Concept Development Application and First Stage of Development,65 Glendale Road, Glendale

Transport Impact Assessment Addendum

Prepared for:

Transport Asset Holding Entity

18 December 2024

The Transport Planning Partnership

Concept Development Application and First Stage of Development,65 Glendale Road, Glendale

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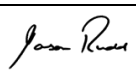
V03	18/12/24	S.Read	J.Rudd	J.Rudd	

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APPENDICES

1 Introduction

The Transport Planning Partnership (TTPP) was engaged by TfNSW on behalf of the Transport Asset Holding Entity to prepare the Traffic and Transport Impact Assessment for the Concept DA and first stages of development at 65 Glendale Drive, Glendale.

Since the submission of the Transport Impact Assessment Report[1], TTPP has received a request for information (RFI) from Lake Macquarie City Council (Council). This report has been prepared to address RFI.

This report should be considered as an addendum to the original assessment to address the matters raised. The report is structured as follows:

- Section 2 provides background information about the project.
- Section 3 provides a summary of the RFI comments and how they are addressed.
- Section 4 summarises the key changes to the proposed plan.
- Section 5 provides additional detail of the revised traffic generation, distribution and traffic assumptions.
- Section 6 details the traffic forecast from the STFM model.
- Section 7 provides the updated traffic modelling results
- Section 8 public transport provision.
- Section 9 responds to additional comments on the Green Travel Plan.

[1] Concept DA and First Stage of Development, 65 Glendale Drive Glendale – Traffic and Transport Assessment, TTPP (22 March 2024)

2 Background

A Traffic and Transport Impact Assessment (TTPP, 22 March 2024) was submitted to Lake Macquarie City Council in support of a Concept Development Application (DA) and firsts stage of development relating to 65 Glendale Drive, Glendale.

The subject site is legally described as Lot 1 in DP 1286424 and has a total site area of 35.85 hectares.

The subject site (shown in Figure 2.1 below) is owned by the Transport Asset Holding Entity (TAHE). The site is largely vacant, except for a small portion of land to the south, which is being used by Sydney Trains for project operations and will be retained for this purpose. It is legally described as Lot 1, DP 1286424 and is currently zoned as E2 commercial centre, MU1 mixed use, C2 environmental conservation.

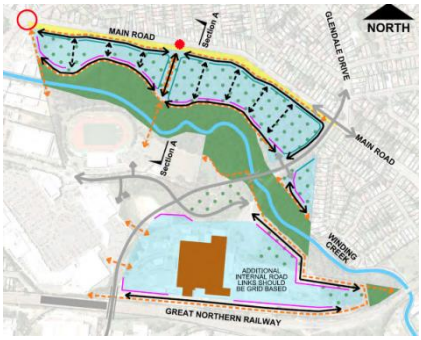
Figure 2.1: Proposed Subdivision

This letter is to address the specific requests for information that were received from Council and Transport for NSW.

3 RFI Responses Summary

This document addresses the various traffic and transport related Requests for Information (RFI)s raised by Council and relevant authorities in response to the application. The responses to the RFIs are summarised in Table 3.1 and Table 3.2.

Table 3.1: Council RFIs

	RFI	Response
1.4	The Panel noted the need for good public transport to service the site.	See Section 8 of this report.
4.1	Council does not have plans to build a path and bridge over Winding Creek to Glendale Drive (the North South Pedestrian Link). The path and bridge are identified within the pedestrian network strategy and the Glendale Town Centre Area Plan however are required to be provided as part of the future development as the link will provide access between the development and Glendale centre.	This bridge has been removed from plans. It was included in the proposal as it was indicated in Council planning documents. Notable the LMCC DCP 2014 for Glendale Regional Centre.  See Section 4
4.2	The proposed pathway network is to be reconsidered to ensure future residents are not required to cross major roads multiple times to access destinations. Where existing pathways are available missing links should be identified and safe access to all stages of the development is to be identified.	The revised plans will include a new connection directly to the Hunter Sports Centre. See Section 4
5.1	We are unaware of any funded proposal to upgrade Main Road from Glendale Drive to Lake Road as indicated in section 3. The assessment will need to be revised to consider what upgrades are required due to development impacts, including written advice from TfNSW, rather than assume TfNSW have a plan to provide these upgrades that will coincide with the timing of the development.	Modelling assumptions have been updated. Duplication of Main Road is no longer assumed. Modelling indicates duplication of Main Road will be required to support network operability in to the future. See Section 5, 6 and 7
5.2	The upgrades shown to Main Road on the preliminary concept plans should be extended west to Lake Road to ensure Main Road can function logically and safely as a dual carriageway road between Lake Road and the Stevens Avenue intersection. This extension will be required to ensure the intersections can safely operate together with adequate capacity.	Designs have been updated to show two lanes in each direction between Lake Road and Glendale Drive. See Section 4
5.3	Our preference is for the proposed intersection of lot 1 and Glendale Drive to be signalised. This is to ensure safe crossings can be provided at the intersection for future residents in all directions. If this is not considered suitable, a signalised Pelican Crossing is to be provided south of	The roundabout has been modified to traffic signals to provide safe connection for the regional cycleway route through Lot 1. See Section 4

	Winding Creek on Glendale Drive where the regional shared pathway is proposed to cross	
5.4	The report notes a significant limitation in the traffic modelling provided, in that the connection of Glendale Drive to Pennant Street has not been considered, and the resulting traffic generated by this connection has not been considered.	This project is not funded and beyond the scope of this assessment. Further there are no traffic forecasts for this connection. This issue discussed in this response. See Section 7.6
5.5	The assessment does not consider trips generated by lots 2,3,31,32 and 33, which could significantly change the forecast traffic volumes and patterns and add further pressure on the road network. The assessment is to consider the full development to ensure proposed road upgrades are sufficient to mitigate development impacts.	Trips generated by these lots were accounted for. Further details of the traffic forecasts have been provided in this response. These forecasts are based on indicative development yield. Specific traffic assessments for the developments proposed on lots 31, 32 and 33 to be undertaken as part of subsequent development applications for the respective lots. See Section 5
5.6	Concerns raised by Transport for NSW in their letter dated 12 June 2024 shall be addressed.	See Table 3.2

In addition to the Council's RFIs we also received separate comments from Transport for NSW as shown in Table 3.2.

Table 3.2: Transport for NSW RFIs

	RFI	Response
1	There are no road works funded or committed on Main Road. Any reference to a future upgrade of Main Road being undertaken by TfNSW should be removed from any subsequent modelling. Any additional capacity needed to accommodate the new development will be the responsibility of the developer.	This has been noted and modelling has been revised to reflect this change. See Section 7
2	While STFM growth rates have been used, the growth rates that have been derived for use in the SIDRA modelling have not been stated. The STFM used is from 2022 and is now out of date.	New STFM forecasts have been received from Transport for NSW and included in the updated traffic modelling. See Section 6
3	Trip generation calculations are not shown. While it is accepted that the exact yields are not yet known, the assumptions made to calculate the trip generation should be provided.	Traffic generation assumptions have been updated and are included. See
4	Trip distribution through the local network should be shown diagrammatically, not just tabulated. This should include any potential staging of the development.	Diagrams have been created. See Section 5
5	The SIDRA modelling should be based on the year the development will be completed and then 10 years into the future, not 2022 and 2032.	Modelling has been updated to include 2032 and 2042 based on STFM forecasts. See Section 7
6	It is not clear why it is assumed there will be a double right turn on the western leg of the intersection of Main Road and Lake Road. Itis re-emphasised there are no current funded or committed projects in this area. There is also no pedestrian crossing on the southern leg.	These upgrades have been removed from the forecast. See Section 5, 6 and 7
7	At the intersection of Main Road and Stephens Avenue: • The length of the right turn bays on Main Road should accommodate the length of the queues	These issues are discussed in section 7.7

	• Provide separate left turn lanes on Main Road • Consider the opportunity for double diamond phasing (will require configuration on side streets to be changed)	
8	TfNSW is not supportive of the proposed mitigation measures at the two signalised intersections of Main Road/Glendale Drive and Main Road/Lake Road. At both intersections, the mitigation treatments appear to be large scale capacity increases that will be very difficult to achieve. Consideration to other mitigation measures may be possible and more cost effective.	Mitigation measures have been removed. Traffic generation has been reduced based on reduced yield and removal of commercial office components to Lot 1 and reduction in assumptions of size of Lot 2.
9	From the SIDRA results it appears some volumes may have been miscoded. For example, at the intersection of Main Road and Glendale Drive, the right turn on the eastern leg increases with development	Modelling has been updated. See Section 7
10	It is unclear what is triggering the proposed staging – there is no modelling to support this.	It is difficult to model this given the vagueness of proposed development. However this is discussed in Section 7.8.
11	TfNSW is supportive of the proposed travel demand management measures. The following comments apply: • Secure bicycle parking and end of trip facilities should be conditioned as part of the development. This should include undercover parking, security measures, lockers, showers and change rooms. • All bus stops in the vicinity of the development should be upgraded to provide a pad, shelter, seating, lighting and connecting paths back to the development. • Active transport paths should have lighting to support walking and cycling outside daylight hours. • A Healthy Streets assessment should be undertaken for all local streets in the development with a target score to be agreed to by Council. • All active and public transport improvements should be provided up front as part of the first stage. • Consideration should be given to providing mid block traffic signals near Bruce Street to line up with the proposed through site link	Noted. See section 9.

4 Updated Concept Plan

The updated plan features a number of changes that affect the site and the assessment. The key changes are:

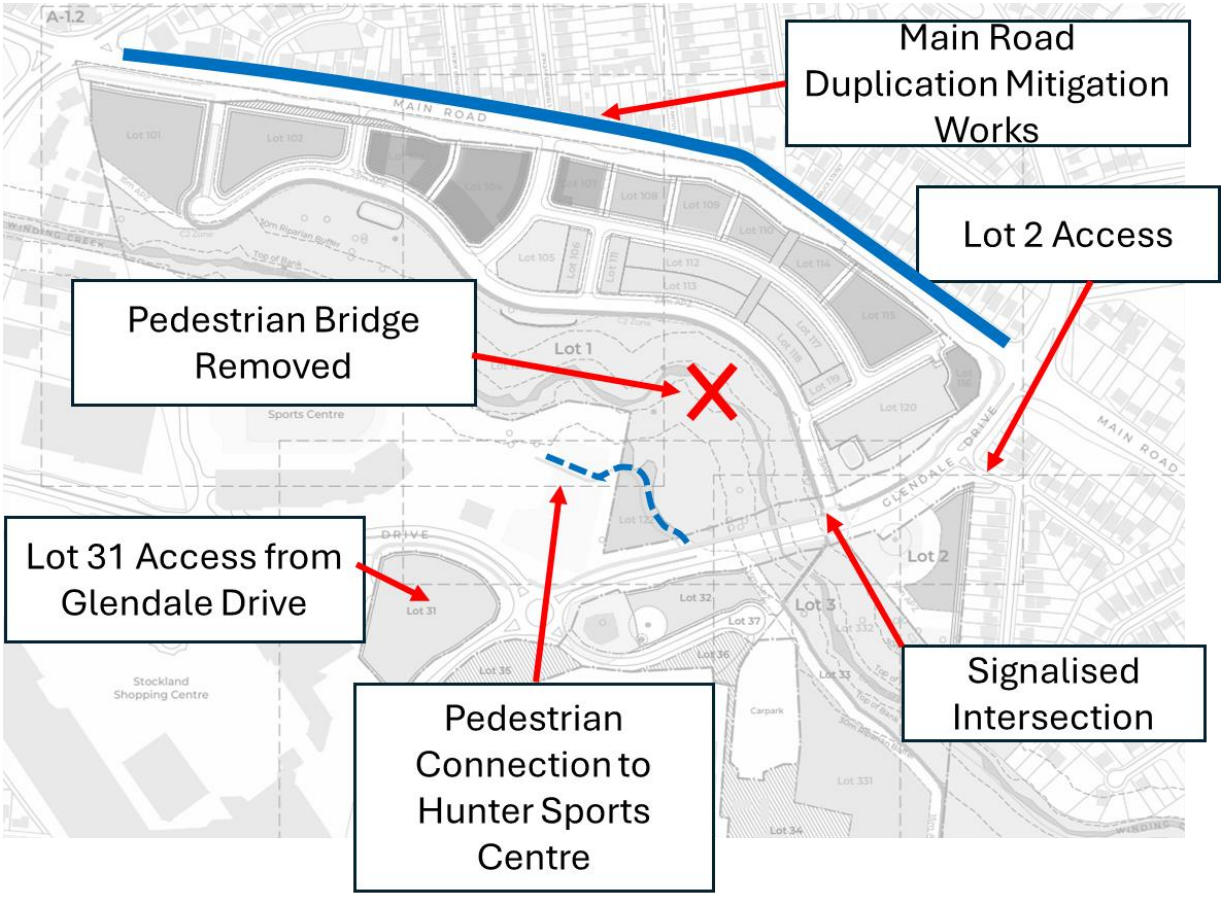
- Signalising the access to Lot 1 from Glendale Drive to support a safe crossing for the regional cycle route.
- Lot 2 access re-located to Scar Tree Way and generally reduced yield forecast for this lot.
- Pedestrian access to the Hunter Sports Centre.
- Removal of the proposed pedestrian and cycle bridge over Winding Creek.
- Mitigation works that include the duplication of Main Road to two lanes in each direction from Lake Road to Glendale Drive (see Appendix B).
- Access for Lot 31 has been relocated to directly from Glendale Drive rather than the previous access off the private road.

The signalising of the Lot 1 access from Glendale Drive is primarily for the purpose of providing a safe crossing for the regional cycleway along Winding Creek and would support active transport in the area.

Pedestrian along the northern side of Stockland Drive was found to be unfeasible and therefore an alternative access from Glendale Drive will be provided through the proposed park area.

The key changes are shown in Figure 4.1.

Figure 4.1: Key Modifications



5 Traffic Generation and Distribution

The following section outlines the assumptions for the traffic generation and distribution.

5.1 Development Yields

The assessment for the Concept DA is a concept assessment of the likely developments for Glendale and should not be considered a detailed assessment of a specific development. Therefore, traffic generation has been based on estimated yields and land uses for the site which are allowable under the current zoning.

Therefore, it should be acknowledged that the current land zone would allow several different alternative land uses. Future developers would need to undertake their own assessment of traffic impacts based on the proposed details of developments.

The assumed development yield for this assessment were:

- Lot 1
  - 600 high-density dwellings (shop to dwellings)
  - 400 medium-density dwellings
  - Bulky Goods Retail 8,400m^2 Gross Leasable Floor Area (GLFA)
- Lot 2
  - 80 High Density Dwellings
- Lot 31
  - Retail 5100m^2 Gross Lettable Floor Area (GLFA)
- Lot 32,33 (remainder of lot 3)
  - Business Park 34,500 m^2 Gross Floor Area (GFA)

5.2 Traffic Generation Rates

This updated assessment has adopted traffic generation rates based on the latest Transport for NSW Gude to Transport Impact Assessments (TfNSW 2024). Where available regional rates that typically apply to Wollongong and Newcastle have been used. The site is considered to have access to public transport through the bus interchange and bus routes on Main Road.

Residential traffic generation rates were based on the rates per dwelling for regional areas. It is assumed that there would only be a mix of high and medium density and unlikely to be low density.

Table 5.1: Residential Traffic Generation Rates

Density	Morning Peak	Evening Peak
High Density	0.53 vehicles per dwelling	0.32 vehicles per dwelling
Medium Density	0.41 vehicles per dwelling	0.60 vehicles per dwelling

Retail rates were also based on rates for regional locations in Wollongong and Newcastle. The proposed shopping centre retail is close to an existing shopping centre so it is assumed that there would be some linked trips between the two.

Table 5.2: Retail Traffic Generation Rates

Density	Morning Peak	Evening Peak
Bulky Goods	2.5 vehicles per 100m² GLFA	3.03 vehicles per 100m² GLFA
Shopping Centre	2.2 vehicles per 100m² GLFA	4.67 vehicles per 100m² GFLA

The likely industrial areas of lot 3 have been assumed based on the business park rates and are consistent with a broad range of industrial uses allowable on the site.

Table 5.3: Business Park Traffic Generation Rates

Density	Morning Peak	Evening Peak
Business Park	0.69 vehicles per 100m² GFA	0.78 vehicles per 100m² GFA

Based on these assumptions the forecast traffic generation for the morning and evening peaks is shown in Table 5.4 and Table 5.5.

Table 5.4: Morning Peak Traffic Generation Estimate

Lot	Type	Rate	Units	Trips	In	Out
Lot 1	High Density Dwelling	0.53	600	318	64	254
	Medium Density Dwelling	0.41	400	164	33	131
	Bulky Goods Retail	2.5	8400m²	210	189	21
Sub Total				**692**	**285**	**407**
Lot 2	High Density Dwelling	0.53	60	32	26	6
Sub Total				32	26	6
Lot 31	Shopping Centre	2.2	5100m²	112	56	56
Sub Total				112	56	56
Lot 3 (remainder)	Business Park	0.69	30,000m²	207	186	21
Sub Total				207	186	21
Grand Total				**1043**	**553**	**490**

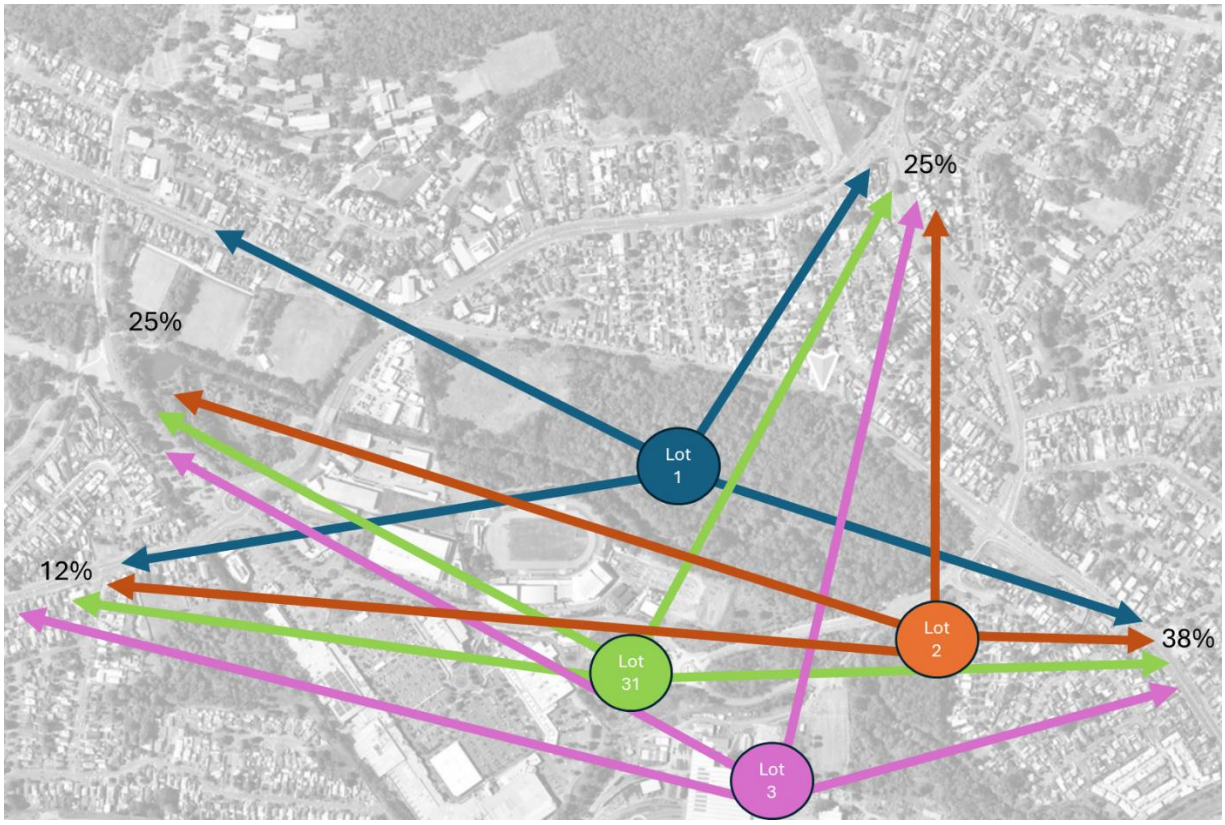
Table 5.5: Evening Peak Traffic Generation Estimate

Lot	Type	Rate	Units	Trips	In	Out
Lot 1	High Density Dwelling	0.32	600	192	153.6	38.4
	Medium Density Dwelling	0.6	400	240	192	48
	Bulky Goods Retail	3.03	8400m²	255	127	127
Sub Total				**687**	**473**	**214**
Lot 2	High Density Dwelling	0.32	60	19	15	4
Sub Total				**19**	**15**	**4**
Lot 31	Shopping Centre	4.67	5100m²	26	20	5
Sub Total				**238**	**119**	**119**
Lot 3 (remainder)	Business Park	0.78	30,000m²	238	119	119
Sub Total				**234**	**23**	**211**
Grand Total				**1178**	**631**	**547**

5.3 Traffic Distribution

The proposal will see a mix of retail, residential and industrial landuses. It is estimated that these land uses would attract trips from a relatively evenly with the nearest major centre at Charlestown attracting and generating a higher proportion of traffic. The estimate trip distribution is shown in Figure 5.1.

Figure 5.1: Overall Trip Distribution



The estimated trip generation when assigned to the road network would increase the traffic in the area as shown in Figure 5.2 and Figure 5.3 for the morning peak hour and evening peak hour respectively. This traffic assignment assumes access from Lot 1 to Main Road and Glendale Drive.

The resulting traffic assignment midblock volumes are shown in Figure 5.2 and Figure 5.3.

Figure 5.2: Morning Peak Trip Assignment

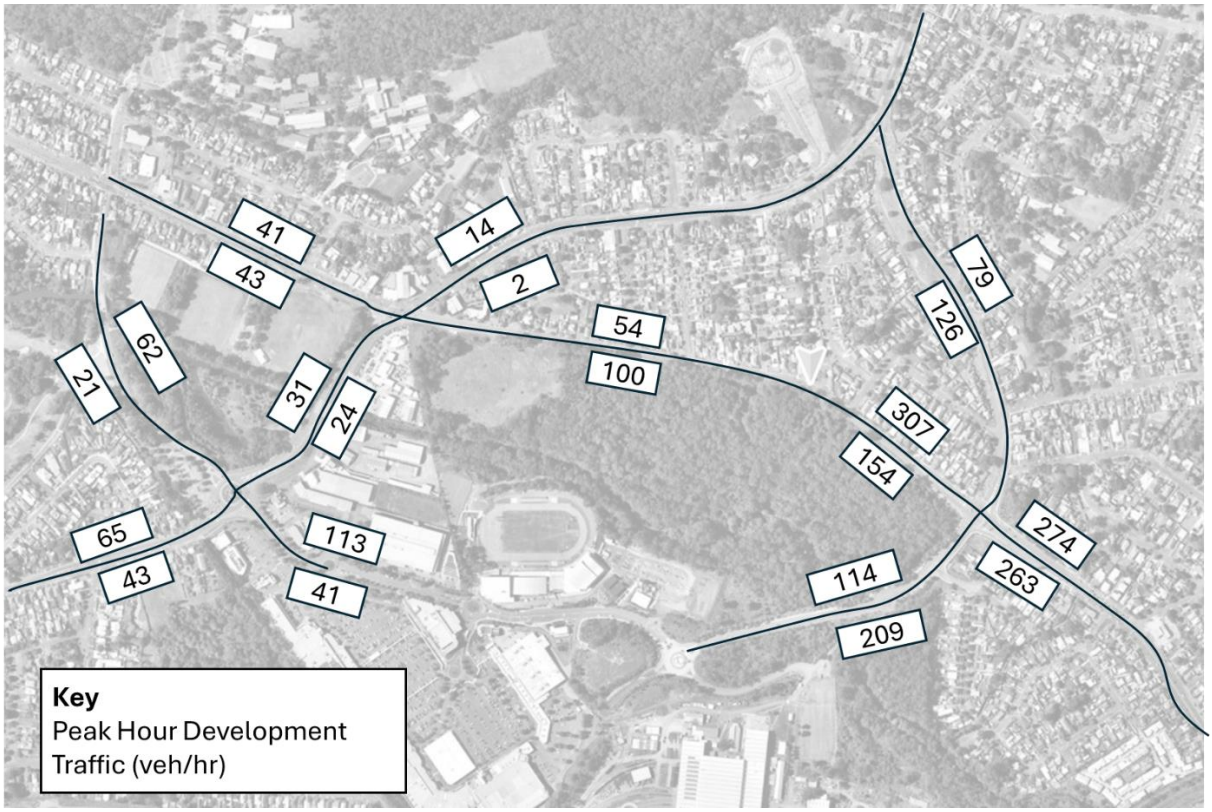


Figure 5.3: Evening Peak Trip Assignment

6 Background Traffic Forecasts

Forecast years have been chosen based on full development completed by 2032 and a further 10 years in the future. It is noted then that this is forecasting 20years into the future

Growth in background traffic has been estimated using the latest TfNSW STFM forecasts using LU22. These forecasts have been applied to the model by calculating the net growth in traffic between the 2021 base and the 2031 forecast and a further design year of 2041

The forecasts feature a significant redistribution of traffic from Lake Road North to Main Road which results in reductions of traffic on Lake Road while increasing traffic on Main Road. The net increase in traffic from the STFM model are shown in Figure 6.1 to Figure 6.4 for the morning and evening peaks for +10 years and +20 years.

Figure 6.1: Net Traffic Increases (2021 – 2031) Morning Peak Hour (Vehicles per Hour)

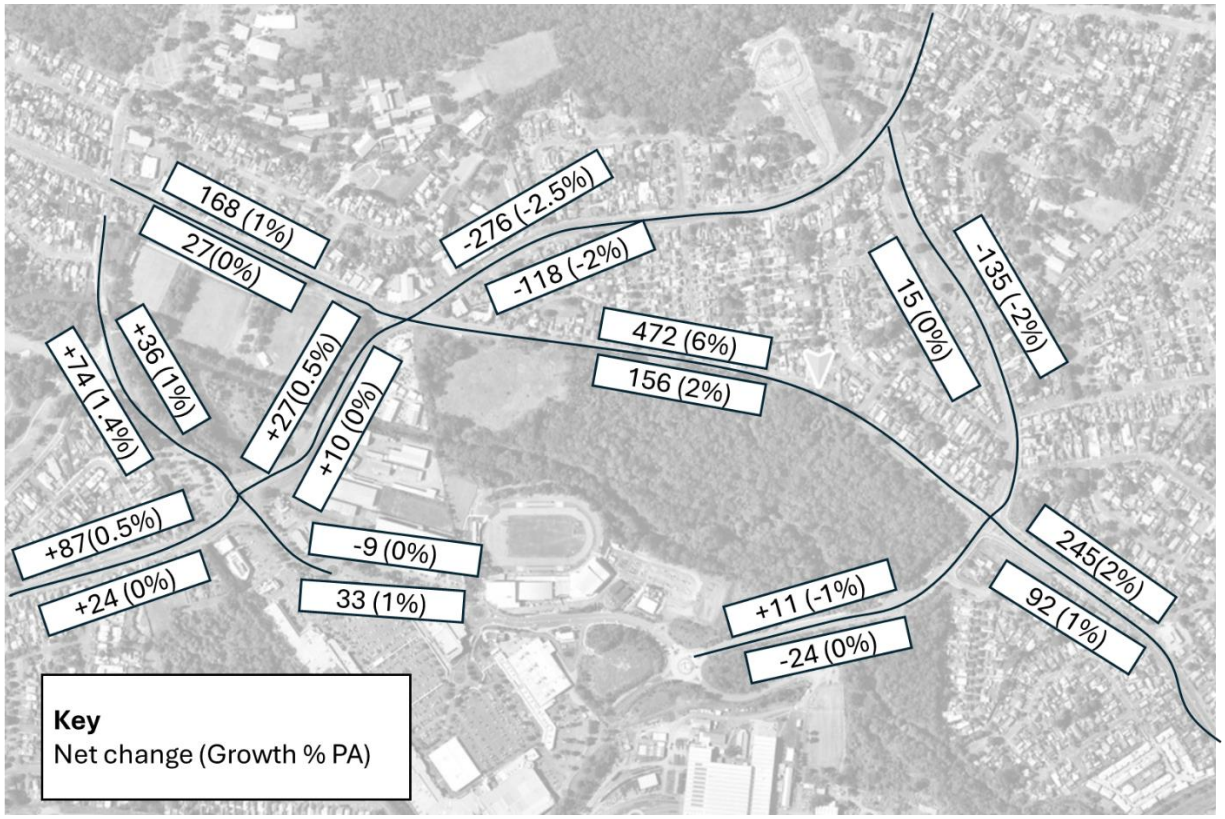


Figure 6.2: Net Traffic Increases (2021 – 2031) Evening Peak Hour (Vehicles per Hour)

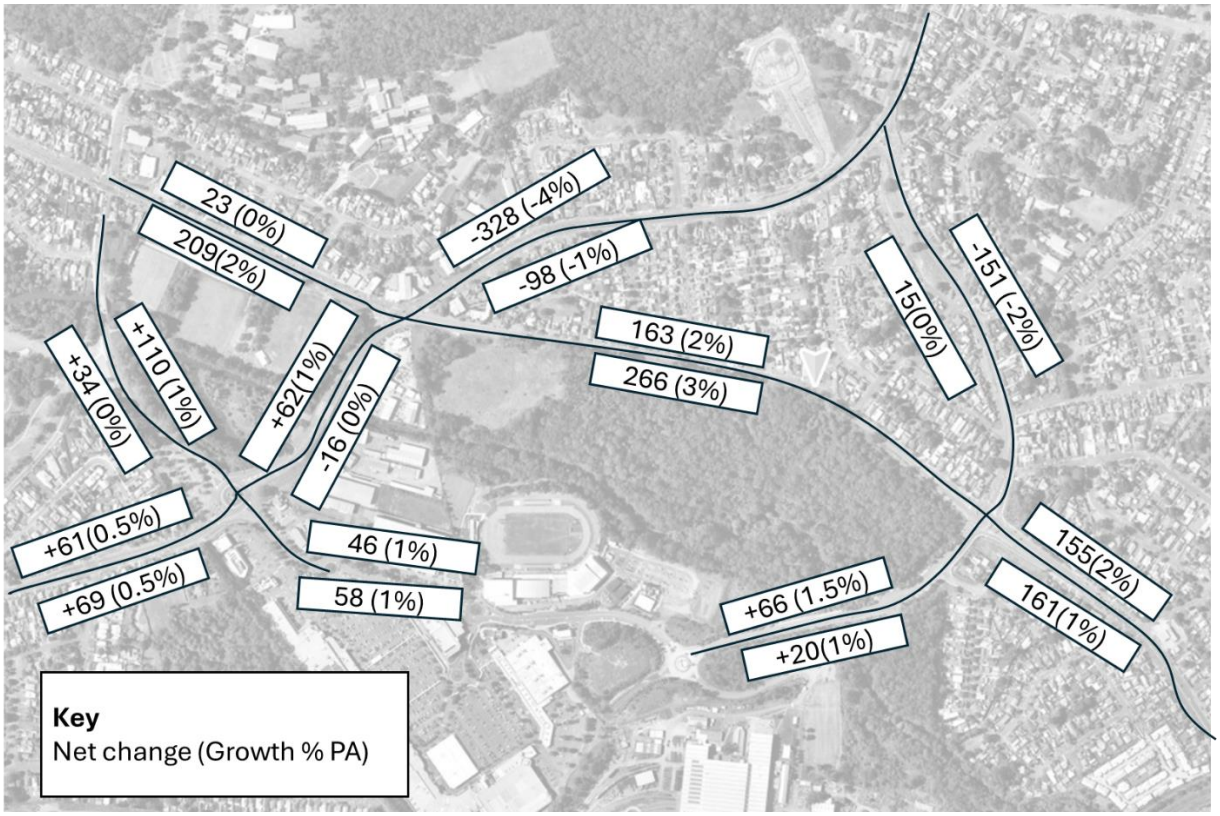


Figure 6.3: Net Traffic Increases (2021 – 2041) Morning Peak Hour (Vehicles per Hour)

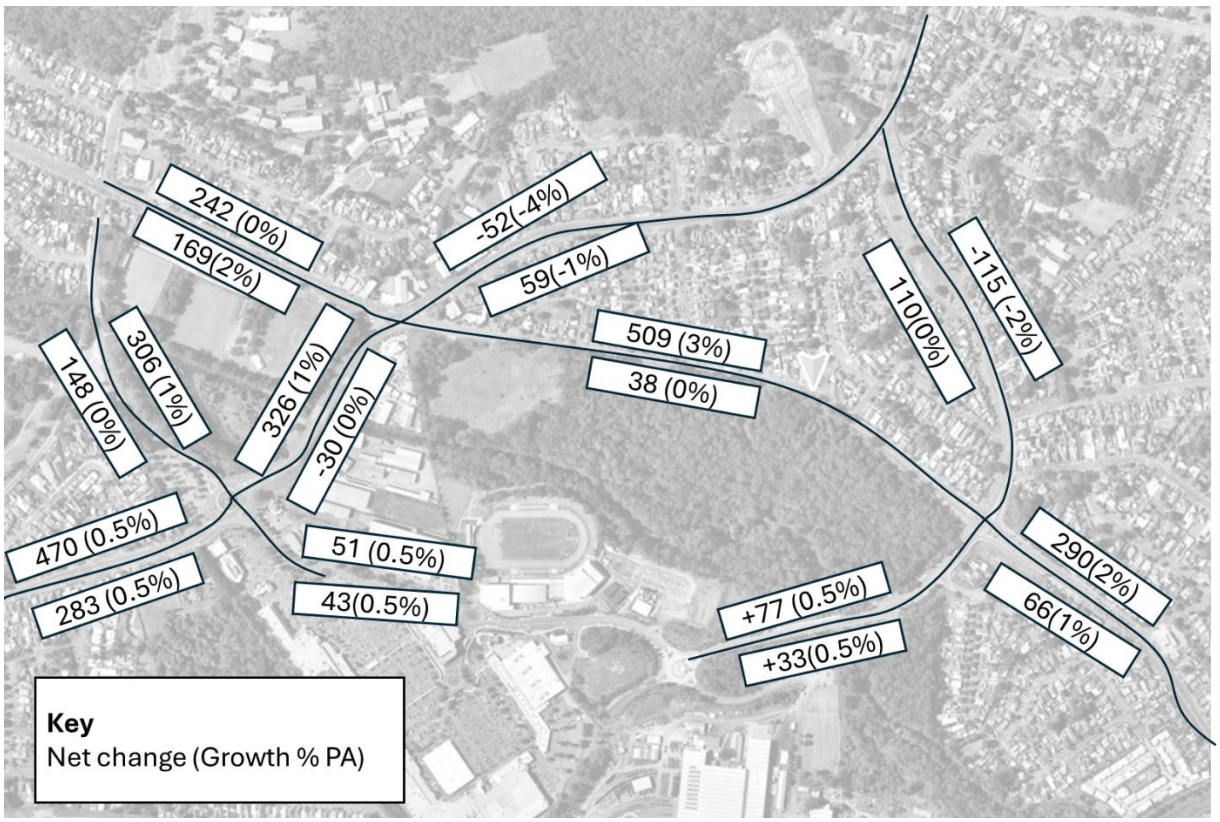
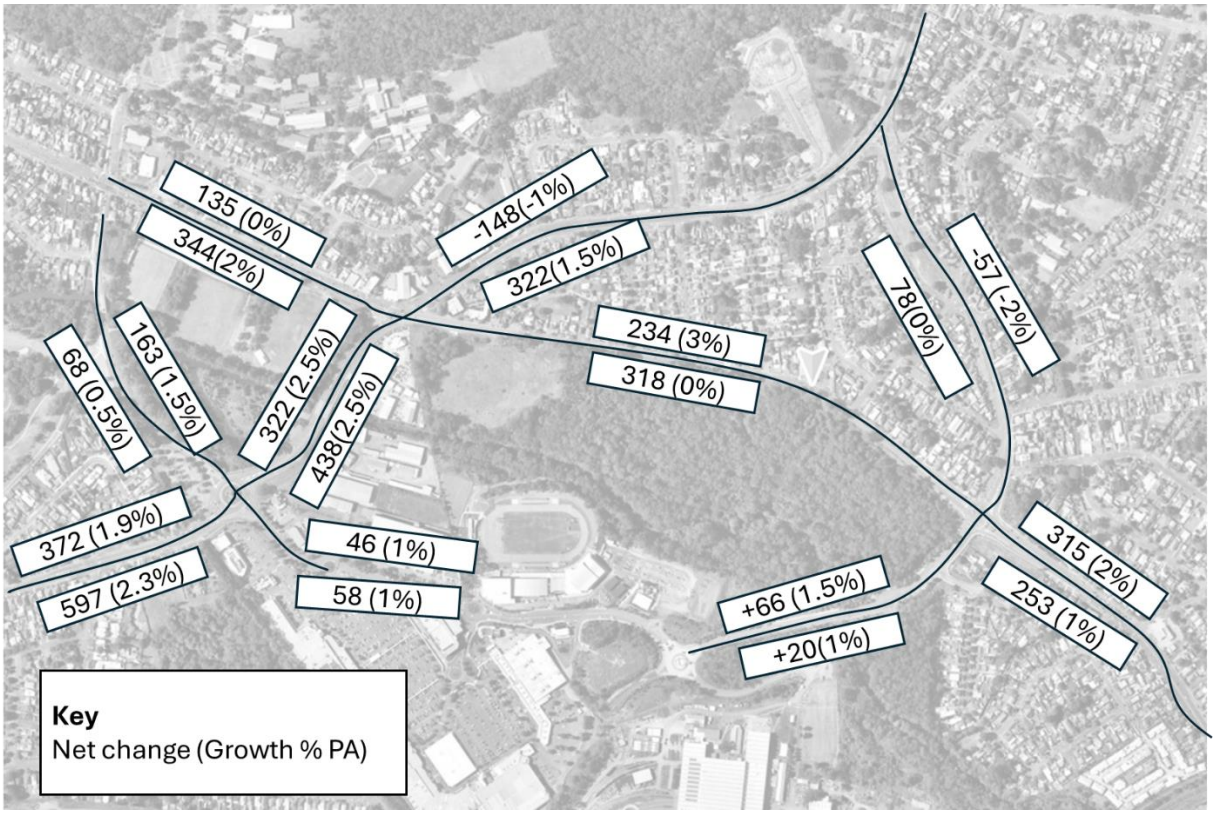


Figure 6.4: Net Traffic Increases (2021 – 2041) Evening Peak Hour (Vehicles per Hour)



7 Traffic Modelling Results

7.1 Overview

Traffic modelling has been updated using Sidra 9. Traffic modelling has been undertaken for the future years 2032 and 2042. 2032 is assumed to be the year when the majority of the development could be completed with 2042 as an additional 10 years after completion. The following scenarios have been modelled:

- 2022 Base model
- 2032 Do Minimum – No road upgrades
- 2032 Do Minimum plus full development traffic generation
- 2032 Development and mitigation measures
- 2042 Do Minimum
- 2042 Development and mitigation measures
- Additional sensitivity testing.

Developers would be required to undertake their own analysis based on the actual proposed development and land uses.

7.2 Level of Service Criteria

Transport for NSW uses the performance measure level of service to define how efficiently an intersection is operating under given prevailing traffic conditions. Level of service is directly related to the delays experienced by traffic travelling the intersection. Level of service ranges from LoS A to LoS F. LoS A indicates the intersection is operating with spare capacity, while LoS F indicates the intersection is operating above capacity. LoS D is the long-term desirable level of service.

At signalised intersections, the average delay is the volume-weighted average of all movements. For roundabouts and priority (give way and stop sign) controlled intersections, the average delay relates to the worst movement.

Table 7.1 shows the criteria that SIDRA Intersection adopts in assessing the level of service.

Table 7.1: Level of Service Criteria

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

7.3 Modelling results 2032

The modelling results for the morning peak are presented in Table 7.2

Table 7.2: 2032 Morning Peak Sidra Results

Intersection	Control Type	Existing Conditions		2032 Do Minimum		2032 Do Minimum + Development Traffic	
		Level of Service	Average Delay (sec)	Level of Service	Average Delay (sec)	Level of Service	Average Delay (sec)
Main Road – Glendale Drive	Signalised	C	38	C	38	E	72
Main Road – Stephens Ave – Lot 1 Site Access	Signalised	-	-	-	-	F	91
Main Road – Lake Road	Signalised	C	41	D	51	E	67
Lake Road – Stocklands Drive	Roundabout	B	15	B	15	B	16
Stocklands Drive – Shopping Centre – A Mart	Roundabout	A	14	A	14	A	14
Stocklands Drive – Shopping Centre – Sports Centre (Lot 2)	Roundabout	A	12	A	13	A	14
Stocklands Drive – Glendale Drive	Roundabout	A	7	A	12	A	12
Lots 1 Site Access – Glendale Drive	Signals	-	-	-	-	A	8

The critical intersection in the road network is the intersections of Main Road and Glendale Drive and the intersection of Main Road and Lake Road. The modelling indicates that with the development traffic Main Road and Glendale Drive would be over capacity with and Level of Service F. The intersection of Main Road and Lake Road would operate at Level of Service E. Further the new intersection at Stephen Avenue on Main Road would operate at Level of Service F.

The results for the evening peak are shown in Table 7.3.

Table 7.3: 2032 Evening Peak Sidra Results

Intersection	Control Type	Existing Conditions		2032 Do Minimum		2032 Do Minimum + Development Traffic	
		Level of Service	Average Delay (sec)	Level of Service	Average Delay (sec)	Level of Service	Average Delay (sec)
Main Road – Glendale Drive	Signalised	D	43	D	46	F	73
Main Road – Stephens Ave – Lot 1 Site Access	Signalised	-	-	-	-	C	26
Main Road – Lake Road	Signalised	D	53	D	56	E	60
Lake Road – Stocklands Drive	Roundabout	B	15	B	16	B	18
Stocklands Drive – Shopping Centre – A Mart	Roundabout	A	14	A	14	A	14
Stocklands Drive – Shopping Centre – Sports Centre (Lot 2)	Roundabout	A	14	A	14	A	14
Stocklands Drive – Glendale Drive	Roundabout	A	7	A	7	A	12
Lots 1 Site Access – – Glendale Drive	Traffic Signals	-	-	-	-	B	15

In the afternoon peak, the development traffic would increase the delay at Main Road and Glendale Drive goes to Level of Service F and has high delays for the 2032 with the development traffic.

The Main Road and Lake Road intersection would perform at Level of Service F in the future scenario.

7.4 Mitigation Measures

The modelling indicates that development in Glendale would cause additional delay to Main Road. In order to mitigate the impacts on the road network the duplication of Main Road between Lake Road and Glendale Drive was identified as a measure that would improve traffic flow and reduce delays on the road network. This was modelled as two continuous lanes in each direction along Main Road between Lake Road and Glendale Drive.

The traffic modelling results for the morning and evening peaks with the mitigation measures is shown in Table 7.4 and Table 7.5 respectively.

