council to consider adopting Western Sydney Neighbourhoods urban design guidance in Appendix 2 for use as an internal guidance document guiding Council masterplans, urban renewal projects and Council-led property decisions. Councils to consider incorporating Western Sydney Neighbourhoods Framework and urban design guidance into	Councils	Immediate (12 months)

Focus area	Why?	Recommendation	Responsibility	Timeframe
		their development framework and provide guidance to developers. **Undertake further consultation with the retail and development industry.** This would assist understanding of market and other obstacles to creating quality retail centres and investigate possible solutions.	WSPP/ TfNSW	Immediate (12 months)
#4 Increasing the uptake of medium density housing in urban release areas	The challenge for Western Sydney is most neighbourhoods are low density and car-dependent requiring improvement to ensure density and scale are at the forefront of neighbourhood planning. Through interviews with stakeholders (section 3.2) and the testing process (section 5), the project has found challenges facing the delivery of medium density housing in land use zones permitting greater densities in neighbourhood centres. This has raised gaps in evidence on housing market dynamics that sit outside the project, yet the information is critical to informing future planning decisions for neighbourhoods in Western Sydney.	**Develop further evidence on the cost of delivering quality medium density in a master planned neighbourhood** To respond to the objective *gentle density in the neighbourhood centre*, it is recommended WSPP plug the gaps that did not form part of this study, identifying master planned locations in Western Sydney and undertake market testing and feasibility analysis of different urban design scenarios with a mix of medium density housing. It is recommended that this explores the type of density that can be achieved to support walkable neighbourhoods whilst maintaining the context and character of place. This could consider the close link to the viability of commercial and retail activity, the frequency/distribution of neighbourhood centres and the critical population mass required to sustain economic activity in neighbourhood centres.	WSPP / TfNSW	Immediate (12 months)
#5 Increase the frequency of neighbourhood centres	Section 3.2 established that some councils recognise the role of the neighbourhood in the centre hierarchy and are planning for neighbourhoods in long term plans and strategies. This project has highlighted the important role neighbourhood centres play in providing *access to local opportunities and convenient facilities to meet daily needs.* When connectivity to the neighbourhood centre is poor, equity	**Map the existing network neighbourhood centres across Western Sydney** Aligning with objective *connectivity to the neighbourhood centre*, it is recommended WSPP map the existing network of neighbourhood centres in Western Sydney to spatially demonstrate the "cold spots" in access and discrepancy across different neighbourhoods. It is recommended this forms part of the evidence in promoting better planned and improved outcomes for 15-minute neighbourhoods in Western Sydney.	WSPP/TfNSW	Immediate (12 months)

Focus area	Why?	Recommendation	Responsibility	Timeframe
	challenges arise as people travel greater distances to access everyday needs and often car dependent. A greater frequency of neighbourhood centres across Western Sydney will be critical to supporting long term growth and liveability of neighbourhoods.			
#6 Identify land in master planned neighbourhoods for early acquisition	This report has highlighted challenges facing the urban structure of neighbourhood centres, specifically the co-location of retail and commercial activity with social infrastructure, open space and schools. The challenges associated with early land acquisition are recognised, however alleviating barriers that enable councils to plan with foresight and deliver social infrastructure and open space that reflects the needs of the incoming population will create opportunities for improved 15-minute neighbourhood outcomes.	**Collaborate with stakeholders to identify future land for acquisition** Councils and State Government to identify land for future acquisition and collaborate on how earmarked sites can be documented in relevant council master plans and growth strategies as "under investigation" for future public use (e.g, open space). **Collaborate with stakeholders to identify mechanisms to forward fund land acquisitions** Utilise findings of WSPP Early Land Acquisition project to assist in funding acquisitions and identify any further work required to ensure neighbourhood centres are considered in funding mechanisms to enable council to acquire land prior to land value uplifts.	WSPP in collaboration with local and state government	Medium term (3-5 years)
#7 Sharing best practice 15-minute neighbourhood outcomes	As profiled in section 2.2, there are examples in western Sydney and in other jurisdictions relevant to Western Sydney that showcase principles of 15-minute neighbourhood outcomes. Drawing on lessons learnt from case studies is an opportunity for master planned neighbourhoods to explore a different urban structure as well as planning, transport and urban design outcomes to the development pattern delivered in newly established neighbourhoods in Western Sydney.	**Promote case studies as best practice outcomes** It is recommended WSPP expand on the case studies showcased in this project and share the material via an accessible platform for stakeholders to refer to (e.g, WSPP website). **Hold community of practice events** WSPP and state government (TfNSW) to consider community of practice events to bring together state and local government stakeholders involved in the planning, design, delivery and maintenance of neighbourhoods. This is an opportunity for key influencers to gather in a forum and share lessons learnt and knowledge in what has been	WSPP / TfNSW	Immediate (12 months)

