South-Western Sydney Population Growth and Transport Infrastructure Assessment

Prepared by Bridging the Gap for Infrastructure Australia

October 2025

Acknowledgement of Country

We acknowledge the Traditional Custodians of the lands on which this project is located - the Dharawal, Dharug and Gandangara peoples whose enduring connection to Country encompasses the lands, waterways, and skies across South-Western Sydney, including the Local Government Areas of Camden, Camden, Campbelltown, Liverpool and Wollondilly. We recognise their deep cultural, spiritual and historical ties to these places, which continue to shape the identity and character of the region today.

We pay our respects to Elders past and present, and extend that respect to all Aboriginal and Torres Strait Islander peoples who live, work and travel through these lands. Their knowledge, resilience, and custodianship of Country are invaluable in guiding sustainable land-use and infrastructure planning across Western Sydney. We acknowledge that sovereignty was never ceded and that these lands always were, and always will be, Aboriginal Country.

As we plan and deliver transport infrastructure to support future communities, we commit to working respectfully and collaboratively with Traditional Custodians and local Aboriginal communities. We recognise the importance of integrating cultural values, stories and perspectives into the planning process to ensure that growth and development are achieved in a way that honours Country and strengthens connections between people, place and environment.

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Executive Summary

South-Western Sydney is experiencing unprecedented urban expansion, with the Local Government Areas (LGAs) of Camden, Campbelltown, Liverpool and Wollondilly projected to welcome over 250,000 new residents by 2041. This demographic surge presents both significant opportunities for economic and social development and notable challenges in ensuring that housing supply is matched by resilient, accessible, and future-proofed transport infrastructure.

This analysis presents a comprehensive, data-driven framework that draws principally on population and dwelling projections from the NSW Department of Planning, Housing and Infrastructure (DPHI). An analysis was developed that identifies and quantifies the main areas of anticipated housing growth. Six priority residential precincts (statistical area level 2) were highlighted as focal points for future development: Austral - Greendale, Edmondson Park, Cobbitty - Bringelly, Leppington - Catherine Field, Rosemeadow - Glen Alpine, and Douglas Park - Appin. The DPHI's demographic and land-use forecasts provide the foundation for assessing both current and projected housing demand over the next 10 and 20 years.

The report evaluates the current and future capacity of South-Western Sydney's transport infrastructure to accommodate projected population growth. It finds that, while the region's road network is extensive, critical corridors such as Elizabeth Drive, Campbelltown Road, Picton Road and Wilton Road are approaching their operational limits. In terms of public transport, the area benefits from strong north-south rail connectivity; however, east-west rail links remain limited. Additionally, access to the Western Sydney International Airport via public transport is currently inadequate, further constraining network capacity and regional connectivity.

Travel time analyses reveal significant disparities between car and public transport journeys to major employment centres. While most car trips can be completed in under 60 minutes, public transport journeys frequently exceed 90 minutes to key employment destinations. This pronounced difference underscores modal and accessibility gaps within the current transport system, highlighting the need for targeted improvements to reduce travel times and enhance equitable access across key growth precincts.

Given the number of proposed infrastructure projects within the focus area, a Multi-Criteria Assessment (MCA) was conducted to systematically compare regionally significant projects in the planning stage against established criteria. This approach enabled the ranking of the eight proposed projects based on factors such as housing growth potential, network impact, connectivity, and cost. While there are limitations to this methodology, it provides a framework for prioritising projects and guiding funding decisions that best enable housing growth. Through this process, the South West Road plan, Elizabeth Drive Upgrade and the North-South Rail Link (Bradfield - Macarthur) were identified as top priorities, demonstrating the greatest potential to enhance strategic connectivity. These links will unlock significant housing capacity throughout the region, ensuring South-Western Sydney is a place where people want to live. These projects are illustrated in Figure 1.

Key recommendations stress the importance of prioritising east-west transport corridors to alleviate congestion and improve intra-regional mobility, fast-tracking public transport access to the Western Sydney International Airport and the City of Bradfield, enhancing first/last-mile connections to major rail lines, and synchronising infrastructure delivery with housing growth schedules for maximum community and economic benefit. The MCA results also support these recommendations.

The analysis provides a robust foundation for strategic transport infrastructure planning in South-Western Sydney. By closely aligning infrastructure investment with housing growth, it aims to ensure that the region remains liveable, connected, and resilient as it transitions into one of Greater Sydney's most vibrant and dynamic communities.

Overview of Western Sydney Transport Corridors

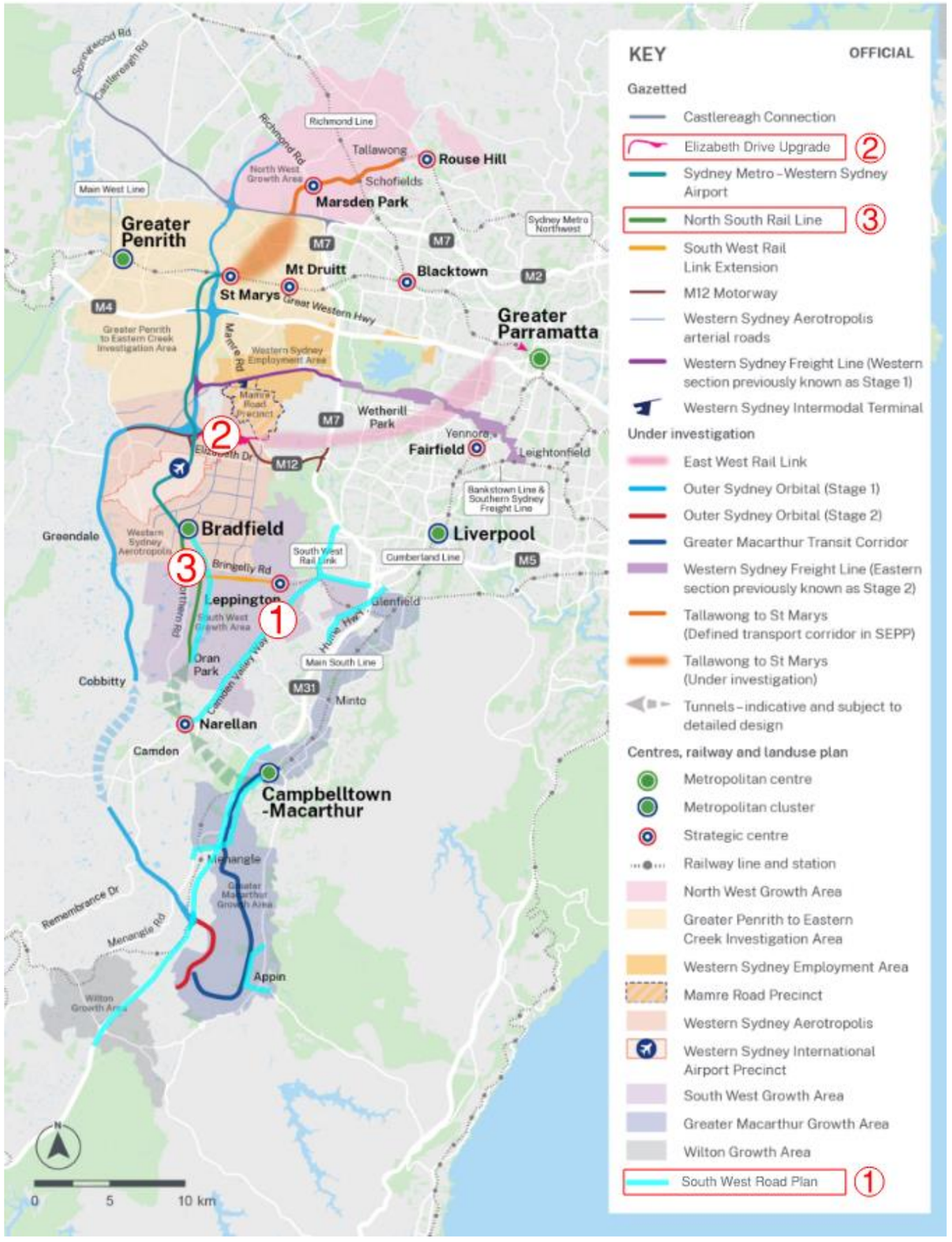


Figure 1 *Priority Projects within Western Sydney*

1. Introduction

1.1. Project Overview and Context

Australia is facing a critical housing supply and affordability challenge driven by limited new housing stock, population growth, construction constraints, and a shortage of enabling infrastructure. The result has been a persistent mismatch between where people live and where they work, study, and access services, contributing to higher living costs, longer travel times, and delays in housing delivery.

To address these challenges, Infrastructure Australia (IA) has identified the need to assess rapidly growing housing areas and evaluate whether the transport networks that support them are adequate, efficient, and sustainable. Through the Consult Australia Future Leaders Program, IA has initiated a project tasking participants with developing a data-informed approach to identify, analyse, and prioritise infrastructure gaps that may constrain future housing delivery.

Our group selected South-Western Sydney as the study area, encompassing the local government areas (LGAs) of Camden, Campbelltown, Liverpool, and Wollondilly. This region is one of the fastest-growing parts of Greater Sydney, with a forecast population increase of more than 250,000 people by 2041. These LGAs are characterised by rapid residential growth, major infrastructure investment, and significant pressure on existing transport networks.

This report outlines the methodology used to identify priority housing-growth areas, assess existing and planned transport networks, and determine the infrastructure gaps that will influence the region's ability to accommodate the projected growth over the next 20 years.

1.2. Purpose of this report

The purpose of this report is to identify, quantify, and assess key areas of housing growth within the South-Western Sydney region and evaluate the capacity and limitations of the transport infrastructure that supports them.

There are four primary objectives of this report:

1. Identify and quantify key areas of housing growth based on available demographic data.
2. Assess the current and future adequacy, accessibility, and capacity of transport infrastructure within the study area.
3. Identify and quantify transport infrastructure gaps and priorities for supporting housing growth
4. Analyse existing transport infrastructure planning schemes against these gaps.

1.3. Focus Area

The study focuses on South-Western Sydney, comprising the LGAs of Camden, Campbelltown, Liverpool, and Wollondilly. The area was chosen due to its:

- Projected population growth of over 250,000 residents by 2041;
- Limited existing transport infrastructure;
- Extensive land availability for future residential development; and
- Increasing strain on existing road and public-transport networks.

The region also encompasses the Western Sydney International Airport and the emerging Western Sydney Aerotropolis/City of Bradfield, both of which will serve as major future employment and transport hubs. Their development will require an integrated, high-capacity transport network connecting new and existing residential areas to employment centres.

Figure 2 (below) illustrates the study boundary. The solid blue line represents the four-LGA study boundary, while the dashed blue outline indicates the effective development area, excluding:

- The Warragamba Dam catchment in western Wollondilly,
- Holsworthy Military Barracks in eastern Liverpool, and
- The Royal National Park along eastern Campbelltown and Wollondilly.

Large portions of the land within the blue dashed area remain undeveloped or underdeveloped, providing significant future housing potential that underpins this analysis.

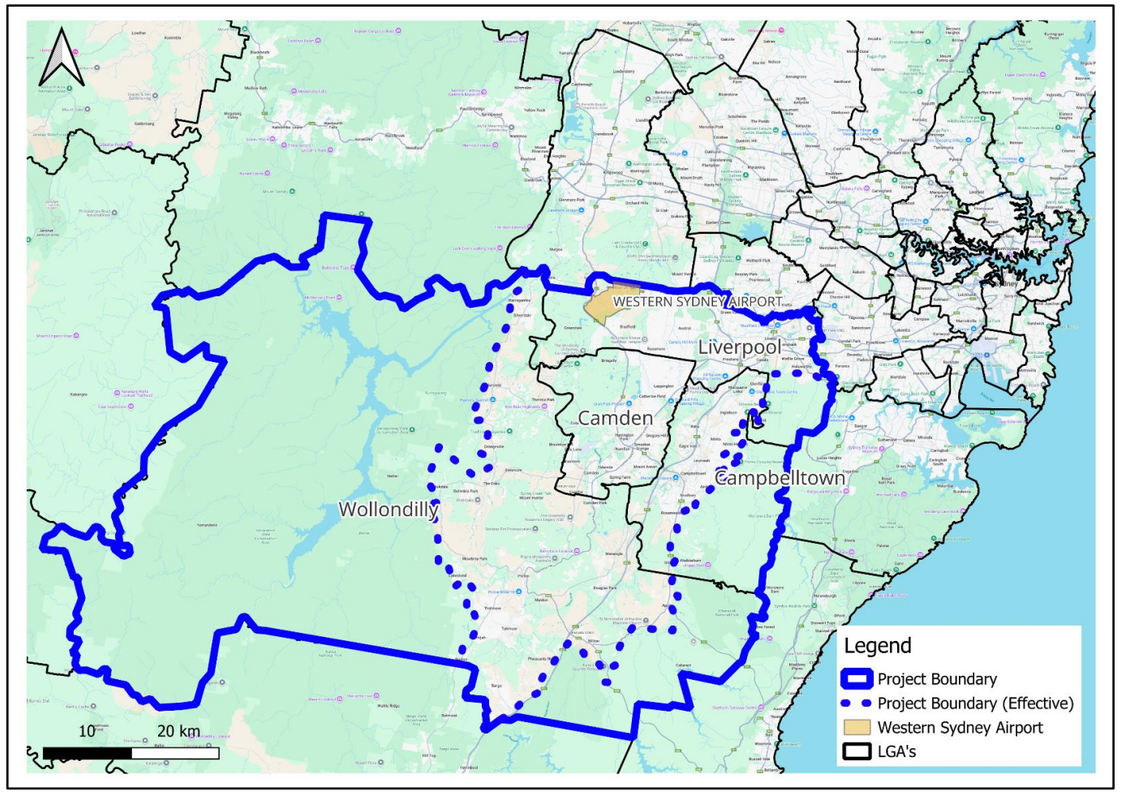


Figure 2 Focus Area

1.4. Scope

The scope of this project focuses on assessing the strategic transport infrastructure required to support future housing growth in South-Western Sydney.

Given the project's objectives and data availability, the analysis concentrates on the major transport networks that directly enable regional movement and access to employment, services and future housing growth areas.

This assessment is therefore limited to the following transport infrastructure types:

- Roads: Motorways, state-classified roads and major regional arterials
- High-capacity Public Transport: Heavy rail, intercity rail and Metro.

Certain transport elements are excluded from this analysis to maintain focus on the regional scale and strategic infrastructure objectives:

- Local roads and intersections, which are generally planned and funded by Councils.
- Local bus services and community transport, as their operations are more responsive to short-term service demand.
- First and last mile transport connections (walking, cycling, parking), which are essential for public transport accessibility but fall outside the project's current scope and data resolution.
- Freight, ports and airport infrastructure, which although critical for economic performance, are not the primary focus of the passenger – transport capacity for housing growth.
- Land-use rezoning or planning controls, which are addressed through separate statutory processes.

By narrowing the scope to these higher order networks, this report aims to provide a clear and targeted assessment of the transport corridors and services most critical to unlocking housing supply and sustaining population growth within the South-Western Sydney region.

2. Assessment Framework

This section outlines the structured methodology used to assess the alignment between housing growth and transport infrastructure capacity across South-Western Sydney. The framework is designed to identify priority housing areas, evaluate existing and planned transport networks, and determine infrastructure gaps that may constrain future residential development. The approach is data-driven, spatially focused, and aligned with Infrastructure Australia's objectives to support sustainable growth through targeted infrastructure investment.

The assessment framework is structured into five key stages and can be seen in Figure 3:

1. Housing Growth identification
    a. Analyse population and dwelling projections using NSW Department of Planning, Housing and Infrastructure (DPHI) data.
    b. Quantify existing housing stock and forecast growth to 2041.
    c. Identify high-growth Statistical Area Level 2 (SA2) areas across Camden, Campbelltown, Liverpool, and Wollondilly LGAs.
2. Transport Infrastructure Assessment
    a. Review existing road and rail networks, focusing on strategic corridors and high-capacity infrastructure.
    b. Evaluate current transport capacity using Austroads methodologies, TfNSW traffic volume data and Rail Opal Assignment Model (ROAM) passenger data.
    c. Assess public transport accessibility and travel times to key employment and service destinations.
3. Gap Analysis
    a. Compare projected housing growth with existing and planned transport capacity.
    b. Identify infrastructure bottlenecks, modal imbalances, and areas of poor accessibility.
4. Project Evaluation and Prioritisation
    a. Compile a list of proposed infrastructure projects relevant to the study area.
    b. Apply a Multi-Criteria Analysis (MCA) to assess each project's potential to support housing growth.
    c. Define and weight assessment criteria, score projects, and rank them based on housing growth potential, existing network impact, connectivity and project cost.
5. Recommendation and Future Work
    a. Develop actionable recommendations for priority corridors and projects.
    b. Identify gaps in data and analysis requiring further investigation.
    c. Outline future steps.
    d. Recommend updates to the MCA framework to incorporate additional criteria and richer datasets.

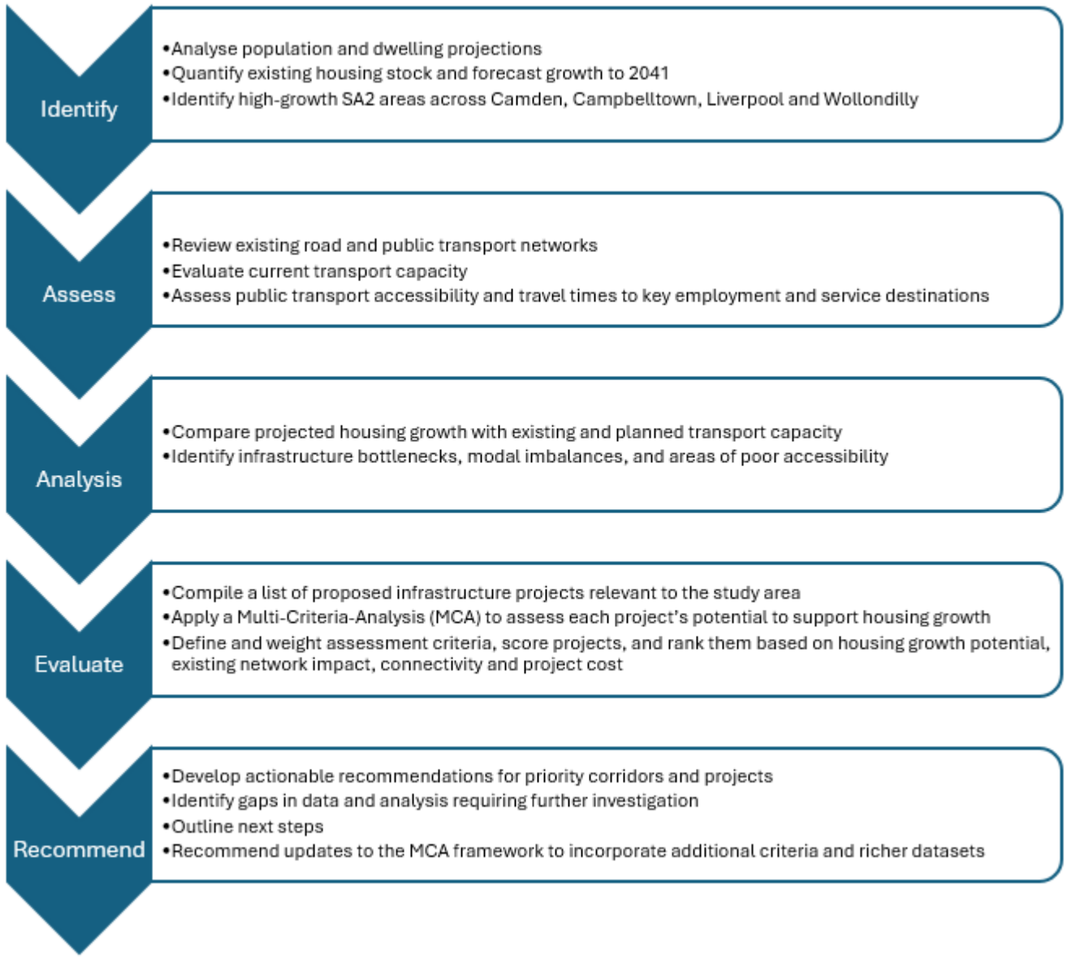


Figure 3 Assessment Framework Flowchart

3. Housing Growth

3.1. Context

The NSW Government has committed to delivering 377,000 new homes statewide over the next five years under the National Housing Accord. Regional targets have been set for Greater Sydney, Illawarra-Shoalhaven, Central Coast, Lower Hunter, Greater Newcastle, and regional NSW. These targets are designed to address the housing crisis by increasing the supply of diverse, well-located homes in areas with existing infrastructure such as transport, schools, hospitals, and community facilities.

3.2. Methodology

The analysis assesses each SA2 within the study area to determine:

- Total population growth between 2025 and 2041 based on NSW Department of Planning, Housing and Infrastructure (DPHI) population growth data[1].
- Determine the percentage increase in population over the same period.
- The estimated number of dwellings required in each area. This is based on the current average household size for each Local Government Area (LGA) outlined in Table 2.

To quantify current and future housing requirements within the selected geographic area of the South-Western Sydney LGA's of Camden, Campbelltown, Liverpool and Wollondilly, the population projections published by the DPHI for the period 2025 to 2041 will be used. The growth and relative growth of each LGA can be seen in Table 1 and Figure 4

Table 1 South-Western Sydney Population Growth

LGA	Population 2025	Population 2041	Total Increase in Population	% Increase in Population
Camden	150,168	237,202	87,034	58%
Campbelltown	189,548	223,342	33,794	18%
Liverpool	269,621	361,687	92,066	34%
Wollondilly	62,759	103,809	41,050	65%
Total	**672,096**	**926,040**	**253,944**	**38%**

South-Western Sydney is poised for remarkable transformation, with the population expected to surge by over 250,000 residents by 2041, a substantial 38% increase. Liverpool is projected to experience the largest absolute growth, adding 92,066 people to its community. In contrast, Wollondilly stands out for its rapid pace of change, with a relative population increase of 65%.

The DPHI projections are based on assumptions about the drivers of population change: births, deaths, and migration. Data is available at both the LGA level and the more granular Statistical Area Level 2 (SA2), as defined by the ABS Australian Statistical Geography Standard Edition 3.

Table 2 Average Household Size (ABS)

Local Government Area	Average Household size
Camden	3.3
Campbeltown	2.9
Liverpool	3.1
Wollondilly	3

This approach enables identification of high-growth areas and where housing development is required. The following sections present the data analysis for each LGA.

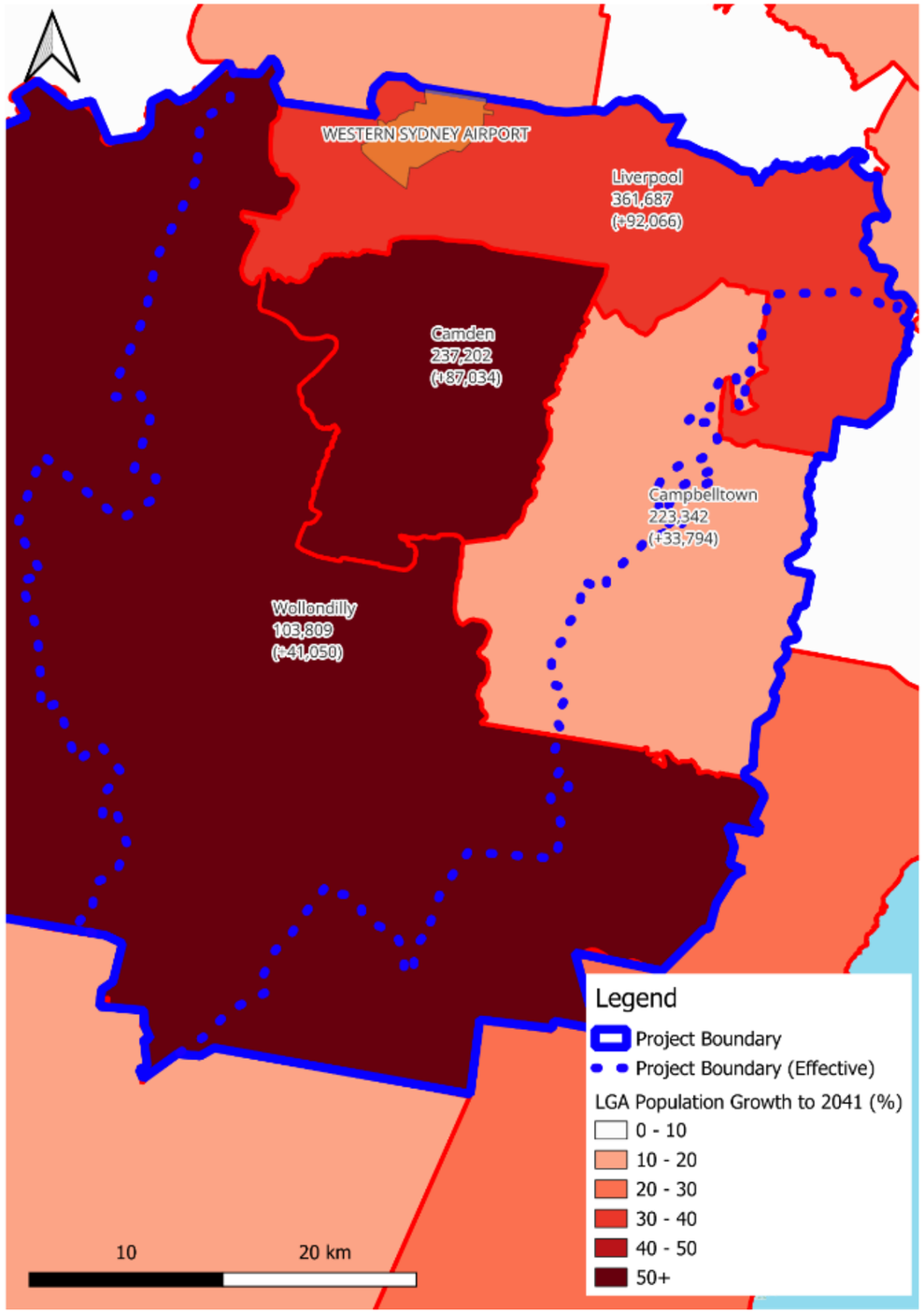


Figure 4 South-Western Sydney Growth Map

[1] https://www.planning.nsw.gov.au/data-and-insights/population-projections/explore-the-data

3.3. Projected Housing Growth

3.3.1. Camden

Camden LGA, located north of Wollondilly has the following SA2 project growth as outlined in Table 3. The population growth is also visualised as shown in Figure 5 and Figure 6.

Table 3 Camden Population Growth

SA2	2025 Population	2041 Population	Total Increase (2025-2041)	% Increase (2025 to 2041)	Estimated number of dwellings
Camden - Ellis Lane	13506	13889	383	3%	116
Cobbitty - Bringelly	7168	47895	40727	568%	12342
Elderslie - Narellan	15571	18122	2551	16%	773
Mount Annan	19987	19993	6	0%	2
Leppington - Catherine Field	23555	54856	31301	133%	9485
Oran Park	25395	32162	6767	27%	2051
Harrington Park	11582	11591	9	0%	3
Currans Hill	7642	8610	968	13%	293

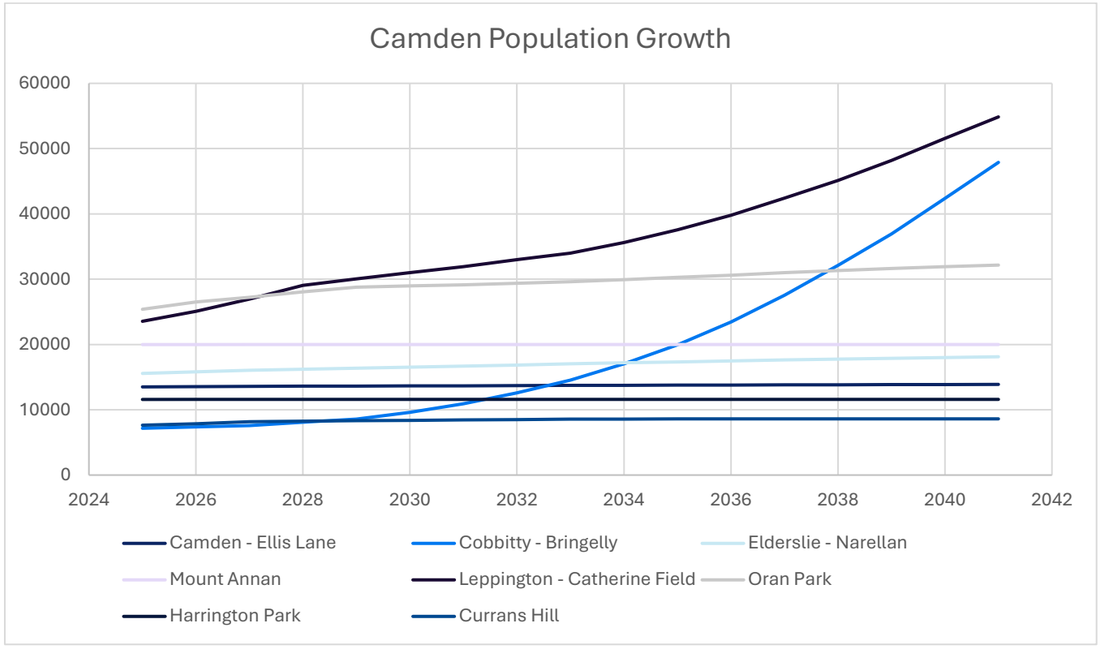


Figure 5 Camden Population Growth

The SA2's of Cobbitty - Bringelly and Leppington - Catherine Field have the majority of the population growth within the Camden LGA with 12,342 and 9,485 homes required respectively. The Leppington - Catherine Field SA2 has linear growth between 2025 and 2041, whereas the Cobbitty – Bringelly SA2 housing requirements escalate from 2030 onwards.

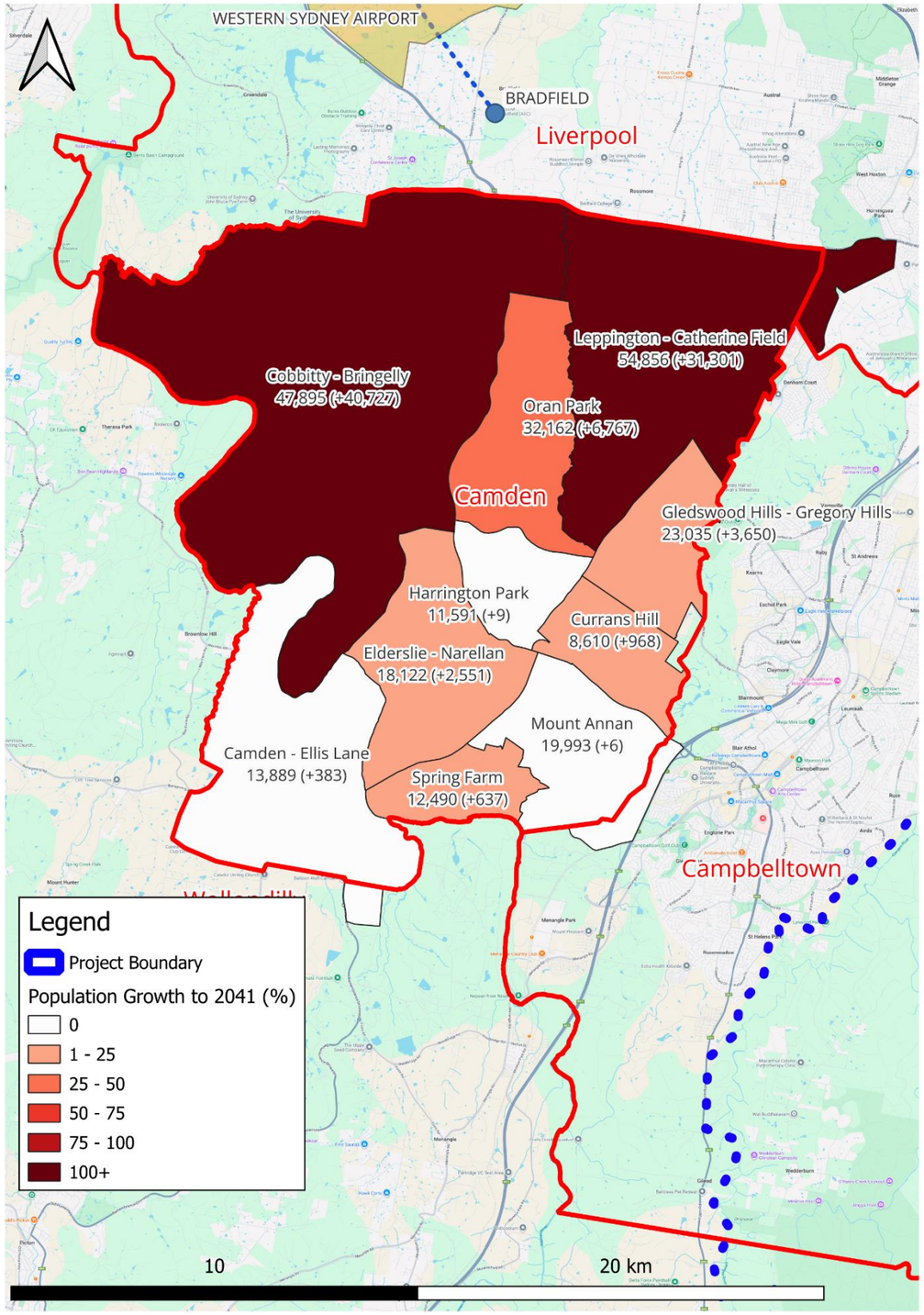


Figure 6 Camden Population Growth Map

3.3.2. Campbelltown

Campbelltown LGA's projected population growth across various SA2's between 2025 and 2041 can be seen in Table 4 Figure 7 and Figure 8. This highlights the starting and ending population figures, as well as the total and percentage increases for each SA2.