Table 7.4: Morning Peak Mitigation Measures Results

Intersection	Control Type	Existing Conditions		2032 Do Minimum		2032 Do Minimum + Development Traffic		2032 Do Minimum + Development Traffic + Additional Upgrades	
		Level of Service	Average Delay (sec)	Level of Service	Average Delay (sec)	Level of Service	Average Delay (sec)	Level of Service	Average Delay (sec)
Main Road – Glendale Drive	Signalised	C	38	C	38	E	70	D	51
Main Road – Stephens Ave – Lot 1 Site Access	Signalised	-	-	-	-	F	91	C	25
Main Road – Lake Road	Signalised	C	41	D	51	E	67	C	38

Table 7.5: Evening Peak Mitigation Measures Results

Intersection	Control Type	Existing Conditions		2032 Do Minimum		2032 Do Minimum + Development Traffic		2032 Do Minimum + Development Traffic +	
		Level of Service	Average Delay (sec)	Level of Service	Average Delay (sec)	Level of Service	Average Delay (sec)	Level of Service	Average Delay (sec)
Main Road – Glendale Drive	Signalised	D	43	D	46	E	70	E	65
Main Road – Stephens Ave – Lot 1 Site Access	Signalised	-	-	-	-	F	91	D	38
Main Road – Lake Road	Signalised	D	53	D	56	E	67	D	56

The modelling shows that with the mitigation measures proposed that the road network would be similar to what it would have been without the development. Notwithstanding the intersection of Main Road and Glendale Drive is forecast to be Level of Service E however Transport for NSW has indicated it would not support additional through lanes on Main Road at this intersection.

7.5 Modelling Results 2042

The modelling results for the 2042 have assumed the mitigation measures proposed for the 2032 with development scenarios. The results of the 2042 are presented in Table 7.6 and Table 7.7 for the morning and evening peaks respectively.

Table 7.6: 2042 Morning Peak Sidra Results

Intersection	Control Type	Existing Conditions		2042 Do Minimum		2032 Do Minimum + Development Traffic	
		Level of Service	Average Delay (sec)	Level of Service	Average Delay (sec)	Level of Service	Average Delay (sec)
Main Road – Glendale Drive	Signalised	C	38	D	47	F	72
Main Road – Stephens Ave – Lot 1 Site Access	Signalised	-	-	-	-	C	28
Main Road – Lake Road	Signalised	C	41	F	74	E	57
Lake Road – Stocklands Drive	Roundabout	B	15	B	17	B	16
Stocklands Drive – Shopping Centre – A Mart	Roundabout	A	14	A	14	A	14
Stocklands Drive – Shopping Centre – Sports Centre (Lot 2)	Roundabout	A	12	A	13	A	14
Stocklands Drive – Glendale Drive	Roundabout	A	7	A	12	A	12
Lots 1 Site Access – Glendale Drive	SIgnals	-	-	-	-	B	15

Table 7.7: 2042 Evening Peak Sidra Results

Intersection	Control Type	Existing Conditions		2042 Do Minimum		2042 Do Minimum + Development Traffic	
		Level of Service	Average Delay (sec)	Level of Service	Average Delay (sec)	Level of Service	Average Delay (sec)
Main Road – Glendale Drive	Signalised	D	43	D	53	F	85
Main Road – Stephens Ave – Lot 1 Site Access	Signalised	-	-	-	-	C	23
Main Road – Lake Road	Signalised	D	53	F	127	F	119
Lake Road – Stocklands Drive	Roundabout	B	15	B	28	F	99
Stocklands Drive – Shopping Centre – A Mart	Roundabout	A	14	A	14	A	15
Stocklands Drive – Shopping Centre – Sports Centre (Lot 2)	Roundabout	A	14	A	14	A	14
Stocklands Drive – Glendale Drive	Roundabout	A	7	A	7	A	12
Lots 1 Site Access – – Glendale Drive	Traffic Signals	-	-	-	-	B	15

The modelling indicates that there would be increased delay along Main Road. However, the new intersection at Stephen Avenue would continue to operate acceptably.

In the afternoon peak the intersection of Lake Road and Stocklands Drive that is a roundabout would go from Level of Service B to F. However, the forecast traffic would only contribute 5% to the traffic volumes indicating that the intersection would be close to capacity regardless of if the development were to go ahead.

The traffic forecasts used are for 20 year future horizon. As the forecast models are unconstrained traffic forecasts 20 years in advance will frequently result in high delays when applied to operational models. Therefore, caution should be applied interpreting these results. Addressing this congestion may require measures such as providing a train station at Glendale to support the strategic centre ambition for the area.

7.6 Glendale Drive Extension

The Glendale Drive extension connecting south over the rail line to Pennant Street has been proposed by Council. However, the project is not funded and not included in Transport for NSW's future traffic forecasts. It is outside the scope of this study to provide detailed traffic forecasts and impact assessment of this connection.

However, we have assessed an additional 1000 vehicles per hour in each direction as a "Stress" test. The results of the stress test are shown in Table 7.8.

Table 7.8: Glendale Drive Intersections Stress Test

Intersection	Control Type	Morning Peak		Evening Peak	
		Level of Service	Average Delay (sec)	Level of Service	Average Delay (sec)
Glendale Drive – Stocklands Drive	Roundabout	B	16	B	25
Glendale Drive – Lot 1	Signalised Intersection	A	13	A	12

The modelling indicates that there is capacity along Glendale Drive for additional traffic. , The main constraint will be the intersection of Main Road and Glendale Drive. This intersection would require some significant intersection upgrades that are beyond the scope of this assessment and would need to be considered as part of any Glendale Drive extension plans.

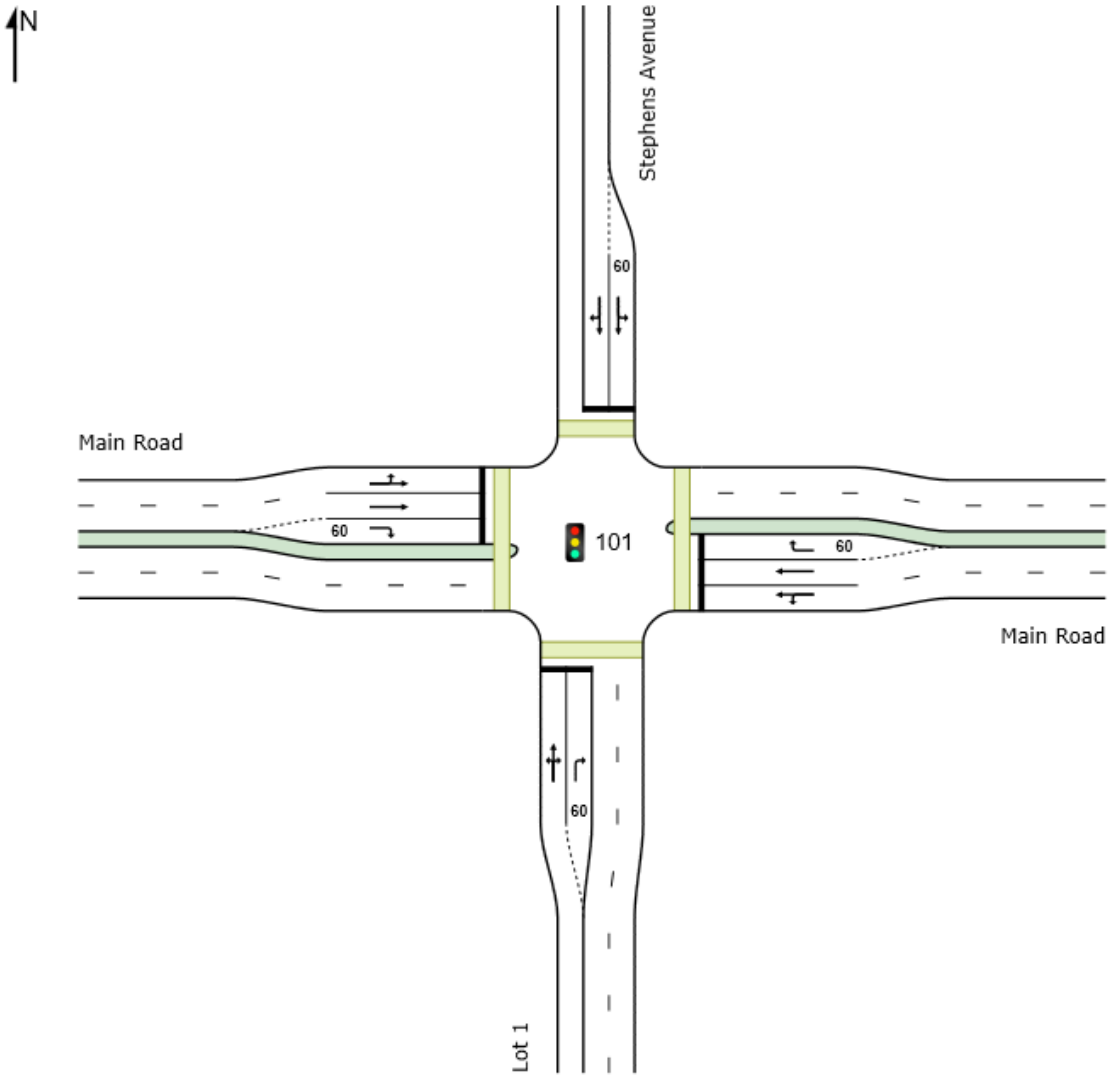
7.7 Main Road Access to Lot

The proposed access to Lot 1 is proposed to be located at Stephen Avenue creating a signalised intersection. Transport for NSW has provided comments on this access:

- The length of the right turn bays on Main Road should accommodate the length of the queues
- Provide separate left turn lanes on Main Road
- Consider the opportunity for double diamond phasing (will require configuration on side streets to be changed)

The following section addresses each of these comments and is based on the configuration shown in Table 7.1.

Figure 7.1: Intersection of Stephen Avenue – Main Road – Lot 1 Access Road



7.7.1 Right Turn Bays

The design of the intersection has included right turns bay on Main Road. The length of the right turn bays has been set at 60m. The modelled queue lengths for the right turns based on the 95th percentile queues

Table 7.9: 95th Percentile Queue Lengths

	Eastbound	Westbound
Morning Peak	6.7m	3.1m
Evening Peak	13.7m	11.3m

The queue lengths are well within the proposed 95th percentile.

7.7.2 Providing Left Turn Lanes

The traffic modelling indicates that left turn lanes are not warranted. Further adding left turn lanes would increase the crossing distance for pedestrians and increase the minimum green time for the phases from side streets. This would increase delays at this intersection and be counter to the objectives of making better pedestrian connections and access to public transport bus routes along Main Road.

We therefore do not recommend left turn lanes at this intersection.

7.7.3 Future Double Diamond Phasing

To allow for double diamond phasing would require a dedicated right turn lane. Stephen Avenue is some 11m wide so there would be adequate road width to add a two lane approach if required in the future.

7.8 Main Road Upgrade Triggers

The previous assessment indicated triggers for when upgrades would be required. We note the comments received from Transport for NSW include that would not support an unsignalized intersection priority access from Main Road at Stephen Avenue. Therefore, the revised assessment has assumed a signalised intersection to allow better access and reduce impacts on Glendale Drive / Main Road Intersection.

The key mitigation measure for addressing the impacts on Main Road is the duplication between Lake Drive and Glendale Drive. At this stage is uncertain the exact nature of development or when they would be completed.

To address comments that modelling had not been undertaken for the 'triggers' a sensitivity test was undertaken assess when the duplication would be required. The target level of service was Level of Service D. The results of the sensitivity are shown in Table 7.10 and Table 7.11.

Table 7.10: 2032 Morning Peak Sensitivity

Intersection	Sensitivity Testing	
	Level of Service	Average Delay (sec)
Main Road – Glendale Drive		
100% Demand	E	72
50% Demand	D	45
Main Road – Stephens Ave – Lot 1 Site Access		
100% Demand	F	91
50% Demand	E	72
25% Demand	E	66
10% Demand	D	48
Main Road – Lake Road		
100% Demand	E	67
50% Demand	E	59
25% Demand	D	53

Table 7.11: 2032 Evening Peak Sensitivity

Intersection	Sensitivity Testing	
	Level of Service	Average Delay (sec)
Main Road – Glendale Drive		
100% Demand	F	73
50% Demand	E	63
25% Demand	D	52
Main Road – Stephens Ave – Lot 1 Site Access		
100% Demand	C	26
Main Road – Lake Road		
100% Demand	E	60
50% Demand	E	58
25% Demand	E	57
10% Demand	E	57
0% Demand	D	56

This assessment indicates that the Main Road – Lake Road intersection would be close to capacity without the development by 2032. It is therefore estimated that the duplication of Main Road would be required by 2032 and an estimated 25% of the development completed.

The signalisation of the Main Road and Stephen Street intersection would benefit the development of the proposed lot 1. Signalising Main Road and Stephen Street would also support access to public transport and the upgrade of the bus stops recommended at the start of the project.

However, development of lot 1 can be accommodated by the proposed signalised intersection on Glendale Drive and Lot 1 access. Thus access will be provided with or without the signalisation of the Main Road and Stephen Street intersection.

8 Access to Public Transport

The proposal will provide upgraded bus stops along Main Road which has access to a number of bus routes. Further, the signalising of Main Road and Stephen Avenue will provide additional pedestrian crossing opportunities that we service Lot 1 and residents north of Main Road.

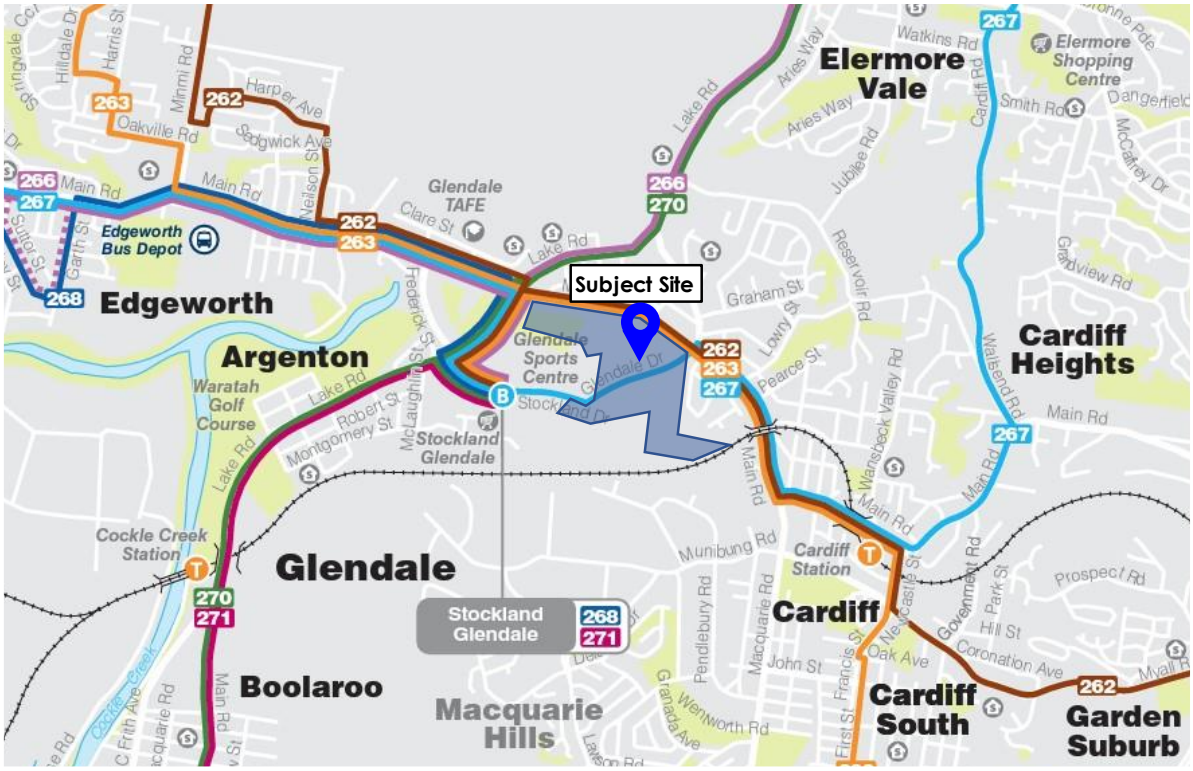
The bus routes in the area and frequency are shown in Table 8.1.

Table 8.1: Bus Route Services

Route No.	Route Description	Typical Weekday Frequency
13	Glendale to Newcastle via Cardiff & John Hunter Hospital	• Services every 15-30 minutes
29	Swansea North to Glendale via Belmont & Cardiff	• Services every 30-60 minutes
44	Warners Bay to Kotara via Glendale, Cardiff & Macquarie Hills	• Services every 60 minutes
46	Glendale to Wallsend	• Services every 60 minutes
262	Cameron Park to Charlestown via Constitution Dr	• Services every 40-80 minutes
263	Charlestown to Cameron Park	• Services every 60 minutes
266	Newcastle to West Wallsend	• Two services between 7:00am and 8:00am
267	Glendale to West Wallsend	• Services every 30-60 minutes
268	Killingworth to Glendale	• Services every 120 minutes
270	University of Newcastle to Toronto West	• Services every 30-60 minutes
271	Toronto to Glendale	• Services every 30-60 minutes

Source: Transport for NSW (last accessed 22/06/2022)

Figure 8.1: Hunter Valley Bus Network Map



Source: https://cdcbus.com.au/ (accessed 27/07/22)

Figure 8.2: TfNSW Public Transport Map

Source: https://newcastletransport.info/ (accessed 27/07/22)

9 Green Travel Plan

We note that TfNSW is supportive of the proposed travel demand management measures. Transport for NSW have provided the following comments:

- Secure bicycle parking and end of trip facilities should be conditioned as part of the development. This should include undercover parking, security measures, lockers, showers and change rooms.
- All bus stops in the vicinity of the development should be upgraded to provide a pad, shelter, seating, lighting and connecting paths back to the development.
- Active transport paths should have lighting to support walking and cycling outside daylight hours.
- A Healthy Streets assessment should be undertaken for all local streets in the development with a target score to be agreed to by Council.
- All active and public transport improvements should be provided up front as part of the first stage.
- Consideration should be given to providing mid block traffic signals near Bruce Street to line up with the proposed through site link.

Bus Stops are to be upgraded on Main Road. Detailed design of path lighting and Healthy Streets assessment to be undertaken as part of the detailed design.

The traffic signals near Bruce Street are not recommended as this would have impacts on traffic flow and would be space closer than desirable. Further, with the removal of the pedestrian bridge over Winding Creek this would reduce the through site desire line opposite Brice Street. Traffic signals at Stephen Avenue would provide safe crossing location equidistantly between Lake Road and Glendale Drive.

Appendix A

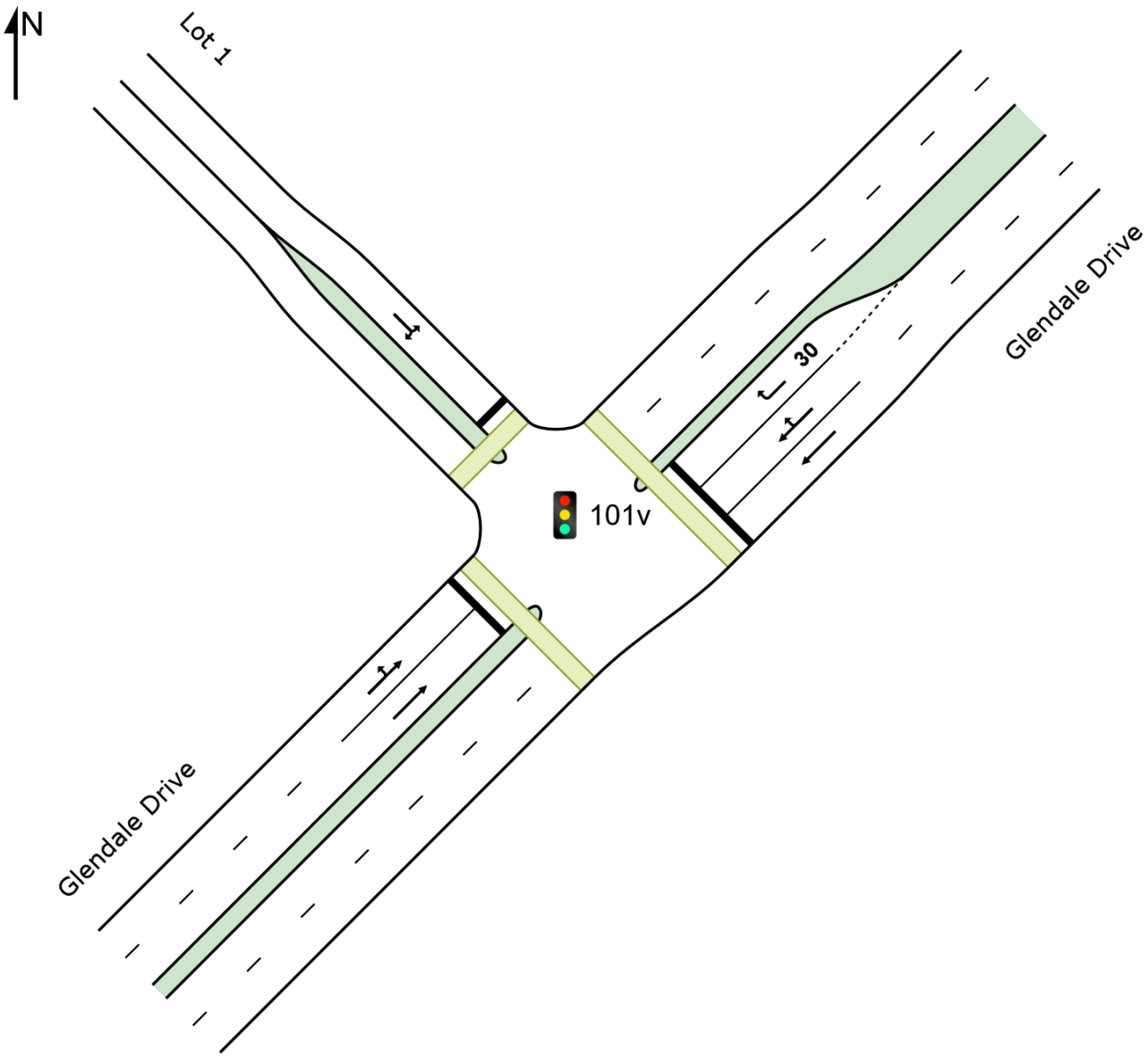
Sidra Results

SITE LAYOUT

Site: 101v [9. Lots 1 Glendale Drive (Site Folder: 2032 AM Peak Development)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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

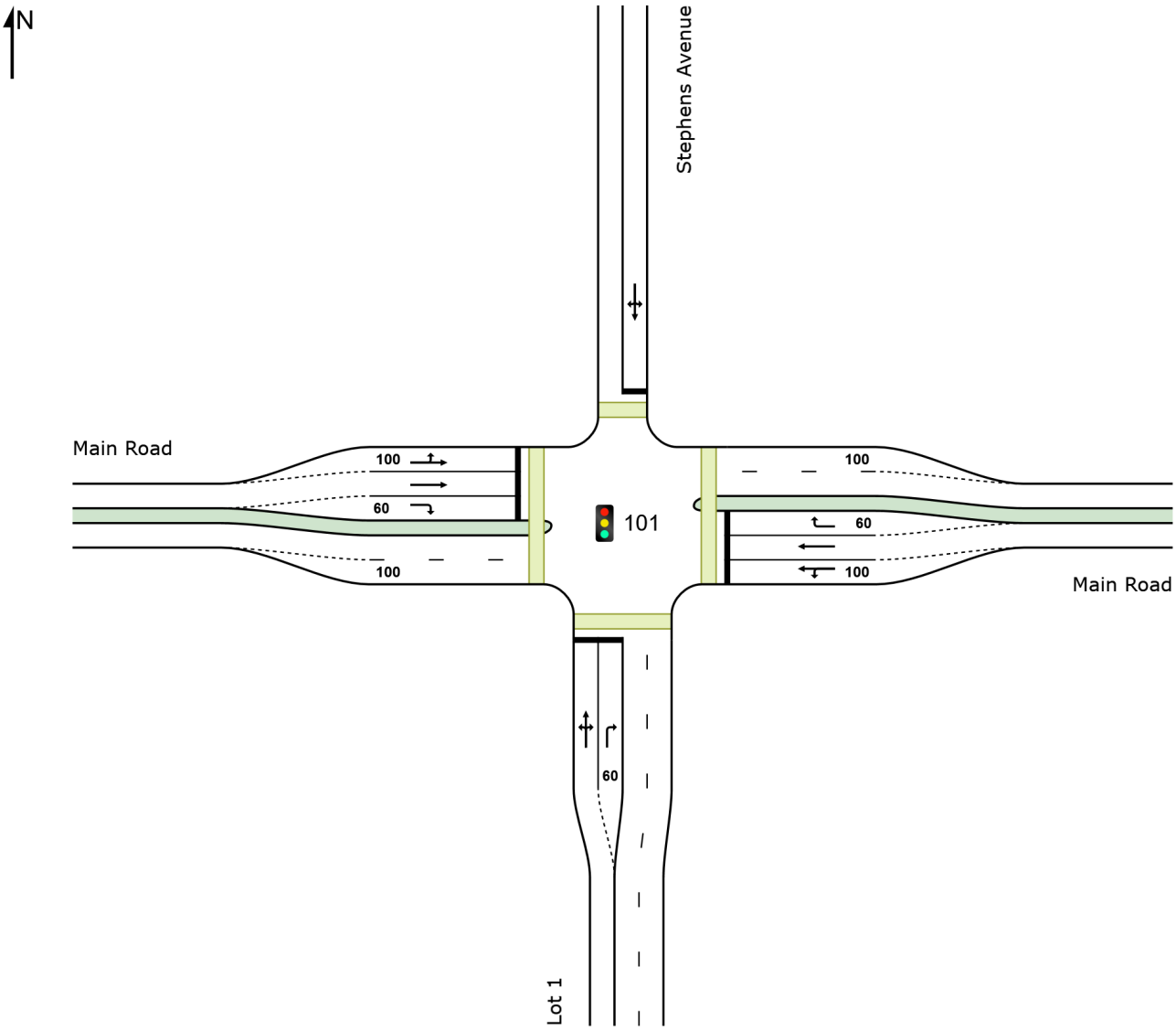


SITE LAYOUT

Site: 101 [2. Main Road - Stephens Avenue - Lot 1 (Site Folder: 2032 AM Peak Development)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



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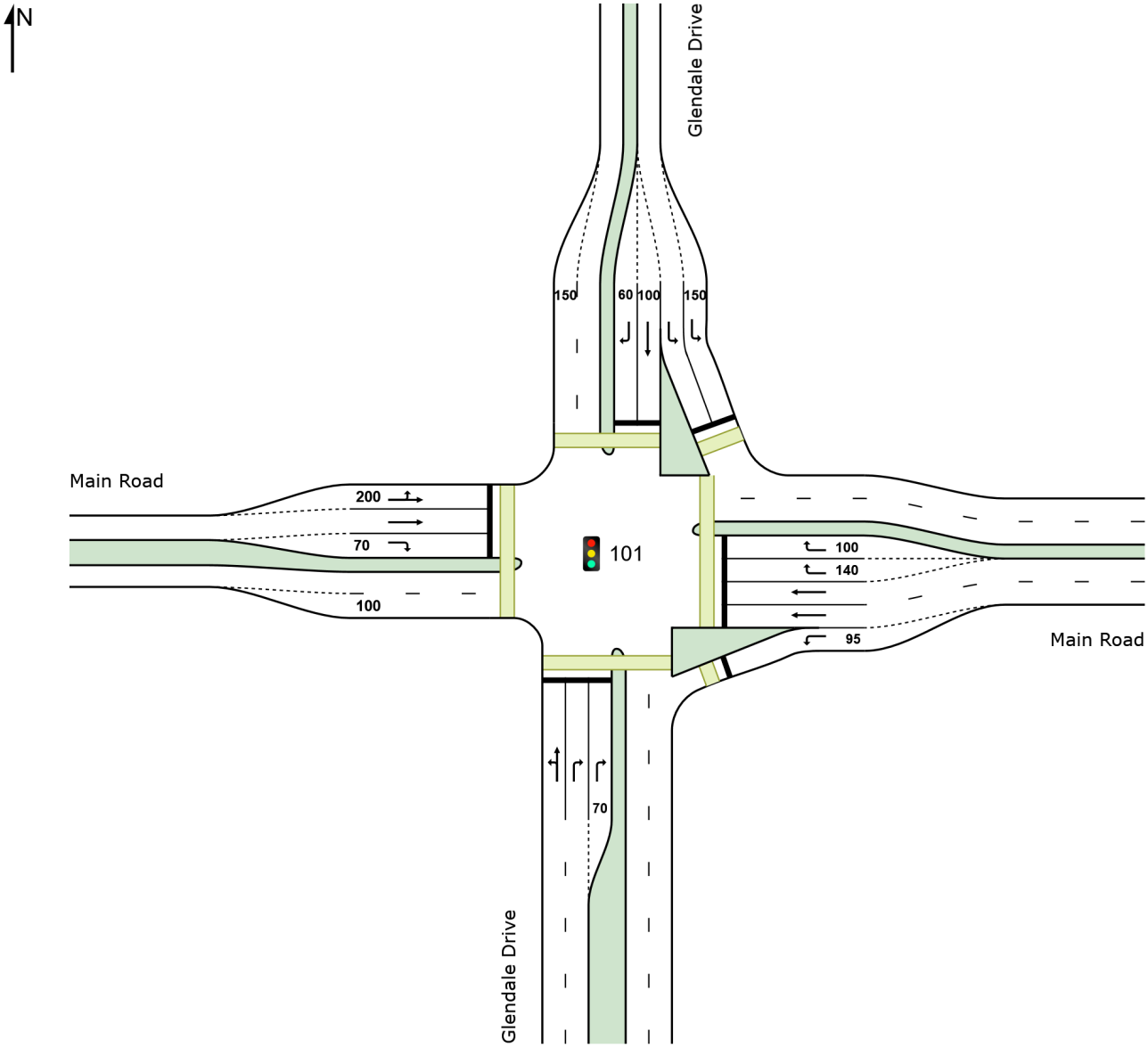
SITE LAYOUT

Site: 101 [3. Main Road - Glendale Drive (Site Folder: 2032 AM Peak Development)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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

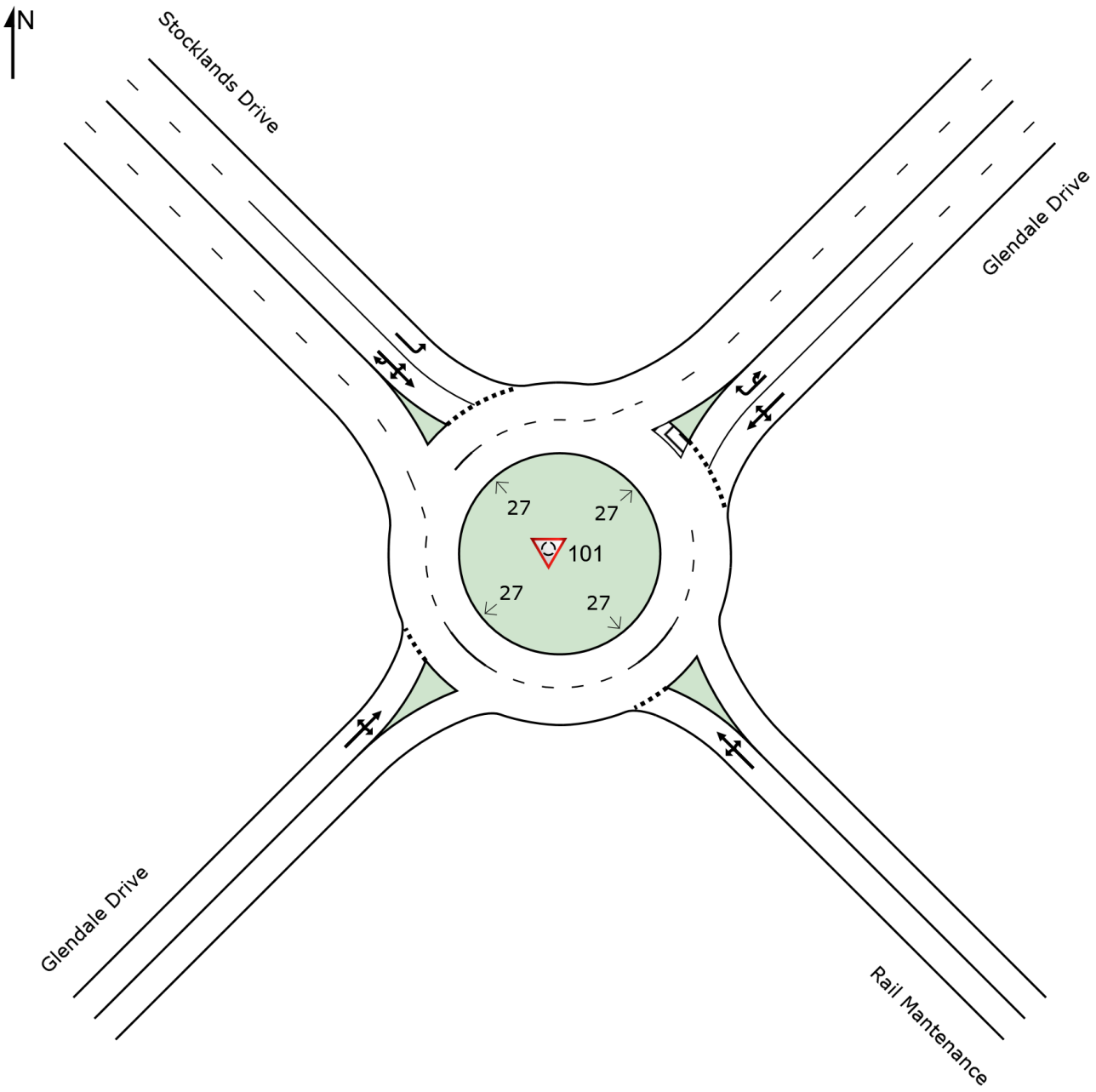


SITE LAYOUT

Site: 101 [4. Stocklands Drive - Glendale Drive (Site Folder: 2032 AM Peak Development)]

New Site
Site Category: (None)
Roundabout

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



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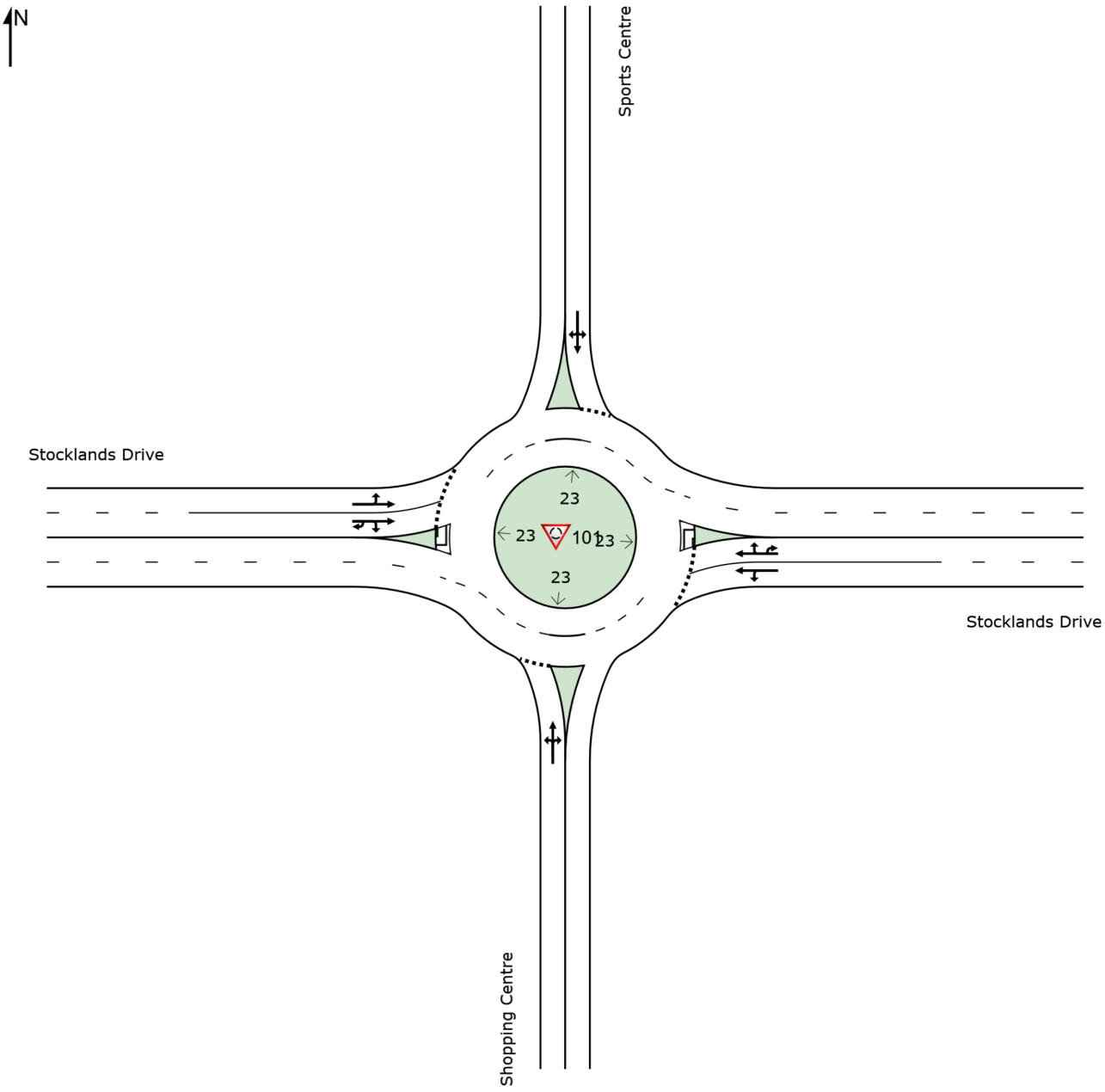
SITE LAYOUT

Site: 101 [5. Roundabout 2 Stocklands Drive (Site Folder: 2032 AM Peak Development)]

New Site
Site Category: (None)
Roundabout

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

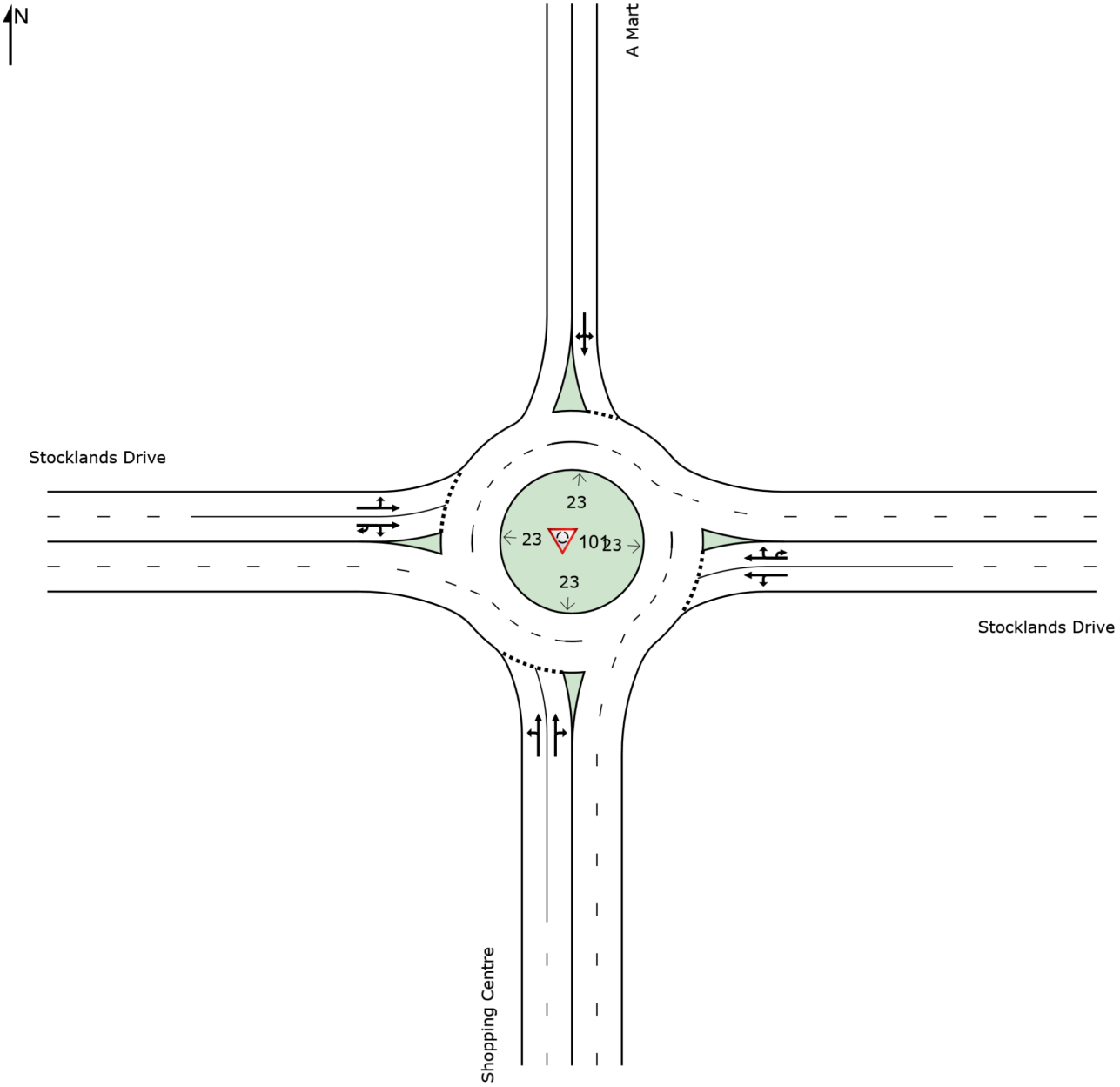


SITE LAYOUT

Site: 101 [6. Roundabout 1 Stocklands Drive (Site Folder: 2032 AM Peak Development)]

