

Rapid Transit Rail Facility
Tallawong Road
Schofields
Transport Impact Assessment

transportation planning, design and delivery

Rapid Transit Rail Facility

Tallawong Road, Schofields

Transport Impact Assessment

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This report has been completed to the best of our knowledge and statements made within this document have been made on behalf of GTA Consultants.

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I have reviewed and approved this document for issue as a draft/final submission (select appropriate). I have checked this document against the Rapid Transit Rail Facility Quality Considerations document and validate that these have all been addressed and included within this document.

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Quality Checker

Brett Maynard



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1. Introduction

1.1 Background

Transport for NSW (TfNSW) proposes to develop a Rapid Transit Rail Facility (RTRF) on land between Tallawong Road, Schofields Road and First Ponds Creek in the localities of Rouse Hill and Schofields. The Rapid Transit Rail Facility would comprise a purpose built train stabling and maintenance facility to support Sydney's new rapid transit rail network.

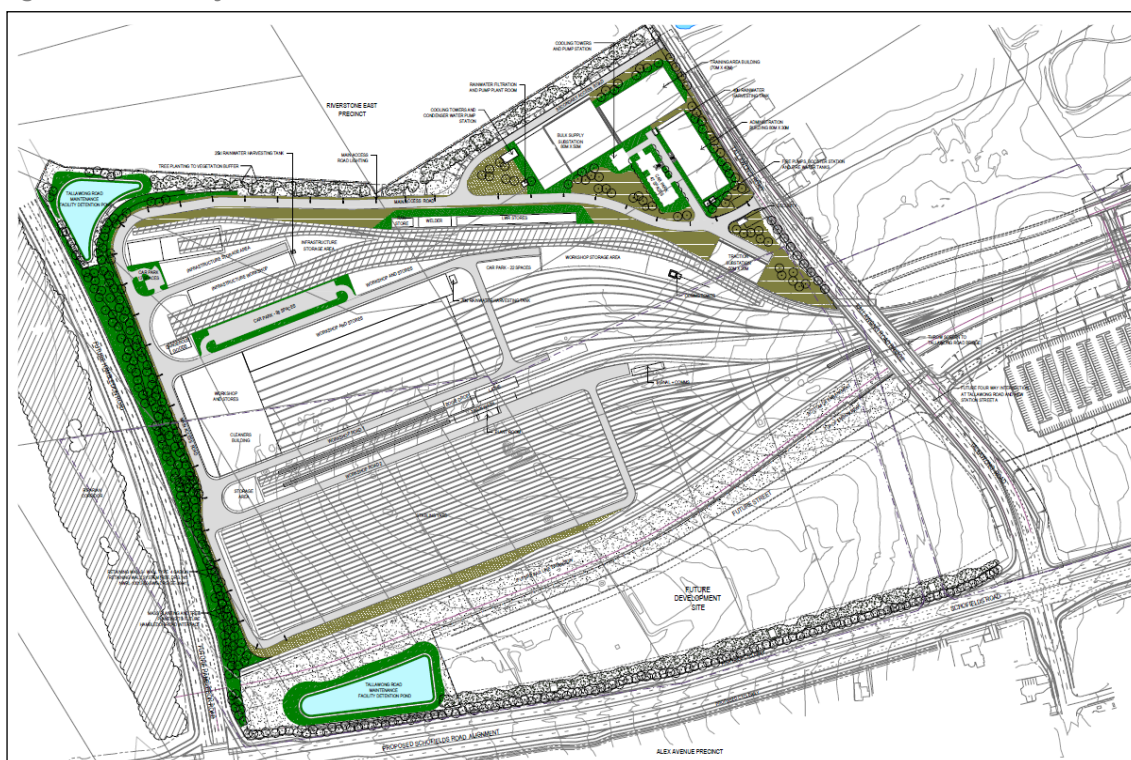
Sydney's Rail Future: Modernising Sydney's Trains, released in June 2012, sets the long term strategy to increase the capacity of Sydney's rail network through investment in new services and upgrading of existing infrastructure. New generation, single deck rapid transit trains are a key element of the strategy.

The operational and land requirements for the rapid transit network are being progressed in accordance with the NSW Long Term Master Plan, released in December 2012. *Sydney's Rail Future* forms an integral component of the Long Term Transport Master Plan. It is important to ensure that the delivery of rapid transit infrastructure can occur as outlined in *Sydney's Rail Future*.

The Rapid Transit Rail Facility is to cater for future expansion of the rapid transit system, including a future harbour crossing and link to the southern suburbs. The facility would be constructed in two phases and would provide stabling for 45 trains and maintenance facilities for 76 trains. The initial design capacity would be 20 trains (stabling and maintenance).

An indicative layout for the facility is shown in Figure 1.1.

Figure 1.1: RTRF Layout Plan



Source: Transport for NSW

1.2 Purpose of this Report

This report documents the findings of the traffic and transport impact assessment with regard to the construction and operation phases of the RTRF proposal at Tallawong Road, Schofields. It also outlines mitigating strategies to manage these traffic and transport impacts during construction and with the RTRF site in full operation.

Section 2 – *Transport Context* of this report describes the context of the RTRF site in relation to traffic and transport.

Section 3 – *Rapid Rail Transit Facility* describes in detail the components of the RTRF proposal.

Section 4 – *Construction Stage Traffic Impacts* describes the activities associated with the construction of the RTRF and identifies the potential traffic and transport implications. It also identifies potential measures to mitigate these impacts.

Section 5 – *Operational Stage Traffic Impacts* discusses the traffic generation and potential implications of the RTRF upon the opening of the NWRL. It also identifies potential mitigation measures.

Section 6 – *Summary* provides a summary of the key findings of the transport and traffic assessment and outlines the recommended measures to mitigate the identified impacts.

1.3 References

In preparing this report, reference has been made to the following:

- *North West Rail Link Environmental Impact Statement 1*, Transport for NSW, March 2012.
- *North West Rail Link Environmental Impact Statement 2*, Transport for NSW, October 2012.
- *Guide to Traffic Generating Developments*, Road and Maritime Services (formerly RTA), 2002
- *Rapid Transit Rail Facility, State Significant Infrastructure Application: Supplementary Report*, Transport for NSW, April 2013.
- *Sydney's Rail Future: Modernising Sydney's Trains*, Transport for NSW, June 2012.
- *North West Sector Bus Servicing Plan*, McCormick Rankin Cagney for NSW Transport and Infrastructure, October 2009.
- *Schofields Road Upgrade (Stage 1) Review of Environmental Factors*, Maunsell AECOM for Landcom, December 2007.

2. Transport Context

The RTRF site is proposed to be located on land bounded by Tallawong Road, Schofields Road and First Ponds Creek, Schofields, as shown in Figure 2.1. An aerial image of the subject site is shown in Figure 2.2.

Figure 2.1: RTRF Site and Its Environs



Reproduced with permission from Sydway Publishing Pty Ltd.

Figure 2.2: Aerial Image of RTRF site



Source: Transport for NSW

2.1 Road Network

2.1.1 Adjoining Roads

The roads adjoining the RTRF site include the following:

- **Schofields Road** is aligned in an east-west direction and runs between Windsor Road in the east and Railway Terrace in the west. It is classified as a State Road between Windsor Road and Hambledon Road (Roads and Maritime Services (RMS) Road Number 687) and a Regional Road between Hambledon Road and Railway Terrace (RMS Road Number 7158). It is a two-way road configured with a 2-lane, 6 metre wide carriageway with narrow sealed shoulders, set within an approximately 20 metre wide road reserve. It carries approximately 11,600 vehicles per day (NWRL EIS Stage 2, 2012).

The first stage of the Schofields Road Upgrade is currently (March 2013) being undertaken. It covers the section between Tallawong Road and Windsor Road. This is further discussed in Section 2.1.3.

- **Tallawong Road** is a local road aligned in a north-south direction. It is a two-way road configured with a 2-lane, 6 metre wide carriageway, set within an approximately 25 metre wide road reserve. It carries approximately 950 vehicles per day (NWRL EIS Stage 2, 2012).

Tallawong Road currently forms an offset T-intersection with Schofields Road, approximately 90 metres west of the Schofields Road/ Ridgeline Drive intersection. The Schofields Road Upgrade incorporates a realignment of the southern section of Tallawong Road to align with Ridgeline Drive and form a four-leg intersection.

- **Hambledon Road** – is an existing two-way, two-lane local road linking Schofields Road with Quakers Hill. It forms a T-intersection with Schofields Road to the south west corner of the site, approximately 700 metres to the west of Tallawong Road.

Hambledon Road is proposed to be extended north of Schofields Road, in-line with the strategic road network plan for the North West Growth Centre.

Figure 2.3 shows the configuration of the road network in the vicinity of the RTRF site.

Figure 2.3: Existing Road Network Surrounding RTRF Site



Basemap source: Google maps

2.1.2 Intersection Operation

SIDRA INTERSECTION¹ is a computer based modelling package which calculates intersection performance.

The commonly used measure of intersection performance, as defined by RMS, is vehicle delay. SIDRA INTERSECTION determines the average delay that vehicles encounter and provides a measure of the level of service.

Table 2.1 shows the criteria that SIDRA INTERSECTION adopts in assessing the level of service.

Table 2.1: SIDRA INTERSECTION Level of Service Criteria

Level of Service (LOS)	Average Delay per vehicle (sec/vehicle)	Traffic Signals, Roundabout	Give Way & Stop Sign
A	Less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Near capacity	Near capacity, accident study required
E	57 to 70	At capacity, at signals incidents will cause excessive delays	At capacity, requires other control mode
F	Greater than 70	Extra capacity required	Extreme delay, major treatment required

Source: SIDRA INTERSECTION

Transport for NSW provided GTA Consultants with SIDRA INTERSECTION files from the existing conditions (January 2012) assessment of the Schofields Road/ Tallawong Road intersection which

¹ Computer software package used under license from Akcelik & Associates Pty Ltd.

were prepared by Aurecon and Arup for Transport for NSW (NWRL EIS 1 Technical Paper 1). The summary results are shown in Table 2.2. Full results are presented in Appendix A of this report.

Table 2.2: Schofields Road/Tallawong Road – Existing Operating Conditions

Peak	Degree of Saturation (DOS)	Average Delay (sec)	95th Percentile Queue (m)	Level of Service (LOS)
AM	0.304	31	7	C
PM	0.262	39	7	C

Source: Based on SIDRA INTERSECTION files provided by Transport for NSW.

On the basis of the above assessment, the “worst-performing” leg of the Schofields Road/Tallawong Road intersection, the Tallawong Road (north) leg, currently operates at Level of Service (LoS) C, with average vehicle delay of 31 seconds during the AM peak and 39 seconds during the PM peak.

2.1.3 Future Road Network

North West Growth Centre Structure Plan

The North West Growth Centre (NWGC) Structure Plan provides a blueprint for the detailed planning of individual precincts once they are approved for release. It incorporates the strategic transport network for the NWGC precincts.

The following description of the future transport network is provided in the NWGC *Structure Plan – Explanatory Notes* (Department of Planning and Infrastructure, March 2010)

“The Structure Plan makes use of, and improves, the existing network of rural roads. The network will be extended and enhanced to accommodate the increase in travel demand.

Existing arterials will be upgraded. These improved roads will also accommodate either bus priority measures, transit lanes or a centre median transitway.”

Among the existing roads that have been identified for future upgrades over the next 25 to 30 years are:

- Schofields Road corridor
- Hambledon Road.

The NWGC *Structure Plan – Explanatory Notes* further notes the following relating to the NWRL:

“The North West Rail Link will serve the North West Growth Centre in the long term. The North West Structure Plan identifies an indicative corridor. Once a final route is identified the Structure Plan will be amended.”

