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South Jerrabomberra Regional Job Precinct

Traffic and Transport Technical Report

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Important Notice

This Report considers current infrastructure network constraints and potential augmentation required to support land use intensification and master planning as it relates to traffic and transport. This report is generally qualitative in nature and design has not been undertaken to inform the study findings. Future studies will be necessary to provide a detailed demand analysis and to provide additional clarity around the infrastructure needs of the study area.

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Executive Summary

The objective of the Regional Jobs Precinct (RJP) program is to drive investment and development in regional NSW. The RJP program focuses specifically on targeted locations that are ready for development and will support thriving industries and job creation. SMEC has been engaged by Department of Regional NSW (DRNSW) to prepare an assessment of infrastructure needs to help attract new business to the South Jerrabomberra region, and support job growth.

The focus of this report is on the capacity of the existing transport network, and suggests additional augmentation that would be required to support the ultimate freight and passenger traffic volumes that are anticipated to be generated by the Master Plan. This report includes an assessment of current (baseline) conditions and tests the Master Plan using strategic transport modelling to develop an understanding of infrastructure investment needed to unlock the identified potential regional growth and employment opportunities.

The need for upgrades to both the surrounding and internal road network to support movement to and from the RJP has been identified. These upgrades are expected to include the provision of an additional connection into the existing road network from an extension of Isabella Drive in the south providing direct access to the Monaro Highway.

In the absence of any new connections to the external road network, Lanyon Drive, Tompsitt Drive and parts of Environa Drive are expected to have insufficient capacity in the peak periods by 2031. As such, the provision of additional access points into the RJP are considered critical to provide network redundancy, resilience, and to ensure that the surrounding road network continues to operate at an acceptable level of service as the precinct grows.

Additional connections to Shepperd St in the Hume precinct were also considered, however were opposed by the ACT Government as it would route light vehicle movements centrally through the industrial area. It is noted however that the absence of a link into the Hume industrial precinct will require heavy vehicles accessing the majority of the RJP to either route through the residential zones of Tralee or past the school zone, mixing heavy vehicle movements with vulnerable road users and light vehicles. This is an undesirable outcome from a road safety and community amenity perspective and may compromise the establishment of B double / PBS access throughout the RJP and influence uptake of industries that are likely to generate significant freight movements.

Upgrades to public transport networks would be required to support the growth of the area as an employment precinct. In addition, the strategic location of the RJP, with proximity to major arterial roads, provides an opportunity to improve public transport for trips in the general area that aren't necessarily travelling to or from the RJP. Queanbeyan-Palerang Regional Council (QPRC), ACT Government and Transport for NSW (TfNSW) have agreed that a Park & Ride facility in North Poplars would provide additional options for residents of Googong and Jerrabomberra to travel to Canberra. Locating this facility close to the local centre at North Poplars would allow travellers to do minor shopping or eating out without having to make an additional trip. To encourage active travel to and from the RJP, a future park and ride facility would also ideally include secure parking for bicycles.

The reestablishment of rail in the existing railway corridor and specifically, the provision of an intermodal facility to support the development of the RJP has been assessed as part a separate component of the RJP investigations. Ultimately, this study found that an intermodal facility and reinstatement of the railway line was not feasible given the investment required to make the line operational and the limited contestable freight volumes expected to use the intermodal. Alternative options for adaptive reuse of the railway line, such as for active travel as part of the Monaro Rail Trail, are instead recommended for further consideration.

There is already high quality on and off-road cycle infrastructure installed along Environa Drive, and it is recommended that further active travel linkages to, from and through the RJP be encouraged to expand the network. Ensuring future businesses within the RJP adopt an appropriate car parking provision rate and provide end-of-trip facilities will reduce vehicular trips to the precinct and encourage mode shift. This can be managed through updates to Council's Development Control Plan.

In order to fund the infrastructure required for the recommended upgrades, it is suggested that Council undertake a review of their Section 7.11 Contributions Plan. Once a preferred secondary access point is determined, in consultation with the ACT Government, it is recommended that a Special Infrastructure Contribution (SIC) levy be explored as an option for funding. Given the strategic importance of a secondary road connection from the RJP, Council would also be encouraged to seek grant funding for the project.

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1 Introduction

The objective of the Regional Jobs Precinct (RJP) program is to provide a more streamlined planning process to drive investment and development in regional NSW. The RJP program focuses specifically on targeted locations that are ready for development and will support thriving industries and job creation. SMEC has been engaged by Department of Regional NSW (DRNSW) to prepare an assessment of infrastructure needs to help attract new business to the South Jerrabomberra region, and support job growth.

This report firstly provides an assessment of existing (baseline) conditions relating to traffic and transport within the South Jerrabomberra RJP investigation area and considers how existing infrastructure within the region may need to be augmented to support the growth anticipated by the Master Plan. This report considers:

- The current transport network including its limitations and capacity constraints across road, rail, public transport and active travel, and
- Required transport network upgrades to service the additional demand that is anticipated by industries locating to the RJP investigation area.

The South Jerrabomberra RJP is accessed via Tompsitt Drive and a new north-south collector (Environa Drive) that provides access to South Tralee residential area and the future North Tralee Light Industrial area, a comprehensive high school, and a planned innovation precinct in the Poplars development. Henry Place to the north provides access to commercial land including fast food restaurants, Aldi supermarket, service station and a future local centre.

The intent of the South Jerrabomberra RJP is to encourage an agglomeration of knowledge-based industries, focused on the proximity to Canberra Airport, access to a skilled workforce, the neighbouring industrial lands in Hume (ACT) and nearby Oakes Estate (NSW) and existing or planned utility and communication infrastructure.

The planning and delivery of road and transport infrastructure to support the RJP is at varying stages:

- Environa Drive was constructed in 2021 and is open to vehicles, including a functioning signalised intersection to Tompsitt Drive and future signalised intersection providing access to a future business park subdivision within the Poplars Innovation precinct. The construction of Environa Drive included:
  - Installation of road related drainage infrastructure and allowance for a future sewer pump station
  - Construction of a bridge over Jerrabomberra Creek
  - Installation of shared user paths, on-road cycle lanes and bus bay for the future high school
- Construction of the first stage of South Tralee residential development
- DA has been approved for the light industrial estate (North Tralee) which includes a new loop road connecting to Environa Drive, as depicted in the Master Plan
- Review of Environmental Factors (REF) prepared and approved for the Regional Sports Complex and the high school
- Deferred (unzoned) portion of the site known as Environa
- Established environmental offsets in the Poplars Grassland Reserve
- Former disused railway line to the west of the site, adjacent to the ACT border

This report considers both the existing (baseline) conditions of the precinct and through a series of assumptions, tests the capacity of the traffic and transport network, recommending upgrades that may be required to accommodate the anticipated potential growth of employment and business opportunities in the RJP.

2 Project Background

2.1 Project Objectives

The RJP program provides an opportunity to assist regional areas to attract investment through facilitating upfront strategic master planning. There is also an opportunity to streamline statutory planning to further drive agglomeration and reduce investment barriers.

The focus of this report is on the capacity of the existing transport network, and suggests additional augmentation required to support the ultimate freight and passenger traffic volumes that are anticipated to be generated by the Master Plan. This report includes an assessment of current (baseline) conditions and tests the Master Plan to develop an understanding of infrastructure investment that may be required to unlock the identified potential regional growth and employment opportunities.

2.2 Report Objectives

This traffic and transport infrastructure assessment report seeks to provide an overview of the current context of the site relating to the transport network, and to identify necessary upgrades to support the RJP. The objectives of this Infrastructure assessment are to:

- Examine the layout and available capacity of transport infrastructure that will support the South Jerrabomberra RJP
- Understand likely demand that will be generated by the South Jerrabomberra RJP
- Identify necessary upgrades to the transport network to accommodate the anticipated increase in demand
- Outline the priorities and potential staging of the investment to unlock the economic development potential of the South Jerrabomberra RJP
- Provide suggestions for potential funding mechanisms to deliver the required upgrades.

2.3 Project Location and Key Features

The South Jerrabomberra RJP is located on a 950 ha parcel of land, located adjacent to the ACT. The vision for the South Jerrabomberra RJP is to encourage agglomeration of a knowledge-based industry specialising in Defence, space, cyber-security, information technology and scientific research.

The investigation area is within the Queanbeyan-Palerang Regional Local Government Area (LGA) and provides approximately 97 ha of land that is readily zoned for employment generating uses, and an additional 134 ha for potential future expansion. Figure 2–1 provides the location and context of the RJP investigation area.

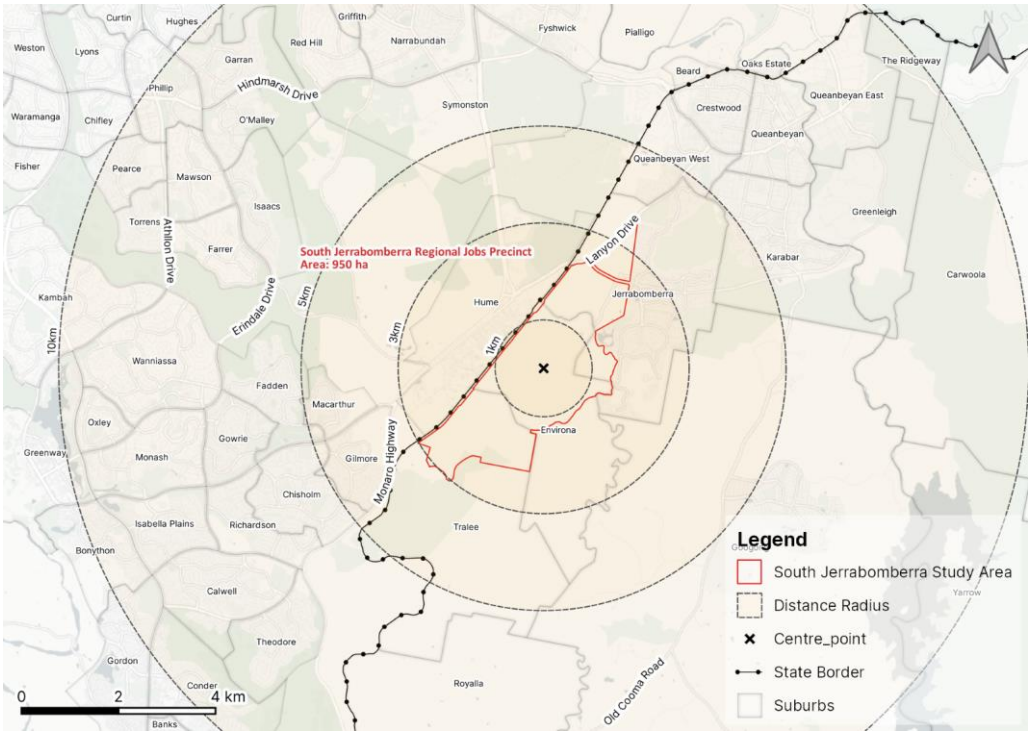

Figure 2–1 | South Jerrabomberra Location Context

The site is predominantly vacant, however is subject to a number of Development Applications (DA's) and master plans for the Poplars Innovation Precinct (three stages of 28 lot subdivision) including a local centre north of Tompsitt Drive, business park and a comprehensive high school, the North Tralee light industrial subdivision, Regional Sports Complex and the unzoned (deferred matter) parcel of land known as Environa. Parts of the site, including much of Environa are within the noise contours of Canberra Airport, which is located to the north-west of the site.

Environa Drive, a newly constructed north-south collector road provides access to the Poplars Innovation Precinct, the South Tralee residential development (first stage complete), a future town centre, Environa lands and the North Tralee light industrial area. Approximately 100 ha of the site is identified as the 'Poplars Grassland Reserve', a conservation area subject to a Biodiversity Stewardship Agreement, providing protection for Button Wrinklewort which is an endangered flora listed under the both the *Environmental Protection and Biodiversity Conservation Act 1999* and the *NSW Biodiversity Conservation Act 2016*.

The South Jerrabomberra RJP expands on the existing Poplars Innovation Precinct to consider options for the future stages of the innovation precinct, Environa lands and North and South Tralee. These parcels of land have the potential to be better connected, activated and possibly expanded to become an employment generating precinct. The investigation area for the RJP is identified in Figure 2–2. Due consideration of topography and ecological constraints will be a key driver in determining appropriate land use for Environa, whilst also ensuring there is sufficient infrastructure to support the desired mixture of future business, innovation and industrial uses.

The South Jerrabomberra RJP can complement existing industrial development within the adjacent suburb of Hume (ACT), where existing industrial land is highly sought after. It is expected that the demand for industrial land will continue to increase as housing development pressures extend to the industrial and bulky goods areas in Fyshwick, ACT.

The proximity of the area to new residential development in South Tralee, established suburbs in Jerrabomberra, the Department of Defence Headquarters Joint Operations Command (HQJOC), Brindabella Business Park, Canberra Airport, other Defence holdings within Canberra and the servicing of the Site by the secure ICON-GNS cable, presents an opportunity to capitalise on the local skilled workforce to support highly skilled employment, research and development.

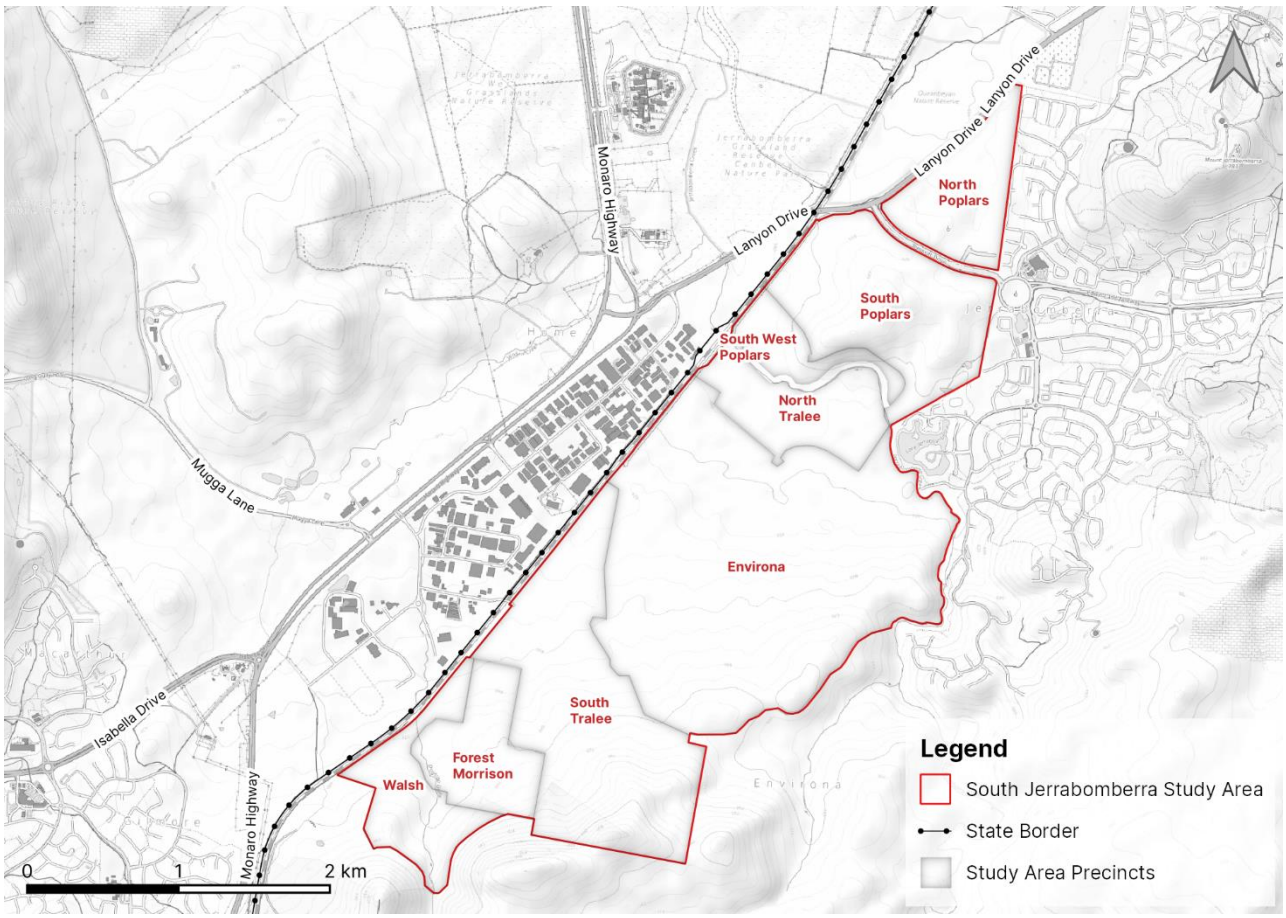

Figure 2–2 | South Jerrabomberra RJP Investigation Area

2.4 Key Attributes and Challenges

Whilst it is appreciated that the South Jerrabomberra RJP is at a preliminary stage, this assessment seeks to provide a high-level appraisal of key challenges and areas for consideration in the future Master Plan. The key identified attributes of the precinct locations are indicated in Figure 2–3 and include:

- Landowners have commenced master planning for Poplars Innovation Precinct and Tralee Industrial and Residential lands
- Stage 1 Retail and Services Precinct (north of Tompsitt Drive) has been delivered with supermarket and fast food anchor tenants
- New B-Double capable road (Environa Drive)
- High school and Regional Sports Precinct
- QPRC Innovation Hub
- Excellent views toward Canberra
- Access to Tompsitt Drive by newly constructed signalised intersection
- Early movers including a data centre and satellite manufacturing hub
- Proximity to Canberra Airport
- Established shared path network delivered as part of the Environa Drive project

Potential constraints of the precinct include:

- Topographic and potential biodiversity constraints of the Environa landholding
- Frontage to disused rail line acting as a barrier for vehicular access into the RJP
- Poor connectivity into the ACT
- Noise and air quality impacts associated with nearby uses and Canberra airport
- Residential development to the south, including aspirations for further expansion
- Interface with adjoining industrial area in Hume
- Multiple stakeholders with competing interests and land use expectations
- Local road network capacity constraints
- Existing negotiated / endorsed Voluntary Planning Agreements with developers

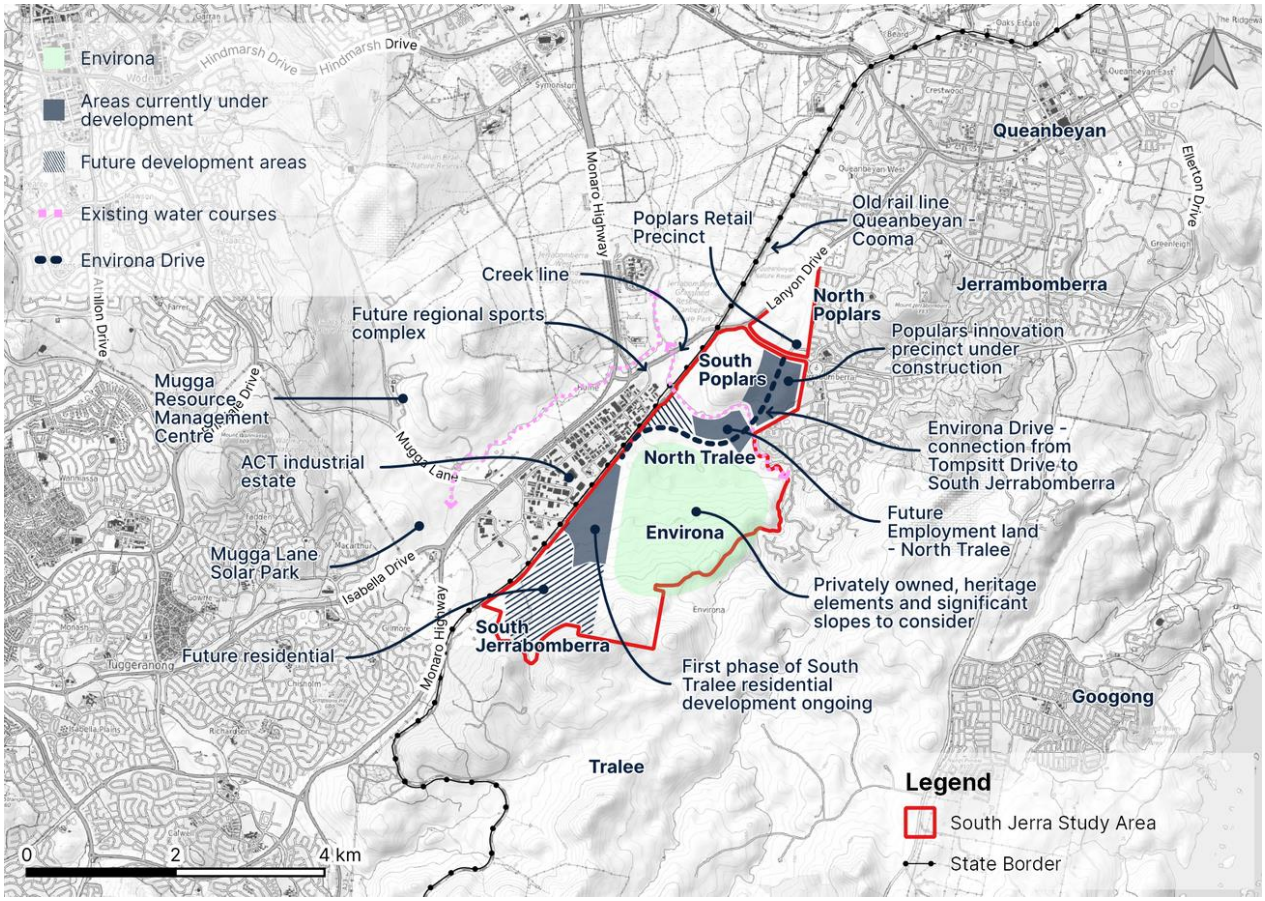

Figure 2–3 | Key Attributes of South Jerrabomberra

2.5 Future Anticipated Demand

A key intent of the South Jerrabomberra RJP is to bring together existing master planning into a single vision, to create an identity that drives business agglomeration and ultimately investor certainty. It is anticipated that the following industries and land uses will be targeted for the South Jerrabomberra RJP:

- Data centres
- Cybersecurity uses
- High-technology manufacturing and 3D printing
- Department of Defence
- A high school QPRC Innovation Hub
- Regional sports hub
- Light industrial development (North Tralee - DA approved)
- Residential development (target of an additional 1,500 dwellings in South Tralee)
- Local centre (South Tralee)

2.6 Images

Images from the site visit are presented in the figures below with the photo locations indicated in Figure 2–4.