Focus area	Why?	Recommendation	Responsibility	Timeframe
		working well and not so well in shaping improved planning, design and transport outcomes for neighbourhoods.		
#8 Promote consistency in how data is collected	A limitation of the testing process in this project was access to publicly available data with consistent attributes such as geographies. For WSPP to build on the 15-minute neighbourhood framework as part of future implementation following this work, consideration will need to be given to access to consistent datasets.	**Collaborate with stakeholders to promote consistency in data** It is recommended WSPP and TfNSW work with key stakeholders in promoting the collection of data relevant to measuring the objectives in the 15-minute neighbourhood framework to enable consistency in testing locations against the long list of potential metrics outlined in section 4.	WSPP / TfNSW	Immediate (12 months)
#9 Community and business partnerships	Community-led neighbourhood planning puts the people that live in the neighbourhood at the centre of planning for the future of neighbourhoods in Western Sydney. This approach better reflects the demographic needs, underpins how the community use public spaces and captures the place-based context and identity of the neighbourhood. Creating opportunities for local businesses to thrive is critical to the viability of economic activity in centres and providing options for local residents to access everyday needs. This project has found that opportunities to support local businesses exist through platforms such as the Chamber of Commerce. There are also opportunities for businesses to be involved in how plans to retrofit an established neighbourhood can influence foot traffic and people to stop and stay in the centre	**Promote community-led local planning and encourage involvement from diverse groups** Enhance community-led local planning as an objective in council long-term plans and strategies relevant to the future of neighbourhoods. Promote approaches that foster cohesion and participation from Western Sydney's diverse communities to ensure 15 minute neighbourhoods reflect differing community needs and support cohesion. **Working with industry towards better neighbourhood outcomes** Continue to work with property developers and other relevant industry stakeholders to promote awareness of what good neighbourhood outcomes look like. Councils and WSPP can use this to understand developer's barriers to achieving good neighbourhood outcomes (urban renewal and land release) and the opportunities or solutions for improved outcomes (e.g, public-private partnerships delivering the right type of social infrastructure, development contributions funding local public domain improvements). **Promote active transport and 15 min neighbourhoods** Continue to promote active transport and healthy active communities through council programs and other initiatives including local health areas and the Health alliance. Promote	Councils (community planners and integrated planning teams) Councils/ WSPP Councils, Local Health Districts in Western Sydney, health alliances.	Ongoing Ongoing Ongoing

Focus area	Why?	Recommendation	Responsibility	Timeframe
		wider 15 minute neighbourhood principles, e.g. encouraging medium density living, alternatives to car travel. **Include local businesses in engagement to influence outcomes for improved economic activity** Enhance engagement with local businesses to understand the planning, urban design and transport outcomes critical to the success of activity in neighbourhoods (such as parking with walking distance to shops, operating hours and the quality of the streetscape inviting people to stop and stay). Include education component to help understand how cyclists and pedestrians can increase shop earnings through increased footfall. This information should be used to refine DCP controls, together with the Western Sydney Neighbourhoods Urban Design Guidance	Councils	Short term (0-3 years)
#10 Integrated transport and land use and active transport	A key challenge identified by stakeholders is the difficulty in planning for, funding and delivering catalysing public transport infrastructure in Western Sydney. This includes: • Lack of transport infrastructure to support medium density.	**Identify areas where uncertainty around public transport infrastructure is stymieing or slowing down development in neighbourhood and strategic centres.** Councils and WSPP to collaborate with State Government on best ways to unlock centres development through improving infrastructure planning certainty.	Councils/ DHPI	Short term (0-3 years)