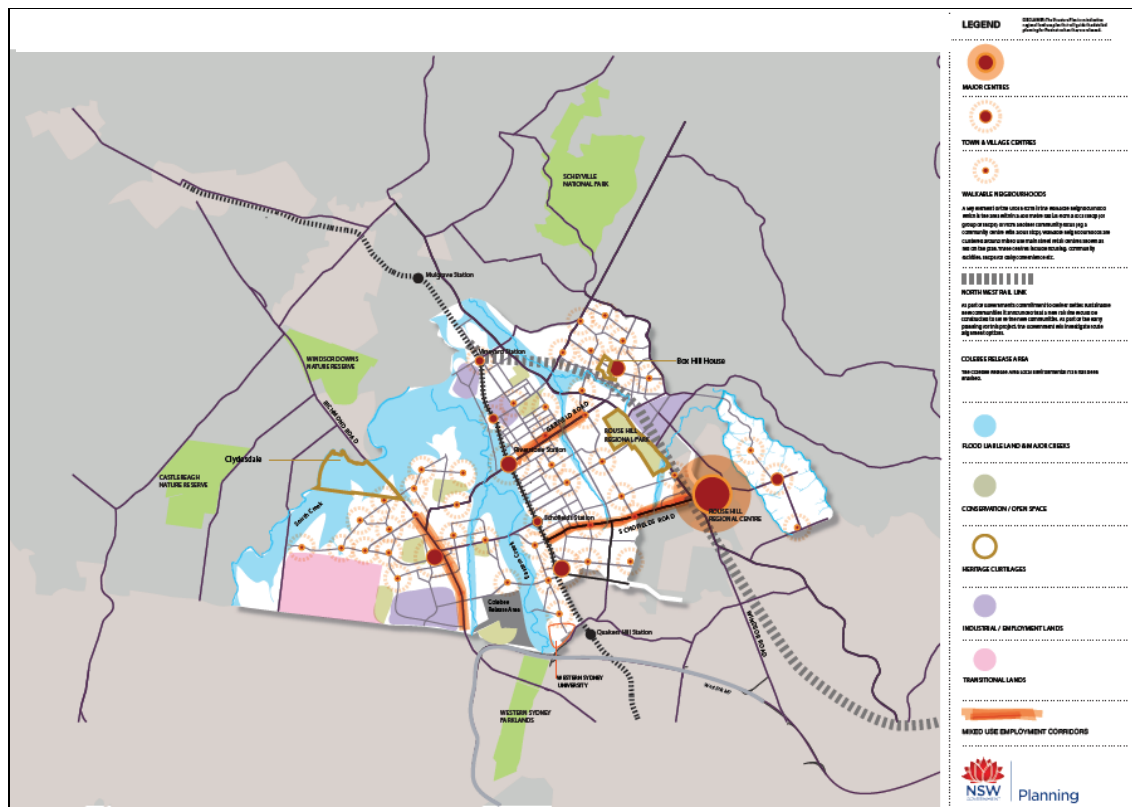
This route has since been finalised, with the corridor running along Schofields Road from Rouse Hill. The RTRF is a component of this final NWRL route, which also includes the protection of a corridor to Marsden Park to the west to allow for a future extension.

In terms of the regional and local bus routes, the NWGC *Structure Plan – Explanatory Notes* indicates the following:

“The road network is designed to accommodate local and regional bus services through most Neighbourhood and Town Centres, optimising public transport access. Bus priority measures will be implemented along the main roads that link the Town and Neighbourhood Centres.”

The future bus network is further discussed in Section 2.3.2. Figure 2.4 shows the North West Growth Centre Structure Plan (Edition 3), with the indicative alignment for the NWRL that has since been finalised to run west (instead of north) of Rouse Hill.

Figure 2.4: North West Growth Centre Structure Plan



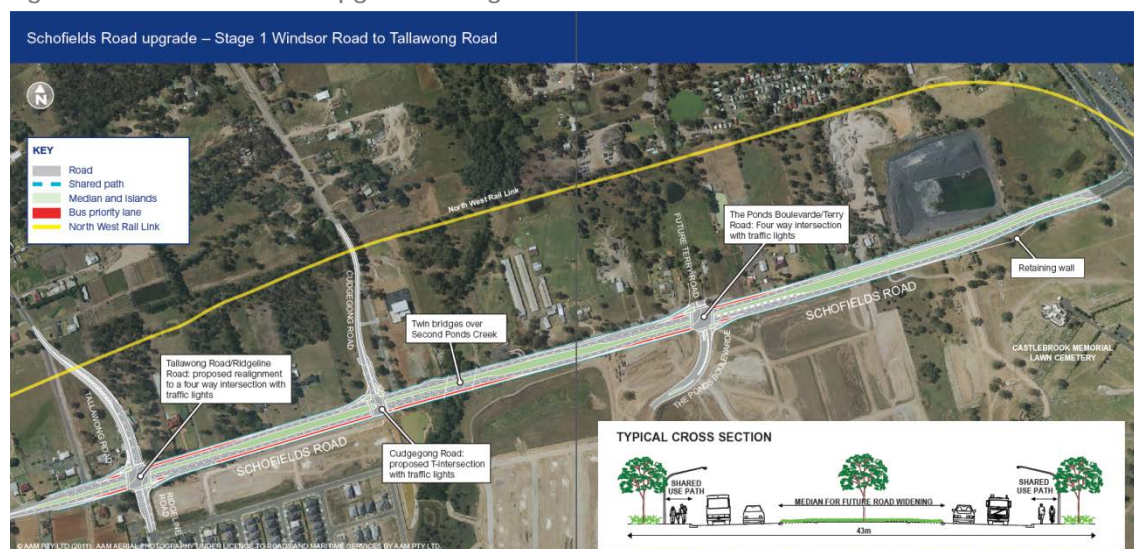
Source: http://www.gcc.nsw.gov.au/media/Pdf/Miscellaneous%20Amendment/nw_structplan_edn3.pdf, accessed on 09 May 2013.

Schofields Road Upgrade

The NSW Roads and Maritime Services (RMS) is currently undertaking the construction of the Schofields Road Upgrade Stage 1 between Windsor Road and Tallawong Road. It is part of a three-stage upgrade of Schofields Road, between Windsor Road and Richmond Road. Consultation with the RMS indicates a June or July 2014 anticipated completion date for Stage 1 of the Schofields Road Upgrade.

The upgrade comprises two lanes in each direction on Schofields Road on a divided carriageway, with future provision to provide three lanes in each direction. This work will also incorporate the realignment of the southern section of Tallawong Road to align with Ridgeline Drive on the southern side of Schofields Road approximately 90 metres east of the existing intersection. Similarly, the road upgrade necessitates a realignment of Cudgegong Road approximately 37 metres to the west at its intersection with Schofields Road. The concept plan for the Stage 1 upgrade is shown in Figure 2.5.

Figure 2.5: Schofields Road upgrades – Stage 1



Source: *Schofields Road Upgrade Community Update* (Roads and Maritime Services, August 2012).

2.2 Car Parking

The site observations and review of previous studies undertaken for this assessment indicates that there is minimal demand for on-street car parking in the vicinity of the RTRF site. With the ongoing construction works for the Schofields Road Upgrade, there would be limited opportunity for on-street parking along Schofields Road.

2.3 Public Transport

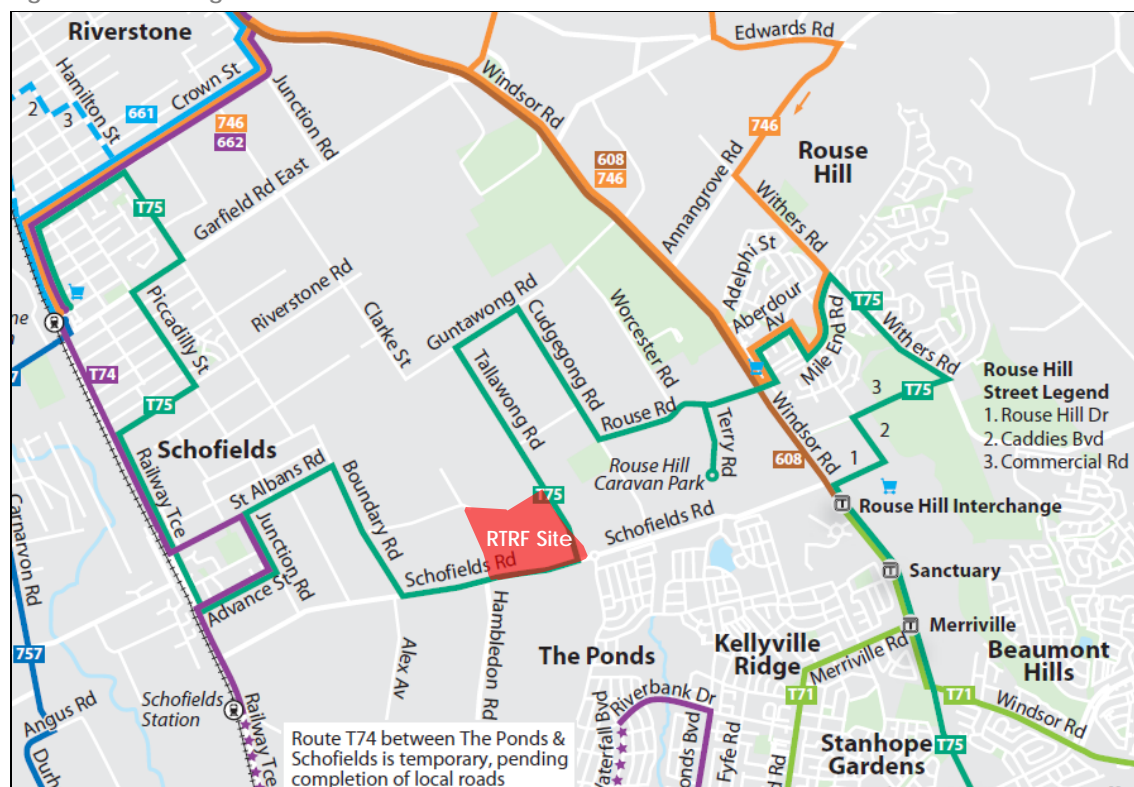
2.3.1 Existing Public Transport Network

Public transport services in the vicinity of the RTRF site are currently provided by buses. The nearest railway station is Schofields Station, on the Richmond Branch of CityRail's Western Line. It is located approximately 2.8 km to the west of the RTRF site.

Busways operates bus transport services in the North West sub-region, and services the area in the vicinity of the RTRF. Bus route T75 operates between Blacktown Transport Interchange (Railway Station) and Riverstone (Railway Station). Bus stops are located on either side of Schofields Road, west of Tallawong Road. Peak period services operate at approximately 20-40 minute intervals and off peak services at hourly intervals.

Figure 2.6 presents the existing bus network in the vicinity of the RTRF site.

Figure 2.6: Existing Bus Network



Source: http://www.busways.com.au/sites/default/files/network_maps/R1NetworkMapNE250612.pdf.

2.3.2 Proposed Future Public Transport Network

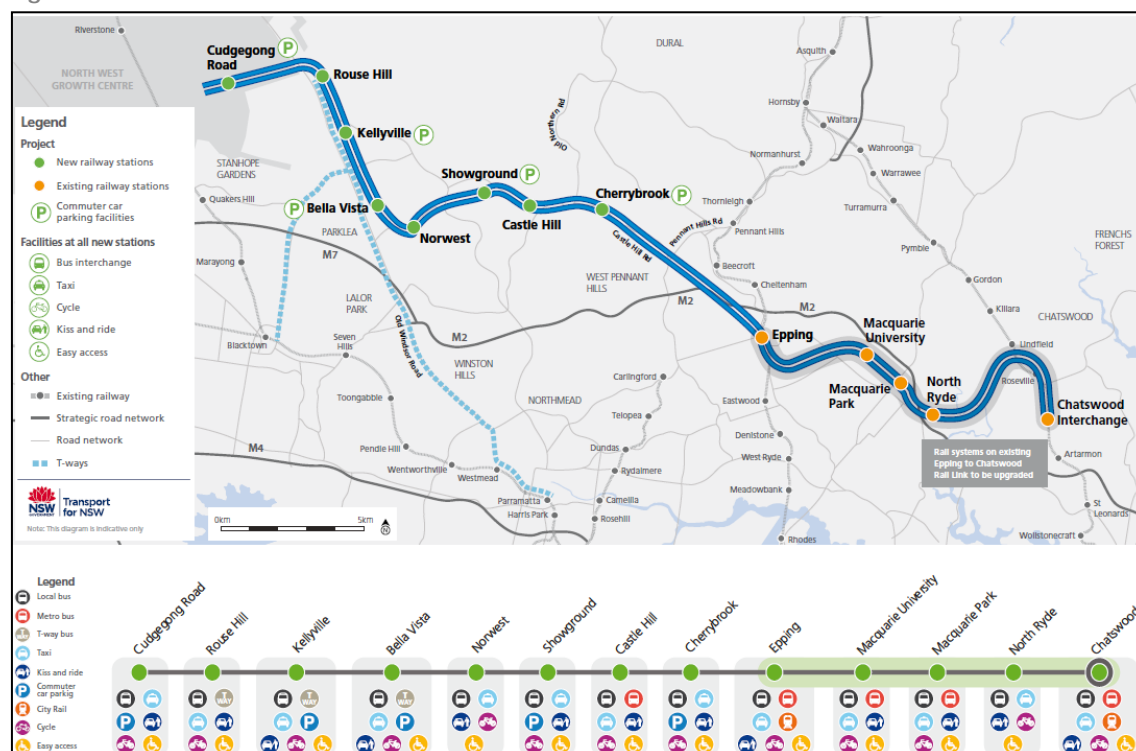
Future Passenger Rail Services

The proposed Cudgegong Road Railway Station (rapid transit) would be the westernmost station on the North West Rail Link. It will be located next to the RTRF site, across Tallawong Road, and provide passenger rail services every 5 minutes during peak periods and every 10 minutes across the day and on weekends.