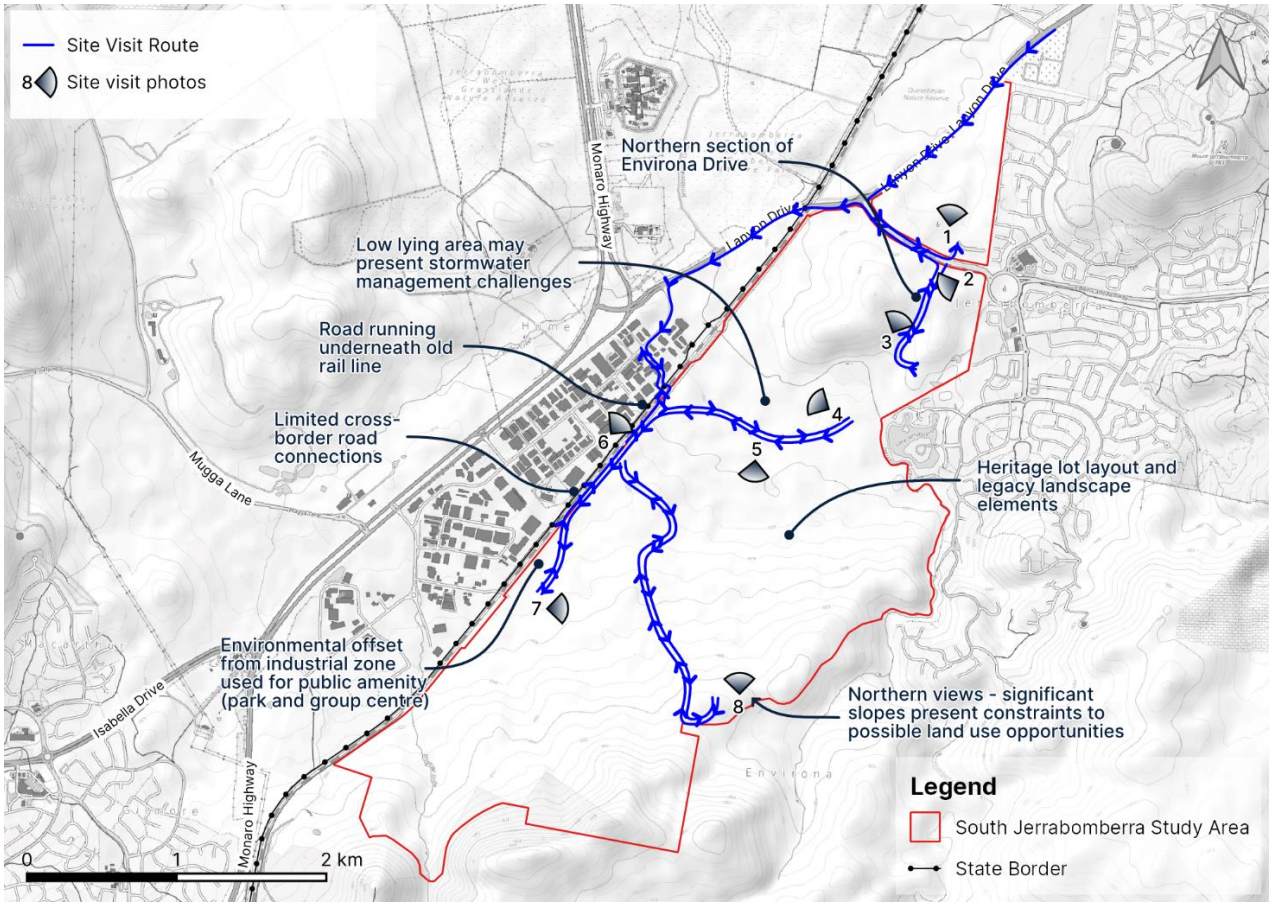

Figure 2–4 | South Jerrabomberra Site Visit

Figure 2–5 | Image 1- Looking North from North Poplars Retail Precinct

Figure 2–6 | Image 2 - Looking south along Environa Drive

Figure 2–7 | Image 3 - Looking north from the site of the Innovation Hub

Figure 2–8 | Image 4- Looking across North Tralee future development area

Figure 2–9 | Image 5- Looking south across the privately owned parcels

Figure 2–10 |Image 6-Looking east toward Arnott Street and railway corridor

Figure 2–11 | Image 7- Looking toward South Tralee residential subdivision

Figure 2–12 | Image 8 - Elevated view from Environa toward Hume and ACT

3 Precinct Master Plan

3.1 Overview

The South Jerrabomberra RJP Master Plan has been underpinned by the Urban Design work previously undertaken by Jensen Plus as part of the RJP project and subsequently updated by SMEC following post-exhibition comments. The Master Plan has been developed based on site visits, preliminary technical studies, an options development process and information gathered from stakeholder workshops.

3.2 Vision and Principles

The vision of the South Jerrabomberra RJP is to differentiate itself as an innovation precinct, bringing together new employment and industrial lands specialising in advanced manufacturing, space and defence related industries. The Master Plan has been developed based on the following six principles:

- Innovative tech-jobs precinct
- Seamless precinct and cross border connectivity
- High quality urban design and placemaking
- Leading sustainability outcomes
- Be a good neighbour
- Collaborative cluster

3.3 Land Uses and Sub-Precincts

The South Jerrabomberra RJP Master Plan integrates previous master planning activities progressed by landowners and developers, and considers how to best integrate the following areas into one precinct:

- North Poplars
- South Poplars Innovation Precinct
- Environa
- Regional Sports Complex
- North Tralee
- South Tralee and Forest Morrison

Refer to Figure 2–2 for a delineation of each of these areas within the RJP.

The Master Plan incorporates the following sub-precinct categories:

- Education Sub Precinct
- Poplars Innovation Sub Precinct
- Local Centres Sub Precinct
- Open Space and Recreation
- Residential Sub Precinct
- Rural Landscape

- Regional Sports Complex
- Local Business and Industry Sub Precinct
- Future Environa Sub Precinct

The Master Plan is shown in Figure 3–1

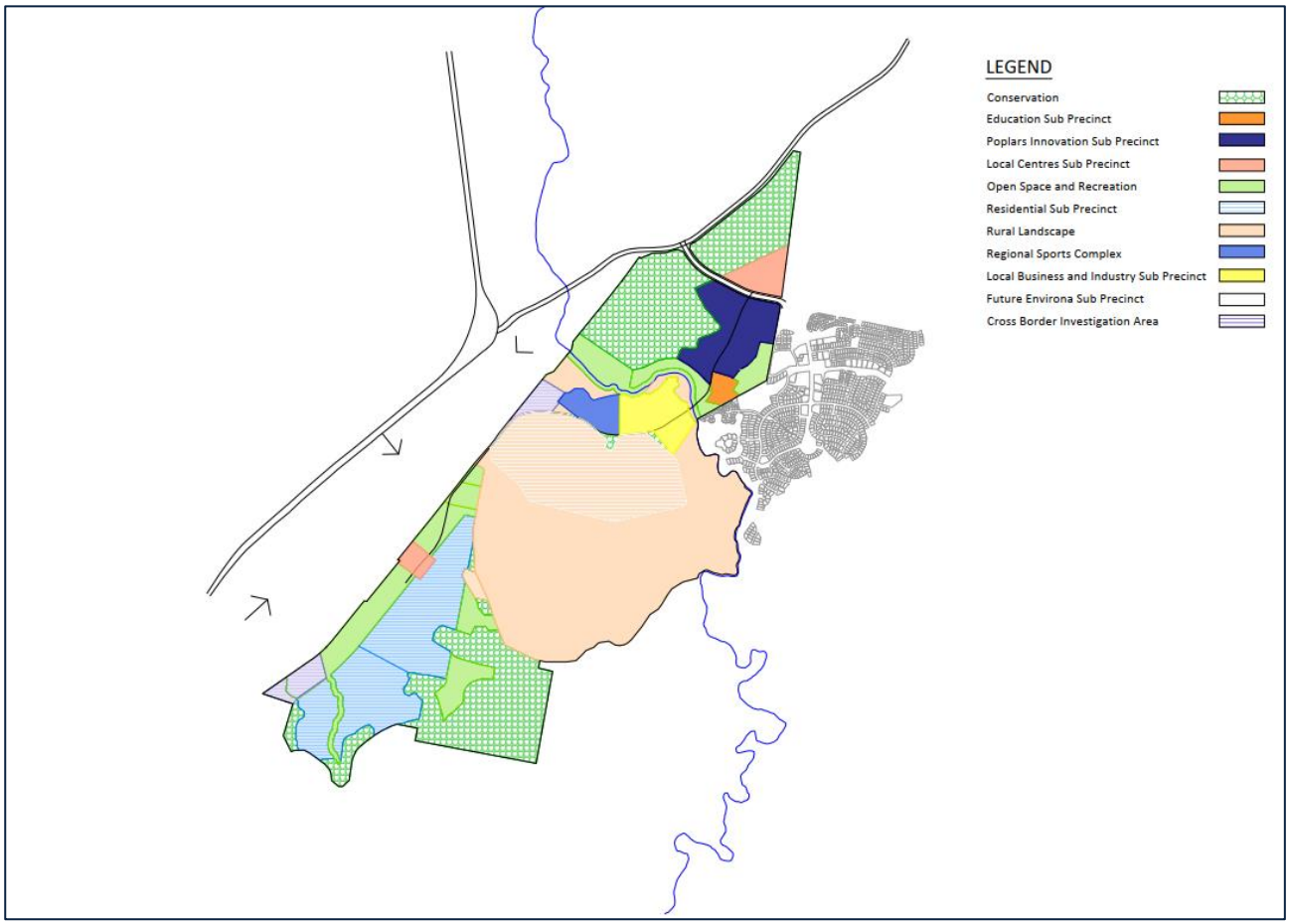

Figure 3–1 | South Jerrabomberra Master Plan (Not to Scale)

3.4 Staging

Staging is a critical consideration in planning for 'just in time' delivery of infrastructure to support growth. For the purpose of this assessment, the uptake of development opportunities in the South Jerrabomberra RJP is assumed to comprise four stages. Table 3–1 provides the assumed staged increase in gross floor area as a result of uptake of development opportunities in the RJP.

Table 3–1| Assumed Staging of gross floor area by sub-precinct

Sub-Precinct	Existing	Stage 1 2026 (ha)	Stage 2 2031 (ha)	Ultimate (ha)	Total (ha)
Education Sub Precinct	5.1	0.0	0.0		5.1
Poplars Innovation Sub Precinct	10.5	15.0	12.0		37.5
Local Centres Sub Precinct	5.2	13.0	0.0		18.2
Open Space and Recreation	0.0	0.0	1.2		1.2
Residential Sub Precinct	18.0	96.0	0.0		114.0
Rural Landscape	3.3	0.0	0.0		3.3

Sub-Precinct	Existing	Stage 1 2026 (ha)	Stage 2 2031 (ha)	Ultimate (ha)	Total (ha)
Regional Sports Complex	0.0	10.5	0.0		10.5
Local Business and Industry Sub Precinct	0.0	17.1	5.5		22.6
Future Environa Sub Precinct	0.0	0.0	0.0	107.0	107.0
Total	**42.1**	**151.6**	**18.7**		**319.4**

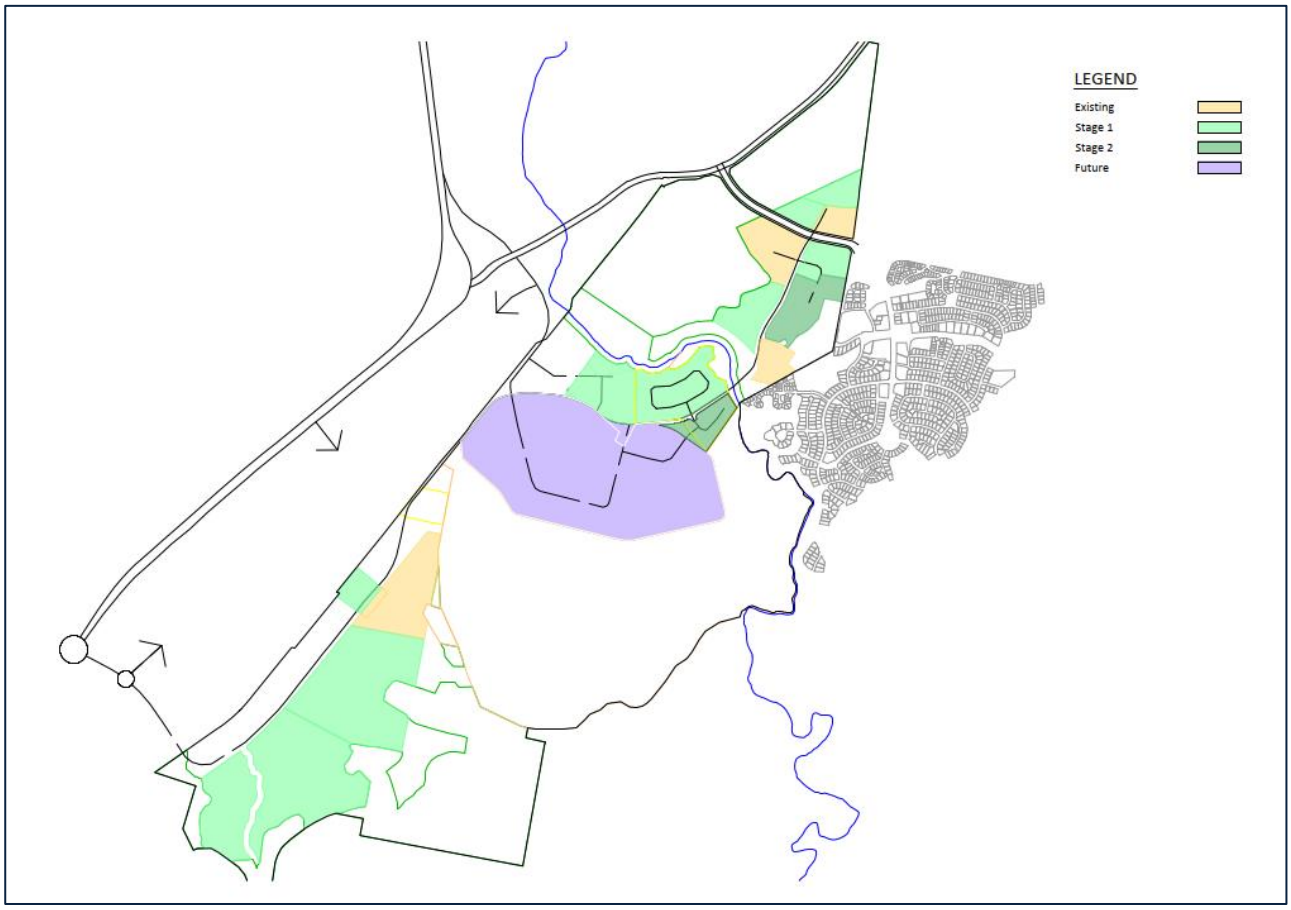

Figure 3–2 | Staging Plan

4 Road Network

4.1 Existing Road Network

The South Jerrabomberra RJP will be accessed from the surrounding road network by a direct connection to the arterial road network on Tompsitt Drive and onto Lanyon Drive in the north, in addition to connections to Jerrabomberra road network to the east. It will be supported more broadly by significant arterial roads such as Edwin Land Parkway to the east and the Monaro Highway and Isabella Drive in the ACT to the west. The existing road network in and around the RJP is indicated in Figure 4–1.

