Transport for NSW

M7 Widening Road Network Performance Plan

November 2025

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NSW GOVERNMENT

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Executive Summary

Introduction

The Westlink M7 provides vital connectivity in the north-south alignment within the Greater Sydney region, playing an essential role in facilitating the movement of people and goods particularly for Sydney's western suburbs. The motorway currently operates with two lanes provided in each direction and often operates under significant congestion particularly during the weekday commuter peak periods. Transport for NSW and Western Sydney Orbital Company are in the process of providing an extra lane in each direction as part of Modification 6 of the Westlink M7, otherwise known as the M7 Widening Project.

The *Traffic and Transport Impact Assessment* previously prepared in 2022 found that expected population growth and the M7 Widening project would contribute to reduced intersection performance at several intersections adjacent to the Westlink M7 when compared to baseline (2021) conditions. As part of the Ministerial approval of Modification 6, Condition of Approval 99A was developed to ensure that the impact from M7 Widening on the performance of the seven listed intersections is adequately assessed and potential mitigation measures proposed in consultation with relevant Councils.

Purpose

This Road Network Performance Plan (RNPP) describes the assumptions, stakeholder consultation and traffic modelling prepared to address the Modification 6 Condition of Approval 99A which relates to the operational performance at several intersections adjacent to the M7 corridor.

Assessment scope

Condition of Approval 99A specifically requires assessment at the M7 intersections with the following roads:

- Bernera Road
- Cowpasture Road
- Great Western Highway
- Old Wallgrove Road
- The Horsley Drive
- Rooty Hill Road and
- Richmond Road.

This report summarises the collection of traffic data, description of existing conditions, future year demand development for the year of 2026, traffic model development, SIDRA modelling results and identification of the impacts the M7 Widening will have on the interchanges identified within the Modification 6 *Traffic and Transport Impact Assessment*.

Summary of assessments

Intersection performance was assessed at each intersection that comprises the M7 interchanges with the following intersections to establish the existing conditions in 2025:

- Bernera Road, including Yarrawa Street, Jedda Road and Joadja Road
- Cowpasture Road, including Airfield Drive
- Great Western Highway, including Wallgrove Road and Rooty Hill Road South

- Wallgrove Road, including Mini Link Road and Old Wallgrove Road
- The Horsley Drive, including Wallgrove Road
- Richmond Road, including Rooty Hill Road North.

Strategic model outputs from Transport for NSW's Sydney Motorway Project Model (SMPM) were used to develop demands for the year of 2026 under the 'With M7 Widening' and 'Without M7 Widening' scenarios. Intersection performance comparisons were made between the two 2026 scenarios to understand the likely impacts associated with the M7 Widening project. The assessment found:

- The Bernera Road interchange shows unsatisfactory performance in the existing conditions, which worsens in both 2026 scenarios. Queues spill back from the northbound approach at Jedda Road / Joadja Road intersection and limit the capacity of the Bernera Road roundabouts, leading to delays at both M7 off-ramps.
- The Cowpasture Road / Westlink M7 intersection shows an increase of delay under the 'With M7 Widening' traffic demands, increasing from LOS C to D in 2026.
- At the Great Western Highway and Wallgrove Road interchanges, performance in 2026 is similar between the 'With M7 Widening' and 'Without M7 Widening' traffic demand scenarios indicating minimal impact from the project.
- Intersection delays at the Old Wallgrove Road interchange show an increase between 2025 and 2026. When comparing the 'With M7 Widening' and 'Without M7 Widening' scenarios, intersection delay indicating little impact from the project.
- The Horsley Drive interchange and Richmond Road / Rooty Hill Road N intersection show existing performance issues in 2025, with LOS F recorded in both peak periods. In 2026, delays are slightly increased following the opening of the M7 Widening project.

Table E-1 Summary of intersection performance of the study intersections.

Interchange	Intersection	Peak	2025 Existing	2026 Without M7 Widening	2026 With M7 Widening
			LOS	LOS	LOS
Bernera Road	Bernera Road / Westlink M7 ramps / Jedda Road Roundabout	AM	**F**	**F**	**F**
		PM	**D**	**F**	**F**
	Bernera Road / Westlink M7 ramps / Yarrawa Street Roundabout	AM	**F**	**F**	**F**
		PM	**E**	**E**	**F**
	Jedda Road / Joadja Road	AM	**D**	**F**	**D**
		PM	**D**	**F**	**F**
Cowpasture Road	Westlink M7 / Cowpasture Road Interchange	AM	**B**	**C**	**D**
		PM	**B**	**B**	**B**
	Cowpasture Road / Airfield Drive	AM	**B**	**B**	**B**
		PM	**B**	**B**	**B**

Interchange	Intersection	Peak	2025 Existing	2026 Without M7 Widening	2026 With M7 Widening
			LOS	LOS	LOS
Great Western Highway	Westlink M7 / Great Western Highway Interchange SB off-ramp	AM	F	F	F
		PM	A	A	A
	Westlink M7 / Great Western Highway Interchange NB on-ramp	AM	A	A	A
		PM	A	A	A
	Great Western Highway / Wallgrove Road / Rooty Hill Road South	AM	C	D	D
		PM	D	D	D
Old Wallgrove Road	Wallgrove Road / Old Wallgrove Road / Westlink M7 ramps	AM	D	D	D
		PM	C	C	C
	Wallgrove Road / Mini Link Road / Westlink M7 ramps	AM	D	E	E
		PM	D	D	D
	Old Wallgrove Road / Mini Link Road	AM	B	B	B
		PM	C	C	C
Richmond Road / Rooty Hill Road N	Rooty Hill Road North / Westlink M7 off-ramps	AM	D	C	C
		PM	B	B	B
	Richmond Road / Rooty Hill Road North / Westlink M7 ramps	AM	F	F	F
		PM	F	F	F
	Richmond Road / Westlink M7 on-ramp	AM	B	C	C
		PM	B	B	B
The Horsley Drive	The Horsley Drive / Wallgrove Road	AM	E	F	F
		PM	D	F	F
	The Horsley Drive / Westlink M7 ramps	AM	D	E	E
		PM	E	F	F

Stakeholder engagement

This Road Network Plan has been prepared in consultation with the key stakeholders such as local councils, DPHI and North Western Group. Two workshops were held over the course of the project with the key stakeholders to capture their feedback regarding existing issues, opportunities and discussion on potential mitigation measures.

The initial workshop, held on 17th of February 2025, was conducted in a hybrid format and brought together key stakeholders to discuss the M7 Widening – Road Network Performance Plan. This session provided a comprehensive overview of the project, outlining its objectives, documenting stakeholders' concerns, and considerations.

A second workshop was held online on 12th of June 2025 via Microsoft Teams to bring together the key stakeholders and discuss the traffic modelling results. In this session, the existing and future year intersection performance results were presented to stakeholders and input was requesting regarding existing concerns.

Mitigations

The traffic modelling assessment revealed that the M7 Widening did not result in the need to upgrade the assessed intersections. However, two locations require mitigation measures based on the existing conditions which are forecast to worsen by 2026:

- Richmond Road / Rooty Hill Road North / M7 interchange
- The Horsley Drive / Wallgrove Road / M7 interchange.

These locations have existing proposals for upgrades and are currently in the detailed design stage.

Congestion in the existing conditions and minor impacts to performance in 2026 were noted at the Bernera Road and Wallgrove Road interchanges and will be monitored by Transport for NSW following the opening of the M7 Widening.

1 Introduction

1.1 Background

The Westlink M7 functions as a critical transport artery within the Greater Sydney region, playing an essential role in facilitating the movement of people and goods across the metropolitan area. However, this key corridor frequently experiences significant congestion, particularly during peak travel periods, which affects the efficiency of commuter, freight, and local traffic. In response to these challenges, Transport for NSW (TfNSW) and Western Sydney Orbital Company are undertaking a comprehensive widening project (Modification 6) aimed at alleviating congestion and enhancing the overall capacity and performance of the motorway.

The key features of the M7 Widening project include the following:

- Widening of the motorway into the existing median for a length of about 26 kilometres along the Westlink M7, from about 140 metres south of the Kurrajong Road overhead bridge at Prestons (southern end) to the Westlink M7/Richmond Road interchange in Oakhurst/Glendenning (northern end), excluding at the Westlink M7/M4 Motorway (Light Horse) interchange
- Widening the exit from the Westlink M7 northbound onto the M4 Motorway westbound from one lane to two lanes
- Widening of 43 existing northbound and southbound bridges on the Westlink M7 at 23 locations within the centre median, and on the outside of the bridges on the approach to the M4 Motorway from Old Wallgrove Road
- Upgrades, additions and modifications to noise walls
- Utility works and upgrades to drainage infrastructure
- Intelligent Transport Systems (ITS) installations, adjustments and relocations to cover the new lane configurations, including toll gantry adjustments, relocation of variable speed limit signs (VSLS) and variable message signs (VMS) and new traffic loops to cover the new lanes.

1.2 Project objectives

The objectives of the proposed M7 Widening project are to:

- Provide additional capacity on the Westlink M7 to meet future traffic growth, reduce congestion and improve connectivity and reliability
- Avoid and minimise impacts on the road network, the community and environment during construction
- Integrate with the new M12 Motorway, minimising disruption during construction and providing safe and efficient connectivity in the operations phase
- Deliver a design that integrates with and respects the existing urban design and landscape features of the Westlink M7
- Provide a cost effective / affordable solution.

1.3 Purpose of the report

This Road Network Performance Plan describes the assumptions, stakeholder consultation and traffic modelling prepared to address the Modification 6 Condition of Approval (CoA) 99A which is described in **Section 1.3.2**.

1.3.1 Modification 6 traffic and transport assessment

This section summarises relevant findings of the *Traffic and Transport Impact Assessment* (Transport for New South Wales, August 2022) prepared to support Westlink M7 widening project (Modification 6). Condition of approval 99A requires submission of the Road Network Performance Plan to relevant Council(s) and the Planning Secretary 12 months prior to operation of M7 Widening. In accordance with condition of approval 1l, DPHI has approved an extension of time for Transport's submission of the Road Network Performance Plan by 30 April 2026. DPHI granted approval for this extension on 02 October 2025.

Mid-block traffic volumes along the Westlink M7 are forecast to increase from approximately 80,000 vehicles per workday in 2021 to approximately 90,000 vehicles per workday in 2026 (average across the corridor) and 100,000 vehicles per workday in 2036. With the modification, an additional 2,000 to 8,500 vehicles are expected to be accommodated along the Westlink M7 in each direction in 2026 and an additional 3,000 to 14,500 vehicles per workday in each direction in 2036.

The forecast traffic volumes along the Westlink M7 are expected to increase due to the modification. However, the Westlink M7 performance within the study area would improve, congestion would improve, vehicle speeds would generally increase, average travel times would decrease and the segment densities would also decrease.

The *Traffic and Transport Impact Assessment* found that expected population growth and the M7 Widening project would contribute to reduced intersection performance at several intersections adjacent to the Westlink M7 when compared to baseline (2021) conditions. As part of the Ministerial approval of Modification 6, CoA 99A was developed to ensure that the impact from M7 widening on the performance of the seven listed intersections is adequately assessed in consultation with relevant Councils. Revised Environmental Management Measures (REMMs) T5 was established to consider the potential wider network impacts as a result of the project, if any.

The previous assessment indicated that most of the assessed intersections in proximity to the M7 motorway would continue to operate with the same level of service in both 2026 and 2036 with and without the proposed modification. However, there are some exceptions. The Level of Service at the following seven intersections would decline from a satisfactory level (Level of Service A to D) to an unsatisfactory level (Level of Service E or F) due to the proposed modification:

- Bernera Road / Yarrawa Street / M7 ramps
- Old Wallgrove Road / Wallgrove Road / M7 ramps
- Rooty Hill Road North / M7 exit ramp
- Cowpasture Road / M7 ramps
- The Horsley Drive / Wallgrove Road / M7 ramps
- Great Western Highway / Rooty Hill Road South / Wallgrove Road
- Rooty Hill Road North / Richmond Road / M7 ramps

The study showed that the following five of these seven intersections would operate unsatisfactorily in either the AM or PM peak hour in 2026 and/or 2036 without the proposed modification due to population and employment growth:

- Bernera Road / Yarrawa Street / M7 ramps
- Rooty Hill Road North / M7 exit ramp
- The Horsley Drive / Wallgrove Road / M7 ramps
- Great Western Highway / Rooty Hill Road South / Wallgrove Road

- Rooty Hill Road North / Richmond Road / M7 ramps

Therefore, the widening would bring forward the need to consider performance improvement solutions for these areas.

CoA 99A is a response to the need to identify mitigation measures for the interchanges (shown in **Figure 1-1**) to manage predicted traffic performance impacts due to the M7 Widening project.

1.3.2 Conditions of approval

As part of the Westlink M7 Widening Project approval, a number of Conditions of Approval (CoA) are required to be met. CoA relevant to this Road Network Performance Plan (RNPP) are outlined in **Table 1-1**.

Table 1-1 Relevant conditions of approval

CoA	Detail	Relevant report section
CoA 99A	A Road Network Performance Plan must be prepared in consultation with the relevant Council(s). The Plan must: A. Consider the impacts of Modification 6 at the M7 intersections with the following roads: I. Bernera Road, II. Cowpasture Road, III. The Horsley Drive, IV. Great Western Highway, V. Old Wallgrove Road, VI. Rooty Hill Road and; VII. Richmond Road; B. Include the most recent baseline road network performance data for the locations identified at (a) above; C. Include updated traffic modelling and an assessment of the road network performance, as a consequence of Modification 6, at the locations identified in (a) above; D. Identify mitigation measures to manage predicted traffic performance impacts as identified in (c) above as relevant, including local area traffic management, upgrades or changes to intersections, signal optimisation; and E. Timing of the implementation of mitigation measures identified in the Plan.	Report Section 4, 5, 6 and 7
CoA 99A	The Road Network Performance Plan must be submitted to the Planning Secretary and relevant council(s) for information twelve months before the operation of Modification 6. The Proponent is responsible for the implementation of identified measures under (d) above. The mitigation measures in the Plan must be implemented in accordance with the timing identified in (E) above. *Note: Identified mitigation measures may need to be further assessed under the Environmental Planning and Assessment Act, 1979. Work will need to meet relevant design standards and be subject to independent road safety audits.*	Report Section 1, 5 and 7

CoA 1H	Where terms of the conditions identified in Condition 1B or in Schedule 2 require consultation to be undertaken, evidence of the consultation undertaken must be submitted to the Planning Secretary and ER (as relevant) with the corresponding documentation. The evidence must include: A. Documentation of the engagement with the party identified in the condition of approval that has occurred before submitting the document for approval; B. A log of the dates of engagement or attempted engagement with the identified party; C. Documentation of the follow-up with the identified party where engagement has not occurred to confirm that they do not wish to engage or have not attempted to engage after repeated invitations; D. An outline of the issues raised by the identified party and how they have been addressed; and; E. A description of the outstanding issues raised by the identified party and the reasons why they have not been addressed.	Report Section 6

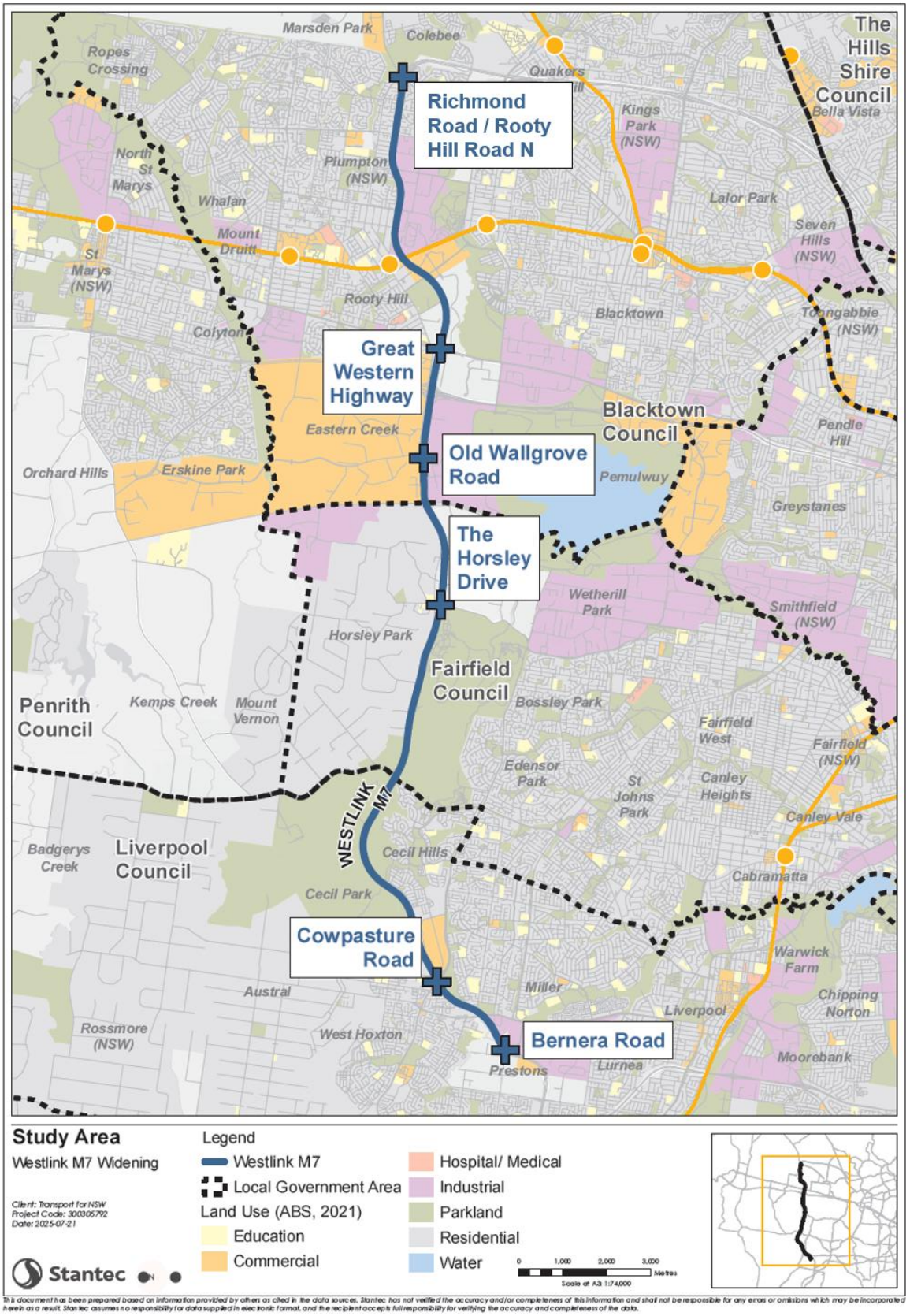

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Figure 1-1 Westlink M7 interchange locations identified in CoA 99A

1.4 Study area

The M7 Widening RNPP assessment considers the impacts of M7 Widening project between Richmond Road and the M5 Interchange at locations adjacent to the M7 that were nominated in the Modification 6 Conditions of Approval. At the Bernera Road interchange, the assessment scope was expanded to include the nearby signalised intersection at Jedda Road / Joadja Road because of the impact this intersection has on the overall interchange.

Table 1-2 lists the 16 existing intersections along the Westlink M7 that have been included in this study. The intersections were modelled in five separate networks to capture the existing traffic operation at each interchange. **Figure 1-2** shows the locations of the existing study intersections and the modelled networks.

Table 1-2: Existing study intersections

ID	Intersection	Control type	SIDRA network
1	Bernera Road / Westlink M7 ramps / Jedda Road	Roundabout	Bernera Road Interchange
2	Bernera Road / Westlink M7 ramps / Yarrawa Street	Roundabout	
14	Jedda Road / Joadja Road	Signalised	
3	Westlink M7 / Cowpasture Road Interchange	Signalised	Cowpasture Road Interchange
4	Cowpasture Road / Airfield Drive	Signalised	
5	Westlink M7 southbound off-ramp / Great Western Highway	Signalised	Great Western Highway Interchange
6	Westlink M7 northbound on-ramp / Great Western Highway	Signalised	
7	Great Western Highway / Wallgrove Road / Rooty Hill Road South	Signalised	
8	Wallgrove Road / Old Wallgrove Road / Westlink M7 ramps	Signalised	Old Wallgrove Road Interchange
9	Wallgrove Road / Mini Link Road / Westlink M7 ramps	Signalised	
10	Old Wallgrove Road / Mini Link Road / Hannibal Street	Signalised	
11	Rooty Hill Road North / Westlink M7 off-ramp	Signalised	Richmond Road / Rooty Hill Road N Interchange
12	Richmond Road / Rooty Hill Road North / Westlink M7 ramps	Signalised	
13	Richmond Road / Westlink M7 on-ramp	Signalised	
15	The Horsley Drive / Wallgrove Road	Signalised	The Horsley Drive Interchange
16	The Horsley Drive / Westlink M7 ramps	Signalised	

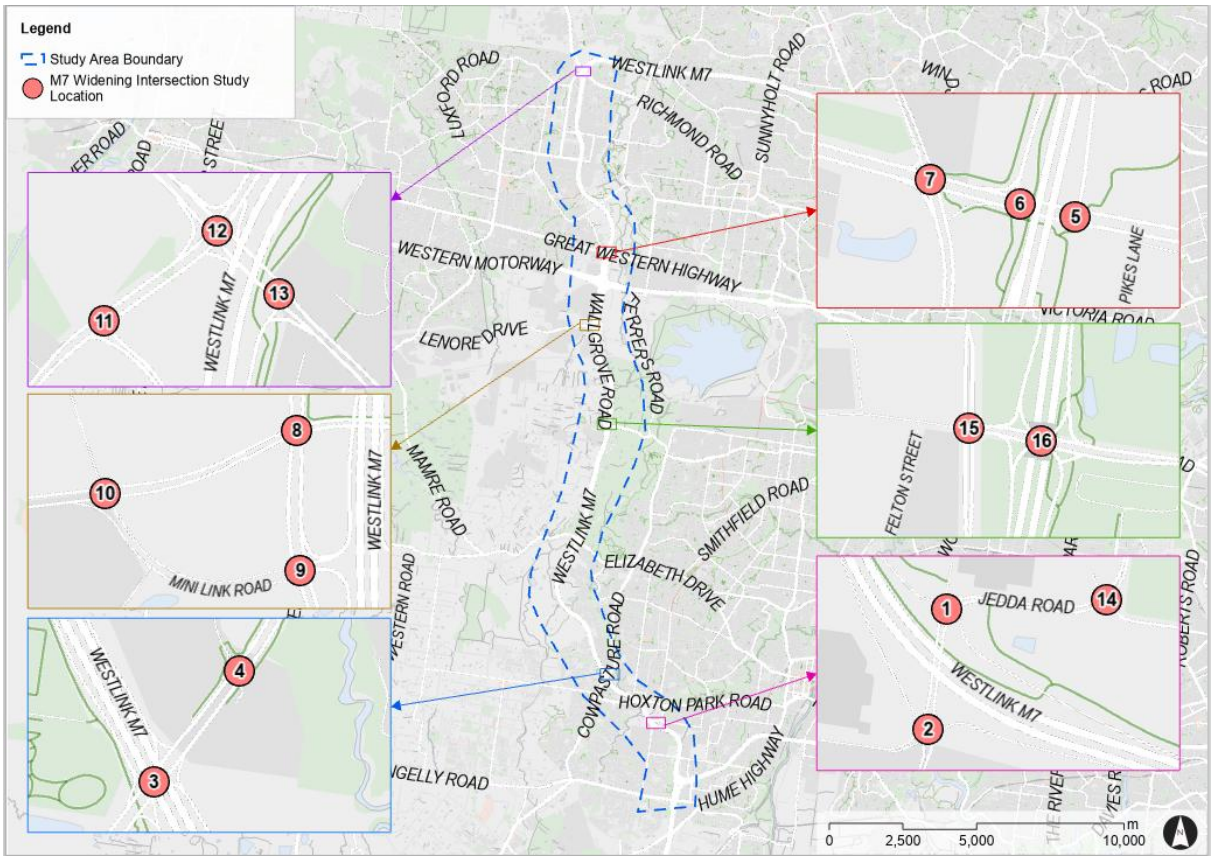


Figure 1-2: Study intersections

1.5 Stakeholders

The following stakeholder groups have been consulted with in the development of this RNPP report:

- Liverpool City Council (jurisdiction of Cowpasture Road and Bernera Road interchanges)
- Fairfield City Council (jurisdiction of The Horsley Drive interchange)
- Blacktown City Council (jurisdiction of Rooty Hill Road North, Richmond Road, Great Western Highway and Old Wallgrove Road interchanges)
- Transport for NSW
- Department of Planning, Housing and Infrastructure (DPHI)
- North-Western Roads Group.

A summary of discussions with each group is provided in this report within **Section 6**. Evidence of stakeholder consultation will be provided to the Planning Secretary separately in accordance with condition of approval 1H.

1.6 Report outline

This report contains the following sections:

- **Chapter 1 – Introduction**: Provides an overview of the Westlink M7 Widening project, and the requirements for satisfying the CoA and REMMs.
- **Chapter 2 – Methodology**: Outlines the method in which to address the CoA and REMMs.
- **Chapter 3 – Strategic context**: Provides a summary of the planning direction and priorities of state and local government stakeholders.
- **Chapter 4 – Existing conditions**: Summarises the land use, active and public transport networks and traffic conditions within the vicinity of each of the Westlink M7 interchanges.
- **Chapter 5 – Operational assessment**: Summarises the assumptions, development, traffic modelling and intersection performance results for scenarios with and without the M7 Widening.
- **Chapter 6 – Stakeholder engagement**: Provides details on the two stakeholder workshops conducted over the duration of the project.
- **Chapter 7 – Mitigations**: Highlights the locations requiring mitigation and details of the proposed upgrades within the study area.
- **Chapter 8 – Conclusion**: Provides a summary of how the CoA have been addressed and outlines the key findings of the operational assessment.

2 Methodology

The intersections assessed as part of the M7 Widening Road Network Performance Plan identified based on their proximity to the M7, the likelihood they might be impacted by Modification 6 and the current status of any existing infrastructure upgrade proposals. Intersections near to the access points for the Westlink M7 – such as Cowpasture Road / Airfield Drive, Old Wallgrove Road / Mini Link Road / Hannibal Street, Great Western Highway / Rooty Hill Road South and The Horsley Drive / Wallgrove Road were included as their operation is dependent on the performance of the adjacent interchanges with the M7.

The overall methodology adopted for the M7 Widening RNPP is divided into six steps as shown in **Figure 2-1.**

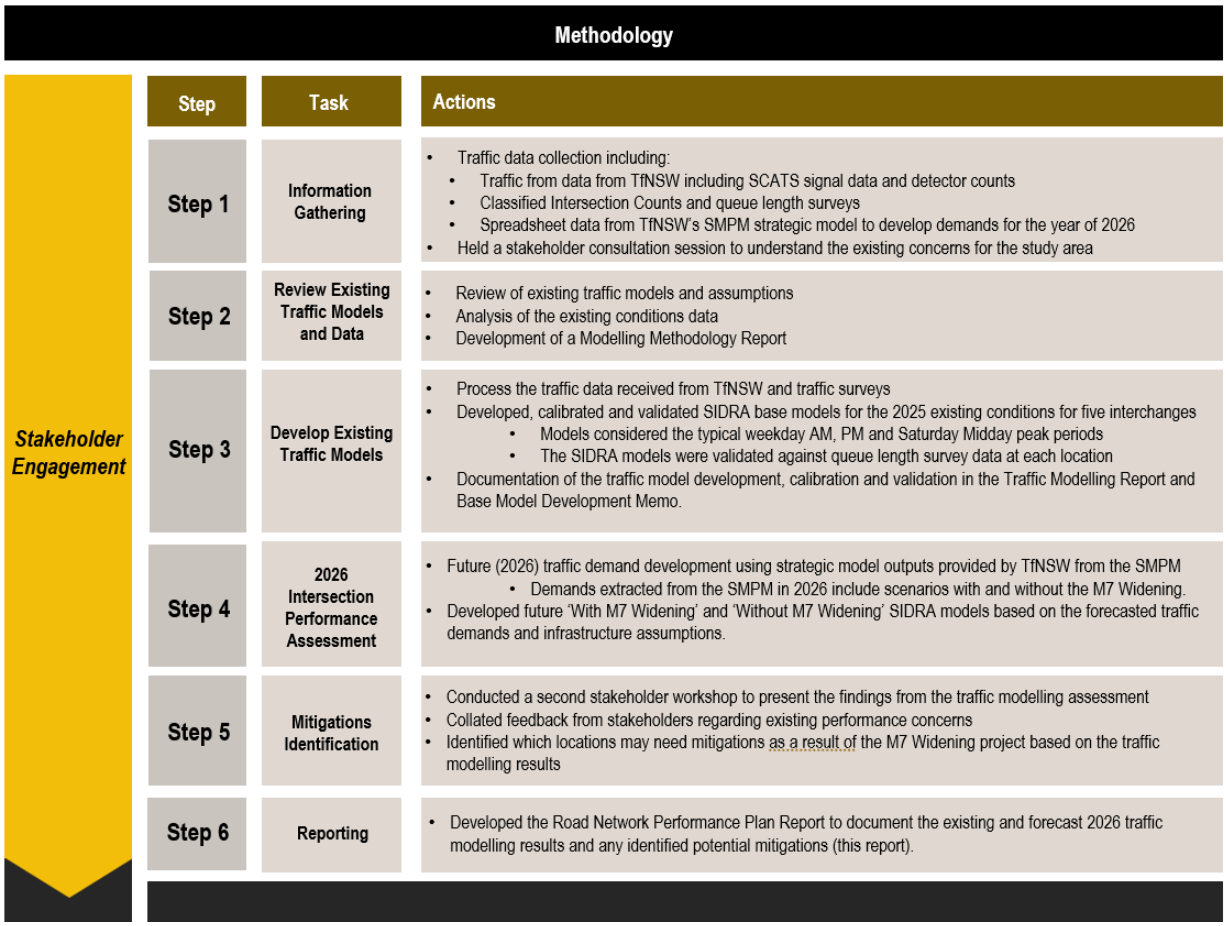


Figure 2-1: Project methodology

The M7 Widening Road Network Performance Plan follows a structured, multi-step approach to traffic data collection, analysis, and mitigation identification, with a strong emphasis on stakeholder engagement and addressing their concerns.

Step 1 and Step 2 involved the collection and analysis of traffic data based on existing 2025 conditions. To ensure stakeholder needs were thoroughly considered, an initial workshop was conducted with key representatives from Blacktown City Council, Liverpool City Council, Fairfield City Council, Transport for NSW as well as North-Western Roads Group. This session was instrumental in identifying concerns regarding the current operation of the M7 interchanges and establishing a collaborative approach to addressing them.

Step 3 focused on a detailed traffic analysis of the identified interchanges most impacted by the project. This assessment provided critical insights into existing interchange performance and projected future operational conditions following the completion of the M7 widening.

Step 4 entailed the development of future-year traffic demand projections for 2026. Based on these forecasts, potential impacted locations were identified based on whether the modelling indicated that traffic performance would be adversely affected by the M7 Widening.

To ensure stakeholder perspectives were fully integrated into the decision-making process, **Step 5** involved a second workshop with key stakeholders. This session provided an opportunity for stakeholders to review and provide feedback on the traffic modelling results and issues experienced at these locations. The intersection performance results were interrogated to identify any locations that may need mitigations following the opening of the M7 Widening.

Finally, **Step 6** involved the comprehensive documentation of all aspects of the M7 Widening Road Network Performance Plan (RNPP) within the Traffic Modelling Report. This report is a summary of the steps undertaken and presents the potential mitigation measures that may be implemented subject to further project planning, scale and scope of project, environmental approvals and government investment decisions.

3 Strategic context

The following section provides an overview of state and local government's intentions for land use development and infrastructure projects, specifically those that are relevant to the study area interchanges with Westlink M7.

3.1 State government

3.1.1 Western City Deal

The Western Sydney City Deal is a landmark agreement among the three levels of government to collectively invest over $11 billion in urban development projects. The Deal aims to enhance the prosperity, sustainability, and liveability of Western Sydney. This partnership unites resources from the Australian Government, NSW Government, and the eight Western Parkland City councils, including Fairfield and Liverpool City Councils.

The Deal incorporates a commitment to the 30-minute city initiative of the Greater Sydney Region Plan and Future Transport 2056 (Future Transport Strategy). To support this commitment, the Deal has outlined a new north-south rail link between the proposed airport and the T1 Western Line at St Marys and Schofields, which represents Stage 1 of a new rail network for the area. The rail link provides an alternate north-south route to the Westlink M7, located west of the corridor.

3.1.2 North West Priority Growth Area

The North West Priority Growth Area Land Use and Infrastructure Implementation Plan (DPE, 2017) outlines plans for the developing area and how infrastructure can meet the needs of this growth.

The interchange of Rooty Hill Road North/ Richmond Road with Westlink M7 provides access to the Marsden Park strategic centre and urban employment area via Richmond Road. South Street/ Schofields Road, accessed via Richmond Road, is designated as a growth corridor. The Department will undertake a strategic land use review within the growth corridor, taking into account the expected growth as well as committed and planned infrastructure upgrades including Sydney Metro Northwest, the upgrade of Schofields Road, and the public transport corridor between Rouse Hill and Marsden Park.

The North West Priority Growth Area structure plan is shown in **Figure 3-1**.

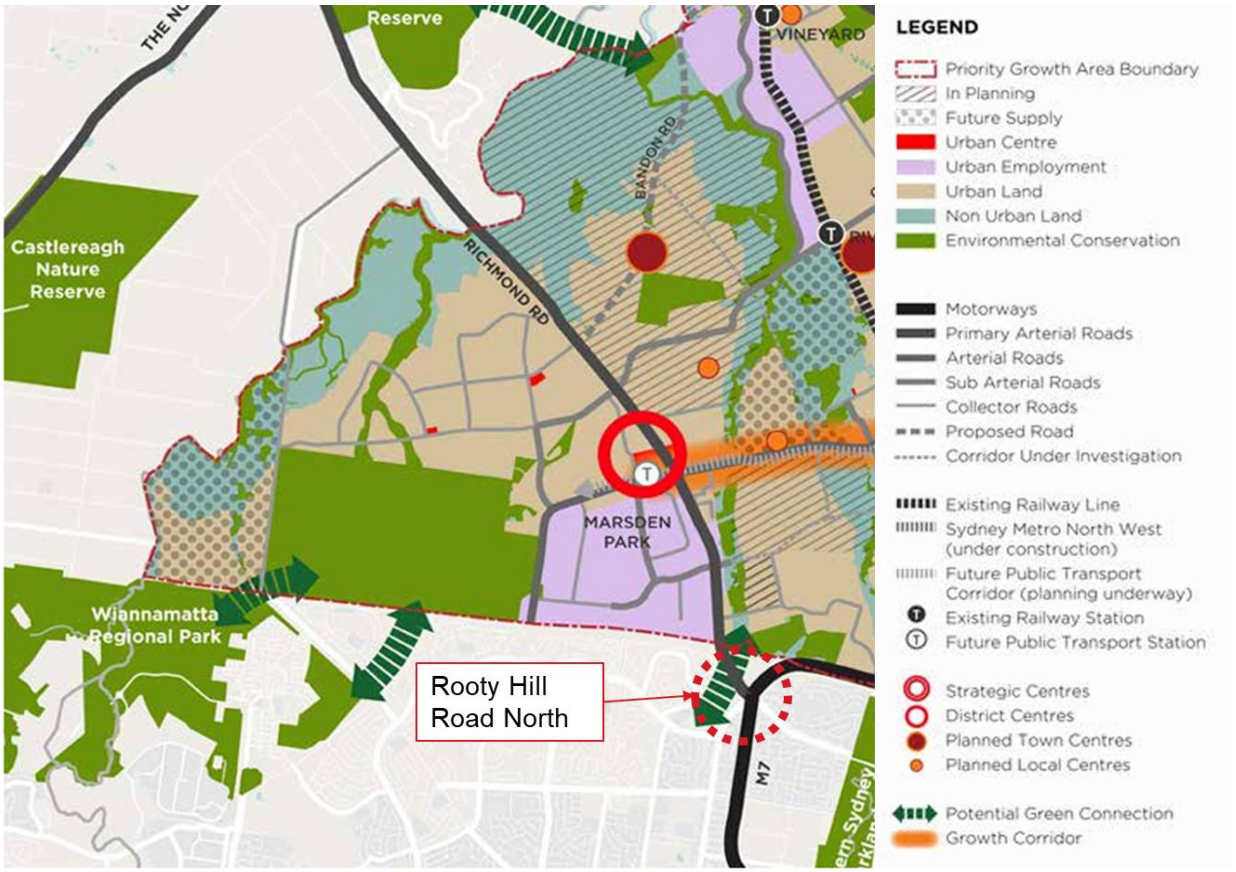


Figure 3-1 North West Priority Growth Area structure plan[1]

3.1.3 Westlink M7 Shared Path

The M7 Shared Path runs alongside the Westlink M7 Motorway and stretches for nearly 40 kilometres from Prestons to Baulkham Hills, connecting pedestrians and cyclists to Sydney's Cycleways network. The extent of the route is shown in **Figure 3-2**.

[1] *North West Land Use and Infrastructure Implementation Plan, DPE, May 2017*

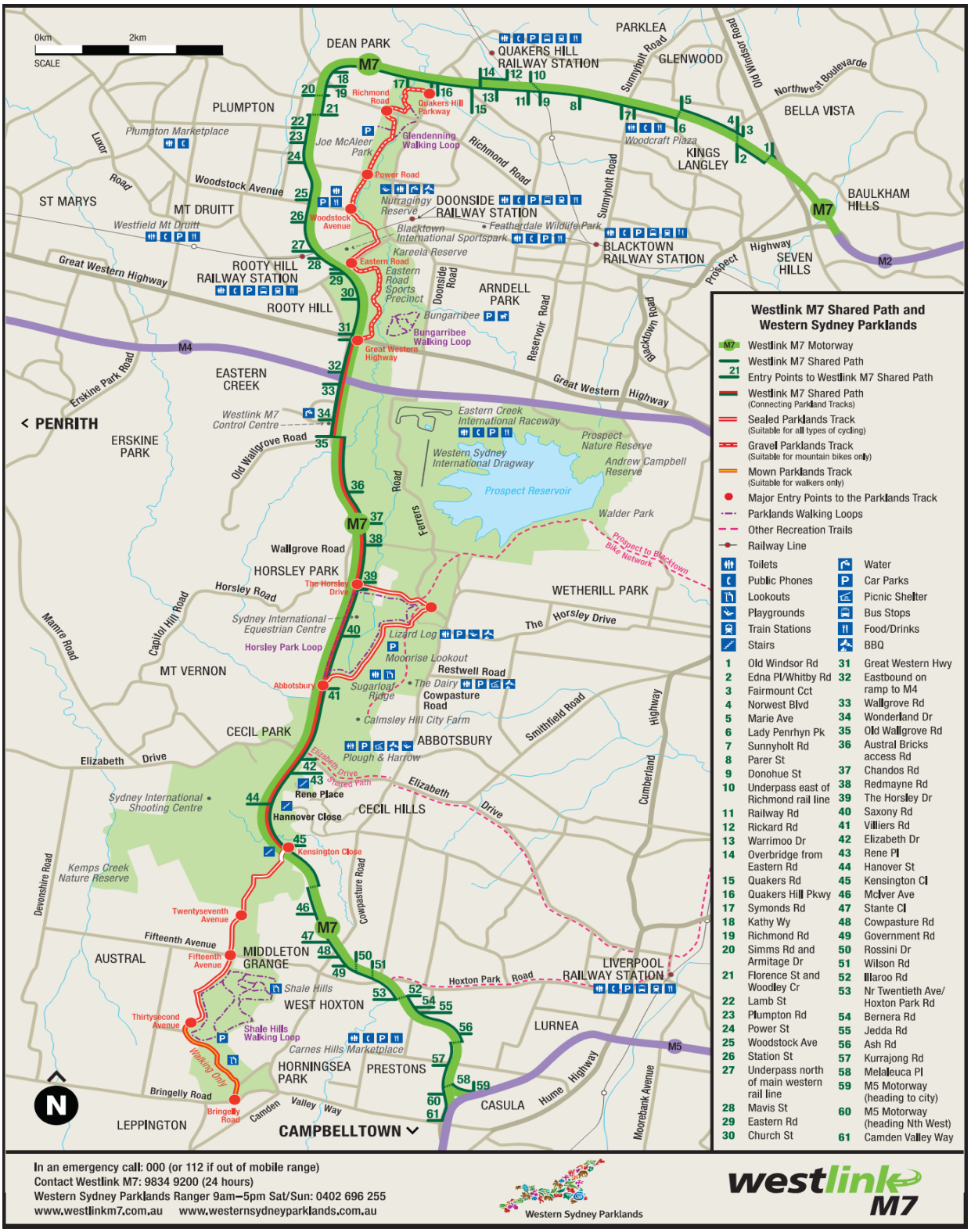


Figure 3-2 Westlink M7 shared path project[2]

[2] Westlink M7, https://www.westlinkm7.com.au/about/shared-path, accessed 02/09/25

3.1.4 Future Transport Strategy

The Transport for NSW Future Transport Strategy guides the development of infrastructure and services within NSW. The desired future rail and public transport networks are shown in **Figure 3-3** and **Figure 3-4**. Key projects within proximity to the Westlink M7 study areas include:

- Future fast rail southern inland route between Liverpool and southern highlands
- Future fast rail between Parramatta and Blue Mountains
- Future rail route between Parramatta and Bradfield
- Future rapid bus lines between Bankstown and Bradfield, Penrith and Liverpool, Bradfield and Parramatta and Penrith and Marsden Park.