The North West Rail Link forms part of Stage 3 of Sydney's Rail Future (SRF). It will feature eight new stations between the RTRF site and Epping Station and extend the existing Epping to Chatswood line to Chatswood. The overall alignment is shown in Figure 2.7

Stage 4 of the SRF includes the extension of the line to the Sydney CBD via a second Harbour Crossing and the SRF Stage 5 would provide further extension to Hurstville and Bankstown by converting existing railway lines to rapid transit.

Figure 2.7: North-West Rail Link



Source: Transport for NSW

Future Bus Services

The *North West Sector Bus Servicing Plan*² (NSW Transport and Infrastructure, 2009) provides for a future bus network that would service growing public transport demand in the North West Growth Centre arising from increased population and employment. The plan proposes an all-day bus network as shown in Figure 2.8. It identified Schofields Road as part of a proposed east-west strategic bus corridor.

The *North West Sector Bus Servicing Plan* includes a combination of:

- Regional bus routes – higher frequency services (every 15 minutes during weekday peaks and every 30 minutes off-peak) that run into the evening (hourly) and ensure 90 per cent of residents are within 800 metres of a service.
- District bus routes – less frequent services (every 30 minutes during weekday peaks and every 60 minutes off-peak) that do not run into the evening. These routes should ensure that 90 per cent of residents are within 400 metres of a service.

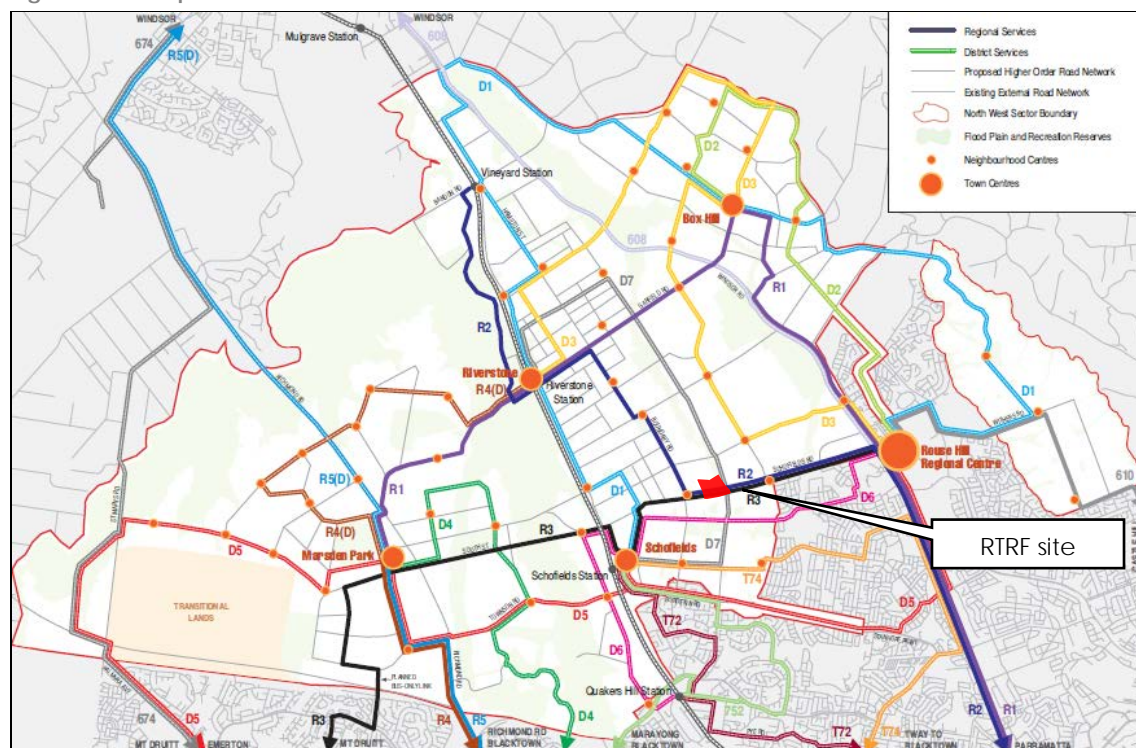
The proposed bus network indicates three proposed new routes in the vicinity of the RTRF site:

- Route R2: Parramatta – Rouse Hill – Riverstone East – Vineyard.
- Route R3: Mount Druitt – Marsden Park – Schofields – Rouse Hill.
- Route D7: Schofields – Riverstone via Tallawong Road.

It is anticipated that the routes outlined in the 2009 *North West Sector Bus Servicing Plan* in the vicinity of the site would be revised with the introduction of passenger rail services at Cudgegong Road station as part of the North West Rail Link.

² The 2011 revision of the North West Sector Bus Servicing Plan has not yet been formally adopted.

Figure 2.8: Proposed North West Sector Bus Network



Source: North West Sector Bus Servicing Plan (NSW Transport & Infrastructure, 2009)

Note: It is anticipated that the bus network shown above would be revised to incorporate the North West Rail Link, including Cudgegong Road Station.

2.4 Pedestrian and Cycle Facilities

2.4.1 Existing Facilities

There are no existing pedestrian and cycle facilities in the vicinity of the RTRF site.

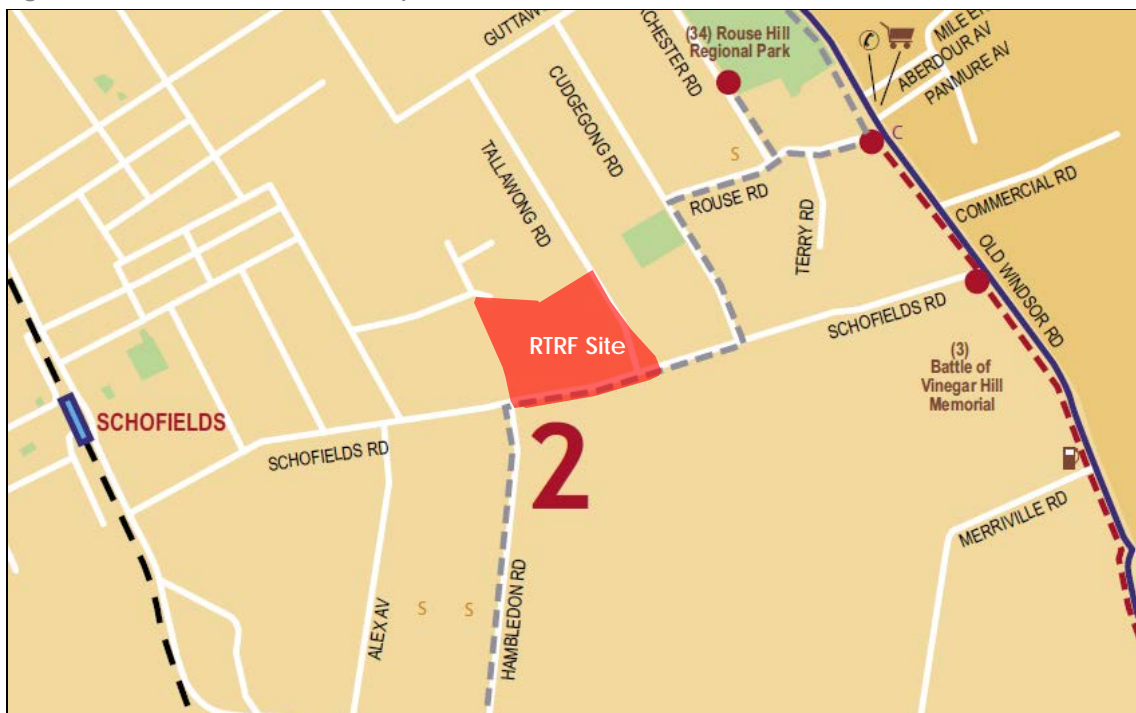
2.4.2 Proposed Facilities

A review of the drawings prepared by Brown Consulting for Landcom (dated 5 November 2008) and included in Appendix A of the *Schofields Road Upgrade Stage 1 – Review of Environmental Factors* (Maunsell AECOM, December 2007) indicates a 2.0 metre wide shared path is proposed along each side of Schofields Road. Limited details are available on the shared path and crossing locations.

Along the surrounding roads, the Blacktown City Council Bike Plan map includes a proposed bicycle route between Breakfast Creek and Rouse Hill. It includes proposed bicycle routes on Hambledon Road, Schofields Road and Cudgegong Road, as shown in Figure 2.9.

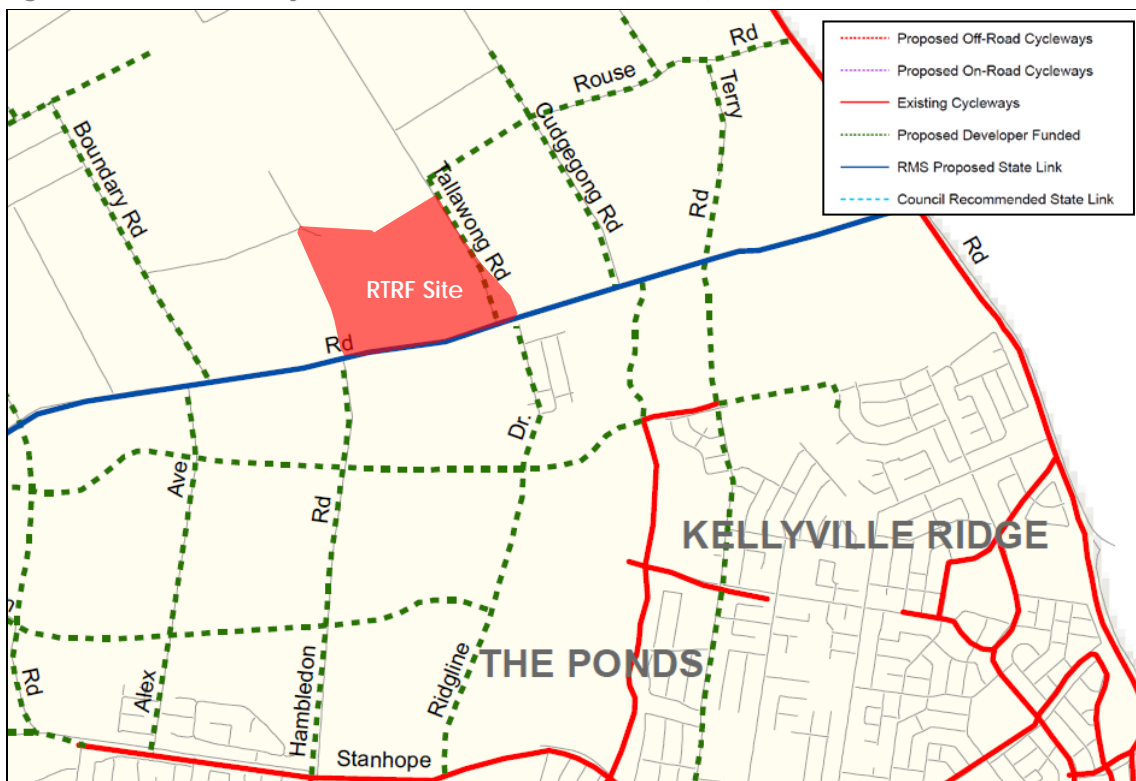
Blacktown City Council also recently exhibited the 2013 Draft Bike Plan showing the existing and future proposed bicycle routes. An extract is shown in Figure 2.10.