Table 4 Campbelltown Population Growth

SA2	2025 Population	2041 Population	Total Increase (2025-2041)	% Increase (2025 to 2041)	Estimated number of dwellings required
Bradbury - Wedderburn - Holsworthy Military Area	21,148	22,607	1,459	7%	503
Campbelltown - Woodbine	23,926	26,260	23,34	10%	805
Claymore - Eagle Vale - Raby	21,160	22,697	1,537	7%	530
Glenfield	11,149	17,530	6,381	57%	2200
Ingleburn	17,113	19,831	2,718	16%	937
Macquarie Fields	14,380	14,655	275	2%	95
Minto - St Andrews	21,689	22,107	418	2%	144
Rosemeadow - Glen Alpine	23,722	42,204	18,482	78%	6,373

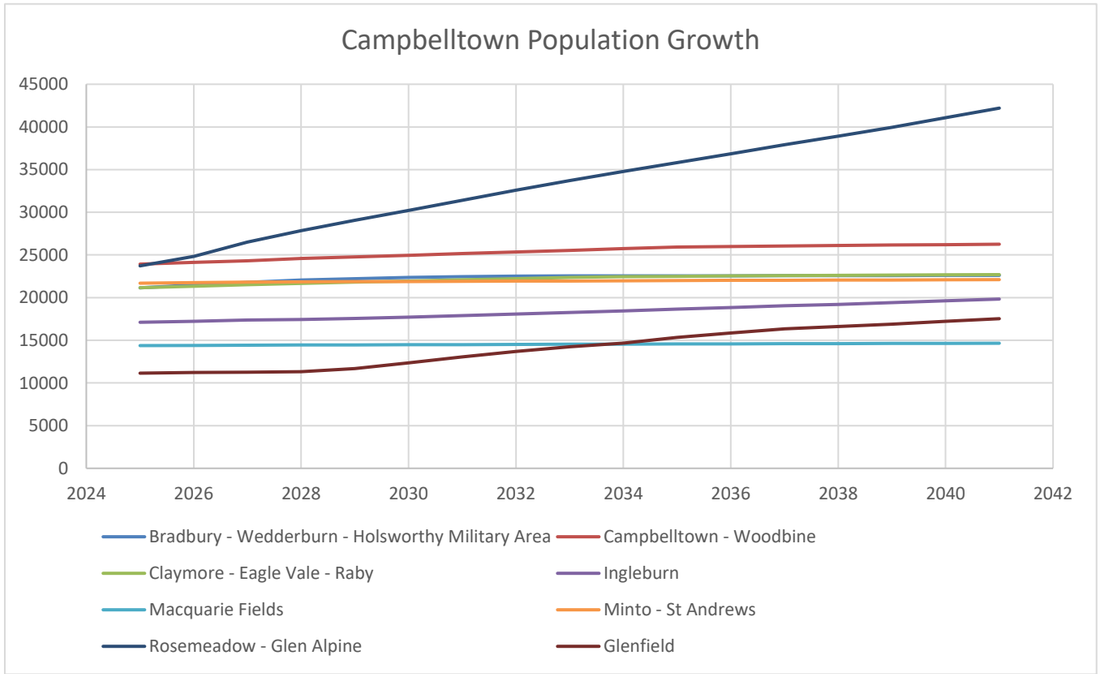


Figure 7 Campbelltown Population Growth Data

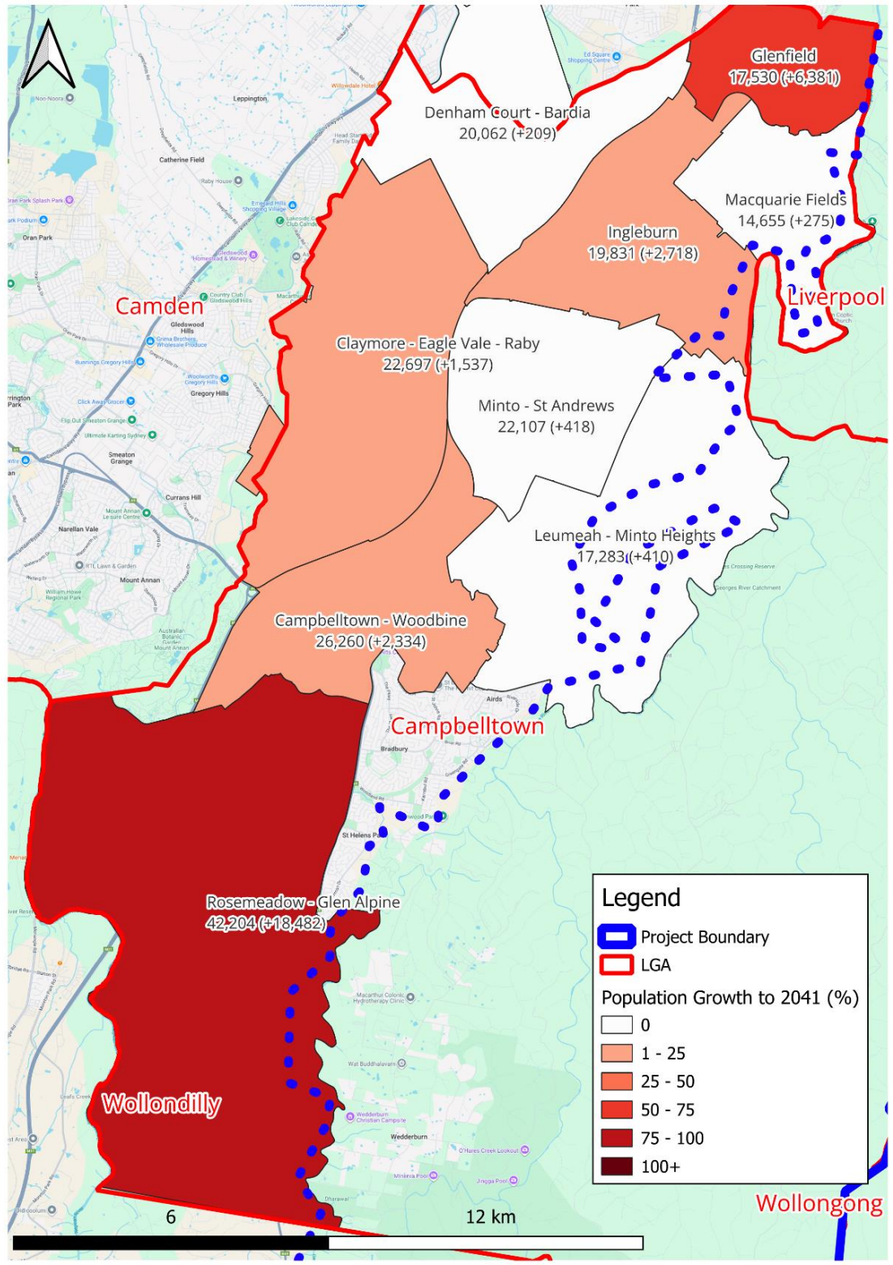


Figure 8 Campbelltown Population Growth Map

Based on the increase in housing numbers, it is evident that the Rosemeadow - Glen Alpine area represents a priority for future housing. With a 78% growth rate and an increase in 18,482 people (or 6373 houses. The Glenfield SA2 is also a priority with an additional 2200 dwellings required to meet the growth in population between 2025 and 2041 of 6,381 people. These regions stand out as a key focus for addressing housing demand and urban planning initiatives within Campbelltown LGA.

3.3.3. Liverpool

Liverpool LGA's projected population growth are shown in Table 5, Figure 9 and Figure *10*, highlighting key statistics for population and dwelling change for each Statistical Area Level 2 (SA2) within Liverpool LGA from 2025 to 2041. also shows the trends for population growth within each SA2 area.

Table 5 Liverpool LGA Population growth

SA2	2025 Population	2041 Population	Total Increase (2025-2041)	% Increase (2025 to 2041)	Estimated number of dwellings
Ashcroft - Busby - Miller	18,404	21,470	3,066	17%	1,022
Austral - Greendale - Badgerys Creek	28,649	79,016	50,367	176%	16,789
Casula	17,446	19,579	2,133	12%	711
Chipping Norton - Moorebank	22,947	28,544	5,597	24%	1,866
Edmondson Park	19,112	36,915	17,803	93%	5743
Green Valley	13,092	13,188	96	1%	32
Holsworthy - Wattle Grove	21,631	24,160	2,529	12%	843
Hoxton Park - Carnes Hill - Horningsea Park	14,112	14,128	16	0%	5
Prestons	15,816	16,112	296	2%	99
Liverpool East	19,565	24,843	5,278	27%	1703
Liverpool West	15,755	17,648	1,893	12%	611

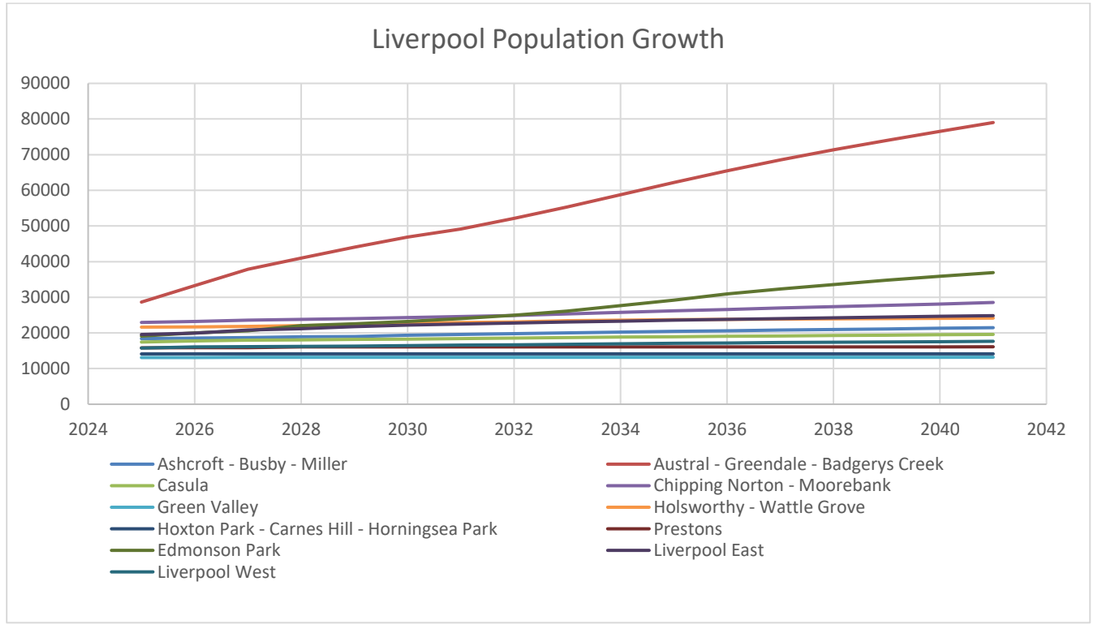


Figure 9 Liverpool LGA Population Growth 2025 - 2041

Austral - Greendale - Badgerys Creek represents the majority share of population and housing growth in the Liverpool LGA with almost 17,000 houses required. This largely is around the new city of Bradfield. Edmonson Park also is also a priority housing area with the population almost doubling to 2041 and requiring 5743 dwellings to accommodate this growth.

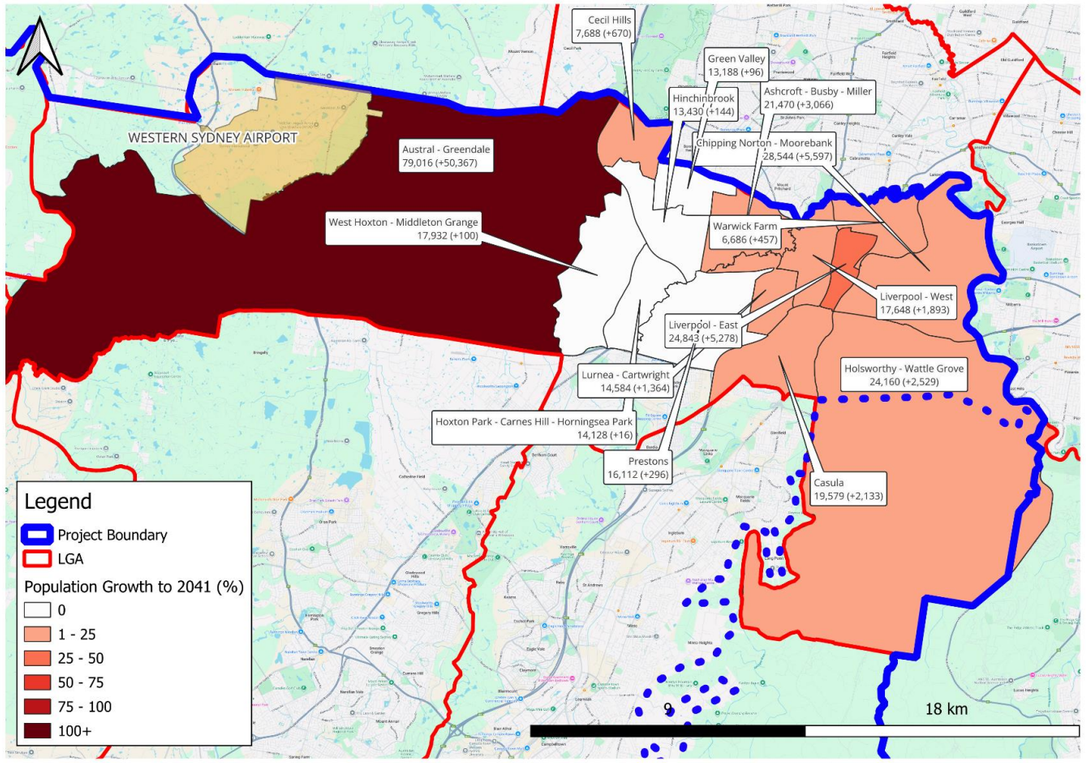


Figure 10 Liverpool LGA population growth map

3.3.4. Wollondilly

Wollondilly is a semi-rural LGA located on the southwestern fringe of Greater Sydney. It includes a mix of townships, villages, and rural landscapes. Population growth from 2025 to 2041 within the SA2 areas within Wollondilly are shown in Table 6 and Figure 12. Figure 11 also highlights the population growth over the time period.

Table 6 Wollondilly LGA population growth

SA2	Population 2025	Population 2041	Total Increase in Population	% Increase in Population	Estimated number of dwellings required
Douglas Park - Appin	13,362	51,020	37,658	282%	12,533
Picton - Tahmoor - Buxton	23,784	26,148	2,364	10%	788
The Oaks - Oakdale	10,455	10,868	413	4%	137
Warragamba - Silverdale	6,943	7,220	277	4%	92
Bargo	6,106	6,503	397	7%	132

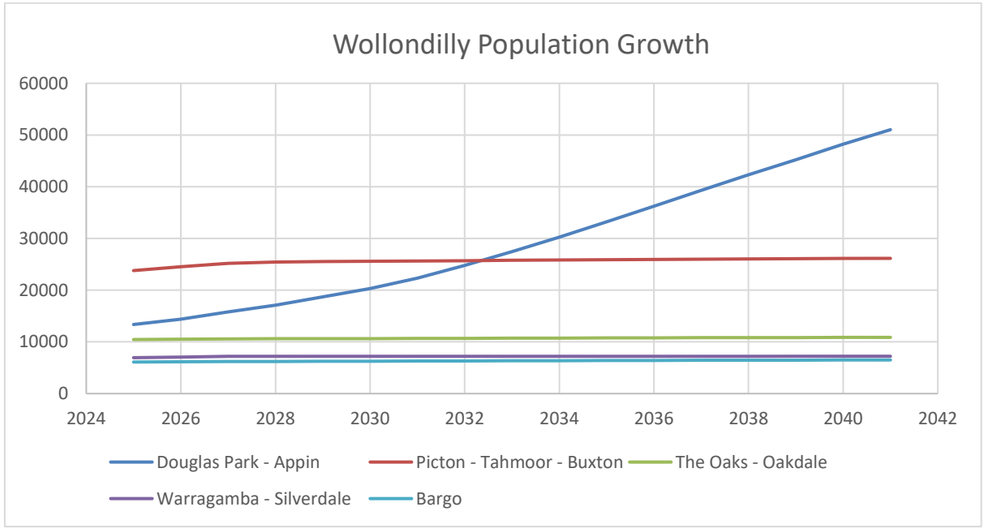


Figure 11 Wollondilly population growth

Douglas Park – Appin SA2 is projected to absorb the majority of growth highlighting the need for housing development and connecting transport infrastructure. This SA2 area's population increase represents a shift in the housing needs within the Wollondilly area. Given the other SA2 areas housing growth remains low and is effectively constant. This SA2 area contains the Wilton growth area[2] which provides a plan for 15,000 homes by 2040. This supports the DPHI data, that housing growth will occur in this SA2.

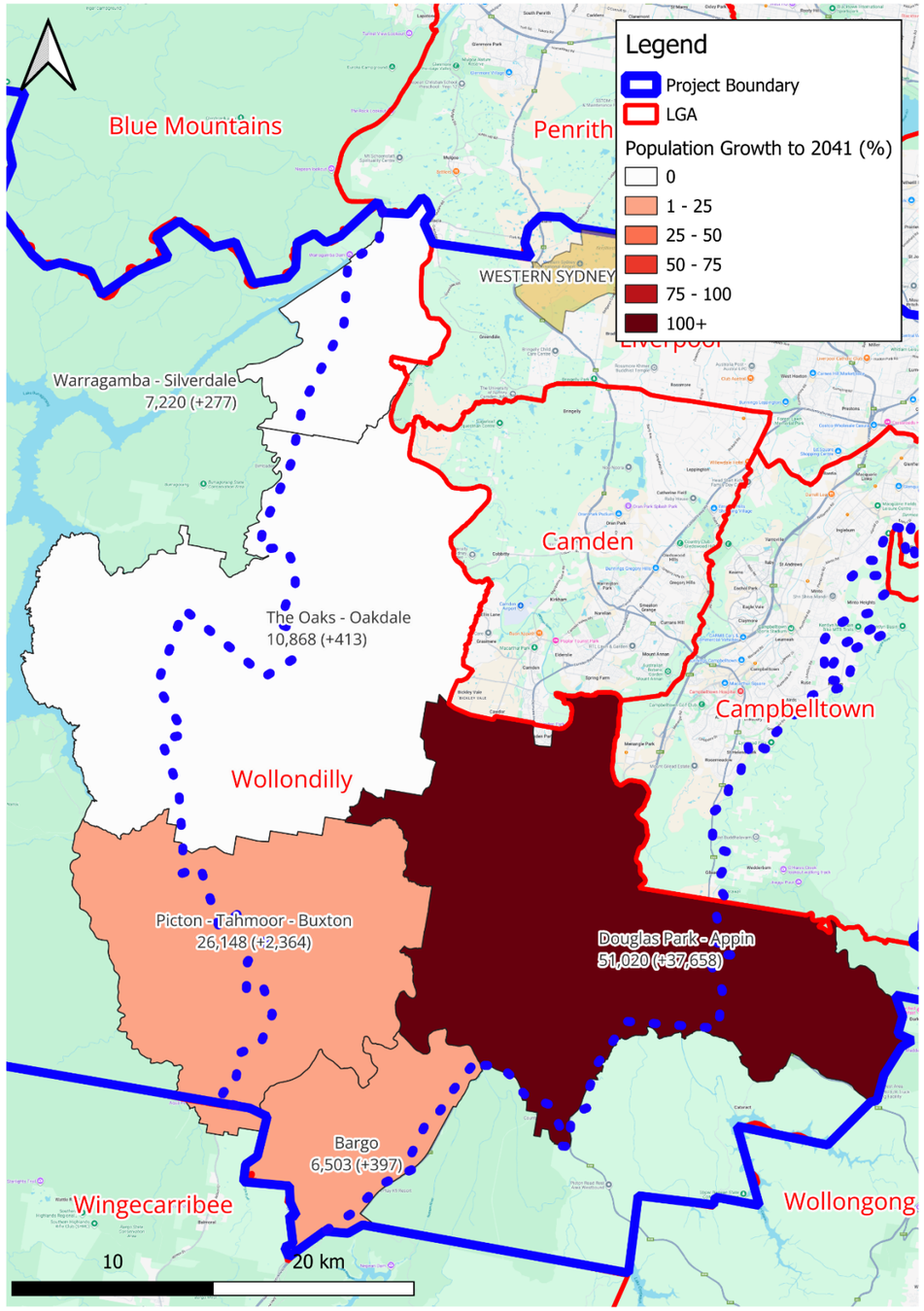


Figure 12 Wollondilly Population Growth Map

[2] Wilton 2040 – A Plan for the Wilton Growth Area | Planning Portal - Department of Planning and Environment

3.4. Priority Housing Areas

Per the analysis above, growth in population is concentrated within select SA2 areas within the four LGAs. These areas are grouped by SA2 status. The key areas are as follows and shown in Figure *13*:

- Austral - Greendale (Liverpool LGA)
- Edmondson Park (Liverpool LGA)
- Cobbitty-Bringelly (Camden LGA)
- Leppington – Catherine Field (Camden LGA)
- Rosemeadow - Glen Alpine (Campbelltown LGA)
- Douglas Park-Appin (Wollondilly LGA)

These areas are identified as the main drivers of future housing and population growth, and thus, the focal points for infrastructure planning and the focus areas for this report.

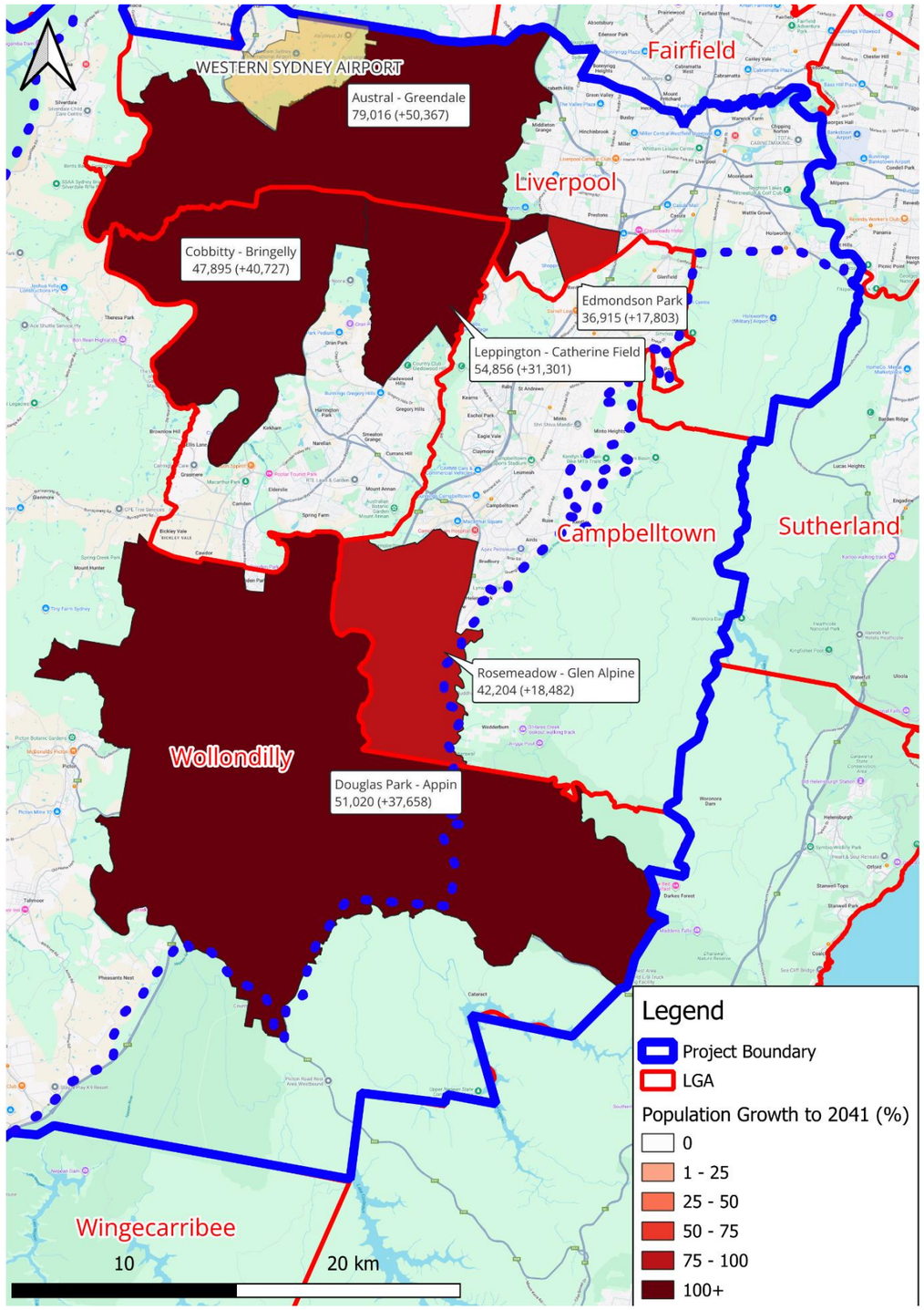


Figure 13 *Priority Housing Growth Areas Population Growth Map*

3.4.1. Timeframes for population growth within the study area

Table 7 outlines the population growth for the priority housing areas in 5-year increments. Figure 14 also shows the population growth between 2025 and 2041. A total of 186,207 additional people are predicted to call the South-Western Sydney focus areas home by 2040, requiring approximately 62,000 new dwellings in the focus area.

Table 7 Priority growth areas within study area

Year	2025	2030	2035	2040
Austral - Greendale - Badgerys Creek	28,649	46,885	62,164	76,547
Edmonson Park	19,112	23,235	29,179	35,891
Leppington - Catherine Field	23,555	31,000	37,562	51,559
Cobbitty - Bringelly	7,168	9,591	19,944	42,390
Rosemeadow - Glen Alpine	23,722	30,203	35,825	41,078
Douglas Park - Appin	13,362	20,316	33,195	48,223
Total	**126,717**	**173,595**	**233,208**	**312,924**

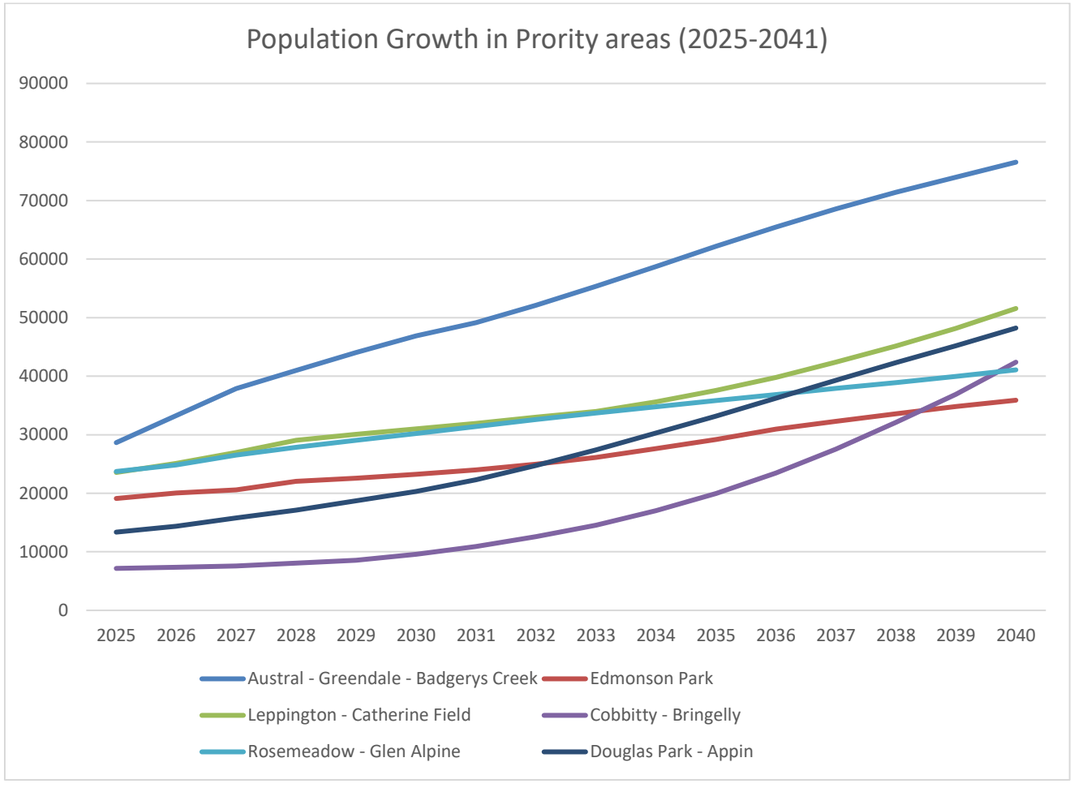


Figure 14 Priority Growth Areas population growth yearly

The areas with the most population and therefore housing growth over time are:

- Austral Greendale Badgerys Creek SA2 which will grow by 47,898 people
- Cobbity – Bringelly SA2 which will grow by 35,222 people
- Douglas Park – Appin SA2 which will grow by 34,861 people
- Leppington – Catherine Field SA2 which will grow by 35,222 people.

3.5. Employment and Commuting Trends

3.5.1. Commuting trends

Most recent data from TfNSW shows that the four locations selected for this study are heavily reliant on roads (Figure 15). Across all LGAs, residents are either a driver or passenger of a vehicle for around 80% of all trips. This reflects heavy reliance on roads and vehicles relative to any other form of transport. Mode share skewed towards vehicles trends upwards in Wollondilly due to its more regional location and lack of public transport options. This is a significant difference to Parramatta, which is also considered Western Sydney, whereby 73% of residents travelled by vehicles and 10% travelled by public transport.

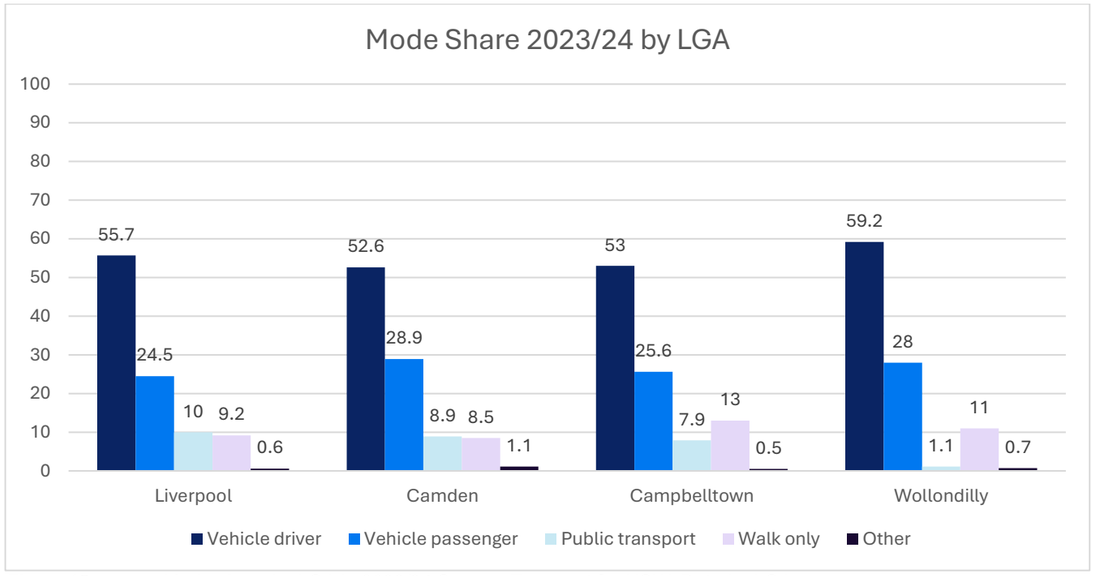


Figure 15 Mode share by LGA in 2023/24 Source: Transport for NSW, Data by LGA

This current commuting trend is consistent with other papers that highlight the reliance primarily of private vehicles for travel, with public transport mode share improving towards the east.[3] Additionally, Western Parkland City residents, including those in the study area, on average travelled 20 kms or 32 minutes by public transport and 13 kms or 21 minutes by private vehicle.

Current mode share splits are anticipated to shift significantly as a result of major developments in Western Sydney, including future infrastructure projects such as the Western Sydney Airport. These changes are likely to drive increased employment opportunities within the region, further influencing travel patterns. Therefore, it is essential to take future commuting trends and planned infrastructure into account

[3] *NSW Parliament 2024, Report No. 21 – PC 6 – Current and future public transport needs in Western Sydney, Portfolio Committee No. 6 – Transport, NSW Parliament, viewed 4 October 2025, https://www.parliament.nsw.gov.au/lcdocs/inquiries/2981/Report No. 21 - PC 6 - Current and future public transport needs in Western Sydney.pdf.*

when assessing and forecasting mode share and commuting trends. The table below outlines the following mode share targets for the Aerotropolis, which is north of the study area.

Table 8 Target Mode Share – Western Sydney Aerotropolis (%)

Year	Active transport	Public transport	Private vehicle
2026	3	18	79
2036	5	30	65
2056	7	43	50

Source: Department of Planning and Environment (2023), Western Sydney Aerotropolis Precinct Plan, page 41

Although there are not clear future mode share targets for the study area, it is noted that Camden, Liverpool and Wollondilly Councils encourage mode shift away from vehicles and towards public transport.[4]

3.5.2. Employment data

Table 9 and Table 10 outline population and employment projections over the next 15 years using Department of Housing, Planning and Infrastructure data and Transport for NSW Travel Zone Projections 2024 (TPZ24) for employment, which outlines current employment and projects future employment within the study area.

The employment growth in Wollondilly, Campbelltown and Liverpool outpaces the high population growth within these LGAs. Further, Camden's employment growth is only slightly less than its population growth. This illustrates that demand for these areas will not only be due to increased housing, but also be due to increased employment opportunities. Both drivers outline the need for transport infrastructure to reduce demand constraints and unlock the opportunities within these areas. The employment projections below also show that years after 2041 may lead to a further increase in population as employment within these LGAs increases. The ratio of jobs to population growth can be seen in Figure 16.

Table 9 Population and employment projections by LGA

LGA	Population			Employed Population		
	2025	**2041**	**15 Year Change**	**2025**	**2041**	**15 Year Change**
Source	*DPHI*	*DPHI*	*Calculation*	*TPZ24*	*TPZ24*	*Calculation*
Wollondilly	60,650	101,759	68%	32,247	54,104	68%
Camden	56,232	99,899	78%	34,753	61,741	78%
Campbelltown	143,138	170,361	19%	86,745	103,243	19%
Liverpool	152,097	216,197	42%	108,962	154,883	42%

Table 10 Jobs and Jobs/Population Ratio

LGA	Jobs			Jobs/Population Ratio		
	2025	**2041**	**15 Year Change**	**2025**	**2041**	**15 Year Change**
Source	*TPZ24*	*TPZ24*	*Calculation*	*Calculation*	*Calculation*	*Calculation*
Wollondilly	15,500	30,100	94%	0.26	0.30	16%
Camden	38,800	65,400	69%	0.69	0.65	-5%
Campbelltown	62,600	78,500	25%	0.44	0.46	5%
Liverpool	89,000	185,500	108%	0.59	0.86	47%

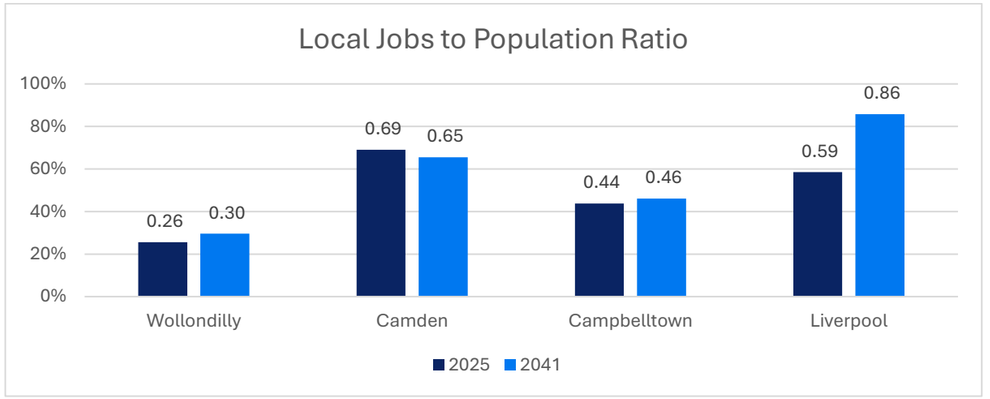


Figure 16 Jobs to Population Ratio Source: TPZ24 Employment Projections, DPHI population projections

Key takeaways from this analysis shows that a key gap in transport infrastructure within the study area is that there is not enough incentive to use public transports. This may be due to lack of infrastructure, lack of last and first mile planning or other reasons. However, data shows that the behaviour of residents within the study area rely heavily on private vehicles. Additionally, it highlights that travel between growth areas will become critical as a source of employment, notably for the Liverpool LGA and therefore transport access between LGAs is critical for unlocking the employment driven housing growth.