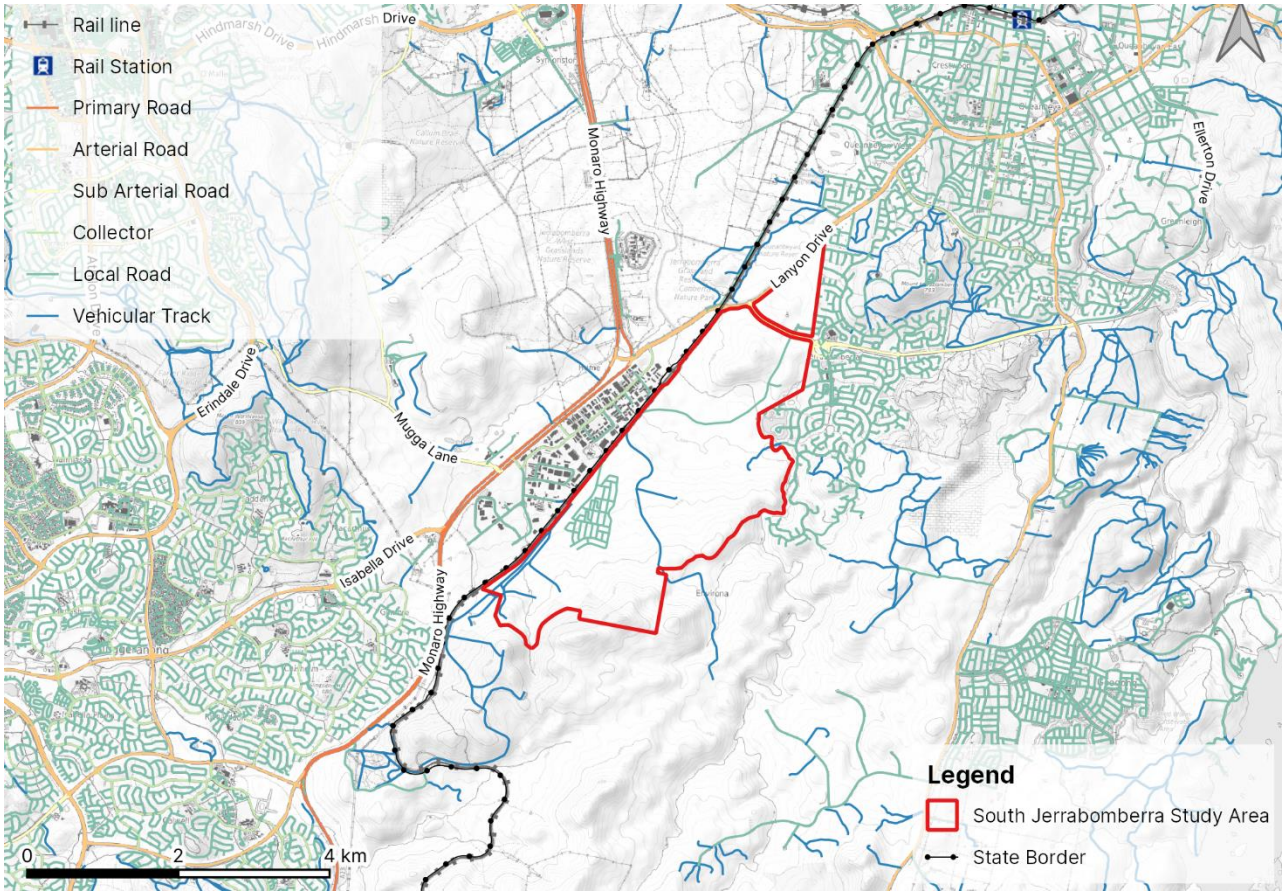

Figure 4–1 | Road and Rail Network around the South Jerrabomberra RJP site

The quality of existing arterial road network infrastructure surrounding the precinct is considered to be of a high standard, although it is noted that it has capacity constraints in is current configuration. It is also noted that the existing road network offers only a single arterial connection into the precinct, and as such, is vulnerable to high levels of congestion depending on the density and extent of development associated with the RJP and adjacent residential areas. Furthermore, as discussed below, strategic modelling indicates that the local arterial road network is at or near capacity.

Network resilience is another important factor relating to the provision of a single arterial access to the precinct. It is apparent that a key consideration for the RJP will be the provision of additional accesses to the precinct.

4.1.1 Arterial Road Access

Tompsitt Drive / Edwin Land Parkway

Tompsitt Drive provides the main arterial connection to the RJP through its intersection with Environa Drive (refer Figure 4–2). It is an east-west orientated urban dual carriageway generally with two lanes in each direction and has a posted speed of 80 km/h between Lanyon Drive and Jerrabomberra Circle. It is a high standard arterial road

with median separation, 3.5 m lanes, 2 m nearside shoulders and 1 m offside shoulders. Tompsitt Drive is fully lit with kerbs and a piped drainage system.

Figure 4–2 | Environa Dr intersection with Tompsitt Dr (source: Metromaps, 2022)

To the west of Jerrabomberra Circle, the east-west movement connecting to Queanbeyan is serviced by Edwin Land Parkway – a two-lane single carriageway with a posted speed of 70 km/h that reduces to 50 km/h on approach to the Numeralia Dr / Stringybark Dr and Jerrabomberra Circle roundabouts.

Lanyon Drive

Lanyon Drive is a significant arterial road and one of the main connections between southern Canberra and Queanbeyan. It is a dual carriageway with two lanes in each direction and has a posted speed of 80 km/h between the Monaro Highway and McCrae Street. It is a high standard arterial road with median separation, 3.5 m lanes and generally 2 m nearside shoulders.

Whilst it is considered unlikely that the RJP would have a direct connection to Lanyon Drive, it is expected to convey a proportion of western movements generated by the RJP through its signalised connection to Tompsitt Drive. This intersection is configured to provide high capacity for the Lanyon Drive (west) / Tompsitt Drive movement with triple left turn lanes from Tompsitt Drive into Lanyon Drive and dual right turn lanes for the return movement (refer **Figure 4-3**).

Figure 4–3: Lanyon Dve intersection with Tompsitt Dve (source: Metromaps, 2022)

Monaro Highway

The Monaro Highway is one of two peripheral north-south arterial / freeway corridors in Canberra and comprises a key part of the ACT's road network. It conveys commuting peak traffic, through movements to Sydney and Cooma, and is an important freight corridor providing access to key industrial and commercial areas such as Fyshwick and Hume, in addition to residential, commercial and industrial uses in Queanbeyan.

The majority of traffic generated / attracted to the RJP from Canberra will route along the Monaro Highway and as such it is a key element of the road transport network for the RJP. Lanyon Drive connects to the Monaro Highway through at-grade signalised intersections (refer **Figure 4-4**).

Figure 4–4: Lanyon Dve intersection with Monaro Highway (source: Metromaps, 2022)

The Monaro Highway corridor is generally a 100 km/h dual carriageway free flow freeway, although it reduces to 80 km/h where there are several signalised intersections between the Isabella Drive roundabout and the David Warren Road intersection. It is a high standard road with a large median separation, 3.5 m lanes and 2.5 m nearside shoulders. It is noted that the ACT government is currently undertaking upgrades to this corridor in the 80 km/h

zone, in addition to planning further future upgrades which will increase capacity and has implications for the RJP. These upgrades are discussed in more detail in Section 4.5.

Given the access to and proximity of the Monaro Highway to the precinct, this transport corridor will be an important consideration in the assessment of the RJP.

Isabella Drive
Isabella Drive is an east-west orientated arterial road that routes through the Tuggeranong district of south Canberra, connecting to the Monaro Highway through a large diameter roundabout. The eastern part of Isabella Drive (proximal to the RJP) is a median separated dual carriageway posted at 80 km/h. A high proportion of the Tuggeranong-based traffic accessing the RJP is likely to use Isabella Drive, either via the Monaro Highway / Lanyon Drive or alternatively through a future grade separated interchange (refer Section 4.5) should a southern connection to the RJP be provided. Similarly, this will be the main point of access to the southern part of the RJP precinct.

4.1.2 Secondary Access Points

In addition to adjacent / surrounding arterial roads, there are also lower-hierarchy roads around the precinct that have the potential to provide secondary, non-arterial access to the RJP. These would include:

- **Hume** – Local road connections to the Hume industrial precinct across the existing rail corridor. The Hume industrial area is primarily a collection of wide local and collector roads with high volumes of heavy vehicle movements. The degree to which such connections could be utilised would depend largely on:
    - future congestion on adjacent arterial roads (e.g., Monaro Highway, Lanyon Drive and Tompsitt Drive) and the provision of future upgrades on these corridors
    - the nature of the connection and the impact it would have on the local Hume road network (volumes, level of service, light/heavy vehicle interaction etc)
    - whether a southern connection in the precinct is provided
    - inter-jurisdictional approval of a cross-border connection into the Hume precinct. It is noted that, during the consultation process, the ACT raised several concerns relating to such connections, citing challenges around network capacity, vehicle type mix, and safety, indicating that a connection from the RJP into Hume would not be supported.
- **Jerrabomberra** – Local road connections to the Jerrabomberra residential area. Such connections are likely to only service local trips and are not anticipated to take a significant traffic load. Notwithstanding, local road connections into the RJP would likely be through relatively narrow, low speed local road connections and could change the nature of some local residential streets. As such the impact on residences would need to be considered.

4.1.3 Internal Road Network

The primary internal road within the RJP is the recently constructed Environa Drive. Environa Drive is a collector road that services the residential subdivision of Tralee that is currently under development. The road is a dual carriageway from the Tompsitt Drive intersection 600m south, including a signalised intersection at Woseley Place, then narrows to a two-lane single carriageway for the remainder of its length. Environa Drive is currently posted at 70 km/h, however it is anticipated that a 40 km/h school zone will be introduced in the future and the potential future requirement for a 60 km/h zone in the northern section of the corridor has been noted by QPRC.

Figure 4–5 | Recently constructed Environa Dve (Metromaps, 2022)

In addition to Environa Drive, several narrow-unsealed tracks traverse the RJP that provide access to properties within the precinct. None of these are considered likely to be suitable to service the RJP and a new internal subdivision local road system is proposed in the Master Plan to service the proposed rezoning of land in Environa, associated with the approvals for the Regional Sports Centre and North Tralee Industrial subdivision and to improve north-south movements adjacent to the high school. The proposed roads are shown in the Master Plan in Figure 3–1.

4.1.4 Current Traffic Volumes

The Canberra Strategic Transport Model (CSTM) is maintained by the ACT government in TransCAD and contains parts of NSW that are important to the ACT transportation networks, including Queanbeyan and some of the Yass region. The model is primarily used for ACT transport planning projects, but the inclusion of Queanbeyan lends its use to this project. The version of the CSTM used for this assessment is referred to as the "Interim Model" and was endorsed by the ACT Government on 15 August 2022.

In line with the Canberra section of the model, land use, road network and public transport assumptions are included for these surrounding NSW areas, with forecasting available to 2041. The relevant extents of the model and the location of the South Jerrabomberra RJP within it are shown in Figure 4–6.

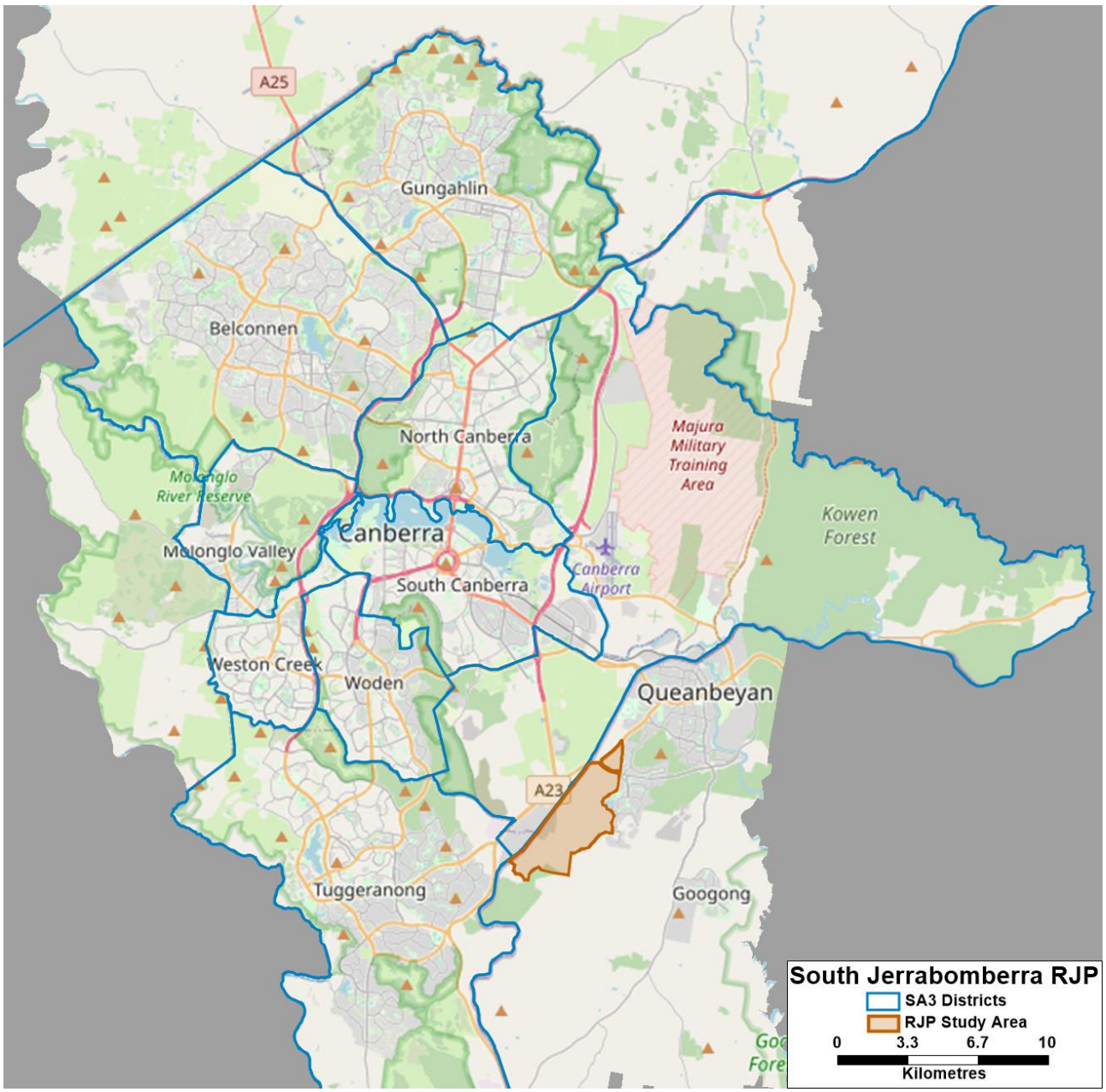

Figure 4–6 | CSTM Showing South Jerrabomberra RJP Study Area

The CSTM contains traffic volumes for the AM and PM peak periods in 2021. These are presented as volume diagrams in Figure 4–7 and Figure 4–8 respectively, which show hourly peak traffic volumes for the study area and surrounding roads.

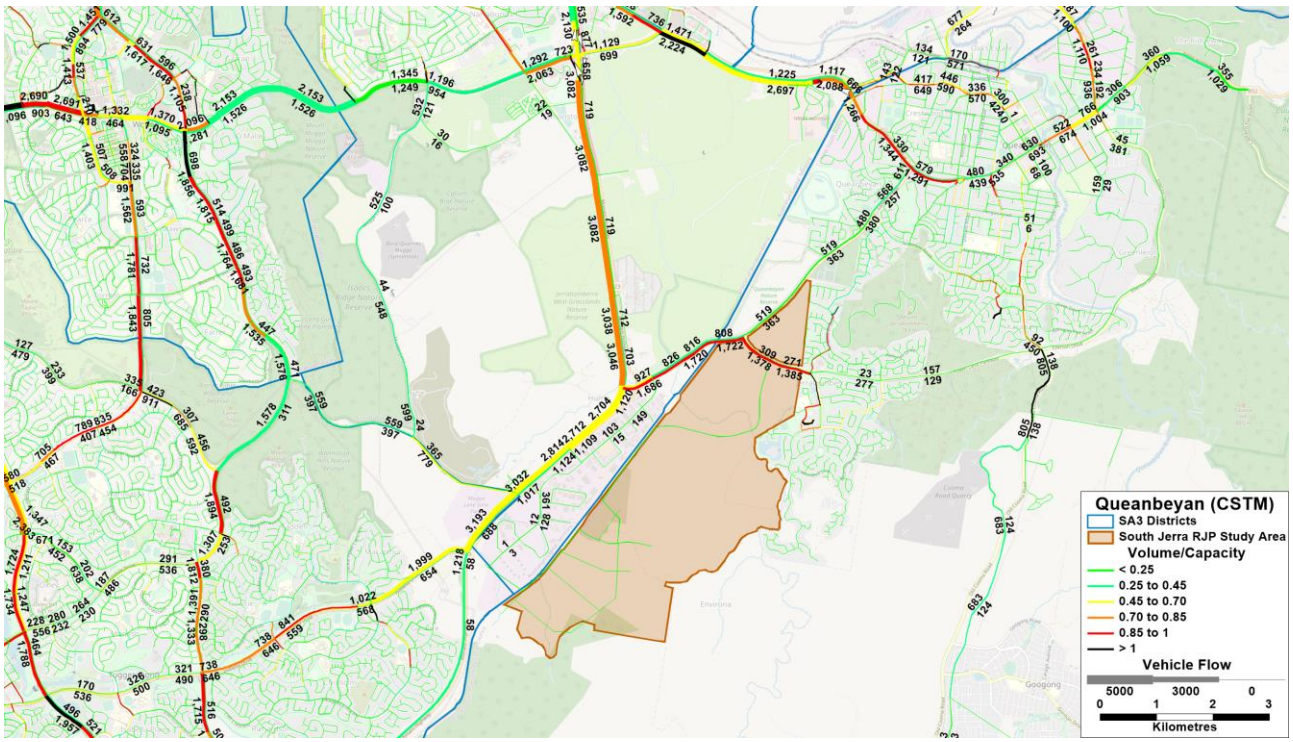

Figure 4–7 | CSTM 2021 AM Peak Hour Volumes

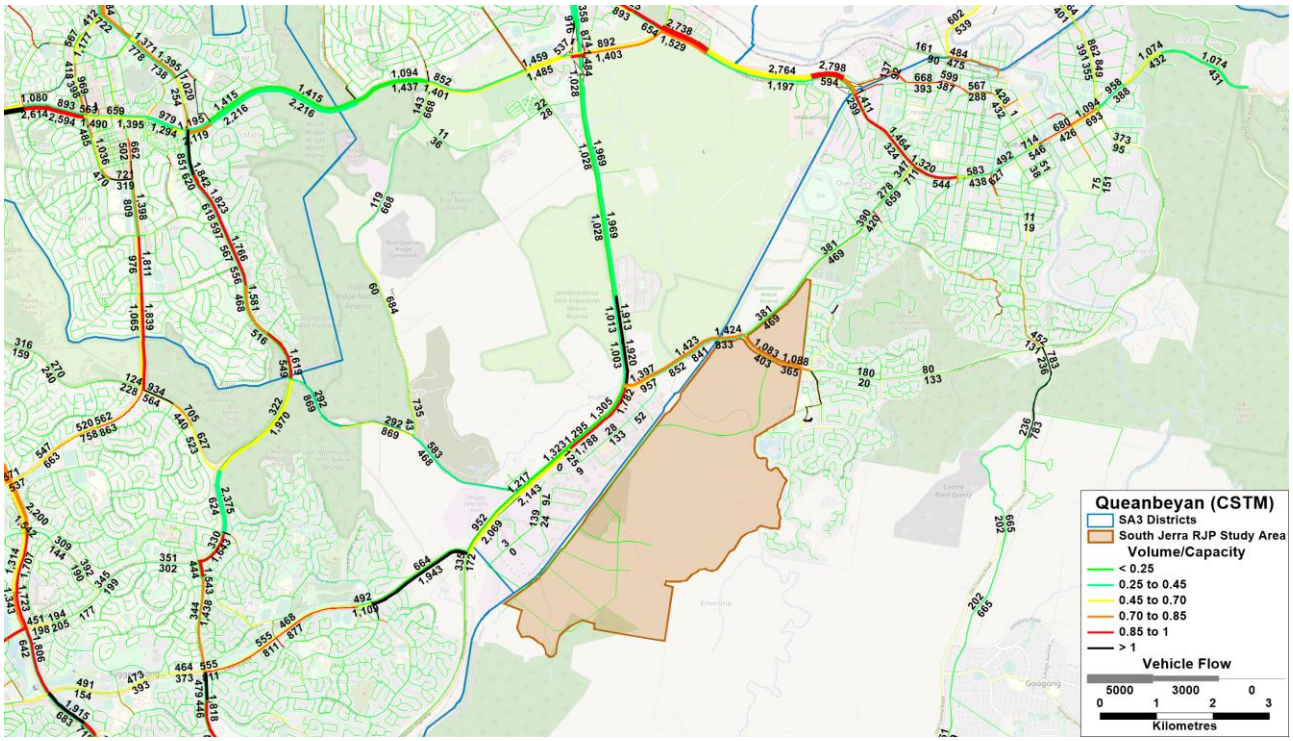

Figure 4–8 | CSTM 2021 PM Peak Hour Volumes

These diagrams also indicate the level of congestion, defined in terms of *Volume/Capacity* (*V/C*), which is measured as a proportion of each road's nominal capacity in vehicles/hour. The links are colour coded by *V/C* in green through red for roads that are under capacity, followed by black for roads that exceed their nominal capacity.

The above diagrams indicate that there are currently capacity issues surrounding the intersection of Monaro Highway – Lanyon Drive in both peak periods. In the AM peak period, Tompsitt Drive and Lanyon Drive westbound operate close to their respective capacities, while in the PM peak period Monaro Highway southbound and Isabella Drive westbound operate above their respective capacities. These indicate that road network upgrades will be

required to support additional traffic generated by the South Jerrabomberra RJP. Selected current modelled traffic volumes for the surrounding area are shown in Table 4–1.