New Site
Site Category: (None)
Roundabout

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

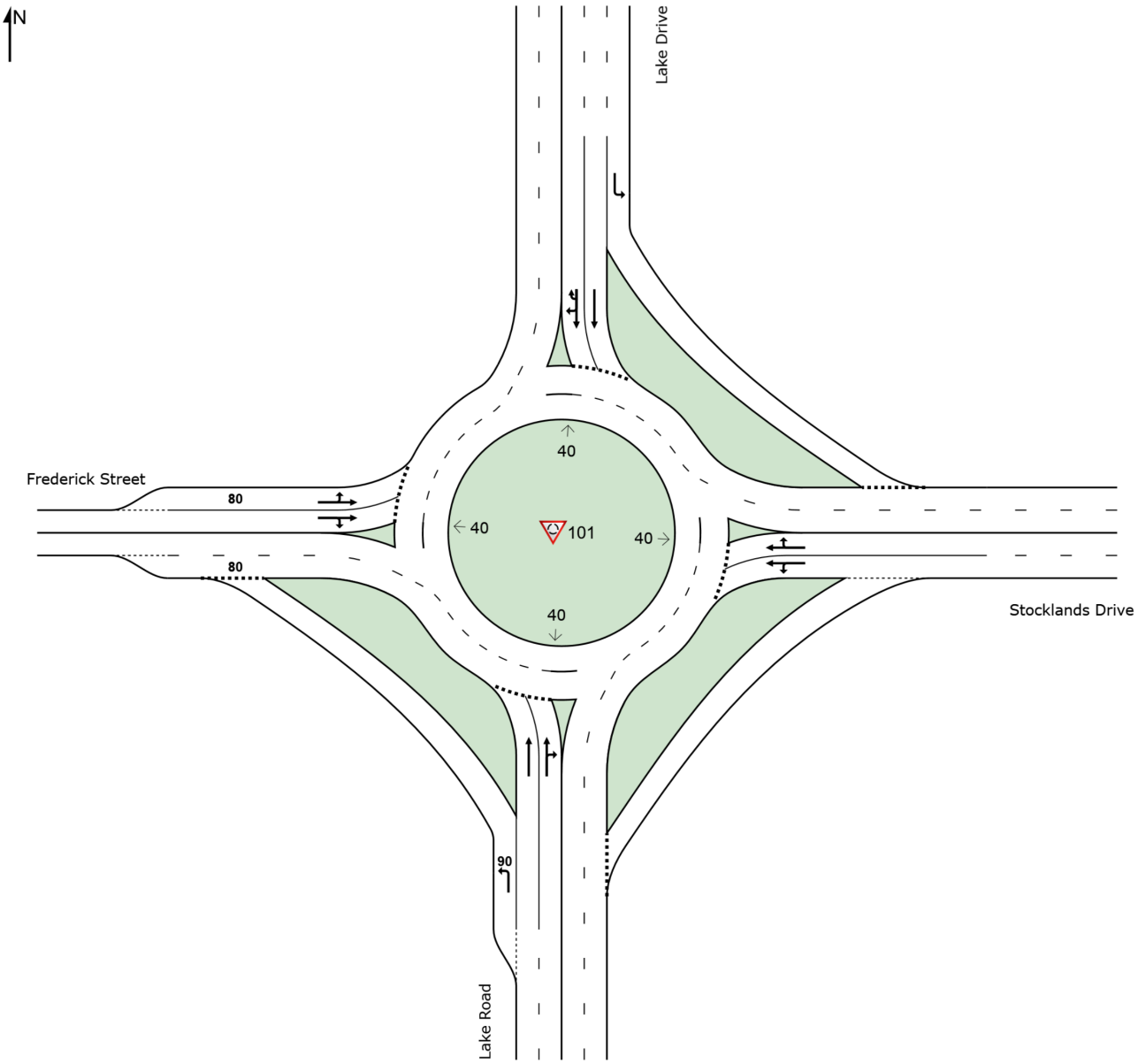


SITE LAYOUT

Site: 101 [7. Lake Road - Stocklands (Site Folder: 2032 AM Peak Development)]

New Site
Site Category: (None)
Roundabout

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



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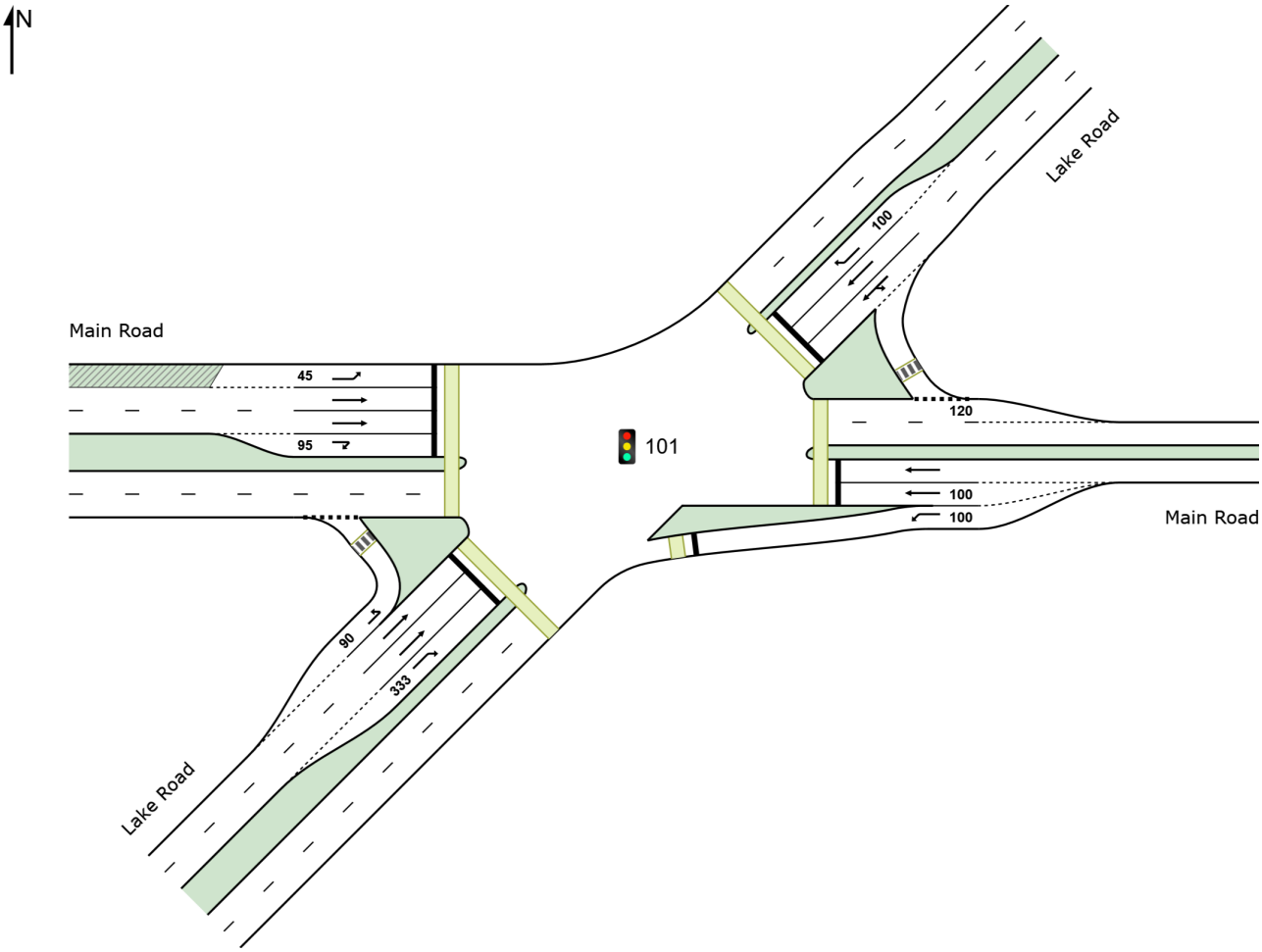
SITE LAYOUT

Site: 101 [8b. Main Road - Lake Road (Site Folder: 2032 AM Peak Development)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



Organisation: TTPP - THE TRANSPORT PLANNING PARTNERSHIP | Licence: NETWORK / 1PC | Created: Monday, 16 December 2024 2:22:51 PM
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2022 AM Base

MOVEMENT SUMMARY

Site: 101 [8. Main Road - Lake Road (Site Folder: 2022 AM Peak)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
East: Main Road														
4a	L1	103	10	108	9.7	0.142	26.9	LOS B	3.8	29.0	0.65	0.71	0.65	40.8
5	T1	685	47	721	6.9	0.505	26.3	LOS B	17.0	126.1	0.77	0.67	0.77	41.9
Approach		788	57	829	7.2	0.505	26.4	LOS B	17.0	126.1	0.75	0.67	0.75	41.8
NorthEast: Lake Road														
24b	L3	5	0	5	0.0	0.647	60.4	LOS E	12.9	93.8	0.95	0.84	0.95	32.9
25	T1	532	23	560	4.3	0.647	45.9	LOS D	16.6	120.8	0.95	0.82	0.95	34.2
26a	R1	218	7	229	3.2	* 0.920	76.5	LOS F	16.0	114.9	1.00	1.07	1.43	26.8
Approach		755	30	795	4.0	0.920	54.9	LOS D	16.6	120.8	0.96	0.90	1.09	31.7
West: Main Road														
10a	L1	394	18	415	4.6	* 0.883	49.2	LOS D	23.1	168.1	0.79	0.91	1.04	32.6
11	T1	1166	54	1227	4.6	0.750	21.7	LOS B	29.6	215.7	0.74	0.67	0.74	45.1
12b	R3	85	11	89	12.9	* 0.895	81.2	LOS F	6.2	47.8	1.00	0.99	1.54	25.6
Approach		1645	83	1732	5.0	0.895	31.3	LOS C	29.6	215.7	0.77	0.74	0.85	39.9
SouthWest: Lake Road														
30b	L3	14	6	15	42.9	0.020	14.2	LOS A	0.3	2.7	0.39	0.63	0.39	47.7
31	T1	574	28	604	4.9	* 0.913	68.4	LOS E	20.8	151.7	1.00	1.08	1.36	28.3
32a	R1	59	4	62	6.8	0.680	70.5	LOS E	3.9	29.0	1.00	0.81	1.16	27.8
Approach		647	38	681	5.9	0.913	67.5	LOS E	20.8	151.7	0.99	1.04	1.32	28.5
All Vehicles		3835	208	4037	5.4	0.920	41.0	LOS C	29.6	215.7	0.84	0.81	0.96	36.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Main Road												
P2	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	221.2	217.2	0.98
P2B	Slip/ Bypass	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	211.3	204.3	0.97
NorthEast: Lake Road												

P6	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	223.8	220.5	0.99
West: Main Road												
P4	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	226.3	223.8	0.99
SouthWest: Lake Road												
P8	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	223.8	220.5	0.99
All Pedestrians		25	26	54.2	LOS E	0.0	0.0	0.95	0.95	221.3	217.3	0.98

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

MOVEMENT SUMMARY

Site: 101 [3. Main Road - Glendale Drive (Site Folder: 2022 AM Peak)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Glendale Drive														
1	L2	11	1	12	9.1	0.187	48.9	LOS D	3.4	23.9	0.88	0.69	0.88	29.8
2	T1	54	0	57	0.0	0.187	44.3	LOS D	3.4	23.9	0.88	0.69	0.88	30.5
3	R2	151	10	159	6.6	* 0.768	70.0	LOS E	5.1	37.5	1.00	0.91	1.25	24.9
Approach		216	11	227	5.1	0.768	62.5	LOS E	5.1	37.5	0.96	0.84	1.14	26.3
East: Main Road														
4	L2	204	6	215	2.9	0.236	23.6	LOS B	7.0	50.3	0.60	0.73	0.60	37.3
5	T1	754	53	794	7.0	0.536	21.2	LOS B	19.7	146.5	0.70	0.61	0.70	44.9
6	R2	278	23	293	8.3	* 0.777	65.0	LOS E	9.8	73.4	1.00	0.86	1.12	28.8
Approach		1236	82	1301	6.6	0.777	31.5	LOS C	19.7	146.5	0.75	0.69	0.78	38.7
North: Glendale Drive														
7	L2	478	47	503	9.8	* 0.756	58.4	LOS E	14.7	111.7	1.00	0.88	1.09	30.4
8	T1	92	2	97	2.2	0.263	47.5	LOS D	4.9	34.7	0.89	0.74	0.89	29.8
9	R2	33	4	35	12.1	0.348	68.1	LOS E	2.1	16.1	1.00	0.73	1.00	28.0
Approach		603	53	635	8.8	0.756	57.3	LOS E	14.7	111.7	0.98	0.85	1.05	30.2
West: Main Road														
10	L2	18	0	19	0.0	0.754	36.4	LOS C	30.5	222.5	0.91	0.82	0.91	39.2
11	T1	1162	61	1223	5.2	* 0.754	30.5	LOS C	30.5	222.5	0.91	0.82	0.91	40.0
12	R2	4	1	4	25.0	0.053	67.5	LOS E	0.2	2.1	0.97	0.64	0.97	25.7
Approach		1184	62	1246	5.2	0.754	30.8	LOS C	30.5	222.5	0.91	0.82	0.91	39.9
All Vehicles		3239	208	3409	6.4	0.777	38.1	LOS C	30.5	222.5	0.86	0.78	0.90	36.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Glendale Drive												
P1	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	223.9	220.5	0.98
East: Main Road												
P2	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	226.4	223.8	0.99

P2B	Slip/ Bypass	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	211.4	204.3	0.97
North: Glendale Drive												
P3	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	221.3	217.2	0.98
P3B	Slip/ Bypass	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	214.0	207.6	0.97
West: Main Road												
P4	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	224.3	221.1	0.99
All Pedestrians		300	316	54.3	LOS E	0.2	0.2	0.95	0.95	220.2	215.8	0.98

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

MOVEMENT SUMMARY

Site: 101 [4. Stocklands Drive - Glendale Drive (Site Folder: 2022 AM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
SouthEast: Rail Mantenance														
21	L2	1	0	1	0.0	0.007	2.5	LOS A	0.0	0.2	0.40	0.36	0.40	39.0
22	T1	4	1	4	25.0	0.007	2.2	LOS A	0.0	0.2	0.40	0.36	0.40	39.9
23	R2	1	0	1	0.0	0.007	6.6	LOS A	0.0	0.2	0.40	0.36	0.40	40.6
Approach		6	1	6	16.7	0.007	3.0	LOS A	0.0	0.2	0.40	0.36	0.40	39.9
NorthEast: Glendale Drive														
24	L2	5	2	5	40.0	0.142	1.6	LOS A	0.6	4.2	0.05	0.50	0.05	38.3
26	R2	412	16	434	3.9	0.142	5.4	LOS A	0.6	4.2	0.05	0.50	0.05	39.9
Approach		417	18	439	4.3	0.142	5.3	LOS A	0.6	4.2	0.05	0.50	0.05	39.8
NorthWest: Stocklands Drive														
27	L2	219	13	231	5.9	0.075	1.4	LOS A	0.3	2.5	0.01	0.23	0.01	39.9
28	T1	9	2	9	22.2	0.075	0.5	LOS A	0.3	2.5	0.02	0.22	0.02	41.0
Approach		228	15	240	6.6	0.075	1.4	LOS A	0.3	2.5	0.01	0.23	0.01	39.9
SouthWest: Glendale Drive														
30	L2	1	0	1	0.0	0.001	2.4	LOS A	0.0	0.0	0.39	0.32	0.39	39.3
Approach		1	0	1	0.0	0.001	2.4	LOS A	0.0	0.0	0.39	0.32	0.39	39.3
All Vehicles		652	34	686	5.2	0.142	3.9	LOS A	0.6	4.2	0.04	0.41	0.04	39.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [5. Roundabout 2 Stocklands Drive (Site Folder: 2022 AM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Shopping Centre														
1	L2	86	3	91	3.5	0.193	0.9	LOS A	0.9	6.5	0.36	0.23	0.36	21.3
2	T1	14	0	15	0.0	0.193	0.9	LOS A	0.9	6.5	0.36	0.23	0.36	21.5
3	R2	96	0	101	0.0	0.193	0.9	LOS A	0.9	6.5	0.36	0.23	0.36	21.8
Approach		196	3	206	1.5	0.193	0.9	LOS A	0.9	6.5	0.36	0.23	0.36	21.5
East: Stocklands Drive														
4	L2	189	4	199	2.1	0.163	6.4	LOS A	1.0	6.9	0.50	0.63	0.50	21.2
5	T1	143	2	151	1.4	0.163	2.6	LOS A	1.0	6.9	0.52	0.46	0.52	39.4
6	R2	37	2	39	5.4	0.163	7.3	LOS A	0.9	6.6	0.52	0.45	0.52	40.0
Approach		369	8	388	2.2	0.163	5.0	LOS A	1.0	6.9	0.51	0.55	0.51	27.5
North: Sports Centre														
7	L2	8	0	8	0.0	0.018	3.4	LOS A	0.1	0.5	0.49	0.58	0.49	38.2
8	T1	2	0	2	0.0	0.018	10.5	LOS A	0.1	0.5	0.49	0.58	0.49	21.4
9	R2	5	0	5	0.0	0.018	7.4	LOS A	0.1	0.5	0.49	0.58	0.49	39.6
Approach		15	0	16	0.0	0.018	5.6	LOS A	0.1	0.5	0.49	0.58	0.49	34.9
West: Stocklands Drive														
10	L2	41	0	43	0.0	0.160	2.4	LOS A	0.9	6.5	0.35	0.27	0.35	39.2
11	T1	138	16	145	11.6	0.160	1.7	LOS A	0.9	6.5	0.35	0.27	0.35	40.2
12	R2	339	21	357	6.2	0.237	12.3	LOS A	1.4	10.5	0.34	0.70	0.34	20.8
Approach		518	37	545	7.1	0.237	8.7	LOS A	1.4	10.5	0.34	0.55	0.34	24.9
All Vehicles		1098	48	1156	4.4	0.237	6.0	LOS A	1.4	10.5	0.41	0.49	0.41	25.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [6. Roundabout 1 Stocklands Drive (Site Folder: 2022 AM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Shopping Centre														
1	L2	27	0	28	0.0	0.027	1.1	LOS A	0.1	0.7	0.41	0.27	0.41	21.5
2	T1	8	0	8	0.0	0.031	1.0	LOS A	0.1	0.9	0.41	0.27	0.41	14.9
3	R2	23	4	24	17.4	0.031	1.1	LOS A	0.1	0.9	0.41	0.27	0.41	21.6
Approach		58	4	61	6.9	0.031	1.1	LOS A	0.1	0.9	0.41	0.27	0.41	20.3
East: Stocklands Drive														
4	L2	25	1	26	4.0	0.175	6.7	LOS A	0.9	6.4	0.49	0.42	0.49	21.6
5	T1	251	21	264	8.4	0.175	2.7	LOS A	0.9	6.4	0.49	0.51	0.49	39.1
6	R2	65	1	68	1.5	0.175	13.5	LOS A	0.8	6.2	0.49	0.65	0.49	21.3
Approach		341	23	359	6.7	0.175	5.0	LOS A	0.9	6.4	0.49	0.53	0.49	32.1
North: A Mart														
7	L2	46	1	48	2.2	0.161	2.7	LOS A	0.6	4.4	0.56	0.55	0.56	21.1
8	T1	14	0	15	0.0	0.161	2.7	LOS A	0.6	4.4	0.56	0.55	0.56	14.8
9	R2	60	1	63	1.7	0.161	2.7	LOS A	0.6	4.4	0.56	0.55	0.56	21.6
Approach		120	2	126	1.7	0.161	2.7	LOS A	0.6	4.4	0.56	0.55	0.56	20.3
West: Stocklands Drive														
10	L2	28	0	29	0.0	0.309	5.4	LOS A	1.6	12.0	0.26	0.21	0.26	21.8
11	T1	441	27	464	6.1	0.309	1.3	LOS A	1.6	12.0	0.26	0.27	0.26	39.9
12	R2	332	2	349	0.6	0.309	12.1	LOS A	1.6	11.5	0.27	0.72	0.27	21.0
Approach		801	29	843	3.6	0.309	5.9	LOS A	1.6	12.0	0.26	0.46	0.26	28.4
All Vehicles		1320	58	1389	4.4	0.309	5.2	LOS A	1.6	12.0	0.36	0.47	0.36	27.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [7. Lake Road - Stocklands (Site Folder: 2022 AM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Lake Road														
1	L2	388	20	408	5.2	0.236	3.7	LOS A	1.4	9.9	0.27	0.41	0.27	56.1
2	T1	481	31	506	6.4	0.312	3.7	LOS A	1.9	14.2	0.43	0.37	0.43	57.2
3	R2	374	9	394	2.4	0.312	10.5	LOS A	1.8	13.0	0.45	0.66	0.45	46.8
Approach		1243	60	1308	4.8	0.312	5.7	LOS A	1.9	14.2	0.38	0.47	0.38	53.2
East: Stocklands Drive														
4	L2	176	5	185	2.8	0.177	2.3	LOS A	0.8	6.1	0.60	0.43	0.60	46.0
5	T1	101	6	106	5.9	0.208	2.2	LOS A	1.0	7.7	0.64	0.55	0.64	45.7
6	R2	90	12	95	13.3	0.208	7.2	LOS A	1.0	7.7	0.64	0.55	0.64	46.1
Approach		367	23	386	6.3	0.208	3.5	LOS A	1.0	7.7	0.62	0.49	0.62	45.9
North: Lake Drive														
7	L2	263	13	277	4.9	0.187	4.3	LOS A	0.9	6.5	0.49	0.52	0.49	46.1
8	T1	445	24	468	5.4	0.255	5.5	LOS A	1.6	11.5	0.71	0.58	0.71	55.1
9	R2	12	0	13	0.0	0.255	12.6	LOS A	1.4	9.8	0.71	0.70	0.71	55.0
9u	U	44	1	46	2.3	0.255	15.2	LOS B	1.4	9.8	0.71	0.70	0.71	56.7
Approach		764	38	804	5.0	0.255	5.7	LOS A	1.6	11.5	0.63	0.57	0.63	51.8
West: Frederick Street														
10	L2	20	0	21	0.0	0.344	6.6	LOS A	1.6	11.6	0.68	0.71	0.71	53.5
11	T1	227	9	239	4.0	0.344	7.2	LOS A	1.6	11.6	0.68	0.71	0.71	44.0
12	R2	353	20	372	5.7	0.375	12.1	LOS A	1.9	14.2	0.68	0.83	0.71	52.5
Approach		600	29	632	4.8	0.375	10.1	LOS A	1.9	14.2	0.68	0.78	0.71	49.0
All Vehicles		2974	150	3131	5.0	0.375	6.3	LOS A	1.9	14.2	0.54	0.56	0.54	51.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [8. Main Road - Lake Road (Site Folder: 2022 PM Peak)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
East: Main Road														
4a	L1	62	1	65	1.6	0.109	35.3	LOS C	2.7	19.0	0.74	0.71	0.74	37.4
5	T1	921	37	969	4.0	* 0.967	59.8	LOS E	38.6	279.4	0.98	1.06	1.23	30.3
Approach		983	38	1035	3.9	0.967	58.3	LOS E	38.6	279.4	0.97	1.04	1.20	30.7
NorthEast: Lake Road														
24b	L3	14	1	15	7.1	0.790	60.9	LOS E	19.5	141.7	0.98	0.95	1.08	32.4
25	T1	722	32	760	4.4	0.790	47.6	LOS D	24.6	178.7	0.98	0.93	1.06	33.7
26a	R1	281	11	296	3.9	* 0.954	83.7	LOS F	22.1	159.8	1.00	1.14	1.49	25.5
Approach		1017	44	1071	4.3	0.954	57.8	LOS E	24.6	178.7	0.99	0.99	1.18	30.9
West: Main Road														
10a	L1	207	10	218	4.8	0.372	38.6	LOS C	9.9	71.8	0.82	0.79	0.82	36.0
11	T1	1017	56	1071	5.5	0.696	23.6	LOS B	22.6	165.5	0.75	0.67	0.75	43.9
12b	R3	195	9	205	4.6	* 0.976	98.0	LOS F	16.3	118.5	1.00	1.10	1.66	22.9
Approach		1419	75	1494	5.3	0.976	36.0	LOS C	22.6	165.5	0.80	0.75	0.89	37.9
SouthWest: Lake Road														
30b	L3	179	9	188	5.0	0.245	21.9	LOS B	5.7	41.6	0.60	0.74	0.60	44.1
31	T1	642	18	676	2.8	* 0.962	81.5	LOS F	25.8	184.7	1.00	1.18	1.50	25.7
32a	R1	88	3	93	3.4	0.850	74.0	LOS F	6.1	43.7	1.00	0.93	1.40	27.1
Approach		909	30	957	3.3	0.962	69.1	LOS E	25.8	184.7	0.92	1.07	1.31	28.2
All Vehicles		4328	187	4556	4.3	0.976	53.1	LOS D	38.6	279.4	0.91	0.94	1.12	32.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Main Road												
P2	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	221.2	217.2	0.98
P2B	Slip/ Bypass	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	211.3	204.3	0.97
NorthEast: Lake Road												

P6	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	223.8	220.5	0.99
West: Main Road												
P4	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	226.3	223.8	0.99
SouthWest: Lake Road												
P8	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	223.8	220.5	0.99
All Pedestrians		25	26	54.2	LOS E	0.0	0.0	0.95	0.95	221.3	217.3	0.98

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

MOVEMENT SUMMARY

Site: 101 [3. Main Road - Glendale Drive (Site Folder: 2022 PM Peak)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Glendale Drive														
1	L2	15	0	16	0.0	0.328	47.0	LOS D	7.2	50.7	0.88	0.72	0.88	30.6
2	T1	126	0	133	0.0	0.328	41.7	LOS C	7.2	50.7	0.88	0.72	0.88	31.3
3	R2	337	7	355	2.1	* 0.831	66.5	LOS E	11.2	80.1	1.00	0.98	1.25	25.5
Approach		478	7	503	1.5	0.831	59.3	LOS E	11.2	80.1	0.96	0.90	1.14	27.0
East: Main Road														
4	L2	427	10	449	2.3	0.527	29.7	LOS C	18.4	131.6	0.76	0.80	0.76	35.2
5	T1	983	39	1035	4.0	0.734	26.7	LOS B	30.7	221.9	0.82	0.73	0.82	42.2
6	R2	357	18	376	5.0	* 0.804	63.3	LOS E	12.6	92.0	1.00	0.87	1.12	29.3
Approach		1767	67	1860	3.8	0.804	34.8	LOS C	30.7	221.9	0.84	0.78	0.86	37.1
North: Glendale Drive														
7	L2	443	34	466	7.7	* 0.794	62.6	LOS E	14.2	105.7	1.00	0.90	1.15	29.4
8	T1	130	2	137	1.5	0.425	51.8	LOS D	7.3	51.8	0.94	0.78	0.94	28.8
9	R2	20	1	21	5.0	0.235	68.6	LOS E	1.3	9.2	0.99	0.70	0.99	28.0
Approach		593	37	624	6.2	0.794	60.4	LOS E	14.2	105.7	0.99	0.87	1.10	29.2
West: Main Road														
10	L2	25	2	26	8.0	0.819	45.6	LOS D	32.4	236.6	0.97	0.91	1.03	35.7
11	T1	1077	52	1134	4.8	* 0.819	39.4	LOS C	32.4	236.6	0.97	0.91	1.02	36.5
12	R2	16	2	17	12.5	0.196	68.5	LOS E	1.0	7.8	0.99	0.69	0.99	25.5
Approach		1118	56	1177	5.0	0.819	40.0	LOS C	32.4	236.6	0.97	0.91	1.02	36.3
All Vehicles		3956	167	4164	4.2	0.831	43.1	LOS D	32.4	236.6	0.91	0.84	0.98	34.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Glendale Drive												
P1	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	223.9	220.5	0.98
East: Main Road												
P2	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	226.4	223.8	0.99

P2B	Slip/ Bypass	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	211.4	204.3	0.97
North: Glendale Drive												
P3	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	221.3	217.2	0.98
P3B	Slip/ Bypass	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	214.0	207.6	0.97
West: Main Road												
P4	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	224.3	221.1	0.99
All Pedestrians		300	316	54.3	LOS E	0.2	0.2	0.95	0.95	220.2	215.8	0.98

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

MOVEMENT SUMMARY

Site: 101 [4. Stocklands Drive - Glendale Drive (Site Folder: 2022 PM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
SouthEast: Rail Mantenance														
21	L2	1	0	1	0.0	0.017	3.1	LOS A	0.1	0.5	0.47	0.57	0.47	37.8
22	T1	3	2	3	66.7	0.017	4.0	LOS A	0.1	0.5	0.47	0.57	0.47	38.7
23	R2	9	0	9	0.0	0.017	7.2	LOS A	0.1	0.5	0.47	0.57	0.47	39.3
Approach		13	2	14	15.4	0.017	6.1	LOS A	0.1	0.5	0.47	0.57	0.47	39.1
NorthEast: Glendale Drive														
24	L2	1	0	1	0.0	0.202	1.4	LOS A	0.9	6.3	0.01	0.52	0.01	38.4
26	R2	632	7	665	1.1	0.202	5.3	LOS A	0.9	6.3	0.01	0.52	0.01	39.9
Approach		633	7	666	1.1	0.202	5.3	LOS A	0.9	6.3	0.01	0.52	0.01	39.9
NorthWest: Stocklands Drive														
27	L2	432	9	455	2.1	0.146	1.4	LOS A	0.7	5.2	0.06	0.24	0.06	39.8
28	T1	1	0	1	0.0	0.146	0.5	LOS A	0.7	5.1	0.06	0.24	0.06	40.9
Approach		433	9	456	2.1	0.146	1.4	LOS A	0.7	5.2	0.06	0.24	0.06	39.8
SouthWest: Glendale Drive														
30	L2	1	0	1	0.0	0.001	5.4	LOS A	0.0	0.0	0.45	0.50	0.45	54.7
Approach		1	0	1	0.0	0.001	5.4	LOS A	0.0	0.0	0.45	0.50	0.45	54.7
All Vehicles		1080	18	1137	1.7	0.202	3.8	LOS A	0.9	6.3	0.04	0.41	0.04	39.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [5. Roundabout 2 Stocklands Drive (Site Folder: 2022 PM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Shopping Centre														
1	L2	293	0	308	0.0	0.594	2.8	LOS A	4.8	33.8	0.67	0.60	0.72	21.1
2	T1	22	0	23	0.0	0.594	2.8	LOS A	4.8	33.8	0.67	0.60	0.72	14.8
3	R2	254	0	267	0.0	0.594	2.8	LOS A	4.8	33.8	0.67	0.60	0.72	21.6
Approach		569	0	599	0.0	0.594	2.8	LOS A	4.8	33.8	0.67	0.60	0.72	21.0
East: Stocklands Drive														
4	L2	318	4	335	1.3	0.262	6.7	LOS A	1.8	12.4	0.58	0.68	0.58	21.1
5	T1	220	0	232	0.0	0.262	3.0	LOS A	1.7	11.6	0.60	0.52	0.60	39.0
6	R2	39	0	41	0.0	0.262	13.8	LOS A	1.7	11.6	0.60	0.52	0.60	21.5
Approach		577	4	607	0.7	0.262	5.8	LOS A	1.8	12.4	0.59	0.61	0.59	25.7
North: Sports Centre														
7	L2	37	0	39	0.0	0.140	2.9	LOS A	0.6	4.3	0.59	0.54	0.59	21.1
8	T1	18	0	19	0.0	0.140	2.9	LOS A	0.6	4.3	0.59	0.54	0.59	14.8
9	R2	48	0	51	0.0	0.140	2.9	LOS A	0.6	4.3	0.59	0.54	0.59	21.5
Approach		103	0	108	0.0	0.140	2.9	LOS A	0.6	4.3	0.59	0.54	0.59	19.8
West: Stocklands Drive														
10	L2	34	0	36	0.0	0.191	6.7	LOS A	1.1	8.4	0.54	0.43	0.54	21.6
11	T1	154	9	162	5.8	0.191	2.6	LOS A	1.1	8.4	0.54	0.43	0.54	39.5
12	R2	317	20	334	6.3	0.258	13.1	LOS A	1.7	12.8	0.54	0.73	0.54	20.8
Approach		505	29	532	5.7	0.258	9.4	LOS A	1.7	12.8	0.54	0.62	0.54	24.3
All Vehicles		1754	33	1846	1.9	0.594	5.7	LOS A	4.8	33.8	0.60	0.60	0.62	23.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [6. Roundabout 1 Stocklands Drive (Site Folder: 2022 PM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Shopping Centre														
1	L2	104	0	109	0.0	0.121	2.1	LOS A	0.5	3.8	0.60	0.54	0.60	21.4
2	T1	3	0	3	0.0	0.088	2.8	LOS A	0.4	2.6	0.61	0.56	0.61	14.8
3	R2	56	0	59	0.0	0.088	2.8	LOS A	0.4	2.6	0.61	0.56	0.61	21.4
Approach		163	0	172	0.0	0.121	2.3	LOS A	0.5	3.8	0.60	0.55	0.60	21.2
East: Stocklands Drive														
4	L2	53	0	56	0.0	0.410	6.2	LOS A	2.5	17.9	0.60	0.62	0.60	53.0
5	T1	661	22	696	3.3	0.410	6.4	LOS A	2.5	17.9	0.61	0.65	0.61	54.1
6	R2	49	0	52	0.0	0.410	11.4	LOS A	2.4	17.5	0.61	0.68	0.61	53.8
6u	U	31	6	33	19.4	0.410	14.2	LOS A	2.4	17.5	0.61	0.68	0.61	54.2
Approach		794	28	836	3.5	0.410	7.0	LOS A	2.5	17.9	0.61	0.65	0.61	54.0
North: A Mart														
7	L2	36	0	38	0.0	0.157	6.7	LOS A	0.6	4.5	0.60	0.84	0.60	51.2
8	T1	1	0	1	0.0	0.157	7.0	LOS A	0.6	4.5	0.60	0.84	0.60	52.6
9	R2	73	2	77	2.7	0.157	12.0	LOS A	0.6	4.5	0.60	0.84	0.60	52.5
Approach		110	2	116	1.8	0.157	10.3	LOS A	0.6	4.5	0.60	0.84	0.60	52.1
West: Stocklands Drive														
10	L2	14	1	15	7.1	0.336	5.6	LOS A	1.8	13.0	0.32	0.22	0.32	21.8
11	T1	465	21	489	4.5	0.336	1.4	LOS A	1.8	13.0	0.32	0.27	0.32	39.9
12	R2	330	0	347	0.0	0.336	12.3	LOS A	1.8	12.6	0.33	0.72	0.33	21.0
12u	U	27	2	28	7.4	0.336	7.6	LOS A	1.8	12.6	0.33	0.72	0.33	38.3
Approach		836	24	880	2.9	0.336	6.0	LOS A	1.8	13.0	0.33	0.46	0.33	29.1
All Vehicles		1903	54	2003	2.8	0.410	6.3	LOS A	2.5	17.9	0.48	0.57	0.48	35.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [7. Lake Road - Stocklands (Site Folder: 2022 PM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Lake Road														
1	L2	375	17	395	4.5	0.267	5.2	LOS A	1.8	12.8	0.53	0.52	0.53	55.0
2	T1	630	21	663	3.3	0.520	6.3	LOS A	4.9	35.3	0.88	0.67	0.94	54.3
3	R2	355	6	374	1.7	0.520	14.2	LOS A	4.4	31.4	0.87	0.92	0.97	45.8
Approach		1360	44	1432	3.2	0.520	8.1	LOS A	4.9	35.3	0.78	0.69	0.83	51.9
East: Stocklands Drive														
4	L2	377	9	397	2.4	0.488	4.8	LOS A	3.2	22.9	0.77	0.85	0.90	45.2
5	T1	322	11	339	3.4	0.677	5.4	LOS A	5.5	40.0	0.85	1.01	1.15	44.5
6	R2	267	10	281	3.7	0.677	10.2	LOS A	5.5	40.0	0.85	1.01	1.15	45.1
Approach		966	30	1017	3.1	0.677	6.5	LOS A	5.5	40.0	0.82	0.95	1.05	44.9
North: Lake Drive														
7	L2	341	12	359	3.5	0.250	4.3	LOS A	1.4	9.8	0.55	0.52	0.55	45.9
8	T1	637	24	671	3.8	0.357	5.3	LOS A	2.3	16.7	0.73	0.56	0.73	55.1
9	R2	45	2	47	4.4	0.357	12.5	LOS A	2.0	14.5	0.73	0.68	0.73	55.0
9u	U	33	2	35	6.1	0.357	15.1	LOS B	2.0	14.5	0.73	0.68	0.73	56.8
Approach		1056	40	1112	3.8	0.357	5.6	LOS A	2.3	16.7	0.67	0.56	0.67	51.9
West: Frederick Street														
10	L2	21	0	22	0.0	0.437	8.6	LOS A	2.4	17.5	0.82	0.92	0.95	52.7
11	T1	223	6	235	2.7	0.437	9.0	LOS A	2.7	19.9	0.83	0.92	0.94	43.3
12	R2	293	12	308	4.1	0.437	13.4	LOS A	2.7	19.9	0.84	0.94	0.93	52.3
Approach		537	18	565	3.4	0.437	11.4	LOS A	2.7	19.9	0.83	0.93	0.94	48.2
All Vehicles		3919	132	4125	3.4	0.677	7.5	LOS A	5.5	40.0	0.77	0.75	0.86	49.5

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.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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 PM Base

MOVEMENT SUMMARY

Site: 101 [8. Main Road - Lake Road (Site Folder: 2022 AM Peak)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
East: Main Road														
4a	L1	103	10	108	9.7	0.142	26.9	LOS B	3.8	29.0	0.65	0.71	0.65	40.8
5	T1	685	47	721	6.9	0.505	26.3	LOS B	17.0	126.1	0.77	0.67	0.77	41.9
Approach		788	57	829	7.2	0.505	26.4	LOS B	17.0	126.1	0.75	0.67	0.75	41.8
NorthEast: Lake Road														
24b	L3	5	0	5	0.0	0.647	60.4	LOS E	12.9	93.8	0.95	0.84	0.95	32.9
25	T1	532	23	560	4.3	0.647	45.9	LOS D	16.6	120.8	0.95	0.82	0.95	34.2
26a	R1	218	7	229	3.2	* 0.920	76.5	LOS F	16.0	114.9	1.00	1.07	1.43	26.8
Approach		755	30	795	4.0	0.920	54.9	LOS D	16.6	120.8	0.96	0.90	1.09	31.7
West: Main Road														
10a	L1	394	18	415	4.6	* 0.883	49.2	LOS D	23.1	168.1	0.79	0.91	1.04	32.6
11	T1	1166	54	1227	4.6	0.750	21.7	LOS B	29.6	215.7	0.74	0.67	0.74	45.1
12b	R3	85	11	89	12.9	* 0.895	81.2	LOS F	6.2	47.8	1.00	0.99	1.54	25.6
Approach		1645	83	1732	5.0	0.895	31.3	LOS C	29.6	215.7	0.77	0.74	0.85	39.9
SouthWest: Lake Road														
30b	L3	14	6	15	42.9	0.020	14.2	LOS A	0.3	2.7	0.39	0.63	0.39	47.7
31	T1	574	28	604	4.9	* 0.913	68.4	LOS E	20.8	151.7	1.00	1.08	1.36	28.3
32a	R1	59	4	62	6.8	0.680	70.5	LOS E	3.9	29.0	1.00	0.81	1.16	27.8
Approach		647	38	681	5.9	0.913	67.5	LOS E	20.8	151.7	0.99	1.04	1.32	28.5
All Vehicles		3835	208	4037	5.4	0.920	41.0	LOS C	29.6	215.7	0.84	0.81	0.96	36.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Main Road												
P2	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	221.2	217.2	0.98
P2B	Slip/ Bypass	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	211.3	204.3	0.97
NorthEast: Lake Road												

P6	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	223.8	220.5	0.99
West: Main Road												
P4	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	226.3	223.8	0.99
SouthWest: Lake Road												
P8	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	223.8	220.5	0.99
All Pedestrians		25	26	54.2	LOS E	0.0	0.0	0.95	0.95	221.3	217.3	0.98

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

MOVEMENT SUMMARY

Site: 101 [3. Main Road - Glendale Drive (Site Folder: 2022 AM Peak)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Glendale Drive														
1	L2	11	1	12	9.1	0.187	48.9	LOS D	3.4	23.9	0.88	0.69	0.88	29.8
2	T1	54	0	57	0.0	0.187	44.3	LOS D	3.4	23.9	0.88	0.69	0.88	30.5
3	R2	151	10	159	6.6	* 0.768	70.0	LOS E	5.1	37.5	1.00	0.91	1.25	24.9
Approach		216	11	227	5.1	0.768	62.5	LOS E	5.1	37.5	0.96	0.84	1.14	26.3
East: Main Road														
4	L2	204	6	215	2.9	0.236	23.6	LOS B	7.0	50.3	0.60	0.73	0.60	37.3
5	T1	754	53	794	7.0	0.536	21.2	LOS B	19.7	146.5	0.70	0.61	0.70	44.9
6	R2	278	23	293	8.3	* 0.777	65.0	LOS E	9.8	73.4	1.00	0.86	1.12	28.8
Approach		1236	82	1301	6.6	0.777	31.5	LOS C	19.7	146.5	0.75	0.69	0.78	38.7
North: Glendale Drive														
7	L2	478	47	503	9.8	* 0.756	58.4	LOS E	14.7	111.7	1.00	0.88	1.09	30.4
8	T1	92	2	97	2.2	0.263	47.5	LOS D	4.9	34.7	0.89	0.74	0.89	29.8
9	R2	33	4	35	12.1	0.348	68.1	LOS E	2.1	16.1	1.00	0.73	1.00	28.0
Approach		603	53	635	8.8	0.756	57.3	LOS E	14.7	111.7	0.98	0.85	1.05	30.2
West: Main Road														
10	L2	18	0	19	0.0	0.754	36.4	LOS C	30.5	222.5	0.91	0.82	0.91	39.2
11	T1	1162	61	1223	5.2	* 0.754	30.5	LOS C	30.5	222.5	0.91	0.82	0.91	40.0
12	R2	4	1	4	25.0	0.053	67.5	LOS E	0.2	2.1	0.97	0.64	0.97	25.7
Approach		1184	62	1246	5.2	0.754	30.8	LOS C	30.5	222.5	0.91	0.82	0.91	39.9
All Vehicles		3239	208	3409	6.4	0.777	38.1	LOS C	30.5	222.5	0.86	0.78	0.90	36.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Glendale Drive												
P1	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	223.9	220.5	0.98
East: Main Road												
P2	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	226.4	223.8	0.99

P2B	Slip/ Bypass	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	211.4	204.3	0.97
North: Glendale Drive												
P3	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	221.3	217.2	0.98
P3B	Slip/ Bypass	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	214.0	207.6	0.97
West: Main Road												
P4	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	224.3	221.1	0.99
All Pedestrians		300	316	54.3	LOS E	0.2	0.2	0.95	0.95	220.2	215.8	0.98

