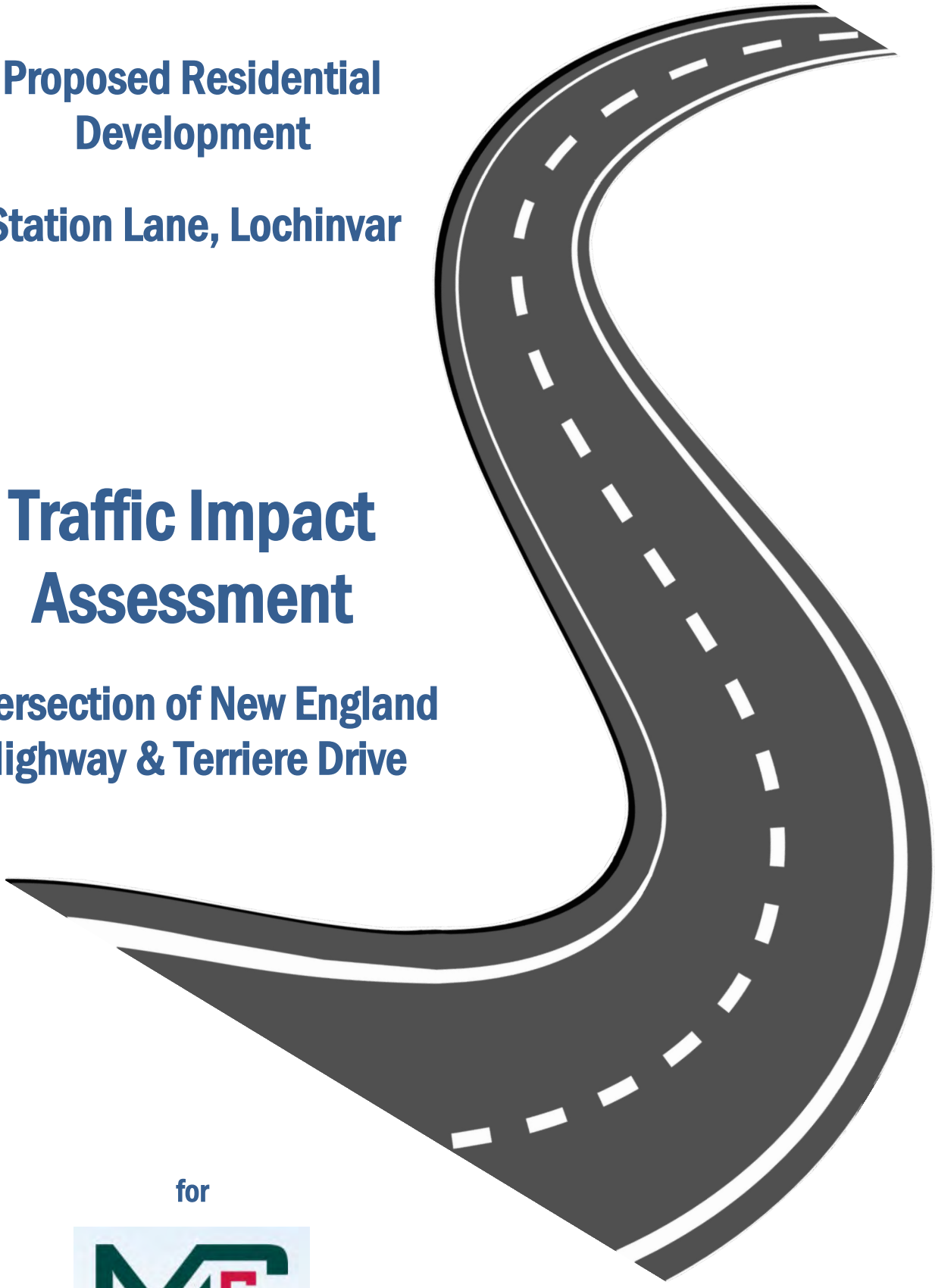
Proposed Residential Development

Station Lane, Lochinvar



Traffic Impact Assessment

Intersection of New England Highway & Terriere Drive

for

McCLOYGROUP

April 2022

Traffic Impact Assessment Details

Generic Document No.	21-039	21-039	21-039	21-039	21-039
Edition / Revision No.	1	2	3	4	5
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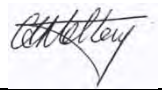
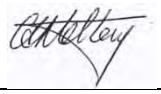
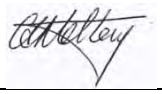
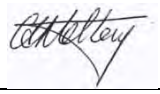
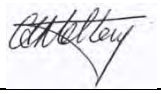
Prepared By	Andy Davis Director 	Andy Davis Director 	Andy Davis Director 	Andy Davis Director 	Andy Davis Director 
Reviewed By	Craig Nethery Director 	Craig Nethery Director 	Craig Nethery Director 	Craig Nethery Director 	Craig Nethery Director 
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APPENDICES

1. INTRODUCTION

1.1 General

The McCloy Group propose an 800-lot residential subdivision of Lot 3, DP 564631, and Lots 2 & 4 of DP 634523. The proposed development is located on the western side of Station Lane, Lochinvar, and is within the Maitland City Council area. It is proposed to submit 2 separate Development Applications for the project. The proposed 800-lot residential development covers approximately 100ha of land within the Lochinvar Urban Release Area.

It is planned to access the initial stages of the proposed residential development from the west, via an extension of Terriere Drive, which currently intersects the New England Highway via a channelised T-intersection. The existing section of Terriere Drive currently provides access to a partially completed residential development (St Helena Estate), which adjoins the western boundary of the subject development.

StreetWise Road Safety and Traffic Services have been engaged by the McCloy Group to prepare a Traffic Impact Assessment report of the existing intersection layout of the New England Highway and Terriere Drive at Lochinvar. This assessment will determine the additional number of vehicle trips which the existing intersection layout can safely and efficiently cater for, before a second access to the development from Station Lane is required.

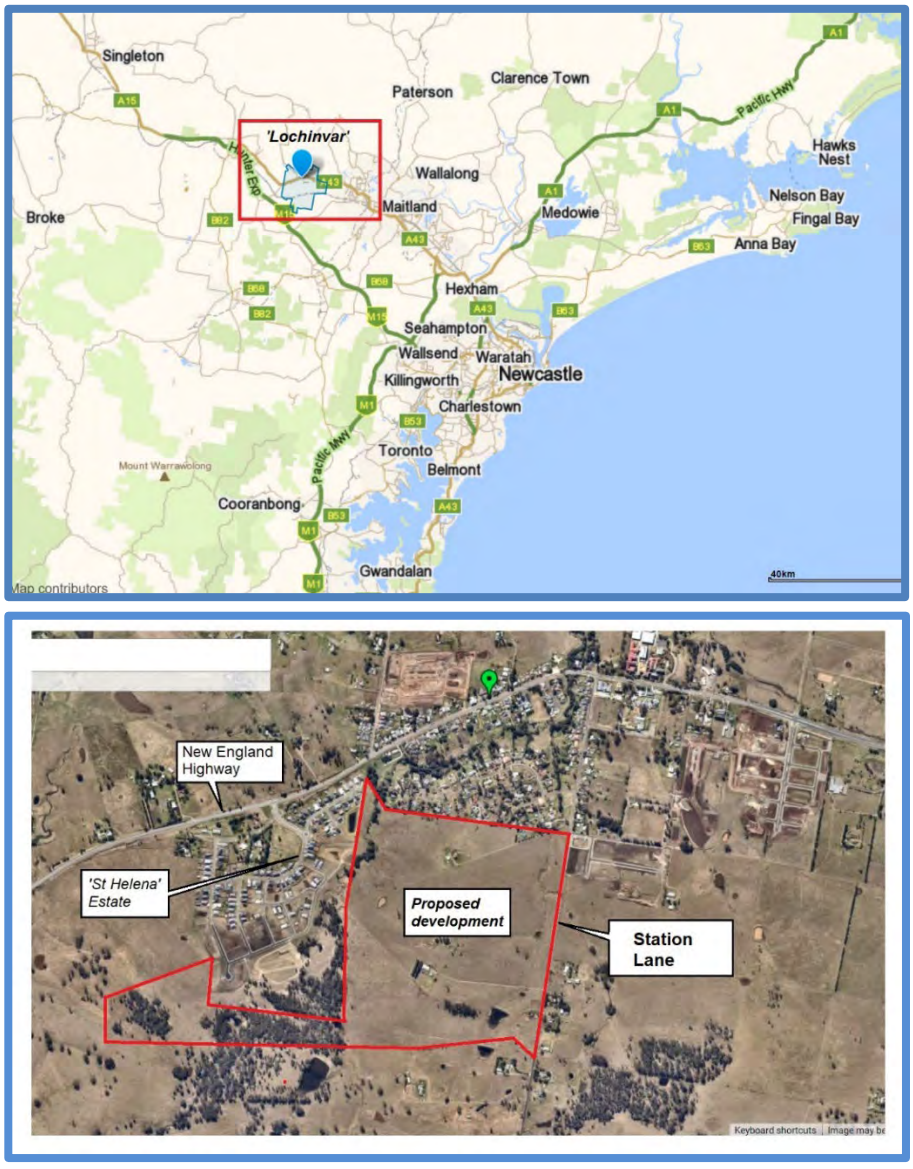


Figure 1.1 – *LOCALITY PLAN*

1.2 Background

The McCloy Group propose to subdivide a large parcel of land at Lochinvar into 800 residential lots. The development is located within a residential precinct planned by Maitland City Council, which covers a significant area south of the Lochinvar township. Council's DCP proposes a southern ring road which includes:

- An existing intersection with the New England Highway at the western end
- the existing section of Terriere Drive through the St Helena Estate
- a proposed extension of Terriere Drive through the proposed development
- intersects with Station Lane, and continues through developments on eastern side
- connects with New England Hwy at Wyndella Road

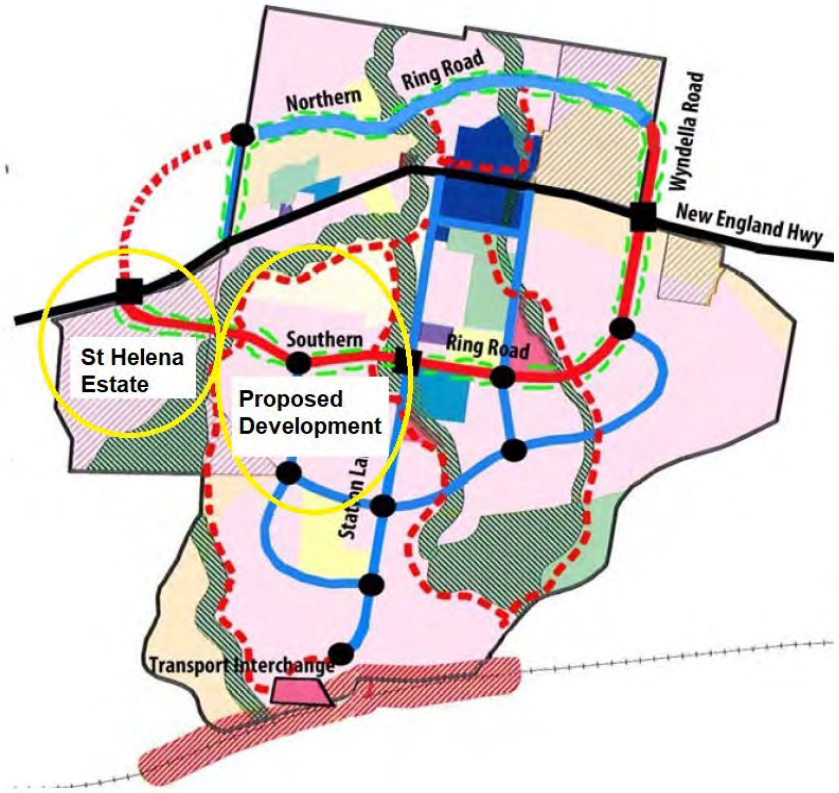


Figure 1.2 Proposed future road network, Lochinvar Residential Precinct (see also Appendix E)

1.3 Scope

The proposed 800-lot residential development will generate traffic which will impact on the New England Highway, including a number of existing intersections within the township of Lochinvar. Maitland Council therefore referred the previous Traffic Impact Assessment by SECA Solution dated 22 April 2020, and the Statement of Environmental Effects (SEE) by Universal Property Group Pty Limited dated 6 May 2020 to Transport for New South Wales (TfNSW) for comment.

The previous Traffic Impact Assessment prepared by SECA Solution was submitted to council as part of a development application. The assessment was reviewed by council and Transport for New South Wales, with a number of issues raised and yet to be addressed. It is proposed to address a number of the comments by council and TfNSW in this assessment and report. The following is a summary of the TfNSW concerns in regard to traffic matters. A full copy of TfNSW letter is included in Appendix B. (The response or location is shown in red)

- Whilst the lot release rate is not known, it is not reasonable to assume that all six stages (900 lots) will be operational in 2020, with the +10 year horizon set at 2030. It is recommended that a lot release rate be proposed to determine the development timeframe. Section 4.1
- The traffic impact from the development has not been adequately identified. The traffic impact on the New England Highway and its intersections is to be demonstrated, and as a minimum the lot threshold trigger for upgrade, scope of upgrade and funding mechanisms are to be identified. Section 4.2
- TfNSW is aware that Council has approved DA18/0456, for subdivision of 313 residential lots at 44 Christopher Road. This development has not been considered within the TIA, and as it is an approved development it must be considered. The approval of DA18/0456 directly affects the subject development application for the following reasons:
  - Intersection of Southern Ring Road (Terriere Drive) and Station Lane will become a priority sign-controlled crossroad instead of a priority sign-controlled T-intersection (Noted).
  - Proposed upgrade of the New England Highway and Station Lane intersection, comprising separate right-turn bays on the New England Highway into the local roads, restricting Station Lane to left-only with a U-turn bay facility further west for Station Lane motorists to head east (Future assessment & report).
- The intersection upgrade of New England Highway and Station Lane proposed under DA18/0456 is considered an interim upgrade and the impact of the subject development on this intersection with and without the upgrade must be assessed as the development progresses (Future assessment & report).
- TfNSW understands that the land between the St Helena Close roundabout and the western boundary of subject development has been dedicated as a public road reserve. TfNSW supports the connection of the road, however the impact of providing this link on the New England Highway intersections needs to be demonstrated (Noted).
- TfNSW notes that Table 4 of the TIA provides Sidra modelling summary results for the intersection of St Helena Close and the New England Highway, assuming a 60% reduction in the right-turn volume from St Helena Close. This assumption has been made on the premise that the Southern Ring Road between Wyndella Road and St Helena Close will be completed by 2030 (Section 4).
- The Southern Ring Road traverses land owned by others, with the timing for completion not known. The development application should not rely on the Southern Ring Road being in place, and the St Helena Close and the New England Highway intersection should cater for all right-turn movements to assist in identifying the timing for upgrade (Future assessment & report)
- TfNSW notes that the concept development application shows a roundabout at the new intersection of Southern Ring Road (Terriere Drive) and Station Lane, with the Lochinvar Section 94 Contributions Plan (Version 3, adopted 12 June 2018) proposing a Traffic Control Signal (TCS) intersection. TfNSW preference would be for a roundabout as the TCS is unlikely to satisfy the warrant for installation as provided in the TfNSW Traffic Signal Design Guide. (Future assessment & report)
- The TIA states that *"Given the low number of intersections in this location and minimal delays for through traffic on the New England Highway, increased mid-block capacities of 1,200-1,400 vph (per direction) can be achieved, corresponding with the upper limit of a Level of Service (LoS E)."* (Section 3.2, 4 & Future assessment).

