

Stockbridge Properties Pty Ltd
Level 6, 131 Macquarie Street
Sydney NSW 2000

Attention: Chris Houghton

Subject: 372-374 Mann Street and 35-37 Dwyer Street, North Gosford – Response to Submissions

Dear Chris,

Introduction

Stockbridge Properties Pty Ltd (the applicant) lodged a State Significant Development Application (SSDA) for the mixed-use development at 35-37 Dwyer Street and 372- 374 Mann Street, North Gosford (SSD-69773460). The proposal includes construction of a mixed-use development comprising three buildings ranging in height from seven storeys to 22 storeys containing residential apartments, commercial/retail floor area and basement car parking.

The following correspondence was received from stakeholders in relation to the SSDA from Central Coast Council (Council) on 9 October 2025 and the Department of Planning, Housing, and Infrastructure (DPHI) on 27 November 2025 seeking clarification on a range of matters.

This letter has been prepared to respond to all traffic and transport related comments and should be read in conjunction with Transport Assessment prepared by Ason Group, dated 30 May 2025¹ which supported the SSDA.

Response to submissions – Council

Council Comment – Engineering: *The grades on the access ramp from the Dwyer Street level to Basement 1 level (RL 15.90) for Building B1 (Site A) are indicated at 1:6 (i.e. 16.7%). These grades exceed the maximum 1:6.5 (i.e. 15.4%) permitted in AS2890.2018 for access for commercial vehicles (including the proposed service vehicles) proposed to utilise this ramp. The consent authority will need to ensure that the proposal is amended to comply with the maximum grade of 1:6.5 (1 in 6.5) permitted under AS2890.2:2004.*

DPHI Comment – Engineering matters:

Address engineering matters by:

- confirming that the proposed 1:6.5 ramp grade meets AS2890.1 and other relevant standards. Provide detailed ramp design drawings and transition lengths.

This comment is acknowledged and the ramp design has been amended to resolve these non-compliances, where practical. The ramp length has been extended from approximately 49.3-metre-long ramp (measured along the inside curve) in the submitted SSDA to approximately 50-51 metres. This extension reduces the ramp gradient and brings the design consistent with the requirements of AS2890.2:2018.

While minor non-compliances remain with respect ramp grades and transition lengths stipulated in AS2890.2:2018, it is supported based on the following:

- The ramp has been extended to the maximum extent possible within the available site area while considering the site boundaries, demonstrating efforts to minimise any such minor non-compliance.

¹ P2437r01v2 TA_372-374 Mann Street and 35-37 Dwyer Street, North Gosford, dated 30 May 2025, prepared by Ason Group.

- The maximum allowable roadway/ ramp grades are detailed in Table 3.2 of AS2890.2:2018, however, Clause 3.3.3.3 of AS2890.2:2018 states “Maximum grades in Table 3.2 are determined from the ability of a loaded design vehicle to commence forward movement on a specified grade. Steeper grades may be suitable for site/ task specific operators, for example, if vehicles are unlikely to stop on steeper grades”. The proposed ramp includes a maximum grade of 1:6.2 and designed to minimise deviations to the gradients stipulated in Table 3.2 of AS2890.2:2018.
- During waste collection, the ramp would provide one-way flow for waste vehicles. Traffic management measures will be necessary during the infrequent times when waste vehicles (and other heavy vehicles) enter and exit the basement loading areas. This would include a standard stop/go signal system, with laser detectors set at appropriate height to ensure cars are not captured. Therefore, the waste vehicle is expected to travel along the centre of the ramp when traveling to/ from the loading dock. Since gradient measurements taken along the inside curve represent the steepest portion of the ramp, the actual travel path traversed by waste vehicles and larger service vehicles would predominantly be on sections of the ramp that include more generous gradients (of at least 1:6.5) – and hence fully compliant with AS2890.2:2018.
- The proposed ramp gradients and transitions remain suitable for the type and frequency of commercial and residential vehicles anticipated to use the ramp (including waste vehicles) and would not compromise operational safety.

Council Comment – Traffic: No assessment has been made in relation to the location of the proposed driveway to building B1 opposite a T-intersection and its compliance with Australian Standard AS2890.1.

DPHI Comment – Engineering matters:

Address engineering matters by:

- demonstrating how the location of the proposed driveway to building B1 opposite a T -intersection achieves compliance with Australian Standard AS2890.1.

Figure 3.1 in AS2890.1:2004 requires driveways located opposite public roads be offset six metres from any adjacent or opposite road/ property boundary. When measured from the indicative edge of bitumen on Campbell Street, the proposed access driveway is offset about 12 metres, and the driveway splay is offset about 10.4 metres. When measured from the property boundary opposite, the dimensions are 7.0 and 5.5 metres respectively. In this regard, the driveway location is supported, especially having regard to the minor traffic volumes on both Dwyer Street and Campbell Street and given that all site generated traffic will turn left in and right out of the proposed access driveway.

Council Comment – Traffic: The SIDRA results reported in Table 5 and Table 12 in the report do not match with the SIDRA outputs provided in Appendix B of the report.

The SIDRA outputs provided in Appendix B indicated that Dwyer Street West approach at the intersection with Mann Street under the current traffic condition is operating at a Level of Service C with average delay 23.1sec and 95% back of queue length 2.5m in the AM peak and at a Level of Service E with average delay 40.1sec and 95% back of queue length 5m in the PM peak. Therefore, as a direct result of this development traffic in Dwyer Street West approach at the intersection with Mann Street will experience significant delays between approximately 1 minute to 1.5 minutes respectively while existing from this approach, which is twice the amount of existing delay at this intersection.

The existing residents and commercial developments in Dwyer Steet West and in Campbell Street will be impacted significantly by the proposed development if the intersection of Mann Street and Dwyer Street is not upgraded to an acceptable level of service. Therefore, the proposed development should not be approved without upgrading the intersection of Mann Street and Dwyer Street to an acceptable operating condition post development as well as at a 10 year horizon.

This comment is noted and engagement with DPHI has clarified the minor error in regard to SIDRA outputs. The SIDRA results detailed in the report (Table 5 and Table 12 of the Transport Assessment) were correct.

However, it is noted that SIDRA modelling parameters have since been updated following discussions with DPHI, with results detailed in subsequent responses below.

Council Comment – Waste Management: The proposed collection point for B1 indicates that the truck will be parked partially on the driveway, this is a safety issue and is not supported. The entire truck must be parked out of any lane of traffic in a safe location with sufficient clearance to allow the safe collection of bins.

This comment is noted, and alternative waste collection arrangements have been considered. The waste vehicle would manoeuvre into the location shown in Figure 1 to allow the truck to stand outside the circulation aisle. This would be supported by flashing warning lights to alert drivers of manoeuvring waste vehicles at such times, convex mirrors to aid intervisibility and additional signage/ linemarking.

Further, with low volumes of cars passing when the waste truck is in the dock (about 34 cars or one every two minutes in any peak hour), the risk of conflict remains low. Waste collection is also anticipated to occur outside peak hours, thereby further reducing any such risk of conflict.

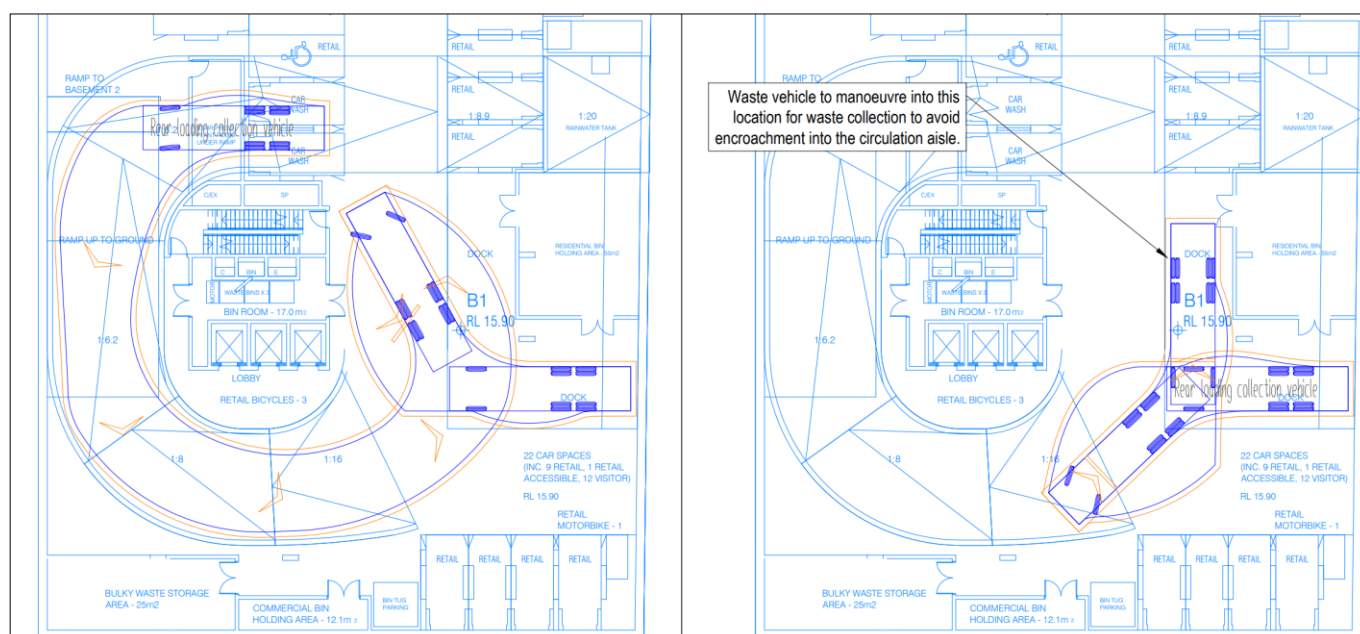


Figure 1: Waste collection location

Council Comment – Waste Management: Item 5.7.6 in the supplied WMP indicates that “As required by Council all collection vehicles will reverse into the site and exit the building in a forward direction. Collection activities will take place as follows: - a) The Collection vehicle will enter the building from the New Private Road Pacific as indicated on the Architectural Drawings,” Council requires that all collection vehicles enter the site in a forward direction and exit in a forward direction, the plans indicate that the commercial section of the building is located in B1 and access to the B1 loading dock is from Dwyer Street, this point needs to be checked and clarified by the applicant to ensure it accurately reflects the plans.

All vehicles, including service vehicles and waste vehicles will always enter and exit the site in a forward direction.

Council Comment – Waste Management: How does the waste collection vehicle gain access to the loading dock through any access gates etc, what happens if there is another vehicle on the ramp at the same time?

A stop/ go signal system will be required to facilitate service vehicle access to both basement level loading docks. These are common for mixed-use and residential developments where resident basement car park access and loading dock access are consolidated into a single access. The security roller shutter has been recessed to allow trucks to trigger the system (push button, loop detector or laser at height) and allow them to temporarily wait should a car already be on the ramp exiting the basement. There is space at the top of each ramp to allow these vehicles to pass in this unlikely event. On exit, a push button or similar in the loading dock will allow service vehicles to exit while entering

cars are temporarily held. With the site A ramp being about 7.8-metres-wide and site B ramp six-metres-wide, these vehicle combinations can pass on the ramps, if occasionally required.

Council Comment – Waste Management: *It is to be conditioned as part of any consent granted that it is conditioned that a Section 88b instrument will be required to provide Council and its contractor indemnity to provide any onsite waste collection activities?*

A loading dock management plan can be conditioned to ensure loading operations are functional and implemented as required.

Response to submissions – DPHI

DPHI Comment – Traffic assignment accuracy:

- *provide corrected stick diagrams for AM and PM peaks, ensuring accurate turn volumes (e.g. incorrect number noted for left turn on Dwyer Street west leg)*
- *update legends to clearly differentiate background traffic from development traffic*
- *confirm that assignment reflects adopted assumptions.*

Updated turning movement diagrams have been provided in for all scenarios and attached as Appendix A. This includes:

- existing (based on survey data completed in May 2024)
- year of opening (2028) base case
- year of opening (2028) base plus development case
- 10-year horizon (2038) base case
- 10-year horizon (2038) base plus development case.

As detailed in the Section 5.3 of the Transport Assessment, 30 per cent of traffic is estimated to use Mann Street to/ from the north with 60 per cent to/ from the south and 10 per cent via Dwyer Street to/ from the east. Localised distributions at the Mann Street/ Racecourse Road/ Etna Street and Henry Parry Drive/ Dwyer Street intersections have been based on existing splits observed at these intersections. Future year traffic modelling (in 2028 and 2038) has been completed by applying a 1.5 per cent annual growth rate to Mann Street traffic (northbound and southbound) to understand any such constraints in the future.

DPHI Comment – Model calibration and validation:

- *confirm whether SIDRA models were calibrated and validated. If not, provide a plan to address the gap*
- *update Site Level of Service (LoS) Method to Delay (NSW) and confirm revised outputs*
- *supply missing results for 10 -year post -development scenarios and reconcile discrepancies between Tables 5, 12, and Appendix B, and*
- *provide SIDRA electronic files for review.*

DPHI Comment – Intersection mitigation measures:

- *Address potential operational and safety concerns at the Mann /Dwyer Streets intersection by:*
 - *confirming whether updated SIDRA results indicate unacceptable LoS, degree of saturation, or queue lengths post development*
 - *assessing compliance with TfNSW signal warrant criteria*
 - *providing crash history analysis and implications for intersection upgrades*

- considering development -related pedestrian/cyclist demand and connectivity needs
- considering impacts of future Lindsey Street connection and alternative mitigation options.

The SIDRA model has been calibrated and validated to represent observed queue lengths and average delays, with the model also updated to Delay (NSW).

It is acknowledged that the previous SIDRA model completed as part of the Transport Assessment overestimated the delays at the Mann Street/ Dwyer Street intersection. Ason Group has engaged with DPHI and amended the SIDRA parameters to better reflect on-site conditions. While Mann Street operates as a two-lane, two-way road, Mann Street traffic passing Dwyer Street can bypass any stationary vehicles waiting to turn right by using the no parking restrictions on both sides of the road on approach to the intersection. This layout is illustrated in Figure 1, with the SIDRA intersection layouts accurately reflecting as such, as shown in Figure 3.

Consequently, despite Mann Street being a two-lane, two-way carriageway, the SIDRA configuration would typically default to a four-lane major road which results in higher critical gaps and follow-up headway values for right turns and through movements on Dwyer Street compared to actual on-site conditions. As such, a minor reduction in critical gap and follow-up headway parameters has been made to ensure it reflects how the intersection operates. These adjustments have been calibrated against observed queuing and average delays.