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

MOVEMENT SUMMARY

Site: 101 [4. Stocklands Drive - Glendale Drive (Site Folder: 2022 AM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
SouthEast: Rail Mantenance														
21	L2	1	0	1	0.0	0.007	2.5	LOS A	0.0	0.2	0.40	0.36	0.40	39.0
22	T1	4	1	4	25.0	0.007	2.2	LOS A	0.0	0.2	0.40	0.36	0.40	39.9
23	R2	1	0	1	0.0	0.007	6.6	LOS A	0.0	0.2	0.40	0.36	0.40	40.6
Approach		6	1	6	16.7	0.007	3.0	LOS A	0.0	0.2	0.40	0.36	0.40	39.9
NorthEast: Glendale Drive														
24	L2	5	2	5	40.0	0.142	1.6	LOS A	0.6	4.2	0.05	0.50	0.05	38.3
26	R2	412	16	434	3.9	0.142	5.4	LOS A	0.6	4.2	0.05	0.50	0.05	39.9
Approach		417	18	439	4.3	0.142	5.3	LOS A	0.6	4.2	0.05	0.50	0.05	39.8
NorthWest: Stocklands Drive														
27	L2	219	13	231	5.9	0.075	1.4	LOS A	0.3	2.5	0.01	0.23	0.01	39.9
28	T1	9	2	9	22.2	0.075	0.5	LOS A	0.3	2.5	0.02	0.22	0.02	41.0
Approach		228	15	240	6.6	0.075	1.4	LOS A	0.3	2.5	0.01	0.23	0.01	39.9
SouthWest: Glendale Drive														
30	L2	1	0	1	0.0	0.001	2.4	LOS A	0.0	0.0	0.39	0.32	0.39	39.3
Approach		1	0	1	0.0	0.001	2.4	LOS A	0.0	0.0	0.39	0.32	0.39	39.3
All Vehicles		652	34	686	5.2	0.142	3.9	LOS A	0.6	4.2	0.04	0.41	0.04	39.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [5. Roundabout 2 Stocklands Drive (Site Folder: 2022 AM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Shopping Centre														
1	L2	86	3	91	3.5	0.193	0.9	LOS A	0.9	6.5	0.36	0.23	0.36	21.3
2	T1	14	0	15	0.0	0.193	0.9	LOS A	0.9	6.5	0.36	0.23	0.36	21.5
3	R2	96	0	101	0.0	0.193	0.9	LOS A	0.9	6.5	0.36	0.23	0.36	21.8
Approach		196	3	206	1.5	0.193	0.9	LOS A	0.9	6.5	0.36	0.23	0.36	21.5
East: Stocklands Drive														
4	L2	189	4	199	2.1	0.163	6.4	LOS A	1.0	6.9	0.50	0.63	0.50	21.2
5	T1	143	2	151	1.4	0.163	2.6	LOS A	1.0	6.9	0.52	0.46	0.52	39.4
6	R2	37	2	39	5.4	0.163	7.3	LOS A	0.9	6.6	0.52	0.45	0.52	40.0
Approach		369	8	388	2.2	0.163	5.0	LOS A	1.0	6.9	0.51	0.55	0.51	27.5
North: Sports Centre														
7	L2	8	0	8	0.0	0.018	3.4	LOS A	0.1	0.5	0.49	0.58	0.49	38.2
8	T1	2	0	2	0.0	0.018	10.5	LOS A	0.1	0.5	0.49	0.58	0.49	21.4
9	R2	5	0	5	0.0	0.018	7.4	LOS A	0.1	0.5	0.49	0.58	0.49	39.6
Approach		15	0	16	0.0	0.018	5.6	LOS A	0.1	0.5	0.49	0.58	0.49	34.9
West: Stocklands Drive														
10	L2	41	0	43	0.0	0.160	2.4	LOS A	0.9	6.5	0.35	0.27	0.35	39.2
11	T1	138	16	145	11.6	0.160	1.7	LOS A	0.9	6.5	0.35	0.27	0.35	40.2
12	R2	339	21	357	6.2	0.237	12.3	LOS A	1.4	10.5	0.34	0.70	0.34	20.8
Approach		518	37	545	7.1	0.237	8.7	LOS A	1.4	10.5	0.34	0.55	0.34	24.9
All Vehicles		1098	48	1156	4.4	0.237	6.0	LOS A	1.4	10.5	0.41	0.49	0.41	25.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [6. Roundabout 1 Stocklands Drive (Site Folder: 2022 AM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Shopping Centre														
1	L2	27	0	28	0.0	0.027	1.1	LOS A	0.1	0.7	0.41	0.27	0.41	21.5
2	T1	8	0	8	0.0	0.031	1.0	LOS A	0.1	0.9	0.41	0.27	0.41	14.9
3	R2	23	4	24	17.4	0.031	1.1	LOS A	0.1	0.9	0.41	0.27	0.41	21.6
Approach		58	4	61	6.9	0.031	1.1	LOS A	0.1	0.9	0.41	0.27	0.41	20.3
East: Stocklands Drive														
4	L2	25	1	26	4.0	0.175	6.7	LOS A	0.9	6.4	0.49	0.42	0.49	21.6
5	T1	251	21	264	8.4	0.175	2.7	LOS A	0.9	6.4	0.49	0.51	0.49	39.1
6	R2	65	1	68	1.5	0.175	13.5	LOS A	0.8	6.2	0.49	0.65	0.49	21.3
Approach		341	23	359	6.7	0.175	5.0	LOS A	0.9	6.4	0.49	0.53	0.49	32.1
North: A Mart														
7	L2	46	1	48	2.2	0.161	2.7	LOS A	0.6	4.4	0.56	0.55	0.56	21.1
8	T1	14	0	15	0.0	0.161	2.7	LOS A	0.6	4.4	0.56	0.55	0.56	14.8
9	R2	60	1	63	1.7	0.161	2.7	LOS A	0.6	4.4	0.56	0.55	0.56	21.6
Approach		120	2	126	1.7	0.161	2.7	LOS A	0.6	4.4	0.56	0.55	0.56	20.3
West: Stocklands Drive														
10	L2	28	0	29	0.0	0.309	5.4	LOS A	1.6	12.0	0.26	0.21	0.26	21.8
11	T1	441	27	464	6.1	0.309	1.3	LOS A	1.6	12.0	0.26	0.27	0.26	39.9
12	R2	332	2	349	0.6	0.309	12.1	LOS A	1.6	11.5	0.27	0.72	0.27	21.0
Approach		801	29	843	3.6	0.309	5.9	LOS A	1.6	12.0	0.26	0.46	0.26	28.4
All Vehicles		1320	58	1389	4.4	0.309	5.2	LOS A	1.6	12.0	0.36	0.47	0.36	27.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [7. Lake Road - Stocklands (Site Folder: 2022 AM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Lake Road														
1	L2	388	20	408	5.2	0.236	3.7	LOS A	1.4	9.9	0.27	0.41	0.27	56.1
2	T1	481	31	506	6.4	0.312	3.7	LOS A	1.9	14.2	0.43	0.37	0.43	57.2
3	R2	374	9	394	2.4	0.312	10.5	LOS A	1.8	13.0	0.45	0.66	0.45	46.8
Approach		1243	60	1308	4.8	0.312	5.7	LOS A	1.9	14.2	0.38	0.47	0.38	53.2
East: Stocklands Drive														
4	L2	176	5	185	2.8	0.177	2.3	LOS A	0.8	6.1	0.60	0.43	0.60	46.0
5	T1	101	6	106	5.9	0.208	2.2	LOS A	1.0	7.7	0.64	0.55	0.64	45.7
6	R2	90	12	95	13.3	0.208	7.2	LOS A	1.0	7.7	0.64	0.55	0.64	46.1
Approach		367	23	386	6.3	0.208	3.5	LOS A	1.0	7.7	0.62	0.49	0.62	45.9
North: Lake Drive														
7	L2	263	13	277	4.9	0.187	4.3	LOS A	0.9	6.5	0.49	0.52	0.49	46.1
8	T1	445	24	468	5.4	0.255	5.5	LOS A	1.6	11.5	0.71	0.58	0.71	55.1
9	R2	12	0	13	0.0	0.255	12.6	LOS A	1.4	9.8	0.71	0.70	0.71	55.0
9u	U	44	1	46	2.3	0.255	15.2	LOS B	1.4	9.8	0.71	0.70	0.71	56.7
Approach		764	38	804	5.0	0.255	5.7	LOS A	1.6	11.5	0.63	0.57	0.63	51.8
West: Frederick Street														
10	L2	20	0	21	0.0	0.344	6.6	LOS A	1.6	11.6	0.68	0.71	0.71	53.5
11	T1	227	9	239	4.0	0.344	7.2	LOS A	1.6	11.6	0.68	0.71	0.71	44.0
12	R2	353	20	372	5.7	0.375	12.1	LOS A	1.9	14.2	0.68	0.83	0.71	52.5
Approach		600	29	632	4.8	0.375	10.1	LOS A	1.9	14.2	0.68	0.78	0.71	49.0
All Vehicles		2974	150	3131	5.0	0.375	6.3	LOS A	1.9	14.2	0.54	0.56	0.54	51.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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.

2032 AM Do Minimum

MOVEMENT SUMMARY

Site: 101 [8b. Main Road - Lake Road (Site Folder: 2032 AM Peak)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
East: Main Road														
4a	L1	113	10	119	8.8	0.130	13.3	LOS A	2.1	16.1	0.55	0.68	0.55	48.2
5	T1	835	47	879	5.6	0.611	27.8	LOS B	22.0	161.6	0.81	0.71	0.81	41.2
Approach		948	57	998	6.0	0.611	26.0	LOS B	22.0	161.6	0.78	0.71	0.78	42.0
NorthEast: Lake Road														
24b	L3	5	0	5	0.0	0.848	159.9	LOS F	16.5	119.7	1.00	1.02	1.24	27.6
25	T1	532	23	560	4.3	* 0.848	64.1	LOS E	19.3	140.4	1.00	1.00	1.22	29.3
26a	R1	100	7	105	7.0	0.770	68.8	LOS E	6.6	49.1	1.00	0.88	1.22	28.4
Approach		637	30	671	4.7	0.848	65.6	LOS E	19.3	140.4	1.00	0.98	1.22	29.1
West: Main Road														
10a	L1	162	18	171	11.1	0.137	10.9	LOS A	3.2	24.8	0.35	0.64	0.35	49.5
11	T1	1579	54	1662	3.4	* 0.850	63.8	LOS E	41.3	297.8	0.82	0.79	0.86	42.8
12b	R3	85	11	89	12.9	0.597	65.6	LOS E	5.3	41.3	1.00	0.80	1.03	28.6
Approach		1826	83	1922	4.5	0.850	59.2	LOS E	41.3	297.8	0.79	0.78	0.83	42.3
SouthWest: Lake Road														
30b	L3	14	6	15	42.9	0.019	13.2	LOS A	0.3	2.5	0.37	0.63	0.37	48.3
31	T1	529	28	557	5.3	0.738	50.7	LOS D	15.9	116.4	1.00	0.88	1.05	32.8
32a	R1	119	4	125	3.4	* 0.805	69.2	LOS E	7.9	57.0	1.00	0.91	1.25	28.1
Approach		662	38	697	5.7	0.805	53.3	LOS D	15.9	116.4	0.98	0.88	1.07	32.0
All Vehicles		4073	208	4287	5.1	0.850	51.5	LOS D	41.3	297.8	0.85	0.81	0.92	37.6

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Main Road												
P2	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	221.2	217.2	0.98
P2B	Slip/ Bypass	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	211.3	204.3	0.97
NorthEast: Lake Road												

P6	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	223.2	219.8	0.98
West: Main Road												
P4	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	226.3	223.8	0.99
SouthWest: Lake Road												
P8	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	223.8	220.5	0.99
All Pedestrians		25	26	54.2	LOS E	0.0	0.0	0.95	0.95	221.2	217.1	0.98

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

MOVEMENT SUMMARY

Site: 101 [3. Main Road - Glendale Drive (Site Folder: 2032 AM Peak)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Glendale Drive														
1	L2	10	1	11	10.0	0.235	54.3	LOS D	3.5	25.0	0.92	0.71	0.92	28.6
2	T1	54	0	57	0.0	0.235	49.4	LOS D	3.5	25.0	0.92	0.71	0.92	29.3
3	R2	151	10	159	6.6	* 0.896	77.5	LOS F	5.4	40.0	1.00	1.05	1.55	23.7
Approach		215	11	226	5.1	0.896	69.4	LOS E	5.4	40.0	0.98	0.95	1.36	25.1
East: Main Road														
4	L2	204	6	215	2.9	0.215	20.2	LOS B	6.3	45.2	0.54	0.71	0.54	38.7
5	T1	846	53	891	6.3	0.544	18.0	LOS B	20.8	153.2	0.65	0.58	0.65	46.8
6	R2	278	23	293	8.3	* 0.837	68.1	LOS E	10.2	76.3	1.00	0.89	1.20	28.1
Approach		1328	82	1398	6.2	0.837	28.8	LOS C	20.8	153.2	0.71	0.67	0.75	40.0
North: Glendale Drive														
7	L2	376	47	396	12.5	* 0.774	63.3	LOS E	12.0	92.9	1.00	0.89	1.14	29.2
8	T1	92	2	97	2.2	0.336	52.8	LOS D	5.2	36.8	0.94	0.76	0.94	28.6
9	R2	33	4	35	12.1	0.406	69.9	LOS E	2.1	16.4	1.00	0.73	1.00	27.6
Approach		501	53	527	10.6	0.774	61.8	LOS E	12.0	92.9	0.99	0.86	1.10	29.0
West: Main Road														
10	L2	33	0	35	0.0	0.862	39.9	LOS C	45.3	327.6	0.96	0.93	1.02	37.8
11	T1	1509	61	1588	4.0	* 0.862	34.0	LOS C	45.3	327.6	0.95	0.93	1.02	38.6
12	R2	4	1	4	25.0	0.053	67.5	LOS E	0.2	2.1	0.97	0.64	0.97	25.7
Approach		1546	62	1627	4.0	0.862	34.2	LOS C	45.3	327.6	0.95	0.93	1.02	38.5
All Vehicles		3590	208	3779	5.8	0.896	38.2	LOS C	45.3	327.6	0.87	0.82	0.95	36.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Glendale Drive												
P1	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	223.9	220.5	0.98
East: Main Road												
P2	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	226.4	223.8	0.99

P2B	Slip/ Bypass	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	211.4	204.3	0.97
North: Glendale Drive												
P3	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	221.3	217.2	0.98
P3B	Slip/ Bypass	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	214.0	207.6	0.97
West: Main Road												
P4	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	224.3	221.1	0.99
All Pedestrians		300	316	54.3	LOS E	0.2	0.2	0.95	0.95	220.2	215.8	0.98

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

MOVEMENT SUMMARY

Site: 101 [4. Stocklands Drive - Glendale Drive (Site Folder: 2032 AM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
SouthEast: Rail Mantenance														
21	L2	1	0	1	0.0	0.007	2.5	LOS A	0.0	0.2	0.42	0.37	0.42	38.9
22	T1	4	1	4	25.0	0.007	2.3	LOS A	0.0	0.2	0.42	0.37	0.42	39.9
23	R2	1	0	1	0.0	0.007	6.7	LOS A	0.0	0.2	0.42	0.37	0.42	40.6
Approach		6	1	6	16.7	0.007	3.0	LOS A	0.0	0.2	0.42	0.37	0.42	39.9
NorthEast: Glendale Drive														
24	L2	5	2	5	40.0	0.141	1.6	LOS A	0.7	5.3	0.10	0.49	0.10	38.2
26	R2	412	16	434	3.9	0.141	5.4	LOS A	0.7	5.3	0.11	0.50	0.11	39.9
26u	U	14	0	15	0.0	0.141	11.4	LOS A	0.7	5.2	0.11	0.51	0.11	46.5
Approach		431	18	454	4.2	0.141	5.6	LOS A	0.7	5.3	0.11	0.50	0.11	40.1
NorthWest: Stocklands Drive														
27	L2	219	13	231	5.9	0.087	1.5	LOS A	0.3	2.6	0.07	0.26	0.07	39.9
28	T1	9	2	9	22.2	0.087	0.6	LOS A	0.3	2.6	0.07	0.28	0.07	41.2
29u	U	13	3	14	23.1	0.087	11.6	LOS A	0.3	2.6	0.07	0.28	0.07	48.6
Approach		241	18	254	7.5	0.087	2.0	LOS A	0.3	2.6	0.07	0.26	0.07	40.4
SouthWest: Glendale Drive														
30	L2	1	0	1	0.0	0.001	2.5	LOS A	0.0	0.0	0.40	0.33	0.40	39.3
Approach		1	0	1	0.0	0.001	2.5	LOS A	0.0	0.0	0.40	0.33	0.40	39.3
All Vehicles		679	37	715	5.4	0.141	4.3	LOS A	0.7	5.3	0.10	0.41	0.10	40.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [5. Roundabout 2 Stocklands Drive (Site Folder: 2032 AM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Shopping Centre														
1	L2	86	3	91	3.5	0.197	1.0	LOS A	0.9	6.6	0.38	0.26	0.38	21.3
2	T1	14	0	15	0.0	0.197	1.0	LOS A	0.9	6.6	0.38	0.26	0.38	21.5
3	R2	96	0	101	0.0	0.197	1.0	LOS A	0.9	6.6	0.38	0.26	0.38	21.8
Approach		196	3	206	1.5	0.197	1.0	LOS A	0.9	6.6	0.38	0.26	0.38	21.5
East: Stocklands Drive														
4	L2	189	4	199	2.1	0.173	6.5	LOS A	1.0	7.5	0.52	0.62	0.52	21.2
5	T1	143	2	151	1.4	0.173	2.7	LOS A	1.0	7.5	0.53	0.51	0.53	39.7
6	R2	37	2	39	5.4	0.173	7.3	LOS A	1.0	7.1	0.54	0.49	0.54	40.3
6u	U	18	1	19	5.6	0.173	13.2	LOS A	1.0	7.1	0.54	0.49	0.54	46.8
Approach		387	9	407	2.3	0.173	5.5	LOS A	1.0	7.5	0.53	0.56	0.53	28.1
North: Sports Centre														
7	L2	8	0	8	0.0	0.019	3.5	LOS A	0.1	0.5	0.50	0.59	0.50	38.1
8	T1	2	0	2	0.0	0.019	10.6	LOS A	0.1	0.5	0.50	0.59	0.50	21.4
9	R2	5	0	5	0.0	0.019	7.5	LOS A	0.1	0.5	0.50	0.59	0.50	39.5
Approach		15	0	16	0.0	0.019	5.8	LOS A	0.1	0.5	0.50	0.59	0.50	34.9
West: Stocklands Drive														
10	L2	41	0	43	0.0	0.164	2.5	LOS A	0.9	6.7	0.37	0.28	0.37	39.1
11	T1	138	16	145	11.6	0.164	1.8	LOS A	0.9	6.7	0.37	0.28	0.37	40.2
12	R2	339	21	357	6.2	0.247	12.4	LOS A	1.5	11.0	0.36	0.70	0.36	20.9
12u	U	9	1	9	11.1	0.247	12.0	LOS A	1.5	11.0	0.36	0.70	0.36	42.2
Approach		527	38	555	7.2	0.247	8.8	LOS A	1.5	11.0	0.36	0.56	0.36	25.1
All Vehicles		1125	50	1184	4.4	0.247	6.3	LOS A	1.5	11.0	0.43	0.51	0.43	25.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [6. Roundabout 1 Stocklands Drive (Site Folder: 2032 AM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Shopping Centre														
1	L2	27	0	28	0.0	0.028	1.2	LOS A	0.1	0.8	0.42	0.29	0.42	21.5
2	T1	8	0	8	0.0	0.031	1.1	LOS A	0.1	1.0	0.42	0.28	0.42	14.9
3	R2	23	4	24	17.4	0.031	1.2	LOS A	0.1	1.0	0.42	0.28	0.42	21.6
Approach		58	4	61	6.9	0.031	1.2	LOS A	0.1	1.0	0.42	0.28	0.42	20.3
East: Stocklands Drive														
4	L2	25	1	26	4.0	0.186	6.8	LOS A	0.9	7.0	0.51	0.43	0.51	21.6
5	T1	251	21	264	8.4	0.186	2.8	LOS A	0.9	7.0	0.51	0.52	0.51	39.2
6	R2	65	1	68	1.5	0.186	13.6	LOS A	0.9	6.8	0.51	0.68	0.51	21.4
6u	U	15	2	16	13.3	0.186	13.5	LOS A	0.9	6.8	0.51	0.68	0.51	44.7
Approach		356	25	375	7.0	0.186	5.5	LOS A	0.9	7.0	0.51	0.55	0.51	32.5
North: A Mart														
7	L2	46	1	48	2.2	0.165	2.8	LOS A	0.6	4.6	0.58	0.57	0.58	21.1
8	T1	14	0	15	0.0	0.165	2.8	LOS A	0.6	4.6	0.58	0.57	0.58	14.8
9	R2	60	1	63	1.7	0.165	2.8	LOS A	0.6	4.6	0.58	0.57	0.58	21.6
Approach		120	2	126	1.7	0.165	2.8	LOS A	0.6	4.6	0.58	0.57	0.58	20.3
West: Stocklands Drive														
10	L2	28	0	29	0.0	0.323	5.5	LOS A	1.7	12.8	0.29	0.22	0.29	21.8
11	T1	441	27	464	6.1	0.323	1.3	LOS A	1.7	12.8	0.29	0.27	0.29	39.9
12	R2	332	2	349	0.6	0.323	12.2	LOS A	1.7	12.4	0.30	0.72	0.30	21.1
12u	U	17	7	18	41.2	0.323	12.3	LOS A	1.7	12.4	0.30	0.72	0.30	42.3
Approach		818	36	861	4.4	0.323	6.1	LOS A	1.7	12.8	0.29	0.46	0.29	28.6
All Vehicles		1352	67	1423	5.0	0.323	5.4	LOS A	1.7	12.8	0.38	0.49	0.38	28.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [7. Lake Road - Stocklands (Site Folder: 2032 AM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Lake Road														
1	L2	458	20	482	4.4	0.277	3.8	LOS A	1.7	12.1	0.28	0.41	0.28	56.1
2	T1	485	31	511	6.4	0.317	3.7	LOS A	2.0	14.6	0.43	0.37	0.43	57.2
3	R2	386	9	406	2.3	0.317	10.5	LOS A	1.9	13.3	0.45	0.66	0.45	46.7
Approach		1329	60	1399	4.5	0.317	5.7	LOS A	2.0	14.6	0.38	0.47	0.38	53.3
East: Stocklands Drive														
4	L2	176	5	185	2.8	0.179	2.3	LOS A	0.9	6.2	0.60	0.44	0.60	46.0
5	T1	101	6	106	5.9	0.210	2.3	LOS A	1.0	7.9	0.64	0.55	0.64	45.6
6	R2	90	12	95	13.3	0.210	7.3	LOS A	1.0	7.9	0.64	0.55	0.64	46.1
Approach		367	23	386	6.3	0.210	3.5	LOS A	1.0	7.9	0.62	0.50	0.62	45.9
North: Lake Drive														
7	L2	263	13	277	4.9	0.188	4.3	LOS A	0.9	6.6	0.50	0.52	0.50	46.1
8	T1	445	24	468	5.4	0.259	5.6	LOS A	1.6	11.9	0.72	0.59	0.72	55.0
9	R2	12	0	13	0.0	0.259	12.7	LOS A	1.4	10.1	0.72	0.71	0.72	54.9
9u	U	44	1	46	2.3	0.259	15.4	LOS B	1.4	10.1	0.72	0.71	0.72	56.6
Approach		764	38	804	5.0	0.259	5.8	LOS A	1.6	11.9	0.64	0.58	0.64	51.7
West: Frederick Street														
10	L2	20	0	21	0.0	0.348	6.6	LOS A	1.6	11.8	0.68	0.72	0.72	53.4
11	T1	227	9	239	4.0	0.348	7.2	LOS A	1.6	11.8	0.68	0.72	0.72	43.9
12	R2	367	20	386	5.4	0.391	12.2	LOS A	2.1	15.1	0.69	0.84	0.73	52.5
Approach		614	29	646	4.7	0.391	10.2	LOS A	2.1	15.1	0.69	0.79	0.73	49.1
All Vehicles		3074	150	3236	4.9	0.391	6.4	LOS A	2.1	15.1	0.54	0.56	0.55	51.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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.

2032 PM Do Minimum

MOVEMENT SUMMARY

Site: 101 [8. Main Road - Lake Road (Upgrade) (Site Folder: 2032 PM Peak)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 130 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
East: Main Road														
4a	L1	62	1	65	1.6	0.107	37.2	LOS C	2.9	20.3	0.74	0.71	0.74	36.7
5	T1	921	37	969	4.0	* 0.978	65.2	LOS E	41.2	298.6	0.97	1.06	1.23	29.0
Approach		983	38	1035	3.9	0.978	63.5	LOS E	41.2	298.6	0.96	1.04	1.20	29.4
NorthEast: Lake Road														
24b	L3	14	1	15	7.1	0.797	72.2	LOS F	19.1	139.7	1.00	0.97	1.11	29.7
25	T1	624	32	657	5.1	0.797	56.6	LOS E	23.2	169.4	1.00	0.94	1.09	31.1
26a	R1	281	11	296	3.9	* 0.939	83.9	LOS F	22.9	165.8	1.00	1.10	1.41	25.4
Approach		919	44	967	4.8	0.939	65.2	LOS E	23.2	169.4	1.00	0.99	1.19	29.1
West: Main Road														
10a	L1	130	10	137	7.7	0.233	39.0	LOS C	6.3	47.0	0.77	0.76	0.77	35.9
11	T1	1117	56	1176	5.0	0.735	26.3	LOS B	27.3	199.1	0.77	0.69	0.77	42.9
12b	R3	195	9	205	4.6	* 0.940	90.4	LOS F	16.1	117.3	1.00	1.03	1.49	24.1
Approach		1442	75	1518	5.2	0.940	36.1	LOS C	27.3	199.1	0.80	0.74	0.87	38.2
SouthWest: Lake Road														
30b	L3	179	9	188	5.0	0.237	22.4	LOS B	6.0	43.9	0.59	0.74	0.59	43.9
31	T1	642	18	676	2.8	* 0.956	83.7	LOS F	27.1	194.1	1.00	1.15	1.44	25.3
32a	R1	150	3	158	2.0	0.778	70.2	LOS E	10.5	74.5	1.00	0.89	1.16	27.9
Approach		971	30	1022	3.1	0.956	70.3	LOS E	27.1	194.1	0.92	1.04	1.24	27.9
All Vehicles		4315	187	4542	4.3	0.978	56.2	LOS D	41.2	298.6	0.91	0.93	1.10	31.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Main Road												
P2	Full	5	5	59.2	LOS E	0.0	0.0	0.95	0.95	226.2	217.2	0.96
NorthEast: Lake Road												
P6	Full	5	5	59.2	LOS E	0.0	0.0	0.95	0.95	228.8	220.5	0.96
West: Main Road												

P4	Full	5	5	59.2	LOS E	0.0	0.0	0.95	0.95	231.3	223.8	0.97
SouthWest: Lake Road												
P8	Full	5	5	59.2	LOS E	0.0	0.0	0.95	0.95	228.8	220.5	0.96
All Pedestrians		20	21	59.2	LOS E	0.0	0.0	0.95	0.95	228.8	220.5	0.96

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

MOVEMENT SUMMARY

Site: 101 [3a. Main Road - Glendale Drive Y (Site Folder: 2032 PM Peak)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Glendale Drive														
1	L2	119	0	125	0.0	0.625	53.7	LOS D	13.8	96.8	0.96	0.82	0.96	29.0
2	T1	126	0	133	0.0	0.625	46.8	LOS D	13.8	96.8	0.96	0.82	0.96	29.6
3	R2	356	7	375	2.0	* 0.877	70.4	LOS E	12.4	87.9	1.00	1.04	1.34	24.9
Approach		601	7	633	1.2	0.877	62.1	LOS E	13.8	96.8	0.98	0.95	1.19	26.5
East: Main Road														
4	L2	427	10	449	2.3	0.509	28.2	LOS B	17.8	127.3	0.74	0.80	0.74	35.7
5	T1	1143	39	1203	3.4	0.861	31.3	LOS C	39.9	287.6	0.84	0.80	0.89	40.4
6	R2	357	18	376	5.0	* 0.854	66.5	LOS E	13.1	96.0	1.00	0.91	1.19	28.5
Approach		1927	67	2028	3.5	0.861	37.1	LOS C	39.9	287.6	0.85	0.82	0.91	36.5
North: Glendale Drive														
7	L2	418	34	440	8.1	* 0.836	66.8	LOS E	13.9	104.1	1.00	0.94	1.23	28.5
8	T1	30	2	32	6.7	0.113	50.7	LOS D	1.6	11.9	0.90	0.70	0.90	29.0
9	R2	20	1	21	5.0	0.235	68.6	LOS E	1.3	9.2	0.99	0.70	0.99	28.0
Approach		468	37	493	7.9	0.836	65.8	LOS E	13.9	104.1	0.99	0.91	1.20	28.5
West: Main Road														
10	L2	64	2	67	3.1	0.878	50.6	LOS D	40.9	296.8	1.00	1.00	1.12	34.0
11	T1	1201	52	1264	4.3	* 0.878	44.5	LOS D	40.9	296.8	0.99	0.99	1.12	34.7
12	R2	16	2	17	12.5	0.196	68.5	LOS E	1.0	7.8	0.99	0.69	0.99	25.5
Approach		1281	56	1348	4.4	0.878	45.1	LOS D	40.9	296.8	0.99	0.99	1.12	34.5
All Vehicles		4277	167	4502	3.9	0.878	46.2	LOS D	40.9	296.8	0.93	0.90	1.04	33.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Glendale Drive												
P1	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	223.9	220.5	0.98
East: Main Road												
P2	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	226.4	223.8	0.99

P2B	Slip/ Bypass	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	211.4	204.3	0.97
North: Glendale Drive												
P3	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	221.3	217.2	0.98
P3B	Slip/ Bypass	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	214.0	207.6	0.97
West: Main Road												
P4	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	224.3	221.1	0.99
All Pedestrians		300	316	54.3	LOS E	0.2	0.2	0.95	0.95	220.2	215.8	0.98

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

MOVEMENT SUMMARY

Site: 101 [4. Stocklands Drive - Glendale Drive (Site Folder: 2032 PM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
SouthEast: Rail Mantenance														
21	L2	1	0	1	0.0	0.017	3.1	LOS A	0.1	0.5	0.47	0.58	0.47	37.8
22	T1	3	2	3	66.7	0.017	4.0	LOS A	0.1	0.5	0.47	0.58	0.47	38.7
23	R2	9	0	9	0.0	0.017	7.2	LOS A	0.1	0.5	0.47	0.58	0.47	39.3
Approach		13	2	14	15.4	0.017	6.2	LOS A	0.1	0.5	0.47	0.58	0.47	39.1
NorthEast: Glendale Drive														
24	L2	1	0	1	0.0	0.196	1.4	LOS A	1.1	7.5	0.02	0.52	0.02	38.3
26	R2	632	7	665	1.1	0.196	5.3	LOS A	1.1	7.5	0.02	0.52	0.02	39.9
26u	U	9	0	9	0.0	0.196	6.8	LOS A	1.1	7.5	0.02	0.52	0.02	40.9
Approach		642	7	676	1.1	0.196	5.3	LOS A	1.1	7.5	0.02	0.52	0.02	39.9
NorthWest: Stocklands Drive														
27	L2	432	9	455	2.1	0.150	1.5	LOS A	0.7	4.9	0.08	0.24	0.08	39.8
28	T1	1	0	1	0.0	0.150	0.5	LOS A	0.7	4.8	0.09	0.24	0.09	40.8
Approach		433	9	456	2.1	0.150	1.5	LOS A	0.7	4.9	0.08	0.24	0.08	39.8
SouthWest: Glendale Drive														
30	L2	1	0	1	0.0	0.001	5.4	LOS A	0.0	0.0	0.45	0.50	0.45	54.7
Approach		1	0	1	0.0	0.001	5.4	LOS A	0.0	0.0	0.45	0.50	0.45	54.7
All Vehicles		1089	18	1146	1.7	0.196	3.8	LOS A	1.1	7.5	0.05	0.41	0.05	39.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [5. Roundabout 2 Stocklands Drive (Site Folder: 2032 PM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Shopping Centre														
1	L2	293	0	308	0.0	0.594	2.8	LOS A	4.8	33.8	0.67	0.60	0.72	21.1
2	T1	22	0	23	0.0	0.594	2.8	LOS A	4.8	33.8	0.67	0.60	0.72	14.8
3	R2	254	0	267	0.0	0.594	2.8	LOS A	4.8	33.8	0.67	0.60	0.72	21.6
Approach		569	0	599	0.0	0.594	2.8	LOS A	4.8	33.8	0.67	0.60	0.72	21.0
East: Stocklands Drive														
4	L2	318	4	335	1.3	0.262	6.7	LOS A	1.8	12.4	0.58	0.68	0.58	21.1
5	T1	220	0	232	0.0	0.262	3.0	LOS A	1.7	11.6	0.60	0.52	0.60	39.0
6	R2	39	0	41	0.0	0.262	13.8	LOS A	1.7	11.6	0.60	0.52	0.60	21.5
Approach		577	4	607	0.7	0.262	5.8	LOS A	1.8	12.4	0.59	0.61	0.59	25.7
North: Sports Centre														
7	L2	37	0	39	0.0	0.140	2.9	LOS A	0.6	4.3	0.59	0.54	0.59	21.1
8	T1	18	0	19	0.0	0.140	2.9	LOS A	0.6	4.3	0.59	0.54	0.59	14.8
9	R2	48	0	51	0.0	0.140	2.9	LOS A	0.6	4.3	0.59	0.54	0.59	21.5
Approach		103	0	108	0.0	0.140	2.9	LOS A	0.6	4.3	0.59	0.54	0.59	19.8
West: Stocklands Drive														
10	L2	34	0	36	0.0	0.191	6.7	LOS A	1.1	8.4	0.54	0.43	0.54	21.6
11	T1	154	9	162	5.8	0.191	2.6	LOS A	1.1	8.4	0.54	0.43	0.54	39.5
12	R2	317	20	334	6.3	0.258	13.1	LOS A	1.7	12.8	0.54	0.73	0.54	20.8
Approach		505	29	532	5.7	0.258	9.4	LOS A	1.7	12.8	0.54	0.62	0.54	24.3
All Vehicles		1754	33	1846	1.9	0.594	5.7	LOS A	4.8	33.8	0.60	0.60	0.62	23.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [6. Roundabout 1 Stocklands Drive (Site Folder: 2032 PM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Shopping Centre														
1	L2	104	0	109	0.0	0.121	2.1	LOS A	0.5	3.8	0.60	0.54	0.60	21.4
2	T1	3	0	3	0.0	0.088	2.8	LOS A	0.4	2.6	0.61	0.56	0.61	14.8
3	R2	56	0	59	0.0	0.088	2.8	LOS A	0.4	2.6	0.61	0.56	0.61	21.4
Approach		163	0	172	0.0	0.121	2.3	LOS A	0.5	3.8	0.60	0.55	0.60	21.2
East: Stocklands Drive														
4	L2	53	0	56	0.0	0.410	6.2	LOS A	2.5	17.9	0.60	0.62	0.60	53.0
5	T1	661	22	696	3.3	0.410	6.4	LOS A	2.5	17.9	0.61	0.65	0.61	54.1
6	R2	49	0	52	0.0	0.410	11.4	LOS A	2.4	17.5	0.61	0.68	0.61	53.8
6u	U	31	6	33	19.4	0.410	14.2	LOS A	2.4	17.5	0.61	0.68	0.61	54.2
Approach		794	28	836	3.5	0.410	7.0	LOS A	2.5	17.9	0.61	0.65	0.61	54.0
North: A Mart														
7	L2	36	0	38	0.0	0.157	6.7	LOS A	0.6	4.5	0.60	0.84	0.60	51.2
8	T1	1	0	1	0.0	0.157	7.0	LOS A	0.6	4.5	0.60	0.84	0.60	52.6
9	R2	73	2	77	2.7	0.157	12.0	LOS A	0.6	4.5	0.60	0.84	0.60	52.5
Approach		110	2	116	1.8	0.157	10.3	LOS A	0.6	4.5	0.60	0.84	0.60	52.1
West: Stocklands Drive														
10	L2	14	1	15	7.1	0.336	5.6	LOS A	1.8	13.0	0.32	0.22	0.32	21.8
11	T1	465	21	489	4.5	0.336	1.4	LOS A	1.8	13.0	0.32	0.27	0.32	39.9
12	R2	330	0	347	0.0	0.336	12.3	LOS A	1.8	12.6	0.33	0.72	0.33	21.0
12u	U	27	2	28	7.4	0.336	7.6	LOS A	1.8	12.6	0.33	0.72	0.33	38.3
Approach		836	24	880	2.9	0.336	6.0	LOS A	1.8	13.0	0.33	0.46	0.33	29.1
All Vehicles		1903	54	2003	2.8	0.410	6.3	LOS A	2.5	17.9	0.48	0.57	0.48	35.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [7. Lake Road - Stocklands (Site Folder: 2032 PM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Lake Road														
1	L2	392	17	413	4.3	0.280	5.2	LOS A	1.9	13.5	0.54	0.52	0.54	55.0
2	T1	637	21	671	3.3	0.523	6.4	LOS A	5.0	35.7	0.88	0.68	0.94	54.3
3	R2	349	6	367	1.7	0.523	14.2	LOS A	4.5	31.7	0.87	0.92	0.98	45.8
Approach		1378	44	1451	3.2	0.523	8.0	LOS A	5.0	35.7	0.78	0.69	0.84	52.0
East: Stocklands Drive														
4	L2	377	9	397	2.4	0.505	5.3	LOS A	3.4	24.4	0.79	0.88	0.95	44.9
5	T1	322	11	339	3.4	0.700	6.3	LOS A	6.0	43.6	0.88	1.09	1.22	44.2
6	R2	267	10	281	3.7	0.700	11.1	LOS A	6.0	43.6	0.88	1.09	1.22	44.8
Approach		966	30	1017	3.1	0.700	7.2	LOS A	6.0	43.6	0.84	1.01	1.12	44.6
North: Lake Drive														
7	L2	341	12	359	3.5	0.250	4.3	LOS A	1.3	9.7	0.55	0.52	0.55	45.9
8	T1	621	24	654	3.9	0.370	5.6	LOS A	2.5	18.0	0.77	0.59	0.77	54.8
9	R2	45	2	47	4.4	0.370	13.0	LOS A	2.2	15.6	0.76	0.73	0.78	54.8
9u	U	33	2	35	6.1	0.370	15.6	LOS B	2.2	15.6	0.76	0.73	0.78	56.5
Approach		1040	40	1095	3.8	0.370	5.8	LOS A	2.5	18.0	0.70	0.58	0.70	51.7
West: Frederick Street														
10	L2	55	0	58	0.0	0.525	9.5	LOS A	3.2	22.7	0.85	0.97	1.04	52.1
11	T1	233	6	245	2.6	0.525	10.0	LOS A	3.6	26.0	0.85	0.97	1.04	42.9
12	R2	359	12	378	3.3	0.525	14.2	LOS A	3.6	26.0	0.87	1.00	1.03	51.9
Approach		647	18	681	2.8	0.525	12.3	LOS A	3.6	26.0	0.86	0.99	1.04	48.3
All Vehicles		4031	132	4243	3.3	0.700	7.9	LOS A	6.0	43.6	0.79	0.79	0.90	49.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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.