Figure 2.9: Blacktown Bike Plan Map (extract)



Source: http://www.blacktown.nsw.gov.au/files/a7c7e1fe-88a2-441d-a84c-a1b7010aa1fe/Bike_Plan_Map.pdf, accessed 9 May 2013

Figure 2.10: Blacktown City Council 2013 Draft Bike Plan (extract)



Source: http://www.blacktown.nsw.gov.au/files/a12e5951-e90e-4284-ab3c-a196007f4677/Draft_Bike_Plan_2013.pdf, accessed 9 May 2013.

3. Rapid Rail Transit Facility

3.1 Project Description

The facilities within the RTRF would include:

- Train stabling facilities.
- Train maintenance facilities including those required for cleaning, inspection, preventative maintenance, corrective maintenance, component repair and major overhaul of rolling stock.
- Train wash and wheel lathe.
- A test track.
- Facilities for maintenance and repair of rail systems, equipment and infrastructure.
- Warehousing for spare parts, tools and equipment.
- Administration, staff facilities and training facilities including an Operations Control Centre.
- Ancillary buildings as required for security services, power supply systems, refuse disposal and hazardous material storage.
- Bulk power sub-station and transformer facilities with secure access.
- Internal access and maintenance roads.
- Safeguarding for a future transport corridor to Marsden Park.
- Car parking facilities for staff and visitors.

The indicative layout for the RTRF is shown in Figure 1.1.

3.2 Vehicle Access

Vehicle access to the RTRF would be from Tallawong Road. The main site entry would be located towards the centre of the Tallawong Road frontage, approximately 420 metres north of the Schofields Road intersection. A secondary site access would be located at the northern end of the Tallawong Road frontage, a further 150 metres to the north of the main access gate. These access points would be security controlled.

An internal access road would facilitate vehicular movement within the site including access for maintenance vehicles to the stabling tracks, wheel lathe, bogie drop, train wash and signalling and communications equipment building, and administrative buildings. The internal access road would also allow emergency vehicle access and access for garbage and waste collection.

3.3 Car Parking

Car parking areas would be provided for staff and visitors. Approximately 180 parking spaces would be provided around the site, based on estimated staffing within different areas of the facility, with indicative distribution as follows:

- approximately 50 spaces provided outside the administration building.
- approximately 100 spaces adjacent to the maintenance workshop.
- approximately 35 spaces in two smaller car park areas near the infrastructure workshop and storage area.

3.4 Public Transport Access

The NWRL would bring about passenger rail services at Cudgegong Road Station, which adjoins the RTRF site.

Buses would continue to operate along Tallawong Road servicing the RTRF site. Scope exists to further restructure the future bus routes identified in the North West Sector Bus Servicing Plan to service the RTRF and the Cudgegong Road Station, in line with the NWRL.

These would assist in the RTRF's contribution towards the NSW Long Term Transport Master Plan objectives of increasing public transport mode shares for peak period journeys to work.

3.5 Pedestrian and Bicycle Facilities

Pedestrian and bicycle access and internal facilities for the RTRF site have not been determined. Providing for pedestrian and bicycle facilities for the RTRF would need to be investigated in more detail during the detailed design phase. However, the safety aspects arising from pedestrian and cyclist movements within the facility would also need to be considered.

4. Construction Stage Traffic Impacts

4.1 Overview of Construction Activities

This assessment assumes construction of the RTRF in two phases:

- i Major Civil Works (site establishment, earthworks).
- ii Infrastructure and Systems Works (operational and maintenance facilities, rail infrastructure and systems).

These two phases correspond to the phasing of the construction of the overall NWRL project.

4.1.1 Duration of Construction Site Works

Major civil works at the RTRF construction site is estimated to be undertaken over 13 months. Not all of these activities would occur at the same time, although there may be opportunity for some overlap of activities at some sites such that the duration of excavation/ construction works would not be consecutive periods (NWRL EIS 1, 2012).

The construction duration for the operational and maintenance facilities and rail infrastructure within the RTRF is less certain. An estimated three-year construction period has been assumed in NWRL EIS 2 for the entire NWRL station construction, fit out and precinct works. Given the timeframe for the opening of the NWRL project, it has been estimated that the RTRF would follow a similar construction schedule as indicated in NWRL EIS 2 for the Tallawong Road depot site.

4.1.2 Hours of Construction

Consistent with the NWRL EIS 1 and EIS 2 approvals, standard working hours for construction activities are proposed to be:

- Monday to Friday: 7:00 am – 6:00 pm.
- Saturday: 8:00 am – 1:00 pm.

Generally, no construction activities are anticipated to occur during Sundays and public holidays. However, in some cases, works may have to be carried out at night or on weekends if the impacts on the road network or other stakeholders are considered unacceptable. (NWRL EIS Stage 1, 2012).

Separate approvals would need to be sought for any construction traffic movements to be undertaken outside normal construction hours.

4.1.3 Construction Traffic Generation

Major Civil Works Phase

Light Vehicles

The Major Civil Works phase for the RTRF construction is estimated to require approximately 60 construction personnel at the peak of construction activities. Based on a similar assumption of 1.2 persons per vehicle as indicated in NWRL EIS 1, the RTRF would generate 50 inbound and 50 outbound light vehicle movements daily during the Major Civil Works phase.

Existing arrival and departure patterns of construction staff at similar sites indicate that a significant portion of construction staff start commence prior to the morning road network peak.

Considering the nature of the RTRF construction work during this phase, it is estimated that no more than half would arrive during the AM peak hour or depart during the PM peak hour. On this basis, a conservative estimate of 50% of the light vehicle traffic generation would be occurring during the AM or PM peak hours, i.e. 25 light vehicles entering during the AM peak hour and 25 exiting during the PM peak hour.

Heavy Vehicles

Heavy vehicle traffic that is expected to be generated by the construction of the RTRF during the Major Civil Works phase is comprises truck movements to export a total excess spoil volume of approximately 145,000 cubic metres, and a number of ancillary deliveries. These activities are anticipated to generate a total of 50 daily truck movements in each direction, which would more or less be spread evenly during the day.

The corresponding peak hour heavy vehicle traffic generation is thus estimated to be 5 heavy vehicle movements in each direction during both the AM and the PM peak hours.

Infrastructure and Systems Works Phase

Light Vehicles

Information on plant and equipment requirements for the RTRF indicates that there would be a requirement for approximately 100 construction personnel during the Infrastructure and Systems Works phase of construction. Based on a similar car occupancy and peak hour arrival/departure rate as the Major Civil Works Phase, the 100 construction staff is anticipated to generate 84 light vehicle movements in each direction daily, corresponding to 42 light vehicles entering during the AM peak hour and 42 light vehicles exiting during the PM peak hour.

Heavy Vehicles

Information provided by TfNSW indicates that the RTRF construction site is anticipated to generate about 6 heavy vehicle deliveries per hour throughout the day during the Infrastructure and Systems Works phase. This results in approximately 6 heavy vehicle movements in each direction during both the AM and the PM peak hours and 132 heavy vehicle movements daily.

Summary of Construction Traffic Generation

The construction traffic volumes likely to be generated by the RTRF during the two construction phases during the AM and PM peak hours are summarised in Table 4.1.

Table 4.1: Estimated AM & PM Peak Hour Vehicle Movements – Construction Stage

Construction Phase	Peak Hour	Heavy Vehicles		Light Vehicles ^{1,2}		Peak Staff
		In	Out	In	Out	
Major Civil Works	AM	5	5	25	0	60
	PM	5	5	0	25	
Infrastructure and System Works	AM	6	6	42	0	100
	PM	6	6	0	42	

[1] Assumes 84% of construction personnel drive and park on-site, based on 1.2 persons per vehicle for light vehicles (NWRL EIS 1, 2012).

[2] Assumes 50% of construction personnel arrive at and depart from the RTRF site during peak hours.

It is further assumed that all traffic generated by construction personnel would be accessing Schofields Road from the direction of Windsor Road.

4.1.4 Construction Workforce Parking Location

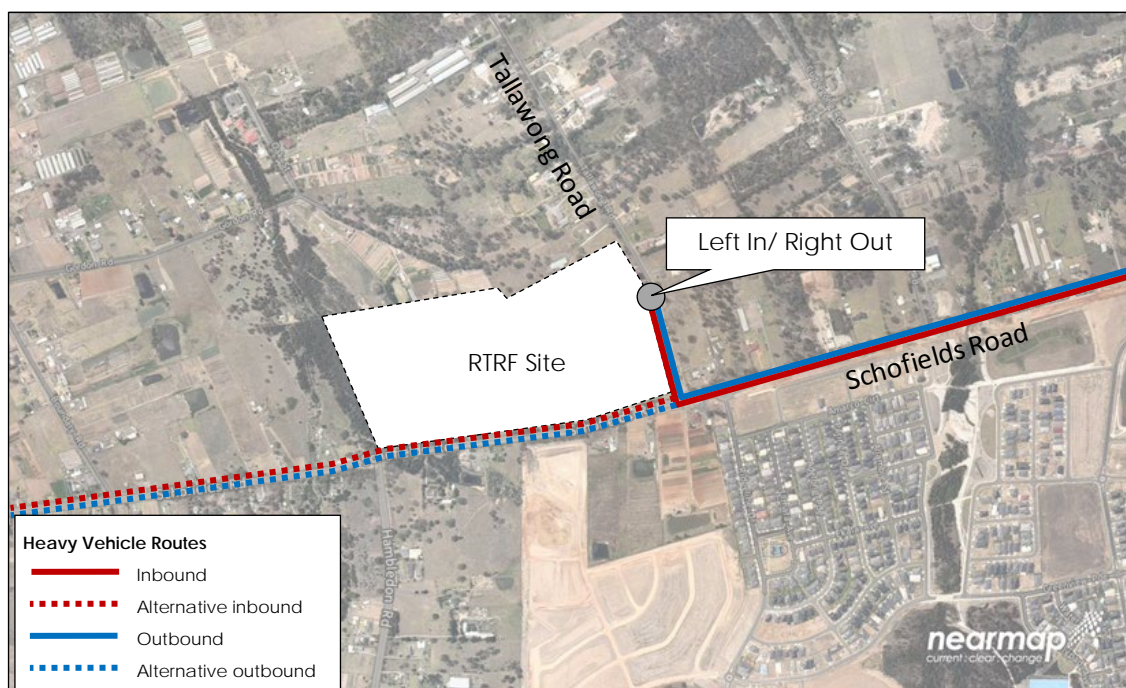
The location for construction workforce parking has not been determined at this stage. However, given constraints associated with the Schofields Road Upgrade, up to 84 car spaces would need to be accommodated on-site.

4.2 Heavy Vehicle Routes

Access to the RTRF construction site is proposed from Tallawong Road. Heavy vehicle routes would generally be along Schofields Road to Windsor Road. The use of Schofields Road, west of the construction site is considered undesirable due to a lack of connectivity to arterial roads, as identified in NWRL EIS 2.

A diagram of the proposed heavy vehicle routes are shown in Figure 4.1.