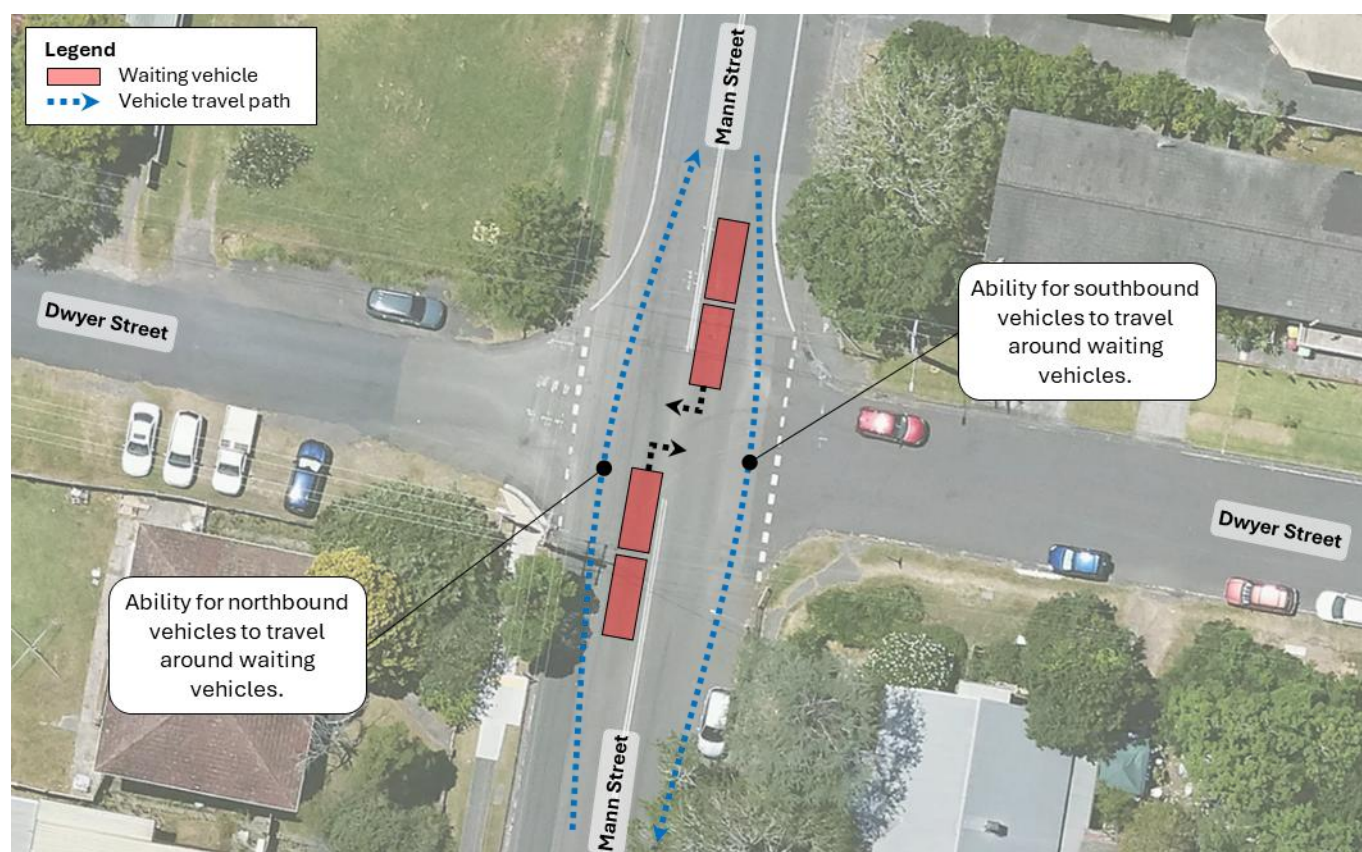


Figure 2: Mann Street/ Dwyer Street intersection travel paths

Base image source: Metromap

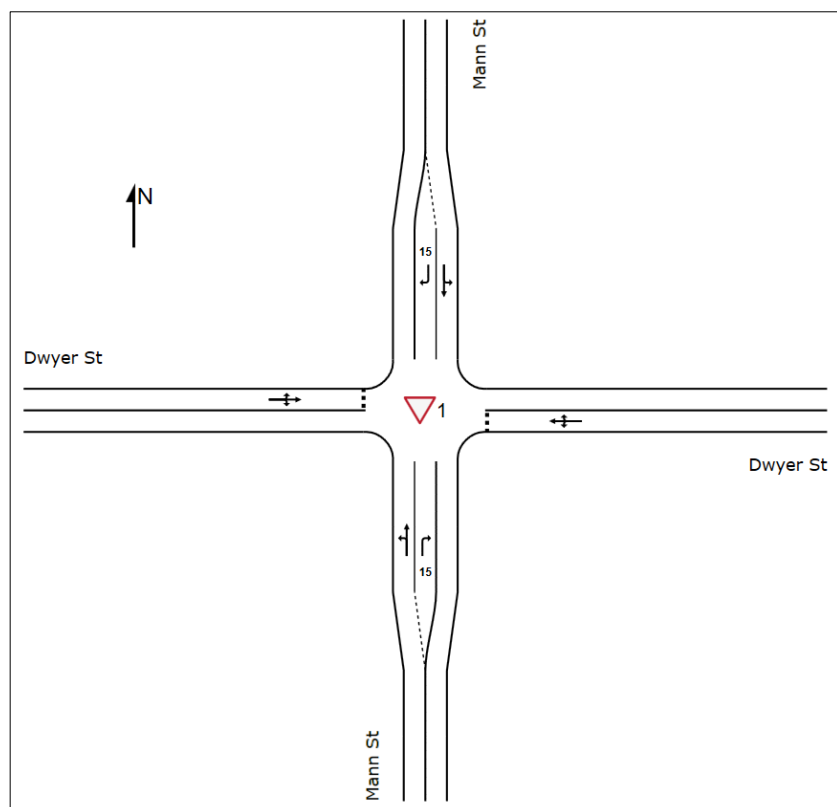


Figure 3: Modelled Mann Street/ Dwyer Street SIDRA intersection layout

Source: SIDRA Intersection 10.0

On this above basis, the revised existing intersection operation (2024) is summarised in Table 1. Detailed SIDRA outputs are included in Appendix B.

Table 1: Existing (2024)

Intersection	Peak	DOS	Average Delay (s)	95 th Percentile Queue (m)	LOS
Mann Street/ Dwyer Street	AM	0.29	29	8	C
	PM	0.29	38	7	C
Henry Parry Drive/ Dwyer Street	AM	0.95	59	157	E
	PM	0.86	24	128	B
Mann Street/ Racecourse Road/ Etna Street	AM	0.80	32	98	C
	PM	0.86	38	161	C

The results show that the key study intersections are generally operating at satisfactory levels during the respective peak hours. While the ‘worst’ right turn movements at the Mann Street/ Dwyer Street intersection are at LOS C, there is only minor queuing and generally acceptable delays for vehicles exiting the minor side road (Dwyer Street) to access the regional through road (Mann Street).

The Mann Street/ Henry Parry Drive roundabout also experiences some delay and queuing during peak hours. This is attributable to the relatively high volumes on Henry Parry Drive and vehicles associated with Gosford Private Hospital. Queuing and delays are generally manageable with some queues forming on Henry Parry Drive and Dwyer Street east (associated with Gosford Private Hospital traffic) during both peak periods.

Considering the traffic distributions and future modelling scenarios detailed previously, and turning movements diagrams detailed in Appendix A, the future intersection operation with and without the development traffic are summarised in Table 2 to Table 5.

Table 2: Year of opening base (2028)

Intersection	Peak	DOS	Average Delay (s)	95 th Percentile Queue (m)	LOS
Mann Street/ Dwyer Street	AM	0.32	33	9	C
	PM	0.33	45	9	D
Henry Parry Drive/ Dwyer Street	AM	0.95	59	157	E
	PM	0.86	24	128	B
Mann Street/ Racecourse Road/ Etna Street	AM	0.85	33	110	C
	PM	0.91	39	186	C

Table 3: Year of opening base plus development (2028)

Intersection	Peak	DOS	Average Delay (s)	95 th Percentile Queue (m)	LOS
Mann Street/ Dwyer Street [1]	AM	0.35	35	9	C
	PM	0.28	52	6	D
Henry Parry Drive/ Dwyer Street	AM	0.95	60	161	E
	PM	0.87	25	130	B
Mann Street/ Racecourse Road/ Etna Street	AM	0.86	34	112	C
	PM	0.94	42	208	C

[1] As documented in TfNSW Traffic Modelling Guidelines, SIDRA intersection results for priority-controlled movements are reported on the worst-movement. In the base case scenario, the worst movement is the right turn at Dwyer Street (west approach), however, in the base case plus development scenario the worst movement changes to the right turn at Dwyer Street (east approach) due to additional volumes in/ out of Dwyer Street (west).

Table 4: 10-year horizon base (2038)

Intersection	Peak	DOS	Average Delay (s)	95 th Percentile Queue (m)	LOS
Mann Street/ Dwyer Street	AM	0.45	50	12	D
	PM	0.50	76	13	F
Henry Parry Drive/ Dwyer Street	AM	0.95	59	157	E
	PM	0.86	24	127	B
Mann Street/ Racecourse Road/ Etna Street	AM	0.98	38	158	C
	PM	1.06	54	312	D

Table 5: 10-year horizon base plus development (2038)

Intersection	Peak	DOS	Average Delay (s)	95 th Percentile Queue (m)	LOS
Mann Street/ Dwyer Street [1]	AM	0.61	56	17	E
	PM	0.46	92	10	F
Henry Parry Drive/ Dwyer Street	AM	0.95	60	161	E
	PM	0.86	24	128	B
Mann Street/ Racecourse Road/ Etna Street	AM	1.00	40	173	C
	PM	1.08	60	345	E

[1] As documented in TfNSW Traffic Modelling Guidelines, SIDRA intersection results for priority-controlled movements are reported on the worst-movement. In the base case scenario, the worst movement is the right turn at Dwyer Street (west approach), however, in the base case plus development scenario the worst movement changes to the right turn at Dwyer Street (east approach) due to additional volumes in/ out of Dwyer Street (west).

On the above basis and considering detailed SIDRA outputs, the following is noted:

- Under base case scenarios, the Mann Street/ Dwyer Street intersection is anticipated to operate at LOS C/D in 2028 deteriorating to LOS D/F in 2038 during the AM and PM peak hours, respectively due to background traffic growth on Mann Street. The addition of development traffic is not expected to significantly impact operation of the intersection with it operating at LOS C/D in 2028 and LOS E/F in 2038. Importantly, 95th percentile queues on Dwyer Street (west approach) would be minor and expected to extend up to 17 metres during the 2038 base case plus development scenario (about three vehicles), while average delays for the entire Dwyer Street west approach are estimated to be LOS D/E during the AM and PM peak hours, respectively. With average delays for the Dwyer Street west approach being lower in the AM peak hour, this coincides with the primary outbound movement associated with the proposed development. As such, the intersection is considered to have ample spare capacity.
- The Henry Parry Drive/ Dwyer Street intersection is anticipated to operate as per existing conditions in all future scenarios both with and without the development.
- The Mann Street/ Racecourse Road/ Etna Street intersection will exceed capacity operating at a degree of saturation greater than one with the addition of background traffic growth to 2038 due to increased volumes on Mann Street and unrelated to the proposed development.

DPHI Comment – TfNSW cycleway and footpath integration:

TfNSW is developing a cycleway strategy between Wyoming and Gosford CBD, likely involving a corridor along the western side of Mann Street with footpath widening and an active transport crossing at Mann and Dwyer Streets. Given this, please:

- confirm consultation with TfNSW on the corridor and crossing, and
- provide updated plans, if required, showing integration opportunities for footpath widening and kerb realignment.

Engagement with TfNSW in late December 2025 confirmed early planning for the cycleway strategy between Wyoming and Gosford CBD. Masa Kimura (Development Services Case Officer at TfNSW) indicated that the on-road cycleway is planned along the western side of Mann Street along the site frontage and through the Mann Street/ Dwyer Street intersection. There are no plans available at the time of writing to confirm any such layouts and precise alignment however the proposed development would not affect delivery of the cycleway, nor would the cycleway impact project delivery. Should the status of the planned cycleway change, this will be incorporated into the architectural plans, as required and as part of ongoing engagement with TfNSW.

I trust this provides a detailed response to the key traffic matters raised as part of the SSDA. Please don't hesitate to contact the undersigned if and as necessary.

Sincerely,



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Principal Lead

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Appendix A Turning movement diagrams

