



Traffic & Transportation Direction

Residential Subdivision

256 Lennoxton Road, Vacy

Traffic Impact Assessment

November 2025

Reference: 1206 rep 251110 final

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256 Lennoxton Road, Vacy

Traffic Impact Assessment

Prepared for: PJE M Pty Ltd

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1. Introduction

Amber Organisation has been engaged by PJE M Pty Ltd to advise on the traffic and parking matters of the proposed residential subdivision located at 256 Lennoxton Road, Vacy.

The proposal involves the subdivision of land at Lot 94 DP 788016 and Lot 8 DP 739338 for 27 residential lots. The site is located on the north side of Lennoxton Road and is within Precinct A5 of the Vacy South Local Area Plan.

The application is for a staged subdivision of the land. Stage 1 comprises 12 lots, an internal road which connects to Lennoxton Road towards the western boundary of the site, a right of way (ROW) to serve three (3) lots and an emergency access easement in the case of flooding. Stage 2 comprises 15 lots, an internal road which connects to Lennoxton Road via a separate connection towards the eastern boundary of the site and a ROW to serve two (2) lots.

This report has been updated in response to Council's Request for Further Information (RFI) dated 8 October 2025. This report has been prepared to address the traffic and parking impacts of the proposed development. It is based on observations at the site and our experience of similar developments elsewhere.

2. Existing Transport Environment

2.1 Site Location

The site is located on the north side of Lennoxton Road on Lot 94 DP 788016 and Lot 8 DP 739338 and is situated approximately 2 kilometres southwest of Vacy township. Figure 1 shows the location of the site in relation to the surrounding transport network.

Figure 1: Site Location



Source: OpenStreetMap

The site and surrounding area is zoned R5 – Large Lot Residential and C3 – Environmental Management. Land to the north, south and west is zoned RU1 – Primary Production. The site is located within Precinct A5 of the Vacy South Local Area Plan, which states the following regarding development potential and future access design:

'...any future subdivision proposal will need to take into account the access constraints along Lennoxton Road, with any new lots created not to direct driveway or right of way access to Lennoxton Road. A properly formed access road will need to be provided to access this area.'

Figure 2 shows an aerial photograph of the site and the surrounding area. The figure shows that the site is currently occupied by a single dwelling and a number of sheds, with vehicle access provided centrally along the frontage to Lennoxton Road.

Figure 2: Aerial Photograph



Source: Six Maps

2.2 Road Network

Gresford Road is a regional road that operates in a general northwest-southeast alignment between Paterson and East Gresford. In the vicinity of the site it has a carriageway width of approximately 7.0 metres which accommodates one through traffic lane in each direction, with grassed verges on both sides of the road. It has a posted speed limit 80 km/hr.

Lennoxton Road is a municipal local road that extends west from Gresford Road for approximately 4km before turning north for approximately 3.5km where it connects to Summer Hill Road. In the vicinity of the site it has a carriageway width of approximately 5.5 metres which accommodates two-way vehicle movement. It has a posted speed limit 70 km/hr.

Corys Creek Road is a municipal local road that extends south from Lennoxton Road for approximately 700 metres. It has a carriageway width of approximately 4.5 metres which accommodates two-way vehicle movement. There is no posted speed limit.

The intersection of **Gresford Road/Lennoxton Road** is controlled with 'Give-Way' signage and linemarking for vehicles exiting Lennoxton Road. **Corys Creek Road/Lennoxton Road** is a priority controlled intersection where vehicles exiting Corys Creek Road are required to give-way to vehicles travelling on Lennoxton Road.

2.3 Traffic Volumes

Amber commissioned traffic surveys of the local road network surrounding the site to establish the existing traffic conditions. The surveys included a turning movement count at the intersection of Gresford Road/Lennoxton Road and two 7-day tube counts of Lennoxton Road adjacent to the proposed site accesses. The survey locations can be seen in Figure 4.

Figure 3: Traffic Survey Locations

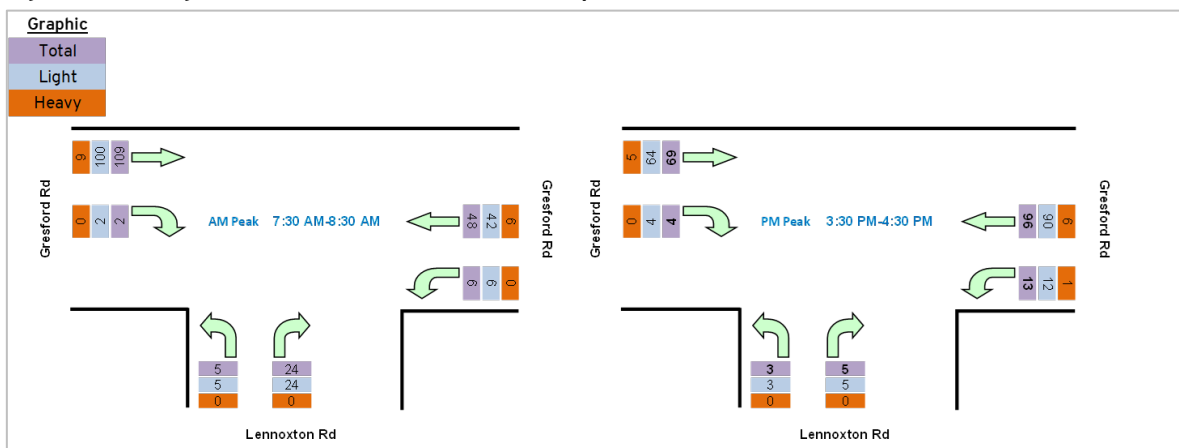


Source: Open Street Map

2.3.1 Turning Movement Count

A turning movement count survey was completed at the intersection of Gresford Road/Lennoxton Road on Tuesday 29 April 2025 between 6:00am-10:00am and 3:00pm-7:00pm. A summary of the survey results is presented in Figure 4 with the full data provided at Appendix A.

Figure 4: Turning Movement Count Peak Hour Survey Results – Gresford Road/Lennoxton Road



The survey results indicate the intersection currently carries a low level of traffic in the order of 194 and 190 vehicles in the morning and evening peak hours, respectively. The morning peak hour was recorded from 7:30am to 8:30am and the evening peak hour was recorded from 3:30pm to 4:30pm.

The majority of vehicle trips during the morning and evening peak periods are through movements on Gresford Road, with a bias towards southbound movements in the morning peak and northbound movements in the evening peak. A total of 29 and eight (8) vehicles were recorded on Lennoxton Road in the morning and evening peak hours, respectively. Overall, the results indicate that Lennoxton Road carries a low level of traffic in the peak periods under existing conditions.

2.3.2 Mid-block Volumes

Two tube count surveys were completed of Lennoxton Road over a 7-day period between Wednesday 23 April to Wednesday 30 April 2025 which provide data of the existing traffic volumes and speeds over one week. It is noted that the surveys were undertaken partially within the school holiday period to capture data for both tourist and 'normal' periods. Review of the data indicates that there was no discernible volume difference between the two periods.

The tube count survey results are summarised in Table 1 and Table 2, with the full data provided at Appendix B.

Table 1: Lennoxton Road Traffic Volumes – 3.1km west of Gresford Road (Stage 1 Access)

Direction	Weekday Traffic (vpd)	Weekday AM Peak - 08:00 (vph)	Weekday PM Peak - 15:00 (vph)	85 th Percentile Speed	Heavy Vehicle Percentage
Westbound	12	0	2	60.0 km/hr	6.7%
Eastbound	15	3	1	59.8 km/hr	6.7%
Both Directions	27	3	3	60.3 km/hr	6.9%

Table 2: Lennoxton Road Traffic Volumes – 2.5km west of Gresford Road (Stage 2 Access)

Direction	Weekday Traffic (vpd)	Weekday AM Peak - 07:00 (vph)	Weekday PM Peak - 16:00 (vph)	85 th Percentile Speed	Heavy Vehicle Percentage
Westbound	44	1	7	62.4 km/hr	7.1%
Eastbound	44	7	4	66.1 km/hr	7.3%
Both Directions	88	8	11	63.7 km/hr	7.2%

The survey data indicates the 85th percentile speed of vehicles is lower than the speed limit of 70km/hr and the road accommodates a low proportion of heavy vehicles. Overall, the survey results indicate Lennoxton Road currently accommodates a low level of traffic.

2.4 Sustainable Transport

Bus services operate in the nearby area with the nearest bus stop located within the township of Vacy. School bus service S188 (Lostock to Vacy via Fishers Hill) operates along Lennoxton Road. This services passes the site at approximately 8:30am (eastbound) and 3:45pm (westbound) on school days.

There is currently no footpaths or bicycle infrastructure within the vicinity of the site.

2.5 Crash History

Amber has conducted a review of the TfNSW Centre for Road Safety Crash and Casualty Statistics database for all injury crashes within the surrounding area of the site. The crash database provides the location and severity of all injury and fatal crashes for the five-year period from 2019 to 2023. The search area included the following roads:

- Lennoxton Road between Gresford Road and Summerhill Road,
- Gresford Road within 1km of Lennoxton Road, and
- All respective intersections.

The results of the crash search are summarised in Table 3.