Figure 4.1: RTRF Construction Site Heavy Vehicle Routes



Reproduced from NWRL EIS Stage 2 Technical Paper 1. Basemap source: Nearmap

4.3 Construction Traffic Impacts

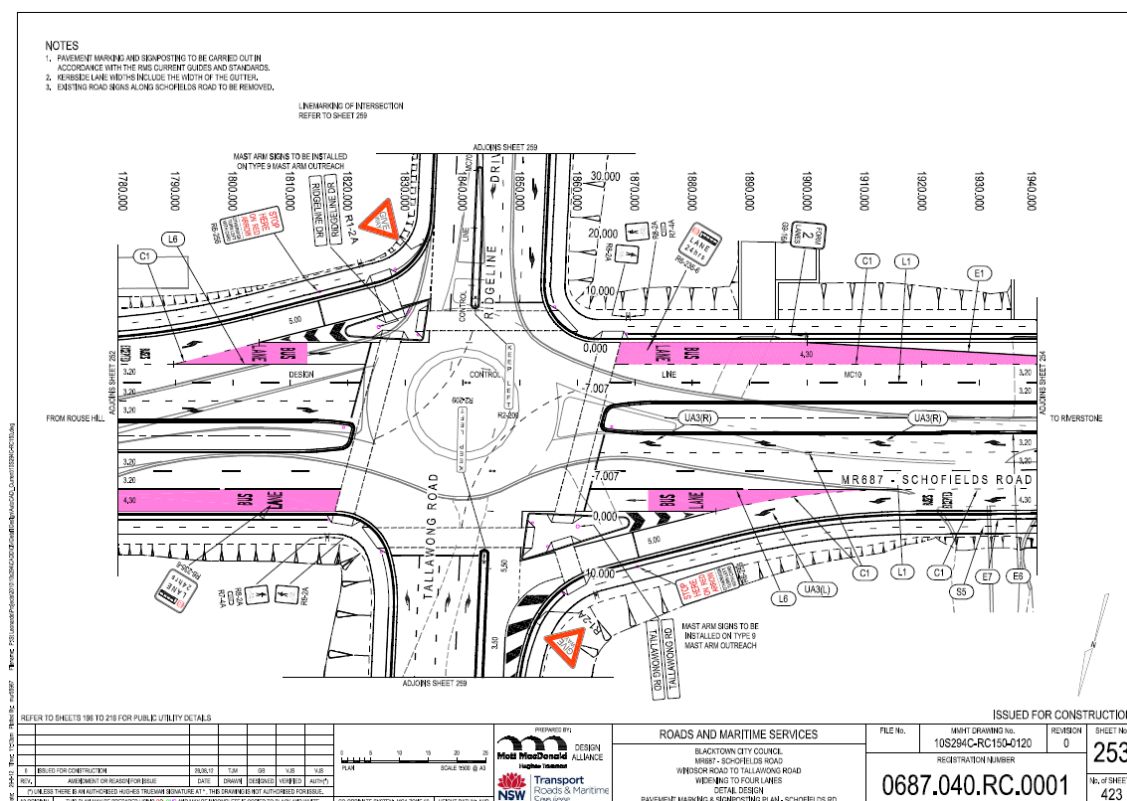
4.3.1 Schofields Road/ Tallawong Road Intersection

The Schofields Road/ Tallawong Road T-intersection is currently priority-controlled, offset about 90 metres west of the Schofields Road/ Ridgeline Drive intersection (roundabout). The Schofields Road Upgrade would see the existing Schofields Road/ Tallawong Road intersection realigned with Ridgeline Drive and converted to a signalised four leg intersection, as shown in Figure 4.2.

A detailed design plan provided by RMS (dated August 2012) indicates both the eastern and western approaches of Schofields Road include a single left turn slip lane and bus lane, two through lanes and a single right turn bay. A left, a through and a right turn lane are to be

provided on the Ridgeline Drive leg. Four approach lanes are included on Tallawong Road, comprising two right turn bays, a through lane and a left turn lane.

Figure 4.2: Schofields Road/ Tallawong Road Intersection Upgrade



Source: Roads and Maritime Services, August 2012.

In assessing the traffic impacts during the construction stage of the RTRF, it was assumed that the Stage 1 Schofields Road upgrade would be completed prior to construction. This includes Schofields Road east, Tallawong Road and Ridgeline Drive as shown in Figure 4.2, but includes only a portion of Schofields Road west (localised intersection widening). This assumption was based on discussions with the RMS, noting that the Tallawong Road/ Schofields Road intersection upgrade (Stage 1) should be completed by around June or July 2014. It is further assumed that Stage 2 works of the Schofields Road upgrade (west of Tallawong Road) would not be completed until after the RTRF construction works.

4.3.2 Traffic Impacts

Following the distribution and assignment of the construction traffic, intersection analysis using SIDRA INTERSECTION was undertaken for the Major Civil Works phase and Infrastructure and Systems Works phases of the RTRF construction.

Table 4.2 presents a summary of the future operation of the upgraded Schofields Road/ Tallawong Road intersection (Stage 1) without and with RTRF construction traffic flows for the major civil works and infrastructure and systems works phases, for comparative purposes. Full results are presented in Appendix A of this report. Generic assumptions on the traffic signal phasing/ timing and turn bay lengths were made for the assessment, due to limited information available for the study.

Table 4.2: Schofields Road/Tallawong Road (Signalised) – With Construction Traffic

Stage	Peak	Degree of Saturation (DOS)	Average Delay (sec)	95th Percentile Queue (m)	Level of Service (LOS)
Base (Existing)	AM	0.46	33	101	C
	PM	0.48	32	106	C
Major Civil Works	AM	0.47	35	102	C
	PM	0.48	32	106	C
Infrastructure and Systems Works	AM	0.47	37	96	C
	PM	0.48	33	106	C

The above analysis indicates the anticipated construction traffic generated by the Major Civil Works phase as well as the Infrastructure and Systems Works phase of the RTRF construction would have negligible impacts to the signalised Schofields Road/ Tallawong Road intersection.

4.4 Impacts on Other Transport Modes

4.4.1 Buses

There are currently no bus services along Schofields Road east of Tallawong Road. There is one route, operated by Busways, along Tallawong Road and Schofields Road (Route T75) that may need to be re-routed for part of the construction period. This service could potentially be rerouted via Cudgegong Road should it be required to close Tallawong Road for any length of time. However, as noted in NWRL EIS 2 (2012), access along Tallawong Road or Cudgegong Road should be provided at all times during construction.

4.4.2 Pedestrians and Cyclists

Pedestrian and cyclist facilities in the vicinity of the RTRF construction site would include signalised pedestrian crossings at all legs of the upgraded Schofields Road/ Tallawong Road intersection, linking with the new shared path along Schofields Road.

Designated pedestrian and cycling routes would remain largely unaffected by RTRF construction activities.

4.4.3 Parking

There is minimal demand for on-street parking in the vicinity of the RTRF site and it is anticipated that the impact on existing parking would be low. There is scope to accommodate all construction parking requirements on-site.

4.5 Cumulative Impacts

Cumulative impacts may arise as a result of a number of other planned and potential construction activities within the vicinity of the RTRF site, including the construction of the Cudgegong Road Station precinct, the Schofields Road upgrade and urban development activities within the Alex Avenue and Area 20 precincts within the North West Growth Centre.

The Stage 1 upgrade of the Schofields Road is expected to be completed in late-2014, with Stage 2 works expected to follow immediately (subject to funding arrangements). Schofields Road Upgrade Stage 2 is likely to occur over a further 24 to 30 months. It is therefore anticipated that the construction phase of the RTRF will coincide with the Schofields Road upgrade.

Cumulative impacts of the RTRF and the Schofields Road upgrade would be managed through ongoing liaison with the RMS throughout the duration of construction works.

There are also potential cumulative impacts concerning the timing of the RTRF construction phase in relation to construction within adjacent urban development areas, including the Alex Avenue Growth Centres Precinct. Whilst ongoing construction activities have been taken into account in traffic counts undertaken for the NWRL, future urban development patterns and timing may change the number and dispersal of construction and residential traffic within the existing road network. For this reason consultation with key stakeholders within the Alex Avenue Growth Centre Precinct will be carried out to ascertain and manage potential cumulative traffic impacts within the locality.

Construction activities for both the RTRF and the NWRL will occur within the same timeframe and TfNSW would be responsible for managing the cumulative impacts of these projects, particularly with regard to construction traffic generated within the Cudgegong Road Station Precinct. Construction traffic for both projects would be managed within the NWRL Construction Environmental Management Framework which details the environmental, stakeholder and community management systems and processes for the construction phase, including for traffic management.

In light of the above it is considered that cumulative impacts of the proposed development can be suitably managed through the mitigation measures outlined in Section 6.2.1.

5. Operational Stage Traffic Impacts

5.1 Traffic Generation and Mode Split

The Guide to Traffic Generating Developments (RMS, 2002) provides traffic generation estimates for different land uses. However, for the operational stage of the RTRF, the estimated traffic generation has been calculated based on the site supporting approximately 300 staff, as indicated in the RTRF State Significant Infrastructure Application (TfNSW, April 2013).

The AM and PM peak hour traffic volumes generated were estimated based on information provided by TfNSW in relation to the likely proportion of staff present during the weekday daytime, evening and night shifts of approximately 50%, 25% and 25% respectively of the total. To assess the worst case traffic generation, it was assumed all staff would travel to work individually by car (i.e. vehicle occupancy of 1.0).

Further, it was assumed that for all day shift staff would arrive and all night shift staff would depart during the AM peak. Likewise, day shift staff would depart and evening shift staff would arrive during the PM peak. The resultant estimates of traffic generation for the operation stage of the RTRF are shown in Table 5.1.

Table 5.1: Traffic Generation Estimates

Period	Peak Hour Vehicle Movements		
	In	Out	Total
AM Peak	150	75	225
PM Peak	75	150	225

5.2 Distribution and Assignment

The directional distribution and assignment of traffic generated by the RTRF site will be influenced by a number of factors, including:

- The configuration of the arterial road network in the immediate vicinity of the RTRF site.
- The existing operation of intersections providing access between the local and arterial road network.
- Land development in the proposed NWGC precincts.
- The likely distribution of employees' residences in relation to the RTRF site.
- The configuration of access points to the RTRF site.

Having consideration for the above and for the purposes of estimating vehicle movements, the following directional distribution of RTRF-generated traffic during the operational stage at the Schofields Road/ Tallawong Road intersection has been assumed as follows:

- Schofields Road (west): 35 per cent.
- Schofields Road (east): 50 per cent.
- Ridgeline Drive (south): 5 per cent.
- Tallawong Road (north): 10 per cent.

Based on the above, the estimated increase in turning movements at the Schofields Road/ Tallawong Road intersection during the AM and PM peak hours are shown in Figure 5.1 and Figure 5.2 respectively.

Figure 5.1: 2026 Traffic Volumes – AM Peak

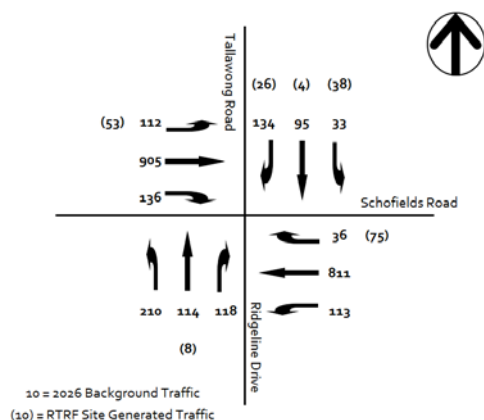
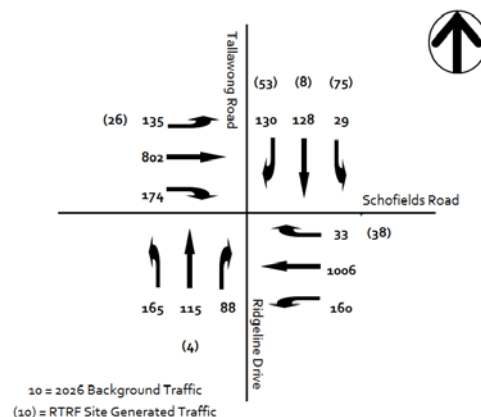


Figure 5.2: 2026 Traffic Volumes – PM Peak



5.3 Operational Traffic Impacts

For the purposes of assessing the traffic impacts of RTRF operation, background traffic for the year 2026 was determined based on traffic volumes provided by Transport for NSW, as used for the NWRL EIS 2 study.

The operational traffic assessment compared 2026 traffic levels of service and performance of the Schofields Road/Tallawong Road intersection with and without the RTRF.

It was further assumed that the 2026 traffic volumes incorporated traffic generation from the Cudgegong Road Railway Station, and that Stage 2 of the Schofields Road upgrade works has been completed.