2032 AM Do Minimum + Development

MOVEMENT SUMMARY

Site: 101v [9. Lots 1 Glendale Drive (Site Folder: 2032 AM Peak Development)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
NorthEast: Glendale Drive														
25	T1	479	9	504	1.9	* 0.526	7.5	LOS A	4.9	35.0	0.78	0.66	0.78	34.5
26	R2	67	0	71	0.0	0.137	10.6	LOS A	0.7	5.1	0.70	0.68	0.70	34.4
Approach		546	9	575	1.6	0.526	7.9	LOS A	4.9	35.0	0.77	0.66	0.77	34.5
NorthWest: Lot 1														
27	L2	37	0	39	0.0	0.159	14.9	LOS B	0.8	5.6	0.86	0.71	0.86	32.5
29	R2	21	0	22	0.0	* 0.159	14.9	LOS B	0.8	5.6	0.86	0.71	0.86	33.5
Approach		58	0	61	0.0	0.159	14.9	LOS B	0.8	5.6	0.86	0.71	0.86	32.9
SouthWest: Glendale Drive														
30	L2	14	0	15	0.0	0.199	10.0	LOS A	1.6	11.3	0.69	0.56	0.69	36.8
31	T1	283	13	298	4.6	0.199	6.6	LOS A	1.6	11.3	0.69	0.56	0.69	35.0
Approach		297	13	313	4.4	0.199	6.7	LOS A	1.6	11.3	0.69	0.56	0.69	35.1
All Vehicles		901	22	948	2.4	0.526	8.0	LOS A	4.9	35.0	0.75	0.63	0.75	34.5

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
NorthEast: Glendale Drive												
P6	Full	50	53	9.6	LOS A	0.0	0.0	0.80	0.80	181.5	223.5	1.23
NorthWest: Lot 1												
P7	Full	50	53	9.6	LOS A	0.0	0.0	0.80	0.80	172.7	212.0	1.23
SouthWest: Glendale Drive												
P8	Full	50	53	9.6	LOS A	0.0	0.0	0.80	0.80	178.9	220.0	1.23
All Pedestrians		0	158	9.6	LOS A	0.0	0.0	0.80	0.80	177.7	218.5	1.23

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

MOVEMENT SUMMARY

Site: 101 [2. Main Road - Stephens Avenue - Lot 1 (Site Folder: 2032 AM Peak Development)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Lot 1														
1	L2	37	0	39	0.0	0.450	50.1	LOS D	5.8	40.3	0.96	0.79	0.96	31.0
2	T1	1	0	1	0.0	0.450	43.0	LOS D	5.8	40.3	0.96	0.79	0.96	26.6
3	R2	292	0	307	0.0	* 0.797	101.1	LOS F	11.5	80.3	0.99	0.88	1.13	30.3
Approach		330	0	347	0.0	0.797	95.2	LOS F	11.5	80.3	0.98	0.87	1.11	30.4
East: Main Road														
4	L2	91	0	96	0.0	0.417	21.2	LOS C	12.0	87.3	0.66	0.62	0.66	45.9
5	T1	988	55	1040	5.6	0.750	19.6	LOS B	27.7	203.3	0.79	0.73	0.79	45.3
6	R2	9	0	9	0.0	0.120	60.0	LOS E	0.5	3.4	1.00	0.65	1.00	25.2
Approach		1088	55	1145	5.1	0.750	20.0	LOS C	27.7	203.3	0.78	0.72	0.78	45.1
North: Stephens Avenue														
7	L2	14	2	15	14.3	0.267	222.1	LOS F	3.4	24.1	0.93	0.72	0.93	29.1
8	T1	57	0	60	0.0	* 0.267	41.5	LOS D	3.4	24.1	0.93	0.72	0.93	28.1
9	R2	1	0	1	0.0	0.267	46.1	LOS D	3.4	24.1	0.93	0.72	0.93	28.8
Approach		72	2	76	2.8	0.267	76.7	LOS E	3.4	24.1	0.93	0.72	0.93	28.3
West: Main Road														
10	L2	1	0	1	0.0	0.588	23.3	LOS C	19.4	141.0	0.74	0.67	0.74	41.4
11	T1	1483	71	1561	4.8	* 1.058	144.4	LOS F	92.7	675.2	0.91	1.27	1.46	25.5
12	R2	26	0	27	0.0	0.201	42.2	LOS D	1.2	8.2	0.85	0.74	0.85	34.4
Approach		1510	71	1589	4.7	1.058	142.5	LOS F	92.7	675.2	0.90	1.26	1.45	25.6
All Vehicles		3000	128	3158	4.3	1.058	91.3	LOS F	92.7	675.2	0.87	1.01	1.16	31.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Lot 1												
P1	Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	209.8	215.2	1.03
East: Main Road												
P2	Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	213.9	220.5	1.03
North: Stephens Avenue												

P3	Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	204.7	208.6	1.02
West: Main Road												
P4	Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	213.9	220.5	1.03
All Pedestrians		200	211	44.3	LOS E	0.1	0.1	0.94	0.94	210.6	216.2	1.03

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

MOVEMENT SUMMARY

Site: 101 [3. Main Road - Glendale Drive (Site Folder: 2032 AM Peak Development)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Glendale Drive														
1	L2	17	1	18	5.9	0.468	67.2	LOS E	7.8	55.2	0.97	0.78	0.97	26.2
2	T1	99	0	104	0.0	0.468	61.5	LOS E	7.8	55.2	0.97	0.78	0.97	26.7
3	R2	204	10	215	4.9	* 1.047	141.3	LOS F	11.1	80.7	1.00	1.32	1.93	16.5
Approach		320	11	337	3.4	1.047	112.7	LOS F	11.1	80.7	0.99	1.13	1.58	19.2
East: Main Road														
4	L2	319	6	336	1.9	0.309	20.6	LOS B	11.2	79.5	0.53	0.72	0.53	38.5
5	T1	994	53	1046	5.3	0.590	18.5	LOS B	27.6	202.0	0.63	0.57	0.63	46.7
6	R2	278	23	293	8.3	* 1.057	122.0	LOS F	17.0	127.6	1.00	1.11	1.67	19.7
Approach		1591	82	1675	5.2	1.057	37.0	LOS C	27.6	202.0	0.68	0.69	0.79	36.4
North: Glendale Drive														
7	L2	376	47	396	12.5	* 0.855	79.1	LOS F	14.7	114.1	1.00	0.94	1.25	26.0
8	T1	171	2	180	1.2	0.685	66.7	LOS E	12.1	85.3	1.00	0.84	1.03	25.8
9	R2	33	4	35	12.1	0.356	78.1	LOS F	2.4	18.7	1.00	0.73	1.00	26.0
Approach		580	53	611	9.1	0.855	75.4	LOS F	14.7	114.1	1.00	0.90	1.17	25.9
West: Main Road														
10	L2	114	0	120	0.0	1.007	97.9	LOS F	89.2	640.6	1.00	1.24	1.42	23.6
11	T1	1720	61	1811	3.5	* 1.007	88.9	LOS F	103.5	746.4	1.00	1.24	1.40	24.4
12	R2	19	1	20	5.3	0.258	80.0	LOS F	1.4	10.3	1.00	0.70	1.00	23.6
Approach		1853	62	1951	3.3	1.007	89.4	LOS F	103.5	746.4	1.00	1.23	1.40	24.4
All Vehicles		4344	208	4573	4.8	1.057	70.0	LOS E	103.5	746.4	0.88	0.98	1.16	27.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Glendale Drive												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
East: Main Road												
P2	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	236.4	223.8	0.95

P2B	Slip/ Bypass	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	221.4	204.3	0.92
North: Glendale Drive												
P3	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	231.3	217.2	0.94
P3B	Slip/ Bypass	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	224.0	207.6	0.93
West: Main Road												
P4	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	234.3	221.1	0.94
All Pedestrians		300	316	64.3	LOS F	0.2	0.2	0.96	0.96	230.2	215.8	0.94

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

MOVEMENT SUMMARY

Site: 101 [4. Stocklands Drive - Glendale Drive (Site Folder: 2032 AM Peak Development)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
SouthEast: Rail Mantenance														
21	L2	3	0	3	0.0	0.029	3.0	LOS A	0.1	0.8	0.48	0.59	0.48	38.0
22	T1	4	1	4	25.0	0.029	2.9	LOS A	0.1	0.8	0.48	0.59	0.48	38.9
23	R2	16	0	17	0.0	0.029	7.2	LOS A	0.1	0.8	0.48	0.59	0.48	39.6
Approach		23	1	24	4.3	0.029	5.9	LOS A	0.1	0.8	0.48	0.59	0.48	39.3
NorthEast: Glendale Drive														
24	L2	122	2	128	1.6	0.247	1.9	LOS A	1.5	10.8	0.31	0.45	0.31	40.1
25	T1	90	0	95	0.0	0.247	4.1	LOS A	1.5	10.8	0.31	0.45	0.31	47.9
26	R2	435	16	458	3.7	0.247	5.9	LOS A	1.5	10.8	0.32	0.51	0.32	40.6
26u	U	34	0	36	0.0	0.247	11.9	LOS A	1.5	10.7	0.33	0.54	0.33	46.1
Approach		681	18	717	2.6	0.247	5.3	LOS A	1.5	10.8	0.32	0.49	0.32	41.6
NorthWest: Stocklands Drive														
27	L2	234	13	246	5.6	0.148	2.0	LOS A	0.7	5.0	0.28	0.33	0.28	39.6
28	T1	79	2	83	2.5	0.148	1.0	LOS A	0.7	5.0	0.29	0.34	0.29	41.5
29	R2	28	0	29	0.0	0.148	9.6	LOS A	0.7	5.0	0.29	0.34	0.29	48.5
29u	U	13	3	14	23.1	0.148	12.2	LOS A	0.7	5.0	0.29	0.34	0.29	48.8
Approach		354	18	373	5.1	0.148	2.7	LOS A	0.7	5.0	0.28	0.33	0.28	40.9
SouthWest: Glendale Drive														
30	L2	30	0	32	0.0	0.142	3.1	LOS A	0.6	4.1	0.49	0.55	0.49	43.5
31	T1	90	0	95	0.0	0.142	5.6	LOS A	0.6	4.1	0.49	0.55	0.49	52.9
32	R2	1	0	1	0.0	0.142	11.0	LOS A	0.6	4.1	0.49	0.55	0.49	53.1
Approach		121	0	127	0.0	0.142	5.0	LOS A	0.6	4.1	0.49	0.55	0.49	50.2
All Vehicles		1179	37	1241	3.1	0.247	4.5	LOS A	1.5	10.8	0.33	0.45	0.33	42.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [5. Roundabout 2 Stocklands Drive (Site Folder: 2032 AM Peak Development)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Shopping Centre														
1	L2	86	3	91	3.5	0.200	1.1	LOS A	0.9	6.7	0.40	0.28	0.40	21.3
2	T1	14	0	15	0.0	0.200	1.1	LOS A	0.9	6.7	0.40	0.28	0.40	21.5
3	R2	96	0	101	0.0	0.200	1.1	LOS A	0.9	6.7	0.40	0.28	0.40	21.8
Approach		196	3	206	1.5	0.200	1.1	LOS A	0.9	6.7	0.40	0.28	0.40	21.5
East: Stocklands Drive														
4	L2	189	4	199	2.1	0.184	6.5	LOS A	1.1	8.0	0.52	0.61	0.52	21.2
5	T1	184	2	194	1.1	0.184	2.7	LOS A	1.1	8.0	0.54	0.49	0.54	39.4
6	R2	37	2	39	5.4	0.184	7.4	LOS A	1.1	7.6	0.54	0.46	0.54	40.0
6u	U	4	1	4	25.0	0.184	13.7	LOS A	1.1	7.6	0.54	0.46	0.54	45.8
Approach		414	9	436	2.2	0.184	4.9	LOS A	1.1	8.0	0.53	0.54	0.53	28.5
North: Sports Centre														
7	L2	8	0	8	0.0	0.020	3.6	LOS A	0.1	0.5	0.52	0.61	0.52	38.1
8	T1	2	0	2	0.0	0.020	10.8	LOS A	0.1	0.5	0.52	0.61	0.52	21.4
9	R2	5	0	5	0.0	0.020	7.6	LOS A	0.1	0.5	0.52	0.61	0.52	39.5
Approach		15	0	16	0.0	0.020	5.9	LOS A	0.1	0.5	0.52	0.61	0.52	34.9
West: Stocklands Drive														
10	L2	41	0	43	0.0	0.242	2.4	LOS A	1.4	10.5	0.37	0.26	0.37	39.2
11	T1	251	16	264	6.4	0.242	1.7	LOS A	1.4	10.5	0.37	0.26	0.37	40.2
12	R2	339	21	357	6.2	0.245	12.3	LOS A	1.5	11.0	0.35	0.70	0.35	20.9
12u	U	9	1	9	11.1	0.245	11.9	LOS A	1.5	11.0	0.35	0.70	0.35	42.2
Approach		640	38	674	5.9	0.245	7.5	LOS A	1.5	11.0	0.36	0.50	0.36	26.9
All Vehicles		1265	50	1332	4.0	0.245	5.7	LOS A	1.5	11.0	0.42	0.48	0.42	26.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [6. Roundabout 1 Stocklands Drive (Site Folder: 2032 AM Peak Development)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Shopping Centre														
1	L2	27	0	28	0.0	0.029	1.3	LOS A	0.1	0.8	0.44	0.31	0.44	21.5
2	T1	8	0	8	0.0	0.032	1.1	LOS A	0.1	1.0	0.44	0.30	0.44	14.9
3	R2	23	4	24	17.4	0.032	1.3	LOS A	0.1	1.0	0.44	0.30	0.44	21.6
Approach		58	4	61	6.9	0.032	1.3	LOS A	0.1	1.0	0.44	0.31	0.44	20.3
East: Stocklands Drive														
4	L2	25	1	26	4.0	0.207	6.9	LOS A	1.1	7.9	0.51	0.43	0.51	21.6
5	T1	292	21	307	7.2	0.207	2.8	LOS A	1.1	7.9	0.52	0.51	0.52	39.2
6	R2	65	1	68	1.5	0.207	13.7	LOS A	1.0	7.6	0.52	0.66	0.52	21.4
6u	U	15	2	16	13.3	0.207	13.5	LOS A	1.0	7.6	0.52	0.66	0.52	44.9
Approach		397	25	418	6.3	0.207	5.3	LOS A	1.1	7.9	0.52	0.54	0.52	33.2
North: A Mart														
7	L2	46	1	48	2.2	0.173	3.2	LOS A	0.7	4.9	0.61	0.61	0.61	21.0
8	T1	14	0	15	0.0	0.173	3.1	LOS A	0.7	4.9	0.61	0.61	0.61	14.8
9	R2	60	1	63	1.7	0.173	3.1	LOS A	0.7	4.9	0.61	0.61	0.61	21.5
Approach		120	2	126	1.7	0.173	3.1	LOS A	0.7	4.9	0.61	0.61	0.61	20.3
West: Stocklands Drive														
10	L2	29	0	31	0.0	0.366	5.5	LOS A	2.1	15.1	0.30	0.22	0.30	21.8
11	T1	554	27	583	4.9	0.366	1.4	LOS A	2.1	15.1	0.30	0.30	0.30	39.8
12	R2	332	2	349	0.6	0.366	12.2	LOS A	2.1	14.8	0.31	0.70	0.31	21.1
12u	U	17	7	18	41.2	0.366	12.4	LOS A	2.1	14.8	0.31	0.70	0.31	42.7
Approach		932	36	981	3.9	0.366	5.5	LOS A	2.1	15.1	0.31	0.45	0.31	29.7
All Vehicles		1507	67	1586	4.4	0.366	5.1	LOS A	2.1	15.1	0.39	0.48	0.39	28.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [7. Lake Road - Stocklands (Site Folder: 2032 AM Peak Development)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Lake Road														
1	L2	458	20	482	4.4	0.281	3.9	LOS A	1.7	12.5	0.31	0.43	0.31	56.0
2	T1	499	31	525	6.2	0.333	3.8	LOS A	2.1	15.7	0.46	0.37	0.46	57.0
3	R2	437	9	460	2.1	0.362	10.6	LOS A	2.2	16.0	0.49	0.67	0.49	46.6
Approach		1394	60	1467	4.3	0.362	5.9	LOS A	2.2	16.0	0.42	0.48	0.42	52.9
East: Stocklands Drive														
4	L2	196	5	206	2.6	0.203	2.4	LOS A	1.0	7.2	0.63	0.45	0.63	46.0
5	T1	122	6	128	4.9	0.237	2.3	LOS A	1.2	9.1	0.66	0.54	0.66	45.7
6	R2	90	12	95	13.3	0.237	7.3	LOS A	1.2	9.1	0.66	0.54	0.66	46.1
Approach		408	23	429	5.6	0.237	3.5	LOS A	1.2	9.1	0.65	0.50	0.65	45.9
North: Lake Drive														
7	L2	263	13	277	4.9	0.194	4.5	LOS A	1.0	7.0	0.54	0.55	0.54	45.9
8	T1	468	24	493	5.1	0.290	6.0	LOS A	1.9	13.9	0.77	0.63	0.77	54.7
9	R2	12	0	13	0.0	0.290	13.2	LOS A	1.6	11.6	0.76	0.76	0.76	54.6
9u	U	44	1	46	2.3	0.290	15.9	LOS B	1.6	11.6	0.76	0.76	0.76	56.4
Approach		787	38	828	4.8	0.290	6.2	LOS A	1.9	13.9	0.69	0.61	0.69	51.6
West: Frederick Street														
10	L2	20	0	21	0.0	0.427	7.5	LOS A	2.2	16.1	0.73	0.81	0.84	53.2
11	T1	289	9	304	3.1	0.427	8.0	LOS A	2.4	17.7	0.73	0.82	0.84	43.7
12	R2	367	20	386	5.4	0.427	12.7	LOS A	2.4	17.7	0.73	0.89	0.80	52.6
Approach		676	29	712	4.3	0.427	10.5	LOS A	2.4	17.7	0.73	0.85	0.82	48.4
All Vehicles		3265	150	3437	4.6	0.427	6.6	LOS A	2.4	17.7	0.58	0.59	0.60	50.6

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.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [8b. Main Road - Lake Road (Site Folder: 2032 AM Peak Development)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
East: Main Road														
4a	L1	136	10	143	7.4	0.150	12.8	LOS A	2.5	18.9	0.54	0.68	0.54	48.6
5	T1	875	47	921	5.4	0.627	27.3	LOS B	23.1	169.2	0.81	0.72	0.81	41.4
Approach		1011	57	1064	5.6	0.627	25.4	LOS B	23.1	169.2	0.77	0.71	0.77	42.3
NorthEast: Lake Road														
24b	L3	5	0	5	0.0	0.882	239.6	LOS F	17.4	126.2	1.00	1.07	1.32	26.4
25	T1	532	23	560	4.3	* 0.882	69.4	LOS E	20.1	145.9	1.00	1.04	1.29	28.1
26a	R1	100	7	105	7.0	0.693	65.9	LOS E	6.4	47.6	1.00	0.84	1.11	29.0
Approach		637	30	671	4.7	0.882	70.2	LOS E	20.1	145.9	1.00	1.01	1.26	28.2
West: Main Road														
10a	L1	162	18	171	11.1	0.136	10.6	LOS A	3.1	24.1	0.34	0.64	0.34	49.7
11	T1	1619	54	1704	3.3	* 0.870	102.2	LOS F	45.0	324.3	0.84	0.82	0.91	41.4
12b	R3	86	11	91	12.8	0.658	67.7	LOS E	5.5	42.8	1.00	0.82	1.09	28.2
Approach		1867	83	1965	4.4	0.870	92.6	LOS F	45.0	324.3	0.80	0.81	0.87	41.1
SouthWest: Lake Road														
30b	L3	17	6	18	35.3	0.023	13.8	LOS A	0.3	3.0	0.39	0.63	0.39	48.1
31	T1	543	28	572	5.2	0.790	53.9	LOS D	17.0	124.3	1.00	0.92	1.11	31.8
32a	R1	133	4	140	3.0	* 0.816	68.9	LOS E	8.9	63.6	1.00	0.92	1.26	28.2
Approach		693	38	729	5.5	0.816	55.8	LOS D	17.0	124.3	0.98	0.91	1.12	31.3
All Vehicles		4208	208	4429	4.9	0.882	67.0	LOS E	45.0	324.3	0.85	0.83	0.95	36.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Main Road												
P2	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	221.2	217.2	0.98
P2B	Slip/ Bypass	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	211.3	204.3	0.97
NorthEast: Lake Road												

P6	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	223.2	219.8	0.98
West: Main Road												
P4	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	226.3	223.8	0.99
SouthWest: Lake Road												
P8	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	223.8	220.5	0.99
All Pedestrians		25	26	54.2	LOS E	0.0	0.0	0.95	0.95	221.2	217.1	0.98

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

2032 PM Do Minimum + Development

MOVEMENT SUMMARY

Site: 101v [9. Lots 1 - Glendale Drive (Site Folder: 2032 PM Peak Development)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
NorthEast: Glendale Drive														
25	T1	564	9	594	1.6	* 0.618	8.0	LOS A	6.2	44.0	0.82	0.71	0.84	34.2
26	R2	66	0	69	0.0	0.214	14.3	LOS A	0.9	6.3	0.84	0.72	0.84	32.8
Approach		630	9	663	1.4	0.618	8.7	LOS A	6.2	44.0	0.82	0.71	0.84	34.0
NorthWest: Lot 1														
27	L2	17	0	18	0.0	0.077	14.6	LOS B	0.4	2.6	0.84	0.67	0.84	32.7
29	R2	11	0	12	0.0	* 0.077	14.6	LOS B	0.4	2.6	0.84	0.67	0.84	33.6
Approach		28	0	29	0.0	0.077	14.6	LOS B	0.4	2.6	0.84	0.67	0.84	33.1
SouthWest: Glendale Drive														
30	L2	24	0	25	0.0	0.567	11.3	LOS A	5.4	38.4	0.82	0.71	0.82	36.2
31	T1	837	13	881	1.6	0.567	7.9	LOS A	5.4	38.5	0.82	0.71	0.82	34.2
Approach		861	13	906	1.5	0.567	8.0	LOS A	5.4	38.5	0.82	0.71	0.82	34.3
All Vehicles		1519	22	1599	1.4	0.618	8.4	LOS A	6.2	44.0	0.82	0.71	0.83	34.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
NorthEast: Glendale Drive												
P6	Full	50	53	9.6	LOS A	0.0	0.0	0.80	0.80	181.5	223.5	1.23
NorthWest: Lot 1												
P7	Full	50	53	9.6	LOS A	0.0	0.0	0.80	0.80	172.7	212.0	1.23
SouthWest: Glendale Drive												
P8	Full	50	53	9.6	LOS A	0.0	0.0	0.80	0.80	178.9	220.0	1.23
All Pedestrians		0	158	9.6	LOS A	0.0	0.0	0.80	0.80	177.7	218.5	1.23

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

MOVEMENT SUMMARY

Site: 101 [2. Main Road - Stephens Avenue - Lot 1 (Site Folder: 2032 PM Peak Development)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Lot 1														
1	L2	19	0	20	0.0	0.208	67.2	LOS E	3.1	21.6	0.93	0.74	0.93	27.1
2	T1	1	0	1	0.0	0.208	59.6	LOS E	3.1	21.6	0.93	0.74	0.93	22.9
3	R2	111	0	117	0.0	* 0.369	67.0	LOS E	5.6	39.3	0.95	0.76	0.95	27.3
Approach		131	0	138	0.0	0.369	67.0	LOS E	5.6	39.3	0.95	0.76	0.95	27.3
East: Main Road														
4	L2	151	0	159	0.0	0.445	20.6	LOS C	18.2	131.2	0.57	0.59	0.57	46.0
5	T1	1080	55	1137	5.1	0.801	18.6	LOS B	34.5	252.2	0.67	0.64	0.67	45.9
6	R2	33	0	35	0.0	0.320	48.5	LOS D	2.0	13.7	0.81	0.76	0.81	28.2
Approach		1264	55	1331	4.4	0.801	19.6	LOS B	34.5	252.2	0.66	0.64	0.66	45.4
North: Stephens Avenue														
7	L2	1	1	1	100.0	0.419	73.8	LOS E	6.7	47.1	0.97	0.76	0.97	23.2
8	T1	97	0	102	0.0	* 0.419	61.6	LOS E	6.7	47.1	0.97	0.76	0.97	23.4
9	R2	1	0	1	0.0	0.419	66.1	LOS E	6.7	47.1	0.97	0.76	0.97	23.8
Approach		99	1	104	1.0	0.419	61.8	LOS E	6.7	47.1	0.97	0.76	0.97	23.4
West: Main Road														
10	L2	1	0	1	0.0	0.486	21.2	LOS C	20.7	151.5	0.59	0.54	0.59	42.8
11	T1	1330	71	1400	5.3	* 0.875	24.7	LOS C	43.6	319.3	0.69	0.66	0.72	43.8
12	R2	43	0	45	0.0	0.348	44.8	LOS D	2.5	17.2	0.79	0.77	0.79	33.6
Approach		1374	71	1446	5.2	0.875	25.3	LOS C	43.6	319.3	0.69	0.66	0.73	43.3
All Vehicles		2868	127	3019	4.4	0.875	26.0	LOS C	43.6	319.3	0.70	0.66	0.72	42.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Lot 1												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94
East: Main Road												
P2	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
North: Stephens Avenue												

P3	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	224.7	208.6	0.93
West: Main Road												
P4	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
All Pedestrians		200	211	64.3	LOS F	0.2	0.2	0.96	0.96	230.6	216.2	0.94

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

MOVEMENT SUMMARY

Site: 101 [3a. Main Road - Glendale Drive (Site Folder: 2032 PM Peak Development)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Glendale Drive														
1	L2	120	0	126	0.0	0.824	71.3	LOS F	25.0	174.8	1.00	0.94	1.11	26.3
2	T1	223	0	235	0.0	0.824	60.7	LOS E	25.0	174.8	1.00	0.94	1.11	26.7
3	R2	513	7	540	1.4	* 1.028	128.7	LOS F	27.2	192.8	1.00	1.30	1.71	17.7
Approach		856	7	901	0.8	1.028	103.0	LOS F	27.2	192.8	1.00	1.16	1.47	20.4
East: Main Road														
4	L2	524	10	552	1.9	0.692	31.4	LOS C	26.1	186.0	0.76	0.81	0.76	34.6
5	T1	1389	39	1462	2.8	* 1.036	82.6	LOS F	100.2	718.1	0.90	1.10	1.25	25.9
6	R2	357	18	376	5.0	0.886	78.4	LOS F	15.6	113.9	1.00	0.92	1.21	26.1
Approach		2270	67	2389	3.0	1.036	70.1	LOS E	100.2	718.1	0.89	1.00	1.13	27.6
North: Glendale Drive														
7	L2	418	34	440	8.1	* 0.923	89.1	LOS F	17.7	132.7	1.00	1.01	1.40	24.3
8	T1	94	2	99	2.1	0.379	63.0	LOS E	6.3	44.6	0.96	0.77	0.96	26.5
9	R2	20	1	21	5.0	0.235	78.3	LOS F	1.5	10.7	0.99	0.71	0.99	26.0
Approach		532	37	560	7.0	0.923	84.1	LOS F	17.7	132.7	0.99	0.96	1.30	24.7
West: Main Road														
10	L2	107	2	113	1.9	0.918	62.2	LOS E	55.7	402.8	1.00	1.03	1.16	30.6
11	T1	1269	52	1336	4.1	0.918	56.0	LOS D	55.7	402.8	1.00	1.03	1.16	31.3
12	R2	43	2	45	4.7	* 0.581	82.1	LOS F	3.3	23.9	1.00	0.76	1.06	23.3
Approach		1419	56	1494	3.9	0.918	57.3	LOS E	55.7	402.8	1.00	1.02	1.16	30.9
All Vehicles		5077	167	5344	3.3	1.036	73.5	LOS F	100.2	718.1	0.95	1.03	1.21	26.5

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Glendale Drive												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
East: Main Road												
P2	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	236.4	223.8	0.95

P2B	Slip/ Bypass	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	221.4	204.3	0.92
North: Glendale Drive												
P3	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	231.3	217.2	0.94
P3B	Slip/ Bypass	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	224.0	207.6	0.93
West: Main Road												
P4	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	234.3	221.1	0.94
All Pedestrians		300	316	64.3	LOS F	0.2	0.2	0.96	0.96	230.2	215.8	0.94

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

MOVEMENT SUMMARY

Site: 101 [4. Stocklands Drive - Glendale Drive (Site Folder: 2032 PM Peak Development)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
SouthEast: Rail Mantenance														
21	L2	4	0	4	0.0	0.279	3.7	LOS A	1.2	8.4	0.57	0.67	0.57	38.0
22	T1	86	2	91	2.3	0.279	3.1	LOS A	1.2	8.4	0.57	0.67	0.57	38.9
23	R2	132	0	139	0.0	0.279	7.9	LOS A	1.2	8.4	0.57	0.67	0.57	39.5
Approach		222	2	234	0.9	0.279	5.9	LOS A	1.2	8.4	0.57	0.67	0.57	39.2
NorthEast: Glendale Drive														
24	L2	17	0	18	0.0	0.230	1.8	LOS A	1.4	10.1	0.29	0.50	0.29	38.8
25	T1	42	0	44	0.0	0.230	4.0	LOS A	1.4	10.1	0.29	0.50	0.29	45.9
26	R2	574	7	604	1.2	0.230	5.8	LOS A	1.4	10.1	0.30	0.51	0.30	39.9
26u	U	13	0	14	0.0	0.230	7.3	LOS A	1.4	9.8	0.31	0.52	0.31	40.3
Approach		646	7	680	1.1	0.230	5.6	LOS A	1.4	10.1	0.30	0.51	0.30	40.2
NorthWest: Stocklands Drive														
27	L2	567	9	597	1.6	0.284	2.2	LOS A	1.5	11.0	0.37	0.37	0.37	39.4
28	T1	77	0	81	0.0	0.284	1.3	LOS A	1.5	10.8	0.38	0.37	0.38	40.6
29	R2	28	0	29	0.0	0.284	9.9	LOS A	1.5	10.8	0.38	0.37	0.38	47.5
Approach		672	9	707	1.3	0.284	2.4	LOS A	1.5	11.0	0.38	0.37	0.38	39.8
SouthWest: Glendale Drive														
30	L2	14	0	15	0.0	0.076	6.2	LOS A	0.3	2.1	0.55	0.65	0.55	53.6
31	T1	42	0	44	0.0	0.076	6.3	LOS A	0.3	2.1	0.55	0.65	0.55	55.1
32	R2	1	0	1	0.0	0.076	11.7	LOS A	0.3	2.1	0.55	0.65	0.55	55.3
Approach		57	0	60	0.0	0.076	6.4	LOS A	0.3	2.1	0.55	0.65	0.55	54.7
All Vehicles		1597	18	1681	1.1	0.284	4.3	LOS A	1.5	11.0	0.38	0.48	0.38	40.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [5. Roundabout 2 Stocklands Drive (Site Folder: 2032 PM Peak Development)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Shopping Centre														
1	L2	293	0	308	0.0	0.652	4.3	LOS A	5.6	38.9	0.75	0.84	0.90	20.9
2	T1	22	0	23	0.0	0.652	4.3	LOS A	5.6	38.9	0.75	0.84	0.90	14.7
3	R2	254	0	267	0.0	0.652	4.3	LOS A	5.6	38.9	0.75	0.84	0.90	21.4
Approach		569	0	599	0.0	0.652	4.3	LOS A	5.6	38.9	0.75	0.84	0.90	20.8
East: Stocklands Drive														
4	L2	314	4	331	1.3	0.315	6.8	LOS A	2.2	15.5	0.60	0.64	0.60	21.2
5	T1	341	0	359	0.0	0.315	3.1	LOS A	2.2	15.5	0.62	0.55	0.62	39.0
6	R2	39	0	41	0.0	0.315	13.9	LOS A	2.1	14.5	0.62	0.52	0.62	21.5
Approach		694	4	731	0.6	0.315	5.4	LOS A	2.2	15.5	0.61	0.59	0.61	27.4
North: Sports Centre														
7	L2	37	0	39	0.0	0.145	3.0	LOS A	0.6	4.5	0.61	0.57	0.61	21.1
8	T1	18	0	19	0.0	0.145	3.0	LOS A	0.6	4.5	0.61	0.57	0.61	14.8
9	R2	48	0	51	0.0	0.145	3.0	LOS A	0.6	4.5	0.61	0.57	0.61	21.5
Approach		103	0	108	0.0	0.145	3.0	LOS A	0.6	4.5	0.61	0.57	0.61	19.8
West: Stocklands Drive														
10	L2	34	0	36	0.0	0.249	6.7	LOS A	1.6	11.5	0.56	0.41	0.56	21.6
11	T1	219	9	231	4.1	0.249	2.6	LOS A	1.6	11.5	0.56	0.41	0.56	39.5
12	R2	317	20	334	6.3	0.260	13.1	LOS A	1.8	13.0	0.55	0.73	0.55	20.8
Approach		570	29	600	5.1	0.260	8.7	LOS A	1.8	13.0	0.55	0.59	0.55	25.4
All Vehicles		1936	33	2038	1.7	0.652	5.9	LOS A	5.6	38.9	0.63	0.66	0.68	24.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [6. Roundabout 1 Stocklands Drive (Site Folder: 2032 PM Peak Development)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Shopping Centre														
1	L2	104	0	109	0.0	0.129	2.3	LOS A	0.6	4.2	0.64	0.60	0.64	21.3
2	T1	3	0	3	0.0	0.096	3.1	LOS A	0.4	2.8	0.64	0.61	0.64	14.8
3	R2	56	0	59	0.0	0.096	3.1	LOS A	0.4	2.8	0.64	0.61	0.64	21.4
Approach		163	0	172	0.0	0.129	2.6	LOS A	0.6	4.2	0.64	0.60	0.64	21.2
East: Stocklands Drive														
4	L2	53	0	56	0.0	0.471	6.4	LOS A	3.0	21.7	0.63	0.64	0.64	52.8
5	T1	782	22	823	2.8	0.471	6.6	LOS A	3.0	21.7	0.64	0.67	0.65	54.0
6	R2	49	0	52	0.0	0.471	11.7	LOS A	3.0	21.8	0.64	0.71	0.66	53.7
6u	U	31	6	33	19.4	0.471	14.6	LOS B	3.0	21.8	0.64	0.71	0.66	54.1
Approach		915	28	963	3.1	0.471	7.2	LOS A	3.0	21.8	0.64	0.67	0.65	53.9
North: A Mart														
7	L2	36	0	38	0.0	0.162	6.9	LOS A	0.7	4.6	0.61	0.85	0.61	51.1
8	T1	1	0	1	0.0	0.162	7.2	LOS A	0.7	4.6	0.61	0.85	0.61	52.4
9	R2	73	2	77	2.7	0.162	12.2	LOS A	0.7	4.6	0.61	0.85	0.61	52.4
Approach		110	2	116	1.8	0.162	10.4	LOS A	0.7	4.6	0.61	0.85	0.61	52.0
West: Stocklands Drive														
10	L2	14	1	15	7.1	0.361	5.7	LOS A	2.0	14.4	0.33	0.22	0.33	21.8
11	T1	530	21	558	4.0	0.361	1.5	LOS A	2.0	14.4	0.33	0.29	0.33	39.8
12	R2	330	0	347	0.0	0.361	12.3	LOS A	2.0	14.0	0.34	0.71	0.34	21.1
12u	U	27	2	28	7.4	0.361	7.6	LOS A	2.0	14.0	0.34	0.71	0.34	38.5
Approach		901	24	948	2.7	0.361	5.7	LOS A	2.0	14.4	0.34	0.46	0.34	29.6
All Vehicles		2089	54	2199	2.6	0.471	6.3	LOS A	3.0	21.8	0.51	0.58	0.51	36.5

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.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [7. Lake Road - Stocklands (Site Folder: 2032 PM Peak Development)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Lake Road														
1	L2	409	17	431	4.2	0.313	6.1	LOS A	2.4	17.4	0.66	0.58	0.66	54.5
2	T1	682	21	718	3.1	0.635	9.8	LOS A	8.4	60.4	1.00	1.00	1.23	53.5
3	R2	382	6	402	1.6	0.635	18.1	LOS B	7.1	50.7	1.00	1.08	1.28	43.8
Approach		1473	44	1551	3.0	0.635	10.9	LOS A	8.4	60.4	0.91	0.90	1.09	50.8
East: Stocklands Drive														
4	L2	403	9	424	2.2	0.536	4.1	LOS A	3.2	22.7	0.78	0.84	0.93	45.5
5	T1	417	11	439	2.6	0.812	9.1	LOS A	8.7	62.7	0.93	1.24	1.52	43.1
6	R2	267	10	281	3.7	0.812	14.0	LOS A	8.7	62.7	0.94	1.26	1.54	43.4
Approach		1087	30	1144	2.8	0.812	8.4	LOS A	8.7	62.7	0.87	1.10	1.30	44.0
North: Lake Drive														
7	L2	341	12	359	3.5	0.259	4.4	LOS A	1.4	10.3	0.59	0.54	0.59	45.8
8	T1	658	24	693	3.6	0.411	6.1	LOS A	2.9	21.2	0.82	0.65	0.84	54.6
9	R2	45	2	47	4.4	0.411	13.7	LOS A	2.6	18.7	0.81	0.80	0.87	54.5
9u	U	33	2	35	6.1	0.411	16.4	LOS B	2.6	18.7	0.81	0.80	0.87	56.2
Approach		1077	40	1134	3.7	0.411	6.2	LOS A	2.9	21.2	0.74	0.62	0.76	51.6
West: Frederick Street														
10	L2	55	0	58	0.0	0.597	10.9	LOS A	3.7	26.6	0.88	1.01	1.14	51.1
11	T1	271	6	285	2.2	0.597	11.1	LOS A	4.3	30.9	0.88	1.01	1.14	42.2
12	R2	359	12	378	3.3	0.597	15.2	LOS B	4.3	30.9	0.90	1.04	1.14	51.4
Approach		685	18	721	2.6	0.597	13.3	LOS A	4.3	30.9	0.89	1.03	1.14	47.4
All Vehicles		4322	132	4549	3.1	0.812	9.5	LOS A	8.7	62.7	0.85	0.90	1.07	48.5

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.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [8. Main Road - Lake Road (Site Folder: 2032 PM Peak Development)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 130 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
East: Main Road														
4a	L1	73	1	77	1.4	0.123	36.7	LOS C	3.4	23.7	0.73	0.72	0.73	36.9
5	T1	940	37	989	3.9	* 0.983	65.9	LOS E	42.4	307.1	0.97	1.06	1.23	28.8
Approach		1013	38	1066	3.8	0.983	63.8	LOS E	42.4	307.1	0.95	1.04	1.19	29.3
NorthEast: Lake Road														
24b	L3	14	1	15	7.1	0.820	77.6	LOS F	19.7	144.4	1.00	1.00	1.14	28.7
25	T1	624	32	657	5.1	0.820	59.9	LOS E	23.7	173.4	1.00	0.97	1.12	30.2
26a	R1	281	11	296	3.9	* 0.984	101.0	LOS F	25.3	183.4	1.00	1.19	1.57	22.8
Approach		919	44	967	4.8	0.984	72.8	LOS F	25.3	183.4	1.00	1.04	1.26	27.4
West: Main Road														
10a	L1	130	10	137	7.7	0.228	38.2	LOS C	6.2	46.4	0.76	0.75	0.76	36.2
11	T1	1190	56	1253	4.7	0.777	27.6	LOS B	29.8	217.3	0.80	0.72	0.80	42.6
12b	R3	198	9	208	4.5	* 1.010	119.8	LOS F	19.2	139.5	1.00	1.14	1.74	20.1
Approach		1518	75	1598	4.9	1.010	40.5	LOS C	29.8	217.3	0.82	0.77	0.92	36.6
SouthWest: Lake Road														
30b	L3	180	9	189	5.0	0.240	22.4	LOS B	6.1	44.3	0.59	0.74	0.59	43.9
31	T1	672	18	707	2.7	* 0.961	85.4	LOS F	28.8	206.3	1.00	1.17	1.45	25.0
32a	R1	174	3	183	1.7	0.840	72.8	LOS F	12.5	89.1	1.00	0.95	1.24	27.3
Approach		1026	30	1080	2.9	0.961	72.2	LOS F	28.8	206.3	0.93	1.06	1.27	27.5
All Vehicles		4476	187	4712	4.2	1.010	59.7	LOS E	42.4	307.1	0.91	0.95	1.13	30.5

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Main Road												
P2	Full	5	5	59.2	LOS E	0.0	0.0	0.95	0.95	226.2	217.2	0.96
NorthEast: Lake Road												
P6	Full	5	5	59.2	LOS E	0.0	0.0	0.95	0.95	228.8	220.5	0.96
West: Main Road												

P4	Full	5	5	59.2	LOS E	0.0	0.0	0.95	0.95	231.3	223.8	0.97
SouthWest: Lake Road												
P8	Full	5	5	59.2	LOS E	0.0	0.0	0.95	0.95	228.8	220.5	0.96
All Pedestrians		20	21	59.2	LOS E	0.0	0.0	0.95	0.95	228.8	220.5	0.96

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

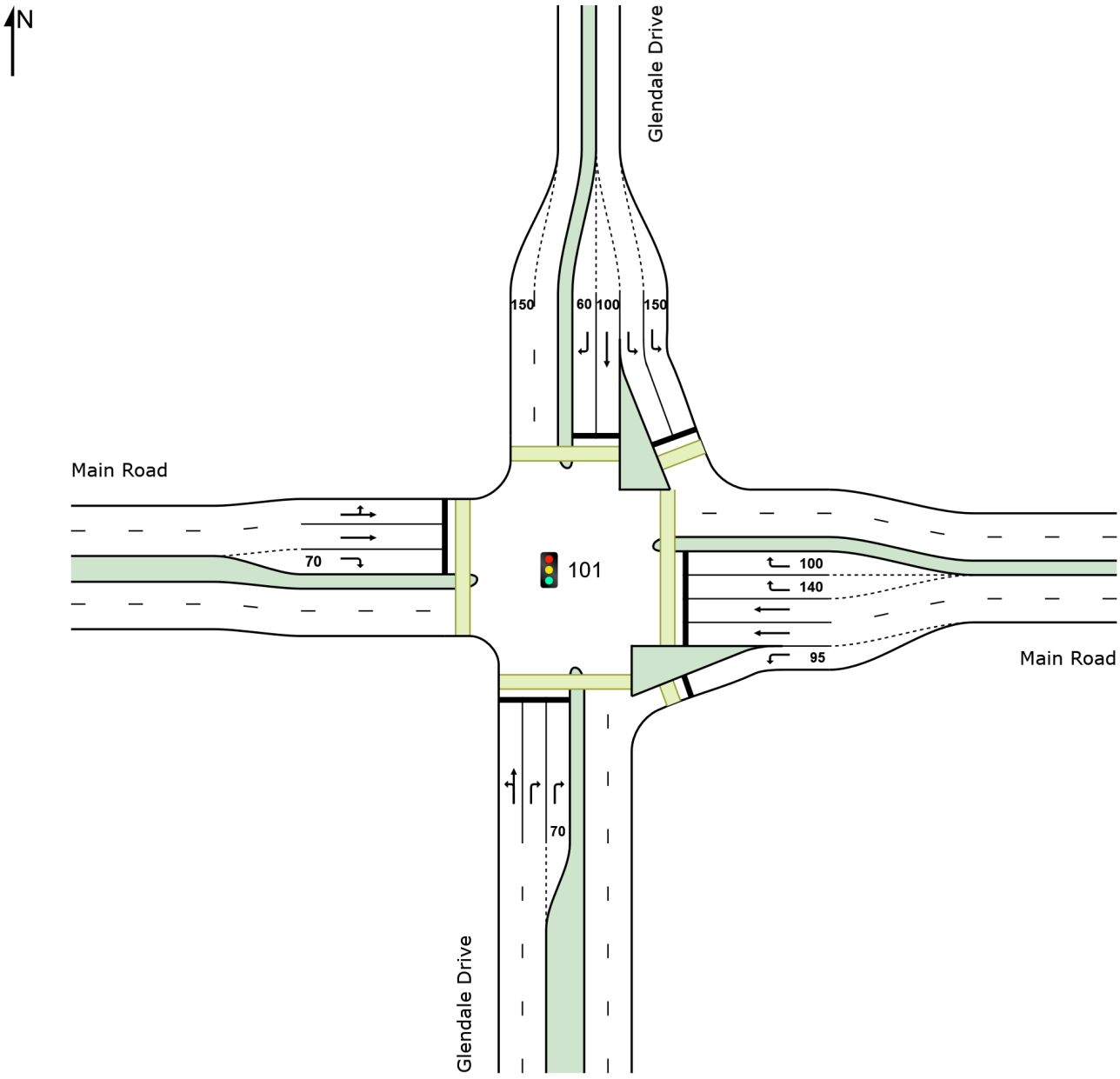
2032 AM Development + Main Road Upgrade

SITE LAYOUT

Site: 101 [3. Main Road - Glendale Drive (Site Folder: 2032 AM Peak Development Upgrade)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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

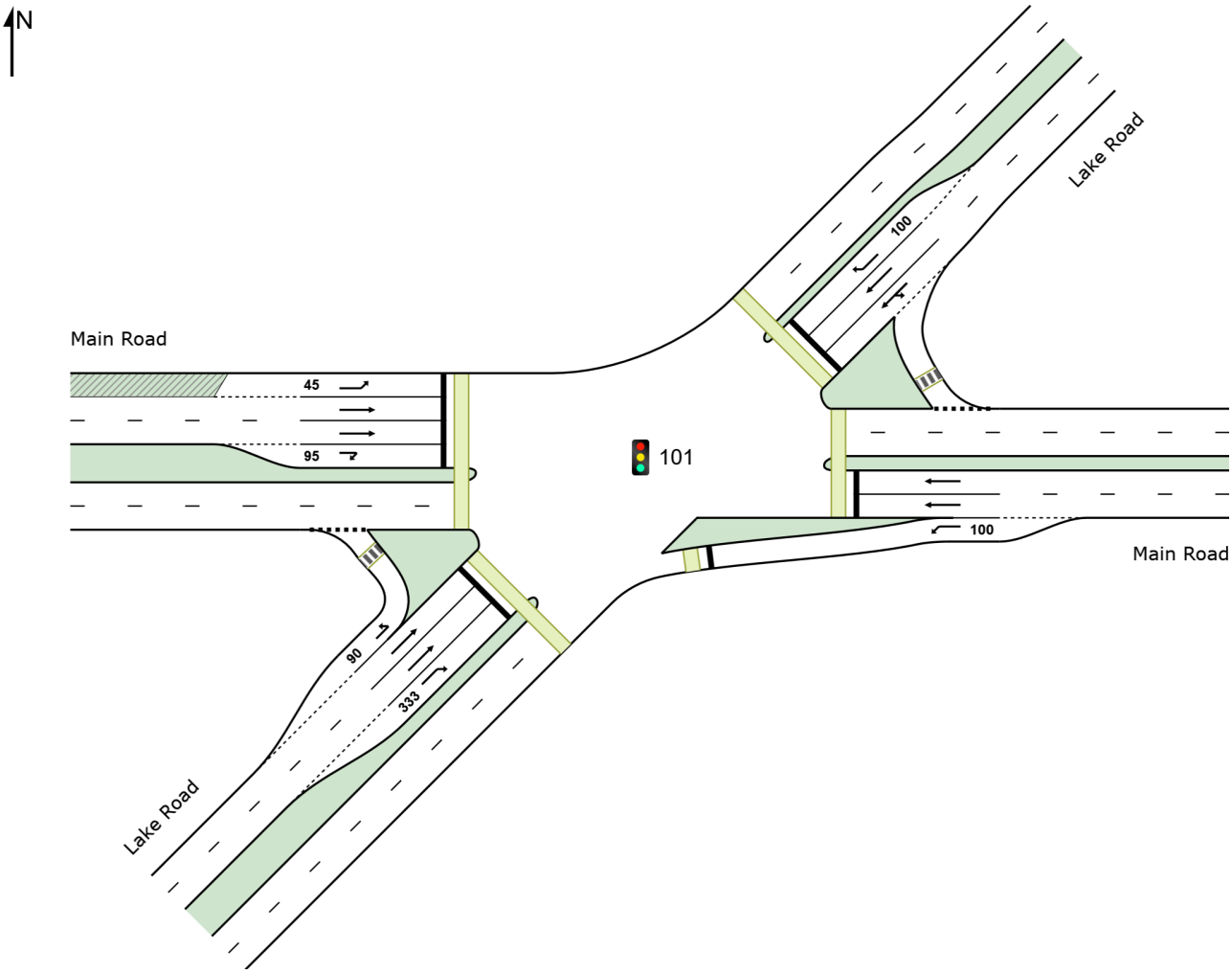


SITE LAYOUT

Site: 101 [8b. Main Road - Lake Road (Site Folder: 2032 AM Peak Development Upgrade)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



