



QuantumTraffic

Quantum Traffic Pty Ltd

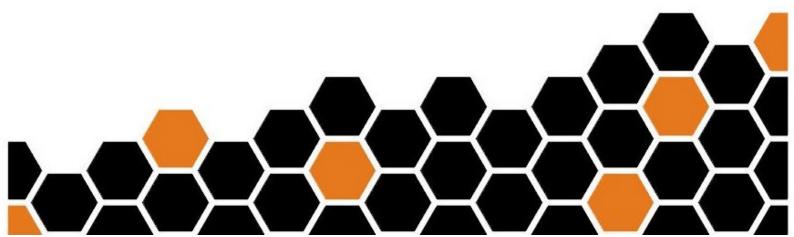
- ACN 617474370
- ABN 54617474370
- (02) 6243 3672 т
- Е admin@quantumtraffic.com.au
- Level 9, 2 Phillip Law Street Α CANBERRA ACT 2601
- www.quantumtraffic.com.au w

Traffic Impact Assessment Report

8 Noonan Road, Ingleburn

Proposed Scrap Metal Yard

13/12/2023





Traffic Impact Assessment Report

8 Noonan Road, Ingleburn

Proposed Scrap Metal Yard

Document Control

Revision	Date	Reference	Prepared By	Approved By
Draft	18/07/2022	22-0008	H.M.	H.M.
Rev 1	05/09/2022	<u>22-0008</u>	<u>H.M.</u>	<u>H.M.</u>
Rev 2	13/12/2023	22-0008	H.M.	D.B.

QuantumTraffic

т	E	Α	W
(02) 6243 3672	admin@quantumtraffic.com.au	Level 9, 2 Phillip Law Street	www.quantumtraffic.com.au
		CANBERRA ACT 2601	

Copyright \odot 2022 by Quantum Traffic

All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the publisher, Quantum Traffic.



Executive Summary

Quantum Traffic have been engaged by Shine Motor Corporation to provide traffic engineering advice in relation to the proposed scrap metal yard at 8 Noonan Road in Ingleburn. This Traffic Impact Assessment (TIA) report summarises the traffic and parking analyses undertaken in relation to the proposed development.

The subject site is located on the southwest side of Noonan Road, approximately 1.0km north of Ingleburn Station and 34.5km southwest of Sydney GPO. The site is zoned as IN1 – General Industrial and is surrounded by similar land uses to the northeast, northwest and southwest. Bunbury Curran Creek adjoins the site to the southeast. The site currently operates as a scrap metal yard and has limited active travel and public transport infrastructure within close proximity of the site.

Quantitative analysis of the MacDonald Road / Williamson Road and Henderson Road / Williamson Road intersection indicates that both intersections operate with acceptable average delays and 95th percentile queue lengths during both commuter peak hours. It is noted that the existing traffic volumes on the northwest approach (MacDonald Road) of the MacDonald Road / Williamson Road intersection marginally exceed the practical capacity of this approach. The existing traffic volumes on all other approaches were found to be within the practical capacity of these intersections.

A review of the crash history in the vicinity of the subject site identified a number of property damage and minor injury crashes but no immediate road safety issues.

A series of car parking surveys identified demands for on-street car parking exceeded the supply of on-street car parking, during business hours, within approximately 200m walking distance of the subject site.

The proposal is for a nominal change in use, in order for the site to accommodate a scrap metal yard, with capacity for up to 4,800 tonnes per annum. Given the existing use of the subject site as a scrap metal yard, the nominal change in use is not expected to significantly impact the level of activity on the subject site. As such, the proposed development is expected to continue to generate approximately 50 vehicle movements per day.

Swept path analysis has been undertaken to demonstrate that vehicle up to and including the standard semi-trailer (articulated vehicle, AV) are able to <u>entreenter</u> the site in a forwards direction, undertake a three-point-turn entirely within the subject site, before departing in a forwards direction.

A review of the parking and vehicle access arrangements found that the proposed development accords with the requirements of Council's DCP and the relevant Australian Standards.

The proposal for 13 car parking spaces on the subject site (in addition to the loading / unloading area) is expected to reduce demands for on-street car parking by approximately eight (8) vehicles, during business hours. As such, the demand for on-street car parking is expected to drop below the supply of on-street car parking within 200m walking distance of the subject site.

Traffic Impact Assessment Report

8 Noonan Road, Ingleburn – Proposed Scrap Metal Yard



As the nominal change in use is not expected to significantly alter the number of vehicle trips to and from the subject site, the proposed development is not expected to significantly impact the safety or performance of the road network.

On this basis, there are no traffic engineering reasons why the proposed development should not be approved, subject site appropriate conditions.



Table of Contents

1	Introd	uction	1				
	1.1	Requested Analyses	. 1				
2							
	2.1	Subject Site	. 3				
	2.2	Active Travel & Public Transport Networks	. 4				
	2.3	Road Network	. 6				
	2.4	Car Parking	11				
3	Propos	ed Development	13				
	3.1	Traffic and Parking Demands	15				
	3.2	Vehicle Access Arrangements	16				
	3.3	Design Review	19				
4	Parking	g Assessments	21				
	4.1	Overall Car Parking Assessment	21				
	4.2	Accessible Car Parking Assessment	22				
5	Develo	pment Conditions	23				
6	Conclu	sions	24				

Appendices

Appendix A: Turning Movement Count Data

Appendix B: SIDRA Results – 2022 Existing Conditions

Appendix C: Existing Car Parking Observations

Appendix D: Proposed Development Plans

Appendix E: Swept Path Diagrams



Figures

Figure 1: Locality Plan (source: NSW Planning Portal)	3
Figure 2: Aerial Photograph (source: SIX Maps)	4
Figure 3: Strategic Active Travel Network (source: Campbelltown City Council)	5
Figure 4: Public Transport Network (source: Interline Bus)	6
Figure 5: Observed Traffic Volume Profile – Existing Conditions	7
Figure 6: Traffic Demands – 2022 Existing Conditions	8
Figure 7: Modelled Intersection Geometry – Existing Conditions	9
Figure 8: Historical Crash Severity (source: TfNSW)	10
Figure 9: Car Parking Survey Area (source: ACTmapi)	11
Figure 10: Existing Car Parking Conditions	12
Figure 11: Proposed Development	14
Figure 12: Indicative Haulage Routes	17
Figure 13: Proposed Vehicle Manoeuvring Area	19
Figure 14: Anticipated Post-Development On-Street Car Parking Conditions	22

Tables

Table 1: Requested Traffic Engineering Analyses	1
Table 2: LOS Criteria for Intersections	8
Table 3: Intersection Performance Summary – 2022 Existing Conditions	9



1 Introduction

Quantum Traffic have been engaged by Shine Motor Corporation to provide traffic engineering advice in relation to the proposed scrap metal yard at 8 Noonan Road in Ingleburn (the subject site).

This Traffic Impact Assessment (TIA) report summarises the traffic and parking analyses undertaken in relation to the proposed development.

1.1 Requested Analyses

Table 1 below presents the list of traffic engineering analyses requested in the SEARs for the proposed development. Also included are references to the relevant sections of this document which address each request.

Table 1: Requested Traffic Engineering Analyses

Source	Request	Reference
Planning,	Details of road transport routes and access to the site	Section 3.2 (page 16)
Industry & Environment	Road traffic predictions for the development during operation	Section 3.1 (page 15)
	Swept Path diagrams depicting vehicles entering, exiting and manoeuvring throughout the site	Appendix E
	An assessment of impacts to the safety and function of the road network	Section 5 (page 23)
	Details of the parking provisions associated with the proposed development including compliance with the requirements of the relevant Australian car parking standards	Sections 3.3.2 and 4 (pages 20 and 21)
Transport for NSW	Details of all traffic types and volumes likely to be generated by the proposed development during construction and operation, including predicted haulage routes, including over size over mass vehicles, and consider any impacts to the state road network (i.e. where the haulage route meets the state road)	Section 3 (page 13)
	Daily inbound and outbound traffic profile by time of day and day of week broken down per vehicle types	Section 3.1 (page 15)
	Details of the origin/destination of dangerous goods movements to/from the site (if any)	Section 3.2.1 (page 16)
	Detailed plan site layout to demonstrate that the site will be able to accommodate the most productive vehicle types as well as the worst performing vehicles (sufficient loading/unloading) and parking on site in accordance with the relevant Australian Standard and Council's Development Control Plan	Section 3.2 (page 16)
	Details of the driver facilities provided on site	Section 3 (page 15)
	Swept path diagrams to demonstrate the largest vehicles as well as the worst performing vehicles entering, exiting and manoeuvring throughout the site	Appendix E



Source	Request	Reference
	An assessment of the predicted impacts of this traffic on road safety and the capacity of the road network, including consideration of cumulative traffic impacts at key intersections using SIDRA or similar traffic model. This is to include the identification and consideration of approved and proposed developments/planning proposals/road upgrades in the vicinity. The assessment needs to include the following intersections: Williamson Road / MacDonald Road Williamson Road / Henderson Road	Section 5 (page 23)
	Detailing how the proposed development connects to adjoining sites to facilitate their future development for their intended purposes	Section 3 (page 15)
	Traffic management plan on how to manage number of vehicles likely to be generated during construction and operation and awaiting loading, unloading or servicing that can be accommodated on the site to avoid queuing in the surrounding road network. This to demonstrate how internal and external traffic can be managed in conjunction with existing traffic on site	Section 3.2 (page 16)
	Detailed plans of the site access and proposed layout of the internal road and pedestrian network and parking on site in accordance with the relevant Australian Standards and Council's DCP	Section 3.2.2 (page 17)
	Swept path diagrams depicting vehicles entering, exiting and manoeuvring throughout the site	Appendix E
	Details of road upgrades, infrastructure works, or new roads or access points required for the development	Section 5 (page 23)
	Details of travel demand management measures to minimise the impact on general traffic and bus operations, including details of a location-specific sustainable travel plan (Green Travel Plan and specific Workplace Travel Plan) and the provision of facilities to increase the non-car mode share for travel to and from the site	Section 3.1 (page 15)
	Details of the adequacy of existing public transport or any future public transport infrastructure within the vicinity of the site, pedestrian and bicycle networks and associated infrastructure to meet the likely future demand for the proposed development	Section 2.2 (page 4)
	Measures to integrate the development with the existing/future public transport network	Section 2.2.2 (page 5)



2 Existing Conditions

2.1 Subject Site

The subject site is located on the southwest side of Noonan Road, approximately 1.0km north of Ingleburn Station and 34.5km southwest of Sydney GPO. As shown at Figure 1 below, the site is zoned as IN1 – General Industrial and is surrounded by similar land uses to the northeast, northwest and southwest. Bunbury Curran Creek adjoins the site to the southeast.

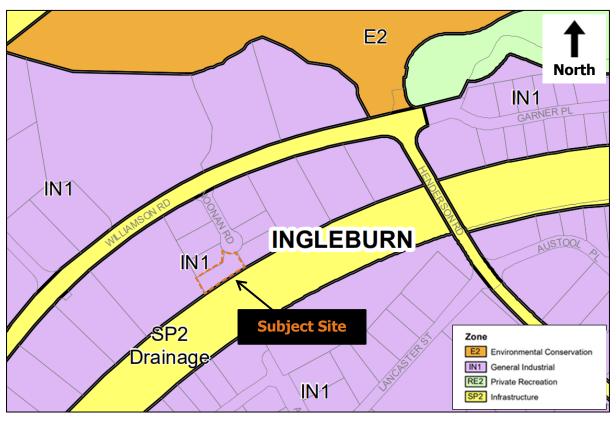


Figure 1: Locality Plan (source: NSW Planning Portal)

Figure 2 below shows that the subject site currently operates as a scrap metal yard, with office and industrial buildings located along the northwest boundary of the site and all vehicle access via an existing concrete driveway (of approximately 8.0m width) to the cul-de-sac of Noonan Road.





Figure 2: Aerial Photograph (source: SIX Maps)

2.2 Active Travel & Public Transport Networks

2.2.1 Active Travel Network

Despite the *Campbelltown LGA Cycleway Plan* (Figure 3 below) identifying Williamson Road as an existing off-road cycleway and Brooks Road as an existing on-road cycleway, there is no existing active travel infrastructure located within close proximity of the subject site.

Traffic Impact Assessment Report

8 Noonan Road, Ingleburn – Proposed Scrap Metal Yard



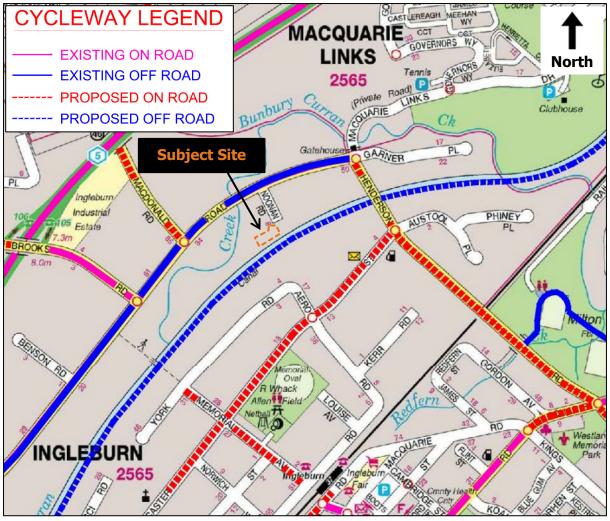


Figure 3: Strategic Active Travel Network (source: Campbelltown City Council)

2.2.2 Public Transport Network

The subject site is similarly isolated from the public transport network with only one (1) bus stop located within 400m walking distance. This stop (Williamson Rd after Henderson Rd [2565119]), and its opposite direction pair (Williamson Rd before Macquarie Links Dr [256555], are route 869 buses between Ingleburn and Liverpool via Edmondson Park and Prestons. These services operate at approximately 30-minute headways between 6am and 10pm. Figure 4, below, presents the existing public transport routes in the vicinity of the subject site.

Traffic Impact Assessment Report

8 Noonan Road, Ingleburn – Proposed Scrap Metal Yard

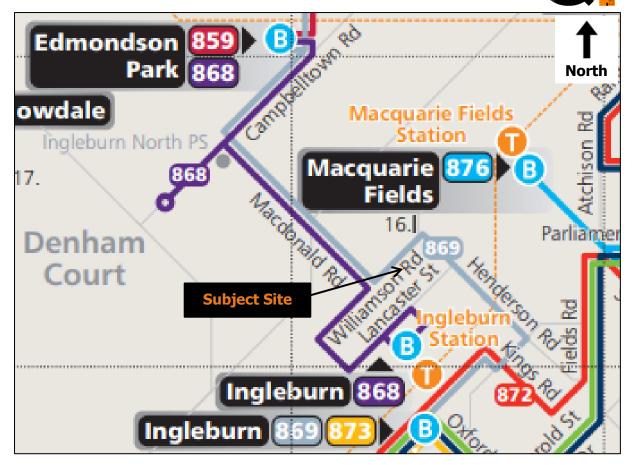


Figure 4: Public Transport Network (source: Interline Bus)

2.3 Road Network

2.3.1 Road Network Description

Noonan Road is a local road that extends approximately 120m from Williamson Road in the northwest to a cul-de-sac in the southeast.

Along its length, Noonan Road comprises a single carriageway of approximately 12m width, which supports a single lane of traffic in each direction. On-street parking is unrestricted on both sides of the carriageway, with the carriageway width sufficient to accommodate simultaneous two-way traffic flow whilst vehicles are parked on both sides.

No active travel infrastructure is provided along the length of Noonan Road.

Noonan Road is subject to the urban default speed limit of 50km/h.

Williamson Road is a state road that extends approximately 3.5km from Henderson Road in the northeast to Campbelltown Road in the southwest.

In the vicinity of Noonan Road, Williamson Road comprises dual carriageways of approximately 7m width, which each support two (2) traffic lanes in a single direction. The dual carriageways are separated by a planted median of approximately 11m width. On-street parking is generally not-prohibited, however the traffic conditions and lack of pedestrian access to adjacent properties acts as a significant deterrent.

A 1.2m wide footpath is located within the verge on the northwest side of Williamson Road.



Williamson Road is subject to a posted speed limit of 60km/h.

2.3.2 Traffic Volumes

Turning movement count data was collected at the Henderson Road / Williamson Road and MacDonald Road / Williamson Road intersections during the commuter peak periods on Thursday, 10 March 2022. Figure 5 below presents the traffic volume profile for this region of the road network throughout the duration of the turning movement counts.

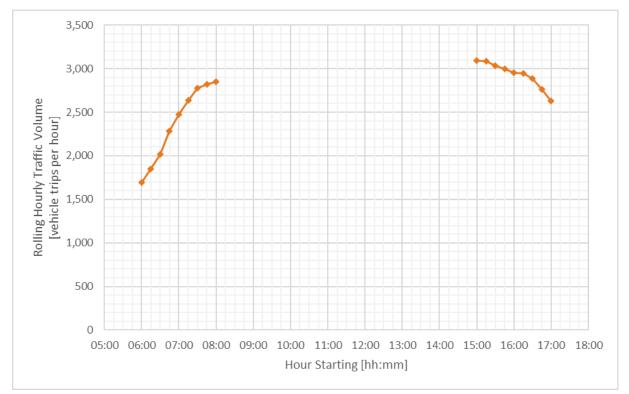
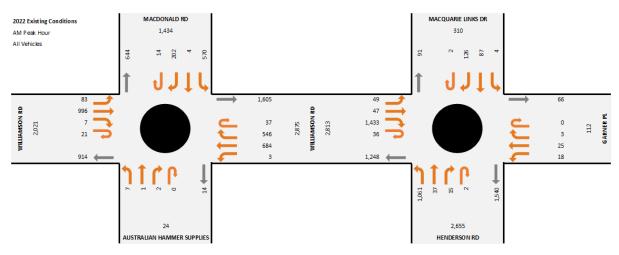
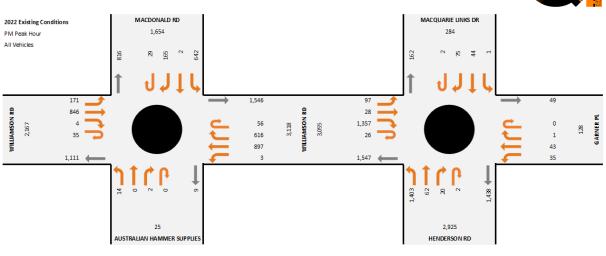


Figure 5: Observed Traffic Volume Profile – Existing Conditions

This data indicates that the weekday peak hours occur between 8am-9am and between 3pm-4pm. Traffic demands are not expected to significantly exceed these observed peaks between 9am and 3pm. Figure 6 below presents the peak hour turning movement counts on the road network, while full details of the observed traffic volumes are provided at Appendix A.



(a) AM Peak Hour (8am-9am)



(a) PM Peak Hour (3pm-4pm)

Figure 6: Traffic Demands – 2022 Existing Conditions

2.3.3 Intersection Performance

The performance of the Henderson Road / Williamson Road and MacDonald Road / Williamson Road roundabouts has been assessed using the SIDRA Intersection 8 software package ('SIDRA'). SIDRA quantifies intersection performance using the following four (4) measures:

- Degree of Saturation (DOS), which represents the ratio of traffic demands to theoretical intersection capacity,
- Average delay, in seconds, experienced by vehicles at the intersection,
- Level of Service (LOS), which converts average delay to a letter grade, and
- 95th percentile queue length, in metres, which reflects the length of queueing that has a 1-in-20 chance of being exceeded.

The *RMS Traffic Modelling Guidelines* specify that 0.85 and 0.98 are the maximum practical DOS for roundabouts and continuous lanes, respectively. Beyond this value, traffic flows can become unstable, with minor flow disruptions likely to cause long delays and queue lengths.

The *RMS Guide to Traffic Generating Developments (2002)* defines the LOS criteria as presented at Table 2 below.

Table 2: LOS Criteria for Intersections

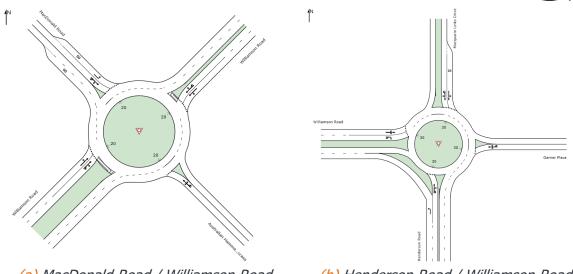
Level of Service	Average Delay
Α	≤ 14s
В	15s – 28s
С	29s – 42s
D	43s – 56s
E	57s – 70s
F	> 70s

The 95th percentile queue lengths have been assessed against the available storage length within each respective lane.

Model Development

Figure 7 below presents the modelled intersection geometry.





(a) MacDonald Road / Williamson Road (b) Henderson Road / Williamson Road

Figure 7: Modelled Intersection Geometry – Existing Conditions

Intersection Performance

Table 3 below summarises the performance of the MacDonald Road / Williamson Road and Henderson Road / Williamson Road intersections under 2022 existing conditions. Full details are provided at Appendix B.

Annroach		AM Pe	ak Hour		PM Peak Hour								
Approach	DOS	Delay	LOS	Queue	DOS	Delay	LOS A LOS A LOS B LOS B LOS B	Queue					
MacDonald Road / Williamson Road													
SE: Aus Hammer Supplies	0.05	12s	LOS A	2m	0.06	9s	LOS A	2m					
NE: Williamson Road	0.56	14s	LOS A	39m	0.67	14s	LOS A	55m					
NW: MacDonald Road	0.91	21s	LOS B	84m	0.94	24s	LOS B	108m					
SW: Williamson Road	0.69	23s	LOS B	69m	0.75	28s	LOS B	83m					
Total	0.91	23s LOS B		-	0.94	28s	LOS B	-					
Henderson Road / William	nson Ro	bad											
S: Henderson Road	0.62	12s	LOS A	2m	0.80	12s	LOS A	2m					
E: Garner Place	0.10	17s	LOS B	4m	0.15	16s	LOS B	5m					
N: Macquarie Links Drive	0.18	11s	LOS A	6m	0.11	10s	LOS A	4m					
W: Williamson Road	0.53	12s	LOS A	35m	0.52	13s	LOS A	33m					
Total	0.62	17s	LOS B	-	0.80	16s	LOS B	-					

Table 3: Intersection Performance Summary – 2022 Existing Conditions

The intersection performance analysis indicates that, in both peak hours, the MacDonald Road Williamson Road intersection operates with acceptable average delay and 95th percentile queue lengths. In both commuter peak hours, the left-turn from the northwest approach (MacDonald Road) is the critical movement, which operates marginally in excess of its practical capacity.

The analysis indicates that the Henderson Road / Williamson Road intersection operates with minimal average delays and acceptable 95th percentile queue lengths during both commuter peak hours. At the Henderson Road / Williamson Road intersection, the left-turn from the south approach (Henderson Road) is the critical movement in both commuter peak hours. As this movement is accommodated within a continuous lane which bypasses the roundabout,



the existing traffic volumes, during both commuter peak hours, are considered to be well within the practical capacity of this movement.

2.3.4 Crash History

Historical crash data has been analysed to identify any road safety issues in the vicinity of the subject site. This analysis is based on the publicly available crash data published by Transport for NSW ('TfNSW') and considers all reported crashes between 1 January 2016 and 31 December 2020.

In this period, there were a total of 17 crashes reported in the vicinity of the subject site. All of these crashes occurred on Williamson Road, between Henderson Road and MacDonald Road, inclusive of the approaches to those intersections. No crashes reported on Noonan Road or at the Noonan Road / Williamson Road intersection. One (1) of these crashes resulted in serious injuries (5.9%), five (5) crashes resulted in moderate injuries (29.4%), six (6) crashes resulted in minor/other injuries (35.3%) and the remaining five (5) crashes resulted only in property damage (29.4%). Figure 8 below presents the locations and severity of each of these crashes.

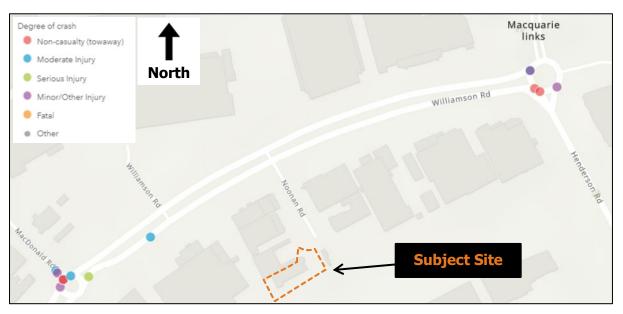


Figure 8: Historical Crash Severity (source: TfNSW)

Analysis of the historical crash data identified that four (4) of the crashes at the MacDonald Road / Williamson Road roundabout involved vehicles travelling towards the northeast (along Williamson Road) in parallel lanes. Three (3) of these crashes (75%) occurred during daylight hours in 2018 or 2019 and resulted in property damage only, with the remaining crash occurring in dark conditions in 2020 and resulting in moderate injuries to one (1) person.

A further four (4) crashes at the MacDonald Road / Williamson Road involved vehicles entering the roundabout colliding with vehicles already within the roundabout. These crashes were equally distributed between vehicles entering the roundabout from the northwest and southwest approaches (MacDonald Road and Williamson Road, respectively). Three (3) of these crashes (75%) occurred during daylight hours, with the remining crash occurring after dark. A different three (3) of these crashes (75%) resulted in minor injuries, with the remaining crash resulting in moderate injuries.

Traffic Impact Assessment Report

8 Noonan Road, Ingleburn – Proposed Scrap Metal Yard



At the Henderson Road / Williamson Road roundabout, two (2) of the crashes involved vehicles in the same lane on the west approach (Williamson Road). Both of these crashes occurred in 2017, but in different lighting conditions (daylight and dusk). These crashes resulted in one (1) moderate injury and one (1) minor injury, respectively.

A further two (2) crashes at the Henderson Road / Williamson Road roundabout were single vehicle, run-off-road type crashes. Both of these crashes occurred in 2018. One (1) of these crashes occurred in daylight conditions, between the east and south legs (Garner Place and Henderson Road, respectively, and resulting in minor/other injuries. The other crash occurred in dark conditions, between the south and west legs (Henderson Road and Williamson Road, respectively) and resulted in property damage only.

Given the lack of serious and fatal crashes, there are no immediate road safety concerns in the vicinity of the subject site.

2.4 Car Parking

A series of car parking surveys have been undertaken throughout the day on Thursday, 10 March 2022 to quantify the existing car parking demands within approximately 200m walking distance of the subject site, as shown in red at Figure 9 below.

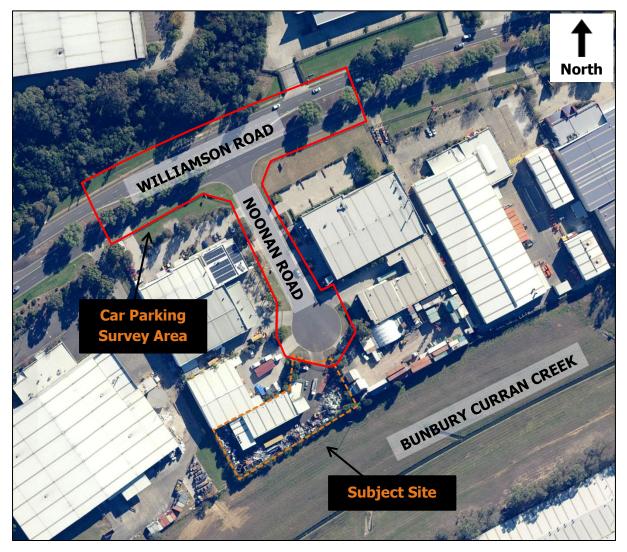


Figure 9: Car Parking Survey Area (source: ACTmapi)



The results of the car parking surveys are summarised Figure 10 below. Full details are provided at Appendix C.