Table 3: Casualty Crash Summary

Road	Location	Severity	Crash Type	Date and Time	Light and Weather Conditions
Lennoxton Rd	200m East of Serinity Way	Serious Injury	Off road to the right, hitting object	July 2022 (16:00 - 17:59)	Daylight (Fine)

The search revealed one crash within the review area that resulted in a serious injury. The crash occurred approximately 750 metres east of the eastern site boundary and was a result of the vehicle leaving the road and hitting an object.

Given the large search area, the associated traffic volumes and road classifications, and there are no crash trends, it is concluded that the road network is currently operating in a relatively safe manner.

3. Development Proposal

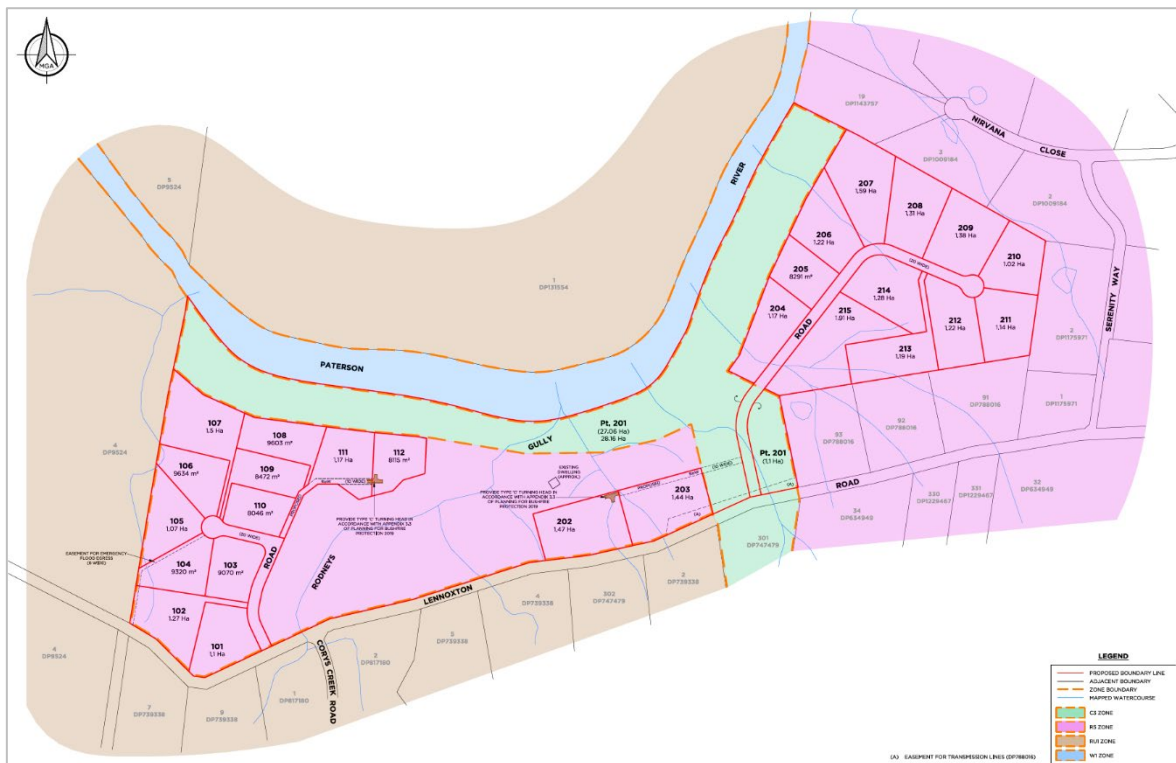
The proposal involves the subdivision of land at Lot 94 DP 788016 and Lot 8 DP 739338 for 27 residential lots. The site is located on the north side of Lennoxton Road and is within Precinct A5 of the Vacy South Local Area Plan.

The application is for a staged subdivision of the land. Stage 1 comprises 12 lots, an internal road which connects to Lennoxton Road towards the western boundary of the site, a ROW to serve three (3) lots and an emergency access easement in the case of flooding. Stage 2 comprises 15 lots, an internal road which connects to Lennoxton Road via a separate connection towards the eastern boundary of the site and a ROW to serve two (2) lots.

The internal local road reserves are 20 metres wide and each terminate in a cul-de-sac with a radius of 20 metres. The ROWs have a road reserve of 10 metres and have turning heads at their termination for emergency vehicles to turnaround. All lots are proposed to gain access from the internal roads.

The proposed layout of the subdivision can be seen in Figure 5.

Figure 5: Site Layout



Source: Delfts Lascelles Consulting Surveyors

4. Traffic Assessment

4.1 Traffic Generation Rates

The TfNSW *Guide to Transport Impact Assessment* (the Guide), dated November 2024, provides traffic generating information for various land uses. The traffic generation rates for low density residential land use in regional areas are as follows:

- Daily vehicle trips: 7.53 movements per dwelling
- Weekday average morning peak hour vehicle trips: 0.83 movements per dwelling
- Weekday average evening peak hour vehicle trips: 0.84 movements per dwelling

Application of the above rates equates to the following traffic generation during each stage of the proposal:

- Stage 1 – 12 lots
 - 90 daily vehicle movements
 - 10 vehicle movements in each of the morning and evening peak hours
- Stage 2 – 15 lots
 - 113 daily vehicle movements
 - 13 vehicle movements in each of the morning and evening peak hours

4.2 Traffic Distribution

It is typical for traffic movements associated with residential activities to predominantly be outbound in the morning peak and inbound in the evening peak. The following traffic distribution has been used for this assessment:

- Morning Peak: 80% outbound and 20% inbound
- Evening Peak: 30% outbound and 70% inbound

The expected traffic volumes during the morning and evening peak periods for each stage can be seen in Table 4, which are split between arrivals and departures.

Table 4: Peak Hour Traffic Generation

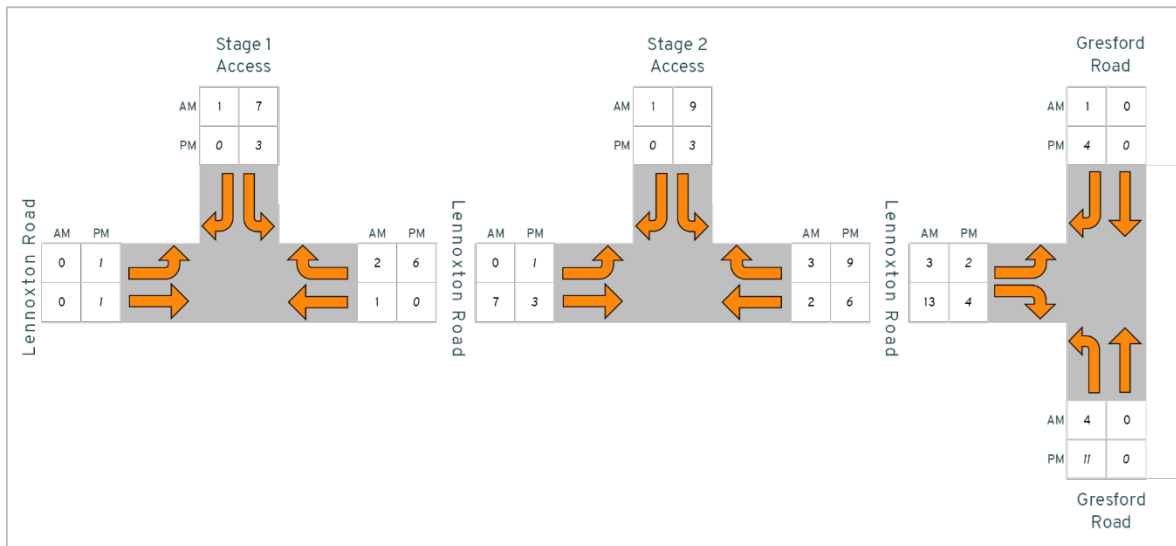
	Stage 1 – 12 Lots		Stage 2 – 15 Lots	
	Morning Peak (vph)	Evening Peak (vph)	Morning Peak (vph)	Evening Peak (vph)
Arriving Trips	2	7	3	9
Departing Trips	8	3	10	4
Total	10	10	13	13

Traffic will be distributed to the broader road network via Lennoxton Road. The majority of traffic is expected to travel to/from the east via Gresford Road, with negligible volumes travelling to/from the west. For this assessment it has been assumed that 90% of development traffic is to/from the east via Gresford Road, with the remaining 10% to/from the west.

At the intersection of Gresford Road/Lennoxton Road vehicles have been distributed based on the existing distribution of traffic recorded at this intersection during the surveys presented at Figure 4.

The development traffic volumes at each of the site accesses and at the intersection of Gresford Road/Lennoxton Road is shown in Figure 6. The volumes presented are based on the ultimate scenario of both Stage 1 and Stage 2 being constructed.

Figure 6: Peak Hour Development Traffic Volumes



4.3 Traffic Assessment

In order to determine the ability of the road network to accommodate the traffic expected to be generated by the proposal, a traffic modelling exercise has been undertaken for the intersection of Gresford Road/Lennoxton Road using SIDRA intersection modelling software.