Organisation: TTPP - THE TRANSPORT PLANNING PARTNERSHIP | Licence: NETWORK / 1PC | Created: Monday, 16 December 2024 2:36:20 PM
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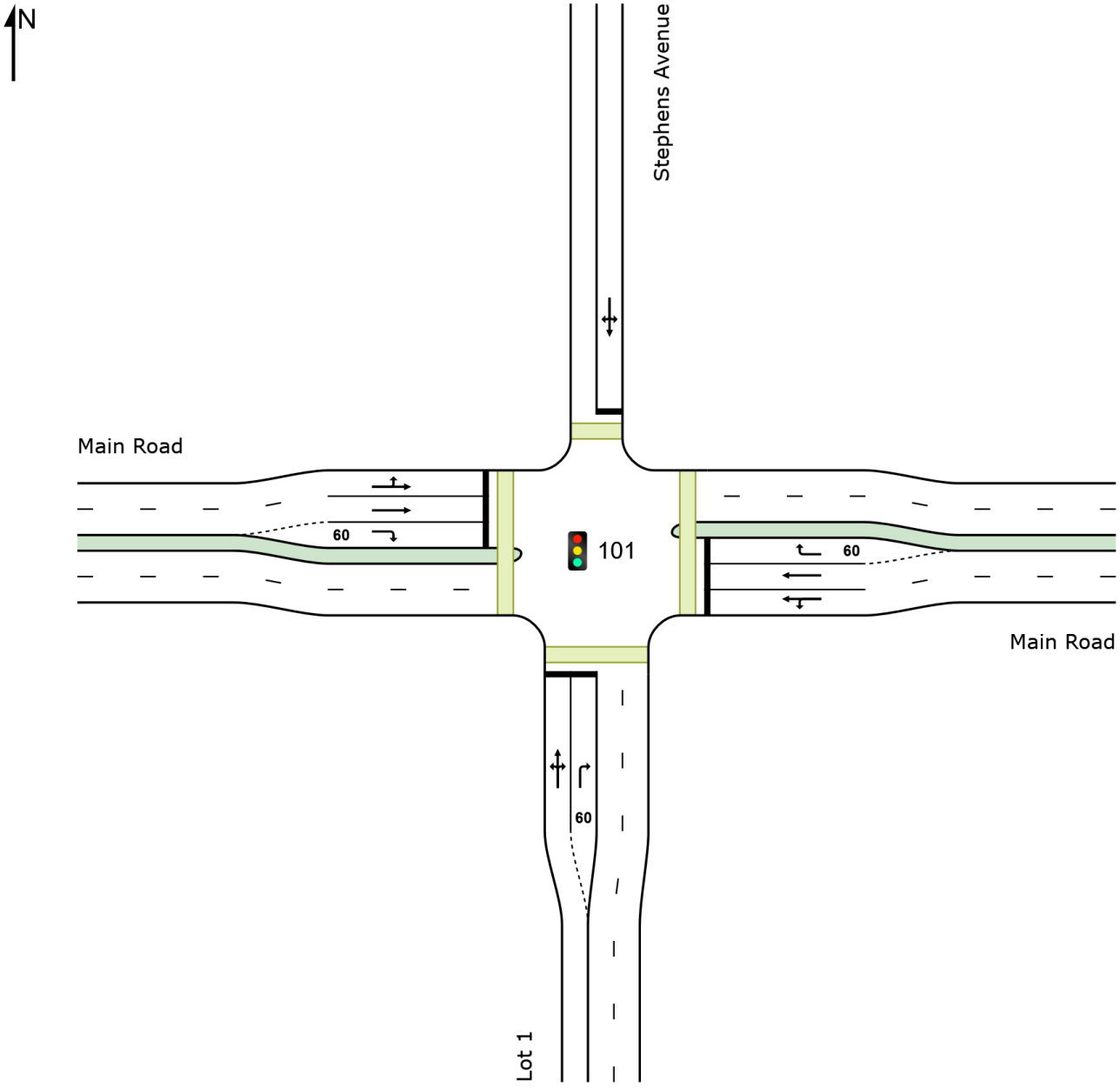
SITE LAYOUT

Site: 101 [2. Main Road - Stephens Avenue - Lot 1 (Site Folder: 2032 AM Peak Development Upgrade)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



MOVEMENT SUMMARY

Site: 101 [3. Main Road - Glendale Drive (Site Folder: 2032 AM Peak Development Upgrade)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Glendale Drive														
1	L2	17	1	18	5.9	0.423	62.3	LOS E	7.7	54.1	0.95	0.77	0.95	26.6
2	T1	99	0	104	0.0	0.423	59.2	LOS E	7.7	54.1	0.95	0.77	0.95	27.2
3	R2	204	10	215	4.9	* 0.931	92.1	LOS F	8.7	63.2	1.00	1.11	1.54	21.7
Approach		320	11	337	3.4	0.931	80.4	LOS F	8.7	63.2	0.98	0.99	1.32	23.4
East: Main Road														
4	L2	319	6	336	1.9	0.313	21.1	LOS B	11.4	80.9	0.54	0.73	0.54	38.3
5	T1	994	53	1046	5.3	0.474	17.5	LOS B	20.1	146.9	0.62	0.56	0.62	46.7
6	R2	278	23	293	8.3	* 0.976	95.2	LOS F	14.0	104.8	1.00	1.00	1.44	23.3
Approach		1591	82	1675	5.2	0.976	31.8	LOS C	20.1	146.9	0.67	0.67	0.75	38.3
North: Glendale Drive														
7	L2	376	47	396	12.5	* 0.855	79.1	LOS F	14.7	114.1	1.00	0.94	1.25	26.0
8	T1	171	2	180	1.2	0.685	66.7	LOS E	12.1	85.3	1.00	0.84	1.03	25.8
9	R2	33	4	35	12.1	0.406	79.8	LOS F	2.5	19.0	1.00	0.73	1.00	25.7
Approach		580	53	611	9.1	0.855	75.5	LOS F	14.7	114.1	1.00	0.90	1.17	25.9
West: Main Road														
10	L2	114	0	120	0.0	0.945	59.6	LOS E	76.4	549.1	1.00	1.06	1.17	31.3
11	T1	1720	61	1811	3.5	* 0.945	53.6	LOS D	76.4	549.1	1.00	1.06	1.17	31.9
12	R2	19	1	20	5.3	0.258	80.0	LOS F	1.4	10.3	1.00	0.70	1.00	23.6
Approach		1853	62	1951	3.3	0.945	54.2	LOS D	76.4	549.1	1.00	1.06	1.17	31.8
All Vehicles		4344	208	4573	4.8	0.976	50.8	LOS D	76.4	549.1	0.88	0.89	1.03	32.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Glendale Drive												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
East: Main Road												
P2	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	236.4	223.8	0.95

P2B	Slip/ Bypass	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	221.4	204.3	0.92
North: Glendale Drive												
P3	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	231.3	217.2	0.94
P3B	Slip/ Bypass	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	224.0	207.6	0.93
West: Main Road												
P4	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	234.3	221.1	0.94
All Pedestrians		300	316	64.3	LOS F	0.2	0.2	0.96	0.96	230.2	215.8	0.94

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

MOVEMENT SUMMARY

Site: 101 [8b. Main Road - Lake Road (Site Folder: 2032 AM Peak Development Upgrade)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
East: Main Road														
4a	L1	136	10	143	7.4	0.150	12.8	LOS A	2.5	18.9	0.54	0.68	0.54	48.6
5	T1	875	47	921	5.4	0.627	27.3	LOS B	23.1	169.2	0.81	0.72	0.81	41.4
Approach		1011	57	1064	5.6	0.627	25.4	LOS B	23.1	169.2	0.77	0.71	0.77	42.3
NorthEast: Lake Road														
24b	L3	5	0	5	0.0	0.882	84.4	LOS F	17.4	126.2	1.00	1.07	1.32	26.4
25	T1	532	23	560	4.3	* 0.882	69.4	LOS E	20.1	145.9	1.00	1.04	1.29	28.1
26a	R1	100	7	105	7.0	0.693	65.9	LOS E	6.4	47.6	1.00	0.84	1.11	29.0
Approach		637	30	671	4.7	0.882	69.0	LOS E	20.1	145.9	1.00	1.01	1.26	28.2
West: Main Road														
10a	L1	162	18	171	11.1	0.136	10.6	LOS A	3.1	24.1	0.34	0.64	0.34	49.7
11	T1	1619	54	1704	3.3	* 0.870	27.5	LOS B	45.0	324.3	0.84	0.82	0.91	41.4
12b	R3	86	11	91	12.8	0.658	67.7	LOS E	5.5	42.8	1.00	0.82	1.09	28.2
Approach		1867	83	1965	4.4	0.870	27.9	LOS B	45.0	324.3	0.80	0.81	0.87	41.1
SouthWest: Lake Road														
30b	L3	17	6	18	35.3	0.023	13.8	LOS A	0.3	3.0	0.39	0.63	0.39	48.1
31	T1	543	28	572	5.2	0.790	53.9	LOS D	17.0	124.3	1.00	0.92	1.11	31.8
32a	R1	133	4	140	3.0	* 0.816	68.9	LOS E	8.9	63.6	1.00	0.92	1.26	28.2
Approach		693	38	729	5.5	0.816	55.8	LOS D	17.0	124.3	0.98	0.91	1.12	31.3
All Vehicles		4208	208	4429	4.9	0.882	38.1	LOS C	45.0	324.3	0.85	0.83	0.95	36.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Main Road												
P2	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	221.2	217.2	0.98
P2B	Slip/ Bypass	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	211.3	204.3	0.97
NorthEast: Lake Road												

P6	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	223.2	219.8	0.98
West: Main Road												
P4	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	226.3	223.8	0.99
SouthWest: Lake Road												
P8	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	223.8	220.5	0.99
All Pedestrians		25	26	54.2	LOS E	0.0	0.0	0.95	0.95	221.2	217.1	0.98

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

MOVEMENT SUMMARY

Site: 101 [2. Main Road - Stephens Avenue - Lot 1 (Site Folder: 2032 AM Peak Development Upgrade)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Lot 1														
1	L2	37	0	39	0.0	0.623	49.1	LOS D	8.3	57.8	0.99	0.82	1.00	30.6
2	T1	1	0	1	0.0	*0.623	44.5	LOS D	8.3	57.8	0.99	0.82	1.00	26.2
3	R2	292	0	307	0.0	0.623	49.1	LOS D	8.3	57.8	0.99	0.82	1.00	31.1
Approach		330	0	347	0.0	0.623	49.1	LOS D	8.3	57.8	0.99	0.82	1.00	31.0
East: Main Road														
4	L2	91	0	96	0.0	0.591	23.3	LOS C	19.4	141.0	0.75	0.69	0.75	44.9
5	T1	988	55	1040	5.6	0.591	17.6	LOS B	19.4	141.0	0.74	0.67	0.74	46.0
6	R2	9	0	9	0.0	0.097	47.1	LOS D	0.4	3.0	0.88	0.70	0.88	28.7
Approach		1088	55	1145	5.1	0.591	18.3	LOS B	19.4	141.0	0.74	0.68	0.74	45.7
North: Stephens Avenue														
7	L2	14	2	15	14.3	0.267	46.2	LOS D	3.4	24.1	0.93	0.72	0.93	29.1
8	T1	57	0	60	0.0	*0.267	41.5	LOS D	3.4	24.1	0.93	0.72	0.93	28.1
9	R2	1	0	1	0.0	0.267	46.1	LOS D	3.4	24.1	0.93	0.72	0.93	28.8
Approach		72	2	76	2.8	0.267	42.5	LOS D	3.4	24.1	0.93	0.72	0.93	28.3
West: Main Road														
10	L2	1	0	1	0.0	0.826	30.2	LOS C	35.4	257.6	0.91	0.87	0.96	37.3
11	T1	1483	71	1561	4.8	*0.826	24.4	LOS C	35.4	257.6	0.89	0.85	0.94	42.5
12	R2	26	0	27	0.0	0.160	34.0	LOS C	1.0	7.2	0.76	0.73	0.76	37.4
Approach		1510	71	1589	4.7	0.826	24.6	LOS C	35.4	257.6	0.88	0.85	0.94	42.4
All Vehicles		3000	128	3158	4.3	0.826	25.4	LOS C	35.4	257.6	0.84	0.78	0.87	41.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Lot 1												
P1	Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	209.8	215.2	1.03
East: Main Road												
P2	Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	213.9	220.5	1.03
North: Stephens Avenue												

P3	Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	204.7	208.6	1.02
West: Main Road												
P4	Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	213.9	220.5	1.03
All Pedestrians		200	211	44.3	LOS E	0.1	0.1	0.94	0.94	210.6	216.2	1.03

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

2032 PM Development + Main Road Upgrade

MOVEMENT SUMMARY

Site: 101 [3a. Main Road - Glendale Drive (Site Folder: 2032 PM Peak Development Upgrade)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Glendale Drive														
1	L2	120	0	126	0.0	0.776	58.7	LOS E	23.7	165.9	1.00	0.89	1.04	27.2
2	T1	223	0	235	0.0	0.776	55.8	LOS D	23.7	165.9	1.00	0.89	1.04	27.7
3	R2	513	7	540	1.4	* 0.934	87.2	LOS F	22.1	156.3	1.00	1.10	1.39	22.3
Approach		856	7	901	0.8	0.934	75.0	LOS F	23.7	165.9	1.00	1.01	1.25	24.2
East: Main Road														
4	L2	524	10	552	1.9	0.775	32.9	LOS C	26.9	191.5	0.78	0.82	0.78	34.1
5	T1	1389	39	1462	2.8	* 0.951	61.2	LOS E	64.3	461.1	0.90	1.02	1.16	30.0
6	R2	357	18	376	5.0	0.938	85.3	LOS F	16.8	122.4	1.00	0.96	1.31	24.9
Approach		2270	67	2389	3.0	0.951	58.4	LOS E	64.3	461.1	0.89	0.97	1.10	29.9
North: Glendale Drive														
7	L2	418	34	440	8.1	* 0.923	89.1	LOS F	17.7	132.7	1.00	1.01	1.40	24.3
8	T1	94	2	99	2.1	0.379	63.0	LOS E	6.3	44.6	0.96	0.77	0.96	26.5
9	R2	20	1	21	5.0	0.235	78.3	LOS F	1.5	10.7	0.99	0.71	0.99	26.0
Approach		532	37	560	7.0	0.923	84.1	LOS F	17.7	132.7	0.99	0.96	1.30	24.7
West: Main Road														
10	L2	107	2	113	1.9	0.934	67.8	LOS E	58.4	421.7	1.00	1.06	1.20	29.3
11	T1	1269	52	1336	4.1	0.934	61.6	LOS E	58.4	421.7	1.00	1.07	1.20	29.8
12	R2	43	2	45	4.7	* 0.581	82.1	LOS F	3.3	23.9	1.00	0.76	1.06	23.3
Approach		1419	56	1494	3.9	0.934	62.7	LOS E	58.4	421.7	1.00	1.06	1.20	29.5
All Vehicles		5077	167	5344	3.3	0.951	65.1	LOS E	64.3	461.1	0.95	1.00	1.17	28.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Glendale Drive												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
East: Main Road												
P2	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	236.4	223.8	0.95

P2B	Slip/ Bypass	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	221.4	204.3	0.92
North: Glendale Drive												
P3	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	231.3	217.2	0.94
P3B	Slip/ Bypass	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	224.0	207.6	0.93
West: Main Road												
P4	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	234.3	221.1	0.94
All Pedestrians		300	316	64.3	LOS F	0.2	0.2	0.96	0.96	230.2	215.8	0.94

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

MOVEMENT SUMMARY

Site: 101 [8. Main Road - Lake Road (Site Folder: 2032 PM Peak Development Upgrade)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
East: Main Road														
4a	L1	73	1	77	1.4	0.129	40.8	LOS C	3.7	26.2	0.75	0.72	0.75	35.4
5	T1	940	37	989	3.9	* 0.926	58.6	LOS E	43.9	317.9	0.98	0.97	1.11	30.6
Approach		1013	38	1066	3.8	0.926	57.3	LOS E	43.9	317.9	0.96	0.95	1.08	30.9
NorthEast: Lake Road														
24b	L3	14	1	15	7.1	0.786	72.8	LOS F	20.1	147.1	0.99	0.96	1.08	28.7
25	T1	624	32	657	5.1	0.786	59.9	LOS E	24.5	179.0	1.00	0.93	1.06	30.2
26a	R1	281	11	296	3.9	* 0.927	85.1	LOS F	23.9	172.7	1.00	1.06	1.35	25.2
Approach		919	44	967	4.8	0.927	67.9	LOS E	24.5	179.0	1.00	0.97	1.15	28.5
West: Main Road														
10a	L1	130	10	137	7.7	0.240	42.5	LOS D	6.9	51.2	0.78	0.76	0.78	34.7
11	T1	1190	56	1253	4.7	0.795	27.9	LOS B	32.6	237.7	0.81	0.73	0.81	41.2
12b	R3	198	9	208	4.5	* 0.924	91.1	LOS F	17.0	123.6	1.00	1.00	1.41	24.0
Approach		1518	75	1598	4.9	0.924	37.4	LOS C	32.6	237.7	0.83	0.77	0.89	37.1
SouthWest: Lake Road														
30b	L3	180	9	189	5.0	0.248	26.6	LOS B	7.1	51.5	0.63	0.75	0.63	41.8
31	T1	672	18	707	2.7	* 0.938	81.5	LOS F	29.6	211.6	1.00	1.11	1.35	25.7
32a	R1	174	3	183	1.7	0.798	74.2	LOS F	13.0	92.7	1.00	0.91	1.16	27.1
Approach		1026	30	1080	2.9	0.938	70.6	LOS F	29.6	211.6	0.93	1.01	1.19	27.8
All Vehicles		4476	187	4712	4.2	0.938	55.8	LOS D	43.9	317.9	0.92	0.91	1.06	31.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Main Road												
P2	Full	5	5	64.1	LOS F	0.0	0.0	0.96	0.96	231.2	217.2	0.94
NorthEast: Lake Road												
P6	Full	5	5	64.1	LOS F	0.0	0.0	0.96	0.96	233.8	220.5	0.94
West: Main Road												

P4	Full	5	5	64.1	LOS F	0.0	0.0	0.96	0.96	236.3	223.8	0.95
SouthWest: Lake Road												
P8	Full	5	5	64.1	LOS F	0.0	0.0	0.96	0.96	233.8	220.5	0.94
All Pedestrians		20	21	64.1	LOS F	0.0	0.0	0.96	0.96	233.8	220.5	0.94

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

MOVEMENT SUMMARY

Site: 101 [2. Main Road - Stephens Avenue - Lot 1 (Site Folder: 2032 PM Peak Development Upgrade)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Lot 1														
1	L2	19	0	20	0.0	0.179	45.4	LOS D	2.2	15.2	0.91	0.73	0.91	31.6
2	T1	1	0	1	0.0	0.179	40.8	LOS D	2.2	15.2	0.91	0.73	0.91	27.2
3	R2	111	0	117	0.0	*0.316	47.9	LOS D	3.9	27.6	0.93	0.76	0.93	31.9
Approach		131	0	138	0.0	0.316	47.5	LOS D	3.9	27.6	0.93	0.75	0.93	31.8
East: Main Road														
4	L2	151	0	159	0.0	0.694	24.7	LOS C	24.3	175.5	0.81	0.76	0.81	44.0
5	T1	1080	55	1137	5.1	0.694	18.7	LOS B	24.3	175.5	0.79	0.72	0.79	45.2
6	R2	33	0	35	0.0	0.367	53.3	LOS D	1.7	12.0	0.96	0.75	0.96	26.9
Approach		1264	55	1331	4.4	0.694	20.4	LOS C	24.3	175.5	0.79	0.73	0.79	44.5
North: Stephens Avenue														
7	L2	1	1	1	100.0	0.359	54.5	LOS D	4.7	33.1	0.94	0.74	0.94	27.8
8	T1	97	0	102	0.0	*0.359	42.2	LOS D	4.7	33.1	0.94	0.74	0.94	28.1
9	R2	1	0	1	0.0	0.359	46.8	LOS D	4.7	33.1	0.94	0.74	0.94	28.8
Approach		99	1	104	1.0	0.359	42.4	LOS D	4.7	33.1	0.94	0.74	0.94	28.1
West: Main Road														
10	L2	1	0	1	0.0	0.550	22.8	LOS C	17.5	128.4	0.72	0.65	0.72	41.7
11	T1	1330	71	1400	5.3	*0.990	52.6	LOS D	61.3	449.0	0.87	1.04	1.19	32.5
12	R2	43	0	45	0.0	0.336	40.4	LOS D	1.9	13.5	0.85	0.77	0.85	35.0
Approach		1374	71	1446	5.2	0.990	52.2	LOS D	61.3	449.0	0.87	1.03	1.18	32.6
All Vehicles		2868	127	3019	4.4	0.990	37.6	LOS D	61.3	449.0	0.84	0.88	0.99	36.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Lot 1												
P1	Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	209.8	215.2	1.03
East: Main Road												
P2	Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	213.9	220.5	1.03
North: Stephens Avenue												

P3	Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	204.7	208.6	1.02
West: Main Road												
P4	Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	213.9	220.5	1.03
All Pedestrians		200	211	44.3	LOS E	0.1	0.1	0.94	0.94	210.6	216.2	1.03

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

2042 AM Do Minimum

MOVEMENT SUMMARY

Site: 101 [8b. Main Road - Lake Road (Site Folder: 2042 AM Peak)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
East: Main Road														
4a	L1	113	10	119	8.8	0.126	12.5	LOS A	2.0	15.3	0.54	0.67	0.54	48.7
5	T1	705	47	742	6.7	0.616	33.2	LOS C	19.8	146.6	0.86	0.75	0.86	38.9
Approach		818	57	861	7.0	0.616	30.3	LOS C	19.8	146.6	0.81	0.74	0.81	40.0
NorthEast: Lake Road														
24b	L3	5	0	5	0.0	0.920	250.9	LOS F	20.3	147.2	1.00	1.15	1.42	23.8
25	T1	532	23	560	4.3	* 0.920	80.1	LOS F	21.3	154.5	1.00	1.11	1.40	25.9
26a	R1	100	7	105	7.0	0.630	63.8	LOS E	6.3	46.5	1.00	0.81	1.05	29.5
Approach		637	30	671	4.7	0.920	78.9	LOS F	21.3	154.5	1.00	1.07	1.34	26.4
West: Main Road														
10a	L1	344	18	362	5.2	0.302	14.2	LOS A	9.0	66.1	0.47	0.70	0.47	47.5
11	T1	1441	54	1517	3.7	* 0.955	124.0	LOS F	61.7	445.9	0.90	1.07	1.22	30.7
12b	R3	85	11	89	12.9	0.597	65.6	LOS E	5.3	41.3	1.00	0.80	1.03	28.6
Approach		1870	83	1968	4.4	0.955	101.1	LOS F	61.7	445.9	0.83	0.99	1.07	32.7
SouthWest: Lake Road														
30b	L3	58	6	61	10.3	0.063	12.4	LOS A	1.0	8.0	0.37	0.66	0.37	49.6
31	T1	574	28	604	4.9	0.639	43.5	LOS D	15.9	116.0	0.95	0.81	0.95	35.0
32a	R1	280	4	295	1.4	* 0.934	77.9	LOS F	21.1	149.4	1.00	1.08	1.43	26.3
Approach		912	38	960	4.2	0.934	52.1	LOS D	21.1	149.4	0.93	0.88	1.06	32.4
All Vehicles		4237	208	4460	4.9	0.955	73.6	LOS F	61.7	445.9	0.87	0.93	1.06	32.6

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Main Road												
P2	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	221.2	217.2	0.98
P2B	Slip/ Bypass	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	211.3	204.3	0.97
NorthEast: Lake Road												

P6	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	223.2	219.8	0.98
West: Main Road												
P4	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	226.3	223.8	0.99
SouthWest: Lake Road												
P8	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	223.8	220.5	0.99
All Pedestrians		25	26	54.2	LOS E	0.0	0.0	0.95	0.95	221.2	217.1	0.98

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

MOVEMENT SUMMARY

Site: 101 [3. Main Road - Glendale Drive (Site Folder: 2042 AM Peak)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Glendale Drive														
1	L2	10	1	11	10.0	0.235	54.0	LOS D	3.5	25.0	0.92	0.71	0.92	28.6
2	T1	54	0	57	0.0	0.235	49.5	LOS D	3.5	25.0	0.92	0.71	0.92	29.3
3	R2	151	10	159	6.6	* 0.896	77.5	LOS F	5.4	40.0	1.00	1.05	1.55	23.7
Approach		215	11	226	5.1	0.896	69.4	LOS E	5.4	40.0	0.98	0.95	1.36	25.1
East: Main Road														
4	L2	204	6	215	2.9	0.215	20.2	LOS B	6.3	45.2	0.54	0.71	0.54	38.7
5	T1	779	53	820	6.8	0.503	17.4	LOS B	18.5	137.2	0.63	0.56	0.63	47.1
6	R2	353	23	372	6.5	* 0.910	71.8	LOS F	13.9	102.6	1.00	0.95	1.30	27.4
Approach		1336	82	1406	6.1	0.910	32.2	LOS C	18.5	137.2	0.72	0.69	0.80	38.5
North: Glendale Drive														
7	L2	323	47	340	14.6	* 0.674	60.0	LOS E	9.8	77.3	1.00	0.84	1.04	30.0
8	T1	92	2	97	2.2	0.336	52.8	LOS D	5.2	36.8	0.94	0.76	0.94	28.6
9	R2	33	4	35	12.1	0.406	69.9	LOS E	2.1	16.4	1.00	0.73	1.00	27.6
Approach		448	53	472	11.8	0.674	59.2	LOS E	9.8	77.3	0.99	0.81	1.02	29.5
West: Main Road														
10	L2	33	0	35	0.0	0.933	57.5	LOS E	58.8	424.8	1.00	1.08	1.21	32.1
11	T1	1582	61	1665	3.9	* 0.933	51.5	LOS D	58.8	424.8	1.00	1.08	1.21	32.6
12	R2	4	1	4	25.0	0.053	67.5	LOS E	0.2	2.1	0.97	0.64	0.97	25.7
Approach		1619	62	1704	3.8	0.933	51.7	LOS D	58.8	424.8	1.00	1.08	1.21	32.5
All Vehicles		3618	208	3808	5.7	0.933	46.5	LOS D	58.8	424.8	0.89	0.90	1.04	33.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Glendale Drive												
P1	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	223.9	220.5	0.98
East: Main Road												
P2	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	226.4	223.8	0.99

P2B	Slip/ Bypass	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	211.4	204.3	0.97
North: Glendale Drive												
P3	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	221.3	217.2	0.98
P3B	Slip/ Bypass	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	214.0	207.6	0.97
West: Main Road												
P4	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	224.3	221.1	0.99
All Pedestrians		300	316	54.3	LOS E	0.2	0.2	0.95	0.95	220.2	215.8	0.98

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

MOVEMENT SUMMARY

Site: 101 [4. Stocklands Drive - Glendale Drive (Site Folder: 2042 AM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
SouthEast: Rail Mantenance														
21	L2	1	0	1	0.0	0.007	2.5	LOS A	0.0	0.2	0.42	0.37	0.42	38.9
22	T1	4	1	4	25.0	0.007	2.3	LOS A	0.0	0.2	0.42	0.37	0.42	39.9
23	R2	1	0	1	0.0	0.007	6.7	LOS A	0.0	0.2	0.42	0.37	0.42	40.6
Approach		6	1	6	16.7	0.007	3.0	LOS A	0.0	0.2	0.42	0.37	0.42	39.9
NorthEast: Glendale Drive														
24	L2	5	2	5	40.0	0.141	1.6	LOS A	0.7	5.3	0.10	0.49	0.10	38.2
26	R2	412	16	434	3.9	0.141	5.4	LOS A	0.7	5.3	0.11	0.50	0.11	39.9
26u	U	14	0	15	0.0	0.141	11.4	LOS A	0.7	5.2	0.11	0.51	0.11	46.5
Approach		431	18	454	4.2	0.141	5.6	LOS A	0.7	5.3	0.11	0.50	0.11	40.1
NorthWest: Stocklands Drive														
27	L2	219	13	231	5.9	0.087	1.5	LOS A	0.3	2.6	0.07	0.26	0.07	39.9
28	T1	9	2	9	22.2	0.087	0.6	LOS A	0.3	2.6	0.07	0.28	0.07	41.2
29u	U	13	3	14	23.1	0.087	11.6	LOS A	0.3	2.6	0.07	0.28	0.07	48.6
Approach		241	18	254	7.5	0.087	2.0	LOS A	0.3	2.6	0.07	0.26	0.07	40.4
SouthWest: Glendale Drive														
30	L2	1	0	1	0.0	0.001	2.5	LOS A	0.0	0.0	0.40	0.33	0.40	39.3
Approach		1	0	1	0.0	0.001	2.5	LOS A	0.0	0.0	0.40	0.33	0.40	39.3
All Vehicles		679	37	715	5.4	0.141	4.3	LOS A	0.7	5.3	0.10	0.41	0.10	40.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [5. Roundabout 2 Stocklands Drive (Site Folder: 2042 AM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Shopping Centre														
1	L2	86	3	91	3.5	0.197	1.0	LOS A	0.9	6.6	0.38	0.26	0.38	21.3
2	T1	14	0	15	0.0	0.197	1.0	LOS A	0.9	6.6	0.38	0.26	0.38	21.5
3	R2	96	0	101	0.0	0.197	1.0	LOS A	0.9	6.6	0.38	0.26	0.38	21.8
Approach		196	3	206	1.5	0.197	1.0	LOS A	0.9	6.6	0.38	0.26	0.38	21.5
East: Stocklands Drive														
4	L2	189	4	199	2.1	0.173	6.5	LOS A	1.0	7.5	0.52	0.62	0.52	21.2
5	T1	143	2	151	1.4	0.173	2.7	LOS A	1.0	7.5	0.53	0.51	0.53	39.7
6	R2	37	2	39	5.4	0.173	7.3	LOS A	1.0	7.1	0.54	0.49	0.54	40.3
6u	U	18	1	19	5.6	0.173	13.2	LOS A	1.0	7.1	0.54	0.49	0.54	46.8
Approach		387	9	407	2.3	0.173	5.5	LOS A	1.0	7.5	0.53	0.56	0.53	28.1
North: Sports Centre														
7	L2	8	0	8	0.0	0.019	3.5	LOS A	0.1	0.5	0.50	0.59	0.50	38.1
8	T1	2	0	2	0.0	0.019	10.6	LOS A	0.1	0.5	0.50	0.59	0.50	21.4
9	R2	5	0	5	0.0	0.019	7.5	LOS A	0.1	0.5	0.50	0.59	0.50	39.5
Approach		15	0	16	0.0	0.019	5.8	LOS A	0.1	0.5	0.50	0.59	0.50	34.9
West: Stocklands Drive														
10	L2	41	0	43	0.0	0.164	2.5	LOS A	0.9	6.7	0.37	0.28	0.37	39.1
11	T1	138	16	145	11.6	0.164	1.8	LOS A	0.9	6.7	0.37	0.28	0.37	40.2
12	R2	339	21	357	6.2	0.247	12.4	LOS A	1.5	11.0	0.36	0.70	0.36	20.9
12u	U	9	1	9	11.1	0.247	12.0	LOS A	1.5	11.0	0.36	0.70	0.36	42.2
Approach		527	38	555	7.2	0.247	8.8	LOS A	1.5	11.0	0.36	0.56	0.36	25.1
All Vehicles		1125	50	1184	4.4	0.247	6.3	LOS A	1.5	11.0	0.43	0.51	0.43	25.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [6. Roundabout 1 Stocklands Drive (Site Folder: 2042 AM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Shopping Centre														
1	L2	27	0	28	0.0	0.028	1.2	LOS A	0.1	0.8	0.42	0.29	0.42	21.5
2	T1	8	0	8	0.0	0.031	1.1	LOS A	0.1	1.0	0.42	0.28	0.42	14.9
3	R2	23	4	24	17.4	0.031	1.2	LOS A	0.1	1.0	0.42	0.28	0.42	21.6
Approach		58	4	61	6.9	0.031	1.2	LOS A	0.1	1.0	0.42	0.28	0.42	20.3
East: Stocklands Drive														
4	L2	25	1	26	4.0	0.186	6.8	LOS A	0.9	7.0	0.51	0.43	0.51	21.6
5	T1	251	21	264	8.4	0.186	2.8	LOS A	0.9	7.0	0.51	0.52	0.51	39.2
6	R2	65	1	68	1.5	0.186	13.6	LOS A	0.9	6.8	0.51	0.68	0.51	21.4
6u	U	15	2	16	13.3	0.186	13.5	LOS A	0.9	6.8	0.51	0.68	0.51	44.7
Approach		356	25	375	7.0	0.186	5.5	LOS A	0.9	7.0	0.51	0.55	0.51	32.5
North: A Mart														
7	L2	46	1	48	2.2	0.165	2.8	LOS A	0.6	4.6	0.58	0.57	0.58	21.1
8	T1	14	0	15	0.0	0.165	2.8	LOS A	0.6	4.6	0.58	0.57	0.58	14.8
9	R2	60	1	63	1.7	0.165	2.8	LOS A	0.6	4.6	0.58	0.57	0.58	21.6
Approach		120	2	126	1.7	0.165	2.8	LOS A	0.6	4.6	0.58	0.57	0.58	20.3
West: Stocklands Drive														
10	L2	28	0	29	0.0	0.323	5.5	LOS A	1.7	12.8	0.29	0.22	0.29	21.8
11	T1	441	27	464	6.1	0.323	1.3	LOS A	1.7	12.8	0.29	0.27	0.29	39.9
12	R2	332	2	349	0.6	0.323	12.2	LOS A	1.7	12.4	0.30	0.72	0.30	21.1
12u	U	17	7	18	41.2	0.323	12.3	LOS A	1.7	12.4	0.30	0.72	0.30	42.3
Approach		818	36	861	4.4	0.323	6.1	LOS A	1.7	12.8	0.29	0.46	0.29	28.6
All Vehicles		1352	67	1423	5.0	0.323	5.4	LOS A	1.7	12.8	0.38	0.49	0.38	28.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [7. Lake Road - Stocklands (Site Folder: 2042 AM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Lake Road														
1	L2	483	20	508	4.1	0.293	3.8	LOS A	1.9	13.5	0.29	0.42	0.29	56.0
2	T1	781	31	822	4.0	0.426	3.8	LOS A	3.0	21.9	0.49	0.42	0.49	56.4
3	R2	386	9	406	2.3	0.426	10.6	LOS A	2.8	20.4	0.51	0.62	0.51	47.4
Approach		1650	60	1737	3.6	0.426	5.4	LOS A	3.0	21.9	0.44	0.46	0.44	53.8
East: Stocklands Drive														
4	L2	226	5	238	2.2	0.278	3.4	LOS A	1.6	11.3	0.76	0.64	0.76	45.6
5	T1	101	6	106	5.9	0.252	3.4	LOS A	1.4	10.7	0.76	0.68	0.76	45.1
6	R2	90	12	95	13.3	0.252	8.4	LOS A	1.4	10.7	0.76	0.68	0.76	45.5
Approach		417	23	439	5.5	0.278	4.5	LOS A	1.6	11.3	0.76	0.66	0.76	45.5
North: Lake Drive														
7	L2	263	13	277	4.9	0.190	4.3	LOS A	0.9	6.8	0.51	0.52	0.51	46.0
8	T1	445	24	468	5.4	0.334	7.3	LOS A	2.5	18.3	0.88	0.74	0.88	54.1
9	R2	12	0	13	0.0	0.334	14.5	LOS B	2.0	14.8	0.85	0.86	0.85	53.9
9u	U	44	1	46	2.3	0.334	17.2	LOS B	2.0	14.8	0.85	0.86	0.85	55.6
Approach		764	38	804	5.0	0.334	6.9	LOS A	2.5	18.3	0.75	0.67	0.75	51.1
West: Frederick Street														
10	L2	20	0	21	0.0	0.420	8.2	LOS A	2.1	15.5	0.76	0.89	0.89	52.9
11	T1	227	9	239	4.0	0.420	8.9	LOS A	2.1	15.5	0.76	0.89	0.89	43.6
12	R2	603	20	635	3.3	0.720	16.2	LOS B	6.0	42.9	0.87	1.10	1.29	50.5
Approach		850	29	895	3.4	0.720	14.0	LOS A	6.0	42.9	0.84	1.04	1.17	48.5
All Vehicles		3681	150	3875	4.1	0.720	7.6	LOS A	6.0	42.9	0.63	0.66	0.71	50.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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.

2042 PM Do Minimum

MOVEMENT SUMMARY

Site: 101 [8. Main Road - Lake Road (Site Folder: 2042 PM Peak)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 130 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
East: Main Road														
4a	L1	202	1	213	0.5	0.354	41.1	LOS C	10.3	72.6	0.82	0.78	0.82	35.4
5	T1	1063	37	1119	3.5	* 1.194	164.6	LOS F	86.7	624.7	1.00	1.60	1.91	15.9
Approach		1265	38	1332	3.0	1.194	144.9	LOS F	86.7	624.7	0.97	1.47	1.74	17.5
NorthEast: Lake Road														
24b	L3	64	1	67	1.6	1.185	225.7	LOS F	59.3	426.7	1.00	1.57	2.36	11.6
25	T1	922	32	971	3.5	* 1.185	225.6	LOS F	74.7	538.7	1.00	1.75	2.36	11.9
26a	R1	281	11	296	3.9	0.984	101.0	LOS F	25.3	183.4	1.00	1.19	1.57	22.8
Approach		1267	44	1334	3.5	1.185	198.0	LOS F	74.7	538.7	1.00	1.62	2.18	13.3
West: Main Road														
10a	L1	130	10	137	7.7	0.239	39.8	LOS C	6.4	47.6	0.78	0.76	0.78	35.6
11	T1	1167	56	1228	4.8	0.772	25.8	LOS B	29.8	217.3	0.77	0.69	0.77	43.4
12b	R3	295	9	311	3.1	* 1.206	262.7	LOS F	45.2	324.5	1.00	1.48	2.51	11.0
Approach		1592	75	1676	4.7	1.206	70.8	LOS F	45.2	324.5	0.81	0.84	1.09	27.7
SouthWest: Lake Road														
30b	L3	379	9	399	2.4	0.541	31.5	LOS C	17.3	123.3	0.79	0.81	0.79	39.7
31	T1	642	18	676	2.8	0.997	102.6	LOS F	30.0	215.1	1.00	1.25	1.60	22.4
32a	R1	188	3	198	1.6	* 1.237	284.7	LOS F	29.8	211.7	1.00	1.63	2.67	10.2
Approach		1209	30	1273	2.5	1.237	108.7	LOS F	30.0	215.1	0.93	1.17	1.51	21.4
All Vehicles		5333	187	5614	3.5	1.237	127.2	LOS F	86.7	624.7	0.92	1.25	1.60	18.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Main Road												
P2	Full	5	5	59.2	LOS E	0.0	0.0	0.95	0.95	226.2	217.2	0.96
NorthEast: Lake Road												
P6	Full	5	5	59.2	LOS E	0.0	0.0	0.95	0.95	228.8	220.5	0.96
West: Main Road												

P4	Full	5	5	59.2	LOS E	0.0	0.0	0.95	0.95	231.3	223.8	0.97
SouthWest: Lake Road												
P8	Full	5	5	59.2	LOS E	0.0	0.0	0.95	0.95	228.8	220.5	0.96
All Pedestrians		20	21	59.2	LOS E	0.0	0.0	0.95	0.95	228.8	220.5	0.96

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

MOVEMENT SUMMARY

Site: 101 [3a. Main Road - Glendale Drive (Site Folder: 2042 PM Peak)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Glendale Drive														
1	L2	65	0	68	0.0	0.559	53.4	LOS D	12.3	85.8	0.94	0.80	0.94	29.4
2	T1	156	0	164	0.0	0.559	46.0	LOS D	12.3	85.8	0.94	0.80	0.94	30.0
3	R2	363	7	382	1.9	* 0.963	88.0	LOS F	14.4	102.2	1.00	1.21	1.61	22.2
Approach		584	7	615	1.2	0.963	72.9	LOS F	14.4	102.2	0.98	1.06	1.36	24.6
East: Main Road														
4	L2	427	10	449	2.3	0.509	28.2	LOS B	17.8	127.3	0.74	0.80	0.74	35.7
5	T1	1233	39	1298	3.2	* 0.925	40.2	LOS C	51.8	372.5	0.88	0.90	1.00	36.9
6	R2	357	18	376	5.0	0.911	71.9	LOS F	14.0	102.6	1.00	0.95	1.30	27.4
Approach		2017	67	2123	3.3	0.925	43.3	LOS D	51.8	372.5	0.87	0.88	1.00	34.5
North: Glendale Drive														
7	L2	493	34	519	6.9	* 0.926	78.6	LOS F	18.4	136.2	1.00	1.04	1.43	26.1
8	T1	130	2	137	1.5	0.448	52.9	LOS D	7.4	52.4	0.95	0.78	0.95	28.5
9	R2	20	1	21	5.0	0.235	68.6	LOS E	1.3	9.2	0.99	0.70	0.99	28.0
Approach		643	37	677	5.8	0.926	73.1	LOS F	18.4	136.2	0.99	0.98	1.32	26.6
West: Main Road														
10	L2	64	2	67	3.1	0.910	56.4	LOS D	46.7	338.3	1.00	1.05	1.19	32.3
11	T1	1277	52	1344	4.1	0.910	50.3	LOS D	46.7	338.3	1.00	1.05	1.19	32.9
12	R2	16	2	17	12.5	* 0.196	68.5	LOS E	1.0	7.8	0.99	0.69	0.99	25.5
Approach		1357	56	1428	4.1	0.910	50.8	LOS D	46.7	338.3	1.00	1.05	1.18	32.8
All Vehicles		4601	167	4843	3.6	0.963	53.4	LOS D	51.8	372.5	0.94	0.97	1.14	31.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Glendale Drive												
P1	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	223.9	220.5	0.98
East: Main Road												
P2	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	226.4	223.8	0.99

P2B	Slip/ Bypass	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	211.4	204.3	0.97
North: Glendale Drive												
P3	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	221.3	217.2	0.98
P3B	Slip/ Bypass	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	214.0	207.6	0.97
West: Main Road												
P4	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	224.3	221.1	0.99
All Pedestrians		300	316	54.3	LOS E	0.2	0.2	0.95	0.95	220.2	215.8	0.98