Figure 3-3 Future transport strategy – existing and future rail network[3]

[3] Transport for NSW Future Transport Strategy, https://www.future.transport.nsw.gov.au/ accessed 02/09/25

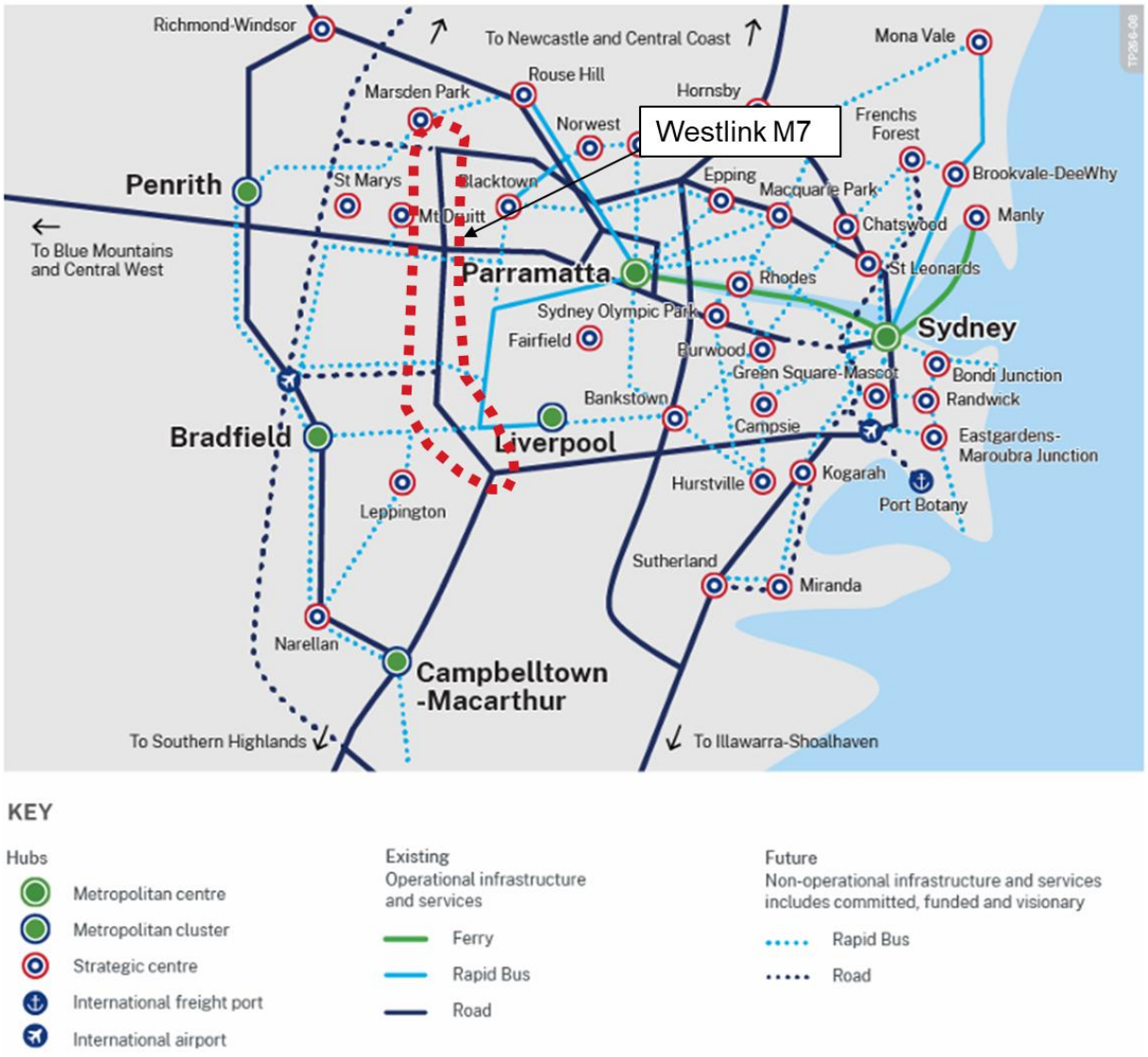


Figure 3-4 Future transport strategy – existing and future road and bus network[4]

[4] Transport for NSW Future Transport Strategy, https://www.future.transport.nsw.gov.au/ accessed 02/09/25

3.2 Local government

3.2.1 Blacktown City Council

The Blacktown City Council Local Strategic Planning Statement (LSPS, 2020) sets the plan for the community's social, environmental and economic land use needs over the next 20 years to 2040. Blacktown's population is forecast to exceed 600,000 people by 2041, meaning that new homes, jobs and services are critical to the city's success. It is also important to maintain and enhance open spaces, parkland and waterways.

Major centres within proximity to the interchanges of the Westlink M7 with Rooty Hill Road North, Old Wallgrove Road and Great Western Highway include:

- Blacktown strategic centre
- Mount Druitt strategic centre
- Marsden Park strategic centre (North West Growth Area)
- Rooty Hill urban renewal precinct
- Doonside urban renewal precinct
- Plumpton key centre.

These centres are shown in **Figure 3-5**. The Westlink M7 provides regional access to employment areas in Marsden Park, Glendenning/ Rooty Hill and Eastern Creek.

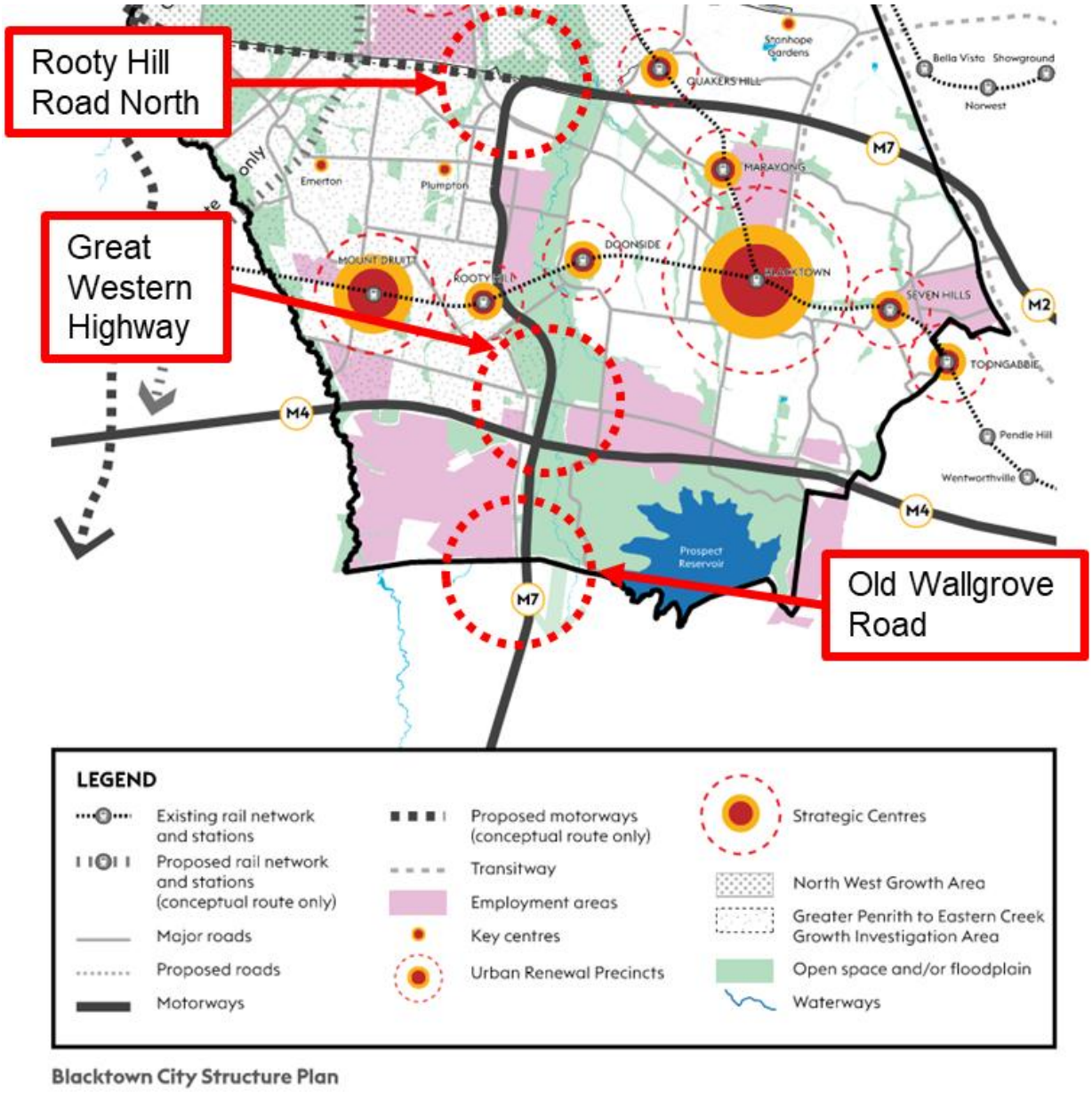


Figure 3-5 Blacktown City Council LSPS – City Structure Plan[5]

Council's vision is for people to be able to access their nearest strategic centre on high frequency public transport and active transport. Council supports the following transformations within the LGA:

- Sydney Metro connection from Marsden Park through the Precinct to St Marys, Western Sydney Airport and Aerotropolis
- Improved connectivity between Western Sydney Employment Area and the Mount Druitt Precinct
- Higher density housing focused on Mount Druitt Strategic Centre and urban renewal at Rooty Hil
- Economic activity at Mount Druitt Strategic Centre, including government jobs, and jobs at Mount Druitt Hospital, TAFE, Western Sydney Employment Area and Glendenning, Minchinbury and Mount Druitt industrial areas

[5] Blacktown City Council LSPS, https://www.blacktown.nsw.gov.au/files/assets/public/v/1/bcc-local-strategic-planning-statement-2020_web-accessible.pdf, accessed 02/09/2025

- Sustainable development in Urban Renewal Precincts at Mount Druitt and Rooty Hill and at new Sydney Metro stations
- Quality open space and recreational facilities in Western Sydney Parklands and at Blacktown International Sportspark.

The transport structure plan for the LGA is shown in **Figure 3-6**. Richmond Road and Rooty Hill Road North are identified as major bus corridors. A conceptual transport corridor is proposed connecting from Westlink M7 towards the west.

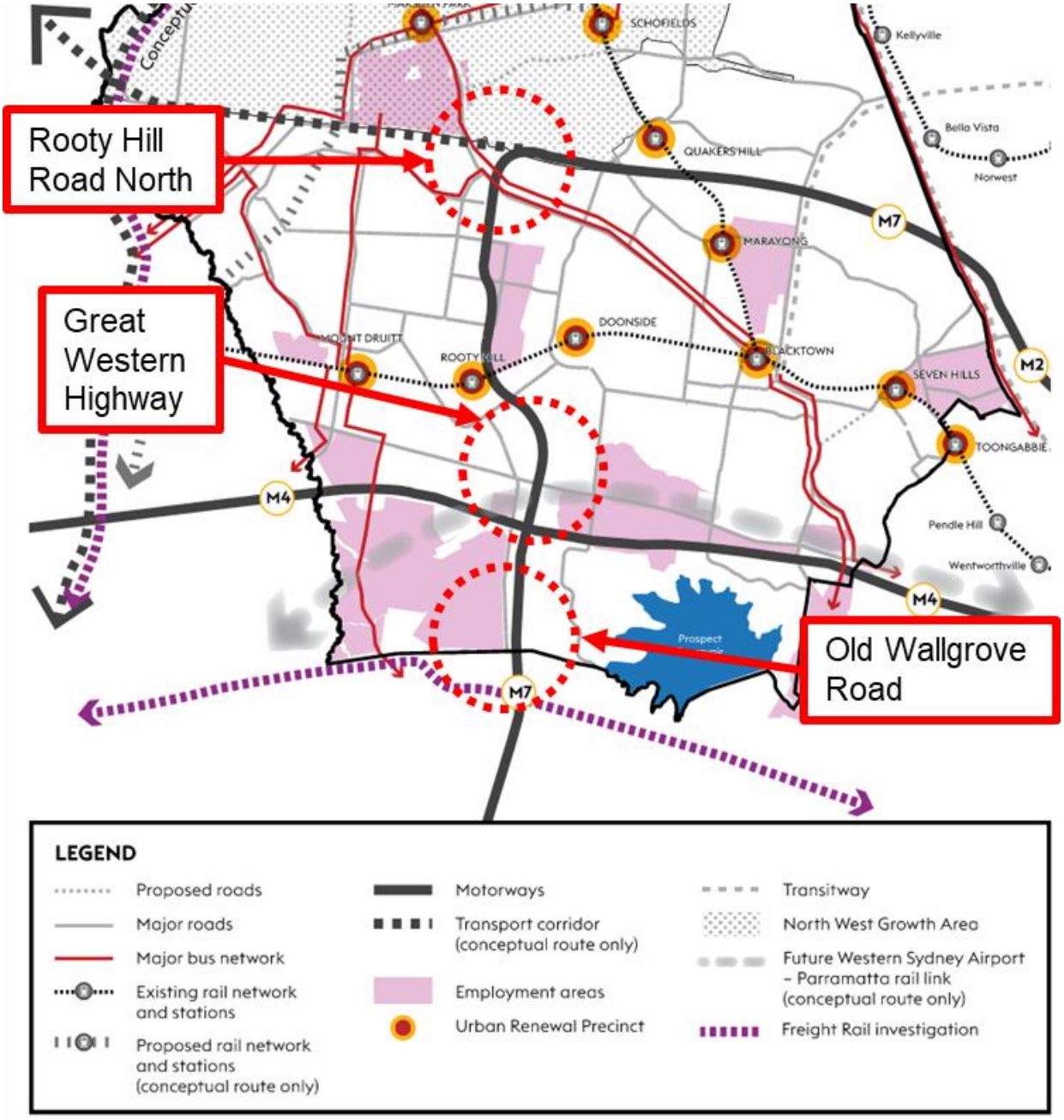


Figure 3-6 Blacktown City Council LSPS – Transport Infrastructure Plan[6]

[6] Blacktown City Council LSPS, https://www.blacktown.nsw.gov.au/files/assets/public/v/1/bcc-local-strategic-planning-statement-2020_web-accessible.pdf, accessed 02/09/2025

The 2016 Blacktown Bike Plan is shown in **Figure 3-7**, depicting Council's existing and proposed cycleways. A completed shared path is provided parallel to the Westlink M7 between Prestons and Bella Vista.

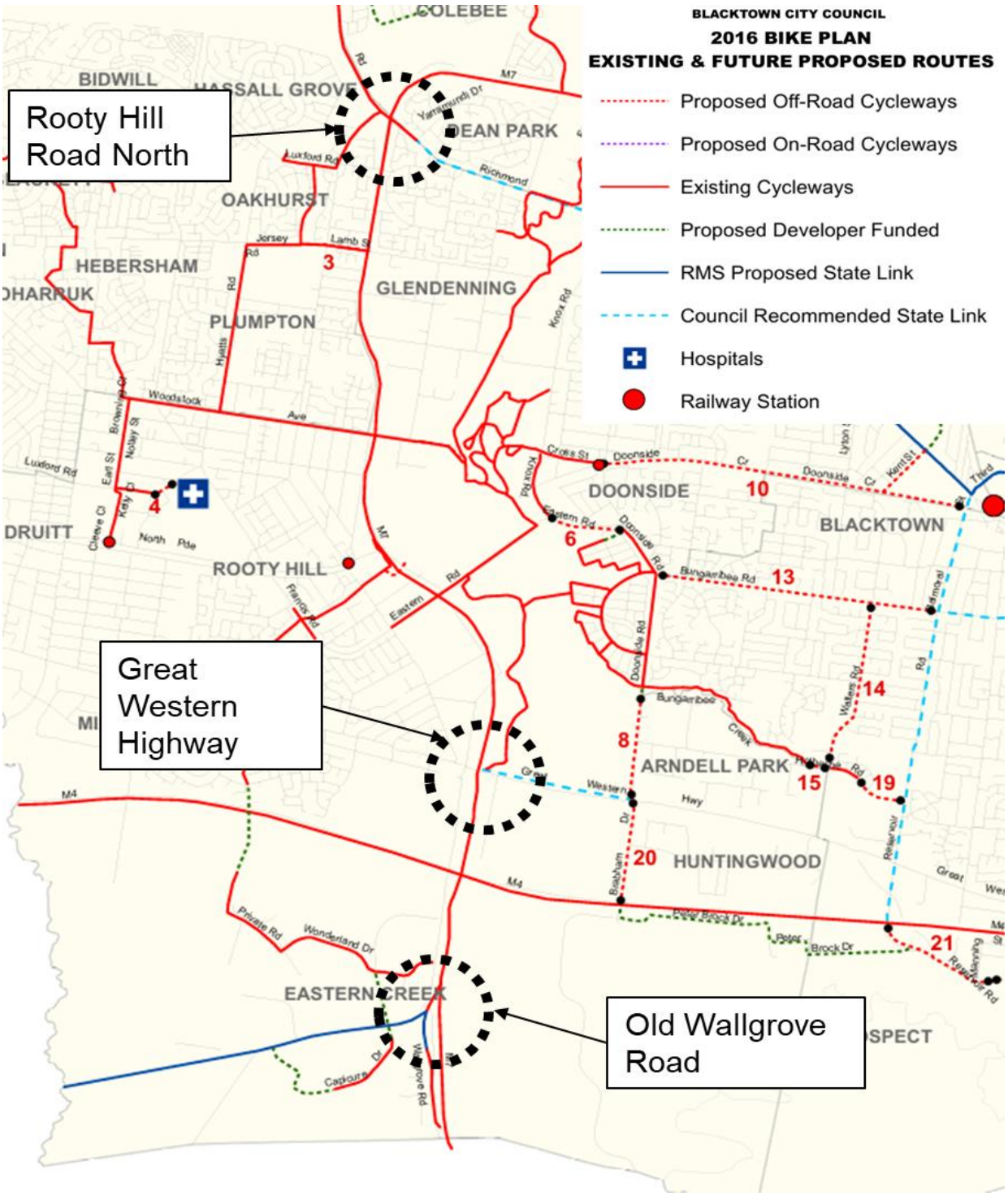


Figure 3-7 Blacktown City Council Bike Plan 2016[7]

[7] Blacktown City Council Bike Plan 2016, https://www.blacktown.nsw.gov.au/files/assets/public/recreation/blacktown-bike-plan.pdf, accessed 02/09/2025

3.2.2 Fairfield City Council

The Fairfield City Council LSPS 2020 provides a strategy for the community's economic, social and environmental land use needs over the next 20 years. Horsley Park is considered a local centre and the wider suburb is earmarked as an urban investigation area. The Horsley Drive interchange provides access from the Westlink M7 to the Wetherill Park industrial area to the east. The Fairfield Council places and infrastructure plan is shown in **Figure 3-8**.

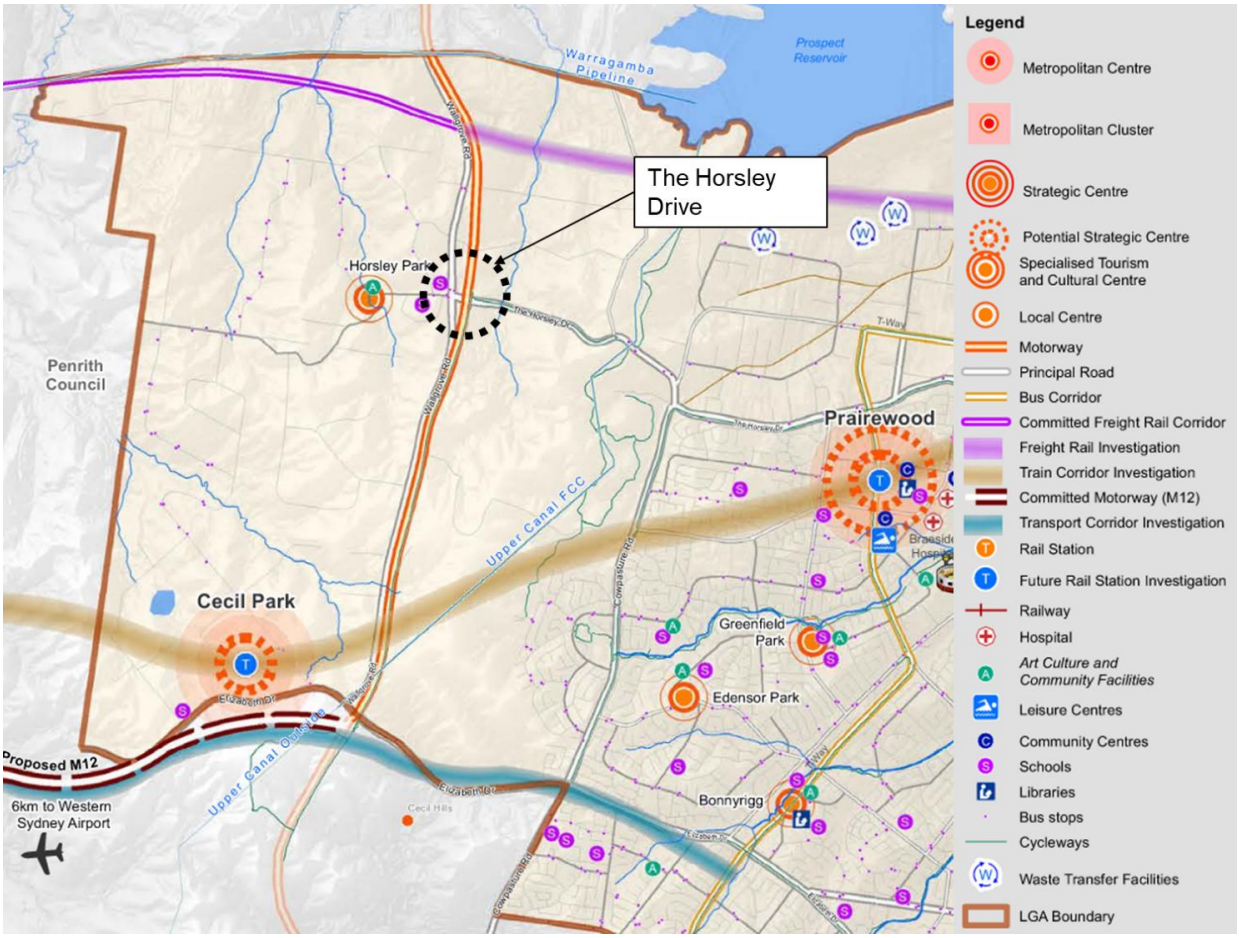


Figure 3-8 Fairfield City Council LSPS – places and infrastructure[8]

Council's key planning priorities for the area include:

- Provide housing that accommodates the needs of existing and future residents
- Provide attractive, healthy, accessible and safe places for the whole community
- Plan for and manage areas identified for future urban development
- Ensure infrastructure is aligned to accommodate planned growth and community needs
- Realise the Parkland City Vision.

The Fairfield Rural Lands Urban Investigation Area includes land for low density residential lots and industrial lands, shown in **Figure 3-9**.

[8] Fairfield City Council LSPS, https://www.fairfieldcity.nsw.gov.au/Planning-and-Building/Planning-and-Policies/Local-Strategic-Planning-Statement-LSPS, accessed 02/09/2025

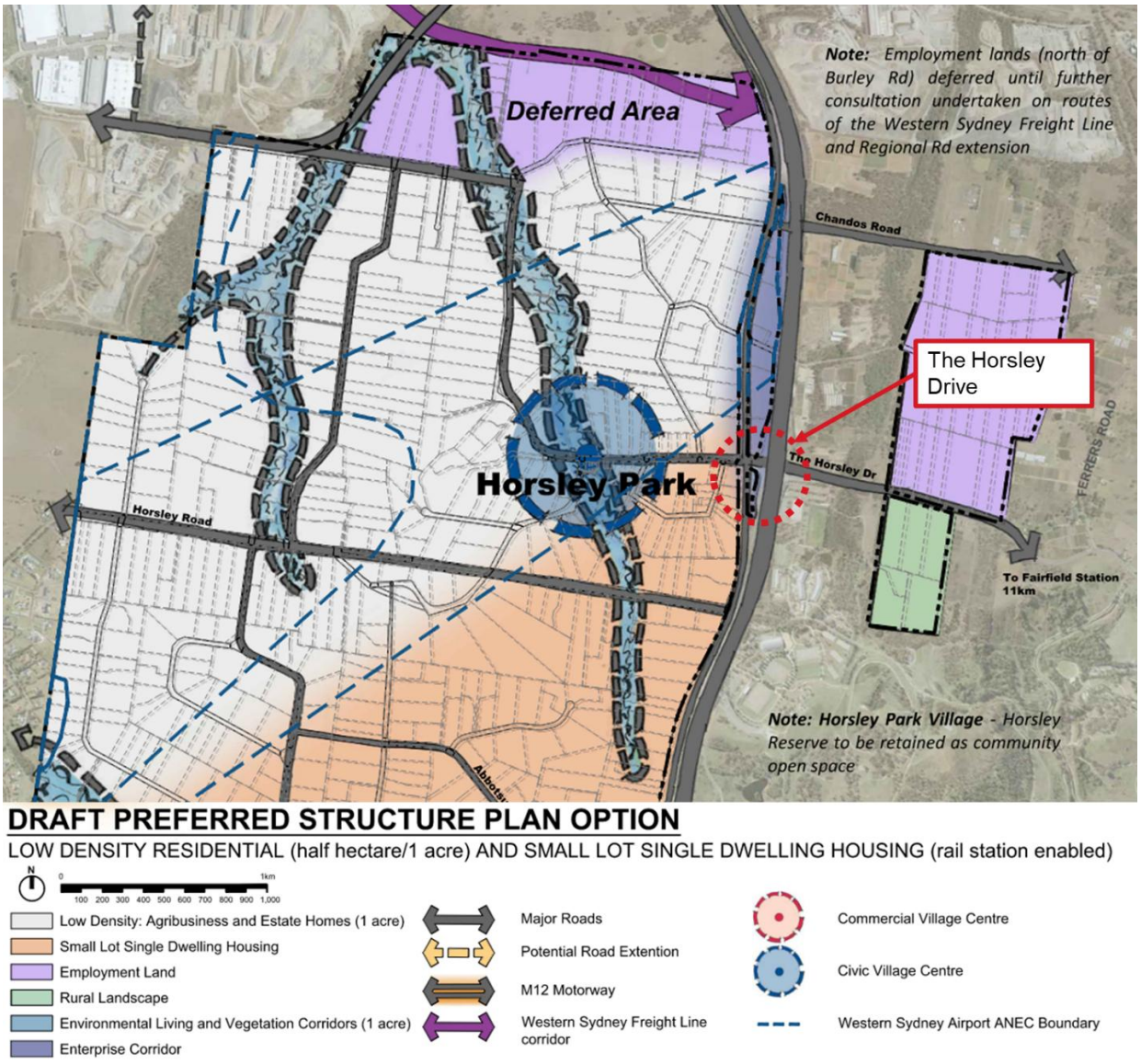


Figure 3-9 Fairfield Urban Rural Lands Investigation area – preferred structure plan[9]

[9] Fairfield City Council LSPS, https://www.fairfieldcity.nsw.gov.au/Planning-and-Building/Planning-and-Policies/Local-Strategic-Planning-Statement-LSPS, accessed 02/09/2025

3.2.3 Liverpool City Council

The Liverpool City Council LSPS aims to achieve the vision of *a vibrant place for people that is community focused, walkable, public transport-oriented, sustainable, resilient and connected to its landscape*. *A place that is connected to other Sydney centres*. Council's key planning priorities include:

- Active and public transport reflecting Liverpool's strategic significance
- A rapid smart transit link between Liverpool and Western Sydney International Airport/ Aerotropolis
- Accessible and connected suburbs
- Safe, healthy and inclusive places shaping the wellbeing of the Liverpool community
- An attractive environment for local jobs, business, tourism and investment
- Industrial and employment lands meet Liverpool's future needs
- A viable 24-hour Western Sydney International Airport growing to reach its potential

Areas earmarked for housing growth include Austral, Middleton Grange and Miller.

Faster public transport services to Liverpool and other major centres is identified as one of the community's top priorities. Transport infrastructure projects for investigation, relevant to the Cowpasture Road and Bernera Road interchange, include the Fifteenth Avenue Smart Transit Corridor connecting to the Western Sydney International Airport and the extension of the T-Way south to Edmondson Park.

The transport initiatives plan is shown in **Figure 3-10**.

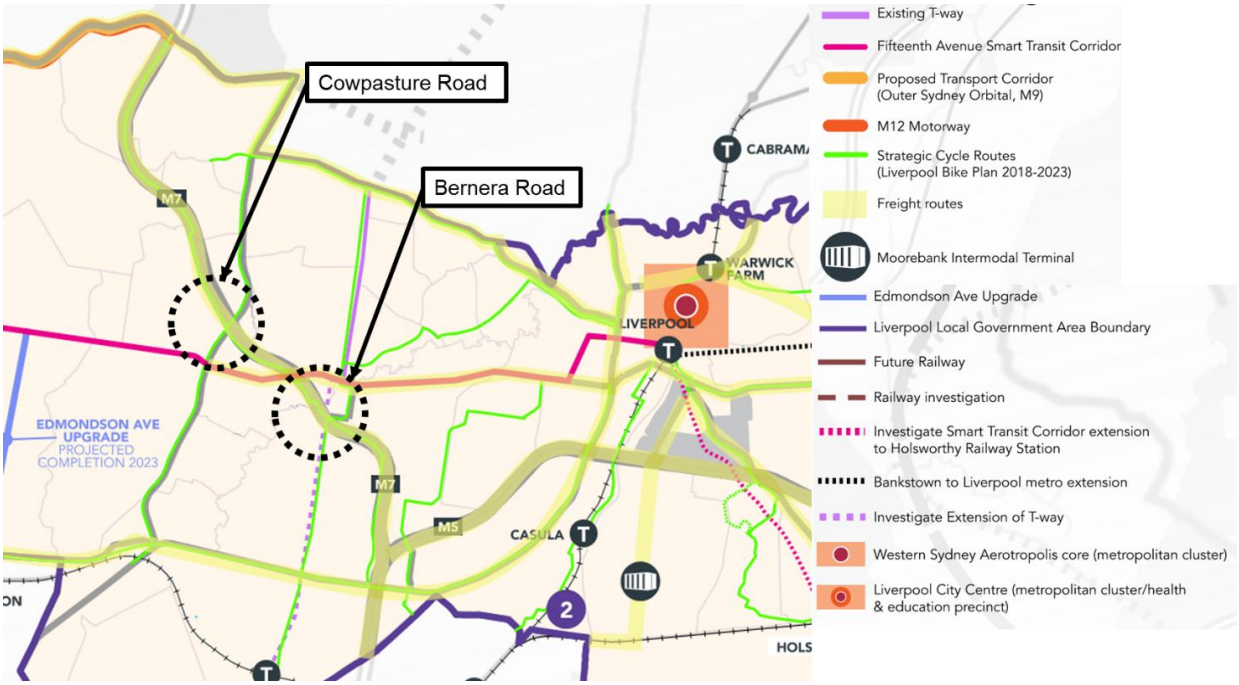


Figure 3-10 Liverpool City Council transport initiatives plan[10]

The Liverpool City Council Bike Plan (2018) recognises cycling as an important recreational and social activity for residents and reaffirms cycling as a valid and equal first choice mode of transport. The Bike Plan is a review of

[10] Liverpool City Council LSPS, https://www.liverpool.nsw.gov.au/development/liverpools-planning-controls/local-strategic-planning-statement-and-land-use-strategies, accessed 02/09/2025

existing conditions and proposes additional cycling facilities to improve the network. Relevant routes highlighted as regional routes are:

- Regional Route 1 – The route acts as a north-south link between the Green Valley precinct and the Prestons precinct and utilises a highly valuable crossing of the M7 Motorway. The strategic route is mostly complete, with the T-Way Cycleway and off-road cycleways along much of Bernera Road already existing. The route contains a significant missing link from Kurrajong Road to the M7.
- Regional Route 2 – This has been identified as a strategic route that provides the western region of the Liverpool LGA with a north-south connection. The Cowpasture Road Cycleway is less formal than the M7 shared path, however it contains significantly more access points. While the infrastructure has been built, small sections of the cycleway have not been properly marked, resulting in abrupt discontinuities along the cycleway.
- Regional Route 3 – The M7 shared path is an existing piece of cycling infrastructure that runs alongside the entire length of the M7 Motorway. The route provides an important connection between the northern and southern suburbs of the western precincts of the Liverpool LGA. Although the cycleway has numerous missing links between itself and the main cycle network, it is entirely off-road with virtually no exposure to traffic.

The Regional Routes are shown in **Figure 3-11**.

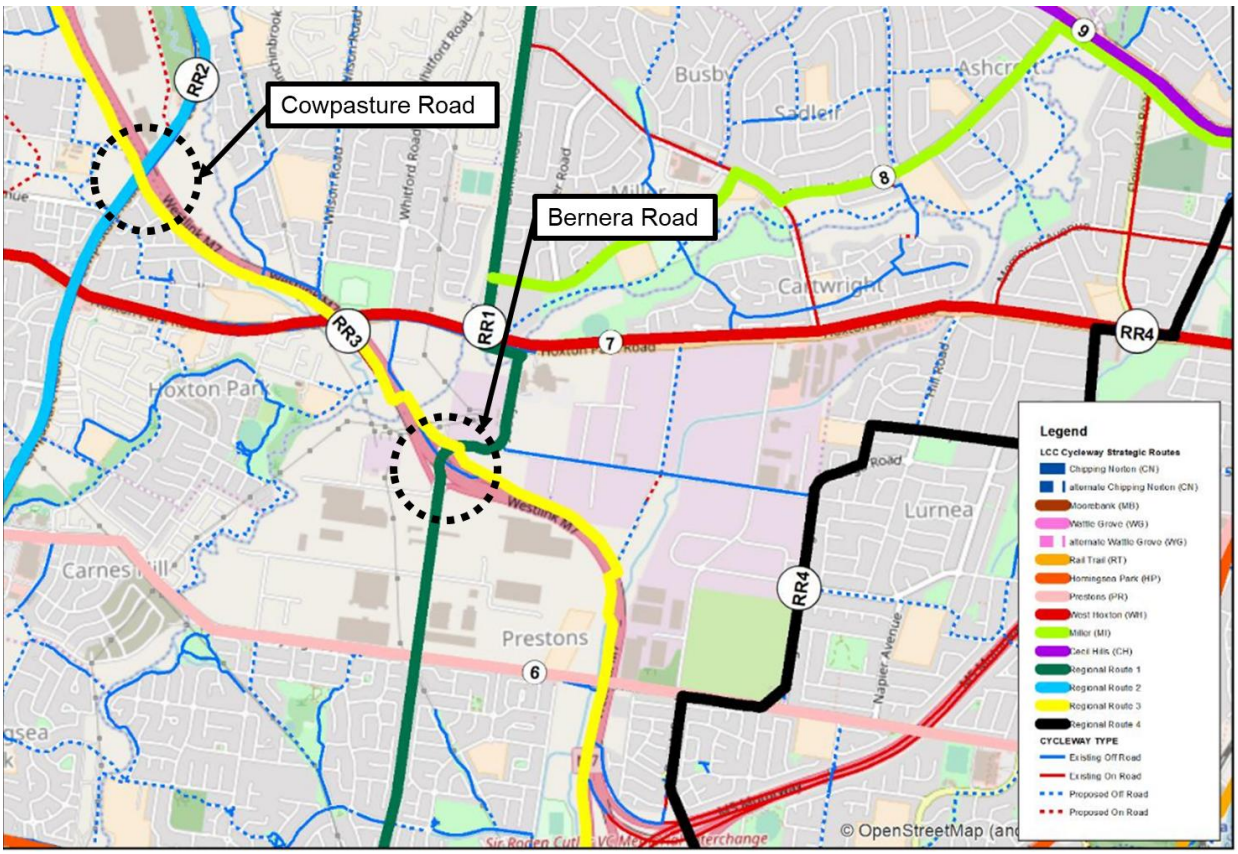


Figure 3-11 Liverpool City Council Bike Plan[11]

[11] Liverpool City Council Bike Plan, 2018, https://www.liverpool.nsw.gov.au/trim/documents?RecordNumber=021381.2019, accessed 02/09/2025

4 Existing conditions

4.1 Bernera Road

4.1.1 Land use

The Bernera Road interchange with Westlink M7 is located within the Liverpool City Council LGA, within the suburb of Prestons. Bernera Road provides access to the Prestons industrial/ warehousing area.

4.1.2 Transport network

4.1.2.1 Public transport

No bus routes run within close proximity to the interchange. Bus routes within the wider Bernera Road study area are shown in **Figure 4-1** and summarised in **Table 4-1.**

The closest bus stops to the interchange are located on Hoxton Park Road to the north and Kurrajong Road to the south.

Table 4-1 Bernera Road interchange – bus routes

Bus route	Suburbs serviced
802 – Liverpool to Parramatta via Guildford West	Parramatta, Merrylands, Guildford West, Fairfield, Fairfield West, Bonnyrigg, Bonnyrigg Heights, Green Valley, Miller and Liverpool
803 – Liverpool to Miller (loop service)	Liverpool and Miller
854 – Carnes Hill to Liverpool via greenway Drive and Hoxton Park Road	Liverpool, Lurnea, Hoxton Park, Hinchinbrook, West Hoxton, Horningsea Park and Prestons
867 – Prestons to Glenfield	Glenfield, Prestons and West Hoxton
869 – Ingleburn to Liverpool Edmondson Park and Prestons	Liverpool. Lurnea, Prestons and Ingleburn
866 – Casula Mall to Liverpool	Liverpool, Lurnea, Prestons and Casula
852 – Liverpool to Carnes Hill Marketplace via Greenway Drive and Cowpasture Road	Liverpool, Casula, Prestons, Horningsea Park, West Hoxton, Bringelly and Carnes Hill
851 – Carnes Hill Marketplace to Liverpool via Cowpasture Road	Liverpool, Casula, Prestons, Horningsea Park and Carnes Hill

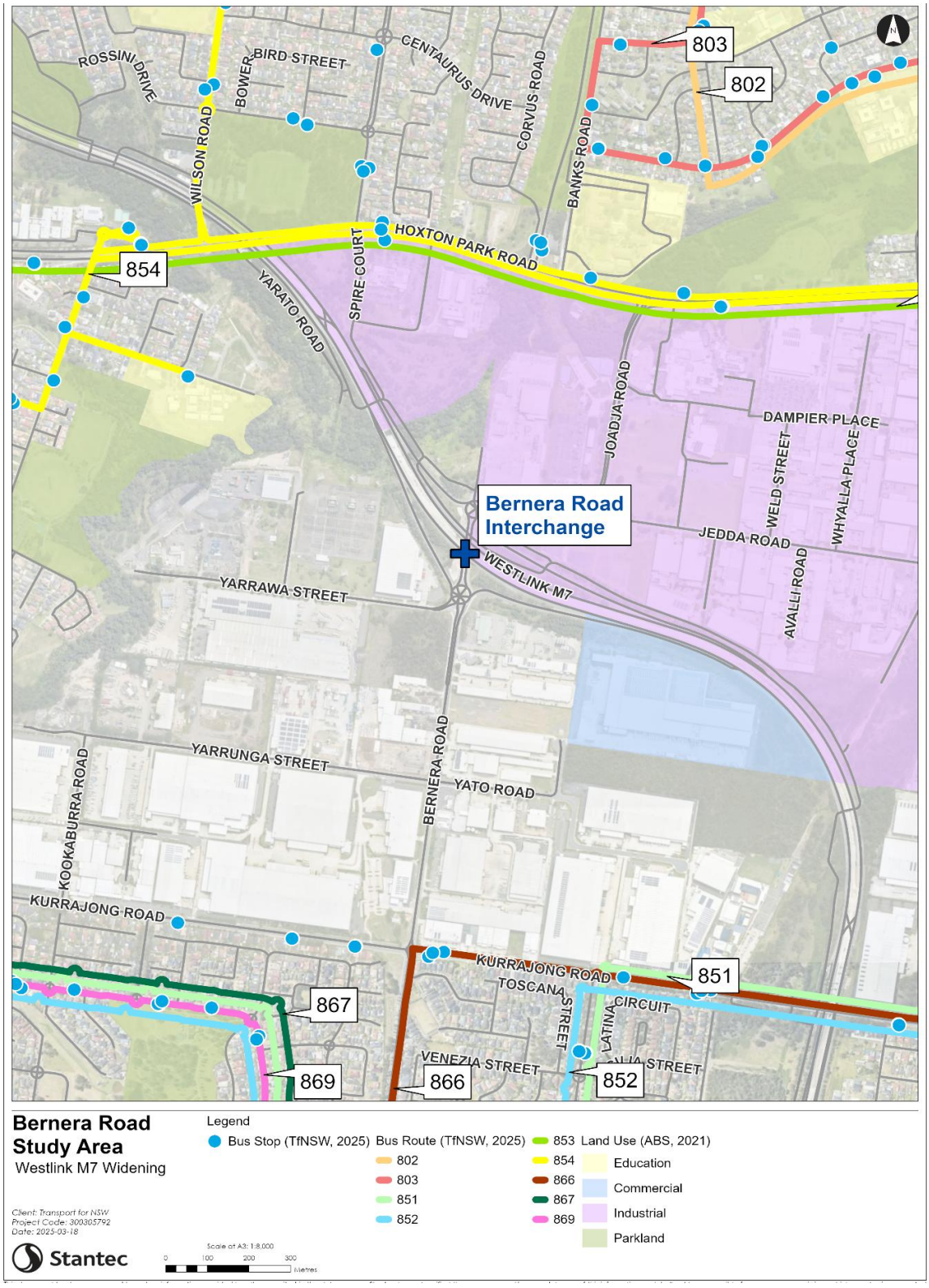


Figure 4-1 Bernera Road interchange– public transport

4.1.2.2 Active transport

The Westlink M7 Shared Path runs along the north-eastern side of corridor within proximity to the interchange. A shared path and mixed traffic cycling route connects to the Shared Path project along Bernera Road/ Joadja Road to the north and continues to the Hoxton Park Road shared paths. Active transport infrastructure is shown in **Figure 4-2**.