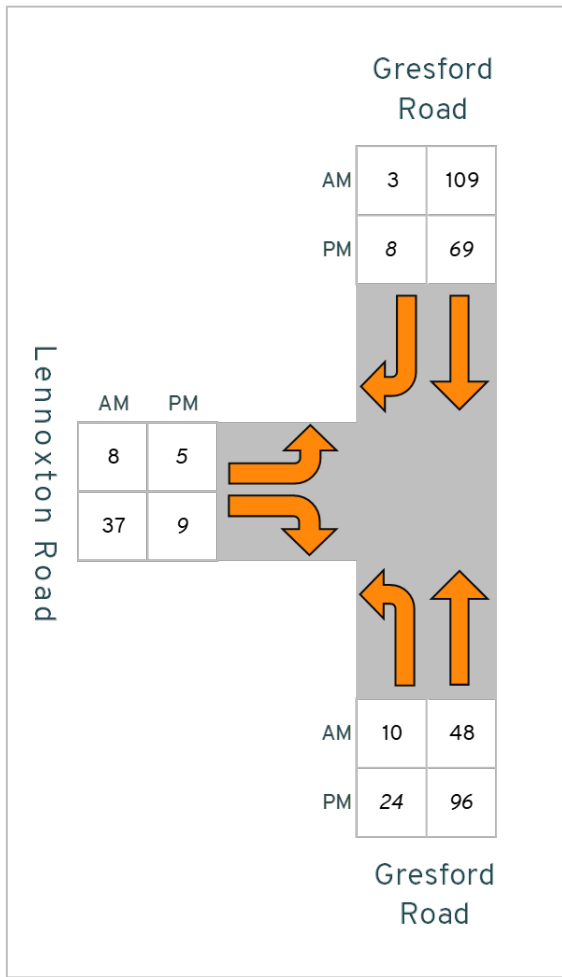
Level of Service (LOS) is a qualitative measure used to describe the operating conditions of a section of road or an intersection. Levels of Service are designated from A (free flow conditions) to F (forced flow with stop start operation, long queues and delays) and represent the perception of the road conditions by motorists. This includes factors such as speed and travel time, freedom to manoeuvre, traffic interruptions, comfort and convenience, and safety.

The best indicator of the LOS at an intersection is the average delay experienced by vehicles at that intersection. For priority controlled intersections, the critical movement for level of service assessment should be that with the highest average delay.

The modelled traffic volumes at the intersection have been based on the morning and evening peak periods. The layout of the intersection is based on the existing conditions.

The development traffic volumes presented at Figure 6 have been added to the surveyed traffic volumes at Figure 4 during the peak periods. The modelled traffic volumes are presented at Figure 7.

Figure 7: Post-Development Peak Hour Traffic Volumes – Gresford Road/Lennoxton Road



The results of the SIDRA analysis for the peak periods are summarised in Table 5, with the full results presented at Appendix C.

Table 5: SIDRA Analysis Results Summary – Gresford Road/Lennoxton Road

Approach / Movement		Morning Peak Hour				Evening Peak Hour			
		Degree of Saturation	Average Delay (sec)	95% Queue (m)	LOS	Degree of Saturation	Average Delay (sec)	95% Queue (m)	LOS
Gresford Road (South)	Left	0.033	7.1	0	A	0.068	7.1	0	A
	Through	0.033	0	0	A	0.068	0	0	A
Gresford Road (North)	Through	0.064	0	0.2	A	0.045	0.1	0.4	A
	Right	0.064	6.8	0.2	A	0.045	7.2	0.4	A
Lennoxton Road (West)	Left	0.042	6.6	1.0	A	0.013	6.8	0.3	A
	Right	0.042	6.9	1.0	A	0.013	6.9	0.3	A

The SIDRA analysis indicates the following:

- There are negligible queues at the intersection during the peak hours, with a maximum 95th percentile queue length of 1.0 metre.
- All vehicles experience an average delay of 1.9 seconds and 1.6 seconds in each of the morning and evening peak hours, respectively.
- The intersection will continue to operate with a good level of service (LOS A) during the peak hours.
- The movements with the highest average delay are the right and left turns from Lennoxton Road to Gresford Road, which experience an average delay of approximately 7 seconds (LOS A).

Overall, the intersection is expected to operate with a good level of service at all times, with minimal queuing and delays expected as a result of the proposal.

5. Access and Internal Road Layout

5.1 Road Alignment

The site accesses to Lennoxton Road create two new intersections with the road network. There is one local road and one ROW in each stage of the proposal. The local roads have a road reserve of 20 metres while the ROWs have a road reserve of 10 metres. The local roads terminate in a cul-de-sac with a radius of 20 metres. These dimensions are in accordance with Council's Road Management Strategy.

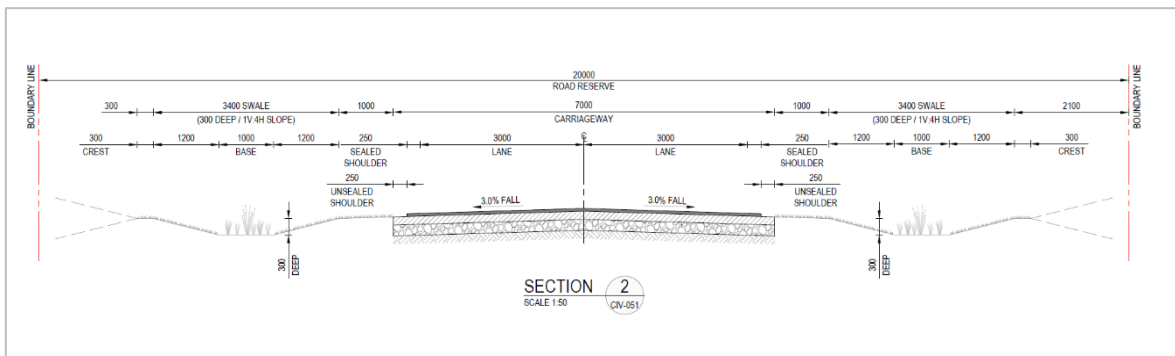
The road network provides an orderly lot layout and suitable vehicle circulation based on the constraints of the site. The layout does not allow for through traffic access, eliminating the potential for rat-running behaviour. Overall, the road layout is considered to meet the objectives of Council's Road Management Strategy and Development Control Plan (DCP) by providing an efficient layout.

5.2 Road Design

The internal roads have been designed in accordance with the cross-sections detailed in Council's Road Management Strategy for a Rural Local Road 1 and ROW. The proposed road reserves are 20 metres for the local roads which allows for a 6.5-7.0 metre carriageway and 6.0-6.5 metre verge on each side, and 10 metres for the ROWs which allows for a 4 metre carriageway.

A Rural Local Road 1 has a capacity of 200-350 vehicles per day and a ROW has a capacity of 20 vehicles per day based on the Road Management Strategy, which is higher than the expected daily traffic volumes on each road. The typical cross-section of a Rural Local Road 1 can be seen in Figure 8.

Figure 8: Typical Local Road Cross-Section



Source: DRB Consulting Engineers

The proposed cross-sections have been designed generally in accordance with Council's Road Management Strategy and are expected to provide suitable vehicle access for all road users whilst facilitating vehicle movements to/from the site and the adjacent properties.

5.3 Intersection Design

The new intersections created with Lennoxton Road are discussed in detail at Section 6 of this report. The intersections between the internal local roads and ROWs would be priority controlled with Give Way signage and linemarking, with priority given to vehicles on the local roads. It is expected that suitable sight distance will be available to vehicles exiting the ROWs based on the alignment of the internal roads.

5.4 Lot Access

All lots are proposed to gain access via the internal road network. The access locations for each lot are yet to be determined, however, a review of the lot layout indicates that vehicle crossovers are able to be provided in locations in accordance with Figure 3.1 of AS/NZS 2890.1:2004, and that individual driveways would meet the sight distance requirements outlined within Figure 3.2 of AS/NZS 2890.1:2004. Overall, the proposed road layout is expected to allow for suitable vehicle access to the individual lots.

5.5 Emergency & Service Vehicle Access

The internal road network can be navigated by a 12.5 metre heavy rigid vehicle (HRV) as the checking vehicle under the Austroads Guide. This vehicle encompasses all service vehicles required to access the site, including a standard fire appliance, ambulance, and Council's waste collection vehicle.

Waste collection for lots 108, 111, 112, 202 and 203 will need to occur on the internal local roads, which will require residents to transfer bins along the ROWs to the kerbside.

Emergency vehicle access is provided to lots 108, 111, 112, 202 and 203 via the ROWs. All other lots will have emergency vehicle access from the internal local roads. Turning heads are provided at the termination of the ROWs in accordance with the *NSW Planning for Bush Fire Protection* (Nov 2019) guidelines, which allows vehicles up to an 8.8 metre medium rigid vehicle (MRV) to turnaround.

Accordingly, it is concluded that the internal road network can suitably accommodate emergency and service vehicles.

5.6 Traffic Management

The internal road network provides straight sections in excess of 100 metres, particularly within Stage 2. Speed management devices (for example, speed humps and/or chicanes) could be considered across the internal road network, however, given the low traffic volumes and regular users the internal roads are expected to operate in a safe manner.

6. Intersection Assessment

The site accesses to Lennoxton Road will create new intersections with the road network. These accesses are to be priority controlled, with vehicles exiting the site required to give way to through vehicles on Lennoxton Road.