TfNSW considers there would be reduced midblock capacity on the New England Highway due to the 1km long 40 km/h School Zone, two midblock signalised pedestrian crossings and interruptions caused due to on-street parking and driveway accesses. TfNSW notes the TIA provides the traffic volumes threshold at Level of Service (LoS) E, however considers that the Highway should operate

at a LoS D or better. TfNSW raise concern that the subject development, and the existing approved developments (approximately 700 lots) within the Lochinvar urban release area will result in impact to the mid-block capacity of the New England Highway (Future assessment & report).

The Sidra modelling files have not been provided for review. As TfNSW has concerns with the assessment methodology, it is recommended that these files be provided for review with an updated TIA (Section 4 & Appendix D).

StreetWise have prepared the following methodology to address the outstanding traffic issues in regard to access via Terriere Drive.

Step 1 – Documentation Review

Review all documentation provided including recent traffic assessments by SECA and Intersect Traffic, as well as comments from Maitland Shire Council and Transport for New South Wales.

Step 2 –Collection of Traffic Data

Manual traffic counts at the intersection of Terriere Drive & New England Highway in the Lochinvar area to determine current traffic volumes and traffic movements through the intersection. StreetWise will also compile all available traffic data from TfNSW, Council and previous traffic reports, if available.

Step 3 – Calculation of Traffic Generation from adjacent development

StreetWise will count current & estimate future traffic generation from the St Helena Estate, and prepare an estimate of traffic movements in and out of the adjoining development via the existing Terriere Drive & New England Highway intersection, when completed and fully occupied.

Step 4 – Modelling Assessment of Adjacent Intersections (existing conditions)

Once the collection of the traffic data has been completed, it will be compiled then the data used for computer modelling (SIDRA) to determine the existing capacity and efficiency of the subject intersections. This will indicate the capacity of the existing intersection layout, and determine how many movements from the proposed development it can cater for, before becoming congested.

Note: This report focuses the existing intersection of Terriere Drive and New England Highway. The report addresses the current and future capacity of the existing intersection, and its capacity to cater for future increased traffic volumes, including that generated by the initial stages of the Station Lane residential development.

It is proposed to undertake additional traffic assessments of the local road network after further planning of the Station Lane development, which will address the remainder of the Council and TfNSW comments listed above.

1.4 Location of Project

The future residential development is proposed for Lot 3 DP 564631, Lots 2 & 4 DP 634523s and Lot 550 DP 1275684. The site is located south of the New England Highway, and is bordered by Station Lane to the east and an existing residential subdivision (St Helena) to the west. The future development will connect to the New England Highway via Terriere Drive, which runs through the existing St Helena Estate.

1.5 Description of Project

The McCloy proposes to construct a 800-lot residential development within the Lochinvar Residential Precinct, located south of the New England Highway and the township of Lochinvar. It is proposed construct the subdivision over a period of approximately 10 years, and release the land in stages. The size and timing of the stage releases is likely to be influenced by market forces, but for the purposes of this assessment, an average of 90 lots per year has been adopted.

Initial access to the development will be from the north-west via an extension of Terriere Drive. Terriere Drive currently intersects with the New England Highway just west of the township of

Lochinvar, and currently provides access to and from the St Helena residential development. It is proposed to extend the existing formation of Terriere Drive and provide access to the early stages of the Station Lane development.

The propose of this assessment is to determine:

- The operation and service levels of the existing intersection layout, based on current traffic volumes (2021)
- The operation of the existing intersection layout, based on future traffic volumes when the adjoining St Helena development is complete (2023)
- The capacity of the existing intersection layout to cater for future traffic to be generated by the Station Lane development i.e. determine how many stages of the development can the existing intersection layout satisfactorily cater for, before becoming congested.

This assessment will assist with planning and staging of the Station Lane development, and help to determine when access from Station Lane is required.

It should also be noted that the intersection of the New England Highway and Terriere Drive is proposed to be upgraded to a signalised layout as part of the Lochinvar Development Contributions Plan, It is likely that the results of this intersection assessment may assist with the scheduling of the planned upgrade.

This assessment is the first part of a number of traffic assessments to determine the impacts of the overall 800-lot Station Lane residential development. A further traffic assessment will be required prior to construction of an intersection on Station Lane, and the creation of a second entry point to the development. The future eastern access will become part of the planned 'Southern Ring Road', and eventually connect with the New England Highway at Windella Road (see Figure 1.2).

2. ROAD NETWORK

2.1 Local Road Network

New England Highway

The New England Highway is the major arterial road through the locality, which forms part of the state road network (HW9) connecting Lochinvar with Greater Newcastle (via Maitland) to the east and the Upper Hunter (via Muswellbrook) to the west. Through Lochinvar, it provides a single lane of travel in each direction, with sealed shoulders to both sides and an unsealed verge. The posted speed limit on the New England Highway is 60 km/hr in this location, however a 40 km/hr school zone operate within the immediate locality of Station Lane.

Since the opening of the Hunter Expressway, there has been a significant decrease in the demands for regional traffic passing through the village of Lochinvar.

Figure 2.1 Existing New England Highway, west of Lochinvar CBD

Station Lane

Station Lane is a local road which provides a sealed pavement in the order of 8-9 metres wide allowing for a single lane of travel in each direction and parking on street. Street lighting is provided with kerb and gutter to both sides to the north of Gregory Road. The posted speed limit on Station Lane is 50 km/hr, with a 40 km/hr school zone associated with the St Patricks Primary School.

Maitland City Council are proposing to reconstruct and widen Station Lane between the New England Highway and Christopher Road later this year (2022).

Figure 2.2 Station Lane, in the vicinity of the proposed development site

St Helena Close / Terriere Drive

Terriere Drive is a local road which offers a divided carriageway with a single 3.5m wide lane in each direction. Additional lanes and widening are provided approaching the New England Highway. Street lighting is available with kerb and gutter and pedestrian footpaths provided to each side. The posted speed limit on Terriere Drive is 50 km/hr

Figure 2.3 Terriere Drive, looking south from the intersection with the New England Hwy

2.2 Intersections

New England Hwy & Station Lane

The New England Highway connects with Station Lane and Cantwell Road via a four-way sign controlled intersection allowing for all turning movements, with the New England Highway being the priority road. Short left turn deceleration lanes are provided on the New England Highway for the left turns into both Station Lane and Cantwell Road. There are no sheltered right turn lanes provided.

A signalised pedestrian crossing is provided on the New England Highway approximately 130m east of Station Lane, in front of St Joseph's College and a second crossing approximately 340m to the west, in front of Lochinvar Public School.

Figure 2.4 Intersection of New England Hwy & Station Lane, showing current roadworks (2021)

New England Hwy & Terriere Drive

Approximately 1.5kms to the west of Station Lane, the New England Highway connects with Terriere Drive via a sign controlled T-intersection with a seagull treatment.

Figure 2.5 Intersection of New England Hwy & Terriere Drive

Figure 2.6 Local Road Network in the vicinity of the proposed development

2.3 Future Road Network

Maitland Council's concept road network for the Lochinvar Structure Plan 2007 is shown on Figure 1.2. The proposed concept road network is described as follows:

New England Highway (NEH) - arterial road providing major access to Lochinvar from Maitland City in the east and upper Hunter Valley in the west.

Southern Ring Road – new east-west distributor road located south of Christopher Road and joining with the New England Highway at a proposed east intersection with Northern Ring Road (Wyndella Road) and at a proposed west intersection with a possible Northern Ring Road (opposite Terriere Drive) – see also Appendix E.

Station Lane – existing north-south route upgraded and widened to distributor road status between new Southern Ring Road and an access roundabout at proposed Lochinvar Station transport interchange. Station Lane between the access roundabout and Old North Road would be realigned and upgraded to collector road status to suit the rural road carriageway alignment of the new road bridge over the railway line west of the current Lochinvar Station.

Council proposes to upgrade Station Lane in the vicinity of the proposed development within the next 12 months. This will improve the quality, width, safety and capacity of the existing roadway, and provide a connection between the subject development and the New England Highway.

Northern Ring Road – new east-west collector road including a section of the existing road reserve in Wyndella Road located north of the New England Highway and joining with the New England Highway at a proposed east intersection with the Southern Ring Road and a proposed west intersection with Southern Ring Road.

Loop and Link Roads – Figure 1.2 shows collector roads south of the Southern Ring Road and west of Station Lane. These roads would collect and distribute traffic to local roads, provide access to abutting property and form part of future bus routes through Lochinvar.

Existing Gregory Road, Robert Road, Christopher Road and Station Lane (New England Highway to Southern Ring Road) – road upgrading to collector road status within existing road reserves to cater for traffic to adjoining land uses including civic, school and public recreation areas.

3. TRAFFIC VOLUMES

3.1 Existing Traffic Volumes

StreetWise undertook a manual traffic count at the intersection of the New England Highway and Terriere Drive on Wednesday 1 December 2021, and have also referred to the traffic volumes collated in the SECA Solution traffic report, which were collected Thursday 27 Feb 2020.

StreetWise counted all movements through the intersection for 2.5 hours in the morning and again in the afternoon. The peak hour volumes and movements are shown in Figure 3.1 below. The determined the peak hours were: AM 7:45 – 8:45 PM 4:00 – 5:00

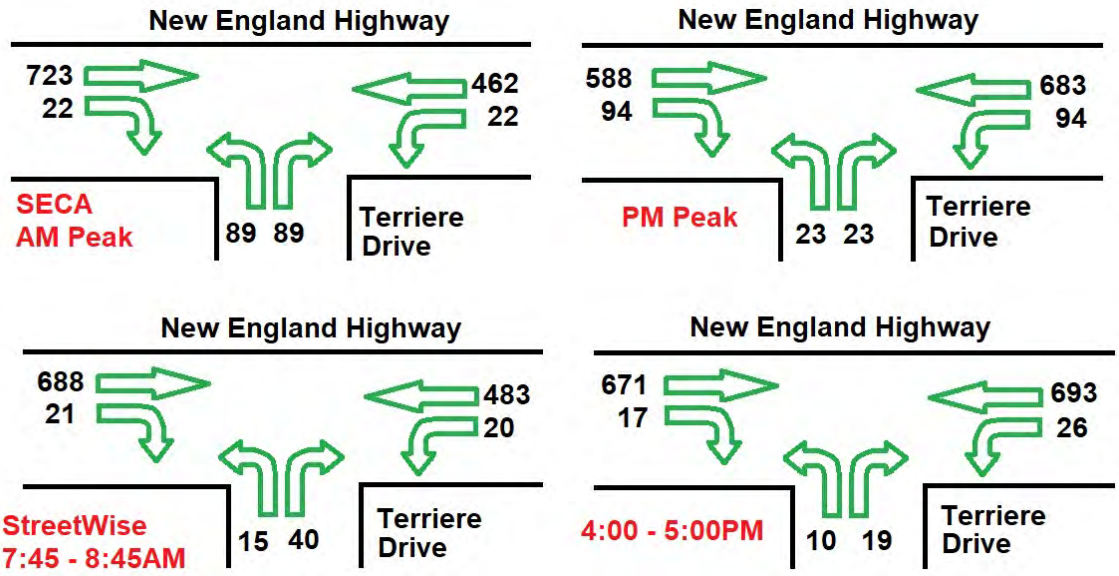


Figure 3.1 Peak Hour Traffic volumes at the Intersection of New England Hwy & Terriere Drive

Figure 3.1 above shows the peak hour traffic counts collected by SECA and StreetWise. The turn movements shown on the top diagram by SECA are estimates only, while the turn movements in the lower diagram by StreetWise are actual volumes. The following should be considered when comparing the 2 diagrams:

- It is likely that neither counts are significantly impacted by COVID travel restrictions. The SECA count was undertaken before any restrictions were implemented, while StreetWise scheduled the recent count in early December after local restrictions have been lifted, and before school holidays begin.
- The St Helena Estate is approximately 50% occupied with significant amount of building activity in the area. A large amount of vehicle movements in & out of Terriere Drive appeared to be materials deliveries or otherwise construction-generated.
- Traffic volumes on the New England Highway were similar between the 2 counts, with a minor increase in overall volumes noted in the most recent count.
- The actual increase in total through traffic on the New England Highway between the 2 traffic counts was 3.2%, which aligns with the 3% annual increase adopted by SECA for the growth on the highway. Based on this data, StreetWise will also adopt a 3% annual growth rate.
- A temporary bus turnaround is currently located within the St Helena development, which increases the number of large vehicle movements through the intersection.

SECA Count – Feb 2020			
New England Hwy	*Westbound (towards Singleton)*	*Eastbound (towards Lochinvar)*	*Total*
AM Peak Hour	462	723	1185
PM Peak Hour	683	588	1271

StreetWise Count – Dec 2021			
New England Hwy	*Westbound (towards Singleton)*	*Eastbound (towards Lochinvar)*	*Total*
AM Peak Hour	483	688	1171
PM Peak Hour	693	671	1364

Figure 3.2 New England Highway – Through Volumes - 2020 & 2021

3.2 Lane Capacity

AustRoads guidelines (see below) indicate that a single lane in a rural location can cater for up to 900 vehicles per hour, while still maintaining an efficient flow of traffic. Given the current peak hour volumes on the New England Highway are around 700 vehicles an hour in one direction, the Austroads table indicates the road has adequate capacity to cater for existing volumes and projected growth over the next 10 years. .

Type of lane	One-way mid-block capacity (pc/hr)
Median or inner lane	
• Divided road	1000
• Undivided road	900
Middle lane (of a 3-lane carriageway)	
• Divided road	900
• Undivided road	1000
Kerb lane	
• Adjacent to parking lane	900
• Occasional parked vehicles	600
• Clearway conditions	900

Source: Table 5.1 of Austroads Guide to Traffic Management Part 3

Figure 3.3: Austroads Lane Capacity – rural roads

Also, Austroads guidelines indicate that a 2-way, high standard road (such as the New England Highway) can safely & efficiently cater for up to 1700 vehicles per hour per lane, or a total of 3200 vph in both directions (see Fig 3.4 below).

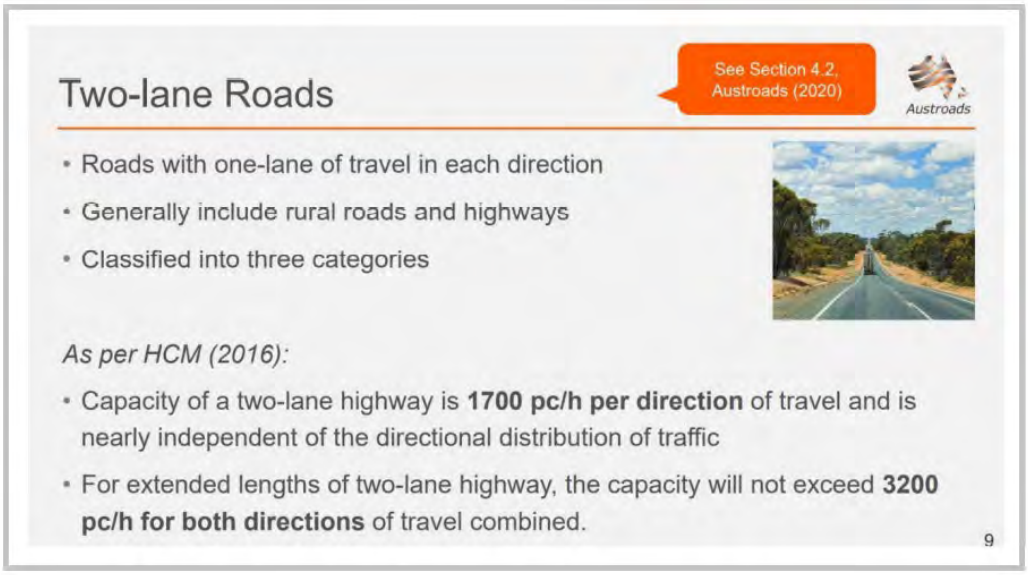


Figure 3.4: Austroads Lane Capacity – High quality rural roads

Additionally, the graph below (from '*Austroads Traffic Management - Part 3 – Traffic Studies & Analysis')* shows the capacity of a lane based on posted speeds and traffic volumes. Given the speedzones of the New England Highway are generally 80 kmh in the vicinity of the subject development, an hourly volume of less than 800 vehicles in any one direction will operate at a Level of Service (LoS) of 'B', which is described as – *'In the zone of stable flow where drivers still have reasonable freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience is a little less than with Level of Service A.'*

As can be seen from Figure 3.5 below, a single lane of the New England Highway can cater for around 1250 vehicles per hour before becoming congested.