[4] *NSW Parliament 2024, Report No. 21 – PC 6 – Current and future public transport needs in Western Sydney, Portfolio Committee No. 6 – Transport, NSW Parliament, p106, viewed 4 October 2025, https://www.parliament.nsw.gov.au/lcdocs/inquiries/2981/Report No. 21 - PC 6 - Current and future public transport needs in Western Sydney.pdf.*

3.6. Gaps in Housing Growth Data

The Housing Growth analysis has relied upon population growth data produced by the Department of Planning, Housing and Infrastructure (DPHI) 2024 as the primary source of information. The projections are scenario based and represent possible demographic future trends based on an assessment of how the NSW population may change over time. The methodology considers population drivers such as:

- Births
- Deaths
- Overseas Migration
- Interstate migration
- Adjustments for the Housing Unit Method

Further details on the assumptions used can be found in the 2024 NSW Population Projections, November 2024 Methods and assumptions (DPHI)[5].

The population projections are reviewed every 5 years against the Census results and final population results from the ABS (Australian Bureau of statistics). The reliability of the projections at 20 years has historically been plus or minus 4% for Greater Sydney, indicating the projection model/scenario is reliable. Supporting this, these projections are used as a common framework across the NSW Government. They inform planning policy decisions around infrastructure and service delivery such as the provision of hospital beds, school classrooms, roads and public transport.

Limitations to using the DPHI data source include:

- The data is presented geographically at the Statistical Area Level 2 (SA2) and LGA level. This means that the population growth statistics do not align with the geographical areas of town planning/growth areas. As an example;
  - Austral - Greendale - Badgerys Creek SA2 containing the Western Sydney Airport and City of Bradfield will grow by 50,367 people and therefore require 16,789 dwellings. Given, an SA2 is defined as generally having a population of 3000 - 25,000 people, this modelling framework could be further broken down to more discrete geographical areas to more accurately capture the geographical areas of population and housing growth.
  - Growth such as Wilton/Macarthur do not geographically align with the SA2 areas in the population growth data and as such it is difficult to validate the SA2 data against proposed population growth.

As a result, there would be benefit to breaking down the data source into smaller areas to further quantify a heatmap of housing growth areas within the focus areas.

[5] Department of Planning, Housing and Infrastructure. 2024 NSW Population Projections, November 2024.

4. Gap Analysis

4.1. Existing Transport Infrastructure

Understanding the baseline transport network in the focus area, is fundamental to assessing how enabling infrastructure must evolve to support the projected dwelling and population increases. This section provides an overview and analysis of the existing transport network across the study area, focusing on public transport, road infrastructure, and key performance characteristics that underpin future network planning.

4.1.1. Existing Public Transport Network

While there is a strong rail and bus presence in the north-eastern corridor (Liverpool to Campbelltown), service coverage and frequency diminish rapidly toward the western and southern growth precincts. To better understand the spatial distribution and model.

The South-Western Sydney region forms a critical junction between metropolitan Sydney and the adjoining regional centres of the Illawarra and Southern Highlands. The public transport system supports daily commuting, freight logistics, and regional accessibility.

While rail coverage is strong along the Liverpool - Campbelltown axis, service frequency and network density reduce significantly toward Camden and Wollondilly, where most future housing supply is planned.

The existing heavy rail and intercity services is summarised below.

T2 Inner West & Leppington Line

- Terminates at Leppington Station (Camden LGA boundary).
- Key stations: Leppington, Edmondson Park, Liverpool, Casula, Glenfield.
- Provides direct access to Sydney CBD via Granville.

T5 Cumberland Line

- Connects Leppington, Liverpool, Parramatta, Blacktown, Schofields.
- Provides north-south connectivity across Western Sydney without travelling through the CBD.
- Shares track with the T2 Line between Leppington and Parramatta, offering additional frequency for the south-west corridor.

T8 Airport & South Line

- Connects Macarthur, Campbelltown, Leumeah, Minto, Ingleburn, Macquarie Fields, Glenfield to the CBD via the Airport line.
- Forms the core metropolitan rail spine through Campbelltown LGA and northern Wollondilly.

Southern Highlands Intercity Line

- Serves Campbelltown, Macarthur, Menangle Park, Douglas Park, Picton, Tahmoor, Bargo, extending south to Moss Vale, Bowral, Mittagong, Goulburn.
- Provides vital commuter and regional-freight connectivity between the Southern Highlands and metropolitan Sydney; limited frequency constrains broader uptake.
- This line is not currently electrified and operates at a reduced frequency to the T8 where it connects to.

Sydney Metro - Western Sydney Airport Line (Under Construction)

- 23 km fully automated metro connecting St Marys, Orchard Hills, Luddenham, Western Sydney International Airport, Aerotropolis Station, Leppington.
- Interchanges with the T1 Western Line at St Marys, enabling north-south connectivity across Greater Western Sydney.
- Key objectives: unlock Aerotropolis employment land, support airport access, and connect the south-western growth corridor to the metro system.
- Under construction; targeted to open concurrently with Western Sydney International Airport (2026 - 27)

A summary of the existing public transport network is shown in Figure 17 below.

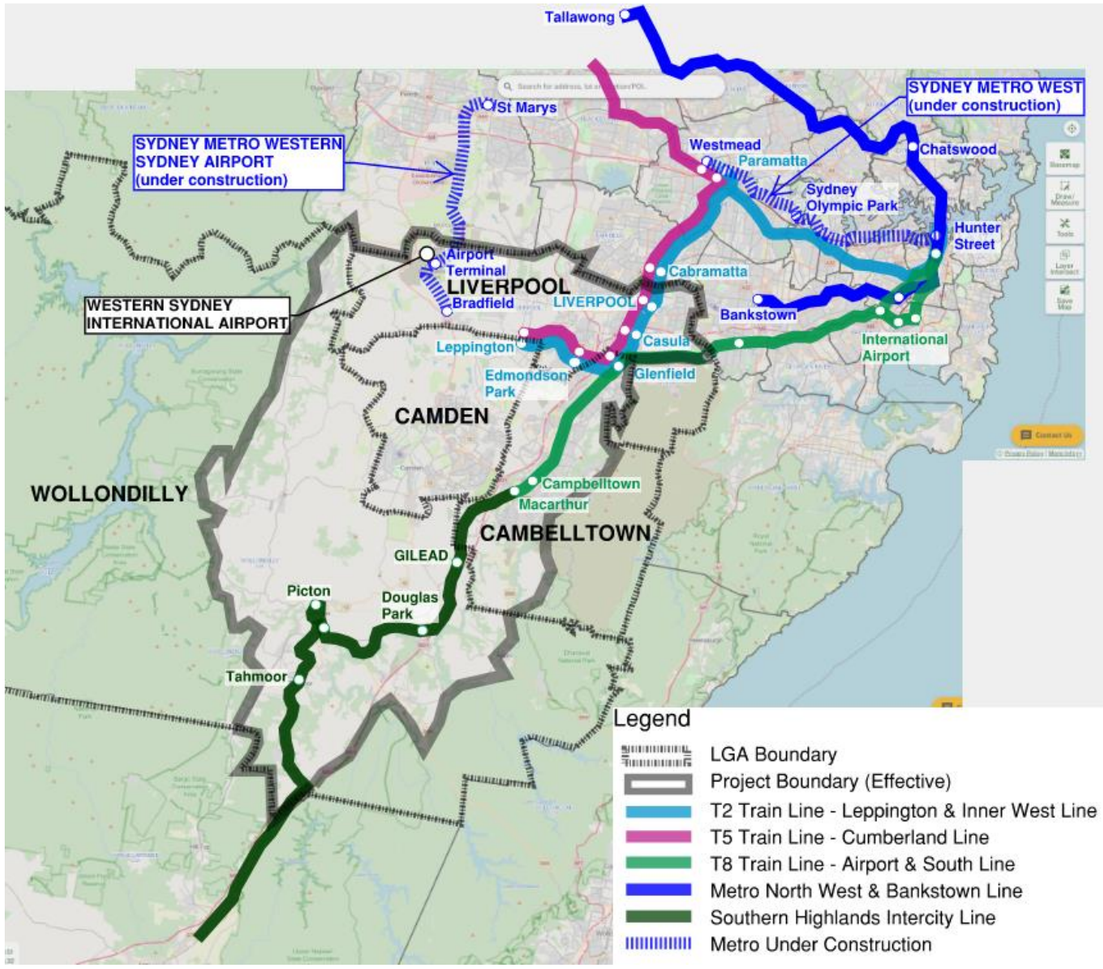


Figure 17 Existing Public Transport Network

4.1.2. Existing Road Network

The road network across the four LGAs supports high levels of commuter, commercial and freight traffic. It integrates motorway-grade links, state-classified arterials and key local connectors. As the primary mode of travel for over 90 % of journeys, road infrastructure is central to regional mobility and economic performance. The existing road network is summarised below.

Motorways and State Roads:

- **M7 Motorway (Westlink M7)**: orbital link connecting Prestons to M5, M4 and M2; major north–south freight and commuter corridor.
- **M5 South-West Motorway / M8**: east–west corridor linking Liverpool to Sydney CBD and Port Botany.
- **M12 Motorway (under construction)**: new east - west corridor linking M7 and Western Sydney Airport (Aerotropolis); due ~2026.
- **M31 Hume Motorway**: principal inter-regional freight and commuter corridor through Campbelltown & Wollondilly.
- **The Northern Road (A9)**: north – south state arterial road connecting Narellan and Penrith; recently upgraded as part of the Western Sydney Infrastructure Plan (WSIP).
- **Bringelly Road (A28)**: east - west state arterial road connecting Leppington, Aerotropolis and the Northern Road.
- **Camden Valley Way (A28)**: major state road connecting Liverpool, Leppington, Narellan and Camden; heavily used growth-area corridor.
- **Appin Road (B69)**: major state road connecting Campbelltown, Appin and Illawarra; upgrade program underway for safety and capacity.
- **Picton Road (B88)**: major state road connecting M31 and M1 (Princes Motorway); key freight corridor linking Illawarra and south-west.
- **Narellan Road (A9)**: major state road connecting Campbelltown and Narellan; supports cross-LGA movement to Camden.

Regional and Local Arterials:

- **Cowpasture Road**: north–south distributor linking Hoxton Park, Cecil Hills, Hinchinbrook and Camden Valley Way.
- **Menangle Road**: local road connecting Campbelltown, Menangle Park and Douglas Park (Wollondilly LGA).
- **Catherine Field Road / Oran Park Drive**: intra-Camden connectors for Leppington - Catherine Field growth area.
- **Remembrance Driveway (Old Hume Highway)**: Linking Tahmoor, Bargo and Yanderra; secondary parallel to M31.

A summary map of the existing road network is shown in Figure 18.

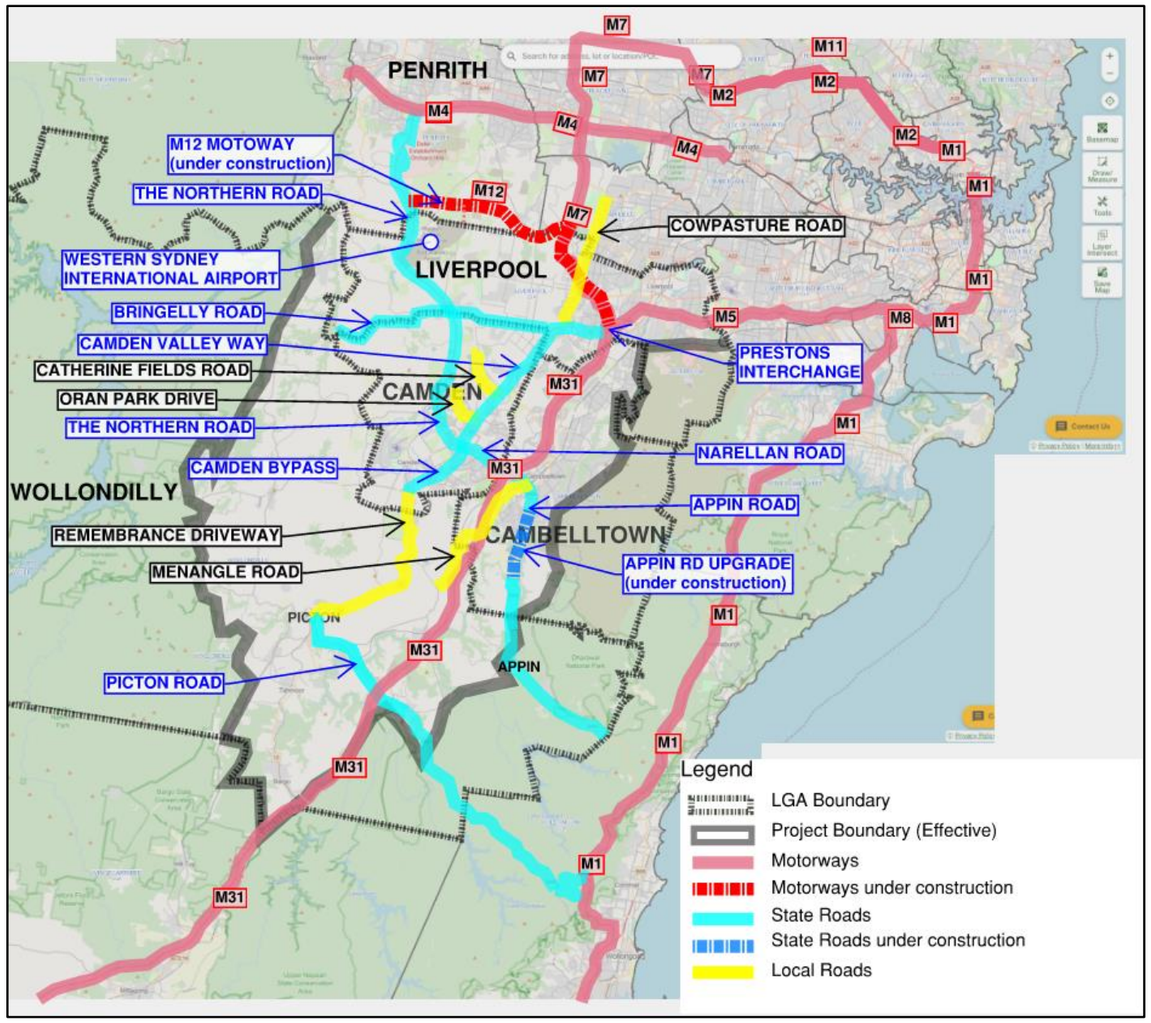


Figure 18 *Existing Road Network Map (Motorways, Arterials and Local Roads)*

4.1.3. Key Observations

The existing transport network in South-Western Sydney provides a strong but uneven foundation for supporting the growth. High-capacity infrastructure is concentrated around Liverpool and Campbelltown, while Camden and Wollondilly remain comparatively under-served.

The heavy rail system offers reliable connections along the Liverpool, Campbelltown and Macarthur corridor, but western and southern precincts such as Leppington, Oran Park, Bringelly, Wilton and Appin fall outside direct rail catchments. Public transport access is limited to the north-eastern corridor, leaving major growth precincts unserved. The Southern Highlands Line provides essential inter-regional access for Wollondilly residents, but its low frequency and long travel times limit its effectiveness as a commuter service.

The road network dominates mobility across all LGAs, with most trips made by private vehicle. Major corridors such as the M7, M31 Hume Motorway, Camden Valley Way, Narellan Road and The Northern Road form the region's transport backbone. The network is highly oriented north–south, funnelling traffic towards Sydney's core, with limited east-west connectivity which is a key weakness given the dispersed location of housing and employment areas. Freight and regional traffic are concentrated on Hume Motorway and Picton Road, both nearing capacity during peak periods (refer to analysis in Section 4.4 for further details).

Recent and ongoing state investment through the Western Sydney Infrastructure Plan (WSIP) including the M12 Motorway, Bringelly Road Upgrade and The Northern Road Upgrade, is beginning to address these structural gaps but will require complementary public-transport expansion to achieve balanced accessibility. Overall, the region faces a modal imbalance: a well-developed road hierarchy supporting high car dependence, contrasted with limited high-capacity public transport coverage. Without targeted intervention to improve east-west connections, rail extensions and multi-modal integration, future housing and employment growth in Camden and Wollondilly will intensify congestion and accessibility disparities.

4.2. Existing Transport Infrastructure Focus Areas

For the existing transport infrastructure capacity, an assessment has been undertaken on the focus areas:

- Austral - Greendale (Liverpool LGA)
- Edmondson Park (Liverpool LGA)
- Cobbitty-Bringelly (Camden LGA)
- Leppington – Catherine (Camden LGA)
- Rosemeadow - Glen Alpine (Campbelltown LGA)
- Douglas Park-Appin (Wollondilly LGA)

4.3. Existing Transport Capacity Methodology

4.3.1. Existing Road Assessment Methodology

To assess the existing capacity or supply of the road network, Austroads Guide to Traffic Management Part 3 has been used. The existing capacity has been considered by the concept of degree of saturation (VCR) of the existing road which is the ratio of the arrival flow (demand) to the capacity (supply) of the road during the same period. Below are the VCR ratios:

- 0 - 0.8 Under capacity / Under saturated
- 0.8 – 0.9 ideal for:
  - Roads with no roundabouts or signals (0.8)
  - Roads with roundabouts (0.85)
  - Signalised roads (0.9)
- 0.9 – 1 near capacity / saturation
- 1.0 at capacity / fully saturated
- >1.0 over capacity / over saturated

The roads across the project can be classified as either Interrupted Flow (with intersections, traffic lights or roundabouts) or Uninterrupted Flow (typically highways/major roads without intersections). Section 4 of Austroads Guide to Traffic Management Part 3 was used to assess Uninterrupted Flow and Section 5.2 was used to assess the capacity of Interrupted Flow. For the purposes of this assessment, only trafficable lanes have been counted for each location and clearway conditions or parking lanes have not been considered.

Each focus area has been assessed for the major roads and transport routes in, out and adjacent to the SA2. While the project scope only included State and Regional roads, some main local roads have been considered too as they form a key part of the transportation network for the local area and provide a more complete assessment of the road capacity.

For highways and motorways, table 4.5 LOS criteria for basic freeway segments has been used and the capacity has been taken at a level of service (LOS) of E, given that provides the greatest service flow rate or passenger vehicles per lane per hour (pc/h/ln) during peak hour, and would represent the maximum capacity possible.

To determine the demand for the roads in the focus areas, TfNSW's Traffic Volume Viewer has been used which provides recorded data on the number of vehicles using certain roads. The data is provided across a range of dates between 2006 to 2025, however, not all roads have data collected and not all years have been recorded.

Engineering judgement has been taken where the data available is incomplete and data has been extrapolated in an attempt to apply the available data to our chosen focus areas.

For the purposes of this assessment, weekday AM Peak and PM Peak data has been used as this data provides the greatest level of demand the road will experience. The data has been collected as follows:

- AM Peak – traffic volume during the hours of 6am to 10am
- PM Peak – traffic volume during the hours of 3pm to 7pm

4.4. Existing Road Capacity

4.4.1. Austral – Greendale Supply

The Austral – Greendale existing traffic network can be observed in Figure 19.

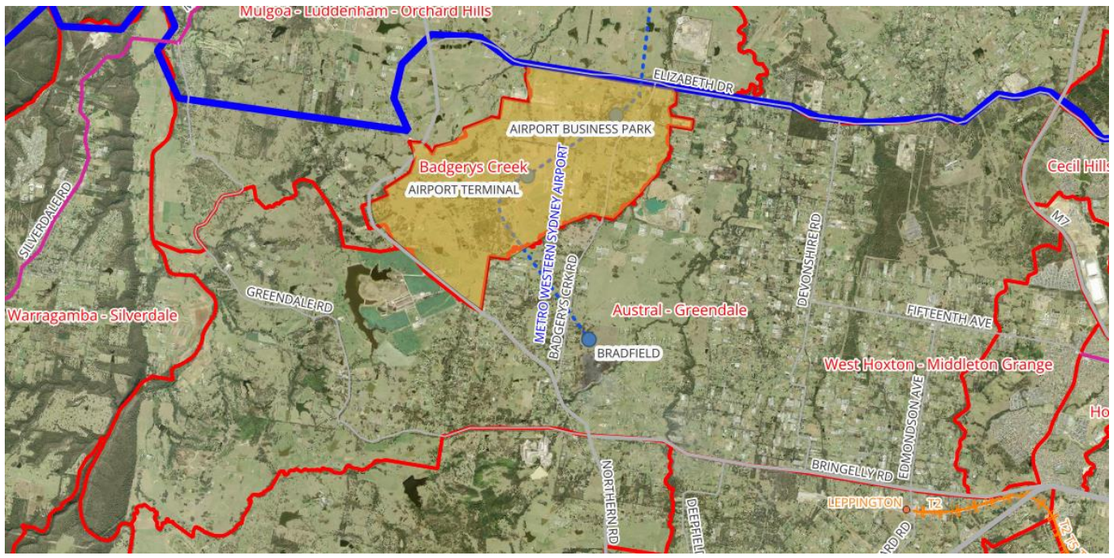


Figure 19 Austral – Greendale Existing Transport

Table 11 shows the major transport routes for the Austral – Greendale area:

Table 11 Austral – Greendale Existing Road Transport

Road Name	TfNSW Class	Lanes (Each Direction)	Divided / Undivided	Flow Type	Austroads Capacity (pc/h/ln)	Capacity Each Direction (pc/h/direction)	Direction
Elizabeth Drive	State	1	Undivided	Interrupted	900	900	E/W
Northern Road	State	2	Divided	Interrupted	1000	2000	N/S
M7 (Upgraded)	State	3	Divided	Uninterrupted	2300	6900	N/S
New M12	State	2	Divided	Uninterrupted	2300	4600	E/W
Badgerys Creek Road	Regional	1	Undivided	Interrupted	900	900	N/S
Devonshire Road	Regional	1	Undivided	Interrupted	900	900	N/S
Edmondson Ave	Regional	1	Undivided	Interrupted	900	900	N/S
Bringelly Road	State	2	Divided	Interrupted	1000	2000	E/W
Greendale Road*	Local*	1	Undivided	Interrupted	900	900	N/S
Fifteenth Ave*	Local*	1	Undivided	Interrupted	900	900	E/W

Given the location is so large, there are many roads in both north-south and east-west directions. The capacity for the north-south direction is 10,200 pc/h/direction over six roads and the east/west direction is 8,400 pc/h/direction over four roads.

The Metro Western Sydney Airport line is schedule to be completed by 2027 which will bolster the capacity of Austral – Greendale. While this will improve north-south transport, it will not improve east-west movement.

4.4.2. Austral – Greendale Demand

Elizabeth Drive

Table 12 shows the traffic volume for Elizabeth Drive east of the M7 where there are two lanes:

Table 12 Elizabeth Drive Traffic Volume Data

Suburb	Direction	Year	Time	Traffic Volume (over 4 hours)	Traffic Volume Per Direction (over 4 hours)	Traffic Volume Per Hour (pc/h)	Maximum Traffic Volume Per Hour Per Direction (pc/h /direction)
Liverpool	EAST	2019	AM PEAK	7387	7387	1847	
Liverpool	WEST	2019	AM PEAK	4089	4089	1022	
Liverpool	BOTH	2019	PM PEAK	14412	7206	1802	**2069**
Liverpool	EAST	2019	PM PEAK	6137	6137	1534	
Liverpool	WEST	2019	PM PEAK	8275	8275	2069	

The theoretical capacity of the road is 2000 vehicles per hour and the maximum recorded flow during PM peak is 2069. This shows that Elizabeth Drive is fully saturated with a VCR of 1.0. Given the lack of traffic data to the west of the M7 where our project area is located, we have extrapolated and determined that this section of Elizabeth Drive is also fully saturated. The new M12 project will connect the M7 to The Northern Road which will bolster the capacity of the road. Our assessments shows justification for the new motorway, especially given the mass population growth and demand for access to Bradfield and the new airport.

Northern Road

Table 13 shows the traffic volume for Northern Road:

Table 13 Northern Road Traffic Volume Data

Suburb	Direction	Year	Time	Traffic Volume (over 4 hours)	Traffic Volume Per Direction (over 4 hours)	Traffic Volume Per Hour (pc/h)	Maximum Traffic Volume Per Hour Per Direction (pc/h/direction)
Bringelly	SOUTH	2009	AM PEAK	1768	1768	442	
Bringelly	SOUTH	2009	PM PEAK	2813	2813	703	
Luddenham	NORTH	2009	AM PEAK	1823	1823	456	
Luddenham	SOUTH	2009	AM PEAK	2178	2178	545	
Luddenham	BOTH	2009	AM PEAK	4001	2001	500	**703**
Luddenham	NORTH	2009	PM PEAK	2378	2378	595	
Luddenham	SOUTH	2009	PM PEAK	1942	1942	486	
Luddenham	BOTH	2009	PM PEAK	4320	2160	540	

The data is from 2009 when Northern Road was one lane in each direction of travel so would have had a capacity of 900 pc/h/lane. However, the Austral – Greendale location has changed dramatically in the 16 years with significant development with a population increase of just over 200%. Hence, it is not reasonable to use the data for Northern Road back in 2009 to assess its current capacity.

Missing Traffic Volume Data

No traffic volume data is available for the M7 motorway, Badgerys Creek Road, Devonshire Road, Edmondson Road, Bringelly Road, Greendale Road or Fifteenth Ave.

4.4.3. Edmondson Park Supply

The Edmondson Park existing traffic network can be observed in Figure 20

Figure 20 Edmondson Park Existing Transport

Table 14 shows the major transport routes for the Edmondson Park area:

Table 14 Edmondson Park Existing Road Transport

Road Name	TfNSW Class	Lanes (Each Direction)	Divided / Undivided	Flow Type	Austroads Capacity (pc/h/ln)	Capacity Each Direction (pc/h/direction)	Direction
Camden Valley Way	State	3	Divided	Interrupted	1000	3000	E/W
Bernera Road	Regional	2	Undivided	Interrupted	900	1800	N/S
Campbelltown Road	State	1	Undivided	Interrupted	900	900	N/S
M7	State	2	Divided	Uninterrupted	2300	4600	N/S
Hume Highway	State	4	Divided	Uninterrupted	2300	9200	N/S

Edmondson Park has 5 major road corridors servicing the focus area. The capacity for the north-south direction is 16,500 pc/h/direction over 4 roads and the east-west direction is 3,000 pc/h/direction over a single road. There is significantly more capacity in the north-south direction compared with the east-west direction which will likely develop into a problem in the future with the forecast population growth.

Campbelltown Road

Table 15 shows the traffic volume data for Campbelltown Road:

Table 15 Campbelltown Road Traffic Volume Data

Suburb	Direction	Year	Time	Traffic Volume (over 4 hours)	Traffic Volume Per Direction (over 4 hours)	Traffic Volume Per Hour (pc/h)	Maximum Traffic Volume Per Hour Per Direction (pc/h/direction)
Leumeah	NORTH	2019	PM PEAK	5686	5686	1422	**1855**
Leumeah	SOUTH	2019	PM PEAK	7224	7224	1806	
Leumeah	BOTH	2019	PM PEAK	12910	6455	1614	
Leumeah	BOTH	2019	AM PEAK	11152	5576	1394	
Leumeah	SOUTH	2019	AM PEAK	5212	5212	1303	
Leumeah	NORTH	2019	AM PEAK	5940	5940	1485	
Leumeah	BOTH	2018	PM PEAK	13125	6563	1641	
Leumeah	SOUTH	2018	PM PEAK	7418	7418	1855	
Leumeah	NORTH	2018	AM PEAK	6091	6091	1523	
Leumeah	SOUTH	2018	AM PEAK	5317	5317	1329	
Leumeah	BOTH	2018	AM PEAK	11408	5704	1426	
Leumeah	NORTH	2018	PM PEAK	5707	5707	1427	

The recorded data for Campbelltown Road was taken at Leumeah. The location of the recorded data is key as at this location of Campbelltown Road the road is divided with 2 lanes in each direction, compared with an undivided road with a single lane in each direction for our study area. Hence, the overall traffic volume per hour cannot be used but the saturation has been extrapolated. Campbelltown Road would have a theoretical capacity of 2,000 pc/h/direction and the maximum traffic volume of 1,855 pc/h results in a VCR of 0.93. This value is slightly under the saturation rate back in 2019 and given the high population growth in the area, it will be near saturation now and will go beyond in the near future.

Hume Highway

Table 16 shows the traffic volume data for the Hume Highway:

Table 16 Hume Highway Traffic Volume Data

Suburb	Direction	Year	Time	Traffic Volume (over 4 hours)	Traffic Volume Per Direction (over 4 hours)	Traffic Volume Per Hour (pc/h)	Maximum Traffic Volume Per Hour Per Direction (pc/h/direction)
Ingleburn	NORTH	2008	AM PEAK	5069	5069	1267	1870
Ingleburn	SOUTH	2008	AM PEAK	5065	5065	1266	
Ingleburn	BOTH	2008	AM PEAK	10134	5067	1267	
Ingleburn	NORTH	2008	PM PEAK	4400	4400	1100	
Ingleburn	SOUTH	2008	PM PEAK	6253	6253	1563	
Ingleburn	BOTH	2008	PM PEAK	10653	5327	1332	
Ingleburn	NORTH	2009	AM PEAK	7479	7479	1870	
Ingleburn	SOUTH	2009	AM PEAK	839	839	210	
Ingleburn	BOTH	2009	AM PEAK	8318	4159	1040	
Ingleburn	NORTH	2009	PM PEAK	5829	5829	1457	
Ingleburn	SOUTH	2009	PM PEAK	1390	1390	348	
Ingleburn	BOTH	2009	PM PEAK	7219	3609.5	902	

The location where the data is just south of the focus area however the data is only recorded up to 2009. The nearest location along the Hume Highway with data from 2009 to 2021 was to the south in Menangle Park. Over that same time period, the peak traffic flow increased by 57%. If that same growth is applied to the maximum volume per hour of 1870, it results in 2936 pc/h/direction. This is still well below the capacity of 9200, resulting in a VCR of 0.32 showing there is sufficient capacity in the Hume Highway to accommodate increases in traffic flow from the increased population.

Missing Traffic Volume Data

No traffic volume data is available for the M7 motorway, Camden Valley Way or Bernera Road.

4.4.4. Cobbitty-Bringelly Supply

The Cobbitty-Bringelly traffic network can be observed in Figure 21.

Table 17 shows the major transport routes for the Cobbitty-Bringelly area:

Table 17 Cobbitty – Bringelly Existing Road Transport

Road Name	TfNSW Class	Lanes (Each Direction)	Divided / Undivided	Flow Type	Austroads Capacity (pc/h/ln)	Capacity Each Direction (pc/h/direction)	Direction
Northern Road	State	2	Divided	Interrupted	1000	2000	N/S
Bringelly Road	State	2	Divided	Interrupted	1000	2000	E/W
Greendale Road	Local	1	Undivided	Interrupted	900	900	N/S
Cobbitty Road	Local	1	Undivided	Interrupted	900	900	E/W

Cobbitty-Bringelly has four major road corridors servicing the location. The capacity for the north/south direction is 2,900 pc/h/direction over two roads and the east/west direction is 2,900 pc/h/direction over two roads. There is equal capacity in both the north/south and east/west directions.

4.4.5. Cobbitty-Bringelly Demand

As stated in Section 4.4.2, the Northern Road data is from 2009 when both the road and surrounding area was considerably underdeveloped and hence the data cannot be used to estimate the current capacity. None of the other roads in Cobbitty-Bringelly have any volume data.

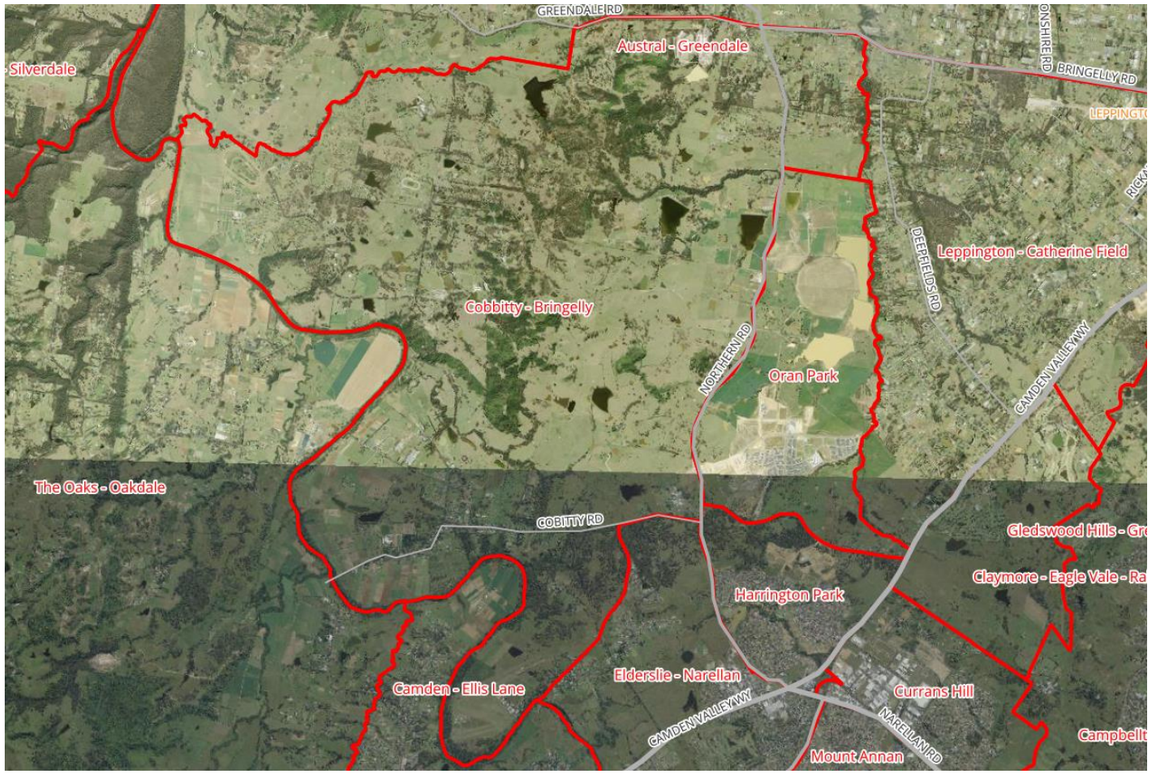


Figure 21 Cobbitty – Bringelly Existing Transport

4.4.6. Leppington – Catherine Supply

The Leppington-Catherine existing traffic network can be observed in Figure 22.