The impact of the RTRF-generated traffic on the Schofields Road/ Tallawong Road intersection has been assessed using SIDRA INTERSECTION. Table 5.2 presents a summary of the anticipated future (2026) operation of the intersection without and with RTRF operational traffic, for comparative purposes. Full results presented in Appendix A.

Table 5.2: Schofields Road/Tallawong Road (Signalised) – 2026

Stage	Peak	Degree of Saturation (DOS)	Average Delay (sec)	95th Percentile Queue (m)	Level of Service (LOS)
Without RTRF Operation	AM	0.84	45	205	D
	PM	0.96	51	277	D
With RTRF Operation	AM	0.84	45	205	D
	PM	0.96	51	277	D

From Table 5.2, it can be seen that there is no change in average vehicle the degree of saturation, the 95th percentile queue length or the level of service for both the AM and PM peaks in 2026 as a result of the RTRF operation.

Although the intersection operation would be approaching capacity during the PM peak, the comparative results indicate that the AM and PM peak hour traffic impacts of the RTRF operation would be negligible.

5.4 Impacts on Other Transport Modes

5.4.1 Buses

As indicated in Section 2.3.2, the future bus network in the vicinity of the RTRF site would likely be reconfigured to provide more frequent services to the Cudgegong Road Station. This would provide an opportunity for RTRF staff to use public transport for their journeys to and from work.

5.4.2 Passenger Rail Services

The introduction of the NWRL, passenger rail access would be provided at the Cudgegong Road Station which is adjacent to the RTRF. This would facilitate public transport access to the site.

5.4.3 Pedestrians and Cyclists

Pedestrian and cyclist facilities in the vicinity of the RTRF would include signalised pedestrian crossings at all legs of the upgraded Schofields Road/ Tallawong Road intersection, linking with the new shared path along Schofields Road.

Proposed bicycle and shared path facilities would be provided on Schofields Road (as part of the upgrade). This would facilitate local and regional pedestrian and/or cycle access to the RTRF site.

5.5 Cumulative Impacts

Traffic generated by the RTRF and the Cudgegong Road Station commuter car park and kiss-and-ride facilities would contribute to a cumulative traffic impact at the Schofields Road/ Tallawong Road intersection, the proposed new intersections along Tallawong Road.

It is understood that further analysis of the proposed Tallawong Road intersections, lane arrangements and the relationship with the proposed railway overbridge are being assessed separately by TfNSW.

6. Summary and Recommendations

6.1 Key Findings

This traffic and transport assessment was undertaken to evaluate the impacts of the proposed North West Rail Link Rapid Transit Rail Facility (RTRF) on the surrounding traffic and transport network. The key findings arising from the assessment include:

- Schofields Road between Windsor Road and Tallawong Road is currently being upgraded to provide two travel lanes in each direction, with localised widening at intersections to facilitate exclusive turn lanes. This is Stage 1 of the overall Schofields Road upgrade being implemented by the Roads and Maritime Services (RMS). It is anticipated that the upgrade would be completed by mid- to late-2014.
- As part of the Schofields Road Upgrade Stage 1, the southern portion of Tallawong Road would be realigned such that the current location of its intersection with Schofields Road would be moved 90 metres to the east to form a signalised four-way intersection with Ridgeline Drive. This realignment and intersection upgrade is also being implemented by the RMS.
- Stage 2 of the Schofields Road Upgrade would provide additional traffic lanes for the section between Tallawong Road and Veron Road.
- The projected construction traffic movements generated by the RTRF would cause minimal delays during the Major Civil Works and Infrastructure and Systems Works phases of construction, on the basis that the Schofields Road/ Tallawong Road intersection has been upgraded by the RMS (Schofields Road Stage 1 works).
- With the anticipated background traffic volumes, the intersection of Schofields Roads/ Tallawong Road would approach capacity in 2026 during the PM peak hour. However, the marginal impact of the RTRF would be negligible.

6.2 Recommended Mitigation Measures

6.2.1 Construction Stage

The implementation of the following measures would contribute towards mitigating the traffic and transport impacts during the RTRF construction stage:

- Provision of shuttle bus services for construction workers, and servicing strategic off-site parking areas and public transport facilities, such as Schofields Railway Station.
- Scheduling the movements of heavy vehicle haulage and deliveries outside peak periods.
- Liaison and consultation with the RMS and stakeholders to manage cumulative impacts during RTRF construction.

6.2.2 Operational Stage

The following mitigating measures for the operation of the RTRF are recommended:

- Consideration of peak period movements in assigning shift hours and changeover patterns for maintenance staff at the RTRF. Ideally these should be undertaken outside identified peak periods, noting that some staff may be constrained by rail operations.
- Preparation of workplace travel plans for RTRF entities that would provide alternative modes for journeys to/from work. The proximity of the future Cudgegong Road Station provides a significant opportunity to contribute towards a higher public transport mode share for RTRF staff journeys. The potential for RTRF staff shuttle services between the site and Cudgegong Road Station should be considered as part of this workplace travel plan.

Appendix A

Appendix A

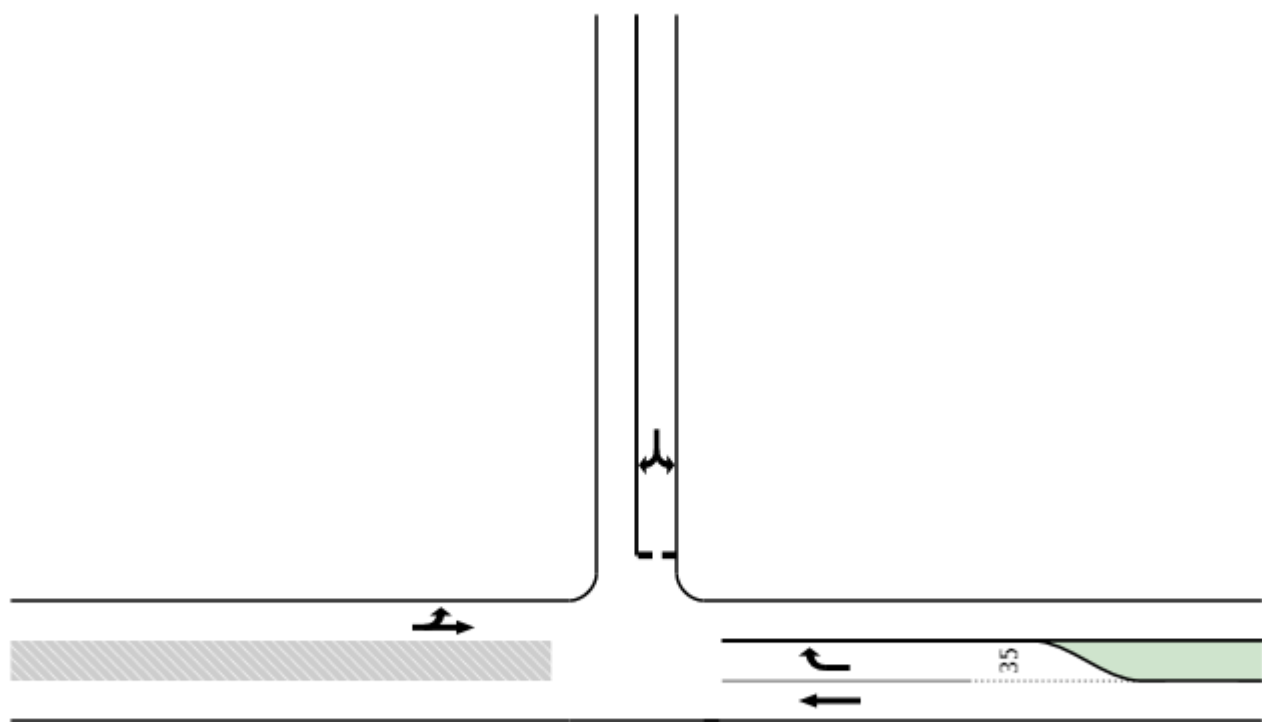
SIDRA INTERSECTION Outputs



Tallawong Road (N)

Schofields Road (W)

Schofields Road (E)



MOVEMENT SUMMARY

Site: Existing AM

Schofields Road / Tallawong Road
12/01/2012 JDM
Priority Intersection
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Schofields Road (E)											
5	T	377	5.6	0.200	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
6	R	14	7.7	0.020	12.0	LOS A	0.1	0.5	0.53	0.75	29.5
Approach		391	5.7	0.200	0.4	NA	0.1	0.5	0.02	0.03	58.0
North: Tallawong Road (N)											
7	L	11	0.0	0.252	29.9	LOS C	0.9	6.7	0.83	0.97	32.8
9	R	35	12.1	0.252	30.5	LOS C	0.9	6.7	0.83	0.98	32.7
Approach		45	9.3	0.252	30.4	LOS C	0.9	6.7	0.83	0.97	32.7
West: Schofields Road (W)											
10	L	33	12.9	0.304	8.6	LOS A	0.0	0.0	0.00	1.08	49.0
11	T	544	3.1	0.304	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		577	3.6	0.304	0.5	NA	0.0	0.0	0.00	0.06	59.2
All Vehicles		1013	4.7	0.304	1.8	NA	0.9	6.7	0.04	0.09	56.3

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

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SIDRA INTERSECTION 5.1.13.2093
Project: P:\13S9000-9099\13S9025000 - Tallawong Rd Rapid Rail Transit Facility\Modelling
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SIDRA
INTERSECTION

MOVEMENT SUMMARY

Site: Existing PM

Schofields Road / Tallawong Road
12/01/2012 JDM
Priority Intersection
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Schofields Road (E)											
5	T	640	2.3	0.333	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
6	R	21	10.0	0.029	11.8	LOS A	0.1	0.8	0.52	0.75	29.8
Approach		661	2.5	0.333	0.4	NA	0.1	0.8	0.02	0.02	58.2
North: Tallawong Road (N)											
7	L	9	11.1	0.262	38.8	LOS C	0.9	6.6	0.87	0.99	29.0
9	R	25	8.3	0.262	39.0	LOS C	0.9	6.6	0.87	0.99	29.0
Approach		35	9.1	0.262	38.9	LOS C	0.9	6.6	0.87	0.99	29.0
West: Schofields Road (W)											
10	L	45	9.3	0.277	8.5	LOS A	0.0	0.0	0.00	1.05	49.0
11	T	485	1.3	0.277	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		531	2.0	0.277	0.7	NA	0.0	0.0	0.00	0.09	58.9
All Vehicles		1226	2.5	0.333	1.6	NA	0.9	6.6	0.03	0.08	56.1

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

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INTERSECTION



Tallawong Road (N)

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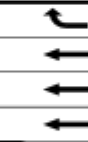


Schofields Road (E)

200

100

20



Schofields Road (W)

165

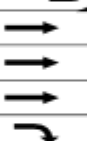
20

135

125

200

85



Ridgeline Drive (S)

70

70



MOVEMENT SUMMARY

Site: Existing (with realignment)
AM

Schofields Road / Tallawong Road
During Major Civil Construction works
AM Peak
Signals - Fixed Time Cycle Time = 120 seconds (User-Given Cycle Time)

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Ridgeline Drive (S)											
7	L	1	0.0	0.003	38.4	LOS C	0.0	0.3	0.72	0.62	29.1
8	T	1	0.0	0.003	40.4	LOS C	0.0	0.3	0.82	0.49	24.5
9	R	88	0.0	0.303	51.4	LOS D	4.4	30.7	0.88	0.77	25.3
Approach		91	0.0	0.303	51.1	LOS D	4.4	30.7	0.88	0.76	25.3
East: Schofields Road (E)											
10	L	1	10.0	0.001	10.2	LOS A	0.0	0.0	0.10	0.65	56.8
11	T	377	5.0	0.284	30.0	LOS C	7.9	57.4	0.76	0.64	38.5
12	R	14	10.0	0.158	72.7	LOS F	0.8	6.2	0.99	0.69	21.1
Approach		392	5.2	0.284	31.5	LOS C	7.9	57.4	0.77	0.64	37.6
North: Tallawong Road (N)											
1	L	11	0.0	0.023	27.4	LOS B	0.3	2.1	0.78	0.68	33.6
2	T	1	0.0	0.003	40.4	LOS C	0.0	0.3	0.82	0.49	24.5
3	R	35	10.0	0.066	49.7	LOS D	1.1	8.3	0.84	0.70	25.8
Approach		46	7.5	0.066	44.4	LOS D	1.1	8.3	0.82	0.69	27.2
West: Schofields Road (W)											
4	L	33	10.0	0.023	10.2	LOS A	0.1	0.7	0.11	0.67	56.8
5	T	544	10.0	0.459	31.9	LOS C	13.3	100.9	0.81	0.69	24.3
6	R	1	3.0	0.012	70.1	LOS E	0.1	0.4	0.97	0.59	10.2
Approach		578	10.0	0.459	30.7	LOS C	13.3	100.9	0.77	0.69	25.6
All Vehicles		1106	7.4	0.459	33.2	LOS C	13.3	100.9	0.78	0.68	30.2