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

MOVEMENT SUMMARY

Site: 101 [4. Stocklands Drive - Glendale Drive (Site Folder: 2042 PM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
SouthEast: Rail Mantenance														
21	L2	1	0	1	0.0	0.017	3.1	LOS A	0.1	0.5	0.47	0.58	0.47	37.8
22	T1	3	2	3	66.7	0.017	4.0	LOS A	0.1	0.5	0.47	0.58	0.47	38.7
23	R2	9	0	9	0.0	0.017	7.2	LOS A	0.1	0.5	0.47	0.58	0.47	39.3
Approach		13	2	14	15.4	0.017	6.2	LOS A	0.1	0.5	0.47	0.58	0.47	39.1
NorthEast: Glendale Drive														
24	L2	1	0	1	0.0	0.196	1.4	LOS A	1.1	7.5	0.02	0.52	0.02	38.3
26	R2	632	7	665	1.1	0.196	5.3	LOS A	1.1	7.5	0.02	0.52	0.02	39.9
26u	U	9	0	9	0.0	0.196	6.8	LOS A	1.1	7.5	0.02	0.52	0.02	40.9
Approach		642	7	676	1.1	0.196	5.3	LOS A	1.1	7.5	0.02	0.52	0.02	39.9
NorthWest: Stocklands Drive														
27	L2	432	9	455	2.1	0.150	1.5	LOS A	0.7	4.9	0.08	0.24	0.08	39.8
28	T1	1	0	1	0.0	0.150	0.5	LOS A	0.7	4.8	0.09	0.24	0.09	40.8
Approach		433	9	456	2.1	0.150	1.5	LOS A	0.7	4.9	0.08	0.24	0.08	39.8
SouthWest: Glendale Drive														
30	L2	1	0	1	0.0	0.001	5.4	LOS A	0.0	0.0	0.45	0.50	0.45	54.7
Approach		1	0	1	0.0	0.001	5.4	LOS A	0.0	0.0	0.45	0.50	0.45	54.7
All Vehicles		1089	18	1146	1.7	0.196	3.8	LOS A	1.1	7.5	0.05	0.41	0.05	39.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [5. Roundabout 2 Stocklands Drive) (Site Folder: 2042 PM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Shopping Centre														
1	L2	293	0	308	0.0	0.594	2.8	LOS A	4.8	33.8	0.67	0.60	0.72	21.1
2	T1	22	0	23	0.0	0.594	2.8	LOS A	4.8	33.8	0.67	0.60	0.72	14.8
3	R2	254	0	267	0.0	0.594	2.8	LOS A	4.8	33.8	0.67	0.60	0.72	21.6
Approach		569	0	599	0.0	0.594	2.8	LOS A	4.8	33.8	0.67	0.60	0.72	21.0
East: Stocklands Drive														
4	L2	318	4	335	1.3	0.262	6.7	LOS A	1.8	12.4	0.58	0.68	0.58	21.1
5	T1	220	0	232	0.0	0.262	3.0	LOS A	1.7	11.6	0.60	0.52	0.60	39.0
6	R2	39	0	41	0.0	0.262	13.8	LOS A	1.7	11.6	0.60	0.52	0.60	21.5
Approach		577	4	607	0.7	0.262	5.8	LOS A	1.8	12.4	0.59	0.61	0.59	25.7
North: Sports Centre														
7	L2	37	0	39	0.0	0.140	2.9	LOS A	0.6	4.3	0.59	0.54	0.59	21.1
8	T1	18	0	19	0.0	0.140	2.9	LOS A	0.6	4.3	0.59	0.54	0.59	14.8
9	R2	48	0	51	0.0	0.140	2.9	LOS A	0.6	4.3	0.59	0.54	0.59	21.5
Approach		103	0	108	0.0	0.140	2.9	LOS A	0.6	4.3	0.59	0.54	0.59	19.8
West: Stocklands Drive														
10	L2	34	0	36	0.0	0.191	6.7	LOS A	1.1	8.4	0.54	0.43	0.54	21.6
11	T1	154	9	162	5.8	0.191	2.6	LOS A	1.1	8.4	0.54	0.43	0.54	39.5
12	R2	317	20	334	6.3	0.258	13.1	LOS A	1.7	12.8	0.54	0.73	0.54	20.8
Approach		505	29	532	5.7	0.258	9.4	LOS A	1.7	12.8	0.54	0.62	0.54	24.3
All Vehicles		1754	33	1846	1.9	0.594	5.7	LOS A	4.8	33.8	0.60	0.60	0.62	23.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [6. Roundabout 1 Stocklands Drive (Site Folder: 2042 PM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Shopping Centre														
1	L2	104	0	109	0.0	0.121	2.1	LOS A	0.5	3.8	0.60	0.54	0.60	21.4
2	T1	3	0	3	0.0	0.088	2.8	LOS A	0.4	2.6	0.61	0.56	0.61	14.8
3	R2	56	0	59	0.0	0.088	2.8	LOS A	0.4	2.6	0.61	0.56	0.61	21.4
Approach		163	0	172	0.0	0.121	2.3	LOS A	0.5	3.8	0.60	0.55	0.60	21.2
East: Stocklands Drive														
4	L2	53	0	56	0.0	0.410	6.2	LOS A	2.5	17.9	0.60	0.62	0.60	53.0
5	T1	661	22	696	3.3	0.410	6.4	LOS A	2.5	17.9	0.61	0.65	0.61	54.1
6	R2	49	0	52	0.0	0.410	11.4	LOS A	2.4	17.5	0.61	0.68	0.61	53.8
6u	U	31	6	33	19.4	0.410	14.2	LOS A	2.4	17.5	0.61	0.68	0.61	54.2
Approach		794	28	836	3.5	0.410	7.0	LOS A	2.5	17.9	0.61	0.65	0.61	54.0
North: A Mart														
7	L2	36	0	38	0.0	0.157	6.7	LOS A	0.6	4.5	0.60	0.84	0.60	51.2
8	T1	1	0	1	0.0	0.157	7.0	LOS A	0.6	4.5	0.60	0.84	0.60	52.6
9	R2	73	2	77	2.7	0.157	12.0	LOS A	0.6	4.5	0.60	0.84	0.60	52.5
Approach		110	2	116	1.8	0.157	10.3	LOS A	0.6	4.5	0.60	0.84	0.60	52.1
West: Stocklands Drive														
10	L2	14	1	15	7.1	0.336	5.6	LOS A	1.8	13.0	0.32	0.22	0.32	21.8
11	T1	465	21	489	4.5	0.336	1.4	LOS A	1.8	13.0	0.32	0.27	0.32	39.9
12	R2	330	0	347	0.0	0.336	12.3	LOS A	1.8	12.6	0.33	0.72	0.33	21.0
12u	U	27	2	28	7.4	0.336	7.6	LOS A	1.8	12.6	0.33	0.72	0.33	38.3
Approach		836	24	880	2.9	0.336	6.0	LOS A	1.8	13.0	0.33	0.46	0.33	29.1
All Vehicles		1903	54	2003	2.8	0.410	6.3	LOS A	2.5	17.9	0.48	0.57	0.48	35.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [7. Lake Road - Stocklands (Site Folder: 2042 PM Peak)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Lake Road														
1	L2	392	17	413	4.3	0.283	5.3	LOS A	2.0	14.6	0.57	0.52	0.57	54.9
2	T1	869	21	915	2.4	0.689	9.4	LOS A	9.5	67.8	1.00	1.00	1.26	53.3
3	R2	399	6	420	1.5	0.689	17.6	LOS B	8.2	58.2	0.99	1.08	1.30	44.4
Approach		1660	44	1747	2.7	0.689	10.4	LOS A	9.5	67.8	0.90	0.91	1.11	51.1
East: Stocklands Drive														
4	L2	377	9	397	2.4	0.611	6.3	LOS A	4.0	28.5	0.89	1.02	1.14	44.4
5	T1	322	11	339	3.4	0.927	23.5	LOS B	13.7	99.1	1.00	1.73	2.51	36.9
6	R2	267	10	281	3.7	0.927	28.4	LOS B	13.7	99.1	1.00	1.73	2.51	37.3
Approach		966	30	1017	3.1	0.927	18.1	LOS B	13.7	99.1	0.96	1.45	1.98	39.6
North: Lake Drive														
7	L2	377	12	397	3.2	0.290	4.5	LOS A	1.7	12.0	0.61	0.55	0.61	45.7
8	T1	1075	24	1132	2.2	0.654	9.1	LOS A	6.7	48.1	0.92	0.99	1.21	53.8
9	R2	45	2	47	4.4	0.654	17.1	LOS B	5.7	40.5	0.91	1.06	1.24	53.3
9u	U	33	2	35	6.1	0.654	19.7	LOS B	5.7	40.5	0.91	1.06	1.24	55.0
Approach		1530	40	1611	2.6	0.654	8.4	LOS A	6.7	48.1	0.84	0.89	1.07	51.6
West: Frederick Street														
10	L2	55	0	58	0.0	0.685	14.3	LOS A	4.5	32.3	0.91	1.07	1.31	48.8
11	T1	273	6	287	2.2	0.685	14.4	LOS A	5.4	38.7	0.92	1.08	1.31	40.7
12	R2	359	12	378	3.3	0.685	18.0	LOS B	5.4	38.7	0.95	1.11	1.32	49.7
Approach		687	18	723	2.6	0.685	16.3	LOS B	5.4	38.7	0.93	1.09	1.31	45.7
All Vehicles		4843	132	5098	2.7	0.927	12.2	LOS A	13.7	99.1	0.90	1.04	1.30	47.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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.

2042 AM Development + Main Road Upgrade

MOVEMENT SUMMARY

Site: 101v [9. Lots 1 Glendale Drive (Site Folder: 2042 AM Peak Development)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
NorthEast: Glendale Drive														
25	T1	479	9	504	1.9	* 0.526	7.5	LOS A	4.9	35.0	0.78	0.66	0.78	34.5
26	R2	67	0	71	0.0	0.137	10.6	LOS A	0.7	5.1	0.70	0.68	0.70	34.4
Approach		546	9	575	1.6	0.526	7.9	LOS A	4.9	35.0	0.77	0.66	0.77	34.5
NorthWest: Lot 1														
27	L2	37	0	39	0.0	0.159	14.9	LOS B	0.8	5.6	0.86	0.71	0.86	32.5
29	R2	21	0	22	0.0	* 0.159	14.9	LOS B	0.8	5.6	0.86	0.71	0.86	33.5
Approach		58	0	61	0.0	0.159	14.9	LOS B	0.8	5.6	0.86	0.71	0.86	32.9
SouthWest: Glendale Drive														
30	L2	14	0	15	0.0	0.199	10.0	LOS A	1.6	11.3	0.69	0.56	0.69	36.8
31	T1	283	13	298	4.6	0.199	6.6	LOS A	1.6	11.3	0.69	0.56	0.69	35.0
Approach		297	13	313	4.4	0.199	6.7	LOS A	1.6	11.3	0.69	0.56	0.69	35.1
All Vehicles		901	22	948	2.4	0.526	8.0	LOS A	4.9	35.0	0.75	0.63	0.75	34.5

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
NorthEast: Glendale Drive												
P6	Full	50	53	9.6	LOS A	0.0	0.0	0.80	0.80	181.5	223.5	1.23
NorthWest: Lot 1												
P7	Full	50	53	9.6	LOS A	0.0	0.0	0.80	0.80	172.7	212.0	1.23
SouthWest: Glendale Drive												
P8	Full	50	53	9.6	LOS A	0.0	0.0	0.80	0.80	178.9	220.0	1.23
All Pedestrians		0	158	9.6	LOS A	0.0	0.0	0.80	0.80	177.7	218.5	1.23

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

MOVEMENT SUMMARY

Site: 101 [2. Main Road - Stephens Avenue (Site Folder: 2042 AM Peak Development)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Lot 1														
1	L2	37	0	39	0.0	0.623	49.1	LOS D	8.3	57.8	0.99	0.82	1.00	30.6
2	T1	1	0	1	0.0	*0.623	44.5	LOS D	8.3	57.8	0.99	0.82	1.00	26.2
3	R2	292	0	307	0.0	0.623	49.1	LOS D	8.3	57.8	0.99	0.82	1.00	31.1
Approach		330	0	347	0.0	0.623	49.1	LOS D	8.3	57.8	0.99	0.82	1.00	31.0
East: Main Road														
4	L2	91	0	96	0.0	0.529	22.5	LOS C	16.5	120.6	0.71	0.67	0.71	45.3
5	T1	870	55	916	6.3	0.529	16.8	LOS B	16.5	120.6	0.71	0.64	0.71	46.4
6	R2	9	0	9	0.0	0.104	49.2	LOS D	0.4	3.1	0.90	0.70	0.90	28.1
Approach		970	55	1021	5.7	0.529	17.7	LOS B	16.5	120.6	0.71	0.65	0.71	46.1
North: Stephens Avenue														
7	L2	14	2	15	14.3	0.134	45.2	LOS D	1.6	11.7	0.90	0.69	0.90	29.2
8	T1	57	0	60	0.0	*0.134	40.4	LOS D	1.7	11.8	0.90	0.68	0.90	28.5
9	R2	1	0	1	0.0	0.134	44.9	LOS D	1.7	11.8	0.90	0.67	0.90	29.4
Approach		72	2	76	2.8	0.134	41.4	LOS D	1.7	11.8	0.90	0.68	0.90	28.6
West: Main Road														
10	L2	1	0	1	0.0	0.862	34.3	LOS C	40.4	293.9	0.94	0.94	1.03	35.2
11	T1	1556	71	1638	4.6	*0.862	28.6	LOS C	40.4	293.9	0.92	0.92	1.02	40.4
12	R2	26	0	27	0.0	0.134	31.2	LOS C	1.0	6.7	0.72	0.72	0.72	38.6
Approach		1583	71	1666	4.5	0.862	28.7	LOS C	40.4	293.9	0.91	0.91	1.01	40.4
All Vehicles		2955	128	3111	4.3	0.862	27.7	LOS C	40.4	293.9	0.85	0.81	0.91	40.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Lot 1												
P1	Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	209.8	215.2	1.03
East: Main Road												
P2	Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	213.9	220.5	1.03
North: Stephens Avenue												

P3	Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	207.3	211.9	1.02
West: Main Road												
P4	Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	213.9	220.5	1.03
All Pedestrians		200	211	44.3	LOS E	0.1	0.1	0.94	0.94	211.2	217.0	1.03

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

MOVEMENT SUMMARY

Site: 101 [3. Main Road - Glendale Drive (Site Folder: 2042 AM Peak Development)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Glendale Drive														
1	L2	17	1	18	5.9	0.412	64.0	LOS E	6.8	48.2	0.96	0.76	0.96	26.3
2	T1	85	0	89	0.0	0.412	61.0	LOS E	6.8	48.2	0.96	0.76	0.96	26.8
3	R2	214	10	225	4.7	* 0.975	104.3	LOS F	9.8	71.0	1.00	1.19	1.67	20.2
Approach		316	11	333	3.5	0.975	90.5	LOS F	9.8	71.0	0.99	1.06	1.44	21.9
East: Main Road														
4	L2	319	6	336	1.9	0.313	21.1	LOS B	11.4	80.9	0.54	0.73	0.54	38.3
5	T1	927	53	976	5.7	0.443	17.1	LOS B	18.2	134.0	0.60	0.54	0.60	46.9
6	R2	353	23	372	6.5	* 0.995	99.1	LOS F	18.7	138.0	1.00	1.02	1.46	22.8
Approach		1599	82	1683	5.1	0.995	36.0	LOS C	18.7	138.0	0.68	0.68	0.78	36.7
North: Glendale Drive														
7	L2	328	47	345	14.3	* 0.755	72.7	LOS F	12.0	94.6	1.00	0.87	1.11	27.2
8	T1	171	2	180	1.2	0.685	66.7	LOS E	12.1	85.3	1.00	0.84	1.03	25.8
9	R2	33	4	35	12.1	0.316	76.5	LOS F	2.4	18.4	0.99	0.73	0.99	26.3
Approach		532	53	560	10.0	0.755	71.0	LOS F	12.1	94.6	1.00	0.85	1.08	26.7
West: Main Road														
10	L2	114	0	120	0.0	1.022	105.2	LOS F	104.0	746.5	1.00	1.27	1.46	22.5
11	T1	1793	61	1887	3.4	* 1.022	99.4	LOS F	104.0	746.5	1.00	1.29	1.46	22.8
12	R2	19	1	20	5.3	0.258	80.0	LOS F	1.4	10.3	1.00	0.70	1.00	23.6
Approach		1926	62	2027	3.2	1.022	99.5	LOS F	104.0	746.5	1.00	1.28	1.45	22.7
All Vehicles		4373	208	4603	4.8	1.022	72.2	LOS F	104.0	746.5	0.88	0.99	1.16	26.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Glendale Drive												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
East: Main Road												
P2	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	236.4	223.8	0.95

P2B	Slip/ Bypass	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	221.4	204.3	0.92
North: Glendale Drive												
P3	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	231.3	217.2	0.94
P3B	Slip/ Bypass	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	224.0	207.6	0.93
West: Main Road												
P4	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	234.3	221.1	0.94
All Pedestrians		300	316	64.3	LOS F	0.2	0.2	0.96	0.96	230.2	215.8	0.94

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

MOVEMENT SUMMARY

Site: 101 [4. Stocklands Drive - Glendale Drive (Site Folder: 2042 AM Peak Development)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
SouthEast: Rail Mantenance														
21	L2	3	0	3	0.0	0.029	3.0	LOS A	0.1	0.8	0.48	0.59	0.48	38.0
22	T1	4	1	4	25.0	0.029	2.9	LOS A	0.1	0.8	0.48	0.59	0.48	38.9
23	R2	16	0	17	0.0	0.029	7.2	LOS A	0.1	0.8	0.48	0.59	0.48	39.6
Approach		23	1	24	4.3	0.029	5.9	LOS A	0.1	0.8	0.48	0.59	0.48	39.3
NorthEast: Glendale Drive														
24	L2	122	2	128	1.6	0.247	1.9	LOS A	1.5	10.7	0.31	0.45	0.31	40.1
25	T1	90	0	95	0.0	0.247	4.1	LOS A	1.5	10.7	0.31	0.45	0.31	47.9
26	R2	435	16	458	3.7	0.247	5.9	LOS A	1.5	10.7	0.32	0.51	0.32	40.6
26u	U	34	0	36	0.0	0.247	11.9	LOS A	1.5	10.5	0.33	0.54	0.33	46.2
Approach		681	18	717	2.6	0.247	5.3	LOS A	1.5	10.7	0.32	0.49	0.32	41.6
NorthWest: Stocklands Drive														
27	L2	234	13	246	5.6	0.144	1.8	LOS A	0.7	4.8	0.24	0.30	0.24	39.7
28	T1	79	2	83	2.5	0.144	0.9	LOS A	0.6	4.7	0.25	0.32	0.25	41.6
29	R2	28	0	29	0.0	0.144	9.5	LOS A	0.6	4.7	0.25	0.32	0.25	48.7
29u	U	13	3	14	23.1	0.144	12.1	LOS A	0.6	4.7	0.25	0.32	0.25	49.0
Approach		354	18	373	5.1	0.144	2.6	LOS A	0.7	4.8	0.24	0.31	0.24	41.0
SouthWest: Glendale Drive														
30	L2	60	0	63	0.0	0.142	3.1	LOS A	0.6	4.1	0.49	0.54	0.49	42.0
31	T1	60	0	63	0.0	0.142	5.6	LOS A	0.6	4.1	0.49	0.54	0.49	50.7
32	R2	1	0	1	0.0	0.142	11.0	LOS A	0.6	4.1	0.49	0.54	0.49	50.9
Approach		121	0	127	0.0	0.142	4.4	LOS A	0.6	4.1	0.49	0.54	0.49	46.0
All Vehicles		1179	37	1241	3.1	0.247	4.4	LOS A	1.5	10.7	0.32	0.44	0.32	41.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [5. Roundabout 2 Stocklands Drive (Site Folder: 2042 AM Peak Development)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Shopping Centre														
1	L2	86	3	91	3.5	0.202	1.2	LOS A	0.9	6.7	0.41	0.30	0.41	21.3
2	T1	14	0	15	0.0	0.202	1.1	LOS A	0.9	6.7	0.41	0.30	0.41	21.5
3	R2	96	0	101	0.0	0.202	1.1	LOS A	0.9	6.7	0.41	0.30	0.41	21.8
Approach		196	3	206	1.5	0.202	1.2	LOS A	0.9	6.7	0.41	0.30	0.41	21.5
East: Stocklands Drive														
4	L2	189	4	199	2.1	0.190	6.5	LOS A	1.2	8.3	0.52	0.60	0.52	21.3
5	T1	198	2	208	1.0	0.190	2.7	LOS A	1.2	8.3	0.54	0.49	0.54	39.4
6	R2	37	2	39	5.4	0.190	7.4	LOS A	1.1	7.9	0.54	0.46	0.54	40.0
6u	U	4	1	4	25.0	0.190	13.7	LOS A	1.1	7.9	0.54	0.46	0.54	45.8
Approach		428	9	451	2.1	0.190	4.9	LOS A	1.2	8.3	0.53	0.54	0.53	28.8
North: Sports Centre														
7	L2	8	0	8	0.0	0.020	3.6	LOS A	0.1	0.5	0.52	0.61	0.52	38.1
8	T1	2	0	2	0.0	0.020	10.8	LOS A	0.1	0.5	0.52	0.61	0.52	21.4
9	R2	5	0	5	0.0	0.020	7.6	LOS A	0.1	0.5	0.52	0.61	0.52	39.5
Approach		15	0	16	0.0	0.020	5.9	LOS A	0.1	0.5	0.52	0.61	0.52	34.9
West: Stocklands Drive														
10	L2	41	0	43	0.0	0.242	2.4	LOS A	1.4	10.5	0.37	0.26	0.37	39.2
11	T1	251	16	264	6.4	0.242	1.7	LOS A	1.4	10.5	0.37	0.26	0.37	40.2
12	R2	339	21	357	6.2	0.245	12.3	LOS A	1.5	11.0	0.35	0.70	0.35	20.9
12u	U	9	1	9	11.1	0.245	11.9	LOS A	1.5	11.0	0.35	0.70	0.35	42.2
Approach		640	38	674	5.9	0.245	7.5	LOS A	1.5	11.0	0.36	0.50	0.36	26.9
All Vehicles		1279	50	1346	3.9	0.245	5.6	LOS A	1.5	11.0	0.43	0.48	0.43	26.5

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.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [6. Roundabout 1 Stocklands Drive (Site Folder: 2042 AM Peak Development)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Shopping Centre														
1	L2	27	0	28	0.0	0.029	1.4	LOS A	0.1	0.8	0.45	0.31	0.45	21.5
2	T1	8	0	8	0.0	0.032	1.2	LOS A	0.1	1.0	0.45	0.31	0.45	14.9
3	R2	23	4	24	17.4	0.032	1.4	LOS A	0.1	1.0	0.45	0.31	0.45	21.6
Approach		58	4	61	6.9	0.032	1.4	LOS A	0.1	1.0	0.45	0.31	0.45	20.3
East: Stocklands Drive														
4	L2	25	1	26	4.0	0.214	6.9	LOS A	1.1	8.2	0.52	0.43	0.52	21.6
5	T1	306	21	322	6.9	0.214	2.8	LOS A	1.1	8.2	0.52	0.51	0.52	39.2
6	R2	65	1	68	1.5	0.214	13.7	LOS A	1.1	7.9	0.53	0.65	0.53	21.4
6u	U	15	2	16	13.3	0.214	13.5	LOS A	1.1	7.9	0.53	0.65	0.53	44.9
Approach		411	25	433	6.1	0.214	5.2	LOS A	1.1	8.2	0.52	0.54	0.52	33.3
North: A Mart														
7	L2	46	1	48	2.2	0.173	3.2	LOS A	0.7	4.9	0.61	0.61	0.61	21.0
8	T1	14	0	15	0.0	0.173	3.1	LOS A	0.7	4.9	0.61	0.61	0.61	14.8
9	R2	60	1	63	1.7	0.173	3.1	LOS A	0.7	4.9	0.61	0.61	0.61	21.5
Approach		120	2	126	1.7	0.173	3.1	LOS A	0.7	4.9	0.61	0.61	0.61	20.3
West: Stocklands Drive														
10	L2	29	0	31	0.0	0.366	5.5	LOS A	2.1	15.1	0.30	0.22	0.30	21.8
11	T1	554	27	583	4.9	0.366	1.4	LOS A	2.1	15.1	0.30	0.30	0.30	39.8
12	R2	332	2	349	0.6	0.366	12.2	LOS A	2.1	14.8	0.31	0.70	0.31	21.1
12u	U	17	7	18	41.2	0.366	12.4	LOS A	2.1	14.8	0.31	0.70	0.31	42.7
Approach		932	36	981	3.9	0.366	5.5	LOS A	2.1	15.1	0.31	0.45	0.31	29.7
All Vehicles		1521	67	1601	4.4	0.366	5.1	LOS A	2.1	15.1	0.39	0.48	0.39	29.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [7. Lake Road - Stocklands (Site Folder: 2042 AM Peak Development)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Lake Road														
1	L2	458	20	482	4.4	0.281	3.9	LOS A	1.7	12.5	0.31	0.43	0.31	56.0
2	T1	499	31	525	6.2	0.333	3.8	LOS A	2.1	15.7	0.46	0.37	0.46	57.0
3	R2	437	9	460	2.1	0.362	10.6	LOS A	2.2	16.0	0.49	0.67	0.49	46.6
Approach		1394	60	1467	4.3	0.362	5.9	LOS A	2.2	16.0	0.42	0.48	0.42	52.9
East: Stocklands Drive														
4	L2	196	5	206	2.6	0.203	2.4	LOS A	1.0	7.2	0.63	0.45	0.63	46.0
5	T1	122	6	128	4.9	0.237	2.3	LOS A	1.2	9.1	0.66	0.54	0.66	45.7
6	R2	90	12	95	13.3	0.237	7.3	LOS A	1.2	9.1	0.66	0.54	0.66	46.1
Approach		408	23	429	5.6	0.237	3.5	LOS A	1.2	9.1	0.65	0.50	0.65	45.9
North: Lake Drive														
7	L2	263	13	277	4.9	0.194	4.5	LOS A	1.0	7.0	0.54	0.55	0.54	45.9
8	T1	468	24	493	5.1	0.290	6.0	LOS A	1.9	13.9	0.77	0.63	0.77	54.7
9	R2	12	0	13	0.0	0.290	13.2	LOS A	1.6	11.6	0.76	0.76	0.76	54.6
9u	U	44	1	46	2.3	0.290	15.9	LOS B	1.6	11.6	0.76	0.76	0.76	56.4
Approach		787	38	828	4.8	0.290	6.2	LOS A	1.9	13.9	0.69	0.61	0.69	51.6
West: Frederick Street														
10	L2	20	0	21	0.0	0.427	7.5	LOS A	2.2	16.1	0.73	0.81	0.84	53.2
11	T1	289	9	304	3.1	0.427	8.0	LOS A	2.4	17.7	0.73	0.82	0.84	43.7
12	R2	367	20	386	5.4	0.427	12.7	LOS A	2.4	17.7	0.73	0.89	0.80	52.6
Approach		676	29	712	4.3	0.427	10.5	LOS A	2.4	17.7	0.73	0.85	0.82	48.4
All Vehicles		3265	150	3437	4.6	0.427	6.6	LOS A	2.4	17.7	0.58	0.59	0.60	50.6

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.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [8b. Main Road - Lake Road (Site Folder: 2042 AM Peak Development)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
East: Main Road														
4a	L1	136	10	143	7.4	0.145	12.1	LOS A	2.4	17.9	0.53	0.67	0.53	49.0
5	T1	745	47	784	6.3	0.634	32.8	LOS C	21.0	154.7	0.86	0.75	0.86	39.0
Approach		881	57	927	6.5	0.634	29.6	LOS C	21.0	154.7	0.81	0.74	0.81	40.3
NorthEast: Lake Road														
24b	L3	5	0	5	0.0	0.964	116.5	LOS F	23.1	167.3	1.00	1.24	1.58	21.4
25	T1	532	23	560	4.3	* 0.964	95.2	LOS F	23.3	169.1	1.00	1.21	1.55	23.4
26a	R1	100	7	105	7.0	0.630	63.8	LOS E	6.3	46.5	1.00	0.81	1.05	29.5
Approach		637	30	671	4.7	0.964	90.5	LOS F	23.3	169.1	1.00	1.14	1.47	24.2
West: Main Road														
10a	L1	344	18	362	5.2	0.302	14.2	LOS A	9.0	66.1	0.47	0.70	0.47	47.5
11	T1	1481	54	1559	3.6	* 0.979	69.9	LOS E	69.1	499.1	0.92	1.16	1.32	28.0
12b	R3	86	11	91	12.8	0.658	67.7	LOS E	5.5	42.8	1.00	0.82	1.09	28.2
Approach		1911	83	2012	4.3	0.979	59.8	LOS E	69.1	499.1	0.84	1.06	1.16	30.2
SouthWest: Lake Road														
30b	L3	17	6	18	35.3	0.021	12.8	LOS A	0.3	2.8	0.36	0.63	0.36	48.7
31	T1	588	28	619	4.8	0.654	43.7	LOS D	16.4	119.2	0.95	0.81	0.95	34.9
32a	R1	298	4	314	1.3	* 0.946	80.9	LOS F	23.0	163.1	1.00	1.10	1.46	25.8
Approach		903	38	951	4.2	0.946	55.4	LOS D	23.0	163.1	0.96	0.91	1.11	31.4
All Vehicles		4332	208	4560	4.8	0.979	57.2	LOS E	69.1	499.1	0.88	0.98	1.12	30.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Main Road												
P2	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	221.2	217.2	0.98
P2B	Slip/ Bypass	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	211.3	204.3	0.97
NorthEast: Lake Road												

P6	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	223.2	219.8	0.98
West: Main Road												
P4	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	226.3	223.8	0.99
SouthWest: Lake Road												
P8	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	223.8	220.5	0.99
All Pedestrians		25	26	54.2	LOS E	0.0	0.0	0.95	0.95	221.2	217.1	0.98

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

2042 PM Development + Main Road Upgrade

MOVEMENT SUMMARY

Site: 101v [9. Lots 1 - Glendale Drive (Site Folder: 2042 PM Peak Development)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
NorthEast: Glendale Drive														
25	T1	664	9	699	1.4	* 0.727	9.6	LOS A	8.4	59.2	0.86	0.83	0.99	33.2
26	R2	66	0	69	0.0	0.206	13.5	LOS A	0.9	6.0	0.81	0.71	0.81	33.2
Approach		730	9	768	1.2	0.727	9.9	LOS A	8.4	59.2	0.86	0.82	0.98	33.2
NorthWest: Lot 1														
27	L2	17	0	18	0.0	0.077	14.6	LOS B	0.4	2.6	0.84	0.67	0.84	32.7
29	R2	11	0	12	0.0	* 0.077	14.6	LOS B	0.4	2.6	0.84	0.67	0.84	33.6
Approach		28	0	29	0.0	0.077	14.6	LOS B	0.4	2.6	0.84	0.67	0.84	33.1
SouthWest: Glendale Drive														
30	L2	24	0	25	0.0	0.532	11.2	LOS A	5.0	35.3	0.81	0.69	0.81	36.3
31	T1	783	13	824	1.7	0.532	7.8	LOS A	5.0	35.4	0.81	0.69	0.81	34.3
Approach		807	13	849	1.6	0.532	7.9	LOS A	5.0	35.4	0.81	0.69	0.81	34.3
All Vehicles		1565	22	1647	1.4	0.727	8.9	LOS A	8.4	59.2	0.83	0.75	0.89	33.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
NorthEast: Glendale Drive												
P6	Full	50	53	9.6	LOS A	0.0	0.0	0.80	0.80	181.5	223.5	1.23
NorthWest: Lot 1												
P7	Full	50	53	9.6	LOS A	0.0	0.0	0.80	0.80	172.7	212.0	1.23
SouthWest: Glendale Drive												
P8	Full	50	53	9.6	LOS A	0.0	0.0	0.80	0.80	178.9	220.0	1.23
All Pedestrians		0	158	9.6	LOS A	0.0	0.0	0.80	0.80	177.7	218.5	1.23

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

MOVEMENT SUMMARY

Site: 101 [2. Main Road - Stephens Avenue - Lot 1 (Site Folder: 2042 PM Peak Development)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Lot 1														
1	L2	19	0	20	0.0	0.247	46.0	LOS D	3.0	21.3	0.92	0.75	0.92	31.5
2	T1	1	0	1	0.0	* 0.247	41.4	LOS D	3.0	21.3	0.92	0.75	0.92	27.1
3	R2	111	0	117	0.0	0.247	45.9	LOS D	3.0	21.3	0.92	0.75	0.92	32.0
Approach		131	0	138	0.0	0.247	45.9	LOS D	3.0	21.3	0.92	0.75	0.92	31.9
East: Main Road														
4	L2	151	0	159	0.0	0.700	24.9	LOS C	25.0	181.1	0.81	0.76	0.81	43.9
5	T1	1080	55	1137	5.1	0.700	18.7	LOS B	25.0	181.1	0.79	0.72	0.79	45.2
6	R2	33	0	35	0.0	0.336	47.7	LOS D	1.6	11.3	0.91	0.76	0.91	28.6
Approach		1264	55	1331	4.4	0.700	20.2	LOS C	25.0	181.1	0.79	0.73	0.79	44.5
North: Stephens Avenue														
7	L2	1	1	1	100.0	0.180	46.2	LOS D	2.2	16.0	0.91	0.69	0.91	28.2
8	T1	97	0	102	0.0	* 0.180	40.8	LOS D	2.3	16.0	0.91	0.69	0.91	28.5
9	R2	1	0	1	0.0	0.180	45.3	LOS D	2.3	16.0	0.91	0.69	0.91	29.3
Approach		99	1	104	1.0	0.180	40.9	LOS D	2.3	16.0	0.91	0.69	0.91	28.5
West: Main Road														
10	L2	1	0	1	0.0	0.805	28.3	LOS C	32.8	239.7	0.89	0.84	0.92	38.3
11	T1	1401	71	1475	5.1	* 0.805	22.5	LOS C	32.8	239.7	0.86	0.81	0.89	43.5
12	R2	43	0	45	0.0	0.342	41.3	LOS D	2.0	13.7	0.86	0.77	0.86	34.7
Approach		1445	71	1521	4.9	0.805	23.0	LOS C	32.8	239.7	0.86	0.80	0.89	43.2
All Vehicles		2939	127	3094	4.3	0.805	23.5	LOS C	32.8	239.7	0.83	0.77	0.85	42.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Lot 1												
P1	Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	209.8	215.2	1.03
East: Main Road												
P2	Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	213.9	220.5	1.03
North: Stephens Avenue												

P3	Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	207.3	211.9	1.02
West: Main Road												
P4	Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	213.9	220.5	1.03
All Pedestrians		200	211	44.3	LOS E	0.1	0.1	0.94	0.94	211.2	217.0	1.03

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

MOVEMENT SUMMARY

Site: 101 [3a. Main Road - Glendale Drive (Site Folder: 2042 PM Peak Development)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Glendale Drive														
1	L2	66	0	69	0.0	0.669	55.8	LOS D	18.9	132.3	0.97	0.83	0.97	27.9
2	T1	223	0	235	0.0	0.669	52.9	LOS D	18.9	132.3	0.97	0.83	0.97	28.5
3	R2	513	7	540	1.4	* 1.028	128.7	LOS F	27.2	192.8	1.00	1.30	1.71	17.7
Approach		802	7	844	0.9	1.028	101.6	LOS F	27.2	192.8	0.99	1.13	1.44	20.5
East: Main Road														
4	L2	524	10	552	1.9	0.765	32.2	LOS C	26.5	188.7	0.77	0.82	0.77	34.4
5	T1	1479	39	1557	2.6	* 1.002	93.4	LOS F	86.9	621.8	1.00	1.25	1.43	23.8
6	R2	357	18	376	5.0	0.938	85.3	LOS F	16.8	122.4	1.00	0.96	1.31	24.9
Approach		2360	67	2484	2.8	1.002	78.6	LOS F	86.9	621.8	0.95	1.11	1.27	25.7
North: Glendale Drive														
7	L2	493	34	519	6.9	* 1.026	131.0	LOS F	26.2	193.9	1.00	1.17	1.71	18.9
8	T1	194	2	204	1.0	0.738	67.4	LOS E	13.9	98.3	1.00	0.87	1.07	25.7
9	R2	20	1	21	5.0	0.235	78.3	LOS F	1.5	10.7	0.99	0.71	0.99	26.0
Approach		707	37	744	5.2	1.026	112.1	LOS F	26.2	193.9	1.00	1.08	1.52	20.5
West: Main Road														
10	L2	107	2	113	1.9	0.966	80.5	LOS F	67.8	489.1	1.00	1.13	1.29	26.6
11	T1	1345	52	1416	3.9	0.966	74.3	LOS F	67.8	489.1	1.00	1.14	1.29	27.1
12	R2	43	2	45	4.7	* 0.581	82.1	LOS F	3.3	23.9	1.00	0.76	1.06	23.3
Approach		1495	56	1574	3.7	0.966	74.9	LOS F	67.8	489.1	1.00	1.13	1.29	26.9
All Vehicles		5364	167	5646	3.1	1.028	85.4	LOS F	86.9	621.8	0.98	1.11	1.33	24.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Glendale Drive												
P1	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
East: Main Road												
P2	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	236.4	223.8	0.95

P2B	Slip/ Bypass	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	221.4	204.3	0.92
North: Glendale Drive												
P3	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	231.3	217.2	0.94
P3B	Slip/ Bypass	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	224.0	207.6	0.93
West: Main Road												
P4	Full	50	53	64.3	LOS F	0.2	0.2	0.96	0.96	234.3	221.1	0.94
All Pedestrians		300	316	64.3	LOS F	0.2	0.2	0.96	0.96	230.2	215.8	0.94

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

MOVEMENT SUMMARY

Site: 101 [4. Stocklands Drive - Glendale Drive (Site Folder: 2042 PM Peak Development)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
SouthEast: Rail Mantenance														
21	L2	4	0	4	0.0	0.279	3.7	LOS A	1.2	8.4	0.57	0.67	0.57	38.0
22	T1	86	2	91	2.3	0.279	3.1	LOS A	1.2	8.4	0.57	0.67	0.57	38.9
23	R2	132	0	139	0.0	0.279	7.9	LOS A	1.2	8.4	0.57	0.67	0.57	39.5
Approach		222	2	234	0.9	0.279	5.9	LOS A	1.2	8.4	0.57	0.67	0.57	39.2
NorthEast: Glendale Drive														
24	L2	17	0	18	0.0	0.230	1.8	LOS A	1.4	10.1	0.29	0.50	0.29	38.8
25	T1	42	0	44	0.0	0.230	4.0	LOS A	1.4	10.1	0.29	0.50	0.29	45.9
26	R2	574	7	604	1.2	0.230	5.8	LOS A	1.4	10.1	0.30	0.51	0.30	39.9
26u	U	13	0	14	0.0	0.230	7.3	LOS A	1.4	9.8	0.31	0.52	0.31	40.3
Approach		646	7	680	1.1	0.230	5.6	LOS A	1.4	10.1	0.30	0.51	0.30	40.2
NorthWest: Stocklands Drive														
27	L2	571	9	601	1.6	0.286	2.2	LOS A	1.6	11.0	0.37	0.37	0.37	39.4
28	T1	77	0	81	0.0	0.286	1.3	LOS A	1.5	10.8	0.38	0.37	0.38	40.6
29	R2	28	0	29	0.0	0.286	9.9	LOS A	1.5	10.8	0.38	0.37	0.38	47.5
Approach		676	9	712	1.3	0.286	2.4	LOS A	1.6	11.0	0.38	0.37	0.38	39.8
SouthWest: Glendale Drive														
30	L2	14	0	15	0.0	0.076	6.2	LOS A	0.3	2.1	0.55	0.65	0.55	53.6
31	T1	42	0	44	0.0	0.076	6.3	LOS A	0.3	2.1	0.55	0.65	0.55	55.1
32	R2	1	0	1	0.0	0.076	11.7	LOS A	0.3	2.1	0.55	0.65	0.55	55.3
Approach		57	0	60	0.0	0.076	6.4	LOS A	0.3	2.1	0.55	0.65	0.55	54.7
All Vehicles		1601	18	1685	1.1	0.286	4.3	LOS A	1.6	11.0	0.38	0.48	0.38	40.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [5. Roundabout 2 Stocklands Drive (Site Folder: 2042 PM Peak Development)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Shopping Centre														
1	L2	293	0	308	0.0	0.652	4.3	LOS A	5.6	38.9	0.75	0.84	0.90	20.9
2	T1	22	0	23	0.0	0.652	4.3	LOS A	5.6	38.9	0.75	0.84	0.90	14.7
3	R2	254	0	267	0.0	0.652	4.3	LOS A	5.6	38.9	0.75	0.84	0.90	21.4
Approach		569	0	599	0.0	0.652	4.3	LOS A	5.6	38.9	0.75	0.84	0.90	20.8
East: Stocklands Drive														
4	L2	314	4	331	1.3	0.315	6.8	LOS A	2.2	15.5	0.60	0.64	0.60	21.2
5	T1	341	0	359	0.0	0.315	3.1	LOS A	2.2	15.5	0.62	0.55	0.62	39.0
6	R2	39	0	41	0.0	0.315	13.9	LOS A	2.1	14.5	0.62	0.52	0.62	21.5
Approach		694	4	731	0.6	0.315	5.4	LOS A	2.2	15.5	0.61	0.59	0.61	27.4
North: Sports Centre														
7	L2	37	0	39	0.0	0.145	3.0	LOS A	0.6	4.5	0.61	0.57	0.61	21.1
8	T1	18	0	19	0.0	0.145	3.0	LOS A	0.6	4.5	0.61	0.57	0.61	14.8
9	R2	48	0	51	0.0	0.145	3.0	LOS A	0.6	4.5	0.61	0.57	0.61	21.5
Approach		103	0	108	0.0	0.145	3.0	LOS A	0.6	4.5	0.61	0.57	0.61	19.8
West: Stocklands Drive														
10	L2	34	0	36	0.0	0.249	6.7	LOS A	1.6	11.5	0.56	0.41	0.56	21.6
11	T1	219	9	231	4.1	0.249	2.6	LOS A	1.6	11.5	0.56	0.41	0.56	39.5
12	R2	317	20	334	6.3	0.260	13.1	LOS A	1.8	13.0	0.55	0.73	0.55	20.8
Approach		570	29	600	5.1	0.260	8.7	LOS A	1.8	13.0	0.55	0.59	0.55	25.4
All Vehicles		1936	33	2038	1.7	0.652	5.9	LOS A	5.6	38.9	0.63	0.66	0.68	24.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [6. Roundabout 1 Stocklands Drive (Site Folder: 2042 PM Peak Development)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Shopping Centre														
1	L2	104	0	109	0.0	0.129	2.3	LOS A	0.6	4.2	0.64	0.60	0.64	21.3
2	T1	3	0	3	0.0	0.096	3.1	LOS A	0.4	2.8	0.64	0.61	0.64	14.8
3	R2	56	0	59	0.0	0.096	3.1	LOS A	0.4	2.8	0.64	0.61	0.64	21.4
Approach		163	0	172	0.0	0.129	2.6	LOS A	0.6	4.2	0.64	0.60	0.64	21.2
East: Stocklands Drive														
4	L2	53	0	56	0.0	0.471	6.4	LOS A	3.0	21.7	0.63	0.64	0.64	52.8
5	T1	782	22	823	2.8	0.471	6.6	LOS A	3.0	21.7	0.64	0.67	0.65	54.0
6	R2	49	0	52	0.0	0.471	11.7	LOS A	3.0	21.8	0.64	0.71	0.66	53.7
6u	U	31	6	33	19.4	0.471	14.6	LOS B	3.0	21.8	0.64	0.71	0.66	54.1
Approach		915	28	963	3.1	0.471	7.2	LOS A	3.0	21.8	0.64	0.67	0.65	53.9
North: A Mart														
7	L2	36	0	38	0.0	0.162	6.9	LOS A	0.7	4.6	0.61	0.85	0.61	51.1
8	T1	1	0	1	0.0	0.162	7.2	LOS A	0.7	4.6	0.61	0.85	0.61	52.4
9	R2	73	2	77	2.7	0.162	12.2	LOS A	0.7	4.6	0.61	0.85	0.61	52.4
Approach		110	2	116	1.8	0.162	10.4	LOS A	0.7	4.6	0.61	0.85	0.61	52.0
West: Stocklands Drive														
10	L2	14	1	15	7.1	0.361	5.7	LOS A	2.0	14.4	0.33	0.22	0.33	21.8
11	T1	530	21	558	4.0	0.361	1.5	LOS A	2.0	14.4	0.33	0.29	0.33	39.8
12	R2	330	0	347	0.0	0.361	12.3	LOS A	2.0	14.0	0.34	0.71	0.34	21.1
12u	U	27	2	28	7.4	0.361	7.6	LOS A	2.0	14.0	0.34	0.71	0.34	38.5
Approach		901	24	948	2.7	0.361	5.7	LOS A	2.0	14.4	0.34	0.46	0.34	29.6
All Vehicles		2089	54	2199	2.6	0.471	6.3	LOS A	3.0	21.8	0.51	0.58	0.51	36.5