EXISTING - AM PEAK

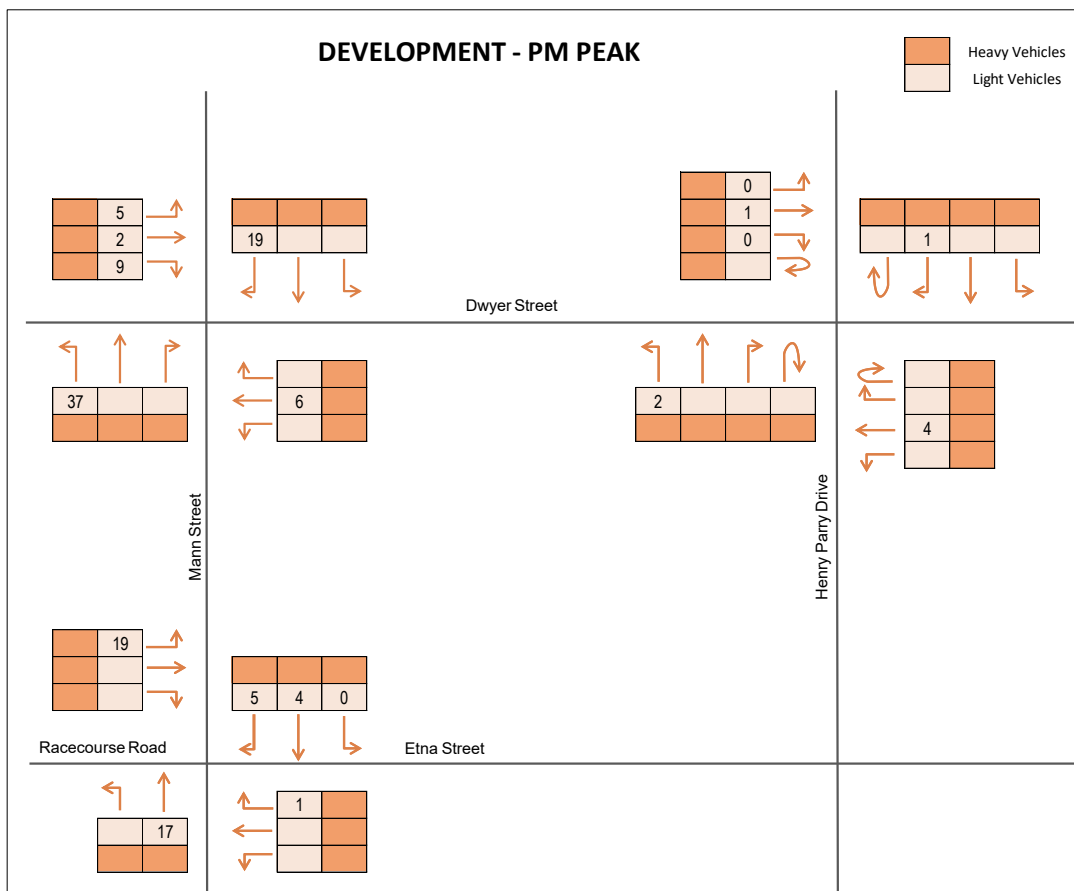
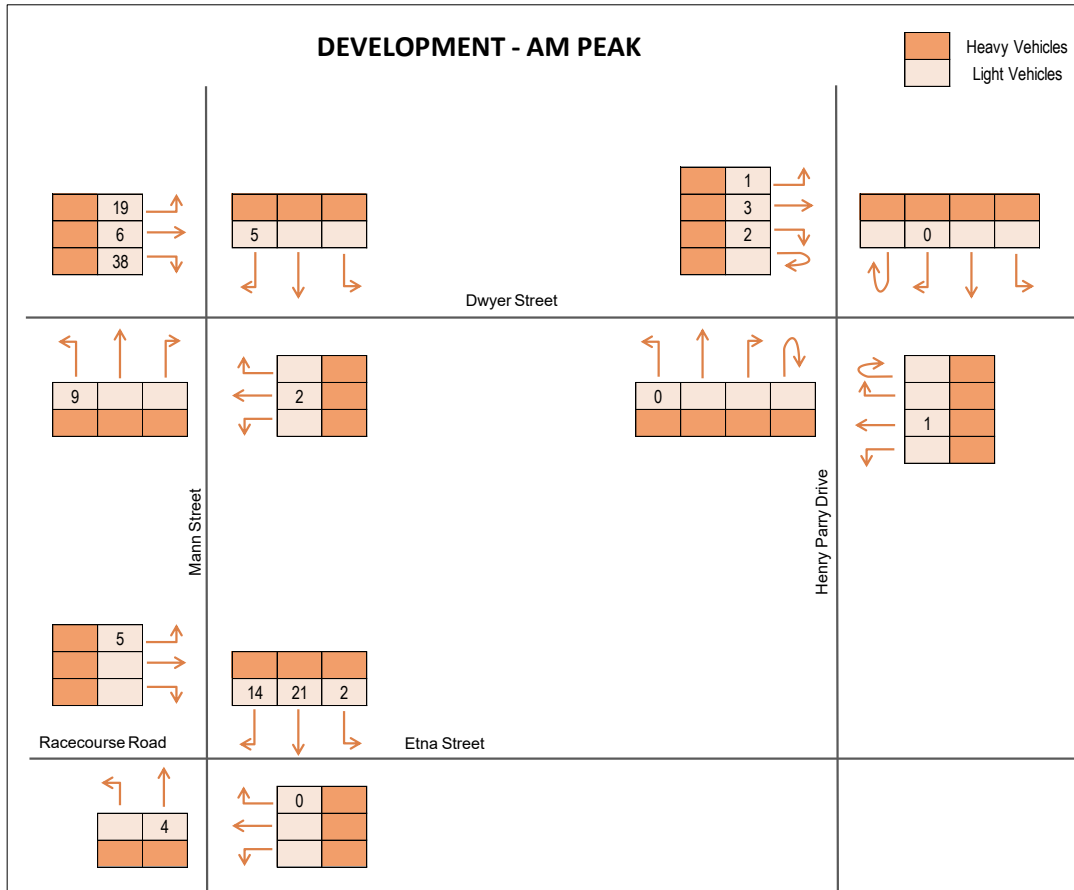
Heavy Vehicles
Light Vehicles



EXISTING - PM PEAK

Heavy Vehicles
Light Vehicles





Note: There may be minor rounding errors due to adopted formulas.

2028 BASE - AM PEAK

Heavy Vehicles
Light Vehicles



2028 BASE - PM PEAK

Heavy Vehicles
Light Vehicles



2028 BASE + DEVELOPMENT - AM PEAK

Heavy Vehicles
Light Vehicles



2028 BASE + DEVELOPMENT - PM PEAK

Heavy Vehicles
Light Vehicles



2038 BASE - AM PEAK

Heavy Vehicles
Light Vehicles



2038 BASE - PM PEAK

Heavy Vehicles
Light Vehicles



2038 BASE + DEVELOPMENT - AM PEAK

Heavy Vehicles
Light Vehicles



2038 BASE + DEVELOPMENT - PM PEAK

Heavy Vehicles
Light Vehicles



Appendix B SIDRA Outputs

MOVEMENT SUMMARY



Site: [1] Mann St / Dwyer St - AM (EXISTING)

Network: [1] Existing AM (EXISTING)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Give-Way (Two-Way)

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed	
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh.]	[Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Mann St															
1	L2	All MCs	12	0.0	12	0.0	0.301	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	57.0
2	T1	All MCs	563	3.4	563	3.4	0.301	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	59.7
3	R2	All MCs	102	3.1	102	3.1	0.149	10.1	LOS A	0.5	3.6	0.65	0.86	0.65	43.3
Approach			677	3.3	677	3.3	0.301	1.7	NA	0.5	3.6	0.10	0.14	0.10	58.0
East: Dwyer St															
4	L2	All MCs	74	1.4	74	1.4	0.289	9.6	LOS A	1.1	7.6	0.74	0.92	0.88	34.3
5	T1	All MCs	5	0.0	5	0.0	0.289	23.9	LOS B	1.1	7.6	0.74	0.92	0.88	40.4
6	R2	All MCs	24	0.0	24	0.0	0.289	28.8	LOS C	1.1	7.6	0.74	0.92	0.88	42.7
Approach			103	1.0	103	1.0	0.289	14.8	LOS B	1.1	7.6	0.74	0.92	0.88	37.6
North: Mann St															
7	L2	All MCs	156	2.0	156	2.0	0.407	5.7	LOS A	0.0	0.0	0.00	0.12	0.00	57.6
8	T1	All MCs	619	2.4	619	2.4	0.407	0.1	LOS A	0.0	0.0	0.00	0.12	0.00	57.6
9	R2	All MCs	9	0.0	9	0.0	0.009	7.7	LOS A	0.0	0.3	0.53	0.62	0.53	47.5
Approach			784	2.3	784	2.3	0.407	1.3	NA	0.0	0.3	0.01	0.13	0.01	57.3
West: Dwyer St															
10	L2	All MCs	13	0.0	13	0.0	0.066	7.5	LOS A	0.2	1.5	0.69	0.81	0.69	43.6
11	T1	All MCs	4	0.0	4	0.0	0.066	24.2	LOS B	0.2	1.5	0.69	0.81	0.69	36.2
12	R2	All MCs	4	0.0	4	0.0	0.066	24.2	LOS B	0.2	1.5	0.69	0.81	0.69	36.2
Approach			21	0.0	21	0.0	0.066	14.2	LOS A	0.2	1.5	0.69	0.81	0.69	41.4
All Vehicles			1585	2.6	1585	2.6	0.407	2.5	NA	1.1	7.6	0.10	0.19	0.11	55.7

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Project: C:\Users\Connor Hoang\OneDrive - Ason Group\ACTIVE PROJECTS\2437 - Mann Street & Dwyer Street, Gosford\Projects\Modelling

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MOVEMENT SUMMARY



Site: [2] Henry Parry Dr / Dwyer St - AM (EXISTING)

Network: [1] Existing AM (EXISTING)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Roundabout

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number Rate to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh	Dist] m				km/h
South: Henry Parry Dr															
1	L2	All MCs	33	0.0	33	0.0	0.704	9.7	LOS A	9.2	65.2	0.92	0.77	1.09	38.4
2	T1	All MCs	378	1.7	378	1.7	0.704	9.8	LOS A	9.2	65.2	0.92	0.77	1.09	42.7
3	R2	All MCs	212	0.5	212	0.5	0.704	13.0	LOS A	9.2	65.2	0.92	0.77	1.09	42.3
3u	U	All MCs	23	0.0	23	0.0	0.704	15.7	LOS B	9.2	65.2	0.92	0.77	1.09	45.0
Approach			645	1.1	645	1.1	0.704	11.1	LOS A	9.2	65.2	0.92	0.77	1.09	42.5
East: Dwyer St															
4	L2	All MCs	211	2.0	211	2.0	0.948	53.0	LOS D	22.0	157.0	1.00	1.79	2.82	28.5
5	T1	All MCs	177	0.6	177	0.6	0.948	52.9	LOS D	22.0	157.0	1.00	1.79	2.82	20.5
6	R2	All MCs	85	6.2	85	6.2	0.948	56.7	LOS E	22.0	157.0	1.00	1.79	2.82	28.4
6u	U	All MCs	1	0.0	1	0.0	0.948	58.9	LOS E	22.0	157.0	1.00	1.79	2.82	29.6
Approach			474	2.2	474	2.2	0.948	53.7	LOS D	22.0	157.0	1.00	1.79	2.82	26.1
North: Henry Parry Dr															
7	L2	All MCs	148	5.0	148	5.0	0.942	30.6	LOS C	28.5	204.5	1.00	1.57	2.22	34.7
8	T1	All MCs	619	2.6	619	2.6	0.942	30.4	LOS C	28.5	204.5	1.00	1.57	2.22	34.9
9	R2	All MCs	34	0.0	34	0.0	0.942	33.5	LOS C	28.5	204.5	1.00	1.57	2.22	27.5
9u	U	All MCs	14	0.0	14	0.0	0.942	36.3	LOS C	28.5	204.5	1.00	1.57	2.22	36.4
Approach			815	2.8	815	2.8	0.942	30.7	LOS C	28.5	204.5	1.00	1.57	2.22	34.7
West: Dwyer St															
10	L2	All MCs	33	6.5	33	6.5	0.333	10.9	LOS A	2.4	17.4	0.90	0.77	0.90	41.9
11	T1	All MCs	95	3.3	95	3.3	0.333	10.7	LOS A	2.4	17.4	0.90	0.77	0.90	42.2
12	R2	All MCs	45	2.3	45	2.3	0.333	13.9	LOS A	2.4	17.4	0.90	0.77	0.90	41.7
12u	U	All MCs	1	0.0	1	0.0	0.333	16.4	LOS B	2.4	17.4	0.90	0.77	0.90	37.0
Approach			174	3.6	174	3.6	0.333	11.6	LOS A	2.4	17.4	0.90	0.77	0.90	42.0
All Vehicles			2107	2.2	2107	2.2	0.948	28.3	LOS B	28.5	204.5	0.97	1.31	1.90	35.0

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Output produced by SIDRA INTERSECTION Version: 10.0.8.241

Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE [Ped Dist]		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		ped	m			sec	m	m/sec
East: Etna St											

P2 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01
North: Mann St										
P3 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01
West: Racecourse Rd										
P4 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01
All Pedestrians	32	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY



Site: [1 (1)] Mann St / Dwyer St - PM (EXISTING)

Network: [2] Existing PM (EXISTING)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Give-Way (Two-Way)

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh.]	[Dist]		Rate to Depart	km/h
			veh/h	%	veh/h	%	v/c	sec		veh	m			
South: Mann St														
1	L2	All MCs	8	0.0	8	0.0	0.477	5.7	LOS A	0.0	0.0	0.00	0.01	56.9
2	T1	All MCs	916	0.8	916	0.8	0.477	0.2	LOS A	0.0	0.0	0.00	0.01	59.6
3	R2	All MCs	91	2.3	91	2.3	0.092	7.9	LOS A	0.3	2.3	0.47	0.71	46.1
Approach			1015	0.9	1015	0.9	0.477	0.9	NA	0.3	2.3	0.04	0.07	58.8
East: Dwyer St														
4	L2	All MCs	73	1.4	73	1.4	0.285	8.6	LOS A	1.1	7.4	0.72	0.92	33.8
5	T1	All MCs	1	0.0	1	0.0	0.285	31.2	LOS C	1.1	7.4	0.72	0.92	40.1
6	R2	All MCs	22	0.0	22	0.0	0.285	37.7	LOS C	1.1	7.4	0.72	0.92	42.4
Approach			96	1.1	96	1.1	0.285	15.5	LOS B	1.1	7.4	0.72	0.92	36.8
North: Mann St														
7	L2	All MCs	27	0.0	27	0.0	0.285	5.6	LOS A	0.0	0.0	0.00	0.03	59.3
8	T1	All MCs	521	1.6	521	1.6	0.285	0.1	LOS A	0.0	0.0	0.00	0.03	59.3
9	R2	All MCs	8	0.0	8	0.0	0.013	10.5	LOS A	0.1	0.4	0.65	0.73	45.8
Approach			557	1.5	557	1.5	0.285	0.5	NA	0.1	0.4	0.01	0.04	58.8
West: Dwyer St														
10	L2	All MCs	15	0.0	15	0.0	0.105	11.5	LOS A	0.3	2.3	0.82	0.91	40.8
11	T1	All MCs	2	0.0	2	0.0	0.105	27.5	LOS B	0.3	2.3	0.82	0.91	32.6
12	R2	All MCs	6	0.0	6	0.0	0.105	36.6	LOS C	0.3	2.3	0.82	0.91	32.6
Approach			23	0.0	23	0.0	0.105	19.8	LOS B	0.3	2.3	0.82	0.91	38.6
All Vehicles			1691	1.1	1691	1.1	0.477	1.9	NA	1.1	7.4	0.08	0.12	56.9

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY



Site: [2 (1)] Henry Parry Dr / Dwyer St - PM (EXISTING)

Network: [2] Existing PM (EXISTING)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Roundabout

