TRAFFIC IMPACT ASSESSMENT

RESOURCE RECOVERY FACILITY EXPANSION

LOT 16 DP 717203
16 KERR ROAD, INGLEBURN

PREPARED FOR: KDC PTY LTD

NOVEMBER 2018

REF: 17/164

TRAFFIC IMPACT ASSESSMENT

RESOURCE RECOVERY FACILITY
LOT 16 DP 717203
16 KERR ROAD, INGLEBURN
KDC PTY LTD

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QUALITY ASSURANCE

This document has been prepared, checked and released in accordance with the Quality Control Standards established by Intersect Traffic Pty Ltd.

Issue	Date	Description	By
A	03/07/18	Draft	JG
B	04/07/18	Edit	JG
C	16/07/18	Final Proof	JG
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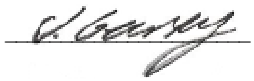
This document has been authorised by



Date: - 26th November 2018

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1. INTRODUCTION

Intersect Traffic Pty Ltd has been engaged by KDC Pty Ltd to undertake a traffic impact assessment for an expansion of an existing resource recovery facility on Lot 16 DP 717203, 16 Kerr Road, Ingleburn. The existing resource recovery facility includes a concrete batching plant and is located within the existing Ingleburn Industrial area.

This traffic assessment is required to support a development application to the NSW Department of Planning and Environment and allow the Department, Campbelltown City Council and NSW Roads and Maritime Services (NSW RMS) officers to assess the traffic related impacts associated with the development.

This report presents the findings of the traffic impact assessment and includes the following:

- An outline of the existing situation near the site.
- An assessment of the traffic impacts of the proposed development including the predicted traffic generation and its impact on existing road and intersection capacities.
- Reviews the on-site parking provided within the proposed development and assesses it against Council and Australian Standards requirements.
- Presentation of conclusions and recommendations.

This assessment has been undertaken with reference to the *RTA's Guide to Traffic Generating Developments (2002),* Austroads *Guide to Road Design – Part 4A Unsignalised and signalised intersections (2010)*, latest Australian Standards *AS2890.1 & 2 – Parking Facilities – Part 1 – Off street car parking and Part 2 – Commercial vehicle facilities* and Campbelltown City Council requirements.

In respect of the SEARS issued for this project dated 27th September 2017 the following traffic and transport measures are addressed as follows;

1. Traffic generated by the development – ***Section 2.5***;
2. Traffic Impacts including Sidra Intersection modelling – ***Section 3***;
3. Road Upgrades / New Infrastructure – ***Section 3*** – none required;
4. Road Pavement Impacts – Visual Inspection / Assessment only – ***Section 2.3***; and
5. Public Transport Accessibility – ***Section 3.5***.

2. DEVELOPMENT PROPOSAL

2.1 Site Location

Kerr Road is an industrial standard cul-de-sac within the Ingleburn Industrial area located approximately 1.2 km's east of the Hume Motorway and 9 km's north-east of the Campbelltown CBD area. Access to and from the Hume Highway for origin / destinations to the north is via Brooks Road, Williamson Road, Henderson Road, Lancaster Street and Aero Road to Kerr Road while access for origins to the south would be via Campbelltown Road, Williamson Road, Henderson Road, Lancaster Street and Aero Road to Kerr Road. ***Figure 1*** below shows the site location while ***Photograph 1*** shows the existing development on the site.

The surrounding area is made of up industrial standard roads with kerb and gutter and longitudinal drainage constructed to a suitable standard for heavy vehicle use. High standard intersection control in the form of roundabout controls all the existing intersections on the likely haulage routes to the site except at the Aero Road / Kerr Road intersection which is a give way-controlled priority T-intersection. ***Photograph 2*** below shows the roundabout at the Henderson Road / Lancaster Road intersection which provides the main connection to the local collector road network from the site.

Figure 1 – Site Location

The site is titled Lot 16 in DP 717203 and addressed as 16 Kerr Road, Ingleburn. It has a total area of approximately 12,849 m^2 and is zoned IN1 – General Industrial pursuant to the requirements of the Campbelltown LEP (2015).

Photograph 1 – Existing site development and vehicular access.

Photograph 2 – Henderson Road / Lancaster Road roundabout.

2.2 Development Proposal

The proposed development concept involves the following;

- Expansion of the existing Waste Management Facility / Resource Recovery Facility on the site with a capacity to cater for 225,000 tonnes per annum of waste and potentially provide for 90,000 tonnes of waste on the site at any time.
- An upgraded concrete batching plant with an annual capacity of 50,000 tonnes per annum.

It is understood no additional site infrastructure is proposed and the development seeks approval for additional waste to be processed and recycled on site only.

2.3 Existing Road Network

2.3.1 Campbelltown Road

Campbelltown Road under a functional road hierarchy is a sub-arterial road that not only connects the Campbelltown area to the Liverpool area but also connects the Ingleburn Industrial area to the arterial road network (Hume Motorway) for traffic with an origin / destination to the south. Near the site it is a high standard two-lane two-way sealed rural road with 3 to 3.5 metre lane widths and variable width sealed shoulders (up to 4.5 metres) wide which are also line marked as on-road cycleways. It is under the care and control of NSW RMS and a 70 km/h speed zone exists through the area. At the time of inspection, Campbelltown Road was found to be in good condition.

2.3.2 Brooks Road

Brooks Road under a functional road hierarchy is a local collector road that connects the Ingleburn Industrial area to the arterial road network (Hume Motorway) for traffic with an origin / destination to the north. Brooks Road operates as the on and off-ramp for the Hume Motorway and near the site it is generally a four-lane two-way sealed urban road with kerb and gutter and additional turning lanes near intersections. Lane widths are in the order of 3.5 metres and on inspection Brooks Road was found to be in good condition as evidenced in ***Photograph 3*** below. It is under the care and control of Campbelltown City Council and a 60 km/h speed zone exists through the area.

2.3.3 Williamson Road

Williamson Road under a functional road hierarchy performs the function of a local collector road and the main collector road through the Ingleburn Industrial area. It is a dual carriageway sealed urban road with kerb and gutter and a raised and vegetated wide central median and two travel lanes in each direction. Indented parking areas are provided within the central median with no parking evidenced in the outer lanes allowing two travel lanes per direction. Lane widths were found to be in the order of 3.1 to 3.5 metres wide and a 50 km/hr speed zoning would apply to the road. The road would also be under the care and control of Campbelltown City Council and at the time of inspection Williamson Road was found to be in good condition as evidenced in ***Photograph 4*** below. Williamson Road connects to Brooks Road via a 2-lane roundabout.

2.3.4 Henderson Road

Henderson Road under a functional road hierarchy performs the function of a local collector road in the Ingleburn Industrial area. It is a four lane two way sealed urban road with kerb and gutter and a raised concrete central median. With no parking evidenced in the outer lanes the road contained two travel lanes per direction. Lane widths were found to be in the order of 3.1 to 3.5 metres wide and a 50 km/hr speed zoning would apply to the road. The road would be under the care and control of Campbelltown City Council and at the time of inspection Henderson Road was found to be in good condition as evidenced in ***Photograph 5*** below. Henderson Road connects to Williamson Road via a two-lane roundabout.

Photograph 3 – Brooks Road near Williamson Road

Photograph 4 – Williamson Road.

Photograph 5 – Henderson Road.

2.3.5 Lancaster Street

Lancaster Street under a functional road hierarchy is a local industrial road within the Ingleburn Industrial area primarily providing vehicular access to properties along its length. Near the site it is a two-lane two-way sealed urban road (12.5 metre carriageway width) with kerb and gutter and on-street parking lanes. Lane widths are in the order of 3 to 3.5 metres and on inspection Lancaster Street was found to be in good condition as evidenced in ***Photograph 6*** below. It is under the care and control of Campbelltown City Council and a 50 km/h speed zone exists through the area. Lancaster Street connects to Henderson Road via a two-lane roundabout.

2.3.3 Aero Road

Aero Road under a functional road hierarchy is a local industrial road within the Ingleburn Industrial area providing vehicular access to properties along its length. Near the site it is a two-lane two-way sealed urban road (12 metre carriageway width) with kerb and gutter and on-street parking lanes. Lane widths are in the order of 3 to 3.5 metres and on inspection Aero Road was found to be in fair condition as evidenced in ***Photograph 7*** below. It is under the care and control of Campbelltown City Council and a 50 km/h speed zone exists through the area. Aero Road connects to Lancaster Street via a single lane roundabout.

2.3.4 Kerr Road

Kerr Road under a functional road hierarchy is a local industrial cul-de-sac road within the Ingleburn Industrial area providing vehicular access to properties along its length. Near the site it is a two-lane two-way sealed urban road (11 metre carriageway width) with kerb and gutter and on-street parking lanes with a 25-metre radius turning area which includes a central vegetated island. This turning area is suitably for convenient use by all sizes of heavy vehicles. Lane widths are in the order of 3 to 3.5 metres and on inspection Kerr Road was found to be in good condition as evidenced in ***Photograph 8*** below. It is under the care and control of Campbelltown City Council and a 50 km/h speed zone exists through the area. Kerr Road connects to Aero Road via a give way-controlled T-intersection.

Photograph 6 – Lancaster Street near site.

Photograph 7 – Aero Road near site.

Photograph 8 – Kerr Road near site.

2.4 Alternative Transport Modes

Public transport (buses) in the area are provided by Interline Bus Services with service route 869 Ingleburn to Liverpool via Edmondson Park running past the site along Henderson Street. This route connects Ingleburn Railway Station to Edmondson Park Railway Station and Liverpool Railway Station. Other bus and rail connections at these locations provides access to all the major residential, commercial, retail, health and educational areas near the site. The nearest bus stops to the site are located on Henderson Road near the Lancaster Road roundabout about 200 to 350 metres north west of the site. A bus route extract for Route 869 is provided below in ***Figure 2***.

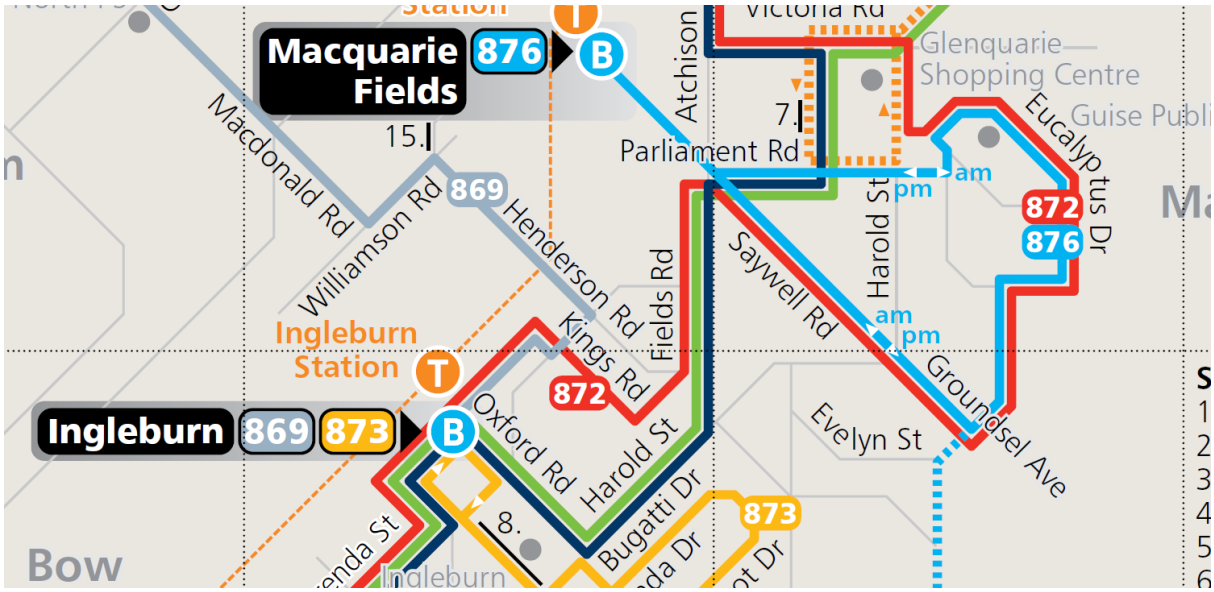


Figure 2 – Interline Bus Services Route 869 – Route Extract

The site is within 900 metres of Ingleburn Railway Station which lies on Sydney Trains Airport and South Line (T8). This is approximately a 20-minute walk from the site and provides access to the Sydney Trains and Regional rail networks.

A suitable concrete pedestrian footpath network exists along the major roads in the area connecting to Ingleburn Railway Station and local bus stops. Near the site a shared pathway exists along Henderson Road while pedestrian footpaths are provided along Lancaster Road to Aero Road and Aero Road from Kerr Road to Ingleburn Railway Station. The only gap in the pedestrian footpath network near the site is along Kerr Road itself where pedestrians are required to use the grass verges or parking lanes for trip making purposes. Photograph 9 below shows the existing concrete footpath in Henderson Road near the site.

Photograph 9 – Lancaster Road footpath near site.

The only observed cycle way near the site is in the form of an off-road shared pathway on Henderson Road from Lancaster Road to Williamson Road as shown below in ***Photograph 10***.

This provides only a short section of benefit for cyclists in the area though does provide safe passage through a difficult and dangerous section of the road network for cyclists. In all other area's cyclists are required to share the outside travel lanes with other vehicles. This situation is only suitable for experienced cyclists.

Photograph 10 – Henderson Road off-road shared pathway near site

2.5 Traffic Generation

Traffic generation data for this assessment report has been determined from the operational details provided by KDC Pty Ltd and assumptions made in relation to operating hours of the facility and truck sizes. The key data used for the traffic generation calculations are;

- Waste delivery is 225,000 tonnes per annum;
- Waste removal based on 90,000 tonnes of storage on site i.e. 160,000 tonnes per annum.
- Each vehicle load (delivery and removal) represents an inbound and outbound trip that will occur in the same hour.
- Operating Hours 10 hours per day – weekdays and 5 hours on Saturdays.
- Facility is open 50 weeks of the year (Closed Christmas, New Year & Easter)
- Waste delivery provided in many different sized trucks with an average haulage load of 20 tonnes.
- Waste removal undertaken using semi-trailers and B-Doubles with an average haulage load of 24 tonnes operated by contractors.
- Staff numbers assumed to be 15 staff including drivers.
- Concrete Agi-trucks carry 15 tonnes of concrete per load (6 m^3 capacity).

Note: - Existing traffic is not included in this assessment but has been picked up in the traffic counts carried out for this assessment. The traffic generation assessment determines the additional traffic generated by the site from the facility expansion.

Therefore, the traffic generation calculations are;

1. Waste delivery – 225,000 tonnes per annum / 50 weeks per annum / 65 hours per week / 20 tonnes per vehicle x 2 trips per vehicle = approximately 8 vehicle trips per hour.
2. Waste removal – 225,000 tonnes per annum / 50 weeks per annum / 65 hours per week / 24 tonnes per vehicle x 2 trips per vehicle = approximately 6 vehicle trips per hour.

3. Staff trips – Peak Hour considered to be arrival at work (AM) all inbound trips – 15 vtph and departure from work (PM) all outbound trips – 15 vtph.
4. Concrete trucks – Peak hour – 50000 tonnes/year/50 weeks per year/ 5.5 days per week / 10 hrs per day/15 tonne per load = 2 deliveries per hour maximum i.e. 2 inbound and 2 outbound trip. Assume maximum material delivery of 1 per day maximum in non-peak periods.

Therefore, Peak Hour and Daily Trips can be calculated as follows;

Weekday Daily Vehicle Trips = 8 x 10 + 6 x 10 + 15 x 2 + 42 (concrete batching plant) = **212 vtpd**.
AM Peak hour = 7 inbound trips + 7 outbound trips + 15 inbound + 2 inbound and 2 outbound = 33 vtph (24 inbound and 9 outbound).

PM Peak hour = 7 inbound trips + 7 outbound trips + 15 outbound trips + 2 inbound + 2 outbound = 31 vtph (9 inbound and 24 outbound).

2.6 Trip Distribution

In determining the trip distribution for the site, it has been assumed that during the AM and PM peak traffic periods in terms of origin / destination approximately 50 % of trips will have an origin / destination to the north via the Hume Motorway, 40 % of trips will have an origin / destination to the south via Campbelltown Road and 10% of trips will have an origin destination to the east via Henderson Road. The resultant trip distribution on the local road network is therefore as shown in ***Figure 3*** below.

