

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

Traffic Impact Assessment Report

Westbourne Grammar School - Year 5-8 Learning Centre

300-340 Sayers Road, Truganina



Westbourne Grammar School
May 2023

**ADVERTISED
PLAN**

Document Issue Record

Project:		Westbourne Grammar School, Year 5-8 Learning Centre – Traffic Impact Assessment Report		
Project Number:		23011		
Client:		Westbourne Grammar School		
Filename:		23011 Westbourne Grammar 5-8 TIAR_Final.docx		
Issue	Date	Prepared by:	Checked by:	Approved by:
A	19/05/23	Michael Marsicovetere	-	Michael Marsicovetere
Description:		Draft – Issued for client and consultant team review.		
B	26/05/23	Michael Marsicovetere	Tony Dinh	Michael Marsicovetere
Description:		Final – Issued for Council planning submission.		

ADVERTISED PLAN

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

The information within this document is and shall remain the property of **Transport & Traffic Solutions Pty Ltd**. This document is issued to the client for use in connection with the stated project and solely for this project. Third party use of this document is not permitted.

© Transport & Traffic Solutions Pty Ltd

Front Cover Image: Year 5-8 Learning Centre Main Plaza 3D Visualisation, May 2023, Baldasso Cortese

TABLE OF CONTENTS

1	INTRODUCTION	1
1.1	Background	1
1.2	References	1
2	EXISTING CONDITIONS ASSESSMENT	2
2.1	Site Location & Details	2
2.2	Access & Off-street Car Parking	2
2.3	Road Network	4
2.4	Car Parking	10
2.5	Transport, Bicycle Facilities & Path Network	14
2.6	Background Transport Review	15
3	PROPOSED DEVELOPMENT	16
4	PARKING ASSESSMENT	17
4.1	Car Parking	17
4.2	Bicycle Facilities	19
5	TRAFFIC ASSESSMENT	20
5.1	Traffic Generation	20
5.2	Future Year Intersection Volumes	20
5.3	Future Year Site Access Operational Performance	21
6	CONCLUSION	25
	APPENDIX A – EXISTING SIDRA ANALYSIS RESULTS	26
	APPENDIX B – CAR PARKING OCCUPANCY SURVEY RESULTS	48
	APPENDIX C – PROPOSED DETAILED SITE PLAN	50
	APPENDIX D –SWEPT PATH ASSESSMENT DRAWING	52
	APPENDIX E – FUTURE YEAR SIDRA ANALYSIS RESULTS	54

**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

LIST OF FIGURES

FIGURE 2.1: LOCALITY PLAN.....	2
FIGURE 2.2: SITE PLAN	4
FIGURE 2.3: SAYERS RD, LOOKING EAST TO DOUBELL BLVD	5
FIGURE 2.4: SAYERS RD, LOOKING WEST FROM THE 300 SAYERS RD ACCESS POINT	5
FIGURE 2.5: MARQUANDS ROAD,.....	5
FIGURE 2.6: MARQUANDS ROAD,.....	5
FIGURE 2.7: EXISTING SITE ACCESS VOLUMES	6
FIGURE 2.8: CAR PARKING OCCUPANCY SURVEY MAP	11
FIGURE 2.9: CAR PARKING OCCUPANCY SURVEY RESULTS – ZONE A CAR PARK.....	11
FIGURE 2.10: CAR PARKING OCCUPANCY SURVEY RESULTS – ZONE B TO E CAR PARK	12
FIGURE 2.11: CAR PARKING OCCUPANCY SURVEY RESULTS – ZONE F TO Q CAR PARK	13
FIGURE 2.12: ON-STREET CAR PARKING OCCUPANCY SURVEY RESULTS	13
FIGURE 5.1: FUTURE YEAR SITE ACCESS VOLUMES	21

LIST OF TABLES

TABLE 2.1: AM & PM PEAK TRAFFIC VOLUME DISTRIBUTION (%)	7
TABLE 2.2: SIDRA SUMMARY RESULTS – DOUBELL GATE, SAYERS RD SIGNALISED INTERSECTION	8
TABLE 2.3: SIDRA SUMMARY RESULTS – MAIN GATE, SAYERS RD ENTRY ONLY ACCESS.....	8
TABLE 2.4: SIDRA SUMMARY RESULTS – GATE A, MARQUANDS RD EXIT ONLY ACCESS.....	9
TABLE 2.5: SIDRA SUMMARY RESULTS – GATE C, MARQUANDS RD ACCESS	9
TABLE 2.6: SIDRA SUMMARY RESULTS – GATE D, MARQUANDS RD EXIT ONLY ACCESS	10
TABLE 4.1: CAR PARKING REQUIREMENT	17
TABLE 4.2: BICYCLE PARKING REQUIREMENT	19
TABLE 5.1: AM & PM PEAK TRAFFIC VOLUME DISTRIBUTION, INCREASE IN ENROLMENTS ..	20
TABLE 5.2: SIDRA SUMMARY RESULTS – DOUBELL GATE, SAYERS RD SIGNALISED INTERSECTION	22
TABLE 5.3: SIDRA SUMMARY RESULTS – MAIN GATE, SAYERS RD ENTRY ONLY ACCESS....	22
TABLE 5.4: SIDRA SUMMARY RESULTS – GATE A, MARQUANDS RD EXIT ONLY ACCESS.....	23
TABLE 5.5: SIDRA SUMMARY RESULTS – GATE C, MARQUANDS RD ACCESS	23
TABLE 5.6: SIDRA SUMMARY RESULTS – GATE D, MARQUANDS RD EXIT ONLY ACCESS	24

ADVERTISED PLAN

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

1 INTRODUCTION

1.1 Background

Transport & Traffic Solutions Pty Ltd (T&TS) has been engaged by Westbourne Grammar School to prepare a Traffic Impact Assessment Report in support of their planning permit application to construct a Year 5-8 Learning Centre at their Truganina Campus, located at 300 – 340 Sayers Road, Truganina. An existing planning permit, permit no. WYP0543.08 applies to the site.

The construction of the new building will require the following car park changes:

- Closure of the internal north-south aligned circulation road including the removal of 18 staff car parking spaces located to the west of the Holy Trinity Hall, and
- Modification of the east-west aligned circulation road located north of Sayers Road to include a turn area at its western end (south-west of Holy Trinity Hall).

Construction of the new Year 5-8 Learning Centre is expected to commence early December 2023 with completion scheduled for late June 2025. Building occupation will occur July 2025. At this time, enrolment & staff numbers are expected to increase by 182 students and 36 staff, respectively.

We understand that the school benefits from Existing Use Rights and that the school is not subject to planning permit conditions in relation to staff or student numbers, or car parking.

The aim of this report is to determine what impact these changes will have on the operation of the school site when the Year 5-8 Learning Centre opens in July 2025.

1.2 References

The following references were used to assist in the preparation of this report:

- Department of Transport and Planning, VicPlan and Planning Schemes Online, State Government of Victoria, Accessed May 2023;
- Austroads Guide to Road Design, Austroads Guide to Traffic Management, Australian Standards, and the VicRoads Supplement to the Austroads Guide and Australian Standards, as detailed in this report;
- 5-8 Learning Centre, Westbourne Grammar School, Detailed Site Plan, Baldasso Cortese, Drawing No A-TP-102, Rev B, 24 May 2023; and
- Other documents as referenced within this report.

**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

2 EXISTING CONDITIONS ASSESSMENT

2.1 Site Location & Details

Westbourne Grammar School is located at 300-340 Sayers Road, Truganina. It is bounded by the Forsyth Road Drain, vacant land and existing residential dwellings to the north, Marquands Road to the east, Sayers Road to the south, and existing residential dwellings to the west. The total site area is approximately 36.4 hectares. Refer Figure 2.1 for the school location.

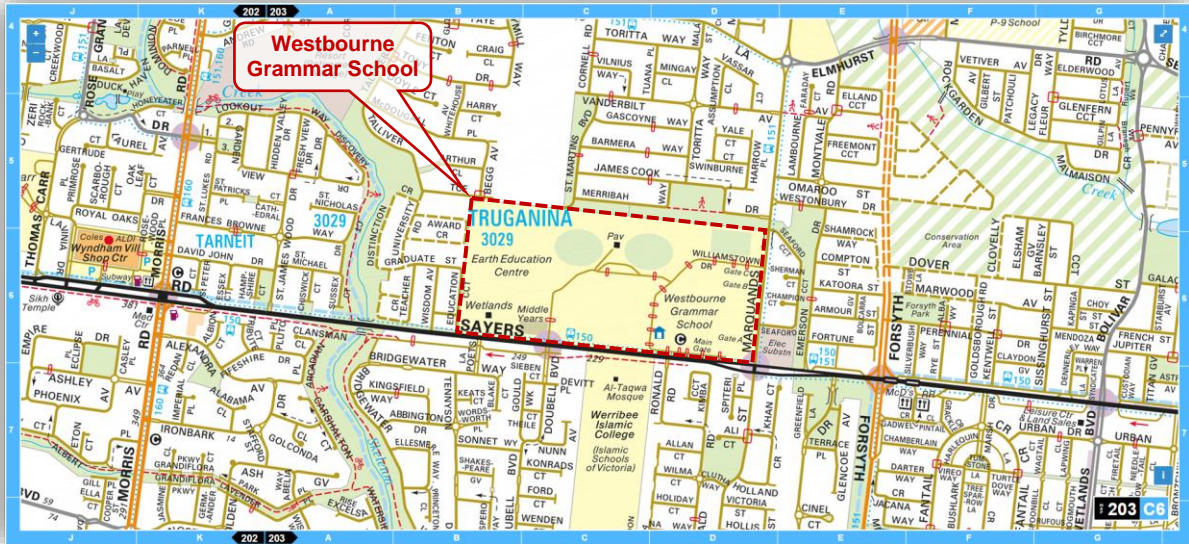


Figure 2.1: Locality Plan¹

Westbourne Grammar School offers early years, primary and secondary school learning from multiple buildings located across the site as follows:

- South-East - Between Williamstown Drive, Marquands Road and Sayers Road for Years 3 to 8 and Years 10 to 12 students, and
- South-West - Either side of Doubell Boulevard for ELC (Amici), Prep to Year 2 (Winjeel), and Year 9 Students (Geoffrey Ryan Centre).

The school also has the various sporting facilities located across the site as follows:

- Sports and aquatic centre & gymnasium located to the south of Williamstown Drive, west of Marquands Road.
- Senior sports ovals (Williams and College Ovals) including a sports pavilion to the north of Williamstown Drive and Doubell Boulevard, and
- Junior sports ovals to the west of Williamstown Drive north of Sayers Road.

Other infrastructure located within the site include internal access roads, car parks and bus parking.

2.2 Access & Off-street Car Parking

Refer Figure 2.2 for a site plan of the school site detailing the location of the school access points and off-street car parks.

**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright.

<https://online.melway.com.au/melway/>, May 2023.

2.2.1 Site Access

Access to the site is provided from the existing road network as follows:

- Sayers Road via the:
 - Signalised intersection of Sayers Road and Doubell Boulevard, allowing all movements (Doubell Gate, 340 Sayers Road).
 - Unsignalised one-way entry point located 190 metres west of Marquands Road, (Main Gate, 300 Sayers Road), allowing left in and right in movements.
- Marquands Road via:
 - Gate A - Unsignalised one-way exit point located 85 metres north of Sayers Road, allowing left out and right out movements.
 - Gate B - Emergency Vehicle Access point located 130 metres north of Sayers Road (locked).
 - Sports & Aquatic Deliveries & Trade Access gate located 90 metres north of Seaford Circuit (locked).
 - Gate C - Unsignalised intersection of Marquands Road and Williamstown Drive located 100 metres south of Seaford Circuit, allowing all movements.
 - Gate D - Unsignalised one-way exit point located opposite Seaford Circuit, allowing left out movement only.

Pedestrian access to the site is provided from:

- Doubell Boulevard - West side of the signalised intersection.
- Marquands Road - North-west of the Sayers Road/ Marquands Road intersection.
- Marquands Road - North of Gate C.

2.2.2 Off-street Car Parking

A total of 621 off-street car parking spaces are provided within the site. Details as follows.

- Visitor Parking – A total of 262 off-street visitor car parking spaces are provided as follows:
 - Zone A, Williamstown Drive - 139 No. 90 degree angle car parking spaces, 2 No. accessible car parking space for disabled users, 9 No. drop off/ pick up car parking spaces, and 1 No. emergency vehicle space.
 - Zone B, Amici & Winjeel - 24 No. 45 degree angle car parking spaces and 2 No. accessible car parking spaces for disabled users. All car parking spaces are controlled with a 10 minute time limit.
 - Zone C, Doubell Boulevard - 29 No. 45 degree angle car parking spaces and 12 No. drop off/ pick up car parking spaces.
 - Zone D & E, Sports Pavilion - 45 No. 90 degree car parking spaces.
- Staff Parking - A total of 330 off-street staff car parking spaces are provided as follows:
 - Zone F, Marquands Road – 27 No. 45 degree angle car parking spaces.
 - Zone G & H, Sayers Road – 86 No. 45 degree angle car parking spaces and 3 No. accessible car parking spaces for disabled users.
 - Zone I to N, Central – 159 No. 45 & 90 degree angle car parking spaces.
 - Zone O, The Geoffrey Ryan Centre – 44 No. 90 degree angle car parking spaces and 1 No. accessible car parking spaces for disabled users.
 - Zone Q, Marquands Road - 10 No. 90 degree angle car parking spaces.

- Maintenance & Delivery Vehicle Parking – A total of 29 off-street maintenance and delivery vehicle parking spaces are provided as follows:

- Zone G & H, Delivery Vehicles – 4 No. Parallel parking spaces (courier van or similar).
- Zone P, Maintenance & Delivery Vehicles – 15 No. 90 degree angle parking spaces, 1 No. accessible car parking space for disabled users, and 1 No mini-bus parking.
- Zone Q, Sports & Aquatic Delivery & Trade Vehicles – 9 No. 90 degree angle car parking spaces.

Bus parking (Zone R) with capacity for 17 buses is provided within the site to the south-east of the college oval. Access to the bus zone is provided via the Gate C access point and Williamstown Drive. 1 No. mini-bus parking space is also provided within Zone P.

Waste collection occurs from two waste collection areas, one located south of the Amici Centre and the other located south-east of the College Oval.

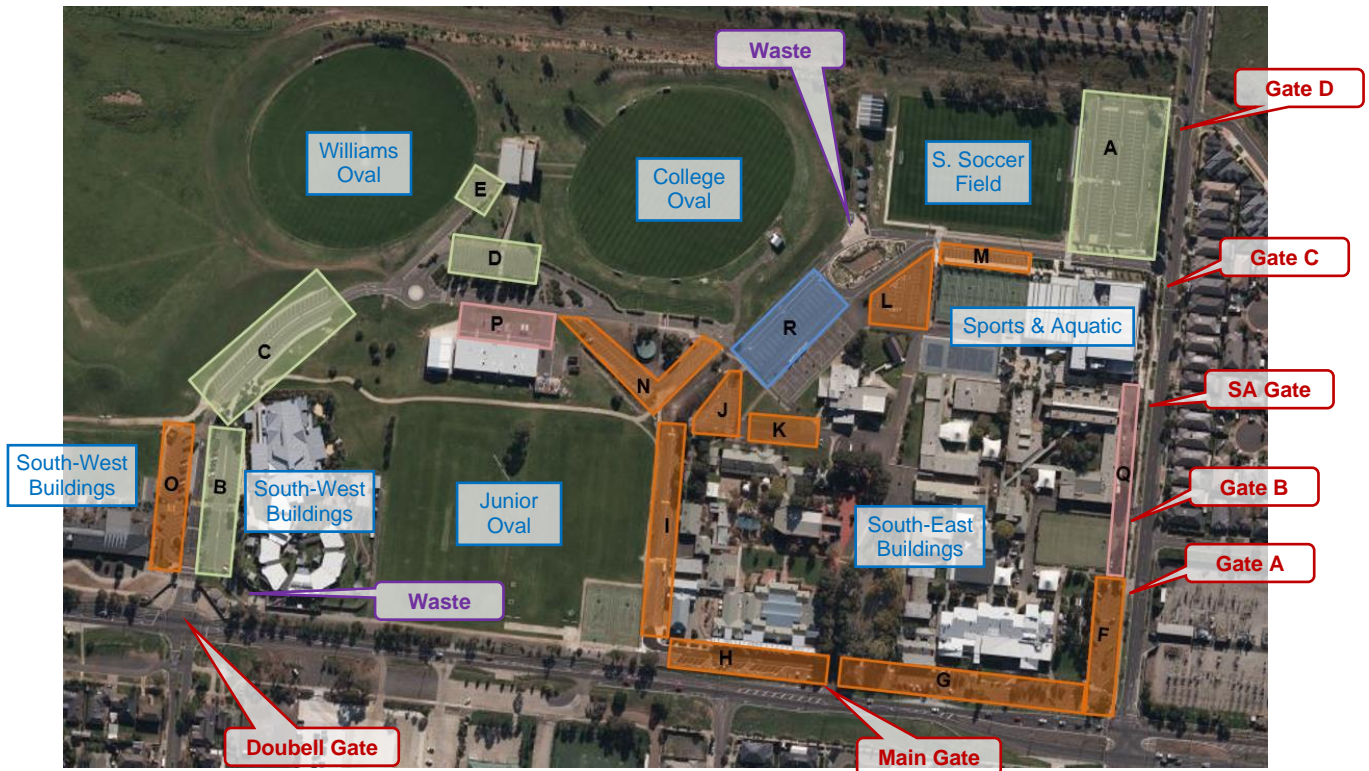


Figure 2.2: Site Plan²

2.3 Road Network

2.3.1 Road Network Characteristics

An inspection of the road network adjacent to the school was undertaken on Tuesday 14 June 2022, between the hours of 8:00am to 10:00am and 2:30pm to 4:00pm. Details of the site inspection are as follows.

2.3.1.1 Sayers Road (B77)

Sayers Road (B77) is a sealed two-lane two-way declared arterial road managed by the Department of Transport. It runs in an east-west direction between Old Geelong Road in the east and the Regional Rail Link in the west where it ends.

Adjacent to the school, the cross-sectional profile of Sayers Road varies to include turn lanes at its intersections with Ronald Road, Doubell Boulevard (signalised intersection), the school access point and the Al-Taqwa College access point; and a divided cross-sectional profile at its intersection with Marquands Road (signalised intersection). Refer Figure 2.3 and Figure 2.4.

² <https://www.bing.com/maps/aerial>, accessed May 2023.

A posted speed limit of 60 km/h applies to Sayers Road. A time-controlled school zone speed limit of 40 km/h applies to Sayers Road (8-9:30am and 2:30-4pm school days) between Marquands Road and Doubell Boulevard.

Referring to the Data VIC website³, Sayers Road adjacent to the school site carried approximately 13,000 vehicles per day in 2018.



Figure 2.3: Sayers Rd, looking east to Doubell Blvd



Figure 2.4: Sayers Rd, looking west from the 300 Sayers Rd Access Point

2.3.1.2 Marquands Road

Marquands Road is a sealed two-lane two-way undivided road which runs in a north-south direction between Leakes Road in the north and Sayers Road and Alison Street in the south. Referring to Wyndham City Register of Public Roads, Marquands Road is classified as a “Local Access” road.

Adjacent to the school, Marquands Road comprises a 6 metre wide carriageway with a 2.6 metre wide indented parking lane on the east side of the carriageway. A 1.5 metre and 2.5 metre wide footpath and varying width grass verge is provided on the east and west sides of Marquands Road, respectively. Refer Figure 2.5 and Figure 2.6.

A posted speed limit of 60 km/h applies to Marquands Road. A time-controlled school zone speed limit of 40 km/h applies to Marquands Road (8-9:30am and 2:30-4pm school days) between James Cook Road and Sayers Road.



Figure 2.5: Marquands Road, looking north from Gate C



Figure 2.6: Marquands Road, looking south from Gate C

**ADVERTISED
PLAN**

³ <https://vicroadsmaps.maps.arcgis.com/apps/mapviewer/index.html?layers=3a4a2e376f16434fa488649a1d625bf3>

2.3.2 Existing Site Access Volumes

Traffic volume surveys were completed by Nationwide Traffic Surveys Pty Ltd at the Doubell Gate (signalised intersection of Sayers Road/ Doubell Boulevard), Sayers Road Main Gate (one-way entry point), the Marquands Road Gate A (one-way exit point), the Gate C (two-way access point), and Gate D (one-way left out only exit point) on Friday 20 May 2022 between 8:00am-9:30am and 2:30pm-4:30pm.

Refer Figure 2.7 for the existing intersection turning movement volumes at these intersections during the 30 minute AM & PM Peak periods recorded between 8:15am to 8:45am and 3:30pm to 4:00pm respectively. Note, the recorded traffic volumes include staff vehicles entering (AM Peak) and exiting (PM Peak) the site during the AM & PM Peak periods. Further, visitors wanting to access the Zone A car park are required to enter the site at Gate C and exit the site at Gate D. Only staff and buses are allowed to exit the site from Gate C.