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh]	Dist] m		Rate to Depart	km/h
South: Henry Parry Dr														
1	L2	All MCs	43	2.4	43	2.4	0.732	8.0	LOS A	10.3	72.7	0.89	0.67	39.6
2	T1	All MCs	478	0.7	478	0.7	0.732	8.0	LOS A	10.3	72.7	0.89	0.67	43.5
3	R2	All MCs	235	0.4	235	0.4	0.732	11.2	LOS A	10.3	72.7	0.89	0.67	43.0
3u	U	All MCs	17	0.0	17	0.0	0.732	14.0	LOS A	10.3	72.7	0.89	0.67	45.8
Approach			773	0.7	773	0.7	0.732	9.1	LOS A	10.3	72.7	0.89	0.67	43.2
East: Dwyer St														
4	L2	All MCs	154	0.0	154	0.0	0.579	13.1	LOS A	5.7	40.0	0.97	0.89	41.3
5	T1	All MCs	105	1.0	105	1.0	0.579	13.2	LOS A	5.7	40.0	0.97	0.89	36.4
6	R2	All MCs	83	0.0	83	0.0	0.579	16.3	LOS B	5.7	40.0	0.97	0.89	41.1
6u	U	All MCs	2	0.0	2	0.0	0.579	19.1	LOS B	5.7	40.0	0.97	0.89	43.6
Approach			344	0.3	344	0.3	0.579	13.9	LOS A	5.7	40.0	0.97	0.89	40.3
North: Henry Parry Dr														
7	L2	All MCs	182	0.0	182	0.0	0.862	18.2	LOS B	18.1	127.7	1.00	1.13	39.3
8	T1	All MCs	554	1.3	554	1.3	0.862	18.3	LOS B	18.1	127.7	1.00	1.13	39.5
9	R2	All MCs	25	0.0	25	0.0	0.862	21.4	LOS B	18.1	127.7	1.00	1.13	33.5
9u	U	All MCs	5	0.0	5	0.0	0.862	24.2	LOS B	18.1	127.7	1.00	1.13	41.4
Approach			766	1.0	766	1.0	0.862	18.4	LOS B	18.1	127.7	1.00	1.13	39.3
West: Dwyer St														
10	L2	All MCs	26	4.0	26	4.0	0.290	12.0	LOS A	2.1	14.9	0.93	0.79	41.5
11	T1	All MCs	79	2.7	79	2.7	0.290	11.9	LOS A	2.1	14.9	0.93	0.79	41.7
12	R2	All MCs	24	0.0	24	0.0	0.290	14.9	LOS B	2.1	14.9	0.93	0.79	41.3
12u	U	All MCs	2	0.0	2	0.0	0.290	17.7	LOS B	2.1	14.9	0.93	0.79	36.2
Approach			132	2.4	132	2.4	0.290	12.6	LOS A	2.1	14.9	0.93	0.79	41.5
All Vehicles			2015	0.8	2015	0.8	0.862	13.7	LOS A	18.1	127.7	0.95	0.89	41.1

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

 Site: [3 (1)] Mann St / Racecourse Rd / Etna St - PM
(EXISTING)

Network: [2] Existing PM (EXISTING)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100.0 seconds (Site User-Given Phase Times)

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m		Rate to Depart	km/h
South: Mann St														
1	L2	All MCs	146	3.6	146	3.6	0.219	24.1	LOS B	4.3	31.3	0.72	1.09	34.6
2	T1	All MCs	432	1.2	432	1.2	*0.856	45.2	LOS D	22.7	160.5	1.00	1.01	24.4
Approach			578	1.8	578	1.8	0.856	39.9	LOS C	22.7	160.5	0.93	1.03	27.6
East: Etna St														
4	L2	All MCs	11	0.0	11	0.0	0.422	47.5	LOS D	5.9	41.6	0.95	0.76	34.6
5	T1	All MCs	146	0.0	146	0.0	0.767	43.8	LOS D	5.9	41.6	0.96	0.78	34.3
6	R2	All MCs	34	0.0	34	0.0	0.767	71.2	LOS F	3.2	22.5	1.00	0.85	20.0
Approach			191	0.0	191	0.0	0.767	48.9	LOS D	5.9	41.6	0.96	0.79	32.1
North: Mann St														
7	L2	All MCs	24	0.0	24	0.0	0.331	19.1	LOS B	8.0	57.0	0.65	0.75	39.9
8	T1	All MCs	288	2.6	288	2.6	0.655	13.3	LOS A	11.4	80.2	0.66	0.76	40.8
9	R2	All MCs	315	0.7	315	0.7	*0.655	39.1	LOS C	11.4	80.2	0.94	1.18	28.2
Approach			627	1.5	627	1.5	0.655	26.5	LOS B	11.4	80.2	0.80	0.97	33.3
West: Racecourse Rd														
10	L2	All MCs	504	0.8	504	0.8	0.581	31.3	LOS C	16.3	114.7	0.75	1.13	27.5
11	T1	All MCs	176	0.0	176	0.0	*0.830	52.7	LOS D	16.3	114.7	0.94	1.21	28.6
12	R2	All MCs	105	6.0	105	6.0	0.830	76.5	LOS F	10.8	77.0	1.00	1.24	25.9
Approach			785	1.3	785	1.3	0.830	42.1	LOS C	16.3	114.7	0.83	1.17	23.8
All Vehicles			2181	1.4	2181	1.4	0.856	37.6	LOS C	22.7	160.5	0.86	1.04	28.3

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec

East: Etna St											
P2 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	
North: Mann St											
P3 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	
West: Racecourse Rd											
P4 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	
All Pedestrians	32	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY



Site: [1 (6)] Mann St / Dwyer St - AM (2028 BASE)

Network: [1 (5)] 2028 BASE - AM (2028 BASE)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Give-Way (Two-Way)

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV] veh/h	%	[Total HV] veh/h	%	v/c	sec		[Veh. veh	Dist] m				km/h
South: Mann St															
1	L2	All MCs	12	0.0	12	0.0	0.320	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	57.0
2	T1	All MCs	598	3.3	598	3.3	0.320	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	59.7
3	R2	All MCs	102	3.1	102	3.1	0.160	10.6	LOS A	0.5	3.8	0.67	0.87	0.67	42.8
Approach			712	3.3	712	3.3	0.320	1.7	NA	0.5	3.8	0.10	0.13	0.10	58.0
East: Dwyer St															
4	L2	All MCs	74	1.4	74	1.4	0.322	10.5	LOS A	1.2	8.5	0.78	0.95	0.95	33.0
5	T1	All MCs	5	0.0	5	0.0	0.322	27.5	LOS B	1.2	8.5	0.78	0.95	0.95	39.6
6	R2	All MCs	24	0.0	24	0.0	0.322	33.0	LOS C	1.2	8.5	0.78	0.95	0.95	41.8
Approach			103	1.0	103	1.0	0.322	16.7	LOS B	1.2	8.5	0.78	0.95	0.95	36.4
North: Mann St															
7	L2	All MCs	156	2.0	156	2.0	0.427	5.7	LOS A	0.0	0.0	0.00	0.11	0.00	57.7
8	T1	All MCs	657	2.4	657	2.4	0.427	0.2	LOS A	0.0	0.0	0.00	0.11	0.00	57.7
9	R2	All MCs	9	0.0	9	0.0	0.010	7.9	LOS A	0.0	0.3	0.55	0.63	0.55	47.4
Approach			822	2.3	822	2.3	0.427	1.3	NA	0.0	0.3	0.01	0.12	0.01	57.4
West: Dwyer St															
10	L2	All MCs	13	0.0	13	0.0	0.075	7.8	LOS A	0.2	1.6	0.72	0.85	0.72	42.8
11	T1	All MCs	4	0.0	4	0.0	0.075	27.6	LOS B	0.2	1.6	0.72	0.85	0.72	35.1
12	R2	All MCs	4	0.0	4	0.0	0.075	27.4	LOS B	0.2	1.6	0.72	0.85	0.72	35.1
Approach			21	0.0	21	0.0	0.075	15.7	LOS B	0.2	1.6	0.72	0.85	0.72	40.6
All Vehicles			1658	2.6	1658	2.6	0.427	2.6	NA	1.2	8.5	0.10	0.19	0.11	55.6

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY



Site: [2 (7)] Henry Parry Dr / Dwyer St - AM (2028 BASE)

Network: [1 (5)] 2028 BASE - AM (2028 BASE)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Roundabout

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh]	Dist]		Rate to Depart	km/h
			veh/h		veh/h		v/c	sec			m			
South: Henry Parry Dr														
1	L2	All MCs	33	0.0	33	0.0	0.704	9.7	LOS A	9.2	65.2	0.92	0.77	38.4
2	T1	All MCs	378	1.7	378	1.7	0.704	9.8	LOS A	9.2	65.2	0.92	0.77	42.7
3	R2	All MCs	212	0.5	212	0.5	0.704	13.0	LOS A	9.2	65.2	0.92	0.77	42.3
3u	U	All MCs	23	0.0	23	0.0	0.704	15.7	LOS B	9.2	65.2	0.92	0.77	45.0
Approach			645	1.1	645	1.1	0.704	11.1	LOS A	9.2	65.2	0.92	0.77	42.5
East: Dwyer St														
4	L2	All MCs	211	2.0	211	2.0	0.948	53.0	LOS D	22.0	157.0	1.00	1.79	28.5
5	T1	All MCs	177	0.6	177	0.6	0.948	52.9	LOS D	22.0	157.0	1.00	1.79	20.5
6	R2	All MCs	85	6.2	85	6.2	0.948	56.7	LOS E	22.0	157.0	1.00	1.79	28.4
6u	U	All MCs	1	0.0	1	0.0	0.948	58.9	LOS E	22.0	157.0	1.00	1.79	29.6
Approach			474	2.2	474	2.2	0.948	53.7	LOS D	22.0	157.0	1.00	1.79	26.1
North: Henry Parry Dr														
7	L2	All MCs	148	5.0	148	5.0	0.942	30.6	LOS C	28.5	204.5	1.00	1.57	34.7
8	T1	All MCs	619	2.6	619	2.6	0.942	30.4	LOS C	28.5	204.5	1.00	1.57	34.9
9	R2	All MCs	34	0.0	34	0.0	0.942	33.5	LOS C	28.5	204.5	1.00	1.57	27.5
9u	U	All MCs	14	0.0	14	0.0	0.942	36.3	LOS C	28.5	204.5	1.00	1.57	36.4
Approach			815	2.8	815	2.8	0.942	30.7	LOS C	28.5	204.5	1.00	1.57	34.7
West: Dwyer St														
10	L2	All MCs	33	6.5	33	6.5	0.333	10.9	LOS A	2.4	17.4	0.90	0.77	41.9
11	T1	All MCs	95	3.3	95	3.3	0.333	10.7	LOS A	2.4	17.4	0.90	0.77	42.2
12	R2	All MCs	45	2.3	45	2.3	0.333	13.9	LOS A	2.4	17.4	0.90	0.77	41.7
12u	U	All MCs	1	0.0	1	0.0	0.333	16.4	LOS B	2.4	17.4	0.90	0.77	37.0
Approach			174	3.6	174	3.6	0.333	11.6	LOS A	2.4	17.4	0.90	0.77	42.0
All Vehicles			2107	2.2	2107	2.2	0.948	28.3	LOS B	28.5	204.5	0.97	1.31	35.0

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

 Site: [3 (6)] Mann St / Racecourse Rd / Etna St - AM (2028 BASE)

Network: [1 (5)] 2028 BASE - AM (2028 BASE)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100.0 seconds (Site User-Given Phase Times)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance													
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m		km/h
South: Mann St													
1	L2	All MCs	136	11.6	136	11.6	0.304	33.3	LOS C	4.9	37.6	0.84	31.8
2	T1	All MCs	280	4.9	280	4.9	*0.853	51.1	LOS D	15.1	109.8	1.00	22.6
Approach			416	7.1	416	7.1	0.853	45.3	LOS D	15.1	109.8	0.95	26.3
East: Etna St													
4	L2	All MCs	19	11.1	19	11.1	0.301	40.2	LOS C	5.6	39.9	0.86	37.2
5	T1	All MCs	238	1.8	238	1.8	0.548	37.6	LOS C	6.8	47.9	0.92	36.3
6	R2	All MCs	25	0.0	25	0.0	0.548	65.6	LOS E	6.8	47.9	0.97	24.5
Approach			282	2.2	282	2.2	0.548	40.3	LOS C	6.8	47.9	0.92	35.6
North: Mann St													
7	L2	All MCs	41	0.0	41	0.0	0.359	22.7	LOS B	8.5	60.9	0.72	37.7
8	T1	All MCs	387	3.0	387	3.0	0.709	19.3	LOS B	13.1	93.1	0.80	34.8
9	R2	All MCs	241	1.7	241	1.7	*0.709	44.4	LOS D	13.1	93.1	0.95	28.6
Approach			669	2.4	669	2.4	0.709	28.6	LOS C	13.1	93.1	0.85	32.4
West: Racecourse Rd													
10	L2	All MCs	382	2.2	382	2.2	0.434	18.0	LOS B	10.2	72.3	0.55	30.8
11	T1	All MCs	172	0.6	172	0.6	*0.620	29.3	LOS C	10.2	72.3	0.72	35.6
12	R2	All MCs	112	16.0	112	16.0	0.620	56.7	LOS E	7.7	58.5	0.98	29.1
Approach			665	4.1	665	4.1	0.620	27.4	LOS B	10.2	72.3	0.67	29.1
All Vehicles			2033	3.9	2033	3.9	0.853	33.2	LOS C	15.1	109.8	0.82	30.7

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec

East: Etna St											
P2 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	
North: Mann St											
P3 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	
West: Racecourse Rd											
P4 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	
All Pedestrians	32	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY



Site: [1 (9)] Mann St / Dwyer St - PM (2028 BASE)

Network: [2 (5)] 2028 BASE - PM (2028 BASE)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Give-Way (Two-Way)

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycle	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh.]	[Dist]		Rate to Depart	km/h
			veh/h	%	veh/h	%	v/c	sec		veh	m			
South: Mann St														
1	L2	All MCs	8	0.0	8	0.0	0.505	5.7	LOS A	0.0	0.0	0.00	0.01	56.9
2	T1	All MCs	972	0.8	972	0.8	0.505	0.2	LOS A	0.0	0.0	0.00	0.01	59.5
3	R2	All MCs	91	2.3	91	2.3	0.096	8.1	LOS A	0.3	2.4	0.49	0.73	45.8
Approach			1071	0.9	1071	0.9	0.505	0.9	NA	0.3	2.4	0.04	0.07	58.8
East: Dwyer St														
4	L2	All MCs	73	1.4	73	1.4	0.329	9.5	LOS A	1.2	8.7	0.76	0.96	32.1
5	T1	All MCs	1	0.0	1	0.0	0.329	37.5	LOS C	1.2	8.7	0.76	0.96	38.9
6	R2	All MCs	22	0.0	22	0.0	0.329	45.4	LOS D	1.2	8.7	0.76	0.96	41.1
Approach			96	1.1	96	1.1	0.329	18.1	LOS B	1.2	8.7	0.76	0.96	35.2
North: Mann St														
7	L2	All MCs	27	0.0	27	0.0	0.301	5.6	LOS A	0.0	0.0	0.00	0.03	59.3
8	T1	All MCs	553	1.5	553	1.5	0.301	0.1	LOS A	0.0	0.0	0.00	0.03	59.3
9	R2	All MCs	8	0.0	8	0.0	0.015	11.2	LOS A	0.1	0.4	0.68	0.76	45.4
Approach			588	1.4	588	1.4	0.301	0.5	NA	0.1	0.4	0.01	0.04	58.8
West: Dwyer St														
10	L2	All MCs	15	0.0	15	0.0	0.125	12.6	LOS A	0.4	2.6	0.85	0.93	39.5
11	T1	All MCs	2	0.0	2	0.0	0.125	32.6	LOS C	0.4	2.6	0.85	0.93	30.9
12	R2	All MCs	6	0.0	6	0.0	0.125	43.8	LOS D	0.4	2.6	0.85	0.93	30.9
Approach			23	0.0	23	0.0	0.125	22.9	LOS B	0.4	2.6	0.85	0.93	37.1
All Vehicles			1778	1.1	1778	1.1	0.505	2.0	NA	1.2	8.7	0.08	0.12	56.8