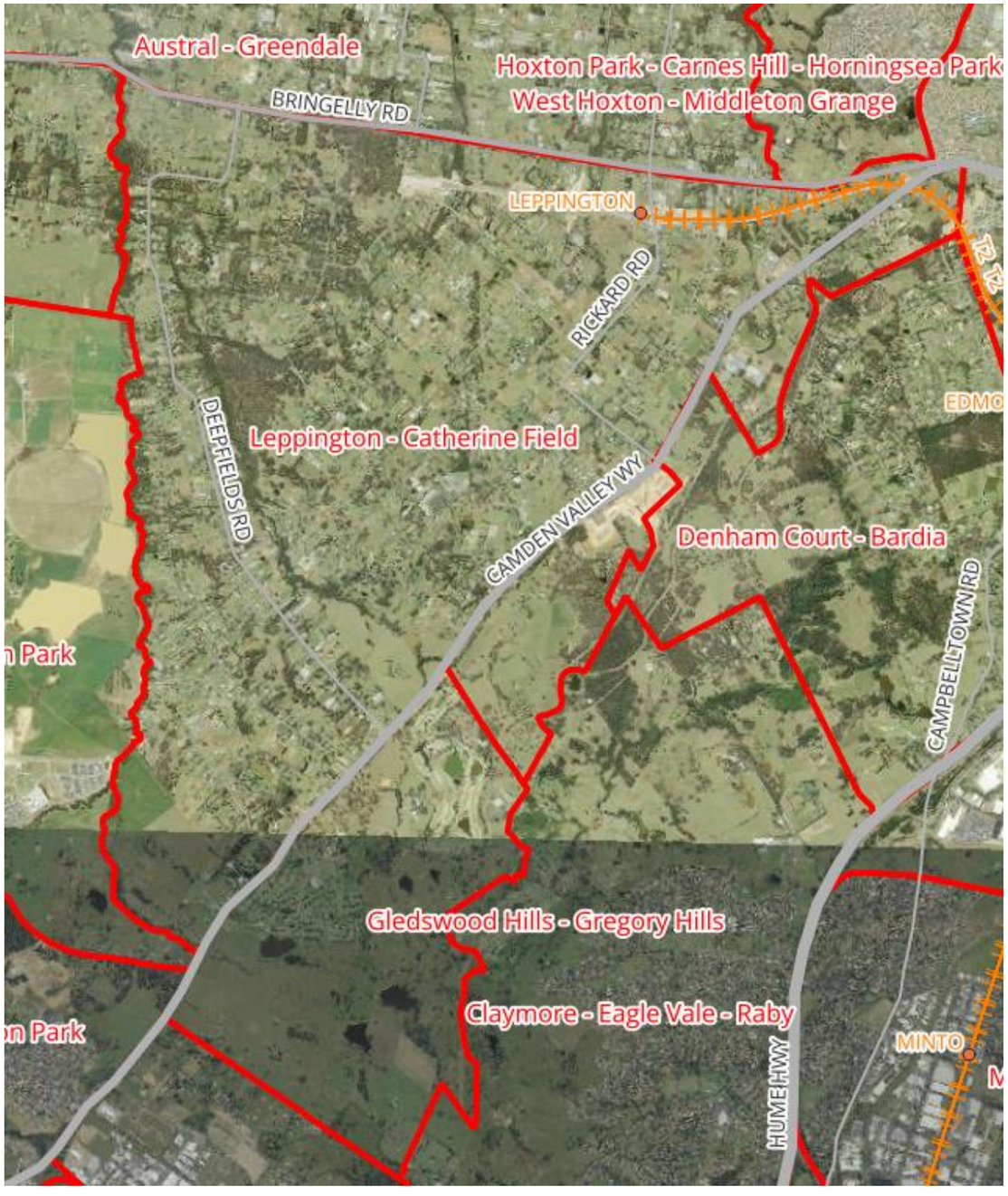


Figure 22 Leppington – Catherine Field Existing Transport

Table 18 shows the major transport routes for the Leppington-Catherine Field area:

Table 18 Leppington – Catherine Existing Road Transport

Road Name	TfNSW Class	Lanes (Each Direction)	Divided / Undivided	Flow Type	Austroads Capacity (pc/h/ln)	Capacity Each Direction (pc/h/direction)	Direction
Camden Valley Way	State	2	Divided	Interrupted	1000	2000	N/S
Bringelly Road	State	2	Divided	Interrupted	1000	2000	E/W
Deepfields Road	Local*	1	Undivided	Interrupted	900	900	N/S
Rickard Road	Local*	1	Undivided	Interrupted	900	900	N/S

Leppington–Catherine Field is served by 4 major road corridors. The north-south routes collectively provide a capacity of 3,800 pc/h across 3 roads, while the east-west direction is limited to a single corridor with a capacity of 900 pc/h. This highlights a significant imbalance, with substantially greater capacity available for north-south travel compared to east-west movement.

4.4.7. Leppington – Catherine Demand

Camden Valley Way

Table 19 shows the traffic volume data for Camden Valley Way:

Table 19 Camden Valley Way Existing Transport Data

Suburb	Direction	Year	Time	Traffic Volume (over 4 hours)	Traffic Volume Per Direction (over 4 hours)	Traffic Volume Per Hour (pc/h)	Maximum Traffic Volume Per Direction (pc/h /direction)
Elderslie	NORTH	2019	AM PEAK	2033	2033	508	**745**
Elderslie	SOUTH	2019	AM PEAK	1672	1672	418	
Elderslie	BOTH	2019	AM PEAK	3705	1853	463	
Elderslie	NORTH	2019	PM PEAK	2068	2068	517	
Elderslie	SOUTH	2019	PM PEAK	2608	2608	652	
Elderslie	BOTH	2019	PM PEAK	4676	2338	585	
Elderslie	NORTH	2020	AM PEAK	2197	2197	549	
Elderslie	SOUTH	2020	AM PEAK	1735	1735	434	
Elderslie	BOTH	2020	AM PEAK	3932	1966	492	
Elderslie	NORTH	2020	PM PEAK	2179	2179	545	
Elderslie	SOUTH	2020	PM PEAK	2658	2658	665	
Elderslie	BOTH	2020	PM PEAK	4837	2419	605	
Elderslie	NORTH	2021	AM PEAK	2426	2426	607	
Elderslie	SOUTH	2021	AM PEAK	1894	1894	474	
Elderslie	BOTH	2021	AM PEAK	4320	2160	540	
Elderslie	NORTH	2021	PM PEAK	2457	2457	614	
Elderslie	SOUTH	2021	PM PEAK	2980	2980	745	
Elderslie	BOTH	2021	PM PEAK	5437	2719	680	

The data for Camden Valley Way is located just south of Leppington – Catherine Field and has data up to 2021 so can be considered reasonably reliable for the assessment. The maximum traffic volume per direction recorded was 745 pc/h/direction which is considerably less than the theoretical capacity of 2000

pc/h/direction. The resultant VCR for Camden Valley Way is 0.37 showing that the road was actually operating considerably under capacity during 2021.

Missing Traffic Volume Data

There is no traffic volume data for Bringelly Road, Deepfields Road or Rickard Road.

4.4.8. Rosemeadow – Glen Alpine Supply

The Rosemeadow-Glen Alpine existing traffic network can be observed in Figure 23.

Table 20 shows the major transport routes for the Rosemeadow-Glen Alpine area:

Table 20 Rosemeadow – Glen Alpine Existing Road Transport

Road Name	TfNSW Class	Lanes (Each Direction)	Divided/ Undivided	Flow Type	Austroads Capacity (pc/h/ln)	Capacity Each Direction (pc/h/direction)	Direction
Hume Highway	State	2	Divided	Uninterrupted	2300	4600	N/S
Appin Road	State	2	Undivided	Interrupted	900	1800	N/S
Menangle Road	State	1	Undivided	Interrupted	900	900	N/S

Rosemeadow – Glen Alpine has three major road corridors servicing the location. All the roads service the north-south direction with a total capacity of 4,100 pc/hr/direction

Figure 23 Rosemeadow – Glen Alpine Existing Transport

4.4.1. Rosemeadow – Glen Alpine Demand

Hume Highway

The Hume Motorway recorded traffic volume data can be seen in Table 21:

Table 21 Hume Motorway Traffic Volume Data

Suburb	Direction	Year	Time	Traffic Volume (over 4 hours)	Traffic Volume Per Direction (over 4 hours)	Traffic Volume Per Hour (pc/h)	Maximum Traffic Volume Per Direction (pc/h/direction)
Menangle Park	NORTH	2020	AM PEAK	6653	6653	1663	**2028**
Menangle Park	SOUTH	2020	AM PEAK	6732	6732	1683	
Menangle Park	BOTH	2020	AM PEAK	13385	6693	1673	
Menangle Park	NORTH	2020	PM PEAK	6674	6674	1669	
Menangle Park	SOUTH	2020	PM PEAK	8113	8113	2028	
Menangle Park	BOTH	2020	PM PEAK	14787	7394	1848	
Menangle Park	NORTH	2021	AM PEAK	6439	6439	1610	
Menangle Park	SOUTH	2021	AM PEAK	6545	6545	1636	
Menangle Park	BOTH	2021	AM PEAK	12984	6492	1623	
Menangle Park	NORTH	2021	PM PEAK	6588	6588	1647	
Menangle Park	SOUTH	2021	PM PEAK	7970	7970	1993	
Menangle Park	BOTH	2021	PM PEAK	14558	7279	1820	

The maximum number of vehicles along the Hume Highway just to the north of the focus area in Menangle Park is 2028 pc/hr/direction. This is considerably below the theoretical maximum capacity of 4600 pc/hr/direction resulting in a 0.44 VCR showing that the motorway is under saturated.

Appin Road

There have been multiple locations along Appin Road where traffic volume data has been recorded. The location nearest to the Rosemeadow – Glen Alpine focus area only has data for 2009, before considerable development was undertaken in the area. The maximum traffic volume per direction in 2009 was 242 pc/h/direction which is well below the 1800 pc/h/direction capacity. However, given there has been substantial development in the area, Appin Road data has been used from Section 4.4.1 and applied to this location, with a VCR of 0.57. This extrapolation would mean that Appin Road is currently undersaturated with sufficient capacity during peak periods. However, given the heavy population growth in the area, the traffic volumes will rapidly grow and the saturation rate could increase substantially.

Menangle Road

The Menangle Road recorded traffic volume data can be seen in Table 22:

Table 22 Menangle Road Traffic Data

Suburb	Direction	Year	Time	Traffic Volume (over 4 hours)	Traffic Volume Per Direction (over 4 hours)	Traffic Volume Per Hour (pc/h)	Maximum Traffic Volume Per Direction (pc/h/direction)
Menangle Park	NORTH	2020	AM PEAK	6653	6653	1663	**2028**
Menangle Park	SOUTH	2020	AM PEAK	6732	6732	1683	
Menangle Park	BOTH	2020	AM PEAK	13385	6693	1673	
Menangle Park	NORTH	2020	PM PEAK	6674	6674	1669	
Menangle Park	SOUTH	2020	PM PEAK	8113	8113	2028	
Menangle Park	BOTH	2020	PM PEAK	14787	7394	1848	
Menangle Park	NORTH	2021	AM PEAK	6439	6439	1610	
Menangle Park	SOUTH	2021	AM PEAK	6545	6545	1636	
Menangle Park	BOTH	2021	AM PEAK	12984	6492	1623	
Menangle Park	NORTH	2021	PM PEAK	6588	6588	1647	
Menangle Park	SOUTH	2021	PM PEAK	7970	7970	1993	
Menangle Park	BOTH	2021	PM PEAK	14558	7279	1820	

The maximum number of vehicles along Menangle Road was 372 pc/h/direction back in 2008. This is well under the theoretical capacity of 900 pc/h/direction, resulting in a VCR of 0.41 showing that in 2008 the road was undersaturated or flowing freely. However, there has been significant growth in the area since 2008 and traffic demands will have changed.

In the absence of other recorded data for comparable roads, the data for Hume Highway at Menangle Park has been used. Between 2008 and 2021, the Hume Highway traffic grew 64%. If this same growth in traffic is applied to Menangle Road that would increase the peak volume to 610 pc/h/direction in 2021 resulting in a VCR of 0.68. This is still under capacity currently, however, given the project growth Menangle Road will reach capacity in the near future.

4.4.2. Douglas Park-Appin Supply

The Douglas Park-Appin existing traffic network can be observed in Figure 24.

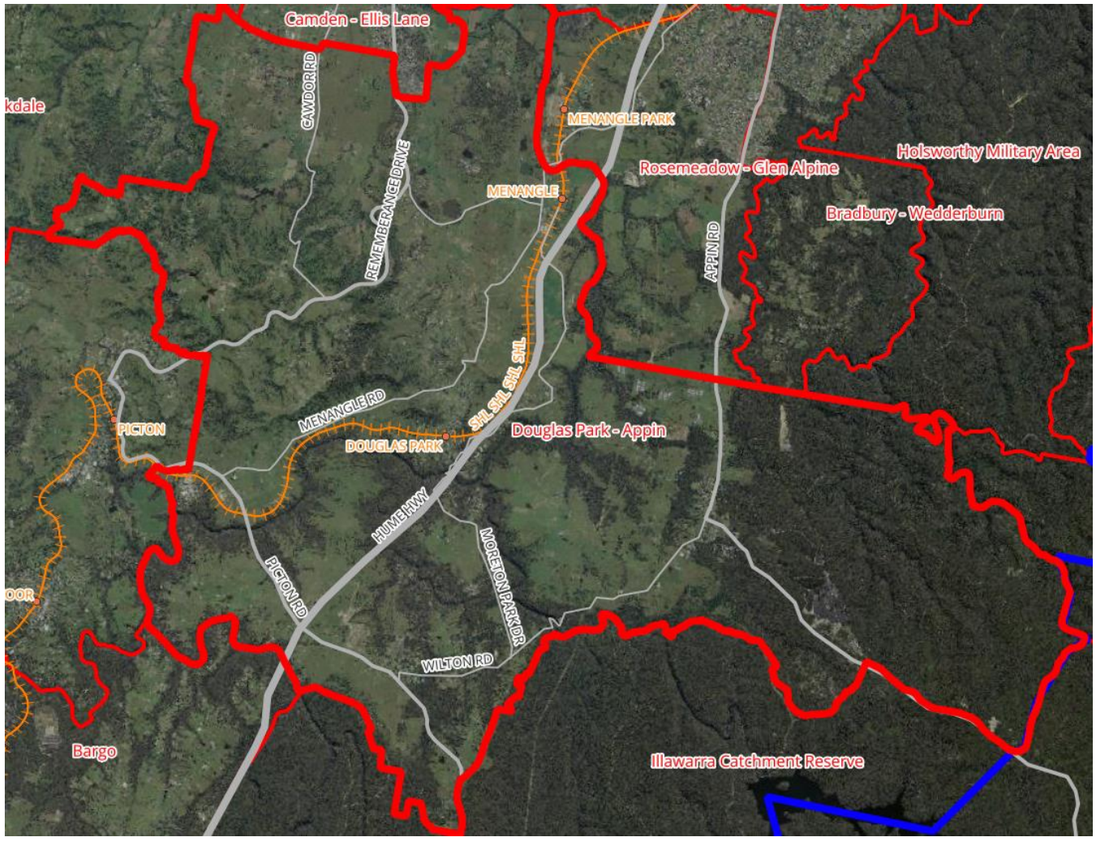


Figure 24 Douglas Park – Appin Existing Transport

Table 23 shows the major transport routes for the Douglas Park-Appin area:

Table 23 Douglas Park Appin Existing Traffic Data

Road Name	TfNSW Class	Lanes (Each Direction)	Divided / Undivided	Flow Type	Austroads Capacity (pc/h/ln)	Capacity Each Direction (pc/h/direction)	Direction
Hume Highway	State	2	Divided	Uninterrupted	2300	4600	N/S
Remembrance Drive	State	1.5	Undivided	Interrupted	900	1350	N/S
Menangle Road	State	1	Undivided	Interrupted	900	900	N/S
Appin Road	State	1	Undivided	Interrupted	900	900	N/S
Picton Road	State	1.5	Undivided	Interrupted	900	1350	N/S
Wilton Road	Regional	1	Undivided	Interrupted	900	900	E/W
Moreton Park Drive	Local*	1	Undivided	Interrupted	900	900	E/W
Cawdor Road	Local*	1	Undivided	Interrupted	900	900	N/S
Woodbridge Road	Local*	1	Undivided	Interrupted	900	900	E/W

Douglas Park - Appin has nine major road corridors servicing the location. The capacity for the north/south direction is 10,000 pc/hr/direction over six roads and the east/west direction is 2,700 veh/hr/direction over three roads. There is significantly more north/south capacity compared with east/west capacity. This makes sense given the Holsworth Military Base and a national park is to the east.

4.4.1. Douglas Park-Appin Demand

Hume Highway

Refer to Table 21 for Hume Highway data in a similar location to this focus area, yielding a VCR of 0.44 which shows the highway is well under-capacity.

Remembrance Drive

The Remembrance Drive recorded traffic volume data can be seen in Table 24.

Table 24 Remembrance Drive Traffic Volumes

Suburb	Direction	Year	Time	Traffic Volume (over 4 hours)	Traffic Volume Per Direction (over 4 hours)	Traffic Volume Per Hour (pc/h)	Maximum Traffic Volume Per Direction (pc/h/direction)
Menangle	NORTH	2006	AM PEAK	1409	1409	352	**518**
Menangle	SOUTH	2006	AM PEAK	1025	1025	256	
Menangle	BOTH	2006	AM PEAK	2434	1217	304	
Menangle	NORTH	2006	PM PEAK	1520	1520	380	
Menangle	SOUTH	2006	PM PEAK	1933	1933	483	
Menangle	BOTH	2006	PM PEAK	3453	1727	432	
Menangle	NORTH	2008	AM PEAK	1639	1639	410	
Menangle	SOUTH	2008	AM PEAK	1090	1090	273	
Menangle	BOTH	2008	AM PEAK	2729	1364.5	341	
Menangle	NORTH	2008	PM PEAK	1565	1565	391	
Menangle	SOUTH	2008	PM PEAK	2070	2070	518	
Menangle	BOTH	2008	PM PEAK	3635	1817.5	454	

The data for Remembrance Drive was recorded in the suburb of Menangle, in an ideal location for the focus area. The maximum recorded traffic volume was 518 pc/h/direction compared with the theoretical maximum of 900 pc/h/direction. This yields a VCR of 0.58 showing that the road is currently undersaturated.

However, the data has only been recorded to 2008 and there has been considerable growth in the area since then. Appin Road, a similar type north-south road has grown 20% from 2008 to its peak in 2019. If the same growth is applied to Remembrance Drive then the VCR increases to 0.69. This is still below saturation but given the vast growth in population in this area, the peak traffic volume could rapidly increase resulting in saturation of Remembrance Drive. Further, as Remembrance Drive is only one lane currently at this location (with some overtaking lanes) it is susceptible to traffic as the vehicles will only be able to travel at the speed of the slowest vehicle in front. In addition, heavy vehicles can truncate the data, causing traffic delays but the data may show that the road is undersaturated when traffic volumes are low (due to those delays).

Menangle Road

Refer to Table 22 for Menangle Road data in a similar location to this focus area, yielding a VCR of 0.68 which shows the road is currently under capacity.

Appin Road

The Appin Road recorded traffic volume data can be seen in Table 25:

Table 25 Appin Road Traffic Data

Suburb	Direction	Year	Time	Traffic Volume (over 4 hours)	Traffic Volume Per Direction (over 4 hours)	Traffic Volume Per Hour (pc/h)	Maximum Traffic Volume Per Direction (pc/h/direction)
Appin	SOUTH	2019	AM PEAK	1285	1285	321	**510**
Appin	BOTH	2019	AM PEAK	2844	1422	356	
Appin	NORTH	2019	PM PEAK	1325	1325	331	
Appin	SOUTH	2019	PM PEAK	2039	2039	510	
Appin	BOTH	2019	PM PEAK	3364	1682	421	
Appin	NORTH	2020	AM PEAK	1266	1266	317	
Appin	SOUTH	2020	AM PEAK	999	999	250	
Appin	BOTH	2020	AM PEAK	2265	1133	283	
Appin	NORTH	2020	PM PEAK	1102	1102	276	
Appin	SOUTH	2020	PM PEAK	1583	1583	396	
Appin	BOTH	2020	PM PEAK	2685	1343	336	
Appin	NORTH	2021	AM PEAK	989	989	247	
Appin	SOUTH	2021	AM PEAK	832	832	208	
Appin	BOTH	2021	AM PEAK	1821	911	228	
Appin	NORTH	2021	PM PEAK	1061	1061	265	
Appin	SOUTH	2021	PM PEAK	1119	1119	280	
Appin	BOTH	2021	PM PEAK	2180	1090	273	
Appin	NORTH	2022	AM PEAK	1456	1456	364	
Appin	SOUTH	2022	AM PEAK	524	524	131	
Appin	BOTH	2022	AM PEAK	1980	990	248	
Appin	NORTH	2022	PM PEAK	1333	1333	333	
Appin	SOUTH	2022	PM PEAK	688	688	172	
Appin	BOTH	2022	PM PEAK	2021	1011	253	

The data for Appin Road was recorded in the suburb of Appin, at the intersection of Appin Road and Wilton Road, in the southern section of the focus area. The maximum recorded traffic volume was 510 pc/h/direction compared with the theoretical maximum of 900 pc/h/direction. This yields a VCR of 0.57 showing that the road is currently undersaturated. However, given the vast growth in population in this area, the peak traffic volume could rapidly increase resulting in saturation of Appin Road. For the same reasons as with Remembrance Drive, having Appin Road as one lane in each direction is problematic for current and future traffic flows.

Picton Road

The Picton Road recorded traffic volume data can be seen in Table 26:

Table 26 Picton Road Traffic Volume Data

Suburb	Direction	Year	Time	Traffic Volume (over 4 hours)	Traffic Volume Per Direction (over 4 hours)	Traffic Volume Per Hour (pc/h)	Maximum Traffic Volume Per Direction (pc/h/direction)
Wilton	BOTH	2022	AM PEAK	5772	2886	722	**975**
Wilton	EAST	2022	AM PEAK	2946	2946	737	
Wilton	WEST	2022	AM PEAK	2826	2826	707	
Wilton	BOTH	2022	PM PEAK	5735	2868	717	
Wilton	EAST	2022	PM PEAK	3188	3188	797	
Wilton	WEST	2022	PM PEAK	2547	2547	637	
Wilton	BOTH	2023	AM PEAK	6803	3402	850	
Wilton	EAST	2023	AM PEAK	3807	3807	952	
Wilton	WEST	2023	AM PEAK	2996	2996	749	
Wilton	BOTH	2023	PM PEAK	6821	3411	853	
Wilton	EAST	2023	PM PEAK	3900	3900	975	
Wilton	WEST	2023	PM PEAK	2921	2921	730	
Wilton	BOTH	2024	AM PEAK	5865	2933	733	
Wilton	EAST	2024	AM PEAK	3096	3096	774	
Wilton	WEST	2024	AM PEAK	2769	2769	692	
Wilton	BOTH	2024	PM PEAK	6211	3106	776	
Wilton	EAST	2024	PM PEAK	3205	3205	801	
Wilton	WEST	2024	PM PEAK	3006	3006	752	

The data for Picton Road was recorded in the suburb of Wilton, in an ideal location for the focus area. The maximum recorded traffic volume was 975 pc/h/direction in 2023 compared with the theoretical maximum of 1350 pc/h/direction. This yields a VCR of 0.72 showing that the road is currently just undersaturated. However, there are some locations of Picton Road that are one lane in each direction, meaning the theoretical capacity would drop to 900 pc/h/direction, resulting in an increase of VCR to 1.1. This VCR shows that there are some sections of Picton Road that are currently oversaturated. This will become a considerable problem for traffic flow given the large projected population growth for the area.

Wilton Road

Wilton Road traffic volume data has only been recorded for the year of 2008. Given the significant change in population density, this data would not be appropriate to use. A better representation would be to extrapolate data from Picton Road as the two roads are an extension of each other. If Picton Road is extrapolated to Wilton Road, then the VCR of Wilton Road is in the range of 0.72 to 1.1, so, under or just over saturation.

Missing Traffic Volume Data

There is no traffic volume data for Moreton Park Drive, Cawdor Road or Woodbridge Road.

4.5. Summary of Existing Road Assessment

Table 27 shows the summary of the existing road assessment:

Table 27 Road Traffic Assessment

Focus Area	Road	Direction	VCR	Comment
Austral - Greendale	Elizabeth Drive	E/W	1.03	Currently at capacity
Austral - Greendale	Northern Road	N/S	N/A	No data available
Austral - Greendale	M7	N/S	N/A	No data available
Austral - Greendale	New M12	E/W	N/A	No data available
Austral - Greendale	Badgerys Creek Road	N/S	N/A	No data available
Austral - Greendale	Devonshire Road	N/S	N/A	No data available
Austral - Greendale	Edmondson Ave	N/S	N/A	No data available
Austral - Greendale	Bringelly Road	E/W	N/A	No data available
Austral - Greendale	Greendale Road	N/S	N/A	No data available
Austral - Greendale	Fifteenth Ave	E/W	N/A	No data available
Edmondson Park	Camden Valley Way	E/W	N/A	No data available
Edmondson Park	Bernera Road	N/S	N/A	No data available
Edmondson Park	Campbelltown Road	N/S	0.93	Near capacity
Edmondson Park	M7	N/S	N/A	No data available
Edmondson Park	Hume Highway	N/S	0.32	Extrapolated data Under capacity
Cobitty-Bringelly	Northern Road	N/S	N/A	No data available
Cobitty-Bringelly	Bringelly Road	E/W	N/A	No data available
Cobitty-Bringelly	Greendale Road	N/S	N/A	No data available
Cobitty-Bringelly	Cobitty Road	E/W	N/A	No data available
Leppington - Catherine	Camden Valley Way	N/S	0.37	Under capacity
Leppington - Catherine	Bringelly Road	E/W	N/A	No data available
Leppington - Catherine	Deepfields Road	N/S	N/A	No data available
Leppington - Catherine	Rickard Road	N/S	N/A	No data available
Rosemeadow - Glen Alpine	Appin Road	N/S	0.57	Extrapolated data Under capacity
Rosemeadow - Glen Alpine Douglas Park - Appin	Hume Highway	N/S	0.44	Currently under capacity
Douglas Park - Appin	Remembrance Drive	N/S	0.69	Extrapolated data
Rosemeadow - Glen Alpine Douglas Park - Appin	Menangle Road		0.68	Extrapolated data
Douglas Park - Appin	Appin Road	N/S	0.57	1 lane each direction - susceptible to traffic
Douglas Park - Appin	Picton Road	N/S	0.72 - 1.10	VCR Range as 1.5 lanes
Douglas Park - Appin	Wilton Road	N/S	0.72 - 1.10	Extrapolated 1 lane each direction - susceptible to traffic
Douglas Park - Appin	Moreton Park Drive	E/W	N/A	No data available
Douglas Park - Appin	Cawdor Road	N/S	N/A	No data available
Douglas Park - Appin	Woodbridge Road	E/W	N/A	No data available

It's clear by the table there is considerably large gaps in the available data for recorded traffic volumes. This has made assessing the current capacity of the roads across the focus areas difficult. However, the data that is available, while some had to be extrapolated, does provide a useful insight into the current capacity, where roads are undersaturated and where roads are already near saturation or oversaturated.

Figure 25 below shows the key roads assessed with the road with only 1 lane removed for ease of reading.

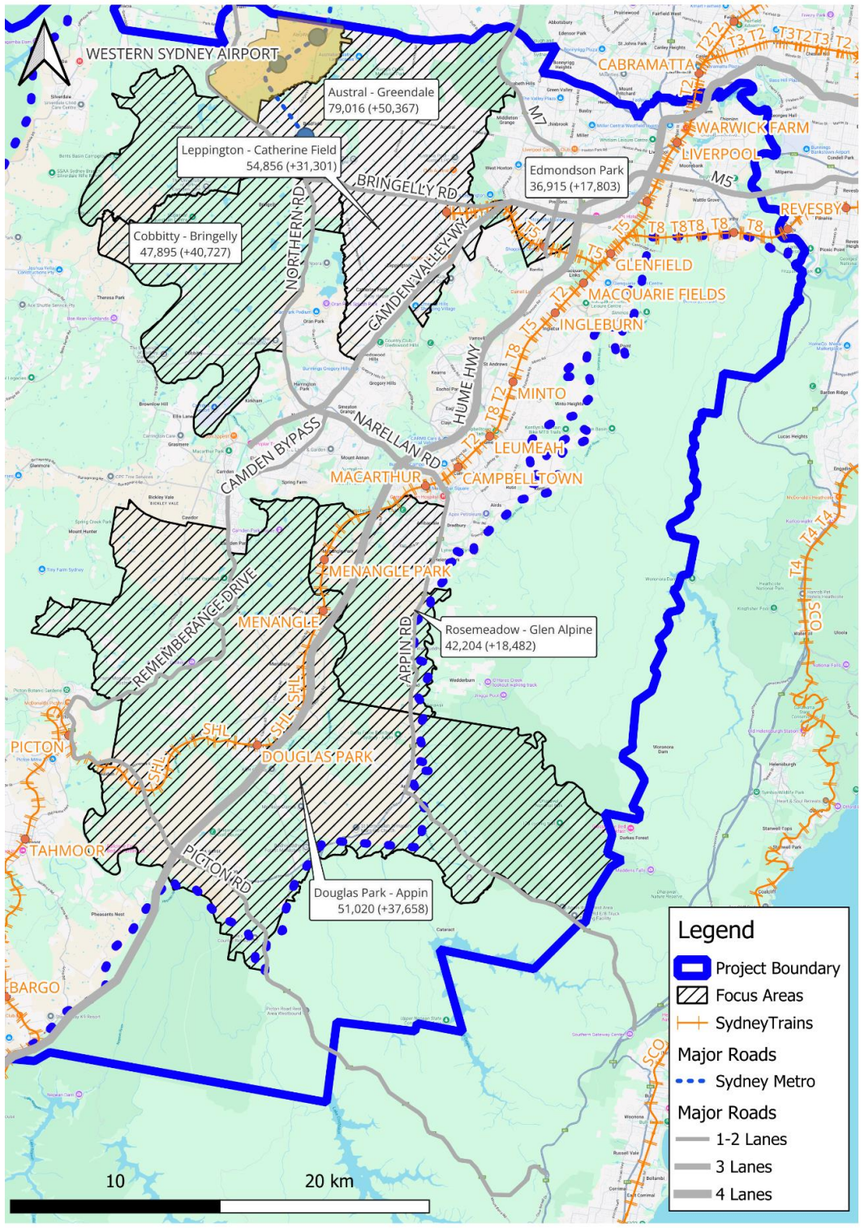


Figure 25 Key Roads assessed within the study area

4.6. Project Road Capacity

Table 28 shows the current and future projected capacity or VCR for the roads where traffic volume data has been collected. In lieu of more detailed traffic analysis, it has been assumed that traffic in the peak periods will increase in line with population growth for those areas. This also assumes that no new transport infrastructure has been constructed to 2041 to keep comparisons equal and to assess the impacts of future population growth if adequate upgrades to the network have not been undertaken.

Table 28 Current and Projected Road Capacity

Focus Area	Road	Current VCR	Population Growth to 2041	2041 VCR
Austral - Greendale	Elizabeth Drive	1.03	568%	6.91
Edmondson Park	Campbelltown Road	0.93	93%	1.79
Edmondson Park	Hume Highway	0.32	93%	0.62
Leppington - Catherine	Camden Valley Way	0.37	133%	0.87
Rosemeadow - Glen Alpine	Appin Road	0.57	78%	1.01
Rosemeadow - Glen Alpine Douglas Park - Appin	Hume Highway	0.44	151%	1.11
Douglas Park - Appin	Remembrance Drive	0.69	282%	2.64
Rosemeadow - Glen Alpine Douglas Park - Appin	Menangle Road	0.68	151%	1.70
Douglas Park - Appin	Appin Road	0.57	282%	2.16
Douglas Park - Appin	Picton Road	0.72 - 1.10	282%	2.76
Douglas Park - Appin	Wilton Road	0.72 - 1.10	282%	2.76

Elizabeth Drive is already at capacity (VCR 1.03) and, with a projected 568% population growth, will reach a VCR of nearly 7 by 2041 if not upgraded. This signals extreme congestion and gridlock risk, making it a critical bottleneck for both current and future residents. Remembrance Drive, Appin Road, Picton Road and Wilton Road all change from near capacity or under capacity to over twice the saturation rate. These are the key locations where infrastructure investment is most important to avoid traffic queues

Campbelltown Road and Appin Road are currently near or just under capacity. With projected growth, both will exceed capacity by 2041, highlighting the need for timely upgrades.

Menangle Road and Hume Highway (Rosemeadow/Douglas Park) are also trending toward or just over capacity, especially as regional growth accelerates.

Whereas, Hume Highway (Edmondson Park) and Camden Valley Way are currently well under capacity and, even with significant growth, are projected to remain below critical thresholds (VCRs 0.62 and 0.87, respectively). These corridors offer some buffer but will require monitoring as population growth intensifies.

4.7. Rail Capacity Methodology

To assess the current capacity of the rail network serving the South West Sydney growth corridor, peak load data was sourced from the NSW Government's open data portal. The analysis focused on the AM peak hour (08:00–09:00) at Central Station, which represents the highest passenger demand period across the network (approximately 40% of morning peak trips). Peak train load estimates were extracted using the Rail Opal Assignment Model (ROAM), which assigns Opal card journeys to specific services and aggregates customer loads by station and train route. This approach provides a detailed understanding of passenger volumes and service utilisation across the T2, T5, and T8 lines that serve the target LGAs. Figure 26 Sydney Rail Network – September 2019 It is noted that the dataset reflects peak loading at a single station rather than capacity at individual stations, making it infeasible to directly identify passengers originating from the focus LGAs. To address this, the following assumptions were applied:

- **T2 Leppington Line:** Excluded from this assessment. The peak station for this line is Redfern, which serves the corridor from Liverpool to Central via Parramatta. Based on Transport for NSW Trip Planner data, travel from Leppington to Central via T2 is approximately 30 minutes longer than transferring at Glenfield to the T8 line. The point where T2 becomes faster is Cabramatta Station, outside the focus area. Therefore, the T8 line is assumed to cater for Sydney CBD trips from the target LGAs. Trips to Parramatta via T2 require a transfer at Granville and backtracking on the T2 Inner West line, making this route inefficient. Accordingly, the T5 line is assumed to serve Parramatta-bound trips.
- **T5 Cumberland Line:** Assumed to carry the majority of commuters from the focus LGAs travelling toward Parramatta.
- **T8 Airport and South Line**: Assumed to carry the majority of commuters from the focus LGAs travelling toward the Sydney CBD and Sydney Airport.
- **Southern Highlands Line:** Although this serves parts of the Douglas Park – Appin growth area as noted this sits outside of the suburban rail network and there is limited data available on usage. As this line directly connects to the T8 line and requires an interchange at Campbelltown or Macarthur stations, their patronage data is assumed to be included in the T8 dataset.
- **T3 Liverpool Line:** Although this line serves the Liverpool station which is within the Liverpool LGA this does not directly serve any of the growth areas being investigated. Therefore, it is not included in this analysis.