Table 4–1 | Selected CSTM Peak Hour Volumes

Location	Orientation	2021 AM		2021 PM	
		NB/EB	SB/WB	NB/EB	SB/WB
Monaro Highway north of Lanyon Drive	N-S	3,046	703	1,003	1,920
Lanyon Drive east of RJP/Tompsitt Drive	E-W	519	363	381	469
Lanyon Drive west of RJP/Tompsitt Drive	E-W	816	1,720	1,423	841
Monaro Highway south of Lanyon Drive	N-S	2,704	1,120	1,305	1,782
Tompsitt Drive east of RJP	E-W	271	1,385	1,088	365
Edwin Land Parkway	E-W	157	129	80	133
Mugga Lane	E-W	365	779	583	468
Isabella Drive	E-W	1,999	654	664	1,943
Monaro Highway south of Isabella Drive	N-S	1,218	58	335	172

It should be noted that the 2021 volumes generated by the CSTM may vary from actual observed volumes on the network. Whilst the model was validated primarily to 2016 traffic counts across the network, there may be discrepancies between actual and modelled volumes for some road links. Nevertheless, the modelled volumes on Lanyon Drive are within ±15% of observed 2016 volumes allowing for an annual growth rate of 2.5% p.a. It is noted however, that advice from QPRC indicates that surveyed volumes on Tompsitt Drive in 2019 were higher than predicted in the modelling. Notwithstanding, it is noted that this version of the CSTM has been successfully calibrated and validated to the operation of overall Canberra and Queanbeyan road network and is considered appropriate to understand potential future demand on the network.

4.1.5 Road Freight

Given the potential for industrial land uses in the RJP, and the adjacent industrial land uses in Hume, road freight access to and within the site will be an important consideration. In terms of connectivity to the RJP, it is noted that there are constraints on access to the site. Whilst there is full B Double access to key elements of the arterial road network and parts of the local Hume network in the ACT (refer Figure 4–9), B Doubles greater than 19 m in length do not have access to Tompsitt Drive (refer Figure 4–10). As such, currently only 19 m B Doubles can access the proposed RJP.

Given the current B Double route restrictions, it is noted 25 m B Double vehicles cannot currently access the proposed RJP. To resolve this access issue, reclassification of Tompsitt Drive will be required. Advice from QPRC during Master Plan development workshops indicated that no physical works would be required to the local arterial road network in order to facilitate access for 25 m B Double vehicles. Similarly, as Environa Drive is newly constructed, it does not appear on TfNSW mapping as a classified B Double route, however advice from Council was that Environa Drive is a B Double capable route to Jerrabomberra Creek.

Another potential B Double access solution could be to provide a local B Double capable connection into Hume that links into a currently classified B Double route. Given ACT feedback about cross border connectivity into Hume, such a connection would necessarily be a southern access, likely via the Isabella Drive Extension, discussed in Section 5.3.1.4. Depending on the nature of development that occurs in the RJP, 25 m B Double access to the precinct may be required and upgrades to the arterial road network may be necessary.

Figure 4–9 | ACT B Double network (indicated in red) (source: ACT Government, 2022)

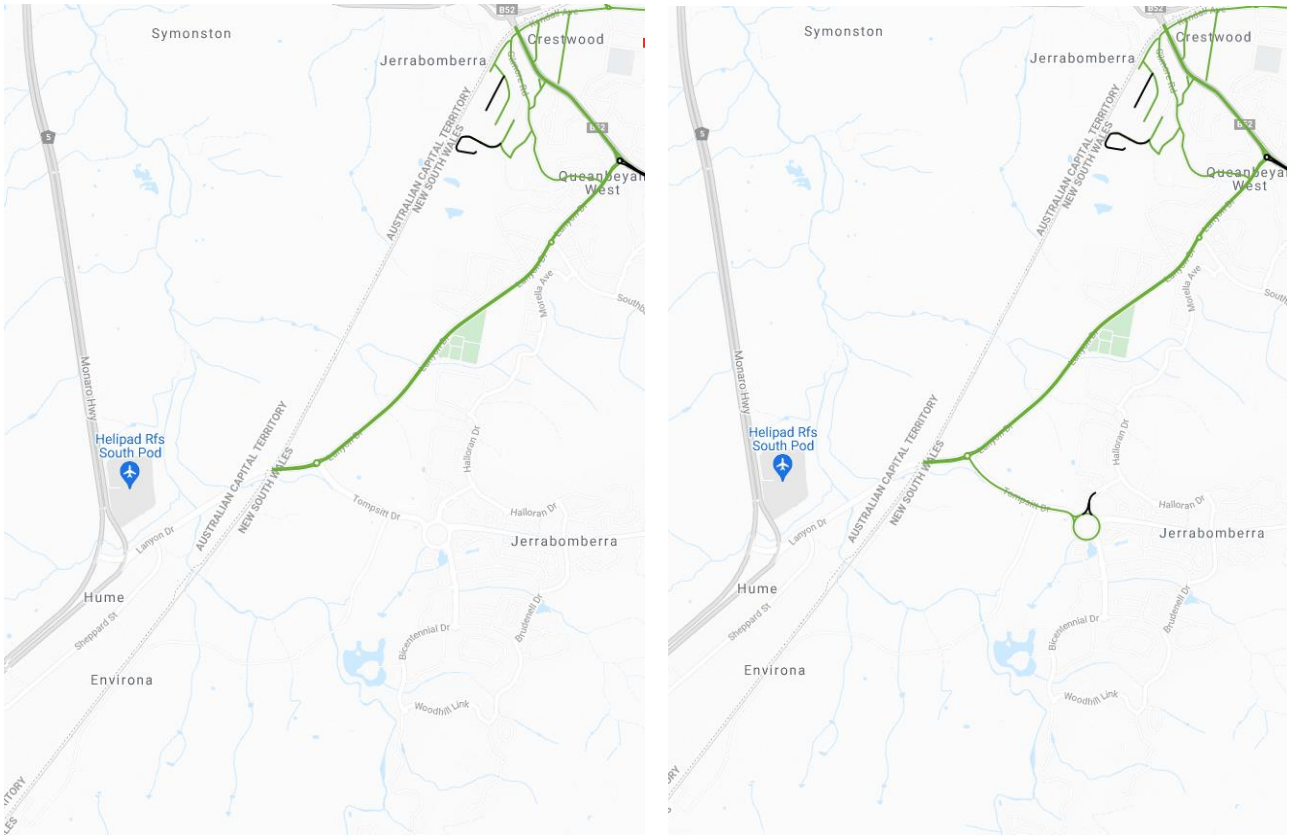

Figure 4–10 | NSW B Double networks in green

Left: 25 m GML / CML / HML routes | Right: 19 m GML / CML routes as of 15 December 2021 (source: TfNSW 2022)

4.2 Rail Network

4.2.1 Existing Railway

The Bombala Rail Line is a branch line from the Main South line at Joppa Junction, and heads south through Tarago, Bungendore, Queanbeyan, Cooma and terminates in Bombala (refer Figure 4–11). The Country Rail Network (CRN) is owned by Transport for NSW and operated and maintained by John Holland Rail. The operation and maintenance contract is to be renewed in early 2022 and will be taken over by UGL.

The Bombala line commenced operations in about 1887 terminating at Cooma, and the Bombala extension was commissioned in about 1921. The line section south of Queanbeyan is non-operational, however a branch line from Queanbeyan to Canberra supports the daily TrainLink Xplorer services between Canberra and Sydney.

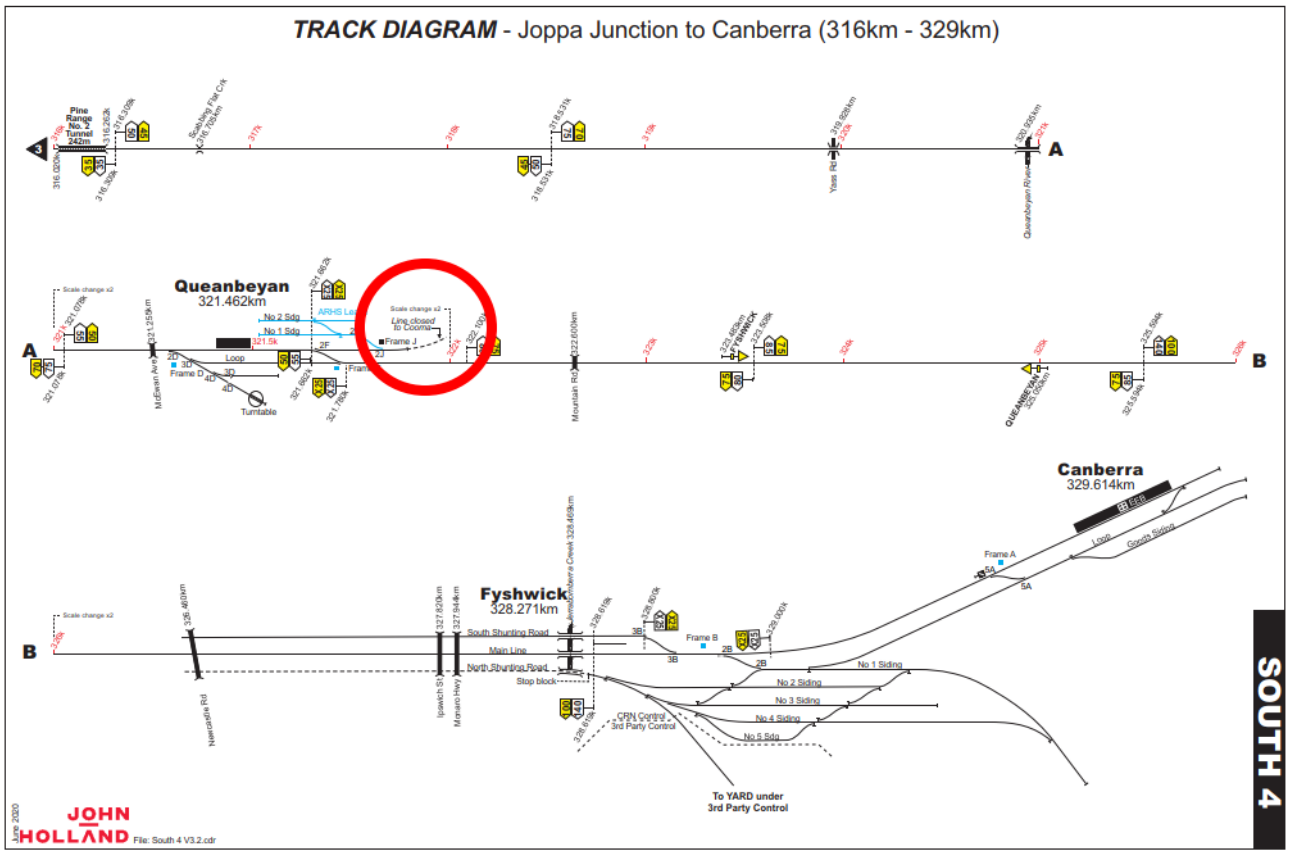

Figure 4–11 | Track diagram – line to Cooma closed (source: John Holland, 2020)

A small section of the Bombala Line was restored to run short historic tourist trips, between Chakola and Cooma (Cooma Monaro Railway) from the late 1990s to the early 2010s until deemed unsafe. It is also understood that the section of line between Queanbeyan and Hume may have been used by log trains for a short period of time from 1999.

The South Jerrabomberra RJP site lies adjacent to a non-operational section of the Bombala Rail Line and is south of the Queanbeyan Junction / Canberra Branch Line. In the absence of any rail survey, it is estimated that the rail corridor lies immediately adjacent to the proposed RJP for approximately 4.9km. Assuming a Chainage (Ch) of 0.0 at the approximate turn-out location to the Canberra Branch, the site extends from Ch 5.6 to 10.5 km as illustrated in Figure 4–12.

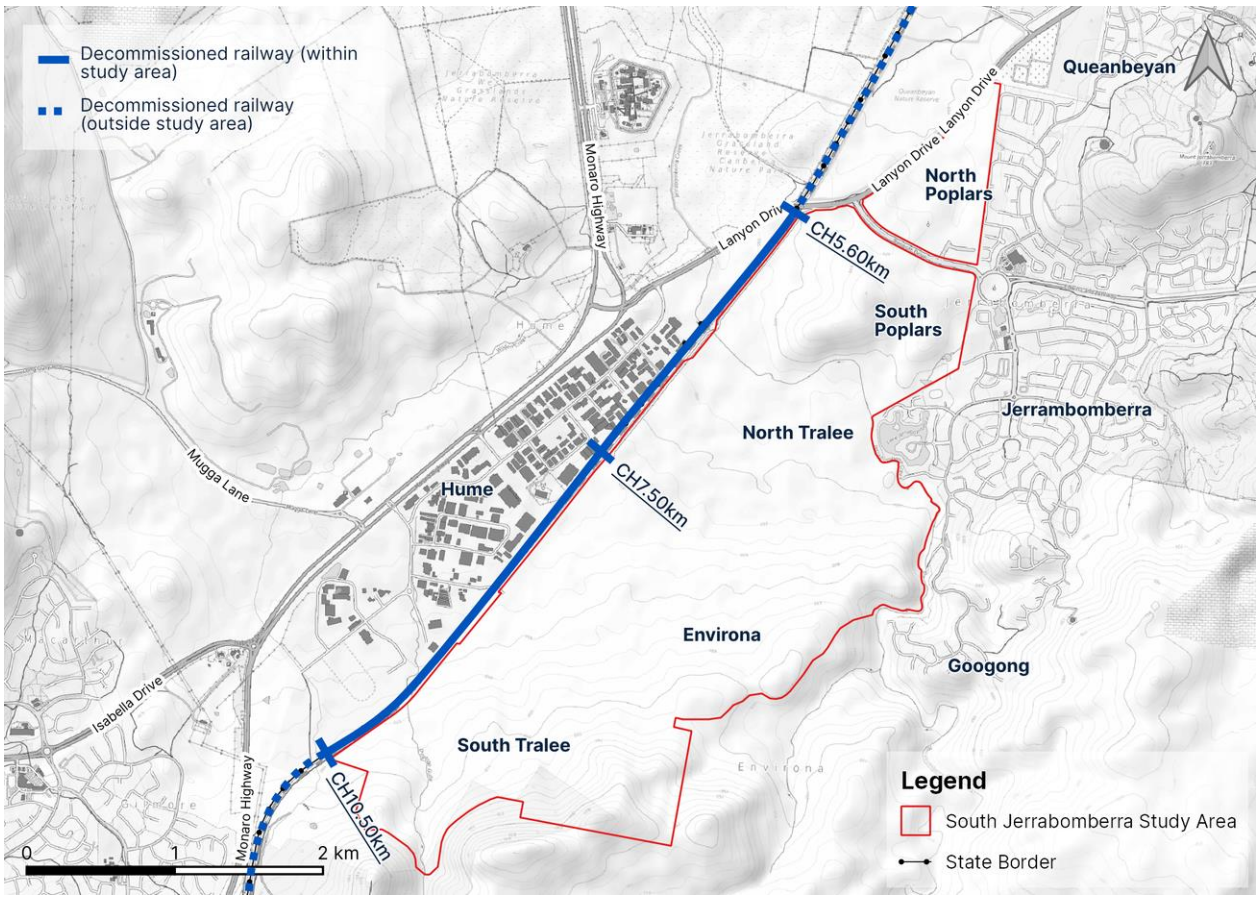

Figure 4–12 | Approximate distance / rail chainages from Canberra turnout

4.2.2 Servicing South Jerrabomberra RJP with Rail

The reestablishment of rail in the existing railway corridor and specifically, the provision of an intermodal facility to support the development of the RJP has been assessed as part a separate component of the RJP investigations. Rail freight in the context of connectivity to the airport and waste from Mugga Lane landfill to Tarago in addition to proposed Master Plan land uses were considered in the assessment of the intermodal facility. The assessment found that it is not economically feasible to re-establish the rail line and create an intermodal facility within the South Jerrabomberra RJP, noting that:

- There would unlikely be sufficient freight volumes that are contestable by rail to make an intermodal feasible
- The proximity of the RJP to Sydney means that road transport would be cost advantaged for freight
- There is a lack of market support from rail operators to develop the site
- Given the infrastructure upgrades required, a return on investment for an intermodal would be difficult
- The proposed RJP Master Plan is unlikely to enhance the potential rail volumes within the precinct

Alternative uses of the rail corridor, for example for active travel as part of the Monaro Rail Trail, could be explored in the Master Plan, however it is noted that the presence of biodiversity constraints within the corridor may impact feasible re-use options. Additionally, it is understood that there is agreement with TransGrid to place high voltage power supply within the rail easement to service the needs of the site.

4.3 Active Travel

The existing active travel and public transport network around the RJP area is extremely limited, primarily due to its remote location and lack of existing land use. Key aspects of the existing network in the surroundings areas, and opportunities for active travel upgrades, include:

- Canberra has an extensive cycling network based on a hierarchical structure. Named primary cycling routes to connect key destinations, while a secondary network provides coverage and access to the named routes. A primary off-road route connects Queanbeyan town centre to Canberra city centre, but there are limited cycling facilities across the rest of Queanbeyan.
- The proposed Monaro Rail Trail would start at the Queanbeyan Railway Station and provide a smooth, flat connection to the RJP. However, the proposed trail runs along the northern and western edges of Queanbeyan urban area and therefore has a slightly limited catchment. Connectivity to the rail trail should be provided from the CBD and other key locations along the trail.
- The recently constructed Edwin Land Parkway includes an off-road cycle path between Jerrabomberra Circle and Cooma St.
- Most arterial roads through Queanbeyan have footpaths on one or both sides, but these are not able to be used by cyclists.
- Monaro Highway and Isabella Drive include on-road cycle lanes, which provide connectivity to areas in the ACT, albeit not attractive for general use due to the high-speed traffic environment.
- Environa Drive includes a shared path along its entire length, connecting to the path along Edwin Land Parkway.
- Environa Drive also has on-road cycle lanes marked along the entirety of its length.
- The QPRC Integrated Transport Strategy recommends the development of off-road cycle paths along Ellerton Drive and Cooma St. These paths would connect to the existing path along Edwin Land Parkway and provide cycle access to the RJP from most of Queanbeyan.
- All of Queanbeyan, along with most of South Canberra, Woden Valley and Tuggeranong are located within approximately 12km of the RJP site, which is considered a cyclable distance. The provision of appropriate paths, especially on the ACT side of the RJP, would increase the active travel mode share.
- Major roads around the RJP (Monaro Highway, Tompsitt Drive and Lanyon Drive) constitute barriers to active travel movements and appropriate crossing opportunities should be provided.
- The RJP area is generally relatively flat and provides good opportunities for easy active travel movement around and through the site, which is expected to assist with uptake of active travel in the area.
- Pedestrian and cycle access to and through the RJP should be separated from general traffic, particularly heavy vehicles, wherever possible.
- The RJP should include excellent end-of-trip facilities, which could be provided at key locations in the development, separately inside each building, or both. Centralised end-of-trip facilities offer opportunities for small businesses, including bicycle repair/maintenance and cafes. Council should update their Development Control Plan to ensure end of trip facilities are provided for all developments.

Figure 4–13 | Shared User Path and on-road cycle lanes established along the northern section of Environa Drive

Figure 4–14 | On road cycle path on the southern section of Environa Drive, to the south of the future high school

Figure 4–15 | Shared User Path adjacent to future local centre in Tralee and on-road cycle lanes in both directions along the southern portion of Environa Drive

Figure 4–16 shows additional detail of active travel facilities across Queanbeyan. The figure shows an extensive path network, usable by pedestrians, that could be extended to the RJP area. Most of Jerrabomberra would be considered a walkable distance (less than 2km) to the RJP, which provides a catchment of approximately 9,500 people (2016 ABS Census).