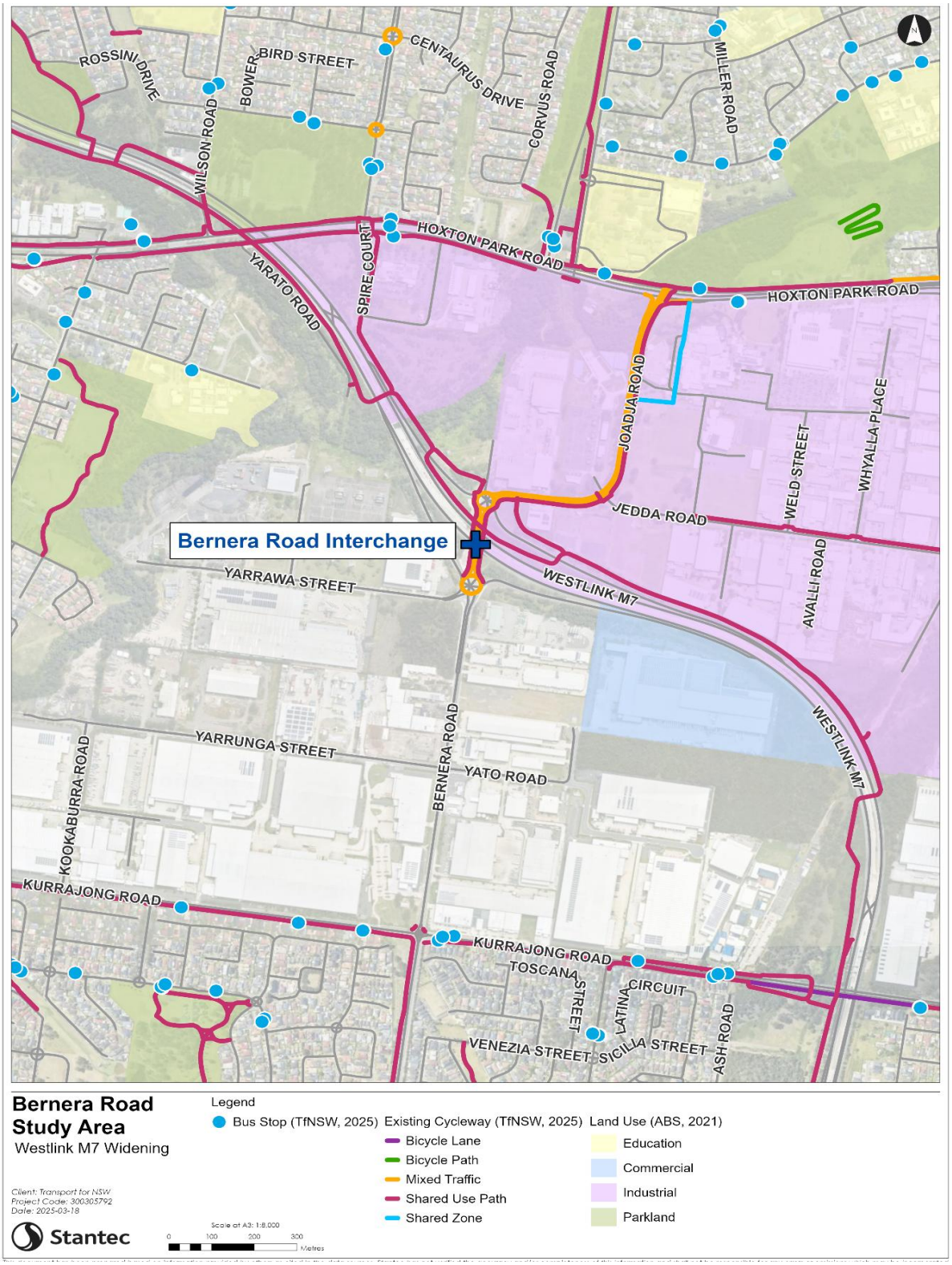


Figure 4-2 Bernera Road – existing active transport

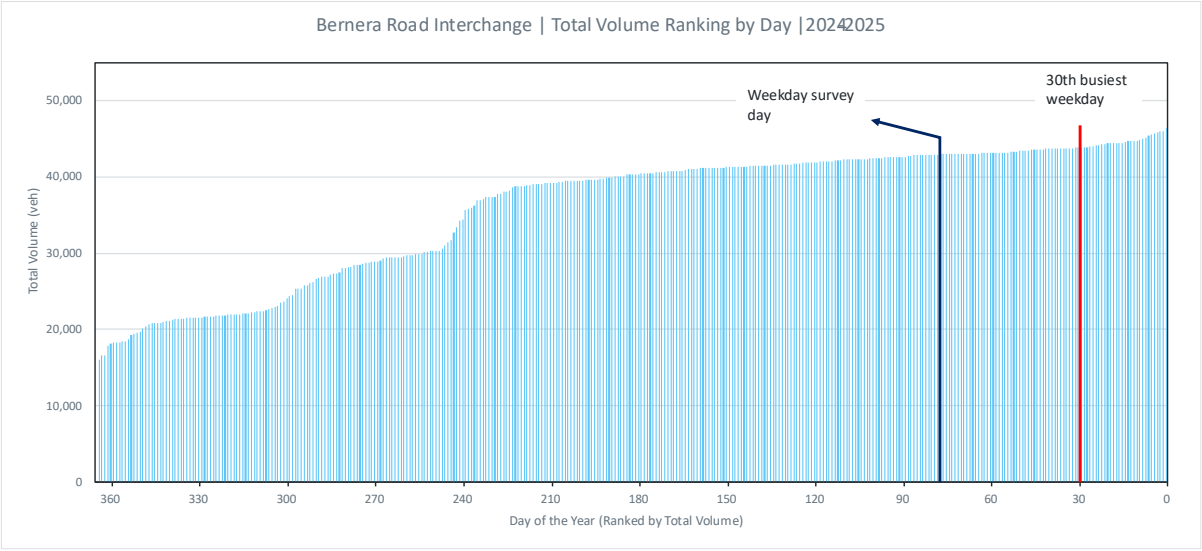
4.1.3 Traffic survey

Bernera Road interchange

Layout

- The Bernera Road interchange consists of two roundabouts. The northern roundabout is at the intersection of Bernera Road / Jedda Road / Westlink M7 On/Off-ramp and the southern roundabout is at the intersection of Bernera Road / Yarrawa Street / Westlink M7 On/Off-ramp. Each roundabout provides access and egress to the Westlink M7 and contains a total of five approaches.

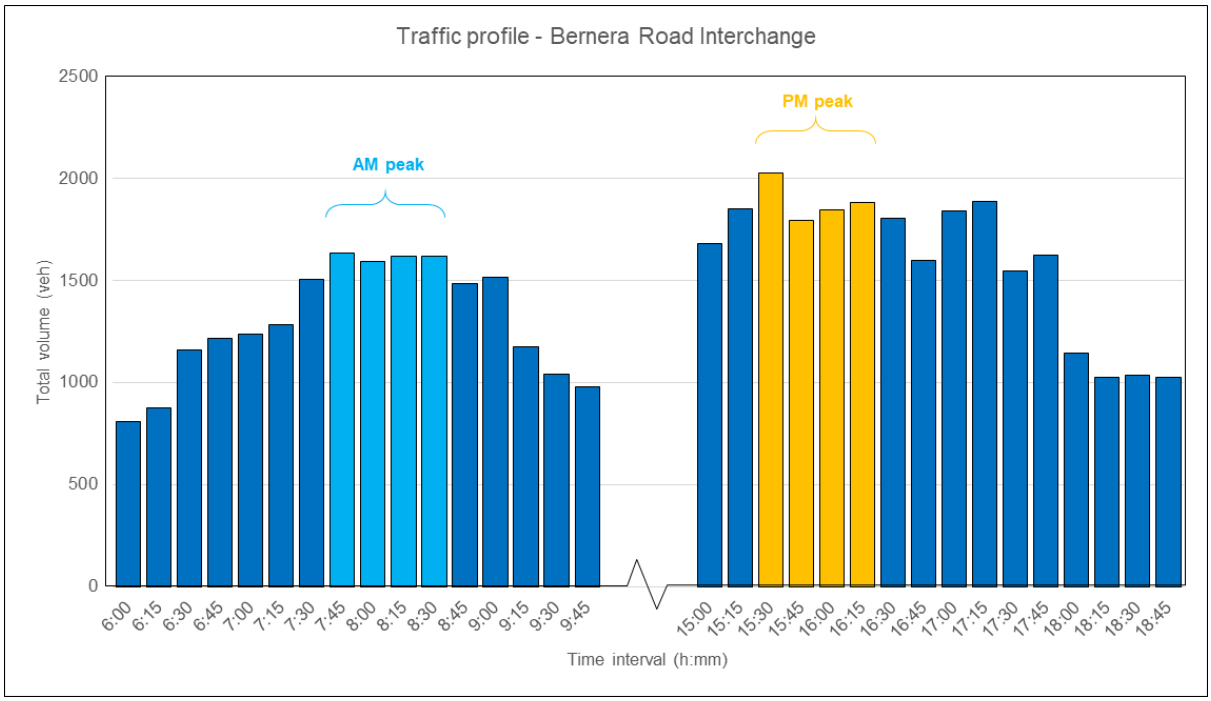
Seasonality



Day Rank	Date	Volume (veh)	Relative Gap
30	20/12/24	43,897	-
75 (weekday survey date)	18/02/25	42,977	-2.1%

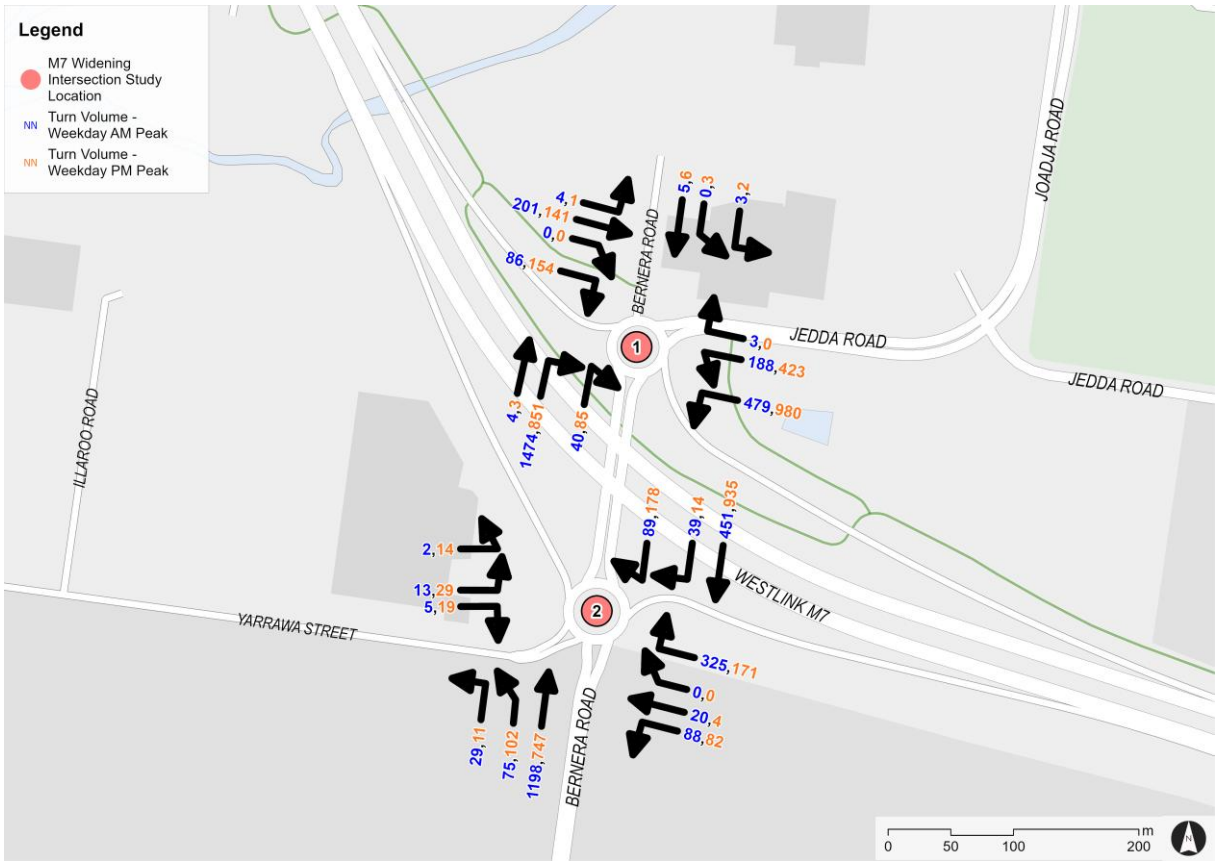
- Based on the seasonality analysis, the 30th busiest day of the year is 20th December 2024 with a daily traffic volume of 43,897 vehicles. The surveyed traffic volumes were approximately 2% less than the 30th busiest day of the year.

Traffic Profile

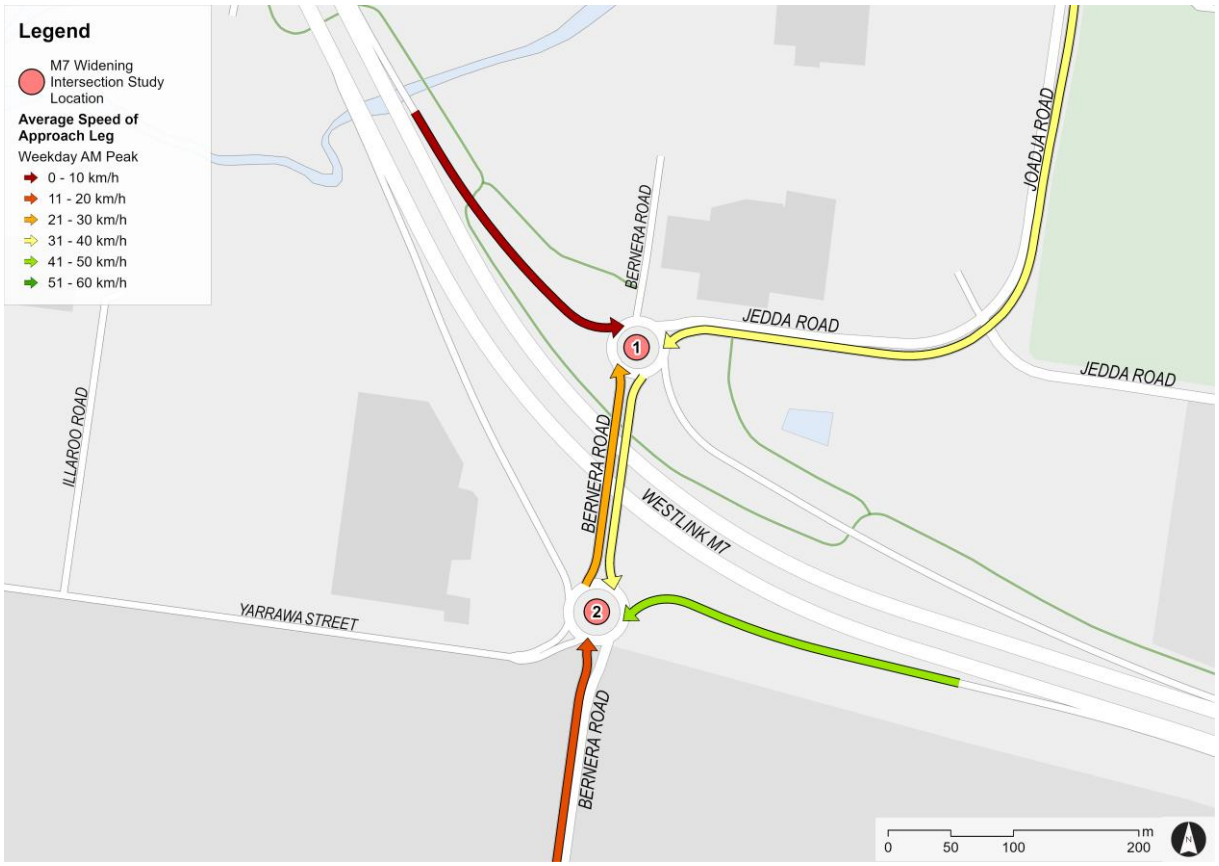


- The traffic profile for the Bernera Road interchange indicates that busiest hour during the AM peak is from 7:45am to 8:45am, whereas the PM peak period is from 3:30pm to 4:30pm.

Turn Counts

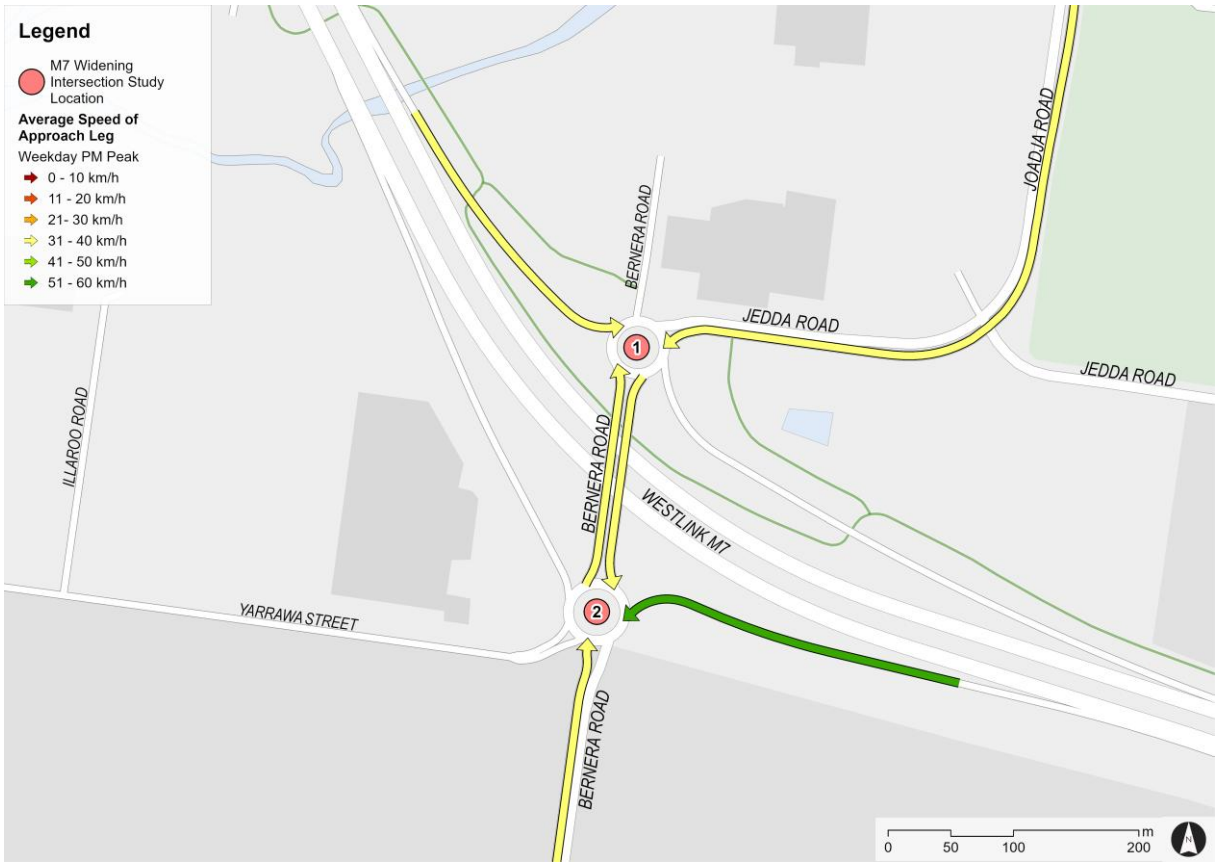


Average travel speed - AM peak



- The average travel speed in the AM peak for the approaches to the two roundabouts ranges from 0 to 50 km/h, with the slowest travel speed of 0-10 km/h on the west approach of the northern roundabout, while the east approach of the southern roundabout has the highest travel speed of 41-50 km/h.
  - Travel speeds are impacted by delays downstream on Jedda Road. This leads to delays for northbound vehicles, with slow-moving queues forming through both roundabouts from their respective southern approaches.
  - At the northern roundabout, vehicles departing the Westlink M7 at the western approach must give way to vehicles at the south approach. With the extensive delays for northbound traffic, this results in exceptionally slow travel speeds at the western approach.

Average travel speed - PM peak



- In the PM peak, the average travel speed for the approaches to the two roundabouts, ranges from 31-40 km/h and 51-60 km/h.
- During the PM peak period, the operation of the two roundabouts was not impacted by downstream delays. Travel speeds are representative of the busy traffic volumes and high composition of heavy vehicles using the roundabouts.

Queue Lengths

Intersection	Approach	Movement	Queue Length (veh)*	
			AM peak	PM peak
Bernera Road / Westlink M7 ramps / Jedda Road Roundabout	North	Left, Through, Right	2	2
	East	Left, Through, Right	11+	22+
	South	Left, Through, Right	24	22+
	West	Left, Through, Right	22+	8
Bernera Road / Westlink M7 ramps / Yarrawa Street Roundabout	North	Left, Through, Right	1	8
	East	Left, Through, Right	10	6
	South	Through	49	14+
	West	Left, Through, Right	6	5

**** The '+' sign has been used to indicate when the queue extended beyond the camera's view.***

- For the queue lengths in the AM peak, the south approach of the northern roundabout had the highest observable queue of 24 vehicles while the southern approach of the southern roundabout had the highest queue of 49 vehicles.
  - The queue lengths on the western approach of the northern roundabout extended beyond the survey camera's view and may have reached the M7.
- In the PM peak, the east and south approaches of the northern roundabout had the highest observable queue of 22+ vehicles, while the south approach of the southern roundabout had the highest queue of 14+ vehicles.

4.1.4 Congestion locations

At the Bernera Road / Westlink M7 interchange, the traffic survey results shown in **Section 4.1.3** show that motorists will experience delays and congestion during the weekday AM and PM peak periods. The traffic survey results indicate:

- During the AM peak period, performance through the interchange is impacted by congestion downstream on Jedda Road. Queues extend back from the Jedda Road / Joadja Road intersection and reach the northern Bernera Road roundabout, which prevents vehicles from departing the southern approach.
    - Northbound vehicles queue through both roundabouts, which prevent vehicles departing the Westlink M7 at the western approach of the northern roundabout from entering the intersection. Queues extend back to the M7 Motorway, and travel speeds during the AM peak hour are as low as 0-10 km/hr.
    - Queues along Jedda Road also impact performance at the southern roundabout, with queues at the south approach reaching 49 vehicles in length.
- During the PM peak period, there is a high demand for southbound movements coming from Jedda Road through the interchange.
    - This leads to queues longer than 22 vehicles at the Jedda Road approach of the northern roundabout. However, despite the long queues, vehicles are still moving at 31-40 km/hr at this location.
    - Travel demands in the northbound direction are also high during the PM peak, with queues at the northern roundabout filling the entire space between the two roundabouts and over 14 vehicles queued at the southern roundabout.
- Travel speeds at the Westlink M7 off-ramp to the southern roundabout are at least 41-60 km/hr across the three peak periods.
    - Queues at this approach reach a maximum of 10 vehicles during the AM peak period.

4.2 Cowpasture Road

4.2.1 Land use

The Cowpasture Road interchange is located within the Liverpool City Council LGA, within the suburbs of Hinchinbrook/ Middleton Grange. The interchange provides access to the suburbs of Hoxton Park, Middleton Grange and Cecil Hills.

4.2.2 Transport network

4.2.2.1 Public transport

The 827 bus route, connecting between Liverpool and Carnes, runs through the interchange along Cowpasture Road/ Airfield Drive, as shown in **Figure 4-3**. The closest bus stops to the interchange are located on Airfield Drive to the north and on Cowpasture Road to the south-west. Bus routes in the study area are outlined in **Table 4-2**.

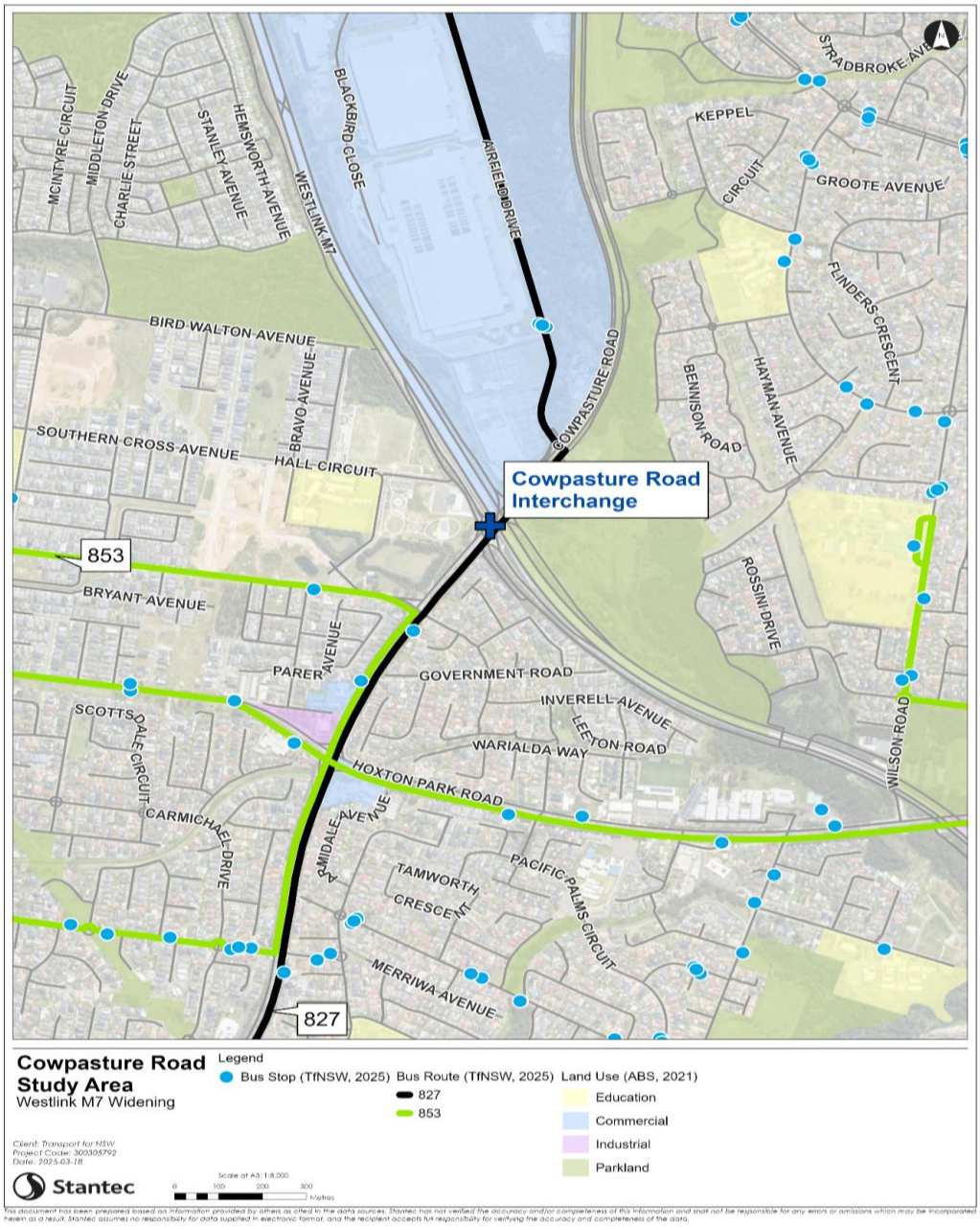


Figure 4-3 Cowpasture Road interchange – public transport

Table 4-2 Cowpasture Road interchange – bus routes

Bus route	Suburbs serviced
853 – Carnes Hill to Liverpool via Hoxton Park Road	Liverpool, Lurnea, Prestons, Hoxton Park, Hinchinbrook, Middleton Grange, West Hoxton and Carnes Hill
827 – Carnes to Liverpool	Liverpool, Green Valley, Bonnyrigg Heights, Cecil Hills and Len Waters Estate

4.2.2.2 Active transport

The Westlink M7 Shared Path project runs along the south-western side of the corridor within the study area. Shared paths are also located on both sides of Cowpasture Road in either direction from the interchange, providing links to the suburbs of Hoxton Park, Carnes Hill, Elizabeth Hills and Bonnyrigg Heights. Active transport infrastructure is shown in **Figure 4-4**.

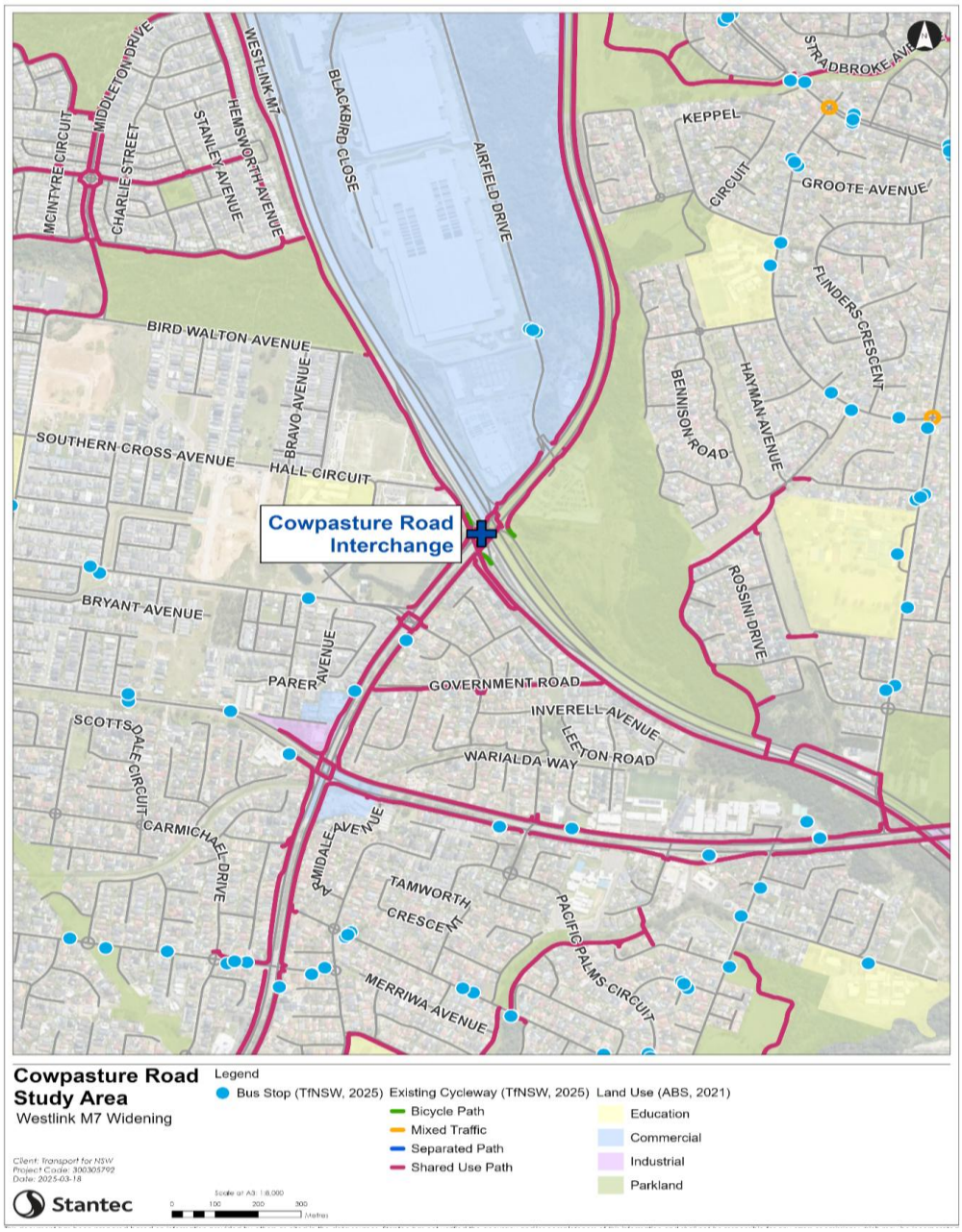


Figure 4-4 Cowpasture Road – existing active transport

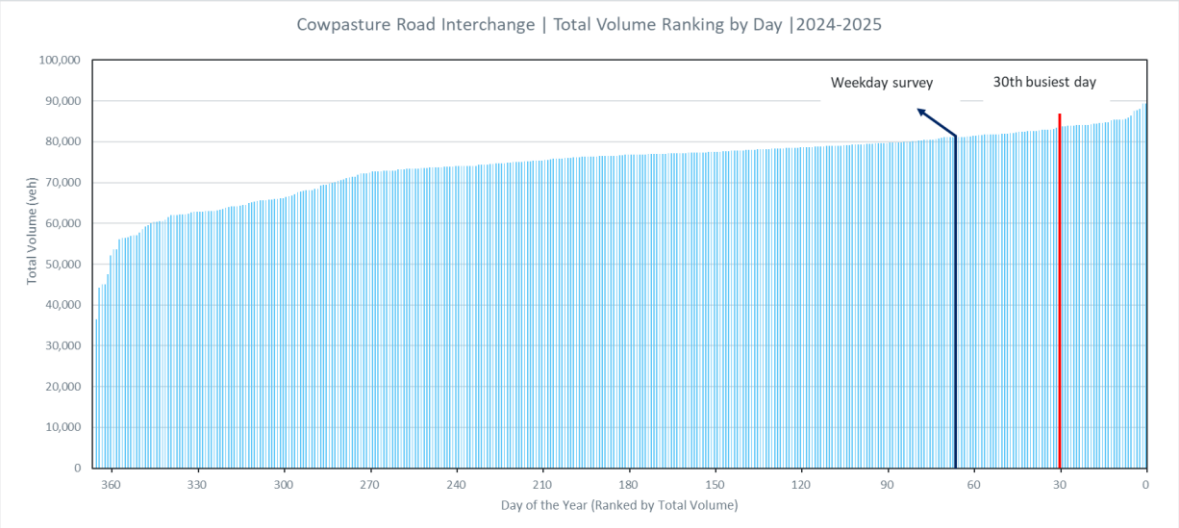
4.2.3 Traffic survey

Cowpasture Road interchange

Layout

- The Cowpasture Road interchange consists of two intersections. The southwestern intersection is the Westlink M7 / Cowpasture Road interchange and the northeastern intersection is Cowpasture Road / Airfield Drive. Each intersection contains a total of four approaches.

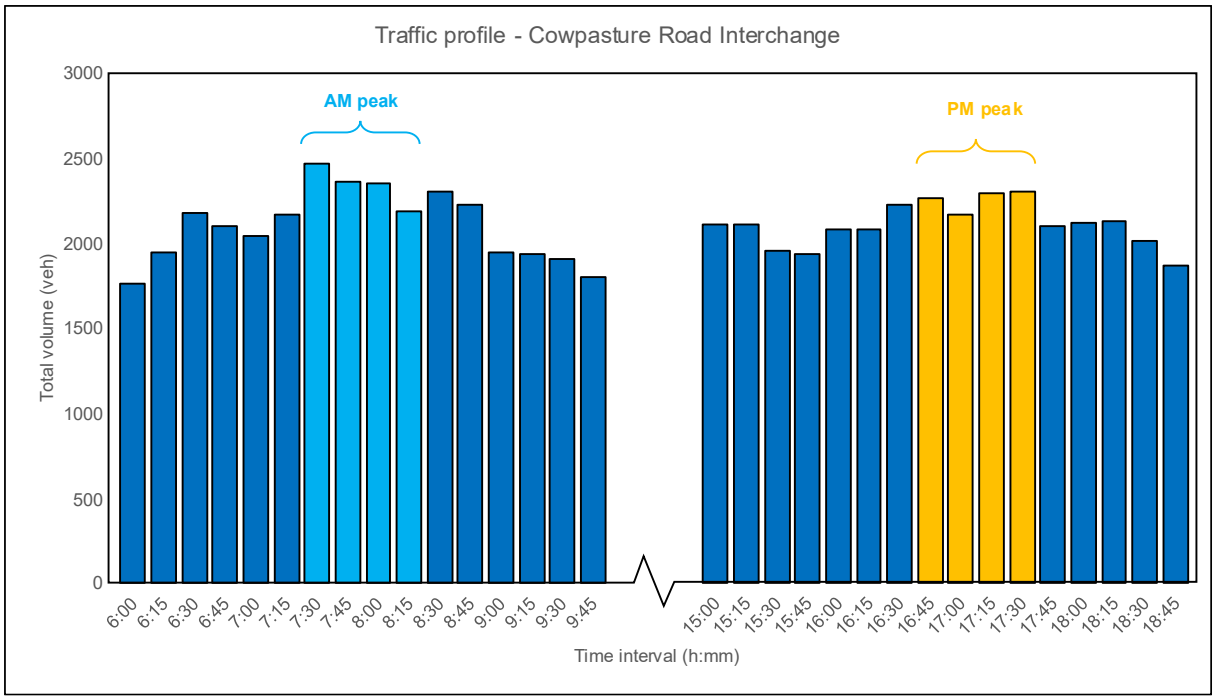
Seasonality



Day Rank	Date	Volume (veh)	Relative Gap
30	31/01/25	83,828	-
64 (weekday survey date)	18/02/25	81,203	-3.1%

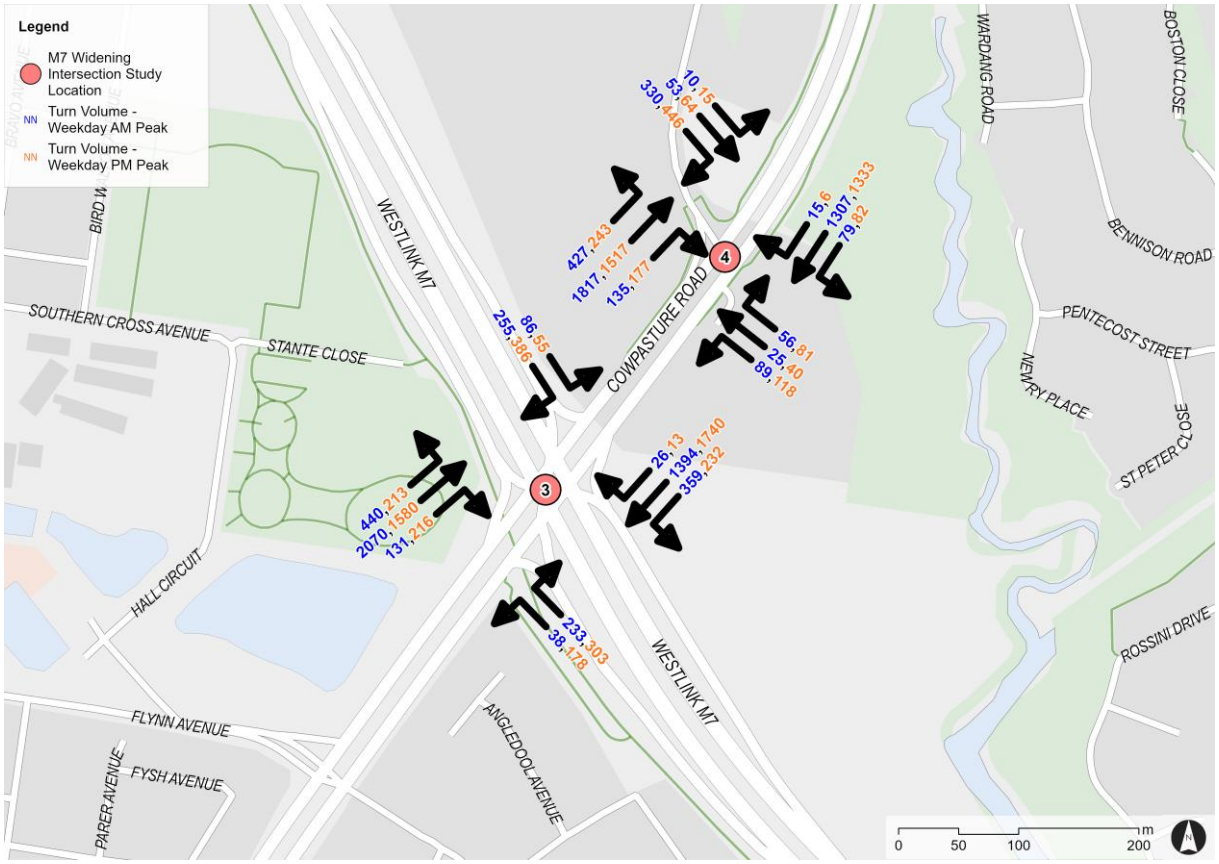
- Based on the seasonality analysis, the 30th busiest day of the year is 31st January 2025 with a daily traffic volume of 83,828 vehicles. The weekday survey day (18/02/2025) was the 64th busiest day with a relative gap of -3.1 per cent when compared to the 30th busiest day of the year.

Traffic Profile

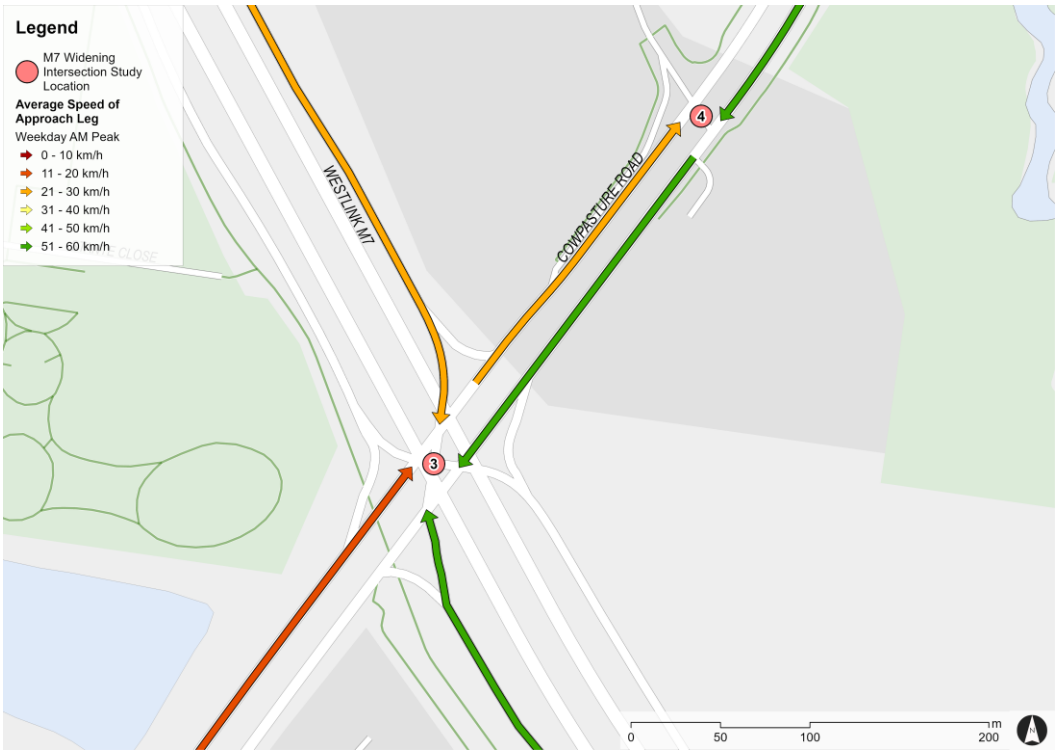


- The traffic profile for the Cowpasture Road interchange indicates that busiest hour during the AM peak is from 7:30am to 8:30am, whereas the PM peak period is from 3:45pm to 4:45pm.