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY



Site: [2 (9)] Henry Parry Dr / Dwyer St - PM (2028 BASE)

Network: [2 (5)] 2028 BASE - PM (2028 BASE)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Roundabout

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh.]	Dist]		Rate to Depart	km/h
			veh/h		veh/h		v/c	sec		veh	m			
South: Henry Parry Dr														
1	L2	All MCs	43	2.4	43	2.4	0.732	8.0	LOS A	10.3	72.7	0.89	0.67	39.6
2	T1	All MCs	478	0.7	478	0.7	0.732	8.0	LOS A	10.3	72.7	0.89	0.67	43.5
3	R2	All MCs	235	0.4	235	0.4	0.732	11.2	LOS A	10.3	72.7	0.89	0.67	43.0
3u	U	All MCs	17	0.0	17	0.0	0.732	14.0	LOS A	10.3	72.7	0.89	0.67	45.8
Approach			773	0.7	773	0.7	0.732	9.1	LOS A	10.3	72.7	0.89	0.67	43.2
East: Dwyer St														
4	L2	All MCs	154	0.0	154	0.0	0.579	13.1	LOS A	5.7	40.0	0.97	0.89	41.3
5	T1	All MCs	105	1.0	105	1.0	0.579	13.2	LOS A	5.7	40.0	0.97	0.89	36.4
6	R2	All MCs	83	0.0	83	0.0	0.579	16.3	LOS B	5.7	40.0	0.97	0.89	41.1
6u	U	All MCs	2	0.0	2	0.0	0.579	19.1	LOS B	5.7	40.0	0.97	0.89	43.6
Approach			344	0.3	344	0.3	0.579	13.9	LOS A	5.7	40.0	0.97	0.89	40.3
North: Henry Parry Dr														
7	L2	All MCs	182	0.0	182	0.0	0.862	18.2	LOS B	18.1	127.7	1.00	1.13	39.3
8	T1	All MCs	554	1.3	554	1.3	0.862	18.3	LOS B	18.1	127.7	1.00	1.13	39.5
9	R2	All MCs	25	0.0	25	0.0	0.862	21.4	LOS B	18.1	127.7	1.00	1.13	33.5
9u	U	All MCs	5	0.0	5	0.0	0.862	24.2	LOS B	18.1	127.7	1.00	1.13	41.4
Approach			766	1.0	766	1.0	0.862	18.4	LOS B	18.1	127.7	1.00	1.13	39.3
West: Dwyer St														
10	L2	All MCs	26	4.0	26	4.0	0.290	12.0	LOS A	2.1	14.9	0.93	0.79	41.5
11	T1	All MCs	79	2.7	79	2.7	0.290	11.9	LOS A	2.1	14.9	0.93	0.79	41.7
12	R2	All MCs	24	0.0	24	0.0	0.290	14.9	LOS B	2.1	14.9	0.93	0.79	41.3
12u	U	All MCs	2	0.0	2	0.0	0.290	17.7	LOS B	2.1	14.9	0.93	0.79	36.2
Approach			132	2.4	132	2.4	0.290	12.6	LOS A	2.1	14.9	0.93	0.79	41.5
All Vehicles			2015	0.8	2015	0.8	0.862	13.7	LOS A	18.1	127.7	0.95	0.89	41.1

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

 **Site: [3 (9)] Mann St / Racecourse Rd / Etna St - PM (2028 BASE)**

Network: [2 (5)] 2028 BASE - PM (2028 BASE)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100.0 seconds (Site User-Given Phase Times)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m		Rate to Depart	km/h
South: Mann St														
1	L2	All MCs	146	3.6	146	3.6	0.219	24.1	LOS B	4.3	31.3	0.72	1.09	34.6
2	T1	All MCs	458	1.1	458	1.1	*0.908	52.5	LOS D	26.3	186.0	1.00	1.10	22.3
Approach			604	1.7	604	1.7	0.908	45.7	LOS D	26.3	186.0	0.93	1.10	25.8
East: Etna St														
4	L2	All MCs	11	0.0	11	0.0	0.422	47.5	LOS D	5.9	41.6	0.95	0.76	34.6
5	T1	All MCs	146	0.0	146	0.0	0.767	43.8	LOS D	5.9	41.6	0.96	0.78	34.3
6	R2	All MCs	34	0.0	34	0.0	0.767	71.2	LOS F	3.2	22.5	1.00	0.85	20.0
Approach			191	0.0	191	0.0	0.767	48.9	LOS D	5.9	41.6	0.96	0.79	32.1
North: Mann St														
7	L2	All MCs	24	0.0	24	0.0	0.345	19.3	LOS B	8.4	59.8	0.66	0.76	39.8
8	T1	All MCs	305	2.4	305	2.4	0.682	13.5	LOS A	11.6	81.7	0.66	0.77	40.5
9	R2	All MCs	315	0.7	315	0.7	*0.682	40.8	LOS C	11.6	81.7	0.95	1.18	27.7
Approach			644	1.5	644	1.5	0.682	27.0	LOS B	11.6	81.7	0.81	0.97	33.0
West: Racecourse Rd														
10	L2	All MCs	504	0.8	504	0.8	0.581	31.3	LOS C	16.3	114.7	0.75	1.13	27.5
11	T1	All MCs	176	0.0	176	0.0	*0.830	52.7	LOS D	16.3	114.7	0.94	1.21	28.6
12	R2	All MCs	105	6.0	105	6.0	0.830	76.5	LOS F	10.8	77.0	1.00	1.24	25.9
Approach			785	1.3	785	1.3	0.830	42.1	LOS C	16.3	114.7	0.83	1.17	23.8
All Vehicles			2224	1.4	2224	1.4	0.908	39.3	LOS C	26.3	186.0	0.86	1.06	27.8

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec

East: Etna St											
P2 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	
North: Mann St											
P3 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	
West: Racecourse Rd											
P4 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	
All Pedestrians	32	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Project: C:\Users\Connor Hoang\OneDrive - Ason Group\ACTIVE PROJECTS\2437 - Mann Street & Dwyer Street, Gosford\Projects\Modelling
 \P2437m02v02 SIDRA - RTS Modelling.sipx

MOVEMENT SUMMARY



Site: [1 (4)] Mann St / Dwyer St - AM (2028 BASE + DEV)
Network: [1 (3)] 2028 BASE + DEV - AM (2028 BASE + DEV)
Output produced by SIDRA INTERSECTION Version: 10.0.8.241

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

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m		Rate to Depart	km/h
South: Mann St														
1	L2	All MCs	21	0.0	21	0.0	0.325	5.6	LOS A	0.0	0.0	0.00	0.02	56.9
2	T1	All MCs	598	3.3	598	3.3	0.325	0.1	LOS A	0.0	0.0	0.00	0.02	59.6
3	R2	All MCs	102	3.1	102	3.1	0.160	10.6	LOS A	0.5	3.8	0.67	0.87	42.8
Approach			721	3.2	721	3.2	0.325	1.7	NA	0.5	3.8	0.10	0.14	57.9
East: Dwyer St														
4	L2	All MCs	74	1.4	74	1.4	0.347	10.9	LOS A	1.3	9.3	0.79	0.97	32.3
5	T1	All MCs	7	0.0	7	0.0	0.347	28.5	LOS B	1.3	9.3	0.79	0.97	39.1
6	R2	All MCs	24	0.0	24	0.0	0.347	35.4	LOS C	1.3	9.3	0.79	0.97	41.2
Approach			105	1.0	105	1.0	0.347	17.7	LOS B	1.3	9.3	0.79	0.97	35.8
North: Mann St														
7	L2	All MCs	156	2.0	156	2.0	0.427	5.7	LOS A	0.0	0.0	0.00	0.11	57.7
8	T1	All MCs	657	2.4	657	2.4	0.427	0.2	LOS A	0.0	0.0	0.00	0.11	57.7
9	R2	All MCs	15	0.0	15	0.0	0.015	8.0	LOS A	0.1	0.5	0.55	0.65	47.4
Approach			827	2.3	827	2.3	0.427	1.3	NA	0.1	0.5	0.01	0.12	57.3
West: Dwyer St														
10	L2	All MCs	33	0.0	33	0.0	0.418	11.9	LOS A	1.6	11.1	0.86	1.02	38.2
11	T1	All MCs	11	0.0	11	0.0	0.418	34.7	LOS C	1.6	11.1	0.86	1.02	29.4
12	R2	All MCs	44	0.0	44	0.0	0.418	34.4	LOS C	1.6	11.1	0.86	1.02	29.4
Approach			87	0.0	87	0.0	0.418	26.0	LOS B	1.6	11.1	0.86	1.02	33.5
All Vehicles			1741	2.5	1741	2.5	0.427	3.7	NA	1.6	11.1	0.14	0.23	53.9

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY



Site: [2 (4)] Henry Parry Dr / Dwyer St - AM (2028 BASE + DEV)

Network: [1 (3)] 2028 BASE + DEV - AM (2028 BASE + DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Roundabout

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh]	Dist] m				km/h
South: Henry Parry Dr															
1	L2	All MCs	33	0.0	33	0.0	0.705	9.8	LOS A	9.3	65.4	0.92	0.77	1.09	38.4
2	T1	All MCs	378	1.7	378	1.7	0.705	9.9	LOS A	9.3	65.4	0.92	0.77	1.09	42.7
3	R2	All MCs	212	0.5	212	0.5	0.705	13.0	LOS A	9.3	65.4	0.92	0.77	1.09	42.3
3u	U	All MCs	23	0.0	23	0.0	0.705	15.8	LOS B	9.3	65.4	0.92	0.77	1.09	45.0
Approach			645	1.1	645	1.1	0.705	11.1	LOS A	9.3	65.4	0.92	0.77	1.09	42.5
East: Dwyer St															
4	L2	All MCs	211	2.0	211	2.0	0.952	54.5	LOS D	22.5	160.7	1.00	1.82	2.87	28.2
5	T1	All MCs	178	0.6	178	0.6	0.952	54.4	LOS D	22.5	160.7	1.00	1.82	2.87	20.2
6	R2	All MCs	85	6.2	85	6.2	0.952	58.2	LOS E	22.5	160.7	1.00	1.82	2.87	28.1
6u	U	All MCs	1	0.0	1	0.0	0.952	60.3	LOS E	22.5	160.7	1.00	1.82	2.87	29.3
Approach			475	2.2	475	2.2	0.952	55.1	LOS D	22.5	160.7	1.00	1.82	2.87	25.8
North: Henry Parry Dr															
7	L2	All MCs	148	5.0	148	5.0	0.947	32.2	LOS C	29.5	211.5	1.00	1.61	2.30	34.2
8	T1	All MCs	619	2.6	619	2.6	0.947	32.0	LOS C	29.5	211.5	1.00	1.61	2.30	34.4
9	R2	All MCs	34	0.0	34	0.0	0.947	35.0	LOS C	29.5	211.5	1.00	1.61	2.30	26.9
9u	U	All MCs	14	0.0	14	0.0	0.947	37.8	LOS C	29.5	211.5	1.00	1.61	2.30	35.8
Approach			815	2.8	815	2.8	0.947	32.2	LOS C	29.5	211.5	1.00	1.61	2.30	34.2
West: Dwyer St															
10	L2	All MCs	34	6.2	34	6.2	0.345	10.9	LOS A	2.5	18.1	0.91	0.77	0.91	41.9
11	T1	All MCs	98	3.2	98	3.2	0.345	10.7	LOS A	2.5	18.1	0.91	0.77	0.91	42.2
12	R2	All MCs	47	2.2	47	2.2	0.345	13.9	LOS A	2.5	18.1	0.91	0.77	0.91	41.7
12u	U	All MCs	1	0.0	1	0.0	0.345	16.5	LOS B	2.5	18.1	0.91	0.77	0.91	37.0
Approach			180	3.5	180	3.5	0.345	11.6	LOS A	2.5	18.1	0.91	0.77	0.91	42.0
All Vehicles			2115	2.2	2115	2.2	0.952	29.2	LOS C	29.5	211.5	0.97	1.33	1.94	34.7

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

 **Site: [3 (4)] Mann St / Racecourse Rd / Etna St - AM (2028**
BASE + DEV)

Network: [1 (3)] 2028 BASE + DEV - AM (2028 BASE + DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100.0 seconds (Site User-Given Phase Times)

Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance													
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Aver. Speed
			[Total HV]		[Total HV]					[Veh.]	Dist]		
			veh/h	%	veh/h	%	v/c	sec		veh	m		km/h
South: Mann St													
1	L2	All MCs	136	11.6	136	11.6	0.304	33.3	LOS C	4.9	37.6	0.84	31.8
2	T1	All MCs	283	4.8	283	4.8	*0.862	52.0	LOS D	15.4	112.2	1.00	22.4
Approach			419	7.0	419	7.0	0.862	45.9	LOS D	15.4	112.2	0.95	26.2
East: Etna St													
4	L2	All MCs	19	11.1	19	11.1	0.302	40.2	LOS C	5.6	40.0	0.86	37.2
5	T1	All MCs	238	1.8	238	1.8	0.549	37.7	LOS C	6.8	47.8	0.92	36.3
6	R2	All MCs	25	0.0	25	0.0	0.549	65.7	LOS E	6.8	47.8	0.98	24.4
Approach			282	2.2	282	2.2	0.549	40.4	LOS C	6.8	47.8	0.92	35.5
North: Mann St													
7	L2	All MCs	43	0.0	43	0.0	0.380	22.9	LOS B	9.1	65.3	0.73	37.5
8	T1	All MCs	409	2.8	409	2.8	0.752	20.0	LOS B	14.5	103.4	0.81	34.4
9	R2	All MCs	256	1.6	256	1.6	*0.752	46.5	LOS D	14.5	103.4	0.97	27.9
Approach			708	2.2	708	2.2	0.752	29.7	LOS C	14.5	103.4	0.86	31.9
West: Racecourse Rd													
10	L2	All MCs	387	2.2	387	2.2	0.438	18.4	LOS B	10.3	73.2	0.56	30.7
11	T1	All MCs	172	0.6	172	0.6	*0.626	29.9	LOS C	10.3	73.2	0.73	35.4
12	R2	All MCs	112	16.0	112	16.0	0.626	57.3	LOS E	7.8	59.1	0.98	29.1
Approach			671	4.1	671	4.1	0.626	27.8	LOS B	10.3	73.2	0.67	28.9
All Vehicles			2080	3.8	2080	3.8	0.862	33.8	LOS C	15.4	112.2	0.83	30.4