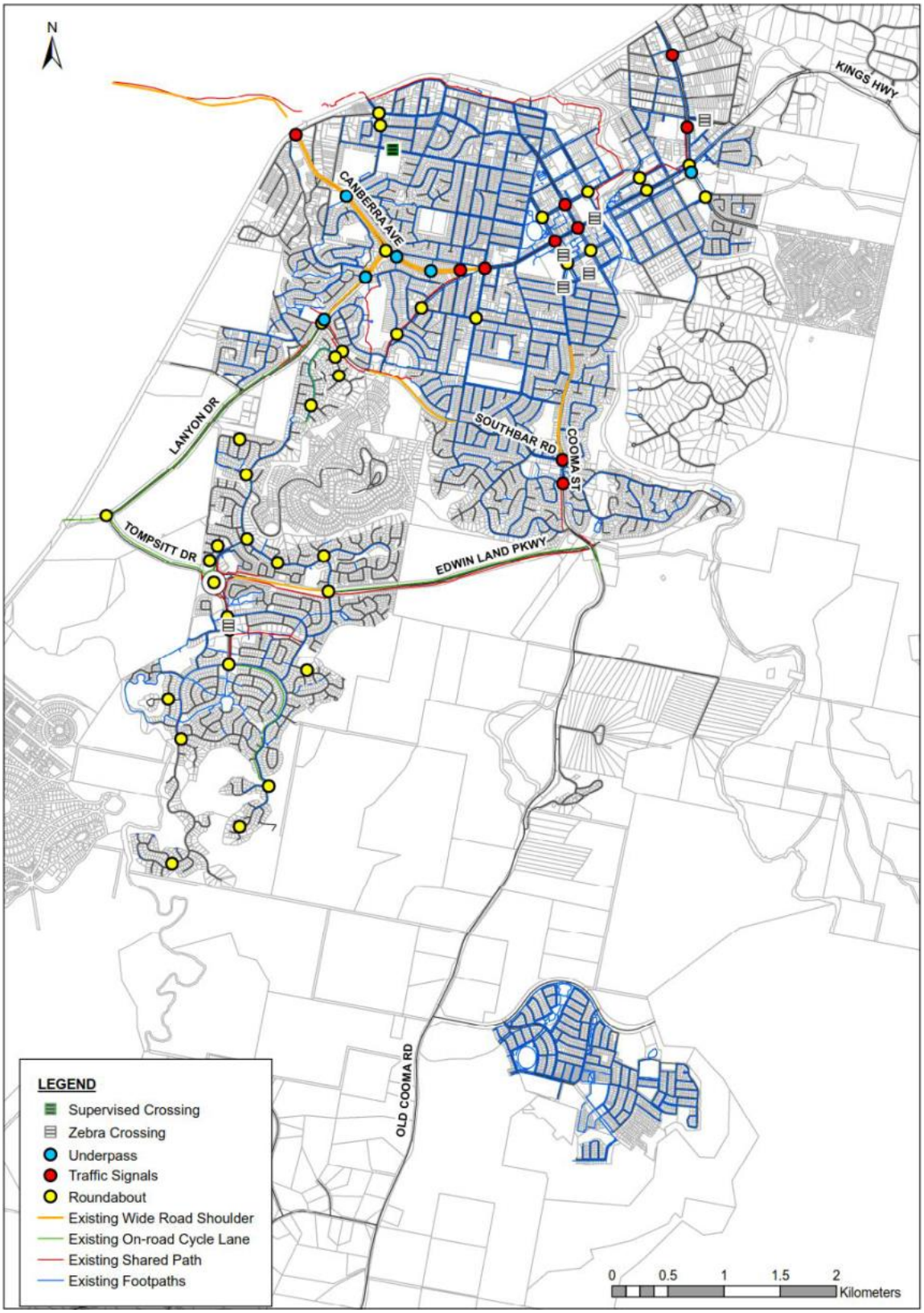

Figure 4–16 | Existing Active Travel Facilities in Queanbeyan (Source: Queanbeyan Bicycle and Pedestrian Facilities Plan)

4.4 Public Transport

Both Canberra and Queanbeyan operate bus networks providing transport options for residents, with Transport Canberra operating in Canberra and Qcity Transit operating in Queanbeyan. Cross-border services are only offered

by Qcity Transit, and fares are not transferable between operators. Only one existing service operates in the RJP, while a second operates in Jerrabomberra, as shown in Table 4–2.

Table 4–2 | Existing Bus Services near the RJP

Operator	Service No.	Bus Route	No. of Services	Start Time	End Time
Qcity	835	Tralee to Queanbeyan via South Jerrabomberra & Queanbeyan West (Loop Service)	12 Services (Mon-Friday) 5 Services (Sat)	06:20	19:50
	836	Jerrabomberra to Queanbeyan (Loop Service)	13 Services (Mon-Friday) 6 Services (Sat)	06:15	20:08
Transport Canberra	182	Lanyon to City West	3 Services (Mon-Friday)	06:23	08:19
		City West to Lanyon	5 Services (Mon-Friday)	16:10	19:08
	902	AMC Shuttle (Woden – Hume Loop)	8 Services (Mon-Friday) 8 Services (Sat-Sun)	07:41	19:35

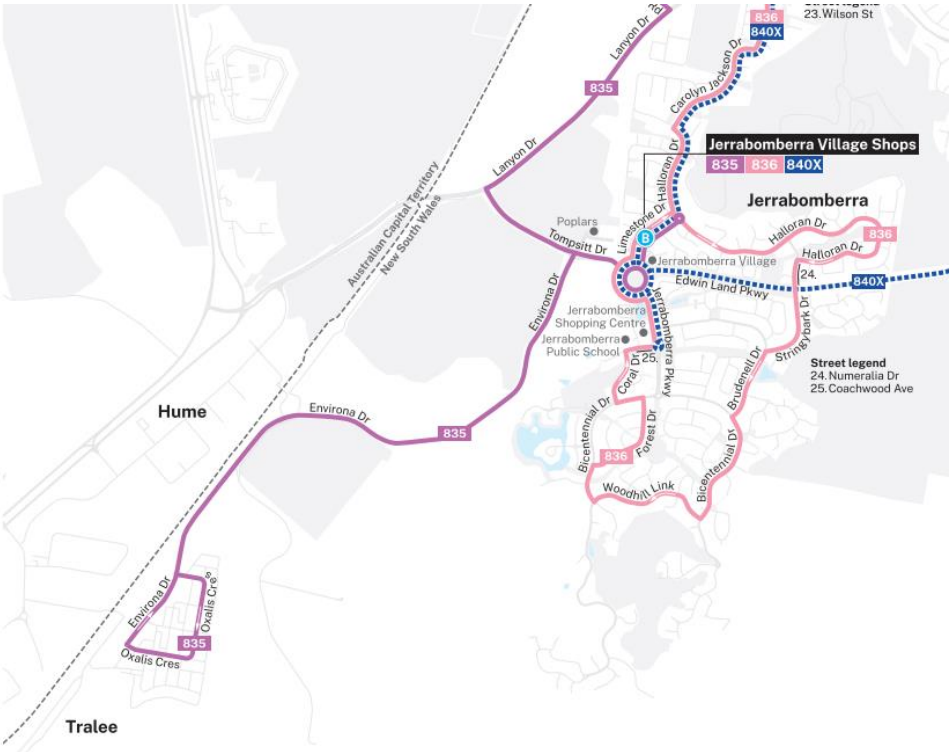

Figure 4–17 | Existing Qcity bus routes around RJP

	902	AMC Shuttle (Woden – Hume Loop)	8 Services (Mon-Friday) 8 Services (Sat-Sun)	07:41	19:35

Figure 4–17 shows the existing Qcity bus routes near the RJP. Route 835 travels to Queanbeyan Interchange via Canberra Avenue, while Route 836 travels via Cooma St.

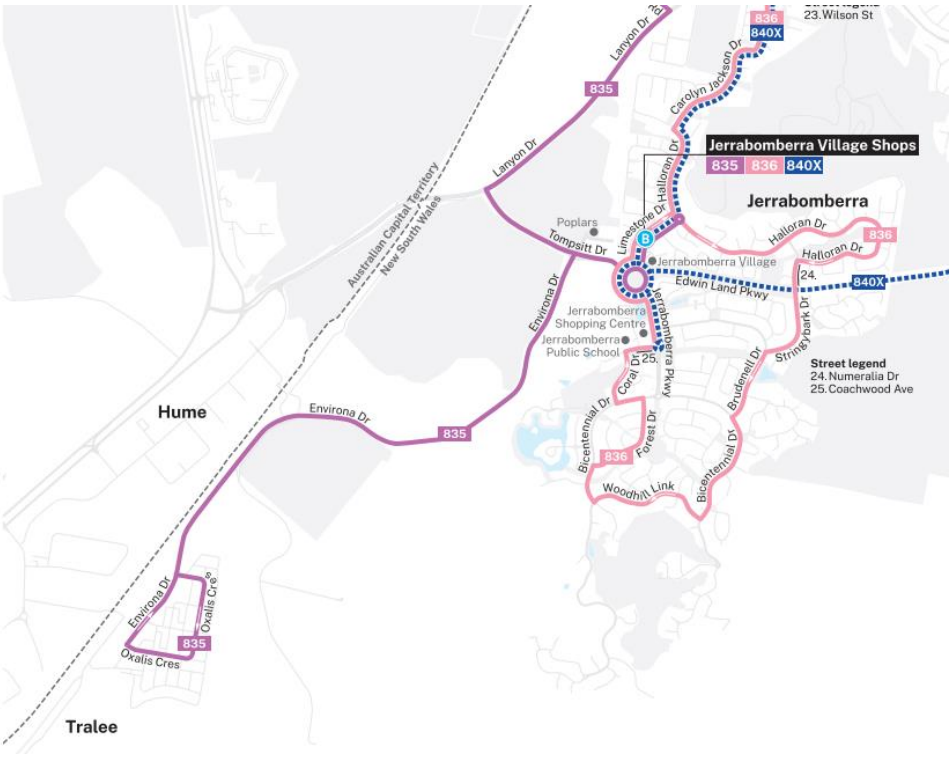

Figure 4–18 | Existing routes near the RJP

Figure 4–19 shows the existing routes near the RJP, including Transport Canberra and Qcity routes. Route 182 is a peak express service that runs only in the peak direction (towards the city in the AM peak and away from the city in the PM peak). Route 902 is a shuttle that runs between Woden Town Centre and various destinations, including the Alexander Maconochie Centre.

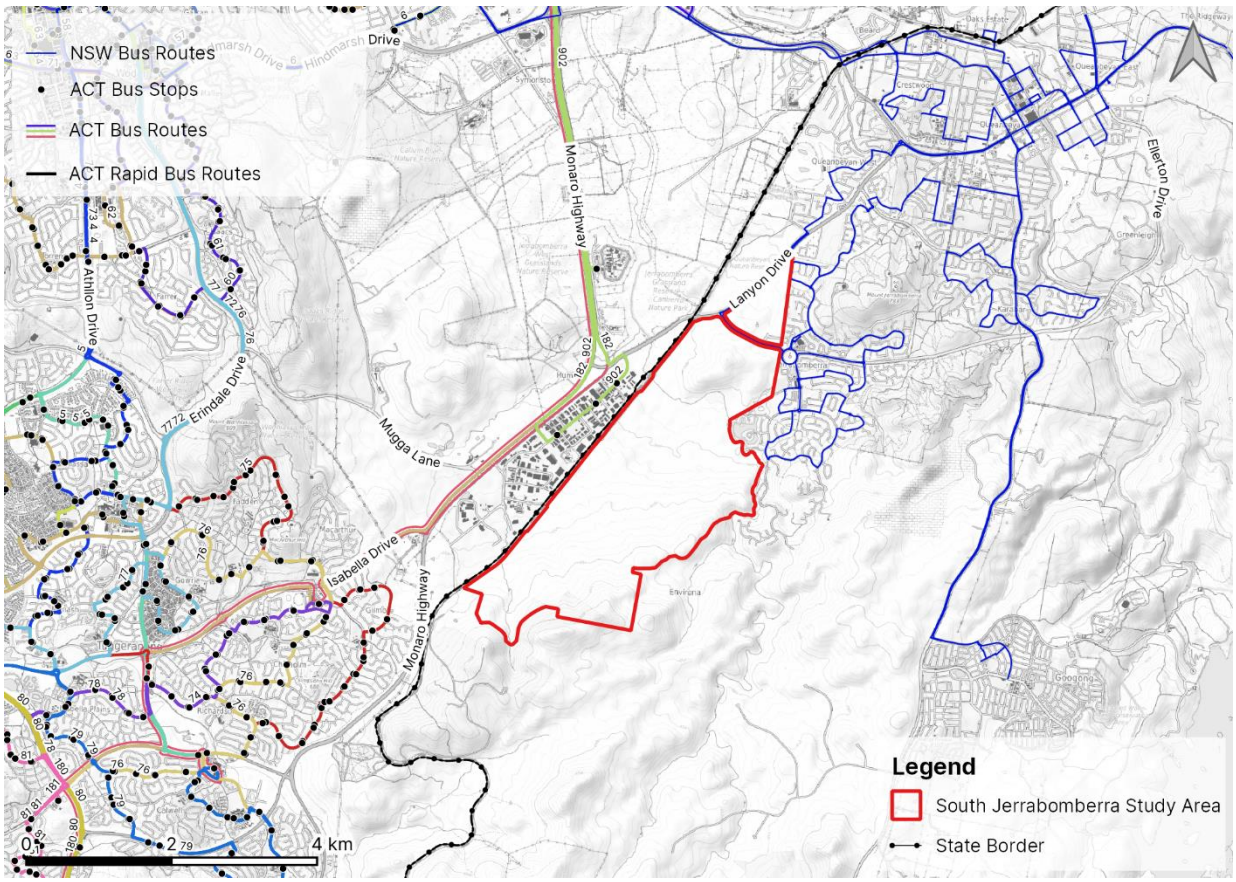

Figure 4–19 | Existing TC Routes Near the RJP (Source: Transport Canberra) (Note: NSW bus routes are indicative)

Canberra and Queanbeyan both have bus networks that offer good coverage and access to key destinations.

The RJP could be serviced from the Queanbeyan Interchange by extending Routes 835 and 836, but consideration should be given to providing an additional service that offers a faster and more direct connection between the Queanbeyan Interchange and the RJP. This service could run between Queanbeyan and the RJP via Lanyon Drive, Cooma Road and Edwin Land Parkway, or a loop covering both, as shown in Figure 4–20.

If the bus route follows a loop as shown in Figure 4–20, it should run in both directions to minimise delay for passengers. The proposed bus route should be implemented in its final form in Stage 1 of the RJP to prevent travellers from building the habit of travelling by private car. In the future, as the RJP is more developed, the frequency of the buses should be increased to improve route capacity and desirability. An interchange/transfer opportunity should also be considered at the intersection of Cooma Road and Edwin Land Parkway and near the intersection of Edwin Land Parkway and Jerrabomberra Circle. This would enable residents of Googong and Jerrabomberra to access the new public transport route to the RJP without having to travel all the way into Queanbeyan. Other possible transfer points should be identified as the RJP develops, and travel demand patterns are established. If demand warrants, direct buses from Googong or other areas to the RJP could be provided. Again, such buses should be as direct and as frequent as possible to increase their attractiveness.

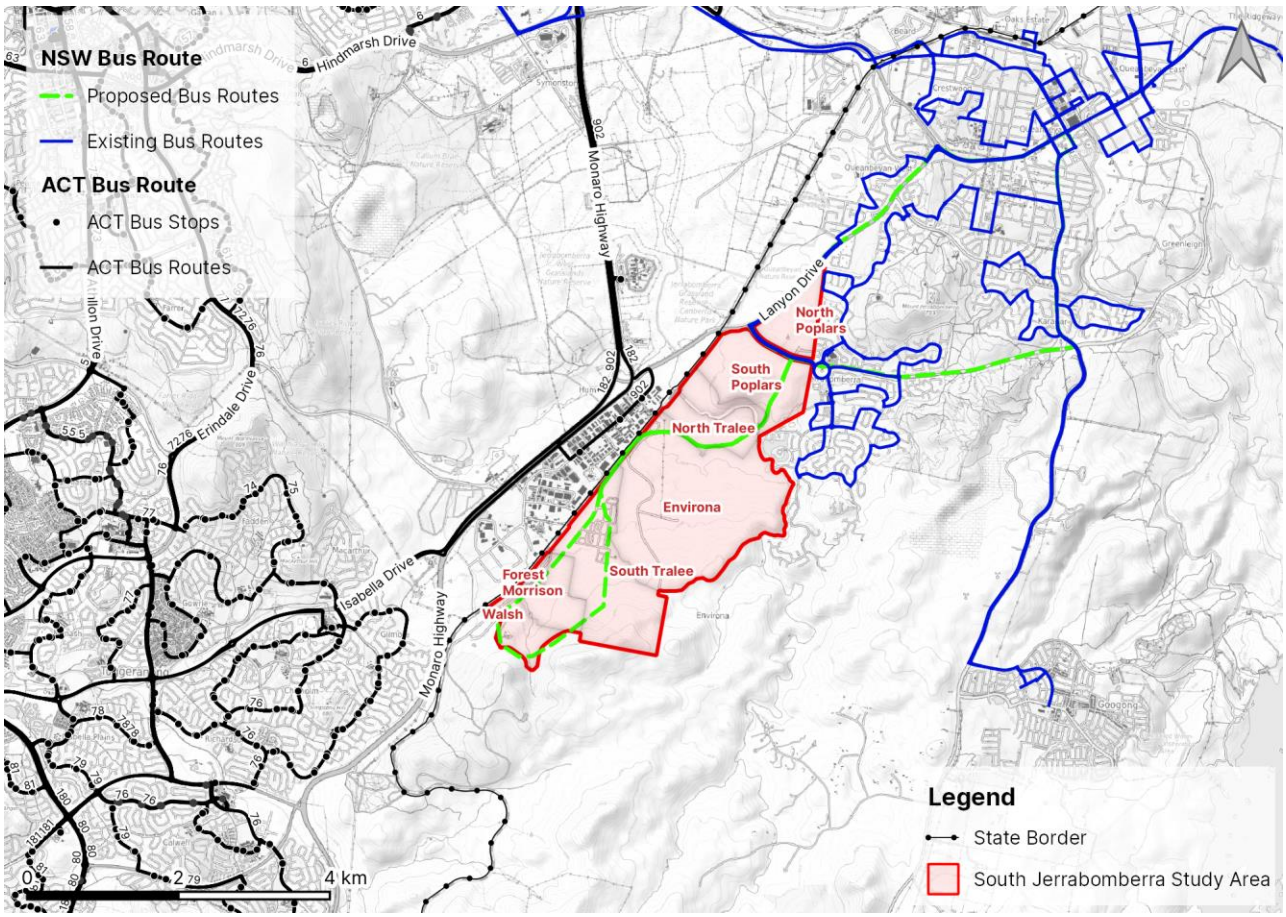

Figure 4–20 | Potential Bus Route to Service RJP via Lanyon Drive and Cooma Road

Due to the location of the RJP within NSW, it cannot currently be serviced by Transport Canberra buses (ACT), and anybody travelling across the border is likely to have to purchase two tickets, one from Transport Canberra to travel from their home to the nearest interchange point and then a second from the cross-border service (currently Qcity) to get to Queanbeyan and the RJP. The double charges, along with the need to wait and change buses, means that public transport access from Canberra to the RJP is unlikely to occur under the current ticketing and service regime. The location of the RJP means that most people travelling there from Canberra would be travelling against the peak direction, which would mean lower traffic volumes and delays, further reducing the attractiveness of public transport.

It is understood, that the ACT and NSW Governments are currently in discussions regarding cross-border public transport arrangements, and agreement on a unified fare structure and service arrangements will be key to providing transport choices for people travelling to and from the RJP. If agreement can be gained for Transport Canberra buses to be operated in NSW, the RJP should be serviced from the Woden Town Centre (ACT) using a loop service that runs along Hindmarsh Drive and Monaro Highway. Directing a new route via Woden Town Centre is logical as it is easily accessible from all other town centres in the ACT using rapid buses, which currently provide the most efficient service.