Turn Counts

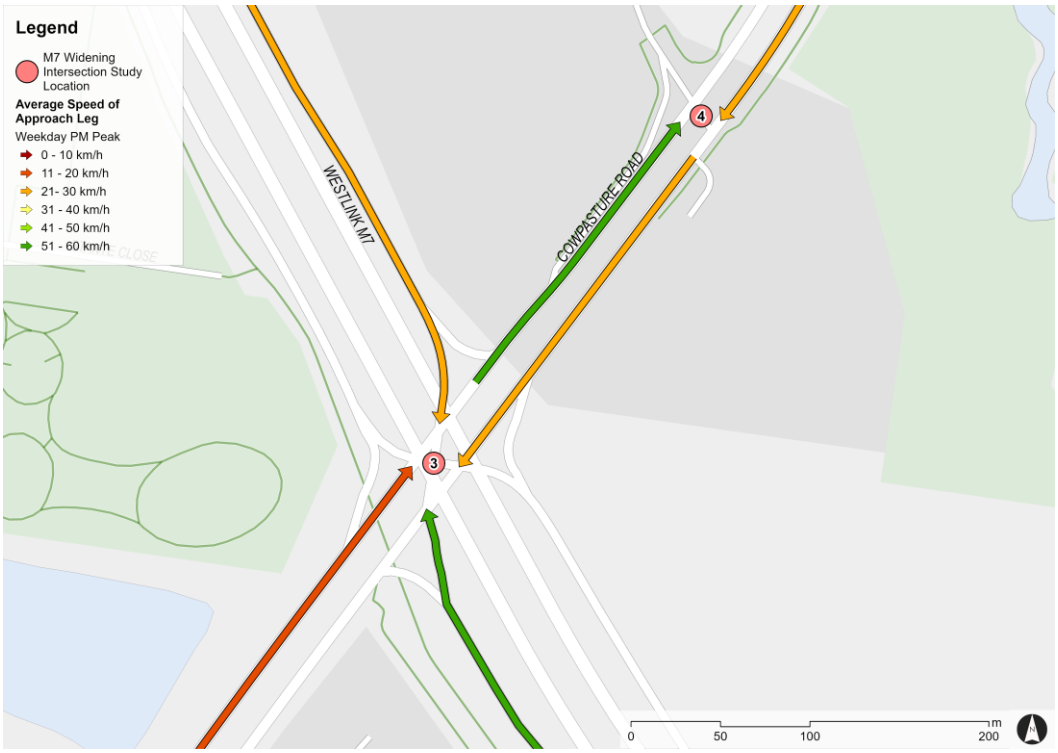


Average travel speed - AM peak



- The average travel speed in the AM peak for the approaches to the two intersections ranges from 11 to 60 km/h, with the slowest travel speed of 11-20 km/h on the southwest approach of Westlink M7 / Cowpasture Road interchange intersection. The fastest travel speeds through the interchange in the AM peak were between 51 and 60 km/h, which were observed at the following locations:
  - At the southeast and northeast approach of Cowpasture Road / Westlink M7 intersection
  - At the northeast approach of Cowpasture Road / Airfield Drive.

Average travel speed - PM peak



- In the PM peak, the average travel speed for the approaches to the two intersections ranges from 21-60 km/h, with the slowest travel speed of 11-20 km/h on the southwest approach of Westlink M7 / Cowpasture Road interchange intersection.

Queue Lengths

Intersection	Approach	Movement	Queue Length (veh)*	
			AM peak	PM peak
Westlink M7 / Cowpasture Road interchange	Northeast	Left	0	0
		Through	7+	7+
		Right	2	3
	Southeast	Left	5	7
		Right	12+	12
	Southwest	Left	0	0
		Through	18+	18+
		Right	6	7
	Northwest	Left	5	3
		Right	5+	5+
Cowpasture Road / Airfield Drive	Northeast	Left and through	10+	10+
		Right	3	2
	Southeast	Left	4	4
		Through	3	4
		Straight	5	5
	Southwest	Left	0	0
		Through	15+	15+
		Right	9	15+
	Northwest	Left	2	2
		Through	8+	8+
		Right	8+	8+

**** The '+' sign has been used to indicate when the queue extended beyond the camera's view.***

- For the queue lengths in the AM and PM peak, through movement on the northwest approach of Westlink M7 / Cowpasture Road interchange intersection had the highest observable queue of 18+ vehicles while the through movement of the southwest approach of Cowpasture Road / Airfield Drive intersection had the highest observable queue of 15+ vehicles.
- In addition, in the PM peak, the right turn of the southwest approach of Cowpasture Road / Airfield Drive intersection had the highest observable queue of 15+ vehicles.

4.2.4 Congestion locations

At the Cowpasture Road / Westlink M7 interchange and Cowpasture Road / Airfield Drive intersection, the traffic survey data presented in **Section 4.2.3** indicates the following congestion issues:

- The Cowpasture Road / Westlink M7 interchange showed long queues at all approaches across both peak periods.
    - High southbound traffic volumes lead to long queues at the northeast approach, which spill back to the Cowpasture Road / Airfield Drive intersection.
    - Similar congestion levels were observed in the northbound direction in all peaks, with queues at the southwest approach of Cowpasture Road / Airfield Drive extending back to the Cowpasture Road / Westlink M7 interchange. At the southwest approach of the Cowpasture Road / M7 interchange, queues exceed 18 vehicles in both peaks.
    - The Westlink M7 off-ramps show queueing in all periods, with the southbound off-ramp queues exceeding 7 vehicles and the northbound off-ramp with at least 12 vehicles queued.
    - During the AM and PM peak periods, travel speeds for northbound vehicles on Cowpasture Road is 0-10 km/hr.
- At the Cowpasture Road / Airfield Drive intersection, long queues were observed during the survey peak periods.
    - Queues at the southwestern approach of Cowpasture Road extend back to the Cowpasture Road / M7 interchange in all peaks. Vehicles are queued for the through and right turn movements.
    - Queues along Airfield Drive exceed 10 vehicles in all peaks, with vehicles queued for the left and through movements.
        - These movements operate out of short turn lanes which spill out of the lane and into the right turn lanes.
    - At the northeastern approach, queues exceed 10 vehicles in all peaks for the through movement.

4.3 Great Western Highway

4.3.1 Land use

The Great Western Highway interchange is located within the Blacktown City Council LGA within the suburb of Eastern Creek. The interchange provides access to the Arndell Park/ Huntingwood industrial area towards the east, St Marys and Penrith centres and Mount Druitt strategic centre.

4.3.2 Transport network

4.3.2.1 Public transport

The 723 and 729 bus routes pass through the interchange along Great Western Highway, connecting between Mount Druitt and Blacktown, as shown in **Figure 4-5**. Bus routes within the study area are described in **Table 4-3**. The closest bus stops to the interchange are located on Wallgrove Road.

Table 4-3 Great Western Highway interchange – bus routes

Bus route	Suburbs serviced
738 – Mount Druitt to Eastern Creek via Rooty Hill (loop service)	Mount Druitt, Rooty Hill and Eastern Creek
728 – Mount Druitt to Blacktown	Blacktown, Doonside, Rooty Hill, Eastern Creek and Mount Druitt
729 – Mount Druitt to Blacktown via Minchinbury	Blacktown, Doonside, Eastern Creek, Minchinbury and Mount Druitt
723 – Mount Druitt to Blacktown via Eastern Creek	Blacktown, Huntingwood, Eastern Creek, Rooty Hill and Mount Druitt

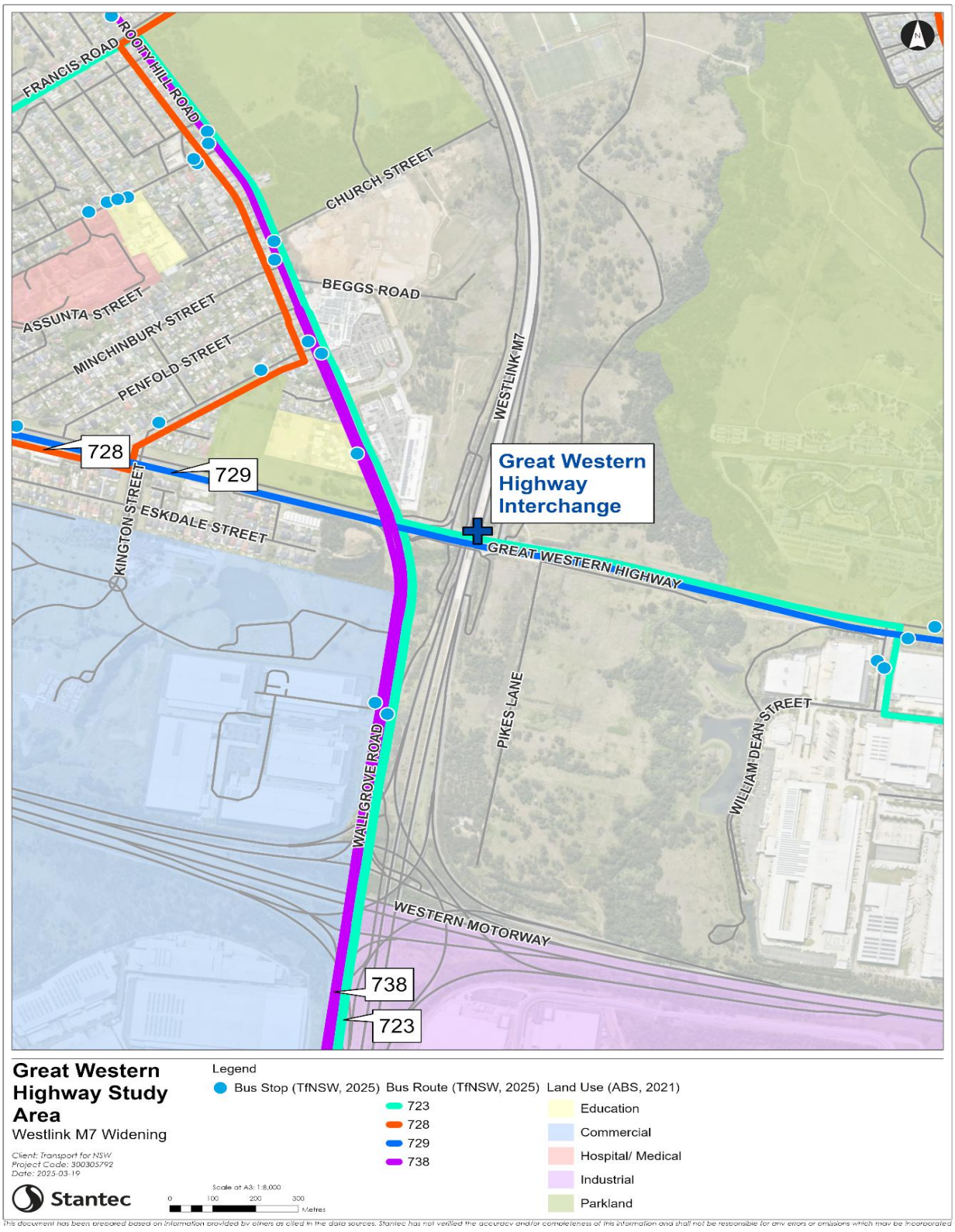


Figure 4-5 Great Western Highway interchange – public transport

4.3.2.2 *Active transport*

Active transport infrastructure within the vicinity of the interchange is limited to the Westlink M7 Shared Path project. A shared path is located on Great Western Highway, however, disconnects towards the west at the intersection of Wallgrove Road. Active transport infrastructure is shown on **Figure 4-6**.

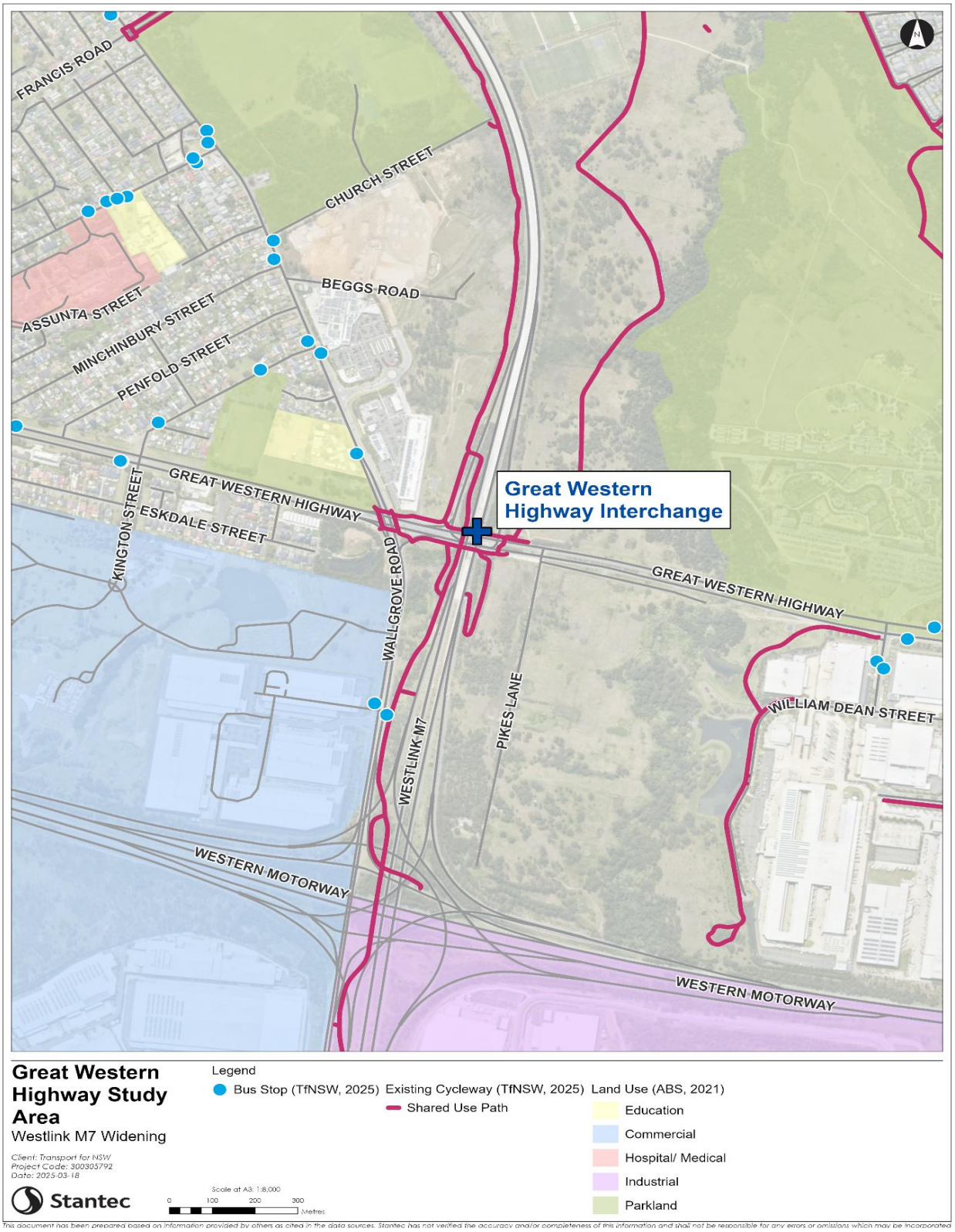


Figure 4-6 Great Western Highway – existing active transport

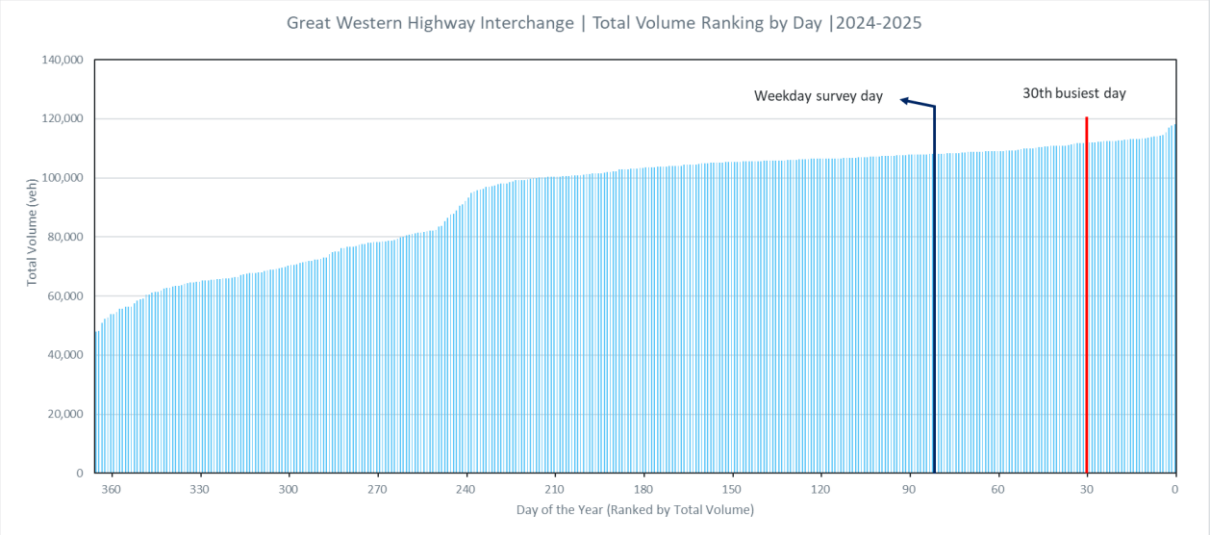
4.3.3 Traffic survey

Great Western Highway interchange

Layout

- The Great Western Highway interchange consists of two intersections. The first intersection is Great Western Highway and Westlink M7 On/Off-ramps with three approaches and the second intersection is Great Western Highway / Wallgrove Road / Rooty Hill Road South with four approaches.

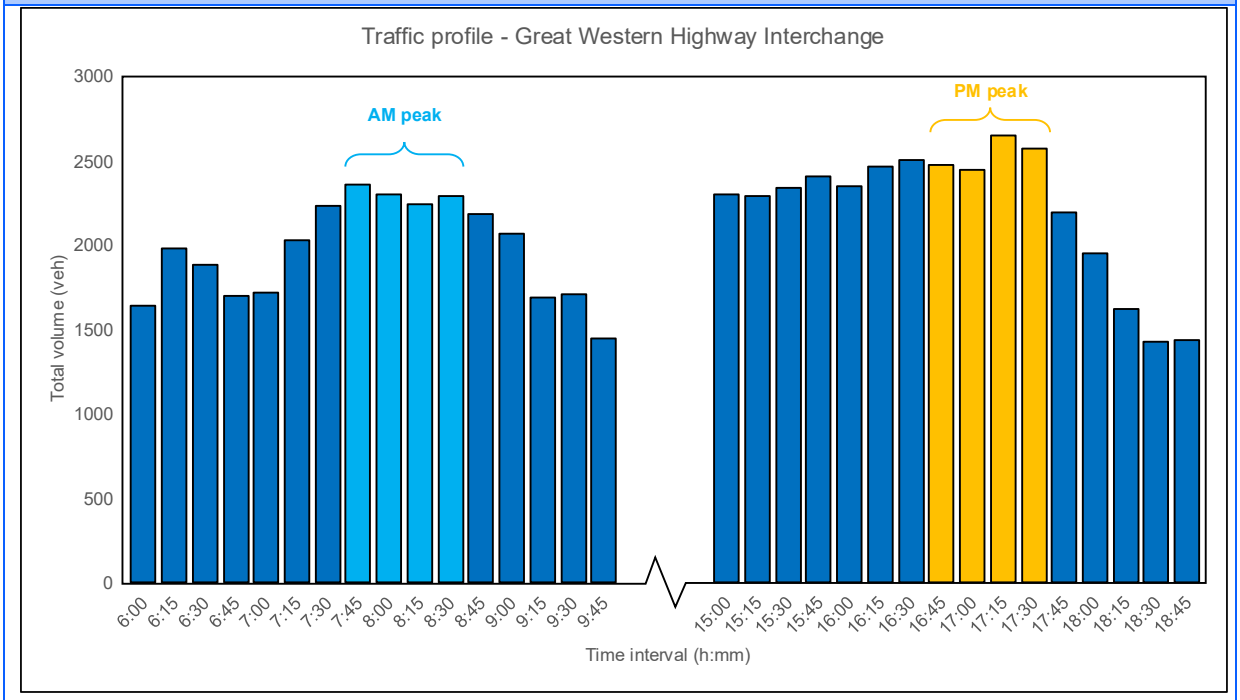
Seasonality



Day Rank	Date	Volume (veh)	Relative Gap
30	07/02/25	111,862	-
86 (weekday survey date)	18/02/25	107,328	-4.1%

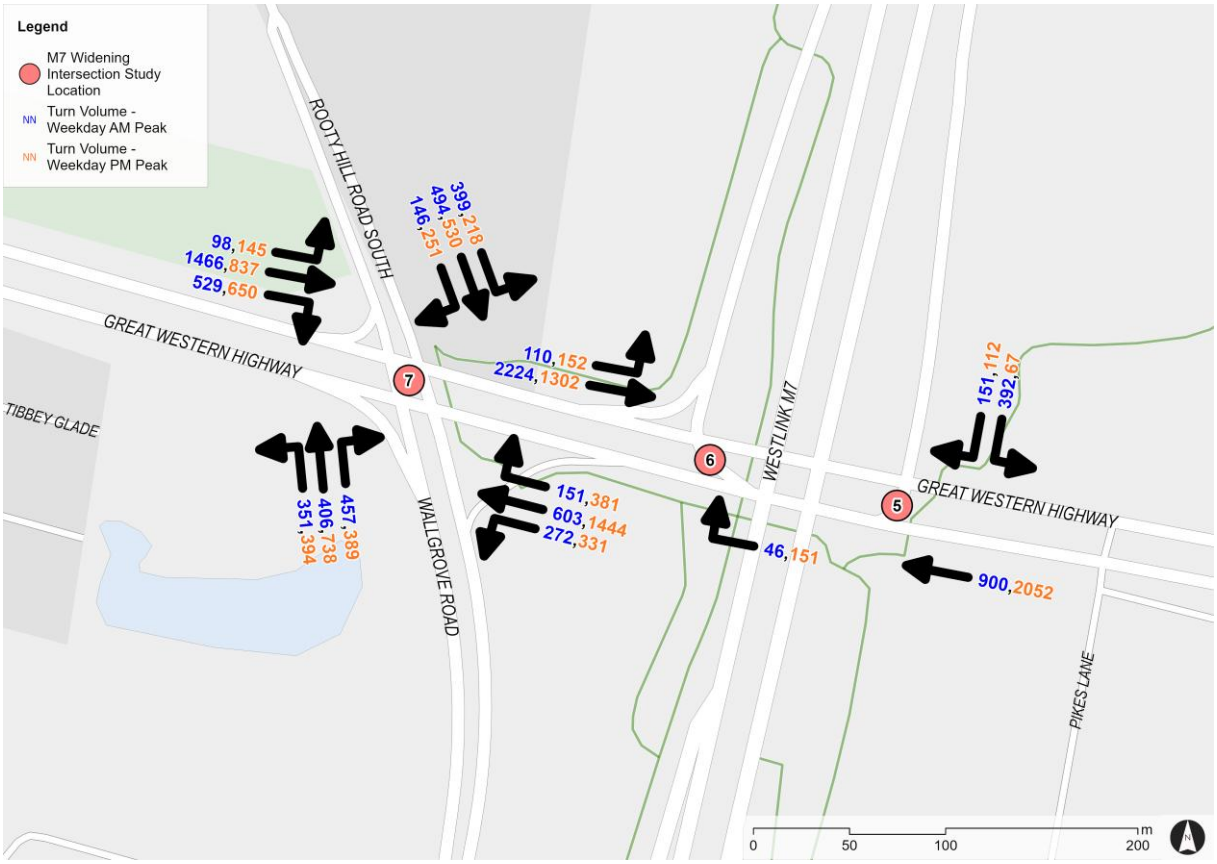
- Based on the seasonality analysis, the 30th busiest day of the year is 7th February 2025 with a daily traffic volume of 111,862 vehicles. The weekday survey day (18/02/2025) was the 86h busiest day with a relative gap of -4.1 per cent when compared to the 30th busiest day of the year.

Traffic Profile

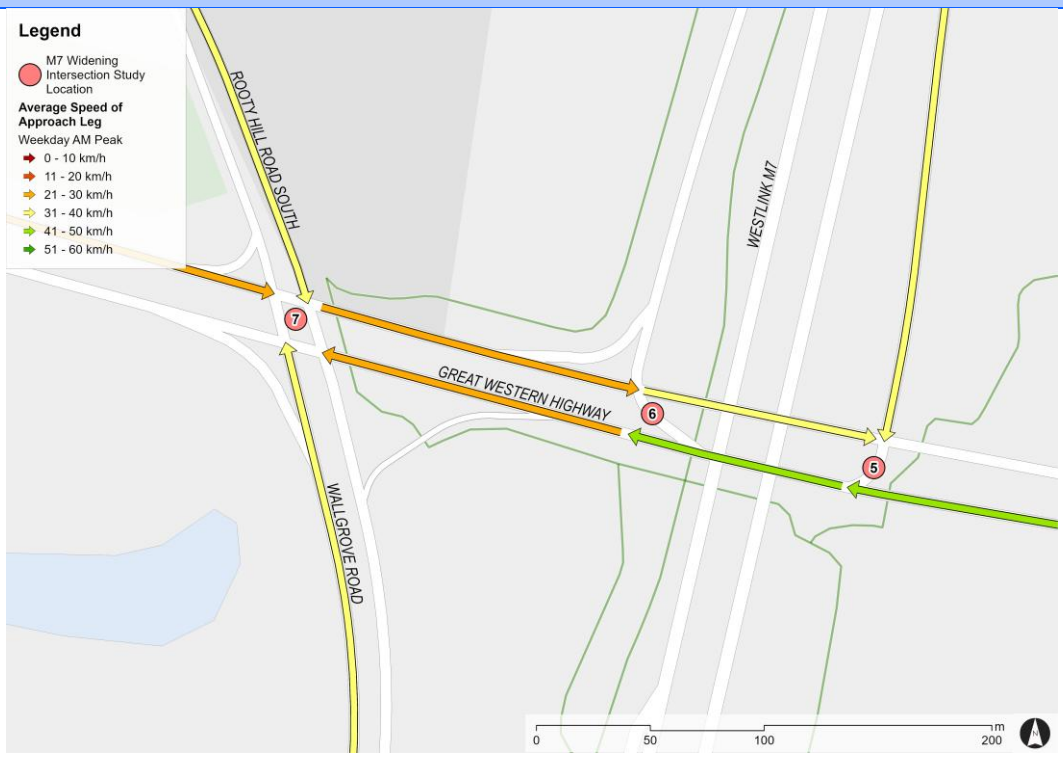


- The traffic profile for the Great Western Highway interchange indicates that busiest hour during the AM peak is from 7:45am to 8:45am and the PM peak period is from 4:45pm to 5:45pm

Turn Counts

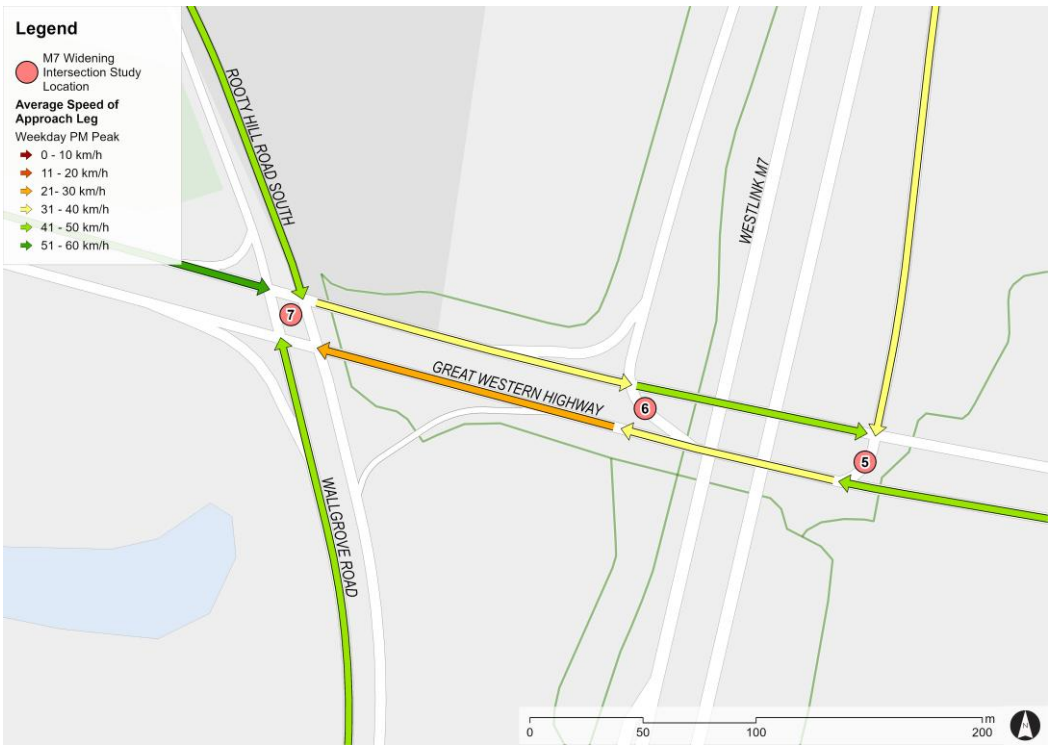


Average travel speed - AM peak



- The average travel speed in the AM peak for the approaches of the two intersections ranges from 21 to 50 km/h, the slowest travel speed of 21-30 km/h was observed at:
  - At the west and east approach of the Great Western Highway / Wallgrove Road / Rooty Hill Road South intersection
  - At the east approach of Great Western Highway and Westlink M7 On/Off-ramp intersection.
- The east approach of the Great Western Highway / Wallgrove Road / Rooty Hill Road South intersection has the highest average travel speed of 41-50 km/h in the AM peak.

Average travel speed - PM peak



- In the PM peak, the average travel speed for the approaches to the two intersections ranges from 11-60 km/h. The east approach of the Great Western Highway / Wallgrove Road / Rooty Hill Road South intersection has the slowest approach of 21-30 km/h.

Queue Lengths

Intersection	Approach	Movement	Queue Length (veh)*	
			AM peak	PM peak
Great Western Highway / West Link M7 On/Off-ramps	North	Left and Right	11	7
	East	Through	6	8+
		Right	4	9
	West	Left	0	0
		Through	16	3
Great Western Highway / Wallgrove Road / Rooty Hill Road South	North	Left	11+	11+
		Through	11+	11+
		Right	5	6
	East	Through	10+	10+
		Right	7	8
	South	Left	4	4+
		Through	10+	10+
		Right	10+	10+
	West	Left	3	5
		Through	13+	13+
		Right	13+	13+

**** The '+' sign has been used to indicate when the queue extended beyond the camera's view.***

- For the queue lengths in the AM peak, the through movement on the west approach of the Great Western Highway and Westlink M7 On/Off-ramps intersection had the highest observable queue of 10+ vehicles.
- In the PM peak, the through movement on the east approach of the Great Western Highway and Westlink M7 On/Off-ramps intersection had the highest queues of 9 vehicles.
- In both peak periods the through and right movements on the west approach of the Great Western Highway / Wallgrove Road / Rooty Hill Road South intersection had the highest observable queue of 13+ vehicles.

4.3.4 Congestion locations

At the Great Western Highway / Westlink M7 interchange, the traffic survey data presented in **Section 4.3.3** indicates the following congestion issues:

- The Great Western Highway / Rooty Hill Road South / Wallgrove Road intersection showed long queues and slow travel speeds in all peak periods.
    - Queues along all four approaches exceeded 10 vehicles in both peak periods.
    - Despite the long queue lengths, travel speeds exceed 30 km/hr at the north, west and south approaches in both peak periods. The east approach showed travel speeds of 21-30 km/hr during the weekday peak periods.
- At the Great Western Highway / Westlink M7 intersections, low levels of congestion were observed during the survey peak periods.
    - Queues ranged from 11 vehicles at most during the AM peak at the M7 off-ramp.
    - At the Great Western Highway / M7 off-ramp intersection, travel speeds were between 31 and 50 km/hr during the AM peak and 41-50 km/hr in the PM peak.
    - At the Great Western Highway / M7 on-ramp intersection, slow travel speeds were modelled in each peak depending on the primary direction of travel at the time. During the AM peak, speeds were as low as 21-30 km/hr in the eastbound direction whereas the slowest speeds during the PM peak were 31-40 km/hr in the westbound direction.
        - The signal operation to facilitate the busiest movements at the two adjacent intersections impacts the travel speeds at the Great Western Highway / M7 on-ramp intersection.

4.4 Old Wallgrove Road

4.4.1 Land use

The Old Wallgrove Road interchange study area is located within the Blacktown City Council LGA, within the suburb of Eastern Creek. The interchange provides access to the Eastern Creek and Erskine Park industrial employment areas, Sydney International Speedway and Motorsport Park.

4.4.2 Transport network

4.4.2.1 Public transport

Within the vicinity of the Old Wallgrove Road interchange, bus routes operate along Wallgrove Road, Old Wallgrove Road and Wonderland Drive. The 835 and 738 bus routes travel north-south along Wallgrove Road to access Old Wallgrove Road, providing access to the Eastern Creek industrial area and beyond. Bus routes are described in **Table 4-4**.

The closest bus stops to the interchange are located on Old Wallgrove Road and Wallgrove Road, as shown in **Figure 4-7**.

Table 4-4 Old Wallgrove Road interchange – bus routes

Bus route	Suburbs serviced
723 – Mount Druitt to Blacktown via Eastern Creek	Blacktown, Huntingwood, Eastern Creek, Rooty Hill and Mount Druitt
835 – Prairiewood to Western Sydney University	Prairiewood, Horsley Park, Eastern Creek, St Clair, St Marys and Kingswood
738 – Mount Druitt to Eastern Creek via Rooty Hill (loop service)	Mount Druitt, Rooty Hill and Eastern Creek

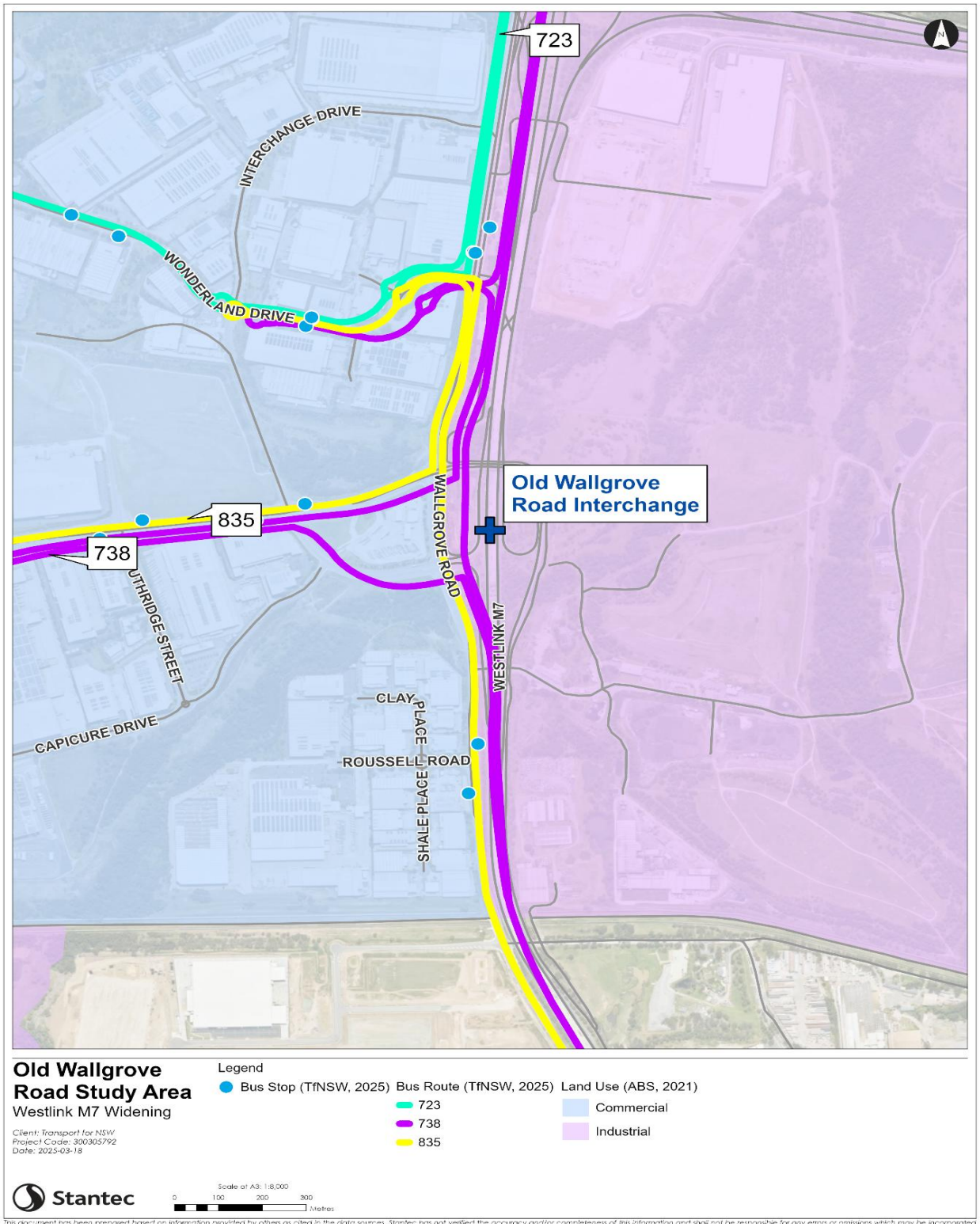


Figure 4-7 Old Wallgrove Road interchange – public transport

4.4.2.2 *Active transport*

Active transport infrastructure is provided within the vicinity of the interchange. The Westlink M7 Shared Path runs along the eastern side of the corridor in the area south of the interchange and runs along the western side in the area north of the interchange. The shared path network extends west across the interchange via the Old Wallgrove Road overpass, connected by signalised pedestrian crossings at the intersections of Mini Link Road and Wallgrove Road. Active transport infrastructure is shown in **Figure 4-8**.

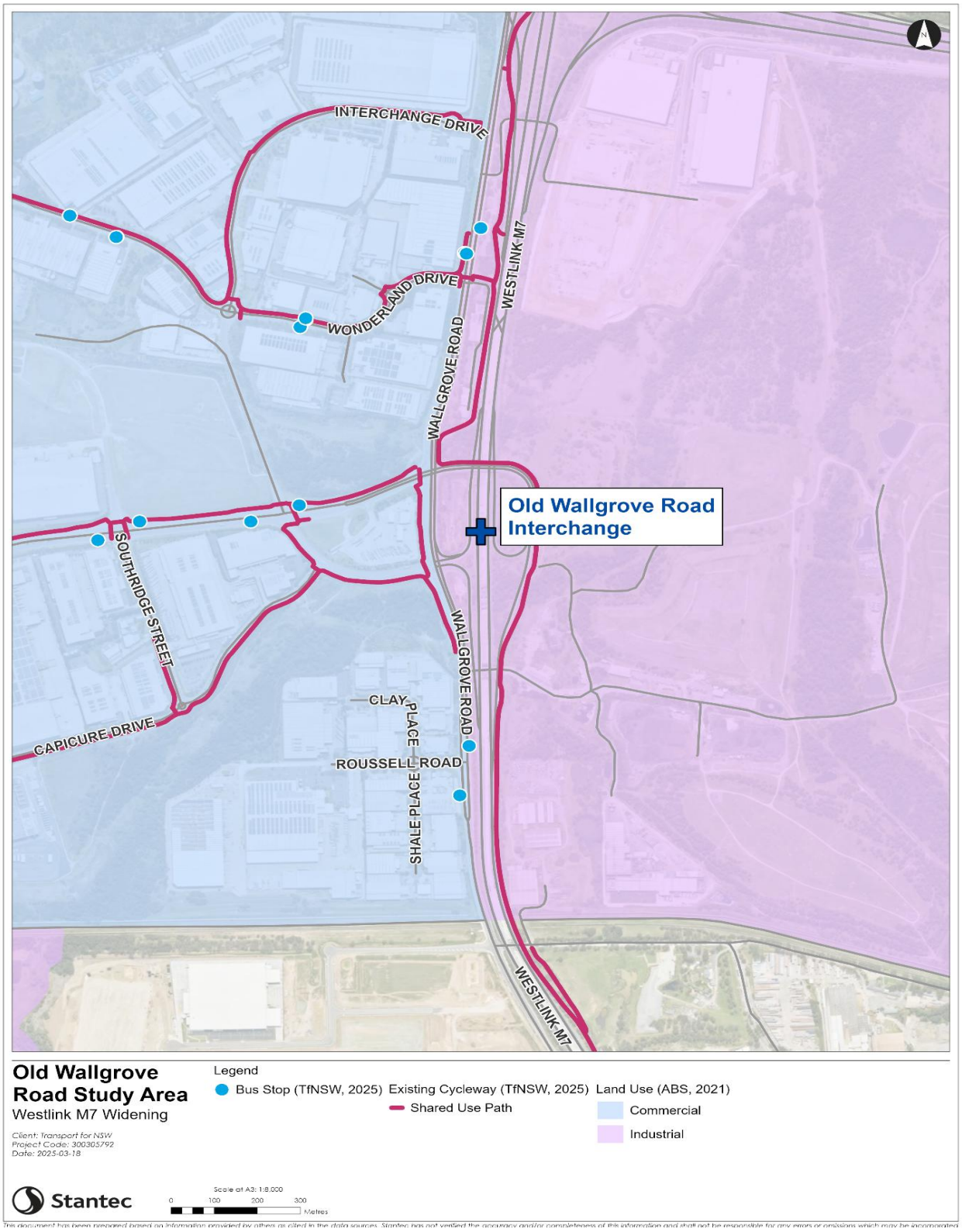


Figure 4-8 Old Wallgrove Road – existing active transport

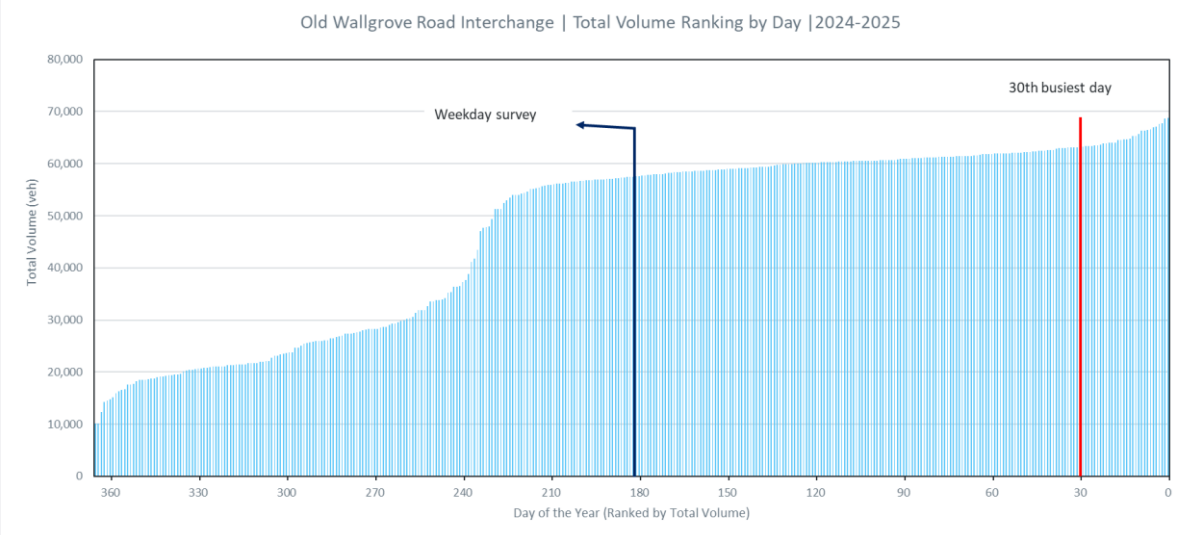
4.4.3 Traffic survey

Old Wallgrove Road interchange

Layout

- The Old Wallgrove Road interchange consists of three intersections. The first intersection is Wallgrove Road / Old Wall Grove Road / Westlink M7 On/Off-ramp, the second intersection is Wallgrove Road / Mini Link Road / Westlink M7 On/Off-ramp and the third intersection is Old Wallgrove Road / Mini Link Road / Hannibal Street where each intersection contains four approaches.