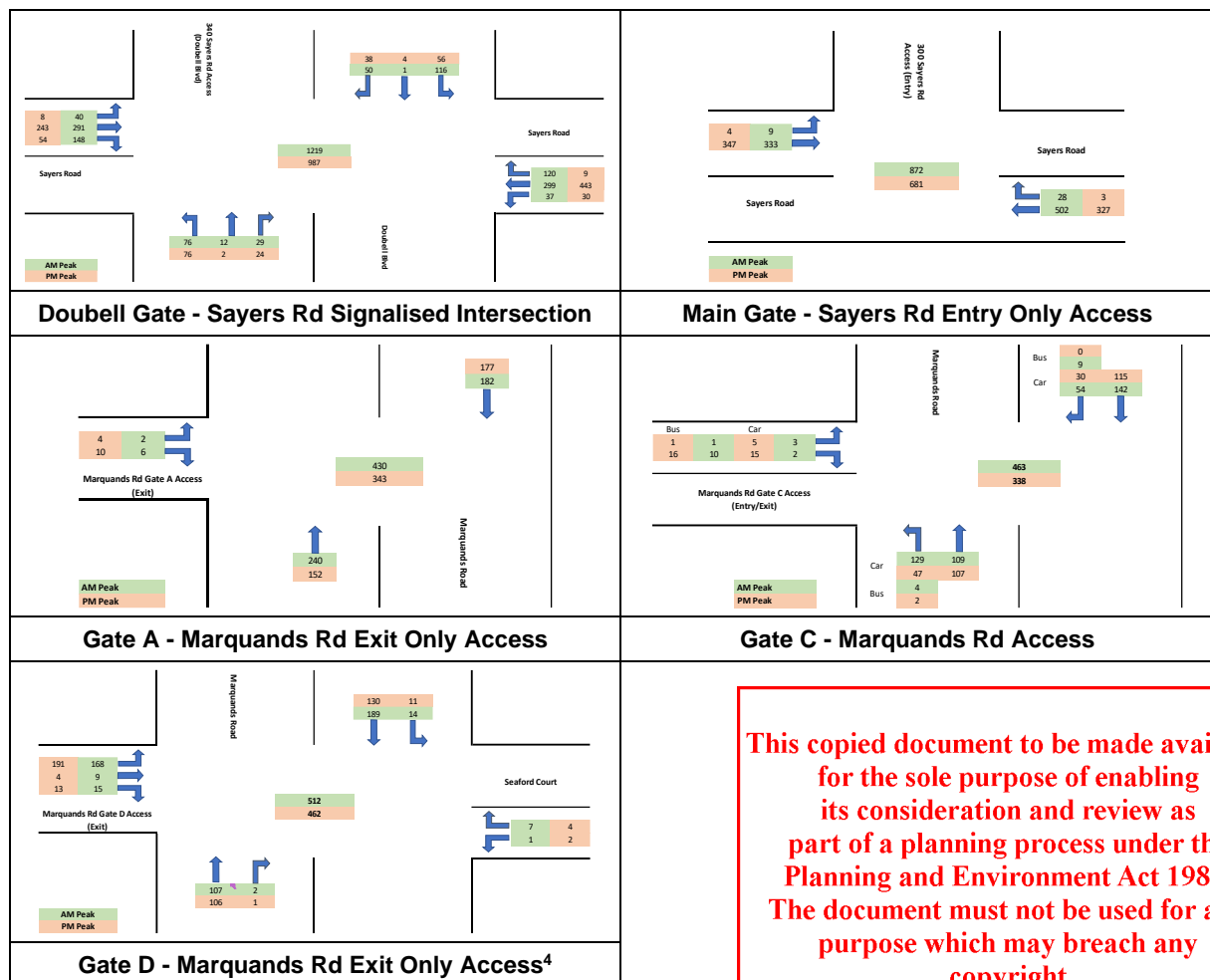


Figure 2.7: Existing Site Access Volumes

Based on the intersection turning movement volumes at all access points, a total of 392 (51%) vehicles and 372 (49%) vehicles (excluding buses) enter and exit the college respectively during the 30 minute AM Peak period, and a total of 103 (23%) vehicles and 340 (77%) vehicles enter and exit the college respectively during the 30 minute PM Peak period. A breakdown of the number of vehicles entering and exiting each access point in percentage format (traffic distribution) is provided in Table 2.1.

ADVERTISED
PLAN

⁴ Not all vehicles existing Gate D turned left out of the site as required.

Table 2.1: AM & PM Peak Traffic Volume Distribution (%)

Access Point	AM Peak		PM Peak	
	In	Out	In	Out
Doubell Gate	44%	45%	18%	29%
Main Gate	9%	-	7%	-
Gate A	-	2%	-	4%
Gate C	47%	1%	75%	6%
Gate D	-	52%	-	61%
Total	100%	100%	100%	100%

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

2.3.2.1 Existing Trip Generation Rate

Based on a total of 1,370 students being present at Westbourne Grammar School during the time of the survey, it can be concluded that the school generates approximately 0.56 two-way vehicle trips per student during the 30 minute AM Peak period and 0.32 two-way vehicle trips per student during the 30 minute PM peak period. These trips include staff vehicles entering (AM) and exiting (PM) the school during the peak times.

2.3.2.2 Sayers Road & Marquands Road Two-way Traffic Volume

The two-way AM and PM Peak hour traffic volume recorded on Sayers Road west of Doubell Boulevard and on Marquands Road north of Seaford Circuit is:

- Sayers Road - AM Peak = 1,557 vph, PM Peak = 1,780 vph
- Marquands Road – AM Peak = 710 vph, PM Peak = 695 vph

Based on industry standard that 10% of the daily traffic volume occurs within the peak hour, it is estimated that Sayers Road west of Doubell Boulevard has a daily traffic volume equivalent to 17,800 vehicles per day, where-as Marquands Road north of Seaford Circuit has a daily traffic volume equivalent to 7,100 vehicles per day. This volume of traffic is just below the expected capacity of a two lane two-way arterial road (maximum 18,000 vehicles per day) and over the capacity of a local access road (maximum 3,000 vehicles per day). With a no-stopping zone implemented on the west side of Marquands Road and the provision of indented parking on the east side, it is expected that Marquands Road can carry up to 7,000 vehicles per day, like a connector street standard.

2.3.3 Site Access Operational Performance

A check of the operational performance of the existing site access points was undertaken using SIDRA Intersection 9.1 software to understand the current operational performance of the site access points. A summary of the Degree of Saturation, Average Delay, Level of Service, and 95% Back of Queue Distance results of the analysis for the “total approach” of the intersections with the existing traffic volumes are provided in Table 2.3 and Table 2.4. Full results are provided in Appendix A.

In accordance with the VicRoads supplement to AGTM, Part 3: Traffic Studies and Analysis (2013), when evaluating intersection performance during capacity analysis and design, the target maximum degree of saturation of the critical (maximum) movement is 0.9 (desirable) and 0.95 (maximum) at a signalized intersection, and 0.8 (desirable) and 0.85 (maximum) at an unsignalized intersection, including roundabouts.

ADVERTISED
PLAN

Table 2.2: SIDRA Summary Results – Doubell Gate, Sayers Rd Signalised Intersection

Approach Leg	Doubell Blvd (South)	Sayers Road (East)	Doubell Blvd (North)	Sayers Road (West)	Total Intersection
AM Peak					
Degree of Saturation	0.510	0.841	0.580	0.837	0.841
Average Delay (sec)	65.5	64.0	50.4	64.3	62.4
Level of Service	E	E	D	E	E
95% Queue Distance (m)	64.7	242.9	73.2	243.8	243.8
PM Peak					
Degree of Saturation	0.441	0.872	0.437	0.529	0.872
Average Delay (sec)	59.6	47.7	44.3	27.0	42.2
Level of Service	E	D	D	C	D
95% Queue Distance (m)	56.4	340.0	42.7	117.9	340.0

The Doubell Gate, Sayers Road Signalised Intersection is operating within its limits with a Level of Service E, Degree of Saturation below 0.85, Average Delay less than 65 seconds, and Queues less than 250 metres long during the AM Peak period, and a Level of Service D, Degree of Saturation below 0.88, Average Delay less than 45 seconds, and Queues 340 metres long during the PM Peak period.

Table 2.3: SIDRA Summary Results – Main Gate, Sayers Rd Entry Only Access

Approach Leg	Sayers Road (East)	Sayers Road (West)	Total Intersection
AM Peak			
Degree of Saturation	0.520	0.347	0.520
Average Delay (sec)	0.6	0.2	0.5
Level of Service	-	-	-
95% Queue Distance (m)	2.3	0	2.3
PM Peak			
Degree of Saturation	0.336	0.355	0.355
Average Delay (sec)	0.1	0.2	0.1
Level of Service	-	-	-
95% Queue Distance (m)	0.2	0	0.2

The Main Gate, Sayers Road Entry Only Access Intersection is operating below its capacity with a Degree of Saturation below 0.60, Average Delay less than 1 second, and Queues less than 1 metre long during both the AM Peak and PM Peak periods.

ADVERTISED PLAN

Table 2.4: SIDRA Summary Results – Gate A, Marquands Rd Exit Only Access

Approach Leg	Marquands Road (South)	Marquands Road (North)	School Access Road (West)	Total Intersection
AM Peak				
Degree of Saturation	0.248	0.193	0.023	0.248
Average Delay (sec)	0.1	0.1	4.7	0.1
Level of Service	-	-	A	-
95% Queue Distance (m)	0	0	0.5	0.5
PM Peak				
Degree of Saturation	0.159	0.190	0.030	0.190
Average Delay (sec)	0	0.1	3.2	0.2
Level of Service	-	-	A	-
95% Queue Distance (m)	0	0	0.7	0.7

The Gate A, Marquands Road Exit Only Access Intersection is operating well below its capacity with a Degree of Saturation below 0.30, Average Delay less than 1 second, and Queues less than 1 metre long during both the AM Peak and PM Peak periods.

Table 2.5: SIDRA Summary Results – Gate C, Marquands Rd Access

Approach Leg	Marquands Road (South)	Marquands Road (North)	Williamstown Drive (West)	Total Intersection
AM Peak				
Degree of Saturation	0.312	0.293	0.095	0.312
Average Delay (sec)	3.3	4.1	9.3	3.9
Level of Service	-	-	A	-
95% Queue Distance (m)	12.3	10.5	3.3	12.3
PM Peak⁵				
Degree of Saturation	0.993	1.140	0.135	1.140
Average Delay (sec)	10.4	69.0	5.0	34.9
Level of Service	-	-	A	-
95% Queue Distance (m)	101.5	102.3	4.3	102.3

The Gate C, Marquands Road Access Intersection is operating well below its capacity during the AM Peak period with a Degree of Saturation below 0.32, Average Delay less than 4 seconds, and Queues less than 13 metres long. Where-as during the PM Peak period, the Gate C, Marquands Road Access Intersection is operating above acceptable limits and its capacity with a Degree of Saturation less than 1.2, Average Delay of around 35 seconds, and Queues up to 103 metres long.

⁵ A capacity adjustment factor was applied to the Marquands Road approach lanes to achieve a similar queue length to observed conditions, approximately 100m (14 Cars) on the southern and northern approach.

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

It was observed during the site visit that the performance results of the intersection are associated with downstream blockages created by school children crossing the Zone A car park access point. Therefore, it is recommended that the school's own children crossing supervisor stop children from crossing the car park access point once they see the Williamstown Drive vehicle queues extending onto Marquands Road.

Table 2.6: SIDRA Summary Results – Gate D, Marquands Rd Exit Only Access

Approach Leg	Marquands Road (South)	Seaford Circuit (East)	Marquands Road (North)	School Access Road (West)	Total Intersection
AM Peak					
Degree of Saturation	0.116	0.041	0.214	0.347	0.347
Average Delay (sec)	0.2	11.8	0.4	1.9	1.1
Level of Service	-	B	-	A	-
95% Queue Distance (m)	0.3	0.9	0	11.9	11.9
PM Peak					
Degree of Saturation	0.114	0.023	0.144	0.349	0.349
Average Delay (sec)	0.1	9.3	0.5	1.5	1.0
Level of Service	-	A	-	A	-
95% Queue Distance (m)	0.1	0.5	0	11.9	11.9

The Gate D, Marquands Road Exit Only Access Intersection is operating well below its capacity with a Degree of Saturation below 0.40, Average Delay less than 2 seconds, and Queues less than 12 metres long during both the AM Peak and PM Peak periods.

In summary, all site access points are operating within acceptable limits during school drop off and pick up periods, apart from the Gate C, Marquands Road Access Intersection during the PM Peak period.

2.4 Car Parking

2.4.1 Car Parking Occupancy Survey

A Car Parking Occupancy Survey was completed of the existing off-street car parking facilities within the school site and the on-street car parking facilities located adjacent to the school site by Nationwide Traffic Surveys on Friday 20 May 2022 between 8:00am-10:00am and 2:00pm-4:00pm at 15 minute intervals. Refer Figure 2.8 for the surveyed locations.

The car parking occupancy survey was completed to determine the existing off-street and on-street car parking demand currently being generated by the school.

The school site has a total car parking supply equivalent to 621 car parking spaces which is made up of 359 spaces for staff, maintenance, and trade vehicle use and 262 spaces for visitor use. Refer Appendix B for the car parking occupancy survey results.

**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright



Figure 2.8: Car Parking Occupancy Survey Map

2.4.1.1 Off-street Visitor Car Parking Survey Results

The Zone A (Williamstown Drive) car park consists of 139 No. 90 degree angle car parking spaces, 2 No. accessible car parking space for disabled users, 9 No. drop off/ pick up car parking spaces, and 1 No. emergency vehicle space.

The car parking occupancy survey results for the Zone A car park are summarised in Figure 2.9.

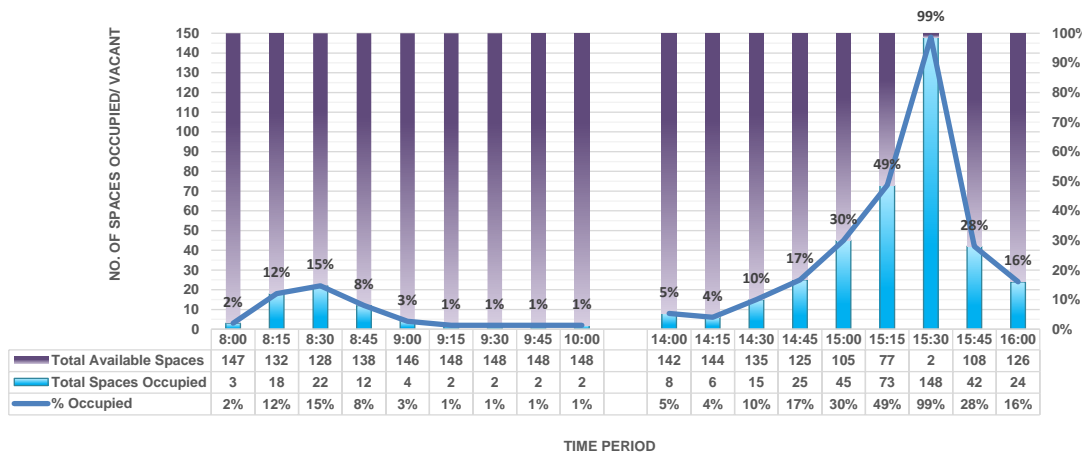


Figure 2.9: Car Parking Occupancy Survey Results – Zone A Car Park

As illustrated in Figure 2.9, during the AM period, the number of occupied car parking spaces increases gradually from 3 (2%) spaces recorded at 8:00am to a peak of 22 (15%) spaces recorded at 8:30am. After this time, the number of car parking spaces occupied falls rapidly to 12 (8%) spaces recorded at 8:45am and then 2 (1%) spaces recorded after 9:15am.

During the PM period, the number of occupied car parking spaces increases from 8 (5%) spaces recorded at 2:00pm to a peak of 148⁶ (99%) spaces recorded at 3:30pm. After this time, the number of car parking spaces occupied falls rapidly to 42 (28%) spaces recorded at 3:45pm and then 24 (16%) spaces recorded at 4:00pm.

ADVERTISED PLAN

⁶ The 2 No. accessible car parking spaces were empty.
Westbourne Grammar School Year 5-8 Learning Centre
Westbourne Grammar School

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright.

The Zone B (Amici & Winjeel), Zone C (Doubell Blvd), and Zone D & E (Sports Pavilion) car parks consists of the following number of car parking spaces:

- Zone B - 24 No. 45 degree angle car parking spaces and 2 No. accessible car parking spaces for disabled users. All car parking spaces are controlled with a 10 minute time limit.
- Zone C - 29 No. 45 degree angle car parking spaces and 12 No. drop off/ pick up car parking spaces.
- Zone D & E - 45 No. 90 degree car parking spaces.

The car parking occupancy survey results for the Zone B to E car park are summarised in Figure 2.10.

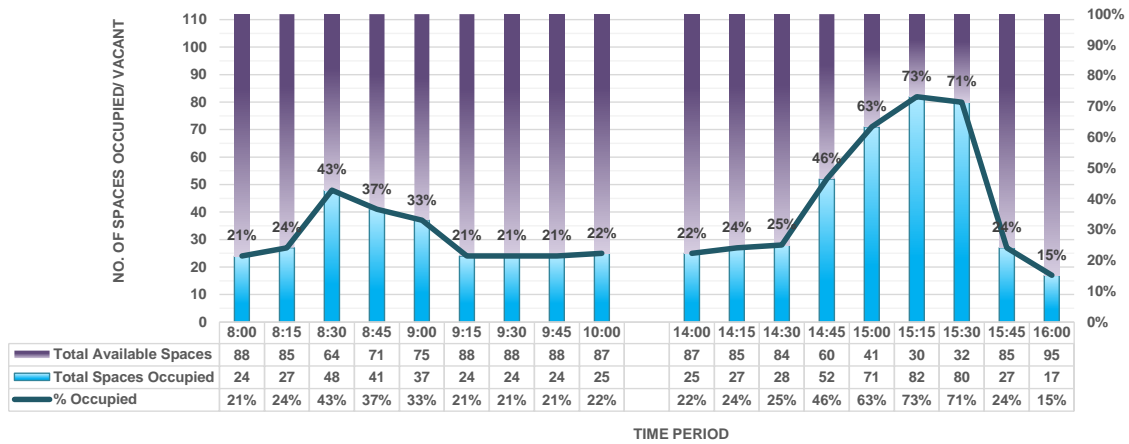


Figure 2.10: Car Parking Occupancy Survey Results – Zone B to E Car Park

As illustrated in Figure 2.10, during the AM period, the number of occupied car parking spaces increases gradually from 24 (21%) spaces recorded at 8:00am to a peak of 48 (43%) spaces recorded at 8:30am. After this time, the number of car parking spaces occupied falls to 41 (37%) spaces recorded at 8:45am and then 24 (11%) spaces recorded at 9:15am.

During the PM period, the number of occupied car parking spaces increases from 25 (22%) spaces recorded at 2:00pm to a peak of 82 (73%) spaces recorded at 3:15pm. After this time, the number of car parking spaces occupied falls to 80 (71%) spaces recorded at 3:30pm and then rapidly to 27 (24%) spaces recorded at 3:45pm.

As illustrated in Figure 2.10, the demand for car parking within the Zone B to E car parks is spread out over a half hour period which is a result of the staggered school end times for Prep (3:05pm), Grade 1 (3:15pm), Grade 2 (3:25pm) and Year 9 (3:30pm) levels. The staggered end times contribute to these car parks not reaching capacity. Where-as with the Zone A car park, a surge in demand for car parking is experienced at 3:30pm, with the car park arriving close to its capacity, refer Figure 2.9. This is a result of the school end times for the middle and senior schools occurring at the same time.

Based on the car parking survey results as illustrated in Figure 2.9 and Figure 2.10, the school site generates a peak off-street visitor car parking demand equivalent to 228 car parking spaces recorded at 3:30pm. Currently, the school has an oversupply of visitor car parking spaces equivalent to 34 car parking spaces⁷. This oversupply in car parking is located within the Zone D & E car parks.

2.4.1.2 Off-street Staff Car Parking Survey Results

Zone F (Marquands Road), Zone G & H (Sayers Road), Zone I to N (Central), Zone O (The Geoffrey Ryan Centre & part Amici & Winjeel), Zone P (Maintenance & Deliveries), and Zone Q (Sports & Aquatic) consists of 326 No. angled car parking spaces, 4 No. accessible car parking space for disabled users, and 29 No. maintenance and trade vehicle spaces.

The car parking occupancy survey results for the Zone F to Q car parks are summarised in Figure 2.11.

⁷ A total of 35 car parking spaces were available within the Zone D & E car parks. The reason why the survey results show 34 available car parking spaces is that 1 vehicle was double parked within the Zone C car park.

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

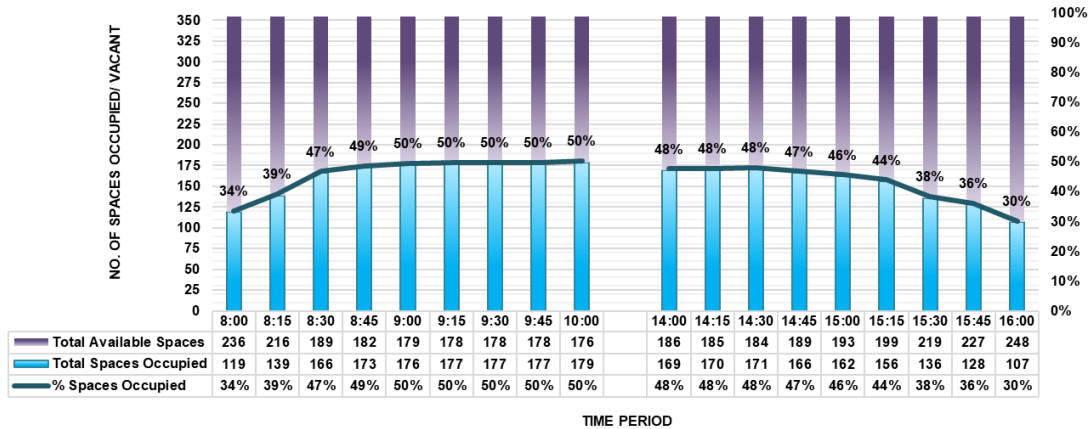


Figure 2.11: Car Parking Occupancy Survey Results – Zone F to Q Car Park

As illustrated in Figure 2.11, during the AM period, the number of occupied car parking spaces increases gradually from 119 (33%) spaces recorded at 8:00am to a peak of 179 (50%) spaces recorded at 10:00am.

During the PM period, the number of occupied car parking spaces averages 169 (47%) spaces recorded between 2:00pm to 3:00pm. After this time, the number of occupied car parking spaces reduces gradually to 107 (30%) spaces recorded at 4:00pm.

As illustrated in Figure 2.11, the school has an oversupply of staff car parking spaces equivalent to 176 car parking spaces.

2.4.1.3 On-street Visitor Car Parking Survey Results

Marquands Road between James Cook Drive and Sayers Road has a total capacity for up to 41 on-street car parking spaces (13 east side & 28 west side), where-as Seaford Circuit has a total capacity for up to 64 on-street car parking spaces (28 north side & 36 south side). The car parking occupancy survey results are summarised in Figure 2.12.