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped]	Dist]			sec	m	m/sec
					ped	m					

East: Etna St											
P2 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	
North: Mann St											
P3 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	
West: Racecourse Rd											
P4 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	
All Pedestrians	32	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Project: C:\Users\Connor Hoang\OneDrive - Ason Group\ACTIVE PROJECTS\2437 - Mann Street & Dwyer Street, Gosford\Projects\Modelling
 \P2437m02v02 SIDRA - RTS Modelling.sipx

MOVEMENT SUMMARY

Site: [1 (5)] Mann St / Dwyer St - PM (2028 BASE + DEV)
Network: [2 (3)] 2028 BASE + DEV - PM (2028 BASE + DEV)
Output produced by SIDRA INTERSECTION Version: 10.0.8.241

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

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m		Rate to Depart	km/h
South: Mann St														
1	L2	All MCs	47	0.0	47	0.0	0.526	5.7	LOS A	0.0	0.0	0.00	0.03	56.7
2	T1	All MCs	972	0.8	972	0.8	0.526	0.2	LOS A	0.0	0.0	0.00	0.03	59.3
3	R2	All MCs	91	2.3	91	2.3	0.096	8.1	LOS A	0.3	2.4	0.49	0.73	45.8
Approach			1109	0.9	1109	0.9	0.526	1.1	NA	0.3	2.4	0.04	0.08	58.5
East: Dwyer St														
4	L2	All MCs	73	1.4	73	1.4	0.391	10.5	LOS A	1.5	10.7	0.80	1.00	30.3
5	T1	All MCs	6	0.0	6	0.0	0.391	43.4	LOS D	1.5	10.7	0.80	1.00	37.7
6	R2	All MCs	22	0.0	22	0.0	0.391	49.2	LOS D	1.5	10.7	0.80	1.00	39.7
Approach			101	1.0	101	1.0	0.391	21.0	LOS B	1.5	10.7	0.80	1.00	33.8
North: Mann St														
7	L2	All MCs	27	0.0	27	0.0	0.301	5.6	LOS A	0.0	0.0	0.00	0.03	59.3
8	T1	All MCs	553	1.5	553	1.5	0.301	0.1	LOS A	0.0	0.0	0.00	0.03	59.3
9	R2	All MCs	28	0.0	28	0.0	0.053	12.0	LOS A	0.2	1.5	0.71	0.86	45.0
Approach			608	1.4	608	1.4	0.301	0.9	NA	0.2	1.5	0.03	0.07	57.7
West: Dwyer St														
10	L2	All MCs	20	0.0	20	0.0	0.282	15.6	LOS B	0.9	6.3	0.90	0.99	35.7
11	T1	All MCs	4	0.0	4	0.0	0.282	39.0	LOS C	0.9	6.3	0.90	0.99	26.6
12	R2	All MCs	16	0.0	16	0.0	0.282	52.3	LOS D	0.9	6.3	0.90	0.99	26.6
Approach			40	0.0	40	0.0	0.282	32.5	LOS C	0.9	6.3	0.90	0.99	32.0
All Vehicles			1859	1.0	1859	1.0	0.526	2.8	NA	1.5	10.7	0.10	0.15	55.6

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY



Site: [2 (5)] Henry Parry Dr / Dwyer St - PM (2028 BASE + DEV)

Network: [2 (3)] 2028 BASE + DEV - PM (2028 BASE + DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Roundabout

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m		Rate to Depart	km/h
South: Henry Parry Dr														
1	L2	All MCs	45	2.3	45	2.3	0.740	8.4	LOS A	10.7	75.2	0.90	0.68	1.00
2	T1	All MCs	478	0.7	478	0.7	0.740	8.3	LOS A	10.7	75.2	0.90	0.68	1.00
3	R2	All MCs	235	0.4	235	0.4	0.740	11.5	LOS A	10.7	75.2	0.90	0.68	1.00
3u	U	All MCs	17	0.0	17	0.0	0.740	14.3	LOS A	10.7	75.2	0.90	0.68	1.00
Approach			775	0.7	775	0.7	0.740	9.4	LOS A	10.7	75.2	0.90	0.68	1.00
East: Dwyer St														
4	L2	All MCs	154	0.0	154	0.0	0.587	13.3	LOS A	5.8	41.0	0.97	0.89	1.21
5	T1	All MCs	109	1.0	109	1.0	0.587	13.4	LOS A	5.8	41.0	0.97	0.89	1.21
6	R2	All MCs	83	0.0	83	0.0	0.587	16.6	LOS B	5.8	41.0	0.97	0.89	1.21
6u	U	All MCs	2	0.0	2	0.0	0.587	19.3	LOS B	5.8	41.0	0.97	0.89	1.21
Approach			348	0.3	348	0.3	0.587	14.2	LOS A	5.8	41.0	0.97	0.89	1.21
North: Henry Parry Dr														
7	L2	All MCs	182	0.0	182	0.0	0.865	18.4	LOS B	18.4	129.5	1.00	1.14	1.61
8	T1	All MCs	554	1.3	554	1.3	0.865	18.6	LOS B	18.4	129.5	1.00	1.14	1.61
9	R2	All MCs	26	0.0	26	0.0	0.865	21.7	LOS B	18.4	129.5	1.00	1.14	1.61
9u	U	All MCs	5	0.0	5	0.0	0.865	24.5	LOS B	18.4	129.5	1.00	1.14	1.61
Approach			767	1.0	767	1.0	0.865	18.7	LOS B	18.4	129.5	1.00	1.14	1.61
West: Dwyer St														
10	L2	All MCs	26	4.0	26	4.0	0.293	12.0	LOS A	2.1	15.1	0.93	0.79	0.93
11	T1	All MCs	80	2.6	80	2.6	0.293	11.9	LOS A	2.1	15.1	0.93	0.79	0.93
12	R2	All MCs	24	0.0	24	0.0	0.293	14.9	LOS B	2.1	15.1	0.93	0.79	0.93
12u	U	All MCs	2	0.0	2	0.0	0.293	17.7	LOS B	2.1	15.1	0.93	0.79	0.93
Approach			133	2.4	133	2.4	0.293	12.6	LOS A	2.1	15.1	0.93	0.79	0.93
All Vehicles			2023	0.8	2023	0.8	0.865	13.9	LOS A	18.4	129.5	0.95	0.90	1.26

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

 **Site: [3 (5)] Mann St / Racecourse Rd / Etna St - PM (2028**
BASE + DEV)

Network: [2 (3)] 2028 BASE + DEV - PM (2028 BASE + DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100.0 seconds (Site User-Given Phase Times)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m		Rate	to Depart	km/h
South: Mann St															
1	L2	All MCs	146	3.6	146	3.6	0.219	24.1	LOS B	4.3	31.3	0.72	1.09	0.72	34.6
2	T1	All MCs	475	1.1	475	1.1	*0.941	60.2	LOS E	29.4	207.7	1.00	1.18	1.38	20.4
Approach			621	1.7	621	1.7	0.941	51.7	LOS D	29.4	207.7	0.93	1.16	1.23	24.1
East: Etna St															
4	L2	All MCs	11	0.0	11	0.0	0.428	47.6	LOS D	6.0	42.2	0.95	0.76	0.95	34.6
5	T1	All MCs	146	0.0	146	0.0	0.778	43.8	LOS D	6.0	42.2	0.96	0.78	1.01	34.4
6	R2	All MCs	35	0.0	35	0.0	0.778	71.2	LOS F	3.2	22.2	1.00	0.86	1.32	19.9
Approach			192	0.0	192	0.0	0.778	49.0	LOS D	6.0	42.2	0.96	0.79	1.06	32.0
North: Mann St															
7	L2	All MCs	24	0.0	24	0.0	0.354	19.3	LOS B	8.6	61.7	0.66	0.76	0.66	39.7
8	T1	All MCs	311	2.4	311	2.4	0.699	13.5	LOS A	11.8	83.0	0.66	0.77	0.67	40.6
9	R2	All MCs	320	0.7	320	0.7	*0.699	41.7	LOS C	11.8	83.0	0.96	1.18	0.98	27.3
Approach			655	1.4	655	1.4	0.699	27.5	LOS B	11.8	83.0	0.81	0.97	0.82	32.8
West: Racecourse Rd															
10	L2	All MCs	524	0.8	524	0.8	0.613	32.6	LOS C	17.2	120.9	0.77	1.14	0.77	26.9
11	T1	All MCs	176	0.0	176	0.0	*0.876	56.8	LOS E	17.2	120.9	0.93	1.24	1.16	27.6
12	R2	All MCs	105	6.0	105	6.0	0.876	82.5	LOS F	11.0	78.7	1.00	1.28	1.34	24.2
Approach			805	1.3	805	1.3	0.876	44.4	LOS D	17.2	120.9	0.84	1.18	0.93	22.8
All Vehicles			2273	1.3	2273	1.3	0.941	41.9	LOS C	29.4	207.7	0.87	1.08	0.99	26.8

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec

East: Etna St											
P2 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	
North: Mann St											
P3 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	
West: Racecourse Rd											
P4 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	
All Pedestrians	32	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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 \P2437m02v02 SIDRA - RTS Modelling.sipx

MOVEMENT SUMMARY



Site: [1 (2)] Mann St / Dwyer St - AM (2038 BASE)

Network: [1 (2)] 2038 BASE - AM (2038 BASE)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Give-Way (Two-Way)

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed	
			[Total HV] veh/h	%	[Total HV] veh/h	%	v/c	sec		[Veh. veh	Dist] m				km/h
South: Mann St															
1	L2	All MCs	12	0.0	12	0.0	0.370	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	57.0
2	T1	All MCs	694	3.3	694	3.3	0.370	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	59.7
3	R2	All MCs	102	3.1	102	3.1	0.196	12.3	LOS A	0.6	4.6	0.74	0.90	0.76	40.9
Approach			807	3.3	807	3.3	0.370	1.7	NA	0.6	4.6	0.09	0.12	0.10	57.9
East: Dwyer St															
4	L2	All MCs	74	1.4	74	1.4	0.453	14.5	LOS B	1.7	12.1	0.87	1.04	1.19	28.5
5	T1	All MCs	5	0.0	5	0.0	0.453	41.8	LOS C	1.7	12.1	0.87	1.04	1.19	36.3
6	R2	All MCs	24	0.0	24	0.0	0.453	50.4	LOS D	1.7	12.1	0.87	1.04	1.19	38.2
Approach			103	1.0	103	1.0	0.453	24.4	LOS B	1.7	12.1	0.87	1.04	1.19	32.2
North: Mann St															
7	L2	All MCs	156	2.0	156	2.0	0.482	5.7	LOS A	0.0	0.0	0.00	0.10	0.00	57.9
8	T1	All MCs	762	2.3	762	2.3	0.482	0.2	LOS A	0.0	0.0	0.00	0.10	0.00	57.9
9	R2	All MCs	9	0.0	9	0.0	0.011	8.6	LOS A	0.0	0.3	0.58	0.67	0.58	47.0
Approach			927	2.3	927	2.3	0.482	1.2	NA	0.0	0.3	0.01	0.11	0.01	57.6
West: Dwyer St															
10	L2	All MCs	13	0.0	13	0.0	0.107	8.7	LOS A	0.3	2.2	0.81	0.91	0.81	40.1
11	T1	All MCs	4	0.0	4	0.0	0.107	40.8	LOS C	0.3	2.2	0.81	0.91	0.81	31.7
12	R2	All MCs	4	0.0	4	0.0	0.107	39.6	LOS C	0.3	2.2	0.81	0.91	0.81	31.7
Approach			21	0.0	21	0.0	0.107	21.3	LOS B	0.3	2.2	0.81	0.91	0.81	37.6
All Vehicles			1859	2.6	1859	2.6	0.482	2.9	NA	1.7	12.1	0.10	0.17	0.12	55.3

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY



Site: [2 (2)] Henry Parry Dr / Dwyer St - AM (2038 BASE)

Network: [1 (2)] 2038 BASE - AM (2038 BASE)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Roundabout

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh]	Dist]		Rate to Depart	km/h
			veh/h		veh/h		v/c	sec			m			
South: Henry Parry Dr														
1	L2	All MCs	33	0.0	33	0.0	0.704	9.7	LOS A	9.2	65.2	0.92	0.77	1.09
2	T1	All MCs	378	1.7	378	1.7	0.704	9.8	LOS A	9.2	65.2	0.92	0.77	1.09
3	R2	All MCs	212	0.5	212	0.5	0.704	13.0	LOS A	9.2	65.2	0.92	0.77	1.09
3u	U	All MCs	23	0.0	23	0.0	0.704	15.7	LOS B	9.2	65.2	0.92	0.77	1.09
Approach			645	1.1	645	1.1	0.704	11.1	LOS A	9.2	65.2	0.92	0.77	1.09
East: Dwyer St														
4	L2	All MCs	211	2.0	211	2.0	0.948	53.0	LOS D	22.0	157.0	1.00	1.79	2.82
5	T1	All MCs	177	0.6	177	0.6	0.948	52.9	LOS D	22.0	157.0	1.00	1.79	2.82
6	R2	All MCs	85	6.2	85	6.2	0.948	56.7	LOS E	22.0	157.0	1.00	1.79	2.82
6u	U	All MCs	1	0.0	1	0.0	0.948	58.9	LOS E	22.0	157.0	1.00	1.79	2.82
Approach			474	2.2	474	2.2	0.948	53.7	LOS D	22.0	157.0	1.00	1.79	2.82
North: Henry Parry Dr														
7	L2	All MCs	148	5.0	148	5.0	0.942	30.6	LOS C	28.5	204.5	1.00	1.57	2.22
8	T1	All MCs	619	2.6	619	2.6	0.942	30.4	LOS C	28.5	204.5	1.00	1.57	2.22
9	R2	All MCs	34	0.0	34	0.0	0.942	33.5	LOS C	28.5	204.5	1.00	1.57	2.22
9u	U	All MCs	14	0.0	14	0.0	0.942	36.3	LOS C	28.5	204.5	1.00	1.57	2.22
Approach			815	2.8	815	2.8	0.942	30.7	LOS C	28.5	204.5	1.00	1.57	2.22
West: Dwyer St														
10	L2	All MCs	33	6.5	33	6.5	0.333	10.9	LOS A	2.4	17.4	0.90	0.77	0.90
11	T1	All MCs	95	3.3	95	3.3	0.333	10.7	LOS A	2.4	17.4	0.90	0.77	0.90
12	R2	All MCs	45	2.3	45	2.3	0.333	13.9	LOS A	2.4	17.4	0.90	0.77	0.90
12u	U	All MCs	1	0.0	1	0.0	0.333	16.4	LOS B	2.4	17.4	0.90	0.77	0.90
Approach			174	3.6	174	3.6	0.333	11.6	LOS A	2.4	17.4	0.90	0.77	0.90
All Vehicles			2107	2.2	2107	2.2	0.948	28.3	LOS B	28.5	204.5	0.97	1.31	1.90

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

 Site: [3 (2)] Mann St / Racecourse Rd / Etna St - AM (2038 BASE)

Network: [1 (2)] 2038 BASE - AM (2038 BASE)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100.0 seconds (Site User-Given Phase Times)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance													
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh.]	[Dist]		
			veh/h	%	veh/h	%	v/c	sec		veh	m		km/h
South: Mann St													
1	L2	All MCs	136	11.6	136	11.6	0.304	33.3	LOS C	4.9	37.6	0.84	31.8
2	T1	All MCs	322	4.2	322	4.2	*0.978	76.5	LOS F	21.8	158.0	1.00	17.3
Approach			458	6.4	458	6.4	0.978	63.7	LOS E	21.8	158.0	0.95	21.8
East: Etna St													
4	L2	All MCs	19	11.1	19	11.1	0.301	40.3	LOS C	5.6	39.9	0.86	37.2
5	T1	All MCs	238	1.8	238	1.8	0.548	37.6	LOS C	6.8	47.9	0.92	36.3
6	R2	All MCs	25	0.0	25	0.0	0.548	65.6	LOS E	6.8	47.9	0.97	24.5
Approach			282	2.2	282	2.2	0.548	40.3	LOS C	6.8	47.9	0.92	35.6
North: Mann St													
7	L2	All MCs	41	0.0	41	0.0	0.389	23.0	LOS B	9.4	67.1	0.73	37.5
8	T1	All MCs	447	2.6	447	2.6	0.769	20.8	LOS B	15.2	108.3	0.82	34.0
9	R2	All MCs	241	1.7	241	1.7	*0.769	48.2	LOS D	15.2	108.3	0.97	27.8
Approach			729	2.2	729	2.2	0.769	30.0	LOS C	15.2	108.3	0.87	31.8
West: Racecourse Rd													
10	L2	All MCs	382	2.2	382	2.2	0.434	18.0	LOS B	10.2	72.3	0.55	30.8
11	T1	All MCs	172	0.6	172	0.6	*0.620	29.3	LOS C	10.2	72.3	0.72	35.6
12	R2	All MCs	112	16.0	112	16.0	0.620	56.7	LOS E	7.7	58.5	0.98	29.1
Approach			665	4.1	665	4.1	0.620	27.4	LOS B	10.2	72.3	0.67	29.1
All Vehicles			2135	3.7	2135	3.7	0.978	37.8	LOS C	21.8	158.0	0.83	29.2

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped]	[Dist]			sec	m	m/sec
					ped	m					

East: Etna St											
P2 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	
North: Mann St											
P3 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	
West: Racecourse Rd											
P4 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	
All Pedestrians	32	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY



Site: [1 (3)] Mann St / Dwyer St - PM (2038 BASE)

Network: [2 (2)] 2038 BASE - PM (2038 BASE)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Give-Way (Two-Way)

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop of Cycles	Number of Depart	Aver. Speed	
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m				km/h
South: Mann St															
1	L2	All MCs	8	0.0	8	0.0	0.571	5.7	LOS A	0.0	0.0	0.00	0.00	0.00	56.8
2	T1	All MCs	1126	0.7	1101	0.6	0.571	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.4
3	R2	All MCs	91	2.3	88	2.3	0.106	8.8	LOS A	0.4	2.6	0.56	0.78	0.56	44.9
Approach			1225	0.8	1198	0.8	0.571	0.9	NA	0.4	2.6	0.04	0.06	0.04	58.7
East: Dwyer St															
4	L2	All MCs	73	1.4	73	1.4	0.501	14.2	LOS A	1.9	13.4	0.88	1.07	1.26	26.4
5	T1	All MCs	1	0.0	1	0.0	0.501	62.4	LOS E	1.9	13.4	0.88	1.07	1.26	34.6
6	R2	All MCs	22	0.0	22	0.0	0.501	76.4	LOS F	1.9	13.4	0.88	1.07	1.26	36.3
Approach			96	1.1	96	1.1	0.501	29.1	LOS C	1.9	13.4	0.88	1.07	1.26	29.6
North: Mann St															
7	L2	All MCs	27	0.0	27	0.0	0.346	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	59.3
8	T1	All MCs	640	1.3	640	1.3	0.346	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.3
9	R2	All MCs	8	0.0	8	0.0	0.019	13.4	LOS A	0.1	0.5	0.76	0.83	0.76	44.2
Approach			676	1.2	676	1.2	0.346	0.5	NA	0.1	0.5	0.01	0.03	0.01	58.9
West: Dwyer St															
10	L2	All MCs	15	0.0	15	0.0	0.199	17.3	LOS B	0.6	4.1	0.91	0.97	0.96	34.7
11	T1	All MCs	2	0.0	2	0.0	0.199	52.8	LOS D	0.6	4.1	0.91	0.97	0.96	25.5
12	R2	All MCs	6	0.0	6	0.0	0.199	72.9	LOS F	0.6	4.1	0.91	0.97	0.96	25.5
Approach			23	0.0	23	0.0	0.199	35.7	LOS C	0.6	4.1	0.91	0.97	0.96	32.1
All Vehicles			2020	0.9	1992	1.0	0.571	2.5	NA	1.9	13.4	0.08	0.11	0.10	56.1

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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IP2437m02v02 SIDRA - RTS Modelling.sipx

MOVEMENT SUMMARY



Site: [2 (3)] Henry Parry Dr / Dwyer St - PM (2038 BASE)

Network: [2 (2)] 2038 BASE - PM (2038 BASE)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Roundabout

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh	Dist] m		Rate to Depart	km/h
South: Henry Parry Dr														
1	L2	All MCs	43	2.4	43	2.4	0.732	8.0	LOS A	10.3	72.7	0.89	0.67	39.6
2	T1	All MCs	478	0.7	478	0.7	0.732	8.0	LOS A	10.3	72.7	0.89	0.67	43.5
3	R2	All MCs	235	0.4	235	0.4	0.732	11.2	LOS A	10.3	72.7	0.89	0.67	43.0
3u	U	All MCs	17	0.0	17	0.0	0.732	14.0	LOS A	10.3	72.7	0.89	0.67	45.8
Approach			773	0.7	773	0.7	0.732	9.1	LOS A	10.3	72.7	0.89	0.67	43.2
East: Dwyer St														
4	L2	All MCs	154	0.0	154	0.0	0.579	13.1	LOS A	5.7	40.0	0.97	0.89	41.3
5	T1	All MCs	105	1.0	105	1.0	0.579	13.2	LOS A	5.7	40.0	0.97	0.89	36.4
6	R2	All MCs	83	0.0	83	0.0	0.579	16.3	LOS B	5.7	40.0	0.97	0.89	41.1
6u	U	All MCs	2	0.0	2	0.0	0.579	19.1	LOS B	5.7	40.0	0.97	0.89	43.6
Approach			344	0.3	344	0.3	0.579	13.9	LOS A	5.7	40.0	0.97	0.89	40.3
North: Henry Parry Dr														
7	L2	All MCs	182	0.0	182	0.0	0.861	18.0	LOS B	18.0	126.8	1.00	1.13	39.4
8	T1	All MCs	554	1.3	554	1.3	0.861	18.1	LOS B	18.0	126.8	1.00	1.13	39.6
9	R2	All MCs	25	0.0	25	0.0	0.861	21.2	LOS B	18.0	126.8	1.00	1.13	33.6
9u	U	All MCs	5	0.0	5	0.0	0.861	24.0	LOS B	18.0	126.8	1.00	1.13	41.5
Approach			766	1.0	766	1.0	0.861	18.2	LOS B	18.0	126.8	1.00	1.13	39.4
West: Dwyer St														
10	L2	All MCs	26	4.0	26	4.0	0.285	12.0	LOS A	2.0	14.6	0.93	0.79	41.5
11	T1	All MCs	79	2.7	78	2.7	0.285	11.9	LOS A	2.0	14.6	0.93	0.79	41.7
12	R2	All MCs	24	0.0	24	0.0	0.285	14.9	LOS B	2.0	14.6	0.93	0.79	41.3
12u	U	All MCs	2	0.0	2	0.0	0.285	17.7	LOS B	2.0	14.6	0.93	0.79	36.3
Approach			132	2.4	130	2.4	0.285	12.5	LOS A	2.0	14.6	0.93	0.79	41.6
All Vehicles			2015	0.8	2013	0.8	0.861	13.6	LOS A	18.0	126.8	0.95	0.89	41.1

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

 Site: [3 (3)] Mann St / Racecourse Rd / Etna St - PM (2038 BASE)

Network: [2 (2)] 2038 BASE - PM (2038 BASE)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100.0 seconds (Site User-Given Phase Times)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m		Rate to Depart	km/h
South: Mann St														
1	L2	All MCs	146	3.6	146	3.6	0.219	24.1	LOS B	4.3	31.3	0.72	1.09	34.6
2	T1	All MCs	532	1.2	532	1.2	* 1.055	115.8	LOS F	44.2	312.2	1.00	1.55	12.7
Approach			678	1.7	678	1.7	1.055	96.0	LOS F	44.2	312.2	0.94	1.45	16.3
East: Etna St														
4	L2	All MCs	11	0.0	11	0.0	0.422	47.6	LOS D	5.9	41.6	0.95	0.76	34.6
5	T1	All MCs	146	0.0	146	0.0	0.767	43.8	LOS D	5.9	41.6	0.96	0.78	34.3
6	R2	All MCs	34	0.0	34	0.0	0.767	71.2	LOS F	3.2	22.5	1.00	0.85	20.0
Approach			191	0.0	191	0.0	0.767	48.9	LOS D	5.9	41.6	0.96	0.79	32.1
North: Mann St														
7	L2	All MCs	24	0.0	24	0.0	0.372	19.5	LOS B	9.2	65.5	0.67	0.77	39.6
8	T1	All MCs	354	2.1	354	2.1	0.734	14.0	LOS A	12.8	90.0	0.69	0.81	39.2
9	R2	All MCs	315	0.7	315	0.7	* 0.734	44.3	LOS D	12.8	90.0	0.97	1.19	27.0
Approach			693	1.4	693	1.4	0.734	28.0	LOS B	12.8	90.0	0.82	0.98	32.6
West: Racecourse Rd														
10	L2	All MCs	504	0.8	504	0.8	0.581	31.3	LOS C	16.3	114.7	0.75	1.13	27.5
11	T1	All MCs	176	0.0	176	0.0	* 0.830	52.7	LOS D	16.3	114.7	0.94	1.21	28.6
12	R2	All MCs	105	6.0	105	6.0	0.830	76.5	LOS F	10.8	77.0	1.00	1.24	25.9
Approach			785	1.3	785	1.3	0.830	42.1	LOS C	16.3	114.7	0.83	1.17	23.8
All Vehicles			2346	1.3	2346	1.3	1.055	54.0	LOS D	44.2	312.2	0.87	1.16	24.1

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec

East: Etna St											
P2 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	
North: Mann St											
P3 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	
West: Racecourse Rd											
P4 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	
All Pedestrians	32	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY



Site: [1 (7)] Mann St / Dwyer St - AM (2038 BASE + DEV)
Network: [1 (4)] 2038 BASE + DEV - AM (2038 BASE + DEV)
Output produced by SIDRA INTERSECTION Version: 10.0.8.241

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

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh]	Dist] m		Rate to Depart	km/h
South: Mann St														
1	L2	All MCs	21	0.0	21	0.0	0.372	5.6	LOS A	0.0	0.0	0.00	0.02	56.9
2	T1	All MCs	691	2.9	690	2.9	0.372	0.1	LOS A	0.0	0.0	0.00	0.02	59.6
3	R2	All MCs	102	3.1	102	3.1	0.195	12.2	LOS A	0.6	4.5	0.74	0.90	40.9
Approach			814	2.8	814	2.8	0.372	1.8	NA	0.6	4.5	0.09	0.13	57.9
East: Dwyer St														
4	L2	All MCs	74	1.4	74	1.4	0.485	15.3	LOS B	1.9	13.1	0.88	1.05	27.7
5	T1	All MCs	7	0.0	7	0.0	0.485	43.0	LOS D	1.9	13.1	0.88	1.05	35.7
6	R2	All MCs	24	0.0	24	0.0	0.485	53.7	LOS D	1.9	13.1	0.88	1.05	37.5
Approach			105	1.0	105	1.0	0.485	26.1	LOS B	1.9	13.1	0.88	1.05	31.5
North: Mann St														
7	L2	All MCs	156	2.0	156	2.0	0.480	5.7	LOS A	0.0	0.0	0.00	0.10	57.9
8	T1	All MCs	760	2.1	760	2.1	0.480	0.2	LOS A	0.0	0.0	0.00	0.10	57.9
9	R2	All MCs	15	0.0	15	0.0	0.017	8.6	LOS A	0.1	0.5	0.59	0.69	47.0
Approach			931	2.0	931	2.0	0.480	1.3	NA	0.1	0.5	0.01	0.11	57.5
West: Dwyer St														
10	L2	All MCs	33	0.0	33	0.0	0.609	21.0	LOS B	2.4	16.7	0.94	1.12	32.4
11	T1	All MCs	11	0.0	11	0.0	0.609	57.1	LOS E	2.4	16.7	0.94	1.12	23.1
12	R2	All MCs	44	0.0	44	0.0	0.609	55.9	LOS D	2.4	16.7	0.94	1.12	23.1
Approach			87	0.0	87	0.0	0.609	43.0	LOS D	2.4	16.7	0.94	1.12	27.4
All Vehicles			1937	2.2	1937	2.2	0.609	4.7	NA	2.4	16.7	0.13	0.21	52.9

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY



Site: [2 (6)] Henry Parry Dr / Dwyer St - AM (2038 BASE + DEV)

Network: [1 (4)] 2038 BASE + DEV - AM (2038 BASE + DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Roundabout

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m				km/h
South: Henry Parry Dr															
1	L2	All MCs	33	0.0	33	0.0	0.705	9.8	LOS A	9.3	65.4	0.92	0.77	1.09	38.4
2	T1	All MCs	378	1.7	378	1.7	0.705	9.9	LOS A	9.3	65.4	0.92	0.77	1.09	42.7
3	R2	All MCs	212	0.5	212	0.5	0.705	13.0	LOS A	9.3	65.4	0.92	0.77	1.09	42.3
3u	U	All MCs	23	0.0	23	0.0	0.705	15.8	LOS B	9.3	65.4	0.92	0.77	1.09	45.0
Approach			645	1.1	645	1.1	0.705	11.1	LOS A	9.3	65.4	0.92	0.77	1.09	42.5
East: Dwyer St															
4	L2	All MCs	211	2.0	211	2.0	0.952	54.5	LOS D	22.5	160.7	1.00	1.82	2.87	28.2
5	T1	All MCs	178	0.6	178	0.6	0.952	54.4	LOS D	22.5	160.7	1.00	1.82	2.87	20.2
6	R2	All MCs	85	6.2	85	6.2	0.952	58.2	LOS E	22.5	160.7	1.00	1.82	2.87	28.1
6u	U	All MCs	1	0.0	1	0.0	0.952	60.3	LOS E	22.5	160.7	1.00	1.82	2.87	29.3
Approach			475	2.2	475	2.2	0.952	55.1	LOS D	22.5	160.7	1.00	1.82	2.87	25.8
North: Henry Parry Dr															
7	L2	All MCs	148	5.0	148	5.0	0.947	32.2	LOS C	29.5	211.5	1.00	1.61	2.30	34.2
8	T1	All MCs	619	2.6	619	2.6	0.947	32.0	LOS C	29.5	211.5	1.00	1.61	2.30	34.4
9	R2	All MCs	34	0.0	34	0.0	0.947	35.0	LOS C	29.5	211.5	1.00	1.61	2.30	26.9
9u	U	All MCs	14	0.0	14	0.0	0.947	37.8	LOS C	29.5	211.5	1.00	1.61	2.30	35.8
Approach			815	2.8	815	2.8	0.947	32.2	LOS C	29.5	211.5	1.00	1.61	2.30	34.2
West: Dwyer St															
10	L2	All MCs	34	6.2	34	6.2	0.345	10.9	LOS A	2.5	18.1	0.91	0.77	0.91	41.9
11	T1	All MCs	98	3.2	98	3.2	0.345	10.7	LOS A	2.5	18.1	0.91	0.77	0.91	42.2
12	R2	All MCs	47	2.2	47	2.2	0.345	13.9	LOS A	2.5	18.1	0.91	0.77	0.91	41.7
12u	U	All MCs	1	0.0	1	0.0	0.345	16.5	LOS B	2.5	18.1	0.91	0.77	0.91	37.0
Approach			180	3.5	180	3.5	0.345	11.6	LOS A	2.5	18.1	0.91	0.77	0.91	42.0
All Vehicles			2115	2.2	2115	2.2	0.952	29.2	LOS C	29.5	211.5	0.97	1.33	1.94	34.7

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

 **Site: [3 (7)] Mann St / Racecourse Rd / Etna St - AM (2038**
BASE + DEV)

Network: [1 (4)] 2038 BASE + DEV - AM (2038 BASE + DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100.0 seconds (Site User-Given Phase Times)
Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance													
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh. veh	Dist] m		km/h
			veh/h	%	veh/h	%	v/c	sec					
South: Mann St													
1	L2	All MCs	136	11.6	136	11.6	0.304	33.3	LOS C	4.9	37.6	0.84	31.8
2	T1	All MCs	328	4.8	328	4.8	* 1.000	86.9	LOS F	23.7	172.9	1.00	15.8
Approach			464	6.8	464	6.8	1.000	71.2	LOS F	23.7	172.9	0.95	20.4
East: Etna St													
4	L2	All MCs	19	11.1	19	11.1	0.302	40.3	LOS C	5.6	40.0	0.86	37.2
5	T1	All MCs	238	1.8	238	1.8	0.549	37.7	LOS C	6.8	47.8	0.92	36.3
6	R2	All MCs	25	0.0	25	0.0	0.549	65.7	LOS E	6.8	47.8	0.98	24.4
Approach			282	2.2	282	2.2	0.549	40.4	LOS C	6.8	47.8	0.92	35.5
North: Mann St													
7	L2	All MCs	43	0.0	43	0.0	0.411	23.2	LOS B	10.0	71.6	0.74	37.4
8	T1	All MCs	471	2.7	471	2.7	0.812	21.9	LOS B	17.3	123.0	0.84	33.4
9	R2	All MCs	256	1.6	256	1.6	* 0.812	50.9	LOS D	17.3	123.0	0.99	26.9
Approach			769	2.2	769	2.2	0.812	31.6	LOS C	17.3	123.0	0.88	31.1
West: Racecourse Rd													
10	L2	All MCs	387	2.2	387	2.2	0.438	18.4	LOS B	10.3	73.2	0.56	30.7
11	T1	All MCs	172	0.6	172	0.6	* 0.626	29.9	LOS C	10.3	73.2	0.73	35.4
12	R2	All MCs	112	16.0	112	16.0	0.626	57.3	LOS E	7.8	59.1	0.98	29.1
Approach			671	4.1	671	4.1	0.626	27.8	LOS B	10.3	73.2	0.67	28.9
All Vehicles			2186	3.8	2186	3.8	1.000	40.0	LOS C	23.7	172.9	0.84	28.5

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec

East: Etna St											
P2 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	
North: Mann St											
P3 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	
West: Racecourse Rd											
P4 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	
All Pedestrians	32	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Project: C:\Users\Connor Hoang\OneDrive - Ason Group\ACTIVE PROJECTS\2437 - Mann Street & Dwyer Street, Gosford\Projects\Modelling
 \P2437m02v02 SIDRA - RTS Modelling.sipx

MOVEMENT SUMMARY



Site: [1 (8)] Mann St / Dwyer St - PM (2038 BASE + DEV)
Network: [2 (4)] 2038 BASE + DEV - PM (2038 BASE + DEV)
Output produced by SIDRA INTERSECTION Version: 10.0.8.241

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

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m		Rate to Depart	km/h
South: Mann St														
1	L2	All MCs	47	0.0	46	0.0	0.587	5.7	LOS A	0.0	0.0	0.00	0.02	56.6
2	T1	All MCs	1128	0.8	1090	0.8	0.587	0.3	LOS A	0.0	0.0	0.00	0.02	59.2
3	R2	All MCs	91	2.3	87	2.3	0.106	8.8	LOS A	0.4	2.6	0.56	0.78	44.9
Approach			1266	0.9	1224	0.9	0.587	1.1	NA	0.4	2.6	0.04	0.08	58.4
East: Dwyer St														
4	L2	All MCs	73	1.4	73	1.4	0.600	17.9	LOS B	2.4	16.9	0.91	1.13	23.8
5	T1	All MCs	6	0.0	6	0.0	0.600	73.7	LOS F	2.4	16.9	0.91	1.13	32.4
6	R2	All MCs	22	0.0	22	0.0	0.600	83.8	LOS F	2.4	16.9	0.91	1.13	33.9
Approach			101	1.0	101	1.0	0.600	35.8	LOS C	2.4	16.9	0.91	1.13	27.4
North: Mann St														
7	L2	All MCs	27	0.0	27	0.0	0.348	5.6	LOS A	0.0	0.0	0.00	0.02	59.3
8	T1	All MCs	642	1.6	642	1.6	0.348	0.1	LOS A	0.0	0.0	0.00	0.02	59.3
9	R2	All MCs	28	0.0	28	0.0	0.068	14.3	LOS A	0.3	1.8	0.78	0.91	43.8
Approach			698	1.5	698	1.5	0.348	0.9	NA	0.3	1.8	0.03	0.06	57.7
West: Dwyer St														
10	L2	All MCs	20	0.0	20	0.0	0.461	27.9	LOS B	1.4	10.1	0.95	1.04	28.7
11	T1	All MCs	4	0.0	4	0.0	0.461	68.7	LOS E	1.4	10.1	0.95	1.04	19.6
12	R2	All MCs	16	0.0	16	0.0	0.461	92.4	LOS F	1.4	10.1	0.95	1.04	19.6
Approach			40	0.0	40	0.0	0.461	57.6	LOS E	1.4	10.1	0.95	1.04	24.8
All Vehicles			2105	1.1	2063	1.1	0.600	3.8	NA	2.4	16.9	0.10	0.14	54.5

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY



Site: [2 (8)] Henry Parry Dr / Dwyer St - PM (2038 BASE + DEV)

Network: [2 (4)] 2038 BASE + DEV - PM (2038 BASE + DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Roundabout

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m		Rate to Depart	km/h
South: Henry Parry Dr														
1	L2	All MCs	45	2.3	45	2.3	0.740	8.4	LOS A	10.7	75.1	0.90	0.68	1.00
2	T1	All MCs	478	0.7	478	0.7	0.740	8.3	LOS A	10.7	75.1	0.90	0.68	1.00
3	R2	All MCs	235	0.4	235	0.4	0.740	11.5	LOS A	10.7	75.1	0.90	0.68	1.00
3u	U	All MCs	17	0.0	17	0.0	0.740	14.3	LOS A	10.7	75.1	0.90	0.68	1.00
Approach			775	0.7	775	0.7	0.740	9.4	LOS A	10.7	75.1	0.90	0.68	1.00
East: Dwyer St														
4	L2	All MCs	154	0.0	154	0.0	0.587	13.3	LOS A	5.8	41.0	0.97	0.89	1.21
5	T1	All MCs	109	1.0	109	1.0	0.587	13.4	LOS A	5.8	41.0	0.97	0.89	1.21
6	R2	All MCs	83	0.0	83	0.0	0.587	16.5	LOS B	5.8	41.0	0.97	0.89	1.21
6u	U	All MCs	2	0.0	2	0.0	0.587	19.3	LOS B	5.8	41.0	0.97	0.89	1.21
Approach			348	0.3	348	0.3	0.587	14.1	LOS A	5.8	41.0	0.97	0.89	1.21
North: Henry Parry Dr														
7	L2	All MCs	182	0.0	182	0.0	0.863	18.2	LOS B	18.2	128.1	1.00	1.13	1.60
8	T1	All MCs	554	1.3	554	1.3	0.863	18.3	LOS B	18.2	128.1	1.00	1.13	1.60
9	R2	All MCs	26	0.0	26	0.0	0.863	21.4	LOS B	18.2	128.1	1.00	1.13	1.60
9u	U	All MCs	5	0.0	5	0.0	0.863	24.2	LOS B	18.2	128.1	1.00	1.13	1.60
Approach			767	1.0	767	1.0	0.863	18.4	LOS B	18.2	128.1	1.00	1.13	1.60
West: Dwyer St														
10	L2	All MCs	26	4.0	26	4.0	0.287	12.0	LOS A	2.1	14.7	0.93	0.79	0.93
11	T1	All MCs	80	2.6	78	2.6	0.287	11.9	LOS A	2.1	14.7	0.93	0.79	0.93
12	R2	All MCs	24	0.0	24	0.0	0.287	14.9	LOS B	2.1	14.7	0.93	0.79	0.93
12u	U	All MCs	2	0.0	2	0.0	0.287	17.7	LOS B	2.1	14.7	0.93	0.79	0.93
Approach			133	2.4	130	2.4	0.287	12.5	LOS A	2.1	14.7	0.93	0.79	0.93
All Vehicles			2023	0.8	2020	0.8	0.863	13.8	LOS A	18.2	128.1	0.95	0.90	1.26

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

 **Site: [3 (8)] Mann St / Racecourse Rd / Etna St - PM (2038**
BASE + DEV)

Network: [2 (4)] 2038 BASE + DEV - PM (2038 BASE + DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100.0 seconds (Site User-Given Phase Times)

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m				km/h
South: Mann St															
1	L2	All MCs	146	3.6	146	3.6	0.219	24.1	LOS B	4.3	31.3	0.72	1.09	0.72	34.6
2	T1	All MCs	547	1.0	547	1.0	* 1.084	137.1	LOS F	48.9	345.3	1.00	1.66	2.03	11.2
Approach			694	1.5	694	1.5	1.084	113.3	LOS F	48.9	345.3	0.94	1.54	1.76	14.6
East: Etna St															
4	L2	All MCs	11	0.0	11	0.0	0.428	47.6	LOS D	6.0	42.2	0.95	0.76	0.95	34.6
5	T1	All MCs	146	0.0	146	0.0	0.778	43.8	LOS D	6.0	42.2	0.96	0.78	1.01	34.4
6	R2	All MCs	35	0.0	35	0.0	0.778	71.2	LOS F	3.2	22.2	1.00	0.86	1.32	19.9
Approach			192	0.0	192	0.0	0.778	49.0	LOS D	6.0	42.2	0.96	0.79	1.06	32.0
North: Mann St															
7	L2	All MCs	24	0.0	24	0.0	0.377	19.5	LOS B	9.4	66.6	0.67	0.78	0.67	39.6
8	T1	All MCs	358	2.1	358	2.1	0.744	14.0	LOS A	13.0	91.8	0.70	0.81	0.70	39.2
9	R2	All MCs	320	0.7	320	0.7	* 0.744	44.6	LOS D	13.0	91.8	0.98	1.19	1.03	26.9
Approach			702	1.3	702	1.3	0.744	28.2	LOS B	13.0	91.8	0.82	0.98	0.85	32.4
West: Racecourse Rd															
10	L2	All MCs	524	0.8	524	0.8	0.613	32.6	LOS C	17.2	120.9	0.77	1.14	0.77	26.9
11	T1	All MCs	176	0.0	176	0.0	* 0.876	56.8	LOS E	17.2	120.9	0.93	1.24	1.16	27.6
12	R2	All MCs	105	6.0	105	6.0	0.876	82.5	LOS F	11.0	78.7	1.00	1.28	1.34	24.2
Approach			805	1.3	805	1.3	0.876	44.4	LOS D	17.2	120.9	0.84	1.18	0.93	22.8
All Vehicles			2393	1.3	2393	1.3	1.084	60.0	LOS E	48.9	345.3	0.87	1.20	1.16	22.9

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec

East: Etna St											
P2 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	
North: Mann St											
P3 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	
West: Racecourse Rd											
P4 Full	11	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	
All Pedestrians	32	44.2	LOS E	0.0	0.0	0.94	0.94	198.0	200.0	1.01	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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