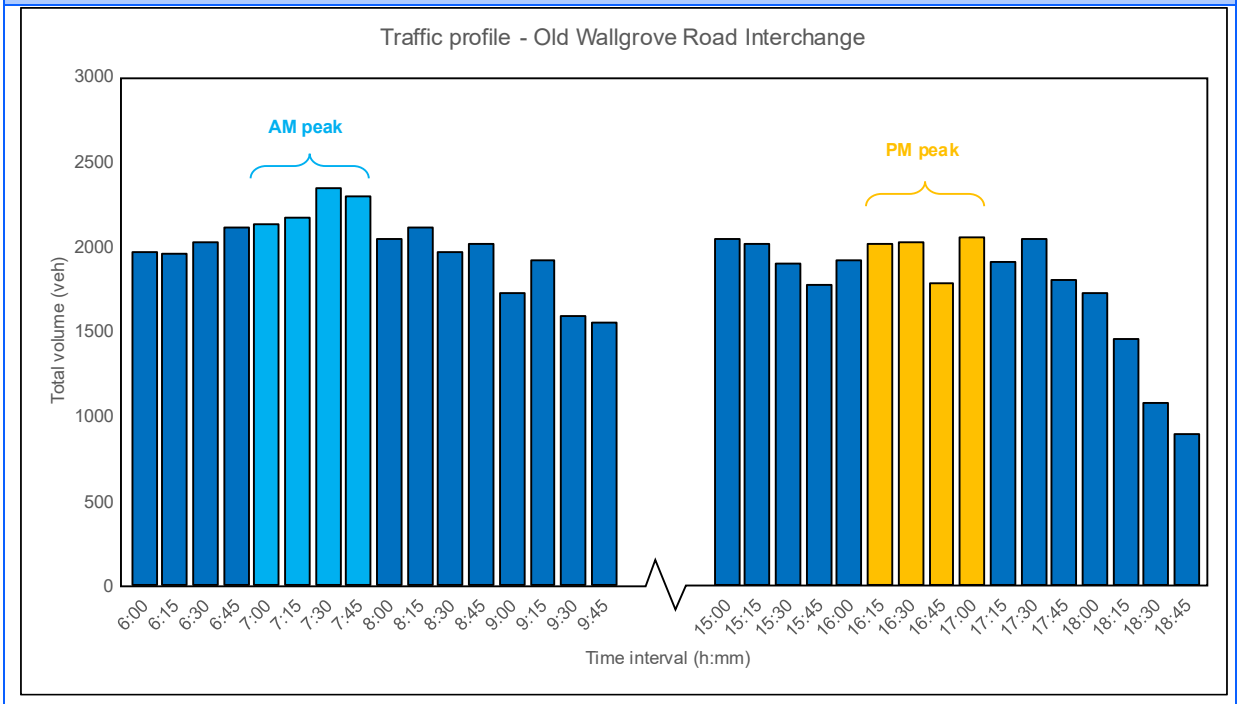
Seasonality



Day Rank	Date	Volume (veh)	Relative Gap
30	31/10/24	63,724	-
183 (weekday survey date)	18/02/25	57,516	-9.7%

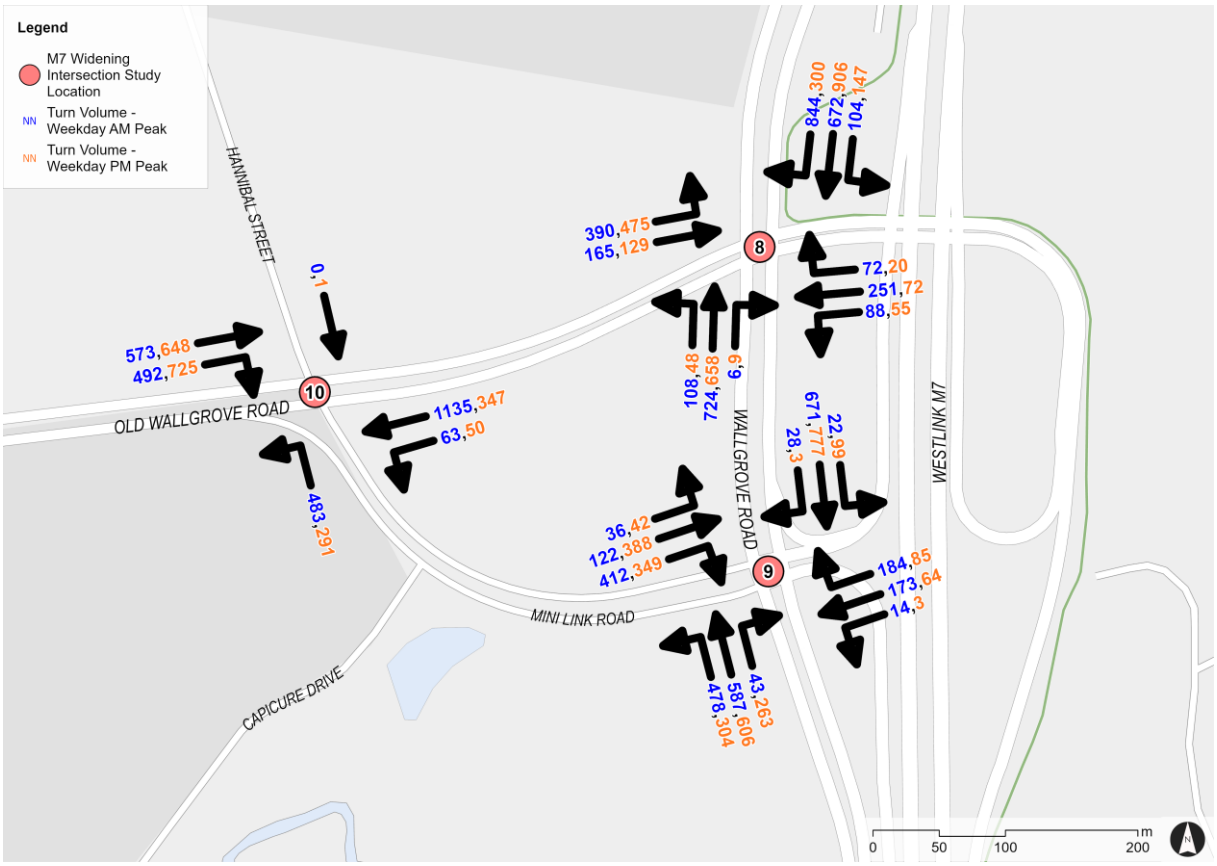
- Based on the seasonality analysis, the 30th busiest day of the year is 31st October 2024 with a daily traffic volume of 63,724 vehicles. The weekday survey day (18/02/2025) was the 183rd busiest day with a relative gap of -9.7 per cent when compared to the 30th busiest day of the year.

Traffic Profile

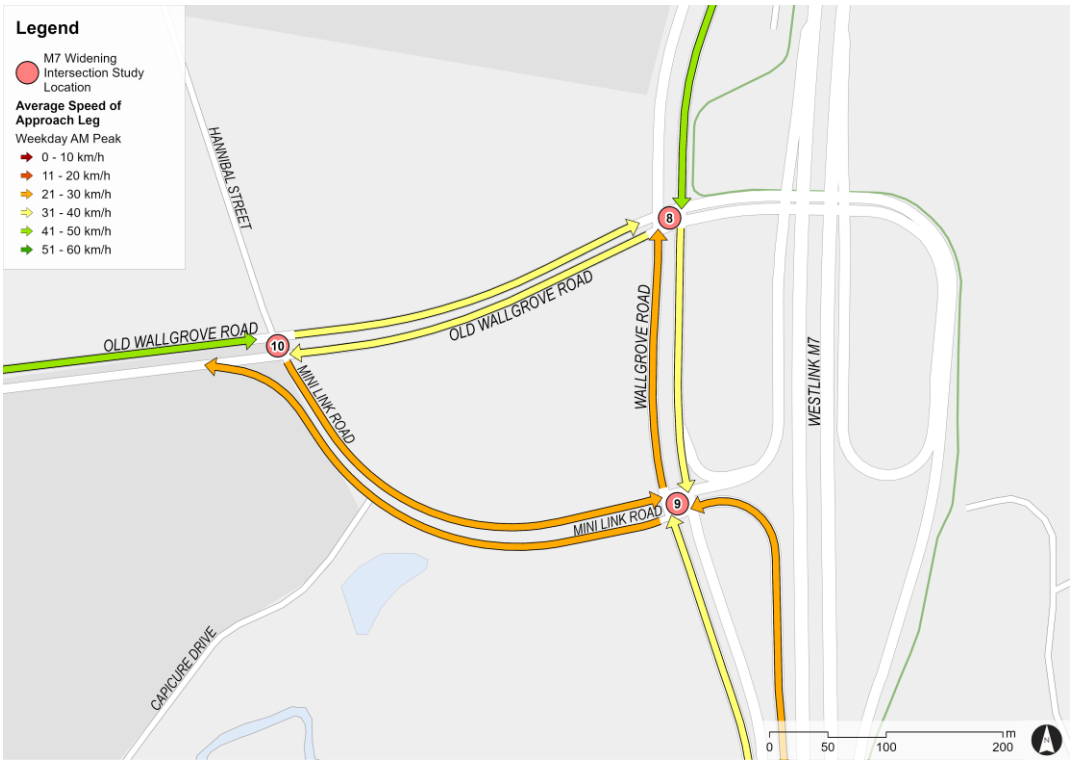


- The traffic profile for the Old Wallgrove Road interchange indicates that busiest hour during the AM peak is from 7:00am to 8:00am, whereas the PM peak period is from 4:15pm to 5:15pm.

Turn Counts

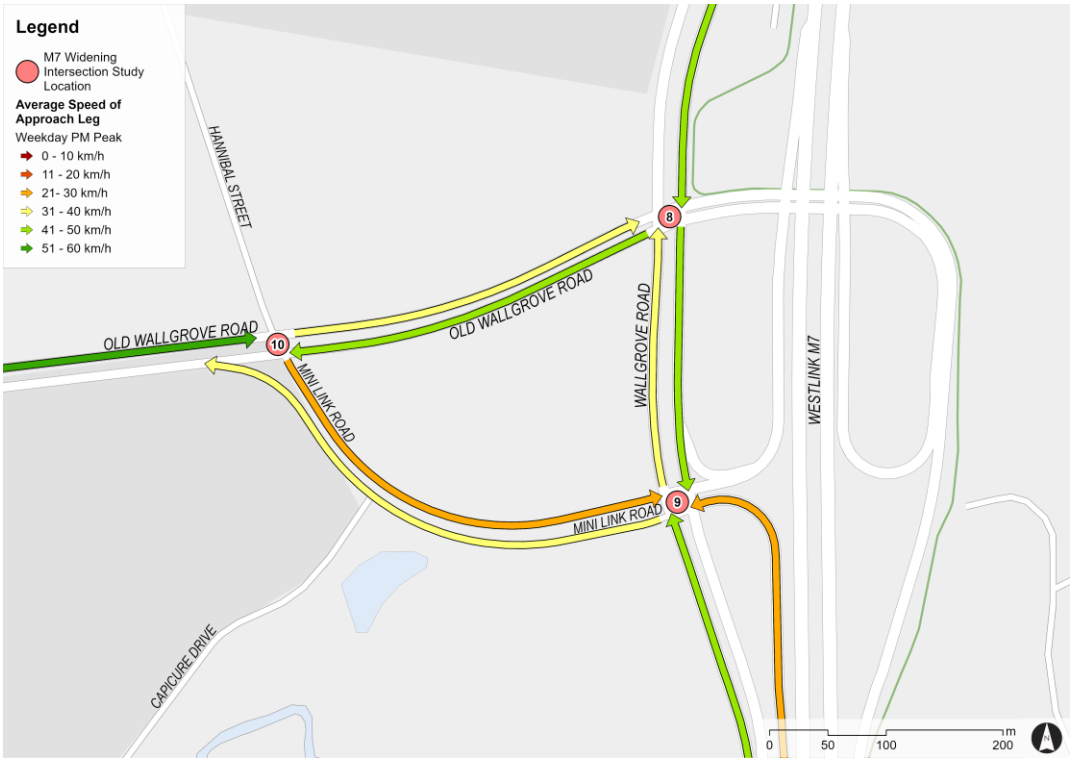


Average travel speed - AM peak



- The average travel speed in the AM peak for the approaches to the three intersections ranges from 21 to 50 km/h, with the slowest travel speed of 21-30 km/h observed at:
  - At the south approach of the Wallgrove Road / Old Wall Grove Road / Westlink M7 On/Off-ramp
  - At the east and west approaches of Wallgrove Road / Mini Link Road / Westlink M7 On/Off-ramp and
  - At the south approach of the Old Wallgrove Road / Mini Link Road / Hannibal Street.

Average travel speed - PM peak



- In the PM peak, the average travel speed for the approaches to the three intersections ranges from 21-60 km/h with the highest travel speed of 51-60 km/h on the west approach of the Old Wallgrove Road / Mini Link Road / Hannibal Street intersection

Queue Lengths

Intersection	Approach	Movement	Queue Length (veh)*	
			AM peak	PM peak
Wallgrove Road / Old Wall Grove Road / Westlink M7 ramps	North	Left, Through	13	19
		Right	29	16
	East	Left, Through	12	6
		Right	6	3
	South	Left	4	2
		Through	13	17
		Right	2	3
	West	Left	18+	19
		Through	9	8
Wallgrove Road / Mini Link Road / Westlink M7 ramps	North	Left	0	4
		Through	18	16
		Right	3	1
	East	Left, Through	12	4
		Right	13	4
	South	Left	8	7
		Through	14+	12+
		Right	2	7+
	West	Left, Through	18+	17
		Right	10	22
Old Wallgrove Road / Mini Link Road / Hannibal Street	North	Left	0	1
		Through, Right	0	0
	East	Left	2	3
		Through	14	7
		Right	1	0
	South	Left	19	9
		Through	0	3
	West	Left	0	0
		Through	2	9
		Right	17	24

**** The '+' sign has been used to indicate when the queue extended beyond the camera's view.***

- For the AM peak, the Wallgrove Road / Old Wall Grove Road / Westlink M7 On/Off-ramp intersection, the right movement on the north approach had the highest observable queue of 29 vehicles, while in the PM peak, the left movement on the south approach had the highest queue of 27 vehicles.
- At the Wallgrove Road / Mini Link Road / Westlink M7 On/Off-ramp intersection, the through movement on the north approach and the left and through movement on the west approach had the highest queue length of 18 vehicles for the AM peak. While in the PM peak, the right turn on the west approach had the highest observable queue of 23 vehicles
- Across both peak periods at the Old Wallgrove Road / Mini Link Road / Hannibal Street intersection, the right movement on the west approach had the highest observable queue length of 25 and 24 vehicles respectively.

4.4.4 Congestion locations

At the M7 / Wallgrove Road interchange, congestion is observed at each intersection during both peak periods. The traffic survey data presented in **Section 4.4.3** indicates that:

- Queues exceed 25 vehicles during the weekday peak periods at the north and west approach of Wallgrove Road / Old Wallgrove Road / Westlink M7 On/Off ramps.
    - Queues at the northern approach are at their longest during the weekday AM peak period, forming as a result of high traffic demands turning right to head towards the industrial areas within Eastern Creek.
    - During the PM peak, there is a high left turn demand at the western approach as workers depart from the Eastern Creek area. This leads to queues on the western approach, as vehicles turning left must give-way to northbound vehicles on Wallgrove Road.
- At the Wallgrove Road / Mini Link Road / Westlink M7 On/Off-ramp intersection, queues of 10-20 vehicles form at all approaches during the three peak periods. The congestion is due to the high traffic demands at all approaches, which require significant green time to clear traffic efficiently.
    - The longest queues were recorded as 23 vehicles at the west approach right turn movement during the PM peak. These queues are due to the southbound traffic departing the Eastern Creek area with workers returning home, as this is the only southbound turn available in the area.
- At the intersection of Old Wallgrove Road / Mini Link Road / Hannibal Street, queues exceeding 10 vehicles were observed in the AM peak period at the west, south and east approaches. During the PM peak, queues at the western approach reached 24 vehicles in length.
    - The critical movements through this intersection are at the west approach right turn, south approach left turn and east approach through movement. In terms of signal phasing, each of these movements requires their own phase. While one phase is running, this results in long wait times at the other approaches.
- Travel speeds on Wallgrove Road and Old Wallgrove Road are generally in excess of 30 km/hr, with the exception of the south approach of Wallgrove Road / Old Wallgrove Road / Westlink M7 On/Off ramps during the AM peak.
    - The travel speeds at the south approach are low in the AM peak due to the high demand for the right turn movement at the north approach. The demand for this movement results in more green time required to clear the traffic at the north approach than in the other peaks, leaving less green time available for northbound vehicles at the south approach.

4.5 Richmond Road / Rooty Hill Road North

4.5.1 Land use

The Richmond Road / Rooty Hill Road North interchange with Westlink M7 is located within the Blacktown City Council local government area (LGA), within the suburb of Oakhurst.

The interchange provides access from the south to the North West Growth Area, which contains the Marsden Park residential and employment area. This is located north of the interchange, accessed via Richmond Road. The interchange also provides access to residential suburbs in Sydney's west including Oakhurst, Hassall Grove and Plumpton.

4.5.2 Transport network

4.5.2.1 Public transport

Within the study area of the Rooty Hill Road North/ Richmond Road / Westlink M7 interchange, bus routes operate along Richmond Road, Rooty Hill Road, Golding Drive and Luxford Road, as shown in **Figure 4-9**. The 747 bus route, running between Rouse Hill and Mount Druitt via Marsden Park, runs north-south along Rooty Hill Road North and Richmond Road, and the 750 bus route, running between Blacktown and Mount Druitt, crosses the interchange in an east-west direction. The 745 and 754 bus routes along Lamb Street and connect to Richmond Road via Golding Drive to the east of the M7 interchange. Bus routes are described in **Table 4-5**.

The closest bus stops to the interchange are located on Rooty Hill Road North to the south and Richmond Road to the west near Yarramundi Drive.

Table 4-5 Rooty Hill Road North interchange – bus routes

Bus route	Suburbs serviced
754 – Blacktown to Mount Druitt via Hassall Grove	Hassall Grove, Oakhurst, Plumpton, Glendenning, Woodcroft, Blacktown, Dean Park and Mount Druitt
745 – St Marys to Norwest Private Hospital via Stanhope Gardens	St Marys, Tregear, Emerton, Bidwill, Plumpton, Glendenning, Nirimba Fields, Quakers Hill, Stanhope Gardens and Bella Vista
747 – Rouse Hill Station to Mount Druitt via Riverstone and Marsden Park	Rouse Hill, Tallawong, Schofields, Riverstone, Angus, Marsden Park, Melonba, Plumpton and Mount Druitt
750 – Blacktown to Mount Druitt via Bidwill	Blacktown, Woodcroft, Glendenning, Plumpton, Hassall Grove, Bidwill, Hebersham and Mount Druitt

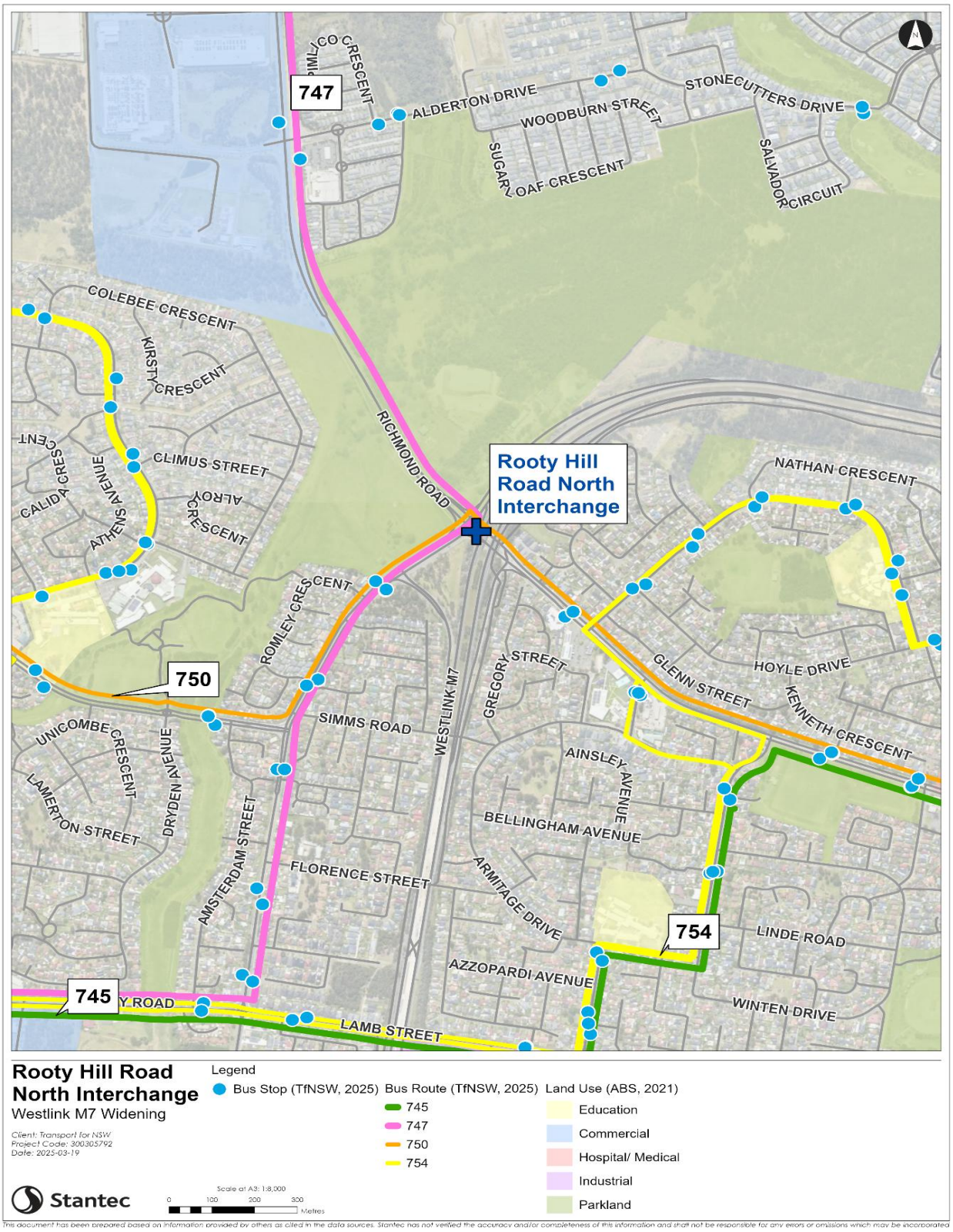


Figure 4-9 Rooty Hill Road North – public transport

4.5.2.2 *Active transport*

Active transport infrastructure is existing across all directions of the interchange, as shown in **Figure 4-10**. The Westlink M7 Shared Path runs along the eastern side of the corridor within close proximity to the interchange. The shared path network extends along the western side of Richmond Road to the north and along Rooty Hill Road North to the south. On Richmond Road in the eastern direction, the shared path network is disconnected at the intersection of Yarramundi Drive.

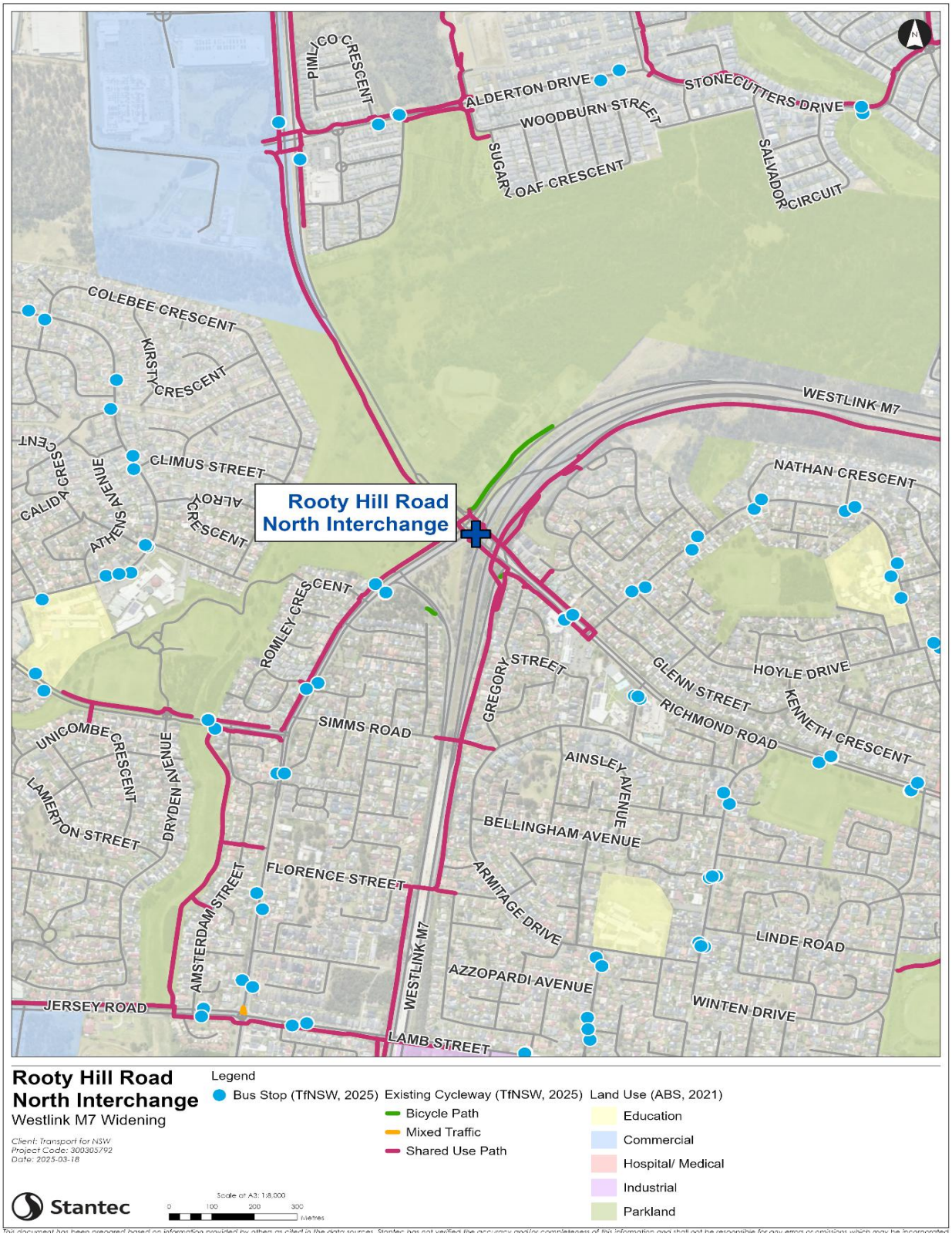


Figure 4-10 Rooty Hill Road North – existing active transport

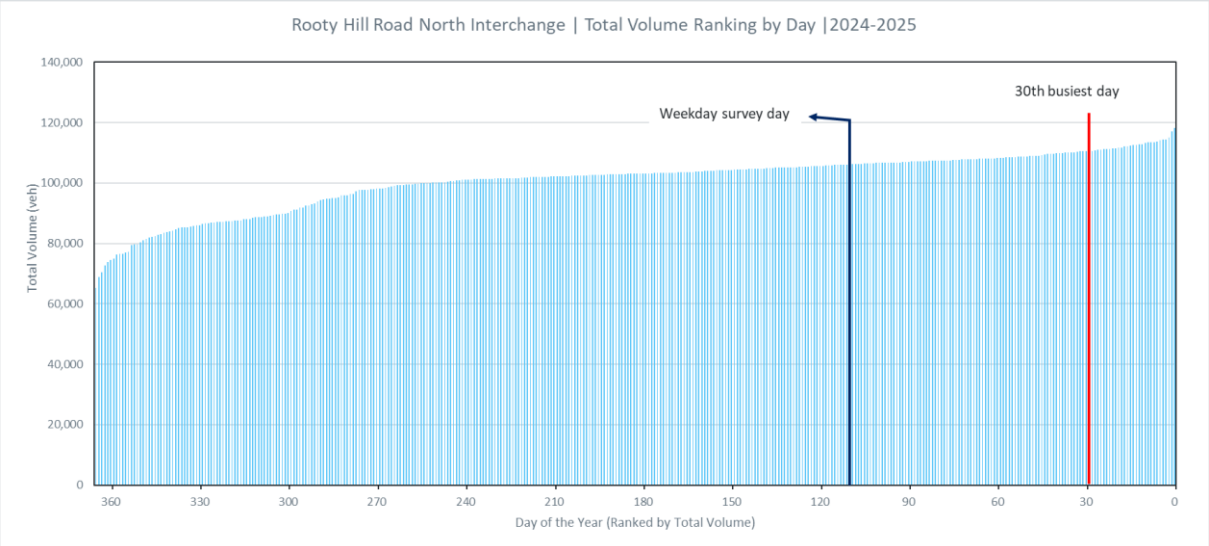
4.5.3 Traffic survey

Rooty Hill Road North interchange

Layout

- The Rooty Hill Road North interchange consists of three intersections. The first intersection is Rooty Hill Road North / Westlink M7 Off-ramp with three approaches, the second intersection is Richmond Road / Rooty Hill Road North / Westlink M7 ramps with four approaches and the third intersection is Richmond Road / Westlink M7 On-ramp with three approaches.

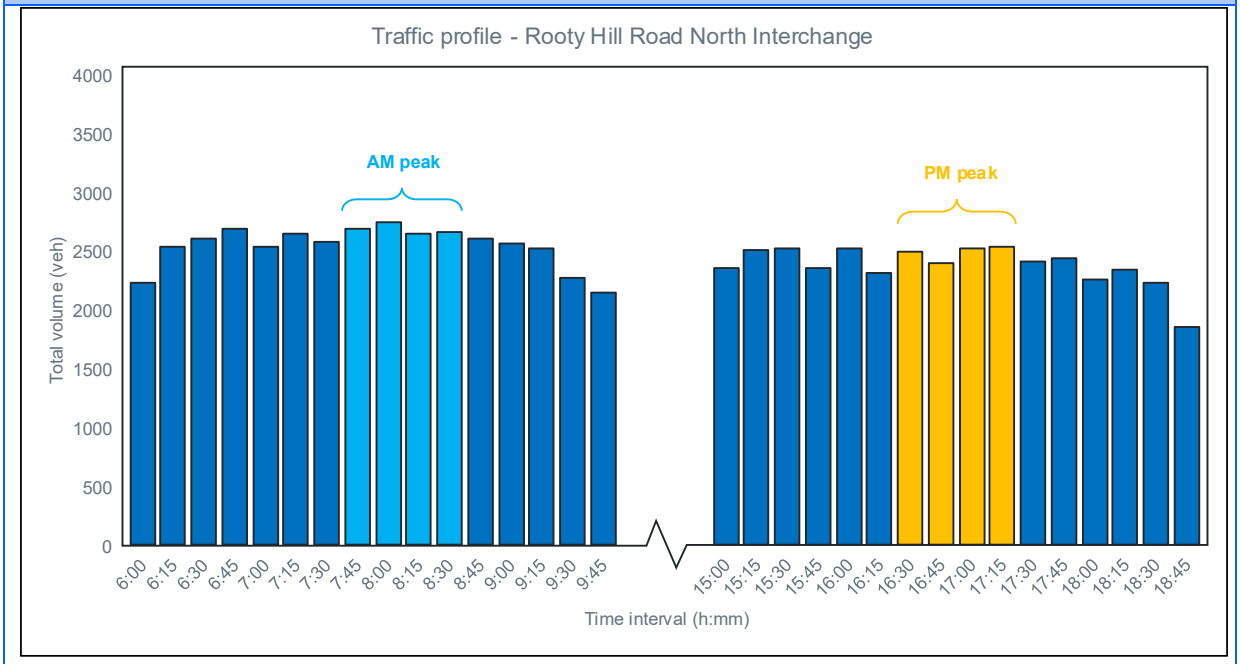
Seasonality



Day Rank	Date	Volume (veh)	Relative Gap
30	12/04/24	110,542	-
111 (weekday survey date)	18/02/25	106,185	-3.9%

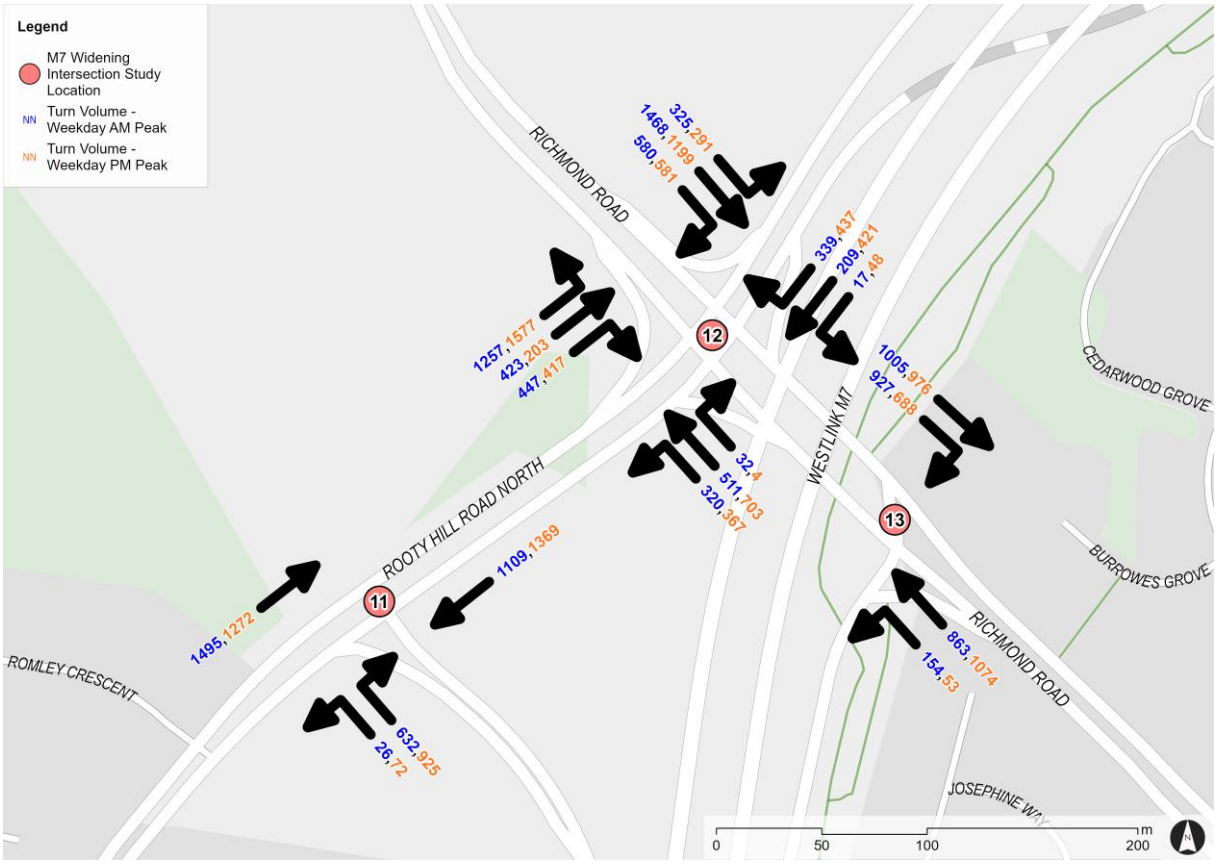
- Based on the seasonality analysis, the 30th busiest day of the year is the 21st of April 2024 with a daily traffic volume of 110,542 vehicles. The weekday survey day (18/02/2025) was the 111th busiest day with a relative gap of -3.9 per cent when compared to the 30th busiest day of the year.

Traffic profile

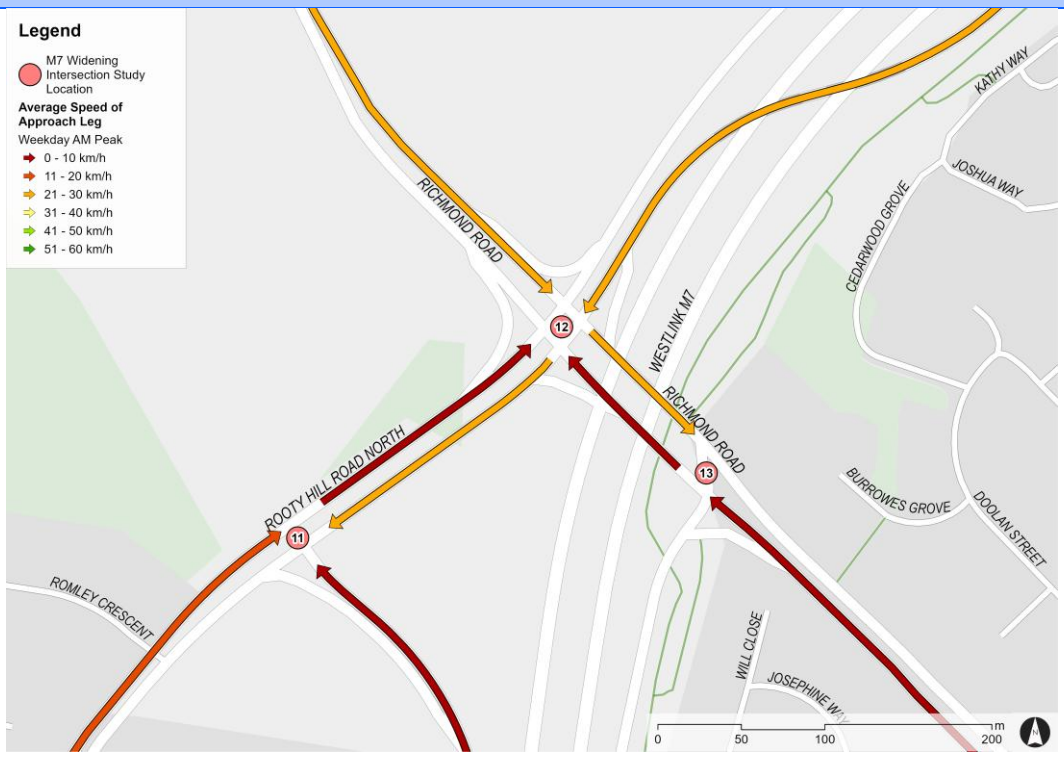


- The traffic profile for the Rooty Hill Road North interchange indicates that busiest hour during the AM peak is from 7:45am to 8:45am, whereas the PM peak period is from 4:30pm to 5:30pm.

Turn Counts

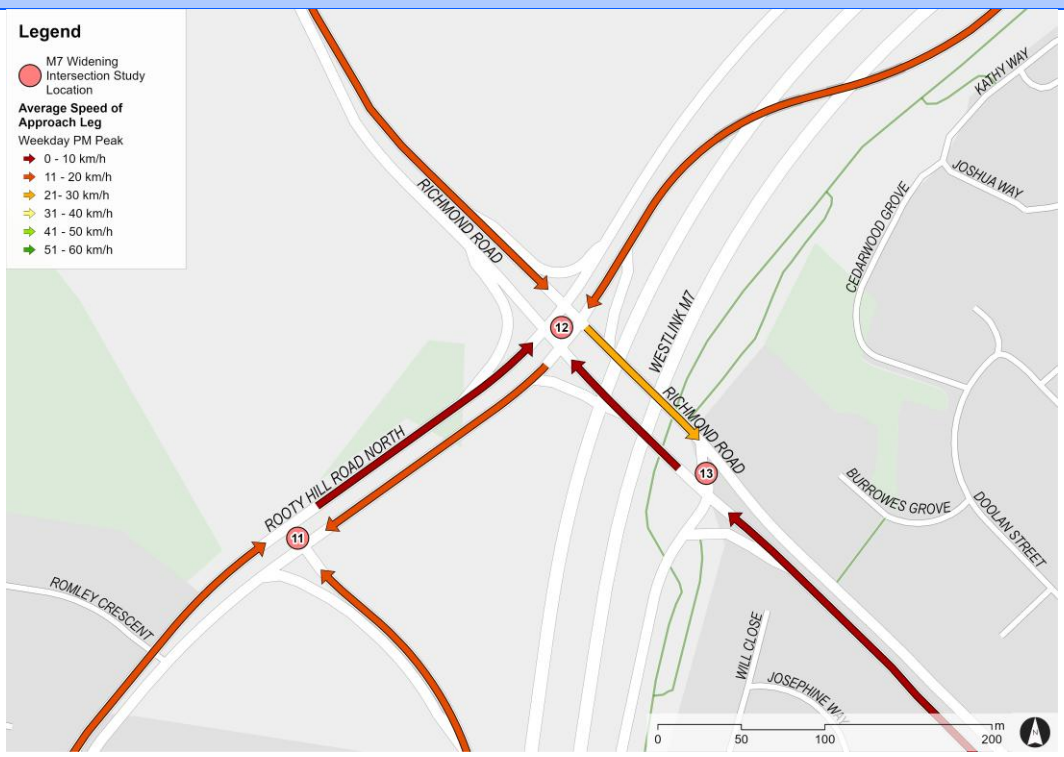


Average travel speed – AM peak



- The average travel speed in the AM peak for the approaches to the three intersections ranges from 0 to 30 km/h with the slowest travel speed of 0-10 km/h observed at:
  - At the south approach of the Rooty Hill Road North / Westlink M7 Off-ramp
  - At the west and south approaches of Richmond Road / Rooty Hill Road North / Westlink M7 ramps
  - At the south approach of the Richmond Road / Westlink M7 On-ramp

Average travel speed – PM peak



- In the PM peak, the average speed for the approaches to the three interections ranges from 0-30km/h with the slowest travel travel speed of 0-10 km observed at:
  - At the west and south approaches of Richmond Road / Rooty Hill Road North / Westlink M7 ramps
  - At the south approach of the Richmond Road / Westlink M7 On-ramp

Queue Lengths

Intersection	Approach	Movement	Queue Length (veh)*	
			AM peak	PM peak
Rooty Hill Road North / Westlink M7 Off-ramp	Northeast	Through	21	24
	Southeast	Left	0	2
		Right	40+	30+
	Southwest	Through	22	22+
Richmond Road / Rooty Hill Road North / Westlink M7 ramps	Northeast	Left	2	2
		Through	9	16+
		Right	12+	18+
	Southeast	Left	4	1
		Through	13	13
		Right	3	1
	Southwest	Left	0	26
		Through	26	7
		Right	18	17
	Northwest	Left	1	2
		Through	32	14
		Right	46	120
Richmond Road / Westlink M7 On-ramp	Southeast	Left	4	2
		Through	32	32
	Northwest	Right	13	14

**** The '+' sign has been used to indicate when the queue extended beyond the camera's view.***

- For the AM and PM peaks, the right movement on the southeast approach of Rooty Hill Road North / Westlink M7 Off-ramp had the highest observable queues of 40+ and 30 vehicles respectively.
- For the Richmond Road / Rooty Hill Road North / Westlink M7 ramps intersection, the right movement on the northwest approach had the highest observable queue for the two peak periods with queues of 46 and 120 vehicles respectively.
  - There is significant demand for vehicles to turn onto Rooty Hill Road North which is causing delays along Richmond Road.
- The through movement on the southeast approach of the Richmond Road / Westlink M7 On-ramp had the highest observable queue for both peak periods of 32 vehicles respectively.