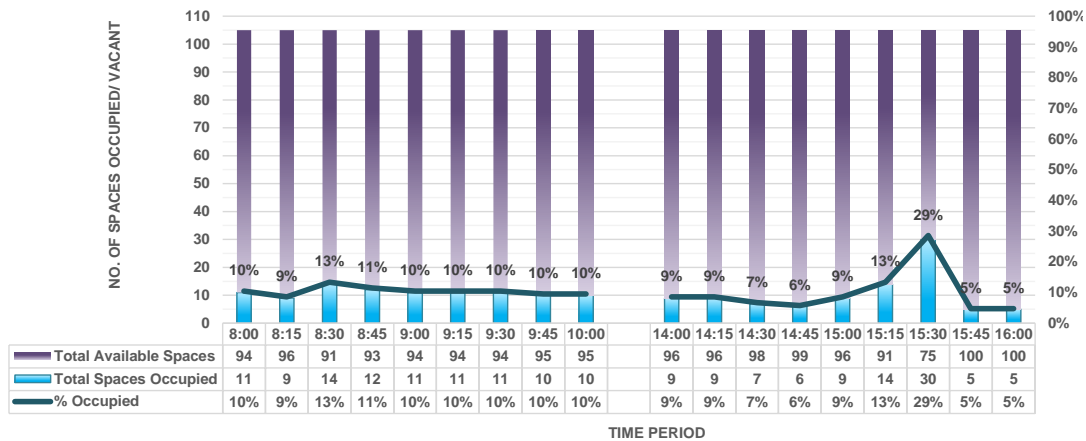


Figure 2.12: On-street Car Parking Occupancy Survey Results

As illustrated in Figure 2.12, during the AM period, the number of occupied car parking spaces increases gradually from 11 (10%) spaces recorded at 8:00am to a peak of 14 (13%) spaces recorded at 8:30am.

During the PM period, the number of occupied car parking spaces increases from 9 (9%) spaces recorded between 2:00pm & 3:00pm to a peak of 30 (29%) spaces recorded at 3:30pm. After this time, the number of car parking spaces occupied falls rapidly to 5 (5%) spaces recorded at 3:45pm and 4:00pm.

ADVERTISED PLAN

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright.

Based on the results of the on-street car parking occupancy survey, during the AM period it is estimated a total of five (5)⁸ school users parked on street, where-as during the PM peak period a total of twenty five (25)⁹ school users parked on street.

2.4.1.4 Existing Car Parking Supply and Demand Summary

Referring to Section 2.4.1.1, the school site has car parking supply for visitor use equivalent to 262 spaces and generates a peak visitor car parking demand equivalent to 228¹⁰ car parking spaces at 3:30pm. Based on a total of 1,370 students¹¹ (85%) being present on site during the time of the survey, Westbourne Grammar School generates a demand for visitor off-street car parking equivalent to 0.17 car parking spaces per student on the site at any time.

Referring to Section 2.4.1.2, the school site has car parking supply for staff, maintenance and trade vehicle use equivalent to 355 spaces and generates a peak staff car parking demand equivalent to 180 car parking spaces at 10:00am. Based on a total of 345 staff¹² (93%) being present on site during the time of the survey, Westbourne Grammar School generates a demand for visitor off-street car parking equivalent to 0.52 car parking spaces per staff member present on the site at any time.

2.5 Transport, Bicycle Facilities & Path Network

2.5.1 Public Transport

Bus Route 150 Williams Landing Station - Tarneit Station operates along Sayers Road to the south of the school. The closest bus stops that service both route directions are located directly south of the school. Buses service these stops every 15-17 minutes prior to the school start and after the school end times.

Bus Route 151 Williams Landing Station - Tarneit Station via Westmeadows Lane operates along Marquands Road to the east of the school. The closest bus stops that service both route directions are located directly east of the school, south of Gate C. Buses service these stops every 18 minutes prior to the school start and after the school end times.

2.5.2 Private Transport

The college currently operates seventeen (17) bus services prior to the school start and after the school end times and six (6) late buses for after school activities. Details of the bus service are as follows:

➤ Before & After School –

Bus Route 2 - Werribee South, Bus Route 5 - Wyndham Vale, Bus Route 7 - St Albans / Sunshine / Keilor Downs / Cairnlea, Bus Route 8 – Williamstown, Bus Route 10 - Footscray / Newport, Bus Route 11 - Spotswood / Altona, Bus Route 12 - Yarraville / Footscray / Newport / Altona North, Bus Route 13 - Spotswood / Newport / Williamstown, Bus Route 15 - Altona / Altona Meadows / Laverton, Bus Route 16 – Williamstown, Bus Route 17 - Yarraville / Spotswood / Williamstown, Bus Route 18 - Rifle Range Estate / Williamstown, Bus Route 19 - Ascot Vale / Footscray / West Footscray, Bus Route 20 - Hillside / Sydenham / Caroline Springs, Bus Route 21 - Sanctuary Lakes, and Bus Route 22 - Point Cook/Boardwalk, Williamstown Campus, and Williamstown Campus - Truganina Campus to Williamstown Campus.

➤ Late Bus -

Bus Route 1 - Williamstown, Spotswood, Yarraville, Seddon, Kingsville, Bus Route 2 - Hoppers Crossing, Laverton, Sanctuary Lakes, Point Cook Rd, Altona Meadows, Bus Route 3 - Williamstown, Williamstown North, Bus Route 4 - Hoppers Crossing, Werribee Plaza, Werribee, Wyndham Vale, Bus Route 5 - Sunshine, Footscray, Avondale Heights, Keilor East, Deer Park, Caroline Springs, and Bus Route 6 - Altona Nth, Newport.

Approximately 556 (37%) children use the bus service to arrive to school in the morning and 637 (42%) students use the bus service to return home in the evening.

⁸ Difference between the 14 car parking spaces occupied at 8:30am and the 9 car parking spaces occupied at 8:15am.

⁹ Difference between the 30 car parking spaces occupied at 3:30pm and the 5 car parking spaces occupied at 4:00pm.

¹⁰ Excludes the 25 car parking spaces occupied on-street.

¹¹ 2022 Primary, Middle, and Senior School Enrolments = 1,520 students, 2022 ELC Enrolments = 98 Children

¹² A total of 372 staff are employed by the school in 2022.

2.5.3 Bicycle Parking

A total of 48 bicycle parking spaces are provided within the school site as follows:

- Horsburgh Centre – 4 spaces via 2 hoops.
- The Geoffrey Ryan Centre – 24 spaces via 12 hoops.
- Sports & Aquatic Centre – 10 spaces via 5 hoops.
- Senior School Building / Gate B – 10 spaces at a bicycle rack.

2.5.4 Path Network

The site is surrounded by limited off-road bicycle facilities. A shared path is provided on the north side of Sayers Road between 352 Sayers Road and Skeleton Waterholes Creek, south side of Sayers Road between Forsyth Road and Skeleton Waterholes Creek, and within the Skeleton Waterholes Creek reserve.

A 2.0 metre wide footpath is provided on the north side of Sayers Road between:

- Marquands Road and the eastbound bus stop (located approximately 115 metres west of Marquands Road).
- The Doubell Boulevard school pedestrian entry point and the eastbound bus stop (located approximately 100 metres west of Doubell Boulevard).

A 1.5 metre and 2.5 metre wide footpath is provided on the east and west side of Marquands Road, respectively.

2.6 Background Transport Review

Discussions with both Wyndham City Council and the Department of Transport & Planning on the future upgrade of Sayers Road were held via email correspondence back in June 2022. Details of the email correspondence are provided below:

- Wyndham City Council
 - There are no plans to upgrade Sayers Road soon.
 - It is assumed Sayers Road is to be upgraded to a four lane divided carriageway as this is what was approved at the Marquands Road intersection.
 - Sayers Road has been nominated as a C2 Strategic Cycling Corridor (all ages and abilities). To accommodate all ages and abilities, Sayers Road will require an off-road bike path or separated bike lanes.
- Department of Transport
 - The future configuration of Sayers Road adjacent to the school has not yet been determined, noting that its ultimate form (4 lanes v 6 lanes) is subject to ongoing investigations by Major Road Projects Victoria (section between Derrimut Road and Palmers Road).
 - Part of the road may be delivered as 6 lanes in some sections including where the school is located. Given that Leakes Road to the north will be delivered as a 6 lane road, it is unlikely that the whole of Sayers Road would also be delivered as such, given their convergence at the freeway intersection.

**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

3 PROPOSED DEVELOPMENT

The proposal consists of constructing a new school building for years 5 to 8 (Year 5-8 Learning Centre). The building will be located to the north-east of the Junior Oval and require the following changes to the Zone H, I & J car parks:

- Zone H (Staff Car Park) –
 - Addition of a right turn arrow to the existing left turn only arrow located north of the main gate.
 - Conversion of the one-way westbound circulation road (west of the main gate) to a two-way circulation road.
 - Addition of a turn area at the western end of the circulation road to allow vehicles parked in the 45 degree angled car parking spaces to turn around and exit the site at Marquands Road Gate A exit point. The turn area will also be used by delivery vehicles up to 8.8 metres long, so that they can access the loading bays located on the north side of the Zone H car park.
- Zone I (Staff Car Park) –
 - Closure of the internal north-south aligned circulation road.
 - Removal of 18 staff car parking spaces.
 - Reinstatement of the area with pedestrian paths and landscaping.
- Zone J (Staff Car Park) –
 - Removal of pavement arrows so that staff vehicles can travel in any direction.

Refer Appendix C for the proposed Year 5-8 Learning Centre detailed site plan, and Appendix D for swept path assessment drawing no. 23011WG-00-101, illustrating an 8.8 metre long Medium Rigid Vehicle performing a three-point turn at the Zone H turn area and a B99 and B85 vehicle passing each other simultaneously at the Main Gate access point/ Zone H car park entry point.

The Year 5-8 Learning Centre will open in July 2025, and once opened the secondary school enrolments are expected to increase from 962 students (2022) to around 1,144 students (+ 182). The primary school and ELC enrolment numbers will remain stable at around 558 and 98 children, respectively.

Staff numbers are expected to increase from 55 to around 61 primary school staff (+ 6) and 102 to around 132 secondary school staff (+30). The number of support staff and ELC staff are expected to remain at around 157 staff and 31 staff, respectively.

The 2025 student and staff numbers are estimations provided by the school for traffic assessment purposes. They are long term forecasts that are subject to annual fluctuations. Therefore, they should not be taken as definitive enrolment and staff numbers.

Once the Year 5-8 Learning Centre is constructed, the number of staff car parking spaces will reduce to 312 car parking spaces. No changes are proposed to the visitor parking (262 parking spaces), maintenance and trade vehicle parking (29 parking spaces) and loading and bus zones. Therefore, a total of 603 car parking spaces will be available on site for staff, visitor, and maintenance and trade vehicle parking.

**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

4 PARKING ASSESSMENT

ADVERTISED PLAN

4.1 Car Parking

4.1.1 Car Parking Requirement

Clause 52.06 of the Wyndham Planning Scheme details the car parking requirement in accordance with State and Local Planning Policy for a proposed new use or a proposed change in existing use within Wyndham City Council. Clause 52.06-5, Table 1 sets out the number of car parking spaces required for a particular use.

As outlined in Section 3:

- Primary school staff numbers are expected to increase by around 6 staff (from 55 to around 61),
- Secondary school staff numbers are expected to increase by around 30 staff (from 102 to around 132).
- The number of support staff and ELC staff are expected to remain at around 157 staff and 31 staff, respectively.
- It is proposed to remove 18 staff off-street car parking spaces from the site.

Table 4.1 provides details of the car parking requirement for the Early Learning Centre (ELC), Primary School and Secondary School use based on these increased staff numbers.

Table 4.1: Car Parking Requirement

Use	Rate & Measure	Quantity	No. of Spaces Required
ELC (Child Care Centre)	0.22 spaces to each child.	98 children	21
Primary School	1 space to each employee that is part of the maximum number of employees on the site at any time	61 employees	61
Secondary School	1.2 spaces to each employee that is part of the maximum number of employees on the site at any time	132 employees	158
Support Staff	1 space to each employee that is part of the maximum number of employees on the site at any time	157 employees	157
Total			397

As detailed in Table 4.1, the school has a statutory car parking requirement equivalent to 397 car parking spaces which is made up of 21 car parking spaces for the ELC use and 376 car parking spaces for the primary and secondary school use.

Therefore, the provision of 603 car parking spaces (312 spaces for staff use, 29 spaces for maintenance and trade vehicle use, and 262 spaces for visitor use) exceeds the statutory car parking requirement by 206 car parking spaces.

4.1.2 Car Parking Demand Assessment

A car parking demand assessment based on the existing demand generated by the school site as detailed in Section 2.4.1.4 (0.17 visitor car parking spaces per student and 0.52 car parking spaces per staff member¹³) has also been completed to confirm the adequacy of the car parking supply for both visitors and staff.

¹³ Student and staff numbers are based on the expected number of student and staff that will be on site during the PM peak pick up time, like the existing conditions (85% students and 93% staff). Includes ELC enrolments and staff numbers.

Based on an estimated total of 1,530 students (85%) and 354 staff (93%) being present on site at any one time¹³, the school is expected to generate a peak demand for car parking equivalent to 260 visitor car parking spaces and 184 staff car parking spaces, a total of 444 car parking spaces.

Therefore, the provision of 262 visitor car parking spaces and 312 staff car parking spaces, exceeds the expected peak visitor and staff car parking demand likely to be generated by the ELC, Primary School and Secondary School uses by 2 and 129 car parking spaces, respectively. Therefore, once the Year 5-8 Learning Centre is constructed and operational in 2025, the school is expected to have an oversupply of parking equivalent to 159 car parking spaces (includes the 29 spaces for maintenance and trade vehicle use).

ADVERTISED PLAN

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

4.2 Bicycle Facilities

Clause 52.34-5, Table 1 of the Wyndham Planning Scheme sets out the minimum number of bicycle spaces required for a for a proposed change in existing use within Wyndham City Council. For the proposed increase in secondary school student and staff numbers, the bicycle parking requirement is set out in Table 4.2.

Table 4.2: Bicycle Parking Requirement

Use	Rate & Measure	Quantity Change from 2022 to 2025	No. of Spaces Required
Primary School	1 to each 20 employees	+6 employees	0
	1 to each 5 pupils over year 4	0 students	0
Secondary School	1 to each 20 employees	+30 employees	2
	1 to each 5 pupils	182 students	36
Support Staff	1 to each 20 employees	0 employees	0

As detailed in Table 4.2, the school has a statutory bicycle parking requirement to provide an extra 36 secondary school student bicycle parking spaces and 2 staff bicycle parking spaces.

Therefore, the school is required to provide the following bicycle infrastructure within the site:

- 36 secondary school student bicycle parking spaces located centrally within the school site and at a bicycle rail, and
- 2 staff bicycle parking spaces located close to the staff offices and within a bicycle locker or at a bicycle rail in a lockable compound.

All bicycle parking spaces are to be designed in accordance with Clause 52.34-6 of the Wyndham Planning Scheme.

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

ADVERTISED PLAN

5 TRAFFIC ASSESSMENT

A review of what impact the proposed increase in enrolment and staff numbers will have on the operational performance of the school access points in the future year (10 Year forecast period) follows.

5.1 Traffic Generation

Referring to Section 2.3.2.1, the school generates approximately 0.56 two-way vehicle trips per student (51% enter & 49% exit) during the 30 minute AM Peak period and 0.32 two-way vehicle trips per student (23% enter & 77% exit) during the 30 minute PM peak period.

Applying this traffic generation rate to the increase in student numbers (+182), it is expected that once the Year 5-8 Learning Centre is operational, the school will generate an extra 102 two-way vehicle trips per student (52 vehicles enter & 50 vehicles exit) during the 30 minute AM Peak period and 58 two-way vehicle trips per student (13 vehicles enter & 45 vehicles exit) during the 30 minute PM peak period.

Table 5.1 details the distribution of all new trips generated by the increase in enrolment and staff numbers at each access point which is based on the existing traffic volume distribution results. However, as the Zone A car park is close to capacity (99%¹⁴) during the PM Peak period, it is recommended that the school allow use of the Zone D & E car parks for secondary school student drop off & pick up, due to the availability of spaces (35 No.) within these car parks.

Therefore, all new trips that are expected to use the Gate C and D access points during the PM Peak period, will be distributed to the Doubell Gate. Further, due to the closure of the Zone I car park, all new trips exiting Gate C (staff trips) during both the AM and PM Peak period will be redistributed to Gate A.

Table 5.1: AM & PM Peak Traffic Volume Distribution, Increase in Enrolments

Access Point	AM Peak		PM Peak	
	In	Out	In	Out
Doubell Gate	23	22	↑ 2 + 10 = 12	↑ 13 + 27 = 40
Main Gate	5	-	1	-
Gate A	-	↑ 1 + 1 = 2	-	↑ 2 + 3 = 5
Gate C	24	↑ 1 - 1 = 0	10 - 10 = 0	↑ 3 - 3 = 0
Gate D	-	26	-	27 - 27 = 0
Total	52	50	13	45

5.2 Future Year Intersection Volumes

Refer Figure 5.1 for the future year (10 year forecast) traffic volumes at each access point, due to the expected growth in enrolment numbers.

As both Sayers Road and Marquands Road are close to capacity, and due to the major road upgrades to Leakes Road in the north, and Forsyth Road in the east, it is expected that there will be very minimal growth in the existing traffic volumes on both roads. Therefore, for modelling purposes an average annual traffic growth rate equivalent to 0.5% will be used for both roads.

**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

¹⁴ The two accessible car parking spaces for disabled users were the only vacant car parking spaces within the Zone A car park.

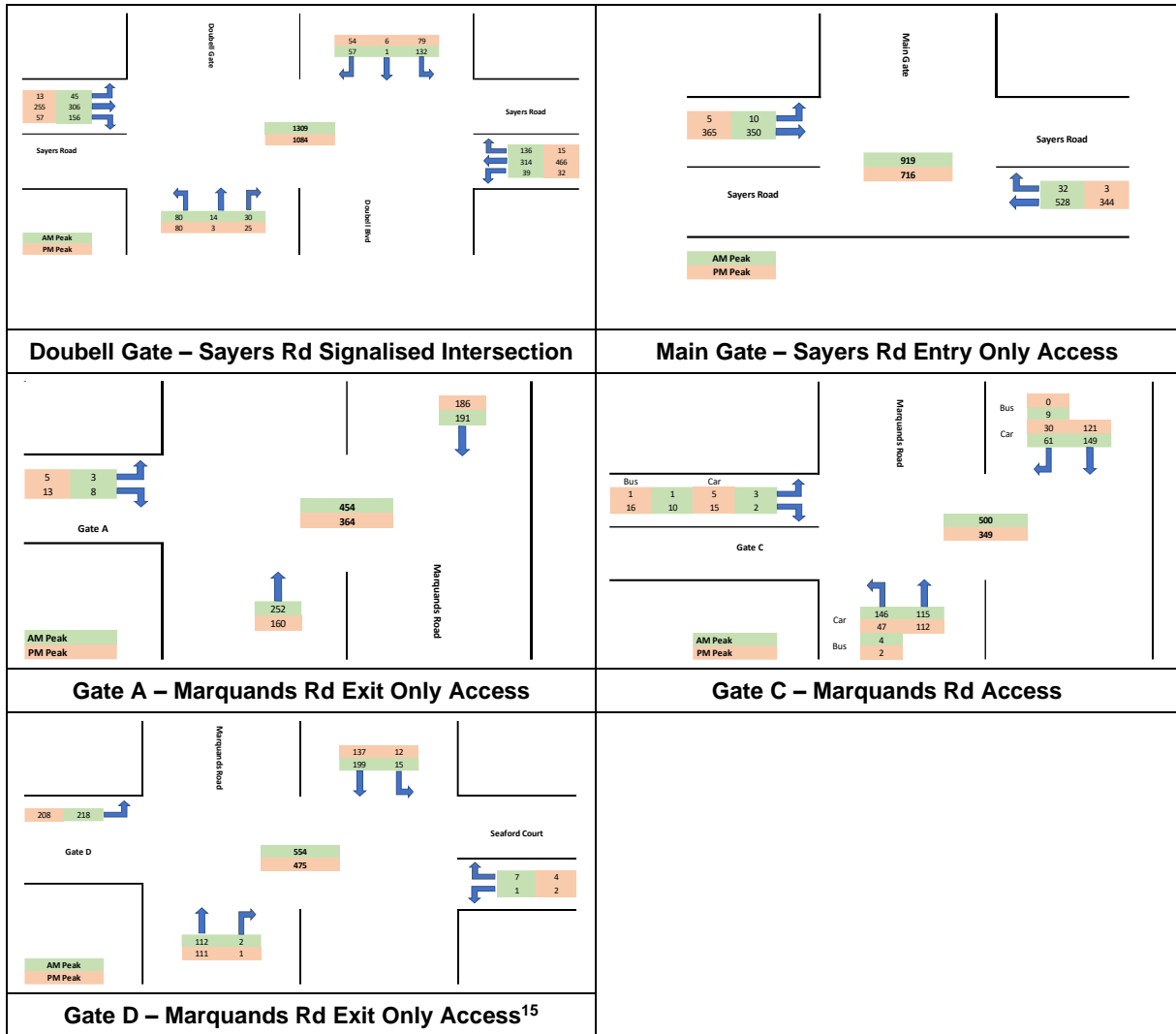


Figure 5.1: Future Year Site Access Volumes

5.3 Future Year Site Access Operational Performance

A check of the operational performance of the existing site access points with the future year traffic volumes was undertaken using SIDRA Intersection 9.1 software to understand what impact the increase in enrolment and staff numbers will have on the operational performance of the site access points.

A summary of the Degree of Saturation, Average Delay, Level of Service, and 95% Back of Queue Distance results of the analysis for the “total approach” of the intersection with the future year traffic volumes is provided in Table 2.3 and Table 2.4. Full results are provided in Appendix E.

ADVERTISED PLAN

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

¹⁵ Not all vehicles existing Gate D turned left out of the site as required.