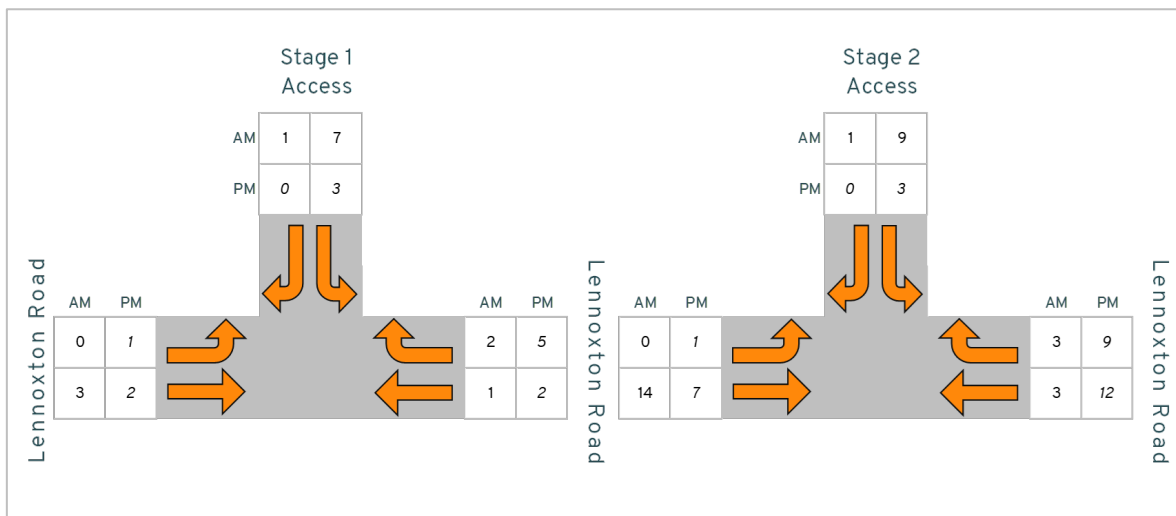
6.1 Turn Treatment Assessment

A turn treatment assessment has been completed for each of the site accesses. The *Austrroads Guide to Traffic Management Part 6: Intersections, Interchanges, and Crossings* specifies the turning treatments required at intersections.

The traffic surveys of Lennoxton Road presented at Section 2.3.2 recorded an 85th percentile speed of less than 70km/hr at each survey location. As such, the turn treatment assessment has been based on a design speed of less than or equal to 70km/hr.

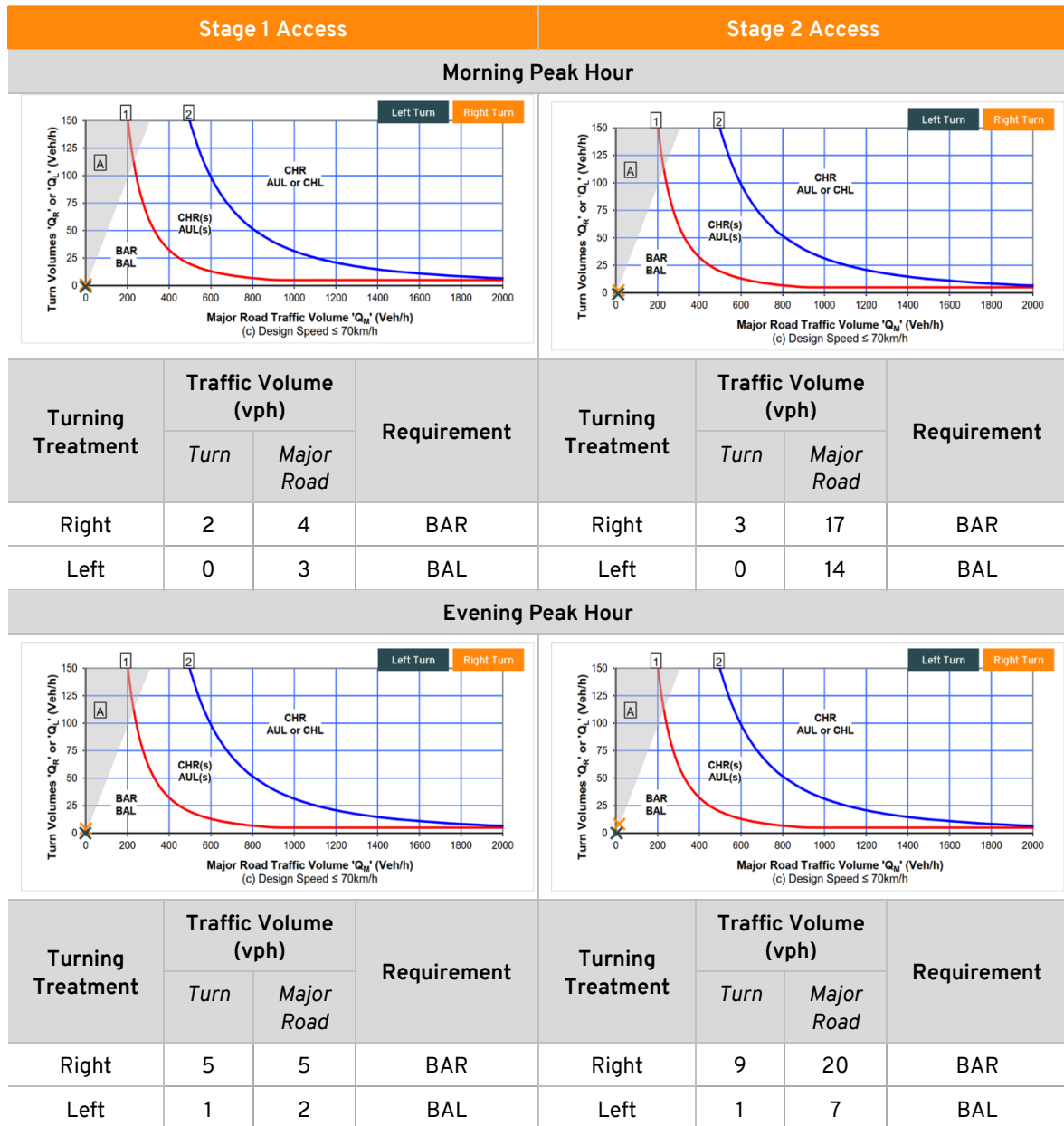
Figure 3.25 of the *Austrroads Guide* specifies the required turn treatments on the major road at unsignalised intersections and has been utilised for the following turn treatment assessment. The assessment has been based on the turning volumes and existing through volumes on Lennoxton Road during each of the peak hours, which are shown at Figure 9.

Figure 9: Traffic Volumes for Turn Treatment Assessment



The traffic volumes at each site access have been plotted during the peak hours against Figure 3.25 of the *Austrroads Guide* as shown in Figure 10.

Figure 10: Turn Treatment Assessment Results



Based on the turn treatment assessment, Figure 10 indicates that each access would require a Basic Right (BAR) and Basic Left (BAL) turn treatment to meet the requirements of the Austroads Guide.

It is considered appropriate not to provide turn treatments on Lennoxton Road at the site accesses based on the following:

- Sight distance is provided in accordance with the Austroads Guide to allow vehicles on Lennoxton Road to see vehicles turning into the site and react accordingly (refer to Section 6.2 for assessment).
- The turning volumes into the site will be very low, resulting in negligible delays to through movements on Lennoxton Road.

- It is common practice for intersections to subdivisions across Dungog Shire Council not to provide turn treatments, including to local roads which generate a higher volume of turning movements than the proposal.
- The existing road reserve of Lennoxton Road has significant roadside vegetation on each side. If turn treatments were provided there may be ecological impacts as of result of removing roadside vegetation.
- There is no reference to the requirement or provision of turn treatments within the DCP or Road Management Strategy.

Based on the above, it is concluded that turn treatments are not required at the site accesses and that vehicles will be able to safely enter and exit the road network with negligible delays.

6.2 Sight Distance Assessment

Adjacent to the site Lennoxton Road is undulating and has curves that limit the areas where compliant sight distance can be achieved to access the site. The proposed access locations have had consideration of the constraints of Lennoxton Road and the recorded vehicle speeds.

The *Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections* specifies Safe Intersection Sight Distance (SISD) as the minimum sight distance which should be provided along the major road at any intersection. Table 3.1 of the guide specifies the SISD required for various design speeds.

The SISD has been based on the 85th percentile speed of vehicles recorded on Lennoxton Road adjacent to the access points as presented at Section 2.3.2 and a reaction time of 2.0 seconds. A summary of the sight distance requirement in each direction for each access is detailed at Table 6.

Table 6: Sight Distance Assessment – Lennoxton Road

Access	Operating Speed (km/h)	Adopted Design Speed (km/h)	Direction	Required SISD (m)	Available SISD (m) ¹
Stage 1 (West)	60.0	60	East	123	123
	59.8	60	West	123	151+
Stage 2 (East)	62.4	65	East	142	151+
	66.1	70	West	151	151+

The sight distance available at each access is shown at Figure 11 and Appendix D. The assessment demonstrates that each access satisfies the requirements of the Austroads Guide subject to minor vegetation trimming within the roadside verges.

Accordingly, the accesses are expected to be able to provide safe vehicle movement to/from the surrounding road network subject to the vegetation trimming recommended within this report.

¹ Subject to the vegetation trimming detailed in Figure 12 and Appendix D.