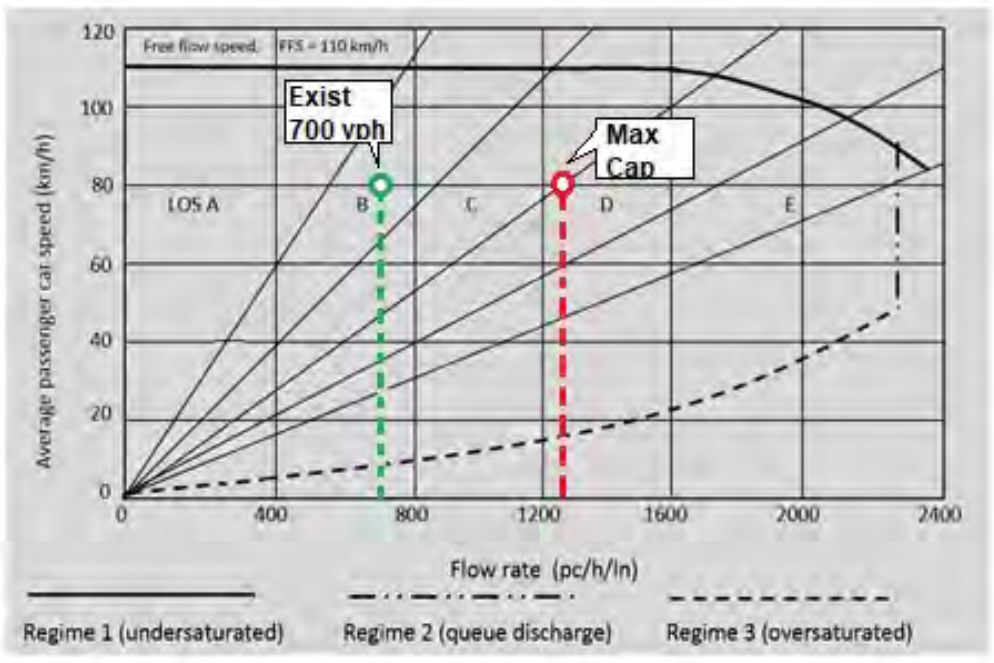


Figure 3.5 Levels of Service - Existing single highway lane volumes in the vicinity of Terriere Drive

3.3 Traffic Generated by St Helena Estate

The St Helena development is an approved residential subdivision located between the western boundary of the subject development and the New England Highway. St Helena Estate is accessed via Terriere Drive, which connects with the highway at an existing T-intersection featuring designated turn lanes.

The development, which was initially approved under DA 16/651 and expanded under DA 18/1538, includes a total of 191 residential lots. There are also 4 existing residences which utilise the Terriere Drive access, making a total of 195 lots.

The development is currently about 50% complete, with another 20 – 30 dwellings currently under construction (as of December 2021). A review of aerial photos indicates that around 67 dwellings had been constructed in January 2021, while 99 completed dwellings were counted during a recent inspection (1 December 2021). Based on the current rate, it is likely the St Helena Estate will be completed within 2 years.

The previous traffic reports by SECA and Intersect adopted a traffic generation rate of 7.4 trips per day per dwelling, as per the TfNSW Guidelines for regional residences. StreetWise have adopted the same rate.

Therefore, the completed development, when fully occupied, will generate:

- 195 lots x 7.4 trips = 1443 trips per day, or 145 peak hour trips (10% of total)

Also, StreetWise have adopted the following assumptions:

- A 70 : 30 split during peak hours i.e. 70% out & 30% in during the AM peak
- A 60 : 40 split at the New England Hwy i.e. 40% turn left & 60% turn right (see below).
- The development is likely to be completed by the end of 2024 i.e. 50 houses per yr

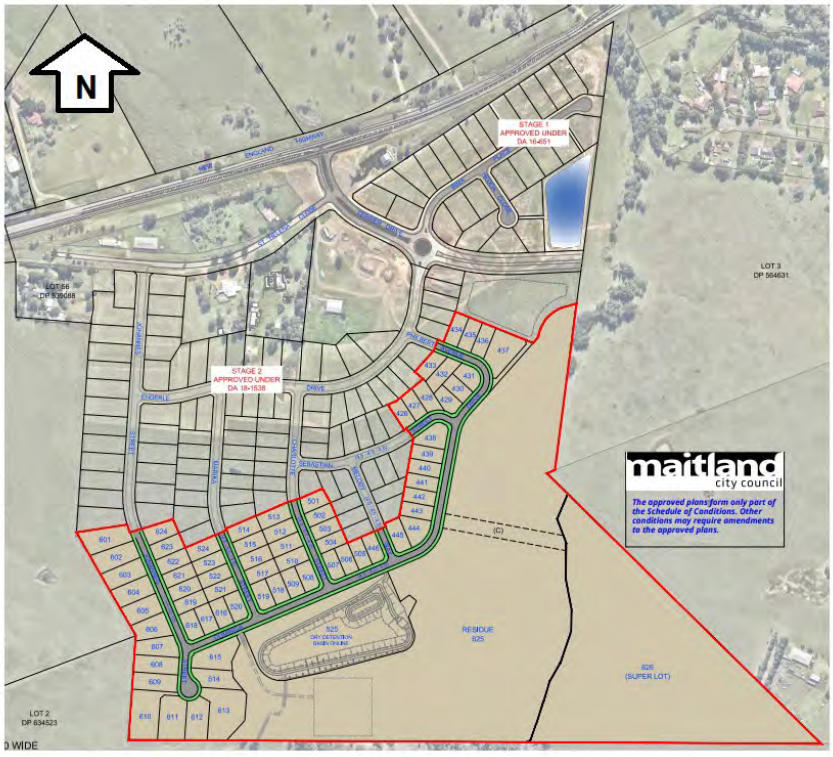


Figure 3.6 Approved layout of the 191-lot St Helena Estate

Note that StreetWise adopted a 60:40 split in regard to turning in & out of the St Helena Estate. This assumption is based on:

- a similar assumption by SECA in their 2020 assessment
- comments by TfNSW in regard to SECA's 2020 report
- observations by StreetWise when conducting a manual traffic count (1-12-21)

StreetWise noted a significant portion of the traffic movements generated by the St Helena Estate were construction-related, as opposed to normal traffic movements generated by a residential precinct. Also, light traffic movements were relatively low, and some of the 15 minute count periods included a large number of bus movements in & out of Terriere Drive. These were generally left turn in and right turn out. It is considered that future traffic counts will include an increased number of light vehicles and smaller percentage of bus movements.

When considering the destinations for vehicles moving in and out of the St Helena residential precinct, the most obvious generators are the Lochinvar primary school and CBD, which are located east of Terriere Drive. The township of Rutherford (10kms further east) will also generate movements to and from St Helena Estate. Many vehicles are also likely to head west towards the township of Singleton and (to a lesser extent) Polkolbin. Vehicles are also likely to turn left out of Terriere Drive to access the nearby motorway.

3.4 Staging of Station Lane Development

As discussed previously, the subject development, when completed, will provide 800 residential lots. The latest overall layout is included in Appendix A. It is proposed to construct the development in stages, with the first 353 lots to be released over 10 stages. For the purposes of this traffic assessment, a rate of 90 lots per year has been adopted.

The McCloy Group propose the first 3 stages (112 lots) will be accessed via Terriere Drive, before opening up a connection across the eastern boundary to Station Lane. All lots constructed from Stage 4 onwards will then have a choice of access i.e. from the west via Terriere Drive or from the east via Station Lane. Further SIDRA modelling will likely be required to determine the impacts of the additional traffic volumes and changed traffic movements on the local road network.

It should be noted that Maitland City Council are planning to commence a major upgrade of Station Lane in the next 12 months.

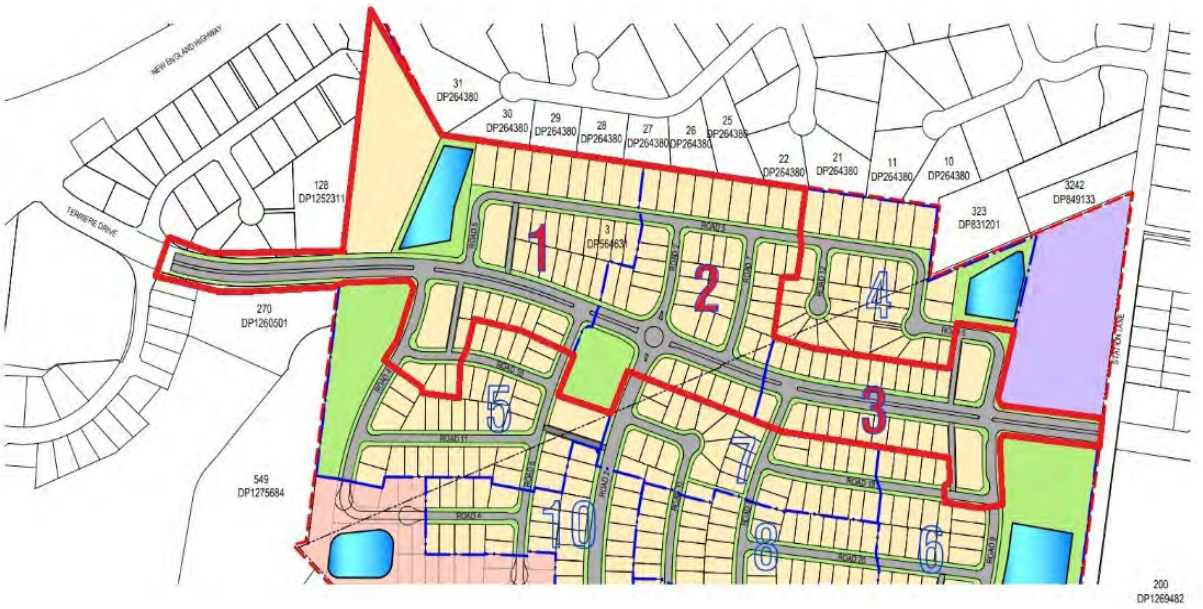


Figure 3.7 Proposed subdivision layout showing Stages 1 – 3 (112 lots)

Figure 3.8 below shows the latest lot release schedule, with Stages 1 – 3 planned to access the development via Terriere Drive, prior to the construction of an intersection at Station Lane. The diagram shows the first 10 stages, a total of 353 lots of the 800 total lots.

LOT SCHEDULE		
STAGE	RESIDENTIAL LOTS	PUBLIC LOTS
1	40	BASIN
2	45	PARK
3	27	0
4	34	BASIN
5	38	0
6	31	BASIN
7	34	0
8	36	0
9	29	0
10	39	0
TOTAL LOTS	353	5
RESIDUE LOTS	1	-

Figure 3.8 Lot release schedule – Stages 1 to 10

4. INTERSECTION MODELLING

4.1 Intersection of New England Highway

StreetWise utilised SIDRA to model existing and future traffic volumes through the existing channelised intersection of the New England Highway and Terriere Drive. The initial modelling was undertaken in December 2021 by Brett Franklin of Bretts Traffic Engineering Pty Ltd. The modelling was re-run in April 2022, following a review and comments by Transport for New South Wales. The modelling was undertaken a range of scenarios including:

- Existing AM and PM peak periods, utilising the recent traffic count by StreetWise (2021)
- 150 lots of the St Helena development completed & occupied (2022)
- St Helena development fully completed (195 lots) & occupied (2023)
- First 90 lots of St Lane development completed (2024)
- Continued development of Station Lane development at 90 lots per year (2025 – 2033)

A conservative growth rate of 3% per annum has been adopted for future traffic on the New England Highway. StreetWise estimated the adjoining 195 lot St Helena development is approximately 50% complete, and will take another 2 years for the remaining dwellings to be completed and occupied. Access to this development is only available via the subject intersection.

StreetWise also assumed the Station Lane development will commence in 2023, and the first 90 lots will be completed within 12 months, with dwellings ready by 2024. For the purposes of this assessment, StreetWise have adopted an average release rate of 90 lots per year. It was assumed for this assessment that ALL traffic will utilise the subject intersection i.e. no access to Station Lane.

The SIDRA modelling was undertaken on the existing traffic volumes through the intersection (2021), and then annually, based on estimated increases in traffic volumes over the next 10 years. The purpose of the modelling was to determine the capacity of the existing intersection layout to cater for future traffic, and the future volumes at which the existing intersection layout becomes congested.

The estimated future traffic volumes per year and full results of the SIDRA modelling are included in Appendix B.

4.2 SIDRA Modelling results

As discussed above, the SIDRA modelling of the existing channelised intersection of the New England Highway and Terriere Drive was undertaken for the following scenarios:

- existing volumes (2021)
- partial and full completion of St Helena development (2022, 2023)
- annually for the first 5 years of the subject Station Lane development (2024 – 2028)
- completion of the Station Lane development – assuming access via Terriere Drive (2033)

Note that the initial SIDRA modelling was undertaken in December 2021. Following a review of the SIDRA results by TfNSW, minor adjustments were made to the modelling settings and future estimated traffic volumes, and the modelling re-run in April 2022.

The SIDRA modelling for the above scenarios is summarised below:

Table 1 - SIDRA output Summary AM PEAK

AM PEAK	Worst Movement (Right Out + Seagull Merge)			
	Right Out	Seagull Merge	Total Average Delay	Level of Service
2021	10.1s	2.5s	12.6s	A
2022	10.5s	2.6s	13.1s	A
2023	11.0s	2.7s	13.7s	A
2024	12.0s	2.9s	14.9s	A
2025	13.3s	3.1s	16.4s	B
2026	14.9s	3.3s	18.2s	B
2027	16.6s	3.5s	20.1s	B
2028	18.2s	3.8s	22.0s	B
		...		
2033	334.7s	6.4s	341.0s	F

Figure 4.1 Summary of AM SIDRA modelling results (2012 – 2033)

Table 2 - SIDRA output Summary PM PEAK

PM PEAK	Worst Movement (Right Out + Seagull Merge)			
	Right Out	Seagull Merge	Total Average Delay	Level of Service
2021	13.9s	2.3s	16.2s	B
2022	14.7s	2.4s	17.1s	B
2023	16.0s	2.5s	18.5s	B
2024	17.7s	2.6s	20.3s	B
2025	19.9s	2.7s	22.6s	B
2026	23.1s	2.9s	26.0s	B
2027	27.5s	3.0s	30.5s	C
2028	33.2s	3.2s	36.4s	C
		...		
2033	498.7s	4.2s	502.9s	F

Figure 4.2 Summary of PM SIDRA modelling results (2012 – 2033)

As can be seen from the summary above & the full results in Appendix B:

- All movements through the intersection up until 2026 will have a Level of Service (LoS) of 'A' or 'B', where 'B' represents the best operating condition and service quality from the users'

perspective (i.e. free-flow), and where 'B' is *'In the zone of stable flow where drivers still have reasonable freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience is a little less than with level of service A.'*

- At the same time, delays and queue lengths will be satisfactory.
- The SIDRA modelling was conducted for all years up to 2028 (a total of 645 lots & 455 peak hour trips), as well as testing the ultimate development (2033) to determine the capacity of the subject intersection. As can be seen from the above SIDRA modelling summary, the existing intersection of the New England Highway and Terriere Drive will safely and efficiently cater for traffic volumes up to and including 2028.
- If all traffic generated from the completed residential development (i.e. 800 lots @ 2033) is directed through the existing intersection of the New England Highway & Terriere Drive, the Level of Service will drop to 'F' and the layout will become congested, with excessive queues and delays.
- However, the applicant plans to construct an intersection with Station Lane following the completion of Stage 3, which will provide a 2nd access to the development after 112 lots have been released. This is likely to occur around 2026, or when a total of 307 residences (195 in St Helena and 112 in the Station Lane S/D) are generating approximately 230 peak hour trips. By this stage, further modelling of the local road network will be undertaken.