4.5 Planned Transport Infrastructure upgrades

There are several transport infrastructure upgrades planned or currently underway in the vicinity of the RJP. Table 4–3 summarises the key planned road and rail infrastructure upgrades in the RJP area and in the direct vicinity of the South Jerrabomberra region, indicating the location and details of each upgrade, and their potential implications for the RJP.

Upgrades have been sourced from the following websites:

- Queanbeyan-Palerang Regional Council – *Accessed 25 June 2024*

- DITRDC Infrastructure Upgrades – *Accessed 25 June 2024*
- ACT Government City Services – *Accessed 25 June 2024*
- Transport for NSW - Accessed 25 June 2024

Table 4–3 | South Jerrabomberra and Surrounds Planned Transport Infrastructure Works and Upgrades

Location		Infrastructure Description	Status	Implications for the RJP
1	Monaro Highway Upgrade, Hume (ACT)	Upgrades to the Monaro Highway Corridor, as part of the Canberra Avenue to Hume Project. This project is to be delivered in the following four parts: - Early works – utility relocations at the intersection of the Monaro Hwy and Lanyon Dr. - Grade separation of the Monaro Hwy / Lanyon Drive intersection including upgrades to David Warren Road - Grade separation of the Monaro Hwy / Isabella Drive intersection - Upgrades to the intersection of Monaro with Sheppard, Mugga and Tralee Streets (i.e., the 'Hume midblock')	- Under construction - Under construction - Preliminary design progress - Preliminary design progress	Significant – improved operation of the Monaro Highway in the vicinity of the RJP will substantially improve access commute times to the precinct in addition to enhanced safety. Grade separation of the Lanyon/ Monaro & Isabella/Monaro interchanges will improve mainline and interchange performance and the Isabella Dr interchange has the potential to facilitate access into the RJP.
2	Intersection Upgrades Crawford Street, Queanbeyan	Upgrades to the intersection involve: - Installation of traffic signals at the intersection, including the installation of a new signalised pedestrian crossing - Turning movement restriction at the Crawford/Erin and Campbell Street intersection - Additional lane to be added at Antill Street - Construction works also include relocating utilities, foundation and trenching works, demolition of the existing median, the construction of kerb/gutter, and the pavement work	Completed	Minor – will improve road network operation in the Queanbeyan CBD.
3	Queanbeyan River path	Queanbeyan River shared path will allow the navigation of	In progress	Minor – improvements to the River path network

	Location	Infrastructure Description	Status	Implications for the RJP
		pedestrians and cyclists from Queanbeyan CBD along the Queanbeyan River, to Ellerton Drive. The 2km loop within Queanbeyan CBD links the suspension bridge to the shared path bridge at Morisset Street		will broadly increase the attractiveness and mode share of active travel, however the Queanbeyan River Path is some distance from the proposed RJP.
4	Dunns Creek Road, Tralee - Googong	Linkage of Dunns Creek Road to Googong, from the Old Cooma Road and Googong intersection to the South Tralee development. Several route alternatives have been considered in response to various planning and environmental constraints	Preferred route is yet to be identified. St 1 - Tralee to Isabella Dr – construction funding committed - in planning St 2 – In planning	Significant as Dunns Ck Rd would provide additional arterial road access and substantially increase road network capacity and access for the RJP. Alternative alignments to be considered as part of the RJP Master Plan.
5	Monaro St Upgrade	Upgrade the section of Monaro Street between Lowe and Crawford Street to improve pedestrian and vehicle movement, replace pavement, promote place activation. Project will include: - footpath widening, - new paving, - additional planting and lighting, - new street furniture, - replacement of road surface, and - upgrade of utilities.	Planning with detailed design currently under procurement	Minor – will improve road network operation in the Queanbeyan CBD.
6	Kings Highway Corridor upgrades, Queanbeyan	Targeted upgrades along the Kings Highway corridor, east of Queanbeyan with the aim to improving the east-west connectivity between NSW and the ACT	Planning through delivery	Minor – upgrades are some distance from the RJP and not within a major freight route.
7	Monaro Rail Trail	Conversion of existing rail line from Queanbeyan to Bombala to a rail trail	Planning	Minor – the Monaro Rail Trail would provide a direct active travel link from Queanbeyan into the RJP, but active travel trips are a minor component of the travel demand.
8	Monaro Highway Shared Path	A shared path adjacent to Monaro Highway connecting Isabella Drive to Fyshwick	Part – under construction / Part in planning	Minor – the Monaro Highway Shared Path would provide a connection into the Canberra active travel

Location		Infrastructure Description	Status	Implications for the RJP
				network, but active travel trips are a minor component of the travel demand.

5 Recommended Upgrades

5.1 Introduction

This section provides a summary of the implications that the South Jerrabomberra RJP Master Plan would have on the existing traffic and transport network within and supporting the study area. Noting the staged assumption for uptake of land presented in the Master Plan (Section 3.4), the implications that the RJP development would have on the following key transport network infrastructure elements have been considered:

- Road Network
  - Arterial Road Network
  - Internal Road Network
- Rail Network
- Road Freight
- Active Travel
- Public Transport

The assessment also identifies required upgrades that may be used to support the transport network for the ultimate development scenario. Further detail recommending appropriate staging of infrastructure is provided in Section 6.

It is noted that due to the high-level nature of the master planning process, and the desire to allow flexibility in future land uses, a series of assumptions have been adopted to provide a representative sample of potential industrial and business uses that could be accommodated in the precinct. In identifying required transport infrastructure upgrades, it is intended to provide commentary on key pinch points and upgrades that may need to be considered to support the efficient and effective development of the RJP. This assessment is not intended to replace a Traffic Impact Assessment that would ordinarily be required to accompany a development application, and which would be expected to provide more targeted assessment of traffic generated by specific uses.

5.2 Traffic Generation and Distribution

5.2.1 Traffic Generation

5.2.1.1 RJP Master Plan

Based on the land use quantities and types described above, SMEC has conducted high-level traffic generation calculations for the RJP. Traffic generation calculations have been based on the *Guide to Traffic Generating Developments* (RTA, 2002) and the subsequent Technical Direction TDT 2013/04 which provides further detail on some land use types.

TDT 2013/04 provides an average traffic generation rate for regional industrial parks based on floor area, along with maximum and minimum rates. There are also details of possible traffic generation based on the number of employees in an industrial estate. Traffic generation has been calculated for the following trip generation rates:

- Regional Average: average traffic generation rate surveyed for industrial estates (reference scenario)
- Regional Minimum: minimum generation rates surveyed (sensitivity scenario)
- Regional Maximum: maximum generation rates surveyed (sensitivity scenario)

Table 5-1 shows the possible generation for the RJP across the development horizon at each stage for the land uses for each of the generation rate categories described above.

Table 5-1 | Potential Traffic Generation for the RJP

		Existing			Stage 1			Stage 2			Future		
		AM Peak	PM Peak	Daily	AM Peak	PM Peak	Daily	AM Peak	PM Peak	Daily	AM Peak	PM Peak	Daily
Regional Average	North Tralee	0	0	0	397	540	4,787	397	540	4,787	397	540	4,787
	Environa View	0	0	0	0	0	0	217	242	2,431	3,097	3,451	34,643
	South Tralee (N)	214	195	2,033	257	242	2,507	257	242	2,507	257	242	2,507
	North Poplars	142	158	1,586	451	503	5,049	451	503	5,049	451	503	5,049
	South Poplars	755	726	4,100	1,714	1,685	8,897	2,478	2,449	12,715	2,478	2,449	12,715
	South Tralee (S)	0	0	0	1,112	1,012	10,547	1,112	1,012	10,547	1,112	1,012	10,547
	Total	**1,111**	**1,079**	**7,719**	**3,930**	**3,982**	**31,787**	**4,911**	**4,988**	**38,036**	**7,791**	**8,197**	**70,249**
Regional Minimum	North Tralee	0	0	0	185	323	2,530	185	323	2,530	185	323	2,530
	Environa View	0	0	0	0	0	0	99	121	1,173	1,416	1,726	16,724
	South Tralee (N)	214	195	2,033	234	219	2,262	234	219	2,262	234	219	2,262
	North Poplars	65	79	766	206	251	2,437	206	251	2,437	206	251	2,437
	South Poplars	268	278	2,873	524	590	5,895	728	838	8,301	728	838	8,301
	South Tralee (S)	0	0	0	1,112	1,012	10,547	1,112	1,012	10,547	1,112	1,012	10,547
	Total	**547**	**552**	**5,672**	**2,261**	**2,395**	**23,672**	**2,564**	**2,764**	**27,251**	**3,880**	**4,368**	**42,802**
Regional Maximum	North Tralee	0	0	0	675	830	7,105	675	830	7,105	675	830	7,105
	Environa (View?)	0	0	0	0	0	0	373	404	3,722	5,309	5,752	53,049
	South Tralee (N)	214	195	2,033	287	274	2,760	287	274	2,760	287	274	2,760
	North Poplars	243	263	2,429	774	838	7,731	774	838	7,731	774	838	7,731
	South Poplars	755	781	7,410	1,714	1,820	16,995	2,478	2,648	24,626	2,478	2,648	24,626
	South Tralee (S)	0	0	0	1,112	1,012	10,547	1,112	1,012	10,547	1,112	1,012	10,547
	Total	**1,212**	**1,239**	**11,871**	**4,562**	**4,774**	**45,137**	**5,698**	**6,005**	**56,490**	**10,635**	**11,353**	**105,817**

Based on the calculations above, it is expected that the proposed RJP development could generate 42,802 to 105,817 vehicle trips per day, with the likely average around 62,983 trips per day at the completion of Stage 2, and potentially 76,483 trips per day ultimately. Based on the strategic modelling outputs, it is anticipated that approximately 11% of this traffic would be captured inside the RJP as vehicles travel to other land uses in the development. Further, given the proposed land use mix identified in the RJP masterplan, it is anticipated that of the above volumes, the precinct is likely to generate / attract approximately 6,500 freight vehicle movements per day at the completion of Stage 2 (based on an 11.6% freight vehicle proportion - *Guide to Traffic Generating Developments* (RTA, 2002)).

5.2.1.2 North Poplars Development

It is understood that the North Poplars development might be modified to be a local centre to service the RJP area. This change is not likely to have a significant impact on total traffic generated by the RJP. Instead, it will mean that some trips have a closer destination to meet their needs. For example, residents of South Tralee may travel to North Poplars for some shopping needs, instead of travelling into Queanbeyan or Canberra. The local centre may

also attract small amounts of traffic from other nearby suburbs, but many of these existing suburbs would already have their needs met with the existing developments.

The land uses proposed in North Poplars, along with the resulting traffic generation and destinations, have been considered in the traffic modelling discussed below.

5.2.2 Traffic Distribution

5.2.2.1 Overview

Traffic generated by the RJP was distributed across the surrounding road network using the Canberra Strategic Transport Model (CSTM). The CSTM is a four-step strategic transport model used for forecasting traffic volumes for future horizons, namely 2031 and 2041 AM and PM peak periods. For this assessment, the model was updated to include the RJP transport networks (public transport, road and active travel) to allow distribution of RJP traffic across the Queanbeyan-Canberra area with appropriate access locations onto the road network.

Indicative land use for the RJP was included in the CSTM to obtain a travel pattern across the Queanbeyan-Canberra area, and then the indicative trip matrix was scaled to match the calculated trip ends for the RJP. This matrix was then assigned to the CSTM network.

Whilst background network assumptions have been established in the CSTM for the network surrounding the RJP, analysis of traffic distribution required assumptions relating the development zones and the transport network within the precinct. For the purpose of the analysis it has been assumed that Stage 1 and 2 of the RJP will be delivered by 2031 and the land use associated with the Environa sub-precinct will be fully realised by 2041. In acknowledgement that the western component of a future Dunns Creek Road (identified as Stage 2 in current planning for the project) will link the RJP to Old Cooma Road to the east, and potentially significantly impact local travel patterns, an additional Ultimate 2041 modelling scenario has also been tested. The strategic transport modelling assumptions used in the analysis of traffic distribution are summarised in Table 5-2.

Table 5-2 | Traffic modelling staging assumptions

Stage	Year	Development zones		Network Assumptions
		Zone	% Developed	
Existing	2024	North Tralee	0%	- Current configuration
		South Tralee	15%	
		North Poplars	31%	
		South Poplars	36%	
		Environa View	7%	
1	2031	North Tralee	100%	- Dunns Creek Road Stage 1 (West) – ie Environa Dr to Isabella Dr Link Road
		South Tralee	100%	
		North Poplars	100%	
		South Poplars	72%	
		Environa View	0%	
2		North Tralee	100%	
		South Tralee	100%	
		North Poplars	100%	
		South Poplars	100%	
		Environa View	7%	
Ultimate	2041	North Tralee	100%	

Stage	Year	Development zones		Network Assumptions
		Zone	% Developed	
		South Tralee	100%	- Base case - no further upgrades - Alternate scenario - Implications of Dunns Creek Road Stage 2 (East)
		North Poplars	100%	
		South Poplars	100%	
		Environa View	100%	

The results of strategic traffic modelling are summarised in the remainder of this section with discussion on the network implications of the traffic generated by the development of the RJP and its associated traffic distribution provided in Section 5.3.

5.2.2.2 Stage 1 & 2 Traffic Distribution

The strategic traffic modelling considered the two stages of development for the RJP, assuming that they would be delivered by 2031. Approximate volumes for key links around the RJP (inclusive of baseline traffic and movements generated by the RJP) for AM and PM peak periods are indicated in link flow plots provided in Figure 5–1 and Figure 5–2 and summarised in Table 5–3.

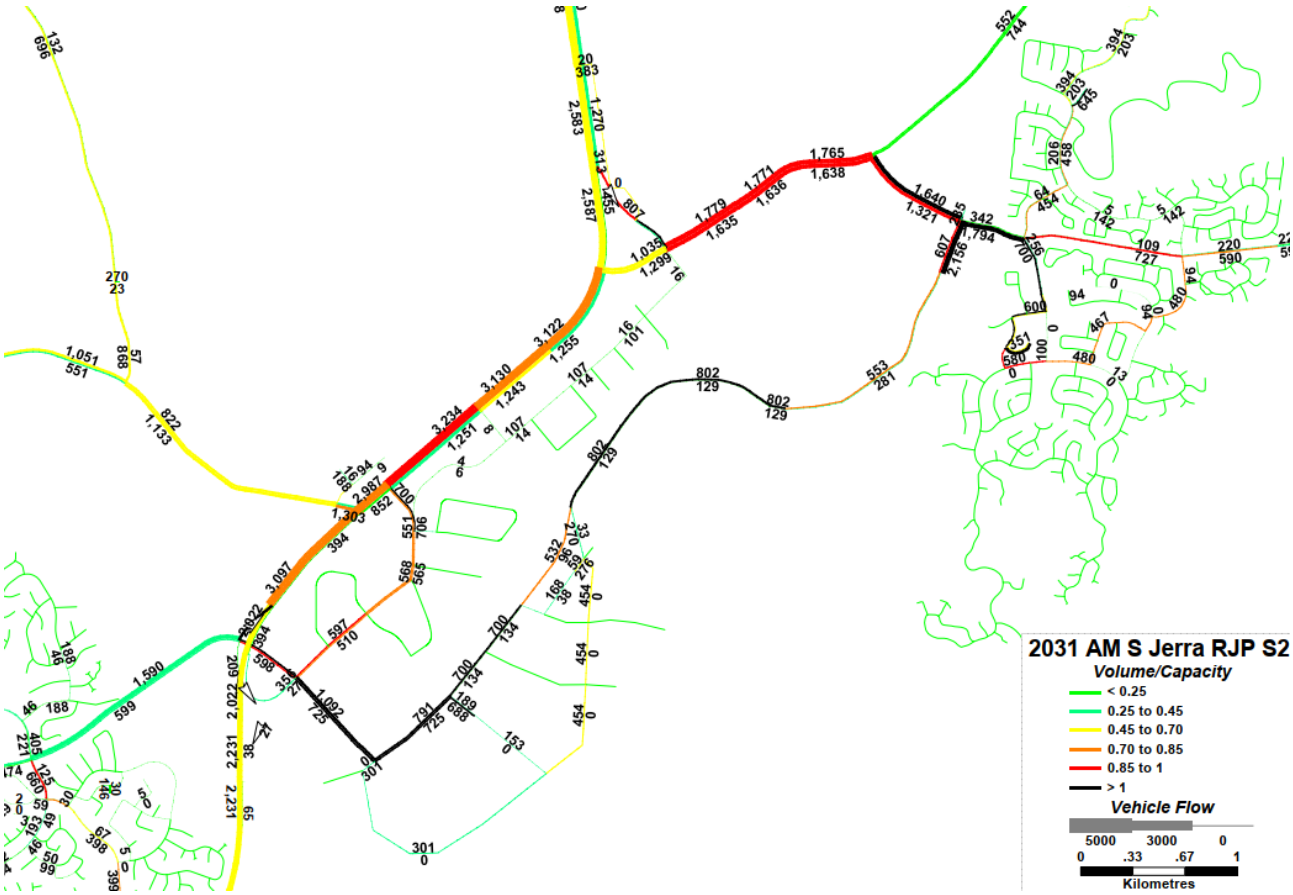

Figure 5–1 | Forecast 2031 AM (Stage 2) volumes around RJP access points

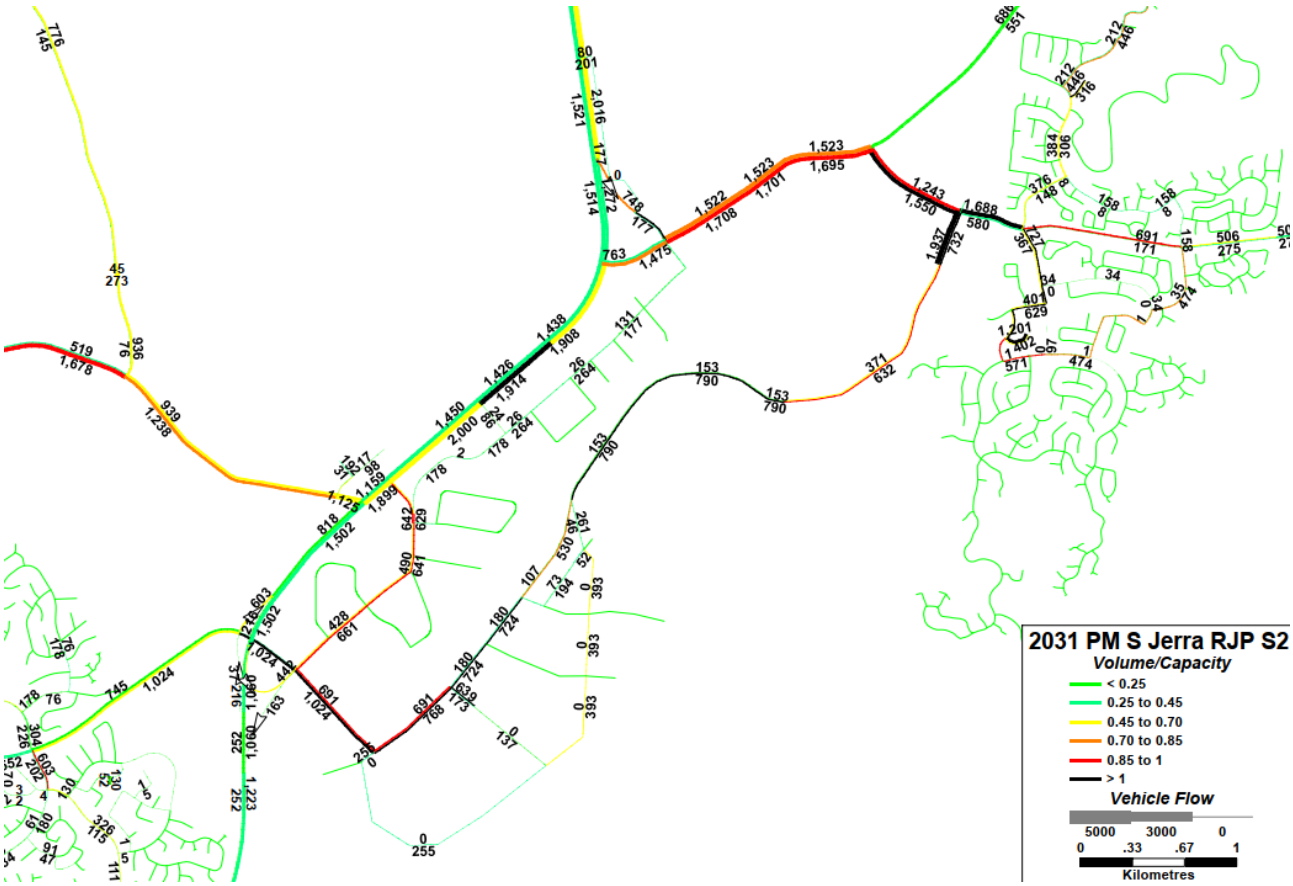

Figure 5–2 | Forecast 2031 PM (Stage 2) volumes around RJP access pointsTable 5–3 | 2031 Forecast Traffic Volumes around the RJP

