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Doyalson Wyee RSL Structure Plan
Transport Impact Assessment

Prepared for:

Doyalson-Wyee RSL Limited

25 June 2019

The Transport Planning Partnership

Doyalson Wyee RSL Structure Plan
Transport Impact Assessment

Client: Doyalson-Wyee RSL Limited

Version: Final

Date: 25 June 2019

TTPP Reference: 17395

Quality Record

Version	Date	Prepared by	Reviewed by	Approved by	Signature
Final	25/06/19	O. Faiz	W. Johnson	W. Johnson	

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APPENDICES

1 Introduction

This Planning Proposal has been prepared on behalf of Doyalson Wyee RSL Club (Club Ltd) to amend the Wyong Local Environmental Plan 2013 (WLEP 2013) for 80-120 Pacific Highway, Doyalson. This Planning Proposal is an Addendum to the Planning Proposal submitted for 100-120 Pacific Highway in December 2018. The Club Ltd is seeking to diversify its offer to meet the needs of a growing local community and to enhance its unique landscape setting to create a new leisure experience – the Australian Resort. Therefore, this Planning Proposal seeks to facilitate the future redevelopment of the site for an integrated retail, recreation, community and residential precinct, centred around Doyalson Wyee RSL Club.

The current zoning permits a limited range of land uses, including rural and recreational uses. The Planning Proposal seeks to deliver a broader range of retail, recreation, community and residential uses. The Planning Proposal seeks to change the zoning from RU6 Transition to RE2 Private Recreation with an additional permitted use schedule that includes the following land uses contained in the concept plan.

An Indicative Concept Plan (Concept Plan) has been developed to support the Planning Proposal. The Concept Plan includes the following land uses:

- RSL Club
- Wellness and fitness centre
- Indoor and outdoor recreational facilities
- Tourism and accommodation
- Restaurants and cafes
- Medical centre
- Childcare centres
- Seniors living
- Residential
- Landscaping and open space.

The Transport Planning Partnership (TTPP) has undertaken an assessment of traffic and transport related aspects of the Planning Proposal for submission to Central Coast Council.

The report structure is set out as follows:

- Chapter 2 summarises the existing conditions around the site
- Chapter 3 provides a summary of the survey data collected
- Chapter 4 describes the Structure Plan proposal
- Chapter 5 assesses the car parking requirements of the site

- Chapter 6 provides an assessment of the traffic impacts of the Structure Plan
- Chapter 7 concludes and summarises the findings of the report.

2 Existing Transport Context

2.1 Site Description

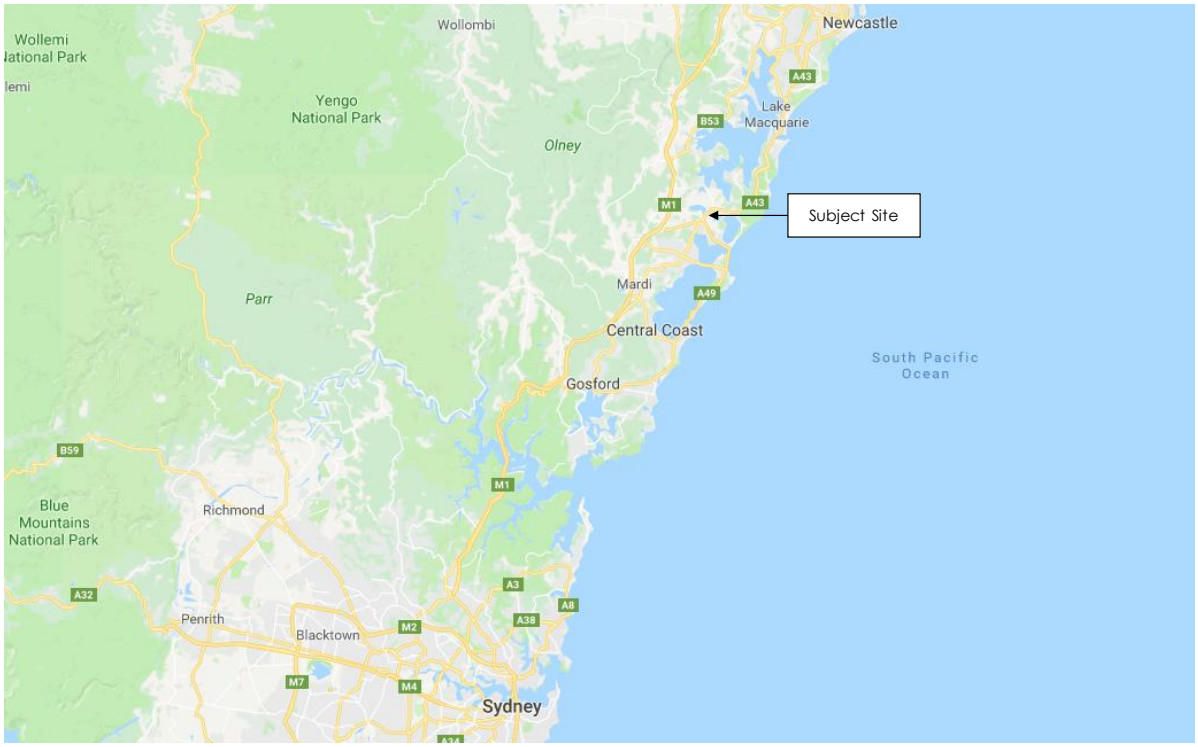
The subject site is located in Doyalson, NSW within the local government area of Central Coast Council. The site includes an amalgamation of several properties including the Raw Challenge event site, and an existing fruit and vegetable farm (The Grove). The site properties are summarised in Table 2.1.

Table 2.1: Subject Site Properties

Site Address	Existing Use
49-65 Wentworth Avenue and 80-90 Pacific Highway	Doyalson Wyee RSL Club and ancillary sporting fields
100 Pacific Highway, Doyalson	Vegetation and ancillary land of the Doyalson Wyee RSL Club
110 Pacific Highway Doyalson	Raw Challenge event site
120 Pacific Highway, Doyalson	The Grove (A fruit and vegetable farm)

The location of the subject site in its regional context is shown in Figure 2.1.

Figure 2.1: Regional Context



Basemap Source: Google Maps Australia

The subject site comprises three existing access points to the Pacific Highway as follows:

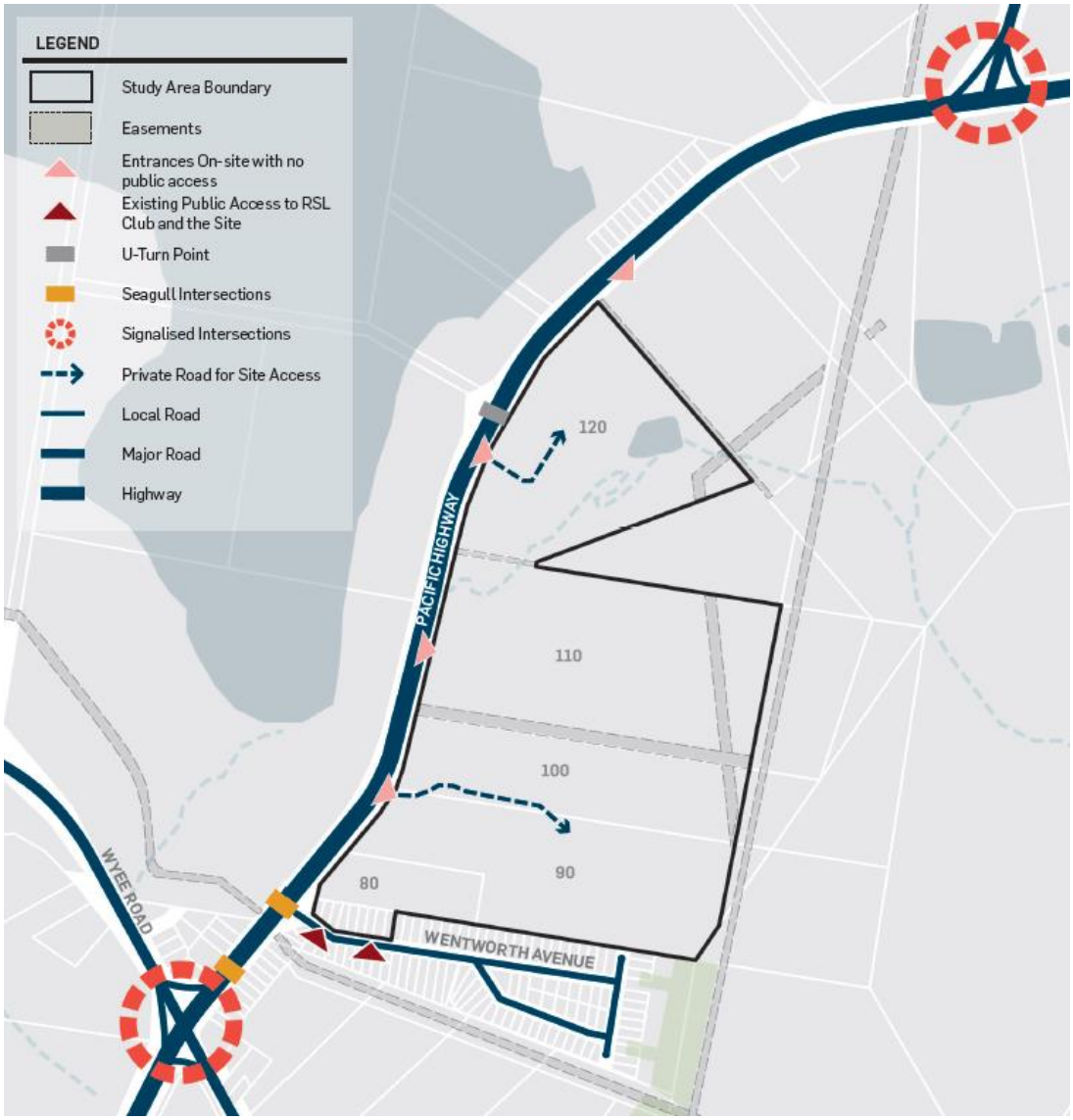
- 100 Pacific Highway
- 110 Pacific Highway
- 120 Pacific Highway.

The existing Doyalson Wyee RSL Club (herein RSL Club) is located at 80 Pacific Highway and has vehicular access from Wentworth Avenue.

The existing access points are shown in Figure 2.2.

Parking for the RSL Club is provided within an at-grade car park comprising 500 car spaces. Informal car parking is provided on the sports fields during events held at the club such as Food Festival and Raw Challenge event. The subject site and its local surrounds are shown in Figure 2.2.

Figure 2.2: Local Context



Base map Source: Nearmap

Key land uses surrounding the site include low-density residential housing, some commercial properties and significant bushland area. Notable establishments near the site include the Doyalson Fire Station at the corner of Wyee Road and Pacific Highway, a service station at the corner of Scenic Drive and Pacific Highway, and residential housing located on both sides of Wentworth Avenue, adjacent to the site.

2.2 Abutting Road Network

Pacific Highway

Pacific Highway is a State Highway and provides a major north-south link through the Central Coast. Adjacent to the site, it is configured with two lanes in either direction plus auxiliary lanes at intersections.

South of the site, Pacific Highway connects with Doyalson Link Road, linking the highway to M1 Pacific Motorway, which generally runs parallel to Pacific Highway, between Newcastle and Sydney. Near the subject site, Pacific Highway has a posted speed limit of 80km/hr.

Wentworth Avenue

Wentworth Avenue is a two-way local road that provides access for the existing RSL Club and the adjacent residential dwellings to the local arterial road network. It is approximately nine metres in width, unmarked with unrestricted kerbside parking on both sides of the road. The RSL Club includes two access points along Wentworth Avenue.

2.3 Public Transport Conditions

Limited public transport services are available within the vicinity of the site. There are currently two bus stops on Pacific Highway within 150-metres of the site, and two bus stops on Wyee Road within 400-metres of the site. Seven bus services operate from these bus stops.

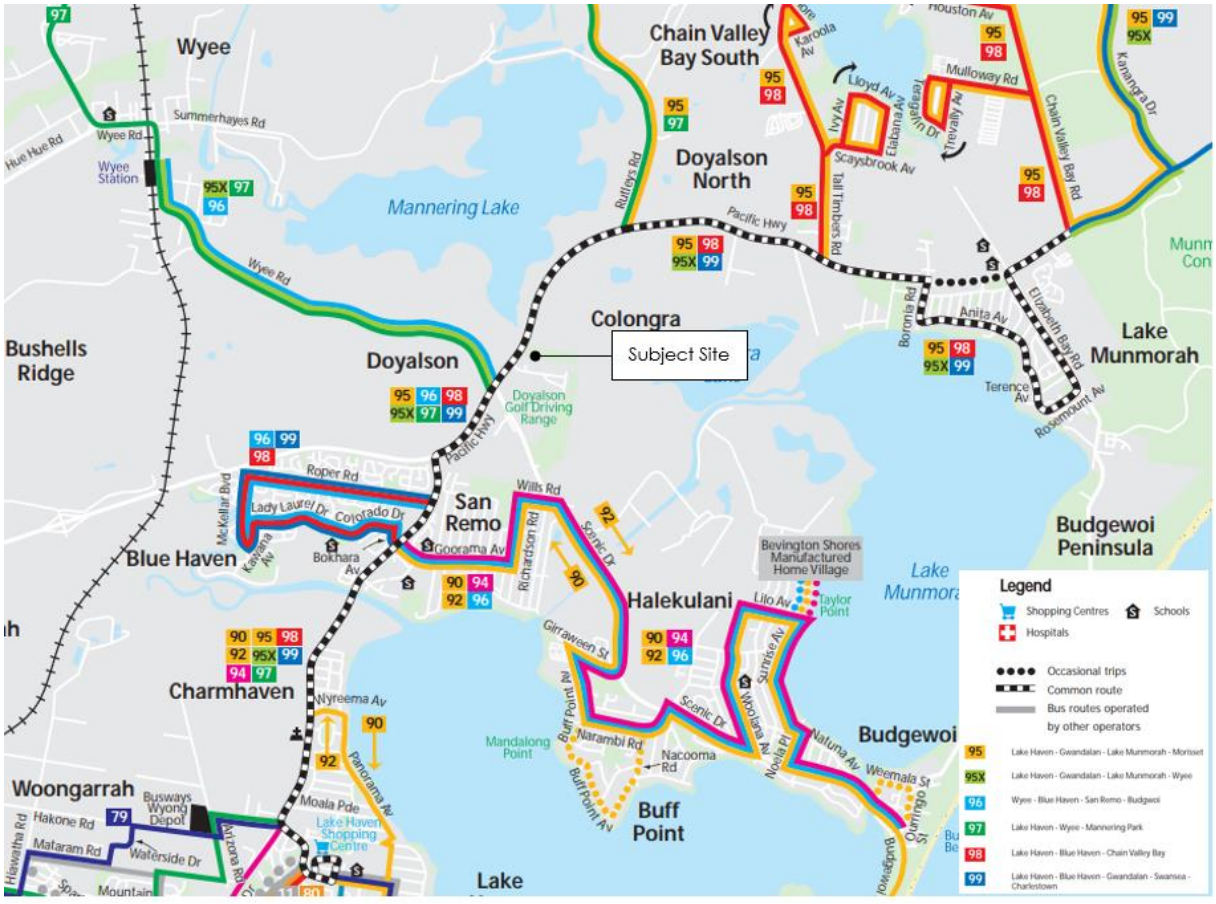
A summary of the existing bus services that operate in the vicinity of the site is detailed in Table 2.2, and shown in Figure 2.3 and Figure 2.4.

Table 2.2: Bus Services Summary

Operator	Route #	Route Description	Location of Service	Proximity to Site	Frequency (on-peak / off-peak)
Busways	95	Lake Haven to Morisset	Doyalson Ambulance Station, Pacific Highway/Pacific Highway opposite Doyalson Ambulance Station	150m	1-2 trips on-peak/ 1-2 trips off-peak No service (Sat, Sun, Pub Hol)
	95X	Lake Haven to Wyee			1 trip on-peak/ 1 trip off-peak No service (Sat, Sun, Pub Hol)
	97	Lake Haven to Mannering Park			Hourly on-peak/ hourly off-peak 1 trip (Sat, Sun, Pub Hol)

Operator	Route #	Route Description	Location of Service	Proximity to Site	Frequency (on-peak / off-peak)
	98	Lake Haven to Chain Valley Bay			30-60min on-peak/ 30-60min off-peak 1-5 trips (Sat, Sun, Pub Hol)
	99	Lake Haven to Charlestown			5-6 trips on-peak/ 4-6 trips off-peak 1-3 trips (Sat, Sun, Pub Hol)
	96	Wyee to Budgewoi	Wyee Road before/after Pacific Highway	400m	2-4 trips on-peak/ 2-4 trips off-peak No service (Sat, Sun, Pub Hol)
Hunter Valley Buses	281	Wangi Wangi to Lake Haven			1 trip Friday only

Figure 2.3: Busways Existing Bus Route Map



Source: Busways <https://busways.com.au/sites/default/files/network_maps/WyongNetworkMap.pdf>

Figure 2.4: Hunter Valley Bus Existing Bus Route Map

Source: CDC NSW *<https://www.cdcbus.com.au/images/files/maps/hunter-valley/278-279-280-281_Map.pdf>*

2.4 Shuttle Bus Service

The RSL Club provides a courtesy bus service for pick up and drop off within the local area throughout the day, via a booking system. A summary of the existing courtesy bus services is shown in Table 2.3.

Table 2.3: Courtesy Bus Service Summary

Service	Frequency	Stop Locations	Departure Time from Club
Pick up	Daily	Lake Haven, Charmhaven, Blue Haven, San Remo, Budgewoi, Buff Point	2:30pm 5:15pm 7:30pm
		Wyee, Wyee Point, Mannering Park	3:30pm 5:55pm 8:15pm
		Chain Valley Bay South, Chain Valley Bay North, Lake Munmorah	4:15pm 6:45pm 8:15pm
	Friday and Saturday only	Gwandalan, Summerland Point	4:15pm 6:45pm 8:15pm
		Woongarrah, Hamlyn Terrace (to Minnesota Road), Kanwal (to Craigie Avenue), Gorokan	5:15pm 7:30pm

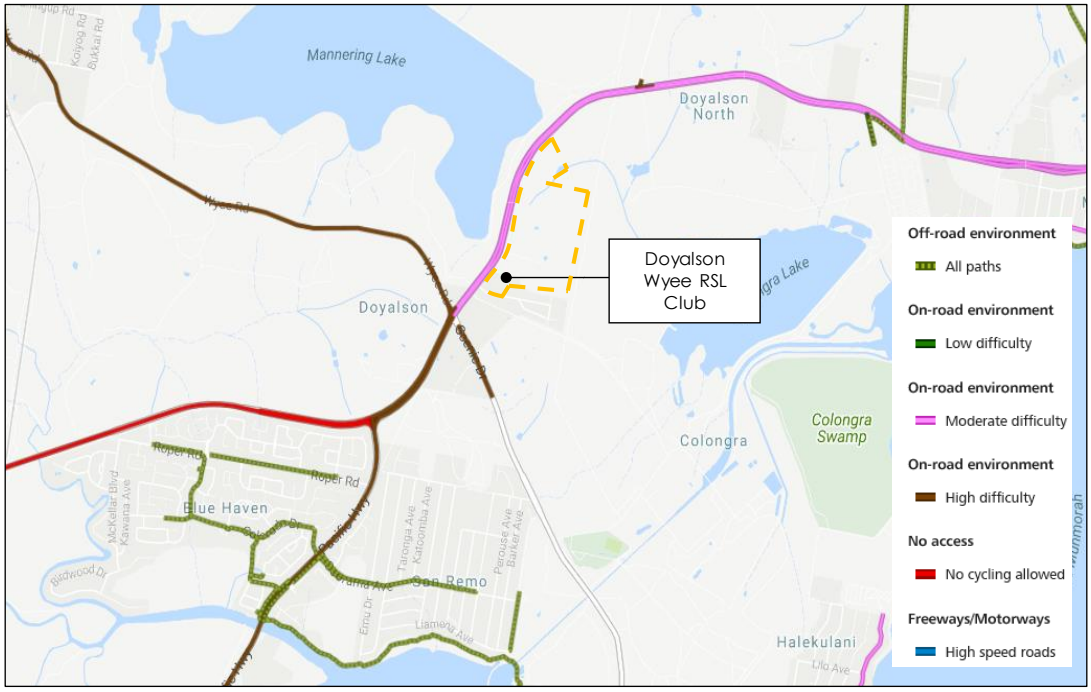
Service	Frequency	Stop Locations	Departure Time from Club
Drop off	Friday and Saturday only	Lake Haven, Charmhaven, Blue Haven, San Remo, Budgewoi, Buff Point, Woongarrah, Hamlyn, Terrace, Kanwal, Gorokan	9:00pm 10:30pm 12:00am 1:30am 3:00am
		Wyee, Wyee Point, Mannering Park, Chain Valley Bay South, Chain, Valley Bay North, Lake Munmorah, Gwandalan, Summerland Point	9:45pm 11:15pm 12:45am 2:15am

2.5 Pedestrian and Cycle Infrastructure

Limited pedestrian facilities are provided around the site due to low pedestrian activity, as observed during site inspections. A short section of footpath spans across the service station located at the corner of Pacific Highway and Scenic Drive, and several adjacent properties along Pacific Highway 200-metres south west of the site. No formal pedestrian crossings are located near the RSL Club.

A shoulder cycle lane facility is currently provided along both sides of the Pacific Highway, passing the subject site. Cycling routes including off-road and on-road in the vicinity of the site are shown in the Roads and Maritime Services (Roads and Maritime) Cycleway Finder map as shown in Figure 2.5.

Figure 2.5: Surrounding Cycleways



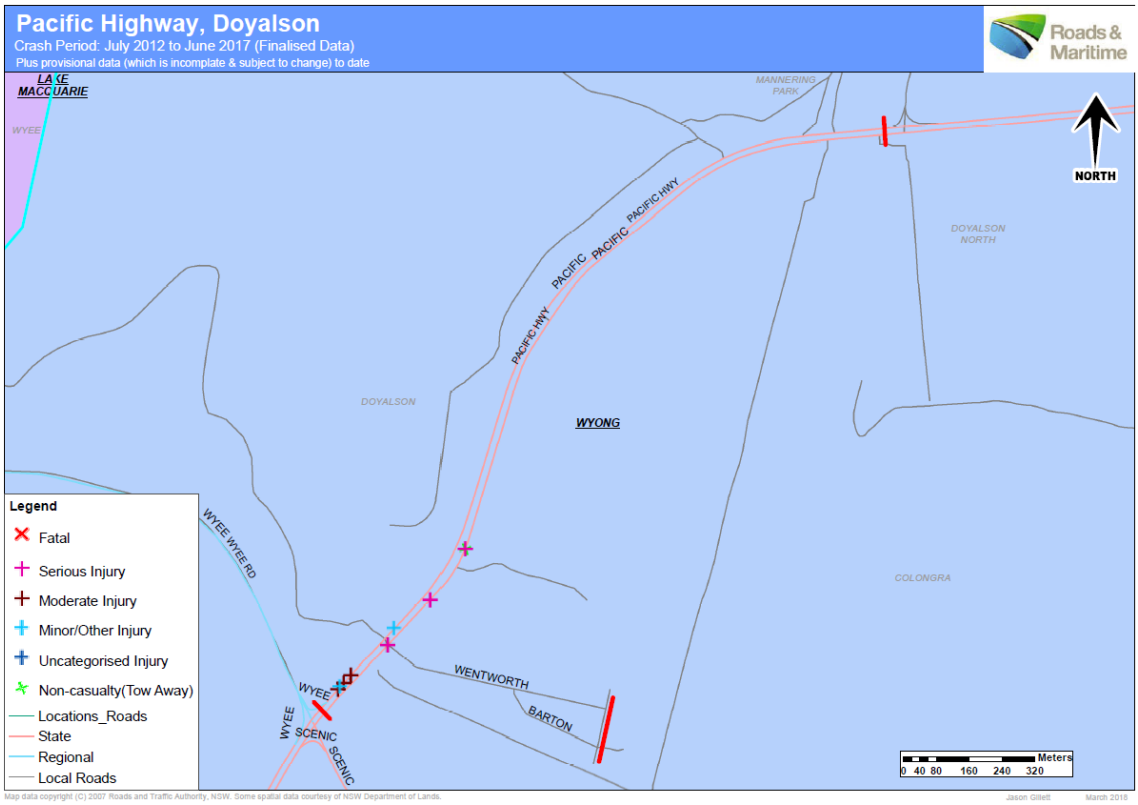
Source: Roads and Maritime Services Cycleways Finder (last updated 27/02/18)

2.6 Crash History

The crash history of the most recent five-year period (June 2012 to June 2017) has been assessed for the roads adjoining the subject site. The study area includes approximately 2km of Pacific Highway (between Wyee Road and Ruttleys Road), Wentworth Avenue and Barton Road.

A diagram showing the study area and the locations of the historical crashes is shown in Figure 2.6.

Figure 2.6: Crash History Map



Note: Each marker on the map can reference multiple crashes which have occurred at the same or general area.

The study area includes a total of eleven crashes. A breakdown of these crashes is summarised as follows:

- Three crashes occurred at the intersection of Wentworth Avenue/ Pacific Highway.
  - All three of these crashes involved a vehicle turning right into Wentworth Avenue, colliding into either a through vehicle on Pacific Highway or a turning vehicle from Wentworth Avenue.
  - The crashes occurred in 2013, 2015 and 2016 respectively.
  - The crashes resulted in either a serious and/or moderate injury.
- There have been three southbound crashes along Pacific Highway involving:

  - a vehicle losing control on a bend
  - a vehicle losing control and hitting an object off-road
  - a vehicle colliding with another vehicle while undertaking a u-turn.
- There were five northbound crashes along Pacific Highway within the study area including:
  - Two crashes involving a rear-end collision
  - Two crashes involving a vehicle going off-road
  - One crash involving a vehicle emerging from a driveway and colliding with through traffic.
- No fatalities were recorded in the five-year study period.
- There were 10 crashes resulting in injury and one resulting in property damage only.

The five-year historical crash data indicates that eleven crashes occurred within the study area (Pacific Highway between Wyee Road and Ruttleys Road and Wentworth Avenue). The crashes are all along the Pacific Highway and include three at the intersection of Pacific Highway and Wentworth Avenue. Notably, all three of these crashes involved a vehicle turning right from Pacific Highway into Wentworth Avenue indicating that there are safety issues with the existing Pacific Highway-Wentworth Avenue intersection configuration.

The data indicates that the intersection of Pacific Highway and Wentworth Avenue can be identified as a black spot site, based on the criteria set out by the Australian Government Black Spot Program.

The Australian Government Black Spot Program classifies black spot areas applicable for funding, as an area 3km in length, with a minimum of three casualty crashes in the most recent five-year period.

On this basis, it is noted that the Pacific Highway, near the site contains safety risks associated with give-way movements, notably the right turn into Wentworth Avenue.

2.7 Strategic Context

2.7.1 M1 Pacific Motorway Upgrade (Tuggerah to Doyalson)

Roads and Maritime Services are currently constructing an upgrade of the M1 Pacific Motorway, between the Tuggerah and Doyalson interchanges. The upgrade includes the addition of traffic lanes (from two to three lanes in each direction) and capacity and safety improvements to the Doyalson interchange.

The upgrade is to cater for anticipated growth in traffic from population and employment growth in the Central Coast, Hunter and North Coast.

The project is expected to be completed in 2020.

2.7.2 Lake Munmorah Structure Plan

Several development projects are proposed in the Central Coast, including around Doyalson and specifically, along the Pacific Highway.

To assess the impact of these developments and coordinate for Lake Munmorah implementation, Central Coast Council is preparing a Structure Plan which is planned for public exhibition in late 2018. The Lake Munmorah Structure Plan includes an assessment of the area between Ruttleys Road and Chain Valley Bay Road as shown in Figure 2.7.

Figure 2.7: Lake Munmorah Structure Plan Area

The following transport assessment has been undertaken to assess the impact of the Doyalson Wyee RSL Structure Plan between Wyee Road and Ruttleys Road. Background traffic growth of 1.8 to 2.0 per cent per annum along Pacific Highway has been adopted from Roads and Maritime Services' Sydney Traffic Forecasting Model, which is assumed to take into account traffic growth from the Lake Munmorah development.

2.7.3 Pacific Highway/ Wyee Road/ Scenic Drive Assessment

Roads and Maritime Services are currently undertaking a detailed assessment of the intersection of Pacific Highway, Wyee Road and Scenic Drive. GHD has been commissioned to model and assess the operation of the intersection to improve the intersection's safety and performance. The future layout of the Pacific Highway, Wyee Road and Scenic Drive

intersection has not been released by Roads and Maritime Services and therefore has not been assessed by TTPP as part of this transport assessment.

3 Traffic Survey Data

Several traffic surveys were undertaken as part of the transport assessment to record conditions during the typical operation of the RSL Club and also during special events.

Traffic surveys were undertaken on a typical day on Friday 2 February 2018 and Saturday 3 February 2018. Additional 'event' surveys were commissioned to record the transport characteristics of the monthly Food Festival event on Saturday 3 March 2018, between 4pm and 9pm and the Raw Challenge event which was held on 24 and 25 March 2018.

The following surveys were undertaken for each survey period:

- Intersection turning movement counts survey
- Car occupancy survey
- Parking demand survey.

The survey results are presented below.

3.1 Traffic Volumes

3.1.1 Road Network Peak Volumes

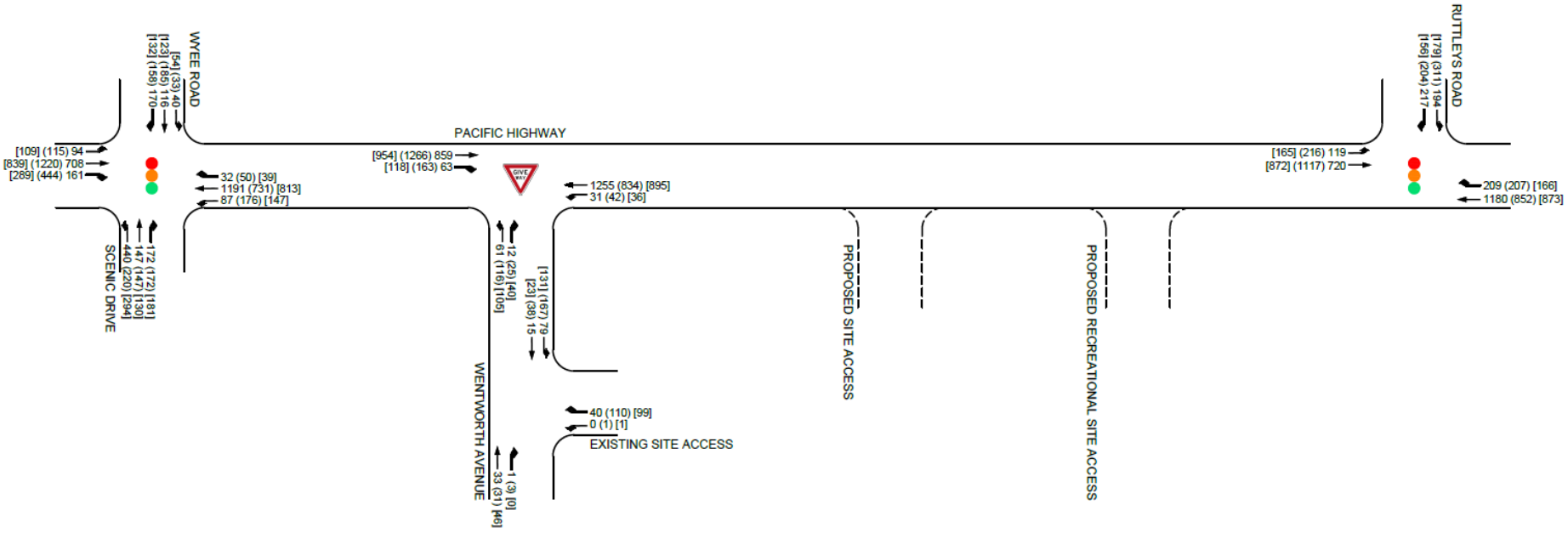
Based on the survey data, the key road network peak hours are as follows:

- Friday 7:30am-8:30am.
- Friday 4:45pm-5:45pm.
- Saturday 11:00am-12:00pm.

The turning volumes observed during the above peak hours, are illustrated in Figure 3.1.

Figure 3.1: Existing Road Network Peak Volumes

2018 EXISTING ROAD NETWORK PEAK VOLUMES
10 (10) [10] = AM (PM) [SAT] PEAKS
AM PEAK = 7:30 - 8:30
PM PEAK = 16:45 - 17:45
SAT PEAK = 11:00 - 12:00



3.1.2 Typical RSL Club Traffic

Traffic at the RSL Club's access points on Wentworth Avenue were also surveyed. The survey data shows that the peak hour at the RSL Club to be during the following hours:

- Friday 5:30pm to 6:30pm with 313 two-way vehicle movements per hour entering/ exiting the site
- Saturday 5:45pm to 6:45pm with 364 two-way vehicle movements per hour entering/ exiting the site.

The hourly profile of vehicle movements at the RSL Club during typical operating conditions on a Friday and Saturday is summarised in Figure 3.2 and Figure 3.3 respectively.