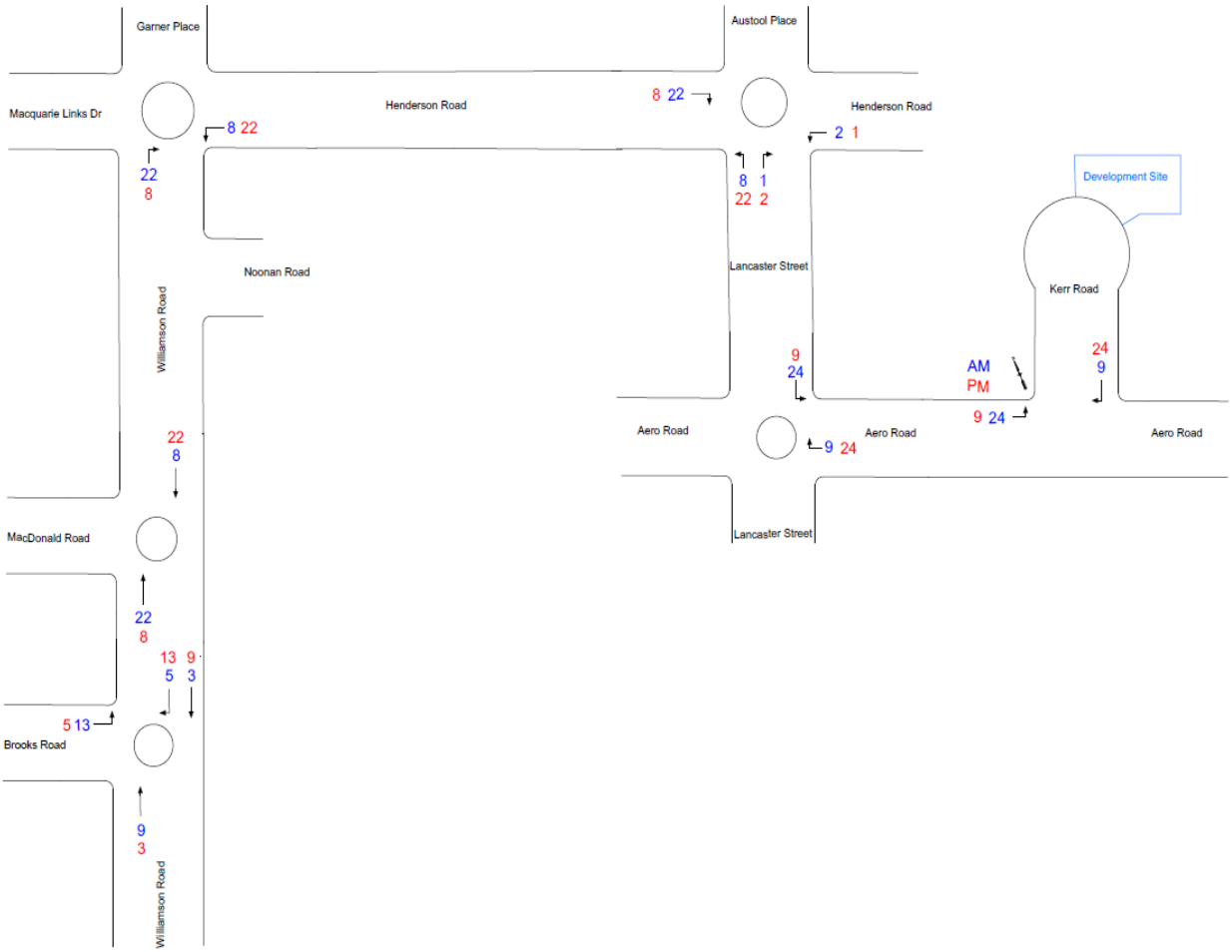


Figure 3 – Development Traffic Trip Distribution

3. TRAFFIC IMPACTS AND CONSIDERATIONS

3.1 Mid-block Road Network Capacity

Table 4.4 of the RMS publication "*RTA's Guide to Traffic Generating Developments"* provides some guidance on likely levels of service being experienced on two lane two-way urban roads though the capacity of urban roads is generally determined by intersection capacity. This table is reproduced below.

Table 4.4
Urban road peak hour flows per direction

Level of Service	One Lane (veh/hr)	Two Lanes (veh/hr)
A	200	900
B	380	1400
C	600	1800
D	900	2200
E	1400	2800

Source: - RTA's Guide to Traffic Generating Developments 2002

In determining the capacity of the road network from this table the following has been considered;

- All roads are two-lane two-way roads except Williamson Road and Henderson Road which effectively operate as four lane two-way roads;
- A LoS C is considered the acceptable level of service for these roads given their function within a functional road hierarchy.

On this basis the likely mid-block two-way road capacity for Brooks Road, Williamson Road and Henderson Road is 4,400 vtph (i.e. 2 x 2,200 vtph) and for Lancaster Street and Aero Road is 1,800 vtph (i.e. 2 x 900 vtph) noting a LoS C exists until the LoS D threshold is reached therefore the LoS D threshold is the lane capacity for a LoS C.

Roar Data on behalf of Intersect Traffic undertook traffic counts at the following intersections during the AM and PM peak periods during November 2017;

- Brooks Road / Williamson Road roundabout;
- Williamson Road / MacDonald Road roundabout;
- Williamson Road / Henderson Road roundabout;
- Henderson Road / Lancaster Street roundabout; and
- Lancaster Street / Aero Road roundabout.

This data indicates the peak hour traffic volumes on the local road network affected by the development are currently as follows;

- Brooks Road – 2,052 vtph in the AM peak and 2,188 vtph in the PM peak.
- Williamson Road – 2,045 vtph in the AM peak and 2,183 vtph in the PM peak.
- Henderson Road – 2,486 vtph in the AM peak and 2,604 vtph in the PM peak
- Lancaster Street – 1,097 vtph in the AM peak and 1,188 vtph in the PM peak; and
- Aero Road – 328 vtph in the AM peak and 339 vtph in the PM peak.

The additional traffic from the proposed development would increase these traffic volumes (see ***Figure 2***) as follows;

- Brooks Road – 16 vtph in both the AM and PM peak hour;
- Williamson Road – 28 vtph in both the AM and PM peak hour;
- Henderson Road – 28 vtph in both the AM and PM peak hour
- Lancaster Street – 31 vtph in both the AM and PM peak hour; and
- Aero Road - 31 vtph in both the AM and PM peak hour.

Therefore, in terms of mid-block road network capacity the following assessment as shown in ***Table 1*** below has been determined by adopting a background traffic growth of 2 % per annum for the next 10 years.

Table 1 – Two-way mid-block capacity assessment

Road	Section	2017		2027		Road Capacity	Development Traffic	
		AM (vtph)	PM (vtph)	AM (vtph)	PM (vtph)		AM	PM
Brooks Road	West of Williamson Road	2070	2206	2519	2685	4400	18	18
Williamson Road	North of Brooks Road	2075	2213	2523	2691	4400	30	30
Henderson Road	east of Williamson Road	2516	2634	3060	3204	4400	30	30
Lancaster Street	south of Henderson Road	1130	1221	1370	1481	1800	33	33
Aero Road	west of Kerr Road	361	372	433	446	1800	33	33

Therefore, as these values are below the mid-block two-way road capacity for the road network of 4,400 vtph and 1,800 vtph as relevant it is reasonable to conclude that the existing road network has sufficient two-way mid-block capacity to cater for the proposed development.

3.2 Intersection Capacity

To determine the impact of the development on intersection capacity all the roundabout intersections for which traffic volume data was collected have been modelled for the AM and PM peak traffic periods using the Sidra Intersection modelling program. This software package predicts likely delays, queue lengths and thus levels of service that will occur at intersections. Assessment is then based on the level of service requirements of the RMS shown below:

Table 4.2
Level of service criteria for intersections

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way & Stop Signs
A	< 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity & accident study required
E	57 to 70	At capacity; at signals, incidents will cause excessive delays Roundabouts require other control mode	At capacity, requires other control mode

Source: - RTA's Guide to Traffic Generating Developments (2002).

Assumptions made in this modelling are:

- The intersection layout will remain as per current conditions.
- Traffic volumes used in the modelling are as collected by Roar Data on Wednesday 1st November 2017.
- Traffic generated by the development is distributed as per ***Figure 3***.
- Future 2028 traffic growth predicted using a 2.0 % per annum background traffic growth rate.

The results of the modelling are summarised in ***Tables 2 - 6*** below for 'all vehicles'. The Sidra Movement Summary Tables are provided in ***Attachment B.***

Table 2 – Brooks Road / Williamson Road roundabout - Sidra Modelling Results Summary

Model	Deg. Stan (v/c)	Average Delay (s)	Worst Level of Service	95 % back of queue length (cars)
2018 AM + development	0.777	9.6	A	9.2
2018 PM + development	0.650	11.0	A	7.5
2028 AM + development	0.889	11.9	A	15.3
2028 PM + development	0.768	14.2	A	11.6

Table 3 – Williamson Road / MacDonald Road roundabout - Sidra Modelling Results Summary

Model	Deg. Satn (v/c)	Average Delay (s)	Worst Level of Service	95 % back of queue length (cars)
2018 AM + development	0.577	7.5	A	5.1
2018 PM + development	0.515	7.2	A	4.6
2028 AM + development	0.729	8.7	A	7.1
2028 PM + development	0.618	7.9	A	5.8

Table 4 – Williamson Road / Henderson Road roundabout - Sidra Modelling Results Summary

Model	Deg. Satn (v/c)	Average Delay (s)	Worst Level of Service	95 % back of queue length (cars)
2018 AM + development	0.640	7.6	A	6.9
2018 PM + development	0.735	6.9	A	9.6
2028 AM + development	0.714	7.9	A	8.6
2028 PM + development	0.814	7.1	A	13.3

Table 5 – Henderson Road / Lancaster Street roundabout - Sidra Modelling Results Summary

Model	Deg. Satn (v/c)	Average Delay (s)	Worst Level of Service	95 % back of queue length (cars)
2018 AM + development	0.539	6.7	A	4.2
2018 PM + development	0.585	8.0	A	4.9
2028 AM + development	0.599	7.2	A	5.2
2028 PM + development	0.669	8.9	A	6.8

Table 6 – Lancaster Street / Aero Road roundabout - Sidra Modelling Results Summary

Model	Deg. Satn (v/c)	Average Delay (s)	Worst Level of Service	95 % back of queue length (cars)
2018AM + development	0.403	6.1	A	2.9
2018 PM + development	0.415	7.3	A	2.9
2028 AM + development	0.441	6.2	A	3.4
2028 PM + development	0.468	7.6	A	3.4

This modelling shows the development has little impact on the operation of the major intersections in the adjoining road network with all intersections continuing to operate satisfactorily post development through to at least 2028. Average delays, LoS and queue lengths remain within the acceptable criteria set by NSW RMS. Therefore, the development does not adversely impact on the efficiency and effectiveness of the local road network.

It should also be noted this assessment is likely to be very conservative as it has not allowed for existing traffic generated by the development. It would be appropriate to discount the additional traffic generated by the new development by the existing traffic generated by the site however ignoring existing traffic results in a robust traffic impact assessment.

3.3 Site Access / Road Upgrading

Post development the site access will service more than 25 car spaces but less than 100 car parks. Under Table 3.1 of Australian Standard *AS2890.1-2004 Parking facilities – Part 1 - Off-street car parking* a car park with between 25 to 100 car parking spaces accessed via a local road providing long term employee parking (Class 1) is required to have a Category 2 access facility. A Category 2 access facility is combined entry / exit access 6 m to 9 metres wide. It is noted the existing access is approximately 10 metres wide therefore compliant with AS2890.1-2004. However, for the type of vehicle using the site the access width will be determined by the swept path analysis for entry and exit to and from the site by B-Double vehicles. Having observed the existing site access, it is considered suitable for the proposed development and will not require upgrading.

Part 6.3 of the Campbelltown (Sustainable City) Development Control Plan (2015) which details car parking and access requirements for Industrial development in the Campbelltown LGA identifies that each industrial site can have only one heavy vehicle entry / exit and may have a second light vehicle entry / exit and must be designed in accordance with Australian Standard *AS2890.1-2004 Parking facilities – Part 1 - Off-street car parking* and Australian Standard *AS2890.2-2002 Parking facilities – Part 2 - Off-street commercial vehicle facilities*. The proposed development complies with these requirements.

It is noted from the RMS restricted vehicle access maps that Campbelltown Road, Williamson Road, Brooks Road, Henderson Road and Lancaster Street are already B-Double approved routes while Aero Road and Kerr Road are approved routes with travel conditions while the Lancaster Street / Aero Road roundabout is a restricted intersection with conditional approval for B-Doubles. It is likely that these conditional approvals already apply to the existing site operations and similar conditions are likely to be placed on the expanded development. Therefore, no nexus would exist for any additional road upgrading conditions to be required by Council for the proposed development

3.4 On-site parking and driveway

On-site parking requirements for development in the Campbelltown City Council LGA are contained within the Campbelltown (Sustainable City) Development Control Plan (2015). Part 6 deals with Industrial Development and Section 6.3 details the requirements for car parking and access.

Relevant to the site the requirements for car parking are;

For offices / lunch rooms / storage – 1 space per 35 m^2;
For other areas - minimum of 2 spaces per unit;
1 space per 100 m^2 GFA up to 2,000 m^2;
1 space per 250 m^2 GFA above 2,000 m^2; plus
1 space per 300 m^2 outdoor storage area.

Insufficient information has been provided to undertake a detailed car parking requirement calculation for the site however based on an aerial photograph assessment showing a roof area of

5,800 m^2 GFA and approximately 1,500 m^2 of outdoor storage a car parking requirement for the site is likely to be approximately = 20 + 16 + 5 = 41 car parking spaces. The site is large enough to provide more than 41 car parking spaces therefore sufficient car parking compliant with AS2890.1-2004 Parking facilities – Part 1 Off-street car parking could be provided on-site.

Overall it is concluded sufficient and suitable on-site car parking can be provided on-site to meet the requirements of the Campbelltown (Sustainable City) Development Control Plan (2015). It is also noted that as the proposal does not increase the exiting GFA or storage areas on site there is no nexus to apply any increase in on-site car parking on the site.

3.5 Alternative Transport Modes

The proposed development will not increase use of the existing public transport service significantly therefore there would be no nexus from this development for the provision of additional infrastructure or changes to the existing service resulting from this development.

Similarly, the development is unlikely to significantly increase pedestrian and cycle traffic on the local road network therefore no nexus exists for the provision of additional external pedestrian or cycle way infrastructure.

4. CONCLUSIONS

This traffic impact assessment for the expansion of an existing resource recovery facility on Lot 16 DP 717203, 16 Kerr Road, Ingleburn has concluded;

- The proposed development is likely to generate in the order of an additional 33 vtph during the AM and PM peak hour traffic periods.
- There is sufficient two-way mid-block capacity within the local road network to cater for the additional traffic generated by this development.
- SIDRA INTERSECTION modelling has shown that all the major intersections along the likely haulage routes to the Hume Motorway and local areas have sufficient spare capacity to cater for the proposal noting they will continue to operate satisfactorily post development through to at least 2027. Therefore, the development will not adversely impact on the local road network and no road upgrading is considered warranted.
- The existing vehicular access is satisfactory for the proposed development and would be compliant with Australian Standard *AS2890.1-2004 Parking facilities – Part 1 - Off-street car parking* and Australian Standard *AS2890.2-2002 Parking facilities – Part 2 - Off-street commercial vehicle facilities*. The access would also comply with the Campbelltown (Sustainable City) Development Control Plan (2015)
- It is noted from the RMS restricted vehicle access maps that the haulage routes to the site are already approved for 25/B26 metre B-Double heavy vehicles though Aero Road and Kerr Road are approved routes with travel conditions while the Lancaster Street / Aero Road roundabout is a restricted intersection with conditional approval for B-Doubles. If the site was to generate B-Double vehicle movements, future consultation with Campbelltown City Council's Traffic Committee will be required.
- Overall it is concluded that the local road network has sufficient spare capacity to cater for the development and the proposal will not adversely impact on the local and state road network.
- Sufficient and suitable on-site car parking can be provided on-site to meet the requirements of the Campbelltown (Sustainable City) Development Control Plan (2015). It is also noted that as the proposal does not increase the exiting GFA or storage areas on site there is no nexus to apply any increase in on-site car parking on the site.
- The proposed development will not increase use of the existing public transport service significantly therefore there would be no nexus from this development for the provision of additional infrastructure or changes to the existing service resulting from this development.
- The development is unlikely to significantly increase pedestrian and cycle traffic on the local road network therefore no nexus exists for the provision of additional external pedestrian or cycle way infrastructure.

5. RECOMMENDATION

Having carried out this traffic impact assessment for the proposed expansion of an existing resource recovery facility on Lot 16 DP 717203, 16 Kerr Road, Ingleburn it is recommended that the proposal can be supported from a traffic perspective as it will not adversely impact on the local and state road network and generally complies with the requirements of Campbelltown City Council, Australian Standards and NSW Roads and Maritime Services.