Figure 11: Sight Distances



7. Car Parking

Car parking is to be provided in accordance with the DCP requirements. The lots are considered to be a sufficient size to accommodate the resident parking requirement on each lot. In addition, the proposed internal road network will allow on-street parallel parking once fully constructed for use by visitors. The subdivision is not expected to generate any parking impacts in the surrounding area and the parking demands can be readily accommodated internally within the site.

8. Alternative Transport Modes

Public transport access to the site is detailed at Section 2.4. The internal road network has not been designed as bus capable. A public bus route could be considered along Lennoxton Road to service the subdivision in future, however, would be subject to discussions between Council and TfNSW.

9. Conclusion

Amber Organisation has reviewed the traffic and parking matters of the proposed 27 lot residential subdivision located at 256 Lennoxton Road, Vacy. The application is for a staged subdivision of the land, with Stage 1 comprising 12 residential lots and Stage 2 comprising 15 residential lots. An internal local road and ROW is proposed at each stage to provide vehicle access to the lots. There are two new connections to Lennoxton Road proposed to access the site.

Based on the above assessment, it is concluded that:

- The ultimate scenario of the proposal will generate approximately 23 vehicle movements during each of the morning and evening peak periods. These volumes can be readily accommodated on the road network, including at the intersection of Gresford Road/Lennoxton Road.
- The internal road layout and road reserves are designed generally in accordance with the objectives of the DCP and Council's Road Management Strategy.
- The internal road network can suitably accommodate service vehicles, such as Council's waste collection vehicle, fire appliance, and ambulance, as required.
- Given the low traffic volumes and regular users accessing the site, the internal roads are expected to operate in a safe manner. However, speed management devices could be considered across the internal road network.
- The sight distance requirements have been based on the recorded speed of vehicles on Lennoxton Road. The intersections were found to provide suitable sight distance in accordance with the Austroads Guidelines, subject to minor vegetation trimming identified within this report.
- Turn treatments are not considered necessary to access the site via the new accesses to Lennoxton Road. This is because SISD is provided at each site access in accordance with the Austroads Guide, the turning volumes into the site will be very low, and there would be negligible delays to through movements on Lennoxton Road.
- Car parking for the individual lots is to be provided in accordance with the DCP, with on-street parking provided for visitors.

Overall, it is concluded that the proposal meets the objectives of the DCP, and the car parking and traffic demands generated by the site can be readily accommodated on the surrounding and internal road network.

Appendix A

Turning Movement Count – Gresford Road/Lennoxton Road



TURNING MOVEMENT SURVEY

Intersection of Gresford Rd and Lennoxton Rd, Vacy

GPS -32.551086, 151.584621

Date:	Tue 29/04/25
Weather:	Overcast
Suburban:	Vacy
Customer:	Amber

North:	N/A
East:	Gresford Rd
South:	Lennoxton Rd
West:	Gresford Rd

Survey Period	AM:	6:00 AM-10:00 AM
	PM:	3:00 PM-7:00 PM
Traffic Peak	AM:	7:30 AM-8:30 AM
	PM:	3:30 PM-4:30 PM

All Vehicles

Time		East Approach Gresford Rd			South Approach Lennoxton Rd			West Approach Gresford Rd			Hourly Total	
Period Start	Period End	U	WB	L	U	R	L	U	R	EB	Hour	Peak
6:00	6:15	0	4	1	0	5	1	0	0	14	112	
6:15	6:30	0	5	1	0	2	0	0	0	14	115	
6:30	6:45	0	8	0	0	4	1	0	0	16	129	
6:45	7:00	0	12	0	0	3	2	0	0	19	153	
7:00	7:15	0	8	0	0	5	0	0	2	13	163	
7:15	7:30	0	6	0	0	7	0	0	0	23	185	
7:30	7:45	0	8	1	0	7	1	0	0	36	194	Peak
7:45	8:00	0	14	4	0	10	2	0	0	16	172	
8:00	8:15	0	11	1	0	2	1	0	1	34	154	
8:15	8:30	0	15	0	0	5	1	0	1	23	146	
8:30	8:45	0	15	0	0	4	0	0	0	12	141	
8:45	9:00	0	8	0	0	2	1	0	0	17	152	
9:00	9:15	0	13	0	0	8	0	0	0	21	160	
9:15	9:30	0	11	2	0	2	0	0	0	25		
9:30	9:45	0	22	2	0	3	0	0	0	15		
9:45	10:00	0	11	3	0	5	0	0	0	17		
15:00	15:15	0	22	2	0	2	0	0	0	8	176	
15:15	15:30	0	20	6	0	1	0	0	0	15	183	
15:30	15:45	0	26	3	0	1	0	0	0	22	190	Peak
15:45	16:00	0	23	2	0	3	0	0	2	18	182	
16:00	16:15	0	25	4	0	0	0	0	0	12	174	
16:15	16:30	0	22	4	0	1	3	0	2	17	176	
16:30	16:45	0	25	3	0	3	0	0	2	11	157	
16:45	17:00	0	26	2	0	2	0	0	0	10	153	
17:00	17:15	0	23	2	0	2	1	0	2	13	164	
17:15	17:30	0	17	1	0	0	0	0	0	12	157	
17:30	17:45	0	22	9	1	1	0	0	0	7	146	
17:45	18:00	0	32	10	0	0	1	0	1	7	130	
18:00	18:15	0	20	7	0	0	0	0	0	9	90	
18:15	18:30	0	17	0	0	0	0	0	0	2		
18:30	18:45	0	13	6	0	1	0	0	1	3		
18:45	19:00	0	7	2	0	0	0	0	1	1		

Peak Time		East Approach Gresford Rd			South Approach Lennoxton Rd			West Approach Gresford Rd			Peak total
Period Start	Period End	U	WB	L	U	R	L	U	R	EB	
7:30	8:30	0	48	6	0	24	5	0	2	109	194
15:30	16:30	0	96	13	0	5	3	0	4	69	190

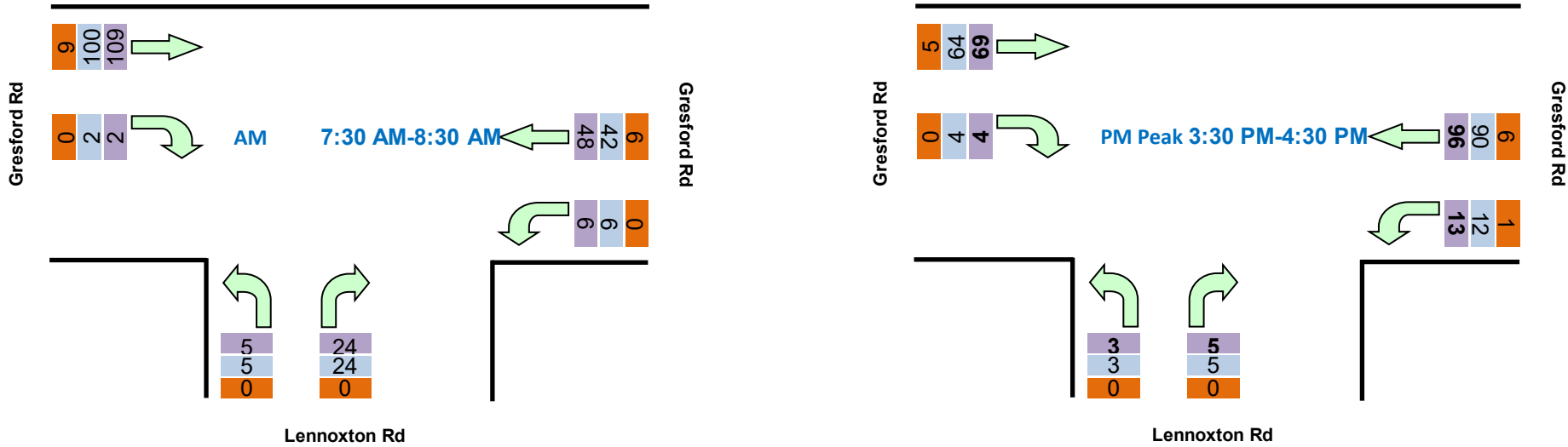
Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.