4.5.4 Congestion locations

Road users travelling via the Richmond Road / Rooty Hill Road N / Westlink M7 interchange experience significant delays during the weekday AM and PM peak periods. The interchange provides access to the M7 for residents in the surrounding areas of Rooty Hill, Marsden Park, Schofields, Glendenning and Hassall Grove, leading to high traffic volumes at most movements through each intersection that forms part of the interchange.

The traffic survey results highlighted in **Section 4.5.3** revealed the following congestion locations within the Richmond Road / Rooty Hill Road N / M7 interchange:

- At the southwest approach of Rooty Hill Road N / Richmond Road, long queues form for the left turn movement to head northbound onto Richmond Road.
    - Motorists performing this movement must give-way and merge with traffic heading northbound on Richmond Road, leading to queues that spill back to the Rooty Hill Road N / M7 Off-ramps intersection
- At Rooty Hill Road N / Richmond Road, the northwest approach shows long queues in both peak periods for the right turn movement towards Rooty Hill Road N.
    - This movement is part of the main route towards the suburbs of Rooty Hill, Hebersham, Lethbridge, Mt Druitt and Emerton. This movement shows the highest turning volumes during the PM peak as residents return home, and queues for this turn reach 120 vehicles.
- The northeast approach of Rooty Hill Road N / Richmond Road is the southbound off-ramp from the Westlink M7. Queues exceed 10 vehicles in all peaks, with the PM peak showing the most congestion with over 18 vehicles queued.
    - The congestion at the M7 off-ramp is primarily a result of the high traffic demands at all other approaches, as long green times are needed for other critical movements such as the right turn from Richmond Road to Rooty Hill Road N.
- At the Rooty Hill Road N / M7 Off-ramp intersection, queues longer than 30 vehicles were observed during the AM and PM peaks at the M7 Off-ramp approach.
    - These queues are a result of the downstream congestion at Rooty Hill Road N / Richmond Road, where the primary movement from the Rooty Hill Road N approach is the left turn onto Richmond Road northbound.
- The southwest approach along Rooty Hill Road N at its intersection with the M7 Off-ramp shows long queues in all peak periods, which exceed 40 vehicles in the AM peak.
    - These queues are a result of the downstream left-turn from Rooty Hill Road N to Richmond Road, which requires motorists to give way to traffic on Richmond Road.
- The Richmond Road / M7 On-ramp intersection shows queues of 30-35 vehicles in all peak periods along the southeastern approach.
    - These queues are a result of the signal phasing, which currently provides more green time for southbound vehicles on Richmond Road to enter onto the M7 on-ramp. During this phase, through traffic on the southeastern approach must wait.

4.6 The Horsley Drive

4.6.1 Land use

The Horsley Drive interchange is located in the Fairfield City Council LGA, within the suburb of Horsley Drive. The interchange provides access towards the east to the Wetherill Park industrial area and Bossley Park residential area, and towards the west to the Horsley Park civic village centre and future small lot single dwelling housing (as forecast in Council's LSPS).

4.6.2 Transport network

4.6.2.1 Public transport

The 835 and 813 bus routes pass through the interchange along The Horsley Drive in an east west direction, connecting between Wetherill Park and Horsley Park. The bus routes are shown on **Figure 4-11** and described in **Table 4-6**. The closest bus stops to the interchange are located on The Horsley Drive to the west.

Table 4-6 The Horsley Drive interchange – bus routes

Bus route	Suburbs serviced
835 – Prairiewood to Western Sydney University	Prairiewood, Horsley Park, Wetherill Park, Eastern Creek, St Clair, St Marys and Kingswood
738 – Mount Druitt to Eastern Creek via Rooty Hill (loop service)	Mount Druitt, Rooty Hill and Eastern Creek
813 – Bonnyrigg and Western Sydney Parklands to Fairfield	Fairfield, Smithfield, Wetherill Park, Bossley Park, Abbotsbury, Horsley Park, Mount Vernon and Bonnyrigg

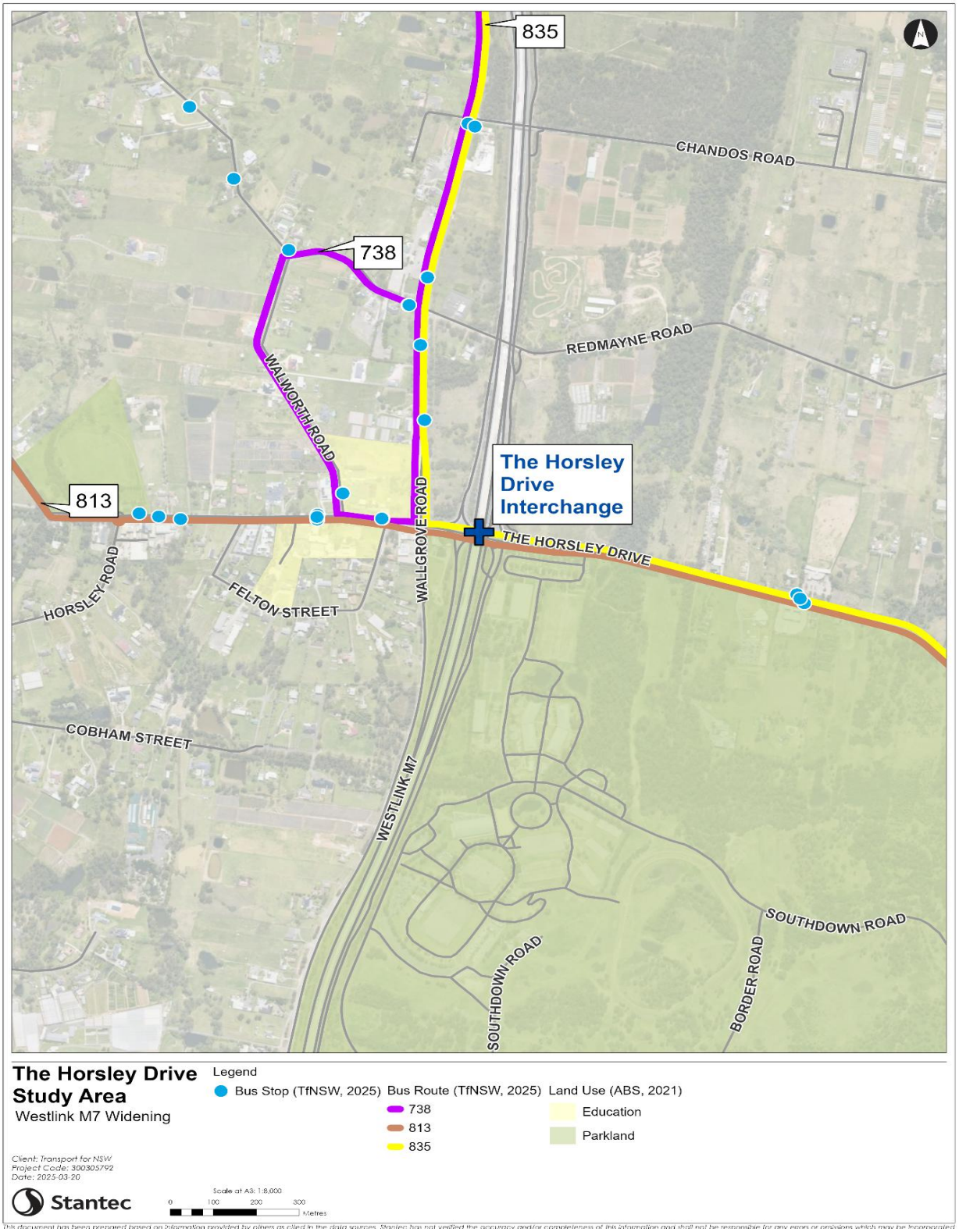


Figure 4-11 The Horsley Drive interchange – public transport

4.6.2.2 Active transport

The Westlink M7 Shared Path project runs along the eastern side of the corridor within the vicinity of the study area. A shared path connects to the project on the Horsley Drive towards the east and ends at the intersection of Wallgrove Road towards the west. Existing active transport infrastructure is shown in **Figure 4-12**.

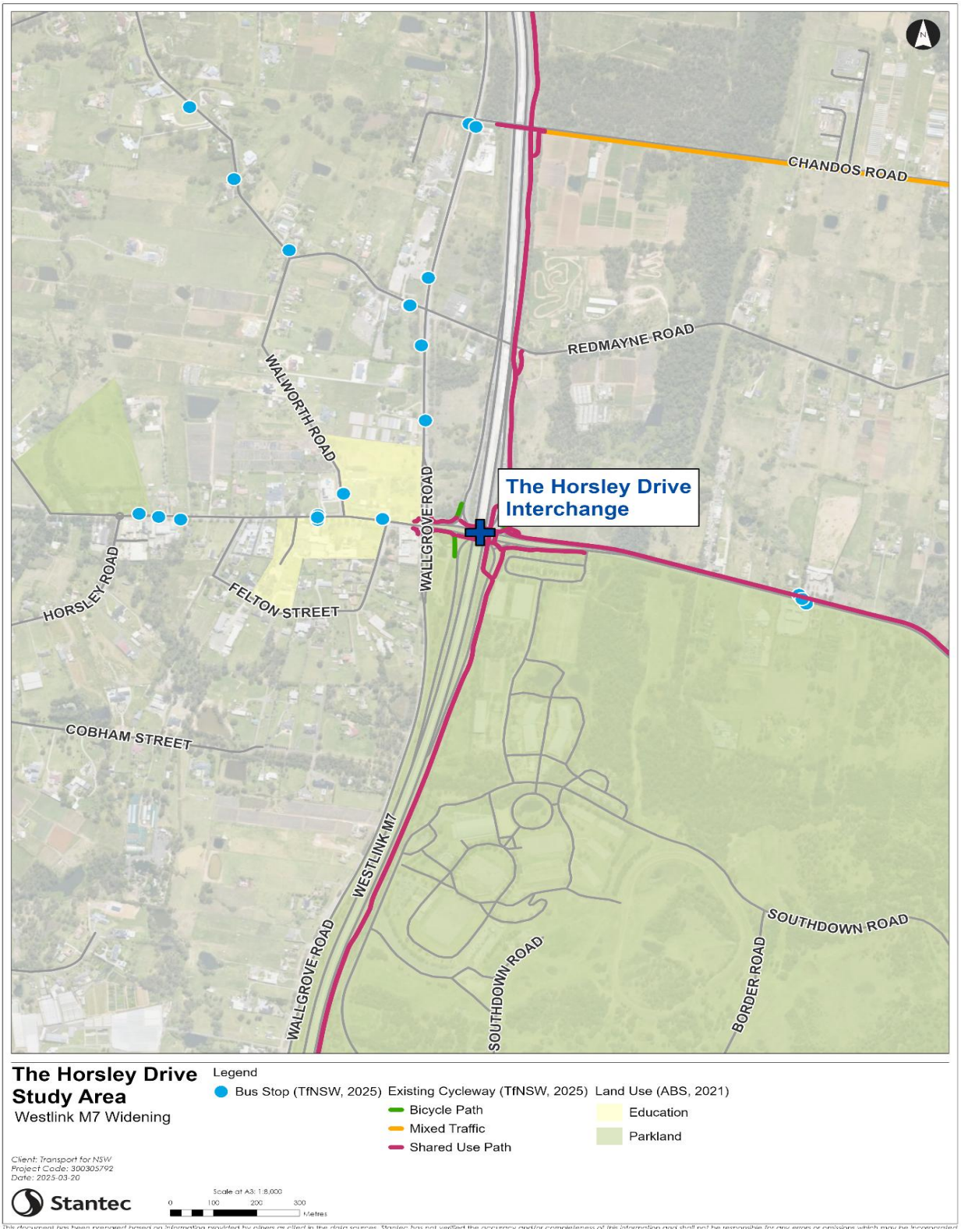
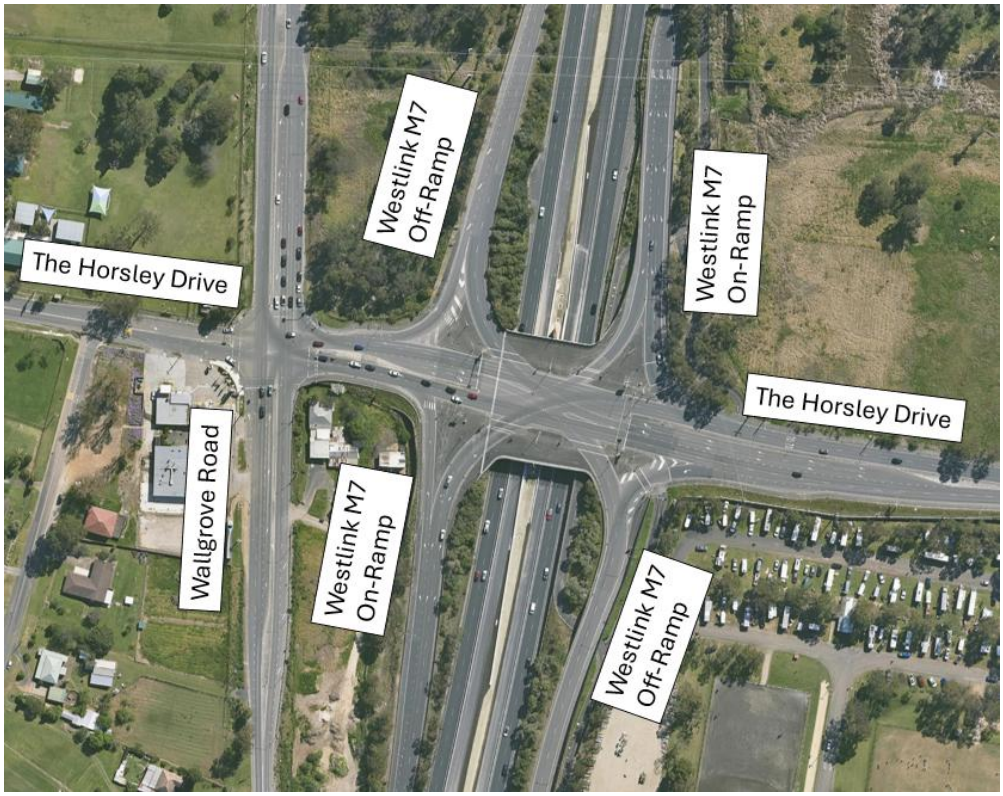


Figure 4-12 The Horsley Drive – existing active transport

4.6.3 Traffic survey

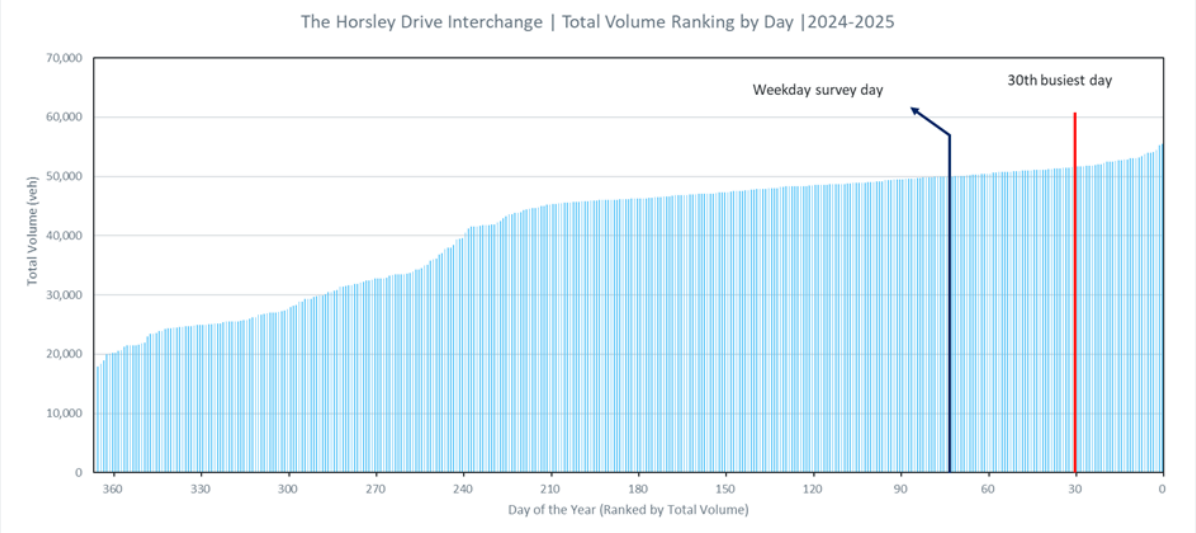
The Horsley Drive interchange

Layout



- The Horsley Drive interchange consists of two intersections. The first intersection is The Horsley Drive / Wallgrove Road with four approaches, and the second intersection is The Horsley Drive / M7 Westlink ramps with four approaches.

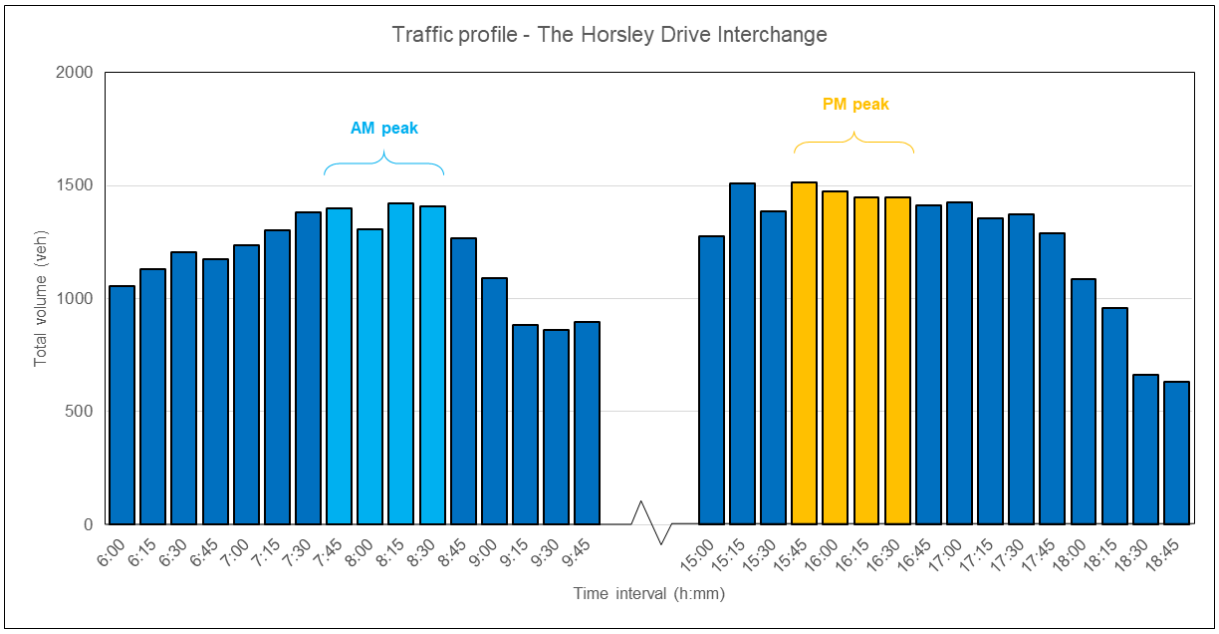
Seasonality



Day Rank	Date	Volume (veh)	Relative Gap
30	20/12/24	51,634	-
74 (weekday survey date)	21/10/25	50,013	-3.2%

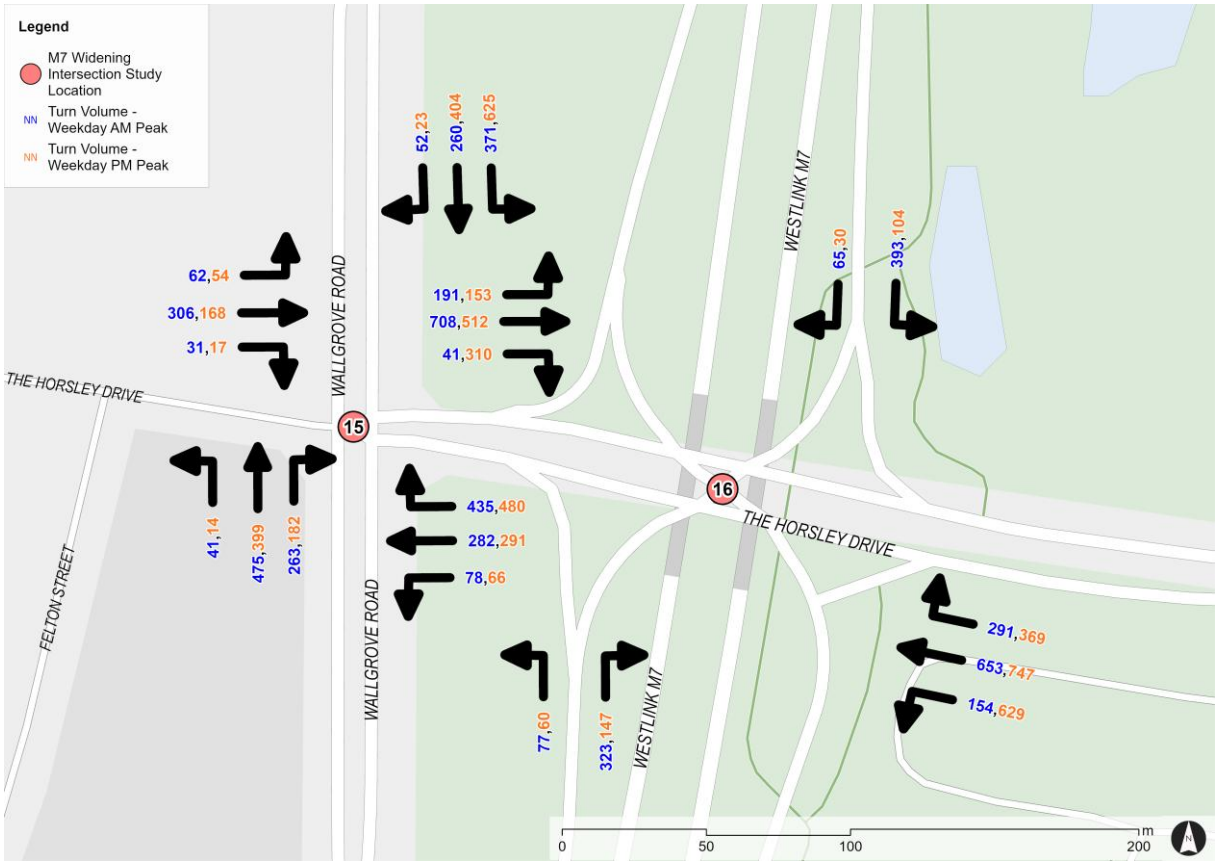
- Based on the seasonality analysis, the 30th busiest day of the year is 12th November2024 with a daily traffic volume of 51,1634 vehicles. The weekday survey day (21/10/2025) was the 74th busiest day with a relative gap of -3.2 per when compared to the 30th busiest day of the year.

Traffic Profile

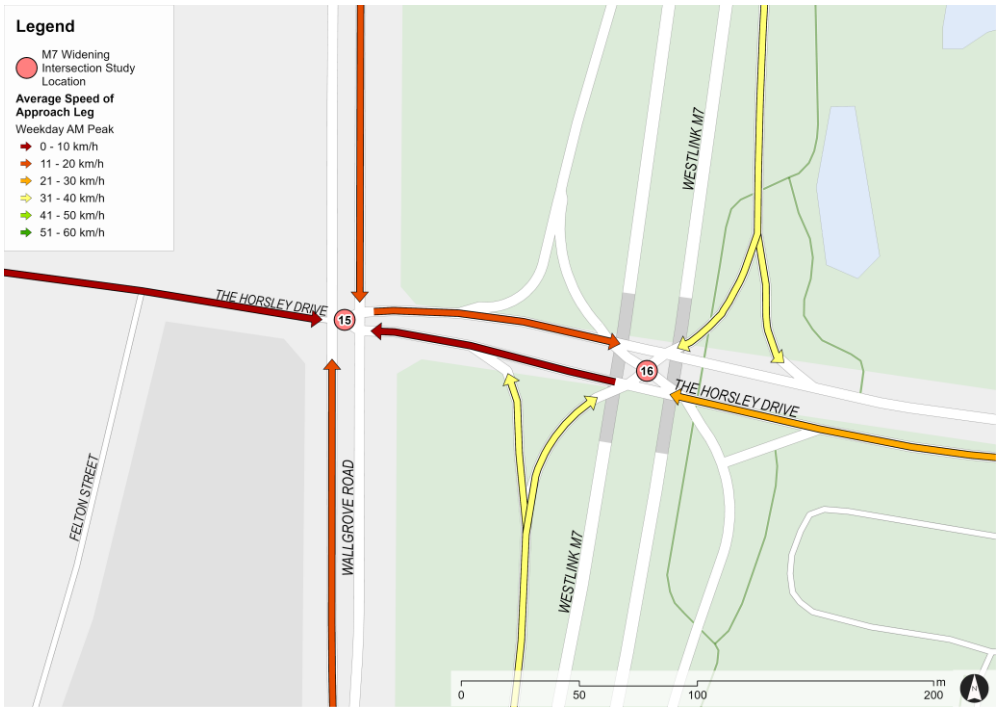


- The traffic profile for The Horsley Drive interchange indicates that busiest hour during the AM peak is from 7:45am to 8:45am, whereas the PM peak period is from 3:45pm to 4:45pm.

Turn Counts



Average travel speed - AM peak



- The average travel time speed in the AM peak for the approaches of the two intersections ranges from 0-40 km/h, the slowest travel speed of 0-10 km/h was observed at:
  - At the east and west approach of The Horsley Drive / Wallgrove Road intersection
- The north and south approach of The Horsley Drive / M7 Westlink ramps intersection has the highest average travel speed of 31-40 km/h in the AM peak.

Average travel speed - PM peak

- The average travel time in the PM peak for the approaches to the two intersection ranges from 0-50 km/h, the slowest travel speed of 0-10 km/h was observed at:
  - At the east and west approach of The Horsley Drive / Wallgrove Road intersection.
  - At the east approach of The Horsley Drive / M7 Westlink ramps intersection
- The north and south approach of The Horsley Drive / M7 Westlink ramps intersection has the highest average travel speed of 41-50 km/h in the PM peak.

Queue Lengths

Intersection	Approach	Movement	Queue Length (veh)*	
			AM peak	PM peak
The Horsley Drive / Wallgrove Road	North	Left	22	26+
		Through	8	11
		Right	4	10
	East	Left and Through	12	10
		Right	13	13
	South	Left	4	2
		Through	14	15
		Right	18+	15
	West	Left and Through	22	14
		Right	4	3
The Horsley Drive / M7 Westlink ramps	North	Left	10	6
		Right	6	4
	East	Left	5	13
		Through	26	34+
		Right	12	20
	South	Left	4	8
		Right	17	7
	West	Left	2	0
		Through	13	11
		Right	3	12

**** The '+' sign has been used to indicate when the queue extended beyond the camera's view.***

- In both peak periods the through movement on the east approach of The Horsley Drive / M7 Westlink ramps intersection had the highest observable queue of 26 vehicles in the AM peak and 34+ vehicles in the PM peak.
- For the queue lengths in the AM peak, the left movement on the north approach and left and through on the west approach of The Horsley Drive / Wallgrove Road intersection had the second highest observable queue of 22 vehicles.
- In the PM peak, the left movement on the north approach of The Horsley Drive / Wallgrove Road intersection had the second highest observable queue of 26+ vehicles.

4.6.4 Congestion locations

At The Horsley Drive interchange, congestion is observed at each intersection during both peak periods. The traffic survey data presented in **Section 4.6.3** indicates that:

- Travel speeds are under 20km/h in both peak periods at all approaches to the Wallgrove Road / The Horsley Drive intersection.
    - Queues exceed 20 vehicles at the north and west approaches and were observed to be longer than 18 vehicles at the south approach in the AM peak period.
    - Eastbound traffic is impacted by the performance at the adjacent intersection of The Horsley Drive / Westlink M7 ramps.
- At The Horsley Drive / Westlink M7 ramps**,** queues were longer than 34 vehicles in the PM peak for the east approach.
    - Queues at this approach were for the through movement, indicating that performance is impacted by the delays experienced at the adjacent intersection of The Horsley Drive / Wallgrove Road for westbound traffic.
    - Travel speeds on the M7 ramps exceed 30km/h in both peak periods, whereas slower travel speeds below 20km/h were observed on The Horsley Drive.
- Storage space in the section between the two intersections is fully used during the peak periods as queues exceed 10 vehicles in both directions of travel.

5 Operational assessment

5.1 Overview

This section compares the operational performance for road users prior to and following the opening of the M7 Widening project. The intersection performance at each location within the study area is discussed in the subsequent sections.

5.2 Assumptions

5.2.1 Intersections assessed

Table 5-1 shows the 16 intersections and interchanges within the study area that were analysed using SIDRA. The intersections were modelled using the SIDRA Intersection software package to determine the operational performance of the intersections for the 'Without M7 Widening' and 'With M7 Widening' conditions in 2026 during the weekday AM and PM peak periods. Intersections were modelled as a network within each interchange.

At the Bernera Road interchange, the assessment scope was expanded to include the nearby signalised intersection at Jedda Road / Joadja Road because of the impact this intersection has on the overall interchange.

Table 5-1: Intersections modelled under post-opening conditions

ID	Intersection	Control type	SIDRA network
1	Bernera Road / Westlink M7 ramps / Jedda Road	Roundabout	Bernera Road Interchange
2	Bernera Road / Westlink M7 ramps / Yarrawa Street	Roundabout	
14	Jedda Road / Joadja Road	Signalised	
3	Westlink M7 / Cowpasture Road Interchange	Signalised	Cowpasture Road Interchange
4	Cowpasture Road / Airfield Drive	Signalised	
5	Westlink M7 southbound off-ramp / Great Western Highway	Signalised	Great Western Highway Interchange
6	Westlink M7 northbound on-ramp / Great Western Highway	Signalised	
7	Great Western Highway / Wallgrove Road / Rooty Hill Road South	Signalised	
8	Wallgrove Road / Old Wallgrove Road / Westlink M7 ramps	Signalised	Old Wallgrove Road Interchange
9	Wallgrove Road / Mini Link Road / Westlink M7 ramps	Signalised	
10	Old Wallgrove Road / Mini Link Road / Hannibal Street	Signalised	
11	Rooty Hill Road North / Westlink M7 off-ramp	Signalised	Richmond Road / Rooty Hill Road N Interchange
12	Richmond Road / Rooty Hill Road North / Westlink M7 ramps	Signalised	
13	Richmond Road / Westlink M7 on-ramp	Signalised	
15	The Horsley Drive / Wallgrove Road	Signalised	The Horsley Drive Interchange
16	The Horsley Drive / Westlink M7 ramps	Signalised	

5.2.2 Demand development

The future year demands for 2026 were developed using strategic model outputs from Transport for NSW's Sydney Motorway Project Model (SMPM). Cordon matrices for each interchange shown in **Table 5-1** were analysed and included:

- Hourly traffic volumes for the years of 2023 and 2026
- Weekday AM peak and PM peak period forecasts
- Demand classified as light and heavy vehicles
- Separate cordon matrix outputs for each of the 'Without M7 Widening' and 'With M7 Widening' scenarios.

The SMPM cordon matrices were linearly interpolated to obtain demands for the existing conditions in 2025, and the growth between the years of 2025 and 2026 was calculated by subtracting the 2025 interpolated demands from the 2026 SMPM cordon matrices. The calibrated SIDRA turning volumes were increased by the factors established in the seasonality analysis for each interchange presented in **Section 4** to form the 'rebased' demands. This provides a suitable basis for future demand development. The total traffic demand growth obtained from the SMPM outputs was applied to the rebased SIDRA turning volumes to establish the future year demands for 2026 under the 'With M7 Widening' and 'Without M7 Widening' scenarios.

The SMPM demand data is summarised in **Table 5-2**, with the overall growth from 2025 presented for each scenario. The traffic demand growth is shown visually in **Figure 5-1** below.

Table 5-2: SMPM demand summary

Interchange*	Peak period	2025	2026			
			Without M7 Widening		With M7 Widening	
		SMPM demand	SMPM demand	Growth	SMPM demand	Growth
Bernera Road	AM	2,479	2,516	+37	2,619	+140
	PM	2,862	2,908	+45	2,985	+122
Cowpasture Road	AM	5,192	5,303	+111	5,394	+202
	PM	5,121	5,253	+132	5,335	+214
Great Western Highway	AM	5,926	5,958	+32	6,080	+153
	PM	6,008	6,041	+33	6,048	+40
Old Wallgrove Road	AM	4,076	4,078	+3	4,216	+140
	PM	3,354	3,350	-4	3,438	+83
Richmond Road	AM	6,985	6,981	-4	7,001	+16
	PM	7,820	7,901	+80	7,916	+96
The Horsley Drive	AM	3,275	3,254	-21	3,457	+182
	PM	3,537	3,579	+42	3,526	-11
Study area total	AM	27,933	28,091	+158	28,766	+834
	PM	28,703	29,033	+329	29,247	+544

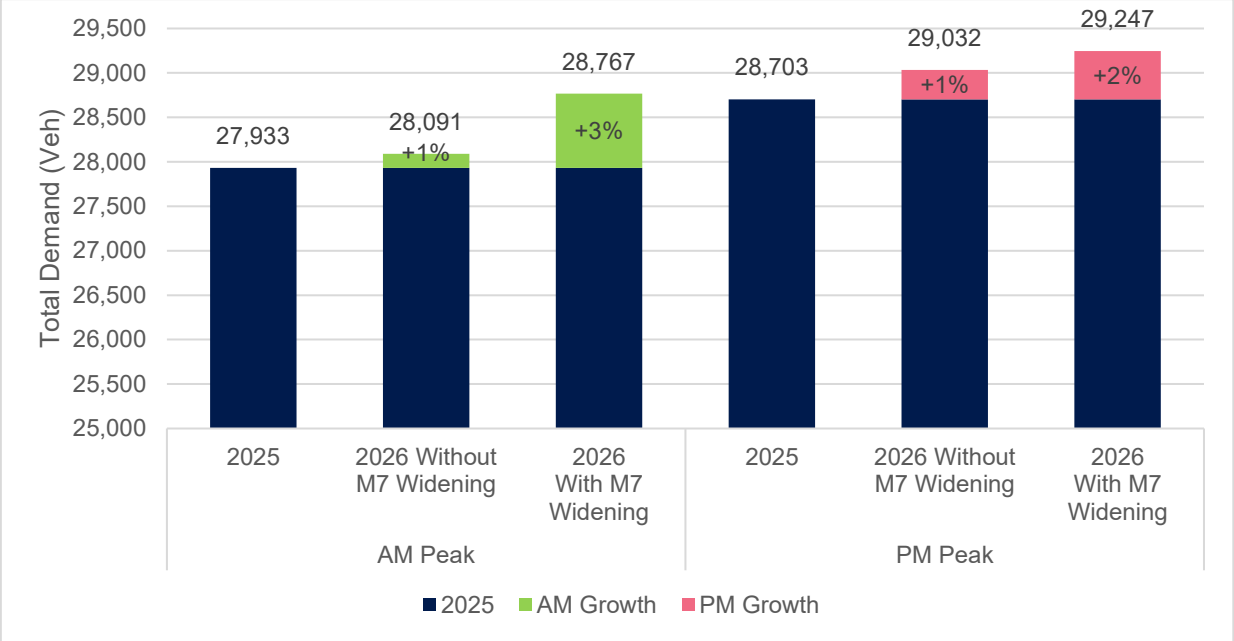


Figure 5-1:SMPM demand summary for all intersections in the study area

5.2.3 Intersection performance criteria

Intersection performance was assessed for the intersections previously shown in **Table 5-1**. Intersection performance is quantified using:

- **Delay time:** Delay experienced by vehicles at the intersection
- **Level of service (LOS):** An intersection performance measure that is based on the delay per vehicle

Table 5-3 shows the level of service categories for intersections in NSW from the *Guide to Traffic Generating Developments* (Roads and Traffic Authority, 2002).

For signalised intersections, level of service is based on the weighted average delay of all approaches. For unsignalised intersections (priority-controlled and roundabouts), level of service is based on the maximum delay across all movements.

Table 5-3: Level of service criteria for intersections[12]

Level of service	Description	Delay
A	Good operation	Less than 14 seconds
B	Good operation, with acceptable delays and spare capacity	15 – 28 seconds
C	Satisfactory operation	29 – 42 seconds
D	Near capacity	43 – 56 seconds
E	At capacity	57 – 70 seconds
F	Capacity exceeded	More than 70 seconds

The intersection LOS classification is useful in comparing performance between two different scenarios, as it provides a high-level indication of the overall performance. In general, intersections operating at LOS C or better are usually considered satisfactory. Intersections operating at LOS D or beyond will have road users experience longer delays. However, it should be noted that an intersection's LOS or average delay should be taken as a guide only as longer delays could be tolerated in some locations (i.e. inner-city conditions) and on some roads (i.e. minor side street intersecting with a major arterial route).

[12] Guide to Traffic Generating Developments (Roads and Traffic Authority, 2002)

5.3 Summary of intersection performance

Table 5-4 presents a summary of the intersection Level of Service (LOS) for the AM and PM peak period during the existing (2025), 2026 'Without M7 Widening' and 2026 'With M7 Widening' scenarios. An improvement in LOS or reduction in intersection delay is indicated by a green arrow while a reduction in LOS or a reduction in intersection delay is indicated by a red arrow. Additionally, an equal sign has been used to indicate where the LOS or intersection delay has stayed the same.

In general, majority of the intersection are performing at the same level of service when comparing the 2026 'With M7 Widening' and 2026 'Without M7 Widening' scenarios. The results indicate:

- Some of the existing locations are already operating at LOS F, and more are forecasted to operate at LOS F under the 2026 'Without M7 Widening' demands. This results in the overall LOS remaining the same when comparing the 'With M7 Widening' and 'Without M7 Widening' scenarios.
- At Bernera Road / Westlink M7 ramps / Jedda Road roundabout in the AM peak, the level of service remains LOS F in all scenarios.
    - This intersection shows lower delay in 2026 under the 'With M7 Widening' demands compared to the existing conditions. The intersection at the southern end of the interchange –Bernera Road / Yarrawa Street – operates over capacity in 2026, which results in vehicles being unable to reach the central roundabout at Bernera Road / Westlink M7 / Jedda Road.
    - A similar occurrence is observed at Jedda Road / Joadja Road – in 2026, delays reduce in the AM peak under the 'With M7 Widening' demands due to more congestion at Bernera Road / Yarrawa Street resulting in fewer vehicles being able to reach this intersection.
- At Westlink M7 / Cowpasture Road Interchange in the AM peak, the level of service drops from LOS C to LOS D in 2026, due to increased volumes exiting and accessing the M7 in the 'With M7 Widening' conditions. Despite this decline in LOS, the interchange operation is still at a satisfactory level based on the criteria presented in **Section 5.2**.
- The Great Western Highway shows the same LOS in 2026 in both scenarios for all peaks. However, the long delays currently experienced in 2025 at the Westlink M7 / Great Western Highway southbound off-ramp intersection show an increase in delay in the 'With M7 Widening' scenario.
    - The delays at the off-ramp are due to the limited green time available to clear traffic from the ramp, as a large portion of the traffic signal green time is allocated to movements along the Great Western Highway instead.
- At the Wallgrove Road interchange, the average intersection delay remained similar between the 'With M7 Widening' and 'Without M7 Widening scenarios, increasing by 4 seconds at most. The overall LOS at each intersection remained the same in both scenarios.
- The Horsley Drive interchange and Richmond Road / Rooty Hill Road N intersection show existing performance issues in 2025, with LOS F recorded in both peak periods. The existing proposals for these locations will aid in alleviating the congestion caused by background growth and development.
- In general, the M7 Widening did not lead to significant impacts in the study area.

Further detailed discussion on each intersection is provided in the following sub-sections.

Table 5-4: Summary of intersection performance

Interchange	Intersection	Peak	2025 Existing		2026 Without M7 Widening		2026 With M7 Widening		2026 Comparison	
			Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
Bernera Road	Bernera Road / Westlink M7 ramps / Jedda Road Roundabout	AM	130.3	F	146.1	F	112.2	F	▼	=
		PM	44.1	D	203.3	F	223.6	F	▲	=
	Bernera Road / Westlink M7 ramps / Yarrawa Street Roundabout	AM	245.8	F	289.7	F	299.6	F	▲	=
		PM	66.5	E	63.8	E	71.9	F	▲	▲
	Jedda Road / Joadja Road	AM	46.8	D	76.7	F	51.7	D	▼	▼
		PM	48.2	D	165.9	F	160.5	F	▼	=
Cowpasture Road	Westlink M7 / Cowpasture Road Interchange	AM	16.6	B	29	C	43.5	D	▲	▲
		PM	20.6	B	23	B	24.1	B	▲	=
	Cowpasture Road / Airfield Drive	AM	17	B	20.9	B	20.6	B	▲	=
		PM	23.9	B	24.6	B	24.8	B	▲	=
Great Western Highway	Westlink M7 / Great Western Highway Interchange SB off-ramp	AM	182.7	F	196.2	F	210.7	F	▲	=
		PM	4.4	A	4.6	A	4.6	A	=	=
	Westlink M7 / Great Western Highway Interchange NB on-ramp	AM	2.7	A	2.8	A	3	A	▲	=
		PM	4.1	A	3.7	A	3.7	A	=	=
	Great Western Highway / Wallgrove Road / Rooty Hill Road South	AM	40.9	C	42.4	D	42.7	D	▲	=
		PM	48.5	D	56	D	56.1	D	▲	=
Old Wallgrove Road	Wallgrove Road / Old Wallgrove Road / Westlink M7 ramps	AM	45.1	D	50.5	D	54.1	D	▲	=
		PM	28.5	C	30	C	30.3	C	▲	=
	Wallgrove Road / Mini Link Road / Westlink M7 ramps	AM	54.3	D	61.7	E	63.4	E	▲	=
		PM	47.1	D	52.6	D	53.2	D	▲	=
	Old Wallgrove Road / Mini Link Road	AM	25.2	B	26.5	B	26.6	B	▲	=
		PM	33.1	C	36.9	C	37.3	C	▲	=
Richmond Road / Rooty Hill Road North	Rooty Hill Road North / Westlink M7 off-ramps	AM	43.8	D	35.3	C	36.2	C	▲	=
		PM	26.9	B	27.8	B	27.9	B	▲	=
	Richmond Road / Rooty Hill Road North / Westlink M7 ramps	AM	91.6	F	106.9	F	109.7	F	▲	=
		PM	218	F	257.7	F	263.2	F	▲	=
	Richmond Road / Westlink M7 on-ramp	AM	21.8	B	31.5	C	32.1	C	▲	=
		PM	16.2	B	18.8	B	18.8	B	=	=
The Horsley Drive	The Horsley Drive / Wallgrove Road	AM	57.9	E	75.4	F	81.1	F	▲	=
		PM	51.1	D	71.5	F	92.4	F	▲	=
	The Horsley Drive / Westlink M7 ramps	AM	50.3	D	58.7	E	66.1	E	▲	=
		PM	61.5	E	96.5	F	99.2	F	▲	=

5.4 Bernera Road interchange

5.4.1 Existing layout

The existing layout of the interchange includes two dual-lane roundabouts and a signalised intersection. **Figure 5-2** shows the SIDRA schematic of the existing layout. This layout was used for the Existing Base model scenario in 2025 and the future year scenarios in 2026.