Table 5.2: SIDRA Summary Results – Doubell Gate, Sayers Rd Signalised Intersection

Approach Leg	Doubell Blvd (South)	Sayers Road (East)	Doubell Blvd (North)	Sayers Road (West)	Total Intersection
AM Peak					
Degree of Saturation	0.568	0.885	0.719	0.889	0.889
Average Delay (sec)	69.0	71.4	55.5	71.4	68.9
Level of Service	E	E	E	E	E
95% Queue Distance (m)	70.2	274.4	85.8	279.4	279.4
PM Peak					
Degree of Saturation	0.483	0.918	0.660	0.620	0.918
Average Delay (sec)	63.0	56.0	63.9	28.8	49.6
Level of Service	E	E	E	C	D
95% Queue Distance (m)	60.6	401.5	63.8	126.4	401.5

The Doubell Gate, Sayers Road Signalised Intersection will continue to operate just below its capacity and within acceptable limits with a Level of Service E, Degree of Saturation below 0.92, Average Delay less than 69 seconds, and Queues less than 402 metres long during both the AM Peak and PM Peak periods. These results are very similar to the existing conditions.

Table 5.3: SIDRA Summary Results – Main Gate, Sayers Rd Entry Only Access

Approach Leg	Sayers Road (East)	Sayers Road (West)	Total Intersection
AM Peak			
Degree of Saturation	0.547	0.364	0.547
Average Delay (sec)	0.7	0.3	0.5
Level of Service	-	-	-
95% Queue Distance (m)	2.7	0	2.7
PM Peak			
Degree of Saturation	0.354	0.374	0.374
Average Delay (sec)	0.2	0.2	0.2
Level of Service	-	-	-
95% Queue Distance (m)	0.3	0	0.3

The Main Gate, Sayers Road Entry Only Access Intersection will continue to operate below its capacity with a Degree of Saturation below 0.60, Average Delay less than 1 second, and Queues less than 3 metre long during both the AM Peak and PM Peak periods. These results are very similar to the existing conditions.

ADVERTISED PLAN

Table 5.4: SIDRA Summary Results – Gate A, Marquands Rd Exit Only Access

Approach Leg	Marquands Road (South)	Marquands Road (North)	School Access Road (West)	Total Intersection
AM Peak				
Degree of Saturation	0.261	0.203	0.069	0.261
Average Delay (sec)	0.1	0.1	5.0	0.2
Level of Service	-	-	A	-
95% Queue Distance (m)	0	0	0.7	0.7
PM Peak				
Degree of Saturation	0.167	0.200	0.041	0.200
Average Delay (sec)	0	0.1	3.5	0.2
Level of Service	-	-	A	-
95% Queue Distance (m)	0	0	0.9	0.9

The Gate A, Marquands Road Exit Only Access Intersection will continue to operate well below its capacity with a Degree of Saturation below 0.27, Average Delay less than 1 second, and Queues less than 1 metre long during both the AM Peak and PM Peak periods. These results are very similar to the existing conditions.

Table 5.5: SIDRA Summary Results – Gate C, Marquands Rd Access

Approach Leg	Marquands Road (South)	Marquands Road (North)	Williamstown Drive (West)	Total Intersection
AM Peak				
Degree of Saturation	0.343	0.325	0.106	0.343
Average Delay (sec)	3.4	4.7	10.7	4.2
Level of Service	-	-	B	-
95% Queue Distance (m)	14.1	12.9	3.7	14.1
PM Peak¹⁶				
Degree of Saturation	0.958	0.979	0.140	0.979
Average Delay (sec)	5.9	6.3	5.3	6.0
Level of Service	-	-	A	-
95% Queue Distance (m)	64.2	18.8	4.4	64.2

The Gate C, Marquands Road Access Intersection will continue to operate well below its capacity during the AM Peak period with a Degree of Saturation below 0.35, Average Delay less than 5 seconds, and Queues less than 15 metres long. Where-as during the PM Peak period, the Marquands Road Gate C Two-way Access Point will operate just below its capacity with a Degree of Saturation less than 0.98, Average Delay of around 6 seconds, and Queues up to 65 metres long.

¹⁶ Capacity adjustment factor amended to consider that the schools children’s crossing supervisor will minimise queue lengths within Williamstown Drive by stopping children from crossing the Zone A car park access point.

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

These results are an improvement to the existing conditions, and any capacity issues are associated with the expected growth in the Marquands Road through traffic volumes, and not due to the proposed development traffic i.e. growth in development traffic will be redistributed to the Doubell Gate.

Table 5.6: SIDRA Summary Results – Gate D, Marquands Rd Exit Only Access

Approach Leg	Marquands Road (South)	Seaford Circuit (East)	Marquands Road (North)	School Access Road (West)	Total Intersection
AM Peak					
Degree of Saturation	0.121	0.049	0.226	0.326	0.326
Average Delay (sec)	0.2	13.5	0.4	1.0	0.8
Level of Service	-	B	-	A	-
95% Queue Distance (m)	0.3	1.0	0	11.3	11.3
PM Peak					
Degree of Saturation	0.236	0.025	0.314	0.311	0.314
Average Delay (sec)	0.1	9.8	0.6	1.0	0.8
Level of Service	-	A	-	A	-
95% Queue Distance (m)	0.1	0.6	0	10.6	10.6

The Gate D, Marquands Road Exit Only Access Intersection will continue to operate well below its capacity with a Degree of Saturation below 0.40, Average Delay less than 1 second, and Queues less than 12 metres long during both the AM Peak and PM Peak periods. These results are very similar to the existing conditions.

The proposed increase in enrolment and staff numbers are not expected to have a detrimental impact on the existing site access points including Marquands Road and Sayers Road provided that the following recommendations are adopted:

1. The school allow use of the Zone D & E car parks for secondary school student drop off & pick up, due to the availability of 35 No. car parking spaces within these car parks.
2. The school’s children’s crossing supervisor monitor the Williamstown Drive vehicle queues, and if queuing traffic backs onto Marquands Road, then they are to stop children from crossing the Zone A car park access point, so that vehicles can enter the car park.

ADVERTISED PLAN

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

6 CONCLUSION

The proposal to construct a Year 5-8 Learning Centre within Westbourne Grammar School which includes the removal of 18 staff car parking spaces and circulation road within the Zone I car park, and the modification of the Zone H car park to include a turn area at its western end is considered adequate for the following reasons:

- The provision of 603 car parking spaces (312 spaces for staff use, 29 spaces for maintenance and trade vehicle use, and 262 spaces for visitor use) exceeds the statutory car parking requirement as set out in Clause 52.06 of the Wyndham Planning Scheme by 206 car parking spaces.
- The provision of 603 car parking spaces, exceeds the expected peak demand for car parking likely to be generated by the site by 159 car parking spaces.
- The provision of 36 secondary school student bicycle parking spaces and 2 staff bicycle parking spaces are in accordance with the statutory bicycle facilities requirement as set out in Clause 52.34 of the Wyndham Planning Scheme.
- The increase in vehicle trips to/ from the site will not have a detrimental impact on the operation of the existing site access points provided that the following recommendations are adopted:
 - The school allow use of the Zone D & E car parks for secondary school student drop off and pick up.
 - The school's children's crossing supervisor monitor the Williamstown Drive vehicle queues, to avoid vehicles queuing back onto Marquands Road.
- The closure of the north-south internal circulation road and minor changes to car parking is not anticipated to change site access patterns.

Therefore, provided that the above recommendations are adopted by Westbourne Grammar School, then there are no traffic engineering reasons as to why the responsible authority should not grant approval to amend the existing permit to include the construction of Year 5-8 Learning Centre, removal of 18 staff car parking spaces, and modification of the Zone H car park to include a turn area at its western end.

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

**ADVERTISED
PLAN**

APPENDIX A – EXISTING SIDRA ANALYSIS RESULTS

ADVERTISED PLAN

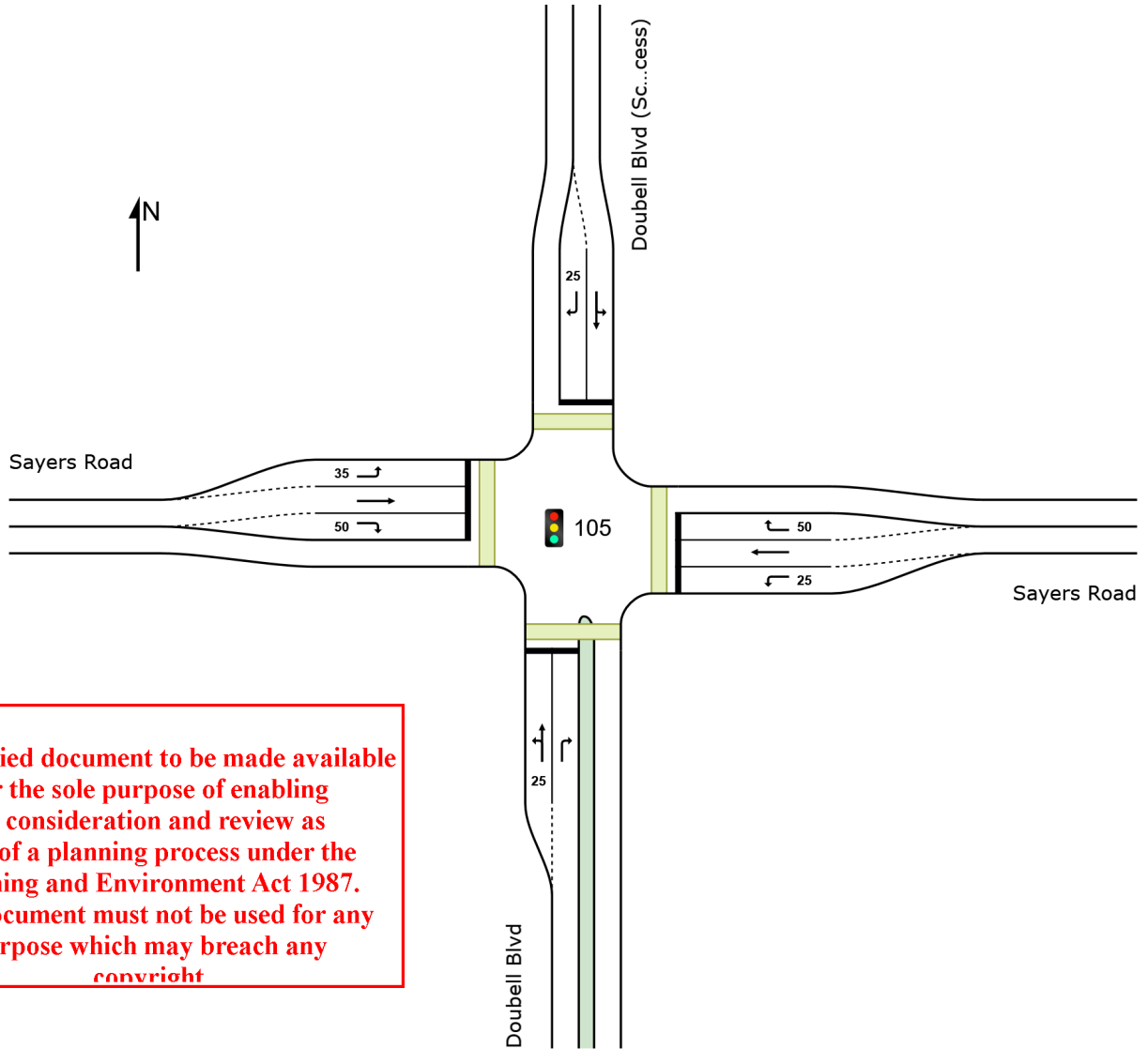
**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

SITE LAYOUT

 Site: 105 [380 Sayers Rd Access - AM Peak (Site Folder: Existing Conditions)]

380 Sayers Road Access
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

**ADVERTISED
PLAN**

LANE SUMMARY

Site: 105 [380 Sayers Rd Access - AM Peak (Site Folder: Existing Conditions)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

380 Sayers Road Access

Site Category: Existing Design

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Prob. Adj. Block.	
	[Total veh/h]	[HV %]	[Total veh/h]	[HV %]						[Veh]	[Dist]			Cap.	Prob. Adj. Block.
	veh/h	%	veh/h	%	veh/h	v/c	%	sec			m	m	%	%	
South: Doubell Blvd															
Lane 1	176	0.0	176	0.0	345 ¹	0.510	100	63.3	LOS E	9.2	64.7	Short	25	0.0	NA
Lane 2	58	0.0	58	0.0	175	0.331	100	72.2	LOS E	2.8	19.6	Full	500	0.0	0.0
Approach	234	0.0	234	0.0		0.510		65.5	LOS E	9.2	64.7				
East: Sayers Road															
Lane 1	74	0.0	74	0.0	907	0.082	100	48.6	LOS D	2.3	16.0	Short	25	0.0	NA
Lane 2	598	4.0	598	4.0	711 ¹	0.841	100	64.4	LOS E	33.5	242.9	Full	415	0.0	0.0
Lane 3	240	0.0	240	0.0	473	0.507	100	67.7	LOS E	7.0	48.8	Short	50	0.0	NA
Approach	912	2.6	912	2.6		0.841		64.0	LOS E	33.5	242.9				
North: Doubell Blvd (School Access)															
Lane 1	234	0.0	234	0.0	539 ¹	0.434	100	43.6	LOS D	10.5	73.2	Full	500	0.0	0.0
Lane 2	100	0.0	100	0.0	173	0.580	100	66.5	LOS E	5.0	34.9	Short	25	0.0	NA
Approach	334	0.0	334	0.0		0.580		50.4	LOS D	10.5	73.2				
West: Sayers Road															
Lane 1	80	0.0	80	0.0	907	0.088	100	46.1	LOS D	2.5	17.3	Short	35	0.0	NA
Lane 2	582	8.0	582	8.0	695 ¹	0.837	100	61.7	LOS E	32.6	243.8	Full	500	0.0	0.0
Lane 3	296	1.0	296	1.0	469	0.631	100	74.3	LOS E	9.0	63.7	Short	50	0.0	NA
Approach	958	5.2	958	5.2		0.837		64.3	LOS E	32.6	243.8				
All Vehicles	2438	3.0	2438	3.0		0.841		62.4	LOS E	33.5	243.8				

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

Lane LOS values are based on average delay per lane.

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

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.

¹ Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Delay and stops experienced by drivers upstream of short lane entry have been accounted for.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: TRANSPORT & TRAFFIC SOLUTIONS PTY LTD | Licence: NETWORK / 1PC | Processed: Thursday, 18 May 2023 1:37:23 PM

Project: C:\Users\MichaelMarsicovetere\Box Sync\Projects\22019_Westbourne Grammar TMP\Modelling\SIDRA\Westbourne Grammar.sip9

**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

PHASING SUMMARY

Site: 105 [380 Sayers Rd Access - AM Peak (Site Folder: Existing Conditions)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

380 Sayers Road Access

Site Category: Existing Design

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Phase Sequence: Leading Right Turn

Input Phase Sequence: A, B, B2*, B3*, C, D, D2*, D3*

Output Phase Sequence: A, B, C, D

Reference Phase: Phase A

(* Variable Phase)

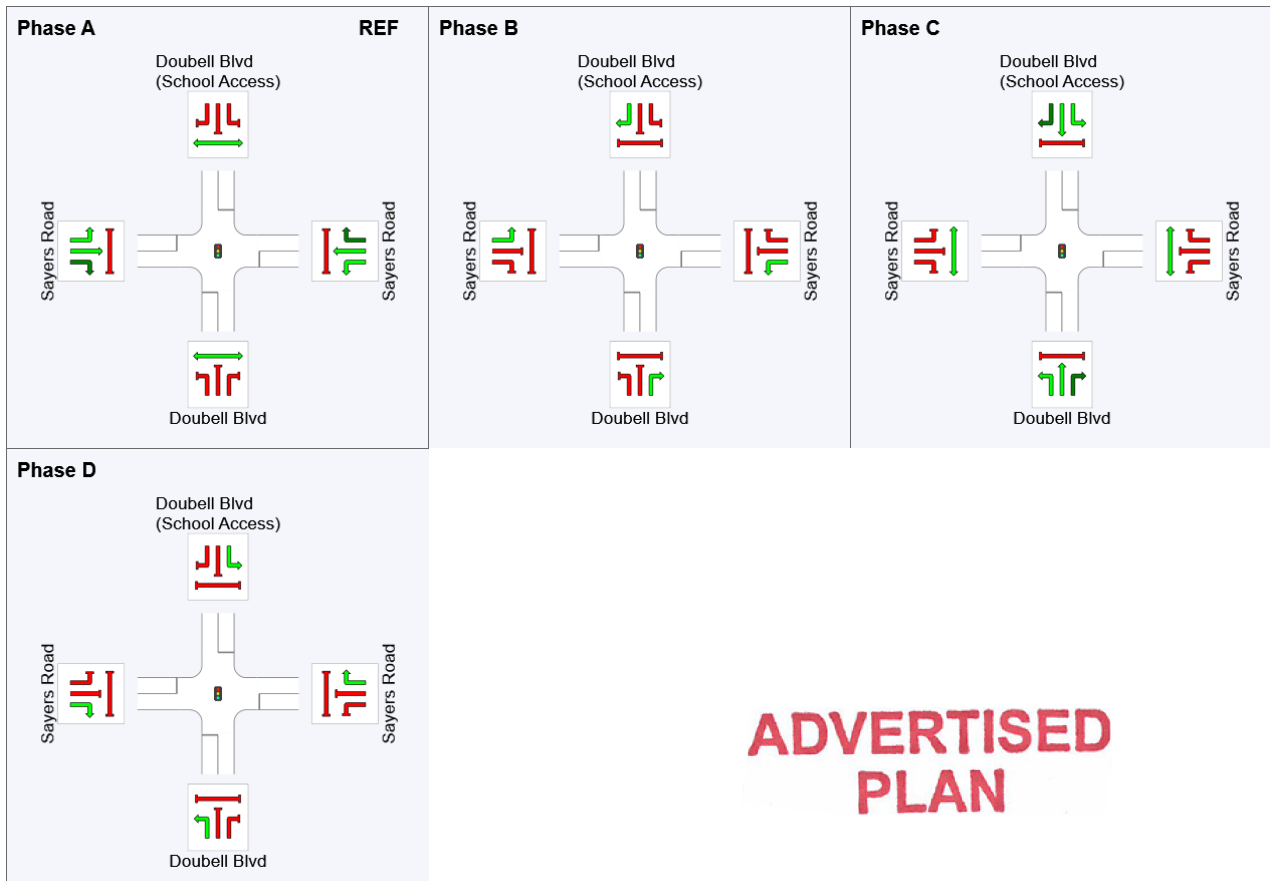
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	55	68	91
Green Time (sec)	49	7	17	23
Phase Time (sec)	55	13	23	29
Phase Split	46%	11%	19%	24%
Phase Frequency (%)	100.0 ⁴	100.0 ⁴	100.0 ⁴	100.0 ⁴

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.




⁴ Phase Frequency specified by the user (phase times not specified).

Output Phase Sequence



ADVERTISED
PLAN

REF: Reference Phase
VAR: Variable Phase

	Normal Movement		Permitted/Opposed
	Slip/Bypass-Lane Movement		Opposed Slip/Bypass-Lane
	Stopped Movement		Turn On Red
	Other Movement Class (MC) Running		Undetected Movement
	Mixed Running & Stopped MCs		Continuous Movement
	Other Movement Class (MC) Stopped		Phase Transition Applied

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com
Organisation: TRANSPORT & TRAFFIC SOLUTIONS PTY LTD | Licence: NETWORK / 1PC | Processed: Thursday, 18 May 2023 1:37:23 PM
Project: C:\Users\MichaelMarsicovetere\Box Sync\Projects\22019_Westbourne Grammar TMP\Modelling\SIDRA\Westbourne Grammar.sip9

ADVERTISED PLAN

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

LANE SUMMARY

Site: 105 [380 Sayers Rd Access - PM Peak (Site Folder: Existing Conditions)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

380 Sayers Road Access

Site Category: Existing Design

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Prob. Adj. Block.	
	[Total veh/h]	[HV %]	[Total veh/h]	[HV %]						[Veh]	[Dist]			%	%
South: Doubell Blvd															
Lane 1	156	0.0	156	0.0	354 ¹	0.441	100	58.2	LOS E	8.1	56.4	Short	25	0.0	NA
Lane 2	48	0.0	48	0.0	201	0.239	100	63.8	LOS E	2.4	16.5	Full	500	0.0	0.0
Approach	204	0.0	204	0.0		0.441		59.6	LOS E	8.1	56.4				
East: Sayers Road															
Lane 1	60	3.0	60	3.0	1148	0.052	100	34.2	LOS C	1.3	9.5	Short	25	0.0	NA
Lane 2	886	3.0	886	3.0	1017 ¹	0.872	100	48.6	LOS D	47.4	340.0	Full	415	0.0	0.0
Lane 3	18	0.0	18	0.0	466	0.039	100	47.6	LOS D	0.4	2.7	Short	50	0.0	NA
Approach	964	2.9	964	2.9		0.872		47.7	LOS D	47.4	340.0				
North: Doubell Blvd (School Access)															
Lane 1	120	0.0	120	0.0	353	0.340	100	44.9	LOS D	6.1	42.7	Full	500	0.0	0.0
Lane 2	76	0.0	76	0.0	174	0.437	100	43.5	LOS D	3.8	26.6	Short	25	0.0	NA
Approach	196	0.0	196	0.0		0.437		44.3	LOS D	6.1	42.7				
West: Sayers Road															
Lane 1	16	0.0	16	0.0	1173	0.014	100	22.0	LOS C	0.3	2.4	Short	35	0.0	NA
Lane 2	486	2.0	486	2.0	1068 ¹	0.455	100	24.2	LOS C	16.6	117.9	Full	500	0.0	0.0
Lane 3	108	0.0	108	0.0	204	0.529	100	40.5	LOS D	3.7	26.1	Short	50	0.0	NA
Approach	610	1.6	610	1.6		0.529		27.0	LOS C	16.6	117.9				
All Vehicles	1974	1.9	1974	1.9		0.872		42.2	LOS D	47.4	340.0				

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

Lane LOS values are based on average delay per lane.