Graphic

Total

Light

Heavy



Appendix B

Tube Counts – Lennoxton Road



TRANS TRAFFIC SURVEY

trafficsurvey.com.au

T. 1300 82 88 82 - F. 1300 83 88 83 - E. traffic@trafficsurvey.com.au - W. www.trafficsurvey.com.au

AUTOMATIC COUNT SUMMARY

Street Name :	Lennoxton Rd	Location :	West of Corys Creek Rd
Suburb :	Vacy	Start Date :	00:00 Wed 23/April/2025
Machine ID:	ZA05CYPR	Finish Date :	00:00 Wed 30/April/2025
Site ID:	3788	Speed Zone :	70 km/h
Prepared By :	Vo Son Binh	Email:	binh@trafficsurvey.com.au

GPS information Lat 32° 33' 26.73 South		Direction of Travel			
		Both directions	Westbound	Eastbound	
Long 151° 33' 14.39 East					
Traffic Volume : (Vehicles/Day)		Weekdays Average	27	12	15
		7 Day Average	27	12	15
Weekday AM	08:00	3	0	3	
Peak hour start PM	15:00	3	2	1	
Speeds : (Km/Hr)		85th Percentile	60.3	60.0	59.8
		Average	58.5	58.2	58.0
Classification % :		Light Vehicles up to 5.5m	93.1%	93.3%	93.3%

Location

GPS Information [Load Google Map \(internet required\)](#)

(Latitude, Longitude) -32.557426, 151.553997



[Speed Data](#)

[Speed Graph](#)

[Speed Bin](#)

[Volume Data](#)

[Volume Graph](#)

[Classification](#)



QUALITY ASSURED COMPANY BY ISO 9001:2015

OH&S SYSTEM CERTIFIED TO ISO 4801:2001

ENVIRONMENT MANAGEMENT SYSTEM CERTIFIED TO ISO14001:2015



Site Lennoxton Rd

Direction ▼

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Day Date	Monday 28/04/2025	Tuesday 29/04/2025	Wednesday 23/04/2025	Thursday 24/04/2025	Friday 25/04/2025	Saturday 26/04/2025	Sunday 27/04/2025	7 days		Weekday		Weekend	
AM Peak	06:00	08:00	11:00	11:00	11:00	11:00	11:00	Total	Average	Total	Average	Total	Average
PM Peak	15:00	13:00	15:00	16:00	14:00	15:00	12:00	N/A	08:00	N/A	08:00	N/A	11:00
								N/A	12:00	N/A	15:00	N/A	12:00
00:00	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	1	1	0	1	1	1	0	5	1	4	1	1	1
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	3	0	0	1	0	0	0	4	1	4	1	0	0
07:00	0	3	3	1	3	2	2	14	2	10	2	4	2
08:00	3	4	3	4	2	1	1	18	3	16	3	2	1
09:00	3	2	2	1	2	1	1	12	2	10	2	2	1
10:00	3	3	1	1	1	1	2	12	2	9	2	3	2
11:00	2	2	4	5	4	4	3	24	3	17	3	7	4
12:00	0	2	4	2	2	4	4	18	3	10	2	8	4
13:00	0	3	2	2	2	4	1	14	2	9	2	5	3
14:00	3	3	0	2	3	3	1	15	2	11	2	4	2
15:00	5	1	7	1	2	5	0	21	3	16	3	5	3
16:00	3	2	2	5	2	2	3	19	3	14	3	5	3
17:00	0	1	2	2	3	1	2	11	2	8	2	3	2
18:00	0	0	2	2	1	1	2	8	1	5	1	3	2
19:00	1	1	0	1	0	0	1	4	1	3	1	1	1
20:00	0	0	0	1	1	1	0	3	0	2	0	1	1
21:00	0	0	0	0	0	2	1	3	0	0	0	3	2
22:00	1	0	0	1	0	0	0	2	0	2	0	0	0
23:00	0	0	0	0	2	0	0	2	0	2	0	0	0
Total	28	28	32	33	31	33	24	209	30	152	30	57	29
% Heavy	10.71%	7.14%	9.38%	9.09%	9.68%	3.03%	8.33%	8.13%		9.21%		5.26%	



Site Lennoxton Rd

Direction ▼

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Day Date	Monday 28/04/2025	Tuesday 29/04/2025	Wednesday 23/04/2025	Thursday 24/04/2025	Friday 25/04/2025	Saturday 26/04/2025	Sunday 27/04/2025	7 days		Weekday		Weekend	
	11:00	10:00	11:00	11:00	07:00	04:00	07:00	Total	Average	Total	Average	Total	Average
AM Peak	11:00	10:00	11:00	11:00	07:00	04:00	07:00	N/A	07:00	N/A	07:00	N/A	04:00
PM Peak	15:00	13:00	15:00	16:00	12:00	12:00	16:00	N/A	12:00	N/A	15:00	N/A	12:00
00:00	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	1	0	1	0	0	0	1	1
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	1	0	0	0	0	0	0	1	0	1	0	0	0
07:00	0	1	1	0	1	0	1	4	1	3	1	1	1
08:00	0	1	0	0	0	0	0	1	0	1	0	0	0
09:00	1	0	1	0	1	0	0	3	0	3	1	0	0
10:00	1	2	1	1	1	0	1	7	1	6	1	1	1
11:00	2	0	2	2	1	1	1	9	1	7	1	2	1
12:00	0	1	2	2	2	4	1	12	2	7	1	5	3
13:00	0	2	2	1	2	2	1	10	1	7	1	3	2
14:00	2	1	0	2	2	2	0	9	1	7	1	2	1
15:00	3	0	4	1	2	2	0	12	2	10	2	2	1
16:00	3	1	1	3	0	1	3	12	2	8	2	4	2
17:00	0	1	2	2	1	1	0	7	1	6	1	1	1
18:00	0	0	1	0	1	0	1	3	0	2	0	1	1
19:00	0	1	0	1	0	0	1	3	0	2	0	1	1
20:00	0	0	0	1	1	1	0	3	0	2	0	1	1
21:00	0	0	0	0	0	2	1	3	0	0	0	3	2
22:00	1	0	0	1	0	0	0	2	0	2	0	0	0
23:00	0	0	0	0	2	0	0	2	0	2	0	0	0
Total	14	11	17	17	17	17	11	104	15	76	15	28	14
% Heavy	14.29%	9.09%	5.88%	5.88%	11.76%	5.88%	18.18%	9.62%		9.21%		10.71%	



Site Lennoxton Rd

Direction ▼[Back to Site Summary Page](#)

Day Date	Monday 28/04/2025	Tuesday 29/04/2025	Wednesday 23/04/2025	Thursday 24/04/2025	Friday 25/04/2025	Saturday 26/04/2025	Sunday 27/04/2025	7 days		Weekday		Weekend	
	08:00	08:00	08:00	08:00	11:00	11:00	11:00	Total	Average	Total	Average	Total	Average
AM Peak	08:00	08:00	08:00	08:00	11:00	11:00	11:00	N/A	08:00	N/A	08:00	N/A	11:00
PM Peak	15:00	14:00	15:00	16:00	16:00	15:00	12:00	N/A	12:00	N/A	12:00	N/A	12:00
00:00	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	1	1	0	1	1	0	0	4	1	4	1	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	2	0	0	1	0	0	0	3	0	3	1	0	0
07:00	0	2	2	1	2	2	1	10	1	7	1	3	2
08:00	3	3	3	4	2	1	1	17	2	15	3	2	1
09:00	2	2	1	1	1	1	1	9	1	7	1	2	1
10:00	2	1	0	0	0	1	1	5	1	3	1	2	1
11:00	0	2	2	3	3	3	2	15	2	10	2	5	3
12:00	0	1	2	0	0	0	3	6	1	3	1	3	2
13:00	0	1	0	1	0	2	0	4	1	2	0	2	1
14:00	1	2	0	0	1	1	1	6	1	4	1	2	1
15:00	2	1	3	0	0	3	0	9	1	6	1	3	2
16:00	0	1	1	2	2	1	0	7	1	6	1	1	1
17:00	0	0	0	0	2	0	2	4	1	2	0	2	1
18:00	0	0	1	2	0	1	1	5	1	3	1	2	1
19:00	1	0	0	0	0	0	0	1	0	1	0	0	0
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	14	17	15	16	14	16	13	105	15	76	15	29	15
% Heavy	7.14%	5.88%	13.33%	12.50%	7.14%	0.00%	0.00%	6.67%		9.21%		0.00%	

TRANS TRAFFIC SURVEY

 trafficsurvey.com.au

T. 1300 82 88 82 - F. 1300 83 88 83 - E. traffic@trafficsurvey.com.au - W. www.trafficsurvey.com.au

AUTOMATIC COUNT SUMMARY

Street Name :	Lennoxton Rd	Location :	Outside Property 256
Suburb :	Vacy	Start Date :	00:00 Wed 23/April/2025
Machine ID:	ZA81HPFV	Finish Date :	00:00 Wed 30/April/2025
Site ID:	3789	Speed Zone :	70 km/h
Prepared By :	Vo Son Binh	Email:	binh@trafficsurvey.com.au

GPS information Lat 32° 33' 21.66 South		Direction of Travel			
		Both directions	Westbound	Eastbound	
Long 151° 33' 34.30 East					
Traffic Volume : (Vehicles/Day)		Weekdays Average	88	44	44
		7 Day Average	83	41	42
Weekday AM	07:00	8	1	6	
Peak hour start PM	16:00	11	7	4	
Speeds : (Km/Hr)		85th Percentile	63.7	62.4	66.1
		Average	59.6	58.5	61.1
Classification % :		Light Vehicles up to 5.5m	92.8%	92.9%	92.7%

Location

GPS Information [Load Google Map \(internet required\)](#)

(Latitude, Longitude) -32.556017, 151.559528



[Speed Data](#) [Speed Graph](#) [Speed Bin](#)
[Volume Data](#) [Volume Graph](#) [Classification](#)