4.3 Summary of SIDRA modelling results

The following are the comments and conclusions of Brett Franklin (B.Eng.(hons) MIEAust CPEng NER MIPWEAQ RPEQ), who undertook the SIDRA modelling on behalf of StreetWise.

Discussion:

The worst movement, being the right turn out into the seagull acceleration lane, currently operates at LOS A in the morning and LOS B in the afternoon (2021).

The worst movement in Both the AM and PM peak hours in 2028 with full development operate with LOS B and LOS C respectively.

As noted above, both the Guide to Traffic Generating Developments, and the RMS Modelling Guidelines indicate a target of LOS C. Given the worst case anticipated in 2028 for AM or PM is LOS C, the existing intersection arrangement will operate well within capacity up to and including 2028.

The results for 2033 in both AM and PM appear unacceptable with both failing sometime after 2028 and before 2033.

Conclusion:

There is sufficient capacity within the existing seagull intersection to provide for the movements estimated for the proposed development, along with background traffic growth to 2028, at which time the intersection will begin to saturate, and will require upgrading to traffic signals.

5. SUMMARY

- The McCloy Group are proposing a 800-lot residential development at Station Lane, Lochinvar, within the Lochinvar Residential Precinct. It is proposed to release the residential lots in stages over a 10-year period.
- Access for the early stages is proposed via an extension of the existing Terriere Drive, which currently provides access to the adjoining St Helena development, which borders the western boundary of the subject development.
- Terriere Drive currently intersects the New England Highway to the west of the township of Lochinvar. The existing layout is a channelised T-intersection.
- SIDRA modelling has been undertaken to determine the operation of the existing intersection of Terriere Drive and New England Highway, and determine the capacity of the existing layout to

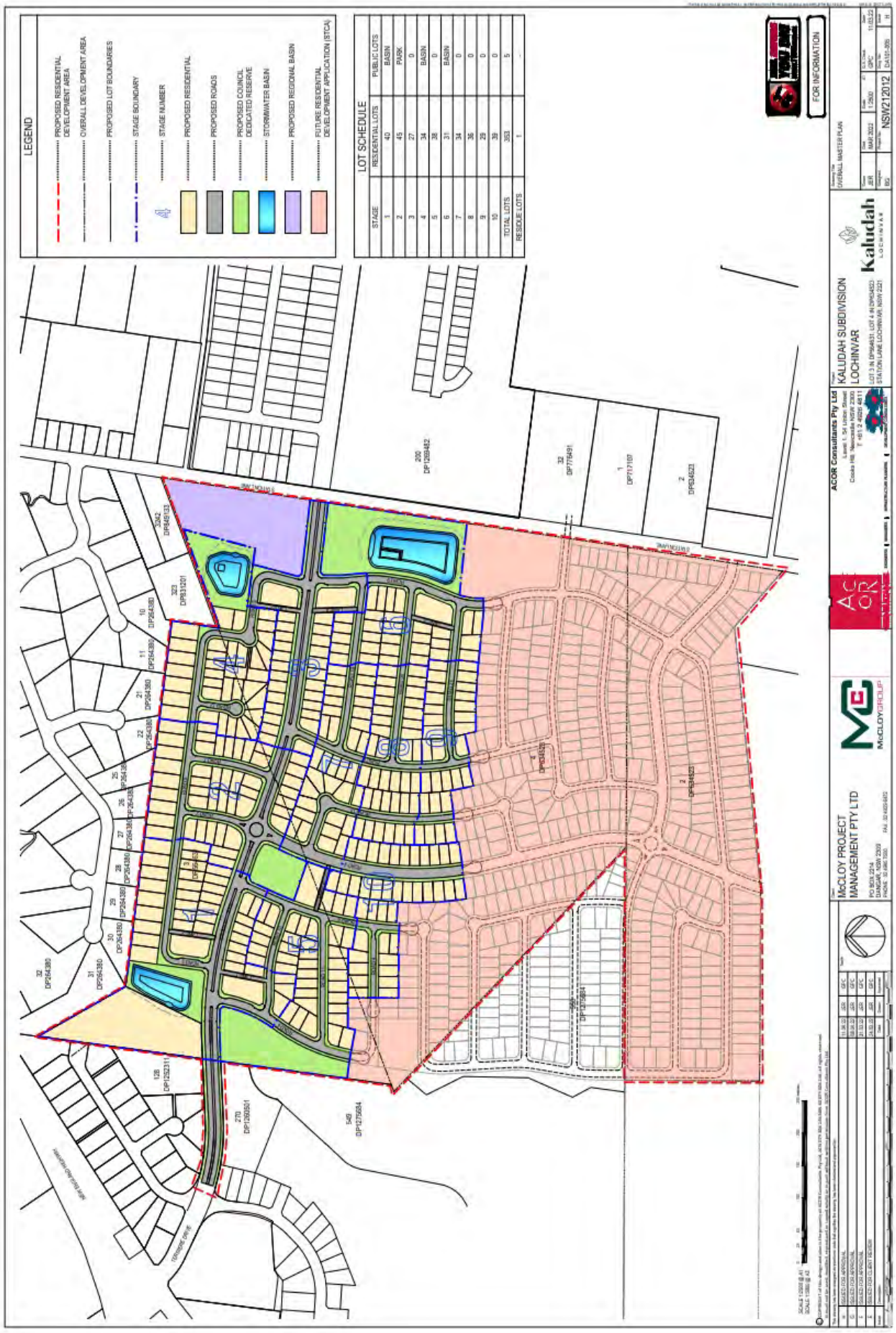
cater for additional traffic generated by the early stages of the Station Lane development, in addition to the annual increase on the New England Highway and the completion of the adjacent St Helena residential development.

- The SIDRA modelling of the New England Hwy & Terriere Dr intersection indicated:
  - the layout caters for the existing traffic volumes with acceptable Levels of Service and minimal delays and queuing
  - the layout caters for the future traffic to be generated by the completed St Helena development and annual increase in highway volumes
  - the existing layout will satisfactorily cater for approximately 450 lots of the Station Lane development, in additional to the St Helena development and annual increases in highway traffic volumes
  - the existing intersection layout will become congested if ALL 800 lots of the Station Lane development were to be directed to the New England Highway via Terriere Drive.
- The McCloy Group propose to utilise the existing intersection of Terriere Drive & New England Highway to provide access to and from site for the first three stages of the development (112 lots), before constructing an intersection across the eastern boundary to connect with Station Lane. This intersection will connect with future roads as part of the planned Southern Ring Road, which will eventually connect with the New England Highway in the east (at the intersection with Windella Road).
- This assessment addresses the capacity of the existing intersection of Terriere Drive & New England Highway, and the layout's ability to cater for the early stages of the Station Lane residential development. Further traffic reports are required to assess the planned eastern access to the development from Station Lane, and the impacts on the local road network.

6. RECOMMENDATIONS

- The existing channelised intersection of the New England Highway and Terriere Drive operates satisfactorily for the existing traffic volumes, and has the capacity to cater for the future traffic of the St Helena development and up to 450 lots of the Station Lane residential development, via Terriere Drive (and future extension).
- The Station Lane development meets the required guidelines in terms of safe access to the site. The local road network, including adjacent intersection of New England Highway and Terriere Drive, have adequate capacity to cater for the additional vehicle trips to be generated by the early stages of the subject development with minimal impacts.
- The SIDRA modelling has shown that existing intersection of Terriere Drive and New England Highway will provide suitable access to Stages 1 – 3 (112 lots) of the subject development, with no significant impact on existing traffic flows. before constructing a new intersection and connecting to Station Lane.
- Maitland City Council can include conditions on any DA approval in regard to limiting the number of lots in the subject development that can released before a vehicle connection to Station Lane is required. Based on the results of the SIDRA modelling, StreetWise recommend that the existing intersection of Terriere Drive and New England Highway can satisfactorily cater for the first 3 stages of the Station Lane development i.e. 112 lots (in addition to the fully completed St Helena development) without any significant impact on current operation or safety.
- Further assessment of the local road network will be undertaken to determine the impacts of the traffic generated by the later stages of the subject development, including the future connection with Station Lane.

Appendix A
Proposed Station Lane Subdivision Layout


LEGEND
PROPOSED RESIDENTIAL DEVELOPMENT AREA
OVERALL DEVELOPMENT AREA
PROPOSED LOT BOUNDARIES
STAGE BOUNDARY
STAGE NUMBER
PROPOSED RESIDENTIAL
PROPOSED ROADS
PROPOSED COUNCIL DEDICATED RESERVE
STORMWATER BASIN
PROPOSED REGIONAL BASIN
FUTURE RESIDENTIAL DEVELOPMENT APPLICATION (STCA)
LOT SCHEDULE
STAGE
RESIDENTIAL LOTS
PUBLIC LOTS
TOTAL LOTS 353 5
RESIDUE LOTS 1
FOR INFORMATION
KALUDAH SUBDIVISION
LOCHINVAR
McCLOY PROJECT MANAGEMENT PTY LTD
McCLOYGROUP
ACOR Consultants Pty Ltd
Kaludah
OVERALL MASTER PLAN
MAR 2022
1:2500
NSW212012
DA181-005

Appendix B
TfNSW Letter & Traffic Comments

NSW GOVERNMENT | Transport for NSW

CR2020/002869
SF2016/055323
DSN

13 July 2020

General Manager
Maitland City Council
PO Box 220
MAITLAND NSW 2320

Attention: Robyn Hawes

NEW ENGLAND HIGHWAY (HW9): DA 2020/468, CONCEPT DEVELOPMENT APPROVAL FOR 900 DWELLINGS AND ASSOCIATED INFRASTRUCTURE, LOT: 3 DP: 564631, LOTS: 2 & 4 DP: 634523, 51, 134 & 146 STATION LANE LOCHINVAR

Transport for NSW (TfNSW) advises that legislation to dissolve Roads and Maritime Services and transfer its assets, rights and liabilities to TfNSW came into effect on 1 December 2019. It is intended that the new structure will enable TfNSW to deliver more integrated TfNSW services across modes and better outcomes to customers and communities across NSW.

For convenience, correspondence, advice or submissions made to or by Roads and Maritime Services prior to its dissolution, are referred to in this letter as having been made to or by 'TfNSW'.

On 9 June 2020 TfNSW accepted the referral by Maitland City Council (Council) through the Planning Portal regarding the abovementioned application (Development Application). Council referred the Development Application to TfNSW for comment in accordance with Clause 104 / Schedule 3 of the *State Environmental Planning Policy (Infrastructure) 2007*. This letter is a submission in response to that referral.

TfNSW understands the proposal to be concept development approval for 900 dwellings comprising 855 Torrens title lots and up to 45 town houses in six stages along with construction of key road infrastructure, including linking the St Helena Close to Station Lane.

TfNSW Response & Requirements

TfNSW's primary interests are in the road network, traffic and broader transport issues. In particular, the efficiency and safety of the classified road network, the security of property assets and the integration of land use and transport.

New England Highway (HW9) is a classified State road and Station Lane is a local road. Council is the roads authority for these public roads in the area, in accordance with Section 7 of the *Roads Act 1993*.

TfNSW has reviewed the referred information, including the Traffic Impact Assessment (TIA) prepared by SECA Solution dated 22 April 2020, and the Statement of Environmental Effects (SEE) by Universal Property Group Pty Limited dated 6 May 2020. TfNSW considers the TIA deficient for the following reasons:

- Whilst the lot release rate is not known, it is not reasonable to assume that all six stages (900 lots) will be operational in 2020, with the +10 year horizon set at 2030. It is recommended that a lot release rate be proposed to determine the development timeframe.

- The traffic impact from the development has not been adequately identified. The traffic impact on the New England Highway and its intersections is to be demonstrated, and as a minimum the lot threshold trigger for upgrade, scope of upgrade and funding mechanisms are to be identified.

- TfNSW is aware that Council has approved DA18/0456, for subdivision of 313 residential lots at 44 Christopher Road. This development has not been considered within the TIA, and as it is an approved development it must be considered. The approval of DA18/0456 directly affects the subject development application for the following reasons:

  - Intersection of Southern Ring Road (Terriere Drive) and Station Lane will become a priority sign-controlled crossroad instead of a priority sign-controlled T-intersection.
  - Proposed upgrade of the New England Highway and Station Lane intersection, comprising separate right-turn bays on the New England Highway into the local roads, restricting Station Lane to left-only with a U-turn bay facility further west for Station Lane motorists to head east.

- The intersection upgrade of New England Highway and Station Lane proposed under DA18/0456 is considered an interim upgrade and the impact of the subject development on this intersection with and without the upgrade must be assessed as the development progresses.

- TfNSW understands that the land between the St Helena Close roundabout and the western boundary of subject development has been dedicated as a public road reserve. TfNSW supports the connection of the road, however the impact of providing this link on the New England Highway intersections needs to be demonstrated.

- TfNSW notes that Table 4 of the TIA provides Sidra modelling summary results for the intersection of St Helena Close and the New England Highway, assuming a 60% reduction in the right-turn volume from St Helena Close. This assumption has been made on the premise that the Southern Ring Road between Wyndella Road and St Helena Close will be completed by 2030.

  The Southern Ring Road traverses land owned by others, with the timing for completion not known. The development application should not rely on the Southern Ring Road being in place, and the St Helena Close and the New England Highway intersection should cater for all right-turn movements to assist in identifying the timing for upgrade.

- TfNSW notes that the concept development application shows a roundabout at the new intersection of Southern Ring Road (Terriere Drive) and Station Lane, with the Lochinvar Section 94 Contributions Plan (Version 3, adopted 12 June 2018) proposing a Traffic Control Signal (TCS) intersection. TfNSW preference would be for a roundabout as the TCS is unlikely to satisfy the warrant for installation as provided in the TfNSW Traffic Signal Design Guide.

- The TIA states that *"Given the low number of intersections in this location and minimal delays for* through *traffic on the New England Highway, increased mid-block capacities of 1,200-1,400 vph (per direction) can be achieved, corresponding with the upper limit of a Level of Service (LoS E)."*

  TfNSW considers there would be reduced midblock capacity on the New England Highway due to the 1km long 40 km/h School Zone, two midblock signalised pedestrian crossings and interruptions caused due to on-street parking and driveway accesses. TfNSW notes the TIA provides the traffic volumes threshold at Level of Service (LoS) E, however considers that the Highway should operate at a LoS D or better. TfNSW raise concern that the subject development, and the existing approved developments (approximately 700 lots) within the Lochinvar urban release area will result in impact to the mid-block capacity of the New England Highway.

- The Sidra modelling files have not been provided for review. As TfNSW has concerns with the assessment methodology, it is recommended that these files be provided for review with an updated TIA.

Advice to Council

TfNSW recommends that the following matters should be considered by Council:

- TfNSW has no proposal that requires any part of the property.

- Discharged stormwater from the development shall not exceed the capacity of the New England Highway stormwater drainage system. Council shall ensure that drainage from the site is catered for appropriately and should advise TfNSW of any adjustments to the existing system that are required prior to final approval of the development.