Land Use Type	2031 – Stage 1 + 2					
	AM Peak			PM Peak		
	NB/EB	SB/WB	Total	NB/EB	SB/WB	Total
Monaro Hwy Nth of Lanyon Dr	2,928	1,290	4,218	1,722	2,059	3,780
Lanyon Dr (Tompsitt Dr - Sheppard St)	1,771	1,636	3,407	1,523	1,701	3,223
Lanyon Dr Nth of Tompsitt Dr	552	744	1,296	686	551	1,238
Tompsitt Dr (Lanyon Dr - Environa Dr)	1,640	1,321	2,961	1,243	1,550	2,793
Tompsitt Dr (Environa Dr - Limestone Dr)	342	1,794	2,136	1,688	580	2,268
Environa Dr (North)	553	281	834	371	632	1,003
Environa Dr (South)	802	129	931	153	790	943
Mugga Ln (Monaro Hwy - Long Gully Rd)	822	1,133	1,956	939	1,238	2,176
Isabella Dr (Monaro Highway - Environa Dr)	1,092	725	1,817	691	1,024	1,714
Monaro Hwy Sth of Isabella Dr	2,231	65	2,296	252	1,223	1,475
Isabella Dr (Monaro Hwy - Coyne St)	1,590	599	2,188	745	1,024	1,770

5.2.2.1 Ultimate Traffic Distribution

In the event that the Environa sub precinct is fully developed, the strategic traffic modelling investigated the potential traffic volumes ultimately generated by the RJP. For the purpose of the analysis it has been assumed that this ultimate scenario would be realised by 2041. Approximate volumes for key links around the Ultimate RJP (inclusive of baseline traffic and movements generated by the RJP) for AM and PM peak periods are indicated in link flow plots provided in Figure 5–3 and Figure 5–4 and summarised in Table 5–4.

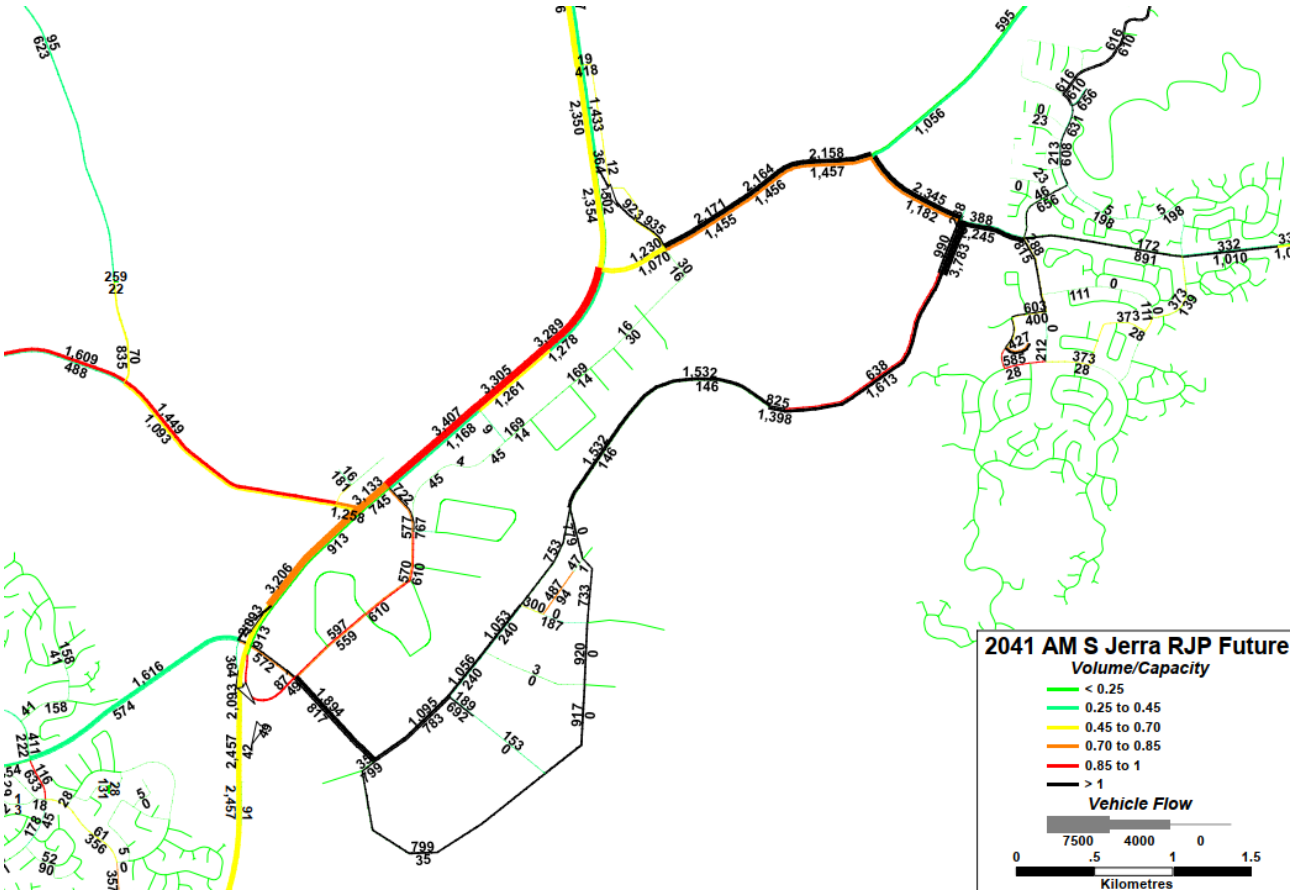

Figure 5–3 | Forecast 2041 AM (Ultimate) volumes around RJP access points

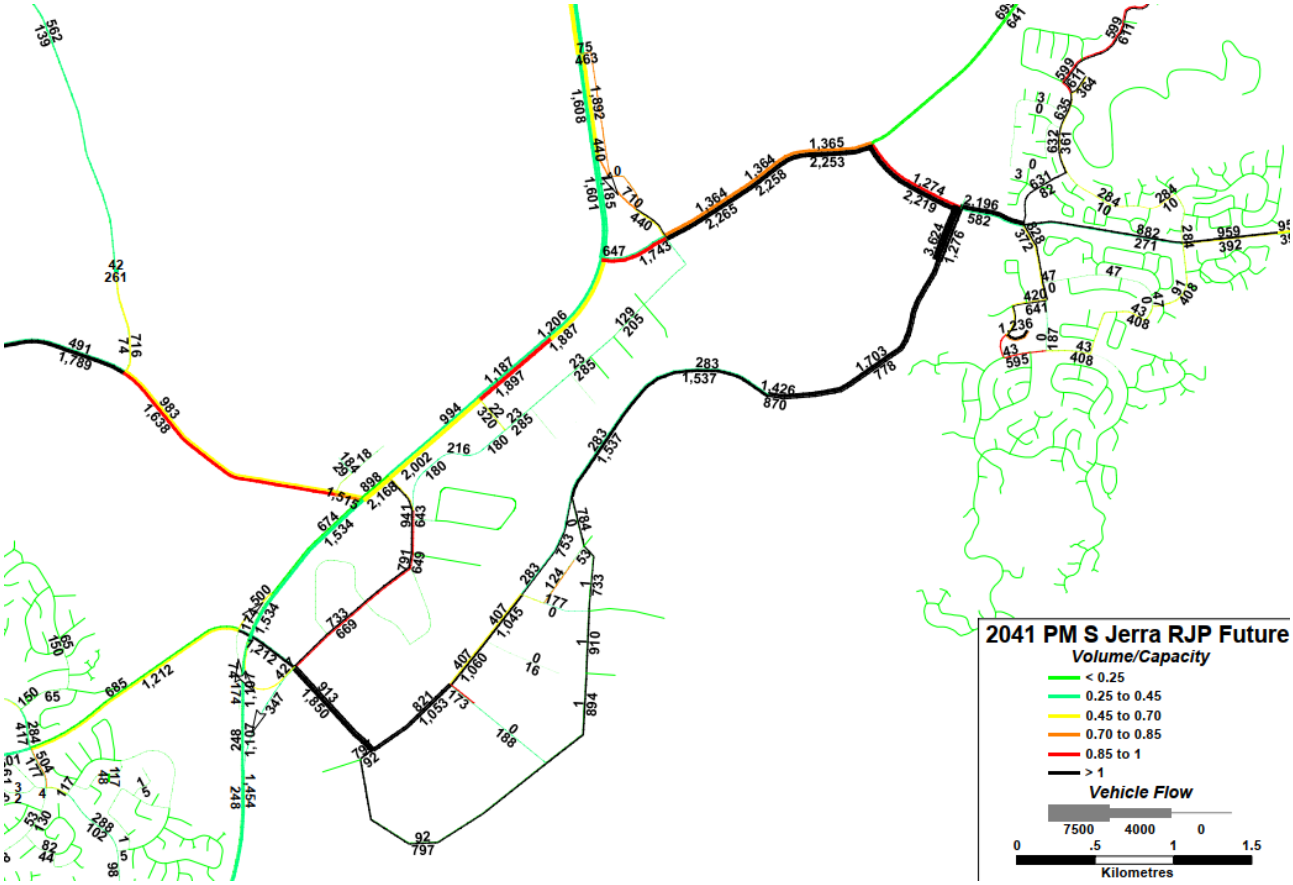

Figure 5–4 | Forecast 2041 PM (Ultimate) volumes around RJP access points

Table 5–4 | 2041 Forecast Traffic Volumes around the RJP – PM Peak

Land Use Type	2041 – Ultimate					
	AM Peak			PM Peak		
	NB/EB	SB/WB	Total	NB/EB	SB/WB	Total
Monaro Hwy Nth of Lanyon Dr	2,746	1,467	4,212	2,069	1,932	4,001
Lanyon Dr (Tompsitt Dr - Sheppard St)	2,164	1,456	3,619	1,364	2,258	3,622
Lanyon Dr Nth of Tompsitt Dr	595	1,056	1,651	699	641	1,341
Tompsitt Dr (Lanyon Dr - Environa Dr)	2,345	1,182	3,527	1,274	2,219	3,493
Tompsitt Dr (Environa Dr - Limestone Dr)	388	2,245	2,633	2,196	582	2,778
Environa Dr (North)	638	1,613	2,251	1,703	778	2,481
Environa Dr (South)	1,532	146	1,677	283	1,537	1,820
Mugga Ln (Monaro Hwy - Long Gully Rd)	1,449	1,093	2,541	983	1,638	2,621
Isabella Dr (Monaro Highway - Environa Dr)	1,894	817	2,711	913	1,850	2,763
Monaro Hwy Sth of Isabella Dr	2,457	91	2,548	248	1,454	1,701
Isabella Dr (Monaro Hwy - Coyne St)	1,616	574	2,190	685	1,212	1,896

5.2.2.2 Dunns Creek Road East

A scenario considering the inclusion of Stage 2 of the development of Dunns Creek Road (an eastern connection between the RJP east to Old Cooma Road) was tested using the strategic model in an effort to understand the potential impact of the link. Acknowledging that Stage 2 of Dunns Creek Road currently has no construction funding, and that there is currently no commitment to proceed with the second stage of the project, the modelling assumes that, if delivered, it would likely be after 2031 and has therefore only been considered in the 2041 (Ultimate) year model runs.

The strategic modelling indicates that Stage 2 of Dunns Creek Road would take traffic load from the two other access points to the RJP, and is forecast to convey approximately 1,400 and 1,300 vehicles in the peak direction in the AM and PM peak respectively. It is estimated that around 40% to 50% of these movements have destination in the RJP in the AM peak are originating from the RJP in the PM peak (the remainder are east-west through movements travelling between the ACT and the Googong area).

5.3 Road Network

5.3.1 External Road Network

5.3.1.1 Monaro Highway / Lanyon Dr Interchange

Whilst CSTM modelling indicates that the existing Monaro Highway is at capacity in the vicinity of Lanyon Drive, this capacity constraint is primarily a result of the southbound at-grade signalised intersection. The upgrade to a grade-separated interchange at Lanyon Drive that is currently being delivered by the ACT Government is expected to resolve this constraint and the Monaro Highway is considered unlikely to require upgrade to accommodate additional traffic generated by the RJP.

Upgrade of the southbound exit ramp / Lanyon Drive / Sheppard Street intersection (refer **Figure 5-5.**) may be required in the future as the current D&C reference design may not anticipate the growth that will result from the realisation of the full RJP Master Plan. It is noted that any required adjustments to the Monaro Highway would require approval by both the ACT and Federal Government (through the National Capital Authority).

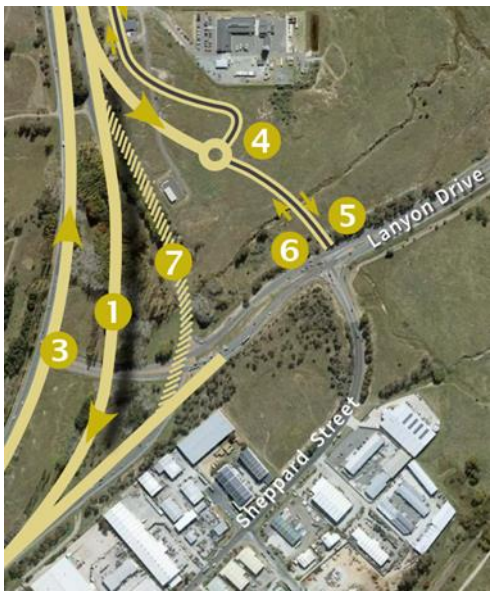

Figure 5–5: Excerpt from proposed Monaro Hwy / Lanyon Dr interchange (ACT Government, 2022)

5.3.1.2 Lanyon Drive

The 2021 CSTM modelled volumes on Lanyon Drive indicate that it is currently near its capacity between Tompsitt Drive and the Monaro Highway. As such, it is considered to have minimal latent capacity in its current configuration to convey additional flows generated by the RJP.

Whilst widening of Lanyon Drive in this part of the corridor to three lanes in each direction would improve the capacity of the link to deal with traffic associated with the RJP, the Lanyon Drive / Tompsitt Drive intersection is considered a major constraint and may require upgrade at some stage in the development of the RJP. Strategic modelling indicates that Lanyon Drive will be over capacity in the peak direction in both the 2031 AM and PM peaks with Stages 1 and 2 of the RJP delivered.

Rather than upgrade of Lanyon Drive, it is considered more practical, efficient and hence preferable to provide a secondary link into the RJP to avoid stressing Lanyon Drive with RJP traffic and resultant reductions in level of service. Modelling indicates that the provision of a second access to the RJP will significantly reduce volumes on Lanyon Drive in the 2031 AM peak (approximately 11%), and also in the PM peak (by approximately 14%). Furthermore, it is noted that even with a second access to the RJP in place, strategic modelling suggests that demand on Lanyon Drive will exceed capacity in the peak direction in both peaks should the Ultimate land use scenario be realised in 2041.

Figure 5–6: Lanyon Drive

5.3.1.3 Tompsitt Drive

The proposed Master Plan relies on Tompsitt Drive as a key point of access into the RJP (refer **Figure 5-7**). In the absence of any secondary connections into the precinct, Tompsitt Drive would need to convey all vehicle movements generated by the RJP Master Plan. Noting that the CSTM indicates that Tompsitt Drive is near capacity in 2021, it is likely to have minimal spare capacity to cope with the additional load generated by the RJP in its current configuration and would be expected to operate at a poor level of service early in the development of the first stage of the RJP. Indeed strategic modelling indicates that demand on Tompsitt Drive will exceed its capacity in both directions in both 2031 peaks with the delivery of Stages 1 and 2 of the RJP.

In response to increased traffic volumes it is anticipated that upgrades to intersections along Tompsitt Drive will be required. However, QPRC have advised that there are several constraints to widening of Tompsitt Drive to three lanes in each direction over the of its length including utilities (major water supply, HV and gas) in addition to environmental constraints. Council have advised that given these existing constraints, widening of Tompsitt Drive to six total lanes is not a viable option.

As such, and in the context of discussion above relating to Lanyon Drive, it is considered important to provide a secondary link into the RJP to relieve the load on Tompsitt Drive early in the development of the RJP. Modelling suggests that Tompsitt Drive is at capacity in both direction with Stages 1 and 2 of the RJP by 2031, however with the provision of a second access to the RJP, volumes on Tompsitt Drive to the west of the Environa Drive reduce by 14% in the AM peak and 16% in the PM peak. However, should the Ultimate land use scenario be realised in 2041, Tompsitt Drive is forecast to operate substantially over capacity in the peak direction in both the AM and PM peaks. That is, modelling indicates that Tompsitt Drive will have ongoing congestion issues throughout the various delivery stages of the RJP, and, whilst the provision of a second access will improve traffic volumes and performance on Tompsitt Drive, the corridor can generally expected to be congested during peak periods.

Figure 5–7: Tompsitt Drive location

5.3.1.4 New Link – Isabella Drive Extension (Dunns Creek Road West)

The secondary RJP access is proposed to be orientated towards the Monaro Highway and the Canberra road network. Feedback from the ACT is that an access into the Hume precinct will not be permitted due to concerns around mixing of heavy and light vehicle movements, noting that Hume is an industrial precinct. As such, it is proposed to provide the secondary link as a southern connection from a future Isabella Drive grade separated interchange with the Monaro Highway, providing access from the southern zones of the RJP onto both the Monaro Highway (facilitating north-south movements) and Isabella Drive (providing access into the Tuggeranong district). The proposed current concept for the interchange and the potential location of a link road is shown in **Figure 5-8.**

It is anticipated that this link would be part of the proposed Stage 1 of the Dunns Creek Road project that is currently under development. Strategic modelling indicates that with Stages 1 and 2 of the RJP delviered in 2031 this link would likely be marginally over capacity for a single carriageway with one lane in both directions in the peak direction. As such, it is considered appropraite that the link be provided as dual carraigeway with two lanies in each direction. Notwtihstanding, with realisation of the Utlimate land use scenario by 2041, forecast volumes on the proposed second access link exceed the capacity of a dual carriageway in the absence of any additional accesses to the RJP.

Without the Isabella Drive link road connection, access to the southern part of the RJP, and in particular the residential R2 zone, from the Monaro Highway and the Canberra road network more broadly is highly indirect. The provision of this link is likely to significantly reduce travel times and distances for journeys to and from the southern zone of the RJP.

Figure 5–8: Proposed Monaro Hwy / Isabella Dr interchange concept (ACT Government, 2022) + potential RJP link road

It is considered important that this link be established to support additional residential development in the precinct to ensure that there is redundancy in the road network (as opposed to a single access point to the residential area) and to minimise travel distance and times for residents. Indeed, residential rezoning and additional housing in the southern precinct QPRC in the absence of this link would be considered poor transport planning practice.