QUALITY ASSURED COMPANY BY ISO 9001:2015

OH&S SYSTEM CERTIFIED TO ISO 4801:2001

ENVIRONMENT MANAGEMENT SYSTEM CERTIFIED TO ISO14001:2015



Site Lennoxton Rd

Direction ▼

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Day Date	Monday 28/04/2025	Tuesday 29/04/2025	Wednesday 23/04/2025	Thursday 24/04/2025	Friday 25/04/2025	Saturday 26/04/2025	Sunday 27/04/2025	7 days		Weekday		Weekend	
	09:00	07:00	07:00	11:00	09:00	11:00	10:00	Total	Average	Total	Average	Total	Average
AM Peak	09:00	07:00	07:00	11:00	09:00	11:00	10:00	N/A	11:00	N/A	07:00	N/A	11:00
PM Peak	17:00	14:00	16:00	16:00	16:00	13:00	12:00	N/A	16:00	N/A	16:00	N/A	12:00
00:00	0	0	0	0	0	1	0	1	0	0	0	1	1
01:00	0	0	0	0	2	0	0	2	0	2	0	0	0
02:00	1	0	1	1	1	0	0	4	1	4	1	0	0
03:00	0	1	0	0	0	0	0	1	0	1	0	0	0
04:00	1	1	0	1	1	1	1	6	1	4	1	2	1
05:00	0	1	0	1	0	0	0	2	0	2	0	0	0
06:00	5	1	1	1	1	0	0	9	1	9	2	0	0
07:00	4	9	10	9	6	4	2	44	6	38	8	6	3
08:00	6	6	9	7	7	3	2	40	6	35	7	5	3
09:00	7	5	5	8	8	4	2	39	6	33	7	6	3
10:00	4	7	3	3	5	8	6	36	5	22	4	14	7
11:00	2	6	7	10	7	21	6	59	8	32	6	27	14
12:00	1	3	5	8	6	8	11	42	6	23	5	19	10
13:00	1	8	4	4	6	10	4	37	5	23	5	14	7
14:00	8	10	5	7	6	5	5	46	7	36	7	10	5
15:00	7	4	8	4	8	7	0	38	5	31	6	7	4
16:00	8	5	9	11	20	5	8	66	9	53	11	13	7
17:00	10	5	7	6	13	3	8	52	7	41	8	11	6
18:00	2	3	3	6	2	3	6	25	4	16	3	9	5
19:00	1	3	2	1	1	2	1	11	2	8	2	3	2
20:00	0	1	2	3	4	1	0	11	2	10	2	1	1
21:00	0	0	0	0	0	2	1	3	0	0	0	3	2
22:00	1	0	1	1	1	0	0	4	1	4	1	0	0
23:00	0	0	0	0	3	0	0	3	0	3	1	0	0
Total	69	79	82	92	108	88	63	581	83	430	86	151	76
% Heavy	4.35%	7.59%	10.98%	5.43%	10.19%	5.68%	6.35%	7.40%		7.91%		5.96%	



Site Lennoxton Rd

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Day Date	Monday 28/04/2025	Tuesday 29/04/2025	Wednesday 23/04/2025	Thursday 24/04/2025	Friday 25/04/2025	Saturday 26/04/2025	Sunday 27/04/2025	7 days		Weekday		Weekend	
	09:00	10:00	09:00	11:00	10:00	11:00	10:00	Total	Average	Total	Average	Total	Average
AM Peak	09:00	10:00	09:00	11:00	10:00	11:00	10:00	N/A	11:00	N/A	10:00	N/A	11:00
PM Peak	17:00	14:00	16:00	16:00	16:00	12:00	12:00	N/A	16:00	N/A	16:00	N/A	12:00
00:00	0	0	0	0	0	1	0	1	0	0	0	1	1
01:00	0	0	0	0	1	0	0	1	0	1	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	1	0	1	0	0	0	1	1
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	1	0	0	0	0	0	0	1	0	1	0	0	0
07:00	0	1	2	1	2	0	1	7	1	6	1	1	1
08:00	0	2	1	1	0	0	1	5	1	4	1	1	1
09:00	2	0	3	2	3	1	0	11	2	10	2	1	1
10:00	1	4	3	1	4	4	3	20	3	13	3	7	4
11:00	2	2	2	6	2	9	2	25	4	14	3	11	6
12:00	1	1	2	4	6	6	4	24	3	14	3	10	5
13:00	1	5	3	2	3	6	3	23	3	14	3	9	5
14:00	4	6	2	6	4	4	2	28	4	22	4	6	3
15:00	4	2	5	2	4	4	0	21	3	17	3	4	2
16:00	7	4	7	7	10	2	4	41	6	35	7	6	3
17:00	8	3	4	6	7	2	4	34	5	28	6	6	3
18:00	2	3	3	4	2	1	3	18	3	14	3	4	2
19:00	0	3	2	1	0	1	1	8	1	6	1	2	1
20:00	0	1	2	3	2	1	0	9	1	8	2	1	1
21:00	0	0	0	0	0	2	1	3	0	0	0	3	2
22:00	1	0	1	1	1	0	0	4	1	4	1	0	0
23:00	0	0	0	0	3	0	0	3	0	3	1	0	0
Total	34	37	42	47	54	45	29	288	41	214	43	74	37
% Heavy	2.94%	5.41%	11.90%	6.38%	9.26%	4.44%	0.00%	6.25%		7.48%		2.70%	



Site Lennoxton Rd

Direction ▼[Back to Site Summary Page](#)

Day Date	Monday 28/04/2025	Tuesday 29/04/2025	Wednesday 23/04/2025	Thursday 24/04/2025	Friday 25/04/2025	Saturday 26/04/2025	Sunday 27/04/2025	7 days		Weekday		Weekend	
	08:00	07:00	07:00	07:00	08:00	11:00	11:00	Total	Average	Total	Average	Total	Average
AM Peak	08:00	07:00	07:00	07:00	08:00	11:00	11:00	N/A	07:00	N/A	07:00	N/A	11:00
PM Peak	14:00	14:00	12:00	12:00	16:00	13:00	12:00	N/A	16:00	N/A	16:00	N/A	12:00
00:00	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	1	0	0	1	0	1	0	0	0
02:00	1	0	1	1	1	0	0	4	1	4	1	0	0
03:00	0	1	0	0	0	0	0	1	0	1	0	0	0
04:00	1	1	0	1	1	0	1	5	1	4	1	1	1
05:00	0	1	0	1	0	0	0	2	0	2	0	0	0
06:00	4	1	1	1	1	0	0	8	1	8	2	0	0
07:00	4	8	8	8	4	4	1	37	5	32	6	5	3
08:00	6	4	8	6	7	3	1	35	5	31	6	4	2
09:00	5	5	2	6	5	3	2	28	4	23	5	5	3
10:00	3	3	0	2	1	4	3	16	2	9	2	7	4
11:00	0	4	5	4	5	12	4	34	5	18	4	16	8
12:00	0	2	3	4	0	2	7	18	3	9	2	9	5
13:00	0	3	1	2	3	4	1	14	2	9	2	5	3
14:00	4	4	3	1	2	1	3	18	3	14	3	4	2
15:00	3	2	3	2	4	3	0	17	2	14	3	3	2
16:00	1	1	2	4	10	3	4	25	4	18	4	7	4
17:00	2	2	3	0	6	1	4	18	3	13	3	5	3
18:00	0	0	0	2	0	2	3	7	1	2	0	5	3
19:00	1	0	0	0	1	1	0	3	0	2	0	1	1
20:00	0	0	0	0	2	0	0	2	0	2	0	0	0
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	35	42	40	45	54	43	34	293	42	216	43	77	39
% Heavy	5.71%	9.52%	10.00%	4.44%	11.11%	6.98%	11.76%	8.53%		8.33%		9.09%	