Should you require further information please contact Dipen Nathwani, Development Assessment Officer, on 0418 514 166 or by emailing development.hunter@rms.nsw.gov.au.

Yours sincerely

Marc Desmond
A/ Manager Land Use Assessment
Hunter Region

Transport for NSW
Level 8, 266 King Street, Newcastle NSW 2300 | Locked Bag 2030, Newcastle NSW 2300
ABN 18 804 239 602

3 of 3

Appendix C
Manual Traffic Count Results

Time		New England Hwy - towards Lochinvar			New England Hwy - towards Singleton				Turn Movements											
		1			3				2			4			5			6		
		Light	HV	Total	Light	HV	Total	NE Hwy	Right into Terriere Dr			Left into Terriere Dr			Left out of Terriere Dr			Right out of Terriere Dr		
									LV	HV		LV	HV		LV	HV		LV	HV		15 Min Total	60 min Total
7:15 AM	7:30 AM	130	3	133	110	15	125	258	4	0		2	0		1	0		4	0		11	269
7:30 AM	7:45 AM	156	1	157	108	8	116	273	2	0		1	0		4	0		7	0		14	287
7:45 AM	8:00 AM	138	8	146	101	12	113	259	5	0	790	1	2		5	0		5	1		19	278
8:00 AM	8:15 AM	173	10	183	99	7	106	289	8	0	1079	1	1		3	0		7	0		20	309
8:15 AM	8:30 AM	182	7	189	118	19	137	326	6	0	1147	5	1		3	0		17	1		33	359
8:30 AM	8:45 AM	165	5	170	116	11	127	297	2	0	1171	6	3		4	0		4	5		24	321
8:45 AM	9:00 AM	114	8	122	92	9	101	223	5	0	1135	9	1		3	0		5	1		24	247
9:00 AM	9:15 AM	122	3	125	86	9	95	220	4	0		4	1		4	0		4	0		17	237
	Total	894	45	935	830	90	920	2145	36	0		29	9		27	0		53	8			

1143
1233
1267
1236
1164

Time		Quia Rd - towards Goolhi			Quia Rd - towards Gunnedah				Turn Movements											
		1			2				3			4			5			6		
		Light	HV	Total	Light	HV	Total	NE Hwy	Right into Terriere Dr			Left into Terriere Dr			Left out of Terriere Dr			Right out of Terriere Dr		
									LV	HV		LV	HV		LV	HV		LV	HV		15 Min Total	60 min Total
7:45 AM	8:00 AM	138	8	146	101	12	113	259	5	0	259	1	2		5	0		5	1		19	278
8:00 AM	8:15 AM	173	10	183	99	7	106	289	8	0	548	1	1		3	0		7	0		20	309
8:15 AM	8:30 AM	182	7	189	118	19	137	326	6	0	874	5	1		3	0		17	1		33	359
8:30 AM	8:45 AM	165	5	170	116	11	127	297	2	0	1171	6	3		4	0		4	5		24	321
	Total	658	30	688	434	49	483	1171	21	0		13	7		15	0		33	7			

278
587
946
1267

Appendix D

SIDRA Traffic Modelling Results

New England Hwy & Terriere Dr

BRETTSTRAFFIC ENGINEERING

Bretts Traffic Engineering Pty Ltd
ABN 67 438 709 188
26 Baxendell Place
BUSHLAND BEACH, QLD, 4818
Ph: 0429 069 069

StreetWise Road Safety & Traffic Services Pty Ltd
PO Box 1395
PORT MACQUARIE NSW 2444
Attention: Andy Davis

11 April 2022

NEW ENGLAND HIGHWAY & TERRIERRE DRIVE: SIDRA MODEL OUTPUTS & REPORT (Rev 03).

Dear Andy,

The following is a summary of the Sidra Model assumptions and results for the above project.

Inputs

- Posted speed limits, all legs 60km/h
- SIDRA default values used unless noted otherwise
- Intersection volumes as per email dated 29.03.2022, copied below

Assumptions and/or modifications to Sidra model defaults

- The Sidra 9 "*Staged Crossing at T Intersection Type C.2 NSW*" template was adopted to mode a seagull intersection with acceleration lane, which comprises two adjacent intersection separated by 7m.
- HV of 5% on all turning movements;
    - Existing counted data has very low volumes, with most movements having 0% HV, anc some having up to 35% HV (7 of 20 movements). Extrapolating these over 10 year with large growth from adjacent development is unrealistic, and so a nominal 5% HV is adopted for all turning movements for all years.
- HV on New England Highway uses the following HV% based on traffic count data:

Movement	AM	PM
New England Hwy - Eastbound	4.4%	2.1%
New England Hwy - Westbound	10.1%	3.6%

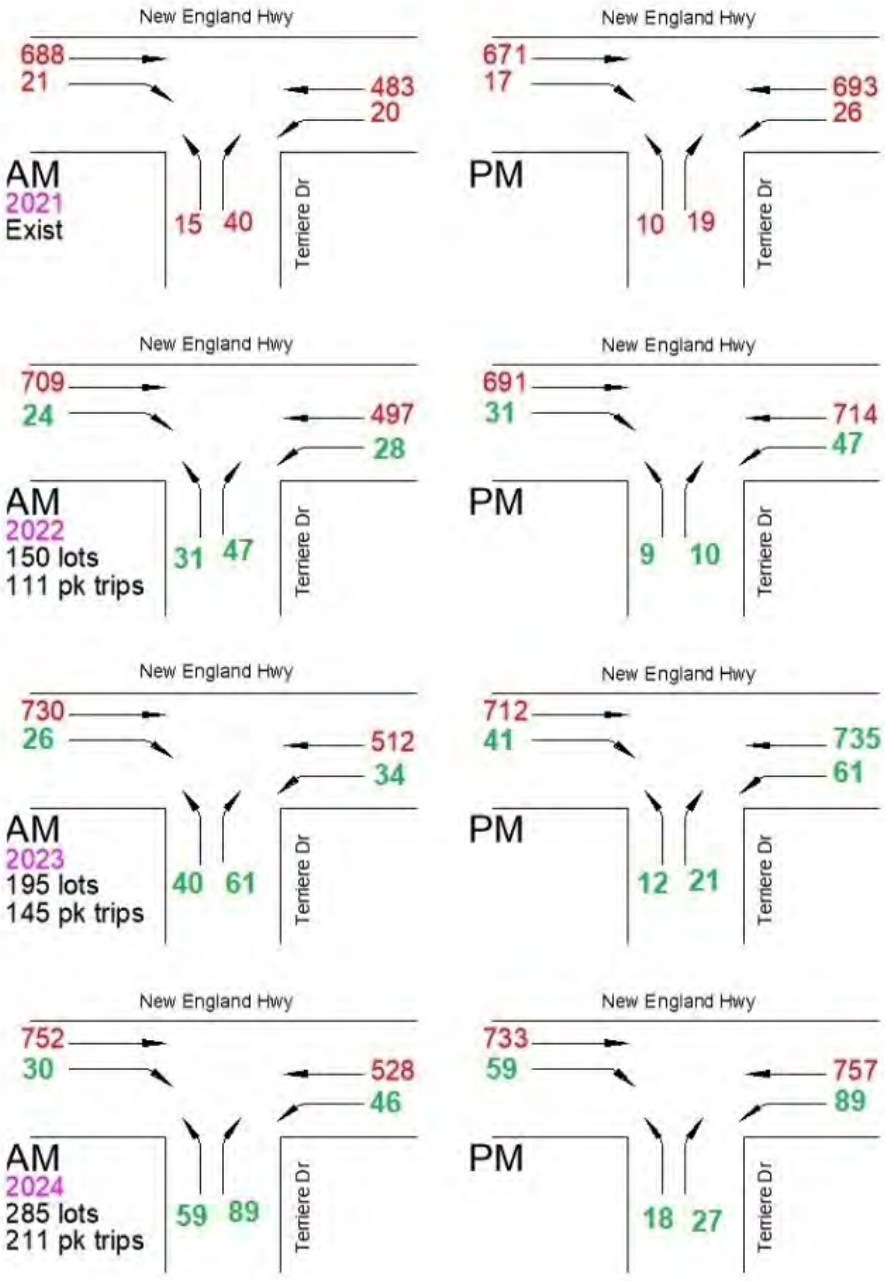
- SIDRA default values for Peak Flow Factor (95%) and Peak Period (30 minutes per hour); and
- Model Type = New South Wales
- GAP acceptance for sign-controlled intersections adopted from Appendix E of RMS Traffi Modelling Guidelines v1.0 (2013), with TWSC calibration factors turned off. Gap Acceptance parameters are summarised in the table below:

Movement	Gap Acceptance (s)	Follow Up Headway (s)
Right turn from Major Rd	4.0	2.0
Left Turn from Minor Rd	4.5	2.5
Right Turn from Minor Rd	5.5	3.5

- The method for calculating LoS for the right-turn through the seagull includes aggregating the initial right turn delay (across the WB intersection) and the merge delay (at the EB intersection)

BRETTSTRAFFIC ENGINEERING

NEW ENGLAND HIGHWAY & TERRIERRE DRIVE: SIDRA MODEL OUTPUTS & REPORT (Rev 03).



BRETTSTRAFFIC ENGINEERING

NEW ENGLAND HIGHWAY & TERRIERRE DRIVE: SIDRA MODEL OUTPUTS & REPORT (Rev 03).

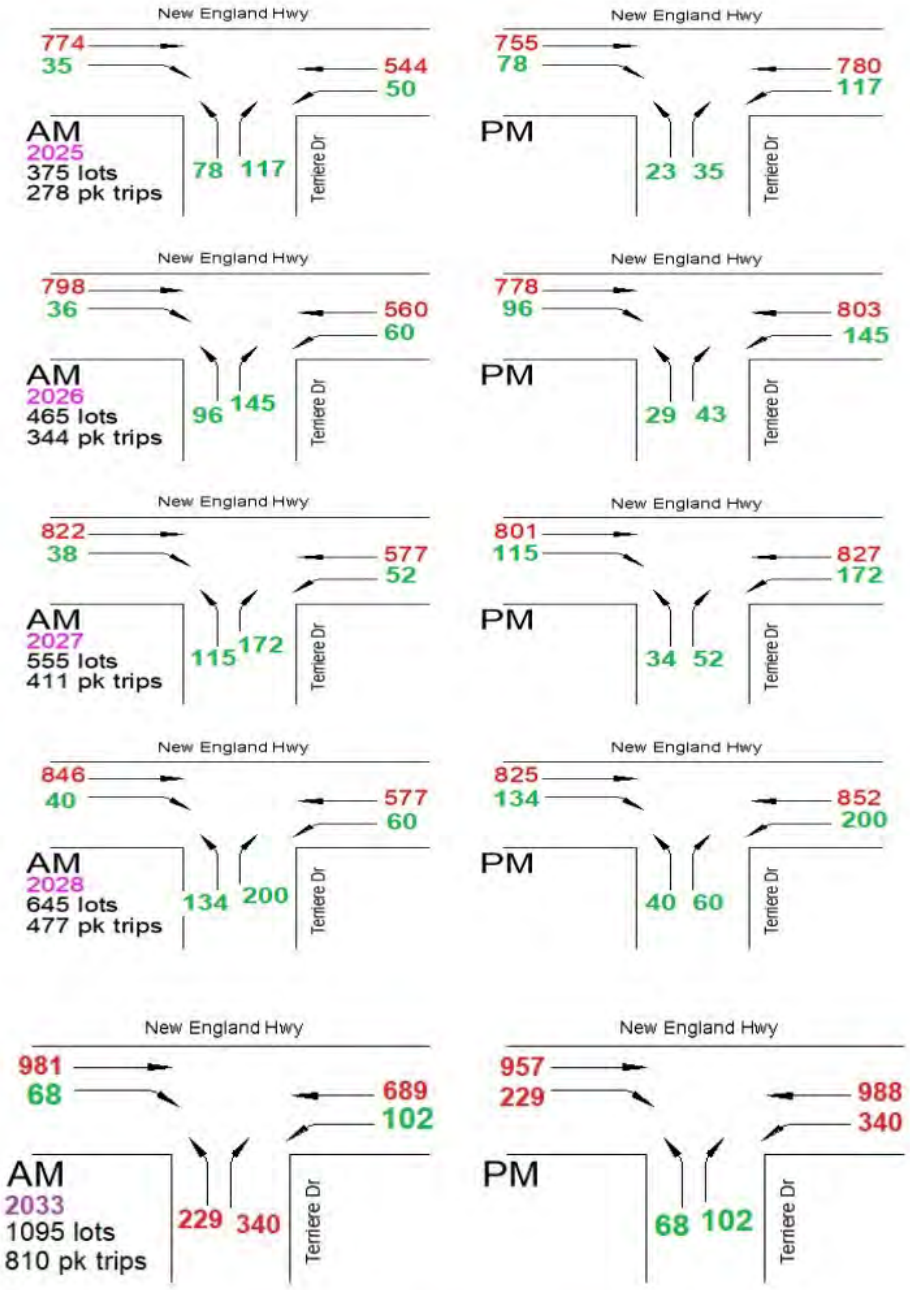


Figure 1 - Projected traffic volumes

TfNSW Guide to Traffic Generating Developments section 4.2.4. suggests Weekday Peak Hour flow performance standards as shown below:

Weekday Peak Hour Flows.

Major roads: Level of service C
Minor roads: Level of service C desirable.

TfNSW Modelling Guidelines sections 14.2.10 suggests setting Level of Service Target to LOS C.

14.2.10 Model setting dialogue

The Model Settings input dialog can be used to select various model options and specify some model parameters in the General Options and Roundabout Models data groups. The Roundabout Models data group will be shown only if the site type is roundabout.

The parameters in this dialog apply to the intersection as a whole and are relevant to all SIDRA models. These are important parameters that affect the results significantly. Level of Service Method should be set to RTA NSW and Level of Service Target should be set to "LOS C". For other parameters SIDRA default values can be used.

SIDRA Model Output Summary

Detailed outputs are appended, however a summary of outputs is in the table below. The outputs are direct from SIDRA Intersection.

Table 1 - SIDRA output Summary AM PEAK

AM PEAK	Worst Movement (Right Out + Seagull Merge)			
	Right Out	Seagull Merge	Total Average Delay	Level of Service
2021	10.1s	2.5s	12.6s	A
2022	10.5s	2.6s	13.1s	A
2023	11.0s	2.7s	13.7s	A
2024	12.0s	2.9s	14.9s	A
2025	13.3s	3.1s	16.4s	B
2026	14.9s	3.3s	18.2s	B
2027	16.6s	3.5s	20.1s	B
2028	18.2s	3.8s	22.0s	B
		...		
2033	334.7s	6.4s	341.0s	F

Table 2 - SIDRA output Summary PM PEAK

AM PEAK	Worst Movement (Right Out + Seagull Merge)			
	Right Out	Seagull Merge	Total Average Delay	Level of Service
2021	13.9s	2.3s	16.2s	B
2022	14.7s	2.4s	17.1s	B
2023	16.0s	2.5s	18.5s	B
2024	17.7s	2.6s	20.3s	B
2025	19.9s	2.7s	22.6s	B
2026	23.1s	2.9s	26.0s	B
2027	27.5s	3.0s	30.5s	C
2028	33.2s	3.2s	36.4s	C
		...		
2033	498.7s	4.2s	502.9s	F

Table 14.3 Control delay for vehicle LoS calculations

LoS	Control delay per vehicle in seconds (d) (including geometric delay)
	All intersection types
A	d < 14
B	d < 15 to 28
C	d < 29 to 42
D	d < 43 to 56
E	d ≤ 57 to 70
F	d > 70

Discussion:

The worst movement, being the right turn out into the seagull acceleration lane, currently operates at LOS A in the morning and LOS B in the afternoon (2021).