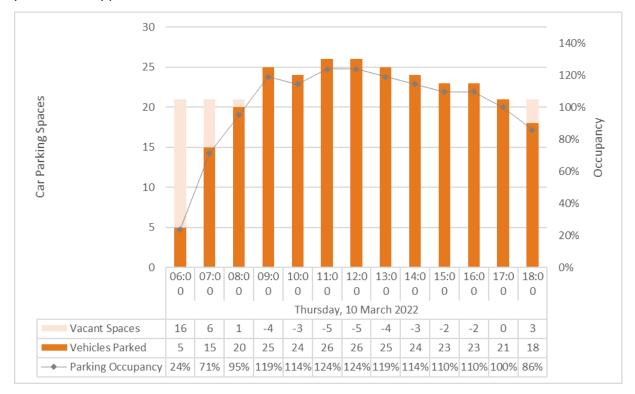


Figure 10: Existing Car Parking Conditions

The car parking surveys identified a peak in the demand for car parking at 11am-12noon when 26 vehicles were observed to be parked on-street within 200m walking distance of the subject site. It is noted that all of these vehicles were observed to be parked on-street and on the verges along Noonan Road, with no vehicles observed to be parked along Williamson Road. This represents an existing peak car parking occupancy of 124% on Noonan Road, with vehicles observed to be illegally parking on the verge along the length of Noonan Road.

8 Noonan Road, Ingleburn – Proposed Scrap Metal Yard



3 Proposed Development

The proposal is for a nominal change in use, in order for the site to accommodate a scrap metal yard, with capacity for up to 4,800 tonnes per annum. The development proposes to retain the approximately 154m² of office and 540m² industrial building on the subject site. The proposal also includes 'storage shelters' in place of the existing 'uncovered' storage area along the south-east boundary of the site.

This includes no proposed changes to the existing driver amenities (water closet accessible via the reception area). Minor changes to the arrangement of the outdoor spaces are proposed to provide on-site parking and to better accommodate vehicle loading and unloading on the site.

These changes are proposed to result in a reduction in the outdoor storage space to approximately 461m² and are not expected to adversely impact the future development of adjoining blocks, as shown at Figure 11 below. A larger copy of these plans is provided at Appendix D.





Figure 11: Proposed Development



3.1 Traffic and Parking Demands

The following sections set out the anticipated traffic and car parking demands associated with the proposed development. It is noted that the level of activity on the subject site is not proposed to significantly change compared to the existing conditions. Similarly, there is limited scope for travel demand management measures to reduce the reliance on vehicle trips (i.e. deliveries and collection of scrap metal is reliant on motor vehicles). Furthermore, the existing active travel and public transport networks are not considered to be sufficiently useful to staff to encourage a change to more sustainable travel modes.

3.1.1 Staff

The proposed development is expected to be operated by a total of eight (8) staff. Given the isolated nature of the subject site, these staff are conservatively assumed to all travel, individually, by car, to the subject site. On this basis, staff of the proposed development would be expected to generate:

- Eight (8) vehicle trips towards the site in the hour prior to the development opening in the morning,
- Demand for eight (8) car parking spaces throughout the course of the day, and
- Eight (8) vehicle trips away from the site in the hour after the development closes in the evening.

3.1.2 Scrap Deliveries

The proposed development is expected to receive up to approximately 15 deliveries of scrap metal per day. Of these, approximately 90% are expected to involve light vehicles (with or without a trailer), while the remaining 10% are expected to involve heavy vehicles (up to 8.8m rigid truck (MRV)). On this basis, the proposed development would be expected to generate:

- 13 light vehicle movements and two (2) heavy vehicle movements towards the site throughout the course of the day,
- Demand for up to two (2) vehicles to be unloaded at any one time,
- 13 light vehicle movements and two (2) heavy vehicle movements away from the site throughout the course of the day.

3.1.3 Scrap Collections

After sorting and some minor processing on the subject site, the scrap metal will be packaged into 40ft shipping containers or steel bins for collection and on-sale. We understand that the shipping containers are collected approximately twice-weekly (by 19m semi-trailer (AV)), with steel bins collected approximately monthly (by a 12.5m rigid truck (HRV)). On this basis, the proposed development would be expected to generate:

- One (1) heavy vehicle movement towards the site over the course of a day,
- Demand for one (1) vehicle to be loaded at any one time, and
- One (1) heavy vehicle movement away from the site over the course of a day.



3.1.4 Waste Collections

The office component and minor processing of the scrap metal produce some waste, which is stored on-site for commercial collection (up to 12.5m rigid truck (HRV)) approximately three (3) times per week. On this basis, the proposed development would be expected to generate:

- One (1) heavy vehicle movement towards the site over the course of a day,
- Demand for one (1) vehicle to be loaded at any one time, and
- One (1) heavy vehicle movement away from the site over the course of a day.

3.1.5 Summary

As set out above, the proposed development would be expected to generate a total of 50 vehicle trips per day. These development traffic and parking demands are not expected to differ significantly from those generated under existing conditions:

- Eight (8) vehicle trips towards the site in the hour prior to the development opening in the morning,
- Demand for eight (8) car parking spaces throughout the course of the day,
- 13 light vehicle movements and four (4) heavy vehicle movements towards the site throughout the course of the day,
- Demand for two (2) vehicles to be unloaded at any one time,
- Allowance for the collection of scrap metal or waste,
- 13 light vehicle movements and four (4) heavy vehicle movements away from the site throughout the course of the day, and
- Eight (8) vehicle trips away from the site in the hour after the development closes in the evening.

3.2 Vehicle Access Arrangements

3.2.1 Heavy Vehicle Routes

It is noted that all heavy vehicles accessing the proposed development are expected to comply with the National Heavy Vehicle Regulator's mass and dimension limits for 'General Access Vehicles'. Furthermore, it is note that heavy vehicles accessing the subject site are not proposed to carry dangerous goods. Figure 12 below presents the indicative haulage between the state road network (dark blue) and the subject site, in key directions.



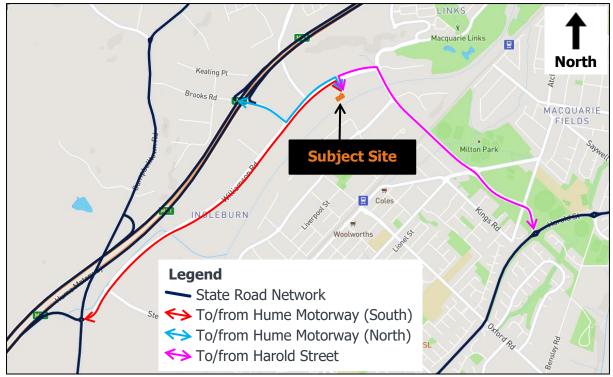


Figure 12: Indicative Haulage Routes

3.2.2 Site Access

As aforementioned, vehicle access to the subject site is proposed to remain via the existing (approximately 8.0m wide) driveway to the cul-de-sac of Noonan Road.

Traffic Impact Assessment Report

8 Noonan Road, Ingleburn – Proposed Scrap Metal Yard



Within the subject site, the removal of existing stockpiles in the southeast corner are proposed in order to allow vehicles, up to a 19m semi-trailer, to enter the site in a forwards direction, turn-around, before exiting the site in a forwards direction. Figure 13 below demonstrates a 19m semi-trailer undertaking a three-point-turn within the subject site (subject to minor design changes, identified below). A full set of swept path diagrams are provided at Appendix E, with separated entry and exit movements to clearly show manoeuvring.

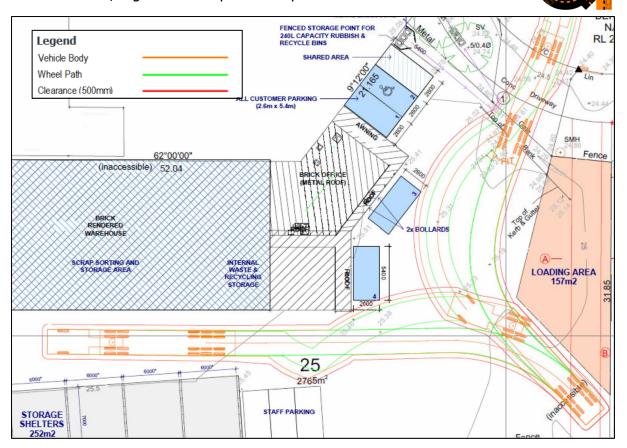


Figure 13: Proposed Vehicle Manoeuvring Area

3.3 Design Review

The design of the proposed development has been reviewed against the requirements of Council's Development Control Plan and the relevant Australian Standards.

3.3.1 Council's Development Control Plan

Section 7.3 of the *Campbelltown (Sustainable City) Development Control Plan 2015* (Council's DCP) sets out Council's requirements for car parking and vehicle access at industrial developments.

Council's DCP defers the dimensional requirements for parking spaces to the relevant Australian Standards (*AS2890.1* for light vehicles and *AS2890.2* for heavy vehicles).

The swept path analysis (Appendix E) demonstrates that the proposed development meets Council's requirements for all vehicles to be able to enter and exit the site in a forwards direction, while undertaking at most, a three-point-turn on the subject site.

All of the on-site car parking spaces are proposed to be provided at-grade (i.e. no car stackers are proposed), more than 10% of spaces (including the sole accessible car parking space) proposed to be located in close proximity to the entrance to the office.

It is proposed for all loading/unloading to occur in the designated area at the eastern end of the site, away from car parking spaces, landscaped areas, pedestrian paths and internal roadways.



3.3.2 Australian Standards

The *Australian Standard 2890.1 – Off-street car parking (AS2890.1)* sets out the standard requirements for car parking and vehicle access within the proposed development. Similarly, the *Australian Standard 2890.2 – Off-street commercial vehicle facilities (AS2890.2)* sets out the standard requirements for heavy vehicle parking and access. Finally, the *Australian Standard 2890.6 – Off-street parking for people with disabilities (AS2890.6)* sets out the standard requirements for accessible car parking and vehicle access.

Under *AS2890.1*, the bulk of the on-site car parking (8 spaces) is considered to be user class 1 or 1A (suitable for employees). These spaces have minimum dimensional requirements of 2.4m width and 5.4m length, located perpendicular to a 5.8m wide aisle. The remainder of the on-site car parking is considered to be user class 3 (suitable for short-term visitors), which has minimum dimensional requirements of 2.6m width and 5.4m length, located perpendicular to a 5.8m wide aisle. There is considered to be sufficient space within the subject site for the provision of car parking spaces of these dimensions.

AS2890.2 requires that accessways and service bays be suitably dimensioned to accommodate the largest design vehicle expected to visit the site. For the proposed development, the largest design vehicle (a semi-trailer) is represented by the standard articulated vehicle (AV). On this basis, the swept path analysis (provided at Appendix E) demonstrates that the standard AV is able to both enter and exit the site in a forwards direction, as well as manoeuvre into position within the loading area in order to load/unload a shipping container.

Under *AS2890.6*, accessible car parking spaces are required to have minimum dimensions of 2.4m width by 5.4m length and be located adjacent to an equally dimensioned shared area. The proposed accessible car parking space (and associated shared area) meets exceeds these minimum dimensional requirements.



4 Parking Assessments

4.1 Overall Car Parking Assessment

4.1.1 Statutory Requirement

Section 7.3.1 of the *Campbelltown (Sustainable City) Development Control Plan 2015 (DCP)* prescribes the number of car parking spaces to be provided for the proposed development, as follows:

- 1 car parking space per 35m² of office space, plus
- 2 car parking spaces per industrial unit, plus
- 1 car parking space per 100m² for parts of industrial buildings up to 2,000m², plus
- 1 car parking space per 250m² for parts of industrial buildings which exceed 2,000m², plus
- 1 car parking space per 300m² of outdoor storage space.

On this basis, the proposed development has a statutory requirement for 13 car parking spaces.

4.1.2 Anticipated Demands

As aforementioned, the proposed development is expected to generate a peak demand for eight (8) long-term car parking spaces, plus two (2) spaces for vehicles to be loaded/unloaded at any one time.

4.1.3 Proposed Provision

The proposed development includes a total of 13 on-site car parking spaces, all independently accessed. Six (6) spaces are located to the rear of the site, three (3) spaces near the new sheds and four (4) located adjacent to the office building. This meets Council's requirements with no shortfall compared to the statutory requirements and a surplus of five (5) car parking spaces compared to the anticipated car parking demands.

4.1.4 Overall Car Parking Summary

This arrangement is expected to result in the relocation of eight (8) vehicles, which currently park on-street in Noonan Road, onto the subjects site. This would reduce the peak demand for on-street car parking to 18 vehicles (at 11am-12noon and 6pm), representing a peak car parking occupancy of 86%, as shown at Figure 14 below. This would represent a significant improvement over the existing conditions.





Figure 14: Anticipated Post-Development On-Street Car Parking Conditions

4.2 Accessible Car Parking Assessment

4.2.1 Statutory Requirement

Section 7.3.3 of the *DCP* specifies that the proposed development must accord with the requirements of the *Building Code of Australia* (*BCA*) as it relates to access for people with disabilities. Table D3.5 of the *BCA* specifies that office and process buildings (classes 5 and 8, respectively) require a minimum of one (1) accessible car parking space for every 100 total car parking spaces, or part thereof. On this basis, the proposed development has a statutory requirement for one (1) accessible car parking space.

4.2.2 Proposed Provision

The proposed development includes one (1) accessible car parking space (and associated shared area) located adjacent to the office building. This provision meets the statutory requirement for accessible car parking.

8 Noonan Road, Ingleburn – Proposed Scrap Metal Yard



5 Development Conditions

As aforementioned, the operation of the proposed development is not expected to differ significantly from that observed during the traffic and parking data collection. On this basis, the safety and performance of the Henderson Road / Williamson Road and MacDonald Road / Williamson Road roundabouts are expected remain unchanged from the existing conditions and quantified in section 2.3.3 (page 8) of this report.

Within Noonan Road, the anticipated reduction in demand for on-street car parking and the provision for heavy vehicles to both enter and exit the site in a forwards direction are expected to improve safety for road users.

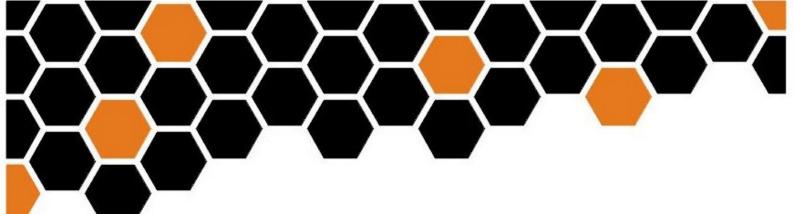


6 Conclusions

Quantum Traffic have been engaged by Shine Motor Corporation to provide traffic engineering advice in relation to the proposed scrap metal yard at 8 Noonan Road in Ingleburn. The traffic and parking analyses undertaken in relation to the proposed development have concluded that:

- a) The site is located on the southwest side of Noonan Road, approximately 1.0km north of Ingleburn Station and 34.5km southwest of Sydney GPO. The site currently operates as a scrap metal yard,
- b) There is limited active travel and public transport infrastructure in close proximity to the site,
- c) Intersection performance analysis indicated that both the MacDonald Road / Williamson Road and Henderson Road / Williamson Road intersections currently operate with acceptable average delays and 95th percentile queue lengths. These conditions are despite the northwest approach (MacDonald Road) of the MacDonald Road / Williamson Road intersection operating marginally in excess of its practical capacity in both commuter peak hours,
- d) A review of the publicly-available crash data indicated no immediate road safety concerns in the vicinity of the subject site,
- e) A series of car parking surveys identified that, under existing conditions, car parking demands exceed the supply of on-street car parking, within approximately 200m walking distance of the subject site,
- f) The proposal is for a nominal change in use, in order for the site to accommodate a scrap metal yard, with capacity for up to 4,800 tonnes per annum,
- g) Given the existing use of the site, this is expected to have minimal impact on the level of activity on the subject site, with the site expected to continue generating approximately 50 vehicle movements per day,
- h) Swept path analysis has been undertaken to demonstrate that vehicles up to and including the standard AV can enter and exit the site in a forwards direction,
- The design of parking and vehicle access arrangements at the proposed development have been reviewed against and found to accord with the requirements of Council's DCP and the relevant Australian Standards,
- j) The provision of 13 on-site car parking spaces (in addition to the loading/unloading area) is expected to attract long-term car parking demands for approximately eight (8) vehicles from the road reserve, onto the subject site. This would result in the supply of on-street car parking exceeding the on-street car parking demands within 200m walking distance of the subject site,
- k) Given that the level of activity on the subject site is not expected to differ significantly as the result of the proposed nominal change in use, the proposed development is not expected to significantly impact the safety or performance of the road network.

On the basis of the above, there are no traffic engineering reasons why the proposed development should not be approved, subject to appropriate conditions.



Appendix A:

Turning Movement Count Data



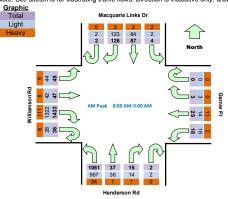


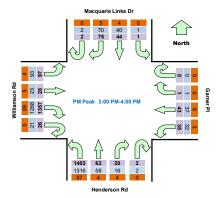
Intersection of Garner PI and Macquarie Links Dr, Ingleburn

GPS	-33.986639, 150.86630	06						
Date:	Thu 10/03/22	N	lorth:	Macquarie Links Dr]	Survey	AM:	6:00 AM-9:00 AM
Weather:	Fine	E	ast:	Garner Pl	1	Period	PM:	3:00 PM-6:00 PM
Suburban:	Ingleburn	S	outh:	Henderson Rd	1	Traffic	AM:	8:00 AM-9:00 AM
Customer:	N/A	l w	Vest:	Williamson Rd	1	Peak	PM:	3:00 PM-4:00 PM
All Vehicles								

Time		North Approach Macquarie Links Dr East Approach Garner F						er Pl	South Approach Henderson Rd				West Approach Williamson Rd				Hourly Total		
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	Hour	Peak
6:00	6:15	0	10	4	0	0	1	5	1	0	3	2	235	4	131	13	1	1708	
6:15	6:30	0	8	4	1	0	0	3	1	0	8	2	179	2	159	13	1	1850	
6:30	6:45	0	6	8	0	0	0	4	1	0	2	2	172	5	170	12	2	2030	
6:45	7:00	0	12	6	0	0	1	4	9	0	5	4	207	7	257	15	6	2311	
7:00	7:15	0	17	10	0	0	0	3	3	0	6	1	208	11	270	17	6	2517	
7:15	7:30	0	23	14	1	0	0	4	2	2	7	5	203	7	258	25	10	2713	
7:30	7:45	0	25	17	0	0	0	5	2	0	5	8	277	4	300	15	7	2862	
7:45	8:00	0	33	25	1	1	0	2	3	1	5	10	250	12	376	12	8	2915	
8:00	8:15	0	44	30	1	0	1	6	2	2	2	9	274	11	346	9	11	2945	Peak
8:15	8:30	1	34	26	1	0	2	9	1	0	5	8	256	6	335	14	12		
8:30	8:45	0	23	19	1	0	0	5	8	0	3	10	247	8	370	16	8		
8:45	9:00	1	25	12	1	0	0	5	7	0	5	10	284	11	382	8	18		
15:00	15:15	1	15	7	0	0	0	21	12	0	3	15	331	5	341	8	25	3196	Peak
15:15	15:30	0	16	13	0	0	0	3	6	1	7	9	362	3	358	6	26	3190	
15:30	15:45	1	18	10	1	0	0	6	8	1	5	18	386	4	331	7	23	3138	
15:45	16:00	0	26	14	0	0	1	13	9	0	5	20	324	14	327	7	23	3088	
16:00	16:15	0	14	11	0	0	1	29	9	2	7	17	370	13	286	5	14	3038	
16:15	16:30	0	19	10	0	0	1	13	8	1	4	15	320	14	322	4	27	3012	
16:30	16:45	0	12	14	0	0	0	16	6	0	2	12	358	14	303	4	28	2955	
16:45	17:00	0	21	14	1	0	0	6	10	0	5	14	318	12	310	5	17	2837	
17:00	17:15	0	22	6	0	0	0	9	3	1	2	17	338	13	308	3	30	2698	
17:15	17:30	0	18	12	0	0	0	3	3	2	2	19	316	10	297	4	15		
17:30	17:45	0	17	14	0	0	0	3	2	1	8	10	292	7	268	3	26		
17:45	18:00	0	15	11	1	0	1	4	3	0	6	9	248	1	265	2	28		
Peak	Time	North Ar	pproach M	lacquarie	Links Dr	Ea	st Approa	ach Garne	er Pl	Sout	h Approac	h Henders	on Rd	West	Approact	n Williams	son Rd	Peak	1
Period Start			R	SB		U	R	WB	L	U	R	NB	L	U	R	EB	L	total	
8:00	9:00	2	126	87	4	0	3	25	18	2	15	37	1061	36	1433	47	49	2945	
15:00	16:00	2	75	44	1	0	1	43	35	2	20	62	1403	26	1357	28	97	3196	

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







GPS	-33.986639, 150.86630	06			
Date:	Thu 10/03/22	North:	Macquarie Links Dr	Survey	Г
Weather:	Fine	East:	Garner PI	Period	
Suburban:	Ingleburn	South:	Henderson Rd	Traffic	
Customer:	N/A	West:	Williamson Rd	Peak	
		-			

Survey	AM:	6:00 AM-9:00 AM
Period	PM:	3:00 PM-6:00 PM
Traffic	AM:	8:00 AM-9:00 AM
Peak	PM:	3:00 PM-4:00 PM

Light Vehic																	
	ime		proach N		Links Dr			ach Garne	er Pl		h Approac		on Rd		Approach	n Williams	son Rd
Period Star	t Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L
6:00	6:15	0	9	4	0	0	1	3	1	0	3	2	211	3	118	10	1
6:15	6:30	0	8	4	1	0	0	1	1	0	7	2	149	2	145	13	1
6:30	6:45	0	6	8	0	0	0	4	1	0	2	1	143	5	151	12	2
6:45	7:00	0	12	6	0	0	1	4	7	0	5	4	189	6	239	14	6
7:00	7:15	0	17	10	0	0	0	3	3	0	5	1	189	10	248	16	5
7:15	7:30	0	22	14	1	0	0	4	1	2	7	5	181	6	237	23	9
7:30	7:45	0	25	16	0	0	0	2	2	0	5	7	251	4	279	13	6
7:45	8:00	0	32	25	1	0	0	2	3	1	5	9	225	9	349	11	8
8:00	8:15	0	43	29	0	0	1	4	2	2	2	9	248	9	316	8	9
8:15	8:30	1	34	26	0	0	2	5	1	0	4	8	237	4	314	12	9
8:30	8:45	0	22	18	1	0	0	3	6	0	3	9	226	6	341	14	8
8:45	9:00	1	24	11	1	0	0	2	7	0	5	10	256	9	351	8	18
15:00	15:15	1	15	7	0	0	0	18	10	0	2	15	297	5	314	6	25
15:15	15:30	0	14	12	0	0	0	2	6	1	5	8	338	2	338	5	24
15:30	15:45	1	17	10	1	0	0	6	7	1	4	16	363	4	307	6	23
15:45	16:00	0	24	11	0	0	1	11	9	0	5	19	318	10	309	6	21
16:00	16:15	0	14	11	0	0	1	28	9	2	6	17	359	12	263	5	14
16:15	16:30	0	18	10	0	0	1	13	8	1	4	13	304	10	295	3	27
16:30	16:45	0	12	14	0	0	0	16	6	0	2	11	341	13	272	4	28
16:45	17:00	0	21	14	1	0	0	4	10	0	5	14	303	9	288	5	17
17:00	17:15	0	22	6	0	0	0	9	3	1	2	16	320	12	289	3	29
17:15	17:30	0	18	12	0	0	0	3	3	2	2	18	304	8	279	4	15
17:30	17:45	0	16	14	0	0	0	3	2	1	8	9	283	7	248	3	26
17:45	18:00	0	15	10	1	0	1	4	3	0	6	9	241	1	249	2	28
Book	Time	North Ar	nroach I	Accaucio	Links Dr	Ea	ot Annro	ach Garne		- Sout	h Approac	h Uandara	on Dd	Weet	Approach	n Williams	on Dd
	t Period End		R	SB		Ea:	R	WB		U	R R	NB		U	Approact R	EB	
8:00	9:00	2	123	84	2	0	3	14	16	2	14	36	967	28	1322	42	44
15:00	16:00	2	70	40	1	0	1	37	32	2	16	58	1316	21	1268	23	93

	me		proach I		Links Dr		st Approa	ach Garne	er Pl	Sout	h Approac		on Rd	West	Approacl	n Williams	on Rd
Period Star	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L
6:00	6:15	0	1	0	0	0	0	2	0	0	0	0	24	1	13	3	0
6:15	6:30	0	0	0	0	0	0	2	0	0	1	0	30	0	14	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	1	29	0	19	0	0
6:45	7:00	0	0	0	0	0	0	0	2	0	0	0	18	1	18	1	0
7:00	7:15	0	0	0	0	0	0	0	0	0	1	0	19	1	22	1	1
7:15	7:30	0	1	0	0	0	0	0	1	0	0	0	22	1	21	2	1
7:30	7:45	0	0	1	0	0	0	3	0	0	0	1	26	0	21	2	1
7:45	8:00	0	1	0	0	1	0	0	0	0	0	1	25	3	27	1	0
8:00	8:15	0	1	1	1	0	0	2	0	0	0	0	26	2	30	1	2
8:15	8:30	0	0	0	1	0	0	4	0	0	1	0	19	2	21	2	3
8:30	8:45	0	1	1	0	0	0	2	2	0	0	1	21	2	29	2	0
8:45	9:00	0	1	1	0	0	0	3	0	0	0	0	28	2	31	0	0
15:00	15:15	0	0	0	0	0	0	3	2	0	1	0	34	0	27	2	0
15:15	15:30	0	2	1	0	0	0	1	0	0	2	1	24	1	20	1	2
15:30	15:45	0	1	0	0	0	0	0	1	0	1	2	23	0	24	1	0
15:45	16:00	0	2	3	0	0	0	2	0	0	0	1	6	4	18	1	2
16:00	16:15	0	0	0	0	0	0	1	0	0	1	0	11	1	23	0	0
16:15	16:30	0	1	0	0	0	0	0	0	0	0	2	16	4	27	1	0
16:30	16:45	0	0	0	0	0	0	0	0	0	0	1	17	1	31	0	0
16:45	17:00	0	0	0	0	0	0	2	0	0	0	0	15	3	22	0	0
17:00	17:15	0	0	0	0	0	0	0	0	0	0	1	18	1	19	0	1
17:15	17:30	0	0	0	0	0	0	0	0	0	0	1	12	2	18	0	0
17:30	17:45	0	1	0	0	0	0	0	0	0	0	1	9	0	20	0	0
17:45	18:00	0	0	1	0	0	0	0	0	0	0	0	7	0	16	0	0
Peak	Time	North Ap	proach I	Macquarie	Links Dr	Ea	st Approa	ach Garne	er Pl	Sout	h Approac	h Henders	on Rd	West	Approacl	n Williams	on Rd
	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L
8:00 15:00	9:00 16:00	0	3	3	2	0	0	11 6	2	0	1	1 4	94 87	8 5	111 89	5 5	5
15:00	00:01	0	5	4	U	U	0	6	3	0	4	4	6/	5	69	5	4



Intersection of Williamson Rd and MacDonald Rd, Ingleburn

т:	mo Nor	h Annagash	MacDar	old Dd	East Approach	Williamor	n Dd	with Ann
All Vehicles	5					_		
Customer:	N/A		West:	Williamso	on Rd		Peak	PM:
Suburban:	Ingleburn		South:	Hammer	Supplies Entry Rd		Traffic	AM:
Weather:	Fine		=uot.	Williamso			Period	PM:
Date:	Thu 10/03/22		North:	MacDona	ld Rd		Survey	AM:
GPS	-33.989139, 150.85	9528				_		

Tir		North	Approacl	n MacDon	ald Rd	East	Approach	Williamso	on Rd	uth App	roach Ham	mer Suppl	ies Entry	West	Approach	n Williams	son Rd	Hourl	y Total
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	Hour	Peak
6:00	6:15	0	20	1	54	3	101	156	0	0	0	0	0	2	2	100	45	2000	
6:15	6:30	0	36	1	50	6	77	108	0	0	0	0	1	3	2	125	27	2160	
6:30	6:45	3	37	0	58	9	77	106	0	0	0	0	0	7	5	132	29	2350	
6:45	7:00	1	44	2	77	3	98	124	1	0	0	0	1	9	0	215	42	2614	
7:00	7:15	2	33	0	93	8	94	137	0	0	0	0	0	15	7	221	34	2816	
7:15	7:30	1	31	2	92	6	112	118	2	0	0	0	2	7	1	210	42	2967	
7:30	7:45	2	38	2	89	11	129	169	1	0	1	0	3	7	4	241	30	3127	
7:45	8:00	2	59	0	139	9	130	162	0	0	0	0	0	13	2	274	29	3170	
8:00	8:15	1	46	1	121	4	145	189	1	0	0	0	1	5	3	257	21	3177	Peak
8:15	8:30	6	59	0	135	10	137	164	2	0	1	0	6	6	2	233	25		
8:30	8:45	2	57	2	156	14	120	150	0	0	0	1	0	4	0	247	17		
8:45	9:00	5	40	1	158	9	144	181	0	0	1	0	0	6	2	259	20		
15:00	15:15	6	39	0	154	13	141	222	2	0	1	0	7	19	1	219	62	3482	Peak
15:15	15:30	4	40	1	177	16	154	222	0	0	0	0	3	4	2	211	33	3427	
15:30	15:45	7	43	0	150	10	173	235	1	0	0	0	3	6	0	214	39	3376	
15:45	16:00	12	43	1	161	17	148	218	0	0	1	0	1	6	1	202	37	3334	
16:00	16:15	1	30	0	125	13	154	272	0	0	0	1	6	5	0	186	38	3272	
16:15	16:30	4	39	0	133	15	145	216	0	0	2	0	2	5	2	221	32	3312	
16:30	16:45	3	39	2	121	9	150	246	0	0	1	2	2	3	2	221	38	3259	
16:45	17:00	2	33	0	140	20	157	188	0	0	1	1	5	0	1	195	43	3112	
17:00	17:15	3	32	2	141	8	129	256	0	0	0	2	15	5	1	216	61	2973	
17:15	17:30	2	31	0	132	13	128	217	0	0	0	0	3	7	0	184	46		
17:30	17:45	1	30	0	105	11	143	167	0	0	0	0	0	3	0	194	38		
17:45	18:00	4	28	0	116	9	117	147	0	0	0	0	0	3	0	186	37		
Book	Time	North	Approacl	MacDan		East	Approach	Williamor	n Dd	Luth Ann	raaah Uam	mer Suppl	oo Entry	West	Annroach	n Williams	on Bd	Peak	1
Period Start		U	Approact	SB			R	WB			R	NB	es Entry	U	Approacr R	EB		total	
8:00	9:00	14	202	4	570	37	546	684	3	0	2	1	 7	21	R 7	996	83	3177	
15:00	16:00	29	165	2	642	56	616	897	3	0	2	0	14	35	4	846	171	3482	ł
10.00	10.00	23	100		042	50	010	031	5	1 0	2	0	14	55		040	/ 1	0402	1

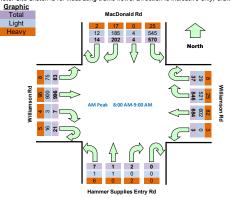
6:00 AM-9:00 AM 3:00 PM-6:00 PM 8:00 AM-9:00 AM 3:00 PM-4:00 PM

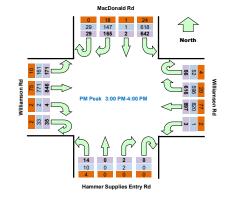
West Annesse Williamsen Dd

- . .