Given the impact of COVID-19 on public transport usage, the most recent reliable dataset was selected from September 2019, prior to pandemic-related travel behaviour changes. While more recent data exists, it is significantly affected by reduced patronage and increased remote working, making it unsuitable for baseline capacity analysis. The 2019 Sydney Rail Network can be seen in Figure 26. To account for post-2019 population growth in each LGA, patronage figures were extrapolated using demographic data and mode share assumptions derived in Section 3. These adjustments reflect the likely increase in rail demand from new residents, assuming a similar travel behaviour profile in 2025 and 2040, with growth applied linearly over time.

Load factors were calculated to express customer volumes as a proportion of seating capacity, with 100% indicating full seating occupancy and 135% representing the crowding threshold where dwell times begin to affect service reliability. A maximum load factor of 180% was applied to represent crush capacity. These metrics were used to assess whether existing services are operating within acceptable limits or approaching capacity constraints. This analysis provides a foundation for identifying infrastructure upgrades or service enhancements required to support projected housing growth in the region.

Limitations of this analysis:

- **Signalling and network constraints**: The theoretical capacity assumes current service frequencies can be maintained or increased. In practice, signalling limitations and network overheads may restrict the ability to add additional trains.
- **First and last mile access**: The analysis does not consider constraints related to station access, active transport connections, or parking availability, which can influence actual rail usage. These factors are outside the scope of this assessment.
- **Mode share assumptions**: The analysis assumes current mode share remains constant despite potential improvements in public transport access. Evidence suggests mode share typically increases with improved connectivity, meaning this approach is conservative and actual patronage could be higher than forecast.

Figure 26 Sydney Rail Network – September 2019

4.8. Existing Rail Capacity

Table 29 summarises 2019 peak-hour patronage for the T5 and T8 lines and compares this against theoretical capacity based on current service frequencies and Waratah A/B train sets, which provide 896 seats per service. It also incorporates the 2025 timetable to illustrate the limits of capacity under existing operating conditions.

Table 29 2019 Peak patronage and 2025 schedule data

		T5 Cumberland	T8 Airport	T8 South	Total Suburban
September 2019 AM Peak busiest hour (08:00 to 9:00 at Central)	Scheduled Trains	2	10	4	**16**
	Average Passengers	1,416	12,727	5,077	**19,219**
	Average Load Factor	157%	148%	143%	**149%**
2025 Schedule AM Peak busiest hour (08:00 to 9:00 at Central)	Scheduled Trains	4	8	8	**20**
	Seating capacity	3,584	7,168	7,168	**17,920**
	Crowding Capacity	4,838	9,677	9,677	**24,192**
	Crush load capacity	6,451	12,902	12,902	**32,256**

In 2019, all three lines assessed were operating above normal seating capacity during the busiest hour, with several services exceeding the 135% crowding threshold. This indicates that the network was already under strain prior to the pandemic. In response to these conditions, additional services were introduced in subsequent timetable adjustments to alleviate pressure on the most heavily loaded corridors. The 2025 schedule highlights the current capacity of the network which is able to handle the existing demand in but is beginning to strain under the increase in population.

As outlined in Section 3, the population of the four LGAs from 2019 to 2024 shows a large increase and assuming the same mode share is maintained, the below table outlines the require public transport capacity for the four LGAs. The peak hour commuter ratio was determined for 2019 based on Table 29 above to be 45% of morning commuters. This is largely consistent with the ROAM data average of 40% outlined in Section 4.7. A commuter ratio of 45% has been applied to each total for the LGA to determine the morning peak capacity requirement across both the T5 and T8 lines.

Table 30 illustrates projected rail demand against theoretical capacity for the T5 and T8 lines under current service frequencies. In 2025, available train capacity is already approaching the crowding threshold (135% load factor), indicating limited resilience for further growth. By 2041, demand is projected to reach levels equivalent to crush capacity (180% load factor) if no network improvements are implemented.

A portion of Liverpool's future population will be connected to Western Sydney International Airport (WSI) via the new metro link to St Marys (under construction), providing access to the T1 line. This connection will relieve some pressure on the T5 and T8 lines; however, its impact will be limited to areas such as Austral – Greendale SA2. Large sections of Liverpool LGA, including Edmondson Park SA2 and Austral - Greendale SA2 areas bordering Leppington, are expected to continue using the T5/T8 line for direct access to the Sydney CBD, Parramatta, and Sydney Airport. Even when discounting all Liverpool LGA growth between 2025 and 2041 and assuming it is fully served by the metro connection, the combined peak-hour demand still exceeds 28,000 passengers - equivalent to 157% of current network capacity and well above the crowding threshold.

Table 30 Projected Rail capacity

	LGA	Mode Share Public Transport	Population	Public Transport Commuters	Peak Hour Capacity Required.	Load Factor
2019	Liverpool	8.4%	227,187	19,084	8,611	-
	Campbelltown	7.9%	172,286	13,611	6,141	-
	Camden	8.9%	104,706	9,319	4,205	-
	Wollondilly	1.1%	52,826	581	262	-
		Total	**557,005**	**42,594**	**19,219**	**149%**
2025	Liverpool	8.4%	269,621	22,648	10,219	-
	Campbelltown	7.9%	189,548	14,974	6,757	-
	Camden	8.9%	150,168	13,365	6,031	-
	Wollondilly	1.1%	62,759	690	311	-
		Total	**672,096**	**51,678**	**23,318**	**130%**
2041	Liverpool	8.4%	361,687	30,382	13,709	-
	Campbelltown	7.9%	223,342	17,644	7,961	-
	Camden	8.9%	237,202	21,111	9,526	-
	Wollondilly	1.1%	103,809	1,142	515	-
		Total	**926,040**	**70,279**	**31,711**	**177%**

https://www.planning.nsw.gov.au/data-and-insights/population-projections/explore-the-data

Assuming a similar proportion of commuters will use each line as is shown in the 2019 data by 2041 both the T5 (20% usage) and T8 (80% usage) line will be approaching the crush load capacity.

Table 31 Projected commuters

	T5 Cumberland	T8 Airport	T8 South
Scheduled Services (2025)	4	8	8
Seating capacity (100%) (2025)	3,584	7,168	7,168
Crowding Capacity (135%) (2025)	4,838	9,677	9,677
Crush load capacity (180%) (2025)	6,451	12,902	12,902
Percentage of total Region Commuter Traffic (2019)	20%	40%	40%
Projected 2041 Commuters	**6,342**	**12,684**	**12,684**

These findings indicate a clear need for increased rail capacity to support housing growth toward 2041. Without intervention, the network will experience severe overcrowding, impacting reliability and passenger comfort.

4.9. Travel Times to Key Destinations

An assessment of travel time accessibility was conducted for the four Local Government Areas (LGAs) in South Western Sydney: Liverpool, Camden, Campbelltown, and Wollondilly. The analysis examines connectivity for major growth precincts within these LGAs to key destinations across Greater Sydney and surrounding regions. Both road transport and public transport modes have been evaluated to identify current accessibility patterns and highlight critical gaps.

The study focuses on six priority growth precincts identified as significant contributors to future housing and population growth:

- Austral - Greendale (Liverpool LGA)
- Edmondson Park (Liverpool LGA)
- Cobbitty-Bringelly (Camden LGA)
- Leppington – Catherine (Camden LGA)
- Rosemeadow - Glen Alpine (Campbelltown LGA)
- Douglas Park-Appin (Wollondilly LGA)

Other precincts within each LGA are referenced for completeness; however, maps and detailed analysis are provided only for these priority areas.

Additional key destinations were also assessed for their strategic importance as economic centres or transport hubs relevant to communities and commuters in South Western Sydney. These destinations include:

- Sydney CBD
- Sydney International Airport
- Parramatta
- Western Sydney International Airport
- Wollongong

The assessment considers travel time radii between 30 and 120 minutes for both road and public transport modes, with modelling based on peak-hour conditions at 7:00 AM to reflect realistic congestion and interchange delays. Indicative benchmarks of approximately 40 kilometres for 30 minutes and 80 kilometres for 60 minutes were adopted as upper limits for practical commuting distances. It is acknowledged that actual travel times are influenced by traffic signals, congestion, and interchange penalties, and that consistent speeds of 80 km/h are not achievable in urban environments. These benchmarks were applied only to establish practical limitations for reasonable commuting.

Both road and public transport accessibility were assessed from the geographic centre of each growth precinct where possible to ensure consistency in comparative results. For precincts such as Austral–Greendale, Cobbitty–Bringelly, and Douglas Park–Appin, which are currently predominantly rural with limited existing infrastructure, locations within more built-up areas were selected to reflect current public transport availability. Where road and public transport analyses required different reference points, preference was given to established areas with existing connections rather than greenfield sites.

Future committed projects under construction, such as the M12 Motorway and the Sydney Metro – Western Sydney Airport Line, are acknowledged but excluded from this analysis, as they are already funded and outside the scope of this report.

Travel time and accessibility analysis was conducted using the TravelTime API, a commercial routing and isochrone service. This data source is non-public and requires registration. Outputs were used to estimate travel times and generate isochrone maps between key precincts. While not publicly available, the API provides high-resolution travel time data suitable for micro-scale analysis. All use complies with the API's terms of service.

4.9.1. Liverpool LGA

Liverpool LGA includes the following growth precincts assessed for travel time coverage:

- Austral - Greendale (Liverpool LGA)
- Edmondson Park (Liverpool LGA)

Driving Accessibility: Austral - Greendale

Within 30 minutes of driving, Austral - Greendale commuters can reach Western Sydney International Airport and nearby local economic centres including Campbelltown, parts of Liverpool, Penrith, Camden, and Narellan. Wollongong, Sydney CBD and Sydney Airport sit outside the 30-minute band. Most of the other South-West Sydney Growth Areas are also within 30 minutes of driving except for the Douglas Park-Appin area which is located approximately 40km away and is therefore it is not considered feasible to reach within 30 minutes.

At 60 minutes, most key destinations are captured by car from Austral - Greendale including Western Sydney International Airport, Sydney CBD, Parramatta and Sydney Airport. The majority of Greater Sydney aside from parts of Sutherland Shire, The North Shore and The Northern Beaches are accessible. All growth areas and the regional economic centres except Wollongong are reachable within 60minutes. Austral-Greendale is approximately 80km from the Wollongong CBD and is reachable within 60 minutes outside of peak periods which indicates that congestion and existing transport infrastructure is restricting access to the area. The main roads being used on this route are The Northern Road, Narellan Road, The Hume Highway, and Picton Road which all traverse the Cobbitty – Bringelly, Rosemeadow-Glen Apline, and Douglas Park-Appin growth areas. This indicates that the projected population increase of these growth areas are likely to put further pressure on Austral Greendale/Wollongong interconnectivity.

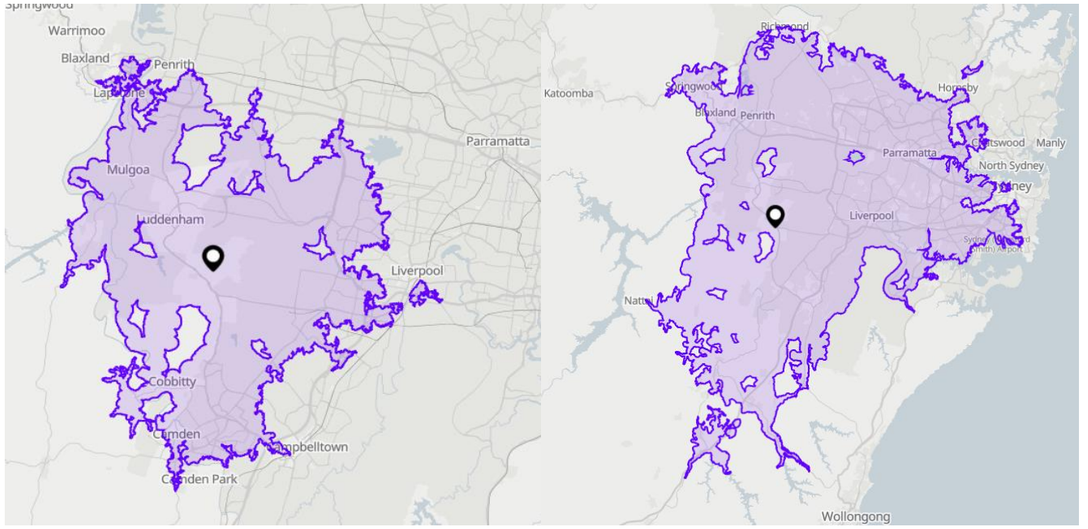


Figure 27 *Austral -Greendale Driving Distances (Left: 30min, Right 60min)*

Driving Accessibility: Edmondson Park

Within 30 minutes of driving, Edmondson Park commuters can reach both Sydney Airport and Western Sydney International Airport and nearby local economic centres including Liverpool CBD, Campbelltown, Narellan, and Camden. Parts of Parramatta are within 30minutes however key locations such as Westmead, the CBD and Rosehill are generally outside the 30-minute band. Both the Sydney CBD and Wollongong are well beyond this range. Most South-West Sydney growth precincts such as Austral–Greendale, Cobbitty–Bringelly, and Leppington–Catherine are reachable within 30 minutes, while Douglas Park–Appin sits approximately 30km away and is reachable within 30mins in off peak times via Appin Road and the Hume Highway however is not reachable during peak times. Leppington – Catherine, Rosemeadow-Glen Apline, and Douglas Park-Appin growth areas sit along this corridor. This indicates that the projected population increase of these growth areas is likely to put further pressure on Douglas Park–Appin/Edmondson Park interconnectivity.

At 60 minutes, Edmondson Park achieves full coverage to Sydney CBD, Parramatta, Wollongong and Sydney Airport. Western Sydney International Airport remains well within this band, reinforcing its strategic position for airport access. All major South-West Sydney growth precincts are accessible within this band, including Austral–Greendale, Cobbitty–Bringelly, Leppington–Catherine, Rosemeadow–Glen Alpine, and Douglas Park–Appin.

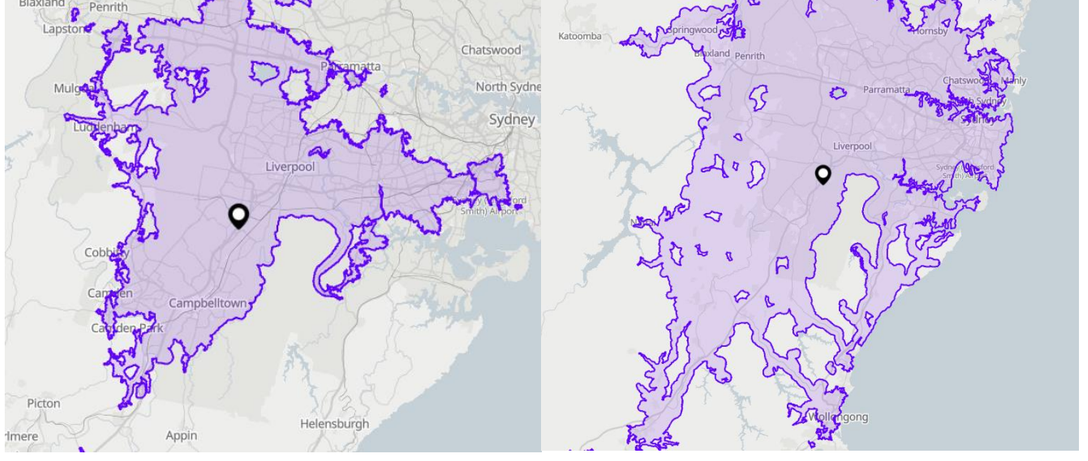


Figure 28 *Edmondson Park Driving Distances (Left: 30min, Right 60min)*

Public Transport Accessibility*: Austral – Greendale*

Within 30 minutes by public transport, Austral–Greendale commuters can only reach nearby stations along the South West Rail Link, such as Leppington and Edmondson Park. Liverpool CBD is outside this band, and no major employment hubs or airports are accessible. Western Sydney International Airport and Wollongong is far beyond reach. Inter-precinct connectivity is minimal: only Leppington–Catherine and Edmondson Park fall within this short-range band. Cobbitty–Bringelly, Rosemeadow–Glen Alpine, and Douglas Park–Appin remain disconnected, reinforcing vehicles for local trips. Public Transport Accessibility: Austral – Greendale.

At 60 minutes, coverage expands to include Liverpool CBD and Glenfield, but Parramatta and Sydney CBD remain outside this band. Sydney Airport and Wollongong are still inaccessible. Western Sydney International Airport is not practical within this timeframe, highlighting a major gap for airport connectivity. Among growth precincts, Leppington–Catherine and Edmondson Park remain connected, but Cobbitty–Bringelly, Rosemeadow–Glen Alpine, and Douglas Park–Appin are excluded. This highlights that east–west public transport links are virtually non-existent.

At 90 minutes, the coverage expands significantly north and east. Sydney CBD, Sydney Airport and Parramatta enter the accessible range, but travel times are still marginal for daily commuting. This band also begins to include parts of the Inner West and North Sydney, which are major employment hubs. However, Sydney Airport remains outside this band, requiring additional transfers and extended travel times. Among growth precincts, Leppington–Catherine and Edmondson Park remain well connected, but Cobbitty–Bringelly, Rosemeadow–Glen Alpine, and Douglas Park–Appin are still excluded. This confirms that east–west connectivity between growth areas is virtually non-existent even at 90 minutes, limiting inter-precinct movement without private vehicles.

At approximately two hours Wollongong is still inaccessible, but these travel times are impractical for regular commuting. Western Sydney International Airport remains poorly served even at this horizon, which is a critical gap given its strategic role in future employment and freight. All major South-West Sydney growth precincts eventually fall within this extended band, but the level of accessibility is not competitive for daily travel. The reliance on long travel times and multiple transfers reinforce the need for new east–west public transport corridors and direct airport links.

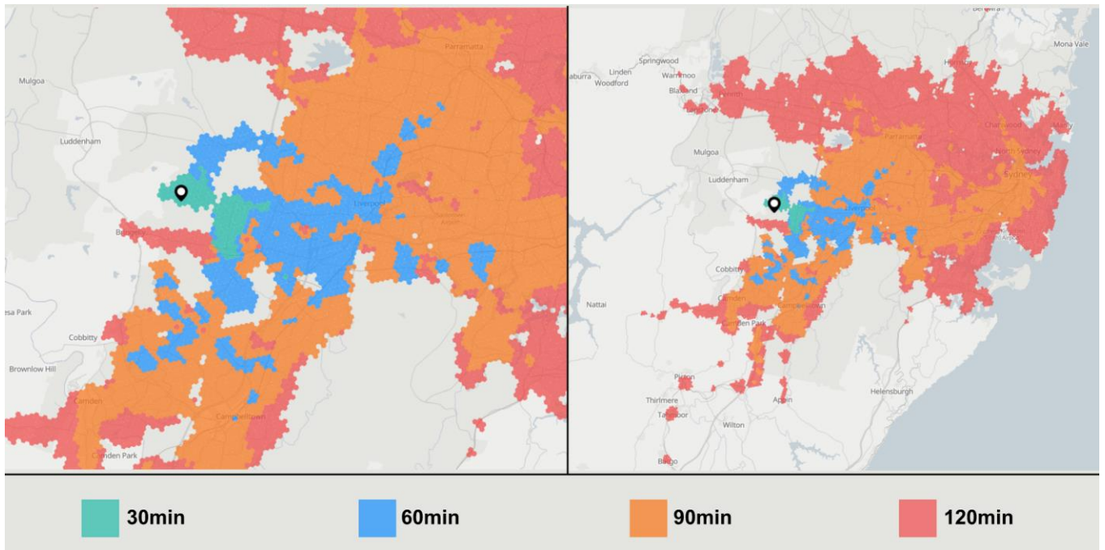


Figure 29 Austral – Greendale Public Transport Accessibility

Public Transport Accessibility: Edmondson Parkt

Within 30 minutes by public transport, Edmondson Park commuters can reach Liverpool CBD and parts of the surrounding suburbs along the South West Rail Link, including Glenfield and Casula. This short-range connectivity is limited to local centres and does not extend to major employment hubs such as Parramatta, Sydney CBD, or either airport. Western Sydney International Airport is not accessible within this timeframe, and Wollongong is far beyond reach. Of the South-West Sydney growth precincts only Leppington–Catherine is within the 30-minute band due to direct rail adjacency, while Austral–Greendale, Cobbitty–Bringelly, Rosemeadow–Glen Alpine, and Douglas Park–Appin remain outside this range. This indicates that inter-precinct connectivity by public transport is minimal within short travel windows, reinforcing reliance on private vehicles for local movements.

At 60 minutes, coverage expands to include Sydney Airport, Liverpool CBD and parts of the Inner South-West, but Parramatta and Sydney CBD remain outside this band. Western Sydney International Airport is not practical within this timeframe, highlighting a major gap for airport connectivity. Growth precinct connectivity improves slightly: Leppington–Catherine remains connected, and Austral–Greendale enters the outer edge of this band. Cobbitty–Bringelly, Rosemeadow–Glen Alpine, and Douglas Park–Appin remain excluded, showing that east–west public transport links are virtually non-existent.

At 90 minutes, Sydney CBD, and Parramatta enter range, but travel times are still marginal for daily commuting. Among growth precincts, Leppington–Catherine and Austral–Greendale remain connected, but Douglas Park–Appin, Cobbitty–Bringelly and Rosemeadow–Glen Alpine are only partially included. There are no improvements beyond 90 minutes in access to growth precincts as there are significant areas of Cobbitty – Bringelly, Austral–Greendale and Douglas Park–Appin that have no public transport access at all.

At approximately two hours, Edmondson Park commuters can reach all of Sydney CBD and Sydney Airport. Wollongong also falls within this extended band, though the routing involves multiple transfers and low service frequency and these travel times are not competitive for daily commuting. Western Sydney International Airport remains poorly served even at this horizon, which is a critical gap given its strategic role in future employment.

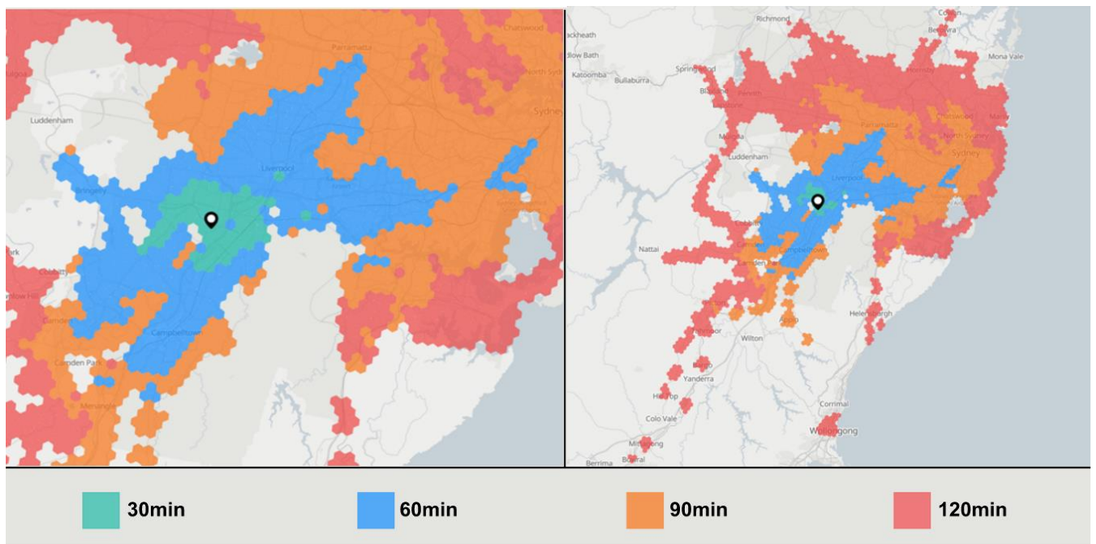


Figure 30 *Edmonson Park – Public transport accessibility*

4.9.2. Camden LGA

Camden LGA includes the following precincts assessed for travel time coverage:

- Leppington - Cathrine Fields
- Cobbitty - Bringelly

Driving Accessibility: Leppington–Catherine Fields

Leppington is very closely located to Edmondson Park and therefore sees a similar driving range. Within 30 minutes of driving, Leppington–Catherine commuters can reach Western Sydney International Airport, as well as key local economic centres including Liverpool CBD, Campbelltown, Narellan, and Camden. Parramatta is generally outside the 30-minute range. Sydney CBD, Sydney Airport and Wollongong remain well beyond this band. Most South-West Sydney growth precincts such as Austral–Greendale, Edmondson Park, and Cobbitty–Bringelly are reachable within 30 minutes, while Douglas Park–Appin sits approximately 35 km away and is only feasible in off-peak periods via Appin Road and the Hume Highway. During peak times, this connection is not practical. The Appin corridor also intersects Rosemeadow–Glen Alpine and other growth areas, which indicates that projected population increases will place further pressure on Leppington–Catherine/Appin interconnectivity. Additionally, Sydney Airport and Parramatta both sit approximately 35km away and are not reachable during peak times but are accessible within off peak travel windows. This also indicates a congestion issue and therefore indicates that travel through Leppington–Catherine and by extension Edmondson Park toward the North and East may deteriorate further with the increased housing growth that is projected.

At 60 minutes, Leppington–Catherine achieves full coverage to Sydney CBD, Parramatta, and both airports. Western Sydney International Airport remains well within this band, reinforcing its strategic position for airport access. Wollongong is approximately 70 km from Leppington and the suburbs can be reached in around 60 minutes during off-peak periods, but not reliably within peak period which suggests that congestion and existing infrastructure are the primary constraints during peak times.

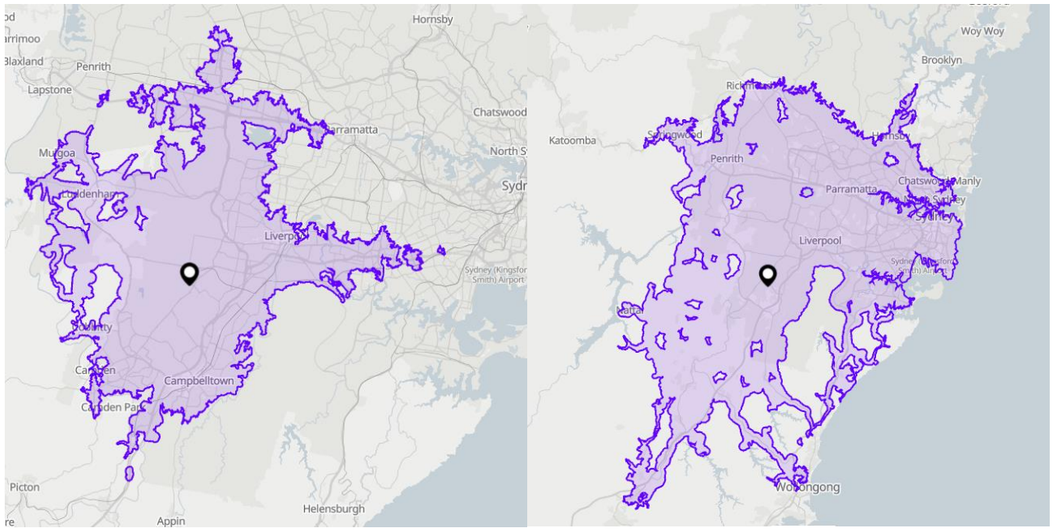


Figure 31 Leppington–Catherine Driving Distances (Left: 30min, Right 60min)

Driving Accessibility: Cobbitty–Bringelly

Within 30 minutes of driving, Cobbitty–Bringelly commuters can reach Western Sydney International Airport and key local economic centres including Narellan, Camden, Penrith and Campbelltown. The Liverpool CBD is generally outside the 30-minute range but can be accessed in off-peak periods via The Northern Road and Camden Valley Way. Parramatta, Sydney Airport, and Sydney CBD remain well beyond this band and are not feasible to reach within 30 minutes. Parramatta, Wollongong, Sydney Airport, and Sydney CBD remain well beyond this the 30-minute range, each located more than 50 km away. These destinations are not feasible within 30 minutes even in off-peak conditions, so it is discounted for short-range connectivity planning. Most South-West Sydney growth precincts such as Edmondson Park, Leppington–Catherine, Austral – Greendale, and Rosemeadow–Glen Alpine are reachable within 30 minutes, Douglas Park–Appin is approximately 30 km away and is reachable during off peak windows indicating that congestion along the Northern Road and Appin Road is a large bottleneck and will only get worse under the current infrastructure due to the growth of Rosemeadow–Glen Alpine.

At 60 minutes, Cobbitty–Bringelly achieves full coverage to Liverpool, Campbelltown, Penrith, Parramatta, and Sydney Airport. Western Sydney International Airport remains well within this band, reinforcing its strategic position for airport access. Wollongong is approximately 80 km and Sydney CBD is approximately 70km from Cobbitty–Bringelly both and can be reached in around 60 minutes during off-peak periods but not during peak times, which suggests that congestion and existing infrastructure are the primary constraints during peak travel times.

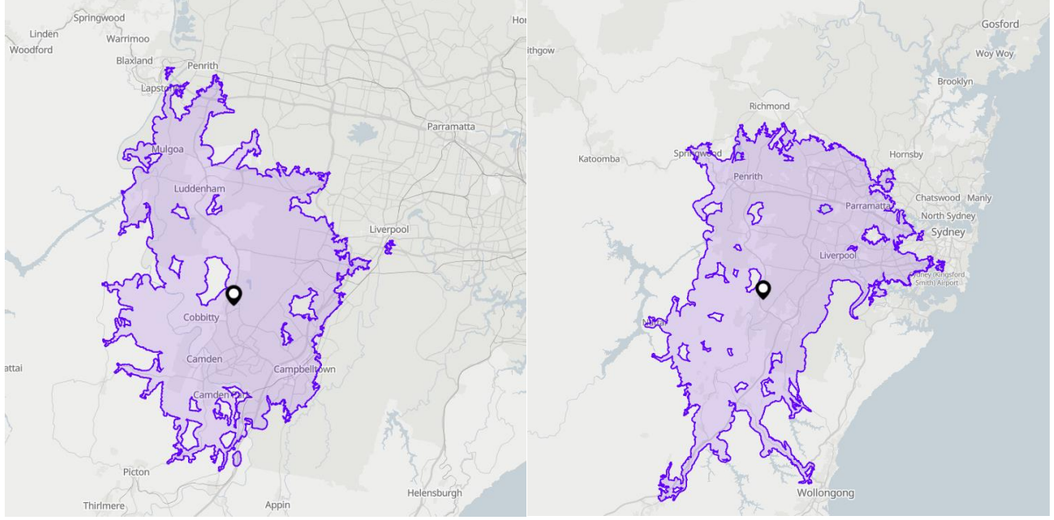


Figure 32 Cobbitty–Bringelly Driving Distances (Left: 30min, Right 60min)

Public Transport Accessibility: Cobbitty–Bringelly

Within 30 minutes by public transport, Cobbitty–Bringelly commuters can reach Camden and parts of Campbelltown. Connectivity is highly local and does not extend to Liverpool, Parramatta, Sydney CBD, or any airport. Western Sydney International Airport is not accessible within this timeframe, and Wollongong is far beyond reach. Among growth precincts, none of the major nodes such as Leppington–Catherine, Austral–Greendale, or Edmondson Park fall within this band, confirming that Cobbitty–Bringelly is effectively disconnected from the regional rail spine in short travel windows.

At 60 minutes, coverage expands to include parts of the South-West rail corridor, but Liverpool, Parramatta and Sydney CBD remain outside this band. Sydney Airport and Wollongong are still inaccessible. Western Sydney International Airport is notably not practical within this timeframe, highlighting a critical gap for airport connectivity. Growth precinct connectivity improves slightly: parts of Leppington–Catherine, Edmondson Park and Austral–Greendale, and Rosemeadow–Glen Alpine enter the outer edge of this band, but and Douglas Park–Appin remain excluded.

At 90 minutes, Sydney Airport and Parramatta enter range, but travel times are still marginal for daily commuting. Among growth precincts, Rosemeadow–Glen Alpine, Edmondson Park, Leppington–Catherine and Austral–Greendale remain connected, but Douglas Park–Appin is only partially included. There is no meaningful improvement beyond 60 minutes for Cobbitty–Bringelly itself, as large sections of this precinct lack any public transport coverage.

At two hours, Sydney Airport and Wollongong become accessible, along with full coverage of Sydney CBD and Parramatta. These travel times are impractical for regular commuting and involve multiple transfers with low service frequency. Western Sydney International Airport remains poorly served even at this horizon.

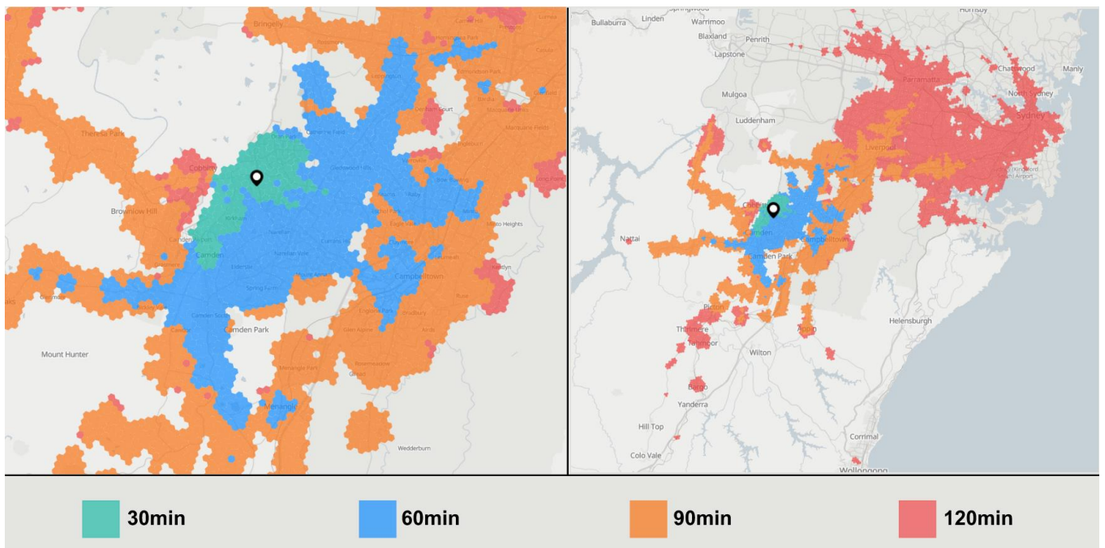


Figure 33 *Public Transport Accessibility – Cobbitty - Bringelly*

Public Transport Accessibility: Leppington–Catherine Fields

Leppington, as a station on the South West Rail Link, materially improves public transport performance. Within 30 minutes by public transport, Leppington–Catherine commuters can reach Edmondson Park, Liverpool CBD, and Glenfield via the South West Rail Link. This short-range connectivity is limited to local centres and does not extend to Parramatta, Sydney CBD, or either airport. Western Sydney International Airport is not accessible within this timeframe, and Wollongong is far beyond reach. Among growth precincts, Austral–Greendale and Edmondson Park fall within this band, while most of Cobbitty–Bringelly, Rosemeadow–Glen Alpine, and Douglas Park–Appin remain excluded. This confirms that inter-precinct connectivity by public transport is minimal within short travel windows.