The worst movement in Both the AM and PM peak hours in 2028 with full development operate with LOS B and LOS C respectively.

As noted above, both the Guide to Traffic Generating Developments, and the RMS Modelling Guidelines indicate a target of LOS C. Given the worst case anticipated in 2028 for AM or PM is LOS C, the existing intersection arrangement will operate well within capacity up to and including 2028.

The results for 2033 in both AM and PM appear unacceptable with both failing sometime after 2028 and before 2033.

Conclusion:

There is sufficient capacity within the existing seagull intersection to provide for the movements estimated for the proposed development, along with background traffic growth to 2028, at which time the intersection will begin to saturate, and will require upgrading to traffic signals.

Should you require any further information please contact the undersigned on 0429 069 069.

Yours faithfully

Brett Franklin
B.Eng.(hons) MIEAust CPEng NER MIPWEAQ RPEQ

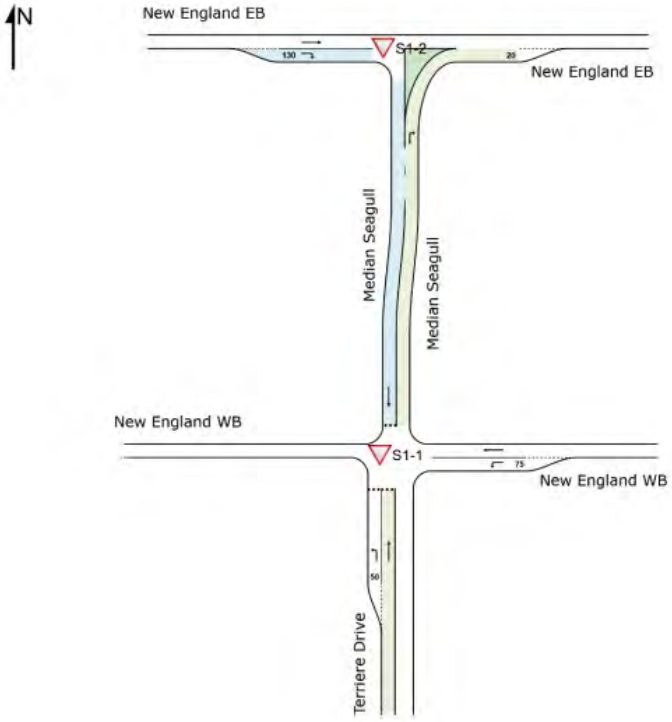
Appendix A – SIDRA OUTPUTS

NETWORK LAYOUT

Network: SCTI-C [Staged Crossing T Intersection C-2 NSW - NEhwy 2028 PM (Network Folder: General)]

Staged Crossing T Intersection C-2 NSW - NEhwy 2028 PM
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



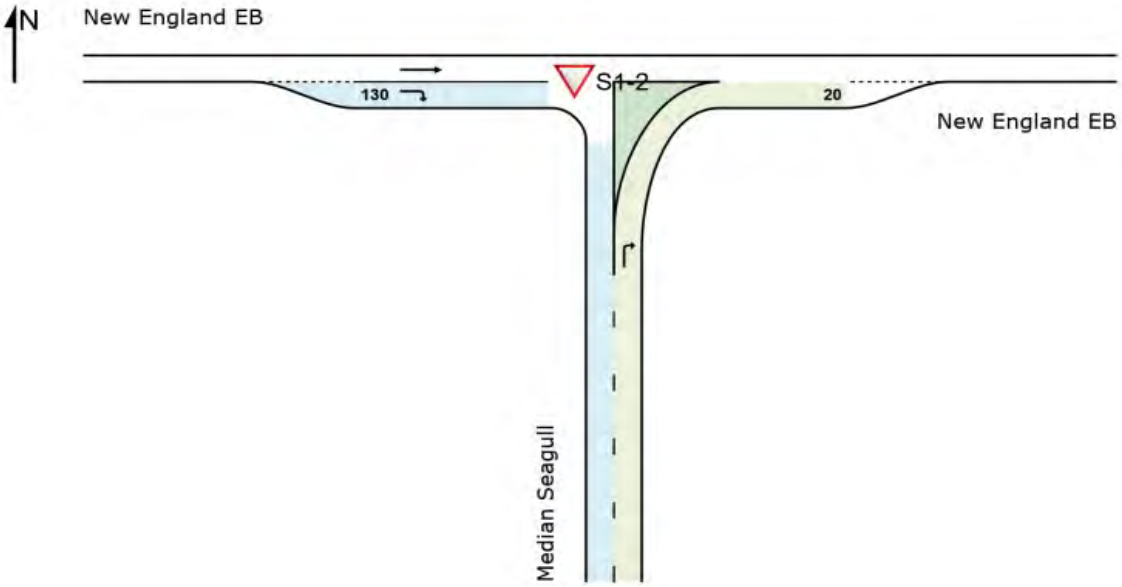
SITES IN NETWORK		
Site ID	CCG ID	Site Name
▽S1-2	NA	NEhwy EB 2028 PM
▽S1-1	NA	NEhwy WB 2028 PM

SITE LAYOUT

Site: S1-2 [NEhwy EB 2028 PM (Site Folder: General)]

NEhwy EB 2028 PM
Site Category: (None)
Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.

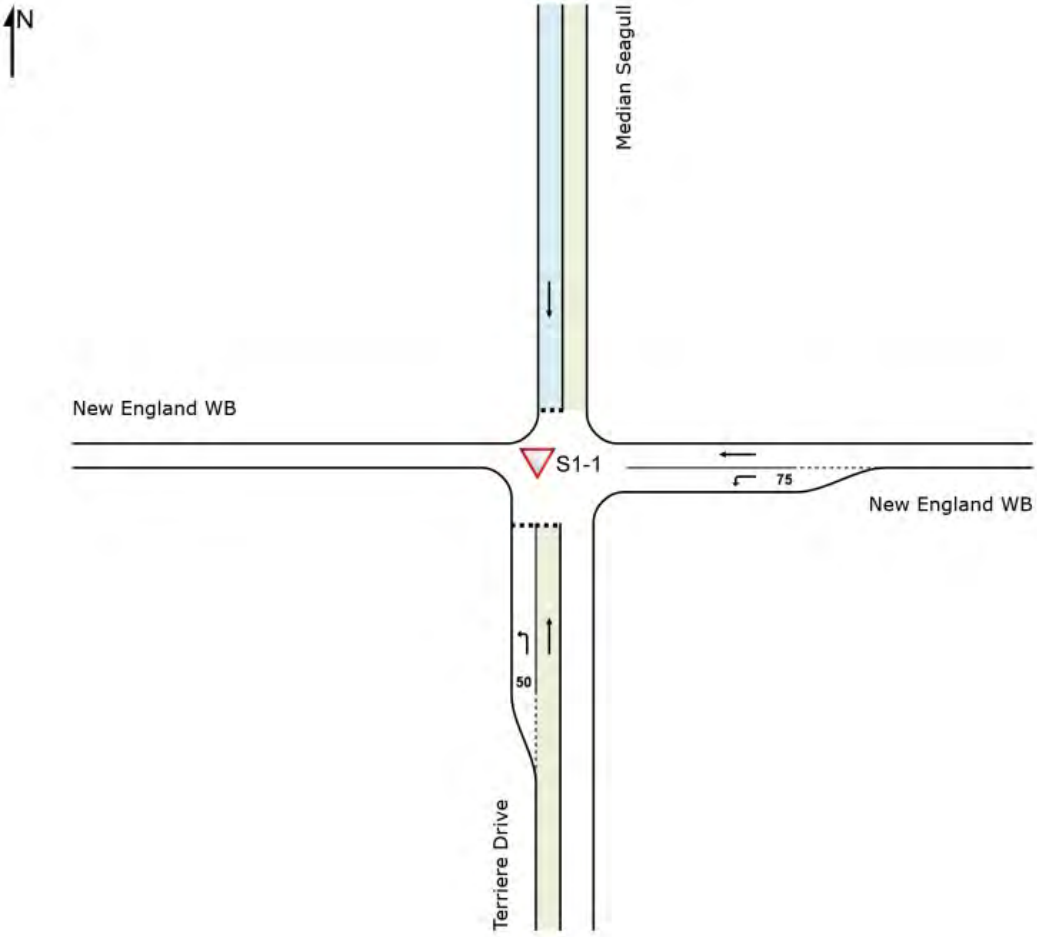


SITE LAYOUT

Site: S1-1 [NEhwy WB 2028 PM (Site Folder: General)]

NEhwy WB 2028 PM
Site Category: (None)
Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



2021 Model outputs

MOVEMENT SUMMARY

Site: S1-2 [NEhwy EB 2021 AM (Site Folder: General)]

NEhwy EB 2021 AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Median Seagull														
1	R2	40	5.0	42	5.0	0.023	2.5	LOS A	0.0	0.0	0.00	0.22	0.00	20.2
Approach		40	5.0	42	5.0	0.023	2.5	NA	0.0	0.0	0.00	0.22	0.00	20.2
West: New England EB														
2	T1	688	4.4	724	4.4	0.382	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
3	R2	21	5.0	22	5.0	0.012	5.8	LOS A	0.0	0.0	0.00	0.63	0.00	49.4
Approach		709	4.4	746	4.4	0.382	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.6
All Vehicles		749	4.4	788	4.4	0.382	0.4	NA	0.0	0.0	0.00	0.03	0.00	56.4

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: S1-1 [NEhwy WB 2021 AM (Site Folder: General)]

NEhwy WB 2021 AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Terriere Drive														
1	L2	15	5.0	16	5.0	0.021	8.5	LOS A	0.1	0.6	0.51	0.67	0.51	51.3
2	T1	40	5.0	42	5.0	0.090	10.1	LOS A	0.3	2.1	0.55	0.80	0.55	44.4
Approach		55	5.0	58	5.0	0.090	9.7	LOS A	0.3	2.1	0.54	0.77	0.54	47.1
East: New England WB														
3	L2	20	5.0	21	5.0	0.012	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.4
4	T1	483	10.1	508	10.1	0.278	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		503	9.9	529	9.9	0.278	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.5
North: Median Seagull														
5	T1	21	5.0	22	5.0	0.023	2.3	LOS A	0.1	0.7	0.52	0.38	0.52	49.4
Approach		21	5.0	22	5.0	0.023	2.3	LOS A	0.1	0.7	0.52	0.38	0.52	49.4
All Vehicles		579	9.3	609	9.3	0.278	1.3	NA	0.3	2.1	0.07	0.11	0.07	58.3

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: S1-2 [NEhwy EB 2021 PM (Site Folder: General)]

NEhwy EB 2021 PM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Median Seagull														
1	R2	19	5.0	20	5.0	0.011	2.3	LOS A	0.0	0.0	0.00	0.22	0.00	20.2
Approach		19	5.0	20	5.0	0.011	2.3	NA	0.0	0.0	0.00	0.22	0.00	20.2
West: New England EB														
2	T1	671	2.1	706	2.1	0.367	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
3	R2	17	5.0	18	5.0	0.010	5.8	LOS A	0.0	0.0	0.00	0.63	0.00	49.4
Approach		688	2.2	724	2.2	0.367	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.6
All Vehicles		707	2.2	744	2.2	0.367	0.3	NA	0.0	0.0	0.00	0.02	0.00	58.0

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: S1-1 [NEhwy WB 2021 PM (Site Folder: General)]

NEhwy WB 2021 PM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Terriere Drive														
1	L2	10	5.0	11	5.0	0.020	10.7	LOS A	0.1	0.5	0.63	0.76	0.63	49.7
2	T1	19	5.0	20	5.0	0.062	13.9	LOS A	0.2	1.4	0.69	0.87	0.69	40.7
Approach		29	5.0	31	5.0	0.062	12.8	LOS A	0.2	1.4	0.67	0.83	0.67	44.8
East: New England WB														
3	L2	26	5.0	27	5.0	0.015	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.4
4	T1	693	3.6	729	3.6	0.383	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		719	3.7	757	3.7	0.383	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.5
North: Median Seagull														
5	T1	17	5.0	18	5.0	0.025	3.9	LOS A	0.1	0.7	0.61	0.51	0.61	47.4
Approach		17	5.0	18	5.0	0.025	3.9	LOS A	0.1	0.7	0.61	0.51	0.61	47.4
All Vehicles		765	3.7	805	3.7	0.383	0.9	NA	0.2	1.4	0.04	0.06	0.04	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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

2022 Model outputs

MOVEMENT SUMMARY

Site: S1-2 [NEhwy EB 2022 AM (Site Folder: General)]

NEhwy EB 2022 AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Median Seagull														
1	R2	47	5.0	49	5.0	0.028	2.6	LOS A	0.0	0.0	0.00	0.22	0.00	20.2
Approach		47	5.0	49	5.0	0.028	2.6	NA	0.0	0.0	0.00	0.22	0.00	20.2
West: New England EB														
2	T1	709	4.4	746	4.4	0.394	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
3	R2	24	5.0	25	5.0	0.014	5.8	LOS A	0.0	0.0	0.00	0.63	0.00	49.4
Approach		733	4.4	772	4.4	0.394	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.5
All Vehicles		780	4.5	821	4.5	0.394	0.5	NA	0.0	0.0	0.00	0.03	0.00	56.0

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: S1-1 [NEhwy WB 2022 AM (Site Folder: General)]

NEhwy WB 2022 AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Terriere Drive														
1	L2	31	5.0	33	5.0	0.044	8.7	LOS A	0.2	1.2	0.53	0.71	0.53	51.1
2	T1	47	5.0	49	5.0	0.109	10.5	LOS A	0.4	2.6	0.58	0.82	0.58	44.0
Approach		78	5.0	82	5.0	0.109	9.8	LOS A	0.4	2.6	0.56	0.78	0.56	47.7
East: New England WB														
3	L2	28	5.0	29	5.0	0.016	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.4
4	T1	497	10.1	523	10.1	0.286	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		525	9.8	553	9.8	0.286	0.4	NA	0.0	0.0	0.00	0.03	0.00	59.4
North: Median Seagull														
5	T1	24	5.0	25	5.0	0.026	2.4	LOS A	0.1	0.8	0.53	0.40	0.53	49.2
Approach		24	5.0	25	5.0	0.026	2.4	LOS A	0.1	0.8	0.53	0.40	0.53	49.2
All Vehicles		627	9.0	660	9.0	0.286	1.6	NA	0.4	2.6	0.09	0.14	0.09	57.9

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: S1-2 [NEhwy EB 2022 PM (Site Folder: General)]

NEhwy EB 2022 PM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Median Seagull														
1	R2	10	5.0	11	5.0	0.006	2.4	LOS A	0.0	0.0	0.00	0.22	0.00	20.2
Approach		10	5.0	11	5.0	0.006	2.4	NA	0.0	0.0	0.00	0.22	0.00	20.2
West: New England EB														
2	T1	691	2.1	727	2.1	0.378	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
3	R2	31	5.0	33	5.0	0.018	5.8	LOS A	0.0	0.0	0.00	0.63	0.00	49.4
Approach		722	2.2	760	2.2	0.378	0.4	NA	0.0	0.0	0.00	0.03	0.00	59.5
All Vehicles		732	2.3	771	2.3	0.378	0.4	NA	0.0	0.0	0.00	0.03	0.00	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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: S1-1 [NEhwy WB 2022 PM (Site Folder: General)]