The Isabella Drive connection into the RJP should be provided early in the development of the RJP, contingent on provision of the Monaro Highway interchange. It is noted however that the proposed link road will cross the disused Bombala rail line. Given the disused nature of rail corridor and the cost impost of grade separation, an at-grade crossing of this corridor is considered the most appropriate outcome for the link road. Engagement with TfNSW in future stages of the RJP's development will be required to understand the requirements and process associated with providing a crossing in this location, noting that a similar existing at-grade crossing of the corridor has been provided at Arnott St. A potential mitigation to resolve concerns around the provision of an at-grade crossing could be to develop a concept for a grade separation of the link road that can be implemented should the rail line become active in the future. An alternate use for the rail corridor currently being considered is its conversion to an active travel route. Should this occur, the interface between the link road and the active travel path would need to be considered but could include either an at-grade option (likely with priority for road users), or alternatively a grade separated approach for active travellers.

5.3.1.5 New Link – Dunns Creek Road East

QPRC have undertaken previous investigations for the Dunns Creek Road connection from Old Cooma Road into South Tralee (some of the alignment options developed by QPRC in 2015 are shown in Figure 5–9). Whilst Stage 1 of the Dunns Creek Road (west) is discussed above (Isabella Drive Link Road), Stage 2 of the development of Dunns Creek Road proposes a connection between the RJP east to Old Cooma Road.

The feasibility of this link is currently the subject of a route options study that has been commissioned by QPRC. As such, the preferred alignment, environmental constraints, likely cost and economic viability are yet to be confirmed. If a feasible solution can be identified for the second stage of the Dunns Creek Road, the project appears likely to improve the performance of the road network around the RJP should the ultimate land use scenario be realised. Strategic modelling indicates that combined flows accessing the RJP from Tompsitt Drive and the Isabella Drive Link road are reduced by approximately 10% in the AM peak direction with the introduction of the Dunns Creek Road East. Similarly, modelling suggest that combined flows egressing the RJP to Tompsitt Drive and the Isabella Drive Link road would be reduced by approximately 10% in the PM peak direction should Dunns Creek Road East be delivered.

Figure 5–9 | Dunns Creek Road alignment options *(QPRC, 2015)*

5.3.2 Internal Road Network

5.3.2.1 General

The Master Plan proposes a subdivision road layout that services various land uses within the precinct. The layout appears broadly appropriate in that it provides access throughout the RJP, and makes suggestions for future additional local roads that would be developed as part of the subdivision of land.

It is recommended that no through roads be avoided wherever possible, but particularly in locations where industrial or other land uses are proposed that are likely to attract or generate freight movements. It is recommended that a two-way link road to provide connectivity north of the proposed high school should be delivered to improve connectivity and circulation. It is understood that the Master Plan has been updated to include this access road.

In future stages of design development, appropriate road geometry, cross section and intersection configurations will need to be identified and adopted. However, at this point it is anticipated that single carriageway two-way roads will generally be sufficient throughout the local road network (excluding Environa Drive).

Given the precinct's proximity to Hume and the Monaro Highway, the strong freight transport connectivity, and the potential for freight generation of some of the proposed land uses, and the logistics industry's movement towards increasing use of High Productivity Vehicles, it is recommended that road geometry, intersection layouts and structures be developed to accommodate swept paths of PBS Level 2 vehicles as a minimum.

It is noted that grades of the proposed internal road network throughout the precinct are generally relatively gentle and suitable for a road and associated path network. An assessment indicates that the majority of the primary road network presented in the Master Plan has less than 5% maximum road corridor grade. Steeper road grades are likely in the precinct (noting Environa Drive has grades of up to 7%), particularly in the southern R2 zone where terrain slopes exceed 12%. In these locations the road layout should aim to minimise grades noting that grades above 5% are generally undesirable for active travel.

5.3.2.2 Environa Drive

Environa Drive / Territory Parade forms the main transport spine for the precinct. Currently it has a single connection to the arterial road network at Tompsitt Drive and is dual carriageway to Jerrabomberra Creek and a single two-way carriageway to the south.

Based on the proposed stages of development, and in the absence of a secondary connection to the external road network, strategic modelling suggests that Environa Drive is expected to be overloaded in the peak periods by

2031 based on the proposed Stage 1 and 2 land use of the RJP. Provision of a second access in the south balances volumes on Environa Drive in 2031 noting that it is at capacity for a single carriageway road south of Jerrabomberra Creek following completion of Stage 2 of development in the AM peak. It is also noted that additional capacity at the Tompsitt Drive / Environa Drive intersection may be required necessitating upgrade of the intersection.

Should the Ultimate land use scenario be realised in 2041, the strategic modelling indicates that the capacity of Environa Drive in its current configuration will be significantly deficient for forecast volumes and existing single carriageway areas will require duplication to provide two lanes in each direction. Furthermore, the strategic modelling indicates that traffic volumes between the school zone and Tompsitt Drive will exceed the capacity of the current configuration in both peaks and that widening to three lanes in each direction will be required. It is also noted that additional capacity at the Tompsitt Drive / Environa Drive intersection will be required from its current configuration necessitating upgrade of the intersection if not already undertaken.

5.4 Road Freight

Given the industrial land uses proposed in the Master Plan for parts of the RJP, it is anticipated that freight movements will be an important consideration for the proposed transport network. To that end, it is recommended that the internal road network, in addition to key access roads, be configured to convey high productivity heavy vehicles. Given the proximity of the RJP to the Monaro Highway (a key regional freight route), it is considered appropriate that the road network be developed to allow for the movement of PBS Level 2 vehicles as a minimum.

However, in the absence of a direct connection into the Hume precinct freight access to the RJP will be from Tompsitt Dr and the Isabella Dr link. As such, access to much of the RJP for freight movement will necessarily need to route either through the southern residential zone or alternatively past the school. Both scenarios are considered undesirable in that they expose vulnerable road users to interactions with heavy vehicle movements in addition to mixing light vehicle and heavy movements. This could affect classification of the part of the RJP road network for B double and PBS vehicle routes and potentially has significant implications for certain zones in the RJP to act as substantial generators of freight movements and by extension may impact on the development / industry types within the RJP.

It is also recommended that formal decoupling facilities be considered in the local area to avoid ad hoc decoupling occurring throughout the road network. The site of a public decoupling facility would require further investigation, and may be appropriate in the adjacent Hume precinct where there is likely to be a higher intensity of articulated heavy vehicle movements and a greater demand for decoupling.

5.5 Active Travel

Active travel to and from the RJP will be predominantly for employment (Journey to Work) purposes in the short to medium term. In the longer term, the development of residential areas and commercial businesses in the mixed-use zone will attract and generate other travellers. Journey to Work (JTW) data from ABS Census 2021 suggests that approximately 2.5% of people living in Canberra and Queanbeyan currently cycle to work, while approximately 4.8% walk to work. The location of the RJP and its employment areas are largely outside a walkable range from residential areas, so most active travel access would be by bicycle and scooter. The RJP is located close to the limit of a cycle trip from Canberra suburbs, so it is likely that most active travel trips to and from the RJP would be from Queanbeyan. The area between Queanbeyan and the RJP provides access routes with modest elevation changes, which should not create a significant barrier to cycling uptake.

Key barriers to active travel to the RJP include:

- Monaro Highway
- Lack of facilities
- Distance

The Monaro Highway corridor limits travel from Canberra into the western side of the RJP. While the corridor provides a reasonably direct, high-speed route for motor vehicles, there are no dedicated or welcoming active travel facilities along the corridor.

The distance between the RJP and residential areas reduces the attractiveness of active travel but can be partially overcome by improving the active travel facilities. People are much more likely to travel along a separated, landscaped shared user path than on a narrow shoulder and will travel further for the same perceived effort. The Monaro Rail Trail will provide an attractive link to Queanbeyan CBD, but additional connections with better catchments could be considered. The QPRC ITS and Bike Plan recommend additional shared paths along Cooma Street, Donald Street and Lanyon Drive, all of which would provide better connections between Queanbeyan and the RJP area via the existing shared path along Edwin Land Parkway.

In the short term, the RJP active travel network should be connected to the existing active travel network in Queanbeyan. Connections and network upgrades should be provided as shown in Figure 5–10, including:

- New path connection between Environa Drive shared path and Jerrabomberra Primary School
- New flood-immune crossing of Jerrabomberra Creek along southern side of Environa Drive and connection to existing path further south
- Improved crossings (refuge islands) where active travel network crosses Bicentennial Drive:
    - Southern side of Bayside Court
    - Between Mariners Court and Forest Drive

In the longer term, when the Monaro Highway shared path and Monaro Rail Trail are completed, there must be connectivity between the RJP and these routes to ensure that the RJP is connected to as many other land uses as possible.

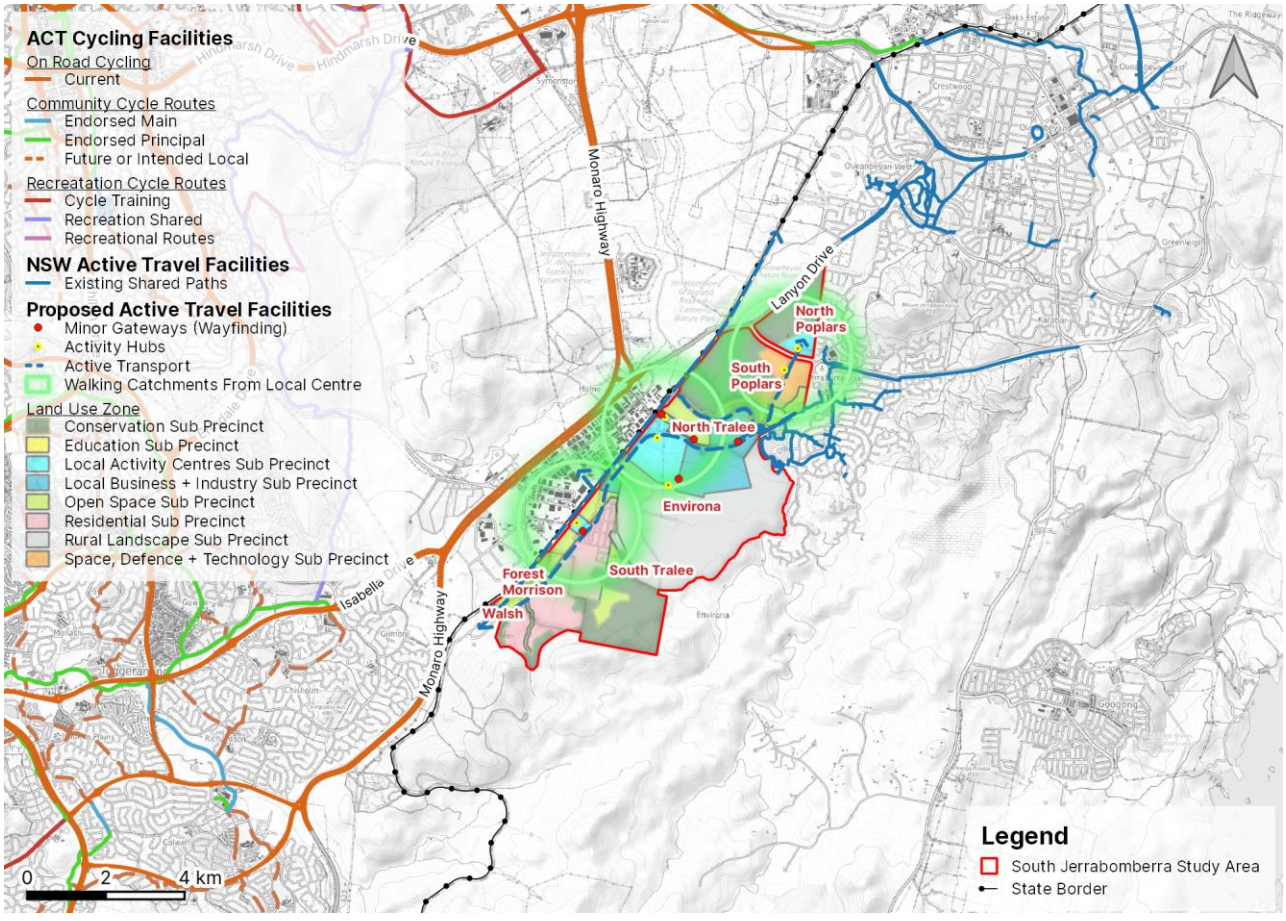

Figure 5–10 | Active Travel Network Upgrades

5.6 Public Transport

As with active travel, most public transport to and from the RJP will be for employment purposes. However, the residential and commercial areas will produce and attract some public transport demand. Existing JTW data from ABS Census 2021 suggests that approximately 6.1% of people living in Canberra and Queanbeyan currently travel to work by bus. The RJP demand is likely to be lower than this due to the employment types and relatively remote location.

Given the proposed industrial nature of parts of the RJP land use, it is unlikely that all workers will work standard business hours, which makes public transport provision more difficult. The current bus network in the vicinity of the RJP is largely focussed around carrying passengers from the residential areas in Jerrabomberra to the CBD and then on to Canberra. In addition, Transport Canberra buses do not operate in NSW, so cannot provide direct public transport service to the RJP from residential areas in Canberra.

Recent changes to the bus network, implemented as part of NSW's 16 Cities program, included a bus route connecting Queanbeyan CBD to the RJP and Jerrabomberra Village Shops via Lanyon Drive. This route is intended to provide scheduled connections with buses running from between Queanbeyan CBD and key destinations in the ACT. In the short term, this route should provide connections to other local routes through at the Jerrabomberra Village Shops to provide transfer/interchange opportunities without travelling into Queanbeyan.

In the medium to long term, the frequency of the dedicated route to the RJP should be increased. Additional direct routes from Googong or other areas could be considered if the demand warrants them.

In the long term, it is expected that NSW and ACT may come to an agreement about cross-border public transport services and the RJP can be serviced from one of the main interchanges in Canberra, probably Civic or Woden.

Given the arrangement of the RJP with a largely central spine road, servicing all destinations should be straightforward and relatively efficient. However, to offer additional choice and take advantage of the proposed active travel network, a shared bike/e-scooter scheme could be implemented inside the RJP, based around a small number of bus stops. Purchase of a bus ticket would entitle a traveller to use a shared mobility device to access their final destination. A scheme like this may require active management throughout the day to ensure that devices are always available at the bus stops, however, could present an innovative option for the precinct and opportunities for retail or community facilities around an active and attractive hub area.

The location of the RJP on Lanyon Drive provides an opportunity to improve public transport for trips in the general area that aren't necessarily travelling to or from the RJP. QPRC, ACT Government and TfNSW have agreed that a Park & Ride facility in North Poplars would provide additional options for residents of Googong and Jerrabomberra to travel to Canberra. Locating this facility close to the local centre at North Poplars would allow travellers to do minor shopping or eating out without having to make an additional trip. The facility should provide shelter at the bus stop to protect people waiting for a bus. The facility should also include secure parking for bicycles.

6 Staging of Upgrades

6.1 Introduction

This section provides recommendations around staging of infrastructure delivery required to support the South Jerrabomberra RJP, based on the anticipated staged uptake of land across the differing land uses and stages. The intent of this exercise is to provide commentary on key tipping points where upgrade of infrastructure will be necessary to support the development of the precinct. This discussion is important to ensure infrastructure is delivered in a timely and efficient method to support uptake of land, without overinvesting in infrastructure that may sit redundant awaiting sufficient demand.

6.2 Staging Recommendations

Staged development of the transport network will need to respond to the spatial release of various land uses within the RJP. That is, the internal transport network will need to be developed to facilitate land release within the precinct. Despite the uncertainty around the staged uptake of land in the RJP, for the purpose of this transport assessment, Stage 1 and 2 of the precinct development has been assumed to occur by 2021, with the development of the proposed land uses complete by that time. Similarly, the Ultimate land use scenario is assumed to be realised by 2041.

Table 6–1 | Notional transport upgrade stages

Stage 1 + 2 (2031)	Ultimate (2041)
Roll out of internal RJP road network	Roll out of internal RJP road network
Provision of Isabella Drive link road (Dunns Creek Road West)	Upgrade of Environa Drive to dual carriageway between the school site and the Isabella Drive link road
Potential upgrade of Tompsitt Drive / Environa Drive intersection	Upgrade of Environa Drive to three lanes in each direction between Tompsitt Drive and the schoool site
New bus route from Queanbeyan to RJP via Cooma Road and Lanyon Drive, including connections to existing Googong and Jerrabomberra buses.	Upgrade of Tompsitt Drive / Environa Drive intersection (if not already undertaken to facilitate Stages 1 & 2)
Implementation of active travel network	Potential provision of Dunns Creek Road East
Inclusion of paths and shoulders on all new internal roads	Increased frequency of bus routes between Queanbeyan and the RJP.
Provision of internal RJP shared mobility scheme linked to public transport.	Provision of direct buses from residential areas with high travel demand to the RJP
Increased frequency of bus routes between Queanbeyan and the RJP, if required	Inclusion of paths and shoulders on all new internal roads

The identified network upgrades for each of the stages will require further investigation in the future including Traffic Impact Assessments inclusive of traffic modelling in response to specific development proposals, strategic design, concept design and detailed design development and required environmental assessments and associated community consultation.

6.3 Funding Mechanisms

There are various funding mechanisms to support the cost effective, equitable and timely delivery of the road and transport infrastructure upgrades that have been identified as being required to support the identified stages of

the Master Plan. This section considers the potential to update the existing infrastructure contributions plans and other mechanisms such as Special Infrastructure Contribution (SIC) levies and Voluntary Planning Agreements (VPAs).

Development contributions are payments made by developers to help fund public infrastructure that is needed as a result of development. Development contributions are a key source of funding for NSW councils and state agencies. Whilst there is no direct infrastructure funding associated with the RJP project, the intent of this report is to provide an analysis of infrastructure requirements and provide some commentary on how the upgrade works could be funded.

Figure 6–1 | Types of infrastructure funded through development contributions in NSW (source DPIE, 2021)

Section 7.11 and 7.12 of the Environmental Planning and Assessment Act 1979 (EP&A Act), permits the collection of local development contributions by councils, in accordance with local infrastructure plans. These plans cover the construction of public infrastructure that will ultimately be owned by the local council such as open space, community facilities and stormwater upgrades. Funding for State infrastructure is levied through SIC levies (under Clause 7.24 of the EP&A Act) or through planning agreements.

The South Jerrabomberra Local Infrastructure Contributions Plan 2018 levies development contributions under Section 7.11 of the EP&A Act for local infrastructure associated with previously anticipated development in Poplars, Environa, North and South Tralee, Forest Morrison and Walsh. The Jerrabomberra Innovation Precinct Infrastructure Planning Agreement 2020 is also active, and is a Voluntary Planning Agreement which was reached between QPRC, Village Building Company and Poplars Development. The South Tralee Essential Infrastructure Planning Agreement is a historical agreement that supported the provision of sewer and water infrastructure to initially service the region.

Given that the growth anticipated by the RJP Master Plan is much greater than that previously contemplated in this contributions plan, it is recommended that an updated development contributions plan be prepared by QPRC. This update should include infrastructure projects for local roads and collector roads where a nexus can clearly be established between additional demand generated by the RJP and the required works.

Special Infrastructure Contributions (SICs) help to fund the delivery of state and regional infrastructure such as hospitals, schools, state and regional roads, public transport infrastructure, emergency services, biodiversity and some larger regional open space improvements. SICs are payable in addition to local contributions, and a determination made by the Planning Minister determines when and where a SIC levy applies.

In addition, it is recommended that the Queanbeyan Development Control Plan be updated to reflect the aspirations of the Master Plan. This update should include clarifying parking rates for the precinct and end-of-trip facilities to be provided within developments to reduce car dependency and promote active travel.

Furthermore, it is noted that some elements of the transport network for the precinct will require upgrades to existing infrastructure or new infrastructure in the ACT. During consultation with the ACT during the assessment of the Regional Jobs Precinct, the Territory noted need to agree funding arrangements for cross border transport connections.

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