At 60 minutes, coverage expands to include Sydney CBD, Parramatta, and Sydney Airport. Wollongong is still inaccessible. Western Sydney International Airport is notably not practical within this timeframe, highlighting a major gap for airport connectivity. Growth precinct connectivity improves slightly: parts of all growth areas are accessible however it is notable that moving into the 90-minute band this access does not improve in any appreciable way due to non-existent public transport in much of these areas. The growth areas most affected are Cobbitty Bringelly, Douglas Park – Appin, and Austral – Greendale.

At 90 minutes, Sydney CBD and Parramatta remain accessible, but there is no meaningful improvement in growth precinct coverage compared to the 60-minute band. The same structural gaps persist: Cobbitty–Bringelly, Douglas Park–Appin, and Austral–Greendale remain largely disconnected due to the absence of east–west public transport links. This plateau in accessibility highlights that extending travel time does not solve the fundamental network gaps.

At approximately two hours, Leppington–Catherine commuters can reach all of Sydney CBD and Sydney Airport. Wollongong also falls within this extended band, though routing involves multiple transfers and low service frequency, making these travel times impractical for daily commuting. Western Sydney International Airport remains poorly served even at this horizon, which is a critical gap given its strategic role in future employment.

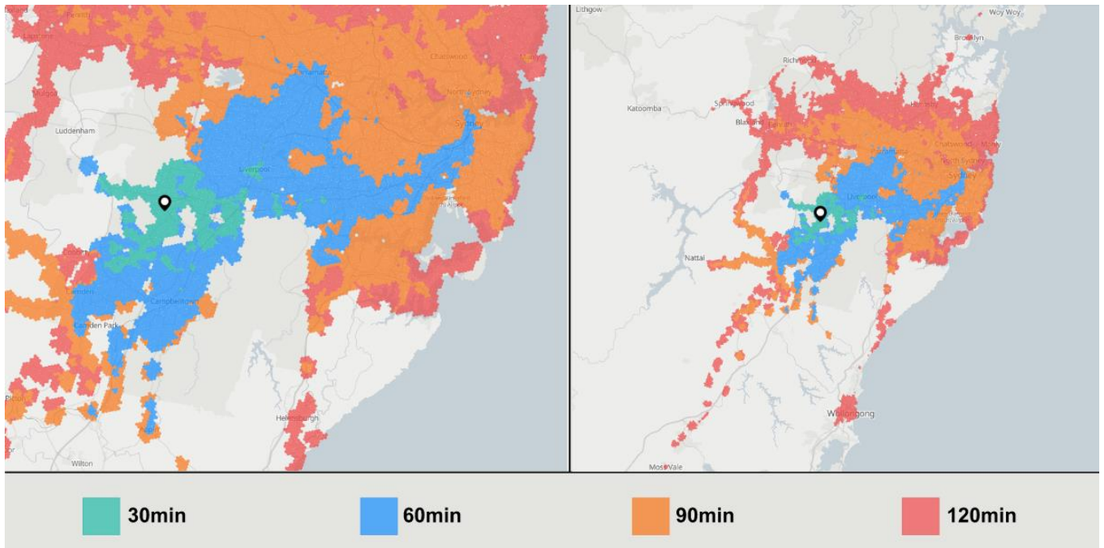


Figure 34 *Public Transport Accessibility – Leppington – Catherine Fields*

4.9.3. Campbelltown LGA

Campbelltown LGA includes the following precincts assessed for travel time coverage:

- Rosemeadow / Glen Alpine

Driving Accessibility: Cobbitty–Bringelly

Within 30 minutes of driving, Rosemeadow–Glen Alpine commuters can reach Campbelltown CBD, Narellan, Camden, and Liverpool CBD. Western Sydney International Airport is generally outside the 30-minute range, sitting approximately 35 km away, but can be accessed in off-peak periods via Appin Road and The Northern Road. During peak times, this connection is not practical, which indicates congestion on these corridors.

Parramatta, Wollongong, Sydney Airport and Sydney CBD are both well beyond the 30-minute band, each located more than 50 km away. These destinations are not reachable within 30 minutes even in off-peak conditions, so it is discounted for short-range connectivity planning.

Most South-West Sydney growth precincts such as. Douglas Park–Appin, Leppington–Catherine, Cobbitty–Bringelly, and Edmondson Park are reachable within 30 minutes. Austral–Greendale sits just outside the range at approximately 32 km and is only feasible in off-peak periods indicating congestion along the Appin Road – Narellan Road – Northern Road route. This corridor also intersects other growth areas, which indicates that projected population increases will place further pressure on Rosemeadow–Glen Alpine/ Western Sydney Airport interconnectivity.

At 60 minutes, Rosemeadow–Glen Alpine achieves full coverage to Sydney CBD, Parramatta, and both airports. Western Sydney International Airport is comfortably within this band, reinforcing its strategic position for airport access. Sydney Airport and Sydney CBD, while beyond the 30-minute range, become practical destinations within this timeframe via the M5 Motorway. Parramatta is also accessible within 60 minutes, primarily through the M7 corridor. Wollongong is approximately 45 km away and can be reached in around 60 minutes during peak periods via Appin Road and Picton Road.

All major South-West Sydney growth precincts fall within the 60-minute band from Rosemeadow–Glen Alpine. This includes Leppington–Catherine and Cobbitty–Bringelly to the north-west, Austral–Greendale and Edmondson Park to the north, and Douglas Park–Appin to the south. These connections are significant as Rosemeadow–Glen Alpine is the most central growth precinct, and it demonstrates the inter-precinct movement for employment and services without requiring excessive travel times.

The main roads used for these connections include Appin Road, Narellan Road, the M5 Motorway, and the Hume Highway. These corridors also traverse other growth areas such as Douglas Park–Appin and Leppington–Catherine, meaning projected population increases will place additional pressure on these routes. This reinforces the need to consider corridor capacity and intersection upgrades as part of future planning for Rosemeadow–Glen Alpine's connectivity.

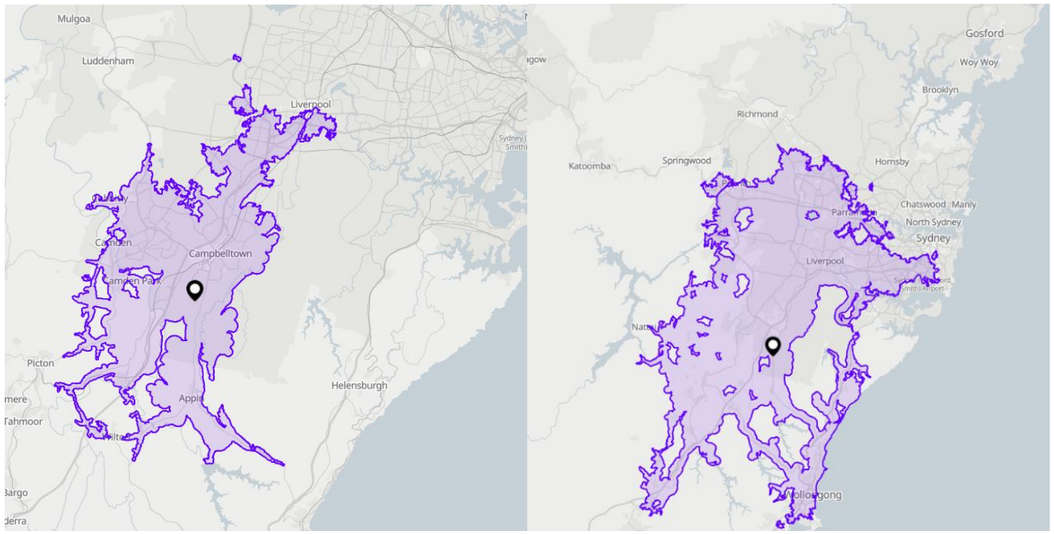


Figure 35 *Rosemeadow–Glen Alpine Driving Distances (Left: 30min, Right 60min)*

Public Transport Accessibility: Rosemeadow – Glen Alpine

Within 30 minutes by public transport, Rosemeadow–Glen Alpine commuters can reach Campbelltown and Macarthur stations, which are the primary gateways to the Sydney Trains network. However, the trip to these stations alone can take up to 20 minutes, putting this precinct at a disadvantage compared to areas directly adjacent to rail. No major employment hubs such as Parramatta or Sydney CBD are accessible within this timeframe, and neither airport nor Wollongong falls within this band. No other growth precincts are reachable by public transport.

At 60 minutes, coverage expands to include Liverpool CBD and parts of the South-West corridor, but Sydney CBD and Parramatta are still outside this band. Sydney Airport and Wollongong remain inaccessible. Western Sydney International Airport is notably not practical within this timeframe, highlighting a critical gap for airport connectivity. Growth precinct connectivity improves: Douglas Park–Appin, Edmonson Park, Leppington–Catherine and Austral–Greendale enter the outer edge of this band, but Cobbitty–Bringelly remains excluded.

At 90 minutes, Sydney CBD and Sydney Airport finally enter range, marking the first point where major employment hubs and the airport become accessible. Parramatta also becomes accessible in this band. However, travel times are still marginal for daily commuting. Among growth precincts, Leppington–Catherine and Austral–Greendale remain connected, but Douglas Park–Appin and Cobbitty–Bringelly are only partially included. There is no meaningful improvement beyond 60 minutes for most precincts, as large sections of these areas lack any public transport coverage.

At approximately two hours, Penrith and Wollongong become accessible, along with full coverage of Sydney CBD, and Parramatta. These travel times are impractical for regular commuting and involve multiple transfers with low service frequency. Western Sydney International Airport remains poorly served even at this horizon.

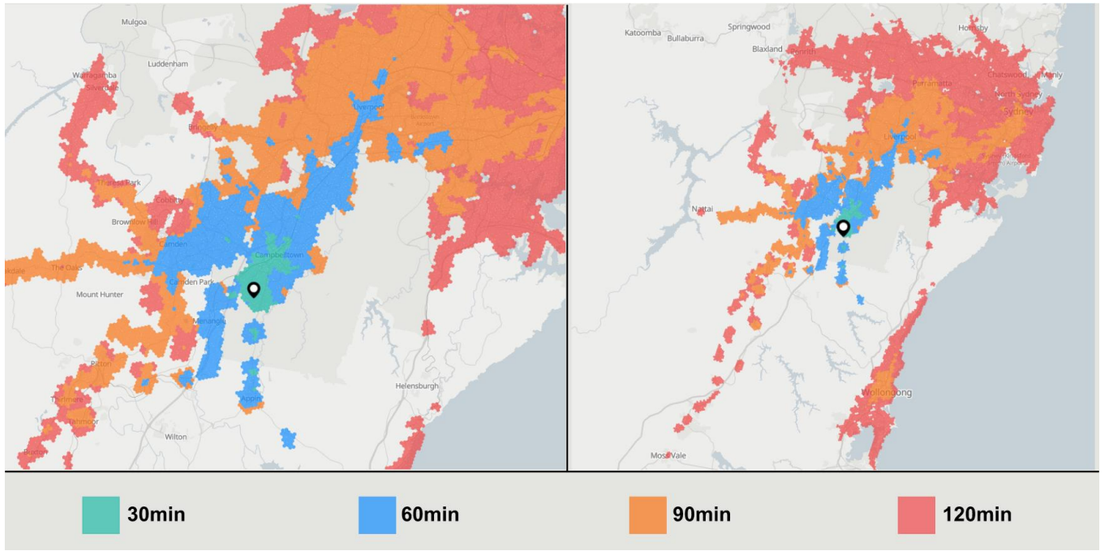
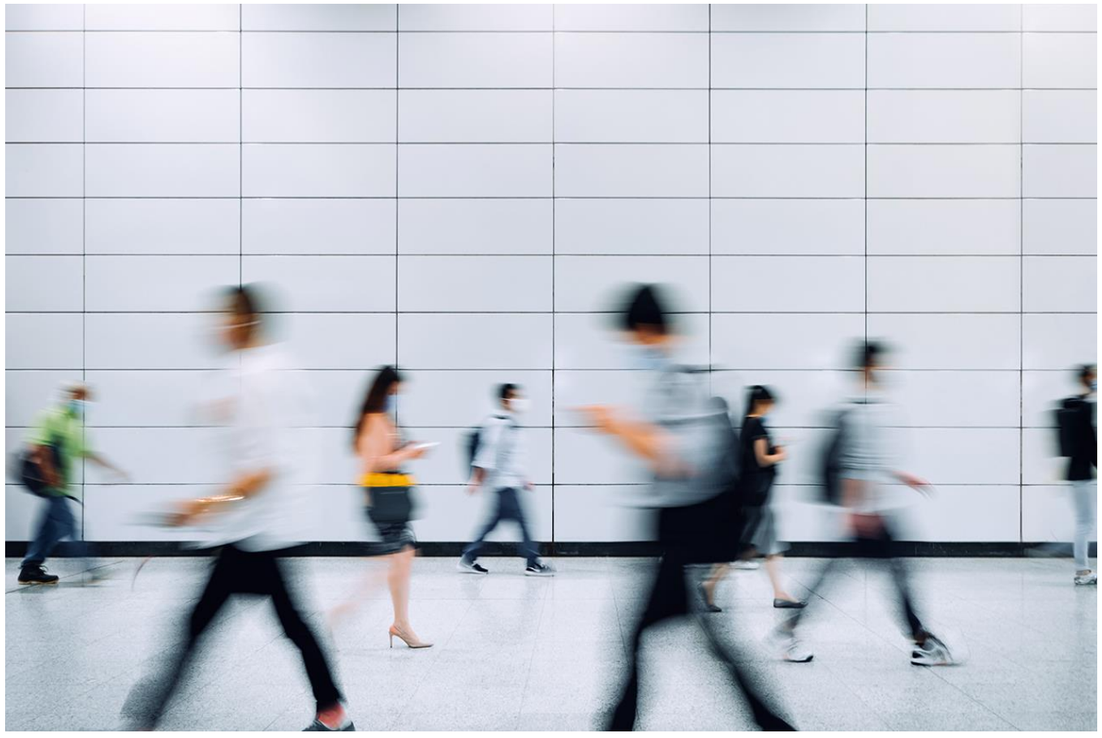
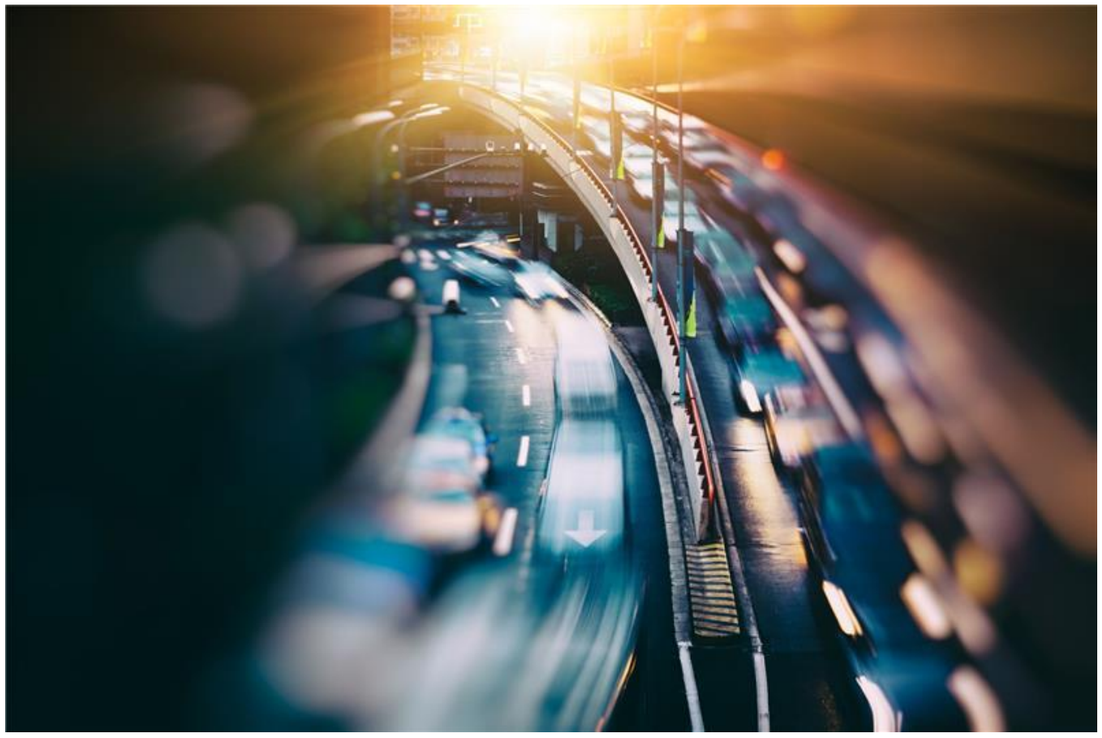


Figure 36 *Public Transport Accessibility – Rosemeadow – Glen Alpine*





4.9.4. Wollondilly LGA

Wollondilly LGA includes the following precincts assessed for travel time coverage:

- Douglas Park - Appin

Driving Accessibility: Douglas Park - Appin

Driving accessibility in Wollondilly reflects the same car-dominant pattern observed across Southwestern Sydney. Within 30 minutes of driving, Douglas Park–Appin commuters can reach Campbelltown CBD, Picton, and Rosemeadow–Glen Alpine. Liverpool CBD is generally outside the 30-minute range, despite sitting approximately 38 km away, and is only feasible in off-peak periods via Appin Road and the Hume Highway. Notably key locations such as Camden are accessible from Douglas Park within 30 minutes however not from Appin highlighting a significant lack of East-West connections in this area. The only main roads in this precinct are Appin Road and The Hume Highway which only has exits at Wilton or Campbelltown meaning to cross the highway requires significant detours.

Western Sydney International Airport is also outside the 30-minute band, located approximately 40 km away, and is not practical during peak periods but can be accessed in off-peak conditions. Sydney Airport and Sydney CBD are both well beyond the 30-minute range, each located more than 50 km away, and are not reachable even in off-peak conditions within this timeframe. Wollongong sits approximately 35 km away and is reachable in off-peak periods via Appin Road and Picton Road, but not during peak times. Most South-West Sydney growth precincts such as Rosemeadow–Glen Alpine and Leppington–Catherine are reachable within 30 minutes, while Cobbitty–Bringelly and Austral–Greendale sit outside this band and are only feasible in off-peak periods. This indicates that Douglas Park–Appin is relatively isolated compared to other growth precincts, and congestion on Appin Road and the Hume Highway will likely worsen as population growth accelerates.

At 60 minutes, Douglas Park–Appin achieves full coverage to the southern Sydney CBD, Parramatta, and both airports. Western Sydney International Airport becomes comfortably accessible within this band, Sydney Airport and Sydney CBD, while beyond the 30-minute range, are practical destinations within 60 minutes during off-peak periods via the M5 Motorway and Hume Highway. Parramatta is also accessible within 60 minutes, primarily through the M7 corridor. Wollongong is approximately 35 km away and can be reached in around 60 minutes during peak periods via Appin Road and Picton Road. All major South-West Sydney growth precincts fall within the 60-minute band from Douglas Park–Appin. This includes Rosemeadow–Glen Alpine to the north, Leppington–Catherine and Cobbitty–Bringelly to the north-west, and Austral–Greendale further north. These connections are enable inter-precinct movement for employment and services without requiring excessive travel times.

The main roads used for these connections include Appin Road, the Hume Highway, Picton Road, and the M5 Motorway. These corridors also intersect other growth areas such as Rosemeadow–Glen Alpine and Leppington–Catherine, meaning projected population increases will place additional pressure on these routes.

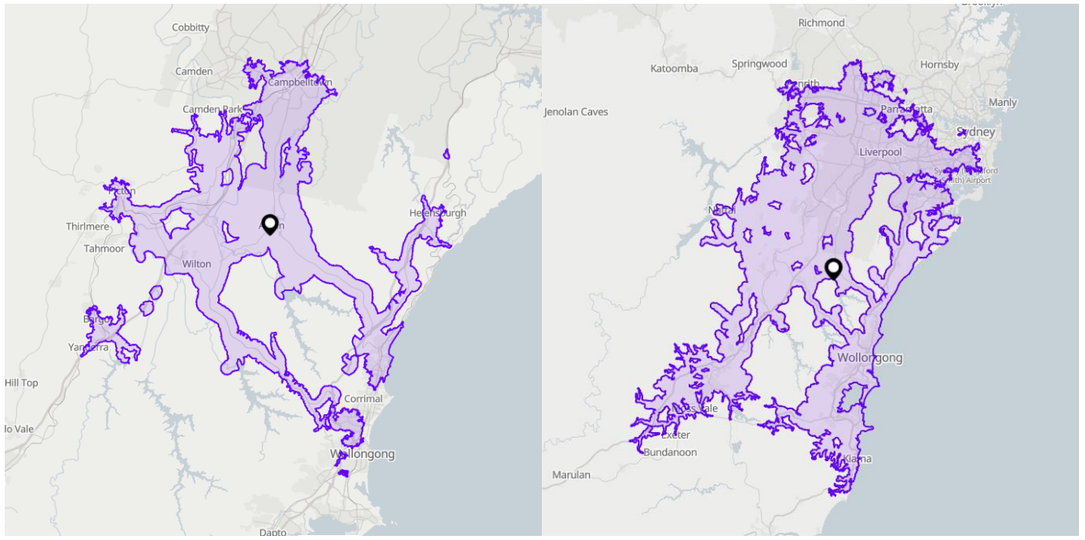


Figure 37 Douglas Park - Appin Driving Distances (Left: 30min, Right 60min)

Public Transport Accessibility: Douglas Park - Appin

Within 30 minutes by public transport, Appin commuters can reach Menangle and parts of Rosemeadow–Glen Alpine, as well as Campbelltown/Macarthur stations. This provides access to the Sydney Trains network, but the initial feeder trip consumes most of the short-range window, leaving little time for onward travel. No major employment hubs such as Parramatta or Sydney CBD are accessible within this timeframe, and neither Sydney Airport nor Wollongong falls within this band.

At 60 minutes, coverage expands to include Campbelltown/Macarthur rail corridor and Wollongong, marking a notable improvement for southbound access. However, Sydney CBD, Sydney Airport, and Parramatta remain outside this band. Western Sydney International Airport is not practical within this timeframe. Growth precinct connectivity improves slightly: Rosemeadow–Glen Alpine is fully included, but Leppington–Catherine, Austral–Greendale, Edmondson Park, and Cobbitty–Bringelly remain excluded. It should also be noted that large sections of Douglas Park–Appin itself remain underserved, and there is no meaningful improvement beyond 60 minutes for most precincts, as structural gaps persist.

At 90 minutes, Sydney CBD and Sydney Airport finally enter range, marking the first point where major employment hubs and the airport become accessible. Parramatta also becomes accessible in this band. However, travel times are still marginal for daily commuting. Among growth precincts, Leppington–Catherine and Austral–Greendale remain connected, but Cobbitty–Bringelly is only partially included.

At two hours, Wollongong becomes fully accessible, along with Sydney CBD, Sydney Airport, and Parramatta. These travel times are impractical for regular commuting and involve multiple transfers with low service frequency. Western Sydney International Airport remains poorly served. This confirms that Wollondilly's growth precinct has the weakest public transport connectivity of all LGAs assessed, creating a significant accessibility gap for future residents.

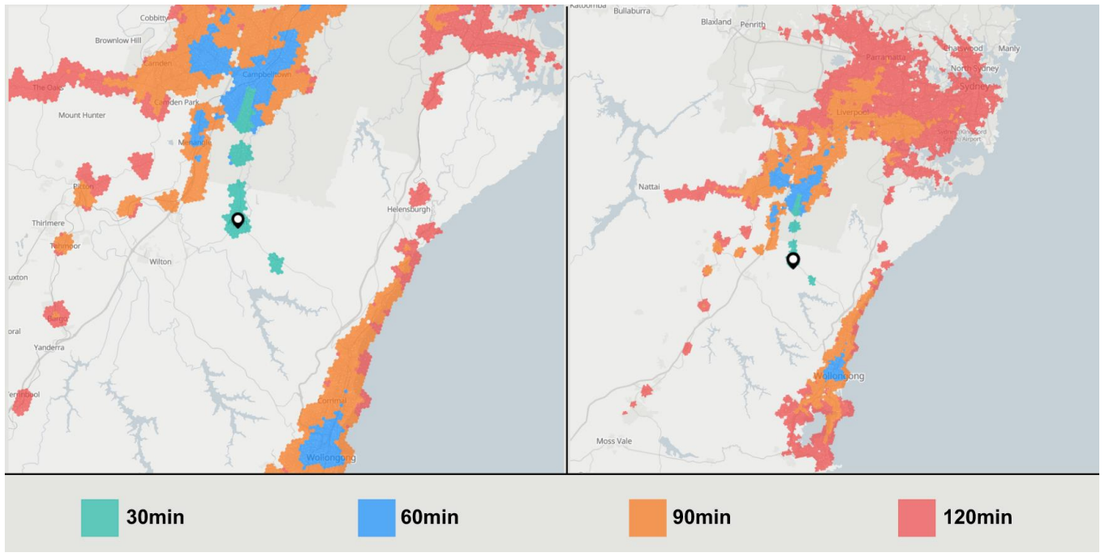


Figure 38 *Public transport accessibility Douglas Park - Appin*

4.9.5. Key Destinations –Travel Time Findings

Sydney CBD

All growth precincts reach Sydney CBD by car in about 60 minutes. None reliably achieve a 30-minute car time. Distance and congestion are the limiting factors, with routes primarily using the Hume Highway, M5 Motorway and M7 corridor. Off-peak travel improves consistency, but peak periods push travel times beyond 60 minutes for Douglas Park–Appin and Cobbitty–Bringelly.

All growth precincts reach Sydney CBD by public transport in 90 minutes or more. None achieve a 60-minute travel time. Interchange delays and feeder trips to rail hubs are the limiting factors, with routes primarily using the Southwest Rail Link (Leppington and Edmondson Park) and the Campbelltown/Macarthur Line (Rosemeadow–Glen Alpine, Douglas Park–Appin). Off-peak travel improves consistency, but structural rail gaps mean Cobbitty–Bringelly and Austral–Greendale remain heavily reliant on feeder buses, adding 20–30 minutes before rail access.

Parramatta

Parramatta is generally accessible within 60 minutes by car from all growth precincts. Leppington–Catherine and Edmondson Park perform best due to proximity to the M7, while Austral–Greendale and Cobbitty–Bringelly follow closely. Douglas Park–Appin and Rosemeadow–Glen Alpine reach Parramatta in off-peak conditions but experience significant delays during peak periods. Main routes include the M7 Motorway and Camden Valley Way, which also serve Leppington - Catherine and Cobbitty – Bringelly.

Parramatta is mostly accessible within 90 minutes by public transport from precincts with rail adjacency. Leppington–Catherine and Edmondson Park perform best via the Southwest Rail Link and interchange at Glenfield, while Rosemeadow–Glen Alpine and Douglas Park–Appin connect via the Campbelltown/Macarthur Line and Granville. Cobbitty–Bringelly and Austral–Greendale require long feeder trips, pushing total times toward 120 minutes. Lack of direct east–west rail means all trips require interchange.

Sydney Airport (SYD)

Sydney Airport is reachable within 60 minutes by car from all precincts except Douglas Park–Appin during peak periods. Leppington–Catherine and Edmondson Park have the strongest access via the M5 corridor, while Austral–Greendale and Cobbitty–Bringelly rely on the M7/M5 combination. Rosemeadow–Glen Alpine and Douglas Park–Appin require Appin Road and the Hume Highway before joining the M5, adding complexity and congestion.

Sydney Airport becomes accessible slightly before Sydney CBD via the T8 rail line, typically within 90 minutes for rail-adjacent precincts. Leppington–Catherine and Edmondson Park connect via the South West Rail Link and T8 Airport Line, while Rosemeadow–Glen Alpine and Douglas Park–Appin use the Campbelltown/Macarthur Line. Cobbitty–Bringelly and Austral–Greendale remain disadvantaged due to feeder delays. Western Sydney International Airport is not served at all by the current network, representing the most critical gap.

Western Sydney International Airport (WSI)

Western Sydney International Airport is comfortably within 30 minutes for Austral–Greendale, Leppington–Catherine, and Cobbitty–Bringelly. Edmondson Park sits just inside the 30-minute band, while Rosemeadow–Glen Alpine and Douglas Park–Appin fall outside but remain within 60 minutes. Access routes include The Northern Road, Bringelly Road, and Camden Valley Way, which traverse multiple growth precincts and will experience increased pressure as development accelerates.

No growth precinct can access WSI by public transport within 120 minutes under the current network. There is no operational rail corridor serving the airport, and future Metro Western Sydney Airport services are still in planning. This is the most significant strategic gap given WSI's role in employment growth.

It is acknowledged that the current accessibility analysis does not account for committed infrastructure projects that are under construction, including the M12 Motorway and the Sydney Metro – Western Sydney Airport Line connecting St Marys to the airport. These projects will significantly alter future travel patterns and reduce travel times to Western Sydney International Airport and other destinations. However, as these initiatives are already funded and progressing toward delivery, their impacts have been excluded from this assessment. The purpose of this study is to identify gaps and prioritise projects that still require funding and planning consideration. Consequently, the results presented reflect existing network conditions and do not incorporate improvements expected from these committed projects.

Wollongong

Wollongong is not practical within 30 minutes for most precincts and is largely discounted for short-range connectivity planning. It becomes feasible within 60 minutes only from Douglas Park–Appin and Rosemeadow–Glen Alpine during off-peak periods via Appin Road and Picton Road. Other precincts such as Leppington–Catherine, Cobbitty–Bringelly, and Austral–Greendale exceed 80 km and remain outside reasonable commuting windows even in off-peak conditions.

Wollongong is not practical within 60 minutes for public transport from most precincts and is largely discounted for short-range connectivity planning. It becomes feasible within 60 minutes only from Douglas Park–Appin and Rosemeadow–Glen Alpine via local buses that run down Appin Road. Other precincts such as Leppington–Catherine, Cobbitty–Bringelly, and Austral–Greendale remain outside reasonable commuting windows even in off-peak conditions.

4.10. Observations

4.10.1. Existing Capacity

Road Transport

- Elizabeth Drive is already at capacity with a VCR of 1.03 which will increase to 6.91 by 2041, underscoring the need to upgrade capacity early
- Remembrance Drive, Menangle Road, Appin Road, Picton Road, Campbelltown Road and Wilton Road will all be well over capacity by 2041 with VCR's ranging from 1.79 - 2.76.
- These findings confirm that several strategic corridors are already experiencing congestion, and others are at risk of saturation in the near future given the large population growth forecast. This validates the urgency of planned upgrades and the need for ongoing monitoring.
- Noting the caveats and limitations in available data discussed in Section 4.4, reinforcing the importance of investing in traffic data infrastructure and regular updates to capacity assessments

Rail Transport

- **Current Capacity (2025):** Available train capacity on the T5 and T8 lines are already approaching the crowding threshold (135% load factor), leaving minimal resilience for further growth.
- **2041 projection**: Demand is expected to reach levels equivalent to crush capacity (180% load factor) under current service frequencies, indicating a significant shortfall without network improvements.
- **Metro connection impact**: The future Western Sydney International Airport (WSI) metro link to St Marys will provide access to the T1 line for parts of Liverpool LGA, reducing pressure on T5 and T8. However, this benefit is limited to areas such as western Austral–Greendale. Discounting Liverpool LGA demand still is equivalent to 157% of current network capacity and well above the crowding threshold.

4.10.2. Access

Road Transport

- **Strong baseline access at 60 minutes:** All precincts reach Sydney CBD, Parramatta, and Sydney Airport within approximately 60 minutes in off-peak conditions.
- **Western Sydney International Airport advantage:** Austral–Greendale, Leppington–Catherine, and Cobbitty–Bringelly achieve WSI access inside 30 minutes; Edmondson Park sits just inside this band. Rosemeadow–Glen Alpine and Douglas Park–Appin fall within 60 minutes.
- **Peak-period reliability gap:** Routes feasible in off-peak degrade significantly in peaks, particularly to Sydney CBD, Sydney Airport, and Wollongong. Congestion is concentrated on Appin Road, Narellan Road, The Northern Road, Bringelly Road, Camden Valley Way, which all funnel into the M5 and M7.
- **Inter-precinct dependence on shared corridors:** Growth areas rely on a small set of east–west and north–south spines
- **Douglas Park–Appin isolation:** Limited east–west links and sparse Hume Highway crossings create detours and constrain connectivity to Camden and Campbelltown.
- **Wollongong access is peak-sensitive:** Feasible near 30 minutes only from Douglas Park–Appin and Rosemeadow–Glen Alpine off-peak via Appin Road and Picton Road; other precincts exceed practical commuting windows.

Public Transport

- **Baseline access sits at 90 minutes for CBD and Parramatta.** Most growth precincts require around 90 minutes by public transport to reach Sydney CBD and Parramatta. None reliably achieve a 60-minute outcome, except for limited cases from Leppington–Catherine Fields and Edmondson Park.
- **WSI is not practically served.** Western Sydney International Airport is not practically reachable within 120 minutes by public transport from any growth precinct under the current network.
- **Thirty-minute access is local only.** The 30-minute band is confined to nearby stations and town centres. For Rosemeadow–Glen Alpine and Douglas Park–Appin, up to 20 minutes is consumed reaching Campbelltown/Macarthur before any trunk rail leg begins. For Austral–Greendale and Cobbitty–Bringelly, the 30-minute band often does not reach a trunk rail station at all.
- **Sixty-minute access is corridor-dependent.** At 60 minutes, Leppington–Catherine and Edmondson Park (via the South West Rail Link) can reach CBD, Parramatta and Sydney Airport. Other precincts remain short of these hubs at 60 minutes and only consolidate access at 90 minutes.
- **Growth-to-growth access is weak.** Inter-precinct public transport connectivity remains minimal even at 60 minutes. Extending to 90 and 120 minutes produces little further improvement as significant parts of Cobbitty–Bringelly, Austral–Greendale and Douglas Park–Appin have no public transport coverage.
- **North–south rail exists, east–west links do not.** Connectivity depends on the South West Rail Link and the Campbelltown/Macarthur corridor. There are effectively no high volume east–west public transport options between growth precincts or to WSI.

4.10.3. Common Bottlenecks

Road Transport

- Appin Road and its interfaces with the Hume Highway and Narellan Road.
- Bringelly Road and The Northern Road near WSI and growth precinct clusters.
- Narellan Road and Camden Valley Way as inter-precinct spines and Parramatta feeders.
- M5 and M7 motorway interfaces for CBD and airport flows.
- Picton Road for Wollongong access, with mixed commuter and freight demand.
- Limited Hume Highway crossing options south of Campbelltown.