Figure 3.2: Site Peak Volumes (Friday)

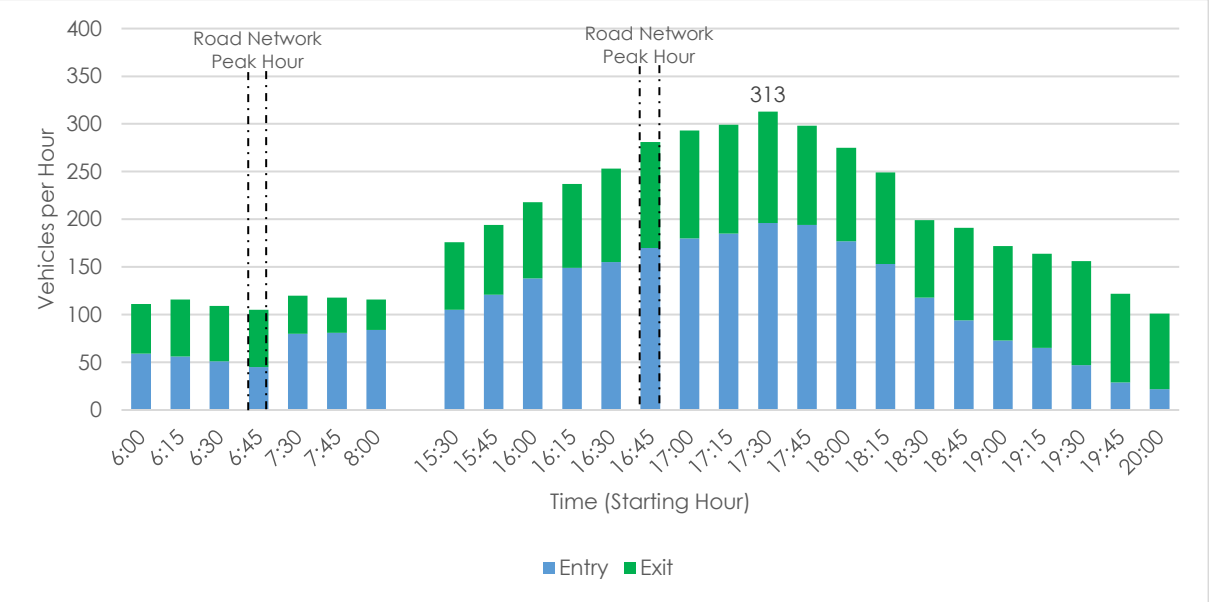
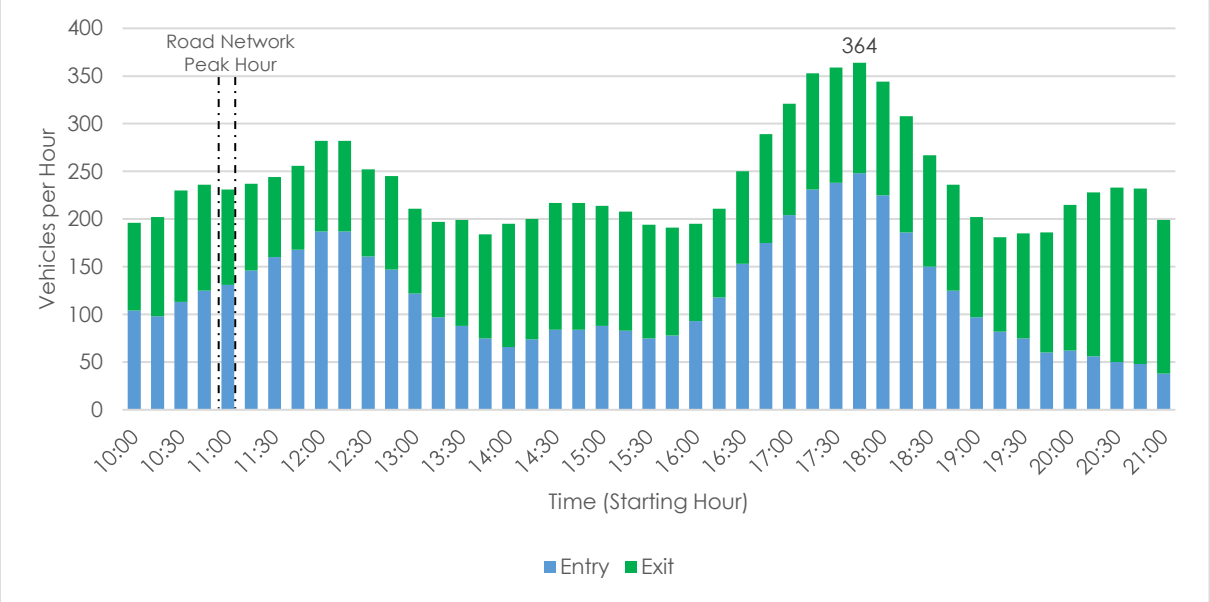


Figure 3.3: Site Peak Volumes (Saturday)

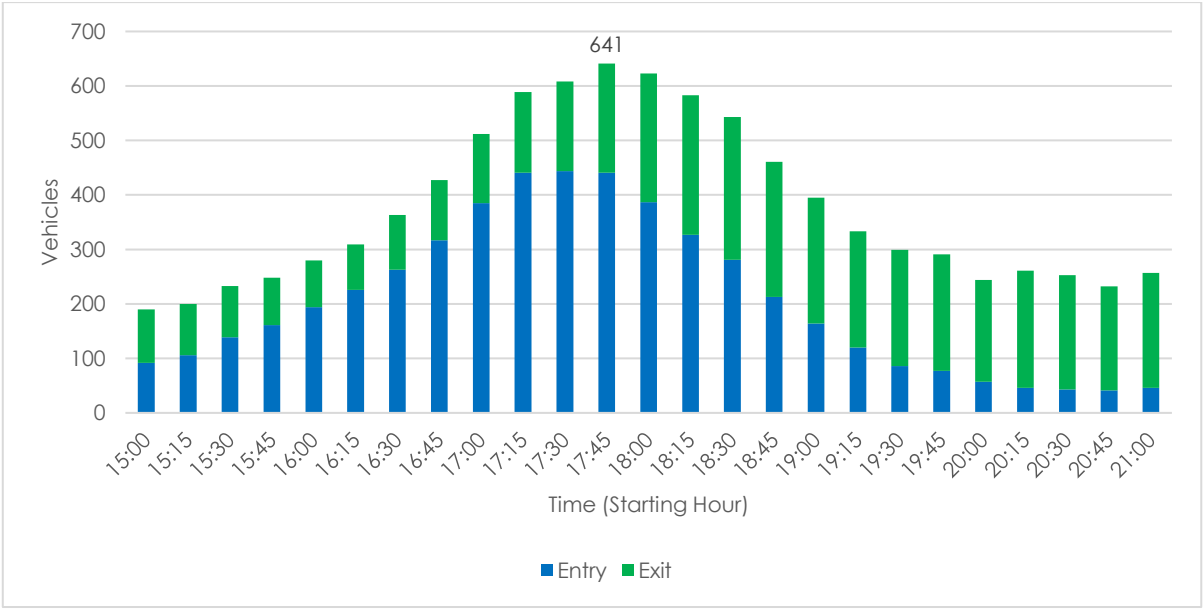


3.1.3 Food Festival Traffic

The RSL Club traffic generation during the Food Festival event held in March has been collected and is summarised in Figure 3.4.

The data indicates that traffic generated by the RSL Club and the Food Festival event generate up to 641 two-way vehicle movements per hour, with a site peak hour of 5:45pm to 6:45pm.

Figure 3.4: Site Peak Volumes (Food Festival)



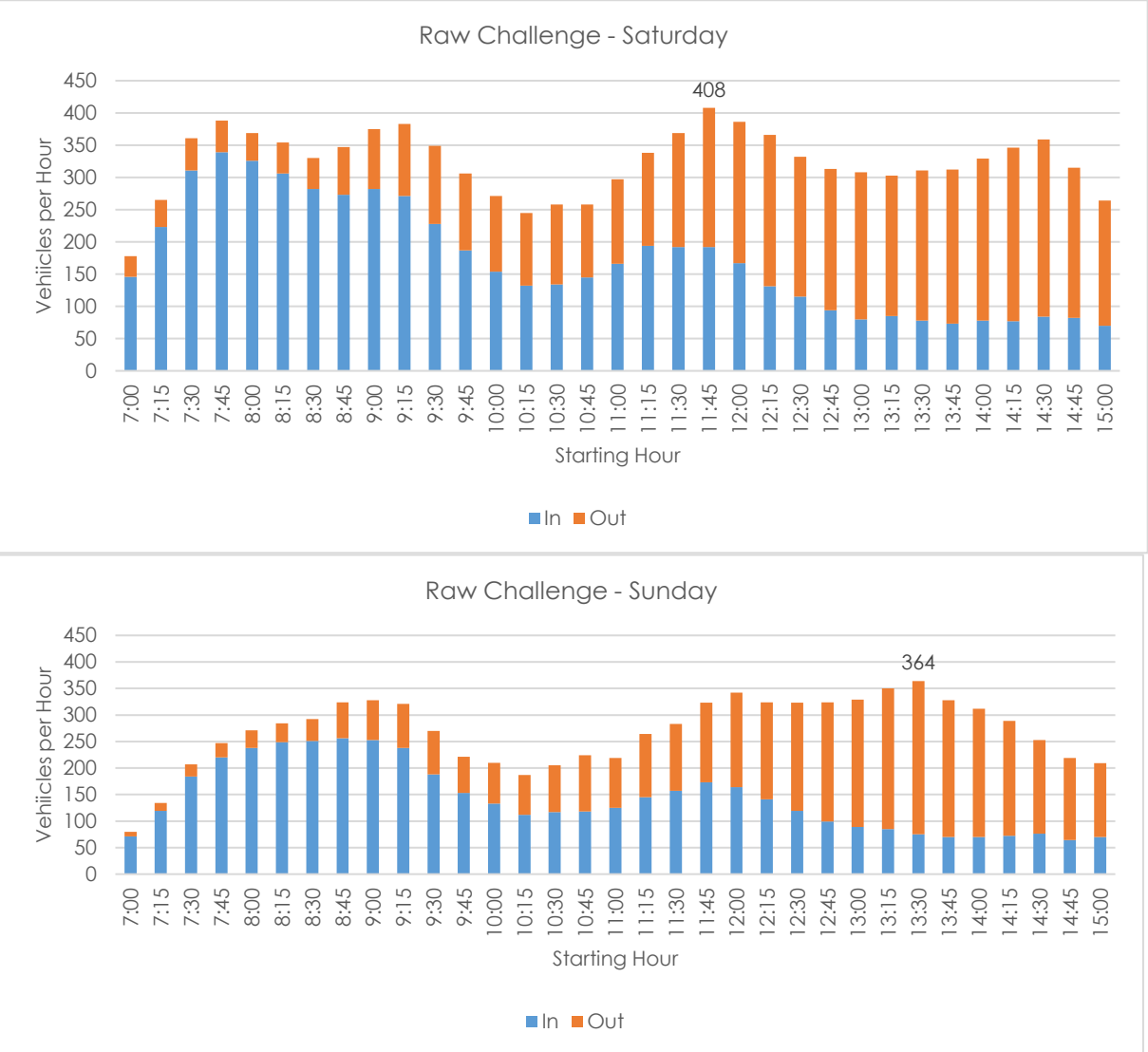
3.1.4 Raw Challenge

A Raw Challenge event was held on Saturday 24 and Sunday 25 March and ran between 8:30am and 4:00pm. Parking for the event is accommodated within the RSL Club car park and informal parking areas provided on-site.

Traffic surveys undertaken during the Raw Challenge event indicate a peak traffic generation of 408 two-way vehicle movements per hour, occurring from 11:45am to 12:45pm on the Saturday. On Sunday, the traffic generation is lower, with a peak of 364 vehicle movements per hour at 1:30pm. This traffic generation includes traffic generated by the Raw Challenge event and typical RSL Club visitors.

The traffic generation profile of the event is shown in Figure 3.5.

Figure 3.5: Site Peak Volumes (Raw Challenge)



3.2 Car Occupancy

A car occupancy survey was undertaken of vehicles entering and exiting the RSL Club to understand the car sharing patterns to the site. Car occupancy surveys were undertaken during a typical Saturday operation and during the Food Festival and Raw Challenge events held in March.

The survey results indicate the following average car occupancy rates:

- Typical Saturday: 1.9 persons per vehicle
- Food Festival: 2.1 persons per vehicle
- Raw Challenge: 2.2 persons per vehicle.

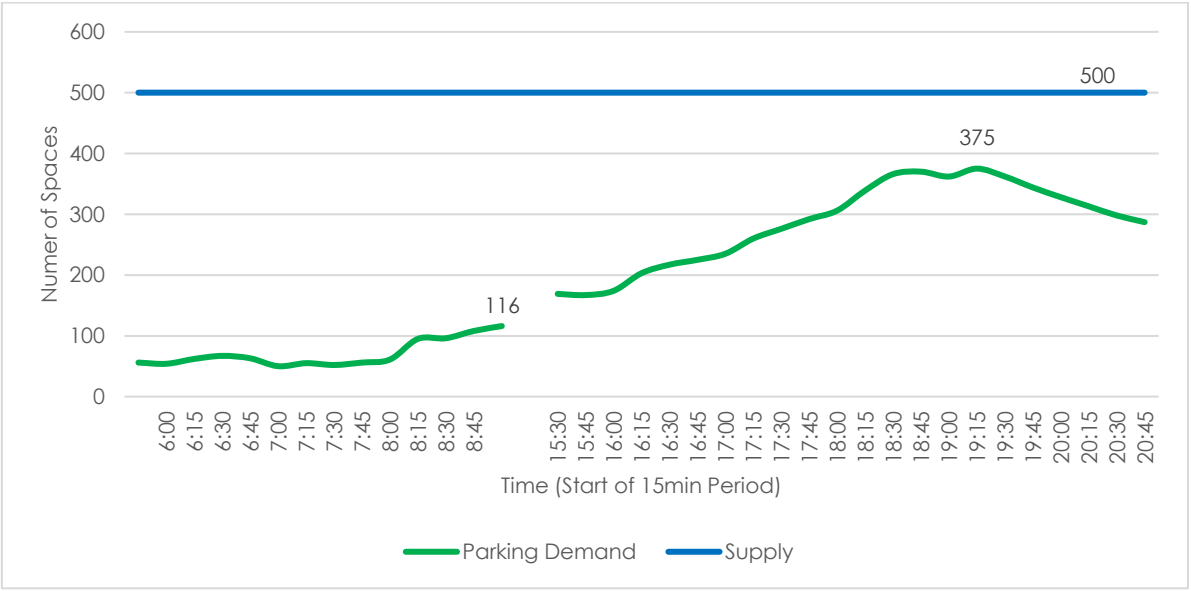
3.3 Parking Demand

3.3.1 Typical Demand

A survey of parking restrictions and demand was undertaken of the RSL Club during the noted survey dates. The survey identified a car parking supply of around 500 spaces within the on-site car park, available during the typical operation of the club.

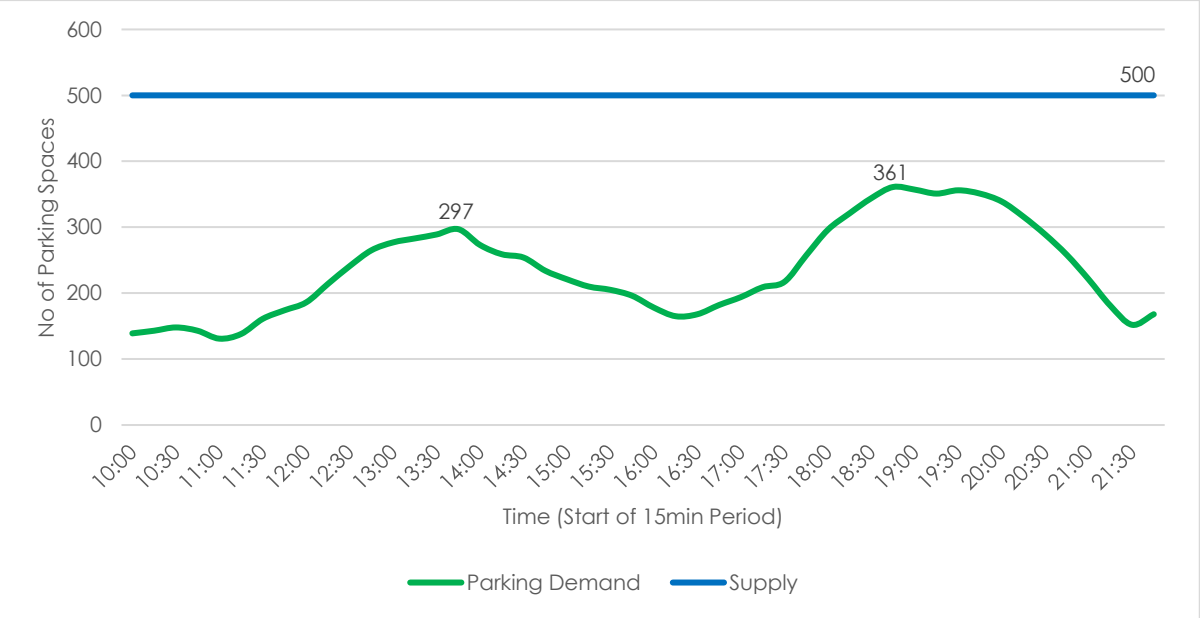
On a typical Friday, the peak parking demand was recorded as 116 vehicles (23 per cent occupancy) during the morning peak period and 375 vehicles (75 per cent occupancy) during the evening peak period as detailed in Figure 3.6. The peak parking demands were recorded at 8:45am and 7:15pm respectively.

Figure 3.6: Parking Demand (Friday)



On a typical Saturday, two peaks are observed including an afternoon peak with 297 vehicles at 1:30pm, and an evening peak with a parking demand of 361 vehicles (72 per cent occupancy) occurring at 6:45pm. The parking demand profile over the surveyed Saturday is detailed in Figure 3.7.

Figure 3.7: Parking Demand (Saturday)



3.3.2 Food Festival Demand

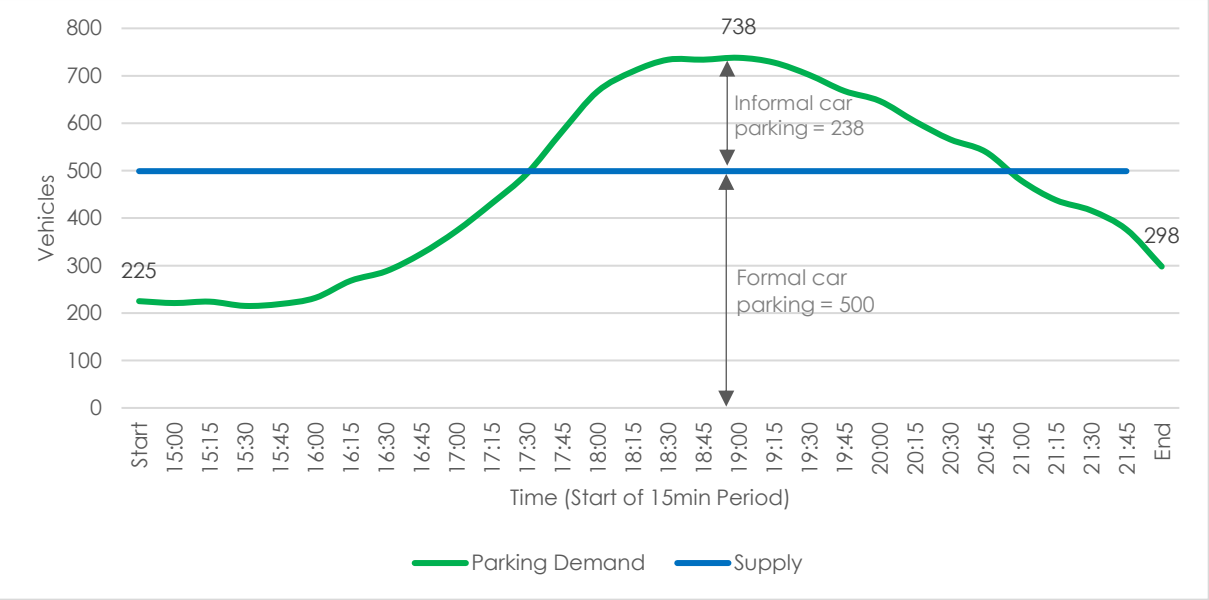
A car parking demand survey was undertaken during the Food Festival event held in March on-site.

In addition to the formal car parking area, informal car parking was also provided on the sporting fields for the event, to accommodate the additional parking demand generated by the special event.

The peak parking demand during the Food Festival event was 738 vehicles at 7:00pm, as shown in Figure 3.8.

TTPP notes that more than 500 informal car spaces could be provided on the sports fields surrounding the Club. During the Food Festival event held in March some 238 cars were parked on the sports fields.

Figure 3.8: Parking Demand (Food Festival)



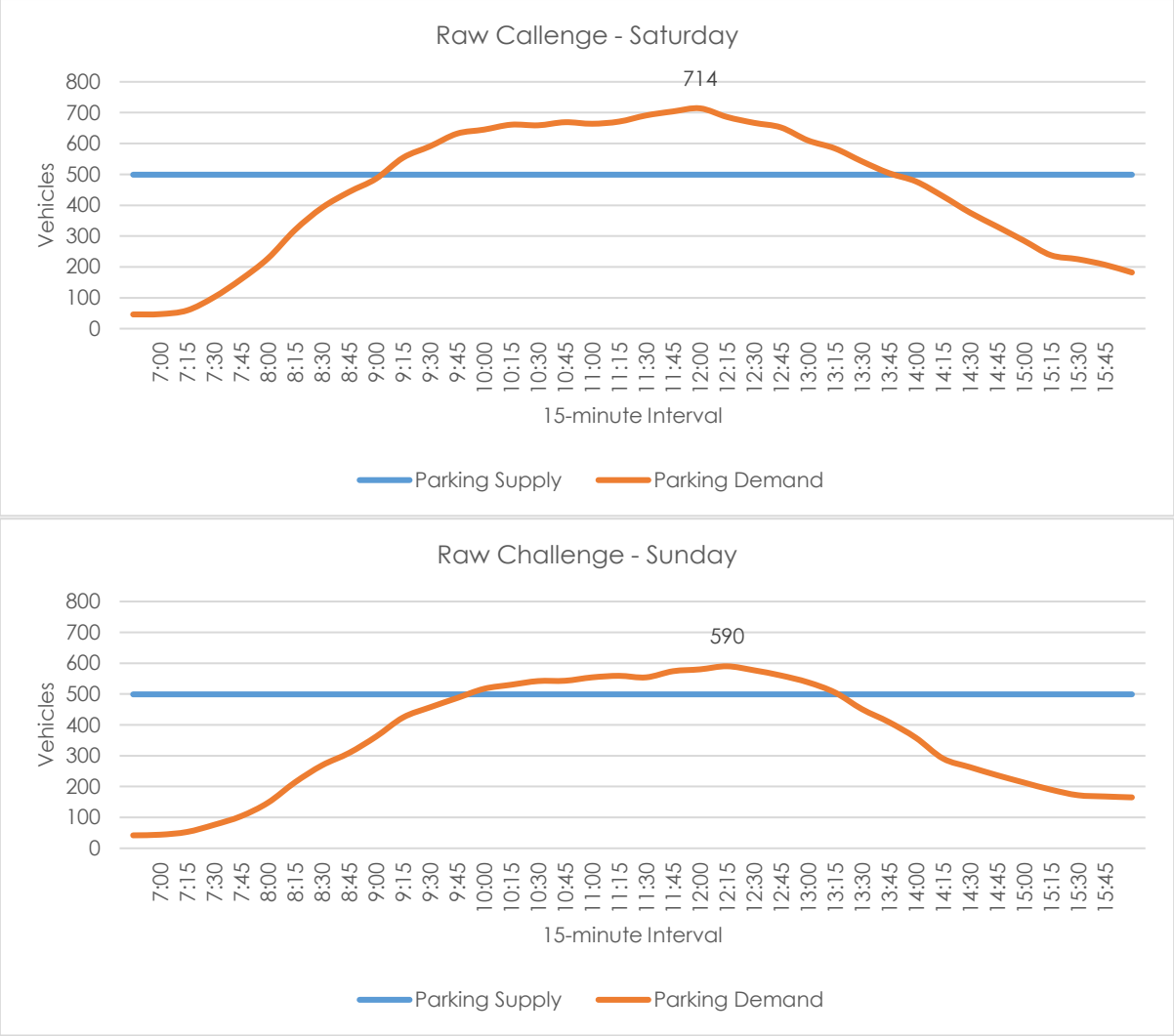
3.3.3 Raw Challenge

A car parking demand survey was undertaken during the Raw Challenge event held on Saturday 24 March and Sunday 25 March. Parking for the Raw Challenge event is accommodated within the RSL site car park. Similar, to the Food Festival event, the additional parking demand was catered for on the sporting fields.

The peak parking demand during the Raw Challenge event was 714 vehicles at noon on Saturday, as shown in Figure 3.9. On this basis, some 214 cars were informally parked on the sporting fields on Saturday.

Peak parking demand on the Sunday was 590 vehicles at 12:15pm, indicating around 90 vehicles were informally parked on the sporting fields.

Figure 3.9: Parking Demand (Raw Challenge)



4 Structure Plan

4.1 Land Uses

Doyalson-Wyee RSL Limited has developed a Structure Plan for their large landholding in Doyalson, NSW comprising an amalgamation of several properties. The proposed Structure Plan for the RSL Club aims to diversify its services to protect the Club's longevity against potential changes to its tenure and gaming regulations. The Structure Plan includes several new land uses including a new RSL Club as detailed in Table 4.1.

Table 4.1: Land Use Summary

Land Use	Existing Floor Area (m^2)	Proposed Floor Area (m^2)
RSL Club		
- Club	7,424	7,500
- Dining Area/Food Court		3,390
- Function Room		750 (500-pax)
Hairdresser		120
Dry Cleaner		120
Health & Wellness Precinct		
- Gym	1,679	3,000
- Spa		350
- Swimming Pool		1,000
- Medical Clinic		4,830
- Physio		150
Motel/hotel		7,641 (102 units & 72 villas)
Childcare		5,632 (360 places)
Fast Services		
- Fast Food Outlets		1,055 (4 x 60 seats ea)
- Car Wash		30
- Petrol Station		590
Broadcare Leisure & Recreational		
- Raw Challenge	17,000	4.7km course
- Sporting Fields	50,000	NA
- Go Kart		6,938
- Recreational Warehouse		5,858
Residential Development		
- Residential Dwellings		137 lots/dwellings
- Senior Living		214 lots/dwellings

4.2 Structure Plan Staging

The proposed Doyalson Wyee RSL Structure Plan is to be implemented in stages over a period of 20 years.

For the purposes of this traffic assessment, the development has been indicatively split into two key stages; Stage 1 incorporates the development to be implemented over the first ten years and Stage 2 incorporates the development to be implemented after Stage 1 in the following ten years.

4.2.1 Stage 1 Development

The Stage 1 development would include the following land uses that are programmed to be implemented in stages over the next 10-years:

- Stage 1 RSL Club (4,240m^2) and function room (300m^2/ 200-person capacity))
- Senior Living (100 dwellings assumed for the purposes of this report)
- Fast Services (Fast Food Outlets, Car Wash, Petrol Station)
- Childcare Centre
- Hotel
- Health and Wellness Precinct (Gym)

Stage 1 may comprise partial build of the senior living lots, however, the number is not confirmed at this stage. For the purposes of TTPP's traffic analysis, 100 of the 214 dwellings has been conservatively assumed for Stage 1.

In addition, the proposed signalised site access would be constructed.

4.2.2 Stage 2 Development

The Stage 2 development would include the following land uses and is proposed to commence in 10 to 15 years' time, following the completion of Stage 1:

- Stage 2 RSL Club (3,260m^2) and function room (450m^2/ 300-person capacity)
- Health and Wellness Precinct (spa, swimming pool, medical clinic, physio)
- Leisure and Recreational (Go Kart, recreational warehouse)
- remaining Senior Living
- Residential (137 dwellings).

4.3 Site Layout and Access

The existing RSL Club is located on the property of 49-65 Wentworth Avenue and 80-90 Pacific Highway. The proposed Structure Plan including RSL Club will be relocated within 100-120 Pacific Highway, with a new signalised access located at 100 Pacific Highway, approximately 400m north of Wentworth Avenue.

A strip of crown land separates 110 Pacific Highway and 120 Pacific Highway. As such, the recreational land uses located on 120 Pacific Highway are to be accessed separately via the existing left-in/left-out access point. This existing left-in/left-out access to 120 Pacific Highway would be formalised to be compliant with Austroads guidelines. Negotiation for an easement across crown land are ongoing to enable a vehicular link between 110 and 120 Pacific Highway. The proposed site layout is shown in Figure 4.1.

Figure 4.1: Site Masterplan Layout

Source: Urbis

4.4 Road Widths

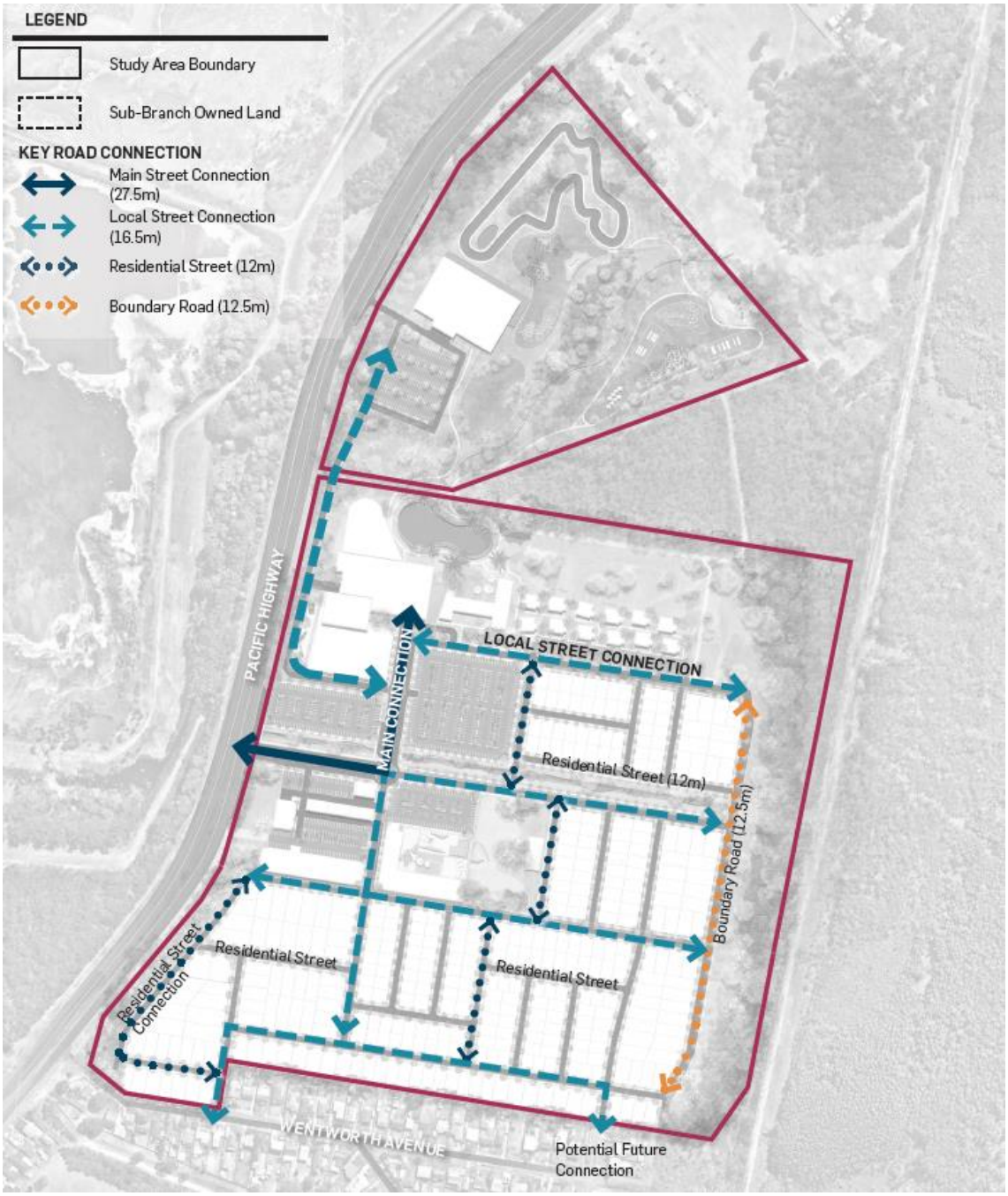
The internal road layout will feature a hierarchy of roads. A summary of proposed road widths is detailed in Table 4.2. A layout of the indicative road network is shown in Figure 4.2.

Table 4.2: Road Widths

Road Type	Carriageway	Verge	Median	Total Road Reserve	DCP Subdivision Road Width Requirement
Main Road	14m (7m in each direction)	4.5m x 4.5m	4.5m	27.5m	Collector Street: Verge: 4.5m Carriageway: 9.6m or 12m with bus route Total reserve: 18.6m
Local Road	7m	3.5m x 3.5m	NA	16.5m	Local Street: Verge: 4.5m Carriageway: 7.6m or 12m with bus route Total reserve: 16.6m
Boundary	8m	3.5m x 1.0m	NA	12.5m	
Access Street (internal to Residential and Senior Living)	6m	3.0m x 3.0m	NA	12.0m	Access Street: Verge: 4.5m [1] Carriageway: 5.5m Total reserve: 14.5m

[1] Verge width of 4.5m required at development frontages. Otherwise a minimum one metre verge is required.

Figure 4.2: Indicative Road Network Layout



The proposed road network has been designed with consideration for minimum road width requirements detailed in Part 4 (Subdivision) of Council's DCP. Road widths are generally wider than Council's minimum requirements with the exception of verge widths, which are 3.5m along active frontages, where Council requires a 4.5m verge.

Consultation with Council has been undertaken on the proposed road widths. Council have stated that as the proposed roads are not public roads, verge widths may be varied provided that adequate allocation is provided for services.

4.5 Engagement with Authorities & Community

4.5.1 Roads and Maritime Services/ Central Coast Council

Consultation has been undertaken with Roads and Maritime Services (Roads and Maritime) on the following matters:

- proposed access arrangements
- trip generation rates for the proposed land uses
- future road upgrades.