Lauris Tatal

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







Intersection of Williamson Rd and MacDonald Rd, Ingleburn

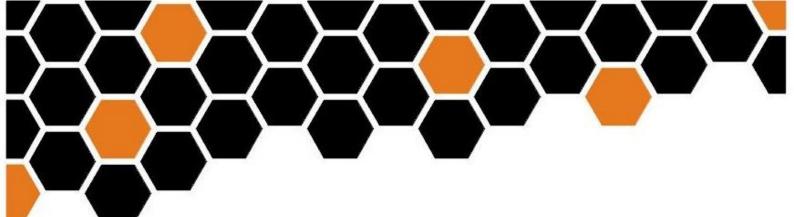
GPS	-33.989139, 150.8595	28		
Date:	Thu 10/03/22		North:	Γ
Weather:	Fine		East:	٦
Suburban:	Ingleburn		South:	Γ
Customer:	N/A		West:	١

North: MacDonald Rd East: Williamson Rd South: Hammer Supplies Entry Rd West: Williamson Rd



Light Vehicles

Period Stant Period End U R SB L U R WB L U R NB L U R EB L tota	Light Vehic		No.	Anness	MosDe		Fact	Annesse	W:11:	n Dd	uth America	ooob User	mor Curre	oo Entre	Weet	Annreach	M/:11:	on Pd	1
etc bit						ald Rd				on KO				es Entry				ion Rd	ł
Description of the sector of the se			-			L				L			1	L				L	ł
10 6.46 2.0 2.0 1 30 2.0 10 00	6:00	6:15		13	1	51	0	95	136	0	0	0	0	0	1	2	89	44	4
ends 700 11 27 30 92 71 31 92 71 11 10 00 00 00 10 <	6:15	6:30	0	30	1	49	4	68	88	0	0	0	0	0	2	2	113	22	Í
ends 700 11 27 30 92 71 31 92 71 11 10 00 00 00 10 <	6:30	6:45	2	22	0	53	2	71	89	0	0	0	0	0	6	5	125	27	1
17:0 7:10 7:1 7:0<																			1
P130 P30 P30 </td <td>6:45</td> <td>7:00</td> <td>1</td> <td>38</td> <td>2</td> <td>75</td> <td>3</td> <td>92</td> <td>111</td> <td>1</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>8</td> <td>0</td> <td>196</td> <td>36</td> <td>1</td>	6:45	7:00	1	38	2	75	3	92	111	1	0	0	0	1	8	0	196	36	1
TAM <td>7:00</td> <td>7:15</td> <td>1</td> <td>27</td> <td>0</td> <td>86</td> <td>7</td> <td>85</td> <td>127</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>14</td> <td>4</td> <td>202</td> <td>29</td> <td>1</td>	7:00	7:15	1	27	0	86	7	85	127	0	0	0	0	0	14	4	202	29	1
TAM <td>7:15</td> <td>7:30</td> <td>1</td> <td>30</td> <td>2</td> <td>91</td> <td>5</td> <td>102</td> <td>105</td> <td>2</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>6</td> <td>0</td> <td>187</td> <td>37</td> <td>Í</td>	7:15	7:30	1	30	2	91	5	102	105	2	0	0	0	0	6	0	187	37	Í
TAG 8.00 2.0 3.0 0																			1
B B	7:30	7:45		33	2	/8	10	123	147	1	0	1	0	2	3	4	229	26	1
atts8-3055201279133146000010511213<8.459.0043.8011221151310000103022111515.0015.15160.30117713315000000102401023115015.1515.311717117017117017117000001011110110110111117 <td>7:45</td> <td>8:00</td> <td>2</td> <td>53</td> <td>0</td> <td>135</td> <td>9</td> <td>121</td> <td>142</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>10</td> <td>2</td> <td>247</td> <td>25</td> <td>1</td>	7:45	8:00	2	53	0	135	9	121	142	0	0	0	0	0	10	2	247	25	1
atts8-3055201279133146000010511213<8.459.0043.8011221151310000103022111515.0015.15160.30117713315000000102401023115015.1515.311717117017117017117000001011110110110111117 <td>8:00</td> <td>8:15</td> <td>1</td> <td>43</td> <td>1</td> <td>115</td> <td>1</td> <td>139</td> <td>167</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>4</td> <td>2</td> <td>231</td> <td>20</td> <td>Í</td>	8:00	8:15	1	43	1	115	1	139	167	0	0	0	0	0	4	2	231	20	Í
BAS6 94.0 9.4 9.5 9.4 9.4 9.4 9.4 1 11<																			1
BASC 9 9 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 1 0 2 1 0 0 0 1 0 1 1 0 0 0 0 0 0 0 1 0 1 0 0 0 0 0 0 0 1 0 0 0 0 1 0 0 0 0 1 0 0 0 0 1 0 0 0 0 1 0 <td></td> <td>6:30</td> <td></td> <td>4</td>		6:30																	4
1500 1510 161 0 1 0 5 18 1 1 18 60 1515 1530 44 38 0 14 0 0 0 0 0 0 0 0 0 0 0 0 0 10 18 10 180 10 10 0 0 0 0 0 0 0 1 0 10 <td< td=""><td>8:30</td><td>8:45</td><td>2</td><td>54</td><td>2</td><td>151</td><td>12</td><td>115</td><td>131</td><td>0</td><td>0</td><td>0</td><td>1</td><td>0</td><td>3</td><td>0</td><td>221</td><td>13</td><td>1</td></td<>	8:30	8:45	2	54	2	151	12	115	131	0	0	0	1	0	3	0	221	13	1
15.15 15.30 4 36 1 176 13 150 20 0 0 0 0 2 4 0 152 31 15.30 1544 1600 12 38 0 145 10 108 216 1 0 0 0 1 44 0 158 36 1630 1815 1 26 0 119 13 151 281 0 0 0 1 4 0 168 36 1630 163 133 137 19 151 171 0 0 0 0 1 2 2 3 0 175 43 1730 173 13 121 130 175 123 120 123 123 120 0 0 0 0 0 0 133 0 175 121 133 131 131 132 132 133 132 133 132 133 132 133 131 131	8:45	9:00	4	36	1	152	7	133	159	0	0	0	0	0	4	0	233	18	Í
15.15 15.30 4 36 1 176 13 150 20 0 0 0 0 2 4 0 152 31 15.30 1544 1600 12 38 0 145 10 108 216 1 0 0 0 1 44 0 158 36 1630 1815 1 26 0 119 13 151 281 0 0 0 1 4 0 168 36 1630 163 133 137 19 151 171 0 0 0 0 1 2 2 3 0 175 43 1730 173 13 121 130 175 123 120 123 123 120 0 0 0 0 0 0 133 0 175 121 133 131 131 132 132 133 132 133 132 133 132 133 131 131	15:00	15:15	6	33	0	149	12	131	108	0	0	1	0	5	18	1	196	60	Í
15.30 15.46 17 39 0 143 10 166 21 0 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 16 0 16 1 16 1																			4
15.60 16.00 12 39 0 17 17	15:15	15:30	4	36	1	175	13	150	201	0	0	0	0	2	4	0	192	31	1
16:00 16:15 1 20 0 19 13 151 261 0 0 1 4 4 0 168 36 16:15 18:30 4 37 0 128 13 137 206 0 0 1 0 2 5 2 197 32 16:45 1 33 0 114 9 155 174 0 0 1 1 0 17 2 2 15 17 14 0 0 1 14 0 0 1 14 0 0 1 1 0 15 17 0 0 0 1 1 0 15 17 0 <t< td=""><td>15:30</td><td>15:45</td><td>7</td><td>39</td><td>0</td><td>143</td><td>10</td><td>168</td><td>218</td><td>1</td><td>0</td><td>0</td><td>0</td><td>2</td><td>6</td><td>0</td><td>196</td><td>36</td><td>1</td></t<>	15:30	15:45	7	39	0	143	10	168	218	1	0	0	0	2	6	0	196	36	1
16:00 16:15 1 20 0 19 13 151 261 0 0 1 4 4 0 168 36 16:15 18:30 4 37 0 128 13 137 206 0 0 1 0 2 5 2 197 32 16:45 1 33 0 114 9 155 174 0 0 1 1 0 17 2 2 15 17 14 0 0 1 14 0 0 1 14 0 0 1 1 0 15 17 0 0 0 1 1 0 15 17 0 <t< td=""><td>15:45</td><td>16:00</td><td>12</td><td>39</td><td>0</td><td>151</td><td>17</td><td>147</td><td>203</td><td>0</td><td>n</td><td>1</td><td>0</td><td>1</td><td>5</td><td>1</td><td>187</td><td>34</td><td>Í</td></t<>	15:45	16:00	12	39	0	151	17	147	203	0	n	1	0	1	5	1	187	34	Í
16:50 16:30 4 37 0 123 13 137 203 0 1 0 2 5 2 197 32 16:30 16:45 73 33 0 114 9 145 233 0 0 1 2 3 0 196 36 16:45 730 2 2 0 135 7 15 730 0 0 0 0 0 2 3 0 196 44 1730 1735 1730 12 2 2 0 0 0 0 0 3 0 178 38 1745 130 2 0 111 138 162 0 0 0 0 0 0 3 0 178 38 1746 18.00 4 64 28 650 600 0 0 0 10 13 10 10 12 90 10 0 2 10 10 11 <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>																			
16.30 16.45 3 3.3 0 114 9 14.5 233 0 0 1 2 2 3 0 196 36 16.65 17.00 17.15 3 27 1 136 7 126 230 0 0 0 0 1 4 0 0 175 4 43 17.00 17.15 3 2 1 136 7 123 0<	16:00	16:15	1	26	0	119	13	151	261	0	0	0	1		4	0	168	36	4
16.45 17.00 2 30 0 137 19 151 174 0 0 1 4 0 0 175 43 17.00 17.5 17.3 27.30 2 0 0 128 12 128 230 0 0 0 0 0 3 5 0 175 17.3 17.30 12 12 12 12 12 12 12 12 0	16:15	16:30	4	37	0	128	13	137	206	0	0	1	0	2	5	2	197	32	Í
16.45 17.00 2 30 0 137 19 151 174 0 0 1 4 0 0 175 43 17.00 17.5 17.3 27.30 2 0 0 128 12 128 230 0 0 0 0 0 3 5 0 175 17.3 17.30 12 12 12 12 12 12 12 12 0	16:30	16:45	3	33	0	114	9	145	233	0	0	1	2	2	3	0	196	36	Í
17:00 17:15 3 27 1 136 7 128 239 0 0 0 2 15 5 1 201 66 17:30 17.30 17.45 1 230 17.15 1 230 17.15 1 230 17.15 1 230 17.15 1 130 111 131 162 0 0 0 0 0 3 0 17.8 37.3 17.30 17.45 1 220 0 111 9 115 142 0 0 0 0 0 0 3 0 17.8 37.3 17.45 1800 4 22 0 111 9 115 142 0 0 0 0 0 0 0 0 0 0 0 1 16 8 6 16 16 16 16 16 16 16 16 16 16 16 16 16 16 16 16 16 16 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>1</td></t<>																			1
17.15 17.30 2 29 0 128 12 123 100 0											-								ł
17.30 17.45 1 2.3 0 101 11 138 162 0	17:00	17:15	3	27	1	136	7	126	239	0	0	0	2	15	5	1	201	56	1
17.30 17.45 1 2.3 0 101 11 138 162 0	17:15	17:30	2	29	0	128	12	123	209	0	0	0	0	3	5	0	169	44	ĺ
11 1																			1
Peak Time North Approach Mach Approach Williamson Rd with Approach Mummer Supplies Entry West Approach Williamson Rd Lu U R BS L U R WB L U R NB L U R EB L total 80:0 90:0 12 145 4 545 29 621 602 0 0 1 1 16 3 900 77 183 4 52 966 820 1 0 2 0 10 33 2 771 161 324 Heavy Virbites																			ł
Period strop U R SB L U R NB L U R NB L U R R EB L U R NB L U R	17:45	18:00	4	22	0	111	9	115	142	0	0	0	0	0	3	0	175	37	1
Period strop U R SB L U R NB L U R NB L U R R EB L U R NB L U R							_							_					
8:00 9:00 12 18 4 646 29 52 6:02 0 0 0 1 1 16 3 900 75 288 tisson 147 1 618 52 596 820 1 0 0 10 33 2 771 161 328 time worth >proach waconaid Rd Est >proach Williamson Rd With Approach Hammer Supple Entry West Approach Williamson Rd eriod Start Period End 0 R SE L U R NB L U NB																			
15:00 16:00 29 147 1 618 52 596 820 1 0 2 0 10 33 2 771 161 324 Time North Approx Mac/Daval Rate Colspan=16 U R NB L U R BES L U R NB L U R BES														_					
Net percent percen																			
6:00 6:15 0 7 0 3 3 6 20 0 0 0 1 1 0 11 1 6:15 6:30 0 6 0 1 2 9 20 0 0 0 1 1 0 12 5 6:30 6:45 7 0 6 17 0 0 0 0 0 1 0 12 5 6:30 6:45 7.00 0 6 0 2 7 6 17 0 0 0 0 0 0 1 0 1 0 1 0 0 0 0 0 1 0 1 0 0 0 0 0 0 1 1 1 1 0 0 0 0 0 1 </th <th>Heavy Vehi</th> <th>cles</th> <th></th>	Heavy Vehi	cles																	
6:15 6:30 0 6 0 1 2 9 20 0 0 0 1 1 0 12 5 6:30 6:45 1 15 0 5 7 6 17 0 0 0 0 0 1 1 0 12 5 6:30 6:45 1 1 6 0 2 0 6 17 0 0 0 0 0 1 0 12 5 6:30 7.15 1 6 0 7 1 9 10 0 0 0 0 0 1 1 23 5 7:30 7.45 2 5 0 11 1 6 22 0 0 0 0 1 1 1 23 5 7:30 7.45 8:00 0 6 0 1 1 1 1 1 1 1 1 1 1 1 1 1 <th< th=""><th>Ti</th><th>ime</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>l</th></th<>	Ti	ime																	l
6:30 6:45 1 15 0 5 7 6 17 0 0 0 0 1 0 7 2 6:45 7:00 0 6 0 2 0 6 13 0 0 0 0 0 0 0 0 0 1 0 19 6 7:00 7:15 1 6 0 7 1 9 10 0 0 0 0 0 0 1 3 19 5 7:15 7:30 0 1 0 1 10 13 0 0 0 0 0 1 4 0 12 4 7:30 7.4 2 5 0 11 1 10 13 0 0 0 0 1 1 12 4 7:45 8:00 0 6 0 1 3 19 2 10 0 0 0 0 1 11 10 <	Ti Period Start	ime t Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	
6.45 7.00 0 6 0 2 0 6 13 0 0 0 0 1 0 19 6 7.00 7:15 1 6 0 7 1 9 10 0 0 0 0 0 0 0 1 3 19 5 7:30 7:30 0 1 0 11 1 10 13 0 0 0 0 0 1 1 23 5 7:30 7:45 2 5 0 11 1 6 22 0 0 0 0 1 1 1 23 5 7:30 7:45 2 5 0 4 0 9 20 0 0 0 0 0 1 1 1 10 11 11 13 13 13 10 10 10 11 10 11 10 10 10 10 10 10 11 10 11	Ti Period Start 6:00	me t Period End 6:15	U 0	R 7	SB 0	L 3	U 3	R 6	WB 20	L 0	0	R 0	NB 0	L 0	U	R 0	EB 11	L 1	
7:00 7:15 1 6 0 7 1 9 10 0 0 0 0 1 3 19 5 7:15 7:30 0 1 0 1 1 10 13 0 0 0 0 2 1 1 23 5 7:30 7.45 2 5 0 11 1 16 22 0 0 0 0 1 4 0 12 4 7:30 7.45 2 5 0 11 1 6 22 0 0 0 0 1 1 1 23 5 7:30 8:45 0 3 0 6 3 6 22 1 0 0 0 0 0 0 1 1 1 13 18 18 8:30 1 7 0 5 1 10 24 2 0 0 0 0 1 0 22 24 <	Ti Period Start 6:00	me t Period End 6:15	U 0	R 7	SB 0	L 3	U 3	R 6	WB 20	L 0	0	R 0	NB 0	L 0	U 1	R 0	EB 11	L 1	
7:00 7:15 1 6 0 7 1 9 10 0 0 0 0 1 3 19 5 7:15 7:30 0 1 0 1 1 10 13 0 0 0 0 2 1 1 23 5 7:30 7.45 2 5 0 11 1 16 22 0 0 0 0 1 4 0 12 4 7:30 7.45 2 5 0 11 1 6 22 0 0 0 0 1 1 1 23 5 7:30 8:45 0 3 0 6 3 6 22 1 0 0 0 0 0 0 1 1 1 13 18 18 8:30 1 7 0 5 1 10 24 2 0 0 0 0 1 0 22 24 <	Ti Period Start 6:00 6:15	me t Period End 6:15 6:30	U 0 0	R 7 6	SB 0 0 0	L 3 1	U 3 2	R 6 9	WB 20 20	L 0 0	0	R 0 0	NB 0 0	L 0 1	U 1 1	R 0 0	EB 11 12	L 1 5	
7:15 7:30 0 1 0 1 1 10 13 0 0 0 0 2 1 1 23 5 7:30 7:45 2 5 0 11 1 6 22 0 0 0 0 1 44 0 12 4 7:45 8:00 0 6 0 4 0 9 20 0 0 0 0 1 44 0 12 4 8:00 8:15 0 3 0 6 3 6 22 1 0 0 0 0 1 1 1 23 5 8:15 8:30 1 7 0 8 1 3 19 2 0 1 0 1	Ti Period Start 6:00 6:15 6:30	me Period End 6:15 6:30 6:45	U 0 0 1	R 7 6 15	SB 0 0 0 0 0	L 3 1 5	U 3 2 7	R 6 9 6	WB 20 20 17	L 0 0	0 0 0	R 0 0	NB 0 0 0 0	L 0 1 0	U 1 1 1	R 0 0	EB 11 12 7	L 1 5 2	
7:30 7:45 2 5 0 11 1 6 22 0 0 0 1 4 0 12 4 7:45 8:00 0 6 0 4 0 9 20 0 0 0 0 3 0 27 4 8:00 8:15 0 3 0 6 3 6 22 1 0 0 0 1 1 1 26 1 8:10 8:30 1 7 0 8 1 3 19 2 0 1 0 5 1 1 18 1 8:30 8:45 0 3 0 5 2 5 19 0 0 0 0 1 18 1 8:45 9:00 1 4 0 6 2 11 10 0 1 10 0 2 10 23 2 15:00 15:15 0 4 0 2 <td>Ti Period Start 6:00 6:15 6:30 6:45</td> <td>Period End 6:15 6:30 6:45 7:00</td> <td>U 0 1 0</td> <td>R 7 6 15 6</td> <td>SB 0 0 0 0 0 0</td> <td>L 3 1 5 2</td> <td>U 3 2 7 0</td> <td>R 6 9 6 6</td> <td>WB 20 20 17 13</td> <td>L 0 0 0</td> <td>0 0 0 0</td> <td>R 0 0 0</td> <td>NB 0 0 0 0 0 0 0</td> <td>L 0 1 0 0</td> <td>U 1 1 1 1</td> <td>R 0 0 0</td> <td>EB 11 12 7 19</td> <td>L 1 5 2 6</td> <td></td>	Ti Period Start 6:00 6:15 6:30 6:45	Period End 6:15 6:30 6:45 7:00	U 0 1 0	R 7 6 15 6	SB 0 0 0 0 0 0	L 3 1 5 2	U 3 2 7 0	R 6 9 6 6	WB 20 20 17 13	L 0 0 0	0 0 0 0	R 0 0 0	NB 0 0 0 0 0 0 0	L 0 1 0 0	U 1 1 1 1	R 0 0 0	EB 11 12 7 19	L 1 5 2 6	
7:45 8:00 0 6 0 4 0 9 20 0 0 0 0 3 0 27 4 8:00 8:15 0 3 0 6 3 6 22 1 0 0 0 1 1 1 1 26 1 8:15 8:30 1 7 0 8 1 3 19 2 0 1 0 5 1 1 1 26 1 8:45 0.0 1 4 0 6 2 11 22 0 0 0 0 2 2 2 2 2 1 0 2 2 2 2 0 0 0 0 1 0 2 2 2 2 1 0 2	Ti Period Start 6:00 6:15 6:30 6:45	Period End 6:15 6:30 6:45 7:00	U 0 1 0	R 7 6 15 6	SB 0 0 0 0 0 0 0	L 3 1 5 2	U 3 2 7 0	R 6 9 6 6	WB 20 20 17 13	L 0 0 0	0 0 0 0	R 0 0 0	NB 0 0 0 0 0 0 0	L 0 1 0 0	U 1 1 1 1	R 0 0 0	EB 11 12 7 19	L 1 5 2 6	
7:45 8:00 0 6 0 4 0 9 20 0 0 0 0 3 0 27 4 8:00 8:15 0 3 0 6 3 6 22 1 0 0 0 1 1 1 1 26 1 8:15 8:30 1 7 0 8 1 3 19 2 0 1 0 5 1 1 1 26 1 8:45 0.0 1 4 0 6 2 11 22 0 0 0 0 2 2 2 2 2 1 0 2 2 2 2 0 0 0 0 1 0 2 2 2 2 1 0 2	Ti Period Start 6:00 6:15 6:30 6:45 7:00	Period End 6:15 6:30 6:45 7:00 7:15	U 0 1 0 1	R 7 6 15 6 6	SB 0 0 0 0 0 0 0 0	L 3 1 5 2 7	U 3 2 7 0 1	R 6 9 6 6 9	WB 20 20 17 13 10	L 0 0 0 0	U 0 0 0 0 0	R 0 0 0 0 0	NB 0 0 0 0 0 0 0 0 0 0	L 0 1 0 0 0	U 1 1 1 1 1 1	R 0 0 0 0 3	EB 11 12 7 19 19	L 1 5 2 6 5	
8:00 8:15 0 3 0 6 3 6 22 1 0 0 1 1 1 26 1 8:15 8:30 1 7 0 8 1 3 19 2 0 1 0 5 1 1 1 18 1 8:30 8:45 0 3 0 5 2 5 19 0 0 0 0 1 1 1 1 18 1 8:45 9:00 1 4 0 6 2 11 02 0 0 0 0 0 2 2 2 2 0 0 0 0 1 0 2 2 2 2 0 0 0 0 1 0 2 3 <td>Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15</td> <td>Period End 6:15 6:30 6:45 7:00 7:15 7:30</td> <td>U 0 1 0 1 0</td> <td>R 7 6 15 6 6 1</td> <td>SB 0 0 0 0 0 0 0 0 0 0</td> <td>L 3 1 5 2 7 1</td> <td>U 3 2 7 0 1 1</td> <td>R 6 9 6 6 9 10</td> <td>WB 20 20 17 13 10 13</td> <td>L 0 0 0 0 0 0</td> <td>U 0 0 0 0 0 0</td> <td>R 0 0 0 0 0 0</td> <td>NB 0 0 0 0 0 0 0 0 0 0 0</td> <td>L 0 1 0 0 0 2</td> <td>U 1 1 1 1 1 1 1</td> <td>R 0 0 0 0 3 1</td> <td>EB 11 12 7 19 19 23</td> <td>L 1 5 2 6 5 5</td> <td></td>	Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15	Period End 6:15 6:30 6:45 7:00 7:15 7:30	U 0 1 0 1 0	R 7 6 15 6 6 1	SB 0 0 0 0 0 0 0 0 0 0	L 3 1 5 2 7 1	U 3 2 7 0 1 1	R 6 9 6 6 9 10	WB 20 20 17 13 10 13	L 0 0 0 0 0 0	U 0 0 0 0 0 0	R 0 0 0 0 0 0	NB 0 0 0 0 0 0 0 0 0 0 0	L 0 1 0 0 0 2	U 1 1 1 1 1 1 1	R 0 0 0 0 3 1	EB 11 12 7 19 19 23	L 1 5 2 6 5 5	
8:15 8:30 1 7 0 8 1 3 19 2 0 1 0 5 1 1 18 1 8:30 8:45 0 3 0 5 2 5 19 0 0 0 0 0 0 0 1 1 18 1 8:30 8:45 9:00 1 4 0 6 2 11 22 0 0 1 0 2 1 10 2 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30	me	U 0 1 0 1 0 2	R 7 6 15 6 6 1 5	SB 0 0 0 0 0 0 0 0 0 0 0 0 0	L 3 1 5 2 7 1 11	U 3 2 7 0 1 1 1	R 6 9 6 9 10 6	WB 20 20 17 13 10 13 22	L 0 0 0 0 0 0 0	U 0 0 0 0 0 0 0 0	R 0 0 0 0 0 0 0	NB 0 0 0 0 0 0 0 0 0 0 0 0 0 0	L 0 1 0 0 0 2 1	U 1 1 1 1 1 1 4	R 0 0 0 3 1 0	EB 11 12 7 19 19 23 12	L 1 5 2 6 5 5 4	
8:30 8:45 0 3 0 5 2 5 19 0 0 0 0 1 0 26 4 8:45 9:00 1 4 0 6 2 11 22 0 0 1 0 0 2 2 26 2 15:00 15:15 0 6 0 5 1 10 24 2 0 0 0 2 1 1 1 0 0 0 0 1 1 0 1 1 1 1 1 1	Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:45	me	U 0 1 0 1 0 2 0	R 7 6 15 6 6 1 5 6	SB 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	L 3 1 5 2 7 1 11 4	U 3 2 7 0 1 1 1 0	R 6 9 6 9 10 6 9	WB 20 20 17 13 10 13 22 20	L 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	R 0 0 0 0 0 0 0 0	NB 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	L 0 1 0 0 2 1 0	U 1 1 1 1 1 1 4 3	R 0 0 0 3 1 0 0	EB 11 12 7 19 19 23 12 27	L 1 5 2 6 5 5 4 4	
8:45 9:00 1 4 0 6 2 11 22 0 0 1 0 0 2 2 26 2 15:00 15:15 0 6 0 5 1 10 24 2 0 0 0 2 1 0 23 2 15:15 15:30 0 4 0 2 3 4 21 0 0 0 1 0 2 19 2 15:30 0 4 0 7 0 5 17 0 0 0 1 0 2 19 2 15:45 16:00 0 4 0 6 0 3 11 0 0 0 0 1 0 18 3 16:00 4 0 6 0 3 11 0 0 0 0 1 0 0 2 15 3 16:01 6 2 7 0 5	Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:45	me	U 0 1 0 1 0 2 0	R 7 6 15 6 6 1 5 6	SB 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	L 3 1 5 2 7 1 11 4	U 3 2 7 0 1 1 1 0	R 6 9 6 9 10 6 9	WB 20 20 17 13 10 13 22 20	L 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	R 0 0 0 0 0 0 0 0	NB 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	L 0 1 0 0 2 1 0	U 1 1 1 1 1 1 4 3	R 0 0 0 3 1 0 0	EB 11 12 7 19 19 23 12 27	L 1 5 2 6 5 5 4 4	
8:45 9:00 1 4 0 6 2 11 22 0 0 1 0 0 2 2 26 2 15:00 15:15 0 6 0 5 1 10 24 2 0 0 0 2 1 0 23 2 15:15 15:30 0 4 0 2 3 4 21 0 0 0 1 0 2 19 2 15:30 0 4 0 7 0 5 17 0 0 0 1 0 2 19 2 15:45 16:00 0 4 0 6 0 3 11 0 0 0 0 1 0 18 3 16:00 4 0 6 0 3 11 0 0 0 0 1 0 0 2 15 3 16:01 6 2 7 0 5	Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00	me Period End 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15	U 0 1 0 1 0 2 0 0	R 7 6 15 6 1 5 6 3	SB 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	L 3 1 5 2 7 1 11 4 6	U 3 2 7 0 1 1 1 1 0 3	R 6 9 6 9 10 6 9 6	WB 20 20 17 13 10 13 22 20 22	L 0 0 0 0 0 0 0 0 0 1	U 0 0 0 0 0 0 0 0 0 0 0 0	R 0 0 0 0 0 0 0 0 0 0	NB 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	L 0 1 0 0 0 2 1 0 1	U 1 1 1 1 1 1 4 3 1	R 0 0 0 3 1 0 0 1	EB 11 12 7 19 19 23 12 27 26	L 1 5 2 6 5 5 5 4 4 4 1	
15:00 15:15 0 6 0 5 1 10 24 2 0 0 0 2 1 0 23 2 15:15 15:30 0 4 0 2 3 4 21 0 0 0 0 1 0 2 19 2 15:30 15:45 0 4 0 7 0 5 17 0 0 0 11 0 2 19 2 15:45 16:00 0 4 10 0 1 15 0 0 0 0 1 0 13 3 16:00 16:15 0 4 0 6 0 3 11 0 0 0 0 0 1 0 18 2 16:15 16:30 0 2 0 5 13 0 0 0 0 0 0 2 2 2 2 2 16:45 0 6 <th< td=""><td>Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15</td><td>me Period End 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30</td><td>U 0 1 0 2 0 0 0</td><td>R 7 6 15 6 1 5 6 3 7</td><td>SB 0</td><td>L 3 1 5 2 7 1 11 4 6 8</td><td>U 3 2 7 0 1 1 1 1 0 3 1</td><td>R 6 9 6 9 10 6 9 6 3</td><td>WB 20 20 17 13 10 13 22 20 21 20</td><td>L 0 0 0 0 0 0 0 0 0 1 2</td><td>U 0 0 0 0 0 0 0 0 0 0 0 0 0</td><td>R 0 0 0 0 0 0 0 0 0 0 1</td><td>NB 0</td><td>L 0 1 0 0 2 1 0 1 5</td><td>U 1 1 1 1 1 1 4 3 1 1</td><td>R 0 0 0 0 3 1 0 1 1 1</td><td>EB 11 12 7 19 19 23 12 27 26 18</td><td>L 1 5 2 6 5 5 4 4 1 1</td><td></td></th<>	Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15	me Period End 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30	U 0 1 0 2 0 0 0	R 7 6 15 6 1 5 6 3 7	SB 0	L 3 1 5 2 7 1 11 4 6 8	U 3 2 7 0 1 1 1 1 0 3 1	R 6 9 6 9 10 6 9 6 3	WB 20 20 17 13 10 13 22 20 21 20	L 0 0 0 0 0 0 0 0 0 1 2	U 0 0 0 0 0 0 0 0 0 0 0 0 0	R 0 0 0 0 0 0 0 0 0 0 1	NB 0	L 0 1 0 0 2 1 0 1 5	U 1 1 1 1 1 1 4 3 1 1	R 0 0 0 0 3 1 0 1 1 1	EB 11 12 7 19 19 23 12 27 26 18	L 1 5 2 6 5 5 4 4 1 1	
15:15 15:30 0 4 0 2 3 4 21 0 0 0 1 0 2 19 2 15:30 15:45 0 4 0 7 0 5 17 0 0 0 0 1 0 2 19 2 15:45 16:00 0 4 0 7 0 5 17 0 0 0 1 0 0 18 3 15:45 16:00 0 4 1 0 0 1 15 0 0 0 0 1 0 18 3 16:00 16:15 0 4 0 6 0 3 11 0 0 0 0 0 0 18 2 16:15 16:30 0 2 0 5 13 0 0 0 0 0 0 2 25 2 16:45 17:00 0 3 1 3 <	Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30	me Period End 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45	U 0 1 0 2 0 0 0 1 0	R 7 6 15 6 1 5 6 3 7 7 3	SB 0	L 3 1 5 2 7 1 11 4 6 8 8 5	U 3 2 7 0 1 1 1 0 3 1 2	R 6 9 6 6 9 10 6 9 6 3 5	WB 20 20 17 13 10 13 22 20 22 19 19	L 0 0 0 0 0 0 0 0 1 2 0	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	R 0 0 0 0 0 0 0 0 0 0 1 0	NB 0	L 0 1 0 0 2 1 0 1 5 0	U 1 1 1 1 1 1 4 3 1 1 1 1	R 0 0 0 0 3 1 0 1 1 0	EB 11 12 7 19 19 23 12 27 26 18 26	L 1 5 2 6 5 5 4 4 1 1 1 4	
15:30 15:45 0 4 0 7 0 5 17 0 0 0 1 0 0 18 3 15:45 16:00 0 4 1 10 0 1 15 0 0 0 0 0 1 0 0 18 3 16:45 16:00 0 4 0 6 0 3 11 0 0 0 0 1 0 15 3 16:00 16:15 0 4 0 6 0 3 11 0 0 0 0 1 0 18 2 16:15 16:30 0 2 0 5 2 8 10 0 0 1 0 0 18 2 16:30 16:45 0 6 2 7 0 5 13 0 0 0 0 0 1 20 0 21 21 21 21 21 21	Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45	me Period End 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 9:00	U 0 1 0 2 0 0 1 0 1 0 1	R 7 6 15 6 1 5 6 3 7 3 7 3 4	SB 0	L 3 1 5 2 7 1 11 4 6 8 5 5 6	U 3 2 7 0 1 1 1 1 0 3 1 2 2	R 6 9 6 6 9 10 6 9 6 3 5 11	WB 20 20 17 13 10 13 22 20 22 19 19 22	L 0 0 0 0 0 0 0 0 0 1 2 0 0	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	R 0 0 0 0 0 0 0 0 0 0 0 1 1 0	NB 0	L 0 1 0 0 2 1 0 1 5 0 0	U 1 1 1 1 1 1 4 3 1 1 1 1 2	R 0 0 0 0 0 0 1 0 1 0 2	EB 11 12 7 19 23 12 27 26 18 26 26	L 1 5 2 6 5 5 4 4 4 1 1 1 4 2	
15:30 15:45 0 4 0 7 0 5 17 0 0 0 1 0 0 18 3 15:45 16:00 0 4 1 10 0 1 15 0 0 0 0 0 1 0 0 18 3 16:45 16:00 0 4 0 6 0 3 11 0 0 0 0 1 0 15 3 16:00 16:15 0 4 0 6 0 3 11 0 0 0 0 1 0 18 2 16:15 16:30 0 2 0 5 2 8 10 0 0 1 0 0 18 2 16:30 16:45 0 6 2 7 0 5 13 0 0 0 0 0 1 20 0 21 21 21 21 21 21	Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45	me Period End 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 9:00	U 0 1 0 2 0 0 1 0 1 0 1	R 7 6 15 6 1 5 6 3 7 3 7 3 4	SB 0	L 3 1 5 2 7 1 11 4 6 8 5 5 6	U 3 2 7 0 1 1 1 1 0 3 1 2 2	R 6 9 6 6 9 10 6 9 6 3 5 11	WB 20 20 17 13 10 13 22 20 22 19 19 22	L 0 0 0 0 0 0 0 0 0 1 2 0 0	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	R 0 0 0 0 0 0 0 0 0 0 0 1 1 0	NB 0	L 0 1 0 0 2 1 0 1 5 0 0	U 1 1 1 1 1 1 4 3 1 1 1 1 2	R 0 0 0 0 0 0 1 0 1 0 2	EB 11 12 7 19 23 12 27 26 18 26 26	L 1 5 2 6 5 5 4 4 4 1 1 1 4 2	
15:45 16:00 0 4 1 10 0 1 15 0 0 0 0 1 0 15 3 16:00 16:15 0 4 0 6 0 3 11 0 0 0 0 0 1 0 15 3 16:00 16:15 0 4 0 6 0 3 11 0 0 0 0 0 1 0 18 2 16:15 16:30 0 2 0 5 2 8 10 0 0 1 0 0 2 1 0 18 2 16:30 16:45 0 6 2 7 0 5 13 0 0 0 0 0 0 1 0 1 20 0 16:45 17:00 0 3 1 6 14 0 0 1 0 1 20 0 15 5 17:	Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 15:00	me (Period End 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 8:30 8:45 9:00 15:15	U 0 1 0 2 0 0 1 0 1 0 1 0	R 7 6 15 6 1 5 6 3 7 3 4 6	SB 0	L 3 1 5 2 7 1 11 4 6 8 5 6 5	U 3 2 7 0 1 1 1 1 0 3 1 2 2 2 1	R 6 9 6 6 9 10 6 9 6 3 5 11 10	WB 20 20 17 13 10 13 22 20 19 22 24	L 0 0 0 0 0 0 0 0 1 2 0 0 2	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	R 0 0 0 0 0 0 0 0 0 0 0 0 1 0 1 0	NB 0	L 0 1 0 0 2 1 0 1 5 0 0 0 2	U 1 1 1 1 1 1 1 4 3 1 1 1 2 1	R 0 0 0 0 1 0 1 0 2 0	EB 11 12 7 19 23 12 27 26 18 26 23	L 1 5 2 6 5 5 4 4 4 1 1 4 2 2	