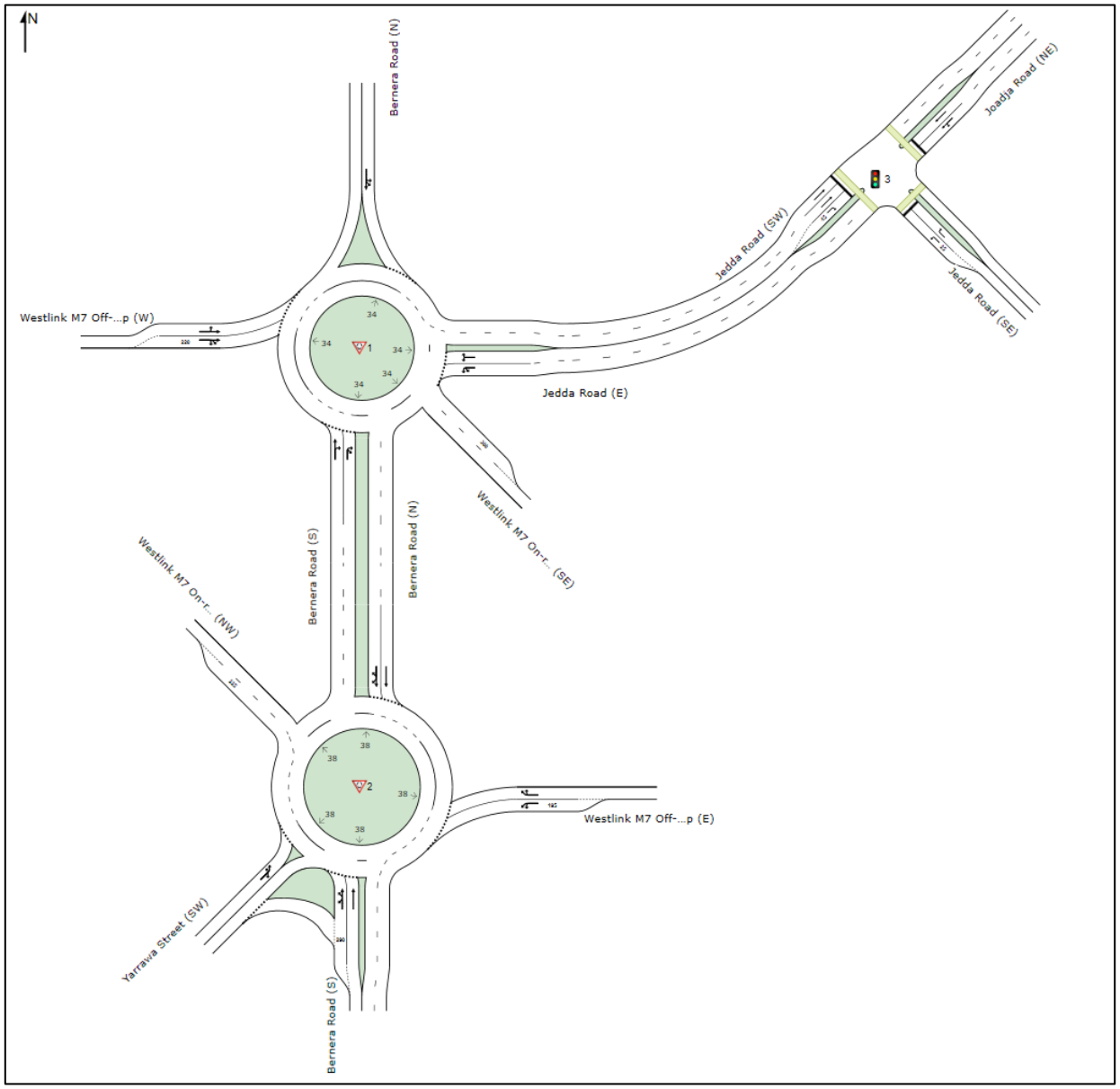


Figure 5-2: Existing layout SIDRA schematic – Bernera Road interchange

5.4.2 Traffic volume analysis

The traffic demands reaching each intersection in 2026 are summarised in **Figure 5-3** below, with volumes shown for each of the 'With M7 Widening' and 'Without M7 Widening' conditions. The interchange is accommodating an additional 96 and 54 vehicles in the 'With M7 Widening' conditions during the AM and PM peak periods, respectively.

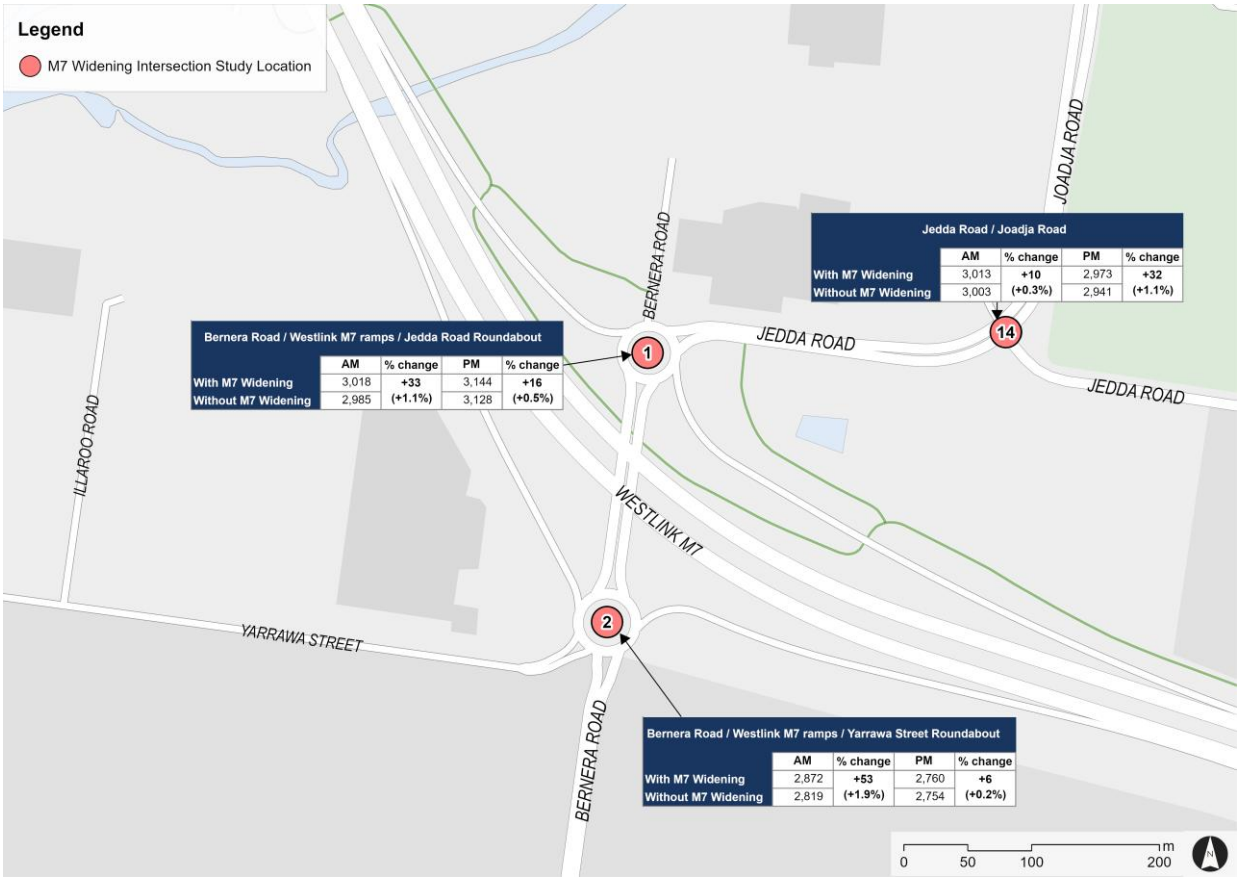


Figure 5-3: 2026 Traffic volume comparison – Bernera Road

5.4.3 Intersection operational performance

The existing layout and performance of the three intersections comprising the Bernera Road interchange were assessed for the years of 2025 and 2026. The future traffic demands were obtained using demands obtained from Transport for NSW's SMPM strategic model as described in **Section 5.2.2**.

The 2026 scenarios were run under the 'With M7 Widening' and 'Without M7 Widening' traffic demand scenarios.

Table 5-5 to **Table 5-7** show the intersection performance results for the existing, future 'Without M7 Widening' and future 'With M7 Widening' scenarios. A comparison is provided for the 'With' and 'Without M7 Widening' scenarios in each table. The results that were forecast for 2026 with the M7 Widening from the *Traffic and Transport Impact Assessment* (Transport for New South Wales, August 2022) for Modification 6 are also presented in this section for context. The key findings for each intersection are listed underneath each table below.

Table 5-5: Bernera Road / Westlink M7 ramps / Jedda Road Roundabout - Intersection performance results

Bernera Road / Westlink M7 ramps / Jedda Road Roundabout								
Conditions	**Mod6 Forecast**		**Without M7 Widening**		**With M7 Widening**		**Comparison**	
	AM	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
2025 Existing								
Traffic volume	-	-	2873	3141	-	-	-	-
Average Delay (sec)	-	-	130	44	-	-	-	-
Intersection LOS	-	-	**F**	**D**	-	-	-	-
2026								
Traffic volume	-	-	2884	3041	2937	3117	53	76
Average Delay (sec)	20	18	146	203	112	224	-34	20
Intersection LOS	**B**	**B**	**F**	**F**	**F**	**F**	=	=

In the existing conditions 2025, intersection performance is considered unsatisfactory (LoS D or worse for roundabouts) at the Bernera Road / Jedda Road roundabout in both peak periods. During the AM peak, delays from the downstream Jedda Road / Joadja Road intersection led to queueing through the roundabout, resulting in a maximum delay of 130 seconds for vehicles arriving from the M7 southbound off-ramp. In the PM peak, vehicles at the M7 off-ramp must give way to the south approach traffic, leading to delays of 44 seconds.

In 2026, delays increase as traffic volumes increase compared to the 2025 conditions, with both peak periods showing LOS F in the 'Without M7 Widening' conditions. Comparing the 'With M7 Widening' and 'Without M7 Widening' results shows a reduction in delay during the AM peak period after the opening of the M7 Widening. The improvement at this intersection is due to an increase in congestion at the adjacent Bernera Road / Yarrawa Street roundabout. With more traffic departing from the M7 northbound off-ramp in the 'With M7 Widening' scenario, vehicles at the south approach of Bernera Road must give-way more frequently than in the 'Without M7 Widening' scenario. This results in fewer vehicles reaching the Bernera Road / Jedda Road roundabout south approach and provides more opportunities for vehicles at the M7 southbound off-ramp to enter the intersection, which provides a lower maximum delay for the intersection. During the PM peak period, delays increase as traffic demands increase in the 'With M7 Widening' scenario.

Compared to the Modification 6 forecasts, delays are higher in the 2026 'Without M7 Widening' and 'With M7 Widening' scenarios. This may be due to the inclusion of Jedda Road / Joadja Road in the RNPP assessment, which acts as a bottleneck for the interchange in the existing conditions and was not considered in the Modification 6 *Traffic and Transport Impact Assessment*.

Table 5-6: Bernera Road / Westlink M7 ramps / Yarrawa Street Roundabout - Intersection performance results

Bernera Road / Westlink M7 ramps / Yarrawa Street Roundabout								
Conditions	**Mod6 Forecast**		**Without M7 Widening**		**With M7 Widening**		**Comparison**	
	AM	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
2025 Existing								
Traffic volume	-	-	2685	2804	-	-	-	-
Average Delay (sec)	-	-	246	67	-	-	-	-
Intersection LOS	-	-	**F**	**E**	-	-	-	-
2026								
Traffic volume	-	-	2811	2737	2867	2777	56	40
Average Delay (sec)	160	17	290	64	300	72	10	8
Intersection LOS	**F**	**B**	**F**	**E**	**F**	**F**	=	▼

In the existing conditions 2025, intersection performance is unsatisfactory at the Bernera Road / Yarrawa Street roundabout during the AM and PM peaks. In the AM peak, queues extend back from the Jedda Road / Joadja Road intersection past the intersection of Bernera Road / Jedda Road and beyond Yarrawa Street. In the AM peak, this northbound queueing reaches a maximum approximately 50 vehicles measured from the south approach of the Bernera Road / Yarrawa Street roundabout. Vehicles at the Yarrawa Street approach must give way to traffic on Bernera Road, which led to delays of 246 seconds due to the long queues on Bernera Road.

During the PM peak, the longest delays were at the northbound off-ramp from the M7. PM peak traffic flow is primarily in the southbound direction on Bernera Road, arriving at the roundabout at the northern approach and requiring traffic on the M7 northbound off-ramp to give way. This led to delays of up to 67 seconds as vehicles on the M7 northbound off-ramp wait for a gap in traffic.

In 2026, intersection delays increase due to the increase in traffic demands. The 'With M7 Widening' scenario shows an increase of 10 seconds delay at most compared to the 'Without M7 Widening' intersection performance results due to the increased traffic demands. The AM LOS results maintain LOS F whereas the PM peak shows an increase from LOS E to LOS F.

Compared to the Modification 6 forecasts, delays are higher in the 2026 'Without M7 Widening' and 'With M7 Widening' scenarios. This may be due to the inclusion of Jedda Road / Joadja Road, which acts as a bottleneck in the existing conditions and was not considered in the Modification 6 *Traffic and Transport Impact Assessment*.

Table 5-7: Jedda Road / Joadja Road - Intersection performance results

Jedda Road / Joadja Road								
Conditions	**Mod6 Forecast**		**Without M7 Widening**		**With M7 Widening**		**Comparison**	
	AM	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
2025 Existing								
Traffic volume	-	-	3077	2791	-	-	-	-
Average Delay (sec)	-	-	47	48	-	-	-	-
Intersection LOS	-	-	**D**	**D**	-	-	-	-
2026								
Traffic volume	-	-	2885	2930	2929	2960	44	30
Average Delay (sec)	-	-	77	166	52	161	-25	-5
Intersection LOS	-	-	**F**	**F**	**D**	**F**	▲	=

During the 2025 AM peak, long queues form at the Jedda Road / Joadja Road intersection in the northbound direction. These queues extend back to Bernera Road, leading to queueing through both roundabouts for northbound traffic. In the AM peak, the northbound queues extend from the Jedda Road / Joadja Road intersection to a location approximately 50 vehicles south of the Bernera Road / Yarrawa Street roundabout. While the overall intersection delay is LOS D, the long queues impact performance at the Bernera Road roundabouts.

In 2026, intersection delays increase from 47 seconds to 77 seconds in the AM peak and 48 seconds to 166 seconds in the PM peak prior to the introduction of the M7 Widening. The 'With M7 Widening' scenario shows a reduction in intersection delay as a result of traffic being unable to reach the intersection due to congestion at the Bernera Road roundabouts.

This intersection was not assessed in the Modification 6 *Traffic and Transport Impact Assessment*.

5.4.4 Wider network impact

Based on the intersection performance results described previously in **Sections 5.4**, it is likely that the M7 Widening project will impact the road network adjacent to Bernera Road and Jedda Road by facilitating more vehicles to pass through the M7 and also increasing the attractiveness of the motorway. The queue lengths from the models indicate that the increased traffic demands may contribute to queueing that affects intersections nearby to the study area. The impacts associated with the M7 Widening are minor, with an additional 3 queued vehicles at each of the Bernera Road roundabouts. TfNSW will monitor the performance in the first 12 months of opening and re-assess in the Operational Road Network Performance Review for Modification 6. The modelling showed queueing at:

- Bernera Road between Yarrawa Street and Bomaderry Drive
- Joadja Road between Jedda Road and Hoxton Park Road
- Jedda Road between Joadja Road and Ash Road.

5.5 Cowpasture Road interchange

5.5.1 Existing layout

The existing layout of the interchange includes two signalised intersections, with the SIDRA schematic of the interchange shown in **Figure 5-4**. This layout was used for the Existing Base model scenario in 2025 and the future year scenarios in 2026.

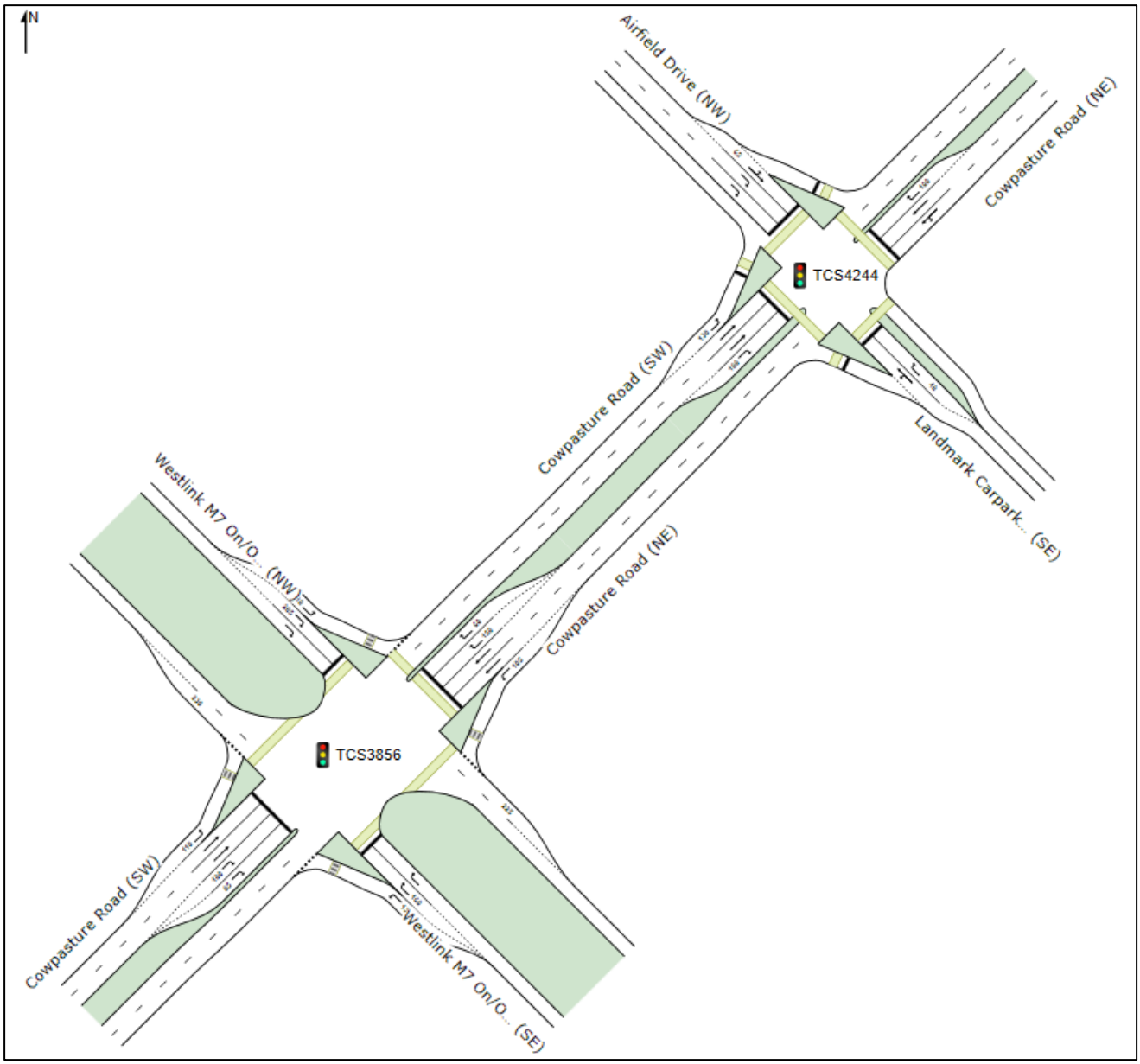


Figure 5-4: Existing layout SIDRA schematic – Cowpasture Road interchange

5.5.2 Traffic volume analysis

The traffic demands reaching each intersection in 2026 are summarised in **Figure 5-5** below, with volumes shown for each of the 'With M7 Widening' and 'Without M7 Widening' conditions. The interchange is accommodating an additional 73 and 89 vehicles in the 'With M7 Widening' conditions during the AM and PM peak periods, respectively.

Figure 5-5: 2026 Traffic volume comparison – Cowpasture Road

5.5.3 Intersection operational performance

The existing layout and performance of the Cowpasture Road interchange and Cowpasture Road / Airfield Drive intersection were assessed for the years of 2025 and 2026. The future traffic demands were obtained using demands obtained from Transport for NSW's SMPM strategic model as described in **Section 5.2.2**. The 2026 scenarios were run under the 'With M7 Widening' and 'Without M7 Widening' traffic demand scenarios.

Table 5-8 and **Table 5-9** show the intersection performance results for the existing, future 'Without M7 Widening' and future 'With M7 Widening' scenarios. A comparison is provided for the 'With' and 'Without M7 Widening' scenarios in each table. The results that were forecast for 2026 with the M7 Widening from the *Traffic and Transport Impact Assessment* (Transport for New South Wales, August 2022) for Modification 6 are also presented in this section for context. The key findings for each intersection are listed underneath their respective tables below.

Table 5-8: Westlink M7 / Cowpasture Road Interchange - Intersection performance results

Westlink M7 / Cowpasture Road Interchange								
Conditions	**Mod6 Forecast**		**Without M7 Widening**		**With M7 Widening**		**Comparison**	
	AM	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
2025 Existing								
Traffic volume	-	-	5062	4947	-	-	-	-
Average Delay (sec)	-	-	17	21	-	-	-	-
Intersection LOS	-	-	**B**	**B**	-	-	-	-
2026								
Traffic volume	-	-	5364	5264	5455	5321	91	57
Average Delay (sec)	106	44	29	23	44	24	15	1
Intersection LOS	**F**	**D**	**C**	**B**	**D**	**B**	▼	=

Under the existing 2025 conditions, the overall intersection performance is LOS B in both peak periods.

In the 2026 scenarios, the approach delay increases at the M7 off-ramps as a result of traffic demands increasing, with the AM peak showing higher delays than the PM peak. This contributes to an overall change in LOS from B to C in the AM peak between 2025 and 2026 without the M7 Widening included. Comparing the 'Without M7 Widening' and 'With M7 Widening' results for the AM peak shows an increase in delay of approximately 15 seconds as a result of the additional traffic expected to reach the intersection following the opening of the M7 Widening. This changes the overall intersection LOS from C without the M7 Widening to LOS D. Intersection performance results in the PM peak are equivalent in both 2026 scenarios.

Compared to the Modification 6 forecasts, the intersection delays and LOS are lower in both 2026 RNPP scenarios.

Table 5-9: Cowpasture Road / Airfield Drive - Intersection performance results

Cowpasture Road / Airfield Drive								
Conditions	**Mod6 Forecast**		**Without M7 Widening**		**With M7 Widening**		**Comparison**	
	AM	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
2025 Existing								
Traffic volume	-	-	4436	4243	-	-	-	-
Average Delay (sec)	-	-	17	24	-	-	-	-
Intersection LOS	-	-	**B**	**B**	-	-	-	-
2026								
Traffic volume	-	-	4599	4436	4616	4450	17	14
Average Delay (sec)	-	-	21	25	21	25	0	0
Intersection LOS	-	-	**B**	**B**	**B**	**B**	=	=

Under the existing 2025 conditions, the overall intersection performance is LOS B in both peak periods. Individual approach delays reach LOS E or F at the M7 off-ramps in all peaks and at Airfield Drive, indicating that these approaches are currently operating over capacity.

Between 2025 and 2026, the intersection average delay increases by 4 seconds at most. The intersection maintains LOS B in both peak periods. Under the 'With M7 Widening' traffic demands, performance remains LOS B in both peak periods.

5.5.4 Wider network impact

Based on the intersection performance results described previously in **Sections 5.5**, it is not likely that the M7 Widening project will impact the road network adjacent to the Cowpasture Road interchange. The increased traffic volumes associated with the M7 Widening impact the performance at the M7 off-ramps at Cowpasture Road, but the Cowpasture Road approaches to each intersection show similar performance under the 'With M7 Widening' and 'Without M7 Widening' traffic demands. The queues are not expected to extend to the M7 carriageway. TfNSW will monitor the performance in the first 12 months of opening and re-assess in the Operational Road Network Performance Review for Modification 6.

In all 2026 scenarios assessed in this RNPP, traffic performance in the northbound direction will show impacts up to Qantas Boulevard only. In the southbound direction, queues were not modelled to reach the next upstream intersection Aviation Road, indicating that performance impacts will remain within the vicinity of the study area.

5.6 Great Western Highway interchange

5.6.1 Existing layout

The existing layout of the interchange includes three signalised intersections. **Figure 5-6** shows the SIDRA schematic of the layouts used for the existing and future year assessments. Note that during the existing conditions assessment, one turn lane was closed at the north approach from the M7 off-ramp and at the right turn from Great Western Highway onto the M7 on-ramp. The lane closures are associated with the ongoing construction work for the M7 Widening and were assumed to re-open at the time of the opening of the M7 Widening in 2026 as shown below.

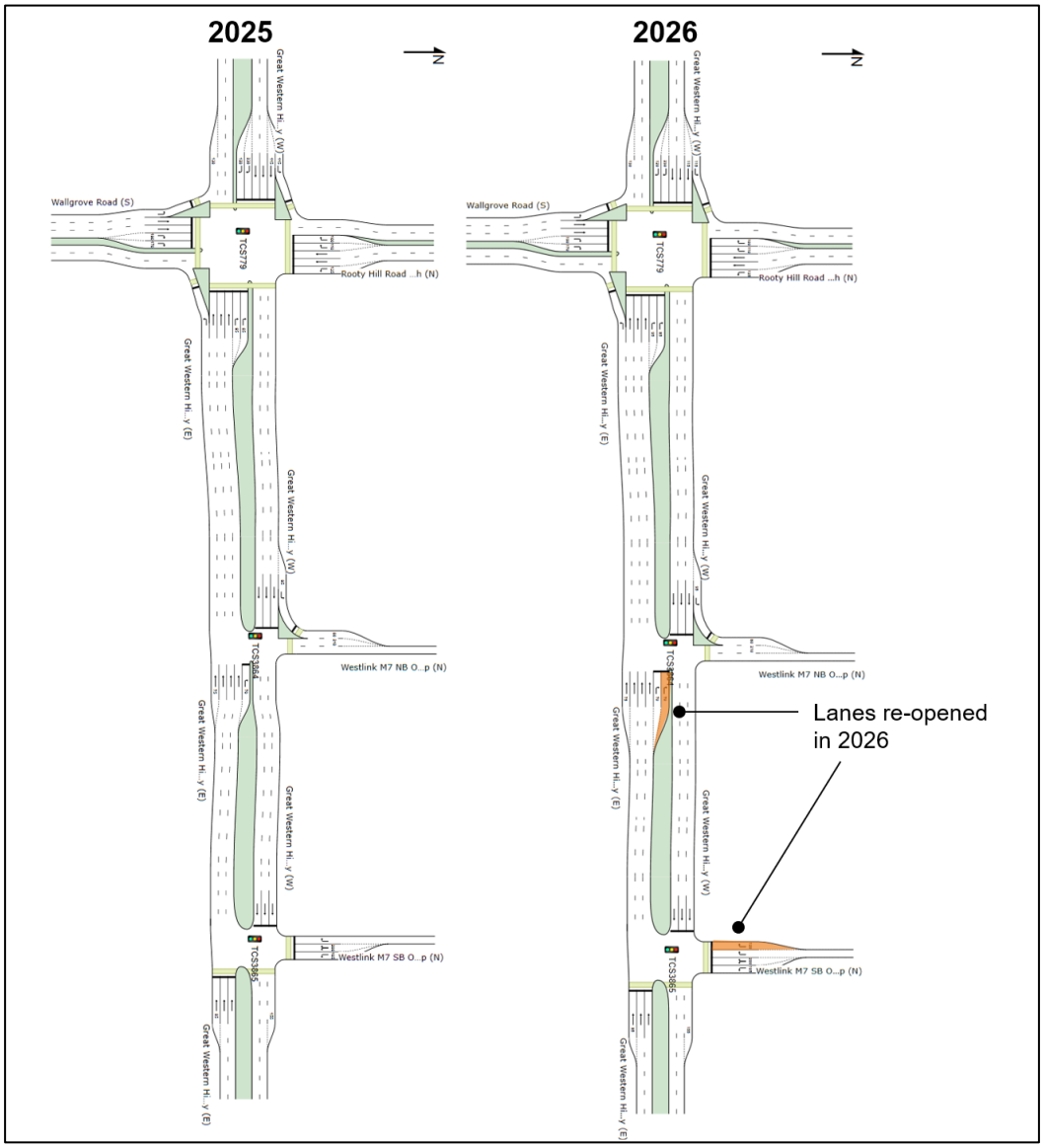


Figure 5-6: Existing and future layout SIDRA schematic – Great Western Highway interchange

5.6.2 Traffic volume analysis

The traffic demands reaching each intersection in 2026 are summarised in **Figure 5-7** below, with volumes shown for each of the 'With M7 Widening' and 'Without M7 Widening' conditions. The interchange is accommodating an additional 130 and 97 vehicles in the 'With M7 Widening' conditions during the AM and PM peak periods, respectively.

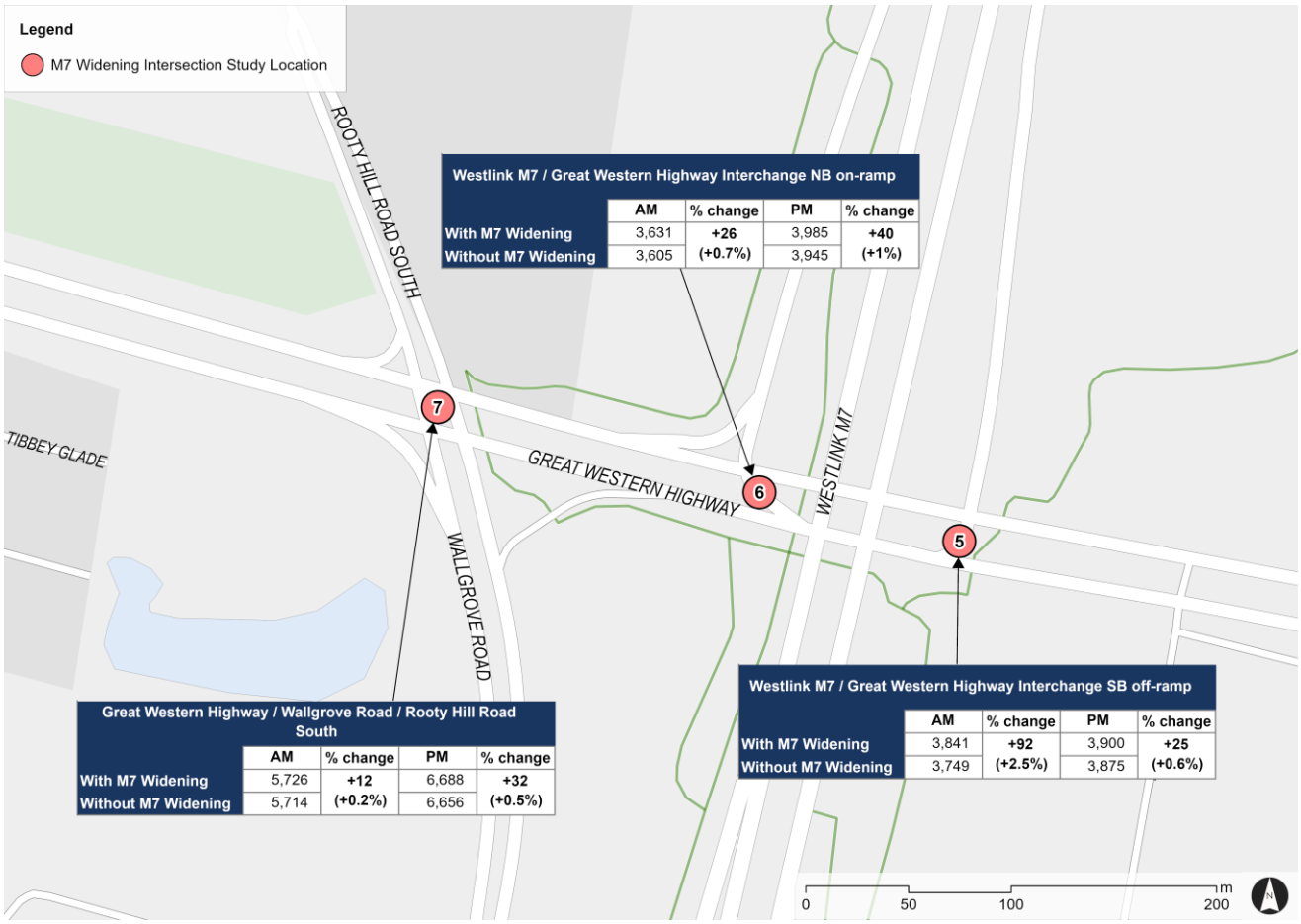


Figure 5-7: 2026 Traffic volume comparison – Great Western Highway

5.6.3 Intersection operational performance

The intersection performance of the Great Western Highway interchange was assessed for the years of 2025 and 2026. The future traffic demands were obtained using demands obtained from Transport for NSW's SMPM strategic model as described in **Section 5.2.2**. The 2026 scenarios were run under the 'With M7 Widening' and 'Without M7 Widening' traffic demand scenarios.

Table 5-10 to **Table 5-12** show the intersection performance results for the existing, future 'Without M7 Widening' and future 'With M7 Widening' scenarios. A comparison is provided for the 'With' and 'Without M7 Widening' scenarios in each table. The results that were forecast for 2026 with the M7 Widening from the *Traffic and Transport Impact Assessment* (Transport for New South Wales, August 2022) for Modification 6 are also presented in this section for context. The key findings for each intersection are listed underneath the tables below.

Table 5-10: Westlink M7 / Great Western Highway Interchange SB off-ramp - Intersection performance results

Westlink M7 / Great Western Highway Interchange SB off-ramp								
Conditions	**Mod6 Forecast**		**Without M7 Widening**		**With M7 Widening**		**Comparison**	
	AM	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
2025 Existing								
Traffic volume	-	-	3668	3540	-	-	-	-
Average Delay (sec)	-	-	183	4	-	-	-	-
Intersection LOS	-	-	F	A	-	-	-	-
2026								
Traffic volume	-	-	3758	3705	3786	3726	28	21
Average Delay (sec)	13	10	196	5	211	5	15	0
Intersection LOS	A	A	F	A	F	A	=	=

Under the 2025 existing conditions, intersection performance results show LOS F during the AM peak at Great Western Highway / M7 southbound off-ramps. The eastbound merge from three to two lanes on Great Western Highway contributed towards LOS F at this approach, and vehicles at the northern approach had long wait times for a green signal. During the PM peak, the intersection achieves LOS A.

In 2026, the same LOS results are maintained in both scenarios as was modelled for the 2025 conditions. In the PM peak, the average intersection delay remains 5 seconds. During the AM peak, delays are increased by 13 seconds between 2025 and the 2026 'Without M7 Widening' scenario, which increases a further 15 seconds under the 'With M7 Widening' traffic demands. The increase in delay is attributed to the increase in traffic demands in each of the scenarios.

Compared to the Modification 6 forecasts, the AM peak delays are higher in the 'With M7 Widening ' and 'Without M7 Widening' scenarios. This may be attributed to better capturing of downstream impacts, such as the eastbound merge, or a change in forecast traffic growth since the original Modification 6 assessment. The Modification 6 forecast shows better performance than the existing conditions indicating that the forecast overestimated the capacity of the intersection.

Table 5-11: Westlink M7 / Great Western Highway Interchange NB on-ramp - Intersection performance results

Westlink M7 / Great Western Highway Interchange NB on-ramp								
Conditions	**Mod6 Forecast**		**Without M7 Widening**		**With M7 Widening**		**Comparison**	
	AM	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
2025 Existing								
Traffic volume	-	-	3281	3666	-	-	-	-
Average Delay (sec)	-	-	3	4	-	-	-	-
Intersection LOS	-	-	A	A	-	-	-	-
2026								
Traffic volume	-	-	3454	3842	3463	3865	9	23
Average Delay (sec)	3	4	3	4	3	4	0	0
Intersection LOS	A	A	A	A	A	A	=	=

This intersection showed LOS A in all scenarios assessed and shows similar performance to the Modification 6 forecasts.

Table 5-12: Great Western Highway / Wallgrove Road / Rooty Hill Road S - Intersection performance results

Great Western Highway / Wallgrove Road / Rooty Hill Road South								
Conditions	**Mod6 Forecast**		**Without M7 Widening**		**With M7 Widening**		**Comparison**	
	AM	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
2025 Existing								
Traffic volume	-	-	5410	6335	-	-	-	-
Average Delay (sec)	-	-	41	49	-	-	-	-
Intersection LOS	-	-	**C**	**D**	-	-	-	-
2026								
Traffic volume	-	-	5707	6672	5726	6688	19	16
Average Delay (sec)	63	57	42	56	43	56	0.3	0.3
Intersection LOS	**E**	**E**	**D**	**D**	**D**	**D**	=	▼

In the existing 2025 conditions, the Great Western Highway / Wallgrove Road / Rooty Hill Road South intersection performs at LOS C and D in the AM and PM peaks, respectively. The existing delays are highest at the Wallgrove Road southern approach to the intersection.

In the 2026 'With M7 Widening' and 'Without M7 Widening' scenarios, the intersection performs at LOS D in all modelled hours. During the AM peak, this represents an increase of 1 second delay compared to the 2025 conditions for the 'Without M7 Widening' scenario and 2 seconds increase in the 'With M7 Widening' scenario. Both scenarios show approximately 56 seconds delay in the PM peak, an increase of 7 seconds compared to the existing 2025 conditions.

Compared to the Modification 6 forecast, the intersection delay in the 'With M7 Widening' and 'Without M7 Widening' scenarios are reduced in both peak periods.

5.6.4 Wider network impact

Based on the intersection performance results described previously in **Sections 5.6**, it is not likely that the M7 Widening project will impact the Great Western Highway corridor. The Great Western Highway approaches to the interchange show similar delays and queues between the 2026 scenarios, and the downstream intersections are located at least 900m away which exceeds the modelled maximum queue lengths.

Under the 'With M7 Widening' traffic demand scenario, the Wallgrove Road and Rooty Hill Road South approaches show longer delays compared to the 'Without M7 Widening' scenario. The intersection performance results indicate performance in both the 'Without M7 Widening' and 'With M7 Widening' scenarios would impact traffic along the Wallgrove Road approach, and on Rooty Hill Road South between Great Western Highway and Cable Place.

5.7 Old Wallgrove Road interchange

5.7.1 Existing layout

The existing layout of the interchange includes three signalised intersections. **Figure 5-8** shows the SIDRA schematic of the existing layout. This layout was used for the Existing Base model scenario in 2025 and the future year scenarios in 2026.

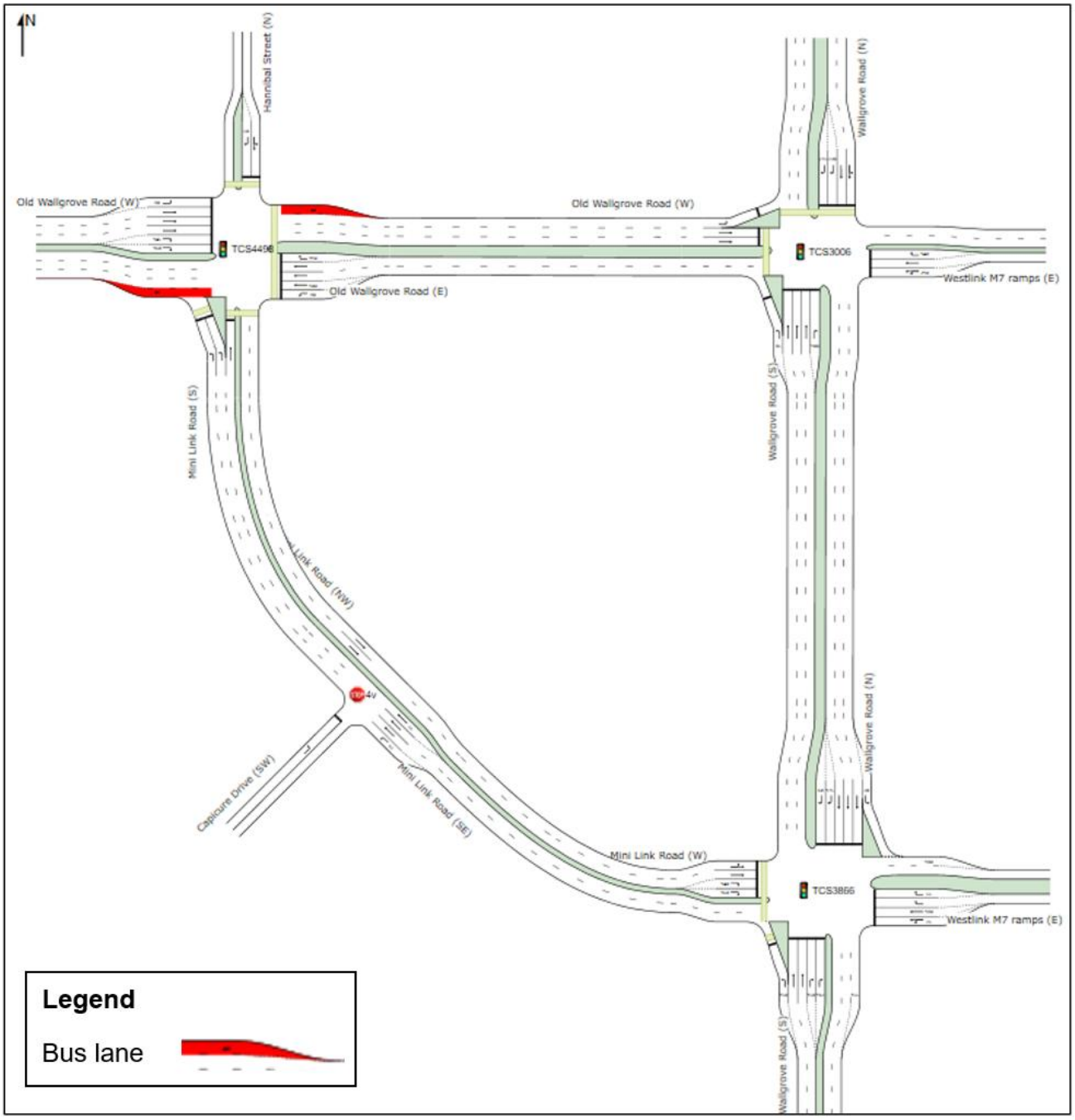


Figure 5-8: Existing layout SIDRA schematic – Old Wallgrove Road interchange

5.7.2 Traffic volume analysis

The traffic demands reaching each intersection in 2026 are summarised in **Figure 5-9** below, with volumes shown for each of the 'With M7 Widening' and 'Without M7 Widening' conditions. The interchange is accommodating an additional 152 and 125 vehicles in the 'With M7 Widening' conditions during the AM and PM peak periods, respectively.