Consultation included meetings with RMS on Tuesday 17 April 2018 and 29 November 2018 and email correspondence.

Roads and Maritime has given in-principle support for the proposed access arrangements including a signalised access intersection with Pacific Highway and a secondary access point (left on/ left out) from 120 Pacific Highway.

Trip rates for each land use as detailed in Section 6.1, have been approved by Roads and Maritime and adopted as part of our transport assessment.

Roads and Maritime has expressed concerns regarding the impact of the Lake Munmorah Plan on the Pacific Highway corridor and have highlighted a preference to develop an area wide study to include the proposed development. On this basis, TTPP consulted with Central Coast Council (Council) via email in August 2018.

Council has indicated that the Lake Munmorah Structure Plan is too far along in its progress to include the proposed development site. On this basis, the traffic assessment for the proposed development (as detailed in this report) is required to be assessed independently.

4.5.2 Community Consultation

Community consultation has indicated general support for the proposed development, noting a reduction in turning traffic volumes at the intersection of Pacific Highway and Wentworth Avenue.

5 Car Parking Requirements

5.1 Assumptions

The car parking requirement for existing/reinstated land uses has been estimated based on the existing parking demand for the site.

The existing site includes an RSL Club with several food outlets, community services and a Fitness Centre/ Gym. Based on a total floor area of 9,103m^2, the existing parking demand per 100m^2 of floor area is summarised in Table 5.1.

Table 5.1: Existing Parking Demand

Time Period	Peak Parking Demand	Parking Rate (per 100m^2)
Fri (19:15)	375	4.1
Sat (18:45)	361	4.0

Table 5.1 shows that the existing site generates a peak parking demand of 4.1 spaces per 100m^2 of gross floor area. On this basis, the peak parking demand rate has been adopted for the following retained land uses:

- RSL Club
- Dining & Food Court Area
- Gym.

For new land uses, the parking requirement has been sourced from *Wyong Shire Development Control Plan 2013* (DCP) where possible. The following land uses have been determined based on the DCP, with the applied DCP category identified in parentheses.

- Function Room (*Restaurant and Function Centre*)
- Hairdresser/ Dry Cleaner (*Shops*)
- Spa (*Shops*)
- Swimming Pool (*Swimming Pools*)
- Medical Clinic/ Physio (*Medical Centre*)
- Motel/ Hotel (*Motel*)
- Fast Food Outlet (*Take Away Food & Drink*)

Where the DCP does not provide guidance, additional sources have been referenced including the following reports in relation to the 'Childcare' and 'Car Wash' land uses:

- *Child Care Planning Guideline,* NSW Planning and Environment, 2017
- *Proposed Carwash, 412-416 Liverpool Rd, Croydon*, D&H Kane investments, 2006

No suitable survey data could be identified to determine the typical parking demands of 'recreational warehouse' (e.g. trampoline park, rock climbing, laser tag etc) or 'Go Kart' facility. As such, TTPP has reviewed the parking supply of existing sites which include comparable uses.

A desktop study of the *Luddenham Raceway – Go Karting, Paintball & Motorsport Park*, has identified a parking supply of 80 spaces to accommodate combined Paintball and Go Kart services. It is assumed the provision allows for 40 spaces each for the Paintball and Go Kart facility. On this basis, a similar parking supply has been assumed for the proposed Go Kart use, that is, 40 spaces.

In relation to the recreational warehouse which may have a variety of uses, two sites were reviewed including the *Red Alert Laser Tag and Indoor Go Kart* facility at Warners Bay, and the *Inflatable World Charmhaven, Charmy Indoor Sports* and *Millennium Health Club* facility at Charmhaven. The two sites include 40 to 60 spaces for an estimated floor area of 2,800m^2 to 2,300m^2 respectively. On this basis, a parking rate of 50 spaces per 2,500m^2 or two spaces per 100m^2 has been applied to the proposed recreational warehouse.

It is expected that any additional or atypical parking demands related to special events (e.g. Raw Challenge, Food Festival) would be catered for under a special event management plan.

5.1.1 Senior Living

The proposal for the Senior Living component of the Structure Plan includes 214 dwellings.

The State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 states that self-contained dwellings for seniors are to have a minimum parking requirement of 0.5 spaces per bedroom where the development application is made by a person other than a social housing provider. However, at this Planning Proposal stage the number of bedrooms per dwelling is undetermined. On this basis, an average of two bedrooms per dwelling has been assumed, indicating a parking requirement of one space per dwelling.

5.2 Parking Requirement

Based on the assumptions detailed in Section 5.1, the parking requirement for the proposed Structure Plan is **1,484 spaces** for the commercial and recreational uses and **100 spaces** for the senior living land use as summarised in Table 5.2.

Table 5.2: Parking Assessment

Land Use	Size (m² GFA)	Car Parking Rate/ Demand	Parking (Spaces)
RSL Club			
- Club	7,500	4.1 per 100sqm	309
- Dining Area/Food Court	3,390	4.1 per 100sqm	140
- Function Room (750sqm)	500 people	15 spaces per 100sqm or 1 space per 3 seats whichever is greater	167
Hairdresser	120	1 space per 20sqm GFA	6
Dry Cleaner	120	1 space per 20sqm GFA	6
Subtotal			**627**
Health & Wellness Precinct			
- Gym	3,000	4.1 per 100sqm	124
- Spa	350	1 space per 20sqm GFA	18
- Swimming Pool	1,000	30 spaces per 500sqm (water area only)	60
- Medical Clinic (4,830sqm GFA)	32 rooms	3 spaces per consulting room + 1 space per employee	107
- Physio (150sqm)	2		7
Subtotal			**315**
Motel/hotel (102 units+72 villas)	174 units	1 space per unit + 1 space for manager + 1 space per 2 employees **[1]**	**200**
Childcare	360 places	1 space per 4 children	**90**
Fast Services			
- Fast Food Outlet (1,055sqm GFA)	240 seats	1 space per 3 seats	80
- Car Wash	30	1 employee space + 2.5 vehicle queueing area per lane	4
- Petrol Station	590	5 spaces per 100m2 GFA store **[2]**	10
Subtotal			**94**
Broadcare Leisure & Recreational			
- Raw Challenge	4.7km course	Special Event Management Plan	NA
- Go Kart	6,938		40
- Recreational Warehouse	5,858	2 spaces per 100m²	117
Subtotal			**157**
Residential/ Senior Living			
- Residential	137	1 space per dwelling 1-3 bedrooms and 2 spaces per dwelling 4+ dwellings	137
- Senior Living Dwellings	214	0.5 space per bedroom (2 bedrooms per dwelling assumed)	214
Subtotal			**351**
Total (commercial/ recreational)			**1,484**
Total (incl. Residential/ Senior Living)			**1,835**

[1] 25 employees assumed for the Motel/Hotel
[2] 200m² convenience store assumed as part of the Petrol Station

The proposed parking supply on-site would aim to accommodate the peak usage of the overall site on a typical day. However, the peak parking demand outlined in Table 5.2 is the "worst case" and does not consider opportunity to share parking supply between the commercial and recreational land uses.

For example, typically, the following uses have peak parking demands outside of the peak demand of the RSL Club and associated dining facilities (6:30-7:00pm weekdays and weekends), in particular:

- a childcare centre's peak demand occurs in the morning (7am-9am) and afternoon (2:30-4:00pm) weekday peaks
- leisure and recreational activities peak demand occurs during the weekend (11am-3pm). Based on existing recreational facilities nearby, the recreational facilities are expected to operate during business hours on the weekdays and weekends.
- retail (hairdressers and drycleaner) is expected to be open only during typical business hours on the weekdays and weekends.

While the operating hours of the land uses are still to be determined, a parking accumulation assessment has been undertaken based on typical hours of operation as detailed in Table 5.3.

Based on the parking accumulation assessment in Table 5.3, the peak parking demand of the site is expected to occur after 6pm on a weekday, with up to 75 per cent of the DCP parking requirement to be utilised i.e. **1,108 spaces,** not including the residential/ senior living dwellings.

Table 5.3: Car Parking Accumulation Assessment

Land Use	Parking Requirement (Spaces)	Percent Parking Demand by Time Period										Parking Req' during Peak Demand (Spaces)
		Fri 7am-9am	Fri 9am-12pm	Fri 12pm-3pm	Fri 3pm-6pm	Fri 6pm-10pm	Sat 9-11am	Sat 11am-1pm	Sat 1-3pm	Sat 3-6pm	Sat 6-10pm	
RSL Club												
- Club	309	25%	25%	50%	75%	100%	25%	50%	50%	75%	100%	309
- Dining Area/Food Court	140	25%	25%	50%	50%	100%	25%	50%	50%	75%	100%	140
- Function Room (750sqm)	167	0%	50%	50%	100%	100%	50%	100%	100%	100%	100%	167
Hairdresser	6	0%	50%	50%	50%	10%	50%	100%	100%	50%	10%	1
Dry Cleaner	6	0%	50%	50%	50%	10%	50%	100%	100%	50%	10%	1
Subtotal	**627**											**617**
Health & Wellness Precinct												
- Gym	124	100%	50%	50%	50%	90%	75%	75%	75%	75%	75%	111
- Spa	18	0%	75%	75%	75%	10%	75%	100%	100%	75%	10%	2
- Swimming Pool	60	100%	50%	50%	75%	80%	50%	100%	100%	50%	25%	48
- Medical Clinic (5,000sqm GFA)	107	100%	100%	100%	100%	10%	100%	100%	100%	50%	10%	11
- Physio (150sqm)	7	100%	100%	100%	100%	10%	100%	100%	100%	50%	10%	1
Subtotal	**315**											**173**
Motel/Hotel	**200**	**100%**	**50%**	**50%**	**50%**	**100%**	**50%**	**50%**	**50%**	**50%**	**100%**	**200**
Childcare	**90**	**100%**	**25%**	**25%**	**100%**	**10%**	**0%**	**0%**	**0%**	**0%**	**0%**	**9**

Land Use	Parking Requirement (Spaces)	Percent Parking Demand by Time Period										Parking Req' during Peak Demand (Spaces)
		Fri 7am-9am	Fri 9am–12pm	Fri 12pm-3pm	Fri 3pm-6pm	Fri 6pm-10pm	Sat 9-11am	Sat 11am-1pm	Sat 1-3pm	Sat 3-6pm	Sat 6-10pm	
Fast Services												
- Fast Food Outlet (4 x 60 seats ea)	80	75%	75%	100%	75%	100%	50%	100%	100%	75%	100%	80
- Car Wash	4	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	4
- Petrol Station	10	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	10
Subtotal	**94**											**94**
Broadcare Leisure & Recreational												
- Go Kart	40	0%	25%	50%	75%	10%	50%	100%	100%	50%	25%	4
- Recreational Warehouse	117	0%	25%	50%	75%	10%	50%	100%	100%	50%	25%	12
Subtotal	**157**											**16**
Total *(Commercial/ Recreational)*		**774**	**656**	**828**	**1090**	**1108**	**684**	**1039**	**1039**	**955**	**1071**	**1108**
Residential/ Senior Living	**100**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**351**
Total (incl. Residential/ Senior Living)	**1835**	**1125**	**1007**	**1179**	**1441**	**1459**	**1035**	**1390**	**1390**	**1306**	**1422**	**1459**

5.3 Adequacy of Parking Supply

The senior living and residential component are to be separate from the commercial site and is expected have its own private parking provisions. Publicly accessible car parking is to be provided for the commercial and recreational uses with parking to be shared.

Based on the parking demand and accumulation assessment shown in Table 5.3, the commercial and recreational uses would generate a peak parking demand of 1,108 spaces.

The proposed development is to provide 1,295 spaces distributed over several at-grade car parks and on-street kerbside spaces, which would satisfy the peak parking demand of the site. In addition, an overflow car park for events is proposed accommodating an additional 104 spaces. The car parking layout is shown in Figure 5.1.

Figure 5.1: Site Car Park

Car Parking Lots	Car Park Spaces
Lot 1	397 Spaces
Lot 2	174 Spaces
Lot 3	105 Spaces
Lot 4 and 5	41 Spaces
Lot 6	114 Spaces
Lot 7	128 Spaces
Lot 8	180 Spaces
Side parking	156 Spaces
Overflow Event Car parking	104 Spaces (3,660m²)
Total Parking Provision	1,399 Spaces

Base Source: Urbis, 19/16/19
Note: Side parking refers to on-street parking bays on main access road

5.4 Accessible Car Parking

The DCP states that accessible parking should be provided based on the Building Code of Australia (BCA) guide. On this basis, the RSL Club and associated commercial and

recreational facilities are generally classified as a Class 6 development, the childcare centre is classed as 9b, car wash as Class 8 and medical services as Class 5 in the BCA guide.

On this basis, the site requires a minimum accessible parking provision of 29 spaces as summarised in Table 5.4.

Table 5.4: Accessible Parking Assessment

Land Use	DCP Parking Requirement	BCA Parking Rate	Source	Parking (Spaces)
RSL Club (club, dining, function rooms, retail)	627	1 space per 50 spaces	Class 6 as per BCA	*12.5*
Health & Wellness Precinct				
- Gym/ Spa/ Swimming Pool	201	1 space per 50 spaces	Class 6 as per BCA	4.0
- Medical Clinic/ Physio	114	1 space per 100 spaces	Class 5 as per BCA	1.2
Subtotal				**5.2**
Hotel	TBC (See Note 1)	Total #car spaces multiplied by the percentage of accessible units or bedrooms	Class 1B/ 3 in BCA	4.0
Childcare	90	1 space per 50 spaces	Class 9b as per BCA	1.8
Fast Services	94	1 space per 50 spaces	Class 6 as per BCA	1.8
Broadcare Leisure & Recreational	157	1 space per 50 spaces	Class 6 as per BCA	3.1
Total				***28.4***

[1] DA to confirm number of the adaptable units within the hotel. Four accessible spaces assumed for the purposes of this report

6 Traffic Impact

6.1 Traffic Generation

The traffic generation for existing/reinstated land uses has been estimated based on the existing traffic generation rate for the site.

For new land uses, typical traffic generation estimates for the proposed development have been sourced from Roads and Maritime Service's *Draft Guide to Traffic Generating Developments (2018)* and the updates in the Technical Direction TDT2013/04a. In addition, the following additional sources have been referenced where appropriate:

- *Trip Generation Surveys, Medical Centres, Analysis Report*, TEF Consulting, 2015
- *Mixed Use Development, 462-482 Swan Street, Richmond*, GTA Consultants, 2015
- *Sydney Polo Club, Richmond Wedding Venue*, GTA Consultants, 2016
- *Proposed Carwash, 412-416 Liverpool Road, Croydon*, K&H Kane Investments Pty Ltd, 2006
- *Trip Generation Surveys at Child Care Centres Analysis Report*, TEF Consulting, 2015

The above sources and traffic generation rates as detailed below, have been reviewed and confirmed by Roads and Maritime Services (Roads and Maritime).

The proposed traffic generation rates for the Doyalson Wyee Club Structure Plan are detailed in the following sections.

6.1.1 Existing Club Uses

The existing site includes an RSL Club with several food outlets, community services and a Fitness Centre/ Gym. Based on a total floor area of 9,103m^2, the existing traffic generation rates for the site is summarised in Table 6.1.

Table 6.1: Existing Club Trip Rates

Time Period	Site Traffic (vph)	Existing Trip Rate (per 100m2)
Road Network Peak		
Fri AM (7:30-8:30)	120	1.3
Fri PM (16:45-17:45)	280	3.1
SAT (11:00-12:00)	231	2.5
Site Peak		
Fri PM (17:30-18:30)	313	3.4
SAT (17:45-18:45)	364	4.0

The above traffic generation summary highlights that the Club generated a maximum of 313 vehicles per hour during the Friday afternoon peak period (17:30pm – 18:30pm). It is noted that the road network peak period occurs between 16:45pm – 17:45pm which is around one hour earlier than the peak hour traffic generation of the Club, as shown in the hourly site traffic generation profiles in Figure 3.2 and Figure 3.3.

In theory, the traffic generation in the network peak hour could be reduced, however, TTPP has assessed the worst-case scenario for the evening peak hour i.e. peak road networks and peak club operation occurring simultaneously. As such, the site peak traffic generation rate (3.4 trips per 100m^2), has been adopted for the future traffic generation during the evening road network peak hour.

On this basis, the above existing trip rates are adopted for the following retained land uses:

- RSL Club
- Dining & Food Court Area.

6.1.2 Gym

Traffic generation rates for the Gym and physio have been obtained from recent Roads and Maritime surveys as detailed in the report "*Trip Generation and Parking Demand Surveys of Gymnasiums Data and Analysis Report*" (TEF Consulting, 2015). The adopted rates relate to an average of three comparable survey sites including Oatley, Willoughby and Riverwood in NSW. The three comparable sites have an average peak traffic generation of 4.3 trips per 100sqm.

Traffic generation for a gym is understood to be relatively lower during the weekday morning and Saturday road network peaks compared to the weekday afternoon road network peak. On this basis, the above rate has been adopted for the PM peak period, while the AM peak is anticipated to generate 75 percent of the PM traffic generation and the Saturday peak is 50 per cent of the PM peak period.

To summarise, the following rates have been adopted for the proposed Gym:

- AM peak hour vehicle trips = 3.2 trips per 100sqm
- PM peak hour vehicle trips = 4.6 trips per 100sqm
- SAT peak hour vehicle trips = 2.2 trips per 100sqm.

6.1.3 Function Room

The Roads and Maritime Guide does not have a trip rate for function rooms. Traffic generation has instead been determined based on a traffic survey of a wedding event held in a comparable location. The survey results indicated that 83% of people arrived by private vehicle with an average car occupancy of 2.2 persons per vehicle, and 28% arrived by bus. Approximately 75% of vehicles arrived within the hour leading up to the event and included a 77% inbound/ 23% outbound distribution of traffic.

Noting that the RSL Club includes provision of a bus service, the rates identified in the survey, have been applied to the proposed function centres as follows:

- AM peak hour vehicle trips = NA (events are not likely to occur during the morning road network peak)
- PM peak hour vehicle trips = 83% car usage + 2.2 car occupancy + 75% arrival rate = 141 vehicles per hour
- SAT peak hour vehicle trips = 83% car usage + 2.2 car occupancy + 75% arrival rate = 141 vehicles per hour

However, the above estimate assumes that both proposed function centres with capacity for 250 persons each, would have an event at the same time generating 500 people. In addition, both these function centres would reach maximum capacity within the same hour. TTPP notes that this occurrence is very unlikely and have therefore applied a 50% reduction to the traffic generation estimate i.e. (2 rooms of 125 people arriving in the same hour is more realistic on average).

Based on the above, the two function centres have been estimated to generate up to 71 vehicles per hour.

6.1.4 Hairdresser/ Dry Cleaner

The proposed hairdresser and dry cleaner are considered a retail land use. As such, the Roads and Maritime rate for a speciality store has been applied:

- AM peak hour vehicle trips = 50% of the PM peak traffic generation estimate
- PM peak hour vehicle trips = 4.6 trips per 100sqm
- SAT peak hour vehicle trips = 5.6 trips per 100sqm.

6.1.5 Spa

Roads and Maritime do not have any trip rates for a Spa land use. However, the proposed spa (350m^2) is a relatively small land use and is expected to be ancillary to the Gym and RSL Club. For the purposes of estimating the additional traffic generation from the Spa, the traffic generation rate for the existing Club/ Gymnasium has been applied:

- AM peak hour vehicle trips = 1.3 trips per 100sqm
- PM peak hour vehicle trips = 3.4 trips per 100sqm
- SAT peak hour vehicle trips = 2.5 trips per 100sqm

6.1.6 Swimming Pool

Roads and Maritime do not have any trip rates for a Swimming Pool. Rates for a swimming pool have instead been sourced from surveys undertaken at the State Swim Centre in Urley and Seaford (May 2010) as referenced in the report "Mixed Use Development, 462-482 Swan Street, Richmond" (GTA Consultants, 2015). On this basis, a rate of 6.1 movements per swimming lane has been adopted, assuming 8 lanes per pool.

6.1.7 Medical Clinic/ Physio

Traffic generation rates for the Medical Clinic and physio have been obtained from recent Roads and Maritime surveys as detailed in the report "Trip Generation Surveys, Medical Centres, Analysis Report" (TEF Consulting, 2015). The adopted rates relate to Regional Sites, and are as follows:

- AM peak hour vehicle trips = 3.1 trips per 100sqm
- PM peak hour vehicle trips = 2.5 trips per 100sqm
- SAT peak hour vehicle trips = 11 trips per 100sqm

6.1.8 Motel/ Hotel

The rate provided in the Roads and Maritime guide has been applied for the AM, PM and SAT peak periods for the Motel/Hotel use, with 0.4 trips per unit.

The hotel trip rate will be lower as some hotel patrons will frequent the Club for dinner and functions etc. i.e. linked trips.

6.1.9 Childcare Centre

The Roads and Maritime Guide states the following traffic generation rates for a child care centre:

- AM peak hour vehicle trips = 0.64 trips per child

- PM peak hour vehicle trips = 0.34 trips per child
- SAT peak hour vehicle trips = NA.

6.1.10 Fast Food Outlet

The Roads and Maritime guide states typical traffic generation for several fast food chains including McDonalds, Kentucky Fried Chicken (KFC) and Hungry Jacks. Noting that four fast food outlets are proposed on site, the traffic generation volumes for one McDonalds (McD), one KFC and Hungry Jacks (HJ) have been adopted as follows:

- AM peak hour vehicle trips = 188 (McD) + 0 (KFC) + 45 (HJ) x 2 = 278 vehicles per hour
- PM peak hour vehicle trips = 183 (McD) + 67 (KFC) + 63 (HJ) x 2= 376 vehicles per hour
- SAT peak hour vehicle trips = 225 (McD) + 121 (KFC) + 110 (HJ) x 2 = 566 vehicles per hour.

The Roads and Maritime guide also indicates that approximately 50 per cent[1] of the fast food traffic generation will be existing passing traffic on Pacific Highway. This does not discount the traffic generation rate for the use, but rather redirects existing traffic movements to the site to account for pass-by trips.

6.1.11 Petrol Station

The Roads and Maritime Guide provides a formula for the traffic generation of a petrol station based on the number of service channels (N) and total site area (S). On this basis, TTPP has assumed the petrol station will include around eight service channels. The petrol station has a total site area of 590m^2.

- AM peak hour vehicle trips = 0.2815(N^2)+14.047(N)+16.715 = 147 vehicles per hour
- PM peak hour vehicle trips = 0.0205(S)+88.52 = 101 vehicles per hour
- SAT peak hour vehicle trips = No rate provided. PM rate assumed. = 101 vehicles per hour.

6.1.12 Car Wash

The Roads and Maritime guide does not provide a trip rate for a car wash. A rate has instead been obtained from the "*Proposed Carwash, 412-416 Liverpool Road, Croydon*" report (K&H Kane Investments Pty Ltd, 2006), which provides an average rate based on the survey data of several car wash facilities. On this basis, a rate of 13.3 trips per car wash lane has been adopted, for all three peak periods (AM, PM, SAT).

[1] An average passing by rate of 50% has been assumed, however, the draft guide references various rates for each surveyed food outlet including 51% for McDonalds, 43% for KFC, 54% for Hungry Jacks.

6.1.13 Raw Challenge

Raw Challenge is an existing event that occurs twice a year and accommodates parking within the existing RSL Club site. The event would be subject to a separate Event Management Plan, with special traffic and parking management measures applied during the event e.g. the existing event includes temporary informal parking provision on the sporting fields. On this basis, traffic generation for Raw Challenge is not considered as part of the traffic generation estimate for the proposed development.

6.1.14 Go Kart

The Roads and Maritime guide does not provide a trip rate for facilities similar to Go Karting activities.

A review of the parking supply for an existing Go Kart and Paint Ball facility (Luddenham Raceway) has been undertaken to determine the traffic generation of the proposed site based on the car parking supply. It is assumed that the proposed Go Kart land use would require a car parking supply of 40 spaces, as per the provision at Luddenham Raceway (approximate). On this basis, a trip generation of 0.5 trips per car space per hour has been assumed i.e. 20 vehicle trips per hour.

Leisure and recreational trip rate will be reduced as some patrons will frequent the Club for drinks/ dinner after their event etc. i.e. linked trips.

6.1.15 Recreational Warehouse

Similarly, to the Go Kart land use, the recreational warehouse trip generation has been based on parking supply, with a rate of 0.5 trips per car space per hour. Based on existing recreational facilities (as discussed in Section 5.1), the recreational warehouse requires a parking supply of 117 spaces. On this basis, a trip generation of 59 vehicles per hour has been estimated during the road network peaks.

6.1.16 Senior Living Dwellings

The Roads and Maritime Guide states a rate of 0.4 trips per dwelling during the afternoon peak period for developments classed as "housing for seniors". The guide notes that the morning peak period of the site does not coincide with the road network peak period, however, for the purposes of this assessment, a rate of 0.4 trips per dwelling has been adopted for the weekday morning and Saturday peak period.

6.1.17 Residential

The Roads and Maritime Guide states the following traffic generation rates for low density residential dwellings in a regional area:

- AM peak hour vehicle trips = 0.78 trips per dwelling
- PM peak hour vehicle trips = 0.71 trips per dwelling
- SAT peak hour vehicle trips = 0.75 trips per dwelling (the guide does not specify a rate for the Saturday peak hour, as such the average of the AM and PM trip rate has been assumed).

6.1.18 Traffic Generation Estimate

Based on the above traffic generation assumptions, the trip generation estimate for the proposed development has been calculated and is summarised in Table 6.2.

Table 6.2 indicates that the development generates a net increase of 1,387vph, 1,743vph and 1,844vph in the weekday morning, weekday afternoon and Saturday morning peak periods respectively.

Taking into consideration that approximately 50 per cent of the fast food and petrol station trade would include pass-by traffic on the Pacific Highway, the additional traffic generated on the road network is estimated as **1,056vph**, **1,185vph** and **1,488vph** morning, afternoon and Saturday peak periods respectively.

Table 6.2: Trip Generation Summary

Land Use	Existing Size	Size (GFA)	Design Trip Rate (Road Network Peak)			Trip Rate Estimate (Road Network Peak)		
			AM (7:30-8:30)	PM (15:30-16:30)	SAT (11:00-12:00)	AM	PM	SAT
RSL Club								
- Club	7,423.63	7,500	1.3 trips per 100sqm	3.4 trips per 100sqm	2.5 trips per 100sqm	98	255	188
- Dining Area/Food Court		3,390	1.3 trips per 100sqm	3.4 trips per 100sqm	2.5 trips per 100sqm	44	115	85
- Function Room (750m²)		500 people	NA	83% car usage +2.2 car occupancy +75% arrival rate +50% overlap in events			NA	71
Hairdresser		120	2.3 trips per 100sqm	4.6 trips per 100sqm	5.6 trips per 100sqm	2.8	5.5	6.7
Dry Cleaner		120	2.3 trips per 100sqm	4.6 trips per 100sqm	5.6 trips per 100sqm	2.8	5.5	6.7
Subtotal						**147**	**452**	**356**
Health & Wellness Precinct								
- Gym	1,679.01	3,000	3.2 trips per 100sqm	4.6 trips per 100sqm	2.2 trips per 100sqm	96	138	66
- Spa		350	1.3 trips per 100sqm	3.4 trips per 100sqm	2.5 trips per 100sqm	5	12	9
- Swimming Pool		16 lanes	6.1 trips per lane	6.1 trips per lane	6.1 trips per lane	98	98	98
- Medical Clinic		4,830	3.1 trips per 100sqm	2.5 trips per 100sqm	11 trips per 100sqm	150	121	531
- Physio		150	3.1 trips per 100sqm	2.5 trips per 100sqm	11 trips per 100sqm	5	4	17
Subtotal						**353**	**372**	**720**
Motel/hotel (7,000m² – 102 units +98 villas)		**174 units**	**0.4 per unit**	**0.4 per unit**	**0.4 per unit**	**70**	**70**	**70**
Childcare (5,632m²)		**360 places**	0.64 per child	0.34 per child	NA	**230**	**122**	**0**
Fast Food Services								
- Fast Food Outlet (4 x 60 seats ea)		1,120	188+0+45+45	183+67+63+63	225+121+110+110	278	376	566
- Car Wash		30	13.3 trips per bay	13.3 trips per bay	13.3 trips per bay	13	13	13

Land Use	Existing Size	Size (GFA)	Design Trip Rate (Road Network Peak)			Trip Rate Estimate (Road Network Peak)		
			AM (7:30-8:30)	PM (15:30-16:30)	SAT (11:00-12:00)	AM	PM	SAT
- Petrol Station (See Note 1)		590	0.2815(N2) + 14.047(N) +16.715	0.0205(S)+88.52	PM Rate Assumed	147	101	101
Subtotal		**1,740**				**438**	**490**	**680**
Broadcare Leisure & Recreational								
- Raw Challenge	Existing	4.7km	Special Event Management Plan			NA	NA	NA
- Go Kart		6,938		0.5 trips per car space (40 car spaces)		NA	20	20
- Recreational Warehouse		5,858		0.5 trips per car space		NA	59	59
Subtotal						**0**	**79**	**79**
Residential/ Senior Living Lots								
Residential Dwellings		137 units	0.71 per dwelling	0.78 per dwelling	0.75 per dwelling	97	107	103
Senior Living Dwellings		214 units	0.4 per dwelling	0.4 per dwelling	0.4 per dwelling	86	86	86
Subtotal						**183**	**192**	**188**
10% linked trips between Motel/ Leisure activities and the RSL Club						-7	-15	-15
10% linked trips between Residential/ Senior Living and other uses						-18	-19	-19
Total (Proposed Development Traffic)						**1,395**	**1,743**	**2,059**
Existing Traffic Generation						-120	-313	-231
Net Proposed Development Traffic						**1,275**	**1,422**	**1,820**
Passing traffic generated by Fast Food Services & Petrol Station						-219	-245	-340
Additional Traffic on to Road Network						**1,056**	**1,185**	**1,488**

[1] N = number of service channels (8 assumed). S = total site area in square metres. 50% of traffic is anticipated to be passing traffic on the Pacific Highway

6.2 Roads and Maritime Traffic Signal Warrants

Based on the Roads and Maritime Services *Traffic Signal Design* 2008 manual, a signalised intersection may be considered if warrants are met, either based on crash history, pedestrian safety, high speeds, or high traffic volumes.

Based on this, a traffic signal warrants assessment has been undertaken for the intersection of Pacific Highway and the proposed site access.

The relevant warrant has been reproduced and assessed within Table 6.3.

Table 6.3: Warrants Assessment for Proposed Site Access-Pacific Hwy

	Warrants Met? (Yes/No)
(a) Traffic demand: *For each of four one-hour periods of an average day:*	
(ii) the major road flow exceeds 600 vehicles/hour in each direction; and	Yes
(ii) the minor road flow exceeds 200 vehicles/hour in one direction.	Yes
Overall	**Yes**

Pacific Highway is recorded to contain between 1,500 to 2,500 vehicles per hour during the survey periods (6:00-9:00, 15:30-19:00), with directional traffic ranging between 500 to 1,400 vehicles per hour in each direction. On this basis, the above flow warrants for a major road are satisfied (>600 vehicles per hour in each direction over four separate, one-hour periods).

The proposed site is anticipated to generate up to 1,395 vehicles per hour in the morning, 1,743 vehicles per hour in the afternoon on a weekday and 2,059 vehicles per hour on a Saturday. Assuming that the secondary access would generate some 80 vehicles per hour and Wentworth Avenue some 30-40 vehicles per hour, the primary access would generate around 1,300 to 1,900 vehicles per hour. This equates to over 650 vehicles per hour in any direction during the peak hour.

With the proposed land uses to operate and generate traffic throughout the day, the proposed site access will satisfy the traffic signal warrant for a minor road i.e. greater than 200 vehicles per hour in one direction for four one-hour periods.

6.3 Traffic Modelling

6.3.1 Scenarios

SIDRA intersection modelling has been carried out for nominated intersections. The following five scenarios have been assessed in this regard:

- Scenario 1 – 2018 Existing
- Scenario 2 – 2018 Existing + Stage 1 Development
- Scenario 3 – 2028 Base (+10-year background growth)
- Scenario 4 – 2028 Base + Stage 1 Development
- Scenario 5 – 2038 Base (+20-year background growth)
- Scenario 6 – 2038 Base + Stage 2 Development

The intersection turning volumes for each of the above scenarios is provided in Appendix A.

6.3.2 Background Growth Factors

Background growth factors have been applied to general traffic on Pacific Highway, for the future scenarios using SIDRA.

Background traffic growth has been adopted based on Sydney Traffic Forecasting Model (STFM) growth plots obtained from Roads and Maritime Services. The STFM growth plots provide growth rates (per cent per annum growth) from the year 2016 to a 10-year future (2026) and a 20-year future (2036), along the Pacific Highway.

Based on a base assessment year of 2018, the 2016-2026 growth rates have been similarly adopted by TTPP for the 10-year post development scenario (2028) and the 2016-2036 rates for the 20-year post development scenario (2038). The STFM growth plots are attached in Appendix B for reference.

6.3.3 Traffic Distribution

Various factors impact the traffic distribution patterns of developments such as the location of employment and residential precincts, the layout of arterial road network, usage patterns of the subject land use, location of site access points etc.

In the case of the subject site, traffic has been distributed based upon existing traffic patterns on the road network. Notably, traffic survey data indicates that typically 75 per cent of traffic generated by the site travels in the southbound direction and 25 per cent in the northbound direction.