16:00 16:15 0 4 0 6 0 3 11 0 0 0 2 1 0 18 2 16:15 16:30 0 2 0 5 2 8 10 0 0 1 0 0 0 2 1 0 18 2 16:15 16:30 0 2 0 5 2 8 10 0 0 1 0 0 2 1 0 18 2 16:30 16:45 0 6 2 7 0 5 13 0 0 0 0 0 0 0 2 2 2 2 2 16:45 17:00 0 3 0 3 1 6 14 0 0 1 0 1 20 0 17:00 17:15 0 5 1 3 17 0 0 0 0 0 15 5 17:30 16 0 </td <td>Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 15:00 15:15</td> <td>me (Period End 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 8:30 8:45 9:00 15:15 15:30</td> <td>U 0 1 0 1 0 2 0 0 0 1 0 0 1 0 0 0</td> <td>R 7 6 15 6 1 5 6 3 7 3 4 6 4</td> <td>SB 0</td> <td>L 3 1 5 2 7 1 11 4 6 8 5 6 5 2</td> <td>U 3 2 7 0 1 1 1 1 0 3 1 2 2 2 1 3</td> <td>R 6 9 6 9 10 6 9 10 6 3 5 11 10 4</td> <td>WB 20 20 17 13 10 13 22 20 22 19 19 22 24 21</td> <td>L 0 0 0 0 0 0 0 0 1 2 0 0 2 0</td> <td>U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td> <td>R 0 0 0 0 0 0 0 0 0 0 0 0 1 0 1 0 0 0</td> <td>NB 0</td> <td>L 0 1 0 0 2 1 0 1 5 0 0 2 1 2 1</td> <td>U 1 1 1 1 1 1 1 4 3 1 1 1 1 2 1 0</td> <td>R 0 0 0 0 0 0 0 1 0 2 2</td> <td>EB 11 12 7 19 23 12 27 26 18 26 23 19 19</td> <td>L 1 5 2 6 5 5 4 4 1 1 4 2 2 2</td> <td></td>	Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 15:00 15:15	me (Period End 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 8:30 8:45 9:00 15:15 15:30	U 0 1 0 1 0 2 0 0 0 1 0 0 1 0 0 0	R 7 6 15 6 1 5 6 3 7 3 4 6 4	SB 0	L 3 1 5 2 7 1 11 4 6 8 5 6 5 2	U 3 2 7 0 1 1 1 1 0 3 1 2 2 2 1 3	R 6 9 6 9 10 6 9 10 6 3 5 11 10 4	WB 20 20 17 13 10 13 22 20 22 19 19 22 24 21	L 0 0 0 0 0 0 0 0 1 2 0 0 2 0	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	R 0 0 0 0 0 0 0 0 0 0 0 0 1 0 1 0 0 0	NB 0	L 0 1 0 0 2 1 0 1 5 0 0 2 1 2 1	U 1 1 1 1 1 1 1 4 3 1 1 1 1 2 1 0	R 0 0 0 0 0 0 0 1 0 2 2	EB 11 12 7 19 23 12 27 26 18 26 23 19 19	L 1 5 2 6 5 5 4 4 1 1 4 2 2 2	
16:15 16:30 0 2 0 5 2 8 10 0 0 1 0 0 0 0 24 0 16:30 16:45 0 6 2 7 0 5 13 0 0 0 0 0 0 22 25 2 16:45 17:00 0 3 0 5 13 0 0 0 0 0 2 25 2 16:45 17:00 0 3 0 3 1 6 14 0 0 1 0 1 20 0 17:00 17:15 0 5 1 3 17 0 0 0 0 0 0 0 15 5 17:15 17:30 0 2 0 4 0 5 5 0 0 0 0 0 16 0 17:45 18:00 0 6 5 0 2 0 0 <	Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:05 8:15 8:30 8:45 15:00 15:15 15:30	me (Period End 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 9:00 15:15 15:30	U 0 1 0 1 0 2 0 0 0 1 0 1 0 1 0 0 0 0 0 0	R 7 6 15 6 1 5 6 3 7 3 4 6 4 4 4	SB 0	L 3 1 5 2 7 1 11 4 6 8 5 6 5 6 5 2 7	U 3 2 7 0 1 1 1 1 0 3 1 2 2 2 1 3 0	R 6 9 6 9 10 6 9 10 6 3 5 11 10 4 5	WB 20 20 17 13 10 13 22 20 22 19 19 22 24 21 17	L 0 0 0 0 0 0 0 0 0 1 2 0 0 2 0 0 0 0	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	R 0 0 0 0 0 0 0 0 0 0 0 1 1 0 0 0 0 0 0	NB 0	L 0 1 0 0 2 1 0 1 5 0 0 2 1 1 1 1	U 1 1 1 1 1 1 4 3 1 1 1 1 2 1 0 0 0	R 0 0 0 3 1 0 0 1 1 0 2 0 2 0 2 0	EB 11 12 7 19 19 23 12 27 26 18 26 26 26 23 19 18	L 1 5 2 6 5 5 4 4 1 1 4 2 2 2 2 3	
16:15 16:30 0 2 0 5 2 8 10 0 0 1 0 0 0 0 24 0 16:30 16:45 0 6 2 7 0 5 13 0 0 0 0 0 0 22 25 2 16:45 17:00 0 3 0 5 13 0 0 0 0 0 2 25 2 16:45 17:00 0 3 0 3 1 6 14 0 0 1 0 1 20 0 17:00 17:15 0 5 1 3 17 0 0 0 0 0 0 0 15 5 17:15 17:30 0 2 0 4 0 5 5 0 0 0 0 0 16 0 17:45 18:00 0 6 5 0 2 0 0 <	Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:05 8:15 8:30 8:45 15:00 15:15 15:30	me (Period End 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 9:00 15:15 15:30	U 0 1 0 1 0 2 0 0 0 1 0 1 0 1 0 0 0 0 0 0	R 7 6 15 6 1 5 6 3 7 3 4 6 4 4 4	SB 0	L 3 1 5 2 7 1 11 4 6 8 5 6 5 6 5 2 7	U 3 2 7 0 1 1 1 1 0 3 1 2 2 2 1 3 0	R 6 9 6 9 10 6 9 10 6 3 5 11 10 4 5	WB 20 20 17 13 10 13 22 20 22 19 19 22 24 21 17	L 0 0 0 0 0 0 0 0 0 1 2 0 0 2 0 0 0 0	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	R 0 0 0 0 0 0 0 0 0 0 0 1 1 0 0 0 0 0 0	NB 0	L 0 1 0 0 2 1 0 1 5 0 0 2 1 1 1 1	U 1 1 1 1 1 1 4 3 1 1 1 1 2 1 0 0 0	R 0 0 0 3 1 0 0 1 1 0 2 0 2 0 2 0	EB 11 12 7 19 19 23 12 27 26 18 26 26 26 23 19 18	L 1 5 2 6 5 5 4 4 1 1 4 2 2 2 2 3	
16:30 16:45 0 6 2 7 0 5 13 0 0 0 0 2 25 2 16:45 17:00 0 3 0 3 1 6 14 0 0 1 0 1 20 0 17:00 17:15 0 5 1 5 1 3 17 0 0 0 0 0 1 0 1 20 0 17:00 17:15 0 5 1 5 1 3 17 0 0 0 0 0 15 5 17:15 17:30 0 2 0 4 0 5 5 0 0 0 0 0 15 2 17:30 17:45 0 7 0 4 0 2 5 0 0 0 0 0 11 0	Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 15:00 15:15 15:30 15:45	me (Period End 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 9:00 15:15 15:30 15:45 16:00	U 0 1 0 1 0 2 0 0 0 1 0 1 0 0 1 0 0 0 0 0	R 7 6 15 6 1 5 6 3 7 3 4 6 4 4 4 4	SB 0 1	L 3 1 5 2 7 1 11 4 6 8 5 6 5 6 5 2 7 7 10	U 3 2 7 0 1 1 1 1 1 0 3 1 2 2 2 1 3 0 0 0	R 6 9 6 9 10 6 9 10 6 3 5 11 10 4 5 1	WB 20 20 17 13 10 13 22 20 22 19 22 24 21 17 15	L 0 0 0 0 0 0 0 0 1 2 0 0 2 0 0 0 0 0 0 0	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	R 0 0 0 0 0 0 0 0 0 0 0 1 0 0 1 0 0 0 0	NB 0	L 0 1 0 0 2 1 0 1 5 0 0 2 1 1 1 0 0	U 1 1 1 1 1 4 3 1 1 1 1 2 1 0 0 0 1	R 0 0 0 3 1 0 0 1 1 0 2 0 2 0 0 2 0 0 0	EB 11 12 7 19 19 23 12 27 26 18 26 26 26 23 19 18 15	L 1 5 6 5 5 4 4 4 1 1 1 2 2 2 3 3 3	
16:45 17:00 0 3 0 3 1 6 14 0 0 1 0 1 20 0 17:00 17:15 0 5 1 5 1 3 17 0 0 0 0 0 0 0 0 0 1 20 0 17:00 17:15 0 5 1 5 1 3 17 0 0 0 0 0 0 15 5 17:15 17:30 0 2 0 4 1 5 8 0 0 0 0 0 1 0 15 2 17:30 17:45 0 7 0 4 0 5 5 0 0 0 0 0 16 0 17:45 18:00 0 6 0 5 0 2 5 0 0	Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 15:00 15:15 15:30 15:45 16:00	me Period End 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 9:00 15:15 15:30 15:45 16:00 16:15	U 0 1 1 0 2 0 0 0 1 0 0 1 0 0 0 0 0 0 0 0	R 7 6 15 6 15 6 3 7 7 3 4 6 4 4 4 4 4	SB 0	L 3 1 5 7 1 11 4 6 8 5 6 5 6 5 2 7 7 10 6	U 3 2 7 0 1 1 1 1 0 3 1 2 2 2 1 3 0 0 0 0	R 6 9 6 9 10 6 9 6 3 5 11 10 4 5 1 3	WB 20 20 17 13 10 13 22 20 22 19 22 24 21 17 15 11	L 0 0 0 0 0 0 0 0 0 1 2 0 0 2 0 0 0 0 0 0	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	R 0 0 0 0 0 0 0 0 0 0 0 1 0 0 1 0 0 0 0	NB 0	L 0 1 0 0 2 1 0 1 5 0 0 0 2 1 1 0 2 1 1 0 2 2	U 1 1 1 1 1 4 3 1 1 1 1 2 1 0 0 0 1 1 1	R 0 0 0 0 0 1 0 1 0 2 0 2 0 0 0 0 0 0 0 0 0 0 0 0	EB 11 12 7 19 19 23 12 27 26 18 26 26 23 19 18 15 18	L 1 5 5 5 4 4 4 1 1 1 2 2 2 2 3 3 3 2	
17:00 17:15 0 5 1 5 1 3 17 0 0 0 0 0 0 15 5 17:15 17:30 0 2 0 4 1 5 8 0 0 0 0 0 15 5 17:30 17:45 0 7 0 4 0 5 5 0 0 0 0 0 15 2 17:30 17:45 0 7 0 4 0 5 0 0 0 0 0 16 0 17:45 18:00 0 6 0 5 0 2 5 0 0 0 0 0 11 0 Peak Time North Approach MaConald Rd East Approach Williamson Rd wth Approach Hammer Supplies Entry West Approach Williamson Rd total total Rd 8:00 9:00 2 17 <t< td=""><td>Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 15:00 15:15 15:30 15:45 16:00 16:15</td><td>me Period End 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 9:00 15:15 15:30 15:45 16:00 16:15 16:30</td><td>U 0 1 0 2 0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0</td><td>R 7 6 15 6 1 5 6 3 7 3 4 6 4 4 4 2</td><td>SB 0</td><td>L 3 1 5 2 7 7 1 11 4 6 8 5 6 6 5 2 7 7 10 6 5 5</td><td>U 3 2 7 0 1 1 1 1 0 3 1 2 2 1 3 0 0 0 0 0 2</td><td>R 6 9 6 9 10 6 9 6 3 5 11 10 4 5 1 3 8</td><td>WB 20 20 20 17 13 10 13 22 20 22 19 19 22 24 21 17 15 11 10</td><td>L 0 0 0 0 0 0 0 0 0 0 2 0 0 0 0 0 0 0 0</td><td>U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td><td>R 0 1</td><td>NB 0</td><td>L 0 1 0 0 2 1 0 1 5 0 0 2 1 1 5 0 0 2 1 1 1 0 2 0 0</td><td>U 1 1 1 1 1 4 3 1 1 1 1 2 1 0 0 0 1 1 1 0 0</td><td>R 0 0 0 0 1 0 1 0 2 0 2 0 0 0</td><td>EB 11 12 7 19 19 23 12 27 26 18 26 26 26 23 19 18 15 18 15 18 24</td><td>L 1 5 6 5 5 4 4 1 1 1 2 2 2 2 2 2 3 3 3 2 0</td><td></td></t<>	Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 15:00 15:15 15:30 15:45 16:00 16:15	me Period End 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 9:00 15:15 15:30 15:45 16:00 16:15 16:30	U 0 1 0 2 0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0	R 7 6 15 6 1 5 6 3 7 3 4 6 4 4 4 2	SB 0	L 3 1 5 2 7 7 1 11 4 6 8 5 6 6 5 2 7 7 10 6 5 5	U 3 2 7 0 1 1 1 1 0 3 1 2 2 1 3 0 0 0 0 0 2	R 6 9 6 9 10 6 9 6 3 5 11 10 4 5 1 3 8	WB 20 20 20 17 13 10 13 22 20 22 19 19 22 24 21 17 15 11 10	L 0 0 0 0 0 0 0 0 0 0 2 0 0 0 0 0 0 0 0	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	R 0 1	NB 0	L 0 1 0 0 2 1 0 1 5 0 0 2 1 1 5 0 0 2 1 1 1 0 2 0 0	U 1 1 1 1 1 4 3 1 1 1 1 2 1 0 0 0 1 1 1 0 0	R 0 0 0 0 1 0 1 0 2 0 2 0 0 0	EB 11 12 7 19 19 23 12 27 26 18 26 26 26 23 19 18 15 18 15 18 24	L 1 5 6 5 5 4 4 1 1 1 2 2 2 2 2 2 3 3 3 2 0	
17:15 17:30 0 2 0 4 1 5 8 0 0 0 0 2 0 15 2 17:30 17:45 0 7 0 4 0 5 5 0 0 0 0 0 0 15 2 17:30 17:45 0 7 0 4 0 5 5 0 0 0 0 0 0 16 0 17:45 18:00 0 6 0 5 0 2 5 0 0 0 0 0 11 0 Peak Time North Approach MaConald Rd East Approach Williamson Rd wth Approach Hammer Supplies Entry West Approach Williamson Rd tota 8:00 9:00 2 17 0 25 8 2 3 0 2 0 6 5 4 96 8 28	Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 15:00 15:15 15:30 15:45 16:00 16:15	me Period End 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 9:00 15:15 15:30 15:45 16:00 16:15 16:30	U 0 1 0 2 0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0	R 7 6 15 6 1 5 6 3 7 3 4 6 4 4 4 2	SB 0	L 3 1 5 2 7 7 1 11 4 6 8 5 6 6 5 2 7 7 10 6 5 5	U 3 2 7 0 1 1 1 1 0 3 1 2 2 1 3 0 0 0 0 0 2	R 6 9 6 9 10 6 9 6 3 5 11 10 4 5 1 3 8	WB 20 20 20 17 13 10 13 22 20 22 19 19 22 24 21 17 15 11 10	L 0 0 0 0 0 0 0 0 0 0 2 0 0 0 0 0 0 0 0	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	R 0 1	NB 0	L 0 1 0 0 2 1 0 1 5 0 0 2 1 1 5 0 0 2 1 1 1 0 2 0 0	U 1 1 1 1 1 4 3 1 1 1 1 2 1 0 0 0 1 1 1 0 0	R 0 0 0 0 1 0 1 0 2 0 2 0 2 0 0 0 0 0 0 0 0 0 0 0	EB 11 12 7 19 19 23 12 27 26 18 26 26 26 23 19 18 15 18 15 18 24	L 1 5 6 5 5 4 4 1 1 1 2 2 2 2 2 2 3 3 3 2 0	
17:15 17:30 0 2 0 4 1 5 8 0 0 0 0 2 0 15 2 17:30 17:45 0 7 0 4 0 5 5 0 0 0 0 0 0 15 2 17:30 17:45 0 7 0 4 0 5 5 0 0 0 0 0 0 16 0 17:45 18:00 0 6 0 5 0 2 5 0 0 0 0 0 11 0 Peak Time North Approach MaConald Rd East Approach Williamson Rd wth Approach Hammer Supplies Entry West Approach Williamson Rd tota 8:00 9:00 2 17 0 25 8 2 3 0 2 0 6 5 4 96 8 28	Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 15:00 15:15 15:30 15:45 16:00 16:15 16:30	me Period End 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 9:00 15:15 15:30 15:45 16:00 16:45	U 0 0 1 0 1 0 0 0 1 0 0 0 0 0 0 0 0 0 0	R 7 6 15 6 1 5 6 3 7 3 4 6 4 4 4 4 6 6	SB 0 2	L 3 1 5 2 7 1 11 4 6 8 5 5 6 6 5 5 2 7 7 10 6 5 7 7	U 3 2 7 0 1 1 1 1 0 3 1 2 2 1 3 0 0 0 0 0 2 0 0	R 6 9 6 9 10 6 9 6 3 5 11 10 4 5 1 3 8 5	WB 20 20 20 17 13 10 13 22 20 22 19 22 24 21 17 15 11 10 13	L 0 0 0 0 0 0 0 0 1 2 0 0 0 2 0 0 0 0 0 0	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	R 0	NB 0	L 0 1 0 0 2 1 0 0 2 1 1 5 0 0 2 1 1 0 2 1 1 0 0 2 0 0 0 0 0 0 0 2 0 0 0 0	U 1 1 1 1 1 1 1 1 1 1 1 2 1 0 0 0 1 1 1 0 0 0	R 0 0 0 0 1 0 1 0 2 0 0 2 0 0 2 0 0 2 0 0 2 0 0 2	EB 11 12 7 19 19 23 12 27 26 18 26 26 23 19 18 15 18 15 18 24 25	L 1 5 6 5 5 4 4 1 1 1 2 2 2 2 3 3 3 2 2 0 2 2	
17:30 17:45 0 7 0 4 0 5 5 0 0 0 0 0 0 16 0 17:45 18:00 0 6 0 5 0 2 5 0 0 0 0 0 0 11 0 Period Stat Period End R Stat Period End N NB L U R Period Stat Period End N NB L U R Period Stat Period End N R EB L tota 8:00 9:00 2 17 0 25 8 25 3 0 2 0 6 5 4 96 8 283	Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 15:00 15:15 15:30 15:45 16:00 16:15 16:30 16:45	me Period End 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 9:00 15:15 15:30 15:45 16:00 16:45 16:30 16:45 16:45	U 0 0 0 1 0 2 0 0 1 0 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	R 7 6 15 6 6 1 5 6 3 7 3 4 6 4 4 4 4 4 4 4 4 2 6 3	SB 0	L 3 1 5 2 7 1 11 4 6 8 5 6 5 6 5 7 7 10 6 5 7 3	U 3 2 7 0 1 1 1 1 0 3 3 1 2 2 1 3 0 0 0 0 0 2 0 0 1 1	R 6 9 6 9 10 6 9 10 6 3 5 11 3 8 5 6	WB 20 20 17 13 10 13 22 20 22 19 22 19 22 19 12 24 21 17 15 11 10 13 14	L 0 0 0 0 0 0 0 0 1 2 0 0 0 2 0 0 0 0 0 0	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	R 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0	NB 0	L 0 1 0 0 2 1 0 0 2 1 1 5 0 0 0 2 1 1 1 0 2 0 0 0 1	U 1 1 1 1 1 1 1 1 1 1 1 2 1 1 0 0 0 1 1 1 0 0 0 0	R 0 0 0 0 0 1 0 1 0 2 0 0 2 0 0 0 2 0 0 0 1	EB 11 12 7 19 19 23 12 27 26 18 26 26 23 19 18 26 23 19 18 15 18 24 25 20	L 1 5 6 5 5 4 4 4 1 1 1 2 2 2 3 3 3 2 2 0 0 2 0 0	
17:45 18:00 0 6 0 5 0 2 5 0 0 0 0 0 11 0 Peak Time North Approach MacDonald Rd East Approach Williamson Rd whth Approach Hammer Supplies Entry West Approach Williamson Rd Peak Time Period Start Period End U R S8 L U R WB L U R EB L total 8:00 9:00 2 17 0 25 8 25 3 0 2 0 6 5 4 96 8 28	Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 15:00 15:15 15:30 15:45 16:00 16:15 16:30 16:45 16:30 16:45 17:00	me Period End 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 9:00 15:15 16:30 15:45 16:00 16:45 16:30 16:45 17:00 17:15	U 0 0 1 0 2 0 0 1 0 1 0 1 0	R 7 6 15 6 6 1 5 6 3 7 3 4 6 4 4 4 4 4 4 4 4 2 6 3 5	SB 0 1 0 1	L 3 1 5 2 7 1 11 4 6 8 5 6 5 6 5 2 7 10 6 5 7 10 6 5 7 3 3 5	U 3 2 7 0 1 1 1 1 0 3 1 2 2 1 2 1 3 0 0 0 0 0 0 2 0 0 1 1 1 1	R 6 9 6 9 10 6 9 10 4 5 1 3 8 5 6 3	WB 20 20 17 13 10 13 22 20 22 19 22 24 21 17 15 11 10 13 14 17	L 0 0 0 0 0 0 0 0 1 2 0 0 0 2 0 0 0 0 0 0	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	R 0 1 0 1 0	NB 0	L 0 1 0 0 2 1 0 0 2 1 1 5 0 0 2 1 1 0 2 0 0 0 1 1 0 0 2 0 0 0 1 0 0 2 1 0 0 0 2 1 1 0 0 0 0	U 1 1 1 1 1 1 1 1 1 1 1 1 2 1 1 0 0 0 1 1 1 0 0 0 0	R 0 0 0 0 0 1 0 1 0 2 0 2 0 0 2 0 0 2 0 0 0 0 0 0 0 0	EB 11 12 7 19 19 23 12 27 26 18 26 26 23 19 18 26 26 23 19 18 15 18 24 25 20 15	L 1 5 6 5 5 4 4 4 1 1 4 2 2 2 2 3 3 3 2 2 0 0 5 5	
Peak Time North Approach MacDonald Rd East Approach Williamson Rd uth Approach Hammer Supplies Entry West Approach Williamson Rd Peak Time Period Start Period End U R S8 L U R WB L U R EB L tota 8:00 9:00 2 17 0 25 8 25 82 3 0 2 0 6 5 4 96 8 283	Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 15:00 15:15 15:30 15:45 16:00 16:15 16:30 16:45 16:30 16:45 17:00	me Period End 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 9:00 15:15 16:30 15:45 16:00 16:45 16:30 16:45 17:00 17:15	U 0 0 1 0 2 0 0 1 0 1 0 1 0	R 7 6 15 6 6 1 5 6 3 7 7 3 4 6 4 4 4 4 4 4 4 2 6 3 5 5 2	SB 0 1 0 1	L 3 1 5 2 7 1 11 4 6 8 5 6 5 6 5 2 7 10 6 5 7 10 6 5 7 3 3 5	U 3 2 7 0 1 1 1 1 0 3 1 2 2 1 2 1 3 0 0 0 0 0 0 2 0 0 1 1 1	R 6 9 6 9 10 6 9 10 6 3 5 11 10 4 5 1 3 8 5 6 3 5 6 3 5	WB 20 20 17 13 22 20 22 19 22 24 21 17 15 11 10 13 14 17 8	L 0 0 0 0 0 0 0 0 1 2 0 0 0 2 0 0 0 0 0 0	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	R 0 1 0 1 0	NB 0	L 0 1 0 0 2 1 0 0 2 1 1 5 0 0 2 1 1 0 2 0 0 0 1 1 0 0 2 0 0 0 1 0 0 2 1 0 0 0 2 1 1 0 0 0 0	U 1 1 1 1 1 1 1 1 1 1 1 1 2 1 1 0 0 0 1 1 1 0 0 0 0	R 0 0 0 0 0 1 0 1 0 2 0 2 0 0 2 0 0 2 0 0 0 0 0 0 0 0	EB 11 12 7 19 19 23 12 27 26 18 26 26 23 19 18 26 26 23 19 18 15 18 24 25 20 15	L 1 5 6 5 5 4 4 4 1 1 4 2 2 2 2 3 3 3 2 2 0 0 5 5	
Peak Time North Approach MacDonald Rd East Approach Williamson Rd uth Approach Hammer Supplies Entry West Approach Williamson Rd Peak Time Period Start Period End U R S8 L U R WB L U R EB L tota 8:00 9:00 2 17 0 25 8 25 82 3 0 2 0 6 5 4 96 8 283	Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 15:00 15:15 15:30 15:45 16:05 16:30 16:45 17:00 17:15	me Period End 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 9:00 15:15 15:30 15:45 16:00 16:45 16:45 17:00 17:15	U 0 0 1 0 2 0 1 0 1 0 1 0	R 7 6 15 6 6 1 5 6 3 7 7 3 4 6 4 4 4 4 4 4 4 2 6 3 5 5 2	SB 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 1 0	L 3 1 5 2 7 1 11 4 6 8 5 6 5 6 5 2 7 10 6 5 7 10 6 5 7 3 3 5 4	U 3 2 7 0 1 1 1 1 0 3 2 2 1 2 2 1 3 0 0 0 0 2 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1	R 6 9 6 9 10 6 9 10 6 3 5 11 10 4 5 1 3 8 5 6 3 5 6 3 5	WB 20 20 17 13 22 20 22 19 22 24 21 17 15 11 10 13 14 17 8	L 0 0 0 0 0 0 0 0 1 2 0 0 0 2 0 0 0 0 0 0	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	R 0	NB 0	L 0 1 0 2 1 0 0 2 1 0 0 2 1 1 0 2 1 1 0 0 2 1 1 0 0 2 0 0 0 1 1 0 0 2 1 0 0 0 2 1 1 0 0 0 2 1 1 0 0 0 0	U 1 1 1 1 1 1 1 1 1 1 1 2 1 0 0 0 1 1 1 0 0 0 0	R 0 0 0 0 1 0 1 0 2 0 2 0 0 2 0 0 2 0 0 0 0 0 0 0 0 0 0 0 0	EB 11 12 7 19 19 23 12 27 26 18 26 23 19 18 15 18 24 25 20 15 15	L 1 5 6 5 5 4 4 4 1 1 4 2 2 2 3 3 3 2 2 0 0 2 2 0 5 5	
Period Start Period End U R SB L U R WB L U R NB L U R EB L tota 8:00 9:00 2 17 0 25 8 25 82 3 0 2 0 6 5 4 96 8 283	Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:35 8:00 8:15 8:30 8:45 15:00 15:15 15:30 15:45 16:00 16:15 16:30 16:45 17:00 17:15 17:30	me Period End 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 9:00 15:15 16:30 15:45 16:00 16:45 17:00 17:15 17:30 17:45	U 0 0 1 0 2 0 1 0 1 0 1 0	R 7 6 15 6 6 1 5 6 3 7 3 4 6 4 4 4 4 4 4 4 2 6 3 5 5 2 7 7	SB O 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	L 3 1 5 2 7 1 11 4 6 8 5 6 5 6 5 2 7 7 10 6 5 7 7 3 5 5 4 4 4	U 3 2 7 0 1 1 1 1 1 2 2 2 1 3 0 0 0 0 2 0 0 1 1 1 1 0 0 0 0 0 1 1 1 0 0 0 0	R 6 9 6 9 10 6 9 6 3 5 11 10 4 5 1 3 8 5 6 3 5 6 3 5 5 5	WB 20 20 17 13 22 20 22 19 22 24 21 17 15 11 10 13 24 21 17 5	L 0 0 0 0 0 0 0 0 1 2 0 0 0 2 0 0 0 0 0 0	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	R 0	NB 0	L 0 1 0 2 1 0 0 2 1 0 0 2 1 1 0 0 2 1 1 0 0 2 0 0 0 1 1 0 0 0 0	U 1 1 1 1 1 1 1 1 1 1 1 2 1 1 0 0 0 1 1 1 0 0 0 0	R 0 0 0 0 3 1 0 1 0 2 0 2 0 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EB 11 12 7 19 19 23 12 27 26 18 26 23 19 18 15 18 24 25 20 15 16	L 1 5 6 5 5 4 4 1 1 4 2 2 2 2 2 3 3 3 2 2 0 2 2 0 5 5 2 0 0	
Period Start Period End U R SB L U R WB L U R B L U R EB L tota 8:00 9:00 2 17 0 25 8 25 82 3 0 2 0 6 5 4 96 8 283	Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:35 8:00 8:15 8:30 8:45 15:00 15:15 15:30 15:45 16:00 16:15 16:30 16:45 17:00 17:15 17:30	me Period End 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 9:00 15:15 16:30 15:45 16:00 16:45 17:00 17:15 17:30 17:45	U 0 0 1 0 2 0 1 0 1 0 1 0	R 7 6 15 6 1 5 6 3 7 3 4 4 4 4 4 4 5 5 2 7 6 3 5 2 7 6	SB 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0	L 3 1 5 2 7 1 11 4 6 8 5 6 6 5 6 5 7 7 10 6 5 7 7 3 5 5 4 4 4 5	U 3 2 7 0 1 1 1 1 2 2 2 1 3 3 0 0 0 0 2 0 0 1 1 1 1 1 0 0 0 0 0 0 0 0	R 6 9 6 9 10 6 9 10 6 3 5 11 3 8 5 6 3 5 6 3 5 5 5 2	WB 20 20 17 13 10 13 22 20 22 19 19 22 19 11 10 13 14 17 8 5 5	L 0 0 0 0 0 0 0 0 1 2 0 0 0 2 0 0 0 0 0 0	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	R 0	NB 0	L 0 1 0 2 1 0 0 2 1 0 0 2 1 1 0 0 2 1 1 0 0 2 0 0 0 1 1 0 0 0 0	U 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2 1 1 0 0 0 1 1 1 0 0 0 0	R 0 0 0 0 0 1 0 1 0 2 0 2 0 0 2 0	EB 11 12 7 19 12 27 26 18 26 23 19 18 15 18 24 25 20 15 16 11	L 1 5 6 5 5 4 4 4 1 1 1 4 2 2 2 3 3 3 2 2 0 0 5 2 0 0 5 2 0 0 0 0 0 0	
	Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 15:00 15:15 15:30 15:45 16:30 16:45 17:00 17:15 17:30 17:45	me Period End 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:05 8:15 8:30 8:45 9:00 15:15 16:30 16:45 16:30 16:45 16:45 16:45 17:00 17:15 17:30 17:45 18:00	U 0 0 1 0 1 0 1 0 0 1 0 0 1 0 0 0 0 0 0	R 7 6 15 6 1 5 6 3 7 3 4 4 4 4 4 4 5 2 7 6 3 5 2 7 6	SB 0	L 3 1 5 2 7 1 11 4 6 8 5 6 6 5 6 7 7 10 6 5 7 7 3 5 4 4 4 5	U 3 2 7 0 1 1 1 1 2 2 2 1 3 0 0 0 0 2 0 0 0 2 0 0 1 1 1 1 0 0 0 2 0 0 1 1 1 1	R 6 9 6 9 10 6 9 10 4 5 11 3 8 5 6 3 5 6 3 5 6 3 5 6 3 5 6 3 5 6 3 5 6 3 5 2 Approach	WB 20 20 17 13 22 20 22 19 22 24 21 17 15 11 10 13 24 21 17 5 5 Williamsco	L 0 0 0 0 0 0 0 0 1 2 0 0 0 2 0 0 0 0 0 0	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	R 0 1 0	NB 0	L 0 1 0 0 2 1 0 0 2 1 1 5 0 0 0 2 1 1 1 0 2 0 0 0 1 0 0 0 0 0 0 0	U 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2 1 1 0 0 0 1 1 1 0 0 0 0	R 0 0 0 0 0 1 0 1 0 2 0 2 0 0 2 0	EB 11 12 7 19 19 23 12 27 26 18 26 23 19 18 26 23 19 18 15 18 24 25 20 15 16 11 Williams	L 1 5 6 5 5 4 4 4 1 1 1 4 2 2 2 3 3 3 2 2 0 0 5 2 0 0 5 2 0 0 0 0 0 0	
<u>10 238</u> <u>10 24 4 20 77 20 0 0 4 2 2 75 10 238</u>	Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 15:00 15:15 16:00 16:15 16:30 16:45 17:00 17:15 17:30 17:45 Peak Period Start	me Period End 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 9:00 15:15 15:30 15:45 16:00 16:45 16:30 16:45 17:00 17:45 18:00 Ctime Period End	U 0 1 0 2 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0	R 7 6 15 6 3 7 3 4 6 4 4 4 4 5 6 3 7 6 3 5 2 7 6 Approact	SB 0	L 3 1 2 7 1 11 4 6 8 5 5 2 7 7 10 6 5 2 7 7 10 6 5 7 3 5 7 3 5 4 4 5 5 2 2 7 7 10 6 5 5 2 2 7 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	U 3 2 7 0 1 1 1 0 3 1 2 2 1 3 0 0 0 2 2 0 0 1 1 1 1 0 0 0 0 2 2 0 0 1 1 1 1	R 6 9 6 9 10 6 9 6 3 5 11 10 4 5 1 3 8 5 6 3 5 6 3 5 2 Approach	WB 20 20 20 17 13 10 13 22 20 22 19 19 22 24 21 17 15 11 10 13 14 17 8 5 5 5 WB	L 0 0 0 0 0 0 0 1 1 2 0 0 0 2 2 0 0 0 0 0	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	R 0	NB 0	L 0 0 0 2 1 0 0 1 5 0 0 2 1 1 0 0 2 1 1 0 0 2 1 1 0 0 0 0 0	U 1 1 1 1 1 1 4 3 1 1 1 1 2 1 1 0 0 0 1 1 1 0 0 0 1 1 1 0 0 0 0	R 0 0 0 0 1 0 1 0 2 0 2 0 2 0 2 0 2 0	EB 11 12 7 19 19 23 12 27 26 18 26 23 19 18 26 23 19 18 26 23 19 18 26 23 19 18 26 23 19 19 19 23 12 27 26 18 26 18 26 23 19 19 19 19 23 12 27 26 18 26 26 18 26 23 19 19 19 19 23 12 27 26 18 26 23 19 18 26 26 23 19 18 26 26 23 19 18 26 26 23 19 18 26 26 23 19 18 26 23 19 18 26 23 19 18 15 18 26 23 19 18 15 18 26 23 19 18 15 18 24 25 20 15 16 15 16 16 15 16 16 15 16 16 15 16 16 15 16 16 15 16 16 15 16 16 15 16 16 15 16 16 15 16 16 15 16 16 15 16 16 15 16 16 16 16 16 16 16 16 16 16	L 1 1 5 6 5 5 4 1 1 1 1 2 2 2 2 2 2 2 3 3 2 0 0 2 0 5 2 0 0 0 0 0 0 0 0 0 0 0 0 0	
	Ti Period Start 6:00 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 15:00 15:15 15:30 15:45 16:15 16:30 16:45 17:00 17:15 17:30 17:45 Period Start 8:00	me Period End 6:15 6:30 6:45 7:00 7:15 7:30 7:45 8:00 8:15 8:30 8:45 9:00 15:15 16:30 16:45 16:00 16:45 17:00 17:15 18:00 17:45 18:00 17:45 18:00 17:45 18:00	U 0 1 1 0 2 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0	R 7 6 15 6 1 5 6 3 7 3 4 6 4 4 4 4 2 6 3 5 2 7 6 3 5 2 7 6 3 5 2 7 6 3 5 2 7 6 3 5 2 7 6 6 7 6 7 6 7 7 7 7 7	SB 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0	L 3 1 5 2 7 1 11 4 6 8 5 6 5 6 5 2 7 10 6 5 7 10 6 5 7 10 6 5 7 3 5 4 4 4 5 5 4 4 4 5 5 8 7 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	U 3 2 7 0 1 1 1 1 2 2 1 3 3 2 1 2 2 1 3 0 0 0 0 0 0 0 2 0 0 1 1 1 1 0 0 0 0 0 0	R 6 9 6 9 10 6 9 10 6 3 5 11 10 4 5 1 3 8 5 6 3 5 6 3 5 6 3 5 6 3 5 6 3 5 2 Approach R 25	WB 20 20 17 13 10 13 22 20 22 19 22 24 21 17 15 11 10 13 14 17 8 5 5 Williamsc 882	L 0 0 0 0 0 0 0 1 2 0 0 0 0 0 0 0 0 0 0 0	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	R 0	NB 0	L 0 1 0 2 1 0 1 5 0 0 2 1 1 0 2 1 1 0 2 0 0 0 2 1 1 0 0 2 0 0 0 0	U 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2 1 1 0 0 1 1 1 0 0 0 1 1 1 0 0 0 0	R 0 0 0 0 1 0 1 0 2 0 2 0 0 2 0	EB 11 12 7 19 19 23 12 27 26 18 26 26 23 19 18 26 26 23 19 18 26 26 23 19 18 26 26 23 19 19 19 23 12 27 26 18 26 26 18 26 26 23 19 19 19 23 12 27 26 18 26 26 23 19 19 19 23 12 27 26 18 26 26 23 19 19 19 23 26 26 23 19 19 23 26 26 23 19 19 23 26 26 26 23 19 18 26 26 23 19 18 26 26 23 19 18 25 20 18 26 20 18 26 20 18 26 20 18 26 20 18 26 20 18 26 20 18 20 15 15 16 15 15 16 15 16 15 16 15 16 15 16 16 15 16 15 16 16 15 16 16 15 16 16 15 16 16 15 16 16 15 16 16 15 16 16 10 15 16 16 10 15 16 16 10 15 16 16 10 15 16 16 10 10 10 10 10 10 10 10 10 10	L 1 5 6 5 5 4 4 4 1 1 1 4 2 2 2 2 3 3 3 2 2 0 0 5 2 0 0 5 2 0 0 5 5 5 5 5 7 4 4 4 4 1 1 1 4 2 2 0 5 5 5 5 7 7 7 8 7 8 7 8 7 8 7 8 7 8 7 8	total 283



Appendix B:

SIDRA Results – 2022 Existing Conditions



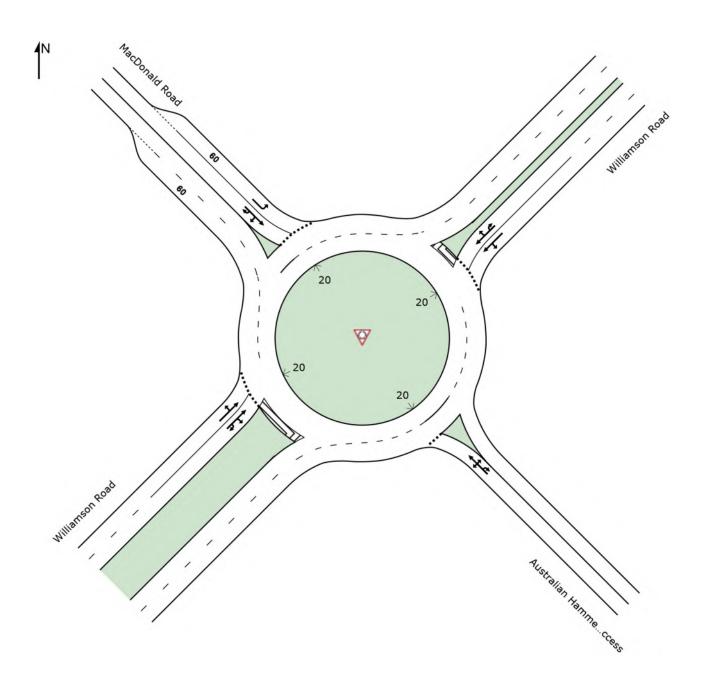
USER REPORT FOR SITE

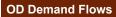
Project: 22-0033_rev0

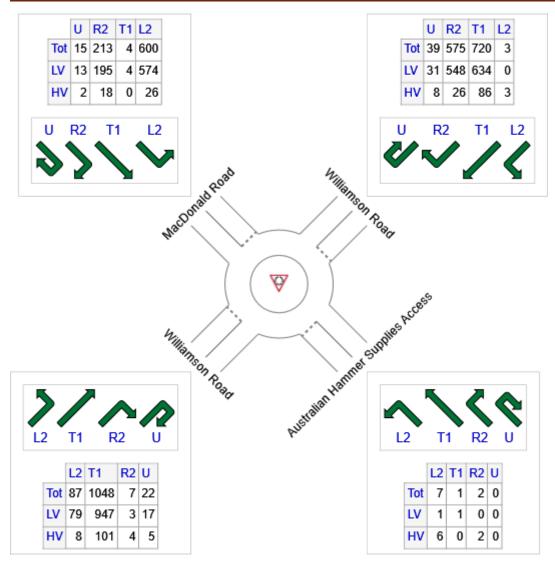
₩ Site: [MacDonald - ExCond - AM]

Australian Hammer Supplies Access / MacDonald Road / Williamson Road Existing Multi-Lane Roundabout Site Category: 2022 Existing Conditions Roundabout

Site Layout







	All MCs	Light Vehicles (LV)	Heavy Vehicles (HV)
SE: Australian Hammer Supplies Access	11	2	8
NE: Williamson Road	1337	1213	124
NW: MacDonald Road	832	785	46
SW: Williamson Road	1165	1046	119
Total	3344	3046	298

Move	ement P	erforman	ice - Ve	hicles								
Mov ID	Turn	Demand Total veh/h	l Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South	East: Au	stralian Ha	ammer S	upplies Ac	cess							
1	L2	7	85.7	0.046	10.4	LOS A	0.2	2.0	0.80	0.79	0.80	21.3
2	T1	1	0.0	0.046	5.4	LOS A	0.2	2.0	0.80	0.79	0.80	45.8
3	R2	2	100.0	0.046	11.5	LOS A	0.2	2.0	0.80	0.79	0.80	37.7
3u	U	0	0.0	0.046	5.4	LOS A	0.2	2.0	0.80	0.79	0.80	16.0
Appro	ach	11	79.2	0.046	10.1	LOS A	0.2	2.0	0.80	0.79	0.80	28.7
North	East: Wi	lliamson Re	oad									
4	L2	3	100.0	0.563	9.4	LOS A	5.1	39.2	0.68	0.58	0.68	42.7
5	T1	720	12.0	0.563	6.0	LOS A	5.1	39.2	0.68	0.58		51.8
6	R2	575	4.6	0.563	10.9	LOS A	4.9	35.8	0.70	0.72	0.70	54.8
6u	U	39	21.6	0.563	13.6	LOS A	4.9	35.8	0.70	0.72	0.70	53.0
Appro	ach	1337	9.3	0.563	8.3	LOS A	5.1	39.2	0.69	0.65	0.69	53.7
North	West: Ma	acDonald F	Road									
7	L2	600	4.4	0.914	20.6	LOS B	11.5	83.6	1.00	1.37	2.05	50.6
8	T1	4	0.0	0.529	14.7	LOS B	3.0	22.2	0.83	1.00	1.01	45.8
9	R2	213	8.4	0.529	15.8	LOS B	3.0	22.2	0.83	1.00	1.01	51.3
9u	U	15	14.3	0.529	18.3	LOS B	3.0	22.2	0.83	1.00	1.01	55.0
Appro	ach	832	5.6	0.914	19.3	LOS B	11.5	83.6	0.95	1.26	1.76	50.9
South	West: W	/illiamson F	Road									
10	L2	87	9.6	0.694	12.3	LOS A	9.0	68.5	0.98	1.04	1.30	52.4
11	T1	1048	9.6	0.694	13.3	LOS A	9.0	68.5	0.98	1.07	1.32	48.8
12	R2	7	57.1	0.694	23.3	LOS B	8.1	62.3	0.97	1.12	1.35	27.6
12u	U	22	23.8	0.694	22.1	LOS B	8.1	62.3	0.97	1.12	1.35	39.5
Appro	bach	1165	10.2	0.694	13.5	LOS A	9.0	68.5	0.98	1.07	1.32	49.0
All Ve	hicles	3344	8.9	0.914	12.9	LOS A	11.5	83.6	0.85	0.95	1.18	51.4

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Use a	and Per	forma	ince										
	F	mand ⁻ lows	Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back		Lane Config	Lane Length		Prob. Block.
	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist m		m	%	%
SouthEast: /						360						/0	/0
Lane 1 ^d	11	79.2	233	0.046	100	10.1	LOS A	0.2	2.0	Full	90	0.0	0.0
Approach	11	79.2		0.046		10.1	LOS A	0.2	2.0				
NorthEast: W	Villiamso	n Roa	d										
Lane 1 ^d	715	12.4	1269	0.563	100	6.0	LOS A	5.1	39.2	Full	655	0.0	0.0
Lane 2	622	5.7	1105	0.563	100	11.0	LOS A	4.9	35.8	Full	655	0.0	0.0
Approach	1337	9.3		0.563		8.3	LOS A	5.1	39.2				
NorthWest:	MacDona	ald Roa	ad										
Lane 1 ^d	600	4.4	657	0.914	100	20.6	LOS B	11.5	83.6	Short	60	0.0	NA
Lane 2	232	8.6	438	0.529	100	15.9	LOS B	3.0	22.2	Full	1280	0.0	0.0
Approach	832	5.6		0.914		19.3	LOS B	11.5	83.6				
SouthWest:	Williams	on Roa	ad										
Lane 1 ^d	660	9.6	950	0.694	100	12.3	LOS A	9.0	68.5	Full	235	0.0	0.0
Lane 2	505	11.0	728	0.694	100	15.0	LOS B	8.1	62.3	Full	235	0.0	0.0
Approach	1165	10.2		0.694		13.5	LOS A	9.0	68.5				
Intersectio n	3344	8.9		0.914		12.9	LOS A	11.5	83.6				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Lane LOS values are based on average delay per lane.

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

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

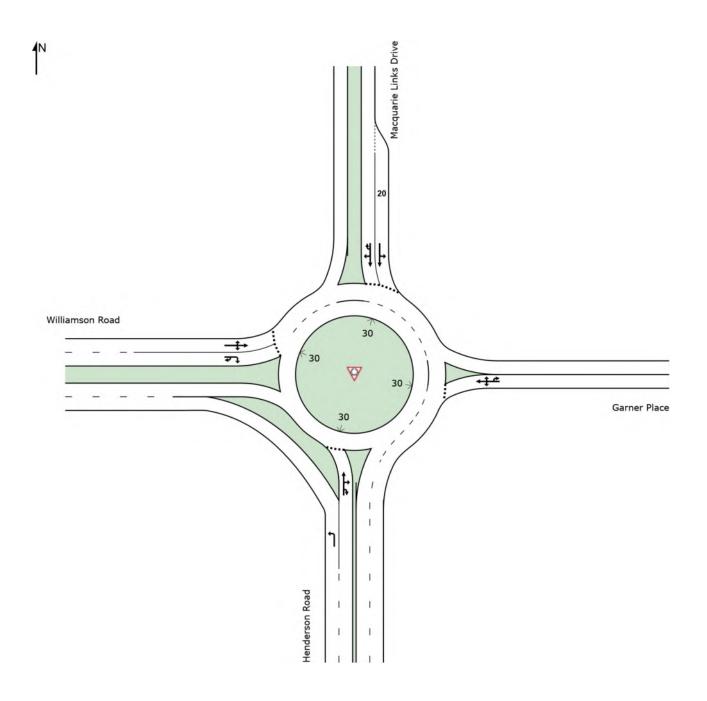
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

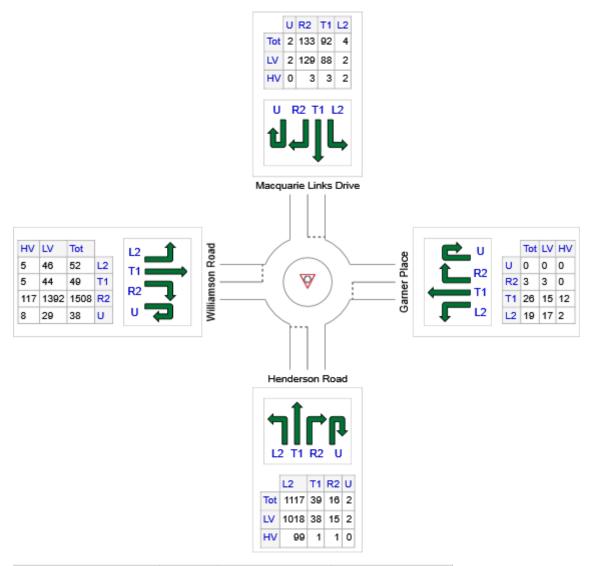
𝔅 Site: [Henderson - ExCond - AM]

Garner Place / Henderson Road / Macquarie Links Drive / Williamson Road Existing Multi-Lane Roundabout Site Category: 2022 Existing Conditions Roundabout

Site Layout



OD Demand Flows



	All MCs	Light Vehicles (LV)	Heavy Vehicles (HV)
S: Henderson Road	1174	1073	101
E: Garner Place	49	35	14
N: Macquarie Links Drive	231	222	8
W: Williamson Road	1647	1512	136
Total	3100	2841	259

Move	ement P	erforman	ce - Vel	hicles								
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South	: Hende	rson Road										
1	L2	1117	8.9	0.617	3.2	LOS A	0.0	0.0	0.00	0.40	0.00	
2	T1	39	2.7	0.037	4.1	LOS A	0.2	1.5	0.35	0.48	0.35	44.1
3	R2	16	6.7	0.037	9.9	LOS A	0.2	1.5	0.35	0.48	0.35	53.6
3u	U	2	0.0	0.037	12.2	LOS A	0.2	1.5	0.35	0.48	0.35	55.2
Appro	ach	1174	8.6	0.617	3.4	LOS A	0.2	1.5	0.02	0.40	0.02	56.0
East:	Garner F	Place										
4	L2	19	11.1	0.103	9.0	LOS A	0.4	3.6	0.72	0.83	0.72	46.6
5	T1	26	44.0	0.103	10.8	LOS A	0.4	3.6	0.72		0.72	
6	R2	3	0.0	0.103	14.3	LOS A	0.4	3.6	0.72	0.83	0.72	44.9
6u	U	0	0.0	0.103	16.7	LOS B	0.4	3.6	0.72	0.83	0.72	53.4
Appro	ach	49	28.2	0.103	10.4	LOS A	0.4	3.6	0.72	0.83	0.72	50.1
North	Macqua	arie Links D	rive									
7	L2	4	50.0	0.181	9.3	LOS A	0.8	5.6	0.73	0.74	0.73	42.1
8	T1	92	3.4	0.181	5.8	LOS A	0.9	6.2	0.73	0.74	0.73	42.1
9	R2	133	2.4	0.181	9.3	LOS A	0.9	6.2	0.73	0.87	0.73	45.4
9u	U	2	0.0	0.181	10.7	LOS A	0.9	6.2	0.73	0.87	0.73	39.8
Appro	ach	231	3.7	0.181	7.9	LOS A	0.9	6.2	0.73	0.81	0.73	44.2
West:	Williams	son Road										
10	L2	52	10.2	0.528	4.1	LOS A	4.7	34.9	0.29	0.57	0.29	45.7
11	T1	49	10.6	0.528	4.0	LOS A	4.7	34.9	0.29	0.57	0.29	53.5
12	R2	1508	7.7	0.528	9.7	LOS A	4.7	34.9	0.31	0.57	0.31	52.0
12u	U	38	22.2	0.528	12.4	LOS A	4.7	35.0	0.32	0.58	0.32	55.0
Appro	ach	1647	8.2	0.528	9.4	LOS A	4.7	35.0	0.31	0.57	0.31	51.9
All Ve	hicles	3100	8.4	0.617	7.0	LOS A	4.7	35.0	0.23	0.53	0.23	52.6

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Use a	ind Per	forma	ince										
		mand ⁼ lows	Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back o	f Queue	Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist m		m	%	%
South: Hend			VEII/II	V/C	/0	360					111	/0	/0
Lane 1	1117	8.9	1810	0.617	100	3.2	LOS A	0.0	0.0	Full	265	0.0	0.0
Lane 2 ^d	57	3.7	1517	0.037	100	6.0	LOS A	0.2	1.5	Full	265	0.0	0.0
Approach	1174	8.6		0.617		3.4	LOS A	0.2	1.5				
East: Garner	Place												
Lane 1 ^d	49	28.2	472	0.103	100	10.4	LOS A	0.4	3.6	Full	395	0.0	0.0
Approach	49	28.2		0.103		10.4	LOS A	0.4	3.6				
North: Macq	uarie Lin	ıks Dri	ve										
Lane 1	95	5.5	524	0.181	100	6.0	LOS A	0.8	5.6	Short	20	0.0	NA
Lane 2 ^d	136	2.4	751	0.181	100	9.3	LOS A	0.9	6.2	Full	460	0.0	0.0
Approach	231	3.7		0.181		7.9	LOS A	0.9	6.2				
West: Williar	nson Ro	ad											
Lane 1 ^d	901	8.0	1707	0.528	100	9.0	LOS A	4.7	34.9	Full	655	0.0	0.0
Lane 2	747	8.5	1415	0.528	100	9.9	LOS A	4.7	35.0	Full	655	0.0	0.0
Approach	1647	8.2		0.528		9.4	LOS A	4.7	35.0				
Intersectio n	3100	8.4		0.617		7.0	LOS A	4.7	35.0				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Lane LOS values are based on average delay per lane.

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

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

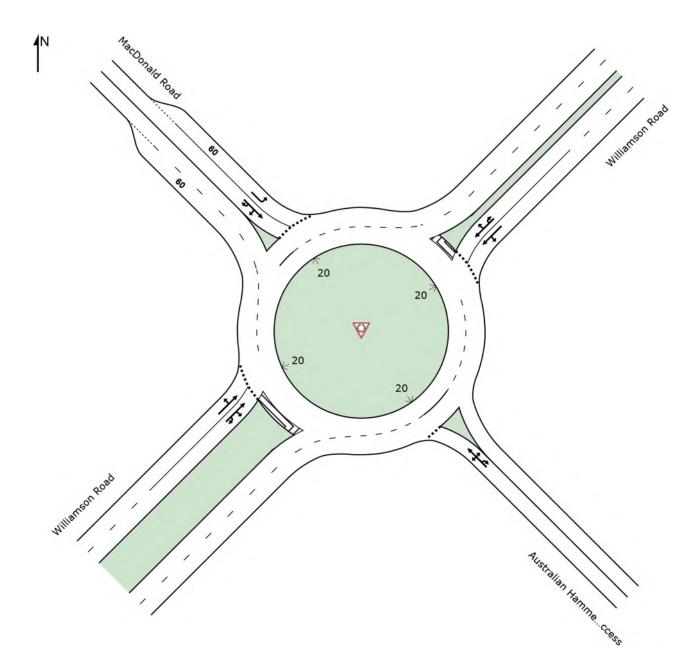
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

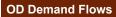
d Dominant lane on roundabout approach

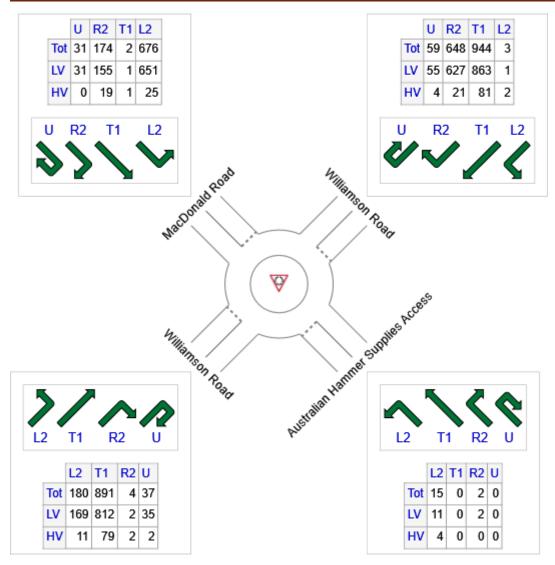
♥ Site: [MacDonald - ExCond - PM]

Australian Hammer Supplies Access / MacDonald Road / Williamson Road Existing Multi-Lane Roundabout Site Category: 2022 Existing Conditions Roundabout

Site Layout







	All MCs	Light Vehicles (LV)	Heavy Vehicles (HV)
SE: Australian Hammer Supplies Access	17	13	4
NE: Williamson Road	1655	1546	108
NW: MacDonald Road	882	837	45
SW: Williamson Road	1112	1018	94
Total	3665	3414	252

Move	ement P	Performan	ce - Vel	hicles								
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South	East: Au	istralian Ha	mmer Si	upplies Ac	cess							
1	L2	15	28.6	0.060	8.7	LOS A	0.3	2.2	0.81	0.81	0.81	25.7
2	T1	0	0.0	0.060	7.0	LOS A	0.3	2.2	0.81	0.81	0.81	47.3
3	R2	2	0.0	0.060	7.0	LOS A	0.3	2.2	0.81	0.81	0.81	41.0
3u	U	0	0.0	0.060	7.0	LOS A	0.3	2.2	0.81	0.81	0.81	16.2
Appro	bach	17	24.7	0.060	8.5	LOS A	0.3	2.2	0.81	0.81	0.81	28.4
North	East: Wi	lliamson Ro	bad									
4	L2	3	66.7	0.671	9.5	LOS A	7.2	54.5	0.74	0.63	0.75	42.4
5	T1	944	8.6	0.671	6.4	LOS A	7.4	53.3	0.74	0.64	0.76	51.7
6	R2	648	3.2	0.671	11.8	LOS A	7.4	53.3	0.76	0.75	0.81	54.9
6u	U	59	7.1	0.671	14.0	LOS A	7.4	53.3	0.76	0.75	0.81	53.4
Appro	ach	1655	6.6	0.671	8.8	LOS A	7.4	54.5	0.75	0.68	0.78	53.5
North	West: Ma	acDonald R	load									
7	L2	676	3.7	0.943	23.8	LOS B	15.0	108.1	1.00	1.49	2.37	49.5
8	T1	2	50.0	0.470	17.4	LOS B	2.5	18.9	0.80	0.98	0.94	45.9
9	R2	174	10.9	0.470	15.4	LOS B	2.5	18.9	0.80	0.98	0.94	51.2
9u	U	31	0.0	0.470	16.9	LOS B	2.5	18.9	0.80	0.98	0.94	55.3
Appro	ach	882	5.1	0.943	21.9	LOS B	15.0	108.1	0.95	1.37	2.03	50.0
South	West: W	/illiamson R	load									
10	L2	180	5.8	0.746	16.1	LOS B	11.1	83.0	1.00	1.15	1.50	50.6
11	T1	891	8.9	0.746	17.6	LOS B	11.1	83.0	1.00	1.19	1.53	45.9
12	R2	4	50.0	0.746	27.8	LOS B	9.7	72.9	1.00	1.23	1.56	25.1
12u	U	37	5.7	0.746	25.7	LOS B	9.7	72.9	1.00	1.23	1.56	37.7
Appro	ach	1112	8.4	0.746	17.7	LOS B	11.1	83.0	1.00	1.19	1.53	46.7
All Ve	hicles	3665	6.9	0.943	14.6	LOS B	15.0	108.1	0.87	1.00	1.31	50.7

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Use a	and Per	forma	ince										
		mand Flows	Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back o	of Queue	Lane Config	Lane Length		Prob. Block.
	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist m		m	%	%
SouthEast: A						360						/0	/0
Lane 1 ^d	17	24.7	284	0.060	100	8.5	LOS A	0.3	2.2	Full	90	0.0	0.0
Approach	17	24.7		0.060		8.5	LOS A	0.3	2.2				
NorthEast: V	Villiamsc	on Roa	d										
Lane 1 ^d	889	8.8	1325	0.671	100	6.4	LOS A	7.2	54.5	Full	655	0.0	0.0
Lane 2	766	4.0	1141	0.671	100	11.6	LOS A	7.4	53.3	Full	655	0.0	0.0
Approach	1655	6.6		0.671		8.8	LOS A	7.4	54.5				
NorthWest: N	MacDon	ald Roa	ad										
Lane 1 ^d	676	3.7	717	0.943	100	23.8	LOS B	15.0	108.1	Short	60	0.0	NA
Lane 2	206	9.7	439	0.470	100	15.7	LOS B	2.5	18.9	Full	1280	0.0	0.0
Approach	882	5.1		0.943		21.9	LOS B	15.0	108.1				
SouthWest:	Williams	on Roa	ad										
Lane 1 ^d	634	8.0	849	0.746	100	16.2	LOS B	11.1	83.0	Full	235	0.0	0.0
Lane 2	478	9.0	640	0.746	100	19.7	LOS B	9.7	72.9	Full	235	0.0	0.0
Approach	1112	8.4		0.746		17.7	LOS B	11.1	83.0				
Intersectio n	3665	6.9		0.943		14.6	LOS B	15.0	108.1				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Lane LOS values are based on average delay per lane.

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

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

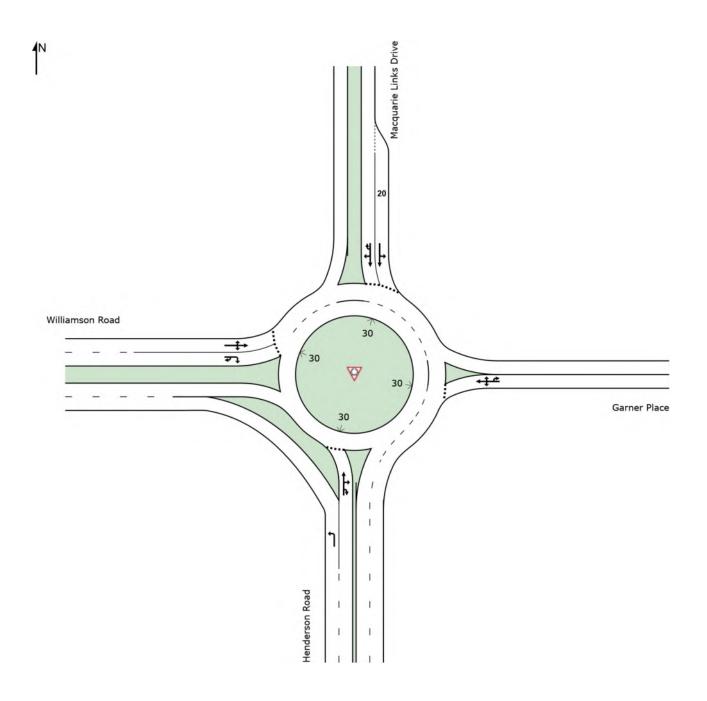
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

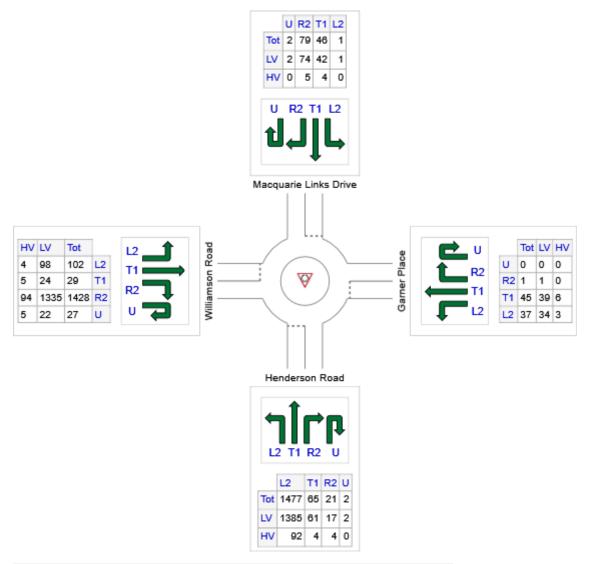
𝔅 Site: [Henderson - ExCond - PM]

Garner Place / Henderson Road / Macquarie Links Drive / Williamson Road Existing Multi-Lane Roundabout Site Category: 2022 Existing Conditions Roundabout

Site Layout



OD Demand Flows



	All MCs	Light Vehicles (LV)	Heavy Vehicles (HV)
S: Henderson Road	1565	1465	100
E: Garner Place	83	74	9
N: Macquarie Links Drive	128	119	9
W: Williamson Road	1587	1479	108
Total	3364	3137	227

Move	ement P	erforman	ce - Vel	hicles								
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South		rson Road										
1	L2	1477	6.2	0.801	3.3	LOS A	0.0	0.0	0.00	0.40	0.00	56.3
2	T1	65	6.5	0.058	4.0	LOS A	0.3	2.3	0.31	0.46	0.31	44.5
3	R2	21	20.0	0.058	9.9	LOS A	0.3	2.3	0.31	0.46	0.31	53.6
3u	U	2	0.0	0.058	12.0	LOS A	0.3	2.3	0.31	0.46	0.31	56.1
Appro	ach	1565	6.4	0.801	3.4	LOS A	0.3	2.3	0.02	0.40	0.02	55.7
East:	Garner F	Place										
4	L2	37	8.6	0.148	8.3	LOS A	0.6	4.8	0.71	0.82		48.6
5	T1	45	14.0	0.148	8.6	LOS A	0.6	4.8	0.71	0.82		54.4
6	R2	1	0.0	0.148	13.7	LOS A	0.6	4.8	0.71	0.82	0.71	46.1
6u	U	0	0.0	0.148	16.0	LOS B	0.6	4.8	0.71	0.82	0.71	55.3
Appro	ach	83	11.4	0.148	8.5	LOS A	0.6	4.8	0.71	0.82	0.71	52.2
North	Macqua	arie Links D	rive									
7	L2	1	0.0	0.090	5.8	LOS A	0.4	2.8	0.70	0.71	0.70	43.5
8	T1	46	9.1	0.090	5.2	LOS A	0.4	2.8	0.70	0.71	0.70	
9	R2	79	6.7	0.109	8.7	LOS A	0.5	3.7	0.70	0.83	0.70	45.6
9u	U	2	0.0	0.109	10.0	LOS A	0.5	3.7	0.70	0.83	0.70	40.0
Appro	ach	128	7.4	0.109	7.5	LOS A	0.5	3.7	0.70	0.79	0.70	44.5
West:	Williams	son Road										
10	L2	102	4.1	0.521	4.2	LOS A	4.4	32.9	0.35	0.57	0.35	45.7
11	T1	29	17.9	0.521	4.2	LOS A	4.4	32.9	0.35	0.57	0.35	53.4
12	R2	1428	6.6	0.521	9.9	LOS A	4.4	32.9	0.37	0.58	0.37	52.0
12u	U	27	19.2	0.521	12.6	LOS A	4.4	32.7	0.39	0.60	0.39	54.9
Appro	ach	1587	6.8	0.521	9.4	LOS A	4.4	32.9	0.37	0.58	0.37	51.6
All Ve	hicles	3364	6.8	0.801	6.5	LOS A	4.4	32.9	0.23	0.51	0.23	53.0

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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Use and Performance													
		mand ⁻ lows	Cap.	Deg. Satn	Lane Util.	Average Delay			f Queue	Lane Config	Lane Length		Prob. Block.
	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist m		m	%	%
South: Hend			VEII/II	V/C	/0	360			111			/0	/0
Lane 1	1477	6.2	1843	0.801	100	3.3	LOS A	0.0	0.0	Full	265	0.0	0.0
Lane 2 ^d	88	9.5	1526	0.058	100	5.6	LOS A	0.3	2.3	Full	265	0.0	0.0
Approach	1565	6.4		0.801		3.4	LOS A	0.3	2.3				
East: Garner	Place												
Lane 1 ^d	83	11.4	561	0.148	100	8.5	LOS A	0.6	4.8	Full	395	0.0	0.0
Approach	83	11.4		0.148		8.5	LOS A	0.6	4.8				
North: Macq	uarie Lin	ks Dri	ve										
Lane 1	47	8.9	524	0.090	83 ⁵	5.2	LOS A	0.4	2.8	Short	20	0.0	NA
Lane 2 ^d	81	6.5	744	0.109	100	8.8	LOS A	0.5	3.7	Full	460	0.0	0.0
Approach	128	7.4		0.109		7.5	LOS A	0.5	3.7				
West: Willian	nson Ro	ad											
Lane 1 ^d	869	6.7	1666	0.521	100	8.9	LOS A	4.4	32.9	Full	655	0.0	0.0
Lane 2	719	7.0	1378	0.521	100	10.1	LOS A	4.4	32.7	Full	655	0.0	0.0
Approach	1587	6.8		0.521		9.4	LOS A	4.4	32.9				
Intersectio n	3364	6.8		0.801		6.5	LOS A	4.4	32.9				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Lane LOS values are based on average delay per lane.

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

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

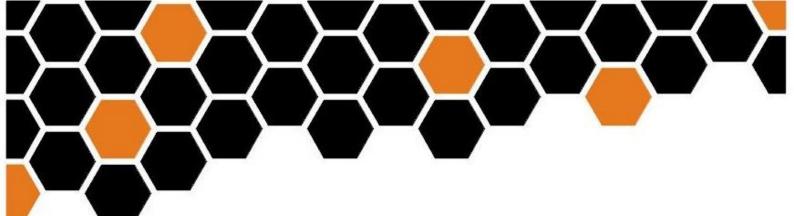
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

5 Lane under-utilisation found by the program

d Dominant lane on roundabout approach

SIDRA INTERSECTION 8.0 | Copyright © 2000-2019 Akcelik and Associates Pty Ltd | sidrasolutions.com Organisation: QUANTUM TRAFFIC PTY LTD | Created: Friday, 15 July 2022 2:21:08 PM Project: C:\QuantumTraffic\Projects\2022-0033 - Ingleburn, Noonan Road (8)\03_Technical\SIDRA\22-0033_rev0.sip8



Appendix C:

On-Street Car Parking Observations

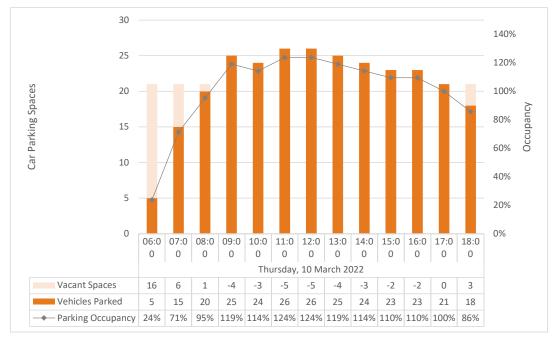


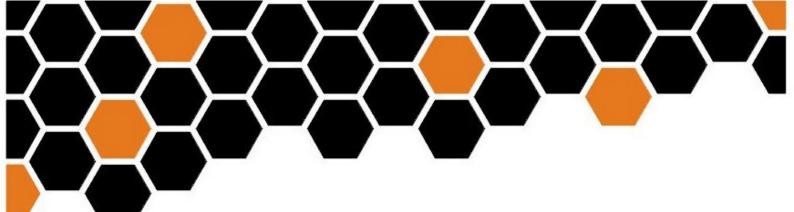
22-0033: 8 Noonan Road, Ingleburn

Existing Car Parking Observations



Section	Restriction	Conscitu	Thursday, 10 March 2022												
Section	Restriction	Capacity	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00
Noonan Road, Willia	mson Road to End - East Side	e of Road													
	Unrestricted	10	2	7	10	11	10	12	12	12	11	10	11	11	10
Noonan Road, End to	Noonan Road, End to Williamson Road - West Side of Road														
	Unrestricted	11	3	8	10	14	14	14	14	13	13	13	12	10	8
Williamson Road - No	Williamson Road - Noonan Road to 75m west of Noonan Road - South Side of Road														
	No Stopping	-	0	0	0	0	0	0	0	0	0	0	0	0	0
Williamson Road - 75	Williamson Road - 75m west of Noonan Road to 75m east of Noonan Road - North Side of Road														
	No Stopping	-	0	0	0	0	0	0	0	0	0	0	0	0	0
Williamson Road - 75	im east of Noonan Road to N	loonan Ro	ad - So	uth Sid	e of Ro	bad									
	No Stopping	-	0	0	0	0	0	0	0	0	0	0	0	0	0
Parking Capacity			21	21	21	21	21	21	21	21	21	21	21	21	21
Vehicles Parked			5	15	20	25	24	26	26	25	24	23	23	21	18
Vacant Spaces			16	6	1	-4	-3	-5	-5	-4	-3	-2	-2	0	3
Parking Occupancy			24%	71%	95%	119%	114%	124%	124%	119%	114%	110%	110%	100%	86%





Appendix D:

Proposed Development Plans



Shine Motor Corporation

smith+tracey architects

CLIENT : SHINE MOTOR CORPORATION ADDRESS : 8 Noonan Rd, Ingleburn NSW 2565

JOB NUMBER: 22015 DATE: 13.12.2023

© COPYRIGHT 2020 SMITH+TRACEY ARCHITECTS. ALL RIGHTS RESERVED



Development Application



PROJECT : Shine Motor Corporation

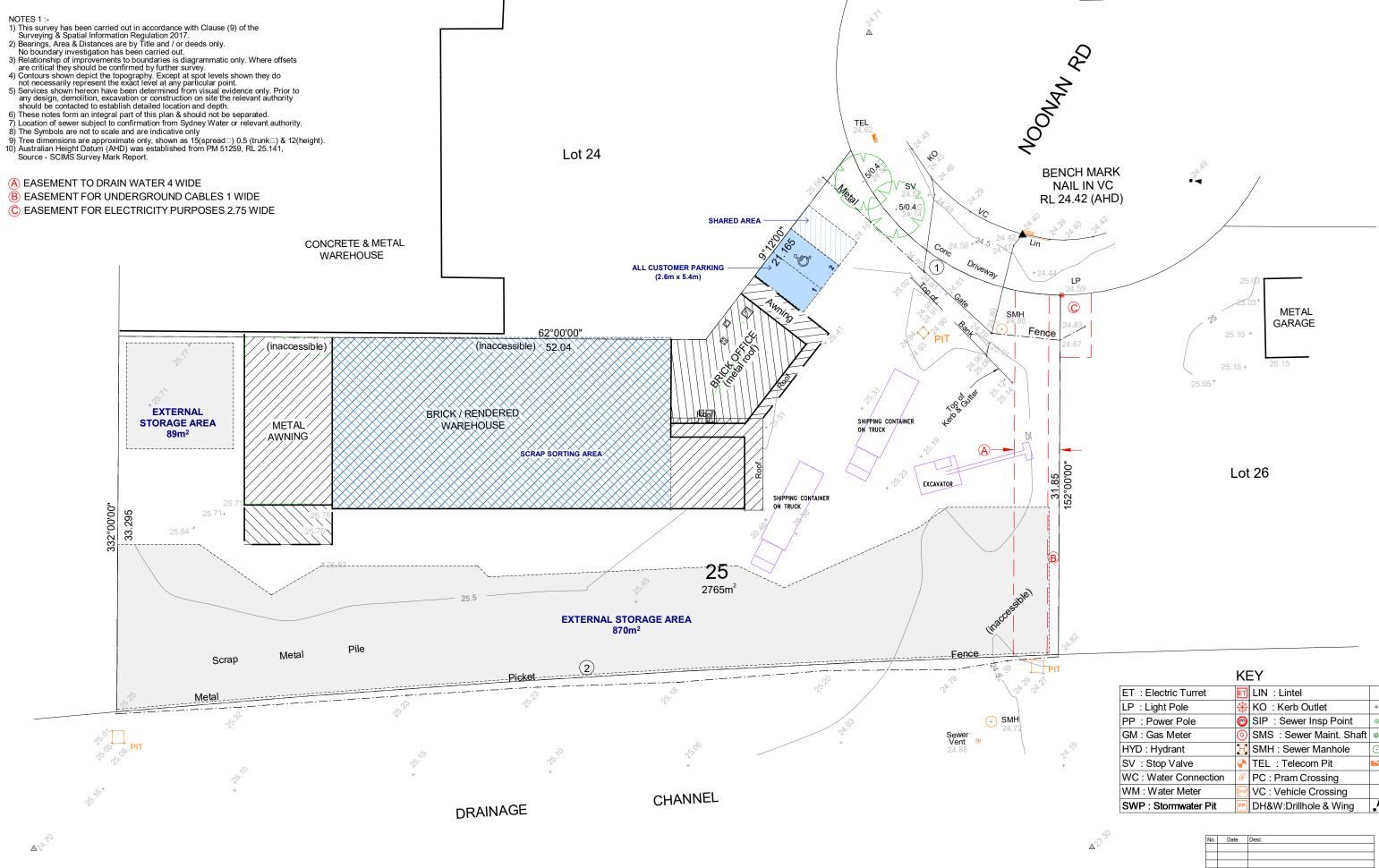
ADDRESS: 8 Noonan Rd, Ingleburn NSW 2565

DRAWING : LOCATION PLAN + SITE ANALYSIS SCALE : NTS @A3 NTS @A1 JOB NUMBER: 22015 DATE: 13.12.2023

DRAWING NUMBER:

© COPYRIGHT 2020 SMITH+TRACEY ARCHITECTS. ALL RIGHTS RESERVED

Development Application



PROJECT : **Shine Motor Corporation**

DRAWING : **SITE PLAN - EXISTING**

JOB NUMBER:

22015

SCALE : 300 @A3 150 @A1

DATE:

13.12.2023

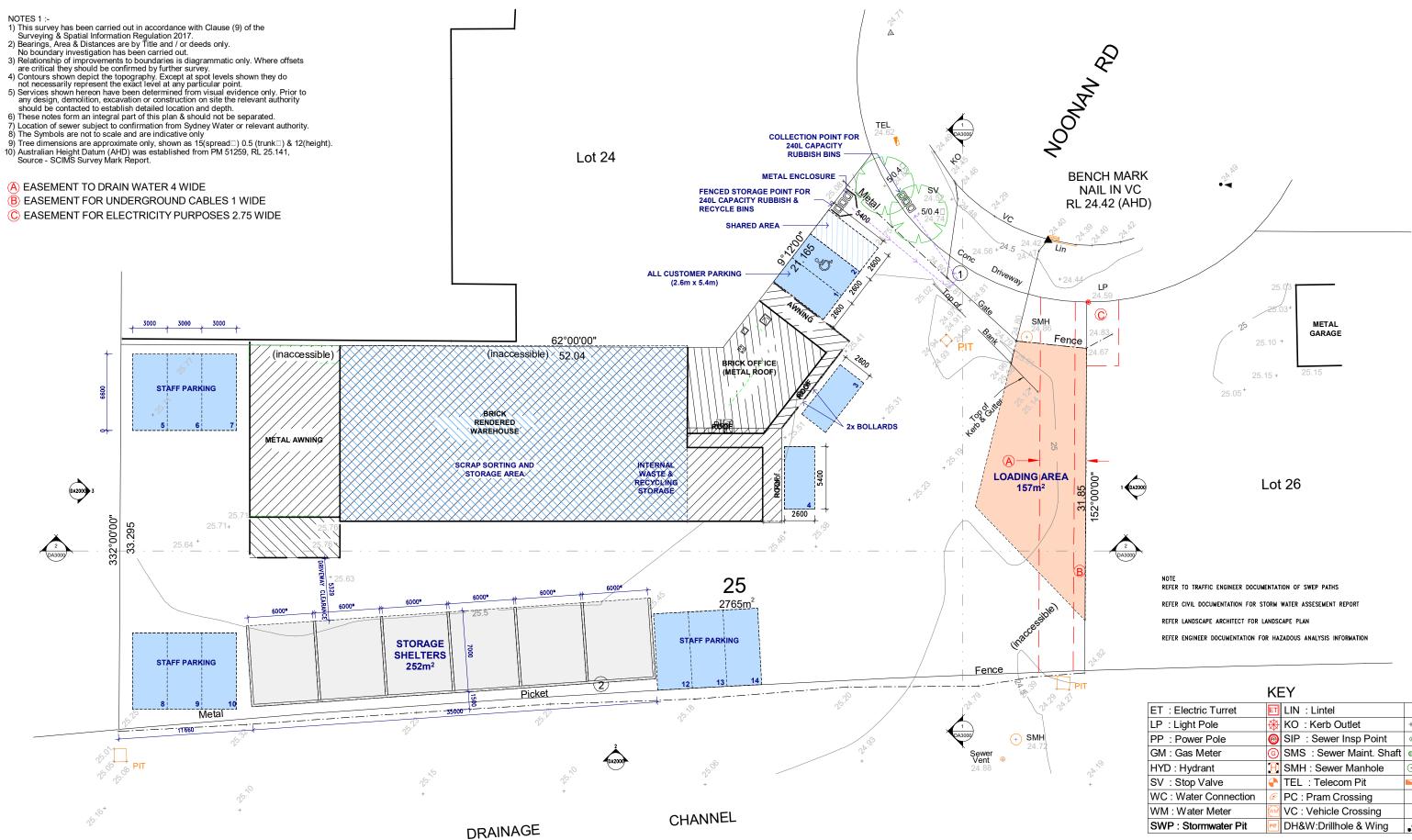
ADDRESS: 8 Noonan Rd, Ingleburn NSW 2565

P:\2022_JOBS\22215_Shine Motor Corporation — 8 noonan rd\DOCUMENTATION\REVIT\MODEL\22015_ShineMotorCorporation noonan rd_R24.rvt



10 24.82					
PIT			KE	ΞY	
20.0 20.0		ET : Electric Turret	ET	LIN : Lintel	
		LP : Light Pole	₩	KO: Kerb Outlet	+
+) SMH 24.72		PP : Power Pole	1	SIP : Sewer Insp Point	•
7		GM : Gas Meter	G	SMS : Sewer Maint. Shaft	0
20.0		HYD : Hydrant	Η	SMH : Sewer Manhole	\odot
+		SV : Stop Valve		TEL : Telecom Pit	
		WC : Water Connection	F	PC : Pram Crossing	
		WM : Water Meter	WM	VC : Vehicle Crossing	
		SWP : Stormwater Pit	РП	DH&W:Drillhole & Wing	
	Alo.	No. De	ate	Desc	
DRAWING NUMBER: DA0101		-		evelopment pplication	_

© COPYRIGHT 2020 SMITH+TRACEY ARCHITECTS. ALL RIGHTS RESERVED



PROJECT : **Shine Motor Corporation**

8 Noonan Rd, Ingleburn NSW 2565

ADDRESS:

DRAWING

SITE PLAN - PROPOSED

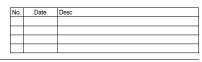
@A1

SCALE : 300 @A3 150 JOB NUMBER: DATE: 22015 13.12.2023 DA0102



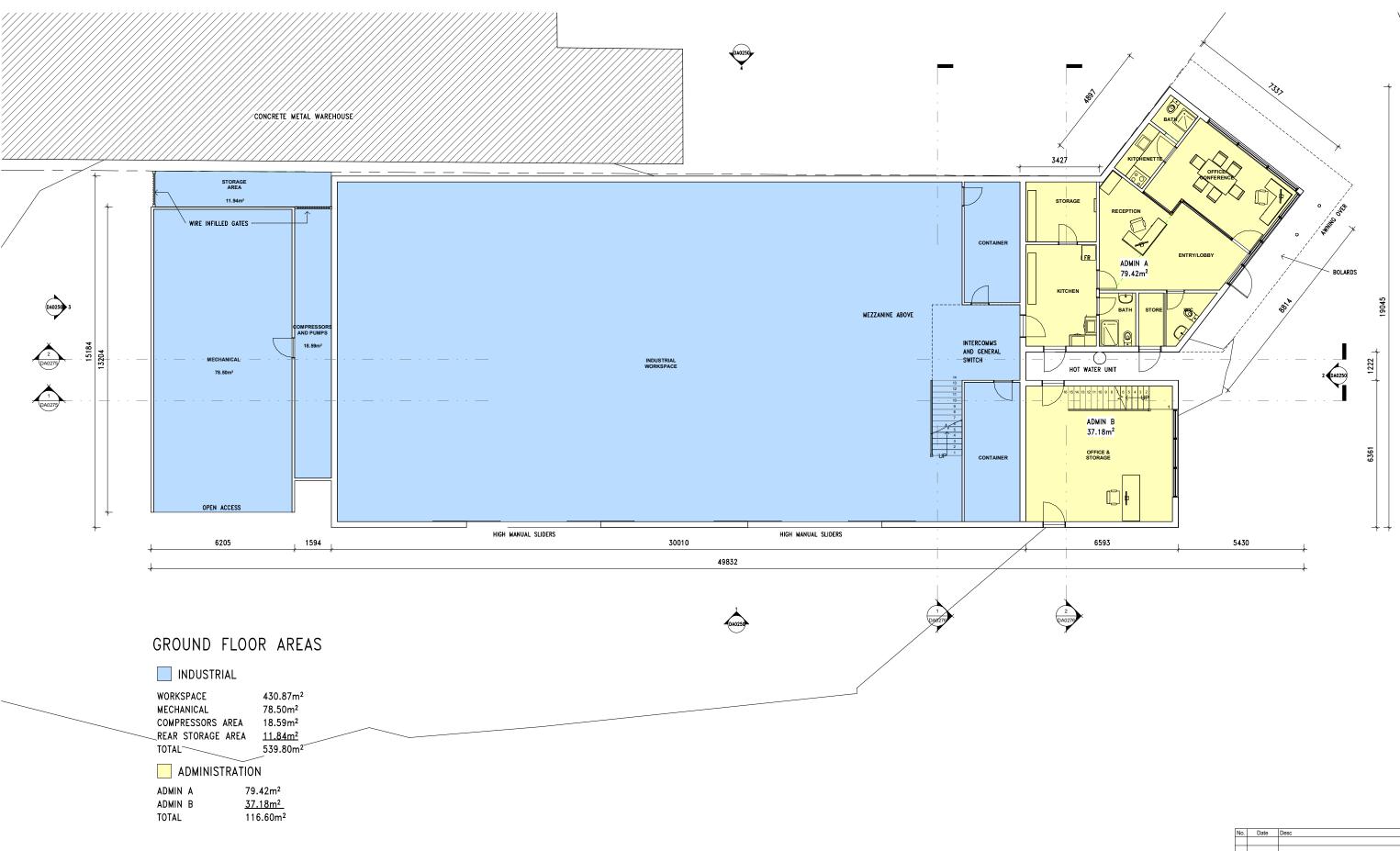
	ĸ	ΞY	
ET : Electric Turret	ET	LIN : Lintel	
LP : Light Pole	₩	KO : Kerb Outlet	+
PP : Power Pole	1	SIP : Sewer Insp Point	o
GM : Gas Meter	6	SMS : Sewer Maint. Shaft	0
HYD : Hydrant	H	SMH : Sewer Manhole	\odot
SV : Stop Valve		TEL : Telecom Pit	1
WC : Water Connection	G	PC : Pram Crossing	
WM : Water Meter	WM	VC : Vehicle Crossing	
SWP : Stormwater Pit	РП	DH&W:Drillhole & Wing	.'

DRAWING NUMBER:



Development Application

ARCHITECTS. ALL RIGHTS RESERVED



PROJECT : Shine Motor Corporation

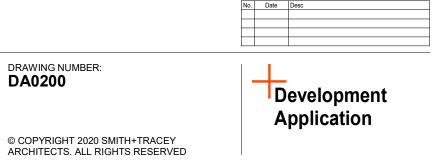
DRAWING : EXISTING GROUND **FLOOR** SCALE : 150 @A3 @A1 75 JOB NUMBER: DATE:

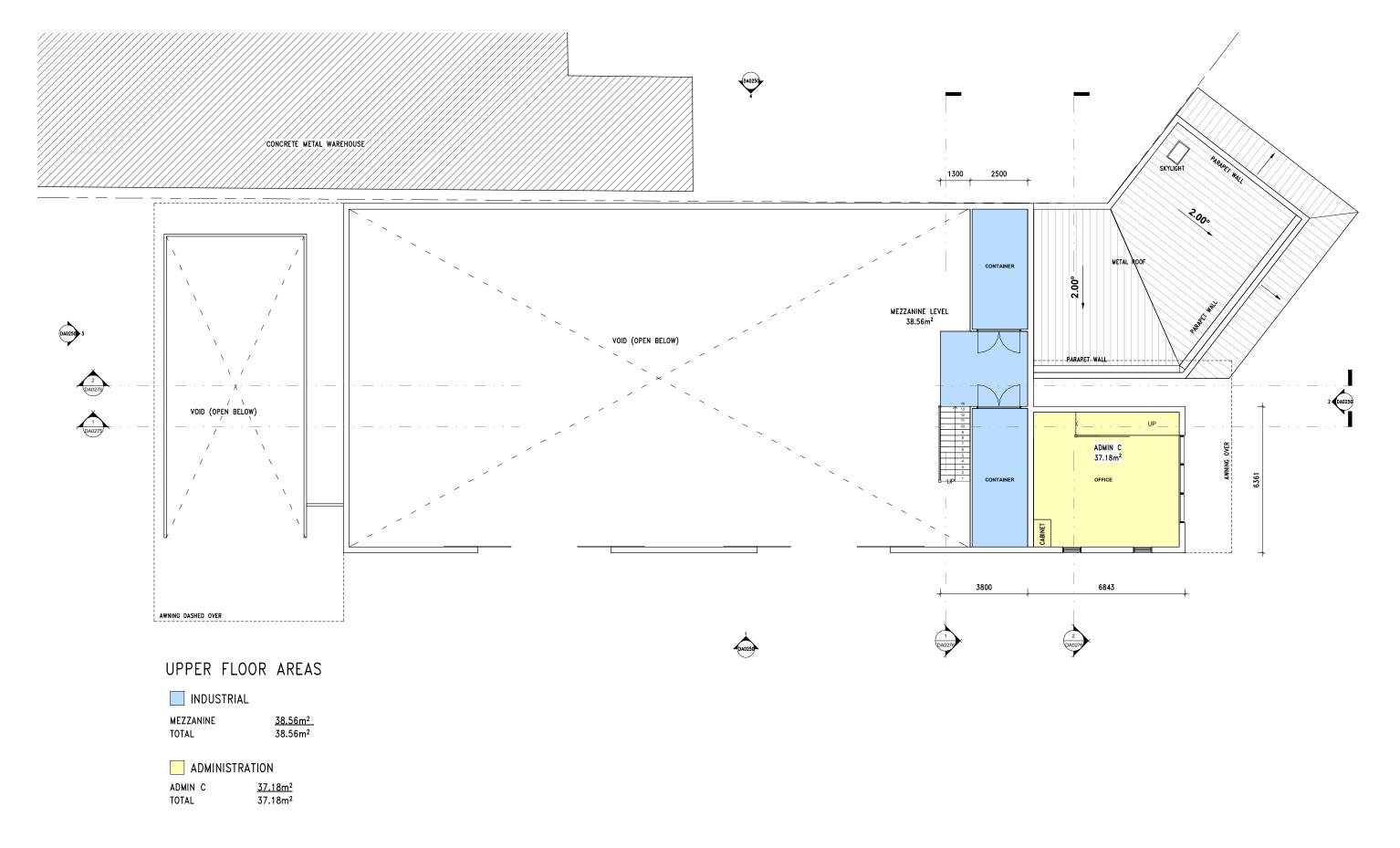
13.12.2023

22015

DA0200

ADDRESS: 8 Noonan Rd, Ingleburn NSW 2565





PROJECT : Shine Motor Corporation

DRAWING : EXISTING L1 / MEZZANINE

SCALE : 150 @A3 75 @A1

DATE:

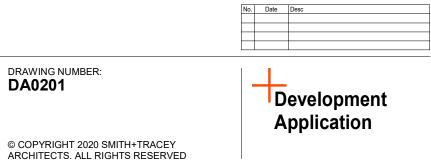
13.12.2023

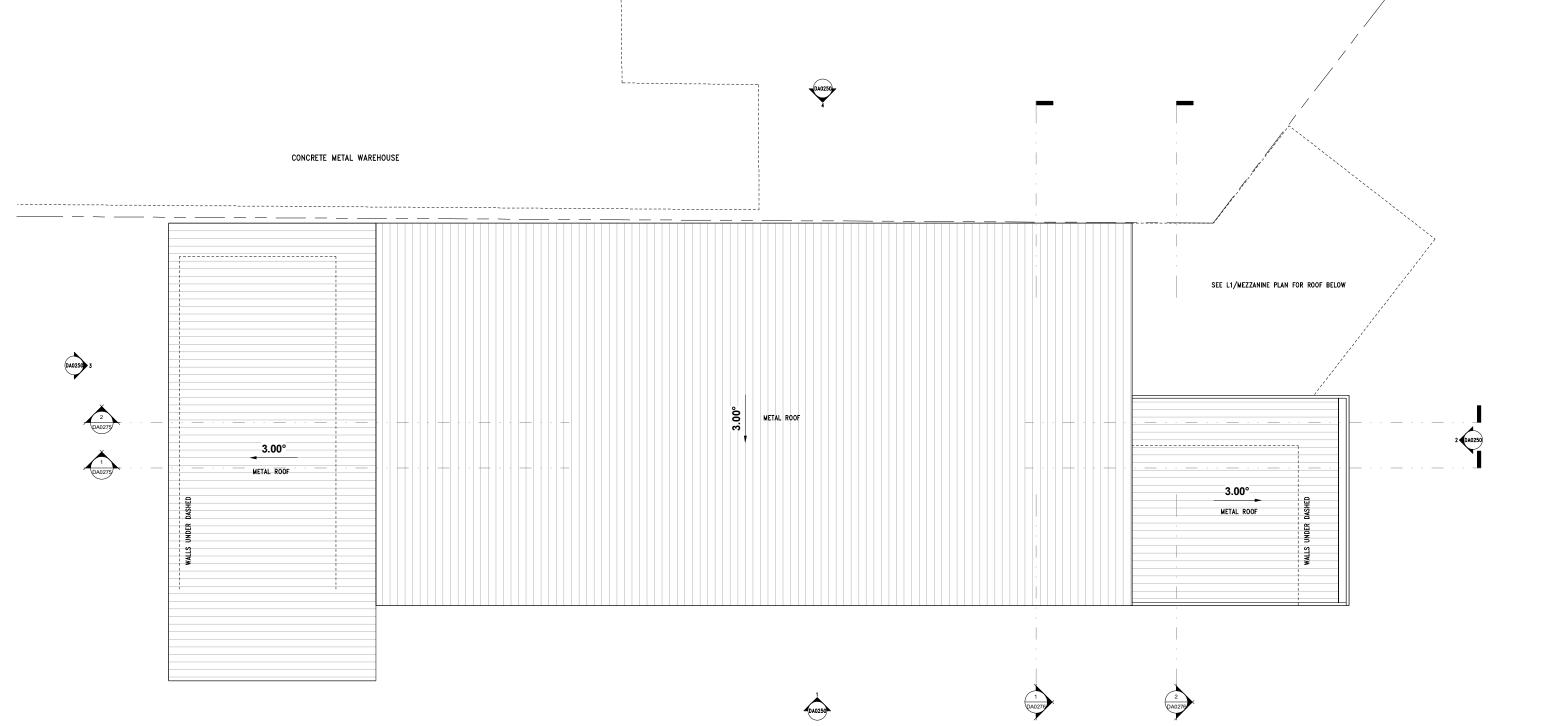
JOB NUMBER:

22015

DA0201

ADDRESS: 8 Noonan Rd, Ingleburn NSW 2565





PROJECT :
Shine Motor Corporation

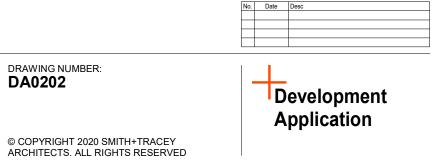
DRAWING : EXISTING ROOF PLAN

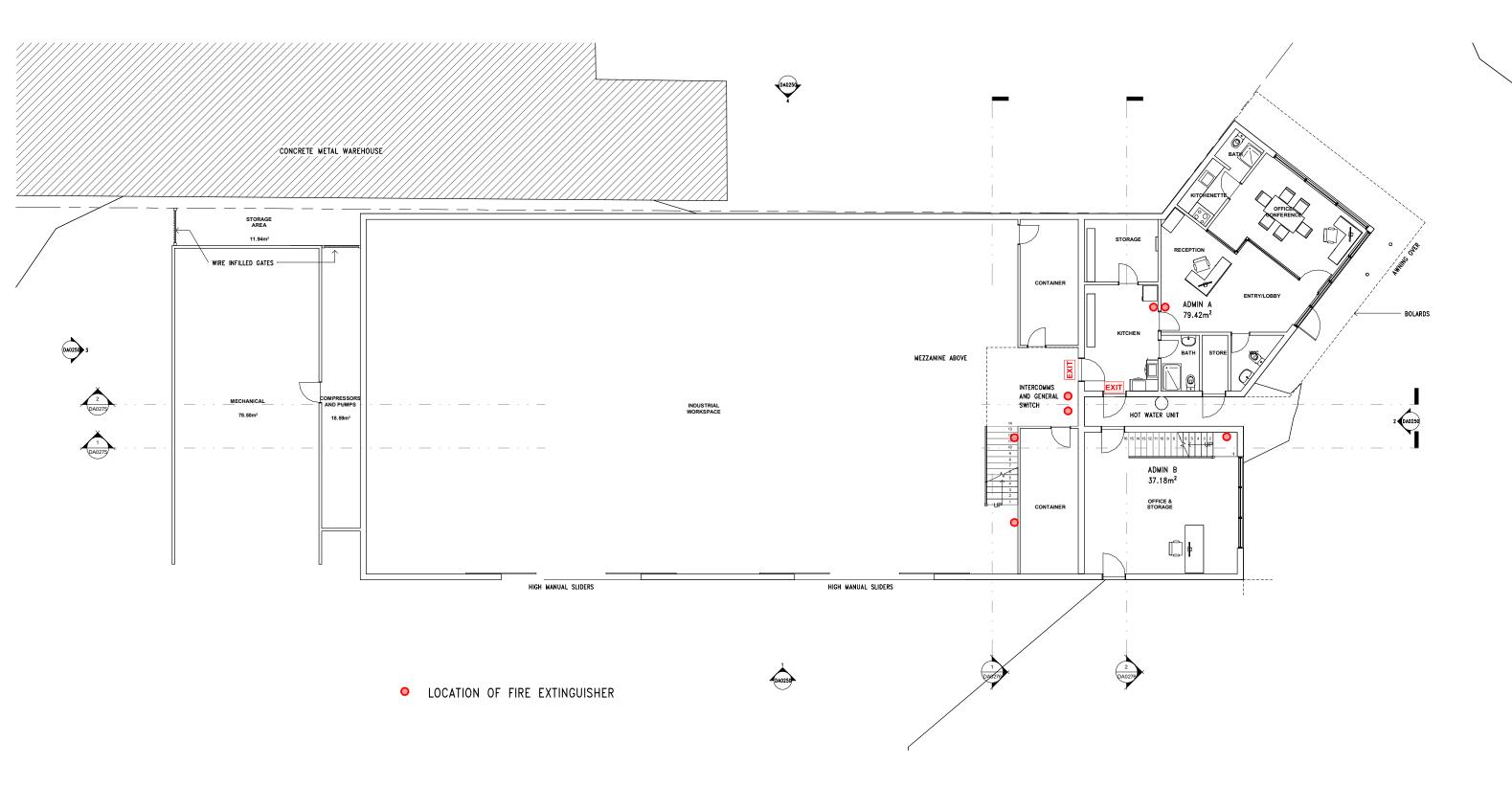
SCALE : 150 @A3 75 @A1 JOB NUMBER: 22015 DATE: 13.12.2023

Ľ

ADDRESS: 8 Noonan Rd, Ingleburn NSW 2565

P:\2022_JOBS\22215_Shine Motor Corporation — 8 noonan rd\DOCUMENTATION\REVIT\MODEL\22015_ShineMotorCorporation noonan rd_R24.rvt



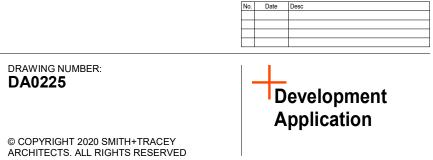


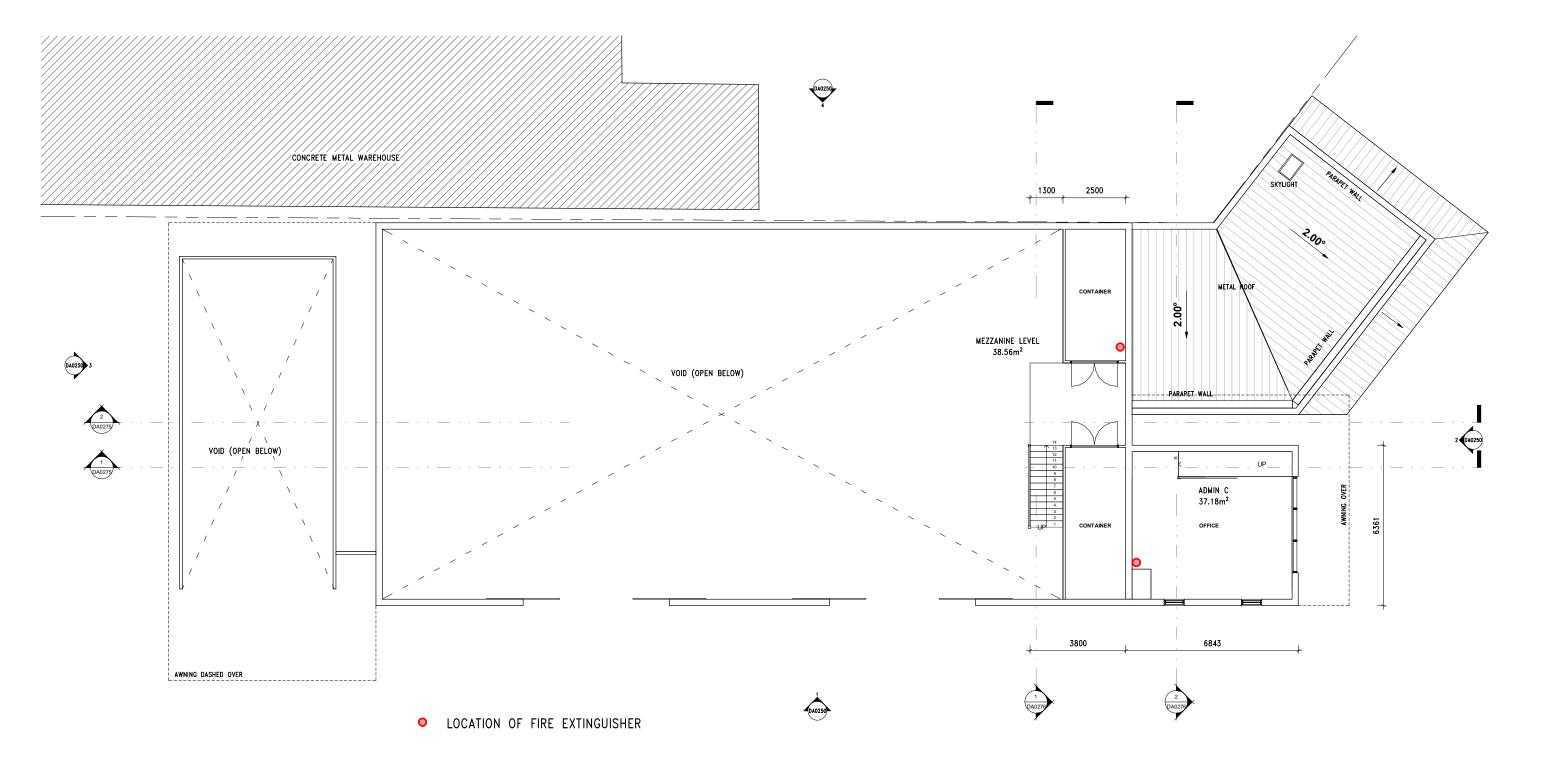
PROJECT : Shine Motor Corporation

ADDRESS: 8 Noonan Rd, Ingleburn NSW 2565

DRAWING : EXISTING GROUND FLOOR FIRE SCHEDULE SCALE : 150 @A3 75 @A1 DATE: 13.12.2023 JOB NUMBER: 22015

DA0225



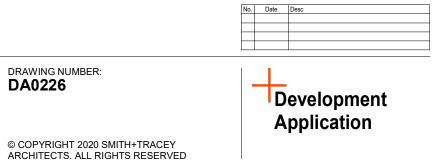


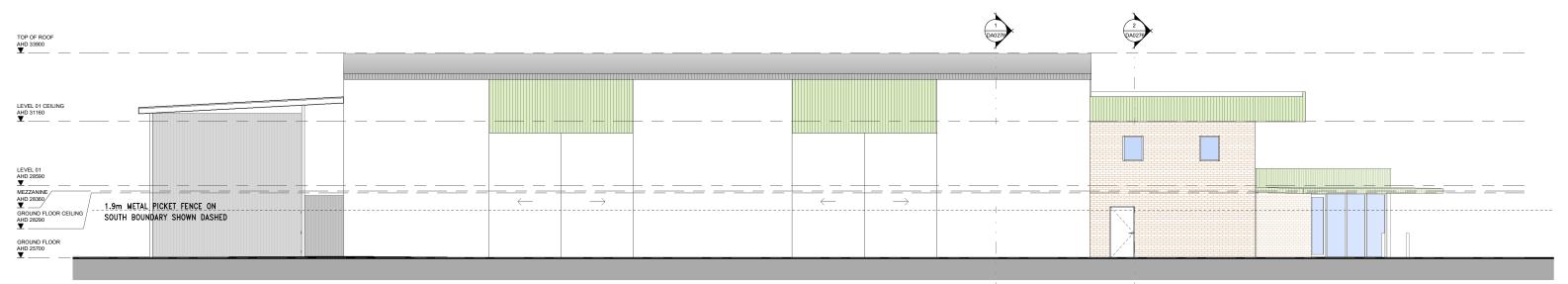
PROJECT : Shine Motor Corporation

DRAWING : EXISTING L1 / MEZZANINE FIRE SCHEDULE @A3 @A1 DATE: 13.12.2023 JOB NUMBER: 22015

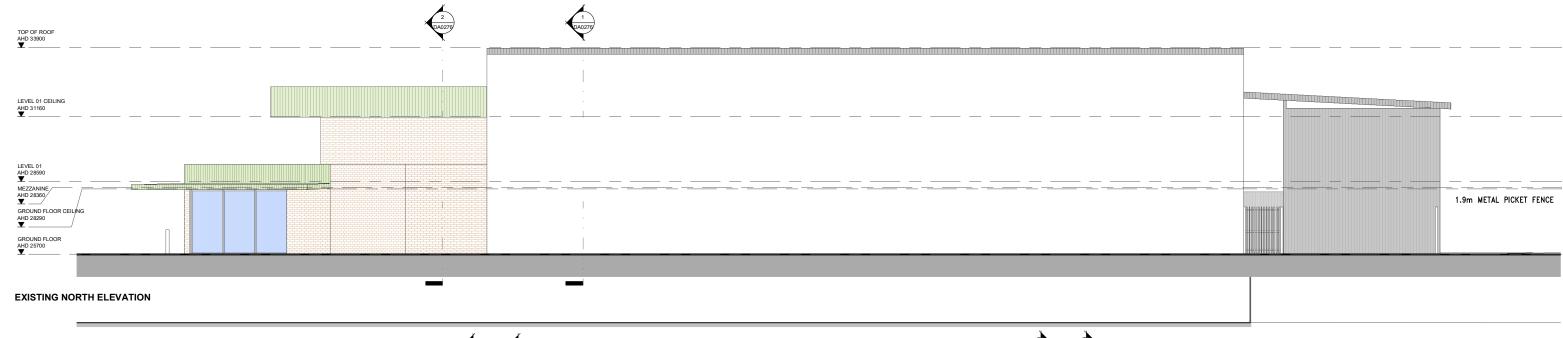
DRAWING NUMBER: **DA0226**

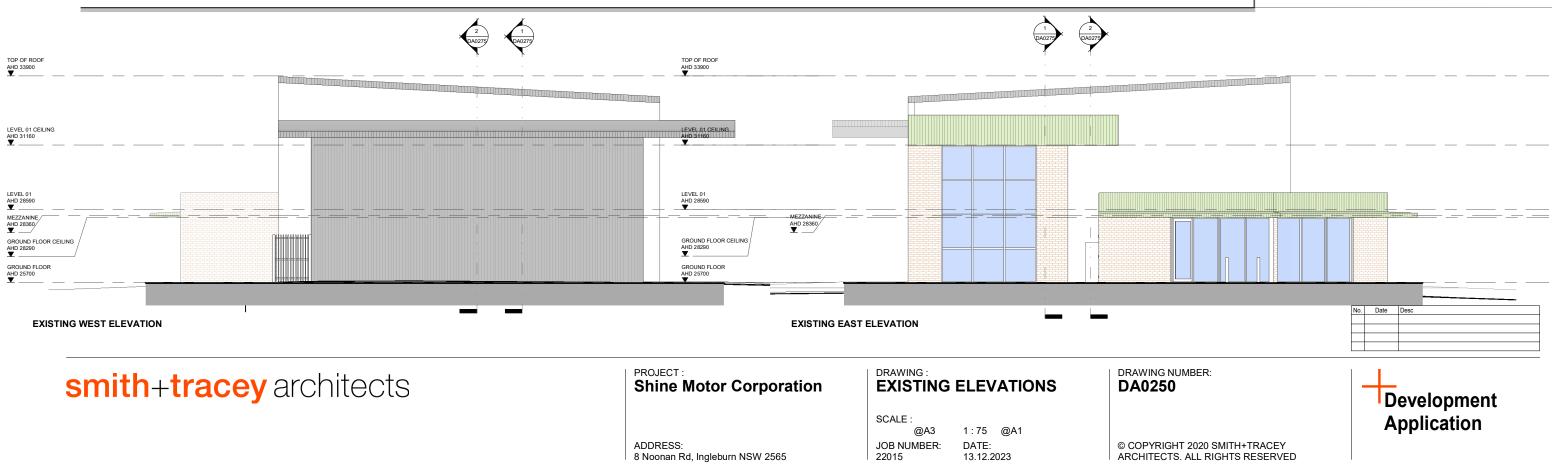
ADDRESS: 8 Noonan Rd, Ingleburn NSW 2565



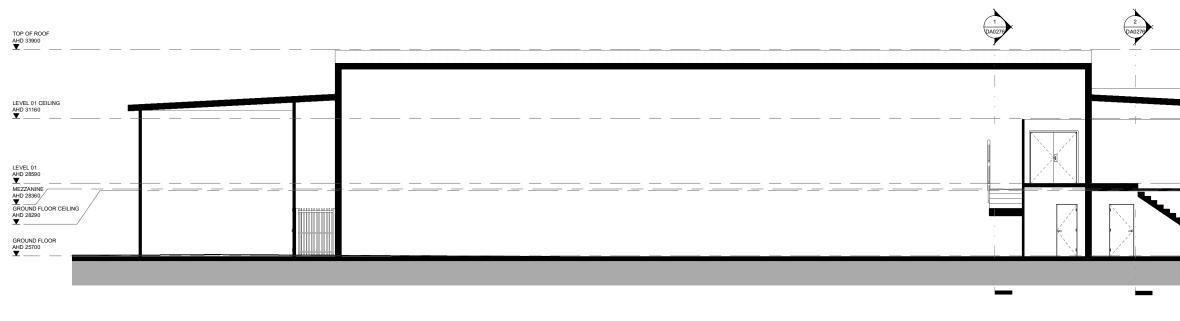


EXISTING SOUTH ELEVATION

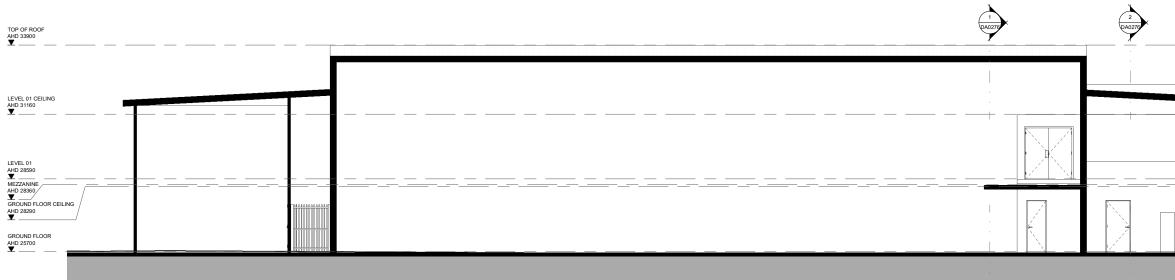




ADDRESS: 8 Noonan Rd, Ingleburn NSW 2565
o Noonan Ru, inglebum NSW 2505



SECTION A



SECTION B

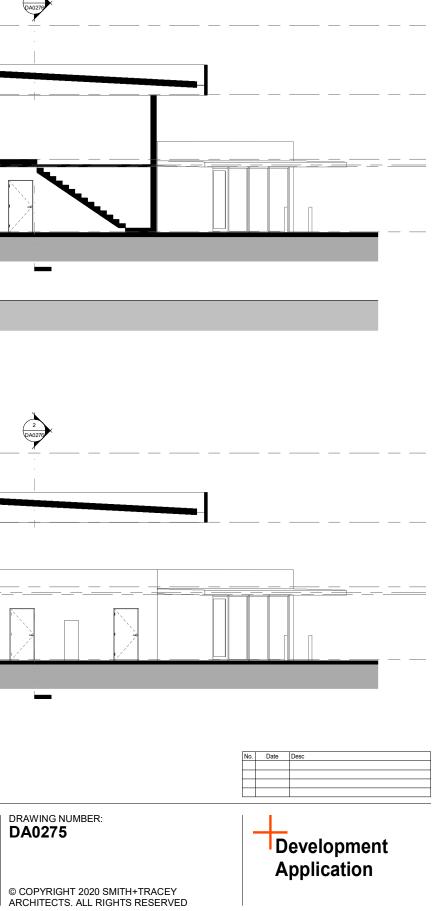
smith+tracey architects

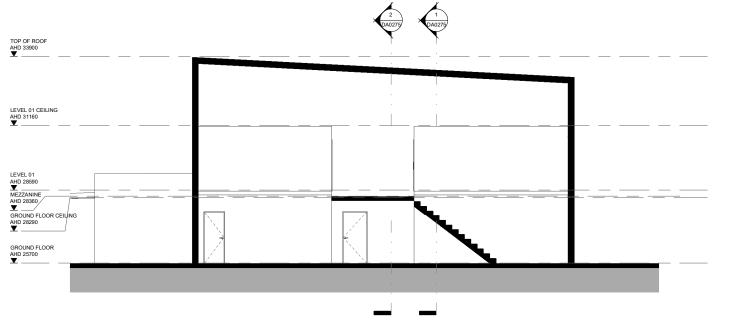
PROJECT : Shine Motor Corporation

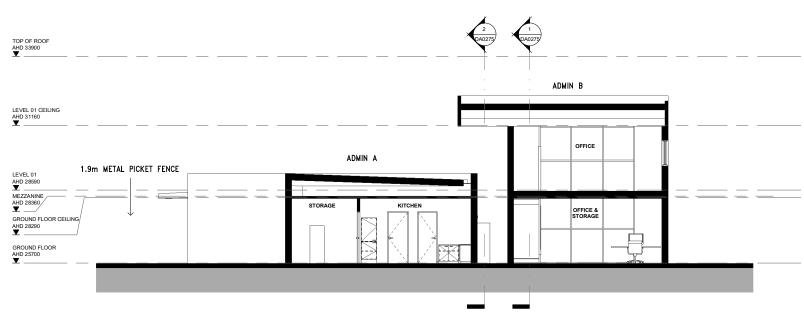
DRAWING : EXISTING SECTIONS

SCALE 150	E∶ @A3	75	@A1
JOB N 22015	UMBER:	DATE 13.12	••

DRAWING NUMBER: DA0275







SECTION C

SECTION D

smith+tracey architects

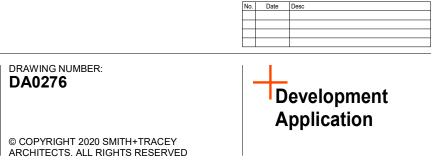
PROJECT : Shine Motor Corporation

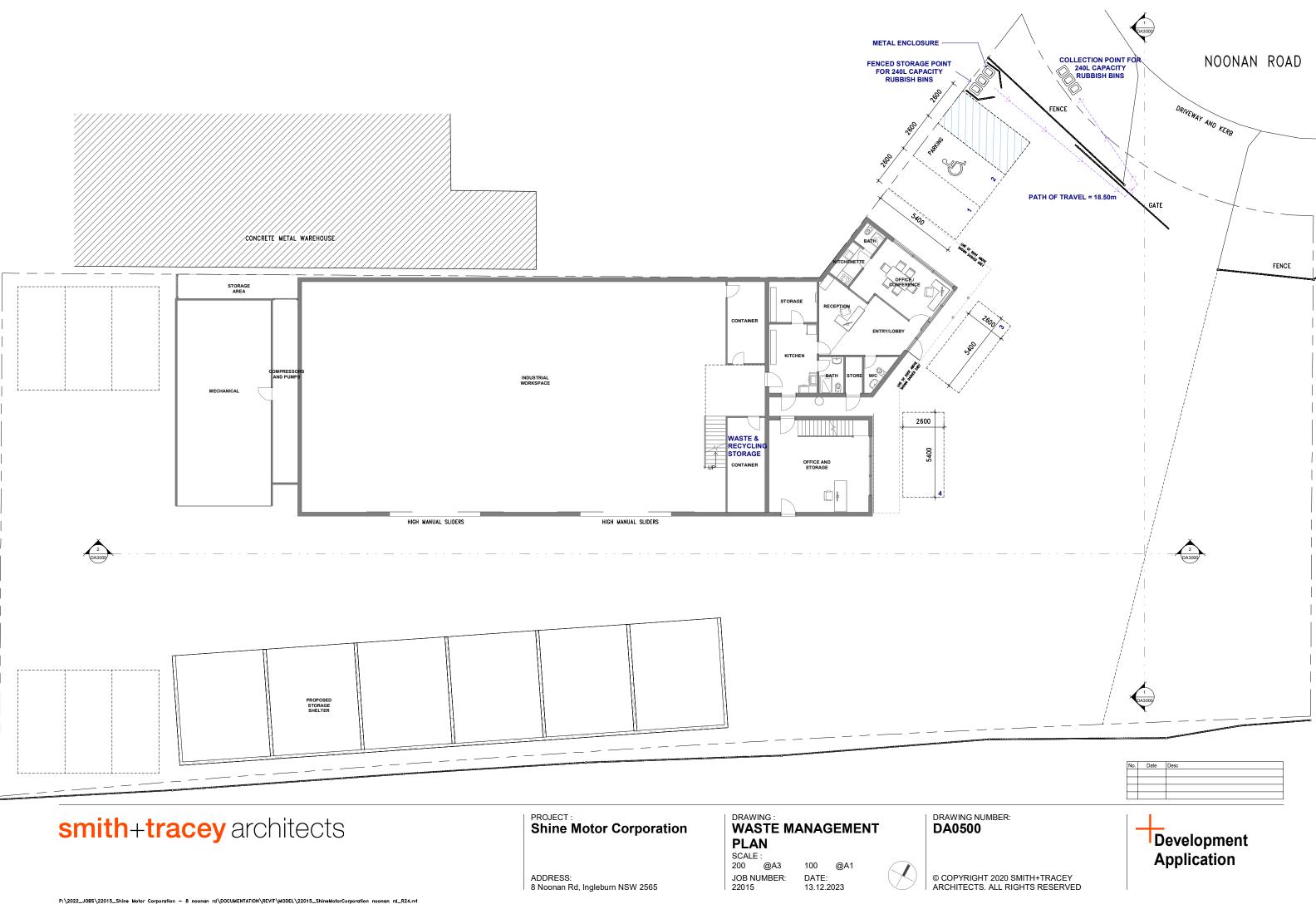
ADDRESS: 8 Noonan Rd, Ingleburn NSW 2565

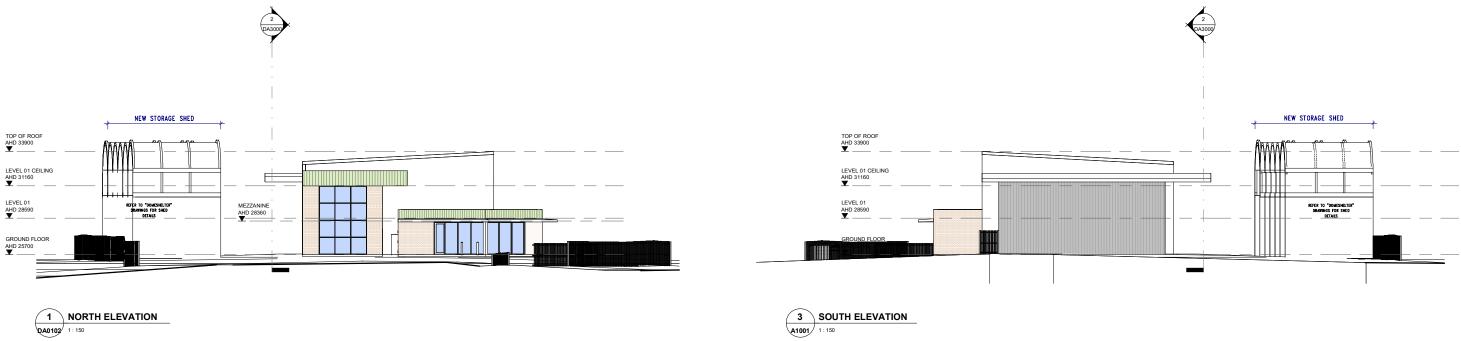
DRAWING : EXISTING SECTIONS

SCAL 150	E : @A3	75	@A1
JOB N 22015	IUMBER:	DATE 13.12	

DA0276







STORAGE SHEDS TOP OF ROOF AHD 33900 LEVEL 01 CEILING AHD 31160 LEVEL 01 AHD 28590 REFER TO "DONESHELTER" DRAWINGS FOR SHED DETAILS -----R EXISTING 1.9m BOUDARY PALING FENCE SHOWN DASHED GROUND FLOOR AHD 25700 2 SOUTH EAST ELEVATION 1:150

smith+tracey architects

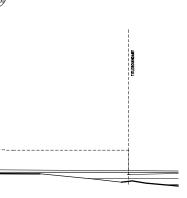
PROJECT : Shine Motor Corporation

8 Noonan Rd, Ingleburn NSW 2565

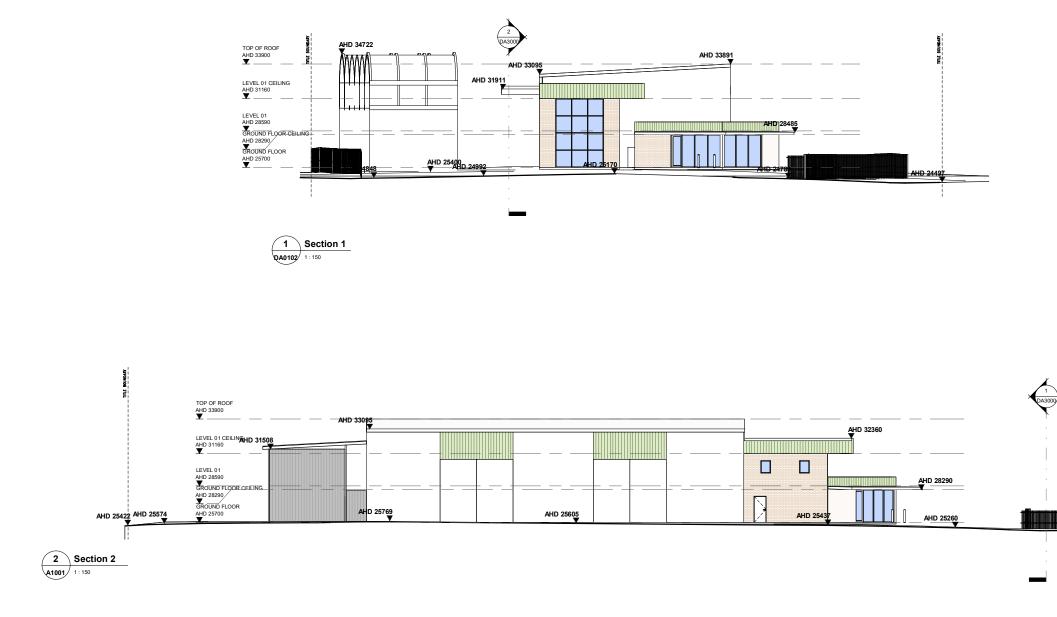
ADDRESS:

DRAWING : ELEVATIONS

SCALE :	
@A3	1:150 @A1
JOB NUMBER:	DATE:
22015	13.12.2023







PROJECT : Shine Motor Corporation

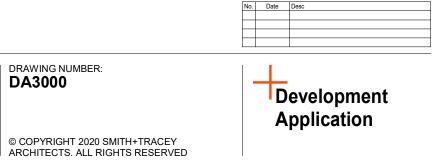
DRAWING : SECTIONS

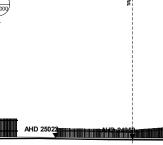
SCALE : 1:150 @A1 @A3 JOB NUMBER: 22015 DATE: 13.12.2023

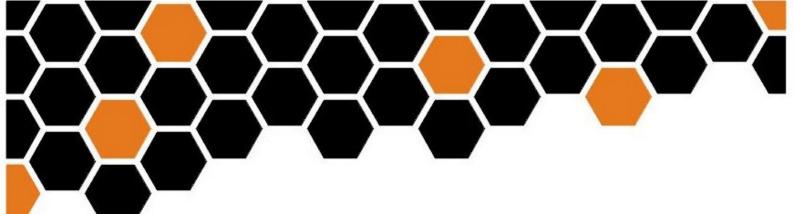
DRAWING NUMBER:

P:\2022_JOBS\22015_Shine Motor Corporation - 8 noonan rd\DOCUMENTATION\REVIT\MODEL\22015_ShineMotorCorporation noonan rd_R24.rvt

ADDRESS: 8 Noonan Rd, Ingleburn NSW 2565







Appendix E:

Swept Path Diagrams