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P5	Across S approach	53	34.5	LOS D	0.1	0.1	0.76	0.76
P7	Across E approach	53	54.2	LOS E	0.2	0.2	0.95	0.95
P1	Across N approach	53	34.5	LOS D	0.1	0.1	0.76	0.76
P3	Across W approach	53	54.2	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		212	44.3	LOS E			0.85	0.85

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: Existing (with realignment)
PM

Schofields Road / Tallawong Road
During Major Civil Construction works
PM Peak
Signals - Fixed Time Cycle Time = 120 seconds (User-Given Cycle Time)

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Ridgeline Drive (S)											
7	L	1	0.0	0.003	38.4	LOS C	0.0	0.3	0.72	0.62	29.1
8	T	1	0.0	0.003	40.4	LOS C	0.0	0.3	0.82	0.49	24.5
9	R	32	0.0	0.108	49.7	LOS D	1.5	10.5	0.85	0.72	25.7
Approach		34	0.0	0.108	49.0	LOS D	1.5	10.5	0.84	0.71	25.8
East: Schofields Road (E)											
10	L	27	0.0	0.017	10.0	LOS A	0.1	0.6	0.11	0.67	56.8
11	T	640	5.0	0.482	32.6	LOS C	14.5	106.0	0.83	0.72	36.8
12	R	21	10.0	0.243	73.3	LOS F	1.3	9.6	0.99	0.71	21.0
Approach		688	5.0	0.482	33.0	LOS C	14.5	106.0	0.81	0.71	36.5
North: Tallawong Road (N)											
1	L	9	10.0	0.022	27.8	LOS B	0.3	2.0	0.78	0.67	33.5
2	T	1	0.0	0.003	40.4	LOS C	0.0	0.3	0.82	0.49	24.5
3	R	25	10.0	0.048	49.5	LOS D	0.8	6.0	0.83	0.69	25.9
Approach		36	9.7	0.048	43.5	LOS D	0.8	6.0	0.82	0.68	27.5
West: Schofields Road (W)											
4	L	45	10.0	0.032	10.3	LOS A	0.2	1.2	0.12	0.67	56.7
5	T	485	3.0	0.390	31.0	LOS C	11.4	82.0	0.79	0.67	24.8
6	R	1	3.0	0.012	70.1	LOS E	0.1	0.4	0.97	0.59	10.2
Approach		532	3.6	0.390	29.3	LOS C	11.4	82.0	0.73	0.67	26.8
All Vehicles		1289	4.4	0.482	32.2	LOS C	14.5	106.0	0.78	0.69	32.5

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P5	Across S approach	53	34.5	LOS D	0.1	0.1	0.76	0.76
P7	Across E approach	53	54.2	LOS E	0.2	0.2	0.95	0.95
P1	Across N approach	53	34.5	LOS D	0.1	0.1	0.76	0.76
P3	Across W approach	53	54.2	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		212	44.3	LOS E			0.85	0.85

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: Major Civil Works AM

Schofields Road / Tallawong Road
During Major Civil Construction works
AM Peak

Signals - Fixed Time Cycle Time = 120 seconds (User-Given Cycle Time)

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Ridgeline Drive (S)											
7	L	1	0.0	0.003	37.7	LOS C	0.0	0.3	0.71	0.62	29.4
8	T	1	0.0	0.003	40.4	LOS C	0.0	0.3	0.82	0.49	24.5
9	R	88	0.0	0.303	51.4	LOS D	4.4	30.7	0.88	0.77	25.3
Approach		91	0.0	0.303	51.1	LOS D	4.4	30.7	0.88	0.76	25.3
East: Schofields Road (E)											
10	L	1	10.0	0.001	10.2	LOS A	0.0	0.0	0.10	0.65	56.8
11	T	377	5.0	0.291	30.8	LOS C	8.0	58.2	0.77	0.64	38.0
12	R	45	15.0	0.463	73.4	LOS F	2.8	21.7	1.00	0.74	21.0
Approach		423	6.1	0.463	35.3	LOS C	8.0	58.2	0.80	0.65	35.4
North: Tallawong Road (N)											
1	L	16	33.0	0.041	28.4	LOS B	0.4	4.0	0.77	0.70	33.7
2	T	1	0.0	0.003	40.4	LOS C	0.0	0.3	0.82	0.49	24.5
3	R	35	10.0	0.066	49.7	LOS D	1.1	8.3	0.84	0.70	25.8
Approach		52	16.8	0.066	43.0	LOS D	1.1	8.3	0.82	0.70	27.8
West: Schofields Road (W)											
4	L	33	10.0	0.024	10.4	LOS A	0.1	1.1	0.13	0.67	56.6
5	T	544	10.0	0.467	32.7	LOS C	13.4	101.5	0.82	0.70	23.9
6	R	1	3.0	0.010	68.6	LOS E	0.1	0.4	0.96	0.59	10.4
Approach		578	10.0	0.467	31.5	LOS C	13.4	101.5	0.78	0.70	25.2
All Vehicles		1143	8.1	0.467	35.0	LOS C	13.4	101.5	0.80	0.69	29.5

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P5	Across S approach	53	35.3	LOS D	0.1	0.1	0.77	0.77
P7	Across E approach	53	54.2	LOS E	0.2	0.2	0.95	0.95
P1	Across N approach	53	35.3	LOS D	0.1	0.1	0.77	0.77
P3	Across W approach	53	54.2	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		212	44.7	LOS E			0.86	0.86

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: Major Civil Works PM

Schofields Road / Tallawong Road

During Major Civil Construction works

PM Peak

Signals - Fixed Time Cycle Time = 120 seconds (User-Given Cycle Time)

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Ridgeline Drive (S)											
7	L	1	0.0	0.003	38.4	LOS C	0.0	0.3	0.72	0.62	29.1
8	T	1	0.0	0.003	40.4	LOS C	0.0	0.3	0.82	0.49	24.5
9	R	32	0.0	0.108	49.7	LOS D	1.5	10.5	0.85	0.72	25.7
Approach		34	0.0	0.108	49.0	LOS D	1.5	10.5	0.84	0.71	25.8
East: Schofields Road (E)											
10	L	27	0.0	0.017	10.0	LOS A	0.1	0.6	0.11	0.67	56.8
11	T	640	5.0	0.482	32.6	LOS C	14.5	106.0	0.83	0.72	36.8
12	R	26	28.0	0.340	74.9	LOS F	1.6	14.0	1.00	0.72	20.8
Approach		694	5.7	0.482	33.4	LOS C	14.5	106.0	0.81	0.71	36.3
North: Tallawong Road (N)											
1	L	41	15.0	0.098	28.7	LOS C	1.2	9.5	0.80	0.73	33.2
2	T	1	0.0	0.003	40.4	LOS C	0.0	0.3	0.82	0.49	24.5
3	R	25	10.0	0.048	49.5	LOS D	0.8	6.0	0.83	0.69	25.9
Approach		67	12.9	0.098	36.7	LOS C	1.2	9.5	0.81	0.71	29.9
West: Schofields Road (W)											
4	L	45	10.0	0.032	10.4	LOS A	0.2	1.3	0.13	0.67	56.6
5	T	485	3.0	0.390	31.0	LOS C	11.4	82.0	0.79	0.67	24.8
6	R	1	3.0	0.012	70.1	LOS E	0.1	0.4	0.97	0.59	10.2
Approach		532	3.6	0.390	29.3	LOS C	11.4	82.0	0.73	0.67	26.8
All Vehicles		1326	5.1	0.482	32.3	LOS C	14.5	106.0	0.78	0.70	32.4

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P5	Across S approach	53	34.5	LOS D	0.1	0.1	0.76	0.76
P7	Across E approach	53	54.2	LOS E	0.2	0.2	0.95	0.95
P1	Across N approach	53	34.5	LOS D	0.1	0.1	0.76	0.76
P3	Across W approach	53	54.2	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		212	44.3	LOS E			0.85	0.85

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: Infras & System Works AM

Schofields Road / Tallawong Road

During Infrastructure & Civil works

AM Peak

Signals - Fixed Time Cycle Time = 120 seconds (User-Given Cycle Time)

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Ridgeline Drive (S)											
7	L	1	0.0	0.003	35.5	LOS C	0.0	0.3	0.68	0.62	30.2
8	T	1	0.0	0.003	40.4	LOS C	0.0	0.3	0.82	0.49	24.5
9	R	88	0.0	0.303	51.4	LOS D	4.4	30.7	0.88	0.77	25.3
Approach		91	0.0	0.303	51.0	LOS D	4.4	30.7	0.88	0.76	25.3
East: Schofields Road (E)											
10	L	1	0.0	0.001	10.0	LOS A	0.0	0.0	0.10	0.66	56.8
11	T	377	5.0	0.314	33.3	LOS C	8.3	60.5	0.80	0.67	36.5
12	R	64	12.0	0.450	69.5	LOS E	3.8	29.1	0.99	0.76	21.8
Approach		442	6.0	0.450	38.5	LOS C	8.3	60.5	0.83	0.68	33.7
North: Tallawong Road (N)											
1	L	17	37.0	0.040	26.8	LOS B	0.4	4.0	0.75	0.70	34.5
2	T	1	0.0	0.003	40.4	LOS C	0.0	0.3	0.82	0.49	24.5
3	R	35	10.0	0.066	49.7	LOS D	1.1	8.3	0.84	0.70	25.8
Approach		53	18.4	0.066	42.2	LOS C	1.1	8.3	0.81	0.70	28.0
West: Schofields Road (W)											
4	L	33	10.0	0.024	10.5	LOS A	0.2	1.2	0.14	0.67	56.5
5	T	544	3.0	0.469	35.0	LOS C	13.3	95.6	0.85	0.72	22.8
6	R	1	0.0	0.007	64.6	LOS E	0.1	0.4	0.93	0.60	10.9
Approach		578	3.4	0.469	33.7	LOS C	13.3	95.6	0.81	0.72	24.1
All Vehicles		1163	4.8	0.469	37.3	LOS C	13.3	95.6	0.82	0.71	28.5

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P5	Across S approach	53	37.6	LOS D	0.1	0.1	0.79	0.79
P7	Across E approach	53	54.2	LOS E	0.2	0.2	0.95	0.95
P1	Across N approach	53	37.6	LOS D	0.1	0.1	0.79	0.79
P3	Across W approach	53	54.2	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		212	45.9	LOS E			0.87	0.87

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: Infrs & System Works PM

Schofields Road / Tallawong Road

During Infrastructure & System works

PM Peak

Signals - Fixed Time Cycle Time = 120 seconds (User-Given Cycle Time)

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Ridgeline Drive (S)											
7	L	1	0.0	0.003	38.4	LOS C	0.0	0.3	0.72	0.62	29.1
8	T	1	0.0	0.003	40.4	LOS C	0.0	0.3	0.82	0.49	24.5
9	R	32	0.0	0.108	49.7	LOS D	1.5	10.5	0.85	0.72	25.7
Approach		34	0.0	0.108	49.0	LOS D	1.5	10.5	0.84	0.71	25.8
East: Schofields Road (E)											
10	L	27	0.0	0.017	10.0	LOS A	0.1	0.6	0.11	0.67	56.8
11	T	640	5.0	0.482	32.6	LOS C	14.5	106.0	0.83	0.72	36.8
12	R	27	30.0	0.358	75.1	LOS F	1.7	14.8	1.00	0.72	20.7
Approach		695	5.8	0.482	33.4	LOS C	14.5	106.0	0.81	0.71	36.3
North: Tallawong Road (N)											
1	L	60	12.0	0.140	28.9	LOS C	1.8	13.7	0.81	0.74	33.1
2	T	1	0.0	0.003	40.4	LOS C	0.0	0.3	0.82	0.49	24.5
3	R	25	10.0	0.048	49.5	LOS D	0.8	6.0	0.83	0.69	25.9
Approach		86	11.3	0.140	35.1	LOS C	1.8	13.7	0.82	0.72	30.5
West: Schofields Road (W)											
4	L	45	10.0	0.032	10.4	LOS A	0.2	1.3	0.13	0.67	56.6
5	T	485	3.0	0.390	31.0	LOS C	11.4	82.0	0.79	0.67	24.8
6	R	1	0.0	0.011	70.0	LOS E	0.1	0.4	0.97	0.59	10.2
Approach		532	3.6	0.390	29.3	LOS C	11.4	82.0	0.73	0.67	26.8
All Vehicles		1346	5.1	0.482	32.3	LOS C	14.5	106.0	0.78	0.70	32.4

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P5	Across S approach	53	34.5	LOS D	0.1	0.1	0.76	0.76
P7	Across E approach	53	54.2	LOS E	0.2	0.2	0.95	0.95
P1	Across N approach	53	34.5	LOS D	0.1	0.1	0.76	0.76
P3	Across W approach	53	54.2	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		212	44.3	LOS E			0.85	0.85

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.