In relation to inbound/ outbound splits, the net additional two-way development traffic is expected to have the following splits based on survey data and industry typical assumptions:

- Existing uses (RSL Club, Gym) as per the existing distribution – 70% inbound/ 30% outbound in AM peak, 60% inbound/ 40% outbound in PM peak, 65% inbound/ 35% outbound in SAT peak
- Function Room – 77% inbound/ 23% outbound in PM peak (as discussed in Section 6.1.2), 50% inbound/ 50% outbound in SAT peak

- Health & Wellness Precinct –50% inbound/ 50% outbound
- Motel/ Hotel – 50% inbound/ 50% outbound
- Childcare – 50% inbound/ 50% outbound
- Retail/ Fast Food – 50% inbound/ 50% outbound
- Go Kart/Recreational warehouse – 50% inbound/ 50% outbound
- Residential/ Senior Living – 20% inbound/ 80% outbound in the AM Peak, 80% inbound/ 20% outbound in the PM Peak.

The recreational component of the site has a separate access point with left-in/left-out movements only permitted. On this basis, it is assumed that outbound recreational traffic would turn left at the new signalised intersection and undertake a u-turn movement at the internal roundabout to travel northbound and inbound recreational traffic from the south would undertake a u-turn manoeuvre at the u-turn facility located approximately 60-metres north of the recreational site access, and then turn left into the site.

In addition, a portion of the residential and senior living traffic has been distributed to the site via Wentworth Avenue. However, the intersection modelling detailed in Section 6.4 indicates that the intersection of Wentworth Avenue and Pacific Highway will be at capacity in the future due to delays associated with traffic from Wentworth Avenue giving way to increasing through traffic along Pacific Highway. On this basis, the volume of development traffic anticipated to use Wentworth Avenue is anticipated to be nominal, with the proposed signalised intersection anticipated to provide a better access point to the site. For the purposes of this assessment, 25 per cent of residential/senior living traffic is assumed to use Wentworth Avenue, with the exception of those turning right into Pacific Highway, who are likely to use the new signalised intersection to travel northbound rather than give way to two directions of traffic.

6.4 Intersection Modelling

6.4.1 Intersection Modelling Criteria

The key intersections surrounding the site have been assessed using SIDRA Intersection 8, a computer-based modelling package which assesses intersection performance under prevailing traffic conditions.

SIDRA calculates intersection performance measures such as 'average delay' that vehicles encounter and the level of service (LoS). SIDRA provides analysis of the operating conditions which can be compared to the performance criteria set out in Table 6.4.

Table 6.4: Level of Service Criteria for Intersection Operation

Level of Service	Average Delay (seconds per vehicle)	Traffic Signals, Roundabout	Give Way and Stop Signs
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	operating near capacity	near capacity and 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 71	unsatisfactory with excessive queuing	unsatisfactory with excessive queuing; requires other control mode

Source: Roads and Maritime Guide to Traffic Generating Developments, 2002

6.4.2 Scenario 1 – 2018 Existing

The existing operation of the key study intersections is summarised in Table 6.5.

Table 6.5: Scenario 1 – 2018 Existing Intersection Operation

Leg	Intersection Control	AM Peak		PM Peak		SAT Peak	
		Ave. Delay (sec/veh)	Level of Service	Ave. Delay (sec/veh)	Level of Service	Ave. Delay (sec/veh)	Level of Service
Pacific Hwy - Wyee Rd - Scenic Dr	Signalised	41	C	73	F	45	D
Pacific Hwy - Wentworth Ave	Priority	46	D [1]	25	B	27	B
Proposed Site Access	NA						
Ruttleys Road - Pacific Highway	Signalised	13	A	17	B	14	A

[1] Related to the right-turn movement from Wentworth Avenue which includes 12 vehicles per hour under existing conditions and an estimated 4 vehicles per hour under post development conditions in the morning peak

Table 6.5 indicates the following key intersection results:

- Pacific Highway-Wyee Road-Scenic Drive is at capacity during the weekday afternoon peak with a LoS F and operates acceptably with a LoS C in the weekday morning peak and is nearing capacity with a LoS D during the Saturday peak period.
- Pacific Highway-Wentworth Avenue is near capacity in the weekday morning peak with a LoS D (relating to the right turn movement from Wentworth Avenue) and operates well in the weekday afternoon and Saturday peaks.
- Ruttleys Road-Pacific Highway operates well with a LoS B or better.

6.4.3 Scenario 2 – 2018 Existing + Stage 1 Development

Sidra modelling was undertaken to assess the impact of the Stage 1 development on the road network under existing conditions. The results of the assessment are summarised in Table 6.6.

Table 6.6: Scenario 2 – 2018 Existing + Stage 1 Intersection Operation

Leg	Intersection Control	AM Peak		PM Peak		SAT Peak	
		Ave. Delay (sec/veh)	Level of Service	Ave. Delay (sec/veh)	Level of Service	Ave. Delay (sec/veh)	Level of Service
Pacific Hwy - Wyee Rd - Scenic Dr	Signalised	47	D	125	F	54	D
Pacific Hwy - Wentworth Ave	Priority	52	D [1]	26	B	27	B
Proposed Site Access	Signalised	16	B	15	B	16	B
Ruttleys Road - Pacific Highway	Signalised	13	A	17	B	15	A

[1] Related to the right-turn movement from Wentworth Avenue which includes 12 vehicles per hour under existing conditions and an estimated 4 vehicles per hour under post development conditions in the morning peak

Based on Table 6.6, additional development traffic will increase delays to the existing intersections of Pacific Highway-Wyee Road-Scenic Drive and Pacific Highway-Wentworth Avenue, which already operate near or above capacity.

Wentworth Avenue with its current configuration, would continue to operate at a LoS D with a minor increase in delay to existing turning movements to and from the Pacific Highway. A proposed new site access on Pacific Highway would reduce the number of traffic movements at this intersection, however overall delays are anticipated to increase, due to the associated increase in through traffic on the Pacific Highway. However, under existing conditions there are only 12 vehicles per hour undertaking this right turn from Wentworth Avenue in the morning peak. Following the relocation of the RSL Club, this is anticipated to reduce further (estimated as 4 vehicles per hour from residential traffic). On this basis, the volume of traffic impacted by an increase to delay would be minimal.

The intersection of Ruttleys Road-Pacific Highway would continue to operate well.

6.4.4 Scenario 3 – 2028 Base (Do Nothing. Without development)

An assessment of the study intersections during Year 2028 without any changes to the subject RSL Club has been undertaken. The results of the 2028 base year are summarised in Table 6.7.

Table 6.7: Scenario 3 – 2028 Base Intersection Operation

Leg	Intersection Control	AM Peak		PM Peak		SAT Peak	
		Ave. Delay (sec/veh)	Level of Service	Ave. Delay (sec/veh)	Level of Service	Ave. Delay (sec/veh)	Level of Service
Pacific Hwy - Wyee Rd - Scenic Dr	Signalised	71	F	126	F	64	E
Pacific Hwy - Wentworth Ave	Priority	65	E	30	C	33	C
Proposed Site Access	NA						
Ruttleys Road - Pacific Highway	Signalised	13	A	22	B	16	B

Table 6.7 indicates that the intersection of Pacific Highway-Wyee Road-Scenic Drive and Pacific Highway-Wentworth Avenue would operate at capacity with estimated background traffic growth by year 2028.

The intersection of Ruttleys Road-Pacific Highway would continue to operate well with spare capacity.

6.4.5 Scenario 4 – 2028 + Stage 1 Development

Further assessment of the study intersections during the year 2028 with the proposed Stage 1 development has been undertaken. The results of the 2028 base year plus the Stage 1 development model are summarised in Table 6.8.

Table 6.8: Scenario 4 – 2028 + Stage 1 Development - Intersection Operation

Leg	Intersection Control	AM Peak		PM Peak		SAT Peak	
		Ave. Delay (sec/veh)	Level of Service	Ave. Delay (sec/veh)	Level of Service	Ave. Delay (sec/veh)	Level of Service
Pacific Hwy - Wyee Rd - Scenic Dr	Signalised	86	F	205	F	80	F
Pacific Hwy - Wentworth Ave	Priority	83	F [1]	38	C	36	C
Proposed Site Access	Signalised	16	B	15	B	16	B
Ruttleys Road - Pacific Highway	Signalised	14	A	24	B	16	B

[1] Related to the right-turn movement from Wentworth Avenue which includes 12 vehicles per hour under existing conditions and an estimated 4 vehicles per hour under post development conditions in the morning peak

Table 6.8 indicates that the proposed Stage 1 development would increase delays to the study intersections of Pacific Highway-Wyee Road-Scenic Drive and Pacific Highway-Wentworth Avenue, which are already at capacity by 2028.

Notably, the intersection of Wentworth Avenue and Pacific Highway will operate at a LoS F, where under Year 2028 Base conditions, the intersection operates as a LoS E. This indicates that while the turning traffic volumes at Wentworth Avenue would reduce as a result of the proposed development, the overall delay to vehicles entering and exiting Wentworth Avenue would increase, due to an associated increase in through traffic along Pacific Highway. In short, turning vehicles would be required to give-way to additional through traffic. However, it is noted that the LoS F relates to the right turn movement from Wentworth Avenue to Pacific Highway only. Motorists turning right experience greater delay as they are required to give-way to two directions of traffic. On the other hand, the left turning movement from Wentworth Avenue into Pacific Highway is anticipated to operate satisfactorily with a LoS B.

Notwithstanding the impact to the right turn movement, it is considered that the intersection of Wentworth Avenue and Pacific Highway would operate more safely as the volume of turning movements at this intersection will reduce considerably.

The intersection of Ruttley Road and Pacific Highway and the proposed site access would continue to operate well under post development conditions in 2028.

6.4.6 Scenario 5 – 2038 Base (Do Nothing. Without Development)

An assessment of the study intersections 20 years in the future (year 2038) without any changes to the subject RSL Club has been undertaken. The results of the assessment are summarised in Table 6.9.

Table 6.9: Scenario 5 – 2038 Base Intersection Operation

Leg	Intersection Control	AM Peak		PM Peak		SAT Peak	
		Ave. Delay (sec/veh)	Level of Service	Ave. Delay (sec/veh)	Level of Service	Ave. Delay (sec/veh)	Level of Service
Pacific Hwy - Wyee Rd - Scenic Dr	Signalised	115	F	213	F	96	F
Pacific Hwy - Wentworth Ave	Priority	104	F	45	D	51	D
Proposed Site Access	NA						
Ruttleys Road - Pacific Highway	Signalised	15	B	34	C	17	B

Table 6.9 indicates that estimated background traffic growth to year 2038 would significantly increase delays to the intersections of Pacific Highway-Wyee Road-Scenic Drive and Pacific Highway-Wentworth Avenue which are already operating at or near capacity. Notably, Pacific Highway-Wentworth Avenue would operate at a LoS D during the afternoon and weekend peak where under existing and year 2028 scenarios the intersection was operating at a LoS C. The intersection is already at capacity under existing and forecasted Year 2028 conditions. By Year 2038 the intersection is anticipated to well exceed capacity.

There would also be an increase in delay to the intersection of Ruttleys Road-Pacific Highway, however acceptable levels of intersection performance would be maintained i.e. LoS C or better.

6.4.7 Scenario 6 – 2038 + Stage 2 Development

Year 2038 was reassessed with the full inclusion of the development site (Stage 1 and Stage 2 development). The assessment results are summarised in Table 6.10.

Table 6.10: Scenario 6 – 2038 + Stage 2 Intersection Operation

Leg	Intersection Control	AM Peak		PM Peak		SAT Peak	
		Ave. Delay (sec/veh)	Level of Service	Ave. Delay (sec/veh)	Level of Service	Ave. Delay (sec/veh)	Level of Service
Pacific Hwy - Wyee Rd - Scenic Dr	Signalised	189	F	372	F	231	F
Pacific Hwy - Wentworth Ave	Priority	180	F	71	F	134	F
Proposed Site Access	Signalised	20	B	19	B	25	B
Ruttleys Road - Pacific Highway	Signalised	15	B	27	B	20	B

As with the 2038 base scenario (without development), the intersections of Pacific Highway-Wyee Road-Scenic Drive and Pacific Highway-Wentworth Avenue would continue to be over capacity with excessive delays.

There would also be an increase in delay to the intersection of Ruttleys Road-Pacific Highway intersection, however, acceptable levels of intersection performance (LoS B) could be maintained by the dynamic reallocation of green time to the Pacific Highway approaches.

The proposed site access from Pacific Highway is anticipated to operate satisfactorily with a LoS B in year 2038 with inclusion of the full Doyalson Wyee RSL Structure Plan site.

Based on the above, it is considered that residents would instinctively use the new signalised access in place of the Wentworth Avenue and Pacific Highway intersection, which would be at capacity by the year 2038. The proposed site access is indicated to have substantial spare capacity by the year 2038 and would be able accommodate traffic redirected from Wentworth Avenue.

6.4.8 Intersection Assessment Summary

The SIDRA intersection assessment as detailed above indicates the following key findings:

- The Pacific Highway, Wyee Road and Scenic Drive intersection is currently operating over capacity during the afternoon peak period. The addition of general background traffic

growth and the proposed development traffic would put further pressure on the intersection.

- The Pacific Highway and Wentworth Avenue intersection is nearing capacity due to the heavy traffic flows along the Pacific Highway delaying turning movements from Wentworth Avenue, particularly the right turn movement in the morning peak period. However, the right turning volume is relatively low with 12 vehicles per hour and with the relocation of the RSL Club, traffic volumes along Wentworth Avenue are anticipated to reduce further. On this basis, the volume of traffic impacted by an increase in Pacific Highway through traffic would be minimal.
- Furthermore, with a reduction in turning traffic movements, the relocation of the RSL Club is anticipated to improve safety and reduce the occurrence of accidents at the Pacific Highway and Wentworth Avenue intersection.
- The residential traffic that is proposed as part of the development is anticipated to largely access the site via the new signalised intersection, to avoid delays at the Wentworth Avenue and Pacific Highway intersection.
- The proposed signalised site access has been designed to operate at a LoS B following the completion of the full development and would have spare capacity to accommodate any additional detoured residential traffic.
- The intersection of Ruttleys Road and Pacific Highway currently operates well with spare capacity. The intersection is anticipated to continue operating satisfactorily in year 2038 following completion of the full Doyalson Structure Plan. It is noted that some minor relocation of green time would be required, however no adverse impacts are anticipated from this relocation of green time.

On this basis, the operation of the intersection of Pacific Highway, Wyee Road and Scenic Drive is required to be upgraded to accommodate future traffic from both general background traffic growth and the subject Structure Plan. However, as discussed in Section 3.7.3, a detailed assessment is currently being undertaken by Roads and Maritime Services, with an aim to upgrade the intersection and accommodate future growth in traffic.

Detailed SIDRA results are provided in Appendix C.

6.5 Intersection Design

Intersection modelling has been undertaken for a new signalised intersection with Pacific Highway and a proposed access into the site. The concept layout of the intersection is provided in Appendix D.

The concept design of the proposed signalised site access has been based on Austroads guidance for road design. Some key requirements are as follows.

6.5.1 Deceleration Lane Lengths

The required deceleration lane lengths for turning lanes on the Pacific Highway has been assessed, based on Austroads (2017). The required length for a deceleration lane in Table 6.11.

Table 6.11: Deceleration distances required for cars on a level grade

Design speed of approach road (km/h)	Length of deceleration D – including diverge taper *T* (m)										Diverge length L_d[3] for lane widths (m)	
	Stop condition[1] (m)		Design speed of exit curve (km/h)[2]									
	0	0	20	30	40	50	60	70	80	90	3.5 m[4]	3.0 m[4]
	Comfortable 2.5 m/s²	Maximum 3.5 m/s²	Comfortable average rate of deceleration 2.5 m/s²									
50	40	30	30	25	15						33	27
60	55	40	50	40	30	15					40	33
70	75	55	70	60	50	40	20				47	40
80	100	70	95	85	75	60	45	25			54	44
90	125	90	120	110	100	85	70	50	25		60	50
100	155	110	150	140	130	115	100	80	55	30	67	57
110	185	135	180	175	160	150	130	110	90	60	74	62

1 *Rates of deceleration are: 2.5 m/s² for comfortable deceleration; 3.5 m/s² is the maximum for design purposes.*
2 *Speed of exit curve depends on radius and crossfall (Figure 5.2).*
3 *Distance Ld assumes a lateral rate of movement of 1.5 m/s.*
4 *Example lane widths – use actual lateral shift distance of vehicle.*

Based on the above, vehicles coming to a stop on Pacific Highway (to turn right into the site or to stop at signals), a deceleration lane length of 100m is required. Where vehicles are decelerating to turn (i.e. left turn treatment), a minimum 95-metre long deceleration lane is required.

On this basis, a 95m deceleration lane has been provided for the left turn from Pacific Highway into the site and a 100m deceleration lane for the right turn into the site, in addition to the storage capacity required to hold estimated vehicle queues (based on the SIDRA assessment).

6.5.2 Sight Distance Requirements

The sight distance requirements for the proposed access road is defined in the Austroads (2017) *Guide to Road Design Part 4A*.

Stopping Sight Distance (SSD) is the sight distance required to enable a driver to observe, react and stop safely. On this basis, on approach to intersections where drivers are required to stop, an appropriate SSD must be ensured.

The SSD can be calculated using Table 6.12, which indicates that for an 80km/h road (i.e. Pacific Highway), a minimum SSD of **114 metres** is required.

Table 6.12: Stopping Sight Distance

Design speed (km/h)	Absolute minimum values Only for specific road types and situations[1] based on $d = 0.46$[2],[3]			Desirable minimum values for all road types based on $d = 0.36$			Values for major highways and freeways in flat terrain[7] based on $d = 0.26$	
	$R_T = 1.5$ s[4]	$R_T = 2.0$ s[4]	$R_T = 2.5$ s	$R_T = 1.5$ s[4]	$R_T = 2.0$ s[4]	$R_T = 2.5$ s	$R_T = 2.0$ s	$R_T = 2.5$ s
40	30	36	–	34	40	45	–	–
50	42	49	–	48	55	62	–	–
60	56	64	–	64	73	81	–	–
70	71	81	–	83	92	102	113	123
80	88	99	–	103	114	126	141	152
90	107	119	132	126	139	151	173	185
100	–	141	155	–	165	179	207	221
110	–	165	180	–	193	209	244	260
120	–	190	207	–	224	241	285	301
130	–	217	235	–	257	275	328	346

Source: Austroads, 2016, Guide to Road Design Part 3: Geometric Design

The existing sight distances along Pacific Highway from the location of the proposed site access includes approximately 400m looking to the north and approximately 380m looking to the south. Therefore, the proposed intersection would meet the Austroads SSD requirement of 114m. Site photos along Pacific Highway from the proposed access location are shown in Figure 6.1 and Figure 6.2.

Figure 6.1: Looking north from access

Figure 6.2: Looking south from access

7 Conclusion

Doyalson-Wyee RSL Limited is proposing to amalgamate several properties to develop a mixed-use site, to diversify the services and facilities of the RSL. The Structure Plan for the future site includes a combination of land uses in addition to the existing RSL Club including: residential, recreational, fast food, childcare, motel/hotel, health and fitness, medical and retail uses.

A traffic and transport assessment has been undertaken to assess the impacts of the Structure Plan. The key findings of the assessment are as follows:

- A Planning Proposal is to be submitted for a 20-year Structure Plan for the Doyalson Wyee RSL Club. For the purposes of the traffic and transport assessment, the development has been indicatively split into two key stages which includes:
  - Stage 1 (10-year structure plan) which includes the Stage 1 RSL Club and function room, partial senior living housing, fast services (fast food outlets, car wash, petrol station), childcare centre, hotel and a portion of the Health and Wellness Precinct (Gym)
  - Stage 2 (20-year structure plan) which includes the Stage 2 RSL Club and function room, remaining senior living, residential, remaining Health and Wellness Precinct (spa, swimming pool, medical clinic, physio) and recreational uses (Go Kart, recreational warehouse).
- Based on an assessment of DCP parking requirements and cumulative parking demand for each land use, the commercial and recreational land uses will generate a peak parking demand of 1,108 spaces.
- A parking provision of 1,295 spaces is proposed to accommodate the development. In addition, an overflow car park for events is proposed accommodating an additional 104 spaces.
- The proposed development is anticipated to generate a net increase of 1,056vph, 1,185vph and 1,488vph to the road network in the morning, afternoon and Saturday peak periods.
- SIDRA intersection modelling of key intersections indicates the following:
  - The Pacific Highway, Wyee Road and Scenic Drive intersection is currently operating at capacity during the afternoon peak period. The addition of general background traffic growth and the proposed development traffic would put further pressure on the intersection.
  - The Pacific Highway and Wentworth Avenue intersection is nearing capacity due to the heavy traffic flows along the Pacific Highway delaying turning movements from Wentworth Avenue, particularly the right turn movement in the morning peak period. However, the right turning volume is relatively low with 12 vehicles per hour and with the relocation of the RSL Club, traffic volumes along Wentworth Avenue are

anticipated to reduce further. On this basis, the volume of traffic impacted by an increase in Pacific Highway through traffic would be minimal.

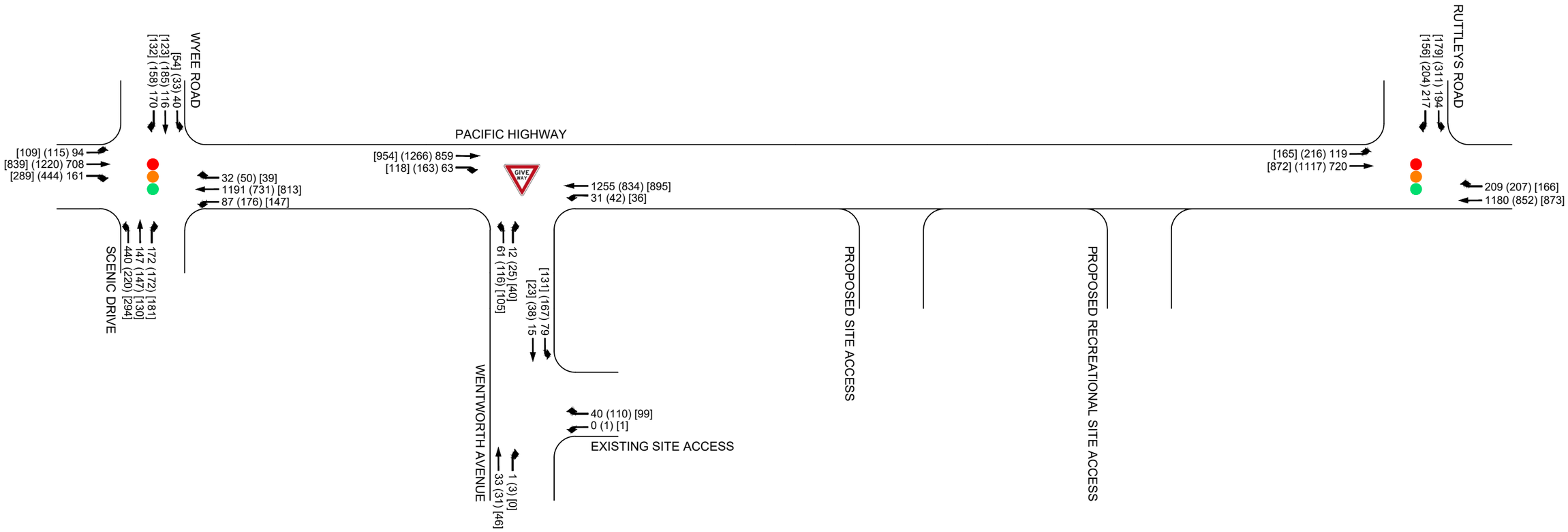
- Furthermore, the relocation of the RSL Club and associated reduction in turning traffic movements at Wentworth Avenue would improve safety and reduce the occurrence of accidents at the Pacific Highway and Wentworth Avenue intersection.
- The intersection of Ruttleys Road and Pacific Highway currently operates well with spare capacity. The intersection is anticipated to continue operating satisfactorily to year 2038 following completion of the full Doyalson Structure Plan.
- The residential traffic that is proposed as part of the development is anticipated to largely access the site via the new signalised intersection, to avoid delays at the Wentworth Avenue and Pacific Highway intersection.
- The proposed signalised access has been designed to operate at a LoS B following the completion of the full development and would have spare capacity to accommodate any additional detoured residential traffic.

- Consultation with authorities has indicated two key strategic studies relevant to the development site:
  - The Lake Munmorah Structure Plan is being prepared to assess the cumulative impact of several development proposals to occur within Doyalson North and Lake Munmorah. The Structure Plan will include an assessment of the impact to the Pacific Highway.
  - Roads and Maritime Services are investigating the operation of the Pacific Highway, Wyee Road and Scenic Drive intersection, with an aim to improve the operation of the intersection to accommodate future growth in traffic. On this basis, TTPP have not assessed mitigation strategies to improve the operation of this intersection.
- A concept design of the proposed signalised site access has been prepared with consideration for SIDRA modelling results and Austroads guidelines on road design.

Appendix A

Traffic Movement Volumes

2018 EXISTING ROAD NETWORK PEAK VOLUMES
10 (10) [10] = AM (PM) [SAT] PEAKS
AM PEAK = 7:30 - 8:30
PM PEAK = 16:45 - 17:45
SAT PEAK = 11:00 - 12:00



REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	OF	WJ	18/12/18

ttpp transport planning

PROJECT: DOYALSON WYEE RSL

TITLE: NETWORK MOVEMENT DIAGRAM

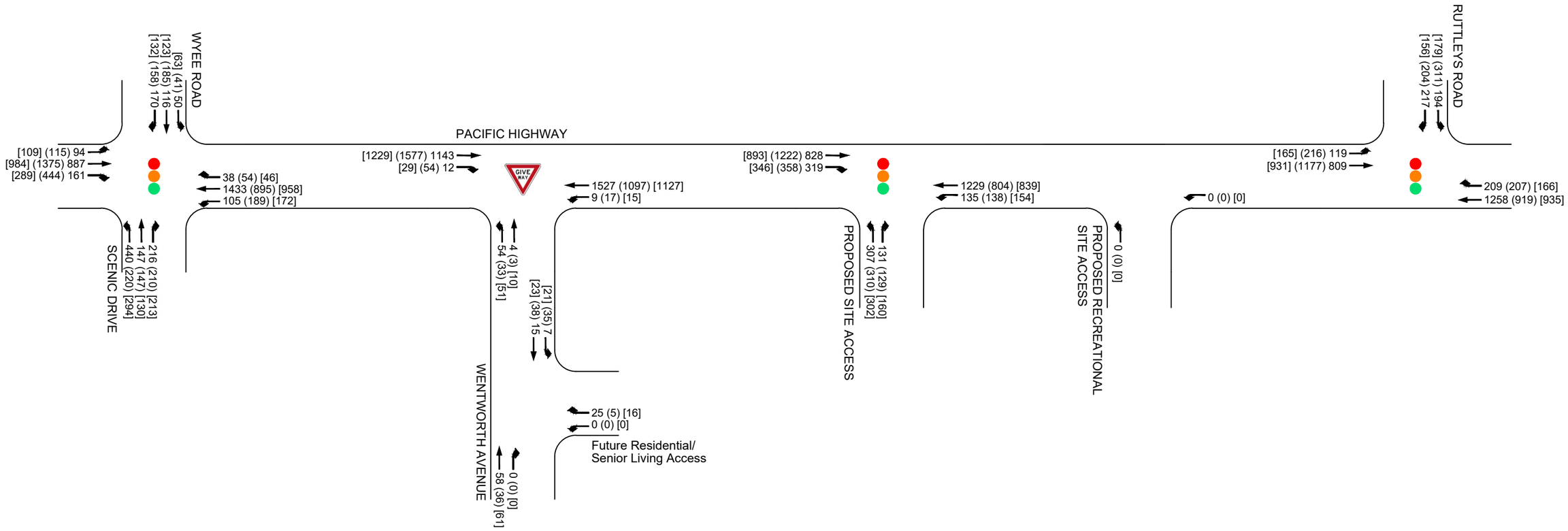
DWG No. 17395CAD005 FIGURE 1

DATE STAMP 18 DECEMBER 2018

PROJECT No.	SCALE	REV.
17395	NTS	A

Filename: 17395CAD005-NETWORK DIAGRAM-181207.dwg Date: 25 June 2019 By: Oaska.Ilaz

2018 EXISTING + STAGE 1 DEVELOPMENT ROAD NETWORK PEAK VOLUMES
10 (10) [10] = AM (PM) [SAT] PEAKS
AM PEAK = 7:30 - 8:30
PM PEAK = 16:45 - 17:45
SAT PEAK = 11:00 - 12:00



REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	OF	WJ	18/12/18

ttpp transport planning

PROJECT: DOYALSON WYEE RSL

TITLE: NETWORK MOVEMENT DIAGRAM

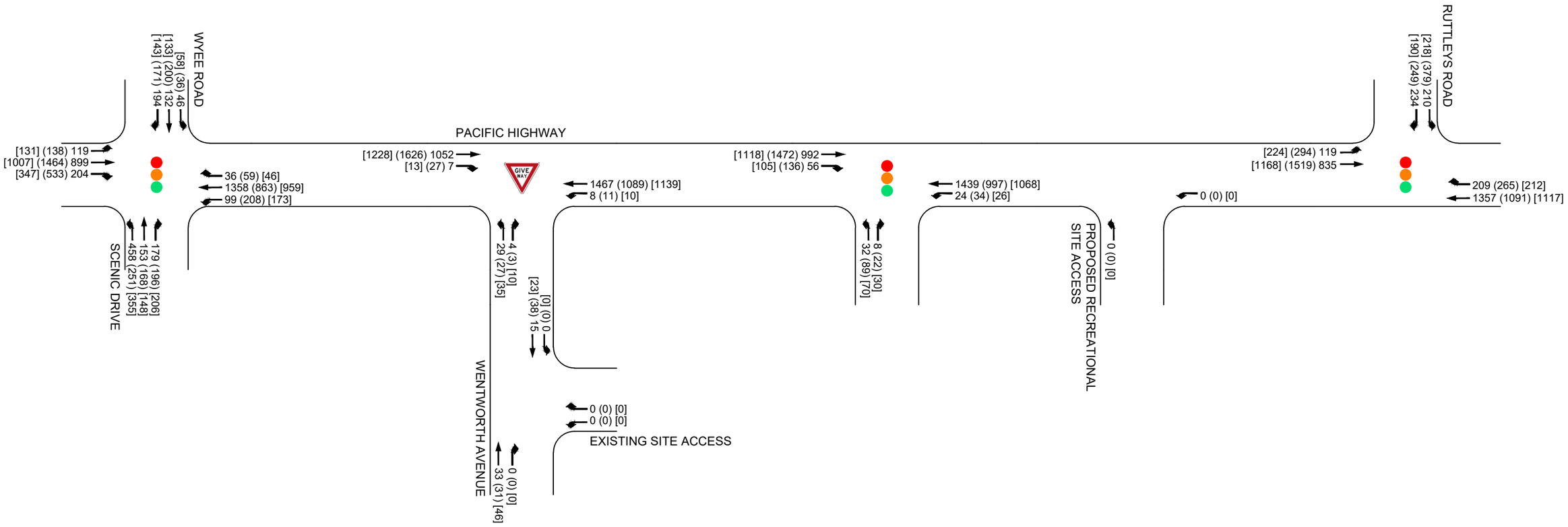
DWG No. 17395CAD005
FIGURE 2

DATE STAMP 18 DECEMBER 2018

PROJECT No.	SCALE	REV.
17395	NTS	A

Filename: 17395CAD005-NETWORK DIAGRAM-181207.dwg Date: 25 June 2019 By: Oaska Ilaiz

2028 BASE (+ 10 YEAR BACKGROUND GROWTH) ROAD NETWORK PEAK VOLUMES
10 (10) [10] = AM (PM) [SAT] PEAKS
AM PEAK = 7:30 - 8:30
PM PEAK = 16:45 - 17:45
SAT PEAK = 11:00 - 12:00



REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	OF	WJ	18/12/18

ttpp transport planning

PROJECT: DOYALSON WYEE RSL

TITLE: NETWORK MOVEMENT DIAGRAM

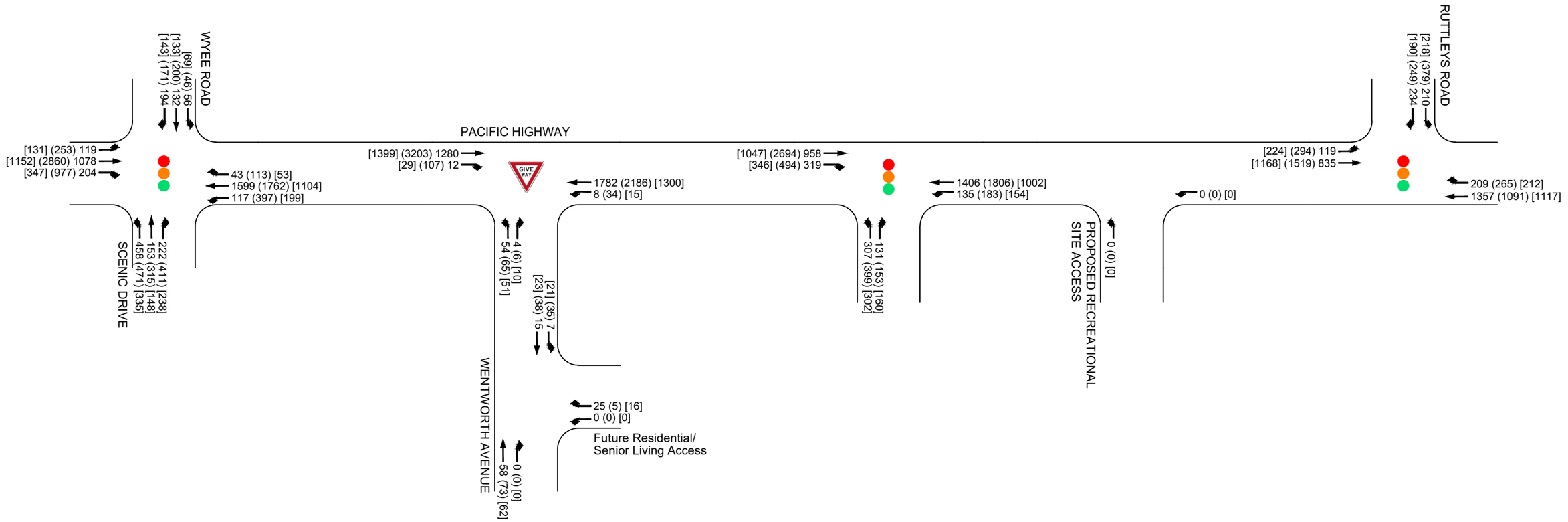
DWG No. 17395CAD005 FIGURE 3

DATE STAMP 18 DECEMBER 2018

PROJECT No.	SCALE	REV.
17395	NTS	A

Filename: 17395CAD005-NETWORK DIAGRAM-181207.dwg Date: 25 June 2019 By: Csaska Ilaiz