Public Transport

- First/last-mile to rail hubs. Feeder travel of 20–30 minutes to Leppington or Campbelltown/Macarthur erodes competitiveness for Rosemeadow–Glen Alpine, Douglas Park–Appin, Austral–Greendale and Cobbitty–Bringelly.
- Interchange friction. Time penalties at Glenfield, plus platform transfer and service variability, add 0–20 minutes on CBD and Airport trips.
- East–west network void. No rapid cross-corridor services between growth precincts, nor any functional public transport link to WSI from the CBD or Sydney Airport.

5. Review of Proposed Solutions

5.1. Proposed projects

Figure 39 provides a summary of proposed transport corridors, metropolitan centres and projects in planning/under investigation. In the subsequent report sections, we have outlined potential projects to service housing growth across the Liverpool, Camden, Campbelltown, and Wollondilly LGAs.

We acknowledge that some projects, such as the M12 Motorway and Sydney Metro - Western Sydney Airport Line, are already funded and progressing toward delivery. As such, these projects have been excluded from our analysis, which focuses on unfunded or pipeline initiatives that remain under consideration for future investment. Rather than proposing new alternatives, we have chosen to sample pre-existing projects and assess the existing projects in a multi-criteria analysis to highlight and rank the projects which will enable the most housing growth.

These projects are critical to enabling housing growth in the focus area, particularly the Bradfield Aerotropolis, Wilton Growth Area, and Greater Macarthur Growth Area. Each project is reviewed for its planning status, cost, timeline, risks, opportunities, and benefits to local connectivity and will then be assessed in a multi-criteria analysis to determine which projects are priority to support housing growth. These projects are listed in Table 32 and provide an overview of the projects we will assess in detail in this analysis. We note that freight projects such as the South West Illawarra Rail Link were excluded from this analysis as they do not support housing growth. The Outer Sydney Orbital corridor was also excluded given this project is largely for freight.

Table 32 Summary of proposed projects

Project Name	Planning Phase	Indicative Cost	Indicative Timeline
Appin Road Upgrades (Campbelltown-Appin)	Stage 1 under construction; rest in planning	$170m (Stage 1); $300m+ total	2024 - 2030s
North-South Rail Link (Bradfield-Macarthur)	Corridor protected; business case underway	Multi-billion	2030 - 2040
South West Rail Link Extension (Leppington-WSA)	Corridor protected; joint planning underway	Multi-billion	2030 - 2040
Spring Farm Parkway Stage 2	Final design in progress; unfunded	~$600 million	2027 - 2030
Fifteenth Avenue Upgrade	In planning and design	~$1 billion	2024 - 2030
Elizabeth Drive Upgrade	In planning and design	~$2.2 billion	2025 - 2032
South West Road Plan	Strategic planning stage, with business cases for corridor upgrades under development	$3-4 billion	2026 - 2035
Greater Macarthur Transit Corridor	Strategic planning and corridor protection underway.	~$1–2 billion	2025 - 2035

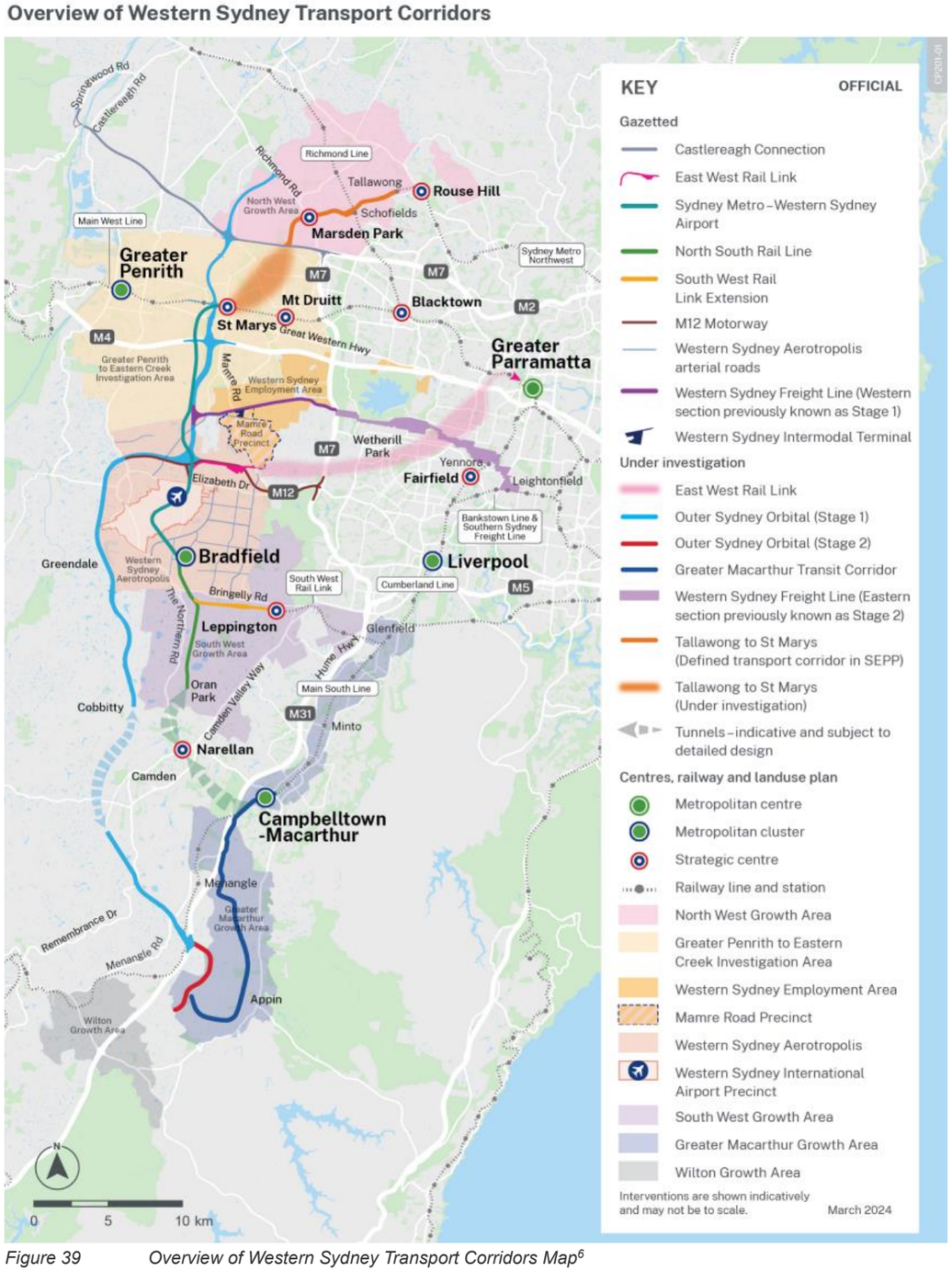


Figure 39 Overview of Western Sydney Transport Corridors Map[6]

[6] Western Sydney Corridors Overview Map | Transport for NSW

5.2. Project 1: Appin Road Upgrades (Campbelltown–Appin)

The Appin Road Upgrades[7] program is a critical infrastructure initiative supporting the Greater Macarthur Growth Area, particularly within the Campbelltown and Wollondilly Local Government Areas. The program proposes the widening of Appin Road between Campbelltown and Appin, the construction of koala underpasses to mitigate ecological impacts, and a bypass of Appin village to improve traffic flow and safety. Stage 1, currently under construction and developer-funded, spans from Rosemeadow to Gilead and includes early works such as intersection upgrades and safety improvements. This stage is scheduled for completion between 2024 and 2025.

Future stages of the program are being planned to extend improvements southward toward Appin and West Appin. These stages are expected to be delivered progressively from 2026 into the 2030s, subject to planning approvals and funding coordination. Key components under consideration include additional road widening, further koala crossings, and integration with broader transport initiatives such as the proposed Link Road between Appin Road, Gilead, and Menangle Road. This link would enhance connectivity to the Hume Highway and Spring Farm Parkway, supporting future development and improving regional accessibility. Transport for NSW has also identified medium- and long-term initiatives through a scoping study to improve journey reliability, safety, and multimodal access along the corridor.

The Appin Road Upgrades are expected to deliver substantial benefits to Campbelltown and Wollondilly. For Campbelltown, the project will significantly increase road capacity and provide direct access to new residential precincts, supporting urban expansion. In Wollondilly, the upgrades may unlock development potential in West Appin by improving connectivity and reducing travel times. While the project presents opportunities for enhanced safety and regional integration, it also carries risks including environmental sensitivities, infrastructure delivery timelines, and funding dependencies. This section introduces the Appin Road Upgrades as a candidate for assessment in the subsequent multi-criteria analysis.

Table 33 provides an overview of the project, the location of the project is also provided in Figure 40.

Table 33 Appin Road Project Summary

Field	Details
Description	Proposal to widen Appin Road from Campbelltown to Appin, including koala underpasses and a bypass of Appin village. Associated with Greater Macarthur Growth Area.
Planning Phase	Stage 1 under construction (developer-funded); additional stages in planning.
Indicative Cost	$170 million for Stage 1; estimated total cost $300–400 million.
Indicative Timeline	Stage 1: 2024–2025; future stages: 2026–2030s.
Risks	Potential delay in infrastructure, environmental considerations, funding coordination.
Opportunities	Support projected population growth of 90,000 people, safety improvements, enhancements to regional connectivity.
Benefits to LGAs	Camden: indirect relief to Narellan Road; Campbelltown: double road capacity, access to new suburbs; Liverpool: reduce overflow traffic from adjoining growth areas; Wollondilly: facilitate development in West Appin.

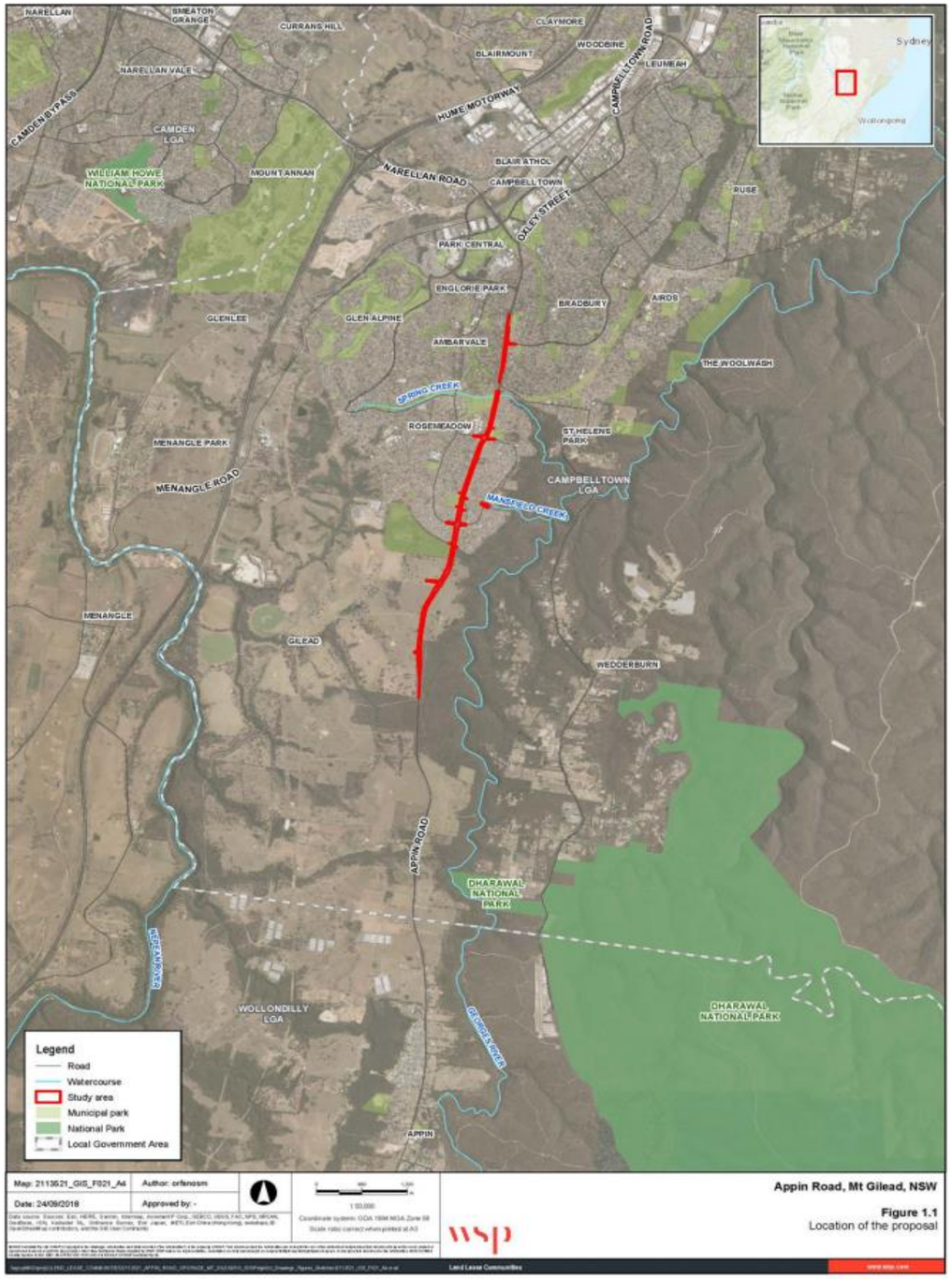


Figure 40 Project Plan. Appin Road Upgrade, Mount Gilead to Ambarvale Submissions report

[7] Appin Road upgrade | Transport for NSW

5.3. Project 2: North–South Rail Link (Bradfield–Macarthur)

The proposed Sydney Metro extension from Bradfield to Macarthur is a key strategic initiative under consideration by Transport for NSW to improve connectivity across South West Sydney. The corridor has been formally protected through rezoning to SP2 Infrastructure, reserving land for future transport use. A Final Business Case is currently being developed, jointly funded by the Australian and NSW Governments, to assess options for a metro-style rail line connecting Bradfield City and Western Sydney International Airport to Macarthur via Oran Park and Narellan. The business case will evaluate both heavy rail including metro and light rail modes and is expected to be completed between mid-2024 and mid-2026. This extension would form part of a broader orbital rail strategy, complementing the North South Rail Line and South West Rail Link Extension corridors.

The metro extension is intended to support housing growth by enabling transit-oriented development and improving access to employment centres. Campbelltown would benefit from direct rail access to Bradfield and the airport, reinforcing its role as a regional centre and enhancing its connectivity to emerging economic hubs. Camden would gain its first metro connection, with Oran Park and Narellan positioned as key nodes in the network, supporting higher-density development and reducing reliance on private vehicles. Wollondilly may benefit from future integration via Macarthur Station, improving long-term accessibility for emerging communities in the southern part of the LGA. The project aligns with Transport for NSW's broader objectives to support land use planning and sustainable growth in the Greater Macarthur Growth Area.

While the project presents significant opportunities, it also faces several risks that must be considered in the multi-criteria analysis. These include funding uncertainty due to its multi-billion-dollar scale, integration complexity with existing transport networks, and the need for coordinated planning across multiple jurisdictions. However, the metro extension offers a compelling opportunity to reshape mobility patterns, support sustainable development, and deliver long-term economic uplift. This section introduces the project as a candidate for assessment against other infrastructure options in the following analysis.

Table 34 provides a summary of the project, whereas a potential corridor/route is shown in Figure 41. The authors note there were little sources available and have used data from a Strategic Environmental Assessments Report available on the TfNSW website[8] with a number of assumptions for cost/timeline.

Table 34 North South Rail Link Project Summary

Field	Details
Description	Extend Sydney Metro from Bradfield to Macarthur via Oran Park and Narellan. Provides direct rail access to Western Sydney Airport and Bradfield City.
Planning Phase	Corridor protected; business case underway
Indicative Cost	Multi-billion (metro-style line)
Indicative Timeline	2030 - 2040
Risks	Funding uncertainty, integration complexity, land use alignment
Opportunities	Connects growth suburbs to jobs, supports transit-oriented development, completes orbital rail loop
Benefits to LGAs	Camden: Rail access for Oran Park/Narellan; Campbelltown: Direct airport access, boosts regional CBD status; Liverpool: Indirect orbital connectivity; Wollondilly: Future integration via Macarthur.

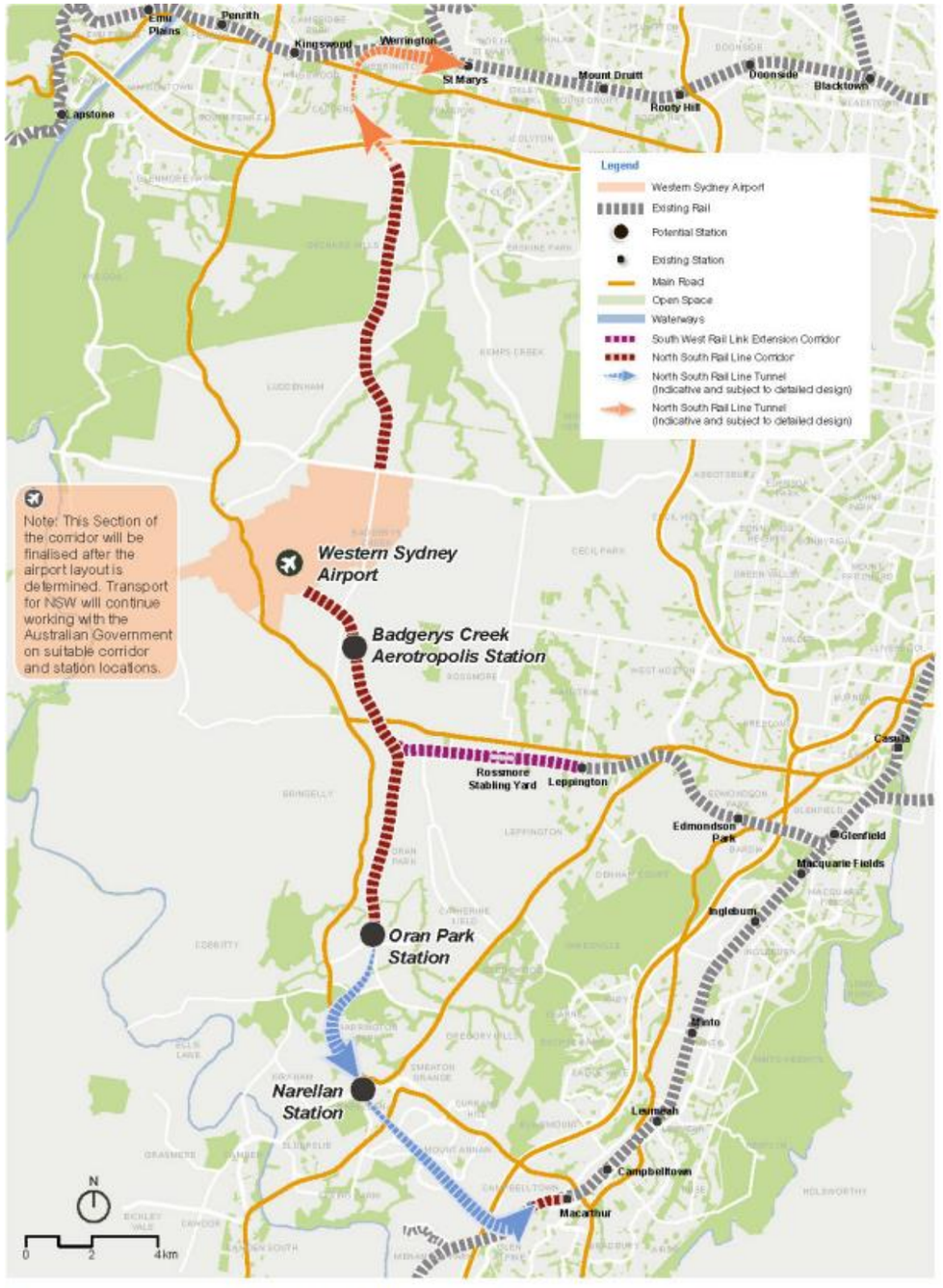


Figure E-1 The final recommended North South Rail Line and South West Rail Link Extension corridors

Figure 41 North South Rail Line Corridor, North South Rail Line and South West Rail Link Extension Corridors

[8] North South Rail Line and South West Rail Link Extension | Transport for NSW

5.4. Project 3: South West Rail Link Extension (Leppington to WSA)

The South West Rail Link Extension (SWRLE) is a proposed heavy rail corridor that would extend the Sydney Trains network from Leppington to the Western Sydney International Airport and Bradfield City. The corridor has been formally protected through SP2 Infrastructure zoning, and a joint business case is underway, funded by the Australian and NSW Governments. This planning work is expected to conclude by the mid-2020s, with a target opening in the early 2030s. The SWRLE is intended to complete the Western Sydney orbital rail loop, complementing the North South Rail Line and Sydney Metro Western Sydney Airport projects. The potential corridor is also shown in Figure *42*Figure .

The project is designed to support housing growth and employment access across South West Sydney. Liverpool would gain direct rail access to the airport and Bradfield, enhancing its strategic role. Camden would benefit from improved connectivity via Leppington, while Campbelltown and Wollondilly may see indirect benefits through interchange opportunities and broader regional integration. The corridor also supports future transit-oriented development and aligns with long-term land use planning objectives.

Key risks include integration challenges with existing metro and heavy rail infrastructure. However, the SWRLE presents significant opportunities to support mode shift, improve access to the Aerotropolis, and enable sustainable growth. This section introduces the SWRLE as a candidate for assessment against other infrastructure options in the following multi-criteria analysis.

Table 35 provides an overview of the key aspects of the project for consideration in the MCA.

Table 35 Summary for South West Rail Link Extension

Field	Details
Description	Extend SWRL from Leppington to Western Sydney Airport and Bradfield City. Connects Liverpool and Camden to the Aerotropolis.
Planning Phase	Corridor protected; joint planning underway
Indicative Cost	Multi-billion
Indicative Timeline	2030 - 2040
Risks	Integration with metro, underestimation of demand, construction disruption
Opportunities	Completes Western Sydney rail loop, boosts Liverpool's airport access, supports mode shift
Benefits to LGAs	Camden: Improved connectivity via Leppington; Campbelltown: Indirect benefit via interchange; Liverpool: Direct airport rail access; Wollondilly: Regional connectivity via Macarthur.

Figure E-1 The final recommended North South Rail Line and South West Rail Link Extension corridors

Figure 42 North South Rail Line Corridor, North South Rail Line and South West Rail Link Extension Corridors[9]

[9] Strategic Environmental Assessment Transport for NSW August 2019, Ethos Urban, Aurecon

5.5. Project 4: Spring Farm Parkway Stage 2

Spring Farm Parkway Stage 2 is a proposed infrastructure upgrade that will complete a vital east–west corridor between Menangle Park and Spring Farm, connecting Camden Bypass, Menangle Road, and the Hume Motorway. The project includes a new bridge over the Nepean River and aims to relieve congestion on Narellan Road, which currently serves as the primary east–west arterial in the region. Stage 1 of the Parkway is already operational, and Stage 2 is progressing through final design and business case development, supported by a $15 million planning commitment from the NSW and Australian Governments. Subject to approvals and funding, construction is expected to commence around 2027, with completion targeted for 2030.

The project is designed to support housing growth and improve regional mobility across Camden, Campbelltown, and Wollondilly LGAs. Camden will benefit from a new east–west corridor that reduces pressure on existing routes and improves access to growth precincts such as Spring Farm and Elderslie. Campbelltown will gain improved connectivity to Menangle Park and Mount Gilead, while Wollondilly residents will have better access to services and employment in adjoining LGAs.

Key risks associated with the project include potential delays in funding, construction challenges in flood-prone areas, and scope creep during design development. However, the anticipated benefits—such as diverting up to 30,000 vehicles daily from Narellan Road, enhancing flood resilience, and enabling future bus services—position Spring Farm Parkway Stage 2 as a critical enabler of sustainable growth in the Greater Macarthur region. This section introduces the project for assessment against other infrastructure options in the following multi-criteria analysis.

Table 36Table 35 provides an overview of the key aspects of the project for consideration in the MCA and Figure 43 shows the project map.

Table 36 Summary for Spring Farm Parkway project

Field	Details
Description	Extend Spring Farm Parkway westward to connect Camden and Campbelltown via a new Nepean River bridge. Relieves Narellan Road congestion.
Planning Phase	Final design and business case in progress
Indicative Cost	~$600 million
Indicative Timeline	Construction start ~2027; open ~2030
Risks	Funding delay, floodplain construction, scope creep
Opportunities	Major congestion relief, connects three LGAs, supports freight and active transport
Benefits to LGAs	Camden: New east–west corridor, reduced congestion; Campbelltown: Improved access to growth suburbs; Wollondilly: Better access to Camden and Campbelltown; Liverpool: Indirect benefit via regional traffic relief.

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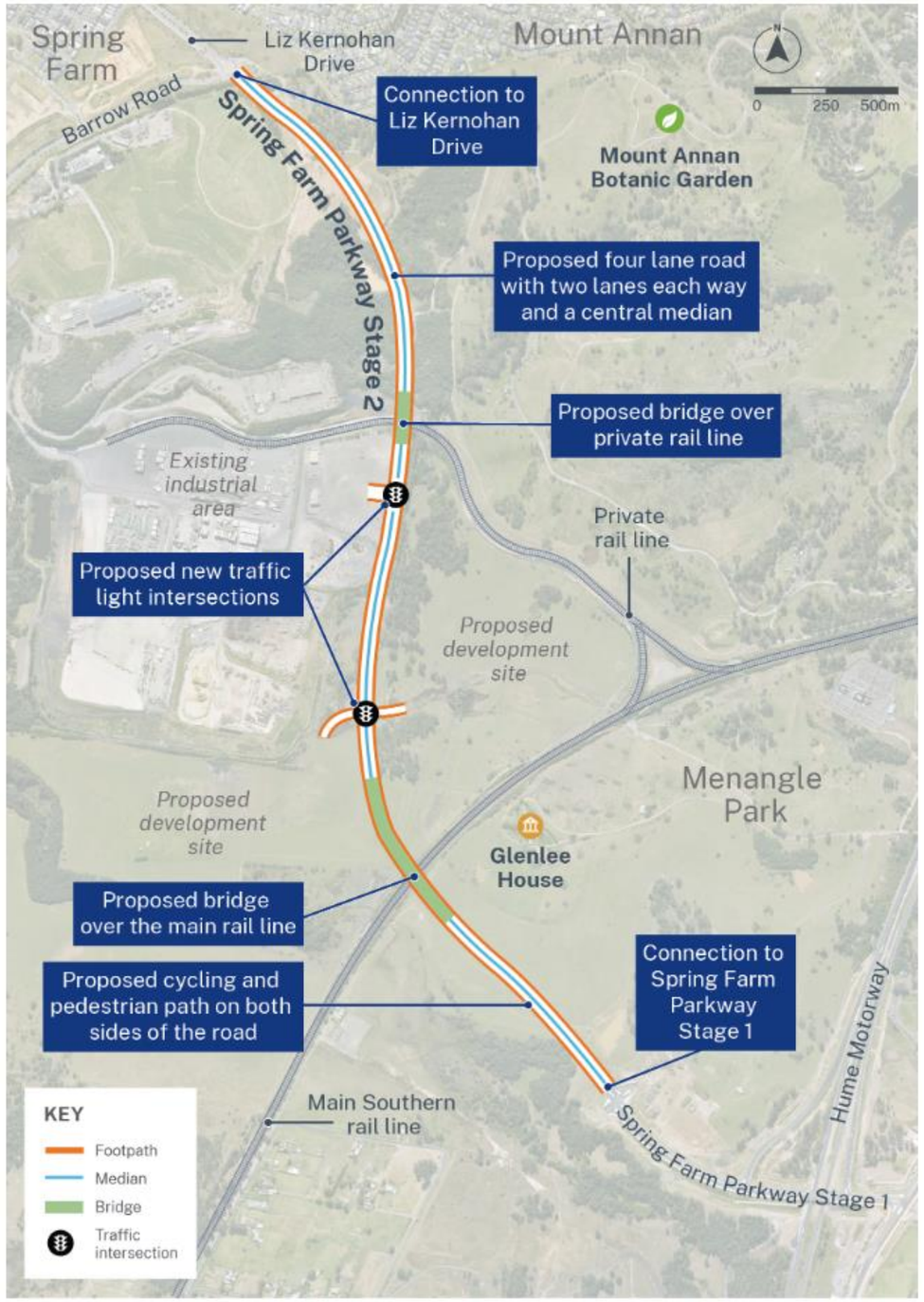

Figure 43 Spring Farm Parkway Project Map

[10] Spring Farm Parkway Stage 2 | Transport for NSW

5.6. Project 5: Fifteenth Avenue Upgrade

The Fifteenth Avenue Upgrade is proposed as a key strategic infrastructure intervention within South-Western Sydney. Positioned between Cowpasture Road and Devonshire Road, this two-lane arterial currently supports roughly 22,000 vehicles daily and is forecast to almost double that volume to around 42,000 vehicles per day by 2036. Given its alignment via Austral and Rossmore toward the future Western Sydney International Airport (WSI) and the emerging Bradfield City Centre (Aerotropolis), the upgrade is intended to deliver both enhanced capacity for general traffic and improved connectivity for new housing and employment lands in the LGAs of Liverpool and Camden.

The upgrade scope comprises duplication of the carriageway to four lanes (two lanes each direction), implementation of new signal-controlled intersections (including a key junction at Second Avenue), dedicated turning lanes, enhanced active transport (pedestrian and cycling) facilities, and corridor reservation for future rapid bus transit. The works are staged, with design and early works commencing in 2025 and major construction expected to begin in 2027 following awarding of the concept design contract to WSP. The existing two-lane configuration, combined with rapid growth in adjacent residential precincts and the airport employment catchment, has produced notable congestion and sub-optimal levels of service which the upgrade seeks to rectify.

From a housing-enablement perspective, the project presents an important pre-emptive intervention. By upgrading Fifteenth Avenue, the corridor will better support access to emerging growth precincts in Austral - West Hoxton Park and Rossmore, allowing for smoother east-west mobility, improved bus rapid transit capability, and safer active-transport links. It therefore forms a candidate “enabling” option that aligns transport infrastructure prioritisation with the housing growth forecasts across the study area (Camden, Liverpool, Campbelltown, Wollondilly). In the forthcoming multi-criteria analysis, this option will be assessed alongside other corridor upgrades to determine its ranking in terms of strategic impact, network resilience, cost-effectiveness, and readiness for delivery.

Figure 44 Fifteenth Avenue Upgrade[11]

Table 37 provides an overview of the project, the location of the project is also provided in Figure 44.

Table 37 Summary of Fifteenth Avenue Upgrade

Field	Details
Description	Upgrade of Fifteenth Avenue between Cowpasture Road and Devonshire Road to a four-lane divided arterial with new intersections, shared paths, and provision for future rapid bus transit linking Liverpool to the Western Sydney Aerotropolis and Airport.
Planning Phase	In planning and design. Early works from 2025; major construction expected 2027.
Indicative Cost	Approximately $1 billion, jointly funded by the Australian and NSW Governments under the Western Sydney Infrastructure Plan (WSIP).
Indicative Timeline	2024–2030 (planning, design, and staged delivery).
Risks	Land acquisition, environmental constraints, project coordination with nearby developments, cost escalation.
Opportunities	Improved east–west connection, support for bus rapid transit, better access to Aerotropolis and housing precincts, active-transport links.
Benefits to LGAs	Camden: Improved access to WSA and reduced pressure on Camden Valley Way; Campbelltown: Regional connectivity uplift via M7 and WSA access; Liverpool: Major congestion relief and housing-growth enablement in Austral and Rossmore; Wollondilly: Indirect benefit through improved regional accessibility.

[11] Fifteenth Avenue Upgrade | Transport for NSW

5.7. Project 6: Elizabeth Drive Upgrade

The Elizabeth Drive Upgrade is positioned as a strategic transport intervention within South-Western Sydney, aiming to strengthen the regional connection between the western growth corridor and Sydney's employment centres. Currently functioning as a four-lane arterial route linking the Western Sydney Airport precinct, Lubri-Edge industrial precinct, and Liverpool motorway network, the project seeks to accommodate rapidly increasing traffic volumes, particularly those associated with new housing developments in the LGAs of Camden and Liverpool. The roadway carries a mix of commuter, freight, and local traffic, all of which are forecast to increase significantly as projected housing growth in the region proceeds through 2041 and beyond.

The upgrade scope encompasses duplication and widening works to a six-lane divided carriageway, the introduction of new signalised intersections at major precinct access points, dedicated bus / rapid-bus lanes, and improved active-transport infrastructure including pedestrian/cycle paths. A key element is the linking of Elizabeth Drive to the M5 Motorway via a new interchange, which will provide a direct high-capacity east-west link to Sydney's motorway network. The project is in the planning stage, with concept designs expected to be finalised by 2026 and construction anticipated to commence in 2028, contingent on funding and approvals.

From a housing-enablement perspective, the Elizabeth Drive Upgrade serves as a critical enabler for growth precincts within the study area. By providing improved east-west mobility and reducing travel times to key employment hubs and transport hubs, the upgrade supports the redevelopment of under-utilised industrial and residential land in the Liverpool and Camden LGAs, helps unlock precincts in the southern fringe of the growth area, and supports diverse housing choices within commuting range of the Western Sydney Aerotropolis and airport precinct. In the forthcoming multi-criteria analysis, this option will be assessed alongside other major infrastructure interventions on its performance against criteria such as strategic growth impact, network resilience, cost-effectiveness, delivery readiness and inter-modal integration.

Table 38 provides an overview of the project and the location of the project is also provided in Figure 45.

Figure 45 Elizabeth Drive Upgrade Project Map[12]

Table 38 Elizabeth Drive Summary

Field	Details
Description	Upgrade of Elizabeth Drive between The Northern Road and the M7 Motorway to a higher-capacity divided arterial. Works include road widening, intersection upgrades, bus priority measures, and active-transport facilities. The project will provide a key east-west link between Western Sydney Airport, Aerotropolis, and Liverpool.
Planning Phase	In planning and design, early works expected 2026, major construction from 2028.
Indicative Cost	Around $2.2 billion (joint Federal–State funding under WSIP).
Indicative Timeline	2025–2032 (design, early works, and staged delivery).
Risks	Land acquisition, utilities relocation, flood-prone areas, cost escalation.
Opportunities	Better east–west connectivity, future bus rapid-transit corridor, access to WSA, improved network reliability.
Benefits to LGAs	Camden: Strengthened access to Western Sydney Airport and employment lands. Campbelltown: Regional mobility improvement through M7/M31 connections. Liverpool: Significant congestion relief and enhanced connectivity to CBD and WSA. Wollondilly: Indirect regional accessibility uplift via Campbelltown and Appin corridors.