Appendix C

SIDRA Output

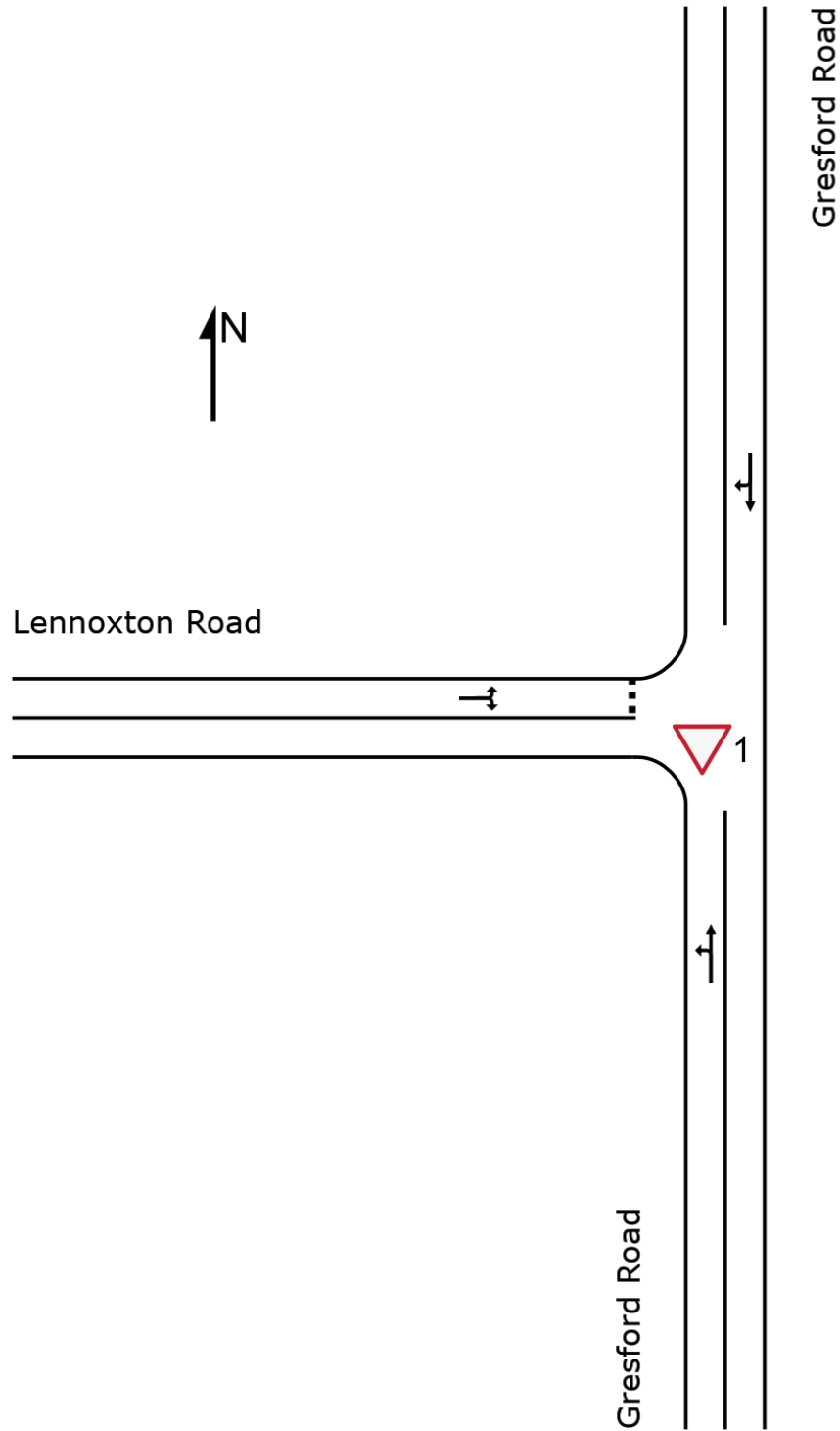


SITE LAYOUT

 Site: [1] Gresford Road/Lennoxton Road - AM Peak (Folder1)

New Site
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

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



MOVEMENT SUMMARY

 **Site: [1] Gresford Road/Lennoxton Road - AM Peak (Folder1)**
Output produced by SIDRA INTERSECTION Version: 10.0.3.210

New Site
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m				km/h
South: Gresford Road															
1	L2	All MCs	11	7.0	11	7.0	0.033	7.1	LOS A	0.0	0.0	0.00	0.11	0.00	69.0
2	T1	All MCs	51	7.0	51	7.0	0.033	0.0	LOS A	0.0	0.0	0.00	0.11	0.00	77.9
Approach			61	7.0	61	7.0	0.033	1.2	NA	0.0	0.0	0.00	0.11	0.00	76.2
North: Gresford Road															
8	T1	All MCs	115	7.0	115	7.0	0.064	0.0	LOS A	0.0	0.2	0.01	0.02	0.01	79.3
9	R2	All MCs	3	7.0	3	7.0	0.064	6.8	LOS A	0.0	0.2	0.01	0.02	0.01	66.2
Approach			118	7.0	118	7.0	0.064	0.2	NA	0.0	0.2	0.01	0.02	0.01	78.9
West: Lennoxton Road															
10	L2	All MCs	8	7.0	8	7.0	0.042	6.6	LOS A	0.1	1.0	0.21	0.59	0.21	57.1
12	R2	All MCs	39	7.0	39	7.0	0.042	6.9	LOS A	0.1	1.0	0.21	0.59	0.21	56.9
Approach			47	7.0	47	7.0	0.042	6.8	LOS A	0.1	1.0	0.21	0.59	0.21	56.9
All Vehicles			226	7.0	226	7.0	0.064	1.9	NA	0.1	1.0	0.05	0.17	0.05	72.4

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

▼ Site: [1 (2)] Gresford Road/Lennoxton Road - PM Peak
(Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

New Site
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

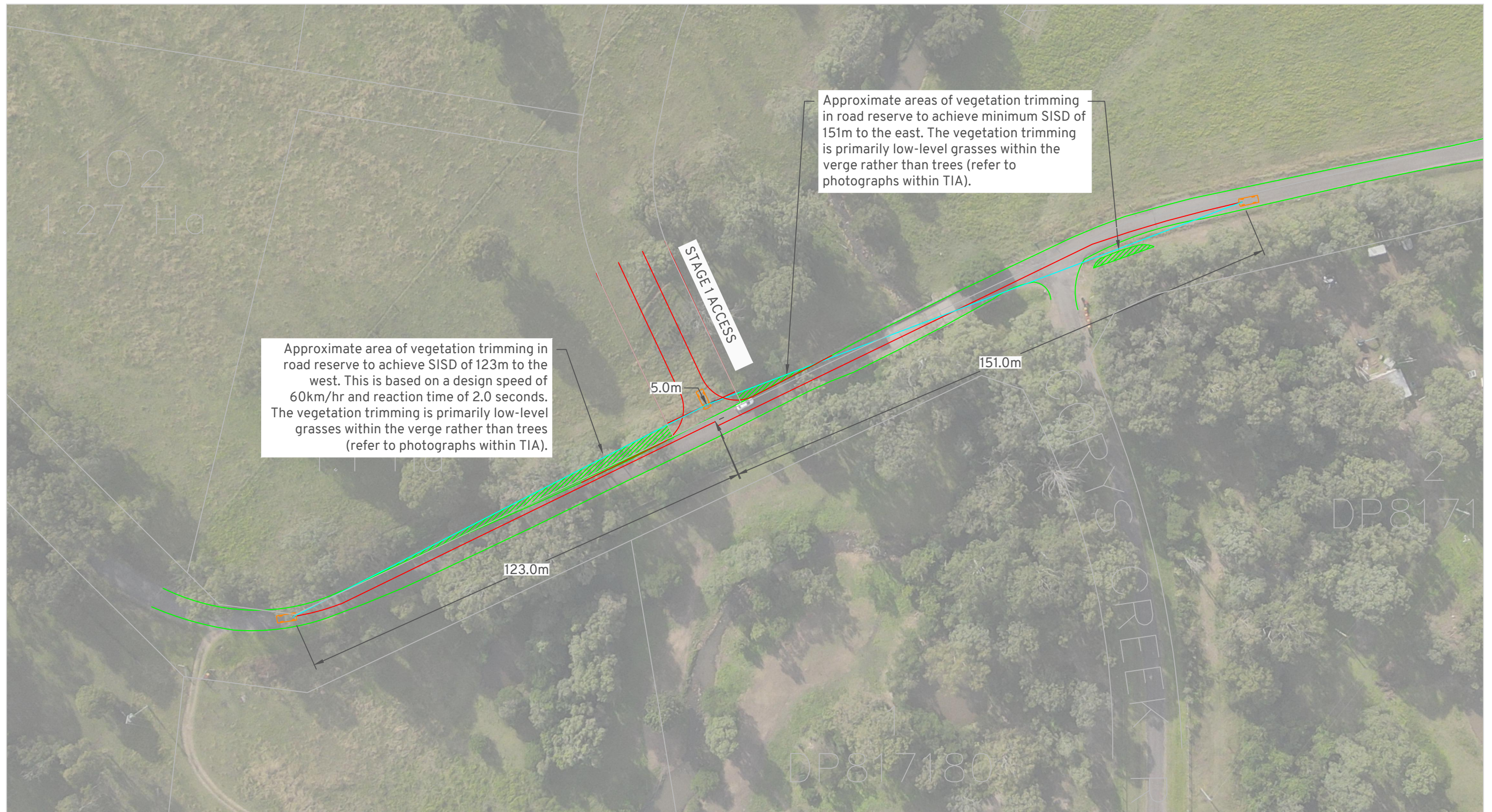
Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh	Dist] m				km/h
South: Gresford Road															
1	L2	All MCs	25	7.0	25	7.0	0.068	7.1	LOS A	0.0	0.0	0.00	0.13	0.00	68.8
2	T1	All MCs	101	7.0	101	7.0	0.068	0.0	LOS A	0.0	0.0	0.00	0.13	0.00	77.6
Approach			126	7.0	126	7.0	0.068	1.4	NA	0.0	0.0	0.00	0.13	0.00	75.7
North: Gresford Road															
8	T1	All MCs	73	7.0	73	7.0	0.045	0.1	LOS A	0.1	0.4	0.06	0.09	0.06	76.0
9	R2	All MCs	8	7.0	8	7.0	0.045	7.2	LOS A	0.1	0.4	0.06	0.09	0.06	63.9
Approach			81	7.0	81	7.0	0.045	0.8	NA	0.1	0.4	0.06	0.09	0.06	74.6
West: Lennoxton Road															
10	L2	All MCs	5	7.0	5	7.0	0.013	6.8	LOS A	0.0	0.3	0.23	0.58	0.23	57.3
12	R2	All MCs	9	7.0	9	7.0	0.013	6.9	LOS A	0.0	0.3	0.23	0.58	0.23	57.1
Approach			15	7.0	15	7.0	0.013	6.9	LOS A	0.0	0.3	0.23	0.58	0.23	57.2
All Vehicles			222	7.0	222	7.0	0.068	1.6	NA	0.1	0.4	0.04	0.15	0.04	73.7

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Appendix D

Sight Distance Assessment





Stage 1 Access

Sight Distance

Sight Line



256 Lennoxton Road, Vacy
Residential Subdivision
Sight Distance Assessment

DRAWN: KB
DATE: 10/11/2025
DWG NO: 1206 S01B
SCALE at A3: 1:1000m

Amber SD1