2028 BASE + STAGE 1 DEVELOPMENT ROAD NETWORK PEAK VOLUMES
10 (10) [10] = AM (PM) [SAT] PEAKS
AM PEAK = 7:30 - 8:30
PM PEAK = 16:45 - 17:45
SAT PEAK = 11:00 - 12:00



REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	OF	WJ	18/12/18

ttpp transport planning

PROJECT: DOYALSON WYEE RSL

TITLE: NETWORK MOVEMENT DIAGRAM

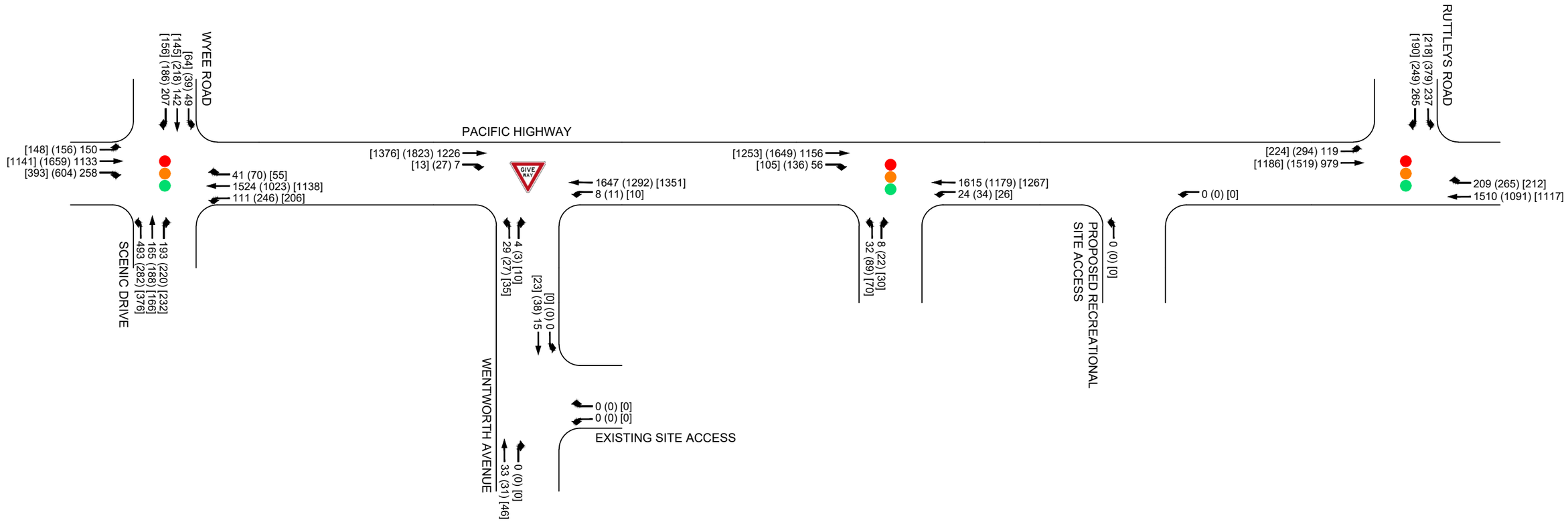
DWG No. 17395CAD005
FIGURE 4

DATE STAMP 18 DECEMBER 2018

PROJECT No.	SCALE	REV.
17395	NTS	A

Filename: 17395CAD005-NETWORK DIAGRAM-181207.dwg Date: 25 June 2019 By: Oaska.Ilaz

2038 BASE (+20-YEAR BACKGROUND GROWTH) ROAD NETWORK PEAK VOLUMES
10 (10) [10] = AM (PM) [SAT] PEAKS
AM PEAK = 7:30 - 8:30
PM PEAK = 16:45 - 17:45
SAT PEAK = 11:00 - 12:00



REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	OF	WJ	18/12/18

ttpp transport planning

PROJECT: DOYALSON WYEE RSL

TITLE: NETWORK MOVEMENT DIAGRAM

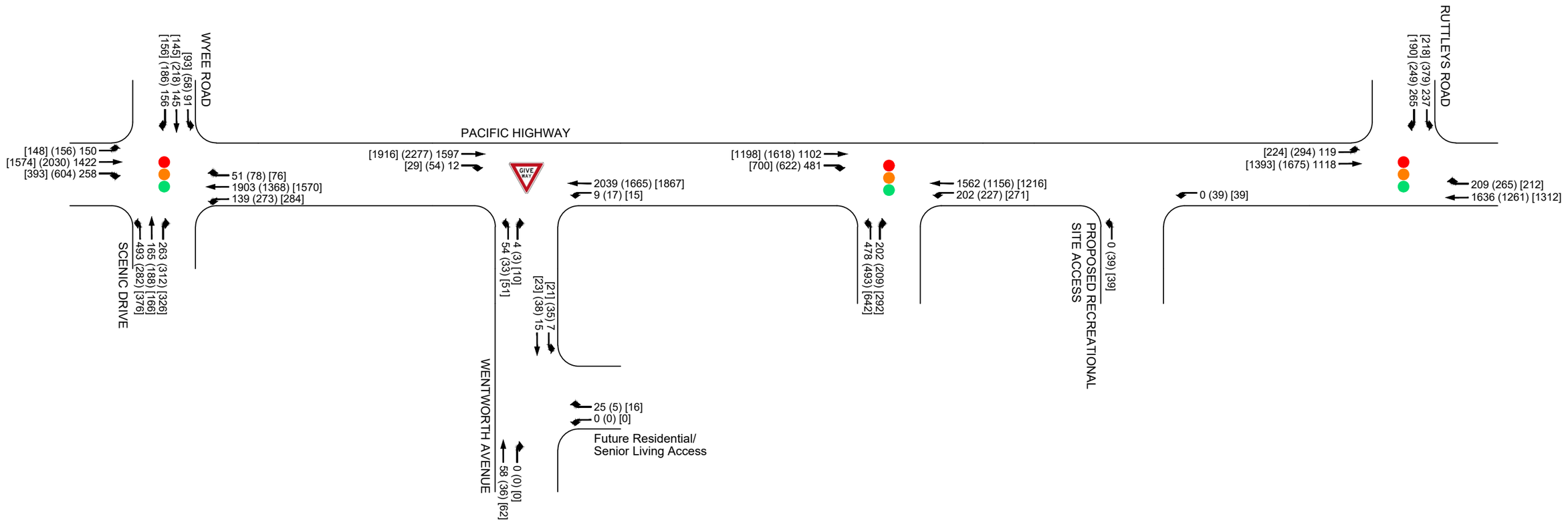
DWG No. 17395CAD005
FIGURE 5

DATE STAMP 18 DECEMBER 2018

PROJECT No.	SCALE	REV.
17395	NTS	A

Filename: 17395CAD005-NETWORK DIAGRAM-181207.dwg Date: 25 June 2019 By: Oaska Ilaiz

2038 BASE + STAGE 2 DEVELOPMENT ROAD NETWORK PEAK VOLUMES
10 (10) [10] = AM (PM) [SAT] PEAKS
AM PEAK = 7:30 - 8:30
PM PEAK = 16:45 - 17:45
SAT PEAK = 11:00 - 12:00



REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	OF	WJ	18/12/18

ttpp transport planning

PROJECT: DOYALSON WYEE RSL

TITLE: NETWORK MOVEMENT DIAGRAM

DWG No. 17395CAD005 FIGURE 6

DATE STAMP 18 DECEMBER 2018

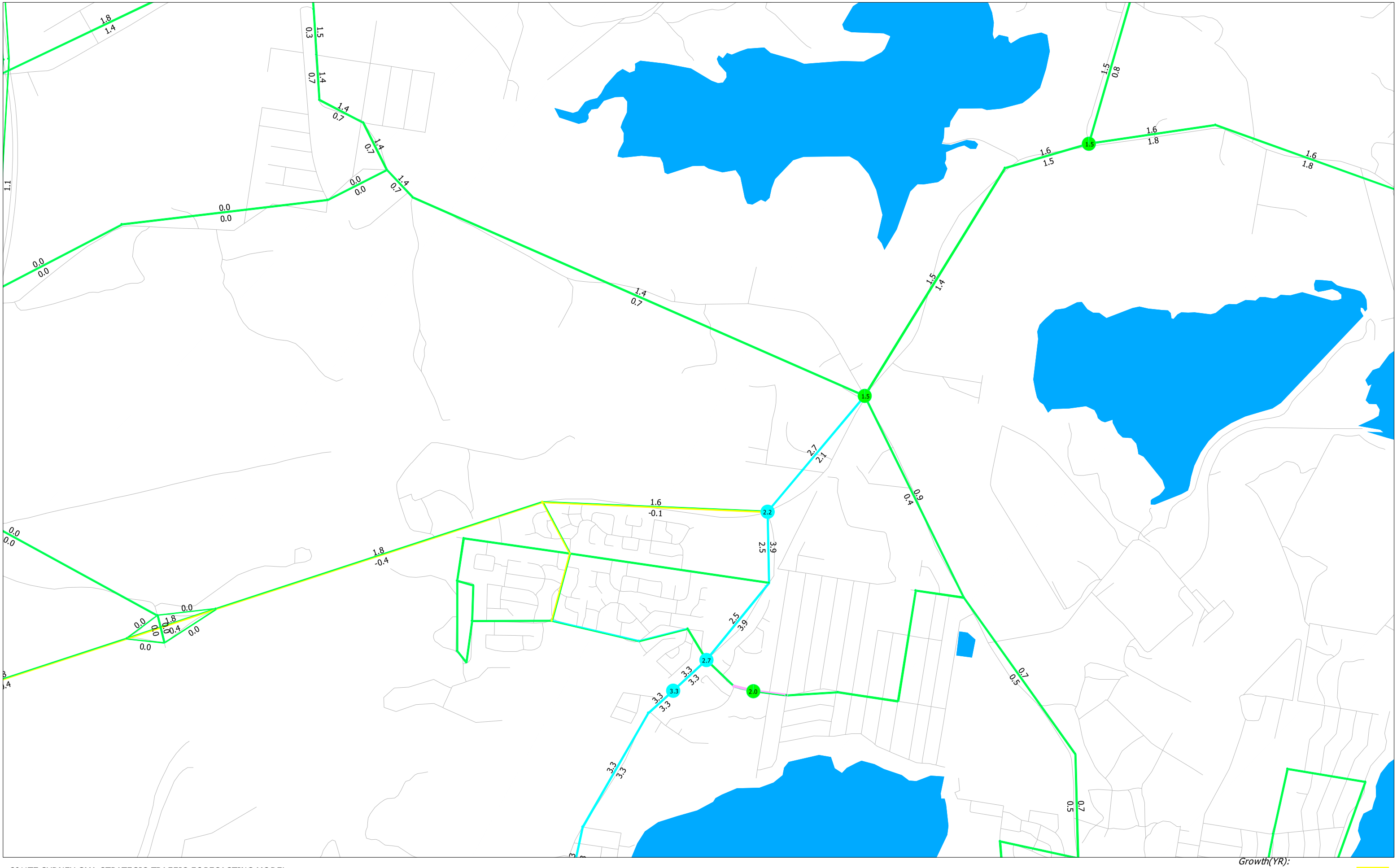
PROJECT No.	SCALE	REV.
17395	NTS	A

Filename: 17395CAD005-NETWORK DIAGRAM-181207.dwg Date: 25 June 2019 By: Oaska.Ilaiz

Appendix B

STFM Growth Plots

ROAD TRAFFIC GROWTH (%YR, 2HRSPK) LINKS & INTERSECTIONS

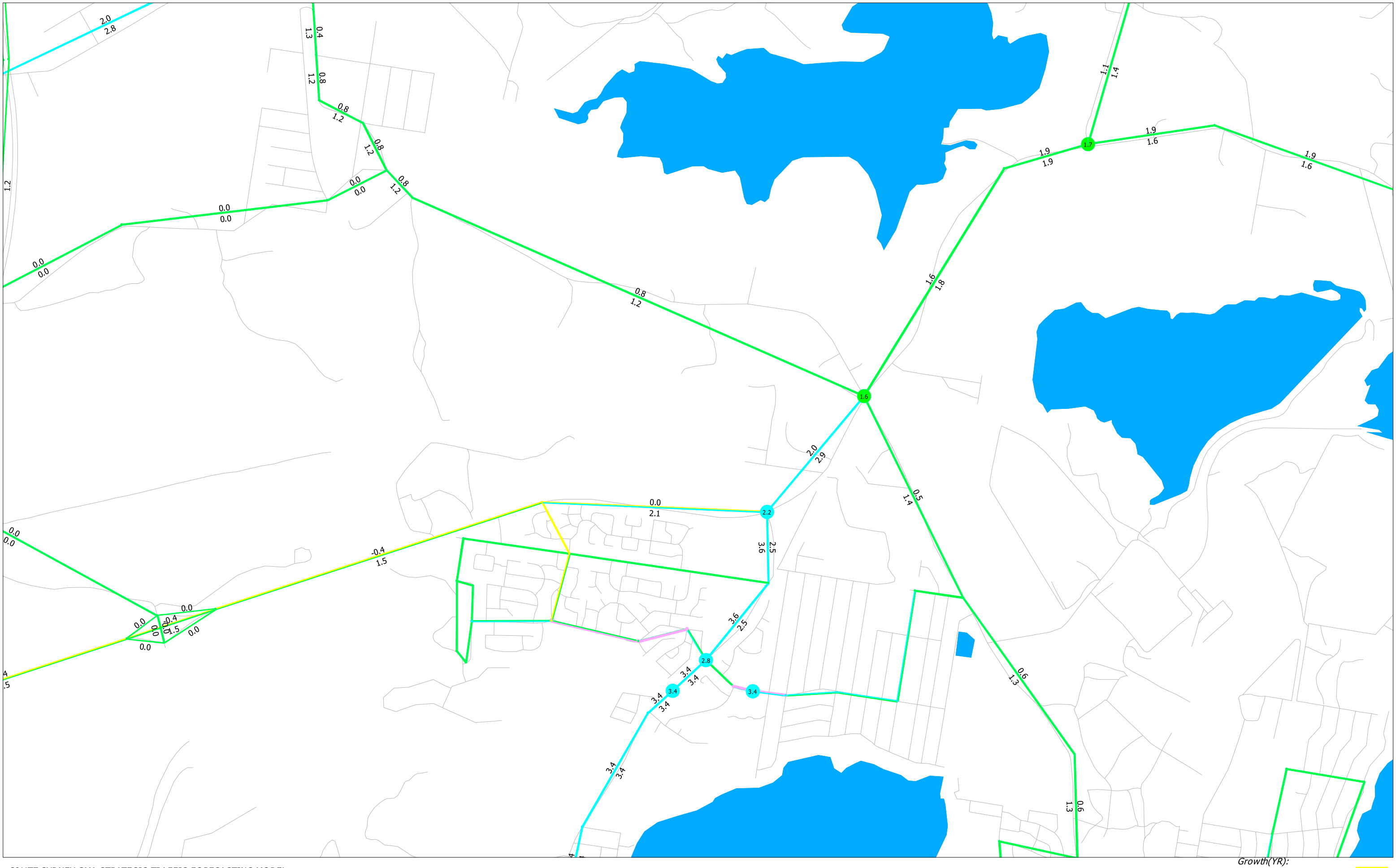


2011TZ SYDNEY GMA STRATEGIC TRAFFIC FORECASTING MODEL
Scenario 2026: 2026 SYDNEY TRAFFIC FORECASTING MODEL(LU2016V1.3)7-9AM(mf34)
2018-04-11 17:01

Growth(YR):

- <0
- <2.00
- 2.01-4.00
- 4.01-6.00
- >6.00
- New Links=999

ROAD TRAFFIC GROWTH (%YR, 2HRSPK) LINKS & INTERSECTIONS

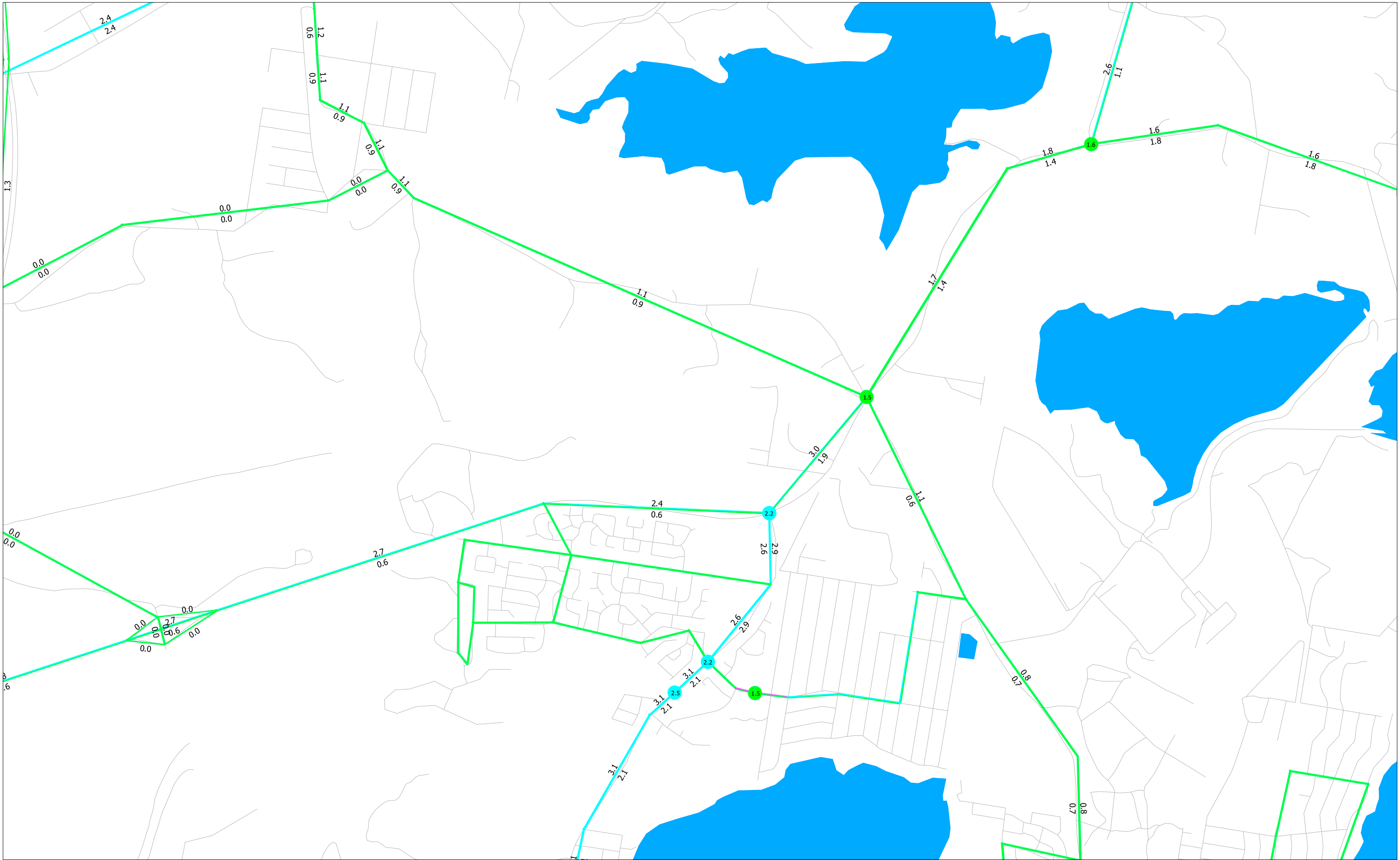


2011TZ SYDNEY GMA STRATEGIC TRAFFIC FORECASTING MODEL
Scenario 20260: 2026 SYDNEY TRAFFIC FORECASTING MODEL(LU2016V1.3)4-6PM(mf54)
2018-04-11 17:01

Growth(YR):

- <0
- <2.00
- 2.01-4.00
- 4.01-6.00
- >6.00
- New Links=999

ROAD TRAFFIC GROWTH (%YR, 2HRSPK) LINKS & INTERSECTIONS

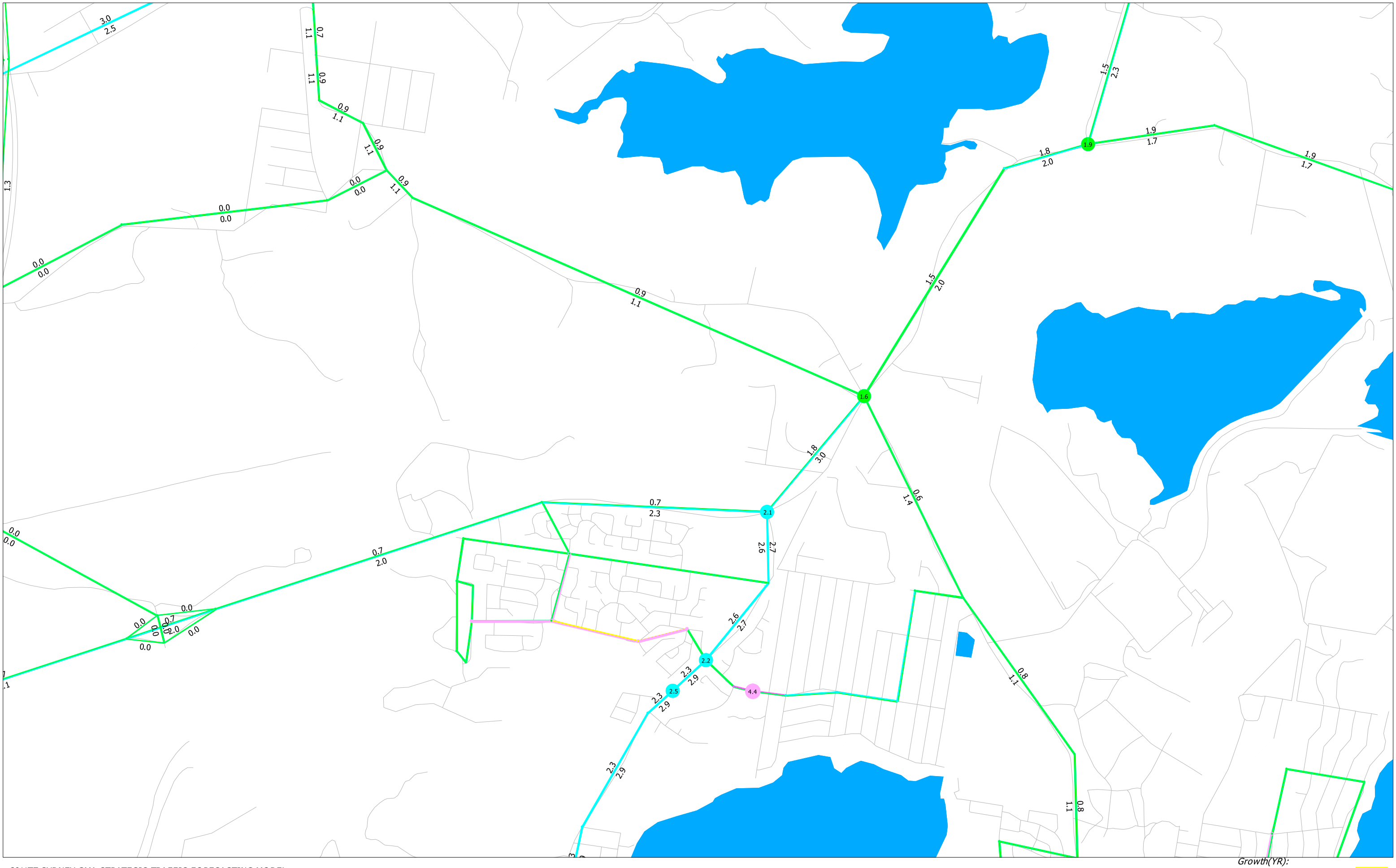


2011TZ SYDNEY GMA STRATEGIC TRAFFIC FORECASTING MODEL
Scenario 2036: 2036 SYDNEY TRAFFIC FORECASTING MODEL(LU2016V1.3)7-9AM(mf36)
2018-04-11 17:02

Growth(YR):

- <0
- <2.00
- 2.01-4.00
- 4.01-6.00
- >6.00
- New Links=999

ROAD TRAFFIC GROWTH (%YR, 2HRSPK) LINKS & INTERSECTIONS



2011TZ SYDNEY GMA STRATEGIC TRAFFIC FORECASTING MODEL
Scenario 20360: 2036 SYDNEY TRAFFIC FORECASTING MODEL(LU2016V1.3)4-6PM(mf56)
2018-04-11 17:02

Growth(YR):

<0
<2.00
2.01-4.00
4.01-6.00
>6.00
New Links=999

Appendix C

SIDRA Outputs

MOVEMENT SUMMARY

Site: 101 [Pacific HIghway-Wyee Road-Scenic Drive -AM Ex (7:30-8:30)]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 104 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
SouthEast: Scenic Drive												
21	L2	463	1.6	0.252	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.9
22	T1	155	8.2	0.884	58.2	LOS E	8.8	65.6	0.97	1.00	1.45	30.9
23	R2	181	4.1	0.663	52.3	LOS D	9.0	65.4	0.99	0.83	1.03	28.0
Approach		799	3.4	0.884	26.4	LOS B	9.0	65.6	0.41	0.69	0.52	41.2
NorthEast: Pacific Highway (north east)												
24	L2	92	5.7	0.101	14.3	LOS A	1.4	9.9	0.54	0.72	0.54	47.1
25	T1	1254	3.2	0.949	60.9	LOS E	41.8	300.9	1.00	1.14	1.38	28.7
26	R2	34	0.0	0.377	62.9	LOS E	1.8	12.6	1.00	0.72	1.00	25.6
Approach		1379	3.3	0.949	57.8	LOS E	41.8	300.9	0.97	1.10	1.32	29.4
NorthWest: Wyee Road												
27	L2	42	5.0	0.557	48.1	LOS D	7.3	54.2	0.97	0.83	1.21	30.8
28	T1	122	7.8	0.557	42.5	LOS C	7.3	54.2	0.97	0.83	1.21	35.0
29	R2	179	4.1	0.648	52.0	LOS D	8.9	64.4	0.99	0.83	1.02	33.5
Approach		343	5.5	0.648	48.1	LOS D	8.9	64.4	0.98	0.83	1.11	33.7
SouthWest: Pacific Highway (south west)												
30	L2	99	14.9	0.059	7.8	LOS A	0.0	0.0	0.00	0.59	0.00	61.8
31	T1	745	9.5	0.469	22.5	LOS B	13.4	101.3	0.76	0.66	0.76	48.2
32	R2	169	8.7	0.672	55.2	LOS D	8.6	64.5	1.00	0.83	1.06	33.4
Approach		1014	9.9	0.672	26.5	LOS B	13.4	101.3	0.73	0.68	0.74	45.2
All Vehicles		3535	5.4	0.949	40.8	LOS C	41.8	300.9	0.78	0.86	0.95	36.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Pacific HIghway-Wyee Road-Scenic Drive -PM Ex (4:45-5:45)]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 184 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
SouthEast: Scenic Drive												
21	L2	232	3.2	0.128	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.8
22	T1	155	2.0	0.880	90.7	LOS F	14.3	101.7	0.95	0.94	1.25	24.3
23	R2	181	2.3	0.803	87.4	LOS F	15.9	113.2	0.98	0.87	1.11	20.6
Approach		567	2.6	0.880	54.9	LOS D	15.9	113.2	0.57	0.75	0.69	30.5
NorthEast: Pacific Highway (north east)												
24	L2	185	2.3	0.245	27.3	LOS B	6.9	49.0	0.69	0.77	0.69	38.6
25	T1	769	4.7	0.917	88.8	LOS F	39.4	286.5	1.00	1.01	1.21	22.2
26	R2	53	0.0	0.326	93.6	LOS F	4.5	31.7	0.98	0.76	0.98	19.9
Approach		1007	4.0	0.917	77.7	LOS F	39.4	286.5	0.94	0.95	1.10	23.9
NorthWest: Wyee Road												
27	L2	35	3.0	0.726	99.6	LOS F	19.5	137.8	1.00	0.90	1.49	19.7
28	T1	195	1.1	0.726	94.0	LOS F	19.5	137.8	1.00	0.90	1.49	23.6
29	R2	166	0.6	0.843	91.8	LOS F	15.0	105.4	0.97	0.90	1.18	24.7
Approach		396	1.1	0.843	93.5	LOS F	19.5	137.8	0.99	0.90	1.36	23.8
SouthWest: Pacific Highway (south west)												
30	L2	121	2.6	0.066	7.6	LOS A	0.0	0.0	0.00	0.60	0.00	65.4
31	T1	1284	2.0	0.932	66.2	LOS E	69.9	497.8	0.91	0.95	1.06	27.2
32	R2	467	1.1	1.013	104.1	LOS F	40.0	282.8	1.00	1.03	1.43	18.8
Approach		1873	1.9	1.013	71.9	LOS F	69.9	497.8	0.88	0.94	1.09	25.0
All Vehicles		3843	2.4	1.013	73.1	LOS F	69.9	497.8	0.86	0.91	1.06	25.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Pacific HIghway-Wyee Road-Scenic Drive -Sat Ex (11:00-12:00)]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 157 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
SouthEast: Scenic Drive												
21	L2	309	1.0	0.168	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	54.9
22	T1	137	3.1	0.827	72.2	LOS F	10.3	74.3	0.94	0.88	1.19	27.6
23	R2	191	2.2	0.764	74.0	LOS F	14.1	100.7	0.98	0.86	1.07	22.9
Approach		637	1.8	0.827	40.4	LOS C	14.1	100.7	0.49	0.70	0.58	35.1
NorthEast: Pacific Highway (north east)												
24	L2	155	1.4	0.186	21.3	LOS B	4.2	30.0	0.63	0.75	0.63	42.1
25	T1	856	2.8	0.850	62.7	LOS E	33.4	239.2	0.99	0.94	1.09	28.2
26	R2	41	5.1	0.514	91.1	LOS F	3.3	23.9	1.00	0.74	1.00	20.2
Approach		1052	2.7	0.850	57.7	LOS E	33.4	239.2	0.94	0.90	1.02	29.1
NorthWest: Wyee Road												
27	L2	57	3.7	0.835	82.7	LOS F	14.3	102.9	1.00	0.97	1.44	22.2
28	T1	129	3.3	0.835	77.0	LOS F	14.3	102.9	1.00	0.97	1.44	26.3
29	R2	139	2.3	0.763	80.9	LOS F	10.7	76.3	1.00	0.86	1.13	26.6
Approach		325	2.9	0.835	79.7	LOS F	14.3	102.9	1.00	0.92	1.31	25.8
SouthWest: Pacific Highway (south west)												
30	L2	115	5.5	0.064	7.7	LOS A	0.0	0.0	0.00	0.60	0.00	64.5
31	T1	883	1.9	0.450	25.8	LOS B	21.1	149.8	0.68	0.61	0.68	45.5
32	R2	304	1.4	0.702	37.8	LOS C	11.6	82.2	0.97	0.84	0.97	39.7
Approach		1302	2.1	0.702	27.0	LOS B	21.1	149.8	0.69	0.66	0.69	45.1
All Vehicles		3316	2.3	0.850	44.5	LOS D	33.4	239.2	0.76	0.77	0.83	34.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Pacific Hwy-Wentworth Ave-Stage 1 (Minor Road)-FRI Ex (4:45-5:45)]

Network: N101 [Pacific Hwy-Wentworth Ave-FRI EX (4:45-5:45)]

Staged crossing Stage 1 (Minor Road) at three-way intersection with 5-lane major road. Major road turn lane is treated as a full-length lane.
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Minor Road (Stage 1)														
1	L2	122	0.9	122	0.9	0.168	10.9	LOS A	0.6	4.4	0.49	0.95	0.49	47.7
2	T1	26	0.0	26	0.0	0.128	24.8	LOS B	0.4	2.9	0.83	1.00	0.83	34.3
Approach		148	0.7	148	0.7	0.168	13.4	LOS A	0.6	4.4	0.55	0.96	0.55	45.4
East: Major Road East														
4	L2	44	0.0	44	0.0	0.243	5.6	LOS A	0.0	0.0	0.00	0.06	0.00	57.8
5	T1	878	4.4	878	4.4	0.243	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.6
6	R2	1	0.0	1	0.0	0.001	5.7	LOS A	0.0	0.0	0.00	0.63	0.00	50.6
Approach		923	4.2	923	4.2	0.243	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.5
West: Major Road West														
12	R2	172	1.2	172	1.2	0.368	14.2	LOS A	1.5	10.3	0.76	0.95	0.95	44.4
12u	U	3	33.3	3	33.3	0.368	18.5	LOS B	1.5	10.3	0.76	0.95	0.95	34.7
Approach		175	1.8	175	1.8	0.368	14.2	NA	1.5	10.3	0.76	0.95	0.95	44.2
All Vehicles		1246	3.5	1246	3.5	0.368	3.8	NA	1.5	10.3	0.17	0.27	0.20	54.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Pacific Hwy-Wentworth Ave-Stage 1 (Minor Road)-FRI Ex (7:30-8:30)]