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

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.

¹ Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Delay and stops experienced by drivers upstream of short lane entry have been accounted for.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: TRANSPORT & TRAFFIC SOLUTIONS PTY LTD | Licence: NETWORK / 1PC | Processed: Thursday, 18 May 2023 1:37:24 PM

Project: C:\Users\MichaelMarsicovetere\Box Sync\Projects\22019_Westbourne Grammar TMP\Modelling\SIDRA\Westbourne Grammar.sip9

**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

PHASING SUMMARY

Site: 105 [380 Sayers Rd Access - PM Peak (Site Folder: Existing Conditions)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

380 Sayers Road Access

Site Category: Existing Design

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Phase Sequence: Leading Right Turn

Input Phase Sequence: A, B, B2*, B3*, C, D, D2*, D3*

Output Phase Sequence: A, B, C, D

Reference Phase: Phase A

(* Variable Phase)

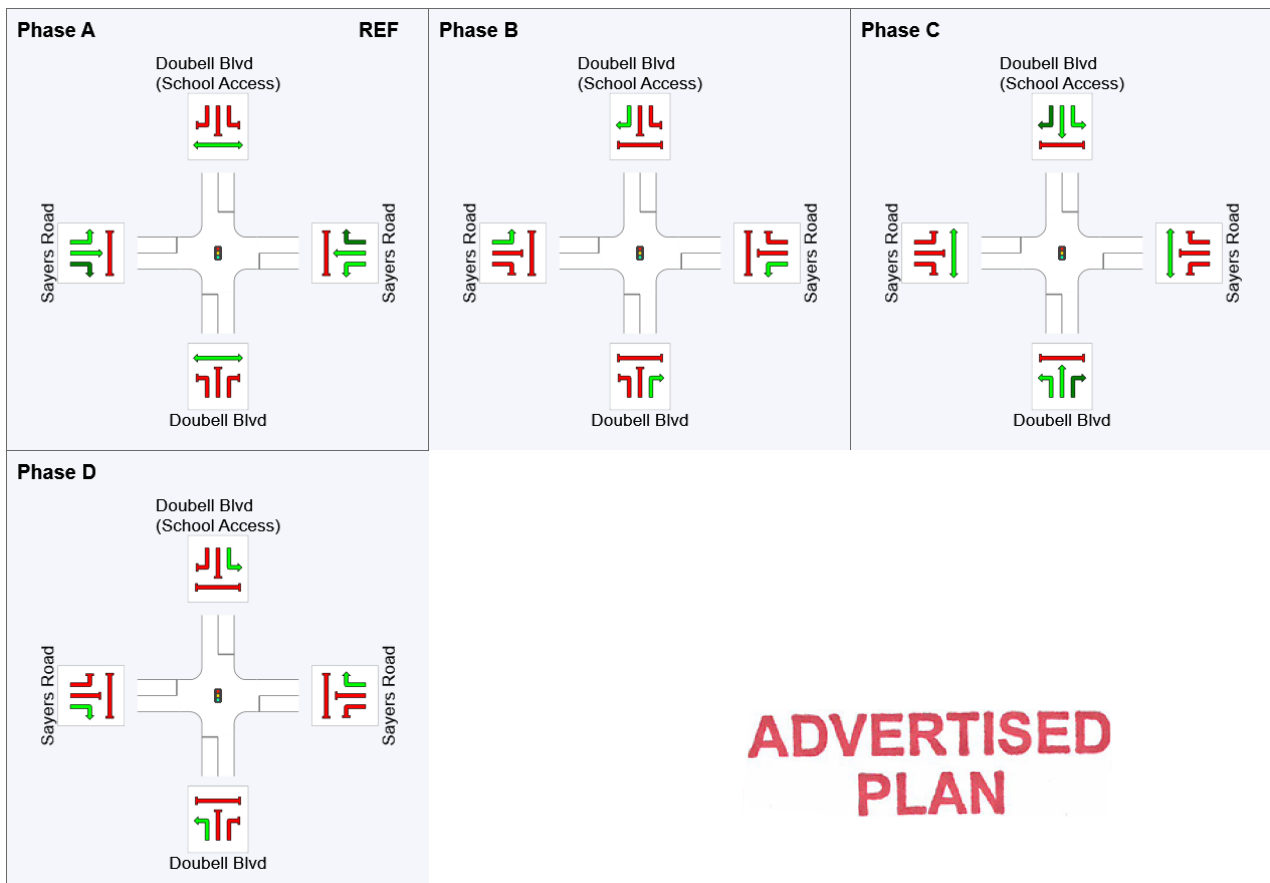
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	73	85	108
Green Time (sec)	67	6	17	6
Phase Time (sec)	73	12	23	12
Phase Split	61%	10%	19%	10%
Phase Frequency (%)	100.0 ⁴	100.0 ⁴	100.0 ⁴	100.0 ⁴

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.





⁴ Phase Frequency specified by the user (phase times not specified).

Output Phase Sequence



ADVERTISED PLAN

REF: Reference Phase
VAR: Variable Phase

	Normal Movement		Permitted/Opposed
	Slip/Bypass-Lane Movement		Opposed Slip/Bypass-Lane
	Stopped Movement		Turn On Red
	Other Movement Class (MC) Running		Undetected Movement
	Mixed Running & Stopped MCs		Continuous Movement
	Other Movement Class (MC) Stopped		Phase Transition Applied

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com
Organisation: TRANSPORT & TRAFFIC SOLUTIONS PTY LTD | Licence: NETWORK / 1PC | Processed: Thursday, 18 May 2023 1:37:24 PM
Project: C:\Users\MichaelMarsicovetere\Box Sync\Projects\22019_Westbourne Grammar TMP\Modelling\SIDRA\Westbourne Grammar.sip9

ADVERTISED PLAN

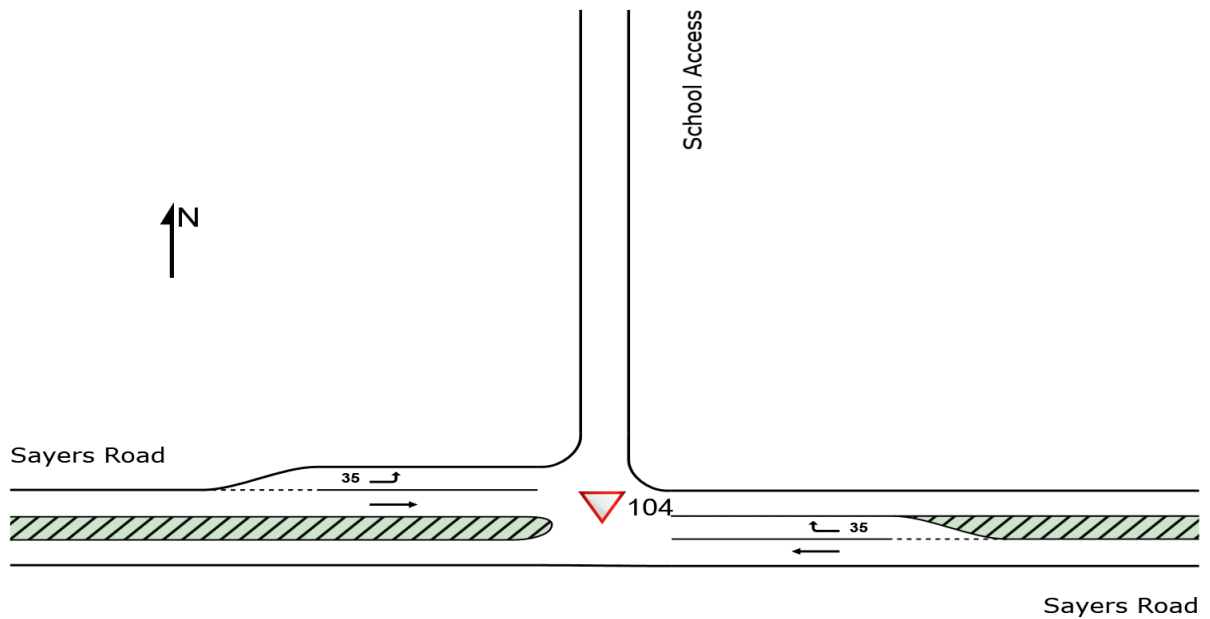
This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

SITE LAYOUT

▽ Site: 104 [300 Sayers Rd Access - AM Peak (Site Folder: Existing Conditions)]

300 Sayers Road Access
Site Category: Existing Design
Give-Way (Two-Way)

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



SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com
Organisation: TRANSPORT & TRAFFIC SOLUTIONS PTY LTD | Licence: NETWORK / 1PC | Created: Thursday, 25 May 2023 4:55:32 PM
Project: C:\Users\MichaelMarsicovetere\Box Sync\Projects\22019_Westbourne Grammar TMP\Modelling\SIDRA\Westbourne Grammar.sip9

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

**ADVERTISED
PLAN**

LANE SUMMARY

Site: 104 [300 Sayers Rd Access - AM Peak (Site Folder: Existing Conditions)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

300 Sayers Road Access
 Site Category: Existing Design
 Give-Way (Two-Way)

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Prob. Adj. Block.	
	[Total veh/h]	[HV %]	[Total veh/h]	[HV %]						[Veh]	[Dist]			Cap.	Prob. Adj.
	veh/h	%	veh/h	%	veh/h	v/c	%	sec			m		m	%	%
East: Sayers Road															
Lane 1	1004	3.2	1004	3.2	1930	0.520	100	0.1	LOS A	0.0	0.0	Full	180	0.0	0.0
Lane 2	56	0.0	56	0.0	624	0.090	100	9.9	LOS A	0.3	2.3	Short	35	0.0	NA
Approach	1060	3.0	1060	3.0		0.520		0.6	NA	0.3	2.3				
West: Sayers Road															
Lane 1	18	0.0	18	0.0	1828	0.010	100	5.6	LOS A	0.0	0.0	Short	35	0.0	NA
Lane 2	666	3.9	666	3.9	1922	0.347	100	0.1	LOS A	0.0	0.0	Full	415	0.0	0.0
Approach	684	3.8	684	3.8		0.347		0.2	NA	0.0	0.0				
All Vehicles	1744	3.3	1744	3.3		0.520		0.5	NA	0.3	2.3				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Lane LOS values are based on average delay per lane. Minor Road Approach LOS values are based on average delay for all lanes. 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.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com
 Organisation: TRANSPORT & TRAFFIC SOLUTIONS PTY LTD | Licence: NETWORK / 1PC | Processed: Thursday, 18 May 2023 1:37:25 PM
 Project: C:\Users\MichaelMarsicovetere\Box Sync\Projects\22019_Westbourne Grammar TMP\Modelling\SIDRA\Westbourne Grammar.sip9

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

ADVERTISED PLAN

LANE SUMMARY

Site: 104 [300 Sayers Rd Access - PM Peak (Site Folder: Existing Conditions)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

300 Sayers Road Access
 Site Category: Existing Design
 Give-Way (Two-Way)

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Prob. Adj. Block.	
	[Total veh/h]	[HV %]	[Total veh/h]	[HV %]						[Veh]	[Dist]			%	%
East: Sayers Road															
Lane 1	654	2.1	654	2.1	1944	0.336	100	0.0	LOS A	0.0	0.0	Full	180	0.0	0.0
Lane 2	6	0.0	6	0.0	609	0.010	100	9.7	LOS A	0.0	0.2	Short	35	0.0	NA
Approach	660	2.1	660	2.1		0.336		0.1	NA	0.0	0.2				
West: Sayers Road															
Lane 1	8	0.0	8	0.0	1828	0.004	100	5.6	LOS A	0.0	0.0	Short	35	0.0	NA
Lane 2	694	1.4	694	1.4	1953	0.355	100	0.1	LOS A	0.0	0.0	Full	415	0.0	0.0
Approach	702	1.4	702	1.4		0.355		0.2	NA	0.0	0.0				
All Vehicles	1362	1.7	1362	1.7		0.355		0.1	NA	0.0	0.2				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Lane LOS values are based on average delay per lane. Minor Road Approach LOS values are based on average delay for all lanes. 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.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com
 Organisation: TRANSPORT & TRAFFIC SOLUTIONS PTY LTD | Licence: NETWORK / 1PC | Processed: Thursday, 18 May 2023 1:37:26 PM
 Project: C:\Users\MichaelMarsicovetere\Box Sync\Projects\22019_Westbourne Grammar TMP\Modelling\SIDRA\Westbourne Grammar.sip9

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

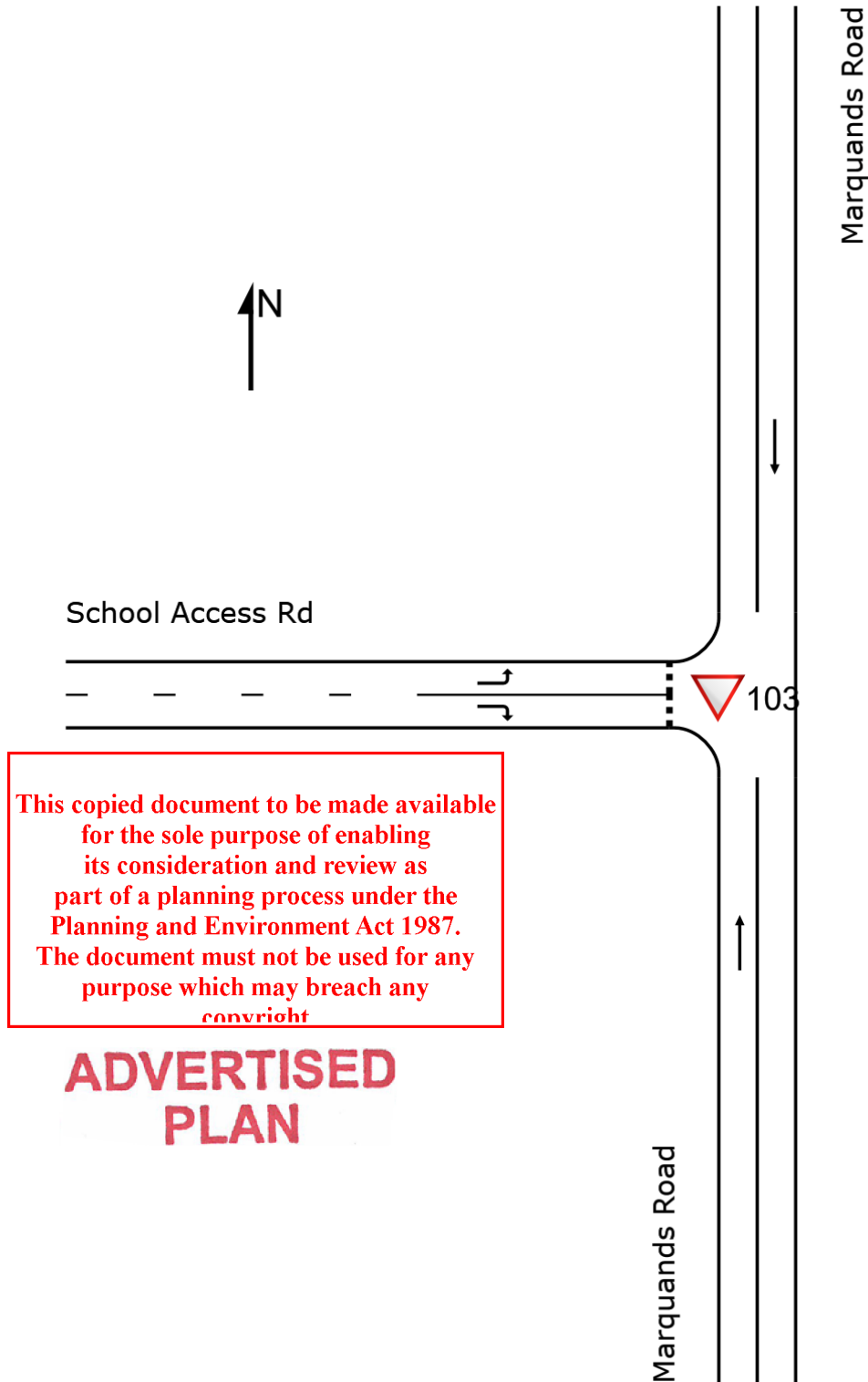
ADVERTISED PLAN

SITE LAYOUT

▽ Site: 103 [Marquands Rd Gate A - AM Peak (Site Folder: Existing Conditions)]

Gate A Access
Site Category: Existing Design
Give-Way (Two-Way)

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



ADVERTISED PLAN

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

LANE SUMMARY

Site: 103 [Marquands Rd Gate A - AM Peak (Site Folder: Existing Conditions)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Gate A Access
 Site Category: Existing Design
 Give-Way (Two-Way)

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Prob. Adj. Block.	
	[Total veh/h]	[HV %]	[Total veh/h]	[HV %]						[Veh]	[Dist]			%	%
South: Marquands Road															
Lane 1	480	2.9	480	2.9	1934	0.248	100	0.1	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	480	2.9	480	2.9		0.248		0.1	NA	0.0	0.0				
North: Marquands Road															
Lane 1	364	7.1	364	7.1	1883	0.193	100	0.1	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	364	7.1	364	7.1		0.193		0.1	NA	0.0	0.0				
West: School Access Rd															
Lane 1	4	0.0	4	0.0	1014	0.004	100	1.7	LOS A	0.0	0.1	Full	500	0.0	0.0
Lane 2	12	0.0	12	0.0	520	0.023	100	5.7	LOS A	0.1	0.5	Full	500	0.0	0.0
Approach	16	0.0	16	0.0		0.023		4.7	LOS A	0.1	0.5				
All Vehicles	860	4.6	860	4.6		0.248		0.1	NA	0.1	0.5				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Lane LOS values are based on average delay per lane.
 Minor Road Approach LOS values are based on average delay for all lanes.
 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.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com
 Organisation: TRANSPORT & TRAFFIC SOLUTIONS PTY LTD | Licence: NETWORK / 1PC | Processed: Thursday, 18 May 2023 1:37:27 PM
 Project: C:\Users\MichaelMarsicovetere\Box Sync\Projects\22019_Westbourne Grammar TMP\Modelling\SIDRA\Westbourne Grammar.sip9

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

ADVERTISED PLAN

LANE SUMMARY

Site: 103 [Marquands Rd Gate A - PM Peak (Site Folder: Existing Conditions)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Gate A Access
 Site Category: Existing Design
 Give-Way (Two-Way)

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Prob. Adj. Block.	
	[Total veh/h]	[HV %]	[Total veh/h]	[HV %]						[Veh]	[Dist]			%	%
South: Marquands Road															
Lane 1	304	4.6	304	4.6	1913	0.159	100	0.0	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	304	4.6	304	4.6		0.159		0.0	NA	0.0	0.0				
North: Marquands Road															
Lane 1	354	9.0	354	9.0	1861	0.190	100	0.1	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	354	9.0	354	9.0		0.190		0.1	NA	0.0	0.0				
West: School Access Rd															
Lane 1	8	0.0	8	0.0	1233	0.006	100	1.0	LOS A	0.0	0.2	Full	500	0.0	0.0
Lane 2	20	0.0	20	0.0	658	0.030	100	4.2	LOS A	0.1	0.7	Full	500	0.0	0.0
Approach	28	0.0	28	0.0		0.030		3.2	LOS A	0.1	0.7				
All Vehicles	686	6.7	686	6.7		0.190		0.2	NA	0.1	0.7				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Lane LOS values are based on average delay per lane.
 Minor Road Approach LOS values are based on average delay for all lanes.
 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.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com
 Organisation: TRANSPORT & TRAFFIC SOLUTIONS PTY LTD | Licence: NETWORK / 1PC | Processed: Thursday, 18 May 2023 1:37:28 PM
 Project: C:\Users\MichaelMarsicovetere\Box Sync\Projects\22019_Westbourne Grammar TMP\Modelling\SIDRA\Westbourne Grammar.sip9

This copied document to be made available
 for the sole purpose of enabling
 its consideration and review as
 part of a planning process under the
 Planning and Environment Act 1987.
 The document must not be used for any
 purpose which may breach any
 copyright

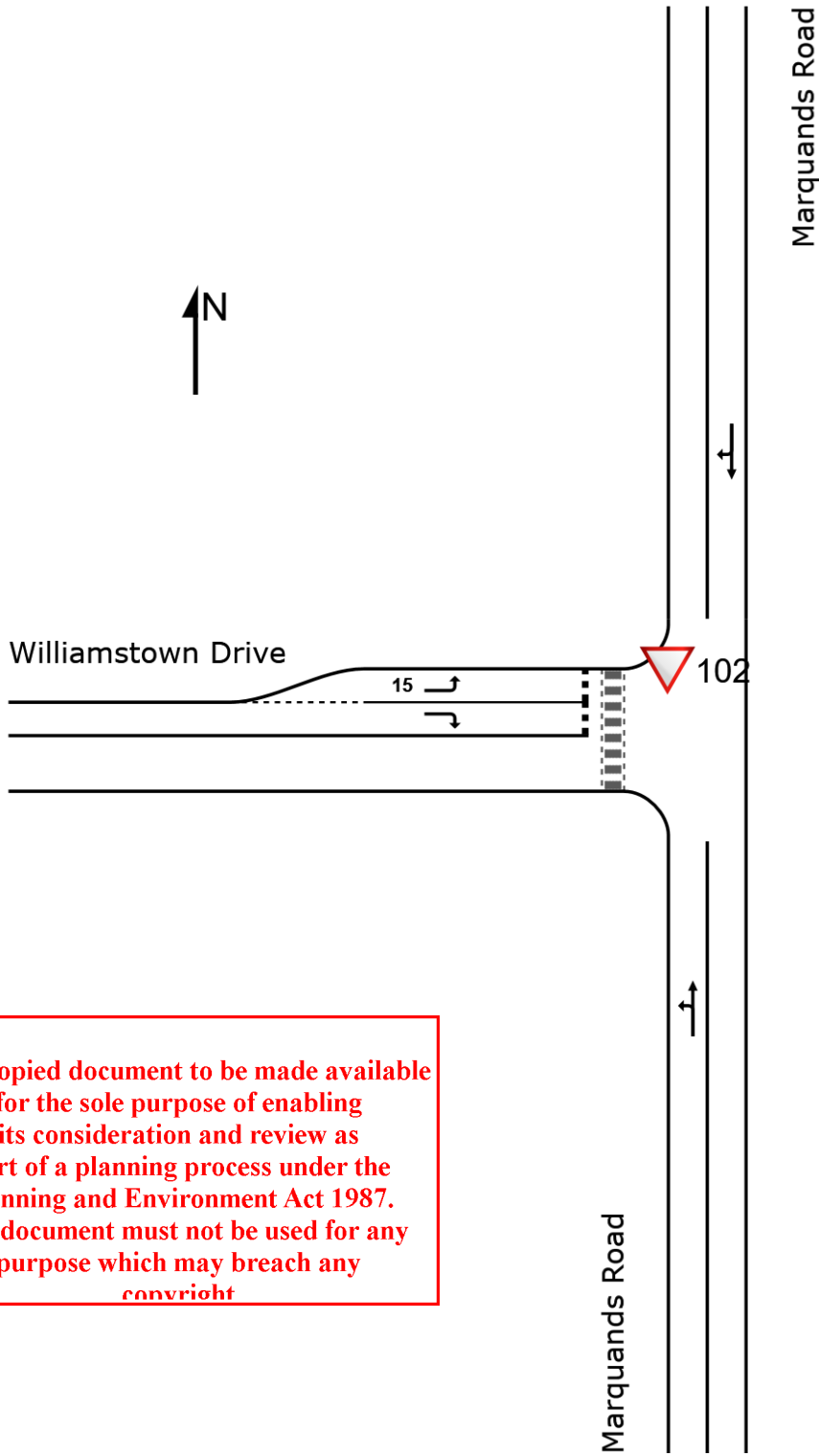
ADVERTISED
 PLAN

SITE LAYOUT

▽ Site: 102 [Marquands Rd Gate C - AM Peak (Site Folder: Existing Conditions)]