JR Garry BE (Civil), Masters of Traffic
Director
Intersect Traffic Pty Ltd

ATTACHMENT A
TRAFFIC COUNT DATA

R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

Client : InTersect Traffic

Job No/Name : 6643 INGLEBURN Traffic Counts

Day/Date : Wednesday 29th November 2017

Lights

Time Per	NORTH Williamson T	NORTH Williamson R	WEST Brooks Rd L	WEST Brooks Rd R	SOUTH Williamson L	SOUTH Williamson T	TOT
0700 - 0715	65	87	137	74	89	2	454
0715 - 0730	60	77	126	88	67	62	480
0730 - 0745	93	113	187	111	93	88	685
0745 - 0800	70	96	195	121	70	100	652
0800 - 0815	100	104	197	91	73	122	687
0815 - 0830	101	81	167	108	55	127	639
0830 - 0845	102	76	216	95	62	102	653
0845 - 0900	124	127	169	109	68	128	725
Per End	715	761	1394	797	577	731	4975

Heavies

Time Per	NORTH Williamson T	NORTH Williamson R	WEST Brooks Rd L	WEST Brooks Rd R	SOUTH Williamson L	SOUTH Williamson T	TOT
0700 - 0715	4	8	11	12	20	5	60
0715 - 0730	8	9	9	13	21	4	64
0730 - 0745	6	8	5	9	17	3	48
0745 - 0800	3	7	12	10	19	6	57
0800 - 0815	2	6	10	18	20	7	63
0815 - 0830	6	10	7	15	17	6	61
0830 - 0845	4	6	7	9	14	5	45
0845 - 0900	3	14	7	24	13	8	69
Per End	36	68	68	110	141	44	467

Combined

Time Per	NORTH Williamson T	NORTH Williamson R	WEST Brooks Rd L	WEST Brooks Rd R	SOUTH Williamson L	SOUTH Williamson T	TOT
0700 - 0715	69	95	148	86	109	7	514
0715 - 0730	68	86	135	101	88	66	544
0730 - 0745	99	121	192	120	110	91	733
0745 - 0800	73	103	207	131	89	106	709
0800 - 0815	102	110	207	109	93	129	750
0815 - 0830	107	91	174	123	72	133	700
0830 - 0845	106	82	223	104	76	107	698
0845 - 0900	127	141	176	133	81	136	794
Per End	751	829	1462	907	718	775	5442

Lights

Peak Per	NORTH Williamson T	NORTH Williamson R	WEST Brooks Rd L	WEST Brooks Rd R	SOUTH Williamson L	SOUTH Williamson T	TOT
0700 - 0800	288	373	645	394	319	252	2271
0715 - 0815	323	390	705	411	303	372	2504
0730 - 0830	364	394	746	431	291	437	2663
0745 - 0845	373	357	775	415	260	451	2631
0800 - 0900	427	388	749	403	258	479	2704
PEAK HR	364	394	746	431	291	437	2663

Heavies

Peak Per	NORTH Williamson T	NORTH Williamson R	WEST Brooks Rd L	WEST Brooks Rd R	SOUTH Williamson L	SOUTH Williamson T	TOT
0700 - 0800	21	32	37	44	77	18	229
0715 - 0815	19	30	36	50	77	20	232
0730 - 0830	17	31	34	52	73	22	229
0745 - 0845	15	29	36	52	70	24	226
0800 - 0900	15	36	31	66	64	26	238
PEAK HR	17	31	34	52	73	22	229

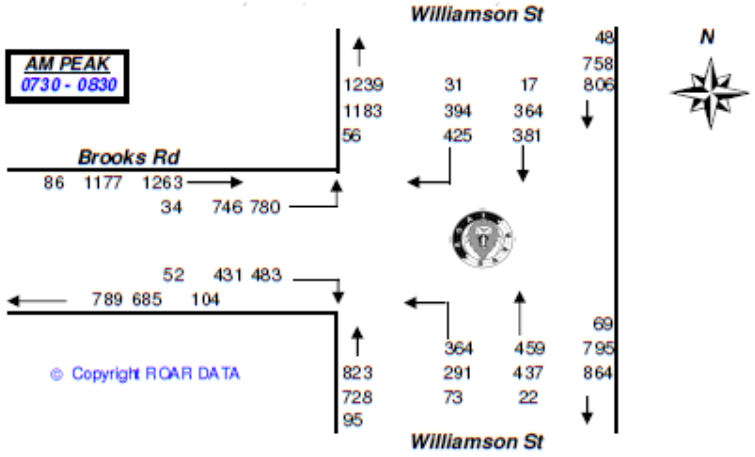
Combined

Peak Per	NORTH Williamson T	NORTH Williamson R	WEST Brooks Rd L	WEST Brooks Rd R	SOUTH Williamson L	SOUTH Williamson T	TOT
0700 - 0800	309	405	682	438	396	270	2500
0715 - 0815	342	420	741	461	380	392	2736
0730 - 0830	381	425	780	483	364	459	2892
0745 - 0845	388	386	811	467	330	475	2857
0800 - 0900	442	424	780	469	322	505	2942
PEAK HR	381	425	780	483	364	459	2892

Peds

Time Per	NORTH Williamson	WEST Brooks Rd	SOUTH Williamson	TOT
0700 - 0715				0
0715 - 0730		NOT		0
0730 - 0745		REQUIRED		0
0745 - 0800				0
0800 - 0815				0
0815 - 0830				0
0830 - 0845				0
0845 - 0900				0
Per End	0	0	0	0

Peak Per	NORTH Williamson	WEST Brooks Rd	SOUTH Williamson	TOT
0700 - 0800	0	0	0	0
0715 - 0815	0	0	0	0
0730 - 0830	0	0	0	0
0745 - 0845	0	0	0	0
0800 - 0900	0	0	0	0
PEAK HR	0	0	0	0



R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

Client : InTersect Traffic
Job No/Name : 6643 INGLEBURN Traffic Counts
Day/Date : Wednesday 29th November 2017

Lights

Time Per	NORTH Williamson T	NORTH Williamson R	WEST Brooks Rd L	WEST Brooks Rd R	SOUTH Williamson L	SOUTH Williamson T	TOT
1500 - 1515	141	146	128	91	74	91	671
1515 - 1530	118	143	146	91	90	92	680
1530 - 1545	135	173	168	103	112	130	821
1545 - 1600	104	150	150	108	78	76	666
1600 - 1615	119	135	125	95	75	94	643
1615 - 1630	120	133	164	141	99	98	755
1630 - 1645	126	162	153	104	117	76	738
1645 - 1700	104	139	140	119	96	81	679
Per End	967	1181	1174	852	741	738	5653

Heavies

Time Per	NORTH Williamson T	NORTH Williamson R	WEST Brooks Rd L	WEST Brooks Rd R	SOUTH Williamson L	SOUTH Williamson T	TOT
1500 - 1515	4	7	18	21	8	4	62
1515 - 1530	4	5	10	18	12	3	52
1530 - 1545	6	5	15	17	9	1	53
1545 - 1600	6	10	10	16	10	3	55
1600 - 1615	3	11	7	16	11	6	54
1615 - 1630	4	9	11	16	6	2	48
1630 - 1645	2	9	6	12	10	0	39
1645 - 1700	0	4	7	11	8	2	32
Per End	29	60	84	127	74	21	395

Combined

Time Per	NORTH Williamson T	NORTH Williamson R	WEST Brooks Rd L	WEST Brooks Rd R	SOUTH Williamson L	SOUTH Williamson T	TOT
1500 - 1515	145	153	146	112	82	95	733
1515 - 1530	122	148	156	109	102	95	732
1530 - 1545	141	178	183	120	121	131	874
1545 - 1600	110	160	160	124	88	79	721
1600 - 1615	122	146	132	111	86	100	697
1615 - 1630	124	142	175	157	105	100	803
1630 - 1645	128	171	159	116	127	76	777
1645 - 1700	104	143	147	130	104	83	711
Per End	996	1241	1258	979	815	759	6048

Lights

Peak Per	NORTH Williamson T	NORTH Williamson R	WEST Brooks Rd L	WEST Brooks Rd R	SOUTH Williamson L	SOUTH Williamson T	TOT
1500 - 1600	498	612	592	393	354	389	2838
1515 - 1615	476	601	589	397	355	392	2810
1530 - 1630	478	591	607	447	364	398	2885
1545 - 1645	469	580	592	448	369	344	2802
1600 - 1700	469	569	582	459	387	349	2815
PEAK HR	478	591	607	447	364	398	2885

Heavies

Peak Per	NORTH Williamson T	NORTH Williamson R	WEST Brooks Rd L	WEST Brooks Rd R	SOUTH Williamson L	SOUTH Williamson T	TOT
1500 - 1600	20	27	53	72	39	11	222
1515 - 1615	19	31	42	67	42	13	214
1530 - 1630	19	35	43	65	36	12	210
1545 - 1645	15	39	34	60	37	11	196
1600 - 1700	9	33	31	55	35	10	173
PEAK HR	19	35	43	65	36	12	210

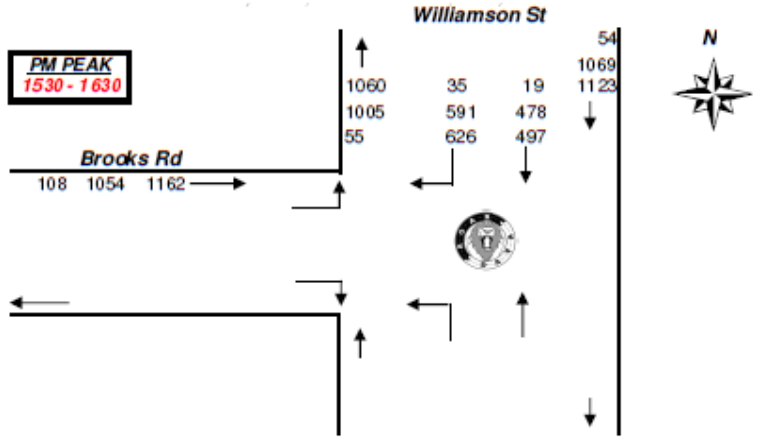
Combined

Peak Per	NORTH Williamson T	NORTH Williamson R	WEST Brooks Rd L	WEST Brooks Rd R	SOUTH Williamson L	SOUTH Williamson T	TOT
1500 - 1600	518	639	645	465	393	400	3060
1515 - 1615	495	632	631	464	397	405	3024
1530 - 1630	497	626	650	512	400	410	3095
1545 - 1645	484	619	626	508	406	355	2998
1600 - 1700	478	602	613	514	422	359	2988
PEAK HR	497	626	650	512	400	410	3095

Peds

Time Per	NORTH Williamson	WEST Brooks Rd	SOUTH Williamson	TOT
1500 - 1515				0
1515 - 1530		NOT		0
1530 - 1545		REQUIRED		0
1545 - 1600				0
1600 - 1615				0
1615 - 1630				0
	0	0	0	

	Williamson	Brooks Rd	Williamson	
	0	0	0	
	0	0	0	
	0	0	0	
	0	0	0	
	0	0	0	
	0	0	0	



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Client : InTersect Traffic
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	NORTH			WEST			SOUTH			EAST			
	Williamson Rd			*Macdonald Rd*			*Williamson Rd*			*Access*			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0700 - 0715	0	107	109	50	1	24	21	131	4	1	0	0	**448**
0715 - 0730	4	117	88	84	3	9	9	194	2	0	0	0	**510**
0730 - 0745	0	166	131	73	1	28	22	218	2	0	0	1	**642**
0745 - 0800	0	135	110	75	2	15	17	239	9	0	0	0	**602**
0800 - 0815	2	208	91	98	1	21	25	329	7	0	0	0	**782**
0815 - 0830	0	151	88	82	1	19	29	243	4	1	0	0	**618**
0830 - 0845	2	196	79	105	1	31	26	265	5	1	0	1	**712**
0845 - 0900	2	139	89	97	2	33	16	237	2	3	0	1	**621**
Period End	**10**	**1219**	**785**	**664**	**12**	**180**	**165**	**1856**	**35**	**6**	**0**	**3**	**4935**

Heavies

	NORTH			WEST			SOUTH			EAST			
	Williamson Rd			*Macdonald Rd*			*Williamson Rd*			*Access*			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0700 - 0715	0	10	2	2	0	2	0	13	1	0	0	0	**30**
0715 - 0730	0	13	2	3	0	2	1	11	0	0	0	0	**32**
0730 - 0745	0	9	4	2	0	1	1	4	1	1	0	0	**23**
0745 - 0800	0	6	4	4	0	2	3	9	2	0	0	0	**30**
0800 - 0815	0	10	1	6	0	3	5	13	2	4	0	0	**44**
0815 - 0830	0	6	1	2	0	2	5	8	0	1	0	0	**25**
0830 - 0845	0	10	4	3	0	5	2	13	0	0	0	0	**37**
0845 - 0900	0	9	5	1	0	2	2	9	0	0	0	0	**28**
Period End	**0**	**73**	**23**	**23**	**0**	**19**	**19**	**80**	**6**	**6**	**0**	**0**	**249**

Lights

	NORTH			WEST			SOUTH			EAST			
	Williamson Rd			*Macdonald Rd*			*Williamson Rd*			*Access*			
Peak Time	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0700 - 0800	4	525	438	282	7	76	69	782	17	1	0	1	**2202**
0715 - 0815	6	626	420	330	7	73	73	980	20	0	0	1	**2536**
0730 - 0830	2	660	420	328	5	83	93	1029	22	1	0	1	**2644**
0745 - 0845	4	690	368	360	5	86	97	1076	25	2	0	1	**2714**
0800 - 0900	6	694	347	382	5	104	96	1074	18	5	0	2	**2733**
PEAK HOUR	**6**	**694**	**347**	**382**	**5**	**104**	**96**	**1074**	**18**	**5**	**0**	**2**	**2733**

Heavies

	NORTH			WEST			SOUTH			EAST			
	Williamson Rd			*Macdonald Rd*			*Williamson Rd*			*Access*			
Peak Time	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0700 - 0800	0	38	12	11	0	7	5	37	4	1	0	0	**115**
0715 - 0815	0	38	11	15	0	8	10	37	5	5	0	0	**129**
0730 - 0830	0	31	10	14	0	8	14	34	5	6	0	0	**122**
0745 - 0845	0	32	10	15	0	12	15	43	4	5	0	0	**136**
0800 - 0900	0	35	11	12	0	12	14	43	2	5	0	0	**134**
PEAK HOUR	**0**	**35**	**11**	**12**	**0**	**12**	**14**	**43**	**2**	**5**	**0**	**0**	**134**

Combined

	NORTH			WEST			SOUTH			EAST			
	Williamson Rd			*Macdonald Rd*			*Williamson Rd*			*Access*			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0700 - 0715	0	117	111	52	1	26	21	144	5	1	0	0	**478**
0715 - 0730	4	130	90	87	3	11	10	205	2	0	0	0	**542**
0730 - 0745	0	175	135	75	1	29	23	222	3	1	0	1	**665**
0745 - 0800	0	141	114	79	2	17	20	248	11	0	0	0	**632**
0800 - 0815	2	218	92	104	1	24	30	342	9	4	0	0	**826**
0815 - 0830	0	157	89	84	1	21	34	251	4	2	0	0	**643**

Peds

	NORTH	WEST	SOUTH	EAST	
	Williamson Rd	*Macdonald Rd*	*Williamson Rd*	*Access*	
Time Per	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	TOT
0700 - 0715					**0**
0715 - 0730					**0**
0730 - 0745	*Not*	*Not*	*Not*	*Not*	**0**
0745 - 0800	*Required*	*Required*	*Required*	*Required*	**0**
0800 - 0815					**0**
0815 - 0830					**0**
	0	0	0	0	

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	NORTH			WEST			SOUTH			EAST			
	Williamson Rd			*Macdonald Rd*			*Williamson Rd*			*Access*			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
1500 - 1515	0	233	93	90	2	30	34	235	0	1	0	0	**718**
1515 - 1530	2	217	101	111	0	19	28	238	0	4	0	0	**720**
1530 - 1545	0	248	95	103	1	31	21	248	1	0	0	0	**748**
1545 - 1600	4	215	88	89	0	16	11	209	2	0	0	0	**634**
1600 - 1615	0	258	136	95	1	18	20	221	1	5	1	0	**756**
1615 - 1630	0	200	93	94	0	22	24	233	1	4	1	0	**672**
1630 - 1645	0	251	128	87	0	24	24	199	0	2	0	0	**715**
1645 - 1700	1	190	108	75	0	22	11	203	0	1	0	1	**612**
Period End	7	1812	842	744	4	182	173	1786	5	17	2	1	**5575**

Heavies

	NORTH			WEST			SOUTH			EAST			
	Williamson Rd			*Macdonald Rd*			*Williamson Rd*			*Access*			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
1500 - 1515	0	7	3	3	0	1	1	21	0	0	0	0	**36**
1515 - 1530	0	8	6	1	0	1	1	13	0	0	0	0	**30**
1530 - 1545	0	7	3	3	0	1	0	14	0	0	0	0	**28**
1545 - 1600	0	7	2	1	0	2	1	9	1	0	0	0	**23**
1600 - 1615	0	10	2	4	0	5	0	13	0	0	0	0	**34**
1615 - 1630	0	10	1	5	0	1	0	11	0	0	0	0	**28**
1630 - 1645	0	6	3	1	0	1	0	8	0	0	0	0	**19**
1645 - 1700	0	3	1	2	1	2	2	12		0	0	0	**23**
Period End	0	58	21	20	1	14	5	101	1	0	0	0	**221**

Lights

	NORTH			WEST			SOUTH			EAST			
	Williamson Rd			*Macdonald Rd*			*Williamson Rd*			*Access*			
Peak Time	L	T	R	L	T	R	L	T	R	L	T	R	TOT
1500 - 1600	6	913	377	393	3	96	94	930	3	5	0	0	**2820**
1515 - 1615	6	938	420	398	2	84	80	916	4	9	1	0	**2858**
1530 - 1630	4	921	412	381	2	87	76	911	5	9	2	0	**2810**
1545 - 1645	4	924	445	365	1	80	79	862	4	11	2	0	**2777**
1600 - 1700	1	899	465	351	1	86	79	856	2	12	2	1	**2755**
PEAK HOUR	6	938	420	398	2	84	80	916	4	9	1	0	**2858**

Heavies

	NORTH			WEST			SOUTH			EAST			
	Williamson Rd			*Macdonald Rd*			*Williamson Rd*			*Access*			
Peak Time	L	T	R	L	T	R	L	T	R	L	T	R	TOT
1500 - 1600	0	29	14	8	0	5	3	57	1	0	0	0	**117**
1515 - 1615	0	32	13	9	0	9	2	49	1	0	0	0	**115**
1530 - 1630	0	34	8	13	0	9	1	47	1	0	0	0	**113**
1545 - 1645	0	33	8	11	0	9	1	41	1	0	0	0	**104**
1600 - 1700	0	29	7	12	1	9	2	44	0	0	0	0	**104**
PEAK HOUR	0	32	13	9	0	9	2	49	1	0	0	0	**115**

Combined

	NORTH			WEST			SOUTH			EAST			
	Williamson Rd			*Macdonald Rd*			*Williamson Rd*			*Access*			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
1500 - 1515	0	240	96	93	2	31	35	256	0	1	0	0	**754**
1515 - 1530	2	225	107	112	0	20	29	251	0	4	0	0	**750**
1530 - 1545	0	255	98	106	1	32	21	262	1	0	0	0	**776**
1545 - 1600	4	222	90	90	0	18	12	218	3	0	0	0	**657**
1600 - 1615	0	268	138	99	1	23	20	234	1	5	1	0	**790**
1615 - 1630	0	210	94	99	0	23	24	244	1	4	1	0	**700**

Peds

	NORTH	WEST	SOUTH	EAST	
	Williamson Rd	*Macdonald Rd*	*Williamson Rd*	*Access*	
Time Per	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	TOT
1500 - 1515					**0**
1515 - 1530					**0**
1530 - 1545	*Not*	*Not*	*Not*	*Not*	**0**
1545 - 1600	*Required*	*Required*	*Required*	*Required*	**0**
1600 - 1615					**0**
1615 - 1630					**0**
	0	0	0	0	

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Lights

	NORTH			WEST			SOUTH			EAST			
	Garner Pl			Macquarie Links			Williamson St			Henderson Rd			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0700 - 0715	2	1	0	0	25	24	9	8	204	207	2	0	482
0715 - 0730	1	1	1	0	26	26	11	27	213	199	6	5	516
0730 - 0745	2	1	0	0	32	32	6	6	239	244	6	2	570
0745 - 0800	0	3	0	1	25	31	9	2	279	235	10	4	599
0800 - 0815	2	6	0	1	26	39	11	2	306	251	10	3	657
0815 - 0830	2	2	0	0	26	43	5	1	367	214	6	2	668
0830 - 0845	2	0	1	0	31	28	14	1	342	257	11	1	688
0845 - 0900	1	2	0	0	11	19	14	0	300	227	12	2	588
Period End	12	16	2	2	202	242	79	47	2250	1834	63	19	4768

Heavies

	NORTH			WEST			SOUTH			EAST			
	Garner Pl			Macquarie Links			Williamson St			Henderson Rd			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0700 - 0715	0	0	0	0	0	0	0	0	5	10	0	0	15
0715 - 0730	0	0	0	0	0	1	0	0	11	9	0	0	21
0730 - 0745	0	0	0	0	0	2	1	2	3	7	1	0	16
0745 - 0800	1	0	0	0	0	0	1	0	5	8	0	0	15
0800 - 0815	0	0	0	0	1	0	0	0	12	7	0	0	20
0815 - 0830	1	0	0	0	0	0	0	0	10	9	0	0	20
0830 - 0845	0	1	0	0	1	1	1	0	12	6	1	0	23
0845 - 0900	0	0	0	0	0	0	0	0	5	9	0	0	14
Period End	2	1	0	0	2	4	3	2	63	65	2	0	144

Lights

	NORTH			WEST			SOUTH			EAST			
	Garner Pl			Macquarie Links			Williamson St			Henderson Rd			
Peak Time	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0700 - 0800	5	6	1	1	108	113	35	43	935	885	24	11	2167
0715 - 0815	5	11	1	2	109	128	37	37	1037	929	32	14	2342
0730 - 0830	6	12	0	2	109	145	31	11	1191	944	32	11	2494
0745 - 0845	6	11	1	2	108	141	39	6	1294	957	37	10	2612
0800 - 0900	7	10	1	1	94	129	44	4	1315	949	39	8	2601
PEAK HOUR	6	11	1	2	108	141	39	6	1294	957	37	10	2612

Heavies

	NORTH			WEST			SOUTH			EAST			
	Garner Pl			Macquarie Links			Williamson St			Henderson Rd			
Peak Time	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0700 - 0800	1	0	0	0	0	3	2	2	24	34	1	0	67
0715 - 0815	1	0	0	0	1	3	2	2	31	31	1	0	72
0730 - 0830	2	0	0	0	1	2	2	2	30	31	1	0	71
0745 - 0845	2	1	0	0	2	1	2	0	39	30	1	0	78
0800 - 0900	1	1	0	0	2	1	1	0	39	31	1	0	77
PEAK HOUR	2	1	0	0	2	1	2	0	39	30	1	0	78

Combined

	NORTH			WEST			SOUTH			EAST			
	Garner Pl			Macquarie Links			Williamson St			Henderson Rd			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0700 - 0715	2	1	0	0	25	24	9	8	209	217	2	0	497
0715 - 0730	1	1	1	0	26	27	11	27	224	208	6	5	537
0730 - 0745	2	1	0	0	32	34	7	8	242	251	7	2	586
0745 - 0800	1	3	0	1	25	31	10	2	284	243	10	4	614
0800 - 0815	2	6	0	1	27	39	11	2	318	258	10	3	677
0815 - 0830	3	2	0	0	26	43	5	1	377	223	6	2	688

Peds

	NORTH	WEST	SOUTH	EAST	
	Garner Pl	Macquarie Links	Williamson St	Henderson Rd	
Time Per	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	TOT
0700 - 0715					0
0715 - 0730					0
0730 - 0745	*Not*	*Not*	*Not*	*Not*	0
0745 - 0800	*Required*	*Required*	*Required*	*Required*	0
0800 - 0815					0
0815 - 0830					0
	0	0	0	0	

R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

Client : InTersect Traffic
Job No/Name : 6643 INGLEBURN Traffic Counts
Day/Date : Wednesday 29th November 2017

Lights

	NORTH			WEST			SOUTH			EAST			
	Garner Pl			Macquarie Links			Williamson St			Henderson Rd			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0700 - 0715	2	1	0	0	25	24	9	8	204	207	2	0	482
0715 - 0730	1	1	1	0	26	26	11	27	213	199	6	5	516
0730 - 0745	2	1	0	0	32	32	6	6	239	244	6	2	570
0745 - 0800	0	3	0	1	25	31	9	2	279	235	10	4	599
0800 - 0815	2	6	0	1	26	39	11	2	306	251	10	3	657
0815 - 0830	2	2	0	0	26	43	5	1	367	214	6	2	668
0830 - 0845	2	0	1	0	31	28	14	1	342	257	11	1	688
0845 - 0900	1	2	0	0	11	19	14	0	300	227	12	2	588
Period End	12	16	2	2	202	242	79	47	2250	1834	63	19	4768

Heavies

	NORTH			WEST			SOUTH			EAST			
	Garner Pl			Macquarie Links			Williamson St			Henderson Rd			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0700 - 0715	0	0	0	0	0	0	0	0	5	10	0	0	15
0715 - 0730	0	0	0	0	0	1	0	0	11	9	0	0	21
0730 - 0745	0	0	0	0	0	2	1	2	3	7	1	0	16
0745 - 0800	1	0	0	0	0	0	1	0	5	8	0	0	15
0800 - 0815	0	0	0	0	1	0	0	0	12	7	0	0	20
0815 - 0830	1	0	0	0	0	0	0	0	10	9	0	0	20
0830 - 0845	0	1	0	0	1	1	1	0	12	6	1	0	23
0845 - 0900	0	0	0	0	0	0	0	0	5	9	0	0	14
Period End	2	1	0	0	2	4	3	2	63	65	2	0	144

Lights

	NORTH			WEST			SOUTH			EAST			
	Garner Pl			Macquarie Links			Williamson St			Henderson Rd			
Peak Time	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0700 - 0800	5	6	1	1	108	113	35	43	935	885	24	11	2167
0715 - 0815	5	11	1	2	109	128	37	37	1037	929	32	14	2342
0730 - 0830	6	12	0	2	109	145	31	11	1191	944	32	11	2494
0745 - 0845	6	11	1	2	108	141	39	6	1294	957	37	10	2612
0800 - 0900	7	10	1	1	94	129	44	4	1315	949	39	8	2601
PEAK HOUR	6	11	1	2	108	141	39	6	1294	957	37	10	2612

Heavies

	NORTH			WEST			SOUTH			EAST			
	Garner Pl			Macquarie Links			Williamson St			Henderson Rd			
Peak Time	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0700 - 0800	1	0	0	0	0	3	2	2	24	34	1	0	67
0715 - 0815	1	0	0	0	1	3	2	2	31	31	1	0	72
0730 - 0830	2	0	0	0	1	2	2	2	30	31	1	0	71
0745 - 0845	2	1	0	0	2	1	2	0	39	30	1	0	78
0800 - 0900	1	1	0	0	2	1	1	0	39	31	1	0	77
PEAK HOUR	2	1	0	0	2	1	2	0	39	30	1	0	78

Combined

	NORTH			WEST			SOUTH			EAST			
	Garner Pl			Macquarie Links			Williamson St			Henderson Rd			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0700 - 0715	2	1	0	0	25	24	9	8	209	217	2	0	497
0715 - 0730	1	1	1	0	26	27	11	27	224	208	6	5	537
0730 - 0745	2	1	0	0	32	34	7	8	242	251	7	2	586
0745 - 0800	1	3	0	1	25	31	10	2	284	243	10	4	614
0800 - 0815	2	6	0	1	27	39	11	2	318	258	10	3	677
0815 - 0830	3	2	0	0	26	43	5	1	377	223	6	2	688

Peds

	NORTH	WEST	SOUTH	EAST	
	Garner Pl	Macquarie Links	Williamson St	Henderson Rd	
Time Per	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	TOT
0700 - 0715					0
0715 - 0730					0
0730 - 0745	*Not*	*Not*	*Not*	*Not*	0
0745 - 0800	*Required*	*Required*	*Required*	*Required*	0
0800 - 0815					0
0815 - 0830					0
	0	0	0	0	

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Client : InTersect Traffic
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	NORTH			WEST			SOUTH			EAST			
	Garner Pl			*Macquarie Links*			*Williamson St*			*Henderson Rd*			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
1500 - 1515	4	5	0	0	6	8	25	1	253	261	11	5	579
1515 - 1530	1	6	0	0	11	11	24	2	319	302	18	1	695
1530 - 1545	4	7	0	0	11	14	21	2	315	296	10	6	686
1545 - 1600	1	9	0	0	9	17	31	1	279	258	15	1	621
1600 - 1615	6	5	0	0	9	12	23	1	325	290	13	2	686
1615 - 1630	7	10	0	0	7	14	12	0	321	245	19	4	639
1630 - 1645	9	14	0	0	15	12	25	8	282	370	22	4	761
1645 - 1700	6	12	0	0	5	11	20	1	238	266	19	3	581
Period End	38	68	0	0	73	99	181	16	2332	2288	127	26	5248

Heavies

	NORTH			WEST			SOUTH			EAST			
	Garner Pl			*Macquarie Links*			*Williamson St*			*Henderson Rd*			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
1500 - 1515	0	1	0	0	0	0	1	0	12	6	0	0	20
1515 - 1530	0	0	0	0	0	1	2	0	13	5	2	0	23
1530 - 1545	0	0	0	0	2	1	1	0	12	5	0	0	21
1545 - 1600	1	0	0	0	1	0	0	1	5	15	0	1	24
1600 - 1615	0	1	0	0	0	1	0	0	12	5	1	0	20
1615 - 1630	0	1	0	0	0	0	0	0	16	6	0	0	23
1630 - 1645	0	0	0	0	0	0	0	0	11	8	0	0	19
1645 - 1700	0	0	0	0	0	0	0	1	10	3	0	0	14
Period End	1	3	0	0	3	3	4	2	91	53	3	1	164

Lights

	NORTH			WEST			SOUTH			EAST			
	Garner Pl			*Macquarie Links*			*Williamson St*			*Henderson Rd*			
Peak Time	L	T	R	L	T	R	L	T	R	L	T	R	TOT
1500 - 1600	10	27	0	0	37	50	101	6	1166	1117	54	13	2581
1515 - 1615	12	27	0	0	40	54	99	6	1238	1146	56	10	2688
1530 - 1630	18	31	0	0	36	57	87	4	1240	1089	57	13	2632
1545 - 1645	23	38	0	0	40	55	91	10	1207	1163	69	11	2707
1600 - 1700	28	41	0	0	36	49	80	10	1166	1171	73	13	2667
PEAK HOUR	23	38	0	0	40	55	91	10	1207	1163	69	11	2707

Heavies

	NORTH			WEST			SOUTH			EAST			
	Garner Pl			*Macquarie Links*			*Williamson St*			*Henderson Rd*			
Peak Time	L	T	R	L	T	R	L	T	R	L	T	R	TOT
1500 - 1600	1	1	0	0	3	2	4	1	42	31	2	1	88
1515 - 1615	1	1	0	0	3	3	3	1	42	30	3	1	88
1530 - 1630	1	2	0	0	3	2	1	1	45	31	1	1	88
1545 - 1645	1	2	0	0	1	1	0	1	44	34	1	1	86
1600 - 1700	0	2	0	0	0	1	0	1	49	22	1	0	76
PEAK HOUR	1	2	0	0	1	1	0	1	44	34	1	1	86

Combined

	NORTH			WEST			SOUTH			EAST			
	Garner Pl			*Macquarie Links*			*Williamson St*			*Henderson Rd*			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
1500 - 1515	4	6	0	0	6	8	26	1	265	267	11	5	599
1515 - 1530	1	6	0	0	11	12	26	2	332	307	20	1	718
1530 - 1545	4	7	0	0	13	15	22	2	327	301	10	6	707
1545 - 1600	2	9	0	0	10	17	31	2	284	273	15	2	645
1600 - 1615	6	6	0	0	9	13	23	1	337	295	14	2	706
1615 - 1630	7	11	0	0	7	14	12	0	337	251	19	4	662

Peds

	NORTH	WEST	SOUTH	EAST	
	Garner Pl	*Macquarie Links*	*Williamson St*	*Henderson Rd*	
Time Per	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	TOT
1500 - 1515					0
1515 - 1530					0
1530 - 1545	*Not*	*Not*	*Not*	*Not*	0
1545 - 1600	*Required*	*Required*	*Required*	*Required*	0
1600 - 1615					0
1615 - 1630					0
	0	0	0	0	

R.O.A.R. DATA

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Client : InTersect Traffic

Job No/Name : 6643 INGLEBURN Traffic Counts

Day/Date : Wednesday 29th November 2017

Lights

Time Per	NORTH Austool Pl L	T	R	WEST Henderson Rd L	T	R	SOUTH Lancaster St L	T	R	EAST Henderson Rd L	T	R	TOT
0700 - 0715	2	2	1	18	103	101	36	8	23	52	152	3	**501**
0715 - 0730	0	2	3	14	118	111	33	5	19	70	180	3	**558**
0730 - 0745	1	1	5	24	135	85	43	1	16	48	207	2	**568**
0745 - 0800	0	2	3	32	176	104	49	3	12	67	206	4	**658**
0800 - 0815	1	1	11	18	207	72	58	4	28	52	200	1	**653**
0815 - 0830	0	2	5	23	280	81	41	3	34	44	186	4	**703**
0830 - 0845	3	4	4	21	252	68	32	1	29	57	215	0	**696**
0845 - 0900	0	8	2	12	208	76	43	3	33	72	180	1	**638**
Period End	7	22	34	162	1489	698	335	28	194	462	1526	18	**4975**

Heavies

Time Per	NORTH Austool Pl L	T	R	WEST Henderson Rd L	T	R	SOUTH Lancaster St L	T	R	EAST Henderson Rd L	T	R	TOT
0700 - 0715	0	1	0	1	3	1	7	0	0	0	3	0	**16**
0715 - 0730	0	0	0	1	1	8	7	0	0	0	3	0	**20**
0730 - 0745	0	0	1	1	1	4	4	0	0	1	5	0	**17**
0745 - 0800	0	0	0	0	3	2	4	2	2	2	3	0	**18**
0800 - 0815	0	1	1	1	4	6	5	0	3	1	1	0	**23**
0815 - 0830	0	1	1	2	4	4	6	0	0	0	1	0	**19**
0830 - 0845	0	0	1	0	5	6	5	0	1	0	2	0	**20**
0845 - 0900	0	1	1	0	1	4	6	0	1	0	1	0	**15**
Period End	0	4	5	6	22	35	44	2	7	4	19	0	**148**

Lights

Peak Time	NORTH Austool Pl L	T	R	WEST Henderson Rd L	T	R	SOUTH Lancaster St L	T	R	EAST Henderson Rd L	T	R	TOT
0700 - 0800	3	7	12	88	532	401	161	17	70	237	745	12	**2285**
0715 - 0815	2	6	22	88	636	372	183	13	75	237	793	10	**2437**
0730 - 0830	2	6	24	97	798	342	191	11	90	211	799	11	**2582**
0745 - 0845	4	9	23	94	925	325	180	11	103	220	807	9	**2710**
0800 - 0900	4	15	22	74	957	297	174	11	124	225	781	6	**2690**
PEAK HOUR	4	9	23	94	925	325	180	11	103	220	807	9	**2710**

Heavies

Peak Time	NORTH Austool Pl L	T	R	WEST Henderson Rd L	T	R	SOUTH Lancaster St L	T	R	EAST Henderson Rd L	T	R	TOT
0700 - 0800	0	1	1	3	8	15	22	2	2	3	14	0	**71**
0715 - 0815	0	1	2	3	9	20	20	2	5	4	12	0	**78**
0730 - 0830	0	2	3	4	12	16	19	2	5	4	10	0	**77**
0745 - 0845	0	2	3	3	16	18	20	2	6	3	7	0	**80**
0800 - 0900	0	3	4	3	14	20	22	0	5	1	5	0	**77**
PEAK HOUR	0	2	3	3	16	18	20	2	6	3	7	0	**80**

Combined

Time Per	NORTH Austool Pl L	T	R	WEST Henderson Rd L	T	R	SOUTH Lancaster St L	T	R	EAST Henderson Rd L	T	R	TOT
0700 - 0715	2	3	1	19	106	102	43	8	23	52	155	3	**517**
0715 - 0730	0	2	3	15	119	119	40	5	19	70	183	3	**578**
0730 - 0745	1	1	6	25	136	89	47	1	16	49	212	2	**585**
0745 - 0800	0	2	3	32	179	106	53	5	14	69	209	4	**676**
0800 - 0815	1	2	12	19	211	78	63	4	31	53	201	1	**676**
0815 - 0830	0	3	6	25	284	85	47	3	34	44	187	4	**722**

Peds

Time Per	NORTH Austool Pl UNCLASSIFIED	WEST Henderson Rd UNCLASSIFIED	SOUTH Lancaster St UNCLASSIFIED	EAST Henderson Rd UNCLASSIFIED	TOT
0700 - 0715					**0**
0715 - 0730					**0**
0730 - 0745	*Not*	*Not*	*Not*	*Not*	**0**
0745 - 0800	*Required*	*Required*	*Required*	*Required*	**0**
0800 - 0815					**0**
0815 - 0830					**0**
	0	0	0	0	

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Client : InTersect Traffic

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Day/Date : Wednesday 29th November 2017

Lights

Time Per	NORTH Austool Pl L	T	R	WEST Henderson Rd L	T	R	SOUTH Lancaster St L	T	R	EAST Henderson Rd L	T	R	TOT
1500 - 1515	9	4	11	1	205	47	88	0	45	35	188	1	634
1515 - 1530	4	5	10	7	243	52	93	0	55	34	202	0	705
1530 - 1545	6	6	14	5	269	46	112	2	70	38	194	1	763
1545 - 1600	3	7	13	5	226	41	96	3	71	44	153	1	663
1600 - 1615	4	6	18	4	224	40	145	5	108	32	148	1	735
1615 - 1630	6	10	15	6	272	38	109	3	78	34	151	2	724
1630 - 1645	5	3	33	3	276	26	133	2	77	28	228	0	814
1645 - 1700	2	2	13	3	216	23	80	0	65	34	191	0	629
Period End	39	43	127	34	1931	313	856	15	569	279	1455	6	5667

Heavies

Time Per	NORTH Austool Pl L	T	R	WEST Henderson Rd L	T	R	SOUTH Lancaster St L	T	R	EAST Henderson Rd L	T	R	TOT
1500 - 1515	0	0	0	3	3	5	5	0	0	0	1	0	17
1515 - 1530	0	2	0	1	3	9	3	0	1	0	4	0	23
1530 - 1545	0	0	4	1	4	10	2	0	0	1	1	0	23
1545 - 1600	0	0	1	0	2	4	7	0	1	0	4	0	19
1600 - 1615	0	0	0	3	5	4	4	0	0	1	2	0	19
1615 - 1630	0	0	0	2	5	7	5	0	0	0	2	0	21
1630 - 1645	0	0	0	2	3	8	6	1	0	1	1	0	22
1645 - 1700	0	0	0	2	1	5	2	0	0	0	1	0	11
Period End	0	2	5	14	26	52	34	1	2	3	16	0	155

Lights

Peak Time	NORTH Austool Pl L	T	R	WEST Henderson Rd L	T	R	SOUTH Lancaster St L	T	R	EAST Henderson Rd L	T	R	TOT
1500 - 1600	22	22	48	18	943	186	389	5	241	151	737	3	2765
1515 - 1615	17	24	55	21	962	179	446	10	304	148	697	3	2866
1530 - 1630	19	29	60	20	991	165	462	13	327	148	646	5	2885
1545 - 1645	18	26	79	18	998	145	483	13	334	138	680	4	2936
1600 - 1700	17	21	79	16	968	127	467	10	328	128	718	3	2902
PEAK HOUR	18	26	79	18	998	145	483	13	334	138	680	4	2936

Heavies

Peak Time	NORTH Austool Pl L	T	R	WEST Henderson Rd L	T	R	SOUTH Lancaster St L	T	R	EAST Henderson Rd L	T	R	TOT
1500 - 1600	0	2	5	5	12	28	17	0	2	1	10	0	82
1515 - 1615	0	2	5	5	14	27	16	0	2	2	11	0	84
1530 - 1630	0	0	5	6	16	25	18	0	1	2	9	0	82
1545 - 1645	0	0	1	7	15	23	22	1	1	2	9	0	81
1600 - 1700	0	0	0	9	14	24	17	1	0	2	6	0	73
PEAK HOUR	0	0	1	7	15	23	22	1	1	2	9	0	81

Combined

Time Per	NORTH Austool Pl L	T	R	WEST Henderson Rd L	T	R	SOUTH Lancaster St L	T	R	EAST Henderson Rd L	T	R	TOT
1500 - 1515	9	4	11	4	208	52	93	0	45	35	189	1	651
1515 - 1530	4	7	10	8	246	61	96	0	56	34	206	0	728
1530 - 1545	6	6	18	6	273	56	114	2	70	39	195	1	786
1545 - 1600	3	7	14	5	228	45	103	3	72	44	157	1	682
1600 - 1615	4	6	18	7	229	44	149	5	108	33	150	1	754
1615 - 1630	6	10	15	8	277	45	114	3	78	34	153	2	745
1630 - 1645	5	3	33	5	279	34	139	3	77	29	229	0	836
1645 - 1700	2	2	13	5	217	28	82	0	65	34	192	0	640
Period End	39	45	132	48	1957	365	890	16	571	282	1471	6	5822

Peds

Time Per	NORTH Austool Pl UNCLASSIFIED	WEST Henderson Rd UNCLASSIFIED	SOUTH Lancaster St UNCLASSIFIED	EAST Henderson Rd UNCLASSIFIED	TOT
1500 - 1515					0
1515 - 1530					0
1530 - 1545	*Not*	*Not*	*Not*	*Not*	0
1545 - 1600	*Required*	*Required*	*Required*	*Required*	0
1600 - 1615					0
1615 - 1630					0
1630 - 1645					0
1645 - 1700					0
Period End	0	0	0	0	0

R.O.A.R. DATA

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Client : InTersect Traffic

Job No/Name : 6643 INGLEBURN Traffic Counts

Day/Date : Wednesday 29th November 2017

	NORTH			WEST			SOUTH			EAST			
	Lancaster St			*Aero Pl*			*Lancaster St*			*Aero Pl*			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0700 - 0715	50	72	20	19	1	1	3	23	3	6	3	6	**207**
0715 - 0730	65	79	17	11	0	1	5	27	2	1	1	14	**223**
0730 - 0745	59	75	21	5	0	2	4	39	4	5	1	25	**240**
0745 - 0800	39	49	21	10	1	0	13	34	0	4	2	25	**198**
0800 - 0815	34	74	30	10	1	5	7	41	3	3	2	24	**234**
0815 - 0830	29	61	27	7	3	2	5	35	4	2	1	18	**194**
0830 - 0845	19	83	23	6	0	5	4	31	1	0	2	14	**188**
0845 - 0900	26	85	32	15	2	6	11	47	2	5	4	18	**253**
Period End	**321**	**578**	**191**	**83**	**8**	**22**	**52**	**277**	**19**	**26**	**16**	**144**	**1737**

Heavies

	NORTH			WEST			SOUTH			EAST			
	Lancaster St			*Aero Pl*			*Lancaster St*			*Aero Pl*			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0700 - 0715	1	4	0	0	0	0	0	5	0	2	0	3	**15**
0715 - 0730	1	3	1	0	0	1	0	4	0	1	0	2	**13**
0730 - 0745	0	2	0	0	0	2	0	6	0	0	0	1	**11**
0745 - 0800	1	2	1	1	0	0	1	4	1	0	0	2	**13**
0800 - 0815	1	3	1	1	0	1	2	5	1	1	0	1	**17**
0815 - 0830	1	4	2	1	0	1	0	4	2	0	0	0	**15**
0830 - 0845	1	6	1	1	0	0	0	5	1	1	0	2	**18**
0845 - 0900	2	1	0	1	0	0	2	5	1	0	1	2	**15**
Period End	**8**	**25**	**6**	**5**	**0**	**5**	**5**	**38**	**6**	**5**	**1**	**13**	**117**

Lights

	NORTH			WEST			SOUTH			EAST			
	Lancaster St			*Aero Pl*			*Lancaster St*			*Aero Pl*			
Peak Time	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0700 - 0800	213	275	79	45	2	4	25	123	9	16	7	70	**868**
0715 - 0815	197	277	89	36	2	8	29	141	9	13	6	88	**895**
0730 - 0830	161	259	99	32	5	9	29	149	11	14	6	92	**866**
0745 - 0845	121	267	101	33	5	12	29	141	8	9	7	81	**814**
0800 - 0900	108	303	112	38	6	18	27	154	10	10	9	74	**869**
PEAK HOUR	**197**	**277**	**89**	**36**	**2**	**8**	**29**	**141**	**9**	**13**	**6**	**88**	**895**

Heavies

	NORTH			WEST			SOUTH			EAST			
	Lancaster St			*Aero Pl*			*Lancaster St*			*Aero Pl*			
Peak Time	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0700 - 0800	3	11	2	1	0	3	1	19	1	3	0	8	**52**
0715 - 0815	3	10	3	2	0	4	3	19	2	2	0	6	**54**
0730 - 0830	3	11	4	3	0	4	3	19	4	1	0	4	**56**
0745 - 0845	4	15	5	4	0	2	3	18	5	2	0	5	**63**
0800 - 0900	5	14	4	4	0	2	4	19	5	2	1	5	**65**
PEAK HOUR	**3**	**10**	**3**	**2**	**0**	**4**	**3**	**19**	**2**	**2**	**0**	**6**	**54**

Combined

	NORTH			WEST			SOUTH			EAST			
	Lancaster St			*Aero Pl*			*Lancaster St*			*Aero Pl*			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0700 - 0715	51	76	20	19	1	1	3	28	3	8	3	9	**222**
0715 - 0730	66	82	18	11	0	2	5	31	2	2	1	16	**236**
0730 - 0745	59	77	21	5	0	4	4	45	4	5	1	26	**251**
0745 - 0800	40	51	22	11	1	0	14	38	1	4	2	27	**211**
0800 - 0815	35	77	31	11	1	6	9	46	4	4	2	25	**251**
0815 - 0830	30	65	29	8	3	3	5	39	6	2	1	18	**209**

Peds

	NORTH	WEST	SOUTH	EAST	
	Lancaster St	*Aero Pl*	*Lancaster St*	*Aero Pl*	
Time Per	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	TOT
0700 - 0715					**0**
0715 - 0730					**0**
0730 - 0745	*Not*	*Not*	*Not*	*Not*	**0**
0745 - 0800	*Required*	*Required*	*Required*	*Required*	**0**
0800 - 0815					**0**
0815 - 0830					**0**
	0	0	0	0	

R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

Client : InTersect Traffic
Job No/Name : 6643 INGLEBURN Traffic Counts
Day/Date : Wednesday 29th November 2017

	NORTH			WEST			SOUTH			EAST			
	Lancaster St			*Aero Pl*			*Lancaster St*			*Aero Pl*			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
1500 - 1515	23	54	8	23	2	7	2	66	3	11	2	35	**236**
1515 - 1530	25	58	19	15	0	7	3	83	7	6	1	29	**253**
1530 - 1545	19	54	8	21	0	9	2	90	2	17	2	57	**281**
1545 - 1600	12	55	20	16	2	5	1	83	1	4	2	39	**240**
1600 - 1615	22	57	11	38	0	4	3	113	6	4	0	58	**316**
1615 - 1630	16	46	11	32	0	0	3	86	2	7	1	47	**251**
1630 - 1645	15	36	12	24	1	4	2	89	1	5	1	52	**242**
1645 - 1700	17	37	10	28	2	5	1	74	1	9	2	32	**218**
Period End	**149**	**397**	**99**	**197**	**7**	**41**	**17**	**684**	**23**	**63**	**11**	**349**	**2037**

Heavies

	NORTH			WEST			SOUTH			EAST			
	Lancaster St			*Aero Pl*			*Lancaster St*			*Aero Pl*			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
1500 - 1515	2	4	2	1	0	0	0	6	2	2	0	2	**21**
1515 - 1530	0	5	0	1	0	2	0	5	0	0	1	1	**15**
1530 - 1545	3	5	1	0	0	0	0	5	1	1	0	1	**17**
1545 - 1600	2	5	1	0	0	0	0	5	0	2	0	2	**17**
1600 - 1615	3	6	1	1	0	0	0	3	2	1	0	4	**21**
1615 - 1630	3	3	0	0	0	1	0	5	0	1	0	1	**14**
1630 - 1645	4	3	0	0	0	0	1	2	0	0	0	2	**12**
1645 - 1700	1	2	1	0	0	0	0	1	0	0	0	1	**6**
Period End	**18**	**33**	**6**	**3**	**0**	**3**	**1**	**32**	**5**	**7**	**1**	**14**	**123**

Lights

	NORTH			WEST			SOUTH			EAST			
	Lancaster St			*Aero Pl*			*Lancaster St*			*Aero Pl*			
Peak Time	L	T	R	L	T	R	L	T	R	L	T	R	TOT
1500 - 1600	79	221	55	75	4	28	8	322	13	38	7	160	**1010**
1515 - 1615	78	224	58	90	2	25	9	369	16	31	5	183	**1090**
1530 - 1630	69	212	50	107	2	18	9	372	11	32	5	201	**1088**
1545 - 1645	65	194	54	110	3	13	9	371	10	20	4	196	**1049**
1600 - 1700	70	176	44	122	3	13	9	362	10	25	4	189	**1027**
PEAK HOUR	**78**	**224**	**58**	**90**	**2**	**25**	**9**	**369**	**16**	**31**	**5**	**183**	**1090**

Heavies

	NORTH			WEST			SOUTH			EAST			
	Lancaster St			*Aero Pl*			*Lancaster St*			*Aero Pl*			
Peak Time	L	T	R	L	T	R	L	T	R	L	T	R	TOT
1500 - 1600	7	19	4	2	0	2	0	21	3	5	1	6	**70**
1515 - 1615	8	21	3	2	0	2	0	18	3	4	1	8	**70**
1530 - 1630	11	19	3	1	0	1	0	18	3	5	0	8	**69**
1545 - 1645	12	17	2	1	0	1	1	15	2	4	0	9	**64**
1600 - 1700	11	14	2	1	0	1	1	11	2	2	0	8	**53**
PEAK HOUR	**8**	**21**	**3**	**2**	**0**	**2**	**0**	**18**	**3**	**4**	**1**	**8**	**70**

Combined

	NORTH			WEST			SOUTH			EAST			
	Lancaster St			*Aero Pl*			*Lancaster St*			*Aero Pl*			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
1500 - 1515	25	58	10	24	2	7	2	72	5	13	2	37	**257**
1515 - 1530	25	63	19	16	0	9	3	88	7	6	2	30	**268**
1530 - 1545	22	59	9	21	0	9	2	95	3	18	2	58	**298**
1545 - 1600	14	60	21	16	2	5	1	88	1	6	2	41	**257**
1600 - 1615	25	63	12	39	0	4	3	116	8	5	0	62	**337**
1615 - 1630	19	49	11	32	0	1	3	91	2	8	1	48	**265**

Peds

	NORTH	WEST	SOUTH	EAST	
	Lancaster St	*Aero Pl*	*Lancaster St*	*Aero Pl*	
Time Per	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	TOT
1500 - 1515					**0**
1515 - 1530					**0**
1530 - 1545	*Not*	*Not*	*Not*	*Not*	**0**
1545 - 1600	*Required*	*Required*	*Required*	*Required*	**0**
1600 - 1615					**0**
1615 - 1630					**0**
	0	0	0	0	

ATTACHMENT B
SIDRA MOVEMENT SUMMARY TABLE

MOVEMENT SUMMARY

Site: 101 [2018AM + dev]

Brooks Road / Williamson Road, Ingleburn
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Williamson												
1	L2	364	20.1	0.436	7.1	LOS A	3.4	27.2	0.74	0.73	0.74	51.6
2	T1	468	6.4	0.436	7.1	LOS A	3.4	27.2	0.75	0.71	0.75	50.8
3u	U	1	0.0	0.436	13.7	LOS A	3.3	24.1	0.75	0.71	0.75	54.2
Approach		833	12.4	0.436	7.1	LOS A	3.4	27.2	0.75	0.72	0.75	51.2
North: Williamson												
8	T1	384	5.7	0.438	7.6	LOS A	3.5	26.0	0.78	0.76	0.78	51.0
9	R2	428	8.4	0.438	11.7	LOS A	3.5	26.0	0.78	0.79	0.78	47.6
9u	U	1	0.0	0.438	13.5	LOS A	3.5	26.0	0.78	0.79	0.78	46.1
Approach		813	7.1	0.438	9.7	LOS A	3.5	26.0	0.78	0.78	0.78	49.2
West: Brooks												
10	L2	791	5.6	0.777	10.0	LOS A	9.2	67.6	0.88	1.00	1.16	47.2
12	R2	483	10.8	0.598	13.3	LOS A	4.6	35.1	0.75	0.94	0.88	49.4
12u	U	1	0.0	0.598	14.9	LOS B	4.6	35.1	0.75	0.94	0.88	50.2
Approach		1275	7.5	0.777	11.3	LOS A	9.2	67.6	0.83	0.97	1.05	48.2
All Vehicles		2921	8.8	0.777	9.6	LOS A	9.2	67.6	0.79	0.85	0.89	49.3

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

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: Monday, 8 October 2018 4:45:57 PM
Project: C:\Work Documents\Projects\2017\17.164 - Kerr Road Ingleburn - Resource Recovery Expansion\Sidra\Brooks_Williamson\Brooks_Williamson.sip8

MOVEMENT SUMMARY

Site: 101 [2028AM + dev]

Brooks Road / Williamson Road, Ingleburn
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Williamson												
1	L2	400	20.0	0.508	7.9	LOS A	4.4	35.5	0.82	0.80	0.86	51.3
2	T1	514	6.2	0.508	8.1	LOS A	4.4	35.5	0.82	0.82	0.88	50.4
3u	U	1	0.0	0.508	14.8	LOS B	4.3	31.8	0.82	0.82	0.88	53.9
Approach		915	12.2	0.508	8.0	LOS A	4.4	35.5	0.82	0.81	0.87	50.8
North: Williamson												
8	T1	422	5.7	0.516	9.1	LOS A	4.7	35.2	0.86	0.88	0.95	50.5
9	R2	471	8.3	0.516	12.8	LOS A	4.7	35.2	0.86	0.86	0.92	47.0
9u	U	1	0.0	0.516	14.6	LOS B	4.7	35.2	0.86	0.86	0.92	45.4
Approach		894	7.0	0.516	11.1	LOS A	4.7	35.2	0.86	0.87	0.93	48.7
West: Brooks												
10	L2	869	5.4	0.889	15.1	LOS B	15.3	112.3	1.00	1.25	1.67	43.2
12	R2	531	10.7	0.689	14.9	LOS B	6.2	47.2	0.83	1.04	1.07	48.3
12u	U	1	0.0	0.689	16.5	LOS B	6.2	47.2	0.83	1.04	1.07	49.0
Approach		1401	7.4	0.889	15.0	LOS B	15.3	112.3	0.94	1.17	1.44	45.4
All Vehicles		3210	8.7	0.889	11.9	LOS A	15.3	112.3	0.88	0.98	1.14	47.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [2018PM + dev]

Brooks Road / Williamson Road, Ingleburn
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Williamson												
1	L2	400	9.0	0.536	9.6	LOS A	5.2	39.4	0.94	0.93	1.05	50.4
2	T1	413	4.1	0.536	10.7	LOS A	5.2	39.4	0.93	0.96	1.07	49.1
3u	U	1	0.0	0.536	17.3	LOS B	4.9	35.6	0.93	0.97	1.07	52.5
Approach		814	6.5	0.536	10.2	LOS A	5.2	39.4	0.93	0.95	1.06	49.8
North: Williamson												
8	T1	506	5.3	0.626	10.9	LOS A	6.5	47.5	0.90	0.96	1.11	49.2
9	R2	637	7.1	0.650	14.6	LOS B	7.5	55.7	0.92	0.95	1.11	45.5
9u	U	1	0.0	0.650	16.5	LOS B	7.5	55.7	0.92	0.95	1.11	43.4
Approach		1144	6.3	0.650	13.0	LOS A	7.5	55.7	0.91	0.96	1.11	47.1
West: Brooks												
10	L2	653	7.4	0.641	7.6	LOS A	5.8	43.1	0.76	0.83	0.87	49.2
12	R2	512	12.7	0.591	12.5	LOS A	4.7	36.5	0.74	0.89	0.84	49.9
12u	U	1	0.0	0.591	14.2	LOS A	4.7	36.5	0.74	0.89	0.84	50.8
Approach		1166	9.7	0.641	9.8	LOS A	5.8	43.1	0.75	0.86	0.86	49.5
All Vehicles		3124	7.6	0.650	11.0	LOS A	7.5	55.7	0.86	0.92	1.00	48.7

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.

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: Monday, 8 October 2018 4:46:28 PM
Project: C:\Work Documents\Projects\2017\17.164 - Kerr Road Ingleburn - Resource Recovery Expansion\Sidra\Brooks_Williamson\Brooks_Williamson.sip8

MOVEMENT SUMMARY

Site: 101 [2028PM + dev]

Brooks Road / Williamson Road, Ingleburn
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Williamson												
1	L2	440	9.1	0.661	13.3	LOS A	8.0	59.9	1.00	1.07	1.30	47.8
2	T1	454	4.0	0.661	14.8	LOS B	8.0	59.9	1.00	1.11	1.33	45.8
3u	U	1	0.0	0.661	21.5	LOS B	7.3	52.7	1.00	1.12	1.33	49.6
Approach		895	6.5	0.661	14.1	LOS A	8.0	59.9	1.00	1.09	1.31	46.9
North: Williamson												
8	T1	556	5.2	0.745	15.2	LOS B	9.8	71.7	1.00	1.15	1.44	45.7
9	R2	700	7.0	0.768	18.8	LOS B	11.6	86.1	1.00	1.11	1.44	42.5
9u	U	1	0.0	0.768	20.7	LOS B	11.6	86.1	1.00	1.11	1.44	39.8
Approach		1257	6.2	0.768	17.2	LOS B	11.6	86.1	1.00	1.13	1.44	43.9
West: Brooks												
10	L2	718	7.2	0.732	9.1	LOS A	7.9	59.0	0.86	0.94	1.07	47.8
12	R2	563	12.8	0.679	14.0	LOS A	6.3	49.0	0.83	0.98	1.01	48.9
12u	U	1	0.0	0.679	15.6	LOS B	6.3	49.0	0.83	0.98	1.01	49.7
Approach		1282	9.7	0.732	11.3	LOS A	7.9	59.0	0.85	0.96	1.04	48.4
All Vehicles		3434	7.6	0.768	14.2	LOS A	11.6	86.1	0.94	1.05	1.26	46.4

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.

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: Monday, 8 October 2018 4:46:30 PM
Project: C:\Work Documents\Projects\2017\17.164 - Kerr Road Ingleburn - Resource Recovery Expansion\Sidra\Brooks_Williamson \Brooks_Williamson.sip8

MOVEMENT SUMMARY

Site: 101 [2018AM + dev]

Williamson Road / MacDonald Road, Ingleburn
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Williamson												
1	L2	110	12.7	0.577	7.1	LOS A	5.1	38.1	0.72	0.70	0.75	49.5
2	T1	1137	5.4	0.577	7.3	LOS A	5.1	38.1	0.73	0.72	0.78	51.5
3	R2	20	10.0	0.577	12.5	LOS A	5.1	37.6	0.74	0.75	0.81	32.6
3u	U	1	0.0	0.577	14.3	LOS A	5.1	37.6	0.74	0.75	0.81	49.7
Approach		1268	6.1	0.577	7.4	LOS A	5.1	38.1	0.73	0.72	0.78	51.1
East: Private access												
4	L2	10	50.0	0.030	6.8	LOS A	0.1	1.0	0.65	0.77	0.65	32.1
5	T1	1	0.0	0.030	5.5	LOS A	0.1	1.0	0.65	0.77	0.65	49.3
6	R2	2	0.0	0.030	9.5	LOS A	0.1	1.0	0.65	0.77	0.65	49.3
6u	U	1	0.0	0.030	11.5	LOS A	0.1	1.0	0.65	0.77	0.65	11.4
Approach		14	35.7	0.030	7.4	LOS A	0.1	1.0	0.65	0.77	0.65	35.4
North: Williamson Road												
7	L2	6	0.0	0.411	4.9	LOS A	3.2	23.6	0.44	0.48	0.44	40.3
8	T1	735	6.0	0.411	5.0	LOS A	3.2	23.6	0.44	0.51	0.44	52.0
9	R2	358	3.1	0.411	9.7	LOS A	3.1	22.6	0.46	0.61	0.46	52.6
9u	U	1	0.0	0.411	11.8	LOS A	3.1	22.6	0.46	0.61	0.46	53.7
Approach		1100	5.0	0.411	6.5	LOS A	3.2	23.6	0.45	0.54	0.45	52.2
West: MacDonald Road												
10	L2	394	3.0	0.554	8.9	LOS A	3.5	25.4	0.83	0.97	1.00	51.6
11	T1	5	0.0	0.283	8.9	LOS A	1.2	9.2	0.74	0.91	0.75	37.2
12	R2	116	10.3	0.283	14.1	LOS A	1.2	9.2	0.74	0.91	0.75	46.1
12u	U	1	0.0	0.283	15.6	LOS B	1.2	9.2	0.74	0.91	0.75	50.6
Approach		516	4.7	0.554	10.1	LOS A	3.5	25.4	0.80	0.96	0.94	50.4
All Vehicles		2898	5.6	0.577	7.5	LOS A	5.1	38.1	0.64	0.69	0.68	51.3

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

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: Monday, 8 October 2018 4:24:55 PM
Project: C:\Work Documents\Projects\2017\17.164 - Kerr Road Ingleburn - Resource Recovery Expansion\Sidra\Williamson_MacDonald\Williamson_MacDonald.sip8

MOVEMENT SUMMARY

Site: 101 [2028AM + dev]

Williamson Road / MacDonald Road, Ingleburn
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Williamson												
1	L2	121	12.4	0.650	8.4	LOS A	7.1	52.0	0.81	0.79	0.92	49.0
2	T1	1239	4.4	0.650	8.7	LOS A	7.1	52.0	0.82	0.82	0.95	50.9
3	R2	22	9.1	0.650	14.1	LOS A	6.9	50.3	0.83	0.85	0.98	31.9
3u	U	1	0.0	0.650	15.8	LOS B	6.9	50.3	0.83	0.85	0.98	48.8
Approach		1383	5.2	0.650	8.8	LOS A	7.1	52.0	0.82	0.82	0.94	50.5
East: Private access												
4	L2	11	45.5	0.034	7.2	LOS A	0.1	1.2	0.68	0.80	0.68	32.4
5	T1	1	0.0	0.034	6.0	LOS A	0.1	1.2	0.68	0.80	0.68	48.9
6	R2	2	0.0	0.034	9.9	LOS A	0.1	1.2	0.68	0.80	0.68	48.9
6u	U	1	0.0	0.034	12.0	LOS A	0.1	1.2	0.68	0.80	0.68	11.0
Approach		15	33.3	0.034	7.8	LOS A	0.1	1.2	0.68	0.80	0.68	35.3
North: Williamson Road												
7	L2	7	0.0	0.464	5.1	LOS A	3.9	28.3	0.50	0.51	0.50	40.0
8	T1	808	5.8	0.464	5.2	LOS A	3.9	28.3	0.51	0.53	0.51	51.7
9	R2	394	3.0	0.464	10.0	LOS A	3.7	27.1	0.53	0.63	0.53	52.4
9u	U	1	0.0	0.464	12.0	LOS A	3.7	27.1	0.53	0.63	0.53	53.5
Approach		1210	4.9	0.464	6.8	LOS A	3.9	28.3	0.51	0.56	0.51	51.9
West: MacDonald Road												
10	L2	473	2.7	0.729	11.8	LOS A	5.7	40.8	0.91	1.08	1.29	49.6
11	T1	6	0.0	0.368	9.9	LOS A	1.7	13.0	0.78	0.95	0.87	36.5
12	R2	139	9.4	0.368	15.2	LOS B	1.7	13.0	0.78	0.95	0.87	45.5
12u	U	1	0.0	0.368	16.7	LOS B	1.7	13.0	0.78	0.95	0.87	49.9
Approach		619	4.2	0.729	12.5	LOS A	5.7	40.8	0.88	1.05	1.19	48.7
All Vehicles		3227	5.0	0.729	8.7	LOS A	7.1	52.0	0.72	0.77	0.83	50.6

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

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Project: C:\Work Documents\Projects\2017\17.164 - Kerr Road Ingleburn - Resource Recovery Expansion\Sidra\Williamson_MacDonald\Williamson_MacDonald.sip8

MOVEMENT SUMMARY

Site: 101 [2018PM + dev]

Williamson Road / MacDonald Road, Ingleburn
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Williamson												
1	L2	82	2.4	0.515	6.9	LOS A	4.2	30.5	0.73	0.70	0.75	49.9
2	T1	972	6.1	0.515	7.5	LOS A	4.2	30.5	0.74	0.73	0.77	51.4
3	R2	5	20.0	0.515	13.1	LOS A	4.1	30.3	0.75	0.77	0.80	32.6
3u	U	1	0.0	0.515	14.4	LOS A	4.1	30.3	0.75	0.77	0.80	49.8
Approach		1060	5.8	0.515	7.4	LOS A	4.2	30.5	0.74	0.73	0.77	51.3
East: Private access												
4	L2	9	0.0	0.022	5.8	LOS A	0.1	0.6	0.68	0.76	0.68	42.2
5	T1	1	0.0	0.022	6.4	LOS A	0.1	0.6	0.68	0.76	0.68	50.8
6	R2	1	0.0	0.022	10.3	LOS A	0.1	0.6	0.68	0.76	0.68	50.8
6u	U	1	0.0	0.022	12.3	LOS A	0.1	0.6	0.68	0.76	0.68	11.0
Approach		12	0.0	0.022	6.8	LOS A	0.1	0.6	0.68	0.76	0.68	42.2
North: Williamson Road												
7	L2	6	0.0	0.506	4.7	LOS A	4.6	33.5	0.42	0.45	0.42	40.4
8	T1	991	5.1	0.506	4.8	LOS A	4.6	33.5	0.42	0.48	0.42	52.2
9	R2	433	3.0	0.506	9.5	LOS A	4.5	32.5	0.44	0.58	0.44	52.8
9u	U	1	0.0	0.506	11.6	LOS A	4.5	32.5	0.44	0.58	0.44	53.9
Approach		1431	4.5	0.506	6.3	LOS A	4.6	33.5	0.43	0.51	0.43	52.4
West: MacDonald Road												
10	L2	407	2.2	0.515	8.0	LOS A	3.2	22.8	0.78	0.93	0.91	52.3
11	T1	2	0.0	0.220	8.7	LOS A	0.9	6.8	0.70	0.89	0.70	37.3
12	R2	93	9.7	0.220	13.9	LOS A	0.9	6.8	0.70	0.89	0.70	46.3
12u	U	1	0.0	0.220	15.4	LOS B	0.9	6.8	0.70	0.89	0.70	50.7
Approach		503	3.6	0.515	9.1	LOS A	3.2	22.8	0.76	0.93	0.87	51.2
All Vehicles		3006	4.8	0.515	7.2	LOS A	4.6	33.5	0.60	0.66	0.62	51.8

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

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Project: C:\Work Documents\Projects\2017\17.164 - Kerr Road Ingleburn - Resource Recovery Expansion\Sidra\Williamson_MacDonald\Williamson_MacDonald.sip8

MOVEMENT SUMMARY

Site: 101 [2028PM + dev]

Williamson Road / MacDonald Road, Ingleburn
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Williamson												
1	L2	90	2.2	0.591	8.3	LOS A	5.8	42.5	0.81	0.82	0.92	49.4
2	T1	1068	5.9	0.591	8.9	LOS A	5.8	42.5	0.82	0.84	0.94	50.8
3	R2	6	16.7	0.591	14.6	LOS B	5.6	41.2	0.83	0.87	0.97	31.7
3u	U	1	0.0	0.591	16.0	LOS B	5.6	41.2	0.83	0.87	0.97	48.6
Approach		1165	5.7	0.591	8.9	LOS A	5.8	42.5	0.82	0.84	0.94	50.6
East: Private access												
4	L2	10	0.0	0.026	6.4	LOS A	0.1	0.8	0.72	0.79	0.72	41.3
5	T1	1	0.0	0.026	6.9	LOS A	0.1	0.8	0.72	0.79	0.72	50.1
6	R2	1	0.0	0.026	10.8	LOS A	0.1	0.8	0.72	0.79	0.72	50.2
6u	U	1	0.0	0.026	12.9	LOS A	0.1	0.8	0.72	0.79	0.72	10.7
Approach		13	0.0	0.026	7.3	LOS A	0.1	0.8	0.72	0.79	0.72	41.4
North: Williamson Road												
7	L2	7	0.0	0.561	4.9	LOS A	5.5	40.1	0.47	0.47	0.47	40.1
8	T1	1087	4.9	0.561	5.0	LOS A	5.5	40.1	0.48	0.50	0.48	51.9
9	R2	476	2.9	0.561	9.7	LOS A	5.4	38.8	0.50	0.58	0.50	52.6
9u	U	1	0.0	0.561	11.8	LOS A	5.4	38.8	0.50	0.58	0.50	53.8
Approach		1571	4.3	0.561	6.4	LOS A	5.5	40.1	0.49	0.52	0.49	52.1
West: MacDonald Road												
10	L2	448	2.2	0.618	9.3	LOS A	4.3	30.8	0.85	1.00	1.07	51.4
11	T1	2	0.0	0.262	9.0	LOS A	1.1	8.4	0.73	0.91	0.73	37.0
12	R2	102	9.8	0.262	14.3	LOS A	1.1	8.4	0.73	0.91	0.73	46.0
12u	U	1	0.0	0.262	15.7	LOS B	1.1	8.4	0.73	0.91	0.73	50.4
Approach		553	3.6	0.618	10.2	LOS A	4.3	30.8	0.83	0.98	1.01	50.4
All Vehicles		3302	4.6	0.618	7.9	LOS A	5.8	42.5	0.66	0.71	0.73	51.3

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

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MOVEMENT SUMMARY

Site: 101 [2018AM + dev]

Williamson Road / Henderson Road / Macquarie Links Road / Garner Place
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Williamson Road												
1	L2	41	4.9	0.441	3.7	LOS A	3.5	25.0	0.23	0.58	0.23	51.5
2	T1	6	0.0	0.441	3.7	LOS A	3.5	25.0	0.23	0.58	0.23	52.6
3	R2	1353	4.2	0.441	9.4	LOS A	3.5	25.0	0.24	0.58	0.24	53.2
3u	U	1	0.0	0.441	11.8	LOS A	3.4	24.9	0.26	0.59	0.26	54.6
Approach		1401	4.2	0.441	9.3	LOS A	3.5	25.0	0.24	0.58	0.24	53.2
East: Henderson Road												
4	L2	993	3.9	0.640	4.3	LOS A	6.9	49.8	0.57	0.51	0.57	54.6
5	T1	38	2.6	0.032	3.4	LOS A	0.2	1.3	0.32	0.43	0.32	56.1
6	R2	10	0.0	0.032	9.6	LOS A	0.2	1.3	0.32	0.43	0.32	56.2
6u	U	1	0.0	0.032	11.9	LOS A	0.2	1.3	0.32	0.43	0.32	57.9
Approach		1042	3.8	0.640	4.3	LOS A	6.9	49.8	0.56	0.51	0.56	54.7
North: Garner Place												
7	L2	8	25.0	0.041	9.7	LOS A	0.2	1.3	0.68	0.78	0.68	50.3
8	T1	12	8.3	0.041	8.7	LOS A	0.2	1.3	0.68	0.78	0.68	52.5
9	R2	1	0.0	0.041	14.0	LOS A	0.2	1.3	0.68	0.78	0.68	52.9
9u	U	1	0.0	0.041	16.4	LOS B	0.2	1.3	0.68	0.78	0.68	53.8
Approach		22	13.6	0.041	9.6	LOS A	0.2	1.3	0.68	0.78	0.68	51.7
West: Macquarie Links Drive												
10	L2	2	0.0	0.389	9.0	LOS A	1.9	13.4	0.73	0.92	0.84	48.9
11	T1	110	1.8	0.389	9.2	LOS A	1.9	13.4	0.73	0.92	0.84	51.2
12	R2	142	0.7	0.389	14.5	LOS B	1.9	13.4	0.73	0.92	0.84	51.5
12u	U	1	0.0	0.389	16.9	LOS B	1.9	13.4	0.73	0.92	0.84	52.7
Approach		255	1.2	0.389	12.2	LOS A	1.9	13.4	0.73	0.92	0.84	51.4
All Vehicles		2720	3.9	0.640	7.6	LOS A	6.9	49.8	0.41	0.59	0.42	53.5

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

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MOVEMENT SUMMARY

Site: 101 [2028AM + dev]

Williamson Road / Henderson Road / Macquarie Links Road / Garner Place
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Williamson Road												
1	L2	45	4.4	0.487	3.8	LOS A	4.1	29.5	0.26	0.58	0.26	51.4
2	T1	7	0.0	0.487	3.7	LOS A	4.1	29.5	0.26	0.58	0.26	52.5
3	R2	1486	4.0	0.487	9.5	LOS A	4.1	29.5	0.27	0.58	0.27	53.1
3u	U	1	0.0	0.487	11.9	LOS A	4.0	29.3	0.29	0.58	0.29	54.4
Approach		1539	4.0	0.487	9.3	LOS A	4.1	29.5	0.27	0.58	0.27	53.1
East: Henderson Road												
4	L2	1092	3.8	0.714	4.5	LOS A	8.6	61.9	0.67	0.54	0.67	54.3
5	T1	42	2.4	0.036	3.5	LOS A	0.2	1.5	0.34	0.43	0.34	56.1
6	R2	11	0.0	0.036	9.7	LOS A	0.2	1.5	0.34	0.43	0.34	56.1
6u	U	1	0.0	0.036	12.0	LOS A	0.2	1.5	0.34	0.43	0.34	57.9
Approach		1146	3.8	0.714	4.5	LOS A	8.6	61.9	0.65	0.54	0.65	54.4
North: Garner Place												
7	L2	9	22.2	0.048	10.5	LOS A	0.2	1.6	0.72	0.81	0.72	49.8
8	T1	13	7.7	0.048	9.5	LOS A	0.2	1.6	0.72	0.81	0.72	51.8
9	R2	1	0.0	0.048	14.9	LOS B	0.2	1.6	0.72	0.81	0.72	52.2
9u	U	1	0.0	0.048	17.2	LOS B	0.2	1.6	0.72	0.81	0.72	53.0
Approach		24	12.5	0.048	10.4	LOS A	0.2	1.6	0.72	0.81	0.72	51.1
West: Macquarie Links Drive												
10	L2	2	0.0	0.459	10.3	LOS A	2.4	17.2	0.77	0.96	0.97	47.9
11	T1	121	1.7	0.459	10.6	LOS A	2.4	17.2	0.77	0.96	0.97	50.2
12	R2	156	0.6	0.459	15.9	LOS B	2.4	17.2	0.77	0.96	0.97	50.6
12u	U	1	0.0	0.459	18.2	LOS B	2.4	17.2	0.77	0.96	0.97	51.7
Approach		280	1.1	0.459	13.6	LOS A	2.4	17.2	0.77	0.96	0.97	50.4
All Vehicles		2989	3.7	0.714	7.9	LOS A	8.6	61.9	0.47	0.60	0.49	53.3

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

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MOVEMENT SUMMARY

Site: 101 [2018PM + dev]

Williamson Road / Henderson Road / Macquarie Links Road / Garner Place
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Williamson Road												
1	L2	91	0.0	0.443	3.8	LOS A	3.3	24.2	0.30	0.58	0.30	51.7
2	T1	11	9.1	0.443	3.9	LOS A	3.3	24.2	0.30	0.58	0.30	52.6
3	R2	1257	4.2	0.443	9.6	LOS A	3.3	24.2	0.31	0.59	0.31	53.1
3u	U	1	0.0	0.443	12.0	LOS A	3.3	24.1	0.33	0.60	0.33	54.3
Approach		1360	4.0	0.443	9.2	LOS A	3.3	24.2	0.31	0.59	0.31	53.0
East: Henderson Road												
4	L2	1217	4.3	0.735	4.1	LOS A	9.6	69.4	0.51	0.46	0.51	54.9
5	T1	70	1.4	0.052	3.3	LOS A	0.3	2.0	0.24	0.39	0.24	56.9
6	R2	12	8.3	0.052	9.6	LOS A	0.3	2.0	0.24	0.39	0.24	56.7
6u	U	1	0.0	0.052	11.8	LOS A	0.3	2.0	0.24	0.39	0.24	58.8
Approach		1300	4.2	0.735	4.1	LOS A	9.6	69.4	0.50	0.45	0.50	55.0
North: Garner Place												
7	L2	24	4.2	0.105	7.7	LOS A	0.4	3.1	0.66	0.78	0.66	52.1
8	T1	40	5.0	0.105	7.5	LOS A	0.4	3.1	0.66	0.78	0.66	54.0
9	R2	1	0.0	0.105	13.1	LOS A	0.4	3.1	0.66	0.78	0.66	54.4
9u	U	1	0.0	0.105	15.4	LOS B	0.4	3.1	0.66	0.78	0.66	55.5
Approach		66	4.5	0.105	7.8	LOS A	0.4	3.1	0.66	0.78	0.66	53.3
West: Macquarie Links Drive												
10	L2	1	0.0	0.150	7.3	LOS A	0.6	4.4	0.66	0.84	0.66	49.9
11	T1	41	2.4	0.150	7.6	LOS A	0.6	4.4	0.66	0.84	0.66	52.1
12	R2	56	1.8	0.150	12.9	LOS A	0.6	4.4	0.66	0.84	0.66	52.5
12u	U	1	0.0	0.150	15.2	LOS B	0.6	4.4	0.66	0.84	0.66	53.8
Approach		99	2.0	0.150	10.7	LOS A	0.6	4.4	0.66	0.84	0.66	52.3
All Vehicles		2825	4.0	0.735	6.9	LOS A	9.6	69.4	0.42	0.54	0.42	53.9

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

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: Monday, 8 October 2018 4:20:48 PM
Project: C:\Work Documents\Projects\2017\17.164 - Kerr Road Ingleburn - Resource Recovery Expansion\Sidra\Williamson_Henderson\Williamson_Henderson.sip8

MOVEMENT SUMMARY

Site: 101 [2028PM + dev]

Williamson Road / Henderson Road / Macquarie Links Road / Garner Place
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Williamson Road												
1	L2	100	0.0	0.491	3.9	LOS A	3.9	28.5	0.33	0.58	0.33	51.6
2	T1	12	8.3	0.491	4.0	LOS A	3.9	28.5	0.33	0.58	0.33	52.5
3	R2	1382	4.1	0.491	9.7	LOS A	3.9	28.5	0.35	0.59	0.35	53.0
3u	U	1	0.0	0.491	12.1	LOS A	3.9	28.3	0.37	0.60	0.37	54.1
Approach		1495	3.9	0.491	9.3	LOS A	3.9	28.5	0.35	0.59	0.35	52.9
East: Henderson Road												
4	L2	1337	4.1	0.814	4.4	LOS A	13.3	96.5	0.64	0.48	0.64	54.4
5	T1	77	1.3	0.057	3.3	LOS A	0.3	2.2	0.25	0.39	0.25	56.9
6	R2	13	7.7	0.057	9.6	LOS A	0.3	2.2	0.25	0.39	0.25	56.6
6u	U	1	0.0	0.057	11.8	LOS A	0.3	2.2	0.25	0.39	0.25	58.7
Approach		1428	4.0	0.814	4.4	LOS A	13.3	96.5	0.61	0.48	0.61	54.6
North: Garner Place												
7	L2	26	3.8	0.123	8.2	LOS A	0.5	3.7	0.69	0.81	0.69	51.9
8	T1	44	4.5	0.123	8.0	LOS A	0.5	3.7	0.69	0.81	0.69	53.7
9	R2	1	0.0	0.123	13.6	LOS A	0.5	3.7	0.69	0.81	0.69	54.0
9u	U	1	0.0	0.123	15.9	LOS B	0.5	3.7	0.69	0.81	0.69	55.1
Approach		72	4.2	0.123	8.3	LOS A	0.5	3.7	0.69	0.81	0.69	53.0
West: Macquarie Links Drive												
10	L2	1	0.0	0.177	7.8	LOS A	0.7	5.3	0.69	0.86	0.69	49.6
11	T1	45	2.2	0.177	8.1	LOS A	0.7	5.3	0.69	0.86	0.69	51.9
12	R2	62	1.6	0.177	13.4	LOS A	0.7	5.3	0.69	0.86	0.69	52.2
12u	U	1	0.0	0.177	15.7	LOS B	0.7	5.3	0.69	0.86	0.69	53.5
Approach		109	1.8	0.177	11.2	LOS A	0.7	5.3	0.69	0.86	0.69	52.1
All Vehicles		3104	3.9	0.814	7.1	LOS A	13.3	96.5	0.49	0.55	0.49	53.6

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

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: Monday, 8 October 2018 4:21:03 PM
Project: C:\Work Documents\Projects\2017\17.164 - Kerr Road Ingleburn - Resource Recovery Expansion\Sidra\Williamson_Henderson\Williamson_Henderson.sip8

MOVEMENT SUMMARY

Site: 101 [2018AM + dev]

Henderson Road / Lancaster Street / Austool Place, Ingleburn
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lancaster Street												
1	L2	207	14.0	0.259	7.0	LOS A	1.2	9.8	0.66	0.80	0.66	48.2
2	T1	13	15.4	0.186	7.7	LOS A	0.8	6.1	0.64	0.86	0.64	49.0
3	R2	109	6.4	0.186	12.1	LOS A	0.8	6.1	0.64	0.86	0.64	50.3
3u	U	1	0.0	0.186	13.9	LOS A	0.8	6.1	0.64	0.86	0.64	50.7
Approach		330	11.5	0.259	8.7	LOS A	1.2	9.8	0.65	0.82	0.65	49.1
East: Henderson Road												
4	L2	225	2.7	0.503	6.5	LOS A	3.4	23.8	0.63	0.67	0.65	52.0
5	T1	814	0.9	0.503	6.6	LOS A	3.4	23.8	0.63	0.68	0.66	52.4
6	R2	9	0.0	0.503	11.4	LOS A	3.3	23.5	0.64	0.68	0.67	53.1
6u	U	1	0.0	0.503	13.5	LOS A	3.3	23.5	0.64	0.68	0.67	54.9
Approach		1049	1.2	0.503	6.6	LOS A	3.4	23.8	0.63	0.67	0.66	52.3
North: Austool Place												
7	L2	4	0.0	0.031	8.6	LOS A	0.1	1.0	0.68	0.77	0.68	50.6
8	T1	11	18.2	0.031	9.4	LOS A	0.1	1.0	0.68	0.77	0.68	50.9
9	R2	26	11.5	0.040	12.5	LOS A	0.2	1.3	0.68	0.81	0.68	45.5
9u	U	1	0.0	0.040	14.2	LOS A	0.2	1.3	0.68	0.81	0.68	49.5
Approach		42	11.9	0.040	11.3	LOS A	0.2	1.3	0.68	0.80	0.68	47.6
West: Henderson Road												
10	L2	97	3.1	0.539	4.9	LOS A	4.2	30.1	0.43	0.49	0.43	50.4
11	T1	941	1.7	0.539	5.0	LOS A	4.2	30.1	0.44	0.52	0.44	53.0
12	R2	363	9.9	0.539	9.8	LOS A	4.1	30.6	0.45	0.59	0.45	50.3
12u	U	1	0.0	0.539	11.8	LOS A	4.1	30.6	0.45	0.59	0.45	50.7
Approach		1402	3.9	0.539	6.2	LOS A	4.2	30.6	0.44	0.54	0.44	52.2
All Vehicles		2823	3.9	0.539	6.7	LOS A	4.2	30.6	0.54	0.62	0.55	51.8

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

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: Monday, 8 October 2018 4:16:08 PM
Project: C:\Work Documents\Projects\2017\17.164 - Kerr Road Ingleburn - Resource Recovery Expansion\Sidra\Henderson_Lancaster\Henderson_Lancaster.sip8

MOVEMENT SUMMARY

Site: 101 [2028AM + dev]

Henderson Road / Lancaster Street / Austool Place, Ingleburn
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lancaster Street												
1	L2	227	13.7	0.302	7.3	LOS A	1.5	11.9	0.70	0.84	0.70	48.1
2	T1	14	14.3	0.220	8.1	LOS A	1.0	7.5	0.68	0.88	0.68	48.7
3	R2	120	6.7	0.220	12.4	LOS A	1.0	7.5	0.68	0.88	0.68	50.1
3u	U	1	0.0	0.220	14.3	LOS A	1.0	7.5	0.68	0.88	0.68	50.4
Approach		362	11.3	0.302	9.0	LOS A	1.5	11.9	0.70	0.85	0.70	48.9
East: Henderson Road												
4	L2	247	2.4	0.572	7.3	LOS A	4.5	31.9	0.70	0.77	0.78	51.7
5	T1	895	0.9	0.572	7.5	LOS A	4.5	31.9	0.71	0.78	0.79	52.0
6	R2	10	0.0	0.572	12.3	LOS A	4.4	31.3	0.71	0.80	0.80	52.7
6u	U	1	0.0	0.572	14.5	LOS A	4.4	31.3	0.71	0.80	0.80	54.5
Approach		1153	1.2	0.572	7.5	LOS A	4.5	31.9	0.71	0.78	0.79	51.9
North: Austool Place												
7	L2	4	0.0	0.037	9.2	LOS A	0.2	1.2	0.72	0.80	0.72	50.1
8	T1	12	16.7	0.037	10.1	LOS A	0.2	1.2	0.72	0.80	0.72	50.3
9	R2	29	10.3	0.048	12.9	LOS A	0.2	1.7	0.72	0.84	0.72	45.3
9u	U	1	0.0	0.048	14.7	LOS B	0.2	1.7	0.72	0.84	0.72	49.1
Approach		46	10.9	0.048	11.9	LOS A	0.2	1.7	0.72	0.83	0.72	47.2
West: Henderson Road												
10	L2	107	2.8	0.599	5.1	LOS A	5.2	36.7	0.50	0.50	0.50	50.0
11	T1	1035	1.7	0.599	5.1	LOS A	5.2	36.7	0.50	0.53	0.50	52.7
12	R2	397	9.6	0.599	10.0	LOS A	5.0	37.1	0.52	0.60	0.52	50.0
12u	U	1	0.0	0.599	12.0	LOS A	5.0	37.1	0.52	0.60	0.52	50.3
Approach		1540	3.8	0.599	6.4	LOS A	5.2	37.1	0.51	0.55	0.51	51.9
All Vehicles		3101	3.8	0.599	7.2	LOS A	5.2	37.1	0.61	0.68	0.64	51.5

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

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: Monday, 8 October 2018 4:16:06 PM
Project: C:\Work Documents\Projects\2017\17.164 - Kerr Road Ingleburn - Resource Recovery Expansion\Sidra\Henderson_Lancaster\Henderson_Lancaster.sip8

MOVEMENT SUMMARY

Site: 101 [2018PM + dev]

Henderson Road / Lancaster Street / Austool Place, Ingleburn
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lancaster Street												
1	L2	524	7.6	0.584	8.5	LOS A	4.0	29.9	0.74	0.93	0.91	47.8
2	T1	14	7.1	0.458	8.4	LOS A	2.5	18.0	0.69	0.93	0.79	48.5
3	R2	338	1.2	0.458	12.8	LOS A	2.5	18.0	0.69	0.93	0.79	49.8
3u	U	1	0.0	0.458	14.8	LOS B	2.5	18.0	0.69	0.93	0.79	50.0
Approach		877	5.1	0.584	10.2	LOS A	4.0	29.9	0.72	0.93	0.86	48.7
East: Henderson Road												
4	L2	141	2.1	0.367	5.4	LOS A	2.1	14.6	0.48	0.56	0.48	52.7
5	T1	689	1.3	0.367	5.5	LOS A	2.1	14.6	0.48	0.55	0.48	53.2
6	R2	4	0.0	0.367	10.2	LOS A	2.0	14.4	0.49	0.55	0.49	53.9
6u	U	1	0.0	0.367	12.3	LOS A	2.0	14.4	0.49	0.55	0.49	55.7
Approach		835	1.4	0.367	5.5	LOS A	2.1	14.6	0.48	0.55	0.48	53.1
North: Austool Place												
7	L2	18	0.0	0.098	9.7	LOS A	0.4	3.1	0.76	0.86	0.76	50.1
8	T1	26	0.0	0.098	9.8	LOS A	0.4	3.1	0.76	0.86	0.76	50.7
9	R2	80	1.3	0.132	13.1	LOS A	0.7	4.7	0.78	0.91	0.78	46.3
9u	U	1	0.0	0.132	15.2	LOS B	0.7	4.7	0.78	0.91	0.78	48.9
Approach		125	0.8	0.132	11.9	LOS A	0.7	4.7	0.77	0.90	0.77	47.9
West: Henderson Road												
10	L2	25	28.0	0.585	7.4	LOS A	4.9	35.3	0.70	0.68	0.74	47.8
11	T1	1013	1.5	0.585	6.9	LOS A	4.9	35.3	0.70	0.72	0.75	51.7
12	R2	174	18.4	0.585	12.3	LOS A	4.9	36.0	0.71	0.77	0.77	49.2
12u	U	1	0.0	0.585	13.9	LOS A	4.9	36.0	0.71	0.77	0.77	49.9
Approach		1213	4.5	0.585	7.7	LOS A	4.9	36.0	0.70	0.72	0.75	51.3
All Vehicles		3050	3.7	0.585	8.0	LOS A	4.9	36.0	0.65	0.74	0.71	50.9

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

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: Monday, 8 October 2018 4:18:01 PM
Project: C:\Work Documents\Projects\2017\17.164 - Kerr Road Ingleburn - Resource Recovery Expansion\Sidra\Henderson_Lancaster\Henderson_Lancaster.sip8

MOVEMENT SUMMARY

Site: 101 [2028PM + dev]

Henderson Road / Lancaster Street / Austool Place, Ingleburn
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lancaster Street												
1	L2	575	7.3	0.669	9.9	LOS A	5.3	39.2	0.81	1.01	1.09	46.6
2	T1	15	6.7	0.531	9.4	LOS A	3.3	23.0	0.75	0.97	0.91	47.7
3	R2	372	1.1	0.531	13.8	LOS A	3.3	23.0	0.75	0.97	0.91	49.1
3u	U	1	0.0	0.531	15.8	LOS B	3.3	23.0	0.75	0.97	0.91	49.2
Approach		963	4.9	0.669	11.4	LOS A	5.3	39.2	0.78	0.99	1.02	47.8
East: Henderson Road												
4	L2	155	1.9	0.414	5.6	LOS A	2.5	17.4	0.53	0.58	0.53	52.5
5	T1	758	1.3	0.414	5.7	LOS A	2.5	17.4	0.53	0.57	0.53	52.9
6	R2	4	0.0	0.414	10.4	LOS A	2.4	17.0	0.54	0.57	0.54	53.6
6u	U	1	0.0	0.414	12.5	LOS A	2.4	17.0	0.54	0.57	0.54	55.4
Approach		918	1.4	0.414	5.7	LOS A	2.5	17.4	0.53	0.57	0.53	52.8
North: Austool Place												
7	L2	20	0.0	0.125	10.8	LOS A	0.6	4.1	0.80	0.89	0.80	49.3
8	T1	29	0.0	0.125	10.8	LOS A	0.6	4.1	0.80	0.89	0.80	49.8
9	R2	88	1.1	0.165	13.9	LOS A	0.9	6.2	0.83	0.94	0.83	45.7
9u	U	1	0.0	0.165	16.0	LOS B	0.9	6.2	0.83	0.94	0.83	48.3
Approach		138	0.7	0.165	12.8	LOS A	0.9	6.2	0.82	0.92	0.82	47.2
West: Henderson Road												
10	L2	28	28.6	0.666	8.8	LOS A	6.8	48.9	0.79	0.81	0.91	47.2
11	T1	1114	1.5	0.666	8.2	LOS A	6.8	48.9	0.80	0.83	0.92	51.1
12	R2	191	17.8	0.666	13.8	LOS A	6.7	49.2	0.80	0.86	0.94	48.5
12u	U	1	0.0	0.666	15.3	LOS B	6.7	49.2	0.80	0.86	0.94	48.9
Approach		1334	4.4	0.666	9.0	LOS A	6.8	49.2	0.80	0.83	0.92	50.7
All Vehicles		3353	3.6	0.669	8.9	LOS A	6.8	49.2	0.72	0.81	0.84	50.3

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

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MOVEMENT SUMMARY

Site: 101 [2018AM + dev]

Lancaster Street / Aero Road, Ingleburn
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lancaster Street												
1	L2	32	9.4	0.195	5.5	LOS A	1.1	8.4	0.43	0.55	0.43	49.4
2	T1	160	11.9	0.195	5.8	LOS A	1.1	8.4	0.43	0.55	0.43	53.2
3	R2	11	18.2	0.195	10.0	LOS A	1.1	8.4	0.43	0.55	0.43	52.5
3u	U	1	0.0	0.195	11.4	LOS A	1.1	8.4	0.43	0.55	0.43	54.7
Approach		204	11.8	0.195	6.0	LOS A	1.1	8.4	0.43	0.55	0.43	52.7
East: Aero Road												
4	L2	15	13.3	0.139	6.7	LOS A	0.7	5.7	0.54	0.71	0.54	49.4
5	T1	6	0.0	0.139	6.6	LOS A	0.7	5.7	0.54	0.71	0.54	47.0
6	R2	101	15.8	0.139	11.0	LOS A	0.7	5.7	0.54	0.71	0.54	49.1
6u	U	1	0.0	0.139	12.4	LOS A	0.7	5.7	0.54	0.71	0.54	50.6
Approach		123	14.6	0.139	10.3	LOS A	0.7	5.7	0.54	0.71	0.54	49.0
North: Lancaster Street												
7	L2	222	10.4	0.403	4.4	LOS A	2.9	21.7	0.18	0.48	0.18	52.0
8	T1	287	3.5	0.403	4.6	LOS A	2.9	21.7	0.18	0.48	0.18	54.3
9	R2	92	3.3	0.403	8.6	LOS A	2.9	21.7	0.18	0.48	0.18	51.0
9u	U	1	0.0	0.403	10.4	LOS A	2.9	21.7	0.18	0.48	0.18	54.5
Approach		602	6.0	0.403	5.2	LOS A	2.9	21.7	0.18	0.48	0.18	53.1
West: Aero Road												
10	L2	38	5.3	0.054	5.7	LOS A	0.3	2.1	0.44	0.59	0.44	48.6
11	T1	2	0.0	0.054	5.8	LOS A	0.3	2.1	0.44	0.59	0.44	50.5
12	R2	12	33.3	0.054	10.6	LOS A	0.3	2.1	0.44	0.59	0.44	49.5
12u	U	1	0.0	0.054	11.7	LOS A	0.3	2.1	0.44	0.59	0.44	47.0
Approach		53	11.3	0.054	6.9	LOS A	0.3	2.1	0.44	0.59	0.44	48.9
All Vehicles		982	8.6	0.403	6.1	LOS A	2.9	21.7	0.29	0.53	0.29	52.3

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

MOVEMENT SUMMARY

Site: 101 [2028AM + dev]

Lancaster Street / Aero Road, Ingleburn
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lancaster Street												
1	L2	35	8.6	0.219	5.7	LOS A	1.2	9.6	0.45	0.56	0.45	49.3
2	T1	176	11.9	0.219	6.0	LOS A	1.2	9.6	0.45	0.56	0.45	53.1
3	R2	12	16.7	0.219	10.1	LOS A	1.2	9.6	0.45	0.56	0.45	52.4
3u	U	1	0.0	0.219	11.6	LOS A	1.2	9.6	0.45	0.56	0.45	54.6
Approach		224	11.6	0.219	6.2	LOS A	1.2	9.6	0.45	0.56	0.45	52.5
East: Aero Road												
4	L2	17	11.8	0.158	7.0	LOS A	0.8	6.6	0.57	0.73	0.57	49.2
5	T1	7	0.0	0.158	6.9	LOS A	0.8	6.6	0.57	0.73	0.57	46.7
6	R2	110	15.5	0.158	11.3	LOS A	0.8	6.6	0.57	0.73	0.57	48.9
6u	U	1	0.0	0.158	12.7	LOS A	0.8	6.6	0.57	0.73	0.57	50.4
Approach		135	14.1	0.158	10.6	LOS A	0.8	6.6	0.57	0.73	0.57	48.8
North: Lancaster Street												
7	L2	242	9.5	0.441	4.5	LOS A	3.4	25.1	0.19	0.48	0.19	52.0
8	T1	316	3.5	0.441	4.6	LOS A	3.4	25.1	0.19	0.48	0.19	54.3
9	R2	101	3.0	0.441	8.6	LOS A	3.4	25.1	0.19	0.48	0.19	51.0
9u	U	1	0.0	0.441	10.5	LOS A	3.4	25.1	0.19	0.48	0.19	54.5
Approach		660	5.6	0.441	5.2	LOS A	3.4	25.1	0.19	0.48	0.19	53.1
West: Aero Road												
10	L2	42	4.8	0.061	5.8	LOS A	0.3	2.3	0.47	0.60	0.47	48.5
11	T1	2	0.0	0.061	6.0	LOS A	0.3	2.3	0.47	0.60	0.47	50.4
12	R2	13	30.8	0.061	10.8	LOS A	0.3	2.3	0.47	0.60	0.47	49.6
12u	U	1	0.0	0.061	11.8	LOS A	0.3	2.3	0.47	0.60	0.47	46.8
Approach		58	10.3	0.061	7.0	LOS A	0.3	2.3	0.47	0.60	0.47	48.8
All Vehicles		1077	8.2	0.441	6.2	LOS A	3.4	25.1	0.31	0.54	0.31	52.2

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

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MOVEMENT SUMMARY

Site: 101 [2018PM + dev]

Lancaster Street / Aero Road, Ingleburn
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lancaster Street												
1	L2	9	0.0	0.415	6.2	LOS A	2.9	20.8	0.60	0.64	0.60	49.2
2	T1	387	4.7	0.415	6.6	LOS A	2.9	20.8	0.60	0.64	0.60	52.5
3	R2	19	15.8	0.415	10.9	LOS A	2.9	20.8	0.60	0.64	0.60	51.7
3u	U	1	0.0	0.415	12.3	LOS A	2.9	20.8	0.60	0.64	0.60	53.8
Approach		416	5.0	0.415	6.8	LOS A	2.9	20.8	0.60	0.64	0.60	52.4
East: Aero Road												
4	L2	35	11.4	0.276	6.6	LOS A	1.6	12.4	0.56	0.72	0.56	49.5
5	T1	6	16.7	0.276	7.0	LOS A	1.6	12.4	0.56	0.72	0.56	45.6
6	R2	213	13.1	0.276	10.9	LOS A	1.6	12.4	0.56	0.72	0.56	49.2
6u	U	1	0.0	0.276	12.4	LOS A	1.6	12.4	0.56	0.72	0.56	50.6
Approach		255	12.9	0.276	10.2	LOS A	1.6	12.4	0.56	0.72	0.56	49.2
North: Lancaster Street												
7	L2	93	19.4	0.296	4.7	LOS A	2.0	15.0	0.23	0.48	0.23	51.4
8	T1	245	8.6	0.296	4.8	LOS A	2.0	15.0	0.23	0.48	0.23	53.9
9	R2	61	4.9	0.296	8.7	LOS A	2.0	15.0	0.23	0.48	0.23	50.5
9u	U	1	0.0	0.296	10.5	LOS A	2.0	15.0	0.23	0.48	0.23	54.2
Approach		400	10.5	0.296	5.4	LOS A	2.0	15.0	0.23	0.48	0.23	52.9
West: Aero Road												
10	L2	92	2.2	0.163	8.2	LOS A	1.0	7.0	0.70	0.76	0.70	46.1
11	T1	2	0.0	0.163	8.3	LOS A	1.0	7.0	0.70	0.76	0.70	47.7
12	R2	27	7.4	0.163	12.6	LOS A	1.0	7.0	0.70	0.76	0.70	48.5
12u	U	1	0.0	0.163	14.2	LOS A	1.0	7.0	0.70	0.76	0.70	43.2
Approach		122	3.3	0.163	9.2	LOS A	1.0	7.0	0.70	0.76	0.70	46.7
All Vehicles		1193	8.4	0.415	7.3	LOS A	2.9	20.8	0.48	0.62	0.48	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.

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MOVEMENT SUMMARY

Site: 101 [2028PM + dev]

Lancaster Street / Aero Road, Ingleburn
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lancaster Street												
1	L2	10	0.0	0.468	6.5	LOS A	3.4	24.6	0.66	0.68	0.66	48.9
2	T1	426	4.7	0.468	6.9	LOS A	3.4	24.6	0.66	0.68	0.66	52.3
3	R2	21	14.3	0.468	11.2	LOS A	3.4	24.6	0.66	0.68	0.66	51.6
3u	U	1	0.0	0.468	12.6	LOS A	3.4	24.6	0.66	0.68	0.66	53.6
Approach		458	5.0	0.468	7.1	LOS A	3.4	24.6	0.66	0.68	0.66	52.2
East: Aero Road												
4	L2	39	10.3	0.310	6.9	LOS A	1.8	14.2	0.59	0.74	0.59	49.3
5	T1	7	14.3	0.310	7.3	LOS A	1.8	14.2	0.59	0.74	0.59	45.5
6	R2	232	12.5	0.310	11.2	LOS A	1.8	14.2	0.59	0.74	0.59	49.0
6u	U	1	0.0	0.310	12.7	LOS A	1.8	14.2	0.59	0.74	0.59	50.4
Approach		279	12.2	0.310	10.5	LOS A	1.8	14.2	0.59	0.74	0.59	49.0
North: Lancaster Street												
7	L2	92	20.7	0.321	4.7	LOS A	2.2	16.7	0.25	0.48	0.25	51.2
8	T1	270	8.5	0.321	4.8	LOS A	2.2	16.7	0.25	0.48	0.25	53.8
9	R2	67	4.5	0.321	8.8	LOS A	2.2	16.7	0.25	0.48	0.25	50.4
9u	U	1	0.0	0.321	10.6	LOS A	2.2	16.7	0.25	0.48	0.25	54.1
Approach		430	10.5	0.321	5.4	LOS A	2.2	16.7	0.25	0.48	0.25	52.8
West: Aero Road												
10	L2	102	2.0	0.193	8.8	LOS A	1.2	8.5	0.74	0.80	0.74	45.5
11	T1	2	0.0	0.193	9.0	LOS A	1.2	8.5	0.74	0.80	0.74	47.1
12	R2	30	6.7	0.193	13.3	LOS A	1.2	8.5	0.74	0.80	0.74	48.0
12u	U	1	0.0	0.193	14.9	LOS B	1.2	8.5	0.74	0.80	0.74	42.3
Approach		135	3.0	0.193	9.9	LOS A	1.2	8.5	0.74	0.80	0.74	46.1
All Vehicles		1302	8.1	0.468	7.6	LOS A	3.4	24.6	0.52	0.64	0.52	51.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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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.

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