Network: N101 [Pacific Hwy-Wentworth Ave-FRI EX (7:30-8:30)]

Staged crossing Stage 1 (Minor Road) at three-way intersection with 5-lane major road. Major road turn lane is treated as a full-length lane.
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Minor Road (Stage 1)														
1	L2	64	1.6	64	1.6	0.127	13.5	LOS A	0.4	3.1	0.61	1.00	0.61	45.8
2	T1	13	0.0	13	0.0	0.136	46.0	LOS D	0.4	2.8	0.92	1.00	0.92	24.7
Approach		77	1.4	77	1.4	0.136	18.8	LOS B	0.4	3.1	0.66	1.00	0.66	41.6
East: Major Road East														
4	L2	33	3.2	33	3.2	0.355	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	57.9
5	T1	1321	3.3	1321	3.3	0.355	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.7
6	R2	1	100.0	1	100.0	0.001	6.4	LOS A	0.0	0.0	0.00	0.63	0.00	50.6
Approach		1355	3.4	1355	3.4	0.355	0.2	NA	0.0	0.0	0.00	0.01	0.00	59.7
West: Major Road West														
12	R2	66	0.0	66	0.0	0.296	23.1	LOS B	0.9	6.4	0.88	0.98	0.99	38.8
12u	U	3	0.0	3	0.0	0.296	23.4	LOS B	0.9	6.4	0.88	0.98	0.99	32.4
Approach		69	0.0	69	0.0	0.296	23.1	NA	0.9	6.4	0.88	0.98	0.99	38.5
All Vehicles		1501	3.2	1501	3.2	0.355	2.2	NA	0.9	6.4	0.07	0.11	0.08	57.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Pacific Hwy-Wentworth Ave-Stage 1 (Minor Road)-SAT Ex (11:00-12:00)]

Network: N101 [Pacific Hwy-Wentworth Ave-SAT EX (11:00-12:00)]

Staged crossing Stage 1 (Minor Road) at three-way intersection with 5-lane major road. Major road turn lane is treated as a full-length lane.
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Minor Road (Stage 1)														
1	L2	111	1.0	111	1.0	0.159	11.2	LOS A	0.6	4.1	0.51	0.96	0.51	47.5
2	T1	42	0.0	42	0.0	0.214	27.0	LOS B	0.7	5.1	0.85	1.01	0.90	33.0
Approach		153	0.7	153	0.7	0.214	15.6	LOS B	0.7	5.1	0.60	0.98	0.62	43.5
East: Major Road East														
4	L2	38	0.0	38	0.0	0.257	5.6	LOS A	0.0	0.0	0.00	0.05	0.00	57.9
5	T1	942	3.0	942	3.0	0.257	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.7
6	R2	1	0.0	1	0.0	0.001	5.7	LOS A	0.0	0.0	0.00	0.63	0.00	50.6
Approach		981	2.9	981	2.9	0.257	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.6
West: Major Road West														
12	R2	124	0.0	124	0.0	0.280	14.0	LOS A	1.0	6.9	0.75	0.92	0.86	44.6
12u	U	1	0.0	1	0.0	0.280	14.6	LOS B	1.0	6.9	0.75	0.92	0.86	38.8
Approach		125	0.0	125	0.0	0.280	14.0	NA	1.0	6.9	0.75	0.92	0.86	44.5
All Vehicles		1259	2.3	1259	2.3	0.280	3.5	NA	1.0	6.9	0.15	0.23	0.16	55.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 2 [Pacific Hwy-Wentworth Ave-Stage 2 (Median) NSW-FRI Ex (4:45-5:45)]

Network: N101 [Pacific Hwy-Wentworth Ave-FRI EX (4:45-5:45)]

Staged crossing Stage 2 (Median) at three-way intersection with 5-lane major road.
Give-way behaviour assumed at Stage 2.
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Median Storage Area														
3	R2	26	0.0	26	0.0	0.062	7.0	LOS A	0.2	1.1	0.72	0.72	0.72	44.2
Approach		26	0.0	26	0.0	0.062	7.0	LOS A	0.2	1.1	0.72	0.72	0.72	44.2
West: Major Road West														
11	T1	1333	2.9	1333	2.9	0.348	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1333	2.9	1333	2.9	0.348	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		1359	2.9	1359	2.9	0.348	0.2	NA	0.2	1.1	0.01	0.01	0.01	59.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 2 [Pacific Hwy-Wentworth Ave-Stage 2 (Median) NSW-FRI Ex (7:30-8:30)]

Network: N101 [Pacific Hwy-Wentworth Ave-FRI EX (7:30-8:30)]

Staged crossing Stage 2 (Median) at three-way intersection with 5-lane major road.
Give-way behaviour assumed at Stage 2.
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Median Storage Area														
3	R2	13	0.0	13	0.0	0.019	3.4	LOS A	0.1	0.3	0.54	0.46	0.54	48.3
Approach		13	0.0	13	0.0	0.019	3.4	LOS A	0.1	0.3	0.54	0.46	0.54	48.3
West: Major Road West														
11	T1	904	8.8	904	8.8	0.245	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		904	8.8	904	8.8	0.245	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		917	8.7	917	8.7	0.245	0.1	NA	0.1	0.3	0.01	0.01	0.01	59.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 2 [Pacific Hwy-Wentworth Ave-Stage 2 (Median) NSW-SAT Ex (11:00-12:00)]

Network: N101 [Pacific Hwy-Wentworth Ave-SAT EX (11:00-12:00)]

Staged crossing Stage 2 (Median) at three-way intersection with 5-lane major road.
Give-way behaviour assumed at Stage 2.
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Median Storage Area														
3	R2	42	0.0	42	0.0	0.068	4.1	LOS A	0.2	1.2	0.59	0.58	0.59	47.5
Approach		42	0.0	42	0.0	0.068	4.1	LOS A	0.2	1.2	0.59	0.58	0.59	47.5
West: Major Road West														
11	T1	1004	2.3	1004	2.3	0.261	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1004	2.3	1004	2.3	0.261	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		1046	2.2	1046	2.2	0.261	0.2	NA	0.2	1.2	0.02	0.02	0.02	59.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Pacific Hwy-Rutley Rd Ex (4:45-5:45)]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 100 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
East: Pacific Hwy - E												
5	T1	897	2.9	0.234	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	79.9
6	R2	218	1.9	0.382	30.2	LOS C	8.2	58.5	0.83	0.85	0.93	46.0
Approach		1115	2.7	0.382	5.9	LOS A	8.2	58.5	0.16	0.17	0.18	69.8
North: Rutley Rd												
7	L2	327	0.0	0.176	7.6	LOS A	0.0	0.0	0.00	0.60	0.00	66.2
9	R2	215	2.5	0.840	59.9	LOS E	11.5	82.5	1.00	0.92	1.28	33.4
Approach		542	1.0	0.840	28.3	LOS B	11.5	82.5	0.40	0.73	0.51	47.8
West: Pacific Hwy - W												
10	L2	227	3.2	0.210	11.9	LOS A	3.3	23.7	0.41	0.71	0.41	59.8
11	T1	1176	1.7	0.693	24.2	LOS B	23.0	163.6	0.87	0.77	0.87	52.3
Approach		1403	2.0	0.693	22.2	LOS B	23.0	163.6	0.79	0.76	0.79	53.4
All Vehicles		3060	2.1	0.840	17.4	LOS B	23.0	163.6	0.49	0.54	0.52	57.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Pacific Hwy-Rutley Rd Ex (7:30-8:30)]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 102 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
East: Pacific Hwy - E												
5	T1	1242	4.1	0.327	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	79.9
6	R2	220	5.7	0.378	22.8	LOS B	7.1	52.2	0.73	0.80	0.73	50.0
Approach		1462	4.3	0.378	3.5	LOS A	7.1	52.2	0.11	0.12	0.11	73.2
North: Rutley Rd												
7	L2	204	6.7	0.115	7.7	LOS A	0.0	0.0	0.00	0.60	0.00	64.1
9	R2	228	7.4	0.734	53.0	LOS D	11.4	85.2	1.00	0.86	1.10	35.2
Approach		433	7.1	0.734	31.6	LOS C	11.4	85.2	0.53	0.74	0.58	44.8
West: Pacific Hwy - W												
10	L2	125	10.1	0.120	11.0	LOS A	1.6	12.2	0.34	0.68	0.34	58.9
11	T1	758	7.4	0.452	20.7	LOS B	12.9	96.2	0.74	0.64	0.74	55.1
Approach		883	7.7	0.452	19.3	LOS B	12.9	96.2	0.68	0.65	0.68	55.6
All Vehicles		2778	5.8	0.734	12.9	LOS A	12.9	96.2	0.36	0.38	0.36	61.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Pacific Hwy-Rutley Rd Ex SAT (11:15-12:15)]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 102 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
East: Pacific Hwy - E												
5	T1	919	1.6	0.238	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	79.9
6	R2	175	3.0	0.276	21.4	LOS B	5.3	37.9	0.67	0.78	0.67	51.5
Approach		1094	1.8	0.276	3.4	LOS A	5.3	37.9	0.11	0.12	0.11	73.4
North: Rutley Rd												
7	L2	188	1.7	0.103	7.6	LOS A	0.0	0.0	0.00	0.60	0.00	65.7
9	R2	164	1.9	0.653	54.2	LOS D	8.1	57.8	1.00	0.82	1.04	35.3
Approach		353	1.8	0.653	29.3	LOS C	8.1	57.8	0.46	0.71	0.49	47.0
West: Pacific Hwy - W												
10	L2	174	1.2	0.149	9.9	LOS A	1.9	13.4	0.30	0.68	0.30	62.3
11	T1	918	2.3	0.541	22.4	LOS B	16.7	119.1	0.79	0.69	0.79	53.6
Approach		1092	2.1	0.541	20.4	LOS B	16.7	119.1	0.71	0.69	0.71	54.9
All Vehicles		2538	1.9	0.653	14.3	LOS A	16.7	119.1	0.42	0.45	0.42	60.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Pacific HIghway-Wyee Road-Scenic Drive -AM 2018 Stage 1]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 105 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
SouthEast: Scenic Drive												
21	L2	463	1.6	0.252	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.9
22	T1	155	8.2	0.893	60.0	LOS E	9.0	67.1	0.97	1.02	1.47	30.4
23	R2	226	3.3	0.960	81.0	LOS F	15.2	109.3	1.00	1.11	1.65	21.6
Approach		844	3.2	0.960	35.8	LOS C	15.2	109.3	0.45	0.77	0.71	37.0
NorthEast: Pacific Highway (north east)												
24	L2	109	4.8	0.107	12.7	LOS A	1.5	10.7	0.48	0.71	0.48	48.5
25	T1	1505	2.7	0.976	69.1	LOS E	55.5	397.4	1.00	1.21	1.45	26.4
26	R2	40	0.0	0.565	66.2	LOS E	2.2	15.6	1.00	0.75	1.09	24.8
Approach		1655	2.7	0.976	65.3	LOS E	55.5	397.4	0.97	1.17	1.38	27.2
NorthWest: Wyee Road												
27	L2	53	4.0	0.720	54.2	LOS D	8.4	62.2	1.00	0.91	1.39	28.8
28	T1	122	7.8	0.720	48.5	LOS D	8.4	62.2	1.00	0.91	1.39	33.0
29	R2	179	4.1	0.843	62.1	LOS E	10.1	73.1	1.00	0.95	1.31	30.7
Approach		354	5.4	0.843	56.3	LOS D	10.1	73.1	1.00	0.93	1.35	31.2
SouthWest: Pacific Highway (south west)												
30	L2	99	14.9	0.059	7.8	LOS A	0.0	0.0	0.00	0.59	0.00	61.8
31	T1	934	7.6	0.527	20.6	LOS B	16.6	123.8	0.75	0.66	0.75	49.9
32	R2	169	8.7	0.848	65.2	LOS E	9.7	72.9	1.00	0.93	1.33	30.6
Approach		1202	8.3	0.848	25.8	LOS B	16.6	123.8	0.72	0.70	0.77	45.7
All Vehicles		4055	4.7	0.976	46.7	LOS D	55.5	397.4	0.79	0.93	1.06	33.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Pacific HIghway-Wyee Road-Scenic Drive -PM 2018 Stage 1]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 184 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
SouthEast: Scenic Drive												
21	L2	232	3.2	0.128	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.8
22	T1	155	2.0	0.880	90.7	LOS F	14.3	101.7	0.95	0.94	1.25	24.3
23	R2	224	1.9	0.998	137.0	LOS F	25.7	182.5	1.00	1.06	1.52	15.0
Approach		611	2.4	0.998	75.4	LOS F	25.7	182.5	0.61	0.83	0.87	25.5
NorthEast: Pacific Highway (north east)												
24	L2	199	2.1	0.263	27.4	LOS B	7.4	53.0	0.70	0.77	0.70	38.5
25	T1	945	3.8	1.123	208.2	LOS F	75.4	545.0	1.00	1.41	1.79	10.9
26	R2	57	0.0	0.352	93.8	LOS F	4.9	34.3	0.98	0.76	0.98	19.8
Approach		1201	3.3	1.123	172.8	LOS F	75.4	545.0	0.95	1.27	1.57	12.7
NorthWest: Wyee Road												
27	L2	44	2.4	0.755	107.5	LOS F	21.3	150.6	1.00	0.94	1.62	18.6
28	T1	195	1.1	0.755	101.9	LOS F	21.3	150.6	1.00	0.94	1.62	22.5
29	R2	166	0.6	0.857	93.5	LOS F	15.2	106.7	0.97	0.91	1.20	24.5
Approach		405	1.0	0.857	99.1	LOS F	21.3	150.6	0.99	0.93	1.45	22.8
SouthWest: Pacific Highway (south west)												
30	L2	121	2.6	0.066	7.6	LOS A	0.0	0.0	0.00	0.60	0.00	65.4
31	T1	1457	1.8	1.035	130.0	LOS F	108.6	771.7	1.00	1.26	1.44	16.4
32	R2	467	1.1	1.016	105.9	LOS F	40.4	285.4	1.00	1.03	1.44	18.6
Approach		2045	1.7	1.035	117.3	LOS F	108.6	771.7	0.94	1.17	1.35	18.0
All Vehicles		4262	2.2	1.123	125.2	LOS F	108.6	771.7	0.90	1.13	1.36	17.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Pacific HIghway-Wyee Road-Scenic Drive -Sat 2018 Stage 1]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 157 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
SouthEast: Scenic Drive												
21	L2	309	1.0	0.168	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	54.9
22	T1	137	3.1	0.827	72.2	LOS F	10.3	74.3	0.94	0.88	1.19	27.6
23	R2	226	1.9	0.923	93.6	LOS F	19.7	139.9	1.00	0.99	1.36	19.7
Approach		673	1.7	0.923	48.8	LOS D	19.7	139.9	0.53	0.76	0.70	32.2
NorthEast: Pacific Highway (north east)												
24	L2	182	1.2	0.210	20.8	LOS B	5.1	35.8	0.62	0.75	0.62	42.5
25	T1	1017	2.4	0.966	90.4	LOS F	50.4	360.1	1.00	1.11	1.33	21.9
26	R2	48	4.3	0.603	92.0	LOS F	3.9	28.3	1.00	0.76	1.06	20.1
Approach		1247	2.3	0.966	80.3	LOS F	50.4	360.1	0.94	1.05	1.22	23.5
NorthWest: Wyee Road												
27	L2	67	3.1	0.829	83.3	LOS F	15.0	107.7	1.00	0.98	1.48	22.0
28	T1	129	3.3	0.829	77.7	LOS F	15.0	107.7	1.00	0.98	1.48	26.2
29	R2	139	2.3	0.771	81.3	LOS F	10.7	76.6	1.00	0.87	1.14	26.5
Approach		336	2.8	0.829	80.3	LOS F	15.0	107.7	1.00	0.93	1.34	25.6
SouthWest: Pacific Highway (south west)												
30	L2	115	5.5	0.064	7.7	LOS A	0.0	0.0	0.00	0.60	0.00	64.5
31	T1	1043	1.6	0.593	27.5	LOS B	30.7	218.0	0.73	0.65	0.73	44.3
32	R2	304	1.4	0.764	41.1	LOS C	12.1	85.9	1.00	0.86	1.04	38.4
Approach		1462	1.9	0.764	28.7	LOS C	30.7	218.0	0.73	0.69	0.74	43.9
All Vehicles		3718	2.1	0.966	54.3	LOS D	50.4	360.1	0.79	0.84	0.95	31.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Pacific Hwy-Wentworth Ave-Stage 1 (Minor Road)-AM 2018 Stage 1]

Network: N101 [Pacific Hwy-Wentworth Ave-FRI AM 2018 Stage 1]

Staged crossing Stage 1 (Minor Road) at three-way intersection with 5-lane major road. Major road turn lane is treated as a full-length lane.
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Minor Road (Stage 1)														
1	L2	55	1.9	55	1.9	0.128	15.4	LOS B	0.5	3.3	0.67	1.00	0.67	44.4
2	T1	13	0.0	13	0.0	0.155	52.4	LOS D	0.5	3.2	0.93	1.00	0.94	22.7
Approach		67	1.6	67	1.6	0.155	22.3	LOS B	0.5	3.3	0.72	1.00	0.72	39.3
East: Major Road East														
4	L2	9	11.1	9	11.1	0.422	5.7	LOS A	0.0	0.0	0.00	0.01	0.00	57.4
5	T1	1607	2.8	1607	2.8	0.422	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
6	R2	1	100.0	1	100.0	0.001	6.4	LOS A	0.0	0.0	0.00	0.63	0.00	48.2
Approach		1618	2.9	1618	2.9	0.422	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.8
West: Major Road West														
12	R2	13	0.0	13	0.0	0.082	24.3	LOS B	0.2	1.6	0.88	0.95	0.88	38.0
12u	U	3	0.0	3	0.0	0.082	25.2	LOS B	0.2	1.6	0.88	0.95	0.88	31.6
Approach		16	0.0	16	0.0	0.082	24.4	NA	0.2	1.6	0.88	0.95	0.88	37.0
All Vehicles		1701	2.8	1701	2.8	0.422	1.2	NA	0.5	3.3	0.04	0.05	0.04	58.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 2 [Pacific Hwy-Wentworth Ave-Stage 2 (Median) NSW-AM 2018 Stage 1]

Network: N101 [Pacific Hwy-Wentworth Ave-FRI AM 2018 Stage 1]

Staged crossing Stage 2 (Median) at three-way intersection with 5-lane major road.
Give-way behaviour assumed at Stage 2.
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Median Storage Area														
3	R2	13	0.0	13	0.0	0.026	5.7	LOS A	0.1	0.4	0.67	0.65	0.67	42.5
Approach		13	0.0	13	0.0	0.026	5.7	LOS A	0.1	0.4	0.67	0.65	0.67	42.5
West: Major Road West														
11	T1	1203	6.6	1203	6.6	0.322	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1203	6.6	1203	6.6	0.322	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		1216	6.6	1216	6.6	0.322	0.1	NA	0.1	0.4	0.01	0.01	0.01	59.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Pacific Hwy-Wentworth Ave-Stage 1 (Minor Road) - PM 2018 Stage 1]

Network: N101 [Pacific Hwy-Wentworth Ave-FRI PM 2018 Stage 1]

Staged crossing Stage 1 (Minor Road) at three-way intersection with 5-lane major road. Major road turn lane is treated as a full-length lane.
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Minor Road (Stage 1)														
1	L2	39	2.7	39	2.7	0.064	12.0	LOS A	0.2	1.7	0.54	0.93	0.54	46.7
2	T1	6	0.0	6	0.0	0.034	26.3	LOS B	0.1	0.8	0.83	1.00	0.83	33.4
Approach		45	2.3	45	2.3	0.064	14.0	LOS A	0.2	1.7	0.58	0.94	0.58	44.9
East: Major Road East														
4	L2	22	0.0	22	0.0	0.309	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	57.9
5	T1	1155	3.4	1155	3.4	0.309	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.8
6	R2	1	0.0	1	0.0	0.001	5.7	LOS A	0.0	0.0	0.00	0.63	0.00	48.2
Approach		1178	3.3	1178	3.3	0.309	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.7
West: Major Road West														
12	R2	69	3.0	69	3.0	0.194	15.0	LOS B	0.6	4.5	0.77	0.91	0.79	43.6
12u	U	3	33.3	3	33.3	0.194	20.4	LOS B	0.6	4.5	0.77	0.91	0.79	34.1
Approach		73	4.3	73	4.3	0.194	15.2	NA	0.6	4.5	0.77	0.91	0.79	43.3
All Vehicles		1296	3.3	1296	3.3	0.309	1.5	NA	0.6	4.5	0.06	0.09	0.06	57.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 2 [Pacific Hwy-Wentworth Ave-Stage 2 (Median) NSW - PM 2018 Stage 1]

Network: N101 [Pacific Hwy-Wentworth Ave-FRI PM 2018 Stage 1]

Staged crossing Stage 2 (Median) at three-way intersection with 5-lane major road.
Give-way behaviour assumed at Stage 2.
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Median Storage Area														
3	R2	6	0.0	6	0.0	0.024	11.6	LOS A	0.1	0.4	0.82	0.82	0.82	36.2
Approach		6	0.0	6	0.0	0.024	11.6	LOS A	0.1	0.4	0.82	0.82	0.82	36.2
West: Major Road West														
11	T1	1660	2.3	1660	2.3	0.432	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1660	2.3	1660	2.3	0.432	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		1666	2.3	1666	2.3	0.432	0.1	NA	0.1	0.4	0.00	0.00	0.00	59.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Pacific Hwy-Wentworth Ave-Stage 1 (Minor Road) - SAT 2018 Stage 1]

Network: N101 [Pacific Hwy-Wentworth Ave-SAT SAT 2018 Stage 1]

Staged crossing Stage 1 (Minor Road) at three-way intersection with 5-lane major road. Major road turn lane is treated as a full-length lane.
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Minor Road (Stage 1)														
1	L2	62	1.7	62	1.7	0.103	12.2	LOS A	0.4	2.7	0.55	0.96	0.55	46.7
2	T1	19	0.0	19	0.0	0.103	27.0	LOS B	0.3	2.4	0.84	1.00	0.84	33.0
Approach		81	1.3	81	1.3	0.103	15.7	LOS B	0.4	2.7	0.62	0.97	0.62	43.6
East: Major Road East														
4	L2	19	0.0	19	0.0	0.314	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	57.9
5	T1	1186	2.4	1186	2.4	0.314	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.8
6	R2	1	0.0	1	0.0	0.001	5.7	LOS A	0.0	0.0	0.00	0.63	0.00	48.2
Approach		1206	2.4	1206	2.4	0.314	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.7
West: Major Road West														
12	R2	39	0.0	39	0.0	0.105	14.5	LOS A	0.3	2.3	0.76	0.90	0.76	44.2
12u	U	1	0.0	1	0.0	0.105	15.4	LOS B	0.3	2.3	0.76	0.90	0.76	38.4
Approach		40	0.0	40	0.0	0.105	14.5	NA	0.3	2.3	0.76	0.90	0.76	44.1
All Vehicles		1327	2.2	1327	2.2	0.314	1.5	NA	0.4	2.7	0.06	0.10	0.06	57.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 2 [Pacific Hwy-Wentworth Ave-Stage 2 (Median) NSW - SAT 2018 Stage 1]

Network: N101 [Pacific Hwy-Wentworth Ave-SAT SAT 2018 Stage 1]

Staged crossing Stage 2 (Median) at three-way intersection with 5-lane major road.
Give-way behaviour assumed at Stage 2.
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Median Storage Area														
3	R2	19	0.0	19	0.0	0.042	6.4	LOS A	0.1	0.7	0.70	0.70	0.70	41.6
Approach		19	0.0	19	0.0	0.042	6.4	LOS A	0.1	0.7	0.70	0.70	0.70	41.6
West: Major Road West														
11	T1	1294	1.8	1294	1.8	0.336	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1294	1.8	1294	1.8	0.336	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		1313	1.8	1313	1.8	0.336	0.1	NA	0.1	0.7	0.01	0.01	0.01	59.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Pacific Hwy-Rutley Rd -AM 2018 Stage 1]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 102 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
East: Pacific Hwy - E												
5	T1	1323	3.8	0.348	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	79.8
6	R2	220	5.7	0.398	24.9	LOS B	7.7	56.9	0.78	0.81	0.78	48.6
Approach		1543	4.1	0.398	3.6	LOS A	7.7	56.9	0.11	0.12	0.11	73.1
North: Rutley Rd												
7	L2	204	6.7	0.115	7.7	LOS A	0.0	0.0	0.00	0.60	0.00	64.1
9	R2	228	7.4	0.734	53.0	LOS D	11.4	85.2	1.00	0.86	1.10	35.2
Approach		433	7.1	0.734	31.6	LOS C	11.4	85.2	0.53	0.74	0.58	44.8
West: Pacific Hwy - W												
10	L2	125	10.1	0.123	11.9	LOS A	1.8	13.7	0.37	0.68	0.37	58.1
11	T1	851	6.6	0.504	21.3	LOS B	15.0	110.6	0.76	0.67	0.76	54.5
Approach		976	7.0	0.504	20.1	LOS B	15.0	110.6	0.71	0.67	0.71	55.0
All Vehicles		2952	5.5	0.734	13.2	LOS A	15.0	110.6	0.37	0.39	0.38	60.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Pacific Hwy-Rutley Rd -PM 2018 Stage 1]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 100 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
East: Pacific Hwy - E												
5	T1	972	2.7	0.254	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	79.9
6	R2	218	1.9	0.390	32.1	LOS C	8.3	58.9	0.84	0.86	0.99	45.0
Approach		1189	2.6	0.390	5.9	LOS A	8.3	58.9	0.15	0.16	0.18	69.9
North: Rutley Rd												
7	L2	327	0.0	0.176	7.6	LOS A	0.0	0.0	0.00	0.60	0.00	66.2
9	R2	215	2.5	0.840	59.9	LOS E	11.5	82.5	1.00	0.92	1.28	33.4
Approach		542	1.0	0.840	28.3	LOS B	11.5	82.5	0.40	0.73	0.51	47.8
West: Pacific Hwy - W												
10	L2	227	3.2	0.205	11.3	LOS A	3.0	21.9	0.39	0.70	0.39	60.4
11	T1	1240	1.6	0.730	24.8	LOS B	24.9	176.7	0.89	0.80	0.89	51.8
Approach		1467	1.9	0.730	22.7	LOS B	24.9	176.7	0.81	0.78	0.81	53.0
All Vehicles		3199	2.0	0.840	17.4	LOS B	24.9	176.7	0.50	0.54	0.53	57.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Pacific Hwy-Rutley Rd -SAT 2018 Stage 1]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 102 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
East: Pacific Hwy - E												
5	T1	987	1.5	0.256	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	79.9
6	R2	175	3.0	0.284	23.0	LOS B	5.6	40.3	0.70	0.79	0.70	50.4
Approach		1162	1.7	0.284	3.5	LOS A	5.6	40.3	0.11	0.12	0.11	73.4
North: Rutley Rd												
7	L2	188	1.7	0.103	7.6	LOS A	0.0	0.0	0.00	0.60	0.00	65.7
9	R2	164	1.9	0.653	54.2	LOS D	8.1	57.8	1.00	0.82	1.04	35.3
Approach		353	1.8	0.653	29.3	LOS C	8.1	57.8	0.46	0.71	0.49	47.0
West: Pacific Hwy - W												
10	L2	174	1.2	0.149	10.4	LOS A	2.1	14.7	0.32	0.68	0.32	61.8
11	T1	983	2.1	0.579	22.9	LOS B	18.3	130.3	0.81	0.71	0.81	53.2
Approach		1157	2.0	0.579	21.0	LOS B	18.3	130.3	0.73	0.71	0.73	54.4
All Vehicles		2672	1.9	0.653	14.5	LOS A	18.3	130.3	0.42	0.45	0.43	59.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Pacific HIghway-Wyee Road-Scenic Drive -FRI AM 2028 Base]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 104 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
SouthEast: Scenic Drive												
21	L2	482	1.6	0.263	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.9
22	T1	161	8.2	0.920	64.7	LOS E	9.7	72.6	0.98	1.06	1.57	29.3
23	R2	188	4.1	0.716	53.4	LOS D	9.6	69.5	1.00	0.86	1.09	27.7
Approach		832	3.4	0.920	27.9	LOS B	9.7	72.6	0.41	0.71	0.55	40.5
NorthEast: Pacific Highway (north east)												
24	L2	104	5.7	0.115	14.4	LOS A	1.6	11.4	0.55	0.72	0.55	47.1
25	T1	1429	3.2	1.086	142.5	LOS F	73.7	529.9	1.00	1.58	2.07	15.2
26	R2	38	0.0	0.424	63.2	LOS E	2.0	14.2	1.00	0.73	1.00	25.6
Approach		1572	3.3	1.086	132.1	LOS F	73.7	529.9	0.97	1.50	1.94	16.1
NorthWest: Wyee Road												
27	L2	48	5.0	0.635	51.0	LOS D	8.6	63.7	0.99	0.86	1.30	29.8
28	T1	139	7.8	0.635	45.3	LOS D	8.6	63.7	0.99	0.86	1.30	34.1
29	R2	204	4.1	0.840	59.2	LOS E	11.2	81.3	1.00	0.95	1.29	31.4
Approach		392	5.5	0.840	53.2	LOS D	11.2	81.3	0.99	0.91	1.29	32.2
SouthWest: Pacific Highway (south west)												
30	L2	125	14.9	0.075	7.8	LOS A	0.0	0.0	0.00	0.59	0.00	61.8
31	T1	946	9.5	0.595	24.2	LOS B	18.3	138.4	0.82	0.72	0.82	46.8
32	R2	215	8.7	0.851	63.0	LOS E	12.1	91.2	1.00	0.93	1.30	31.2
Approach		1286	9.9	0.851	29.1	LOS C	18.3	138.4	0.77	0.75	0.82	43.6
All Vehicles		4081	5.6	1.086	70.8	LOS F	73.7	529.9	0.80	1.05	1.24	26.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 102 [Pacific HIghway-Wyee Road-Scenic Drive -FRI PM 2028 Base]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 184 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
SouthEast: Scenic Drive												
21	L2	264	3.2	0.145	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.8
22	T1	177	2.1	1.079	187.3	LOS F	24.8	176.6	1.00	1.27	1.80	14.5
23	R2	206	2.3	1.051	171.7	LOS F	27.2	194.2	1.00	1.13	1.68	12.4
Approach		647	2.6	1.079	108.2	LOS F	27.2	194.2	0.59	0.92	1.03	20.2
NorthEast: Pacific Highway (north east)												
24	L2	219	2.3	0.283	26.7	LOS B	8.0	56.8	0.69	0.78	0.69	38.9
25	T1	908	4.7	1.002	125.4	LOS F	57.7	419.8	1.00	1.16	1.41	17.1
26	R2	62	0.0	0.410	95.5	LOS F	5.4	38.0	0.99	0.76	0.99	19.6
Approach		1189	4.0	1.002	105.6	LOS F	57.7	419.8	0.94	1.07	1.25	19.2
NorthWest: Wyee Road												
27	L2	38	3.0	0.941	144.8	LOS F	29.5	209.1	1.00	1.13	2.01	14.9
28	T1	211	1.1	0.941	139.2	LOS F	29.5	209.1	1.00	1.13	2.01	18.3
29	R2	180	0.6	1.102	207.8	LOS F	26.2	184.1	1.00	1.20	1.86	13.5
Approach		428	1.1	1.102	168.5	LOS F	29.5	209.1	1.00	1.16	1.94	15.7
SouthWest: Pacific Highway (south west)												
30	L2	145	2.6	0.080	7.6	LOS A	0.0	0.0	0.00	0.60	0.00	65.4
31	T1	1541	2.0	1.023	118.2	LOS F	113.9	811.4	1.00	1.22	1.39	17.8
32	R2	561	1.1	1.153	207.4	LOS F	68.0	480.8	1.00	1.19	1.87	12.1
Approach		2247	1.9	1.153	133.3	LOS F	113.9	811.4	0.94	1.18	1.42	16.4
All Vehicles		4513	2.4	1.153	125.8	LOS F	113.9	811.4	0.89	1.11	1.37	17.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 103 [Pacific HIghway-Wyee Road-Scenic Drive -SAT 2028 Base]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 157 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
SouthEast: Scenic Drive												
21	L2	353	1.0	0.191	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	54.9
22	T1	156	3.1	0.942	95.3	LOS F	13.8	98.9	0.95	1.03	1.45	23.6
23	R2	217	2.2	0.913	91.2	LOS F	18.5	132.1	1.00	0.98	1.34	20.0
Approach		725	1.8	0.942	50.5	LOS D	18.5	132.1	0.50	0.77	0.71	31.8
NorthEast: Pacific Highway (north east)												
24	L2	182	1.4	0.219	21.6	LOS B	5.1	35.9	0.64	0.76	0.64	42.0
25	T1	1009	2.8	1.024	125.7	LOS F	58.8	421.3	1.00	1.24	1.54	16.9
26	R2	48	5.1	0.606	92.1	LOS F	3.9	28.6	1.00	0.76	1.07	20.1
Approach		1240	2.7	1.024	109.1	LOS F	58.8	421.3	0.95	1.15	1.39	18.6
NorthWest: Wyee Road												
27	L2	61	3.7	0.851	87.8	LOS F	15.8	113.5	1.00	1.00	1.55	21.3
28	T1	140	3.3	0.851	82.2	LOS F	15.8	113.5	1.00	1.00	1.55	25.4
29	R2	151	2.3	0.895	92.4	LOS F	12.7	90.5	1.00	0.97	1.36	24.6
Approach		352	2.9	0.895	87.5	LOS F	15.8	113.5	1.00	0.99	1.47	24.4
SouthWest: Pacific Highway (south west)												
30	L2	138	5.5	0.077	7.7	LOS A	0.0	0.0	0.00	0.60	0.00	64.5
31	T1	1060	1.9	0.635	27.9	LOS B	33.9	241.1	0.74	0.67	0.74	44.0
32	R2	365	1.4	0.843	45.3	LOS D	16.4	116.0	1.00	0.89	1.11	36.8
Approach		1563	2.1	0.843	30.2	LOS C	33.9	241.1	0.74	0.71	0.76	43.1
All Vehicles		3880	2.3	1.024	64.4	LOS E	58.8	421.3	0.78	0.89	1.02	28.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 104 [Pacific Hwy-Wentworth Ave-Stage 1 (Minor Road)-FRI AM 2028 Base]

Network: N101 [Pacific Hwy-Wentworth Ave-FRI AM 2028 Base]

Staged crossing Stage 1 (Minor Road) at three-way intersection with 5-lane major road. Major road turn lane is treated as a full-length lane.
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Minor Road (Stage 1)														
1	L2	31	3.4	31	3.4	0.077	15.6	LOS B	0.3	1.8	0.68	1.00	0.68	44.2
2	T1	4	0.0	4	0.0	0.070	64.8	LOS E	0.2	1.4	0.95	1.00	0.95	19.7
Approach		35	3.0	35	3.0	0.077	21.6	LOS B	0.3	1.8	0.72	1.00	0.72	39.9
East: Major Road East														
4	L2	7	14.3	7	14.3	0.406	5.8	LOS A	0.0	0.0	0.00	0.01	0.00	57.5
5	T1	1544	2.9	1544	2.9	0.406	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
6	R2	1	100.0	1	100.0	0.001	6.4	LOS A	0.0	0.0	0.00	0.63	0.00	50.6
Approach		1553	3.0	1553	3.0	0.406	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.8
West: Major Road West														
12	R2	7	0.0	7	0.0	0.066	27.7	LOS B	0.2	1.2	0.90	0.96	0.90	36.3
12u	U	3	0.0	3	0.0	0.066	28.5	LOS C	0.2	1.2	0.90	0.96	0.90	29.8
Approach		11	0.0	11	0.0	0.066	27.9	NA	0.2	1.2	0.90	0.96	0.90	34.6
All Vehicles		1598	3.0	1598	3.0	0.406	0.7	NA	0.3	1.8	0.02	0.03	0.02	59.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 105 [Pacific Hwy-Wentworth Ave-Stage 2 (Median) NSW- FRI AM 2028 Base]

Network: N101 [Pacific Hwy-Wentworth Ave-FRI AM 2028 Base]

Staged crossing Stage 2 (Median) at three-way intersection with 5-lane major road.
Give-way behaviour assumed at Stage 2.
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Median Storage Area														
3	R2	4	0.0	4	0.0	0.008	4.8	LOS A	0.0	0.1	0.63	0.53	0.63	46.6
Approach		4	0.0	4	0.0	0.008	4.8	LOS A	0.0	0.1	0.63	0.53	0.63	46.6
West: Major Road West														
11	T1	1107	8.8	1107	8.8	0.300	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1107	8.8	1107	8.8	0.300	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		1112	8.8	1112	8.8	0.300	0.0	NA	0.0	0.1	0.00	0.00	0.00	59.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 106 [Pacific Hwy-Wentworth Ave-Stage 1 (Minor Road)-FRI PM 2028 Base]

Network: N101 [Pacific Hwy-Wentworth Ave-FRI PM 2028 Base]

Staged crossing Stage 1 (Minor Road) at three-way intersection with 5-lane major road. Major road turn lane is treated as a full-length lane.
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Minor Road (Stage 1)														
1	L2	28	3.7	28	3.7	0.050	12.4	LOS A	0.2	1.2	0.54	0.95	0.54	46.3
2	T1	3	0.0	3	0.0	0.021	30.0	LOS C	0.1	0.5	0.86	1.00	0.86	31.3
Approach		32	3.3	32	3.3	0.050	14.1	LOS A	0.2	1.2	0.57	0.96	0.57	44.8
East: Major Road East														
4	L2	8	0.0	8	0.0	0.303	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	58.2
5	T1	1146	3.4	1146	3.4	0.303	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
6	R2	1	0.0	1	0.0	0.001	5.7	LOS A	0.0	0.0	0.00	0.63	0.00	50.6
Approach		1156	3.4	1156	3.4	0.303	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
West: Major Road West														
12	R2	28	7.4	28	7.4	0.107	16.8	LOS B	0.3	2.4	0.80	0.92	0.80	42.0
12u	U	3	33.3	3	33.3	0.107	22.9	LOS B	0.3	2.4	0.80	0.92	0.80	32.8
Approach		32	10.0	32	10.0	0.107	17.5	NA	0.3	2.4	0.80	0.92	0.80	41.2
All Vehicles		1219	3.5	1219	3.5	0.303	0.9	NA	0.3	2.4	0.04	0.05	0.04	58.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 107 [Pacific Hwy-Wentworth Ave-Stage 2 (Median) NSW- FRI PM 2028 Base]

Network: N101 [Pacific Hwy-Wentworth Ave-FRI PM 2028 Base]

Staged crossing Stage 2 (Median) at three-way intersection with 5-lane major road.
Give-way behaviour assumed at Stage 2.
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Median Storage Area														
3	R2	3	0.0	3	0.0	0.013	12.5	LOS A	0.0	0.2	0.83	0.83	0.83	39.1
Approach		3	0.0	3	0.0	0.013	12.5	LOS A	0.0	0.2	0.83	0.83	0.83	39.1
West: Major Road West														
11	T1	1712	2.3	1712	2.3	0.445	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1712	2.3	1712	2.3	0.445	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		1715	2.3	1715	2.3	0.445	0.1	NA	0.0	0.2	0.00	0.00	0.00	59.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 108 [Pacific Hwy-Wentworth Ave-Stage 1 (Minor Road)-SAT 2028 Base]

Network: N101 [Pacific Hwy-Wentworth Ave-SAT 2028 Base]

Staged crossing Stage 1 (Minor Road) at three-way intersection with 5-lane major road. Major road turn lane is treated as a full-length lane.
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Minor Road (Stage 1)														
1	L2	37	1.0	37	1.0	0.066	12.5	LOS A	0.2	1.6	0.55	0.97	0.55	46.5
2	T1	11	0.0	11	0.0	0.076	33.0	LOS C	0.2	1.6	0.88	1.00	0.88	29.8
Approach		47	0.7	47	0.7	0.076	17.1	LOS B	0.2	1.6	0.62	0.98	0.62	42.6
East: Major Road East														
4	L2	11	0.0	11	0.0	0.316	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	58.2
5	T1	1199	3.0	1199	3.0	0.316	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.9
6	R2	1	0.0	1	0.0	0.001	5.7	LOS A	0.0	0.0	0.00	0.63	0.00	50.6
Approach		1211	3.0	1211	3.0	0.316	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.8
West: Major Road West														
12	R2	14	0.0	14	0.0	0.048	16.4	LOS B	0.1	1.0	0.79	0.91	0.79	42.8
12u	U	1	0.0	1	0.0	0.048	17.4	LOS B	0.1	1.0	0.79	0.91	0.79	36.8
Approach		15	0.0	15	0.0	0.048	16.5	NA	0.1	1.0	0.79	0.91	0.79	42.5
All Vehicles		1273	2.9	1273	2.9	0.316	0.9	NA	0.2	1.6	0.03	0.05	0.03	58.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 109 [Pacific Hwy-Wentworth Ave-Stage 2 (Median) NSW- SAT 2028 Base]

Network: N101 [Pacific Hwy-Wentworth Ave-SAT 2028 Base]

Staged crossing Stage 2 (Median) at three-way intersection with 5-lane major road.
Give-way behaviour assumed at Stage 2.
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Median Storage Area														
3	R2	11	0.0	11	0.0	0.024	6.3	LOS A	0.1	0.4	0.69	0.67	0.69	45.0
Approach		11	0.0	11	0.0	0.024	6.3	LOS A	0.1	0.4	0.69	0.67	0.69	45.0
West: Major Road West														
11	T1	1293	1.8	1293	1.8	0.335	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1293	1.8	1293	1.8	0.335	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		1303	1.8	1303	1.8	0.335	0.1	NA	0.1	0.4	0.01	0.01	0.01	59.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 110 [Pacific Hwy-Rutley Rd -FRI AM 2028 Base]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 102 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
East: Pacific Hwy - E												
5	T1	1428	3.5	0.375	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	79.8
6	R2	220	5.7	0.404	25.8	LOS B	8.0	58.5	0.80	0.82	0.80	48.0
Approach		1648	3.8	0.404	3.5	LOS A	8.0	58.5	0.11	0.11	0.11	73.3
North: Rutley Rd												
7	L2	221	6.2	0.124	7.7	LOS A	0.0	0.0	0.00	0.60	0.00	64.3
9	R2	246	6.8	0.788	55.3	LOS D	12.8	94.8	1.00	0.89	1.16	34.5
Approach		467	6.5	0.788	32.8	LOS C	12.8	94.8	0.53	0.75	0.61	44.3
West: Pacific Hwy - W												
10	L2	125	10.1	0.123	12.2	LOS A	1.9	14.2	0.38	0.69	0.38	57.8
11	T1	879	6.3	0.520	21.5	LOS B	15.6	115.2	0.77	0.68	0.77	54.4
Approach		1004	6.8	0.520	20.3	LOS B	15.6	115.2	0.72	0.68	0.72	54.8
All Vehicles		3120	5.2	0.788	13.3	LOS A	15.6	115.2	0.37	0.39	0.38	60.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 111 [Pacific Hwy-Rutley Rd -FRI PM 2028 Base]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 102 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
East: Pacific Hwy - E												
5	T1	1040	2.5	0.271	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	79.9
6	R2	253	1.7	0.462	37.6	LOS C	9.9	70.2	0.86	0.91	1.18	42.2
Approach		1293	2.4	0.462	7.4	LOS A	9.9	70.2	0.17	0.18	0.23	68.0
North: Rutley Rd												
7	L2	374	0.0	0.201	7.6	LOS A	0.0	0.0	0.00	0.60	0.00	66.2
9	R2	245	2.1	0.977	87.1	LOS F	16.9	120.5	1.00	1.06	1.71	26.8
Approach		619	0.9	0.977	39.1	LOS C	16.9	120.5	0.40	0.79	0.68	41.9
West: Pacific Hwy - W												
10	L2	271	2.7	0.232	10.5	LOS A	2.9	20.9	0.38	0.70	0.38	61.4
11	T1	1399	1.4	0.821	30.0	LOS C	32.4	229.6	0.94	0.89	1.00	48.2
Approach		1669	1.6	0.821	26.9	LOS B	32.4	229.6	0.85	0.86	0.90	50.0
All Vehicles		3581	1.8	0.977	21.9	LOS B	32.4	229.6	0.53	0.60	0.62	53.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 112 [Pacific Hwy-Rutley Rd -SAT 2028 Base]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 102 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
East: Pacific Hwy - E												
5	T1	1066	1.4	0.276	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	79.9
6	R2	203	2.6	0.343	26.8	LOS B	7.6	54.4	0.80	0.81	0.80	48.0
Approach		1269	1.6	0.343	4.3	LOS A	7.6	54.4	0.13	0.13	0.13	72.2
North: Rutley Rd												
7	L2	215	1.5	0.117	7.6	LOS A	0.0	0.0	0.00	0.60	0.00	65.8
9	R2	187	1.7	0.744	56.4	LOS D	9.6	68.4	1.00	0.86	1.13	34.6
Approach		402	1.6	0.744	30.3	LOS C	9.6	68.4	0.47	0.72	0.53	46.4
West: Pacific Hwy - W												
10	L2	206	1.0	0.189	12.2	LOS A	3.2	22.5	0.40	0.70	0.40	60.0
11	T1	1093	1.9	0.643	23.8	LOS B	21.1	150.3	0.84	0.75	0.84	52.5
Approach		1299	1.8	0.643	22.0	LOS B	21.1	150.3	0.77	0.74	0.77	53.6
All Vehicles		2971	1.7	0.744	15.6	LOS B	21.1	150.3	0.45	0.48	0.46	58.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Pacific HIghway-Wyee Road-Scenic Drive -FRI AM 2028+Stage 1]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 104 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
SouthEast: Scenic Drive												
21	L2	482	1.6	0.263	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.9
22	T1	161	8.2	0.944	71.1	LOS F	10.2	76.4	0.99	1.11	1.67	27.9
23	R2	234	3.3	1.043	123.7	LOS F	20.1	145.0	1.00	1.28	2.04	16.0
Approach		877	3.2	1.043	49.1	LOS D	20.1	145.0	0.45	0.84	0.85	32.2
NorthEast: Pacific Highway (north east)												
24	L2	123	4.9	0.123	13.0	LOS A	1.6	11.7	0.50	0.72	0.50	48.2
25	T1	1681	2.7	1.106	156.1	LOS F	92.4	662.1	1.00	1.69	2.16	14.1
26	R2	45	0.0	0.507	63.6	LOS E	2.4	17.1	1.00	0.74	1.02	25.5
Approach		1849	2.8	1.106	144.3	LOS F	92.4	662.1	0.97	1.60	2.02	15.0
NorthWest: Wyee Road												
27	L2	59	4.1	0.872	65.5	LOS E	10.7	79.5	1.00	1.05	1.75	25.7
28	T1	139	7.8	0.872	59.8	LOS E	10.7	79.5	1.00	1.05	1.75	30.0
29	R2	204	4.1	1.085	152.5	LOS F	19.8	143.1	1.00	1.39	2.28	17.2
Approach		402	5.4	1.085	107.7	LOS F	19.8	143.1	1.00	1.23	2.02	21.2
SouthWest: Pacific Highway (south west)												
30	L2	125	14.9	0.075	7.8	LOS A	0.0	0.0	0.00	0.59	0.00	61.8
31	T1	1135	7.9	0.644	21.6	LOS B	21.8	162.8	0.81	0.72	0.81	48.9
32	R2	215	8.7	0.912	71.0	LOS F	13.1	98.6	1.00	0.99	1.47	29.2
Approach		1475	8.6	0.912	27.6	LOS B	21.8	162.8	0.77	0.75	0.83	44.5
All Vehicles		4603	5.0	1.106	85.6	LOS F	92.4	662.1	0.81	1.15	1.42	23.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 102 [Pacific HIghway-Wyee Road-Scenic Drive -FRI PM 2028+Stage 1]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 184 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
SouthEast: Scenic Drive												
21	L2	264	3.2	0.145	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.8
22	T1	177	2.1	1.079	187.3	LOS F	24.8	176.6	1.00	1.27	1.80	14.5
23	R2	259	1.8	1.251	322.8	LOS F	47.7	339.0	1.00	1.38	2.24	7.1
Approach		700	2.4	1.251	168.8	LOS F	47.7	339.0	0.62	1.03	1.28	14.4
NorthEast: Pacific Highway (north east)												
24	L2	236	2.1	0.304	26.9	LOS B	8.7	61.7	0.70	0.78	0.70	38.8
25	T1	1147	3.7	1.240	301.3	LOS F	111.0	801.8	1.00	1.68	2.13	7.8
26	R2	68	0.0	0.452	95.8	LOS F	6.0	42.0	1.00	0.77	1.00	19.6
Approach		1452	3.3	1.240	247.0	LOS F	111.0	801.8	0.95	1.49	1.85	9.3
NorthWest: Wyee Road												
27	L2	49	2.3	0.982	157.1	LOS F	31.6	223.9	1.00	1.21	2.10	13.9
28	T1	211	1.1	0.982	151.5	LOS F	31.6	223.9	1.00	1.21	2.10	17.2
29	R2	180	0.6	1.114	216.6	LOS F	26.7	188.2	1.00	1.22	1.89	13.0
Approach		440	1.0	1.114	178.8	LOS F	31.6	223.9	1.00	1.21	2.02	14.9
SouthWest: Pacific Highway (south west)												
30	L2	145	2.6	0.080	7.6	LOS A	0.0	0.0	0.00	0.60	0.00	65.4
31	T1	1757	1.8	1.139	206.1	LOS F	163.4	1161.4	1.00	1.54	1.78	11.1
32	R2	561	1.1	1.158	210.9	LOS F	68.7	485.4	1.00	1.20	1.88	12.0
Approach		2463	1.7	1.158	195.5	LOS F	163.4	1161.4	0.94	1.41	1.70	12.1
All Vehicles		5055	2.2	1.251	205.1	LOS F	163.4	1161.4	0.91	1.36	1.71	11.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 103 [Pacific HIghway-Wyee Road-Scenic Drive -SAT 2028+Stage 1]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 157 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
SouthEast: Scenic Drive												
21	L2	353	1.0	0.191	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	54.9
22	T1	156	3.1	0.963	103.7	LOS F	14.4	103.3	0.96	1.07	1.52	22.4
23	R2	253	1.9	1.086	180.9	LOS F	32.2	228.8	1.00	1.22	1.88	11.8
Approach		761	1.7	1.086	83.9	LOS F	32.2	228.8	0.53	0.87	0.93	23.8
NorthEast: Pacific Highway (north east)												
24	L2	209	1.2	0.235	20.3	LOS B	5.7	40.4	0.62	0.76	0.62	42.8
25	T1	1171	2.4	1.057	144.4	LOS F	74.4	531.7	1.00	1.34	1.64	15.0
26	R2	56	4.5	0.695	93.3	LOS F	4.6	33.1	1.00	0.80	1.15	19.9
Approach		1436	2.3	1.057	124.3	LOS F	74.4	531.7	0.94	1.23	1.47	16.8
NorthWest: Wyee Road												
27	L2	72	3.2	0.932	105.5	LOS F	18.3	131.5	1.00	1.13	1.84	18.7
28	T1	140	3.3	0.932	99.9	LOS F	18.3	131.5	1.00	1.13	1.84	22.6
29	R2	151	2.3	0.964	110.8	LOS F	14.1	100.5	1.00	1.05	1.55	21.9
Approach		362	2.8	0.964	105.6	LOS F	18.3	131.5	1.00	1.09	1.72	21.6
SouthWest: Pacific Highway (south west)												
30	L2	138	5.5	0.077	7.7	LOS A	0.0	0.0	0.00	0.60	0.00	64.5
31	T1	1219	1.7	0.717	28.2	LOS B	41.4	293.7	0.77	0.70	0.77	43.7
32	R2	365	1.4	0.945	71.3	LOS F	22.3	157.7	1.00	0.99	1.39	29.2
Approach		1722	1.9	0.945	35.7	LOS C	41.4	293.7	0.76	0.75	0.84	39.8
All Vehicles		4281	2.1	1.086	79.9	LOS F	74.4	531.7	0.80	0.96	1.14	24.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 110 [Pacific Hwy-Rutley Rd -FRI AM 2028+Stage 1]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 102 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
East: Pacific Hwy - E												
5	T1	1509	3.3	0.395	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	79.8
6	R2	220	5.7	0.424	28.3	LOS B	8.7	63.7	0.85	0.83	0.85	46.5
Approach		1729	3.7	0.424	3.6	LOS A	8.7	63.7	0.11	0.11	0.11	73.1
North: Rutley Rd												
7	L2	221	6.2	0.124	7.7	LOS A	0.0	0.0	0.00	0.60	0.00	64.3
9	R2	246	6.8	0.788	55.3	LOS D	12.8	94.8	1.00	0.89	1.16	34.5
Approach		467	6.5	0.788	32.8	LOS C	12.8	94.8	0.53	0.75	0.61	44.3
West: Pacific Hwy - W												
10	L2	125	10.1	0.127	13.2	LOS A	2.1	15.7	0.41	0.69	0.41	56.9
11	T1	972	5.7	0.573	22.2	LOS B	17.8	130.8	0.79	0.70	0.79	53.8
Approach		1097	6.2	0.573	21.2	LOS B	17.8	130.8	0.75	0.70	0.75	54.1
All Vehicles		3294	4.9	0.788	13.6	LOS A	17.8	130.8	0.38	0.40	0.39	60.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 111 [Pacific Hwy-Rutley Rd -FRI PM 2028+Stage 1]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 102 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
East: Pacific Hwy - E												
5	T1	1134	2.3	0.295	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	79.9
6	R2	253	1.7	0.470	39.1	LOS C	9.9	70.6	0.87	0.91	1.22	41.4
Approach		1386	2.2	0.470	7.2	LOS A	9.9	70.6	0.16	0.17	0.22	68.3
North: Rutley Rd												
7	L2	374	0.0	0.201	7.6	LOS A	0.0	0.0	0.00	0.60	0.00	66.2
9	R2	245	2.1	0.977	87.1	LOS F	16.9	120.5	1.00	1.06	1.71	26.8
Approach		619	0.9	0.977	39.1	LOS C	16.9	120.5	0.40	0.79	0.68	41.9
West: Pacific Hwy - W												
10	L2	271	2.7	0.223	9.9	LOS A	2.5	17.6	0.35	0.70	0.35	62.1
11	T1	1487	1.3	0.872	36.0	LOS C	38.5	272.5	0.98	0.98	1.11	44.7
Approach		1758	1.6	0.872	32.0	LOS C	38.5	272.5	0.88	0.94	0.99	46.7
All Vehicles		3763	1.7	0.977	24.0	LOS B	38.5	272.5	0.54	0.63	0.66	51.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 112 [Pacific Hwy-Rutley Rd -SAT 2028+Stage 1]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 102 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
East: Pacific Hwy - E												
5	T1	1135	1.3	0.293	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	79.9
6	R2	203	2.6	0.351	28.9	LOS C	7.7	55.4	0.82	0.83	0.86	46.7
Approach		1338	1.5	0.351	4.4	LOS A	7.7	55.4	0.12	0.13	0.13	72.1
North: Rutley Rd												
7	L2	215	1.5	0.117	7.6	LOS A	0.0	0.0	0.00	0.60	0.00	65.8
9	R2	187	1.7	0.744	56.4	LOS D	9.6	68.4	1.00	0.86	1.13	34.6
Approach		402	1.6	0.744	30.3	LOS C	9.6	68.4	0.47	0.72	0.53	46.4
West: Pacific Hwy - W												
10	L2	206	1.0	0.188	12.0	LOS A	3.1	21.6	0.40	0.70	0.40	60.3
11	T1	1158	1.8	0.681	24.4	LOS B	22.9	163.0	0.86	0.77	0.86	52.1
Approach		1364	1.7	0.681	22.5	LOS B	22.9	163.0	0.79	0.76	0.79	53.2
All Vehicles		3104	1.6	0.744	15.7	LOS B	22.9	163.0	0.46	0.48	0.47	58.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 104 [Pacific Hwy-Wentworth Ave-Stage 1 (Minor Road)-FRI AM 2028+Stage 1]

Network: N101 [Pacific Hwy-Wentworth Ave-FRI AM 2028+Stage 1]

Staged crossing Stage 1 (Minor Road) at three-way intersection with 5-lane major road. Major road turn lane is treated as a full-length lane.
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Minor Road (Stage 1)														
1	L2	55	1.9	55	1.9	0.153	17.4	LOS B	0.5	3.8	0.73	1.00	0.73	43.1
2	T1	13	0.0	13	0.0	0.240	83.3	LOS F	0.7	4.9	0.96	1.01	1.02	16.5
Approach		67	1.6	67	1.6	0.240	29.7	LOS C	0.7	4.9	0.78	1.00	0.79	35.4
East: Major Road East														
4	L2	9	11.1	9	11.1	0.471	5.7	LOS A	0.0	0.0	0.00	0.01	0.00	57.4
5	T1	1798	2.5	1798	2.5	0.471	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
6	R2	1	100.0	1	100.0	0.001	6.4	LOS A	0.0	0.0	0.00	0.63	0.00	48.2
Approach		1808	2.6	1808	2.6	0.471	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.8
West: Major Road West														
12	R2	13	0.0	13	0.0	0.119	32.9	LOS C	0.3	2.2	0.92	0.97	0.92	34.0
12u	U	3	0.0	3	0.0	0.119	33.7	LOS C	0.3	2.2	0.92	0.97	0.92	27.4
Approach		16	0.0	16	0.0	0.119	33.1	NA	0.3	2.2	0.92	0.97	0.92	32.9
All Vehicles		1892	2.5	1892	2.5	0.471	1.4	NA	0.7	4.9	0.04	0.05	0.04	57.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 105 [Pacific Hwy-Wentworth Ave-Stage 2 (Median) NSW- FRI AM 2028+Stage 1]

Network: N101 [Pacific Hwy-Wentworth Ave-FRI AM 2028+Stage 1]

Staged crossing Stage 2 (Median) at three-way intersection with 5-lane major road.
Give-way behaviour assumed at Stage 2.
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Median Storage Area														
3	R2	13	0.0	13	0.0	0.032	7.3	LOS A	0.1	0.5	0.73	0.73	0.73	40.5
Approach		13	0.0	13	0.0	0.032	7.3	LOS A	0.1	0.5	0.73	0.73	0.73	40.5
West: Major Road West														
11	T1	1347	7.3	1347	7.3	0.362	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1347	7.3	1347	7.3	0.362	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		1360	7.2	1360	7.2	0.362	0.1	NA	0.1	0.5	0.01	0.01	0.01	59.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 106 [Pacific Hwy-Wentworth Ave-Stage 1 (Minor Road)-FRI PM 2028+Stage 1]

Network: N101 [Pacific Hwy-Wentworth Ave-FRI PM 2028+Stage 1]

Staged crossing Stage 1 (Minor Road) at three-way intersection with 5-lane major road. Major road turn lane is treated as a full-length lane.
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Minor Road (Stage 1)														
1	L2	39	2.7	39	2.7	0.076	13.5	LOS A	0.3	2.0	0.59	0.98	0.59	45.6
2	T1	6	0.0	6	0.0	0.055	38.2	LOS C	0.2	1.2	0.90	1.00	0.90	27.5
Approach		45	2.3	45	2.3	0.076	17.0	LOS B	0.3	2.0	0.63	0.98	0.63	42.8
East: Major Road East														
4	L2	22	0.0	22	0.0	0.371	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	57.9
5	T1	1399	2.8	1399	2.8	0.371	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.8
6	R2	1	0.0	1	0.0	0.001	5.7	LOS A	0.0	0.0	0.00	0.63	0.00	48.2
Approach		1422	2.7	1422	2.7	0.371	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.7
West: Major Road West														
12	R2	69	3.0	69	3.0	0.285	21.6	LOS B	0.9	6.7	0.86	0.97	0.97	39.4
12u	U	3	33.3	3	33.3	0.285	30.1	LOS C	0.9	6.7	0.86	0.97	0.97	30.2
Approach		73	4.3	73	4.3	0.285	22.0	NA	0.9	6.7	0.86	0.97	0.97	39.0
All Vehicles		1540	2.8	1540	2.8	0.371	1.7	NA	0.9	6.7	0.06	0.08	0.06	57.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 107 [Pacific Hwy-Wentworth Ave-Stage 2 (Median) NSW- FRI PM 2028+Stage 1]

Network: N101 [Pacific Hwy-Wentworth Ave-FRI PM 2028+Stage 1]

Staged crossing Stage 2 (Median) at three-way intersection with 5-lane major road.
Give-way behaviour assumed at Stage 2.
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Median Storage Area														
3	R2	6	0.0	6	0.0	0.039	19.6	LOS B	0.1	0.6	0.89	0.89	0.89	30.1
Approach		6	0.0	6	0.0	0.039	19.6	LOS B	0.1	0.6	0.89	0.89	0.89	30.1
West: Major Road West														
11	T1	1952	2.0	1952	2.0	0.507	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		1952	2.0	1952	2.0	0.507	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.8
All Vehicles		1958	2.0	1958	2.0	0.507	0.1	NA	0.1	0.6	0.00	0.00	0.00	59.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 108 [Pacific Hwy-Wentworth Ave-Stage 1 (Minor Road)-SAT 2028+Stage 1]

Network: N101 [Pacific Hwy-Wentworth Ave-SAT 2028 +Stage 1]

Staged crossing Stage 1 (Minor Road) at three-way intersection with 5-lane major road. Major road turn lane is treated as a full-length lane.
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Minor Road (Stage 1)														
1	L2	62	0.6	62	0.6	0.117	13.3	LOS A	0.4	3.0	0.59	0.99	0.59	46.0
2	T1	19	0.0	19	0.0	0.146	35.8	LOS C	0.5	3.2	0.89	1.00	0.89	28.5
Approach		81	0.4	81	0.4	0.146	18.6	LOS B	0.5	3.2	0.66	0.99	0.66	41.6
East: Major Road East														
4	L2	19	0.0	19	0.0	0.362	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	57.9
5	T1	1368	2.6	1368	2.6	0.362	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.8
6	R2	1	0.0	1	0.0	0.001	5.7	LOS A	0.0	0.0	0.00	0.63	0.00	48.2
Approach		1388	2.6	1388	2.6	0.362	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.7
West: Major Road West														
12	R2	39	0.0	39	0.0	0.140	18.1	LOS B	0.4	2.9	0.82	0.93	0.82	41.7
12u	U	1	0.0	1	0.0	0.140	18.9	LOS B	0.4	2.9	0.82	0.93	0.82	35.6
Approach		40	0.0	40	0.0	0.140	18.1	NA	0.4	2.9	0.82	0.93	0.82	41.6
All Vehicles		1509	2.4	1509	2.4	0.362	1.6	NA	0.5	3.2	0.06	0.09	0.06	57.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 109 [Pacific Hwy-Wentworth Ave-Stage 2 (Median) NSW- SAT 2028+Stage 1]

Network: N101 [Pacific Hwy-Wentworth Ave-SAT 2028 +Stage 1]

Staged crossing Stage 2 (Median) at three-way intersection with 5-lane major road.
Give-way behaviour assumed at Stage 2.
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Median Storage Area														
3	R2	19	0.0	19	0.0	0.054	8.6	LOS A	0.2	0.9	0.76	0.76	0.76	39.1
Approach		19	0.0	19	0.0	0.054	8.6	LOS A	0.2	0.9	0.76	0.76	0.76	39.1
West: Major Road West														
11	T1	1473	1.6	1473	1.6	0.381	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1473	1.6	1473	1.6	0.381	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		1492	1.6	1492	1.6	0.381	0.1	NA	0.2	0.9	0.01	0.01	0.01	59.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Pacific HIghway-Wyee Road-Scenic Drive -FRI AM 2038 Base]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 104 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
SouthEast: Scenic Drive												
21	L2	519	1.6	0.283	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.8
22	T1	174	8.2	0.992	90.1	LOS F	12.5	93.7	0.98	1.21	1.86	24.4
23	R2	203	4.1	0.823	57.9	LOS E	11.0	79.7	1.00	0.93	1.25	26.5
Approach		896	3.4	0.992	33.9	LOS C	12.5	93.7	0.42	0.75	0.65	37.9
NorthEast: Pacific Highway (north east)												
24	L2	117	5.7	0.129	14.4	LOS A	1.8	12.9	0.55	0.73	0.55	47.0
25	T1	1604	3.2	1.219	250.7	LOS F	111.7	803.2	1.00	2.06	2.80	9.3
26	R2	43	0.0	0.483	63.4	LOS E	2.3	16.3	1.00	0.73	1.00	25.5
Approach		1764	3.3	1.219	230.5	LOS F	111.7	803.2	0.97	1.94	2.61	10.0
NorthWest: Wyee Road												
27	L2	52	5.0	0.682	56.0	LOS D	9.5	70.3	0.99	0.91	1.48	28.3
28	T1	149	7.8	0.682	50.3	LOS D	9.5	70.3	0.99	0.91	1.48	32.6
29	R2	218	4.1	0.945	75.9	LOS F	14.0	101.5	1.00	1.09	1.60	27.5
Approach		419	5.5	0.945	64.3	LOS E	14.0	101.5	1.00	1.01	1.54	29.3
SouthWest: Pacific Highway (south west)												
30	L2	158	14.9	0.094	7.8	LOS A	0.0	0.0	0.00	0.59	0.00	61.8
31	T1	1193	9.5	0.820	31.1	LOS C	31.1	235.4	0.91	0.87	0.99	41.8
32	R2	272	8.7	1.077	147.7	LOS F	25.9	194.5	1.00	1.26	2.18	17.8
Approach		1622	9.9	1.077	48.4	LOS D	31.1	235.4	0.84	0.91	1.09	33.7
All Vehicles		4701	5.8	1.219	115.4	LOS F	111.7	803.2	0.82	1.27	1.62	18.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 102 [Pacific HIghway-Wyee Road-Scenic Drive -FRI PM 2038 Base]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 184 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
SouthEast: Scenic Drive												
21	L2	297	3.2	0.163	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.8
22	T1	198	2.1	1.209	285.5	LOS F	34.5	245.8	1.00	1.48	2.16	10.2
23	R2	232	2.3	1.179	264.8	LOS F	38.5	274.6	1.00	1.29	2.05	8.5
Approach		726	2.6	1.209	164.5	LOS F	38.5	274.6	0.59	1.03	1.24	14.8
NorthEast: Pacific Highway (north east)												
24	L2	259	2.3	0.334	27.2	LOS B	9.7	69.0	0.71	0.79	0.71	38.6
25	T1	1077	4.7	1.187	258.2	LOS F	97.3	708.5	1.00	1.57	1.98	9.0
26	R2	74	0.0	0.487	96.2	LOS F	6.5	45.4	1.00	0.77	1.00	19.5
Approach		1409	4.0	1.187	207.3	LOS F	97.3	708.5	0.95	1.38	1.70	10.8
NorthWest: Wyee Road												
27	L2	41	3.0	1.025	85.2	LOS F	32.4	229.8	1.00	0.99	1.55	12.4
28	T1	229	1.1	1.025	79.5	LOS F	32.4	229.8	1.00	0.99	1.55	15.5
29	R2	196	0.6	1.199	282.0	LOS F	33.5	235.6	1.00	1.33	2.13	10.4
Approach		466	1.1	1.199	165.0	LOS F	33.5	235.6	1.00	1.13	1.79	12.7
SouthWest: Pacific Highway (south west)												
30	L2	164	2.6	0.090	7.6	LOS A	0.0	0.0	0.00	0.60	0.00	65.4
31	T1	1746	2.0	1.160	223.4	LOS F	170.8	1216.8	1.00	1.59	1.85	10.3
32	R2	636	1.1	1.307	338.2	LOS F	101.3	716.0	1.00	1.35	2.31	8.4
Approach		2546	1.9	1.307	238.1	LOS F	170.8	1216.8	0.94	1.47	1.84	10.3
All Vehicles		5148	2.5	1.307	212.7	LOS F	170.8	1216.8	0.90	1.35	1.71	11.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 103 [Pacific HIghway-Wyee Road-Scenic Drive -SAT 2038 Base]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 157 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
SouthEast: Scenic Drive												
21	L2	396	1.0	0.215	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	54.9
22	T1	175	3.1	1.081	176.1	LOS F	22.2	159.8	1.00	1.31	1.93	15.2
23	R2	244	2.2	1.083	179.2	LOS F	30.9	220.6	1.00	1.22	1.87	11.9
Approach		815	1.8	1.083	94.2	LOS F	30.9	220.6	0.51	0.90	0.97	22.2
NorthEast: Pacific Highway (north east)												
24	L2	217	1.4	0.244	20.3	LOS B	5.9	42.1	0.62	0.76	0.62	42.8
25	T1	1198	2.8	1.085	165.0	LOS F	81.2	582.5	1.00	1.42	1.74	13.4
26	R2	58	5.1	0.725	93.9	LOS F	4.8	34.7	1.00	0.81	1.18	19.8
Approach		1473	2.7	1.085	140.9	LOS F	81.2	582.5	0.94	1.30	1.56	15.1
NorthWest: Wyee Road												
27	L2	67	3.7	0.976	121.0	LOS F	20.7	149.3	1.00	1.19	1.96	17.0
28	T1	153	3.3	0.976	115.3	LOS F	20.7	149.3	1.00	1.19	1.96	20.7
29	R2	164	2.3	1.062	165.7	LOS F	19.6	139.6	1.00	1.19	1.86	16.2
Approach		384	2.9	1.062	137.8	LOS F	20.7	149.3	1.00	1.19	1.92	17.9
SouthWest: Pacific Highway (south west)												
30	L2	156	5.5	0.087	7.7	LOS A	0.0	0.0	0.00	0.60	0.00	64.5
31	T1	1201	1.9	0.721	28.2	LOS B	41.5	295.4	0.77	0.70	0.77	43.8
32	R2	414	1.4	1.070	135.4	LOS F	35.9	254.0	1.00	1.12	1.74	16.2
Approach		1771	2.1	1.070	51.4	LOS D	41.5	295.4	0.76	0.79	0.93	30.2
All Vehicles		4442	2.3	1.085	96.4	LOS F	81.2	582.5	0.80	1.01	1.23	21.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 104 [Pacific Hwy-Wentworth Ave-Stage 1 (Minor Road)-FRI AM 2038 Base]

Network: N101 [Pacific Hwy-Wentworth Ave-FRI AM 2038 Base]

Staged crossing Stage 1 (Minor Road) at three-way intersection with 5-lane major road. Major road turn lane is treated as a full-length lane.
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Minor Road (Stage 1)														
1	L2	31	3.4	31	3.4	0.095	17.9	LOS B	0.3	2.2	0.75	1.00	0.75	42.7
2	T1	4	0.0	4	0.0	0.121	103.9	LOS F	0.3	2.2	0.97	1.00	0.97	13.9
Approach		35	3.0	35	3.0	0.121	28.3	LOS B	0.3	2.2	0.77	1.00	0.77	36.3
East: Major Road East														
4	L2	7	12.5	7	12.5	0.455	5.7	LOS A	0.0	0.0	0.00	0.01	0.00	57.6
5	T1	1734	3.0	1734	3.0	0.455	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
6	R2	1	100.0	1	100.0	0.001	6.4	LOS A	0.0	0.0	0.00	0.63	0.00	50.6
Approach		1742	3.1	1742	3.1	0.455	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.8
West: Major Road West														
12	R2	7	0.0	7	0.0	0.103	39.9	LOS C	0.3	1.8	0.94	0.97	0.94	31.2
12u	U	3	0.0	3	0.0	0.103	40.5	LOS C	0.3	1.8	0.94	0.97	0.94	24.8
Approach		11	0.0	11	0.0	0.103	40.1	NA	0.3	1.8	0.94	0.97	0.94	29.5
All Vehicles		1787	3.1	1787	3.1	0.455	0.9	NA	0.3	2.2	0.02	0.03	0.02	58.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 105 [Pacific Hwy-Wentworth Ave-Stage 2 (Median) NSW- FRI AM 2038 Base]

Network: N101 [Pacific Hwy-Wentworth Ave-FRI AM 2038 Base]

Staged crossing Stage 2 (Median) at three-way intersection with 5-lane major road.
Give-way behaviour assumed at Stage 2.
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Median Storage Area														
3	R2	4	0.0	4	0.0	0.010	6.6	LOS A	0.0	0.2	0.71	0.64	0.71	44.6
Approach		4	0.0	4	0.0	0.010	6.6	LOS A	0.0	0.2	0.71	0.64	0.71	44.6
West: Major Road West														
11	T1	1291	9.0	1291	9.0	0.350	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1291	9.0	1291	9.0	0.350	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		1295	9.0	1295	9.0	0.350	0.0	NA	0.0	0.2	0.00	0.00	0.00	59.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 106 [Pacific Hwy-Wentworth Ave-Stage 1 (Minor Road)-FRI PM 2038 Base]

Network: N101 [Pacific Hwy-Wentworth Ave-FRI PM 2038 Base]

Staged crossing Stage 1 (Minor Road) at three-way intersection with 5-lane major road. Major road turn lane is treated as a full-length lane.
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Minor Road (Stage 1)														
1	L2	28	1.0	28	1.0	0.059	13.6	LOS A	0.2	1.4	0.61	0.99	0.61	45.7
2	T1	3	0.0	3	0.0	0.034	45.1	LOS D	0.1	0.7	0.92	1.00	0.92	25.0
Approach		32	0.9	32	0.9	0.059	16.8	LOS B	0.2	1.4	0.64	0.99	0.64	43.2
East: Major Road East														
4	L2	8	0.0	8	0.0	0.360	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	58.2
5	T1	1360	4.0	1360	4.0	0.360	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
6	R2	1	0.0	1	0.0	0.001	5.7	LOS A	0.0	0.0	0.00	0.63	0.00	50.6
Approach		1369	4.0	1369	4.0	0.360	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.8
West: Major Road West														
12	R2	28	1.0	28	1.0	0.150	21.6	LOS B	0.4	3.0	0.87	0.95	0.87	39.0
12u	U	3	33.3	3	33.3	0.150	33.1	LOS C	0.4	3.0	0.87	0.95	0.87	29.8
Approach		32	4.2	32	4.2	0.150	22.7	NA	0.4	3.0	0.87	0.95	0.87	38.2
All Vehicles		1433	3.9	1433	3.9	0.360	1.0	NA	0.4	3.0	0.03	0.05	0.03	58.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 107 [Pacific Hwy-Wentworth Ave-Stage 2 (Median) NSW- FRI PM 2038 Base]

Network: N101 [Pacific Hwy-Wentworth Ave-FRI PM 2038 Base]

Staged crossing Stage 2 (Median) at three-way intersection with 5-lane major road.
Give-way behaviour assumed at Stage 2.
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Median Storage Area														
3	R2	3	0.0	3	0.0	0.018	18.5	LOS B	0.1	0.3	0.88	0.88	0.88	34.7
Approach		3	0.0	3	0.0	0.018	18.5	LOS B	0.1	0.3	0.88	0.88	0.88	34.7
West: Major Road West														
11	T1	1919	3.0	1919	3.0	0.502	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		1919	3.0	1919	3.0	0.502	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.8
All Vehicles		1922	3.0	1922	3.0	0.502	0.1	NA	0.1	0.3	0.00	0.00	0.00	59.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 108 [Pacific Hwy-Wentworth Ave-Stage 1 (Minor Road)-SAT 2038 Base]

Network: N101 [Pacific Hwy-Wentworth Ave-SAT 2038 Base]

Staged crossing Stage 1 (Minor Road) at three-way intersection with 5-lane major road. Major road turn lane is treated as a full-length lane.
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Minor Road (Stage 1)														
1	L2	37	1.0	37	1.0	0.081	14.2	LOS A	0.3	1.9	0.64	1.00	0.64	45.4
2	T1	11	0.0	11	0.0	0.129	51.1	LOS D	0.4	2.6	0.93	1.00	0.93	23.1
Approach		47	0.8	47	0.8	0.129	22.4	LOS B	0.4	2.6	0.70	1.00	0.70	39.2
East: Major Road East														
4	L2	11	0.0	11	0.0	0.375	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	58.2
5	T1	1422	3.0	1422	3.0	0.375	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
6	R2	1	0.0	1	0.0	0.001	5.7	LOS A	0.0	0.0	0.00	0.63	0.00	50.6
Approach		1434	3.0	1434	3.0	0.375	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.8
West: Major Road West														
12	R2	14	0.0	14	0.0	0.073	22.8	LOS B	0.2	1.4	0.87	0.95	0.87	38.9
12u	U	1	0.0	1	0.0	0.073	23.7	LOS B	0.2	1.4	0.87	0.95	0.87	32.5
Approach		15	0.0	15	0.0	0.073	22.9	NA	0.2	1.4	0.87	0.95	0.87	38.5
All Vehicles		1496	2.9	1496	2.9	0.375	1.0	NA	0.4	2.6	0.03	0.05	0.03	58.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 109 [Pacific Hwy-Wentworth Ave-Stage 2 (Median) NSW- SAT 2038 Base]

Network: N101 [Pacific Hwy-Wentworth Ave-SAT 2038 Base]

Staged crossing Stage 2 (Median) at three-way intersection with 5-lane major road.
Give-way behaviour assumed at Stage 2.
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Median Storage Area														
3	R2	11	0.0	11	0.0	0.029	8.2	LOS A	0.1	0.5	0.75	0.75	0.75	43.0
Approach		11	0.0	11	0.0	0.029	8.2	LOS A	0.1	0.5	0.75	0.75	0.75	43.0
West: Major Road West														
11	T1	1448	2.0	1448	2.0	0.376	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1448	2.0	1448	2.0	0.376	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		1459	2.0	1459	2.0	0.376	0.1	NA	0.1	0.5	0.01	0.01	0.01	59.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 110 [Pacific Hwy-Rutley Rd -FRI AM 2038 Base]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 102 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
East: Pacific Hwy - E												
5	T1	1589	4.0	0.418	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	79.8
6	R2	220	6.0	0.438	30.8	LOS C	8.9	65.4	0.87	0.85	0.92	45.1
Approach		1809	4.2	0.438	3.8	LOS A	8.9	65.4	0.11	0.10	0.11	72.9
North: Rutley Rd												
7	L2	249	7.0	0.141	7.7	LOS A	0.0	0.0	0.00	0.60	0.00	64.0
9	R2	279	7.0	0.894	64.6	LOS E	16.3	120.6	1.00	0.96	1.37	31.7
Approach		528	7.0	0.894	37.7	LOS C	16.3	120.6	0.53	0.79	0.72	41.7
West: Pacific Hwy - W												
10	L2	125	10.0	0.127	13.3	LOS A	2.1	15.6	0.42	0.69	0.42	56.9
11	T1	1031	7.0	0.613	22.8	LOS B	19.4	143.8	0.81	0.72	0.81	53.4
Approach		1156	7.3	0.613	21.7	LOS B	19.4	143.8	0.77	0.72	0.77	53.7
All Vehicles		3494	5.7	0.894	14.9	LOS B	19.4	143.8	0.39	0.41	0.42	59.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 111 [Pacific Hwy-Rutley Rd -FRI PM 2038 Base]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 102 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
East: Pacific Hwy - E												
5	T1	1148	2.3	0.299	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	79.9
6	R2	279	2.0	0.528	41.6	LOS C	11.0	78.2	0.89	0.92	1.30	40.3
Approach		1427	2.2	0.528	8.2	LOS A	11.0	78.2	0.17	0.18	0.25	67.0
North: Rutley Rd												
7	L2	399	0.0	0.215	7.6	LOS A	0.0	0.0	0.00	0.60	0.00	66.2
9	R2	262	2.0	1.043	122.4	LOS F	22.1	157.4	1.00	1.17	2.02	21.0
Approach		661	0.8	1.043	53.1	LOS D	22.1	157.4	0.40	0.83	0.80	35.9
West: Pacific Hwy - W												
10	L2	309	3.0	0.244	9.4	LOS A	2.7	19.6	0.32	0.69	0.32	62.4
11	T1	1599	2.0	0.947	54.4	LOS D	51.9	369.7	1.00	1.14	1.33	36.5
Approach		1908	2.2	0.947	47.1	LOS D	51.9	369.7	0.89	1.06	1.16	39.2
All Vehicles		3997	2.0	1.043	34.2	LOS C	51.9	369.7	0.55	0.71	0.78	45.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 112 [Pacific Hwy-Rutley Rd -SAT 2038 Base]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 102 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
East: Pacific Hwy - E												
5	T1	1176	1.6	0.305	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	79.9
6	R2	223	3.0	0.398	33.0	LOS C	8.6	61.8	0.84	0.87	1.02	44.3
Approach		1399	1.8	0.398	5.3	LOS A	8.6	61.8	0.13	0.14	0.16	70.8
North: Rutley Rd												
7	L2	229	1.7	0.125	7.6	LOS A	0.0	0.0	0.00	0.60	0.00	65.7
9	R2	200	1.9	0.795	58.4	LOS E	10.6	75.3	1.00	0.89	1.20	33.9
Approach		429	1.8	0.795	31.3	LOS C	10.6	75.3	0.47	0.73	0.56	45.9
West: Pacific Hwy - W												
10	L2	236	1.2	0.210	11.3	LOS A	3.2	22.3	0.40	0.70	0.40	61.0
11	T1	1248	2.3	0.736	25.3	LOS B	25.6	183.0	0.89	0.80	0.89	51.4
Approach		1484	2.1	0.736	23.1	LOS B	25.6	183.0	0.81	0.78	0.81	52.8
All Vehicles		3313	2.0	0.795	16.6	LOS B	25.6	183.0	0.48	0.51	0.50	57.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Pacific HIghway-Wyee Road-Scenic Drive -FRI AM 2038 +Stage 2]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 104 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
SouthEast: Scenic Drive												
21	L2	519	1.6	0.283	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.8
22	T1	174	8.2	1.045	121.6	LOS F	15.1	113.3	1.00	1.32	2.13	19.9
23	R2	277	3.0	1.283	314.3	LOS F	41.4	297.3	1.00	1.82	3.24	7.4
Approach		969	3.2	1.283	114.6	LOS F	41.4	297.3	0.46	1.04	1.31	19.6
NorthEast: Pacific Highway (north east)												
24	L2	146	4.6	0.154	13.9	LOS A	2.1	15.3	0.54	0.73	0.54	47.5
25	T1	2003	2.6	1.376	386.6	LOS F	177.1	1267.0	1.00	2.61	3.55	6.3
26	R2	54	0.0	0.601	64.3	LOS E	2.9	20.5	1.00	0.77	1.10	25.3
Approach		2203	2.6	1.376	354.0	LOS F	177.1	1267.0	0.97	2.44	3.29	6.9
NorthWest: Wyee Road												
27	L2	68	3.8	0.826	65.3	LOS E	11.2	83.0	1.00	1.04	1.79	25.8
28	T1	149	7.8	0.826	59.6	LOS E	11.2	83.0	1.00	1.04	1.79	30.0
29	R2	218	4.1	1.061	135.8	LOS F	19.8	143.3	1.00	1.34	2.15	18.7
Approach		436	5.3	1.061	98.6	LOS F	19.8	143.3	1.00	1.19	1.97	22.5
SouthWest: Pacific Highway (south west)												
30	L2	158	14.9	0.094	7.8	LOS A	0.0	0.0	0.00	0.59	0.00	61.8
31	T1	1497	7.5	0.928	47.4	LOS D	50.0	372.9	0.96	1.06	1.23	33.5
32	R2	272	8.7	1.077	147.7	LOS F	25.9	194.5	1.00	1.26	2.18	17.8
Approach		1926	8.3	1.077	58.3	LOS E	50.0	372.9	0.88	1.05	1.26	30.2
All Vehicles		5535	4.9	1.376	189.0	LOS F	177.1	1267.0	0.85	1.61	2.13	12.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 102 [Pacific HIghway-Wyee Road-Scenic Drive -FRI PM 2038 +Stage 2]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 184 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
SouthEast: Scenic Drive												
21	L2	297	3.2	0.163	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.8
22	T1	198	2.1	1.209	285.5	LOS F	34.5	245.8	1.00	1.48	2.16	10.2
23	R2	328	1.6	1.545	571.4	LOS F	79.8	566.3	1.00	1.68	2.89	4.2
Approach		823	2.3	1.545	298.6	LOS F	79.8	566.3	0.64	1.22	1.67	9.0
NorthEast: Pacific Highway (north east)												
24	L2	287	2.0	0.370	27.6	LOS B	10.9	77.8	0.73	0.79	0.73	38.4
25	T1	1440	3.5	1.549	567.1	LOS F	186.9	1347.0	1.00	2.20	2.86	4.3
26	R2	82	0.0	0.542	96.7	LOS F	7.3	50.9	1.00	0.78	1.00	19.4
Approach		1809	3.1	1.549	460.1	LOS F	186.9	1347.0	0.96	1.91	2.44	5.3
NorthWest: Wyee Road												
27	L2	61	2.0	1.096	136.4	LOS F	39.3	277.8	1.00	1.06	1.76	10.2
28	T1	229	1.1	1.096	130.7	LOS F	39.3	277.8	1.00	1.06	1.76	12.9
29	R2	196	0.6	1.220	298.7	LOS F	34.5	242.8	1.00	1.35	2.19	9.9
Approach		486	1.0	1.220	199.1	LOS F	39.3	277.8	1.00	1.18	1.93	11.2
SouthWest: Pacific Highway (south west)												
30	L2	164	2.6	0.090	7.6	LOS A	0.0	0.0	0.00	0.60	0.00	65.4
31	T1	2137	1.7	1.369	403.0	LOS F	267.3	1898.1	1.00	2.08	2.44	6.1
32	R2	636	1.1	1.314	344.5	LOS F	102.3	723.3	1.00	1.36	2.33	8.3
Approach		2937	1.6	1.369	368.3	LOS F	267.3	1898.1	0.94	1.85	2.28	7.0
All Vehicles		6056	2.1	1.549	372.6	LOS F	267.3	1898.1	0.91	1.73	2.22	6.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 103 [Pacific HIghway-Wyee Road-Scenic Drive -SAT 2038 +Stage 2]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 157 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
SouthEast: Scenic Drive												
21	L2	396	1.0	0.215	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	54.9
22	T1	175	3.1	1.081	176.1	LOS F	22.2	159.8	1.00	1.31	1.93	15.2
23	R2	343	1.6	1.422	455.1	LOS F	71.2	504.9	1.00	1.69	2.90	5.2
Approach		914	1.6	1.422	207.0	LOS F	71.2	504.9	0.57	1.11	1.46	12.3
NorthEast: Pacific Highway (north east)												
24	L2	299	1.0	0.335	21.1	LOS B	8.6	61.1	0.66	0.78	0.66	42.3
25	T1	1653	2.1	1.490	505.2	LOS F	193.5	1378.4	1.00	2.33	3.02	4.9
26	R2	80	3.7	0.992	124.8	LOS F	7.8	56.6	1.00	0.99	1.71	16.2
Approach		2032	2.0	1.490	418.9	LOS F	193.5	1378.4	0.95	2.05	2.62	5.8
NorthWest: Wyee Road												
27	L2	96	2.6	1.083	128.1	LOS F	26.8	192.2	1.00	1.10	1.85	11.7
28	T1	153	3.3	1.083	122.4	LOS F	26.8	192.2	1.00	1.10	1.85	14.7
29	R2	164	2.3	1.083	179.8	LOS F	20.5	146.2	1.00	1.23	1.93	15.1
Approach		413	2.7	1.083	146.5	LOS F	26.8	192.2	1.00	1.15	1.88	14.2
SouthWest: Pacific Highway (south west)												
30	L2	156	5.5	0.087	7.7	LOS A	0.0	0.0	0.00	0.60	0.00	64.5
31	T1	1657	1.4	0.988	80.1	LOS F	88.8	629.3	0.93	1.10	1.24	23.9
32	R2	414	1.4	1.070	135.4	LOS F	35.9	254.0	1.00	1.12	1.74	16.2
Approach		2226	1.7	1.070	85.3	LOS F	88.8	629.3	0.87	1.07	1.24	22.6
All Vehicles		5584	1.8	1.490	231.1	LOS F	193.5	1378.4	0.86	1.44	1.83	10.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 104 [Pacific Hwy-Wentworth Ave-Stage 1 (Minor Road)-FRI AM 2038 +Stage 2]

Network: N101 [Pacific Hwy-Wentworth Ave-FRI AM 2038+Stage 2]

Staged crossing Stage 1 (Minor Road) at three-way intersection with 5-lane major road. Major road turn lane is treated as a full-length lane.
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Minor Road (Stage 1)														
1	L2	57	1.9	57	1.9	0.228	23.5	LOS B	0.8	5.7	0.83	1.02	0.90	39.4
2	T1	4	0.0	4	0.0	0.199	180.1	LOS F	0.5	3.6	0.98	1.01	1.01	8.8
Approach		61	1.7	61	1.7	0.228	34.3	LOS C	0.8	5.7	0.84	1.02	0.91	33.8
East: Major Road East														
4	L2	9	11.1	9	11.1	0.560	5.7	LOS A	0.0	0.0	0.00	0.01	0.00	57.3
5	T1	2146	2.1	2146	2.1	0.560	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
6	R2	1	100.0	1	100.0	0.001	6.4	LOS A	0.0	0.0	0.00	0.63	0.00	48.2
Approach		2157	2.1	2157	2.1	0.560	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.7
West: Major Road West														
12	R2	13	0.0	13	0.0	0.266	72.8	LOS F	0.7	4.7	0.97	1.00	1.03	22.7
12u	U	3	0.0	3	0.0	0.266	73.0	LOS F	0.7	4.7	0.97	1.00	1.03	17.0
Approach		16	0.0	16	0.0	0.266	72.9	NA	0.7	4.7	0.97	1.00	1.03	21.7
All Vehicles		2234	2.1	2234	2.1	0.560	1.6	NA	0.8	5.7	0.03	0.04	0.03	57.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 105 [Pacific Hwy-Wentworth Ave-Stage 2 (Median) NSW- FRI AM 2038 +Stage 2]

Network: N101 [Pacific Hwy-Wentworth Ave-FRI AM 2038+Stage 2]

Staged crossing Stage 2 (Median) at three-way intersection with 5-lane major road.
Give-way behaviour assumed at Stage 2.
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Median Storage Area														
3	R2	4	0.0	4	0.0	0.017	12.7	LOS A	0.0	0.3	0.83	0.83	0.83	35.2
Approach		4	0.0	4	0.0	0.017	12.7	LOS A	0.0	0.3	0.83	0.83	0.83	35.2
West: Major Road West														
11	T1	1681	6.8	1681	6.8	0.450	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1681	6.8	1681	6.8	0.450	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		1685	6.8	1685	6.8	0.450	0.1	NA	0.0	0.3	0.00	0.00	0.00	59.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 106 [Pacific Hwy-Wentworth Ave-Stage 1 (Minor Road)-FRI PM 2038 +Stage 2]

Network: N101 [Pacific Hwy-Wentworth Ave-FRI PM 2038+Stage 2]

Staged crossing Stage 1 (Minor Road) at three-way intersection with 5-lane major road. Major road turn lane is treated as a full-length lane.
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Minor Road (Stage 1)														
1	L2	35	3.0	35	3.0	0.093	16.7	LOS B	0.3	2.3	0.70	1.00	0.70	43.5
2	T1	3	0.0	3	0.0	0.058	70.8	LOS F	0.2	1.1	0.95	1.00	0.95	18.5
Approach		38	2.8	38	2.8	0.093	21.2	LOS B	0.3	2.3	0.73	1.00	0.73	40.3
East: Major Road East														
4	L2	18	0.0	18	0.0	0.461	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	57.9
5	T1	1753	2.2	1753	2.2	0.461	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	59.8
6	R2	1	0.0	1	0.0	0.001	5.7	LOS A	0.0	0.0	0.00	0.63	0.00	48.2
Approach		1772	2.2	1772	2.2	0.461	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.7
West: Major Road West														
12	R2	57	3.7	57	3.7	0.461	42.5	LOS C	1.4	10.4	0.95	1.03	1.16	30.0
12u	U	3	33.3	3	33.3	0.461	61.0	LOS E	1.4	10.4	0.95	1.03	1.16	22.2
Approach		60	5.3	60	5.3	0.461	43.4	NA	1.4	10.4	0.95	1.03	1.16	29.7
All Vehicles		1869	2.3	1869	2.3	0.461	1.9	NA	1.4	10.4	0.05	0.06	0.05	57.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 107 [Pacific Hwy-Wentworth Ave-Stage 2 (Median) NSW- FRI PM 2038 +Stage 2]

Network: N101 [Pacific Hwy-Wentworth Ave-FRI PM 2038+Stage 2]

Staged crossing Stage 2 (Median) at three-way intersection with 5-lane major road.
Give-way behaviour assumed at Stage 2.
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Median Storage Area														
3	R2	6	0.0	6	0.0	0.099	50.1	LOS D	0.3	1.4	0.96	0.96	0.96	18.3
Approach		6	0.0	6	0.0	0.099	50.1	LOS D	0.3	1.4	0.96	0.96	0.96	18.3
West: Major Road West														
11	T1	2397	1.6	2397	1.6	0.621	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		2397	1.6	2397	1.6	0.621	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.7
All Vehicles		2403	1.6	2403	1.6	0.621	0.2	NA	0.3	1.4	0.00	0.00	0.00	59.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 108 [Pacific Hwy-Wentworth Ave-Stage 1 (Minor Road)-SAT 2038 +Stage 2]

Network: N101 [Pacific Hwy-Wentworth Ave-SAT 2038 +Stage 2]

Staged crossing Stage 1 (Minor Road) at three-way intersection with 5-lane major road. Major road turn lane is treated as a full-length lane.
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Minor Road (Stage 1)														
1	L2	54	2.0	54	2.0	0.176	19.5	LOS B	0.6	4.3	0.78	1.00	0.78	41.8
2	T1	11	0.0	11	0.0	0.314	133.9	LOS F	0.9	6.2	0.98	1.02	1.06	11.4
Approach		64	1.6	64	1.6	0.314	38.2	LOS C	0.9	6.2	0.81	1.00	0.83	31.8
East: Major Road East														
4	L2	16	0.0	16	0.0	0.515	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	57.9
5	T1	1965	2.2	1965	2.2	0.515	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
6	R2	1	0.0	1	0.0	0.001	5.7	LOS A	0.0	0.0	0.00	0.63	0.00	48.2
Approach		1982	2.2	1982	2.2	0.515	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.7
West: Major Road West														
12	R2	31	0.0	31	0.0	0.348	53.7	LOS D	1.0	6.7	0.96	1.01	1.07	27.0
12u	U	1	0.0	1	0.0	0.348	53.9	LOS D	1.0	6.7	0.96	1.01	1.07	20.8
Approach		32	0.0	32	0.0	0.348	53.7	NA	1.0	6.7	0.96	1.01	1.07	26.8
All Vehicles		2078	2.1	2078	2.1	0.515	2.1	NA	1.0	6.7	0.04	0.05	0.04	56.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 109 [Pacific Hwy-Wentworth Ave-Stage 2 (Median) NSW- SAT 2038 +Stage 2]

Network: N101 [Pacific Hwy-Wentworth Ave-SAT 2038 +Stage 2]

Staged crossing Stage 2 (Median) at three-way intersection with 5-lane major road.
Give-way behaviour assumed at Stage 2.
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total 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	Aver. No. Cycles	Average Speed km/h
South: Median Storage Area														
3	R2	11	0.0	11	0.0	0.072	22.1	LOS B	0.2	1.1	0.90	0.90	0.90	28.5
Approach		11	0.0	11	0.0	0.072	22.1	LOS B	0.2	1.1	0.90	0.90	0.90	28.5
West: Major Road West														
11	T1	2017	1.1	2017	1.1	0.521	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		2017	1.1	2017	1.1	0.521	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.8
All Vehicles		2027	1.1	2027	1.1	0.521	0.2	NA	0.2	1.1	0.00	0.00	0.00	59.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 110 [Pacific Hwy-Rutley Rd -FRI AM 2038 +Stage 2]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 102 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
East: Pacific Hwy - E												
5	T1	1722	2.9	0.450	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	79.8
6	R2	220	5.7	0.462	35.5	LOS C	9.0	66.3	0.89	0.89	1.06	42.7
Approach		1942	3.3	0.462	4.1	LOS A	9.0	66.3	0.10	0.10	0.12	72.6
North: Rutley Rd												
7	L2	249	5.5	0.140	7.7	LOS A	0.0	0.0	0.00	0.60	0.00	64.5
9	R2	279	6.0	0.888	63.6	LOS E	16.1	118.5	1.00	0.96	1.35	32.0
Approach		528	5.8	0.888	37.2	LOS C	16.1	118.5	0.53	0.79	0.71	42.1
West: Pacific Hwy - W												
10	L2	125	10.1	0.121	12.1	LOS A	1.8	13.5	0.40	0.69	0.40	58.0
11	T1	1177	4.7	0.690	23.9	LOS B	23.3	169.4	0.86	0.77	0.86	52.5
Approach		1302	5.3	0.690	22.8	LOS B	23.3	169.4	0.81	0.76	0.81	53.0
All Vehicles		3773	4.3	0.888	15.2	LOS B	23.3	169.4	0.41	0.42	0.44	59.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 111 [Pacific Hwy-Rutley Rd -FRI PM 2038 +Stage 2]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 102 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
East: Pacific Hwy - E												
5	T1	1327	2.0	0.345	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	79.8
6	R2	279	1.5	0.720	51.2	LOS D	12.7	89.8	0.99	0.98	1.53	36.5
Approach		1606	1.9	0.720	8.9	LOS A	12.7	89.8	0.17	0.17	0.27	66.1
North: Rutley Rd												
7	L2	399	0.0	0.215	7.6	LOS A	0.0	0.0	0.00	0.60	0.00	66.2
9	R2	262	2.0	0.913	68.3	LOS E	15.7	111.8	1.00	0.98	1.44	31.1
Approach		661	0.8	0.913	31.6	LOS C	15.7	111.8	0.40	0.75	0.57	45.8
West: Pacific Hwy - W												
10	L2	309	2.4	0.247	10.1	LOS A	2.9	20.7	0.37	0.70	0.37	61.9
11	T1	1763	1.1	0.926	43.4	LOS D	53.1	375.0	0.99	1.08	1.22	41.0
Approach		2073	1.3	0.926	38.4	LOS C	53.1	375.0	0.90	1.02	1.09	43.2
All Vehicles		4340	1.5	0.926	26.5	LOS B	53.1	375.0	0.55	0.67	0.71	50.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 112 [Pacific Hwy-Rutley Rd -SAT 2038 +Stage 2]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 102 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total 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	Aver. No. Cycles	Average Speed km/h
East: Pacific Hwy - E												
5	T1	1381	1.1	0.357	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	79.8
6	R2	223	2.4	0.415	37.6	LOS C	8.8	62.6	0.85	0.89	1.15	42.0
Approach		1604	1.2	0.415	5.3	LOS A	8.8	62.6	0.12	0.12	0.16	70.9
North: Rutley Rd												
7	L2	229	1.4	0.125	7.6	LOS A	0.0	0.0	0.00	0.60	0.00	65.8
9	R2	200	1.6	0.793	58.3	LOS E	10.6	75.0	1.00	0.88	1.20	34.0
Approach		429	1.5	0.793	31.2	LOS C	10.6	75.0	0.47	0.73	0.56	45.9
West: Pacific Hwy - W												
10	L2	236	0.9	0.192	9.8	LOS A	2.2	15.7	0.34	0.69	0.34	62.6
11	T1	1466	1.4	0.860	34.3	LOS C	36.9	261.4	0.97	0.96	1.08	45.6
Approach		1702	1.4	0.860	30.9	LOS C	36.9	261.4	0.88	0.92	0.98	47.4
All Vehicles		3736	1.3	0.860	20.0	LOS B	36.9	261.4	0.51	0.56	0.58	55.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Appendix D

Concept Signalised Intersection

NOTE:

1. LOCATION OF SITE ACCESS IS INDICATIVE AND SUBJECT TO CHANGE.
2. INTERSECTION CONFIGURATION IS INDICATIVE AND SUBJECT TO FURTHER STUDY AND CHANGE.
3. DO NOT USE FOR CONSTRUCION

125m
84m
114m
110m
60m
95m
114m

DIMENSION COLOR:

- ROAD DIMENSIONS
- SSD REQUIREMENT

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	OF	WJ	20/06/18

The Transport Planning Partnership
Suite 402, 22 Atchison Street
St. Leonards NSW 2065
Tel: 02 8437 7800
Email: info@ttpp.net.au

PROJECT: DOYALSON WYEE RSL

TITLE: SIGNALIZED SITE ACCESS CONCEPT

DWG No.: FIGURE 1

DATE STAMP: 20 JUNE 2018

PROJECT No.	SCALE	REV.
17395	NTS	A

Filename: 17395CAD04-SIGNALIZED INTERSECTION-180620.dwg Date: 20 June 2018 By: Karl magistrado

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