Focus area	Why?	Recommendation	Responsibility	Timeframe
	• Non-existent, mis-timed or delayed infrastructure investment, including transport infrastructure, limiting the ability for activity nodes to centre on major transport hubs. • Uncertainty regarding planned rail and metro connections, which has flow-on effects for planning around station envelopes, structure planning, and the wider corridor. • Connectivity between neighbourhood centres and strategic centres via public and active transport was identified as a challenge, with poor wayfinding (e.g. signage) also a barrier to active transport use	**Review bus and train services with a 15-minute neighbourhood lens and ensure bus services are a key consideration in precinct planning.** Undertake a review of access to bus or train stops using the metric developed in this project, i.e.: Access to bus, train and tram stops with an average service interval of no more than 30 minutes between weekday hours of 7am and 7pm. Connectivity between neighbourhood centres and strategic centres should be an important consideration. Progress planning for rapid bus network in Western Sydney, including increase of service frequency and operating hours. (TfNSW). **Review active transport connectivity** Review and deliver a connected network of dedicated local walking and cycling infrastructure to and from activity nodes and transport hubs in existing locations and new release areas, in accordance with the Cycleway Design Toolbox and Western Sydney Street Design Guidelines. **Improving wayfinding and connectivity within and between neighbourhood centres.** For both new release areas and existing areas, TfNSW to work with Councils to develop wayfinding strategies in conjunction with centres planning and masterplanning with the aim to improve community safety and encourage walking and cycling trips.	TfNSW/ Councils/ Developers TfNSW/ Councils/ Developers Councils/ TfNSW	Short term (0-3 years) Short term (0-3 years) Ongoing

A.1 Testing Methodology and Data

Defining ‘the neighbourhood’

A location near shops and other services was chosen to represent the ‘neighbourhood centre’. The neighbourhood was then defined as the area within an 800m walking distance of the neighbourhood centre, based on Open Street Map data.

Scoring

Results for each indicator were converted to a score from 1 to 5, using whole numbers only. 1 = low score and 5 = high score. Refer to the image below as an example for how the scores are illustrated in the graphic.

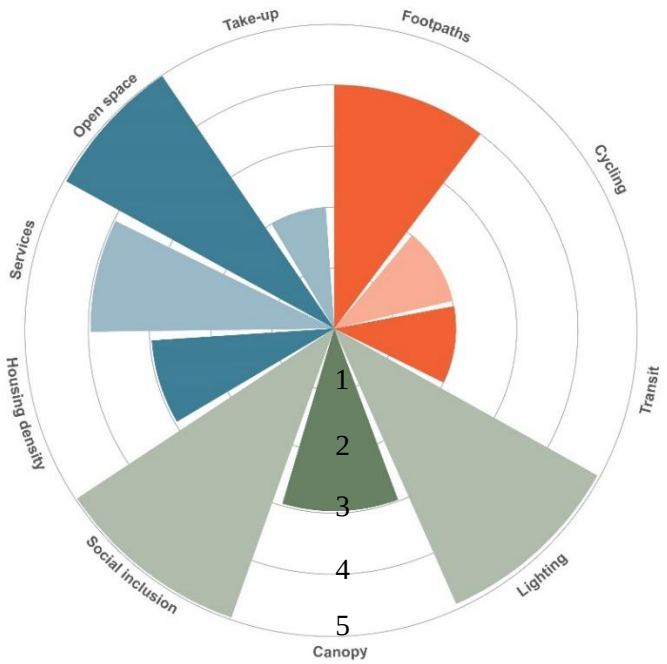


Figure 65 Example of application of scoring to illustrations

Indicators

The following ten indicators were chosen as part of the testing process based on access to consistent datasets and geographies and the data is publicly available.

Indicator 1: Housing density

The number of dwellings within each neighbourhood was calculated using 2021 Census Data. Neighbourhoods were scored based on how close they came to achieving a target 2,500 dwellings within the neighbourhood, based on an estimate of the number of homes required to support a high school.