NEhwy WB 2022 PM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Terriere Drive														
1	L2	9	5.0	9	5.0	0.019	11.0	LOS A	0.1	0.5	0.64	0.77	0.64	49.5
2	T1	10	5.0	11	5.0	0.036	14.7	LOS B	0.1	0.8	0.71	0.88	0.71	40.0
Approach		19	5.0	20	5.0	0.036	13.0	LOS A	0.1	0.8	0.68	0.83	0.68	45.6
East: New England WB														
3	L2	47	5.0	49	5.0	0.028	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.4
4	T1	714	3.6	752	3.6	0.394	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		761	3.7	801	3.7	0.394	0.5	NA	0.0	0.0	0.00	0.04	0.00	59.3
North: Median Seagull														
5	T1	31	5.0	33	5.0	0.048	4.4	LOS A	0.2	1.3	0.62	0.57	0.62	46.8
Approach		31	5.0	33	5.0	0.048	4.4	LOS A	0.2	1.3	0.62	0.57	0.62	46.8
All Vehicles		811	3.8	854	3.8	0.394	0.9	NA	0.2	1.3	0.04	0.07	0.04	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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

2023 Model outputs

MOVEMENT SUMMARY

Site: S1-2 [NEhwy EB 2023 AM (Site Folder: General)]

NEhwy EB 2023 AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Median Seagull														
1	R2	61	5.0	64	5.0	0.036	2.7	LOS A	0.0	0.0	0.00	0.22	0.00	20.2
Approach		61	5.0	64	5.0	0.036	2.7	NA	0.0	0.0	0.00	0.22	0.00	20.2
West: New England EB														
2	T1	730	4.4	768	4.4	0.405	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
3	R2	26	5.0	27	5.0	0.015	5.8	LOS A	0.0	0.0	0.00	0.63	0.00	49.4
Approach		756	4.4	796	4.4	0.405	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.5
All Vehicles		817	4.5	860	4.5	0.405	0.5	NA	0.0	0.0	0.00	0.04	0.00	55.2

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: S1-1 [NEhwy WB 2023 AM (Site Folder: General)]

NEhwy WB 2023 AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Terriere Drive														
1	L2	40	5.0	42	5.0	0.059	8.9	LOS A	0.2	1.6	0.54	0.73	0.54	51.0
2	T1	61	5.0	64	5.0	0.147	11.0	LOS A	0.5	3.6	0.60	0.83	0.60	43.5
Approach		101	5.0	106	5.0	0.147	10.2	LOS A	0.5	3.6	0.58	0.79	0.58	47.4
East: New England WB														
3	L2	34	5.0	36	5.0	0.020	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.4
4	T1	512	10.1	539	10.1	0.295	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		546	9.8	575	9.8	0.295	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.4
North: Median Seagull														
5	T1	26	5.0	27	5.0	0.030	2.6	LOS A	0.1	0.9	0.54	0.42	0.54	49.0
Approach		26	5.0	27	5.0	0.030	2.6	LOS A	0.1	0.9	0.54	0.42	0.54	49.0
All Vehicles		673	8.9	708	8.9	0.295	2.0	NA	0.5	3.6	0.11	0.16	0.11	57.5

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: S1-2 [NEhwy EB 2023 PM (Site Folder: General)]

NEhwy EB 2023 PM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Median Seagull														
1	R2	21	5.0	22	5.0	0.012	2.5	LOS A	0.0	0.0	0.00	0.22	0.00	20.2
Approach		21	5.0	22	5.0	0.012	2.5	NA	0.0	0.0	0.00	0.22	0.00	20.2
West: New England EB														
2	T1	712	2.1	749	2.1	0.390	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
3	R2	41	5.0	43	5.0	0.024	5.8	LOS A	0.0	0.0	0.00	0.63	0.00	49.4
Approach		753	2.3	793	2.3	0.390	0.4	NA	0.0	0.0	0.00	0.03	0.00	59.4
All Vehicles		774	2.3	815	2.3	0.390	0.5	NA	0.0	0.0	0.00	0.04	0.00	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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: S1-1 [NEhwy WB 2023 PM (Site Folder: General)]

NEhwy WB 2023 PM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Terriere Drive														
1	L2	12	5.0	13	5.0	0.026	11.4	LOS A	0.1	0.6	0.66	0.80	0.66	49.2
2	T1	21	5.0	22	5.0	0.081	16.0	LOS B	0.2	1.8	0.74	0.89	0.74	38.9
Approach		33	5.0	35	5.0	0.081	14.3	LOS A	0.2	1.8	0.71	0.86	0.71	43.8
East: New England WB														
3	L2	61	5.0	64	5.0	0.036	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.4
4	T1	735	3.6	774	3.6	0.406	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		796	3.7	838	3.7	0.406	0.6	NA	0.0	0.0	0.00	0.04	0.00	59.2
North: Median Seagull														
5	T1	41	5.0	43	5.0	0.067	4.8	LOS A	0.3	1.9	0.65	0.62	0.65	46.3
Approach		41	5.0	43	5.0	0.067	4.8	LOS A	0.3	1.9	0.65	0.62	0.65	46.3
All Vehicles		870	3.8	916	3.8	0.406	1.3	NA	0.3	1.9	0.06	0.10	0.06	58.2

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

2024 Model outputs

MOVEMENT SUMMARY

Site: S1-2 [NEhwy EB 2024 AM (Site Folder: General)]

NEhwy EB 2024 AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Median Seagull														
1	R2	89	5.0	94	5.0	0.052	2.9	LOS A	0.0	0.0	0.00	0.22	0.00	20.2
Approach		89	5.0	94	5.0	0.052	2.9	NA	0.0	0.0	0.00	0.22	0.00	20.2
West: New England EB														
2	T1	752	4.4	792	4.4	0.418	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
3	R2	30	5.0	32	5.0	0.018	5.8	LOS A	0.0	0.0	0.00	0.63	0.00	49.4
Approach		782	4.4	823	4.4	0.418	0.4	NA	0.0	0.0	0.00	0.02	0.00	59.5
All Vehicles		871	4.5	917	4.5	0.418	0.6	NA	0.0	0.0	0.00	0.04	0.00	53.6

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: S1-1 [NEhwy WB 2024 AM (Site Folder: General)]

NEhwy WB 2024 AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Terriere Drive														
1	L2	59	5.0	62	5.0	0.089	9.1	LOS A	0.3	2.4	0.55	0.77	0.55	50.8
2	T1	89	5.0	94	5.0	0.224	12.0	LOS A	0.8	5.8	0.64	0.86	0.68	42.5
Approach		148	5.0	156	5.0	0.224	10.9	LOS A	0.8	5.8	0.61	0.82	0.63	46.8
East: New England WB														
3	L2	46	5.0	48	5.0	0.027	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.4
4	T1	528	10.1	556	10.1	0.304	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		574	9.7	604	9.7	0.304	0.5	NA	0.0	0.0	0.00	0.05	0.00	59.2
North: Median Seagull														
5	T1	30	5.0	32	5.0	0.035	2.8	LOS A	0.1	1.0	0.56	0.44	0.56	48.8
Approach		30	5.0	32	5.0	0.035	2.8	LOS A	0.1	1.0	0.56	0.44	0.56	48.8
All Vehicles		752	8.6	792	8.6	0.304	2.7	NA	0.8	5.8	0.14	0.21	0.15	56.7

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: S1-2 [NEhwy EB 2024 PM (Site Folder: General)]

NEhwy EB 2024 PM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Median Seagull														
1	R2	27	5.0	28	5.0	0.016	2.6	LOS A	0.0	0.0	0.00	0.22	0.00	20.2
Approach		27	5.0	28	5.0	0.016	2.6	NA	0.0	0.0	0.00	0.22	0.00	20.2
West: New England EB														
2	T1	733	2.1	772	2.1	0.401	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
3	R2	59	5.0	62	5.0	0.035	5.8	LOS A	0.0	0.0	0.00	0.63	0.00	49.4
Approach		792	2.3	834	2.3	0.401	0.6	NA	0.0	0.0	0.00	0.05	0.00	59.2
All Vehicles		819	2.4	862	2.4	0.401	0.6	NA	0.0	0.0	0.00	0.05	0.00	57.3

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: S1-1 [NEhwy WB 2024 PM (Site Folder: General)]

NEhwy WB 2024 PM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Terriere Drive														
1	L2	18	5.0	19	5.0	0.041	11.9	LOS A	0.1	1.0	0.68	0.85	0.68	48.9
2	T1	27	5.0	28	5.0	0.115	17.7	LOS B	0.4	2.6	0.78	0.90	0.78	37.6
Approach		45	5.0	47	5.0	0.115	15.4	LOS B	0.4	2.6	0.74	0.88	0.74	43.3
East: New England WB														
3	L2	89	5.0	94	5.0	0.052	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	53.4
4	T1	757	3.6	797	3.6	0.418	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		846	3.7	891	3.7	0.418	0.7	NA	0.0	0.0	0.00	0.06	0.00	59.0
North: Median Seagull														
5	T1	59	5.0	62	5.0	0.104	5.5	LOS A	0.4	2.9	0.68	0.68	0.68	45.5
Approach		59	5.0	62	5.0	0.104	5.5	LOS A	0.4	2.9	0.68	0.68	0.68	45.5
All Vehicles		950	3.9	1000	3.9	0.418	1.7	NA	0.4	2.9	0.08	0.14	0.08	57.7

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

2025 Model outputs

MOVEMENT SUMMARY

Site: S1-2 [NEhwy EB 2025 AM (Site Folder: General)]

NEhwy EB 2025 AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Median Seagull														
1	R2	117	5.0	123	5.0	0.069	3.1	LOS A	0.0	0.0	0.00	0.22	0.00	20.2
Approach		117	5.0	123	5.0	0.069	3.1	NA	0.0	0.0	0.00	0.22	0.00	20.2
West: New England EB														
2	T1	774	4.4	815	4.4	0.430	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
3	R2	35	5.0	37	5.0	0.021	5.8	LOS A	0.0	0.0	0.00	0.63	0.00	49.4
Approach		809	4.4	852	4.4	0.430	0.4	NA	0.0	0.0	0.00	0.03	0.00	59.4
All Vehicles		926	4.5	975	4.5	0.430	0.7	NA	0.0	0.0	0.00	0.05	0.00	52.3

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: S1-1 [NEhwy WB 2025 AM (Site Folder: General)]

NEhwy WB 2025 AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Terriere Drive														
1	L2	78	5.0	82	5.0	0.121	9.4	LOS A	0.4	3.3	0.57	0.79	0.57	50.6
2	T1	117	5.0	123	5.0	0.307	13.3	LOS A	1.2	8.8	0.68	0.90	0.82	41.2
Approach		195	5.0	205	5.0	0.307	11.8	LOS A	1.2	8.8	0.64	0.86	0.72	46.1
East: New England WB														
3	L2	50	5.0	53	5.0	0.029	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.4
4	T1	544	10.1	573	10.1	0.313	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		594	9.7	625	9.7	0.313	0.6	NA	0.0	0.0	0.00	0.05	0.00	59.2
North: Median Seagull														
5	T1	35	5.0	37	5.0	0.043	3.0	LOS A	0.2	1.2	0.57	0.47	0.57	48.5
Approach		35	5.0	37	5.0	0.043	3.0	LOS A	0.2	1.2	0.57	0.47	0.57	48.5
All Vehicles		824	8.4	867	8.4	0.313	3.3	NA	1.2	8.8	0.18	0.26	0.19	56.0

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: S1-2 [NEhwy EB 2025 PM (Site Folder: General)]

NEhwy EB 2025 PM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Median Seagull														
1	R2	35	5.0	37	5.0	0.021	2.7	LOS A	0.0	0.0	0.00	0.22	0.00	20.2
Approach		35	5.0	37	5.0	0.021	2.7	NA	0.0	0.0	0.00	0.22	0.00	20.2
West: New England EB														
2	T1	755	2.1	795	2.1	0.413	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
3	R2	78	5.0	82	5.0	0.046	5.8	LOS A	0.0	0.0	0.00	0.63	0.00	49.4
Approach		833	2.4	877	2.4	0.413	0.7	NA	0.0	0.0	0.00	0.06	0.00	59.1
All Vehicles		868	2.5	914	2.5	0.413	0.8	NA	0.0	0.0	0.00	0.07	0.00	56.7

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: S1-1 [NEhwy WB 2025 PM (Site Folder: General)]

NEhwy WB 2026 PM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Terriere Drive														
1	L2	23	5.0	24	5.0	0.055	12.4	LOS A	0.2	1.3	0.70	0.87	0.70	48.6
2	T1	35	5.0	37	5.0	0.167	19.9	LOS B	0.5	3.7	0.81	0.92	0.82	36.0
Approach		58	5.0	61	5.0	0.167	16.9	LOS B	0.5	3.7	0.76	0.90	0.77	42.2
East: New England WB														
3	L2	117	5.0	123	5.0	0.069	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	53.4
4	T1	780	3.6	821	3.6	0.431	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		897	3.8	944	3.8	0.431	0.9	NA	0.0	0.0	0.00	0.07	0.00	58.8
North: Median Seagull														
5	T1	78	5.0	82	5.0	0.149	6.3	LOS A	0.6	4.2	0.72	0.72	0.72	44.7
Approach		78	5.0	82	5.0	0.149	6.3	LOS A	0.6	4.2	0.72	0.72	0.72	44.7
All Vehicles		1033	3.9	1087	3.9	0.431	2.2	NA	0.6	4.2	0.10	0.17	0.10	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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

2026 Model outputs

MOVEMENT SUMMARY

Site: S1-2 [NEhwy EB 2026 AM (Site Folder: General)]

NEhwy EB 2026 AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Median Seagull														
1	R2	145	5.0	153	5.0	0.085	3.3	LOS A	0.0	0.0	0.00	0.22	0.00	20.2
Approach		145	5.0	153	5.0	0.085	3.3	NA	0.0	0.0	0.00	0.22	0.00	20.2
West: New England EB														
2	T1	798	4.4	840	4.4	0.443	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
3	R2	36	5.0	38	5.0	0.021	5.8	LOS A	0.0	0.0	0.00	0.63	0.00	49.4
Approach		834	4.4	878	4.4	0.443	0.4	NA	0.0	0.0	0.00	0.03	0.00	59.4
All Vehicles		979	4.5	1031	4.5	0.443	0.8	NA	0.0	0.0	0.00	0.06	0.00	51.1

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: S1-1 [NEhwy WB 2026 AM (Site Folder: General)]

NEhwy WB 2026 AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Terriere Drive														
1	L2	96	5.0	101	5.0	0.153	9.7	LOS A	0.6	4.2	0.58	0.82	0.58	50.4
2	T1	145	5.0	153	5.0	0.397	14.9	LOS B	1.7	12.5	0.73	0.95	0.97	39.8
Approach		241	5.0	254	5.0	0.397	12.8	LOS A	1.7	12.5	0.67	0.90	0.82	45.2
East: New England WB														
3	L2	60	5.0	63	5.0	0.035	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.4
4	T1	560	10.1	589	10.1	0.322	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		620	9.6	653	9.6	0.322	0.6	NA	0.0	0.0	0.00	0.06	0.00	59.1
North: Median Seagull														
5	T1	36	5.0	38	5.0	0.045	3.2	LOS A	0.2	1.3	0.58	0.49	0.58	48.3
Approach		36	5.0	38	5.0	0.045	3.2	LOS A	0.2	1.3	0.58	0.49	0.58	48.3
All Vehicles		897	8.2	944	8.2	0.397	4.0	NA	1.7	12.5	0.20	0.30	0.24	55.3

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: S1-2 [NEhwy EB 2026 PM (Site Folder: General)]

NEhwy EB 2026 PM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Median Seagull														
1	R2	43	5.0	45	5.0	0.025	2.9	LOS A	0.0	0.0	0.00	0.22	0.00	20.2
Approach		43	5.0	45	5.0	0.025	2.9	NA	0.0	0.0	0.00	0.22	0.00	20.2
West: New England EB														
2	T1	778	2.1	819	2.1	0.426	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
3	R2	96	5.0	101	5.0	0.056	5.8	LOS A	0.0	0.0	0.00	0.63	0.00	49.4
Approach		874	2.4	920	2.4	0.426	0.8	NA	0.0	0.0	0.00	0.07	0.00	59.0
All Vehicles		917	2.5	965	2.5	0.426	0.9	NA	0.0	0.0	0.00	0.08	0.00	56.2

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: S1-1 [NEhwy WB 2026 PM (Site Folder: General)]

NEhwy WB 2026 PM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Terriere Drive														
1	L2	29	5.0	31	5.0	0.072	12.9	LOS A	0.2	1.8	0.72	0.88	0.72	48.2
2	T1	43	5.0	45	5.0	0.230	23.1	LOS B	0.7	5.3	0.84	0.95	0.92	33.9
Approach		72	5.0	76	5.0	0.230	19.0	LOS B	0.7	5.3	0.79	0.92	0.84	40.8
East: New England WB														
3	L2	145	5.0	153	5.0	0.085	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	53.4
4	T1	803	3.6	845	3.6	0.444	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		948	3.8	998	3.8	0.444	1.0	NA	0.0	0.0	0.00	0.09	0.00	58.6
North: Median Seagull														
5	T1	96	5.0	101	5.0	0.200	7.2	LOS A	0.8	5.7	0.76	0.77	0.77	43.7
Approach		96	5.0	101	5.0	0.200	7.2	LOS A	0.8	5.7	0.76	0.77	0.77	43.7
All Vehicles		1116	4.0	1175	4.0	0.444	2.7	NA	0.8	5.7	0.12	0.20	0.12	56.5

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

2027 Model outputs

MOVEMENT SUMMARY

Site: S1-2 [NEhwy EB 2027 AM (Site Folder: General)]

NEhwy EB 2027 AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Median Seagull														
1	R2	172	5.0	181	5.0	0.101	3.5	LOS A	0.0	0.0	0.00	0.22	0.00	20.2
Approach		172	5.0	181	5.0	0.101	3.5	NA	0.0	0.0	0.00	0.22	0.00	20.2
West: New England EB														
2	T1	822	4.4	865	4.4	0.456	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
3	R2	38	5.0	40	5.0	0.022	5.8	LOS A	0.0	0.0	0.00	0.63	0.00	49.4
Approach		860	4.4	905	4.4	0.456	0.4	NA	0.0	0.0	0.00	0.03	0.00	59.4
All Vehicles		1032	4.5	1086	4.5	0.456	0.9	NA	0.0	0.0	0.00	0.06	0.00	50.2

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: S1-1 [NEhwy WB 2027 AM (Site Folder: General)]

NEhwy WB 2027 AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Terriere Drive														
1	L2	115	5.0	121	5.0	0.189	10.0	LOS A	0.7	5.2	0.60	0.83	0.60	50.2
2	T1	172	5.0	181	5.0	0.486	16.6	LOS B	2.3	16.7	0.77	1.01	1.14	38.5
Approach		287	5.0	302	5.0	0.486	13.9	LOS A	2.3	16.7	0.70	0.94	0.92	44.3
East: New England WB														
3	L2	52	5.0	55	5.0	0.031	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.4
4	T1	577	10.1	607	10.1	0.332	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		629	9.7	662	9.7	0.332	0.6	NA	0.0	0.0	0.00	0.05	0.00	59.2
North: Median Seagull														
5	T1	38	5.0	40	5.0	0.049	3.3	LOS A	0.2	1.4	0.58	0.50	0.58	48.1
Approach		38	5.0	40	5.0	0.049	3.3	LOS A	0.2	1.4	0.58	0.50	0.58	48.1
All Vehicles		954	8.1	1004	8.1	0.486	4.7	NA	2.3	16.7	0.23	0.33	0.30	54.6

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: S1-2 [NEhwy EB 2027 PM (Site Folder: General)]

NEhwy EB 2027 PM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Median Seagull														
1	R2	52	5.0	55	5.0	0.031	3.0	LOS A	0.0	0.0	0.00	0.22	0.00	20.2
Approach		52	5.0	55	5.0	0.031	3.0	NA	0.0	0.0	0.00	0.22	0.00	20.2
West: New England EB														
2	T1	801	2.1	843	2.1	0.438	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
3	R2	115	5.0	121	5.0	0.068	5.8	LOS A	0.0	0.0	0.00	0.63	0.00	49.4
Approach		916	2.5	964	2.5	0.438	0.9	NA	0.0	0.0	0.00	0.08	0.00	58.8
All Vehicles		968	2.6	1019	2.6	0.438	1.0	NA	0.0	0.0	0.00	0.09	0.00	55.6

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: S1-1 [NEhwy WB 2027 PM (Site Folder: General)]

NEhwy WB 2027 PM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Terriere Drive														
1	L2	34	5.0	36	5.0	0.090	13.5	LOS A	0.3	2.2	0.74	0.89	0.74	47.9
2	T1	52	5.0	55	5.0	0.313	27.5	LOS B	1.0	7.6	0.87	0.98	1.03	31.4
Approach		86	5.0	91	5.0	0.313	22.0	LOS B	1.0	7.6	0.82	0.95	0.91	38.9
East: New England WB														
3	L2	172	5.0	181	5.0	0.101	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	53.4
4	T1	827	3.6	871	3.6	0.457	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		999	3.8	1052	3.8	0.457	1.1	NA	0.0	0.0	0.00	0.10	0.00	58.5
North: Median Seagull														
5	T1	115	5.0	121	5.0	0.263	8.8	LOS A	1.1	7.8	0.79	0.86	0.89	42.1
Approach		115	5.0	121	5.0	0.263	8.8	LOS A	1.1	7.8	0.79	0.86	0.89	42.1
All Vehicles		1200	4.0	1263	4.0	0.457	3.3	NA	1.1	7.8	0.13	0.23	0.15	55.8

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

2028 Model outputs

MOVEMENT SUMMARY

Site: S1-2 [NEhwy EB 2028 AM (Site Folder: General)]

NEhwy EB 2028 AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Median Seagull														
1	R2	200	5.0	211	5.0	0.117	3.8	LOS A	0.0	0.0	0.00	0.22	0.00	20.2
Approach		200	5.0	211	5.0	0.117	3.8	NA	0.0	0.0	0.00	0.22	0.00	20.2
West: New England EB														
2	T1	846	4.4	891	4.4	0.470	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
3	R2	40	5.0	42	5.0	0.023	5.8	LOS A	0.0	0.0	0.00	0.63	0.00	49.4
Approach		886	4.4	933	4.4	0.470	0.4	NA	0.0	0.0	0.00	0.03	0.00	59.3
All Vehicles		1086	4.5	1143	4.5	0.470	1.1	NA	0.0	0.0	0.00	0.06	0.00	49.3

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: S1-1 [NEhwy WB 2028 AM (Site Folder: General)]

NEhwy WB 2028 AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Terriere Drive														
1	L2	134	5.0	141	5.0	0.221	10.1	LOS A	0.9	6.2	0.61	0.84	0.62	50.1
2	T1	200	5.0	211	5.0	0.570	18.2	LOS B	3.0	21.6	0.80	1.06	1.32	37.3
Approach		334	5.0	352	5.0	0.570	14.9	LOS B	3.0	21.6	0.72	0.97	1.04	43.6
East: New England WB														
3	L2	60	5.0	63	5.0	0.035	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.4
4	T1	577	10.1	607	10.1	0.332	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		637	9.6	671	9.6	0.332	0.6	NA	0.0	0.0	0.00	0.05	0.00	59.1
North: Median Seagull														
5	T1	40	5.0	42	5.0	0.052	3.3	LOS A	0.2	1.5	0.59	0.50	0.59	48.1
Approach		40	5.0	42	5.0	0.052	3.3	LOS A	0.2	1.5	0.59	0.50	0.59	48.1
All Vehicles		1011	7.9	1064	7.9	0.570	5.5	NA	3.0	21.6	0.26	0.38	0.37	53.8

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: S1-2 [NEhwy EB 2028 PM (Site Folder: General)]

NEhwy EB 2028 PM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Median Seagull														
1	R2	60	5.0	63	5.0	0.035	3.2	LOS A	0.0	0.0	0.00	0.22	0.00	20.2
Approach		60	5.0	63	5.0	0.035	3.2	NA	0.0	0.0	0.00	0.22	0.00	20.2
West: New England EB														
2	T1	825	2.1	868	2.1	0.451	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
3	R2	134	5.0	141	5.0	0.079	5.8	LOS A	0.0	0.0	0.00	0.63	0.00	49.4
Approach		959	2.5	1009	2.5	0.451	1.0	NA	0.0	0.0	0.00	0.09	0.00	58.7
All Vehicles		1019	2.7	1073	2.7	0.451	1.1	NA	0.0	0.0	0.00	0.10	0.00	55.2

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

BRETTSTRAFFIC ENGINEERING

NEW ENGLAND HIGHWAY & TERRIERRE DRIVE: SIDRA MODEL OUTPUTS & REPORT (Rev 03).

MOVEMENT SUMMARY

Site: S1-1 [NEhwy WB 2028 PM (Site Folder: General)]

NEhwy WB 2028 PM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Terriere Drive														
1	L2	40	5.0	42	5.0	0.112	14.2	LOS A	0.4	2.7	0.76	0.90	0.76	47.4
2	T1	60	5.0	63	5.0	0.411	33.2	LOS C	1.4	10.2	0.90	1.02	1.14	28.6
Approach		100	5.0	105	5.0	0.411	25.6	LOS B	1.4	10.2	0.84	0.97	0.99	36.9
East: New England WB														
3	L2	200	5.0	211	5.0	0.117	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	53.4
4	T1	852	3.6	897	3.6	0.471	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
Approach		1052	3.9	1107	3.9	0.471	1.2	NA	0.0	0.0	0.00	0.11	0.00	58.3
North: Median Seagull														
5	T1	134	5.0	141	5.0	0.337	10.8	LOS A	1.4	10.6	0.83	0.96	1.02	40.3
Approach		134	5.0	141	5.0	0.337	10.8	LOS A	1.4	10.6	0.83	0.96	1.02	40.3
All Vehicles		1286	4.1	1354	4.1	0.471	4.1	NA	1.4	10.6	0.15	0.26	0.18	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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

2033 Model outputs

MOVEMENT SUMMARY

Site: S1-2 [NEhwy EB 2033 AM (Site Folder: General)]

NEhwy EB 2033 AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Median Seagull														
1	R2	340	5.0	358	5.0	0.200	6.4	LOS A	0.0	0.0	0.00	0.22	0.00	20.2
Approach		340	5.0	358	5.0	0.200	6.4	NA	0.0	0.0	0.00	0.22	0.00	20.2
West: New England EB														
2	T1	981	4.4	1033	4.4	0.545	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	59.5
3	R2	68	5.0	72	5.0	0.040	5.8	LOS A	0.0	0.0	0.00	0.63	0.00	49.4
Approach		1049	4.4	1104	4.4	0.545	0.6	NA	0.0	0.0	0.00	0.04	0.00	59.1
All Vehicles		1389	4.6	1462	4.6	0.545	2.0	NA	0.0	0.0	0.00	0.09	0.00	46.1

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: S1-1 [NEhwy WB 2033 AM (Site Folder: General)]

NEhwy WB 2033 AM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Terriere Drive														
1	L2	229	5.0	241	5.0	0.469	14.5	LOS A	2.4	17.4	0.77	1.01	1.12	47.3
2	T1	340	5.0	358	5.0	1.339	334.7	LOS F	64.5	471.1	1.00	4.57	14.46	5.0
Approach		569	5.0	599	5.0	1.339	205.8	LOS F	64.5	471.1	0.91	3.14	9.09	10.2
East: New England WB														
3	L2	102	5.0	107	5.0	0.060	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	53.4
4	T1	689	10.1	725	10.1	0.396	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		791	9.4	833	9.4	0.396	0.9	NA	0.0	0.0	0.00	0.07	0.00	58.8
North: Median Seagull														
5	T1	68	5.0	72	5.0	0.113	5.1	LOS A	0.4	3.2	0.66	0.66	0.66	46.0
Approach		68	5.0	72	5.0	0.113	5.1	LOS A	0.4	3.2	0.66	0.66	0.66	46.0
All Vehicles		1428	7.5	1503	7.5	1.339	82.7	NA	64.5	471.1	0.39	1.32	3.65	22.9

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: S1-2 [NEhwy EB 2033 PM (Site Folder: General)]

NEhwy EB 2033 PM
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Median Seagull														
1	R2	102	5.0	107	5.0	0.060	4.2	LOS A	0.0	0.0	0.00	0.22	0.00	20.2
Approach		102	5.0	107	5.0	0.060	4.2	NA	0.0	0.0	0.00	0.22	0.00	20.2
West: New England EB														
2	T1	957	2.1	1007	2.1	0.524	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
3	R2	229	5.0	241	5.0	0.134	5.8	LOS A	0.0	0.0	0.00	0.63	0.00	49.4
Approach		1186	2.7	1248	2.7	0.524	1.3	NA	0.0	0.0	0.00	0.12	0.00	58.2
All Vehicles		1288	2.8	1356	2.8	0.524	1.5	NA	0.0	0.0	0.00	0.13	0.00	53.6

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Appendix E
Lochinvar Masterplan V5


LOCHINVAR MASTERPLAN
EASTERN PRECINCT
LOCHINVAR RIDGE ESTATE
654 LOTS
592m² - 1500m²
HEREFORD HILL ESTATE
282 LOTS
450m² - 1318m²
PROPOSED DISPLAY VILLAGE STAGE 1
38 LOTS
483m² - 1318m²
ARROWFIELD ESTATE
97 LOTS
511m² - 988m²
LOCHINVAR DOWNS ESTATE
313 LOTS
450m² - 1118m²
AIRDS OF LOCHINVAR
ST PATRICKS PRIMARY SCHOOL
LOCHINVAR SPORTING COMPLEX
ST JOSEPH'S COLLEGE
PROPOSED COMMUNITY PRECINCT*
PROPOSED SCHOOL*
PROPOSED COMMERCIAL*
HOLY TRINITY ANGLICAN CHURCH
POLICE STATION
LOCHINVAR HOTEL
TRUE CAFE
LOCHINVAR POST OFFICE
LOCHINVAR PUBLIC SCHOOL
PROPOSED MEDIUM DENSITY RESIDENTIAL*
PROPOSED ENVIRONMENTAL PROTECTION*
PROPOSED PUBLIC RECREATION*
*Based on Maitland City Council 'Lochinvar Structure Plan' October 2007
lochinvar.com.au
To Rutherford (7 mins)
Maitland (11 mins)
Newcastle (51 mins)
Existing Residential
Existing Residential
McCloy Lochinvar Construction Complete
McCloy Lochinvar Estimated Completion Date Jan 2023
Urban Land & Housing Group Estimated Completion Date ??
Lochinvar Downs Estimated Completion Date September 2023
Lochinvar Downs Estimated Completion Date Jan 2023
McCloy Station Lane Estimated Completion of Station Lane Connection Dec 2024 (STCA) Through to NEH
Proposed Public Recreation*
Proposed Environmental Protection*
NEW ENGLAND HWY
WINDERS LANE
MT NOBLE RD
ROBERT ROAD
CHRISTOPHER ROAD
STATION LANE
OCCUPATION LN
HARPER CL
St Joseph's College
St Patricks Primary School
Lochinvar Sporting Complex
Police Station
Proposed Community Precinct*
Proposed School*
Proposed Commercial*
Medium Density Residential*
Lochinvar Public School
Lochinvar Post Office
True Café
Lochinvar Hotel
To Lochinvar Train Station (3 mins)
To Hunter Valley Wine Country Drive, Pokolbin, Broke, Sydney (120 mins)