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.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [7. Lake Road - Stocklands (Site Folder: 2042 PM Peak Development)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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: Lake Road														
1	L2	409	17	431	4.2	0.307	5.8	LOS A	2.3	16.7	0.63	0.56	0.63	54.7
2	T1	914	21	962	2.3	0.758	12.0	LOS A	12.3	88.0	1.00	1.08	1.41	52.0
3	R2	432	6	455	1.4	0.758	20.5	LOS B	10.4	73.9	1.00	1.16	1.47	42.9
Approach		1755	44	1847	2.5	0.758	12.7	LOS A	12.3	88.0	0.91	0.98	1.24	49.9
East: Stocklands Drive														
4	L2	403	9	424	2.2	0.710	8.0	LOS A	5.0	35.7	0.91	1.11	1.31	43.4
5	T1	417	11	439	2.6	1.076	90.8	LOS F	47.1	338.6	1.00	3.77	6.77	22.5
6	R2	267	10	281	3.7	1.076	98.7	LOS F	47.1	338.6	1.00	3.87	6.99	22.2
Approach		1087	30	1144	2.8	1.076	62.1	LOS E	47.1	338.6	0.97	2.81	4.80	27.1
North: Lake Drive														
7	L2	341	12	359	3.5	0.275	4.5	LOS A	1.6	11.6	0.65	0.55	0.65	45.6
8	T1	1112	24	1171	2.2	0.689	9.6	LOS A	7.3	51.9	0.93	1.04	1.28	53.6
9	R2	45	2	47	4.4	0.689	17.7	LOS B	6.0	43.3	0.92	1.09	1.30	52.9
9u	U	33	2	35	6.1	0.689	20.3	LOS B	6.0	43.3	0.92	1.09	1.30	54.6
Approach		1531	40	1612	2.6	0.689	8.9	LOS A	7.3	51.9	0.87	0.93	1.14	51.6
West: Frederick Street														
10	L2	55	0	58	0.0	0.638	11.2	LOS A	4.8	34.1	0.95	1.07	1.24	50.9
11	T1	311	6	327	1.9	0.638	11.7	LOS A	4.8	34.1	0.95	1.07	1.24	42.2
12	R2	359	12	378	3.3	0.949	46.4	LOS D	11.5	82.7	0.98	1.53	2.69	36.4
Approach		725	18	763	2.5	0.949	28.9	LOS C	11.5	82.7	0.97	1.30	1.96	39.5
All Vehicles		5098	132	5366	2.6	1.076	24.4	LOS B	47.1	338.6	0.92	1.40	2.07	41.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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: 101 [8. Main Road - Lake Road (Site Folder: 2042 PM Peak Development)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	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
East: Main Road														
4a	L1	213	1	224	0.5	0.392	46.0	LOS D	12.1	84.8	0.84	0.79	0.84	33.8
5	T1	1082	37	1139	3.4	* 1.155	152.6	LOS F	91.9	661.8	1.00	1.49	1.76	16.8
Approach		1295	38	1363	2.9	1.155	135.0	LOS F	91.9	661.8	0.97	1.38	1.61	18.3
NorthEast: Lake Road														
24b	L3	64	1	67	1.6	1.168	206.4	LOS F	59.5	428.2	1.00	1.48	2.20	12.0
25	T1	922	32	971	3.5	* 1.168	213.5	LOS F	74.6	538.1	1.00	1.66	2.20	12.2
26a	R1	281	11	296	3.9	0.968	98.6	LOS F	25.9	187.2	1.00	1.14	1.48	23.1
Approach		1267	44	1334	3.5	1.168	187.7	LOS F	74.6	538.1	1.00	1.53	2.04	13.6
West: Main Road														
10a	L1	130	10	137	7.7	0.251	44.2	LOS D	7.0	52.4	0.80	0.76	0.80	34.1
11	T1	1240	56	1305	4.5	0.843	32.1	LOS C	38.6	281.0	0.82	0.78	0.87	39.3
12b	R3	298	9	314	3.0	* 1.198	260.2	LOS F	46.6	334.8	1.00	1.42	2.38	11.1
Approach		1668	75	1756	4.5	1.198	73.8	LOS F	46.6	334.8	0.85	0.89	1.13	26.7
SouthWest: Lake Road														
30b	L3	380	9	400	2.4	0.525	31.8	LOS C	18.0	128.9	0.76	0.81	0.76	39.6
31	T1	672	18	707	2.7	0.952	86.0	LOS F	30.9	221.1	1.00	1.14	1.39	24.9
32a	R1	212	3	223	1.4	* 1.179	241.2	LOS F	31.5	222.9	1.00	1.54	2.33	11.7
Approach		1264	30	1331	2.4	1.179	95.7	LOS F	31.5	222.9	0.93	1.11	1.36	23.2
All Vehicles		5494	187	5783	3.4	1.198	119.6	LOS F	91.9	661.8	0.93	1.20	1.51	19.6

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

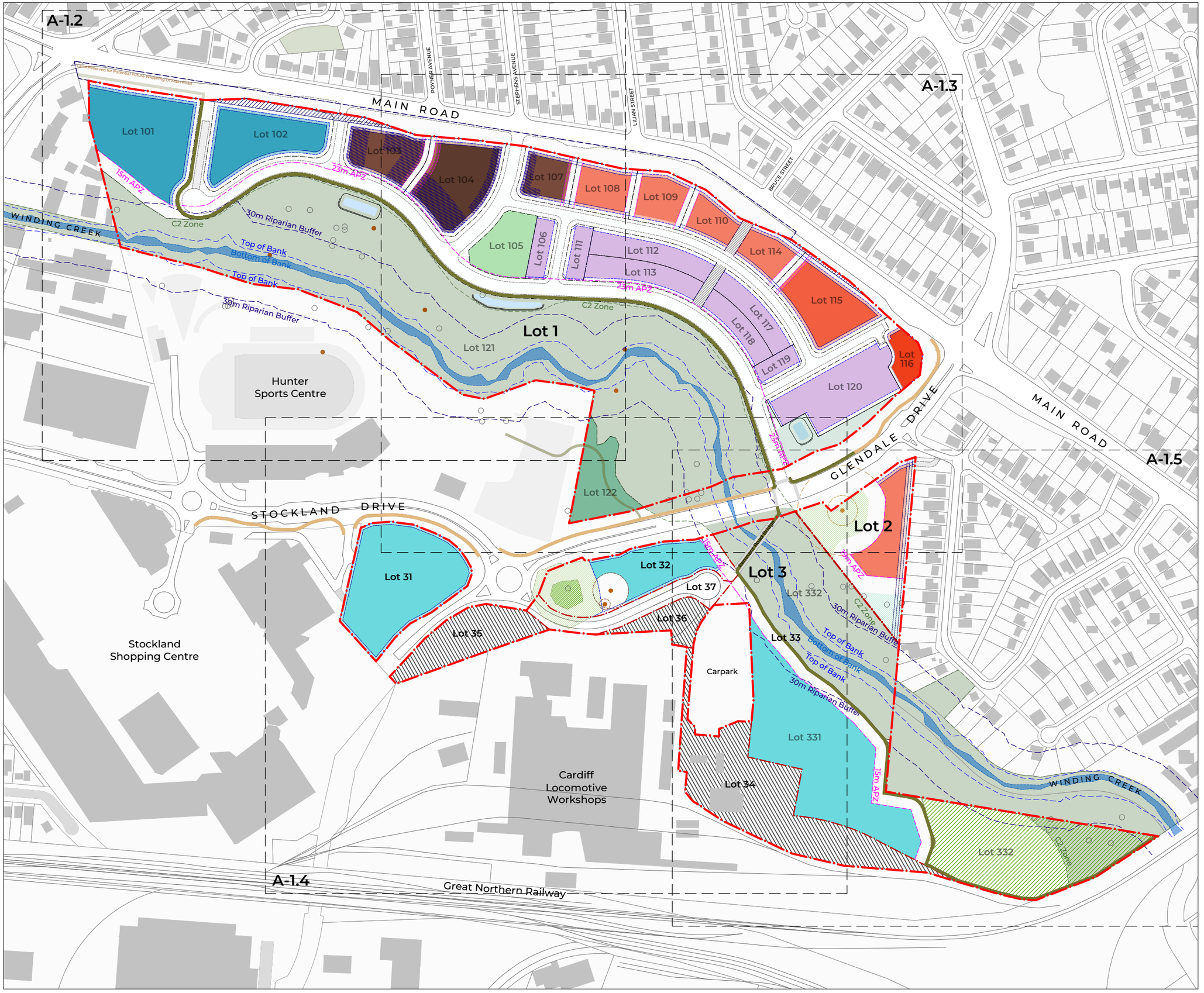
Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Main Road												
P2	Full	5	5	64.1	LOS F	0.0	0.0	0.96	0.96	231.2	217.2	0.94
NorthEast: Lake Road												
P6	Full	5	5	64.1	LOS F	0.0	0.0	0.96	0.96	233.8	220.5	0.94
West: Main Road												

P4	Full	5	5	64.1	LOS F	0.0	0.0	0.96	0.96	236.3	223.8	0.95
SouthWest: Lake Road												
P8	Full	5	5	64.1	LOS F	0.0	0.0	0.96	0.96	233.8	220.5	0.94
All Pedestrians		20	21	64.1	LOS F	0.0	0.0	0.96	0.96	233.8	220.5	0.94

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

Appendix B

Plans



DISCLAIMER

FOR LODGEMENT

ISSUE

ISSUE	DATE	REVISION	REVISION BY	APPROVED BY
P1	14.09.23	Coordination Issue 1	CT	IIP
P2	23.10.23	Coordination Issue 2	CT	IIP
P3	11.12.23	Final Draft	CT	IIP
A	19.02.24	For Lodgement	CT	IIP
B	17.12.24	Council RFI	CT	IIP

LEGEND

- Subject Site
- SixMap Cadastre
- Context Buildings
- Existing Kerbs
- Existing Cycle Path / Shared Space
- Potential Future Road Widening (DCP)
- Potential Land Resumption Subject to confirmation with TfNSW*
- C2 Zone (Lake Macquarie LEP 2014)
- Proposed Winding Creek Riparian Corridor
- Winding Creek
- Winding Creek Bottom of Bank
- Winding Creek Top of Bank
- 30m Vegetated Riparian Zone
- Existing Trees on Site

Proposed Subdivision Boundary

- Proposed Stage 1 Subdivision Boundary
- Proposed Stage 2 Subdivision Boundary
- Future Development Lots (Subject to Future Subdivision DA)
- Lots to be Retained by TAHE
- Lot xx — Stage 1 Subdivision Lot Identification Numbers
- Lot xx — Stage 2 Subdivision Lot Identification Numbers
- Lot xx — Future Subdivision Lot Identification Numbers

Existing Site Element to be Retained

- Existing Vegetation on Site to be Retained
- Re-establishment of Native Vegetation
- Retention of existing Nest Tree
- Tree Protection Zone for Nest Tree
- 50m Buffer for Nest Tree
- Reassessed AHIMS Sites
- Tree Protection Zone for Culturally Modified Trees

Planning Controls (DCP & ADG)

- DCP Street Setback
- DCP Side Setback
- DCP Upper Level Setback
- DCP Setback to Residential Zone
- ADG Building Separation
- Bushfire Asset Protection Zone

Proposed Land Use Envelope

- Commercial Premise (Max 2 Storey)
- Commercial Premise (Max 4 Storey)
- Residential Flat Building (Max 2 Storey)
- Residential Flat Building (Max 4 Storey)
- Residential Flat Building (Max 6 Storey)
- Residential Flat Building (Max 8 Storey)

Proposed Infrastructure

- Future Kerbs
- Proposed Regional Cycle Path
- Proposed Through Site Link
- Proposed Local Park
- Proposed Open Space
- Proposed Connection to the Hunter Sports Centre
- Potential Future Cycle Path / Shared Space
- Mixed Use Building (Max 2 Storey)
- Mixed Use Building (Max 4 Storey)
- Mixed Use Building (Max 6 Storey)
- Mixed Use Building (Max 8 Storey)
- Multi-Dwelling Housing (Max 4 Storey)
- Commercial on Ground Level
- Permissible Use (Max 2 Storey)
- Permissible Use (Max 4 Storey)

NOTES

* Area identified for potential future land resumption along Main Road has been provided by Northrop and is indicative only. Actual size and location of land to be acquired for the purpose of road widening is subject to future detail design by Transport for New South Wales.

1:4000 @ A3

0 20 40 100 200

DRAWING

A-1.1 /B

Glendale Concept DA Overall Envelope Plan

JOB NO.	DWG NO.	ISSUE	DATE	DRAWN BY
2210945	A-1.1	B	17.12.24	CT

PROJECT

Concept DA and First Stage of Development (being subdivision and associated work) at 65 Glendale Drive, Glendale

Ethos Urban

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ABN 13 615 087 931 ACN 615 087 931
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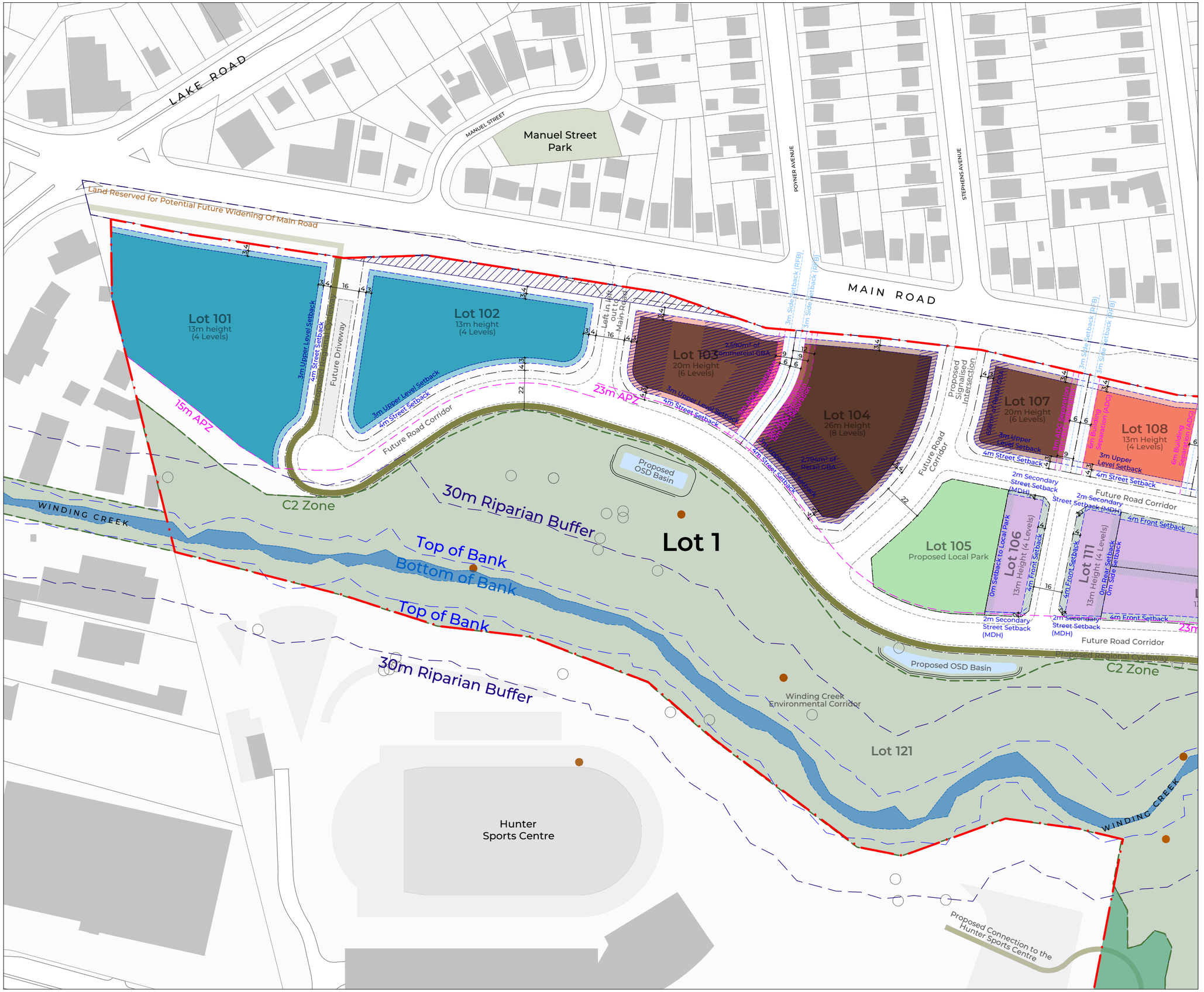

DISCLAIMER

FOR LODGEMENT

ISSUE

ISSUE	DATE	REVISION	REVISION BY	APPROVED BY
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P2	23.10.23	Coordination Issue 2	CT	IIP
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- Existing Cycle Path / Shared Space
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- Proposed Winding Creek Riparian Corridor
- Winding Creek
- Winding Creek Bottom of Bank
- Winding Creek Top of Bank
- 30m Vegetated Riparian Zone
- Existing Trees on Site

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- Lot xx — Stage 1 Subdivision Lot Identification Numbers
- Lot xx — Stage 2 Subdivision Lot Identification Numbers
- Lot xx — Future Subdivision Lot Identification Numbers

Existing Site Element to be Retained

- Existing Vegetation on Site to be Retained
- Re-establishment of Native Vegetation
- Retention of existing Nest Tree
- Tree Protection Zone for Nest Tree
- 50m Buffer for Nest Tree
- Reassessed AHIMS Sites
- Tree Protection Zone for Culturally Modified Trees

Planning Controls (DCP & ADG)

- DCP Street Setback
- DCP Side Setback
- DCP Upper Level Setback
- DCP Setback to Residential Zone
- ADG Building Separation
- Bushfire Asset Protection Zone

Proposed Land Use Envelope

- Commercial Premise (Max 2 Storey)
- Commercial Premise (Max 4 Storey)
- Residential Flat Building (Max 2 Storey)
- Residential Flat Building (Max 4 Storey)
- Residential Flat Building (Max 6 Storey)
- Residential Flat Building (Max 8 Storey)
- Mixed Use Building (Max 2 Storey)
- Mixed Use Building (Max 4 Storey)
- Mixed Use Building (Max 6 Storey)
- Mixed Use Building (Max 8 Storey)
- Multi-Dwelling Housing (Max 4 Storey)
- Commercial on Ground Level
- Permissible Use (Max 2 Storey)
- Permissible Use (Max 4 Storey)

Proposed Infrastructure

- Future Kerbs
- Proposed Regional Cycle Path
- Proposed Through Site Link
- Proposed Local Park
- Proposed Open Space
- Proposed Connection to the Hunter Sports Centre
- Potential Future Cycle Path / Shared Space

NOTES

* Area identified for potential future land resumption along Main Road has been provided by Northrop and is indicative only. Actual size and location of land to be acquired for the purpose of road widening is subject to future detail design by Transport for New South Wales.

1:2000 @ A3

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DRAWING

A-1.2 /B

Glendale Concept DA Envelope Plan - Lot 1 West

JOB NO.	DWG NO.	ISSUE	DATE	DRAWN BY
2210945	A-1.2	B	17.12.24	CT

PROJECT

Concept DA and First Stage of Development (being subdivision and associated work) at 65 Glendale Drive, Glendale

Ethos Urban

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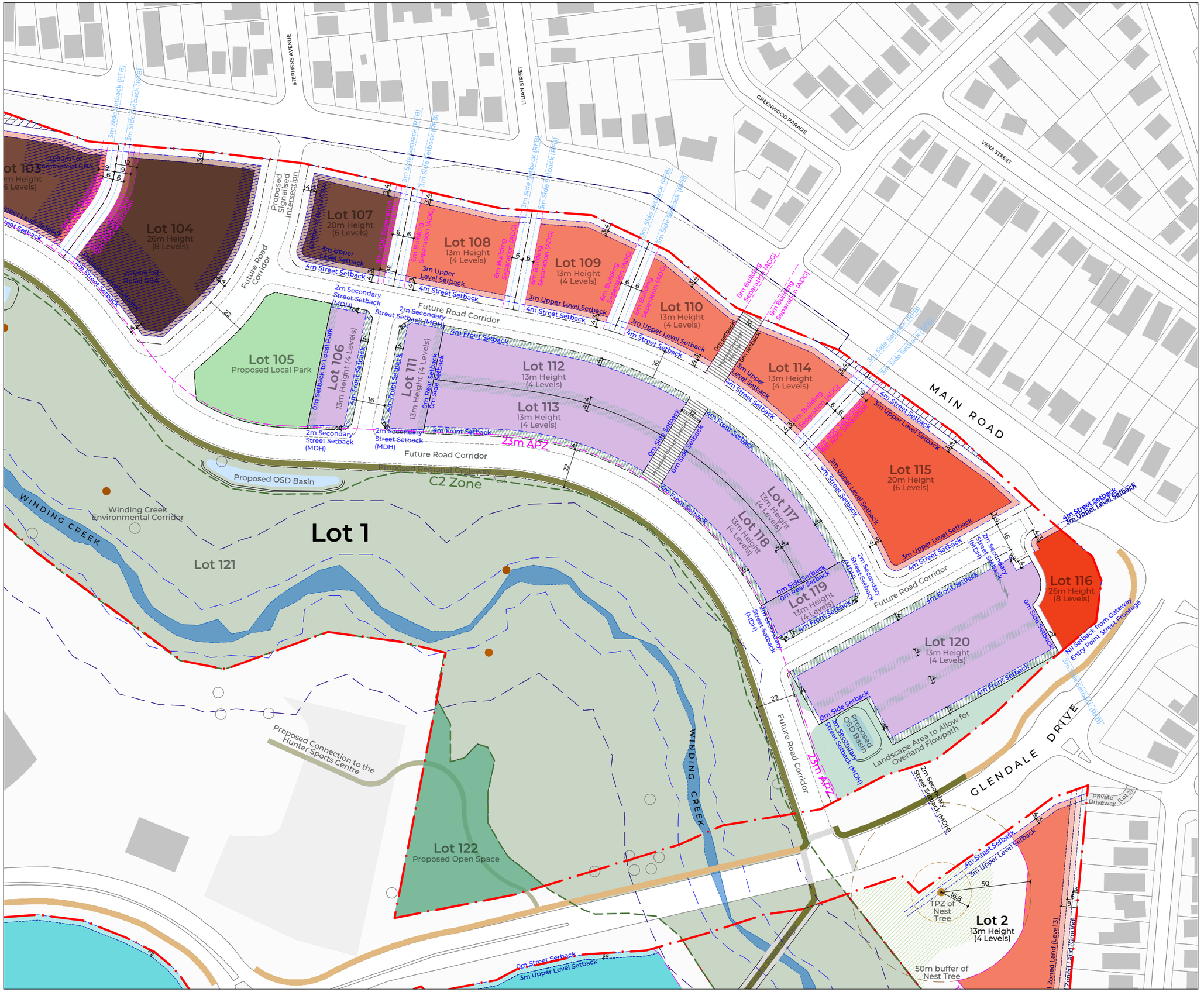

DISCLAIMER

FOR LODGEMENT

ISSUE

ISSUE	DATE	REVISION	REVISION BY	APPROVED BY
P1	14.09.23	Coordination Issue 1	CT	IIP
P2	23.10.23	Coordination Issue 2	CT	IIP
P3	11.12.23	Final Draft	CT	IIP
A	19.02.24	For Lodgement	CT	IIP
B	17.12.24	Council RFI	CT	IIP

LEGEND

- Subject Site
- SixMap Cadastre
- Context Buildings
- Existing Kerbs
- Existing Cycle Path / Shared Space
- Potential Future Road Widening (DCP)
- Potential Land Resumption Subject to confirmation with TfNSW*
- C2 Zone (Lake Macquarie LEP 2014)
- Proposed Winding Creek Riparian Corridor
- Winding Creek
- Winding Creek Bottom of Bank
- Winding Creek Top of Bank
- 30m Vegetated Riparian Zone
- Existing Trees on Site

Proposed Subdivision Boundary

- Proposed Stage 1 Subdivision Boundary
- Proposed Stage 2 Subdivision Boundary
- Future Development Lots (Subject to Future Subdivision DA)
- Lots to be Retained by TAHE
- Lot xx Stage 1 Subdivision Lot Identification Numbers
- Lot xx Stage 2 Subdivision Lot Identification Numbers
- Lot xx Future Subdivision Lot Identification Numbers

Existing Site Element to be Retained

- Existing Vegetation on Site to be Retained
- Re-establishment of Native Vegetation
- Retention of existing Nest Tree
- Tree Protection Zone for Nest Tree
- Buffer for Nest Tree
- Reassessed AHIMS Sites
- Tree Protection Zone for Culturally Modified Trees

Planning Controls (DCP & ADG)

- DCP Street Setback
- DCP Side Setback
- DCP Upper Level Setback
- DCP Setback to Residential Zone
- ADG Building Separation
- Bushfire Asset Protection Zone

Proposed Land Use Envelope

- Commercial Premise (Max 2 Storey)
- Commercial Premise (Max 4 Storey)
- Residential Flat Building (Max 2 Storey)
- Residential Flat Building (Max 4 Storey)
- Residential Flat Building (Max 6 Storey)
- Residential Flat Building (Max 8 Storey)

Proposed Infrastructure

- Future Kerbs
- Proposed Regional Cycle Path
- Proposed Through Site Link
- Proposed Local Park
- Proposed Landscape Area
- Proposed Connection to the Hunter Sports Centre
- Potential Future Cycle Path / Shared Space
- Mixed Use Building (Max 2 Storey)
- Mixed Use Building (Max 4 Storey)
- Mixed Use Building (Max 6 Storey)
- Mixed Use Building (Max 8 Storey)
- Multi-Dwelling Housing (Max 4 Storey)
- Commercial on Ground Level
- Permissible Use (Max 2 Storey)
- Permissible Use (Max 4 Storey)

NOTES

* Area identified for potential future land resumption along Main Road has been provided by Northrop and is indicative only. Actual size and location of land to be acquired for the purpose of road widening is subject to future detail design by Transport for New South Wales.

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DRAWING

A-1.3 /B

Glendale Concept DA Envelope Plan - Lot 1 East

JOB NO.	DWG NO.	ISSUE	DATE	DRAWN BY
2210945	A-1.3	B	17.12.24	CT

PROJECT

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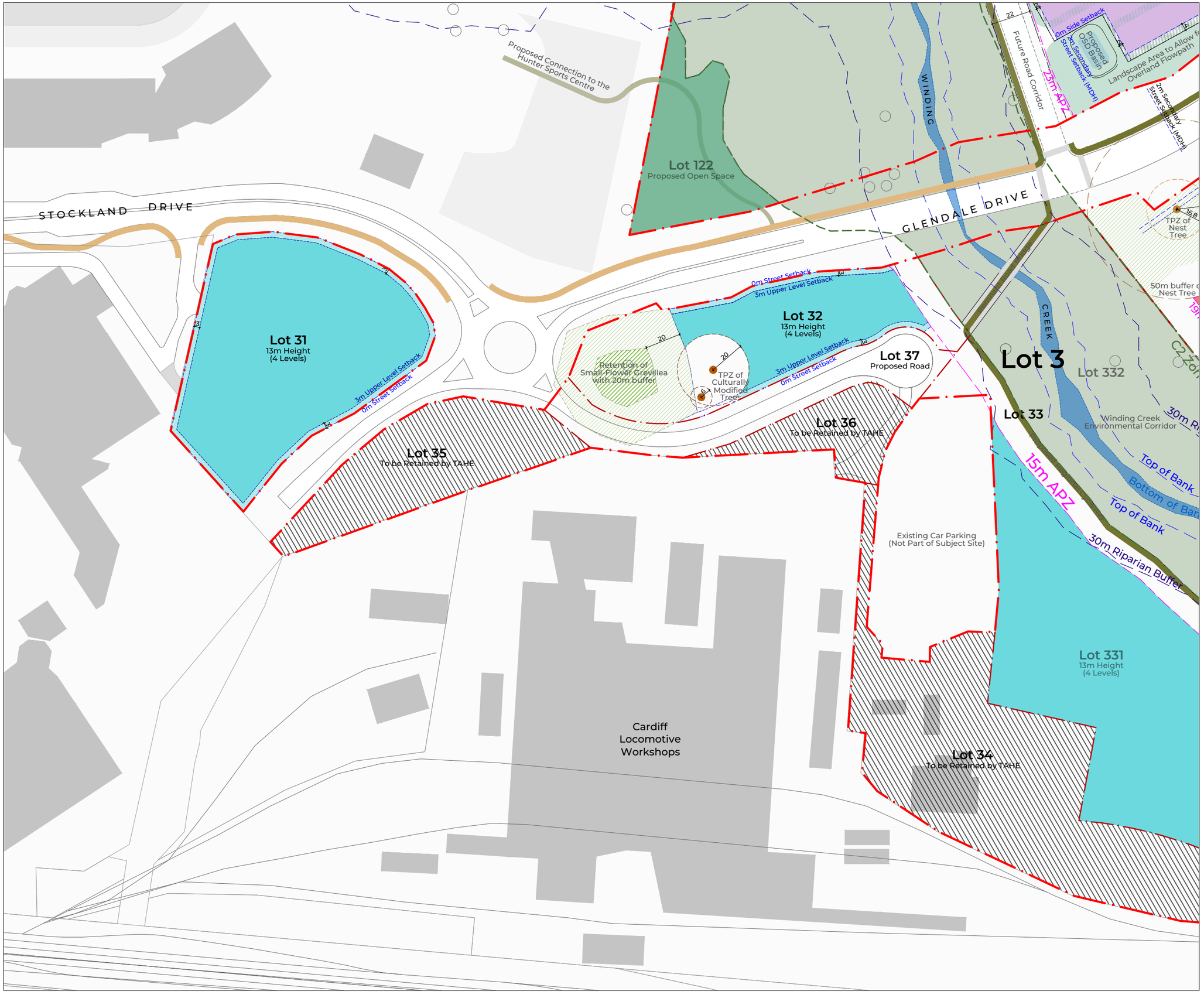

FOR LODGEMENT

ISSUE

ISSUE	DATE	REVISION	REVISION BY	APPROVED BY
P1	14.09.23	Coordination Issue 1	CT	IIP
P2	23.10.23	Coordination Issue 2	CT	IIP
P3	11.12.23	Final Draft	CT	IIP
A	19.02.24	For Lodgement	CT	IIP
B	17.12.24	Council RFI	CT	IIP

LEGEND

- Subject Site
- SixMap Cadastre
- Context Buildings
- Existing Kerbs
- Existing Cycle Path / Shared Space
- Potential Future Road Widening (DCP)
- Potential Land Resumption Subject to confirmation with TfNSW*
- C2 Zone (Lake Macquarie LEP 2014)
- Proposed Winding Creek Riparian Corridor
- Winding Creek
- Winding Creek Bottom of Bank
- Winding Creek Top of Bank
- 30m Vegetated Riparian Zone
- Existing Trees on Site

Proposed Subdivision Boundary

- Proposed Stage 1 Subdivision Boundary
- Proposed Stage 2 Subdivision Boundary
- Future Development Lots (Subject to Future Subdivision DA)
- Lots to be Retained by TAHE
- Lot xx — Stage 1 Subdivision Lot Identification Numbers
- Lot xx — Stage 2 Subdivision Lot Identification Numbers
- Lot xx — Future Subdivision Lot Identification Numbers

Existing Site Element to be Retained

- Existing Vegetation on Site to be Retained
- Re-establishment of Native Vegetation
- Retention of existing Nest Tree
- Tree Protection Zone for Nest Tree
- Buffer for Nest Tree
- Reassessed AHIMS Sites
- Tree Protection Zone for Culturally Modified Trees

Planning Controls (DCP & ADG)

- DCP Street Setback
- DCP Side Setback
- DCP Upper Level Setback
- DCP Setback to Residential Zone
- ADG Building Separation
- Bushfire Asset Protection Zone

Proposed Land Use Envelope

- Commercial Premise (Max 2 Storey)
- Commercial Premise (Max 4 Storey)
- Residential Flat Building (Max 2 Storey)
- Residential Flat Building (Max 4 Storey)
- Residential Flat Building (Max 6 Storey)
- Residential Flat Building (Max 8 Storey)

Proposed Infrastructure

- Future Kerbs
- Proposed Regional Cycle Path
- Proposed Through Site Link
- Proposed Local Park
- Proposed Landscape Area
- Proposed Connection to the Hunter Sports Centre
- Potential Future Cycle Path / Shared Space
- Mixed Use Building (Max 2 Storey)
- Mixed Use Building (Max 4 Storey)
- Mixed Use Building (Max 6 Storey)
- Mixed Use Building (Max 8 Storey)
- Multi-Dwelling Housing (Max 4 Storey)
- Commercial on Ground Level
- Permissible Use (Max 2 Storey)
- Permissible Use (Max 4 Storey)

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DRAWING

A-1.4 /B

Glendale Concept DA Envelope Plan - Lot 3 West

JOB NO.	DWG NO.	ISSUE	DATE	DRAWN BY
2210945	A-1.4	B	17.12.24	CT

PROJECT

Concept DA and First Stage of Development (being subdivision and associated work) at 65 Glendale Drive, Glendale

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ISSUE

ISSUE	DATE	REVISION	REVISION BY	APPROVED BY
P1	14.09.23	Coordination Issue 1	CT	IIP
P2	23.10.23	Coordination Issue 2	CT	IIP
P3	11.12.23	Final Draft	CT	IIP
A	19.02.24	For Lodgement	CT	IIP
B	17.12.24	Council RFI	CT	IIP

LEGEND

- Subject Site
- SixMap Cadastre
- Context Buildings
- Existing Kerbs
- Existing Cycle Path / Shared Space
- Potential Future Road Widening (DCP)
- Potential Land Resumption Subject to confirmation with TfNSW*
- C2 Zone (Lake Macquarie LEP 2014)
- Proposed Winding Creek Riparian Corridor
- Winding Creek
- Winding Creek Bottom of Bank
- Winding Creek Top of Bank
- 30m Vegetated Riparian Zone
- Existing Trees on Site

Proposed Subdivision Boundary

- Proposed Stage 1 Subdivision Boundary
- Proposed Stage 2 Subdivision Boundary
- Future Development Lots (Subject to Future Subdivision DA)
- Lots to be Retained by TAHE
- Lot xx — Stage 1 Subdivision Lot Identification Numbers
- Lot xx — Stage 2 Subdivision Lot Identification Numbers
- Lot xx — Future Subdivision Lot Identification Numbers

Existing Site Element to be Retained

- Existing Vegetation on Site to be Retained
- Re-establishment of Native Vegetation
- Retention of existing Nest Tree
- Tree Protection Zone for Nest Tree
- Buffer for Nest Tree
- Reassessed AHIMS Sites
- Tree Protection Zone for Culturally Modified Trees

Planning Controls (DCP & ADG)

- DCP Street Setback
- DCP Side Setback
- DCP Upper Level Setback
- DCP Setback to Residential Zone
- ADG Building Separation
- Bushfire Asset Protection Zone

Proposed Land Use Envelope

- Commercial Premise (Max 2 Storey)
- Commercial Premise (Max 4 Storey)
- Residential Flat Building (Max 2 Storey)
- Residential Flat Building (Max 4 Storey)
- Residential Flat Building (Max 6 Storey)
- Residential Flat Building (Max 8 Storey)
- Mixed Use Building (Max 2 Storey)
- Mixed Use Building (Max 4 Storey)
- Mixed Use Building (Max 6 Storey)
- Mixed Use Building (Max 8 Storey)
- Multi-Dwelling Housing (Max 4 Storey)
- Commercial on Ground Level
- Permissible Use (Max 2 Storey)
- Permissible Use (Max 4 Storey)

Proposed Infrastructure

- Future Kerbs
- Proposed Regional Cycle Path
- Proposed Through Site Link
- Proposed Local Park
- Proposed Landscape Area
- Proposed Connection to the Hunter Sports Centre
- Potential Future Cycle Path / Shared Space

1:2000 @ A3

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DRAWING

A-1.5 /B

Glendale Concept DA
Envelope Plan - Lot 3 East & Lot 2

JOB NO.	DWG NO.	ISSUE	DATE	DRAWN BY
2210945	A-1.5	B	17.12.24	CT

PROJECT

Concept DA and First Stage of Development (being subdivision and associated work) at 65 Glendale Drive, Glendale

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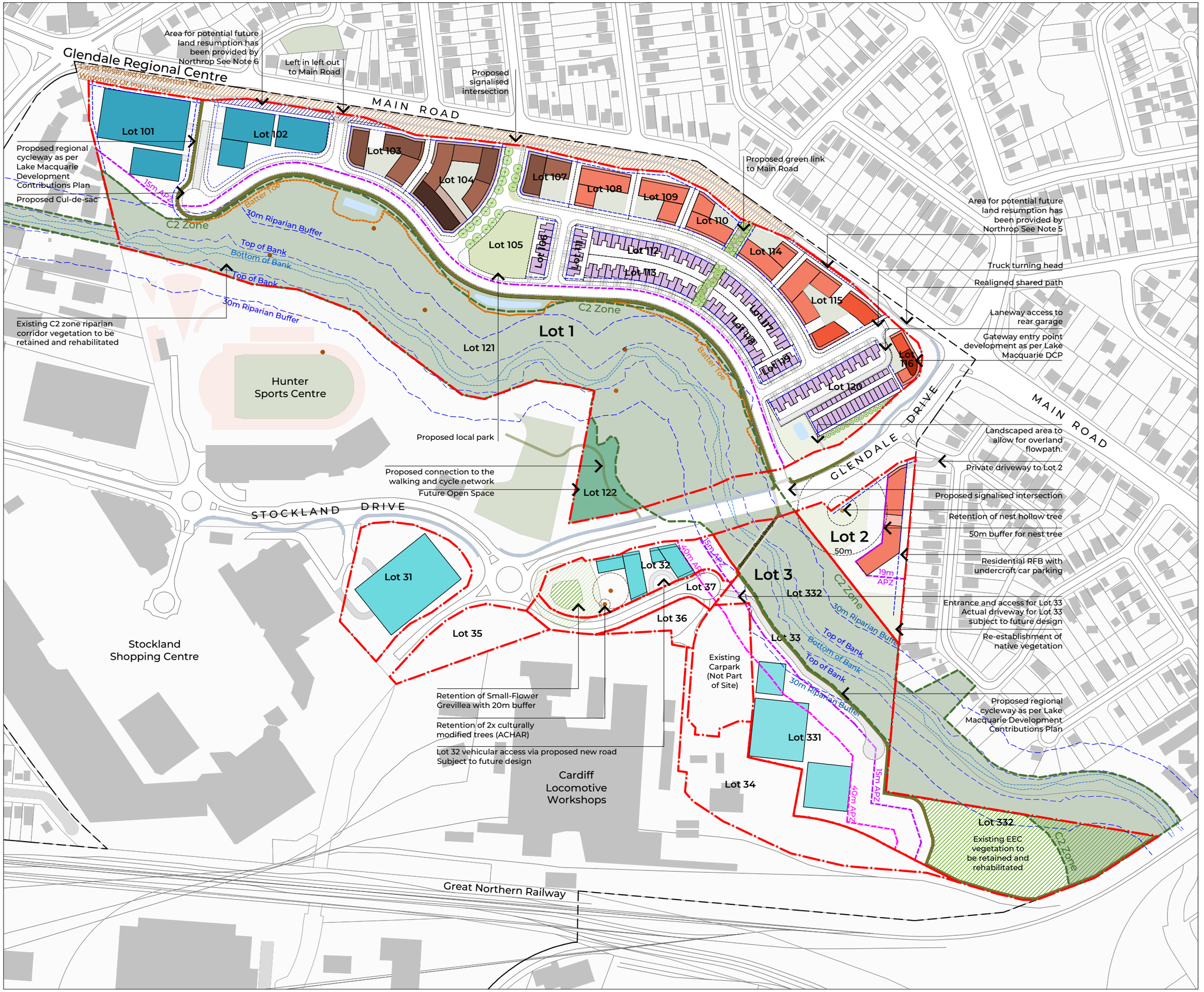

DISCLAIMER

FINAL DRAFT

ISSUE

ISSUE	DATE	REVISION	REVISION BY	APPROVED BY
WIP	17.05.23	Work In Progress	CT	
P1	24.05.23	Coordination Issue 1	CT	IIP
P2	04.07.23	Coordination Issue 2	EC	IIP/PAW
P3	31.08.23	Coordination Issue 3	CT	IIP
P4	11.12.23	Final Draft	CT	IIP
P5	11.12.24	Council RFI	EH	CT/IIP
P6	17.12.24	Council RFI	CT	IIP

LEGEND

- Site Boundary
- Cadastre Lots
- Context Buildings
- Proposed Street Planting
- Proposed Bulky Goods Retail
- Proposed Retail Shops
- Proposed Multi-Dwelling House
- Proposed Residential Flat Building (2 Storeys)
- Proposed Residential Flat Building (4 Storeys)
- Proposed Residential Flat Building (6 Storeys)
- Proposed Residential Flat Building (8 Storeys)
- Proposed Mixed Use Building (2 Storeys)
- Proposed Mixed Use Building (4 Storeys)
- Proposed Mixed Use Building (6 Storeys)
- Proposed Mixed Use Building (8 Storeys)
- Proposed Commercial or equivalent E2 Land Use
- Existing Cycle Path / Shared Space
- Proposed Regional Cycle Path
- Proposed Connection to the Walking and Cycle Network
- Potential Future Cycle Path / Shared Space
- Setback Line
- Reassessed AHIMS Sites
- Tree Protection Zone for Culturally Modified Trees
- Existing Nest Tree to be Retained
- Tree Protection Zone for Nest Tree

NOTES

1. Site boundary in red shown has been extracted from survey drawing package issued by Monteath & Powys dated 15-07-2022 (Reference - 220173DPD_01).
2. The proposed subdivision lot boundaries have been adjusted to reflect the latest discussion with Lake Macquarie Council.
3. Winding Creek top of bank and bottom of bank has been extracted from survey drawing issued by Monteath & Powys dated 26-04-2023 (Reference - 22/0173).
4. Building envelopes shown are indicative and is subject to further architectural design.
5. Area identified for potential future land resumption along Main Road has been provided by Northrop and is indicative only. Actual size and location of land to be acquired for the purpose of road widening is subject to future detail design by Transport for New South Wales.

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DRAWING

A-0.1 /P6

Glendale Master Plan Reference Design

JOB NO.	DWG NO.	ISSUE	DATE	DRAWN BY
2210945	A-0.1	P6	17.12.24	CT

PROJECT

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