Gate D Access
Site Category: Existing Design
Give-Way (Two-Way)

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



**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

ADVERTISED PLAN

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

LANE SUMMARY

Site: 102 [Marquands Rd Gate C - AM Peak (Site Folder: Existing Conditions)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Gate D Access
 Site Category: Existing Design
 Give-Way (Two-Way)

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Prob. Adj. Block.	
	[Total veh/h]	[HV %]	[Total veh/h]	[HV %]						[Veh]	[Dist]			%	%
South: Marquands Road															
Lane 1	484	3.0	484	3.0	1549	0.312	100	3.3	LOS A	1.7	12.3	Full	500	0.0	0.0
Approach	484	3.0	484	3.0		0.312		3.3	NA	1.7	12.3				
North: Marquands Road															
Lane 1	410	5.4	410	5.4	1399	0.293	100	4.1	LOS A	1.4	10.5	Full	500	0.0	0.0
Approach	410	5.4	410	5.4		0.293		4.1	NA	1.4	10.5				
West: Williamstown Drive															
Lane 1	8	3.3	8	3.3	1254	0.006	100	0.8	LOS A	0.0	0.2	Short	15	0.0	NA
Lane 2	24	83.3	24	83.3	254	0.095	100	12.1	LOS B	0.3	3.3	Full	500	0.0	0.0
Approach	32	63.3	32	63.3		0.095		9.3	LOS A	0.3	3.3				
All Vehicles	926	6.1	926	6.1		0.312		3.9	NA	1.7	12.3				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Lane LOS values are based on average delay per lane.
 Minor Road Approach LOS values are based on average delay for all lanes.
 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.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com
 Organisation: TRANSPORT & TRAFFIC SOLUTIONS PTY LTD | Licence: NETWORK / 1PC | Processed: Thursday, 18 May 2023 1:37:30 PM
 Project: C:\Users\MichaelMarsicovetere\Box Sync\Projects\22019_Westbourne Grammar TMP\Modelling\SIDRA\Westbourne Grammar.sip9

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

ADVERTISED PLAN

LANE SUMMARY

Site: 102 [Marquands Rd Gate C - PM Peak (Site Folder: Existing Conditions)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Gate C Access
 Site Category: Existing Design
 Give-Way (Two-Way)

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Prob. Adj. Block.	
	[Total veh/h]	[HV %]	[Total veh/h]	[HV %]						[Veh]	[Dist]			%	%
South: Marquands Road															
Lane 1	312	4.2	312	4.2	314	0.993	100	10.4	LOS B	14.0	101.5	Full	500	-81.3	0.0
Approach	312	4.2	312	4.2		0.993		10.4	NA	14.0	101.5				
North: Marquands Road															
Lane 1	290	5.1	290	5.1	254	1.140	100	69.0	LOS F	14.0	102.3	Full	500	-85.2	0.0
Approach	290	5.1	290	5.1		1.140		69.0	NA	14.0	102.3				
West: Williamstown Drive															
Lane 1	12	16.7	12	16.7	1152	0.010	100	1.0	LOS A	0.0	0.3	Short	15	0.0	NA
Lane 2	62	51.6	62	51.6	459	0.135	100	5.8	LOS A	0.4	4.3	Full	500	0.0	0.0
Approach	74	45.9	74	45.9		0.135		5.0	LOS A	0.4	4.3				
All Vehicles	676	9.1	676	9.1		1.140		34.9	NA	14.0	102.3				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Lane LOS values are based on average delay per lane.
 Minor Road Approach LOS values are based on average delay for all lanes.
 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.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com
 Organisation: TRANSPORT & TRAFFIC SOLUTIONS PTY LTD | Licence: NETWORK / 1PC | Processed: Friday, 19 May 2023 10:44:45 AM
 Project: C:\Users\MichaelMarsicovetere\Box Sync\Projects\22019_Westbourne Grammar TMP\Modelling\SIDRA\Westbourne Grammar.sip9

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

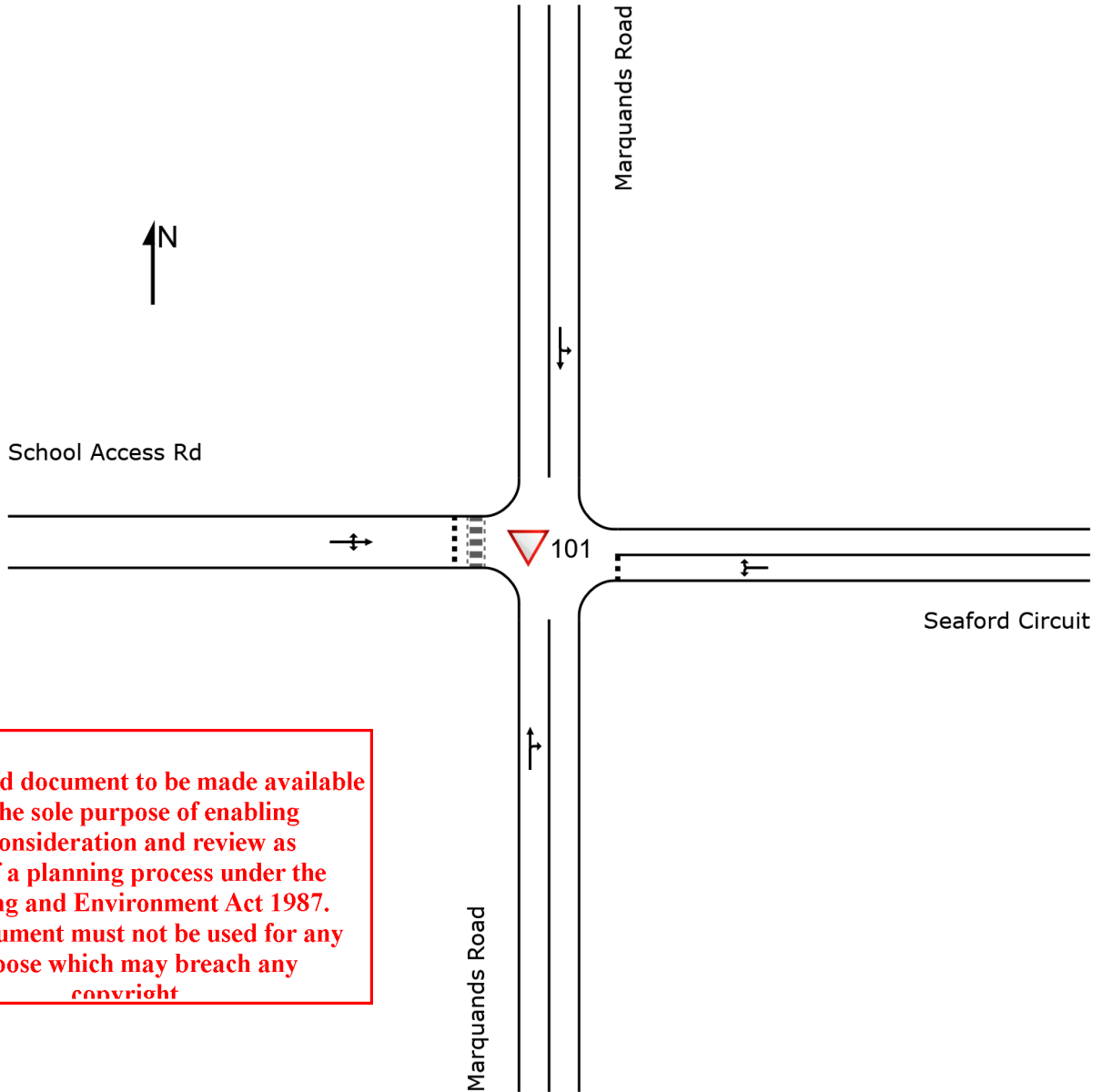
ADVERTISED PLAN

SITE LAYOUT

▽ Site: 101 [Marquands Rd Gate D - AM Peak (Site Folder: Existing Conditions)]

Gate D Access
Site Category: Existing Design
Give-Way (Two-Way)

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



This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

**ADVERTISED
PLAN**

LANE SUMMARY

Site: 101 [Marquands Rd Gate D - AM Peak (Site Folder: Existing Conditions)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Gate D Access
 Site Category: Existing Design
 Give-Way (Two-Way)

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	[Total veh/h]	[HV %]	[Total veh/h]	[HV %]						[Veh]	[Dist]				
South: Marquands Road															
Lane 1	218	5.2	218	5.2	1884	0.116	100	0.2	LOS A	0.0	0.3	Full	500	0.0	0.0
Approach	218	5.2	218	5.2		0.116		0.2	NA	0.0	0.3				
East: Seaford Circuit															
Lane 1	16	0.0	16	0.0	386	0.041	100	11.8	LOS B	0.1	0.9	Full	500	0.0	0.0
Approach	16	0.0	16	0.0		0.041		11.8	LOS B	0.1	0.9				
North: Marquands Road															
Lane 1	406	5.4	406	5.4	1897	0.214	100	0.4	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	406	5.4	406	5.4		0.214		0.4	NA	0.0	0.0				
West: School Access Rd															
Lane 1	384	0.0	384	0.0	1105	0.347	100	1.9	LOS A	1.7	11.9	Full	500	0.0	0.0
Approach	384	0.0	384	0.0		0.347		1.9	LOS A	1.7	11.9				
All Vehicles	1024	3.2	1024	3.2		0.347		1.1	NA	1.7	11.9				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Lane LOS values are based on average delay per lane.
 Minor Road Approach LOS values are based on average delay for all lanes.
 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.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com
 Organisation: TRANSPORT & TRAFFIC SOLUTIONS PTY LTD | Licence: NETWORK / 1PC | Processed: Thursday, 18 May 2023 1:37:33 PM
 Project: C:\Users\MichaelMarsicovetere\Box Sync\Projects\22019_Westbourne Grammar TMP\Modelling\SIDRA\Westbourne Grammar.sip9

ADVERTISED PLAN

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

LANE SUMMARY

Site: 101 [Marquands Rd Gate D - PM Peak (Site Folder: Existing Conditions)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Gate D Access
 Site Category: Existing Design
 Give-Way (Two-Way)

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	[Total veh/h]	[HV %]	[Total veh/h]	[HV %]						[Veh]	[Dist]				
South: Marquands Road															
Lane 1	214	7.4	214	7.4	1872	0.114	100	0.1	LOS A	0.0	0.1	Full	500	0.0	0.0
Approach	214	7.4	214	7.4		0.114		0.1	NA	0.0	0.1				
East: Seaford Circuit															
Lane 1	12	0.0	12	0.0	523	0.023	100	9.3	LOS A	0.1	0.5	Full	500	0.0	0.0
Approach	12	0.0	12	0.0		0.023		9.3	LOS A	0.1	0.5				
North: Marquands Road															
Lane 1	282	0.7	282	0.7	1953	0.144	100	0.5	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	282	0.7	282	0.7		0.144		0.5	NA	0.0	0.0				
West: School Access Rd															
Lane 1	416	0.0	416	0.0	1191	0.349	100	1.5	LOS A	1.7	11.9	Full	500	0.0	0.0
Approach	416	0.0	416	0.0		0.349		1.5	LOS A	1.7	11.9				
All Vehicles	924	1.9	924	1.9		0.349		1.0	NA	1.7	11.9				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Lane LOS values are based on average delay per lane.
 Minor Road Approach LOS values are based on average delay for all lanes.
 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.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com
 Organisation: TRANSPORT & TRAFFIC SOLUTIONS PTY LTD | Licence: NETWORK / 1PC | Processed: Thursday, 18 May 2023 1:37:35 PM
 Project: C:\Users\MichaelMarsicovetere\Box Sync\Projects\22019_Westbourne Grammar TMP\Modelling\SIDRA\Westbourne Grammar.sip9

**ADVERTISED
 PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

APPENDIX B – CAR PARKING OCCUPANCY SURVEY RESULTS

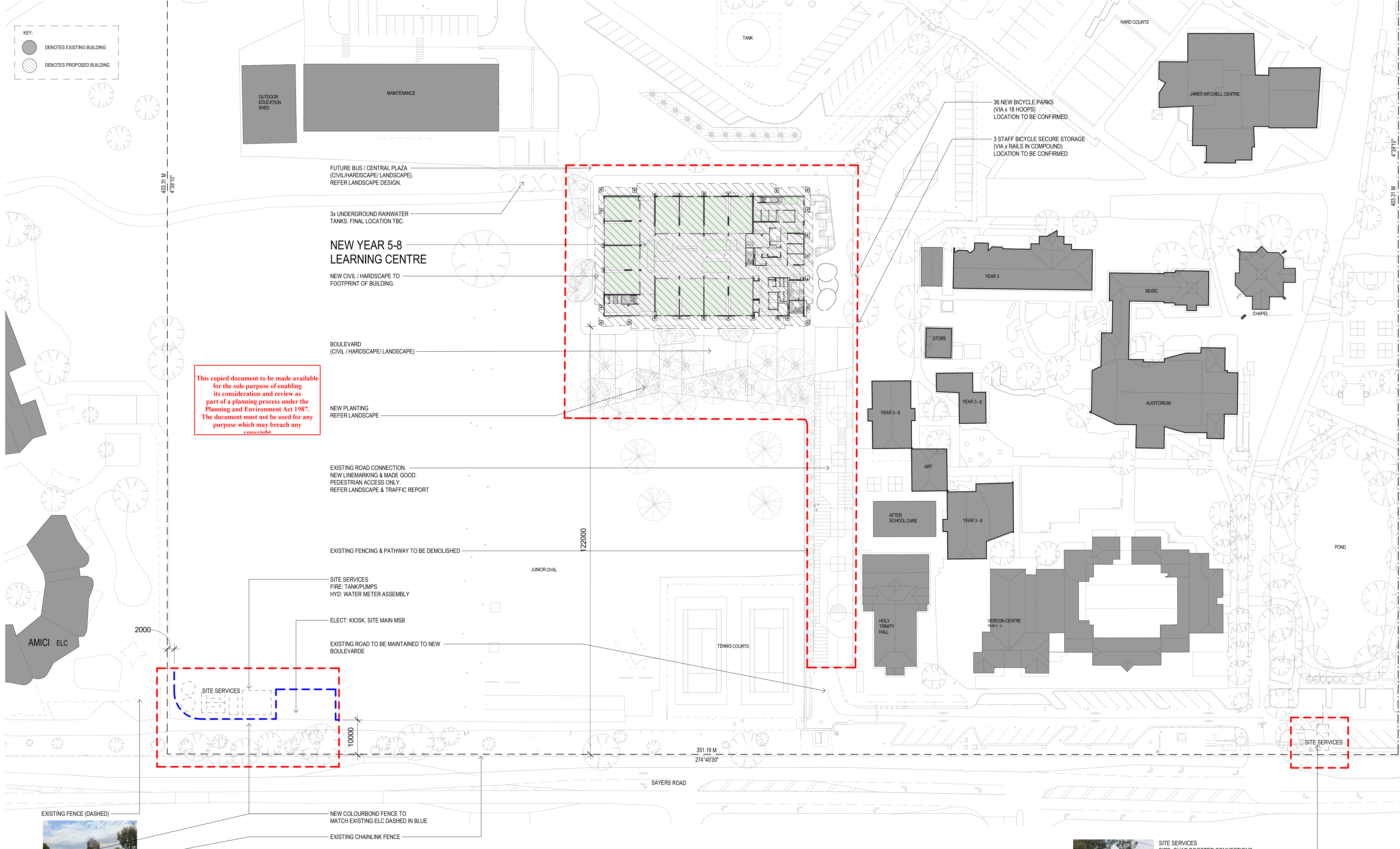
ADVERTISED PLAN

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

APPENDIX C – PROPOSED DETAILED SITE PLAN

ADVERTISED PLAN

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**



This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any *enactments*

ADVERTISED PLAN

THE BUILDER SHALL CHECK AND VERIFY ALL DIMENSIONS, NOTATIONS AND THE LIKE ON SITE PRIOR TO THE COMMENCEMENT OF ANY BUILDING AND/OR EARTHWORKS. SHOULD ANY DISCREPANCY BETWEEN THE DOCUMENTATION AND ANY OTHER WRITTEN DOCUMENT DIRECTLY RELATED TO THIS PROJECT ARISE, THE BUILDER SHALL NOTIFY THE ARCHITECT IN WRITING IMMEDIATELY FOR RESOLUTION. THIS OR ANY OTHER DRAWING FOR THIS PROJECT SHALL NOT BE SCALED. REFER TO THE ARCHITECT FOR ANY CLARIFICATION. THIS DOCUMENT HAS BEEN PREPARED SOLELY FOR THE PURPOSES INTENDED AND REMAINS THE PROPERTY OF BALDASSO CORTESE PTY LTD. THIS DRAWING AND RELATED DOCUMENTATION SHALL NOT BE REPRODUCED IN ANY MANNER WHATSOEVER WITHOUT THE EXPRESSED WRITTEN PERMISSION OF BALDASSO CORTESE PTY LTD. THIS DRAWING IS COPYRIGHT PROTECTED © 2020 BALDASSO CORTESE PTY LTD.