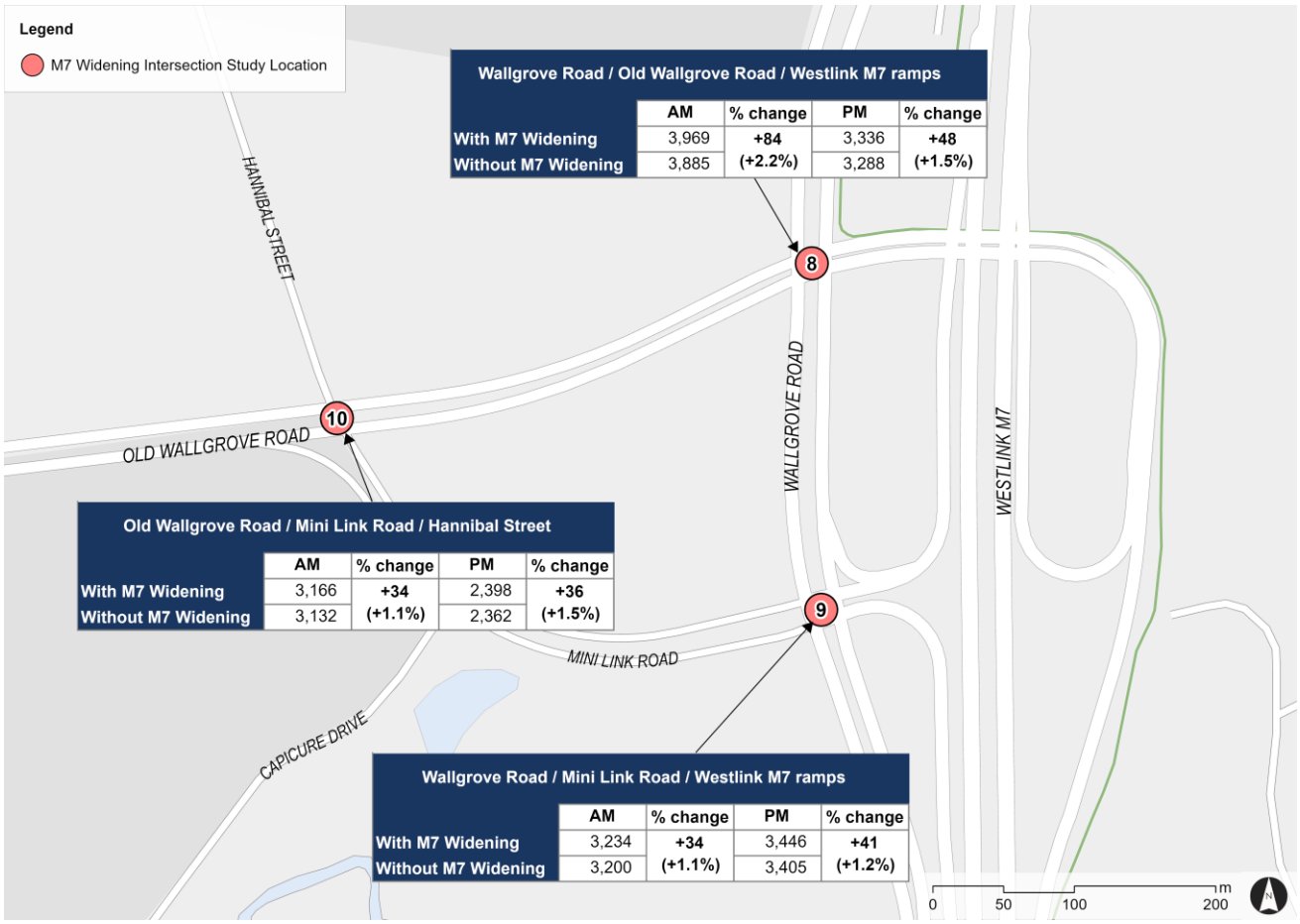


Figure 5-9: 2026 Traffic volume comparison – Old Wallgrove Road

5.7.3 Intersection operational performance

The existing layout and performance of the Old Wallgrove Road interchange was assessed for the years of 2025 and 2026. The future traffic demands were obtained using demands obtained from Transport for NSW's SMPM strategic model as described in **Section 5.2.2**. The 2026 scenarios were run under the 'With M7 Widening' and 'Without M7 Widening' traffic demand scenarios.

Table 5-13 to **Table 5-15** show the intersection performance results for the existing, future 'Without M7 Widening' and future 'With M7 Widening' scenarios. A comparison is provided for the 'With' and 'Without M7 Widening' scenarios in each table. The results that were forecast for 2026 with the M7 Widening from the *Traffic and Transport Impact Assessment* (Transport for New South Wales, August 2022) for Modification 6 are also presented in this section for context. The key findings are listed underneath each table below.

Table 5-13: Wallgrove Road / Old Wallgrove Road / Westlink M7 ramps - Intersection performance results

Wallgrove Road / Old Wallgrove Road / Westlink M7 ramps								
Conditions	**Mod6 Forecast**		**Without M7 Widening**		**With M7 Widening**		**Comparison**	
	AM	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
2025 Existing								
Traffic volume	-	-	3700	3072	-	-	-	-
Average Delay (sec)	-	-	45	29	-	-	-	-
Intersection LOS	-	-	**D**	**C**	-	-	-	-
2026								
Traffic volume	-	-	4142	3463	4178	3512	36	49
Average Delay (sec)	55	41	51	30	55	30	4	0
Intersection LOS	**D**	**C**	**D**	**C**	**D**	**C**	=	=

The 2025 intersection performance at this location shows an acceptable LOS D and LOS C for the AM and PM peak periods, respectively. In both peaks, the approach with the highest delay is the eastern approach for the M7 off-ramp from the southbound carriageway.

In both 2026 scenarios, the intersection LOS remains the same as the 2025 existing conditions at LOS D in the AM peak and LOS C in the PM peak. This intersection is still operating under its capacity in the 2026 'With M7 Widening' scenario.

At the Wallgrove Road / Old Wallgrove Road / Westlink M7 ramps intersection, performance is similar in the AM peak between the Modification 6 forecast and the two 2026 scenarios assessed as part of this project. In the PM peak, performance is approximately 10 seconds higher in the Modification 6 forecast.

Table 5-14: Wallgrove Road / Mini Link Road / Westlink M7 ramps - Intersection performance results

Old Wallgrove Road / Mini Link Road								
Conditions	**Mod6 Forecast**		**Without M7 Widening**		**With M7 Widening**		**Comparison**	
	AM	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
2025 Existing								
Traffic volume	-	-	3015	3245	-	-	-	-
Average Delay (sec)	-	-	54	47	-	-	-	-
Intersection LOS	-	-	**D**	**D**	-	-	-	-
2026								
Traffic volume	-	-	3375	3599	3404	3627	29	28
Average Delay (sec)	39	43	62	53	63	53	2	1
Intersection LOS	**C**	**D**	**E**	**D**	**E**	**D**	=	=

The 2025 intersection performance at this location shows an acceptable LOS D for both peak periods. In both peaks, the approach with the highest delay is the eastern approach for the M7 off-ramp from the northbound carriageway.

Wallgrove Road / Mini Link Road / M7 ramps show a worsening of LOS from D to E between the existing conditions and 2026 during the AM peak and remains LOS D in the PM peak. Performance between the two 2026 demand scenarios is nearly identical at this location.

At the Old Wallgrove Road / Mini Link Road intersection, performance is around 30 seconds worse in the 'With M7 Widening' and 'Without M7 Widening' scenarios when compared to the Modification 6 forecast in the AM peak. Performance in the PM peak is around 10 seconds worse than the Modification 6 forecast.

Table 5-15: Old Wallgrove Road / Mini Link Road - Intersection performance results

Old Wallgrove Road / Mini Link Road								
Conditions	**Mod6 Forecast**		**Without M7 Widening**		**With M7 Widening**		**Comparison**	
	AM	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
2025 Existing								
Traffic volume	-	-	2966	2229	-	-	-	-
Average Delay (sec)	-	-	25	33	-	-	-	-
Intersection LOS	-	-	**B**	**C**	-	-	-	-
2026								
Traffic volume	-	-	3303	2506	3317	2528	14	22
Average Delay (sec)	-	-	27	37	27	37	0	0
Intersection LOS	-	-	**B**	**C**	**B**	**C**	=	=

The performance at Mini Link Road / Old Wallgrove Road / Hannibal Street was satisfactory, with LOS C or better in both peaks. Long wait times were modelled at the northern approach of Hannibal Street; however, this approach is closed and surveys showed low volumes of maximum 1 vehicle per hour during any peak.

At Old Wallgrove Road / Mini Link Road in 2026, the performance is the same between scenarios and remains at LOS B or C for both peak periods.

5.7.4 Wider network impact

Based on the intersection performance results described previously in **Sections 5.7**, the two signalised intersections on Wallgrove Road show impacted performance at the M7 off-ramps as a result of the additional traffic associated with the 'With M7 Widening'. However, at Old Wallgrove Road / Mini Link Road / Hannibal Street, longer average delay times were modelled at all approaches.

Queue lengths were similar with and without the M7 Widening, indicating that the project has little impact on the adjacent network. In both 2026 scenarios, queueing was modelled:

- Along Hannibal Street on the approach to Old Wallgrove Road
- Along Old Wallgrove Road between Mini Link Road and Eastern Creek Drive
- On Mini Link Road between Old Wallgrove Road and Capicure Drive.

TfNSW will monitor the performance in the first 12 months of opening and re-assess in the Operational Road Network Performance Review for Modification 6.

5.8 Richmond Road / Rooty Hill Road N interchange

5.8.1 Existing layout

The existing layout of the interchange includes three signalised intersections. **Figure 5-10** shows the SIDRA schematic of the existing layout. This layout was used for the Existing Base model scenario in 2025 and the future year scenarios in 2026.

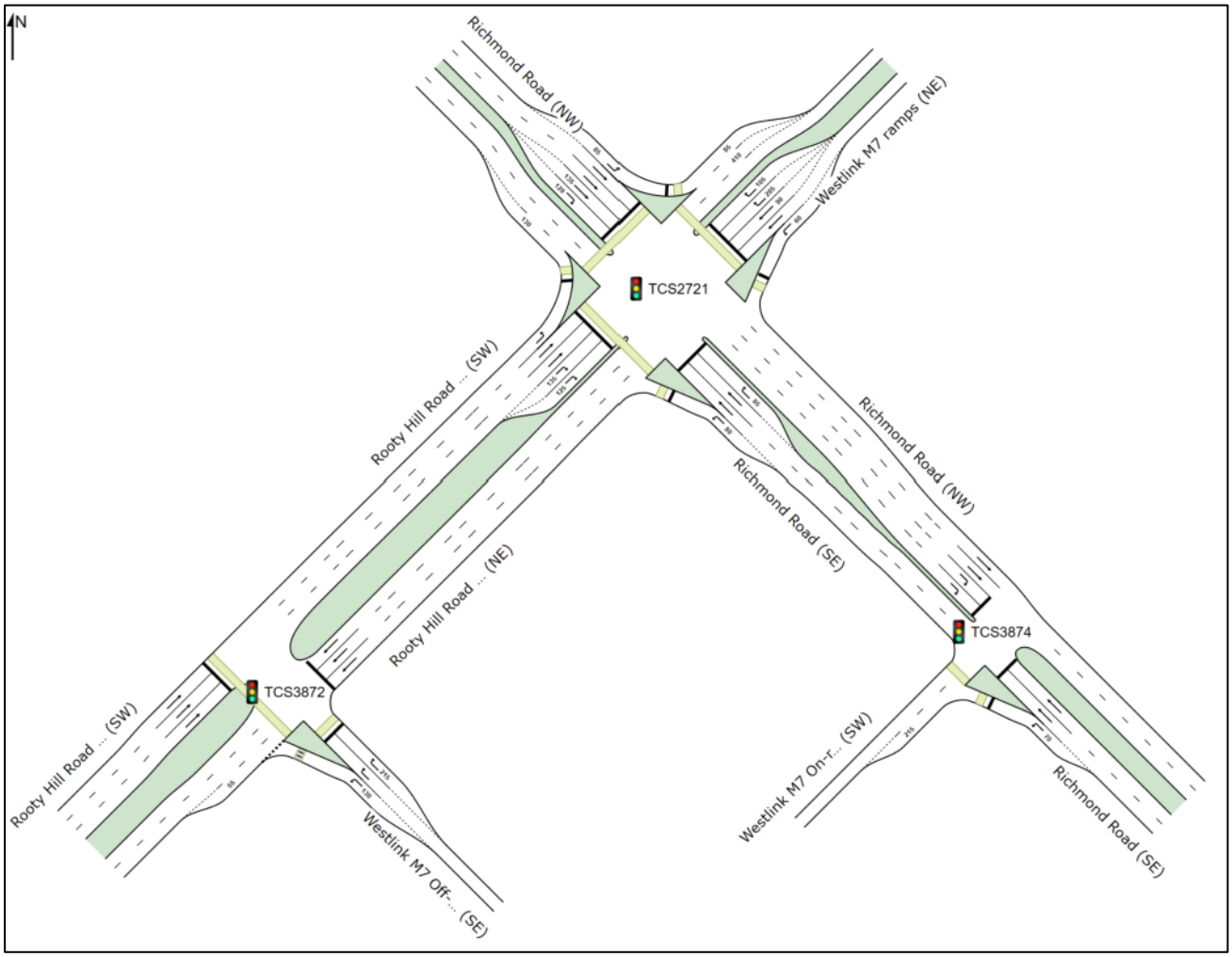


Figure 5-10: Existing layout SIDRA schematic – Richmond Road / Rooty Hill Road N interchange

5.8.2 Traffic volume analysis

The traffic demands reaching each intersection in 2026 are summarised in **Figure 5-11** below, with volumes shown for each of the 'With M7 Widening' and 'Without M7 Widening' conditions. The interchange is accommodating an additional 99 and 134 vehicles in the 'With M7 Widening' conditions during the AM and PM peak periods, respectively.

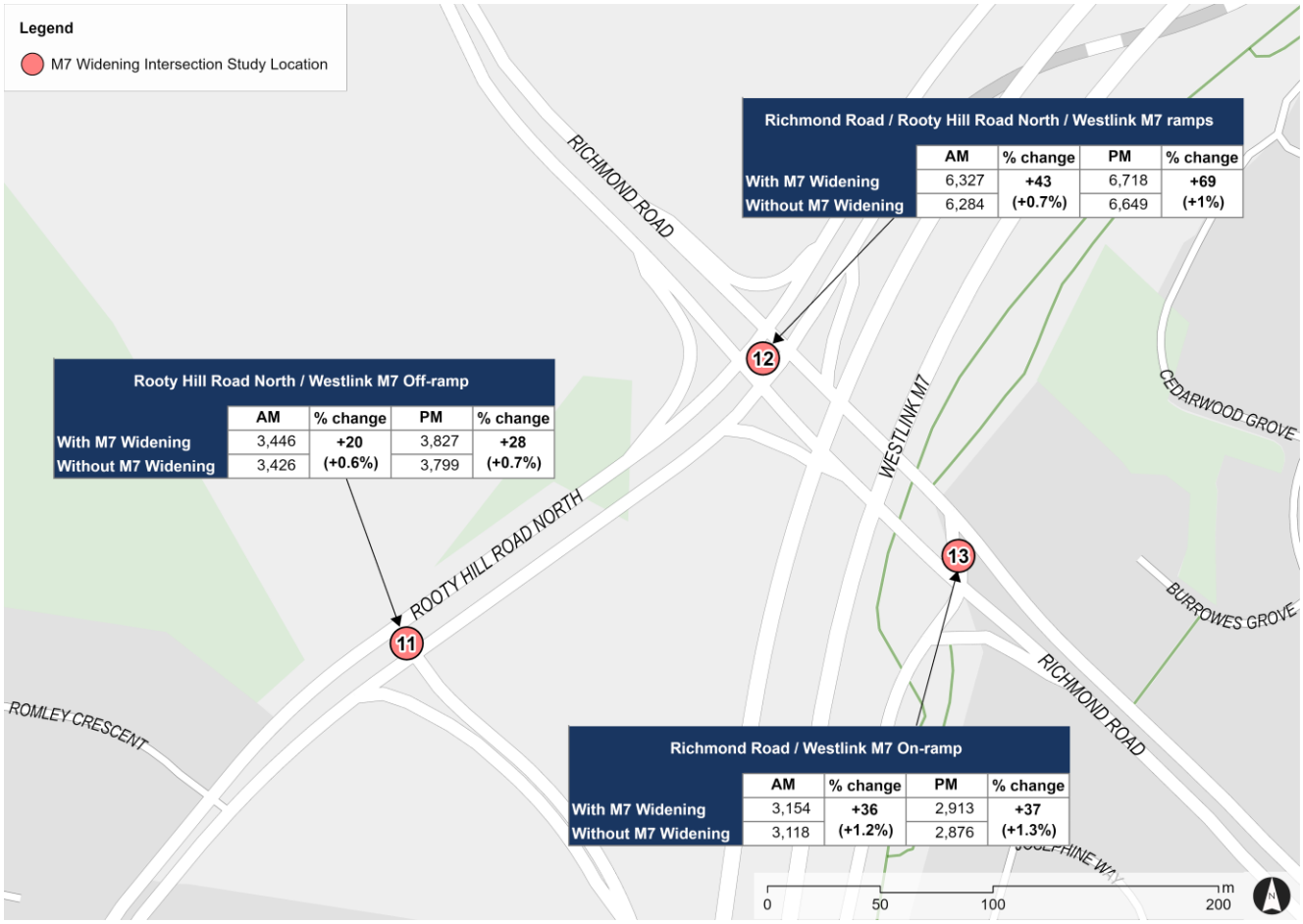


Figure 5-11: 2026 Traffic volume comparison – Richmond Road / Rooty Hill Road N

5.8.3 Intersection operational performance

The existing layout and performance of the Richmond Road / Rooty Hill Road N interchange was assessed for the years of 2025 and 2026. The future traffic demands were obtained using demands obtained from Transport for NSW's SMPM strategic model as described in **Section 5.2.2**. The 2026 scenarios were run under the 'With M7 Widening' and 'Without M7 Widening' traffic demand scenarios.

Table 5-16 to **Table 5-18** show the intersection performance results for the existing, future 'Without M7 Widening' and future 'With M7 Widening' scenarios. A comparison is provided for the 'With' and 'Without M7 Widening' scenarios in each table. The results that were forecast for 2026 with the M7 Widening from the *Traffic and Transport Impact Assessment* (Transport for New South Wales, August 2022) for Modification 6 are also presented in this section for context. The key findings are listed underneath each table below.

Table 5-16: Rooty Hill Road North / Westlink M7 Off-ramp - Intersection performance results

Rooty Hill Road North / Westlink M7 Off-ramp								
Conditions	**Mod6 Forecast**		**Without M7 Widening**		**With M7 Widening**		**Comparison**	
	AM	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
2025 Existing								
Traffic volume	-	-	3260	3404	-	-	-	-
Average Delay (sec)	-	-	44	27	-	-	-	-
Intersection LOS	-	-	**D**	**B**	-	-	-	-
2026								
Traffic volume	-	-	3393	3570	3404	3595	11	25
Average Delay (sec)	33	57	35	28	36	28	1	0
Intersection LOS	**C**	**E**	**C**	**B**	**C**	**B**	=	=

Under the existing 2025 conditions, the overall intersection performance is LOS D and B in the AM and PM peak periods.

In the 2026 scenarios, performance is LOS C or B in both the 'With M7 Widening' and 'Without M7 Widening' scenarios indicating that the intersection has not been impacted by the M7 Widening. The primary cause for delay at this intersection is congestion at the Rooty Hill Road N / Richmond Road intersection, as delays and queueing impacts northbound movements at the Rooty Hill Road N / Westlink M7 off-ramp intersection. In 2026, an increase in traffic demands attempting to turn right from Richmond Road into Rooty Hill Road N requires more green time to be allocated to this movement in the AM peak signal plan, which allows more vehicles to safely turn left at the give-way line on the southwest approach of Rooty Hill Road N. By reducing congestion for northbound traffic on Rooty Hill Road N at the intersection with Richmond Road, delays were also reduced at the Rooty Hill Road N / Westlink M7 off-ramp intersection, leading to an improvement from LOS D to LOS C between 2025 and 2026.

Intersection performance is similar to the Modification 6 forecasts in the AM peak and shows less delay in the PM peak.

Table 5-17: Richmond Road / Rooty Hill Road North / Westlink M7 ramps - Intersection performance results

Richmond Road / Rooty Hill Road North / Westlink M7 ramps								
Conditions	**Mod6 Forecast**		**Without M7 Widening**		**With M7 Widening**		**Comparison**	
	AM	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
2025 Existing								
Traffic volume	-	-	5871	6248	-	-	-	-
Average Delay (sec)	-	-	92	218	-	-	-	-
Intersection LOS	-	-	**F**	**F**	-	-	-	-
2026								
Traffic volume	-	-	6238	6649	6275	6718	37	69
Average Delay (sec)	79	58	107	258	110	263	3	6
Intersection LOS	**F**	**E**	**F**	**F**	**F**	**F**	=	=

In the 2025 existing conditions, long queues form at both Richmond Road approaches and the Rooty Hill Road N approach. Congestion is primarily driven by large traffic volumes accessing the intersection, with a focus on southbound right turns from Richmond Road into Rooty Hill Road N. Traffic heading northbound on Richmond Road also restricts the ability of vehicles to depart from Rooty Hill Road N at the give-way line on the southwest approach, leading to queues that impact performance at the Rooty Hill Road N / Westlink M7 off-ramp intersection.

In 2026, increased demands lead to longer intersection delays at this intersection, which are longer previously forecast in the Modification 6 assessment. The PM peak shows the highest delay, with 258 seconds modelled in the 'Without M7

Widening' scenario increasing to 263 seconds following the M7 Widening. To aid in passing extra traffic through the intersection at the southbound right turns from Richmond Road into Rooty Hill Road N, more signal time was allocated to this phase which improved the intersection performance at the Rooty Hill Road N / Westlink M7 off-ramp intersection.

Table 5-18: Richmond Road / Westlink M7 On-ramp - Intersection performance results

Richmond Road / Westlink M7 On-ramp								
Conditions	**Mod6 Forecast**		**Without M7 Widening**		**With M7 Widening**		**Comparison**	
	AM	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
2025 Existing								
Traffic volume	-	-	2804	2768	-	-	-	-
Average Delay (sec)	-	-	22	16	-	-	-	-
Intersection LOS	-	-	**B**	**B**	-	-	-	-
2026								
Traffic volume	-	-	3114	2876	3149	2913	35	37
Average Delay (sec)	36	33	31	19	32	19	1	0
Intersection LOS	**C**	**C**	**C**	**B**	**C**	**B**	=	=

Under the existing 2025 conditions, the overall intersection performance is LOS B in both peak periods.

Between 2025 and 2026, the intersection average delay increases by 9 seconds at most. The intersection maintains LOS B in the PM peak and increases to LOS C during the AM peak. Under the 'With M7 Widening' traffic demands, performance remains equivalent to the 'Without M7 Widening' scenario, with delays increasing by 1 second at most.

Intersection performance is similar to the Modification 6 forecasts in the AM peak and shows less delay in the PM peak.

5.8.4 Wider network impact

The existing corridor on Richmond Road experiences significant delays during the weekday peak periods. Queues can extend to the upstream Alderton Drive in the PM peak, with poor performance noted in both directions of Richmond Road. Under the 'With M7 Widening' traffic demands in 2026, the queues are not expected to change significantly from the 'Without M7 Widening' scenario, with a maximum increase of 5 vehicles at any single turn movement within the Richmond Road / Rooty Hill Road N interchange.

5.9 The Horsley Drive Interchange

5.9.1 Existing layout

The existing layout of the interchange includes three signalised intersections. **Figure 5-12** shows the SIDRA schematic of the existing layout. This layout was used for the Existing Base model scenario in 2025 and the future year scenarios in 2026.

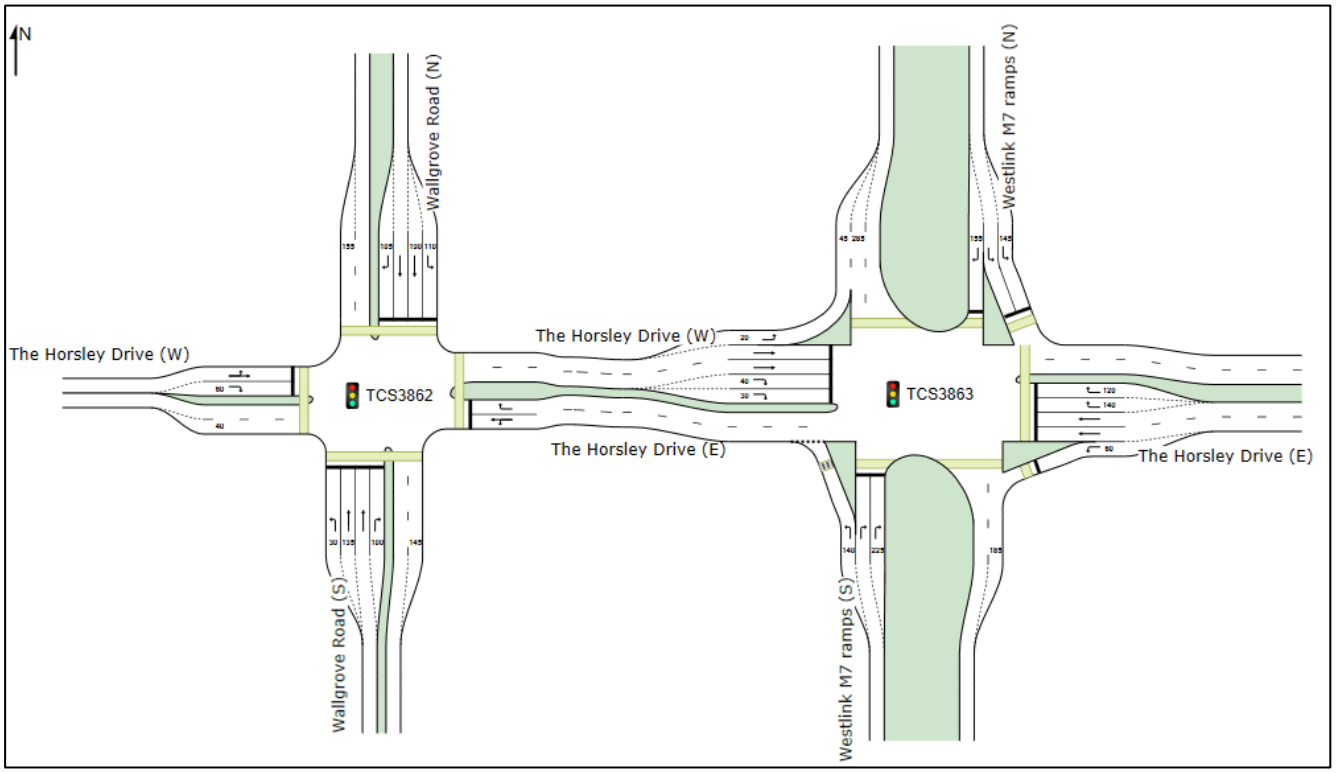


Figure 5-12: Existing layout SIDRA schematic – The Horsley Drive interchange

5.9.2 Traffic volume analysis

The traffic demands reaching each intersection in 2026 are summarised in **Figure 5-13** below, with volumes shown for each of the 'With M7 Widening' and 'Without M7 Widening' conditions. The interchange is accommodating an additional 133 and 43 vehicles in the 'With M7 Widening' conditions during the AM and PM peak periods, respectively.

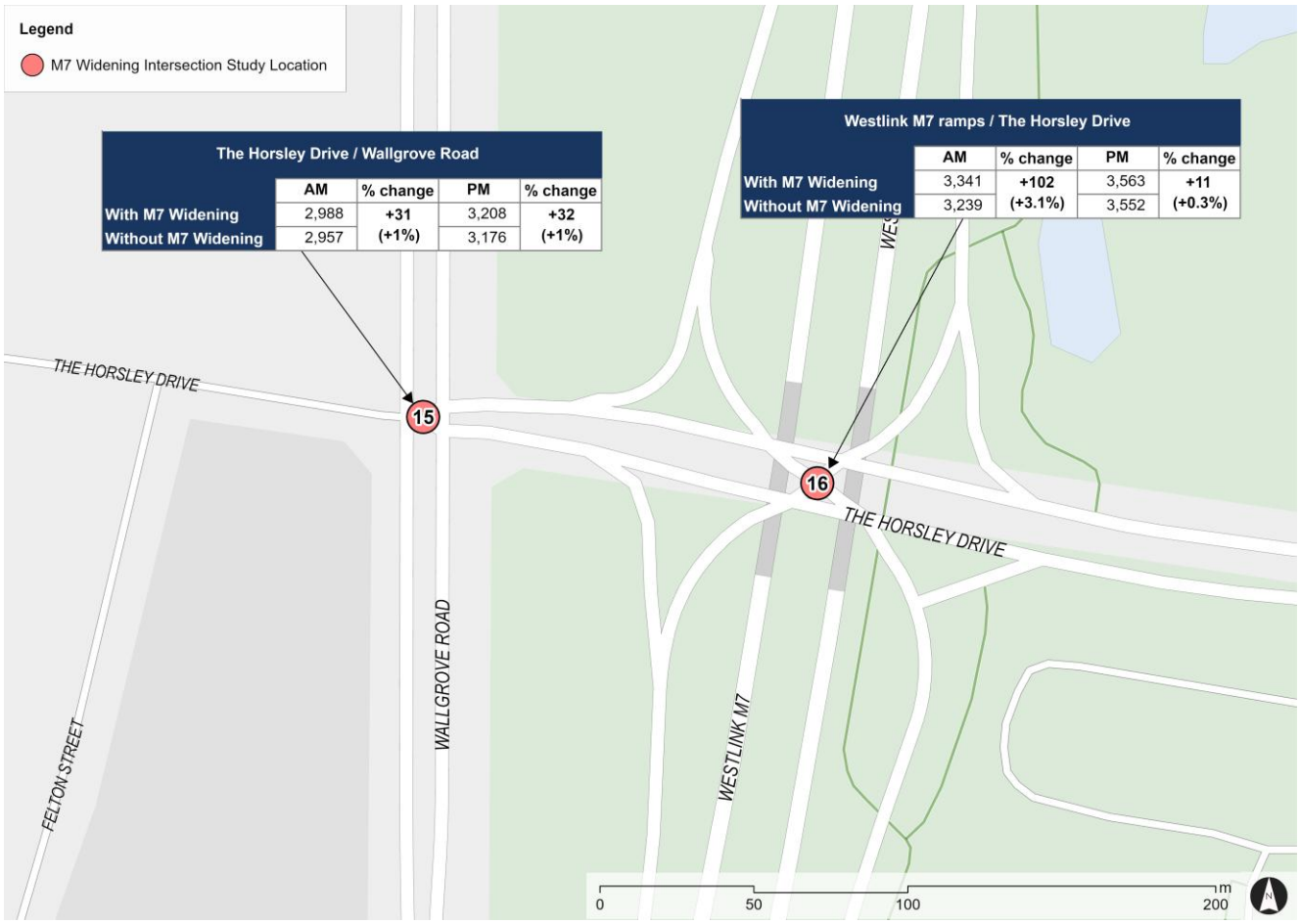


Figure 5-13: 2026 Traffic volume comparison – The Horsley Drive

5.9.3 Intersection operational performance

The existing layout and performance of The Horsley Drive interchange was assessed for the years of 2025 and 2026. The future traffic demands were obtained using demands obtained from Transport for NSW's SMPM strategic model as described in **Section 5.2.2**. The 2026 scenarios were run under the 'With M7 Widening' and 'Without M7 Widening' traffic demand scenarios.

Table 5-19 and **Table 5-20** show the intersection performance results for the existing, future 'Without M7 Widening' and future 'With M7 Widening' scenarios. A comparison is provided for the 'With' and 'Without M7 Widening' scenarios in each table. The results that were forecast for 2026 with the M7 Widening from the *Traffic and Transport Impact Assessment* (Transport for New South Wales, August 2022) for Modification 6 are also presented in this section for context. The key findings are listed underneath each table below.

Table 5-19: The Horsley Drive / Wallgrove Road - Intersection performance results

The Horsley Drive / Wallgrove Road								
Conditions	**Mod6 Forecast**		**Without M7 Widening**		**With M7 Widening**		**Comparison**	
	AM	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
2025 Existing								
Traffic volume	-	-	2796	2866	-	-	-	-
Average Delay (sec)	-	-	58	51	-	-	-	-
Intersection LOS	-	-	**E**	**D**	-	-	-	-
2026								
Traffic volume	-	-	2957	3080	2988	3132	31	52
Average Delay (sec)	106	51	75	71	81	92	6	21
Intersection LOS	**F**	**D**	**F**	**F**	**F**	**F**	=	=

In the 2025 AM peak, delays reach 58 seconds which represents a Level of Service of E. This indicates that the existing traffic demands exceed the capacity of the intersection in this time period. PM peak performance at LOS D shows that the intersection is nearing capacity during the typical weekday afternoon conditions. Delays are highest at the east approach and the west through movement, which is impacted by performance downstream at the Westlink M7 ramps / The Horsley Drive intersection.

In 2026, the increased traffic demands lead to delays of over 70 seconds in both peak periods and an LOS of F. Under the 'With M7 Widening' traffic demands, delays are increased to 81 seconds in the AM peak and 92 seconds in the PM peak. Compared to the Modification 6 forecasts, the AM peak performs better than the forecast while the PM peak shows more delay.

Table 5-20: Westlink M7 ramps / The Horsley Drive - Intersection performance results

Westlink M7 ramps / The Horsley Drive								
Conditions	**Mod6 Forecast**		**Without M7 Widening**		**With M7 Widening**		**Comparison**	
	AM	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
2025 Existing								
Traffic volume	-	-	3048	3222	-	-	-	-
Average Delay (sec)	-	-	50	62	-	-	-	-
Intersection LOS	-	-	**D**	**E**	-	-	-	-
2026								
Traffic volume	-	-	3239	3523	3341	3506	102	-17
Average Delay (sec)	44	71	59	96	66	99	7	3
Intersection LOS	**D**	**F**	**E**	**F**	**E**	**F**	=	=

In the 2025 AM peak, delays reach 50 seconds which represents a Level of Service of D, whereas the PM peak shows delays of up to 62 seconds at LOS E. This indicates that the existing traffic demands exceed the capacity of the intersection in the PM peak. Delays are highest at the east approach, with capacity restricted due to congestion at The Horsley Drive / Wallgrove Road intersection. At both the east and west approaches, high right turn demands lead to delays as vehicles wish to travel from The Horsley Drive to the Westlink M7.

In 2026, the increase in traffic demand results in increased delays. The AM and PM peaks perform at LOS E and F respectively, with the PM peak showing up to 96 seconds average delay in the 'Without M7 Widening' scenario. After the inclusion of the M7 Widening traffic demands, delays slightly increase by up to 7 seconds. The Modification 6 forecast performance shows lower delays than the two 2026 scenarios assessed in this RNPP.

5.9.4 Wider network impact

The existing performance shows delays for The Horsley Drive in both directions from the interchange due to capacity limitations, with queues reaching up to 40 vehicles in the PM peak. Both peak periods showed queues that remained within the M7 ramp space and did not interfere with the mainline M7 traffic operation.

In 2026 following the opening of the M7 Widening, queues are expected to remain similar to the 'Without M7 Widening' scenario indicating minimal impact from the project. The area directly west of the interchange currently experiences traffic impacts on The Horsley Drive up to Felton Street, which is not expected to change notably after the opening of the M7 Widening.

6 Stakeholder engagement

This Road Network Plan has been prepared in consultation with the key stakeholders listed in **Section 1.5** of this report. The engagement program aims to ensure we engage with and capture any feedback from our key stakeholders throughout key milestones.

Two workshops were held over the course of the project with the key stakeholders to capture their feedback regarding existing issues, opportunities and thoughts on potential mitigation measures.

The initial workshop, held on 17th of February 2025, was conducted in a hybrid format (on-line and in-person meeting) and brought together stakeholders from Blacktown City Council, Liverpool Council, Transport for NSW and Transurban to discuss the M7 Widening – Road Network Performance Plan. This session provided a comprehensive overview of the project, outlining its objectives, documenting stakeholders' concerns, and considerations. During the workshop, the requirements for the subject report, along with critical aspects related to each interchange, were thoroughly examined. The discussions facilitated a deeper understanding of stakeholder concerns, ensuring that their perspectives were acknowledged and integrated into the planning process.

A second workshop was held online on 12th of June 2025 via Microsoft Teams to bring together the key stakeholders listed in **Section 1.5** to discuss the traffic modelling results for the four M7 interchanges without existing proposals, namely:

- Bernera Road interchange
- Cowpasture Road interchange
- Great Western Highway interchange
- Wallgrove Road interchange.

In this session, the existing and future year intersection performance results were presented to stakeholders to receive their feedback regarding the modelling results and existing concerns for the interchanges, and stakeholders provided their feedback on each interchange.

Following each workshop, both the minutes and presentation were distributed to all stakeholders with a request for additional feedback. However, no further feedback was received following either consultation beyond what was documented in the workshop minutes.

A copy of this report will be provided to Councils for their review and feedback prior to submission to the Department of Planning, Housing and Infrastructure for their information under condition of approval 99A.

7 Mitigations

Based on the intersection performance assessment shown in **Section 5**, the M7 Widening is not anticipated to trigger a need to upgrade infrastructure at any of the assessed locations. Several of the study area locations show existing performance issues. The Richmond Road and The Horsley Drive interchanges show some of the most congestion, and details of the existing proposals for each of these interchanges are provided in **Table 7-1** below.

It is noted that intersection performance results at the Bernera Road and Wallgrove Road interchanges showed signs that mitigation may be required in the near future following the opening of the M7 Widening project. Transport for NSW will monitor the performance at these locations and re-assess whether any interventions are required in the 12-month post-opening assessment of the M7 Widening.

Table 7-1: Mitigations within the study area

Interchange	Indicative Timeframe	Proposed mitigations	Current status
Richmond Road Interchange	Estimated opening in 2028	• Upgrade to six-lanes on Richmond Road between Yarramundi Drive and Townson Road • Dual right-turn lanes from Richmond Road to Rooty Hill Road North • Dual right-turn lanes from Richmond Road to M7 entry ramp (southbound) • New bridge structure for the Richmond-bound carriageway over Bells Creek • A new single lane flyover exit ramp from the M7 Motorway to Richmond Road	• Concept Design stage complete. Progressing through Detailed Design.
The Horsley Drive Interchange	Estimated opening in 2029	• Widening of The Horsley Drive western carriageway between the M7 Motorway and Wallgrove Road to provide an additional right-turn lane onto Wallgrove Road, with a provision for a second westbound lane. • Extending turn lanes on The Horsley Drive eastern approach to the M7 Motorway. • Conversion of the existing The Horsley Drive and Cowpasture Road roundabout to a signalised intersection.	• Concept Design stage complete. Progressing through Detailed Design.

8 Conclusion

This Road Network Performance Plan has been prepared in accordance with conditions of approval 99A and 1H and Revised Environmental Management Measures (REMMs) T5 and T6. The purpose of this Plan is to evaluate the current operational performance of key intersections surrounding the M7 Motorway, forecast future intersection performance in the year of opening in 2026, and assess the potential traffic impacts associated with the proposed M7 Widening project by that horizon year.

The findings presented in this report are based on a comprehensive series of assessments, and the key outcomes are summarised below:

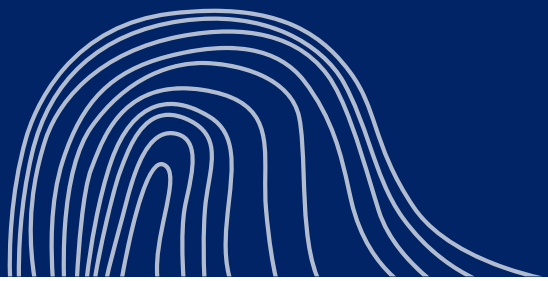
- Several intersections within the study area operate at or over capacity in the existing AM and PM peak periods.
- Performance by 2026 with or without the M7 Widening shows unsatisfactory performance at some locations in the weekday AM and PM peaks.
- Delays are generally increased in the 'With M7 Widening' scenario due to the increase in traffic demand as more users desire to travel along the M7. However, the impacts of the M7 Widening are minor and intersections that are underperforming after the opening of the M7 Widening are usually unsatisfactory in the 'Without M7 Widening' scenario as well.

Key stakeholders from Blacktown, Liverpool, and Fairfield City Councils were actively engaged throughout the duration of the project to ensure ongoing collaboration and alignment. Two dedicated stakeholder workshops were conducted to facilitate discussion around project impacts, key areas of concern, intersection performance outcomes, and potential upgrade options. These sessions provided an opportunity to obtain feedback and understand the existing concerns for the intersections within the study area.

In addition to the workshops, further engagement was carried out via telephone and email correspondence. Stakeholders were invited to provide additional input, raise any outstanding concerns, and ensure all relevant considerations were captured and addressed as part of the planning process.

The M7 Widening project is anticipated to significantly enhance capacity and operational performance along the M7 Motorway, a critical transport corridor serving Sydney's western suburbs. Based on the comprehensive assessments undertaken as part of this Road Network Performance Plan, it has been determined that any potential adverse traffic impacts resulting from the M7 Widening are minor and not likely to change the conditions experienced by road users in the surrounding areas substantially.

The key locations requiring immediate intervention are at the Richmond Road and The Horsley Drive interchanges, which are in the process of being upgraded by Transport for NSW. The performance of the other intersections within the study area will be monitored post-opening of M7 Widening and reported on in the Operational Road Network Performance Plan required under Condition of Approval 99B.



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