[12] Elizabeth Drive Upgrade | Transport for NSW

5.8. Project 7: South West Road Plan

The South West Road Plan is envisaged as a comprehensive infrastructure strategy designed to align road network expansion with the significant housing growth anticipated across the south-western Sydney corridor, comprising the LGAs of Wollondilly, Campbelltown, Camden and Liverpool. With over 250,000 new residents forecast within the region by 2041, the plan targets the aggregation and upgrading of a suite of major roads and arterial connections to support new residential precincts, employment hubs, and transport corridors. The initiative is positioned to deliver not just individual upgrades but a network-wide transformation that enhances capacity, resilience and connectivity across the growth area.

As a multi-project package, the plan incorporates the widening and duplication of major arterials and the creation of strategic east-west and north-south links that connect key growth precincts (such as Leppington to Catherine Field, Oran Park, Wilton, Douglas Park and the Aerotropolis). It includes provisions for improved intersections, bus-rapid transit lanes, active transport linkages and corridor priority for future mass-transit integration. By bundling these works, the South West Road Plan provides a flexible delivery framework that can be prioritised and sequenced based on precinct readiness, funding availability and housing supply timing.

From a housing-enablement perspective, the South West Road Plan offers a high-value enabling solution that complements other standalone projects (e.g., the Fifteenth Avenue Upgrade, Elizabeth Drive Upgrade) by providing broad network capacity needed to support dispersed growth in Camden, Wollondilly and the outer edges of Campbelltown and Liverpool. The enhanced connectivity and improved transport performance will serve to unlock housing supply in areas currently constrained by road access, encourage modal shifts, and improve accessibility to employment centres including the Western Sydney Aerotropolis and Western Sydney International Airport. In the forthcoming multi-criteria analysis, this plan will be evaluated alongside other options for its strategic impact, readiness for delivery, cost-effectiveness and capacity to support housing delivery across the study area.

Table 39 provides an overview of the project and the location of the project is also provided in Figure 46.

Table 39 Summary of South West Road Plan Project

Field	Details
Description	A coordinated package of road-network upgrades across the south-western Sydney growth corridor (Camden, Campbelltown, Liverpool, Wollondilly), including arterial widening, new links, and bus/active-transport provisions.
Planning Phase	Strategic planning stage, with business cases for corridor upgrades under development; delivery expected 2026-2035.
Indicative Cost	Estimated $3-4 billion, subject to scope, staging and funding agreements.
Indicative Timeline	2026–2035 (planning and staged construction).
Risks	Scope creep across multiple corridors, coordination complexity, land acquisition, funding pipeline, construction interface with major projects (WSA, Aerotropolis).
Opportunities	Unlocks large housing precincts, supports east-west connectivity, integrates bus-rapid transit, lifts regional growth potential.
Benefits to LGAs	Camden: Enhanced access to growth precincts and major arterials. Campbelltown: Improved connectivity across growth nodes. Liverpool: Supports major housing development and freight access. Wollondilly: Reduces isolation of outer precincts and expands viable development catchments.

Figure 46 South West Road Plan Map[13]

[13] South West Road Plan | Transport for NSW

5.9. Project 8: Greater Macarthur Transit Corridor

The Greater Macarthur Transit Corridor (GMTC) is a strategic mass-transit proposal intended to connect emerging communities south and south-east of Campbelltown to high-capacity rail at Campbelltown / Macarthur. The corridor serves growth areas at Menangle Park, Mount Gilead (Gilead), Appin and Wilton, with the primary function of providing a fast, reliable spine for passenger movement as housing delivery accelerates across Campbelltown and Wollondilly. In the near term the concept is framed around rapid bus (BRT-style) operations with transit priority along Menangle Road / Appin Road, scalable over time to higher-capacity solutions (e.g., centre-running BRT or LRT) as patronage matures. The corridor would integrate with the T8 line (Campbelltown/Macarthur) and connect to Southern Highlands Line services, enabling seamless transfers into the metropolitan rail network.

The reference concept typically includes a staged package: targeted road and intersection upgrades to create continuous bus priority; queue jumps and signal priority at constrained nodes; new/expanded interchanges at Campbelltown and Macarthur; interim park-and-ride at Menangle Park / Appin; and a continuous active-transport spine parallel to the transit alignment. Early stages focus on removing the worst bottlenecks and establishing 10-15-minute all-day frequencies, with operating plans designed for sub-30-minute end-to-end journeys from Appin / Wilton to Campbelltown / Macarthur. Later stages could deliver dedicated median lanes, upgraded stations, and corridor protection for future technology upgrades, maintaining flexibility as land use intensifies.

From a housing-enablement perspective, the GMTC directly addresses the current rail-access gap south of Campbelltown by providing competitive, reliable public transport from Wollondilly growth fronts (Wilton-Appin) into Sydney's rail network. It supports structure planning by focusing growth along a transit spine, reducing car dependence on Appin Road / M31, and improving access to jobs and services in Campbelltown CBD, Liverpool and Parramatta via interchange. In the forthcoming multi-criteria analysis, the GMTC will be assessed against alternative options (e.g., corridor-only road upgrades, dispersed bus improvements, or separate east-west links) on criteria including strategic alignment with growth, access and travel-time benefits, deliverability / staging, environment and place outcomes, and cost-effectiveness.

Table 40 provides an overview of the project and the location of the project is also provided in Figure 47.

Table 40 Summary of Greater Macarthur Transit Corridor

Field	Details
Description	Staged rapid-transit corridor (initially BRT with transit priority) linking Wilton/Appin/Menangle Park/Gilead to Campbelltown/Macarthur for interchange with T8 and Southern Highlands services; scalable to centre-running BRT/LRT as demand grows.
Planning Phase	In strategic planning and corridor protection stage. Early works to follow coordinated road upgrades.
Indicative Cost	Approx. $1–2 billion, depending on scope and staging.
Indicative Timeline	2025–2035, staged delivery aligned with housing growth.
Risks	Corridor protection, environmental constraints (koala habitat), coordination with Appin Road upgrades, funding certainty.
Opportunities	Provides early mass-transit access to Wilton-Appin, supports mode shift from cars, strengthens links to jobs and education in Campbelltown and Sydney.
Benefits to LGAs	Camden: Improved connectivity through Campbelltown interchanges. Campbelltown: Major uplift in access and role as regional hub. Liverpool: Improved network connectivity via T8 Line interchange. Wollondilly: Primary beneficiary—mass-transit access for Wilton and Appin housing areas.

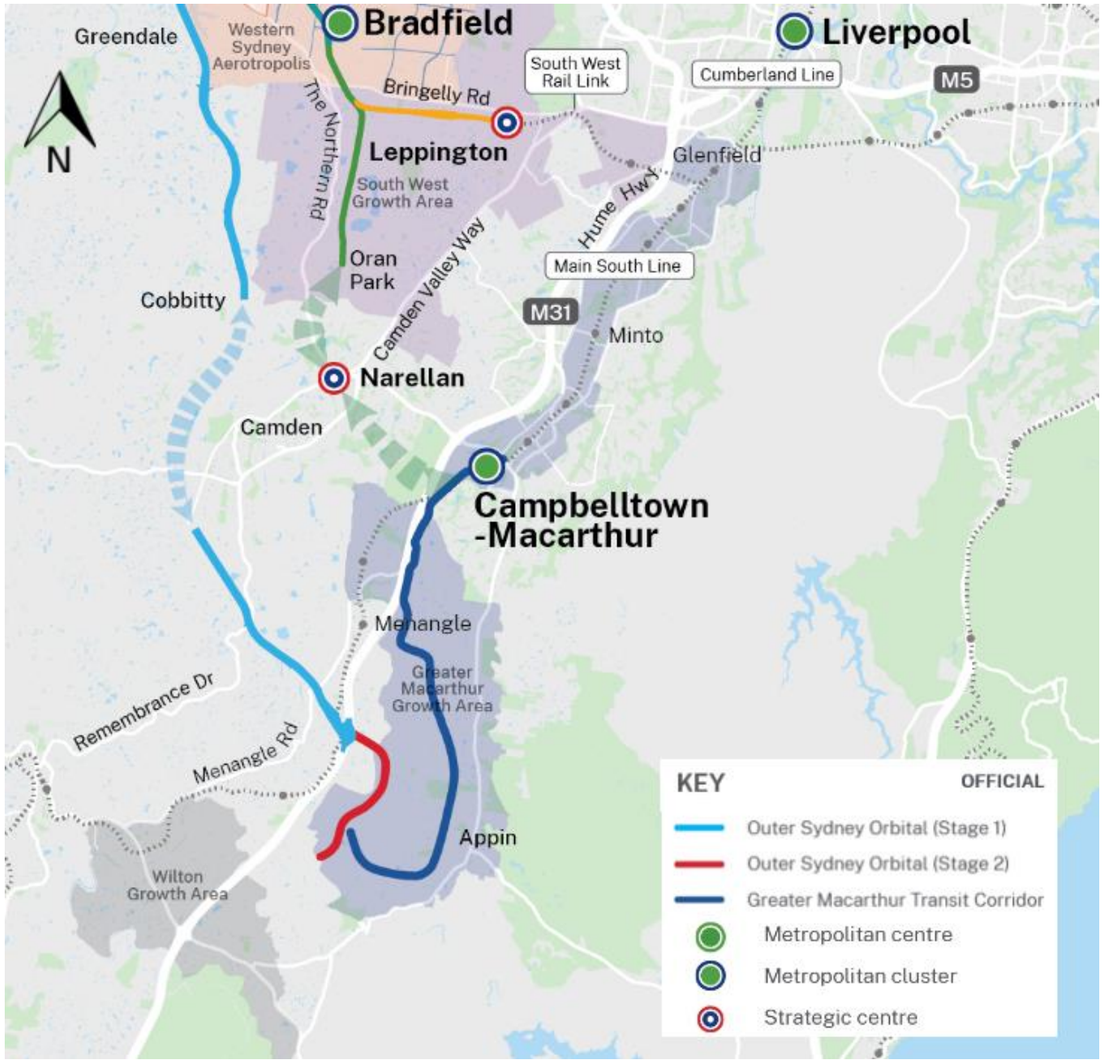

Figure 47 Greater Macarthur Transit Corridor Map[14]

[14] Western Sydney Corridors Overview Map | Transport for NSW

5.10. Ranked Solutions/MCA

The multi-criteria analysis (MCA) approach offers a systematic method for prioritising proposed infrastructure projects to unlock housing growth. It enables an assessment by evaluating each individual project against a defined set of criteria. Each of the projects outlined in the previous section will be evaluated to determine

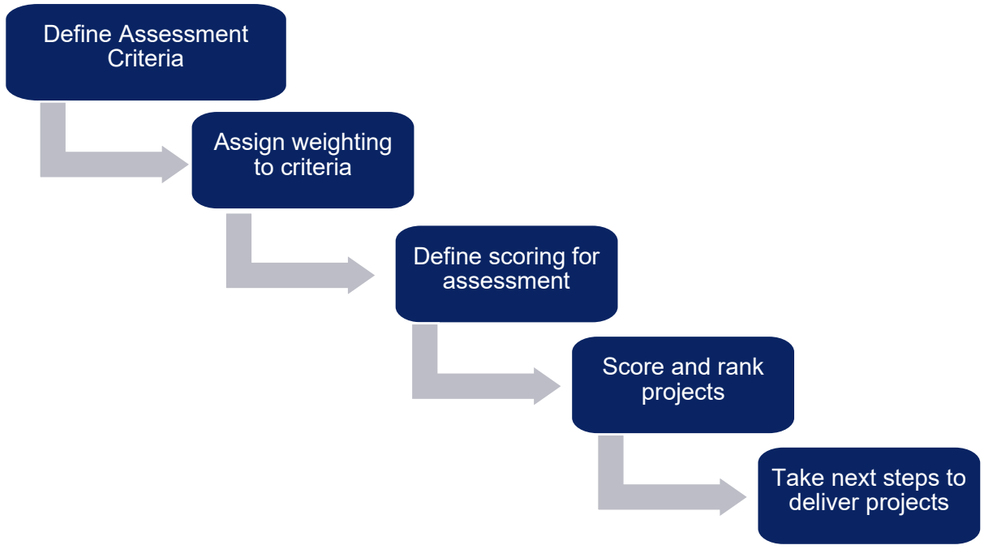

Figure 48 MCA Approach

5.10.1. Define Assessment Criteria

This is to establish a set of criteria that reflect the strategic objectives of the project, namely supporting housing growth, improving liveability, and ensuring alignment with long-term infrastructure needs. Table 41 outlines assessment criteria that will be used to compare the projects.

Table 41 Assessment Criteria

Criteria	Description
Housing Growth Potential	Does the option/project service more growth areas than other options? Considers the location of the project and the population/dwelling growth that will be captured by the transport project. Assumptions used to compare options include; - On average there are 3 people per household required. - Transport projects are assumed to service the complete SA2 area.
Existing Network Impact	Does the option result in benefits to the existing transport network (I.e. relieve pressure on the existing network). An assessment of capacity will be used to compare the options
Connectivity	Does the option increase travel connectivity and reduce travel times from key areas the project services Does the option increase the travel bubbles and unlock new travel corridors to key areas?
Project Cost	What is the estimated cost of the project?

5.10.2. Assign weighting to criteria

Each criterion was assigned a weighting to reflect its relative importance in achieving the overall objectives for the study area. Each criterion was comparatively reviewed on a basis of “what is more important”, with weightings then calculated using a pairwise formula. The calculated weightings are included in Figure 49 with Housing Growth Potential and Project Cost being the highest weighted criteria.

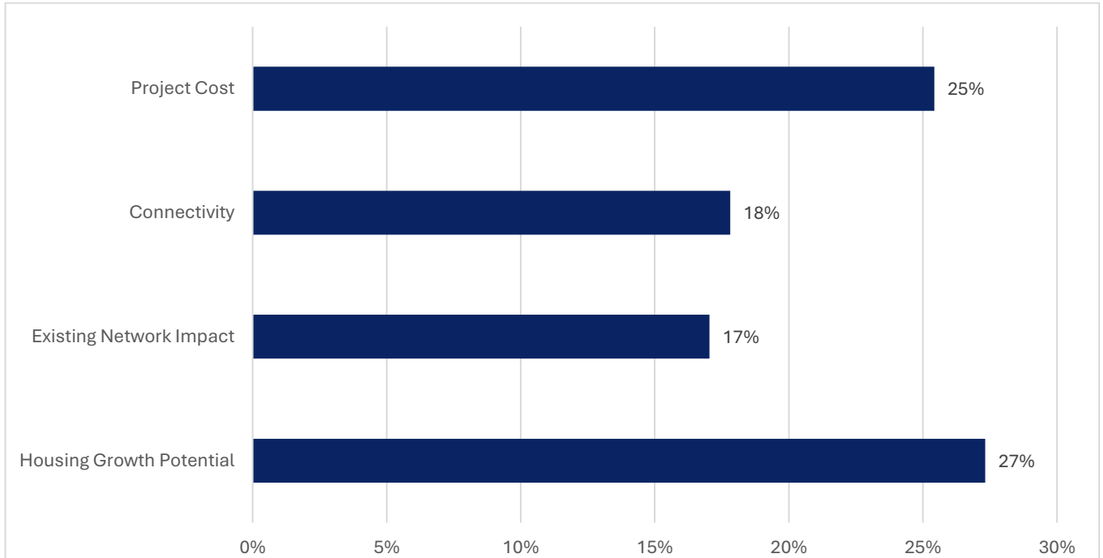

Figure 49 Criteria Weightings

5.10.3. Define scoring for assessment

A scoring assessment was established (refer to Table 42) for each criterion to ensure consistent, objective scoring of all shortlisted projects. For each criterion, a scoring scale (e.g., 1-5) was defined, with clear descriptors for what constitutes a low, moderate, or high score.

Table 42 Scoring Criterion

Criterion	Scoring
Housing growth potential	5 = Services >40,000 new dwellings (or population growth > 120,000 people) 4 = Services 20,000 – 40000 new dwellings (population growth 60,000 to 120,000 people) 3 = Services 10,000 – 20,000 new dwellings (population growth between 30,000 and 60,000 people). 2 = Services 3,000 to 4,000 new dwellings (population growth between 9000 to 30,000 people). 1 = Services <3,000 new dwellings (or population growth < 9000 people)
Existing Network Impact	5 = Addresses capacity on a route that is currently/projected to be significantly over capacity 4= Addresses capacity on a route that is currently/projected to be slightly over capacity 3 = Addresses capacity on a route that is currently/projected to be at capacity 2 = Addresses capacity on a route that is currently/projected to be slightly below capacity -

Criterion	Scoring
	1 = Addresses capacity on a route that is currently/projected to be well below capacity
Connectivity/Travel Radii	5 = Connects 3 or more growth precincts to a key destination. Unlocks new travel corridors or provides a significant east–west link where none currently exists. 4 = Connects multiple key residential and employment nodes or creates/ substantially upgrades a corridor Provides strong regional benefit. 3 = Connects two key nodes, and enhances an existing corridor by improving reliability or reducing travel time. Provides incremental improvement to congestion 2 = Provides limited improvement in connectivity; benefits are mostly local. Does not create new corridors; minor travel time savings or operational enhancements only. 1 = Offers little or no improvement in connectivity beyond current conditions. Benefits are localized and does not materially change travel times or unlock new routes.
Project Cost	5 = Estimated cost less than $500M 4 = Estimated cost between $500M and $1B 3 = Estimated cost between $1B and $2B 2 = Estimated cost between $2B and $10B 1 = Estimated cost exceeds $10B

5.10.4. Option Evaluation

The scoring process was completed in a workshop attended by the team members. Options were scored 1 (worst) to 5 (best) against each criterion with the basis for scoring included in the subsequent sections.

Housing Growth Potential

For scoring the housing potential criteria, the following was considered and can be seen in Table 43:

Table 43 Housing Growth Potential scoring basis for MCA

Project Name	Scoring	Basis for Selection
Appin Road Upgrades (Campbelltown-Appin)	2	Rosemeadow Glen Alpine SA2 is within the project area and experiences a population growth of 18,842 people or approx. 6,280 new dwellings.
North-South Rail Link (Bradfield-Macarthur)	5	The project services the following SA2 areas - Austral - Greendale - Badgerys Creek - Cobbitty – Bringelly - Leppington - Catherine Field - Campbelltown - Woodbine The project services a population growth of 124,729 people or approx. 41,576 new homes
South West Rail Link Extension (Leppington-WSA)	4	The project services the following SA2 areas - Austral - Greendale - Badgerys Creek - Leppington - Catherine Field The project services a population growth of 91,094 people or approx. 30,364 new homes
Spring Farm Parkway Stage 2	2	The project services the following SA2 areas - Mount Annan – Currans Hill - Rosemeadow – Glen Alpine The project services a population growth of 18,488 people or approx. 6,162 new homes
Fifteenth Avenue Upgrade	3	The project services the following SA2 areas - Austral - Greendale - Badgerys Creek The project services a population growth of 50,367 people or approx. 16,789 new homes
Elizabeth Drive Upgrade	3	The project services the following SA2 areas - Austral - Greendale - Badgerys Creek The project services a population growth of 50,367 people or approx. 16,789 new homes
South West Road Plan	5	The project services a number of areas, assumed to capture a population growth > 150,000 or over 50,000 new homes.
Greater Macarthur Transit Corridor	3	The project services the following SA2 areas - Rosemeadow - Glen Alpine - Douglas Park - Appin The project services a population growth of 56,140 people or approx. 18,713 new homes

Existing Network Impact

To score the existing network impact criteria, the following was considered and can be seen in Table 44:

Table 44 Existing Network Impact Scoring Criteria

Project Name	Scoring	Basis for Selection
Appin Road Upgrades (Campbelltown-Appin)	2	Based on the capacity assessment and 2041 projection, Appin Road is currently operating under and will have a projected capacity of just at capacity by 2041
North-South Rail Link (Bradfield-Macarthur)	3	New rail link would connect access between the existing catchments serving the T1 and T8 lines providing greater route options and spreading out congestions. However, does not improve existing T1, T5, or T8 bottlenecks out of the region. Potentially will reduce capacity due to unlocking additional commuters. However likely will have an improvement on surrounding road network to WSI along the Northern Road Corridor.
South West Rail Link Extension (Leppington-WSA)	2	Connection from WSI to Leppington line potentially will reduce capacity due to unlocking additional commuters on an already bottlenecked T5 and T8 line. However likely will have an improvement on surrounding road network to WSI.
Spring Farm Parkway Stage 2	3	Spring Farm Parkway Stage 2 will reduce congestion on Narellan Road the main arterial connecting Appin Road, The Northern Road and Camden Valley way. However there is there is insufficient data to assess the existing network impact.
Fifteenth Avenue Upgrade	3	There is limited data on surrounding road networks, hence, a score of 3 has been applied as there is insufficient data to assess the existing network
Elizabeth Drive Upgrade	5	Based on the capacity assessment and 2041 projection, Elizabeth Drive is currently operating at capacity with a VCR of 1.0 and will increase to almost a VCR of 7
South West Road Plan	4	Based on the capacity assessment and 2041 projection, Campbelltown Road, Menangle Road, Camden Valley Way and Appin Road will be over capacity with VCR's of 1.7 – 2.16, whereas the Hume Highway has resilience to population growth and will be just over capacity at a VCR of 1.11
Greater Macarthur Transit Corridor	2	Connection from Appin to Campbelltown improves access however will reduce available capacity due to unlocking additional commuters on an already bottlenecked T8 line. However likely will have an improvement on surrounding road network.

Connectivity

To score the existing network impact criteria, the following was considered and can be seen in Table 45:

Table 45 Connectivity MCA Scoring Basis

Project Name	Scoring	Basis for Selection
Appin Road Upgrades (Campbelltown-Appin)	3	Connects Appin -Douglas Park and Rosemeadow – Glen Alpine and enhances an existing corridor by improving reliability or reducing travel time.
North-South Rail Link (Bradfield-Macarthur)	5	Connects Austral – Greendale, Cobbity – Bringelly, and Cathrine – Leppington, to WSI. Unlocks new travel corridors where none currently exists

Project Name	Scoring	Basis for Selection
South West Rail Link Extension (Leppington-WSA)	5	Connects Austral – Greendale, Edmondson Park, and Cathrine – Leppington, to WSI and WSI to Sydney Airport. Unlocks new travel corridors where none currently exists
Spring Farm Parkway Stage 2	4	Provides a new corridor from Rosemeadow – Glen Alpine and by improving reliability and reducing travel time. Provides incremental improvement to congestion
Fifteenth Avenue Upgrade	3	Connects Austral – Greendale to WSI enhances a new corridor by improving reliability or reducing travel time. Provides incremental improvement to congestion and enables future development in the area.
Elizabeth Drive Upgrade	2	Provides limited improvement in connectivity; benefits are mostly local. Does not create new corridors; minor travel time savings or operational enhancements only.
South West Road Plan	3	Impacts all growth areas and WSI however does not provide new corridors. Enhances an existing corridor by improving reliability or reducing travel time. Provides incremental improvement to congestion
Greater Macarthur Transit Corridor	4	Connects Appin - Douglas Park and Rosemeadow – Glen Alpine to the T8 network and therefore all key destinations. Creates corridor and provides strong regional benefit

Project Cost

To score the project cost criteria, the following was considered and can be seen in Table 46:

Table 46 Project cost scoring criteria basis

Project Name	Score Provided	Basis for Selection
Appin Road Upgrades (Campbelltown-Appin)	5	$400M estimated project cost
North-South Rail Link (Bradfield-Macarthur)	1	$11B estimated project cost
South West Rail Link Extension (Leppington-WSA)	2	$4B estimated project cost
Spring Farm Parkway Stage 2	4	$600M estimated project cost
Fifteenth Avenue Upgrade	3	$1B estimated project cost
Elizabeth Drive Upgrade	4	$800M estimated project cost
South West Road Plan	2	$3B estimated project cost
Greater Macarthur Transit Corridor	3	$2B estimated project cost

5.11. MCA

The scoring process was conducted during a workshop attended by all team members. Options were scored 1 (worst) to 5 (best) against each criterion as outlined in the basis in the previous report section. The results are included in Figure 50.

The MCA has concluded the following rankings to prioritise projects to enable housing growth:

1. South West Road Plan
2. Elizabeth Drive Upgrade
3. North-South Rail Link (Bradfield - Macarthur)
4. South West Rail Link Extension (Leppington - WSA)
5. Spring Farm Parkway
6. Appin Road Upgrades
7. Greater Macarthur Transit Corridor
8. Fifteenth Avenue Upgrade

Given the criteria rankings, it is clear the Housing Growth potential is a key factor impacting the scoring, it is not surprising that the priority projects are larger in scale and impact more areas and are able to capture more housing growth.

The South West Road Plan and North-South Rail Link emerged as top performers in the MCA, particularly in terms of Housing Growth Potential, owing to the broad geographical coverage. Their scale not only supports the delivery of new housing but also lays the foundation for improved transport accessibility across the region. The Elizabeth Drive Upgrade was highly rated for project cost efficiency and its positive impact on the existing network, offering a critical enhancement to east-west connectivity between established communities and the new Western Sydney Airport. This upgrade is instrumental in facilitating movement across the aerotropolis precinct and integrating residential areas with emerging employment hubs.

Both the South West Road Plan and North South Rail Link are pivotal in strengthening internal connectivity throughout the study area. By linking established and future residential zones to the aerotropolis, these projects directly support the expansion of the jobs economy around the new airport. Enhanced east-west transport corridors, such as those enabled by Elizabeth Drive, further unlock the potential for economic growth by connecting local talent with employment opportunities and fostering business investment adjacent to the aerotropolis. Collectively, these infrastructure priorities advance the strategic goal of enabling housing growth while underpinning long-term jobs creation and regional prosperity in Western Sydney.

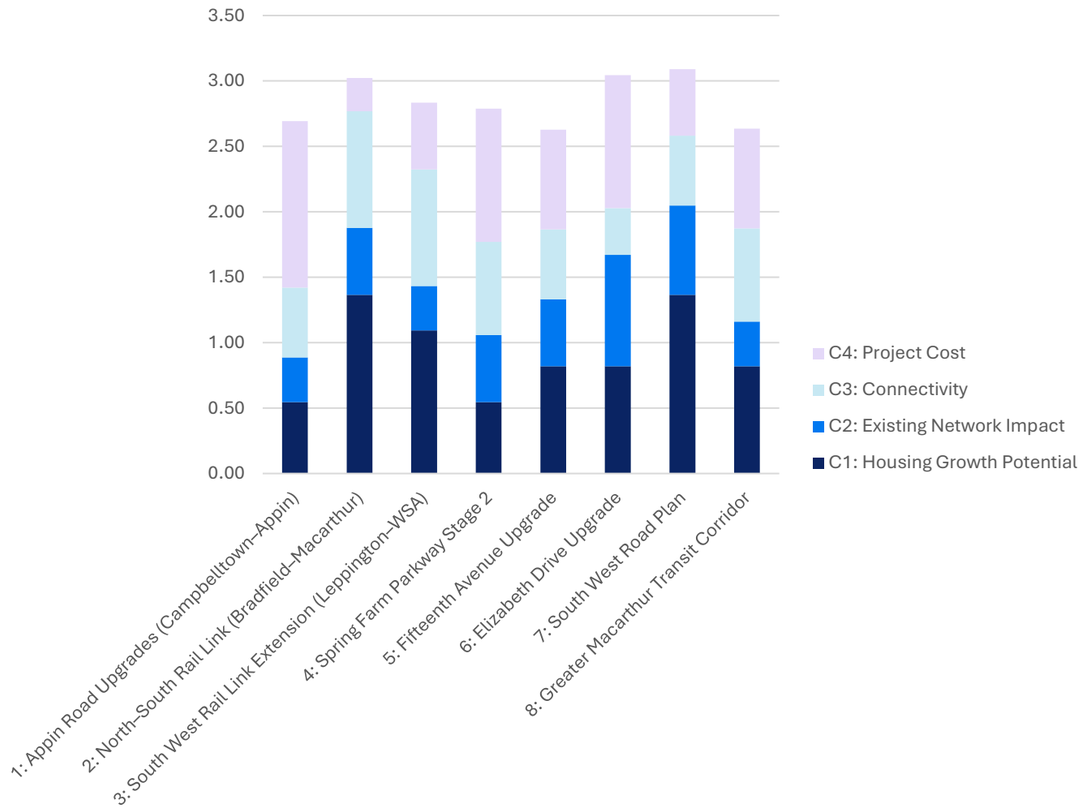

Figure 50 MCA Results

5.11.1. Limitations of the Analysis

While the MCA provides a structured comparison, several limitations must be acknowledged:

1. Data Availability: The analysis relied on publicly available and high-level planning data. Detailed traffic modelling and demand forecasting were not included, which may affect the accuracy of network impact assessments.
2. Costing Assumptions: Project cost estimates were derived from broad assumptions and have not been benchmarked against industry standards or recent comparable projects. This introduces uncertainty in the cost-benefit interpretation.
3. Geographic Growth Capture Assumption: The analysis assumes each project captures housing growth across the entire selected LGA, which may not reflect actual development patterns or planning constraints.
4. Incomplete Project List: The MCA does not represent an exhaustive list of all potential or proposed transport infrastructure projects. Some initiatives may have been excluded due to data gaps or scope limitations.
5. Omission of Additional Criteria: Important factors such as project delivery schedule, environmental impact, and stakeholder support were not included in this phase of analysis. Their absence may skew comparative results.
6. The scoring of options involved some subjectivity in certain criteria and did not create a significant disparity in weighting compared to other alternatives. For validation purposes, it may be advantageous to select a project as a baseline and adjust the criteria scoring to benchmark the other projects against this reference.

The MCA offers a useful framework for preliminary comparison of transport infrastructure projects in relation to housing growth objectives. However, the results should be interpreted with caution and supplemented with more detailed technical assessments, stakeholder engagement, and strategic planning inputs to inform investment decisions.

6. Conclusion

This report has provided an initial exploration of the relationship between transport infrastructure and projected housing growth within the Local Government Areas (LGAs) of Camden, Campbelltown, Liverpool and Wollondilly. Through the identification and quantification of emerging housing growth areas, we have highlighted the potential future pressures on transport networks. However, the accuracy of these findings is inherently limited by the absence of direct planning documentation, meaning that growth estimates should be viewed as indicative and subject to future revision.

By closely aligning transport infrastructure planning with housing growth forecasts, this report aims to support the creation of a liveable, connected, and resilient South-Western Sydney. The insights generated here should guide future research, policy development, and investment decisions as the region transitions into one of Greater Sydney's most dynamic communities.

6.1. Key observations from the assessment

Key observations from the assessment include

- Modal Imbalance and Accessibility Gaps:
    - The region's transport network is highly oriented north-south, with limited east-west connectivity. This creates bottlenecks and accessibility gaps, especially for emerging growth precincts in Camden and Wollondilly. Public transport coverage is strong along the Liverpool-Campbelltown corridor but diminishes rapidly toward western and southern precincts, leaving major growth areas underserved.
- Road Network Saturation:
    - Several strategic corridors, including Elizabeth Drive, Campbelltown Road, Wilton Road, and Picton Road, are already operating at or near capacity. Without intervention, congestion will intensify as population grows.
    - Future projected peak road volumes to 2041 demonstrate the urgent need to upgrade Elizabeth Drive, Campbelltown Road, Remembrance Drive, Menangle Road, Appin Road, Picton Road and Wilton Road
    - Data gaps in traffic volume and intersection performance limit the ability to fully assess the whole network for current and future road capacity.
- Public Transport Capacity Constraints:
    - Rail services (T5 and T8 lines) are approaching crowding thresholds, with projections indicating crush capacity by 2041 if no upgrades are implemented. The lack of direct public transport access to Western Sydney International Airport and the City of Bradfield is a critical gap for future employment and housing growth.
- Travel Time Disparities:
    - Car journeys to major employment centres are generally under 60 minutes, while public transport journeys frequently exceed 90 minutes, highlighting inequities in accessibility and the need for targeted improvements.
- Data and Modelling Limitations:
    - The analysis is constrained by the availability and granularity of traffic, patronage, and planning data. More sophisticated modelling and data collection are required for robust decision-making.
- The Multi-Criteria Analysis (MCA) provides a transparent method for prioritising infrastructure projects, enabling stakeholders to focus investment on solutions with the greatest potential to unlock housing supply and improve regional connectivity. However, the analysis also reveals limitations in available data, modelling granularity, and the scope of project evaluation. These constraints mean that the results should be interpreted as a strategic foundation for further inquiry, rather than definitive recommendations for investment.

6.2. Recommendations

Based on observations and the report findings, the following recommendations are made:

- Prioritise East-West Transport Corridors:
    - Establish a high-performance capacity east-west public transport link that connects the growth precincts and feeds WSI. Create an airport-capable public transport connection that brings WSI within 60 minutes from Leppington-Catherine, Edmondson Park and Austral-Greendale, and within 90 minutes from Cobbitty-Bringelly, Rosemeadow–Glen Alpine and Douglas Park-Appin. This is also supported by the MCA results.
    - Invest in upgrades and new links to improve east-west connectivity, reduce congestion, and support intra-regional mobility. Treat Bringelly Road, Camden Valley Way, Narellan Road, and Appin Road as integrated upgrade programs to manage cumulative demand.
- Reduce Isolation for Douglas Park-Appin:
    - Provide additional east-west options and improved Hume Highway access to reduce detours and improve peak reliability. Consider additional corridor connection projects to the Hume Highway such as Rosemeadow to Spring Farm Parkway, Menangle, and Appin to reduce large detours to Campbelltown or Wilton connections.
- Fast-Track Public Transport Access to Key Hubs:
    - Accelerate delivery of public transport connections to Western Sydney International Airport and the City of Bradfield to unlock employment and housing potential. This is supported by the results of the MCA for which the North-South Rail link was the priority project
    - Provide an East-West connection between Sydney and Western Sydney Airports to enable 60minute transfers between airports.
- Existing Rail Network Upgrades:
    - Upgrade signalling and operations to enable additional T8 and T5 services during peak periods
    - Consider extending platforms and provide additional stabling to accommodate longer trains and higher service frequencies.
    - Reduce reliance on the T8 Airport & South Line, which is projected to become a critical bottleneck by 2041. Explore direct connections from the South-Western Sydney LGAs to the Bankstown Metro line, creating an additional high-capacity corridor to the Sydney CBD. Assess integration opportunities with T3 line extension, future Metro extensions and Western Sydney Airport links to diversify travel options .
- Motorway Interface Efficiency**:**
    - Stabilise peak travel to Sydney CBD, Parramatta, and Sydney Airport through targeted improvements at M5 and M7 interchanges and arterial feeders.
- Enhance First/Last-Mile Connections:
    - Improve feeder services and active transport links to major rail lines, particularly in growth precincts currently underserved by public transport.
- Synchronise Infrastructure Delivery with Housing Growth:
    - Align transport infrastructure investment and delivery schedules with housing development timelines to maximise community and economic benefits.
- Expand Data Collection and Technical Analysis:
    - Undertake detailed traffic studies, public transport capacity modelling, and environmental assessments to inform future planning and investment decisions.
- Engage Stakeholders Early and Often:
    - Conduct targeted consultation with local communities, developers, and transport operators to ensure infrastructure solutions address local needs and priorities.

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