Indicator 2: Services

The number of available facilities was scored within several categories and then an aggregate weighted score calculated. These categories were:

- Fresh food (20%): 0.5 pts for 0 – 2 shops selling fresh food present, 1 pt where 3+ shops present.
- Education (20%): 0.5 pts where either a school or library present; 1 pt where both were present.
- Medical (15%): 0.5 pts where either a medical practice or pharmacy present; 1 pt where both were present.
- Sports (15%): 1 pt where any sport facility present, such as an oval, basketball court or public swimming pool.
- Childcare (15%): 0.5 pts where 0 – 2 facilities were present; 1 pt where 3+ facilities were present.
- Community centres (10%): 1pt where a community centre was present.
- Postal services (5%): 0.5 pts where a parcel locker was present; 1 pt where a full-service post office was present.

Indicator 3: Open space

Open spaces with an area of 5000 sqm or more were considered. The number of dwellings within 7.5 minutes (600m) walk (allowing for a return trip within 15 minutes) of eligible open spaces was calculated as a proportion of all dwellings in the neighbourhood. This was converted to a score based 20th percentile bands.

Indicator 4: Take-up

The analysis considered two elements:

- The number of dwellings sited on land zoned for higher residential density – R3 (medium density residential), R4 (high density residential) and B4 (mixed use).
- The proportion of dwellings in the above zones containing dwelling structure aligned with higher density built-form i.e. a townhouse or apartment was calculated.
- The highest scores were given to neighbourhoods that had both a high proportion of dwellings located in eligible zones, and a high proportion of these being 'take-up'.

Indicator 5: Footpaths

Aerial imagery was used to assess the extent of streets with footpaths on both sides. Points were assigned under each of the following categories:

- Major roads (typically a State Road such as the Great Western Highway, Cabramatta Road)
- Through roads (typically a higher order Local Road or Regional Road) such as Stanhope Parkway or Badgally Road.
- Local collector roads (typically a spine road through residential suburbs)
- Local streets (typically providing direct access to residential dwellings).
- Streets around schools and sporting facilities.

0 points indicated that typically these roads (or streets) did not have footpaths on both sides. 0.5 points indicated that these roads had footpaths on both sides in limited instances (e.g. in a certain part of the neighbourhood only). 1 point indicated that typically all these roads had footpaths on both sides. The final score was calculated as the sum of points under each category, divided by the total points available. For example, if there were no major roads in the neighbourhood, the maximum available points was 4.

Roads with a footpath on only one side did not contribute to higher scores. The width or quality of the footpath was not considered, provided it was paved (e.g. worn dirt tracks did not contribute to higher scores). Pedestrian only paths through parks were not considered unless they ran parallel and within 20 metres of the carriageway and could reasonably be considered the preferred route.

Indicator 6: Cycling

The proportion of dwellings within 100m (radial distance) from the safe cycling network was calculated.

The safe cycling network was defined as streets and paths with cycling facilities that were aligned with the Transport for NSW Cycling Design Toolbox. This primarily comprised Shared Paths as there were few Separated Cycleways present. This assessment did not consider the quality of the infrastructure provided; for example, there was no minimum width requirement for a shared path and many are no wider than a typical footpath.

Streets with posted speed limits of 40km/h or less were considered, but were not prevalent in the case study neighbourhoods assessed.

Indicator 7: Public transport

The proportion of dwellings located within 400m walking distance from public transport stops with headways above a threshold was calculated. The public transport stops considered were drawn from the Transport for NSW GTFS dataset and included bus stops, light rail stops, metro, train and ferry.

The analysis considered stops with a service frequency of at least one service every 15 minutes between 7am and 7pm.

Indicator 8: Lighting

Lighting was assessed in the same way as footpaths (Indicator 5), using Google Street View. Roads where lighting was considered to light the carriageway rather than walking paths were considered to provide ‘limited’ lighting to people walking.

Indicator 9 – Canopy cover

The NSW Government is targeting 40% canopy cover across Greater Sydney by 2036. Each neighbourhood was scored based on how close it was to meeting this target, based on 2022 data. Neighbourhoods that achieved over 80% of this target were given the highest sore.

This makes it difficult to measure master planned neighbourhoods as the newly planted green infrastructure can not be adequately measured.

Indicator 10 – Social inclusion

Qualitative analysis on the provision of third spaces in neighbourhoods including community infrastructure, community/scout hall, café, sports club and other spaces encouraging people to stop and stay.

A.2 Urban Design Guidance

Refer to attachment.

References

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[xiii] https://www.stockland.com.au/residential/vic/cloverton/masterplan

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