Revision	Description	Date
A <td>ISSUE FOR COORDINATION <td>19.05.2023</td> </td>	ISSUE FOR COORDINATION <td>19.05.2023</td>	19.05.2023
B <td>ISSUE FOR TOWN-PLANNING <td>24.05.2023</td> </td>	ISSUE FOR TOWN-PLANNING <td>24.05.2023</td>	24.05.2023

TOWN PLANNING
NOT FOR CONSTRUCTION

CLIENT
WESTBOURNE GRAMMAR SCHOOL

PROJECT TITLE
5-8 LEARNING CENTRE

ADDRESS
300 SAYERS ROAD, TRUGANINA VIC 3029

DRAWING TITLE
DETAILED SITE PLAN

NORTH		CHECKED	DRAWN
[North Arrow]		BP	GS / AH
DATE		24.05.2023	SCALE @ A1
			1 : 500
PROJECT NO.	DRAWING NO.	REVISION	
20220037	A-TP102	B	

BALDASSO CORTESE
INCORPORATING DOIG ARCHITECTURE
BAADE HARBOUR GEELONG

ARCHITECTURE | INTERIOR DESIGN | MASTERPLANNING

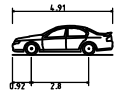
LEVEL 1, 103 OXFORD STREET, COLLINGWOOD VIC 3066
(T) +61 3 9417 7555 www.bccarch.net admin@bccarch.net
ABN: 71 445 953 215



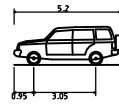
APPENDIX D –SWEPT PATH ASSESSMENT DRAWING

**ADVERTISED
PLAN**

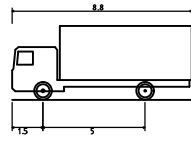
**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**



B85 Vehicle (Realistic min radius) (2004)
 Overall Length 4.910m
 Overall Width 1.870m
 Overall Body Height 1.421m
 Min Body Ground Clearance 0.159m
 Track Width 1.770m
 Lock-to-lock time 4.00s
 Curb to Curb Turning Radius 5.750m

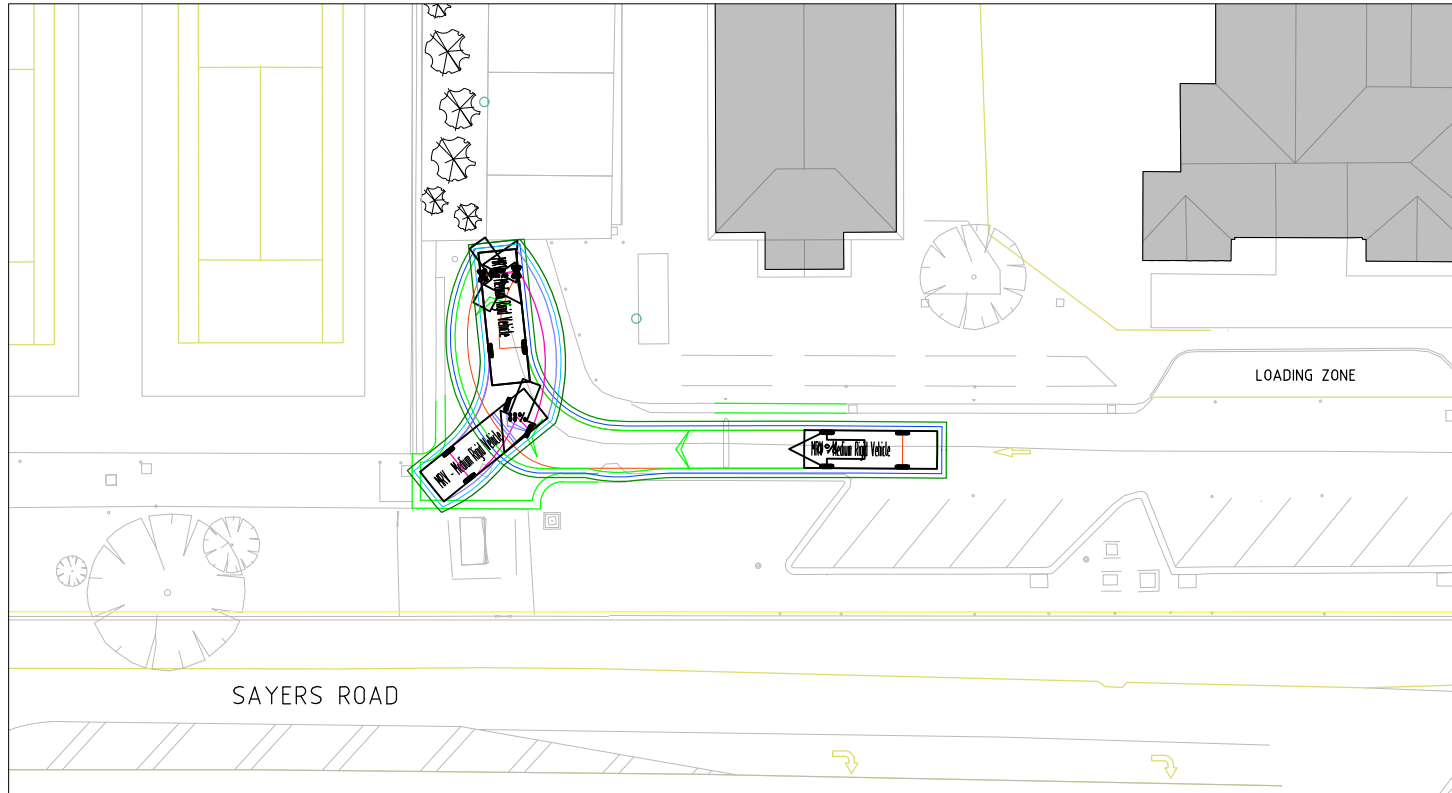


B99 Vehicle (Realistic min radius) (2004)
 Overall Length 5.200m
 Overall Width 1.940m
 Overall Body Height 1.878m
 Min Body Ground Clearance 0.272m
 Track Width 1.840m
 Lock-to-lock time 4.00s
 Curb to Curb Turning Radius 6.250m

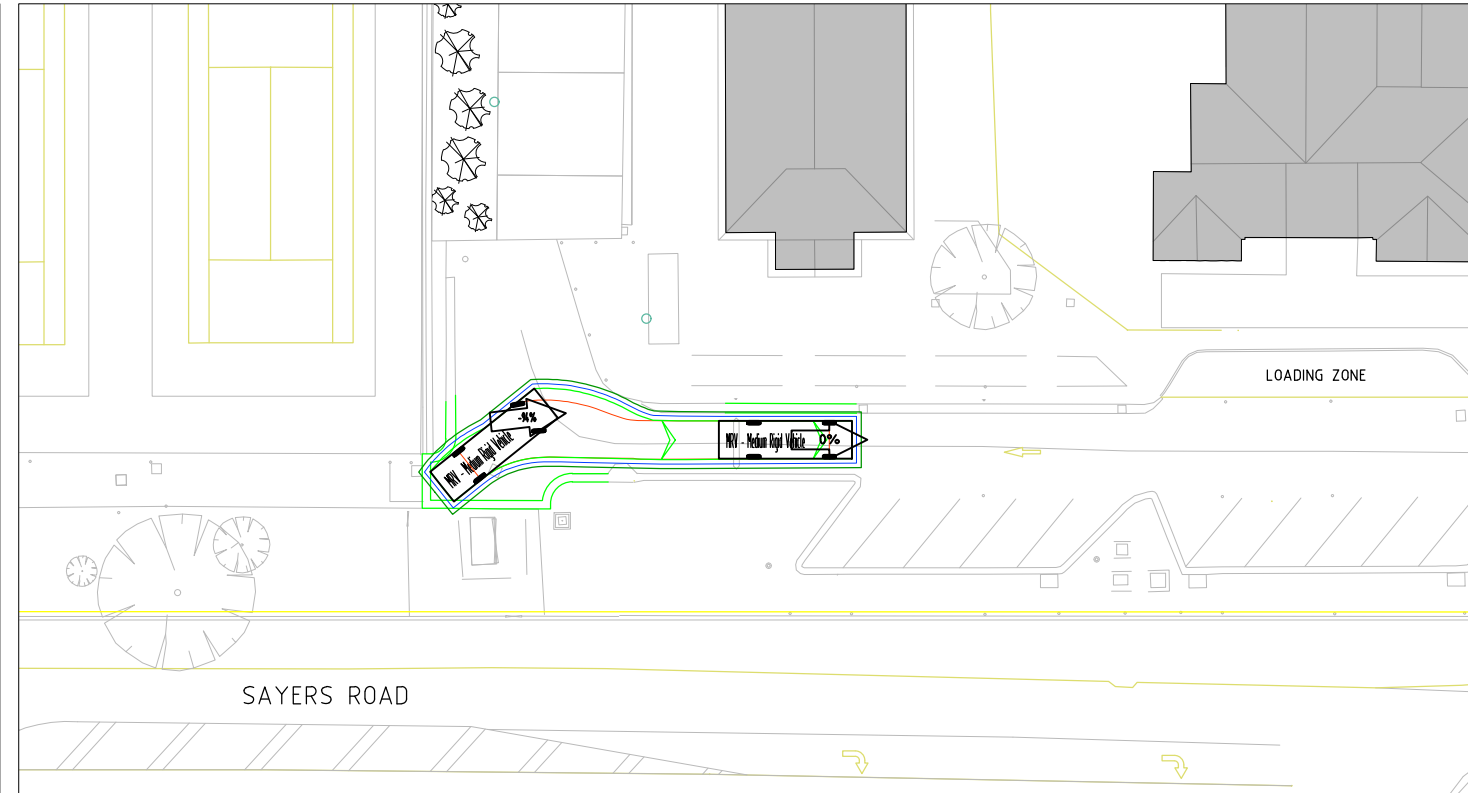


MRV - Medium Rigid Vehicle
 Overall Length 8.800m
 Overall Width 2.500m
 Overall Body Height 3.633m
 Min Body Ground Clearance 0.428m
 Track Width 2.500m
 Lock-to-lock time 4.00s
 Curb to Curb Turning Radius 10.000m

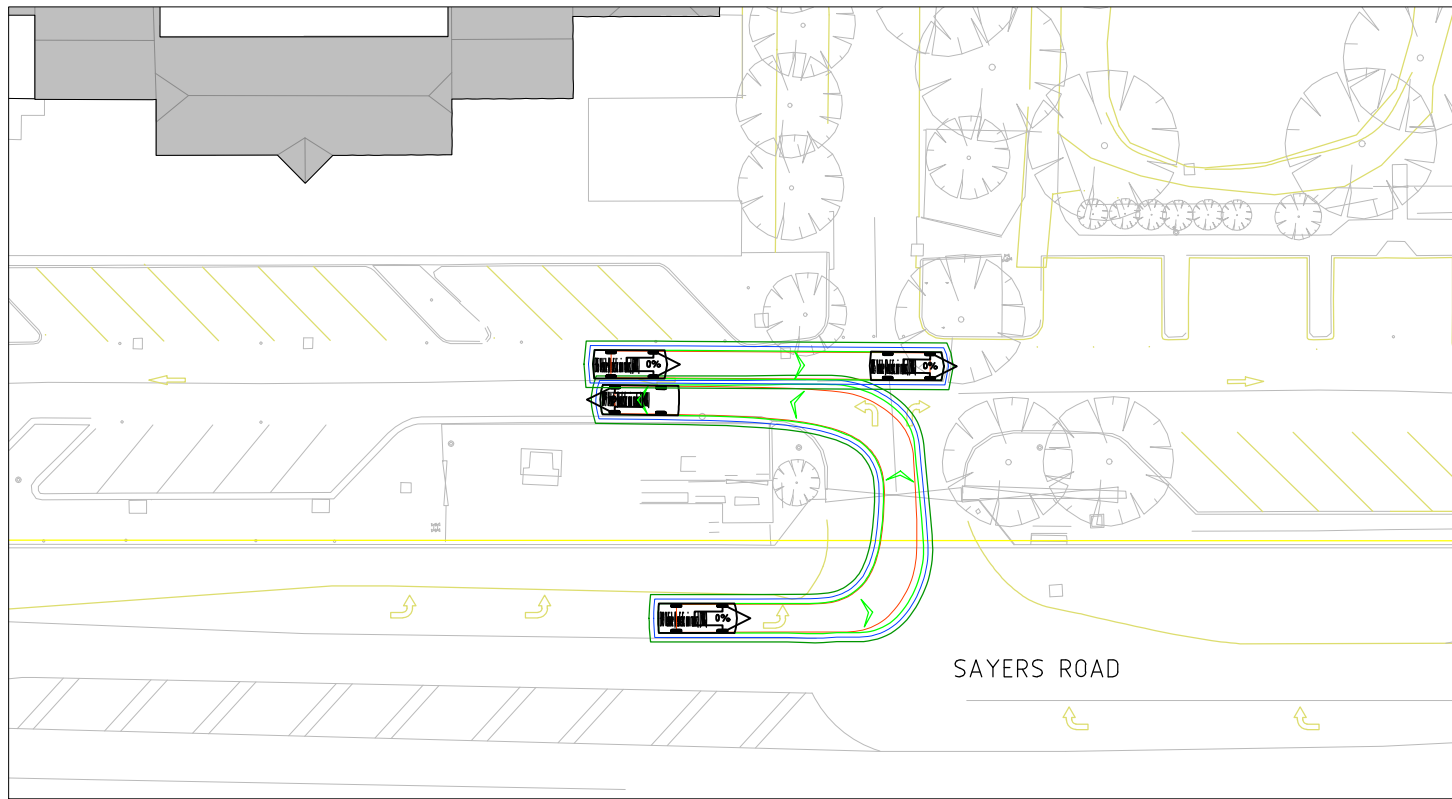
- LEGEND**
- WHEEL PATH (FORWARD)
 - WHEEL PATH (REVERSE)
 - BODY OUTLINE (FORWARD)
 - BODY OUTLINE (REVERSE)
 - 300mm BODY CLEARANCE (FORWARD)
 - 300mm BODY CLEARANCE (REVERSE)
 - 600mm BODY CLEARANCE (FORWARD)
 - 600mm BODY CLEARANCE (REVERSE)



8.8m MEDIUM RIGID VEHICLE PERFORMING A 3-POINT TURN (1ST & 2ND MANOEUVRE)



8.8m MEDIUM RIGID VEHICLE PERFORMING A 3-POINT TURN (3RD MANOEUVRE)



B85 VEHICLE & B99 VEHICLE PASSING EACH OTHER SIMULTANEOUSLY AT THE SCHOOL ENTRY POINT.

This copied document to be made available
 for the sole purpose of enabling
 its consideration and review as
 part of a planning process under the
 Planning and Environment Act 1987.
 The document must not be used for any
 purpose which may breach any
 copyright

ADVERTISED
 PLAN

C:\Users\MichaelMarsicovetere\Box Sync\Projects\23011_WG 5-8 Building\Design\Drawings
 5/26/2023 10:50:15 AM

ISSUE	APP'D	DATE	AMENDMENT
E			
D			
C			
B			
A			

GENERAL NOTES	

T&S TRANSPORT & TRAFFIC SOLUTIONS
 Transport & Traffic Solutions Pty Ltd ABN 56 156 612 707
 3 Princes Street, Brunswick, VIC, 3056
 Phone: +61 3 9862 3479 | Email: info@tatsolutions.com.au
 Transport & Traffic Studies | Parking Studies | Traffic Management
 Road Safety | Traffic Engineering | Civil Engineering

WESTBOURNE GRAMMAR SCHOOL
 EST. 1907
 AGE QUOD AGAS

STATUS: ISSUED FOR APPROVAL

SCALE OF METRES
 HOR 0 5 10
 VER

CAT: 23011WG
 PROJ: 23011 Westbourne GS
 FILE:

DESIGNED M. MARSICOVETERE 26/05/2023
 APPROVED T. DINH 26/05/2023

WESTBOURNE GRAMMAR SCHOOL 5-8 LC				
SWEEP PATH ASSESSMENT				
WYNDHAM CITY COUNCIL				
8.8m LONG MRV 3-POINT TURN & B85 & B99 VEHICLE SWEEP PATH				
FILE NO.	CONTRACT NO.	SHEET NO.	DRAWING NO.	ISSUE
		1	23011_301	

APPENDIX E – FUTURE YEAR SIDRA ANALYSIS RESULTS

ADVERTISED PLAN

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

LANE SUMMARY

Site: 105 [380 Sayers Rd Access - Future AM Peak (Site Folder: Future Conditions)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

380 Sayers Road Access

Site Category: Existing Design

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Prob. Adj. Block.	
	[Total]	[HV]	[Total]	[HV]						[Veh]	[Dist]			%	%
	veh/h	%	veh/h	%	veh/h	v/c	%	sec			m	m	%	%	
South: Doubell Blvd															
Lane 1	188	0.0	188	0.0	331 ¹	0.568	100	66.4	LOS E	10.0	70.2	Short	25	0.0	NA
Lane 2	60	0.0	60	0.0	175	0.342	100	77.0	LOS E	2.9	20.3	Full	500	0.0	0.0
Approach	248	0.0	248	0.0		0.568		69.0	LOS E	10.0	70.2				
East: Sayers Road															
Lane 1	78	0.0	78	0.0	907	0.086	100	49.8	LOS D	2.4	16.9	Short	25	0.0	NA
Lane 2	628	4.0	628	4.0	710 ¹	0.885	100	70.8	LOS E	37.9	274.4	Full	415	0.0	0.0
Lane 3	272	0.0	272	0.0	453	0.600	100	78.8	LOS E	8.8	61.6	Short	50	0.0	NA
Approach	978	2.6	978	2.6		0.885		71.4	LOS E	37.9	274.4				
North: Doubell Blvd (School Access)															
Lane 1	266	0.0	266	0.0	525 ¹	0.507	100	47.6	LOS D	12.3	85.8	Full	500	0.0	0.0
Lane 2	114	0.0	114	0.0	159	0.719	100	74.2	LOS E	5.9	41.0	Short	25	0.0	NA
Approach	380	0.0	380	0.0		0.719		55.5	LOS E	12.3	85.8				
West: Sayers Road															
Lane 1	90	0.0	90	0.0	907	0.099	100	47.7	LOS D	2.8	19.6	Short	35	0.0	NA
Lane 2	612	8.0	612	8.0	689 ¹	0.889	100	69.4	LOS E	37.4	279.4	Full	500	0.0	0.0
Lane 3	312	1.0	312	1.0	452	0.691	100	82.1	LOS F	11.3	79.8	Short	50	0.0	NA
Approach	1014	5.1	1014	5.1		0.889		71.4	LOS E	37.4	279.4				
All Vehicles	2620	2.9	2620	2.9		0.889		68.9	LOS E	37.9	279.4				

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

Lane LOS values are based on average delay per lane.

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

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.

¹ Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Delay and stops experienced by drivers upstream of short lane entry have been accounted for.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: TRANSPORT & TRAFFIC SOLUTIONS PTY LTD | Licence: NETWORK / 1PC | Processed: Thursday, 25 May 2023 4:25:39 PM

Project: C:\Users\MichaelMarsicovetere\Box Sync\Projects\22019_Westbourne Grammar TMP\Modelling\SIDRA\Westbourne Grammar.sip9

**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

This copied document to be made available
 for the sole purpose of enabling
 its consideration and review as
 part of a planning process under the
 Planning and Environment Act 1987.
 The document must not be used for any
 purpose which may breach any
 copyright

PHASING SUMMARY

Site: 105 [380 Sayers Rd Access - Future AM Peak (Site Folder: Future Conditions)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

380 Sayers Road Access
 Site Category: Existing Design
 Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)
 Variable Sequence Analysis applied. The results are given for the selected output sequence.

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Phase Sequence: Leading Right Turn

Input Phase Sequence: A, B, B2*, B3*, C, D, D2*, D3*

Output Phase Sequence: A, B, C, D

Reference Phase: Phase A

(* Variable Phase)

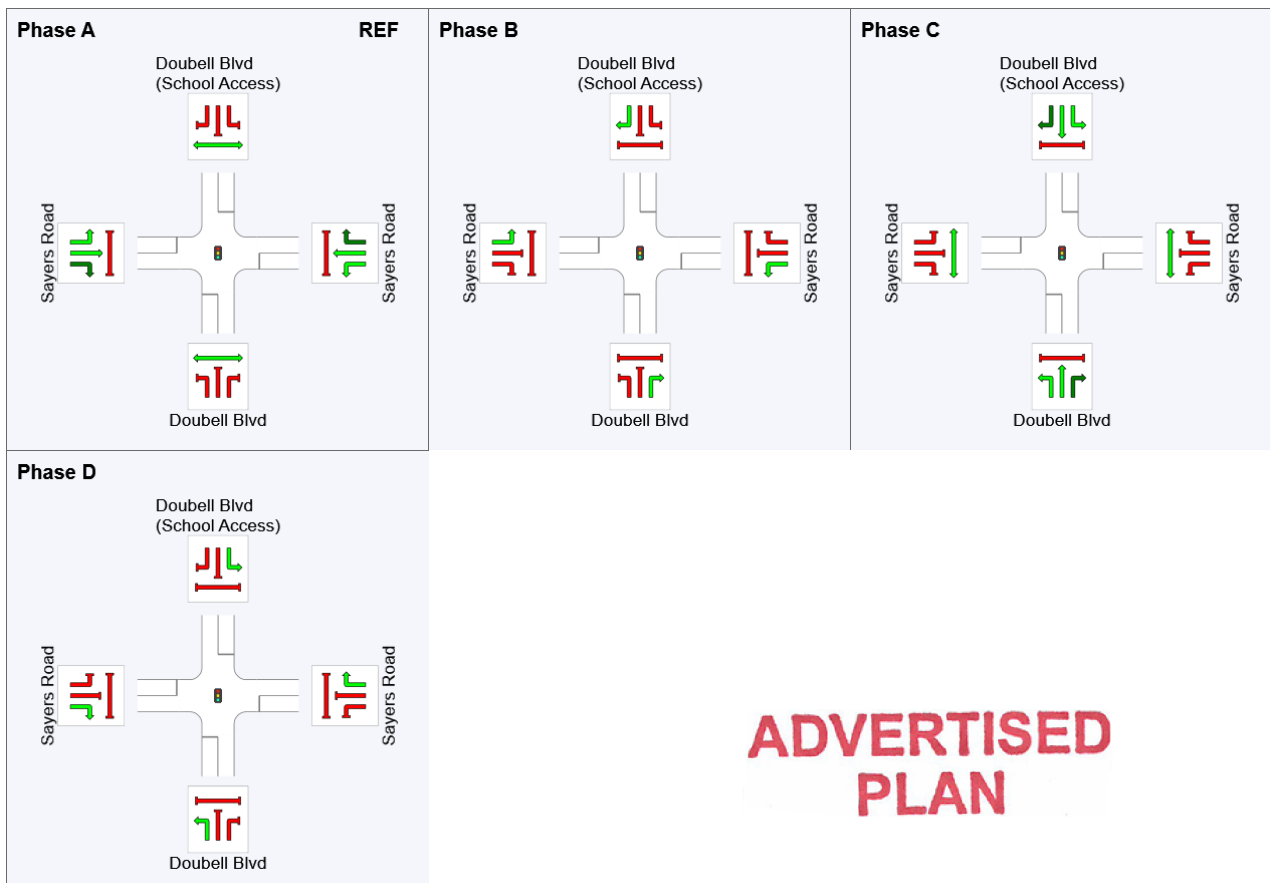
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	55	68	91
Green Time (sec)	49	7	17	23
Phase Time (sec)	55	13	23	29
Phase Split	46%	11%	19%	24%
Phase Frequency (%)	100.0 ⁴	100.0 ⁴	100.0 ⁴	100.0 ⁴

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.





⁴ Phase Frequency specified by the user (phase times not specified).