Tallawong Road (N)

290300 140

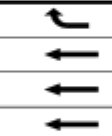


Schofields Road (E)

200

200

20



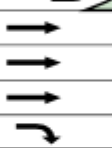
Schofields Road (W)

165

20

125

85



Ridgeline Drive (S)

70

70



MOVEMENT SUMMARY

Site: 2026 base AM

Schofields Road / Tallawong Road

2026 Base

AM Peak

Signals - Fixed Time Cycle Time = 120 seconds (User-Given Cycle Time)

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Ridgeline Drive (S)											
7	L	221	2.0	0.642	38.6	LOS C	9.5	67.7	0.79	0.79	29.1
8	T	120	2.0	0.312	44.4	LOS D	6.0	43.0	0.90	0.72	23.4
9	R	124	2.0	0.434	52.5	LOS D	6.3	44.9	0.90	0.78	25.0
Approach		465	2.0	0.642	43.8	LOS D	9.5	67.7	0.85	0.77	26.4
East: Schofields Road (E)											
10	L	119	2.0	0.086	11.8	LOS A	1.2	8.7	0.25	0.70	54.4
11	T	927	5.0	0.815	45.7	LOS D	26.6	194.1	0.99	0.92	30.6
12	R	38	2.0	0.207	65.0	LOS E	2.1	15.0	0.95	0.74	22.8
Approach		1084	4.6	0.815	42.7	LOS D	26.6	194.1	0.91	0.89	31.6
North: Tallawong Road (N)											
1	L	35	2.0	0.063	24.6	LOS B	0.9	6.1	0.74	0.72	35.0
2	T	100	2.0	0.260	43.9	LOS D	5.0	35.4	0.89	0.70	23.5
3	R	141	2.0	0.193	51.0	LOS D	3.5	24.6	0.87	0.76	25.4
Approach		276	2.0	0.260	45.1	LOS D	5.0	35.4	0.86	0.73	25.7
West: Schofields Road (W)											
4	L	118	2.0	0.091	10.8	LOS A	0.8	6.1	0.19	0.69	55.8
5	T	953	5.0	0.837	47.6	LOS D	28.1	205.0	1.00	0.94	18.3
6	R	143	2.0	0.782	72.4	LOS F	8.9	63.3	1.00	0.87	9.9
Approach		1214	4.4	0.837	47.0	LOS D	28.1	205.0	0.92	0.91	19.2
All Vehicles		3039	3.9	0.837	44.8	LOS D	28.1	205.0	0.90	0.87	25.7

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P5	Across S approach	53	39.2	LOS D	0.1	0.1	0.81	0.81
P7	Across E approach	53	54.2	LOS E	0.2	0.2	0.95	0.95
P1	Across N approach	53	39.2	LOS D	0.1	0.1	0.81	0.81
P3	Across W approach	53	54.2	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		212	46.7	LOS E			0.88	0.88

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

Processed: Monday, 17 June 2013 6:44:49 PM

SIDRA INTERSECTION 5.1.13.2093

Project: P:\13S9000-9099\13S9025000 - Tallawong Rd Rapid Rail Transit Facility\Modelling

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SIDRA
INTERSECTION

MOVEMENT SUMMARY

Site: 2026 base PM

Schofields Road / Tallawong Road

2026 Base

PM Peak

Signals - Fixed Time Cycle Time = 120 seconds (User-Given Cycle Time)

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Ridgeline Drive (S)											
7	L	174	2.0	0.498	36.9	LOS C	7.2	50.9	0.75	0.78	29.7
8	T	121	2.0	0.314	44.4	LOS D	6.1	43.4	0.90	0.72	23.4
9	R	93	2.0	0.323	51.6	LOS D	4.6	32.8	0.88	0.77	25.2
Approach		387	2.0	0.498	42.8	LOS D	7.2	50.9	0.83	0.76	26.5
East: Schofields Road (E)											
10	L	168	2.0	0.127	12.7	LOS A	2.2	15.4	0.29	0.71	53.1
11	T	1059	5.0	0.957	67.8	LOS E	38.0	277.3	1.00	1.07	24.0
12	R	35	2.0	0.175	63.7	LOS E	1.9	13.5	0.94	0.73	23.2
Approach		1262	4.5	0.957	60.3	LOS E	38.0	277.3	0.90	1.01	25.6
North: Tallawong Road (N)											
1	L	31	2.0	0.054	24.0	LOS B	0.7	5.2	0.73	0.71	35.2
2	T	135	2.0	0.350	44.8	LOS D	6.8	48.7	0.91	0.73	23.2
3	R	137	2.0	0.187	50.9	LOS D	3.3	23.8	0.87	0.76	25.4
Approach		302	2.0	0.350	45.5	LOS D	6.8	48.7	0.87	0.74	25.2
West: Schofields Road (W)											
4	L	142	2.0	0.110	10.9	LOS A	1.0	7.4	0.19	0.69	55.7
5	T	844	5.0	0.763	43.2	LOS D	23.0	168.1	0.97	0.87	19.7
6	R	183	2.0	0.923	82.8	LOS F	12.6	89.5	1.00	0.95	8.8
Approach		1169	4.2	0.923	45.4	LOS D	23.0	168.1	0.88	0.86	19.8
All Vehicles		3121	3.8	0.957	51.1	LOS D	38.0	277.3	0.88	0.90	24.0

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P5	Across S approach	53	40.0	LOS E	0.1	0.1	0.82	0.82
P7	Across E approach	53	54.2	LOS E	0.2	0.2	0.95	0.95
P1	Across N approach	53	40.0	LOS E	0.1	0.1	0.82	0.82
P3	Across W approach	53	54.2	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		212	47.1	LOS E			0.88	0.88

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 2026 + Operations AM

Schofields Road / Tallawong Road

2026 Base + Operations

AM Peak

Signals - Fixed Time Cycle Time = 120 seconds (User-Given Cycle Time)

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Ridgeline Drive (S)											
7	L	221	2.0	0.642	38.6	LOS C	9.5	67.7	0.79	0.79	29.1
8	T	128	2.0	0.334	44.6	LOS D	6.5	46.3	0.90	0.73	23.3
9	R	124	2.0	0.434	52.5	LOS D	6.3	44.9	0.90	0.78	25.0
Approach		474	2.0	0.642	43.9	LOS D	9.5	67.7	0.85	0.77	26.3
East: Schofields Road (E)											
10	L	119	2.0	0.086	11.8	LOS A	1.2	8.7	0.25	0.70	54.4
11	T	927	5.0	0.815	45.7	LOS D	26.6	194.1	0.99	0.92	30.6
12	R	117	2.0	0.638	68.7	LOS E	6.9	49.2	1.00	0.81	22.0
Approach		1163	4.4	0.815	44.6	LOS D	26.6	194.1	0.92	0.89	30.7
North: Tallawong Road (N)											
1	L	75	2.0	0.136	25.1	LOS B	1.9	13.5	0.76	0.75	34.7
2	T	104	2.0	0.271	44.0	LOS D	5.2	37.0	0.89	0.71	23.5
3	R	168	2.0	0.230	51.4	LOS D	4.2	29.7	0.88	0.77	25.3
Approach		347	2.0	0.271	43.5	LOS D	5.2	37.0	0.86	0.74	26.4
West: Schofields Road (W)											
4	L	174	2.0	0.146	11.9	LOS A	1.9	13.2	0.26	0.70	54.2
5	T	953	5.0	0.837	47.6	LOS D	28.1	205.0	1.00	0.94	18.3
6	R	143	2.0	0.782	72.4	LOS F	8.9	63.3	1.00	0.87	9.9
Approach		1269	4.3	0.837	45.5	LOS D	28.1	205.0	0.90	0.90	20.0
All Vehicles		3254	3.7	0.837	44.7	LOS D	28.1	205.0	0.89	0.86	25.8

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P5	Across S approach	53	39.2	LOS D	0.1	0.1	0.81	0.81
P7	Across E approach	53	54.2	LOS E	0.2	0.2	0.95	0.95
P1	Across N approach	53	39.2	LOS D	0.1	0.1	0.81	0.81
P3	Across W approach	53	54.2	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		212	46.7	LOS E			0.88	0.88

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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SIDRA INTERSECTION 5.1.13.2093

Project: P:\13S9000-9099\13S9025000 - Tallawong Rd Rapid Rail Transit Facility\Modelling

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SIDRA
INTERSECTION

MOVEMENT SUMMARY

Site: 2026 + Operations PM

Schofields Road / Tallawong Road

2026 Base + Operations

PM Peak

Signals - Fixed Time Cycle Time = 120 seconds (User-Given Cycle Time)

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Ridgeline Drive (S)											
7	L	174	2.0	0.498	36.9	LOS C	7.2	50.9	0.75	0.78	29.7
8	T	125	2.0	0.325	44.6	LOS D	6.3	45.0	0.90	0.72	23.3
9	R	93	2.0	0.323	51.6	LOS D	4.6	32.8	0.88	0.77	25.2
Approach		392	2.0	0.498	42.8	LOS D	7.2	50.9	0.83	0.76	26.5
East: Schofields Road (E)											
10	L	168	2.0	0.128	12.7	LOS A	2.2	15.4	0.29	0.71	53.1
11	T	1059	5.0	0.957	67.8	LOS E	38.0	277.3	1.00	1.07	24.0
12	R	75	2.0	0.377	65.3	LOS E	4.2	29.9	0.97	0.77	22.8
Approach		1302	4.4	0.957	60.5	LOS E	38.0	277.3	0.91	1.01	25.5
North: Tallawong Road (N)											
1	L	109	2.0	0.194	25.0	LOS B	2.8	19.7	0.77	0.76	34.8
2	T	143	2.0	0.372	45.1	LOS D	7.3	52.0	0.91	0.74	23.2
3	R	193	2.0	0.263	51.7	LOS D	4.8	34.2	0.89	0.77	25.2
Approach		445	2.0	0.372	43.0	LOS D	7.3	52.0	0.87	0.76	26.4
West: Schofields Road (W)											
4	L	169	2.0	0.137	11.3	LOS A	1.5	10.9	0.23	0.70	55.0
5	T	844	5.0	0.763	43.2	LOS D	23.0	168.1	0.97	0.87	19.7
6	R	183	2.0	0.923	82.8	LOS F	12.6	89.5	1.00	0.95	8.8
Approach		1197	4.1	0.923	44.7	LOS D	23.0	168.1	0.87	0.86	20.2
All Vehicles		3336	3.7	0.957	50.4	LOS D	38.0	277.3	0.88	0.89	24.3

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

Movement Performance - Pedestrians								
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P7	Across E approach	53	54.2	LOS E	0.2	0.2	0.95	0.95
P1	Across N approach	53	40.0	LOS E	0.1	0.1	0.82	0.82
P3	Across W approach	53	54.2	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		212	47.1	LOS E			0.88	0.88

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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