Output Phase Sequence



ADVERTISED
 PLAN

REF: Reference Phase
VAR: Variable Phase

	Normal Movement		Permitted/Opposed
	Slip/Bypass-Lane Movement		Opposed Slip/Bypass-Lane
	Stopped Movement		Turn On Red
	Other Movement Class (MC) Running		Undetected Movement
	Mixed Running & Stopped MCs		Continuous Movement
	Other Movement Class (MC) Stopped		Phase Transition Applied

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com
Organisation: TRANSPORT & TRAFFIC SOLUTIONS PTY LTD | Licence: NETWORK / 1PC | Processed: Thursday, 25 May 2023 4:25:39 PM
Project: C:\Users\MichaelMarsicovetere\Box Sync\Projects\22019_Westbourne Grammar TMP\Modelling\SIDRA\Westbourne Grammar.sip9

ADVERTISED PLAN

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

LANE SUMMARY

Site: 105 [380 Sayers Rd Access - Future PM Peak (Site Folder: Future Conditions)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

380 Sayers Road Access

Site Category: Existing Design

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Prob. Adj. Block.	
	[Total veh/h]	[HV %]	[Total veh/h]	[HV %]						[Veh]	[Dist]			Cap. Adj.	Prob. Block.
	veh/h	%	veh/h	%	veh/h	v/c	%	sec			m	m	%	%	
South: Doubell Blvd															
Lane 1	166	0.0	166	0.0	344 ¹	0.483	100	61.1	LOS E	8.7	60.6	Short	25	0.0	NA
Lane 2	50	0.0	50	0.0	147	0.339	100	69.6	LOS E	2.5	17.2	Full	500	0.0	0.0
Approach	216	0.0	216	0.0		0.483		63.0	LOS E	8.7	60.6				
East: Sayers Road															
Lane 1	64	3.0	64	3.0	1148	0.056	100	35.6	LOS D	1.4	10.2	Short	25	0.0	NA
Lane 2	932	3.0	932	3.0	1015 ¹	0.918	100	57.5	LOS E	55.9	401.5	Full	415	0.0	2.0
Lane 3	30	0.0	30	0.0	443	0.068	100	51.2	LOS D	0.7	4.6	Short	50	0.0	NA
Approach	1026	2.9	1026	2.9		0.918		56.0	LOS E	55.9	401.5				
North: Doubell Blvd (School Access)															
Lane 1	170	0.0	170	0.0	300 ¹	0.566	100	59.8	LOS E	9.1	63.8	Full	500	0.0	0.0
Lane 2	108	0.0	108	0.0	164	0.660	100	70.4	LOS E	5.6	39.2	Short	25	0.0	NA
Approach	278	0.0	278	0.0		0.660		63.9	LOS E	9.1	63.8				
West: Sayers Road															
Lane 1	26	0.0	26	0.0	1173	0.022	100	22.8	LOS C	0.6	3.9	Short	35	0.0	NA
Lane 2	510	2.0	510	2.0	1057 ¹	0.483	100	25.2	LOS C	17.7	126.4	Full	500	0.0	0.0
Lane 3	114	0.0	114	0.0	184	0.620	100	46.1	LOS D	4.3	30.4	Short	50	0.0	NA
Approach	650	1.6	650	1.6		0.620		28.8	LOS C	17.7	126.4				
All Vehicles	2170	1.8	2170	1.8		0.918		49.6	LOS D	55.9	401.5				

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

Lane LOS values are based on average delay per lane.

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

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.

¹ Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Delay and stops experienced by drivers upstream of short lane entry have been accounted for.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: TRANSPORT & TRAFFIC SOLUTIONS PTY LTD | Licence: NETWORK / 1PC | Processed: Thursday, 25 May 2023 4:25:39 PM

Project: C:\Users\MichaelMarsicovetere\Box Sync\Projects\22019_Westbourne Grammar TMP\Modelling\SIDRA\Westbourne Grammar.sip9

**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

This copied document to be made available
 for the sole purpose of enabling
 its consideration and review as
 part of a planning process under the
 Planning and Environment Act 1987.
 The document must not be used for any
 purpose which may breach any
 copyright

PHASING SUMMARY

Site: 105 [380 Sayers Rd Access - Future PM Peak (Site Folder: Future Conditions)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

380 Sayers Road Access
 Site Category: Existing Design
 Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)
 Variable Sequence Analysis applied. The results are given for the selected output sequence.

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Phase Sequence: Leading Right Turn

Input Phase Sequence: A, B, B2*, B3*, C, D, D2*, D3*

Output Phase Sequence: A, B, C, D

Reference Phase: Phase A

(* Variable Phase)

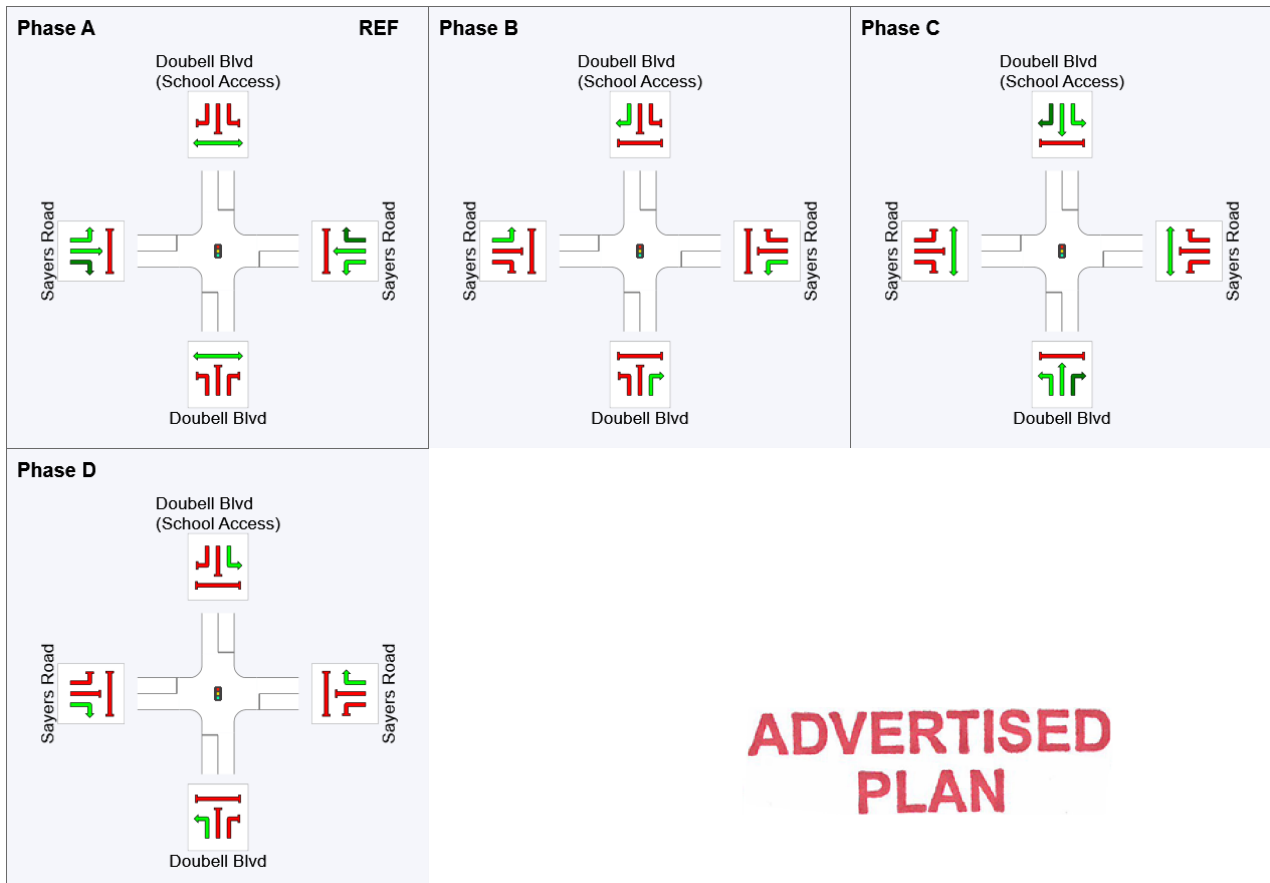
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	73	85	108
Green Time (sec)	67	6	17	6
Phase Time (sec)	73	12	23	12
Phase Split	61%	10%	19%	10%
Phase Frequency (%)	100.0 ⁴	100.0 ⁴	100.0 ⁴	100.0 ⁴

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.







⁴ Phase Frequency specified by the user (phase times not specified).

Output Phase Sequence



ADVERTISED
 PLAN

REF: Reference Phase
VAR: Variable Phase

	Normal Movement		Permitted/Opposed
	Slip/Bypass-Lane Movement		Opposed Slip/Bypass-Lane
	Stopped Movement		Turn On Red
	Other Movement Class (MC) Running		Undetected Movement
	Mixed Running & Stopped MCs		Continuous Movement
	Other Movement Class (MC) Stopped		Phase Transition Applied

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com
Organisation: TRANSPORT & TRAFFIC SOLUTIONS PTY LTD | Licence: NETWORK / 1PC | Processed: Thursday, 25 May 2023 4:25:39 PM
Project: C:\Users\MichaelMarsicovetere\Box Sync\Projects\22019_Westbourne Grammar TMP\Modelling\SIDRA\Westbourne Grammar.sip9

ADVERTISED PLAN

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

LANE SUMMARY

Site: 104 [300 Sayers Rd Access - Future AM Peak (Site Folder: Future Conditions)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

300 Sayers Road Access
 Site Category: Existing Design
 Give-Way (Two-Way)

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Prob. Adj. Block.	
	[Total veh/h]	[HV %]	[Total veh/h]	[HV %]						[Veh]	[Dist]			Cap.	Prob. Adj.
	veh/h	%	veh/h	%	veh/h	v/c	%	sec			m		m	%	%
East: Sayers Road															
Lane 1	1056	3.2	1056	3.2	1930	0.547	100	0.1	LOS A	0.0	0.0	Full	180	0.0	0.0
Lane 2	64	0.0	64	0.0	588	0.109	100	10.4	LOS B	0.4	2.7	Short	35	0.0	NA
Approach	1120	3.0	1120	3.0		0.547		0.7	NA	0.4	2.7				
West: Sayers Road															
Lane 1	20	0.0	20	0.0	1828	0.011	100	5.6	LOS A	0.0	0.0	Short	35	0.0	NA
Lane 2	700	3.9	700	3.9	1922	0.364	100	0.1	LOS A	0.0	0.0	Full	415	0.0	0.0
Approach	720	3.8	720	3.8		0.364		0.3	NA	0.0	0.0				
All Vehicles	1840	3.3	1840	3.3		0.547		0.5	NA	0.4	2.7				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Lane LOS values are based on average delay per lane. Minor Road Approach LOS values are based on average delay for all lanes. 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.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com
 Organisation: TRANSPORT & TRAFFIC SOLUTIONS PTY LTD | Licence: NETWORK / 1PC | Processed: Thursday, 25 May 2023 4:25:40 PM
 Project: C:\Users\MichaelMarsicovetere\Box Sync\Projects\22019_Westbourne Grammar TMP\Modelling\SIDRA\Westbourne Grammar.sip9

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

ADVERTISED PLAN

LANE SUMMARY

Site: 104 [300 Sayers Rd Access - Future PM Peak (Site Folder: Future Conditions)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

300 Sayers Road Access
 Site Category: Existing Design
 Give-Way (Two-Way)

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Prob. Adj. Block.	
	[Total veh/h]	[HV %]	[Total veh/h]	[HV %]						[Veh]	[Dist]			Cap.	Prob. Adj.
	veh/h	%	veh/h	%	veh/h	v/c	%	sec			m		m	%	%
East: Sayers Road															
Lane 1	688	2.1	688	2.1	1944	0.354	100	0.0	LOS A	0.0	0.0	Full	180	0.0	0.0
Lane 2	6	0.0	6	0.0	572	0.010	100	10.1	LOS B	0.0	0.3	Short	35	0.0	NA
Approach	694	2.1	694	2.1		0.354		0.1	NA	0.0	0.3				
West: Sayers Road															
Lane 1	10	0.0	10	0.0	1828	0.005	100	5.6	LOS A	0.0	0.0	Short	35	0.0	NA
Lane 2	730	1.4	730	1.4	1953	0.374	100	0.1	LOS A	0.0	0.0	Full	415	0.0	0.0
Approach	740	1.4	740	1.4		0.374		0.2	NA	0.0	0.0				
All Vehicles	1434	1.7	1434	1.7		0.374		0.2	NA	0.0	0.3				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Lane LOS values are based on average delay per lane. Minor Road Approach LOS values are based on average delay for all lanes. 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.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com
 Organisation: TRANSPORT & TRAFFIC SOLUTIONS PTY LTD | Licence: NETWORK / 1PC | Processed: Thursday, 25 May 2023 4:25:41 PM
 Project: C:\Users\MichaelMarsicovetere\Box Sync\Projects\22019_Westbourne Grammar TMP\Modelling\SIDRA\Westbourne Grammar.sip9

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

ADVERTISED
 PLAN

LANE SUMMARY

Site: 103 [Marquands Rd Gate A - Future AM Peak (Site Folder: Future Conditions)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Gate A Access
 Site Category: Existing Design
 Give-Way (Two-Way)

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Prob. Adj. Block.	
	[Total]	[HV]	[Total]	[HV]						[Veh]	[Dist]			veh/h	%
South: Marquands Road															
Lane 1	504	2.9	504	2.9	1934	0.261	100	0.1	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	504	2.9	504	2.9		0.261		0.1	NA	0.0	0.0				
North: Marquands Road															
Lane 1	382	7.1	382	7.1	1883	0.203	100	0.1	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	382	7.1	382	7.1		0.203		0.1	NA	0.0	0.0				
West: School Access Rd															
Lane 1	6	0.0	6	0.0	984	0.006	100	1.9	LOS A	0.0	0.2	Full	500	0.0	0.0
Lane 2	16	0.0	16	0.0	491	0.033	100	6.2	LOS A	0.1	0.7	Full	500	0.0	0.0
Approach	22	0.0	22	0.0		0.033		5.0	LOS A	0.1	0.7				
All Vehicles	908	4.6	908	4.6		0.261		0.2	NA	0.1	0.7				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Lane LOS values are based on average delay per lane.
 Minor Road Approach LOS values are based on average delay for all lanes.
 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.

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

ADVERTISED
 PLAN

LANE SUMMARY

Site: 103 [Marquands Rd Gate A - Future PM Peak (Site Folder: Future Conditions)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Gate A Access
 Site Category: Existing Design
 Give-Way (Two-Way)

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Prob. Adj. Block.	
	[Total veh/h]	[HV %]	[Total veh/h]	[HV %]						[Veh]	[Dist]			%	%
South: Marquands Road															
Lane 1	320	4.6	320	4.6	1913	0.167	100	0.0	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	320	4.6	320	4.6		0.167		0.0	NA	0.0	0.0				
North: Marquands Road															
Lane 1	372	9.0	372	9.0	1861	0.200	100	0.1	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	372	9.0	372	9.0		0.200		0.1	NA	0.0	0.0				
West: School Access Rd															
Lane 1	10	0.0	10	0.0	1212	0.008	100	1.0	LOS A	0.0	0.2	Full	500	0.0	0.0
Lane 2	26	0.0	26	0.0	631	0.041	100	4.5	LOS A	0.1	0.9	Full	500	0.0	0.0
Approach	36	0.0	36	0.0		0.041		3.5	LOS A	0.1	0.9				
All Vehicles	728	6.6	728	6.6		0.200		0.2	NA	0.1	0.9				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Lane LOS values are based on average delay per lane.
 Minor Road Approach LOS values are based on average delay for all lanes.
 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.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com
 Organisation: TRANSPORT & TRAFFIC SOLUTIONS PTY LTD | Licence: NETWORK / 1PC | Processed: Thursday, 25 May 2023 4:25:42 PM
 Project: C:\Users\MichaelMarsicovetere\Box Sync\Projects\22019_Westbourne Grammar TMP\Modelling\SIDRA\Westbourne Grammar.sip9

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

ADVERTISED PLAN

LANE SUMMARY

Site: 102 [Marquands Rd Gate C - Future AM Peak (Site Folder: Future Conditions)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Gate D Access
 Site Category: Existing Design
 Give-Way (Two-Way)

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Prob. Adj. Block.	
	[Total veh/h]	[HV %]	[Total veh/h]	[HV %]						[Veh]	[Dist]			%	%
South: Marquands Road															
Lane 1	530	2.7	530	2.7	1544	0.343	100	3.4	LOS A	2.0	14.1	Full	500	0.0	0.0
Approach	530	2.7	530	2.7		0.343		3.4	NA	2.0	14.1				
North: Marquands Road															
Lane 1	438	5.1	438	5.1	1347	0.325	100	4.7	LOS A	1.8	12.9	Full	500	0.0	0.0
Approach	438	5.1	438	5.1		0.325		4.7	NA	1.8	12.9				
West: Williamstown Drive															
Lane 1	8	25.0	8	25.0	1076	0.007	100	1.2	LOS A	0.0	0.2	Short	15	0.0	NA
Lane 2	24	83.3	24	83.3	226	0.106	100	13.9	LOS B	0.3	3.7	Full	500	0.0	0.0
Approach	32	68.8	32	68.8		0.106		10.7	LOS B	0.3	3.7				
All Vehicles	1000	5.9	1000	5.9		0.343		4.2	NA	2.0	14.1				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Lane LOS values are based on average delay per lane.
 Minor Road Approach LOS values are based on average delay for all lanes.
 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.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com
 Organisation: TRANSPORT & TRAFFIC SOLUTIONS PTY LTD | Licence: NETWORK / 1PC | Processed: Thursday, 25 May 2023 4:25:42 PM
 Project: C:\Users\MichaelMarsicovetere\Box Sync\Projects\22019_Westbourne Grammar TMP\Modelling\SIDRA\Westbourne Grammar.sip9

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

ADVERTISED PLAN

LANE SUMMARY

Site: 102 [Marquands Rd Gate C - Future PM Peak (Site Folder: Future Conditions)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Gate C Access
 Site Category: Existing Design
 Give-Way (Two-Way)

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Prob. Adj. Block.	
	[Total veh/h]	[HV %]	[Total veh/h]	[HV %]						[Veh]	[Dist]			Cap.	Prob. Adj.
	veh/h	%	veh/h	%	veh/h	v/c	%	sec			m	m	%	%	
South: Marquands Road															
Lane 1	322	4.5	322	4.5	336	0.958	100	5.9	LOS A	8.8	64.2	Full	500	-80.0	0.0
Approach	322	4.5	322	4.5		0.958		5.9	NA	8.8	64.2				
North: Marquands Road															
Lane 1	302	5.1	302	5.1	308	0.979	100	6.3	LOS A	2.6	18.8	Full	500	-82.0	0.0
Approach	302	5.1	302	5.1		0.979		6.3	NA	2.6	18.8				
West: Williamstown Drive															
Lane 1	12	16.7	12	16.7	1138	0.011	100	1.0	LOS A	0.0	0.3	Short	15	0.0	NA
Lane 2	62	51.6	62	51.6	443	0.140	100	6.2	LOS A	0.4	4.4	Full	500	0.0	0.0
Approach	74	45.9	74	45.9		0.140		5.3	LOS A	0.4	4.4				
All Vehicles	698	9.2	698	9.2		0.979		6.0	NA	8.8	64.2				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Lane LOS values are based on average delay per lane.
 Minor Road Approach LOS values are based on average delay for all lanes.
 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.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com
 Organisation: TRANSPORT & TRAFFIC SOLUTIONS PTY LTD | Licence: NETWORK / 1PC | Processed: Thursday, 25 May 2023 4:25:43 PM
 Project: C:\Users\MichaelMarsicovetere\Box Sync\Projects\22019_Westbourne Grammar TMP\Modelling\SIDRA\Westbourne Grammar.sip9

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

ADVERTISED PLAN

LANE SUMMARY

Site: 101 [Marquands Rd Gate D - Future AM Peak (Site Folder: Future Conditions)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Gate D Access
 Site Category: Existing Design
 Give-Way (Two-Way)

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	[Total veh/h]	[HV %]	[Total veh/h]	[HV %]						[Veh]	[Dist]				
South: Marquands Road															
Lane 1	228	5.2	228	5.2	1883	0.121	100	0.2	LOS A	0.0	0.3	Full	500	0.0	0.0
Approach	228	5.2	228	5.2		0.121		0.2	NA	0.0	0.3				
East: Seaford Circuit															
Lane 1	16	0.0	16	0.0	329	0.049	100	13.5	LOS B	0.1	1.0	Full	500	0.0	0.0
Approach	16	0.0	16	0.0		0.049		13.5	LOS B	0.1	1.0				
North: Marquands Road															
Lane 1	428	5.4	428	5.4	1897	0.226	100	0.4	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	428	5.4	428	5.4		0.226		0.4	NA	0.0	0.0				
West: School Access Rd															
Lane 1	436	0.0	436	0.0	1337	0.326	100	1.0	LOS A	1.6	11.3	Full	500	0.0	0.0
Approach	436	0.0	436	0.0		0.326		1.0	LOS A	1.6	11.3				
All Vehicles	1108	3.2	1108	3.2		0.326		0.8	NA	1.6	11.3				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Lane LOS values are based on average delay per lane.
 Minor Road Approach LOS values are based on average delay for all lanes.
 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.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com
 Organisation: TRANSPORT & TRAFFIC SOLUTIONS PTY LTD | Licence: NETWORK / 1PC | Processed: Thursday, 25 May 2023 4:25:44 PM
 Project: C:\Users\MichaelMarsicovetere\Box Sync\Projects\22019_Westbourne Grammar TMP\Modelling\SIDRA\Westbourne Grammar.sip9

**ADVERTISED
 PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

LANE SUMMARY

Site: 101 [Marquands Rd Gate D - Future PM Peak (Site Folder: Future Conditions)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Gate D Access
 Site Category: Existing Design
 Give-Way (Two-Way)

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	[Total veh/h]	[HV %]	[Total veh/h]	[HV %]						[Veh]	[Dist]				
South: Marquands Road															
Lane 1	224	5.3	224	5.3	949	0.236	100	0.1	LOS A	0.0	0.1	Full	500	-50.0	0.0
Approach	224	5.3	224	5.3		0.236		0.1	NA	0.0	0.1				
East: Seaford Circuit															
Lane 1	12	0.0	12	0.0	487	0.025	100	9.8	LOS A	0.1	0.6	Full	500	0.0	0.0
Approach	12	0.0	12	0.0		0.025		9.8	LOS A	0.1	0.6				
North: Marquands Road															
Lane 1	298	5.3	298	5.3	948	0.314	100	0.6	LOS A	0.0	0.0	Full	500	-50.0	0.0
Approach	298	5.3	298	5.3		0.314		0.6	NA	0.0	0.0				
West: School Access Rd															
Lane 1	416	0.0	416	0.0	1339	0.311	100	1.0	LOS A	1.5	10.6	Full	500	0.0	0.0
Approach	416	0.0	416	0.0		0.311		1.0	LOS A	1.5	10.6				
All Vehicles	950	2.9	950	2.9		0.314		0.8	NA	1.5	10.6				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Lane LOS values are based on average delay per lane.
 Minor Road Approach LOS values are based on average delay for all lanes.
 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.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com
 Organisation: TRANSPORT & TRAFFIC SOLUTIONS PTY LTD | Licence: NETWORK / 1PC | Processed: Thursday, 25 May 2023 4:25:44 PM
 Project: C:\Users\MichaelMarsicovetere\Box Sync\Projects\22019_Westbourne Grammar TMP\Modelling\SIDRA\Westbourne Grammar.sip9

ADVERTISED PLAN

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright