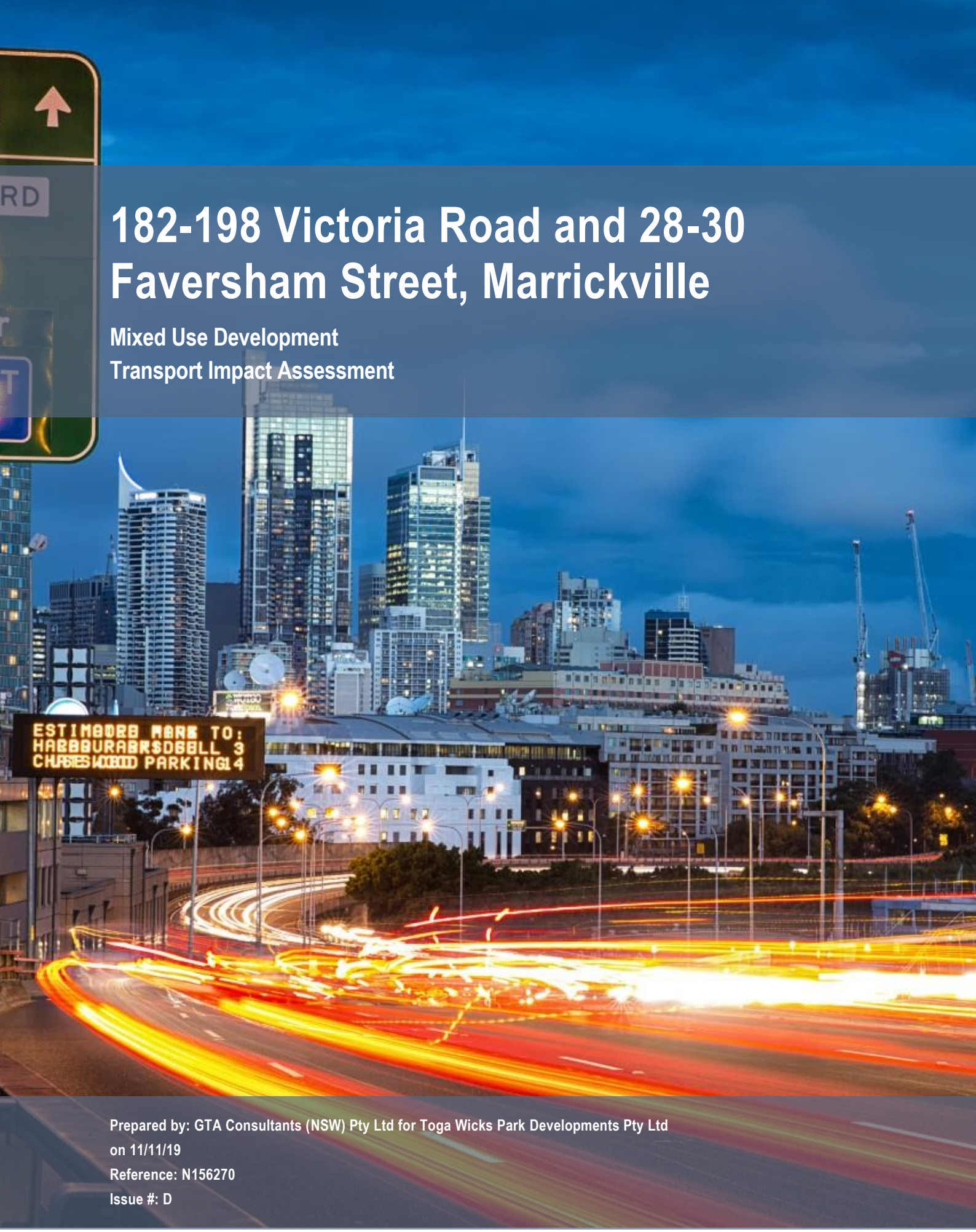
182-198 Victoria Road and 28-30 Faversham Street, Marrickville

Mixed Use Development
Transport Impact Assessment



Prepared by: GTA Consultants (NSW) Pty Ltd for Toga Wicks Park Developments Pty Ltd
on 11/11/19
Reference: N156270
Issue #: D

GTAconsultants

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Quality Record

Issue	Date	Description	Prepared By	Checked By	Approved By	Signed
A	12/02/18	Final	Mackenzie Brinums	Rhys Hazell	Rhys Hazell	Rhys Hazell
B	13/02/18	Final – minor amendments	Mackenzie Brinums	Rhys Hazell	Rhys Hazell	Rhys Hazell
C	18/03/19	Final – minor changes to yields	Mackenzie Brinums	Karen McNatty	Rhys Hazell	Rhys Hazell
D	11/11/19	DA resubmission	Mackenzie Brinums	Rhys Hazell	Rhys Hazell	

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Appendices

1. INTRODUCTION

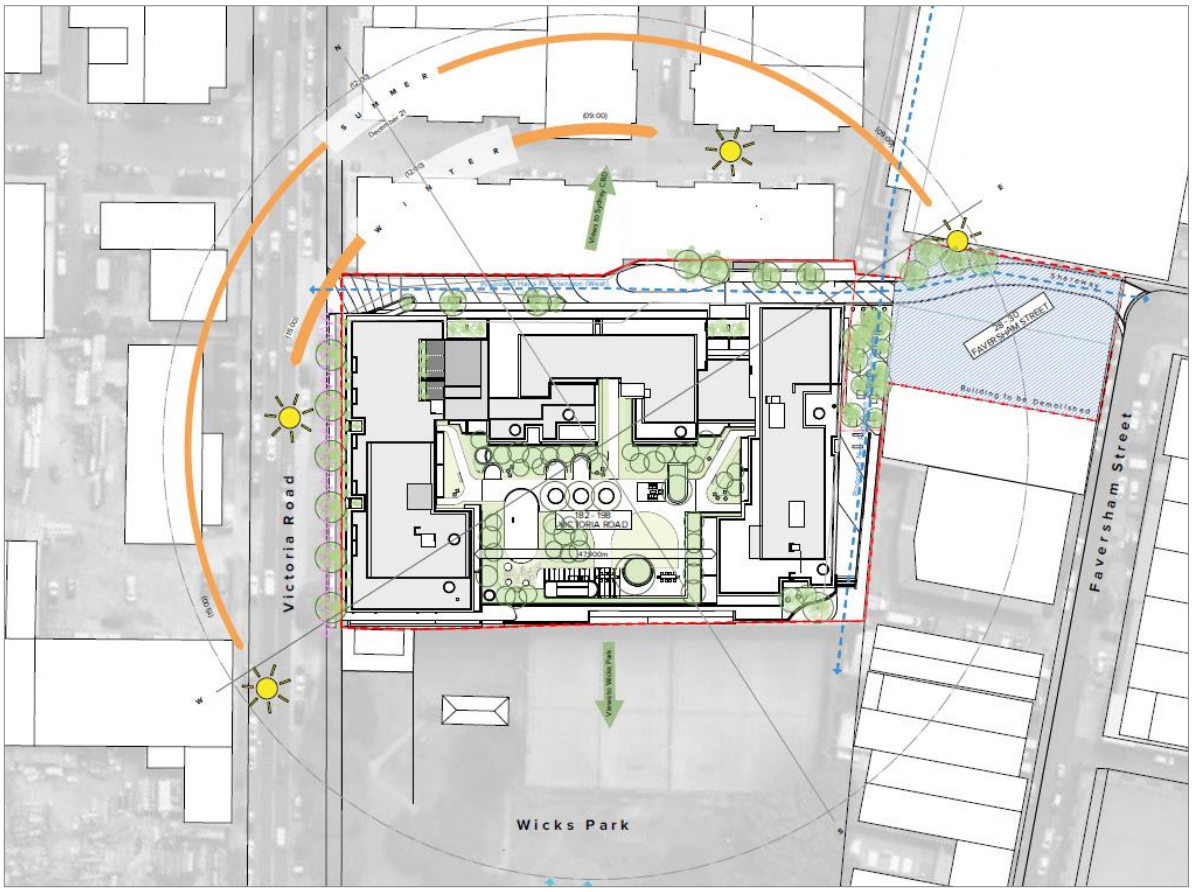
01

1.1. Background

It is understood that a development application resubmission is to be lodged with Inner West Council for a proposed mixed-use development at 182-198 Victoria Road and 28-30 Faversham Street, Marrickville. The proposed development incorporates 272 residential apartments and 2,387 square metres of ground floor retail/ commercial, including 1,500 square metres of mini major supermarket. The proposed site layout and surrounding context is shown in Figure 1.1.

Toga Wicks Park Developments Pty Ltd engaged GTA Consultants (GTA) in October 2019 to update the transport assessment for the proposed development.

Figure 1.1: Subject site and its environs



Source: Project Number 18041 Drawing Number A-DA-003, Turner, Revision 3

1.2. Purpose of this Report

This report sets out an assessment of the anticipated transport implications of the proposed development, including consideration of the following:

- pedestrian and bicycle requirements
- existing transport conditions surrounding the site
- suitability of the proposed parking in terms of supply (quantum) and layout
- service vehicle requirements
- the traffic generating characteristics of the proposed development
- suitability of the proposed access arrangements for the site
- the transport impact of the development proposal on the surrounding road network.

1.3. References

In preparing this report, reference has been made to the following:

- an inspection of the site and its surrounds
- Marrickville Development Control Plan (DCP) 2011
- Victoria Road Precinct (Precinct 47) – Amendments to DCP 2011
- Marrickville Local Environmental Plan (LEP) 2011
- Australian Standard/ New Zealand Standard, Parking Facilities, Part 1: Off-Street Car Parking AS/NZS 2890.1:2004
- Australian Standard, Parking Facilities, Part 2: Off-Street Commercial Vehicle Facilities AS 2890.2:2002
- Australian Standard / New Zealand Standard, Parking Facilities, Part 6: Off-Street Parking for People with Disabilities AS/NZS 2890.6:2009
- traffic and car parking surveys undertaken on Thursday 6 December and Saturday 8 December 2018 as referenced in the context of this report
- plans for the proposed development prepared by Turner, Project Number 18041, Drawing Number A-DA-008-009, Revision 3 and A-DA-010 Revision 5, dated 11 November 2019
- other documents and data as referenced in this report.

2. EXISTING CONDITIONS

02

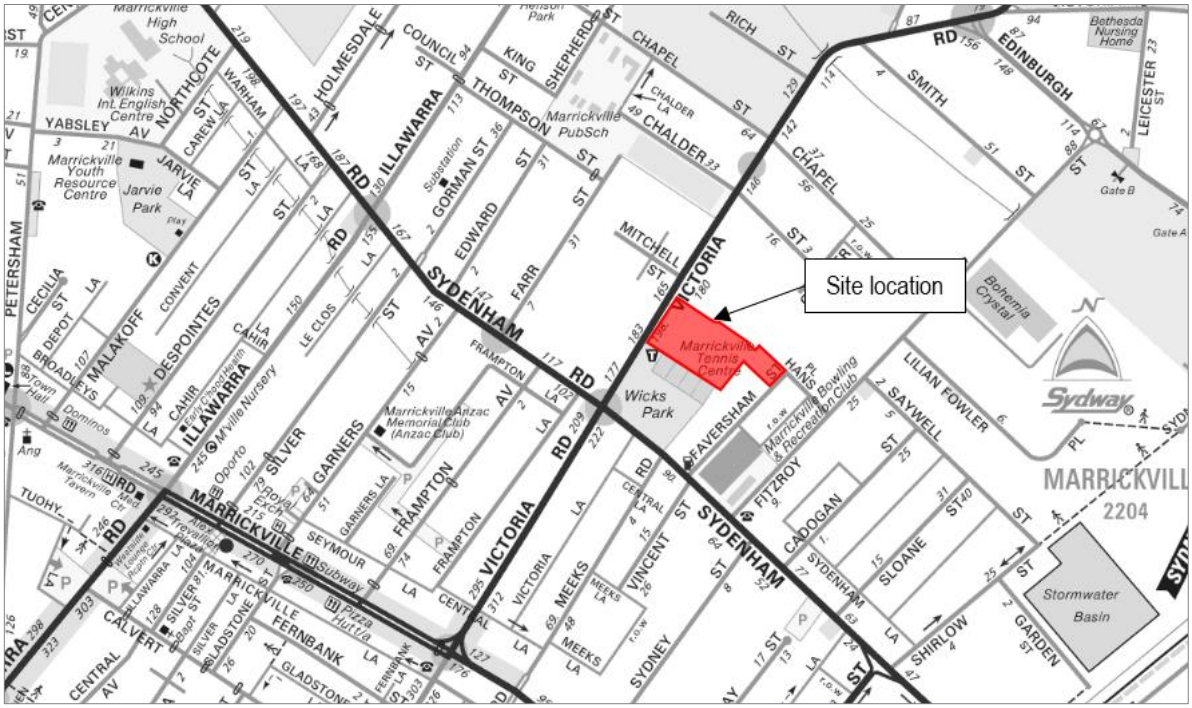
2.1. Site Location

The site is at 182-198 Victoria Road and 28-30 Faversham Street, Marrickville and covers approximately 7,300 square metres with a frontage of approximately 70 metres on Victoria Road to the west. It in a B4 Business Zone – Mixed Zone land use classification and is occupied by a mix of industrial uses many with retail shop frontages, and other local businesses.

The surrounding properties include a range of residential dwellings, from detached dwellings through to high density apartments, mixed use developments and industrial areas. Marrickville Public school is north west of the site and Wicks Park bounds the site to the south. Marrickville Metro shopping centre is also north of the site, on Edinburgh Road

The location of the site and its surrounding environs is shown in Figure 2.1, and the LEP land use map shown in Figure 2.2.

Figure 2.1: Subject site and its environs



Base image source: Sydway

Figure 2.2: Land use map

Base image source: Marrickville LEP 2011

2.2. Transport Network

2.2.1. Road Hierarchy

Roads are classified according to the functions they perform. The main purpose of defining a road's functional class is to provide a basis for establishing the policies which guide the management of the road according to their intended service or qualities.

In terms of functional road classification, State roads are strategically important as they form the primary network used for the movement of people and goods between regions, and throughout the State. Roads and Maritime Services (Roads and Maritime) responsible for funding, prioritising and carrying out works on State roads. State roads generally include roads classified as freeways, state highways, and main roads under the Roads Act 1993, and the regulation to manage the road system is stated in the Australian Road Rules, most recently amended on 19 March 2018.

Roads and Maritime defines four levels in a typical functional road hierarchy, ranking from high mobility and low accessibility, to high accessibility and low mobility. These road classes are:

Arterial Roads – Controlled by Roads and Maritime, typically no limit in flow and designed to carry vehicles long distance between regional centres.

Sub-Arterial Roads – Managed by either Council or Roads and Maritime under a joint agreement. Typically, their operating capacity ranges between 10,000 and 20,000 vehicles per day, and their aim is to carry through traffic between specific areas in a sub region or provide connectivity from arterial road routes (regional links).

Collector Roads – Provide connectivity between local sites and the sub-arterial road network, and typically carry between 2,000 and 10,000 vehicles per day.

Local Roads – Provide direct access to properties and the collector road system and typically carry between 500 and 4,000 vehicles per day.

2.2.2. Surrounding Road Network

Victoria Road

Victoria Road is Roads and Maritime road and functions as a sub-arterial road. It is aligned in a north-south direction along the western boundary of the site. Victoria Road turns into Enmore Road to the north, providing a connection to Princes Highway and King Street in Newtown. It is a two-way road with one traffic lane and one parking lane in each direction, set within an approximately 11-metre-wide carriageway. Unrestricted kerbside parking is permitted on both sides of the road outside of peak periods.

Victoria Road has a posted speed limit of 60km/h and is shown in Figure 2.3 and Figure 2.4.

Figure 2.3: Victoria Road (looking north)

Figure 2.4: Victoria Road (looking south)

Sydenham Road

Sydenham Road is a State Road that functions as a collector road providing an east-west connection between Sydenham and Petersham. It is a two-way road generally configured one traffic lane and one parking lane in each direction. Kerbside parking is generally unrestricted and limited to areas removed from key intersections.

Sydenham Road has a posted speed limit of 60km/h and is shown in Figure 2.5 and Figure 2.6.

Figure 2.5: Sydenham Road (looking east)

Figure 2.6: Sydenham Road (looking west)

Faversham Street and Hans Place

Faversham Street and Hans Place are local roads east of the site and function as access roads to industrial areas to the rear and east of the subject site. Each road generally provides a narrow approximately seven metre carriageway, with kerbside parking generally permitted on both sides. Wide crossovers to industrial properties also limit availability of on-

street parking. A single central traffic lane provides for two-way traffic flow in locations where parking is permitted on both sides. Observations also indicate that informal parking is common with several vehicles occupying footpaths.

Faversham Street and Hans Place have a posted speed limit of 50km/h and are shown in Figure 2.7 and Figure 2.8.

Figure 2.7: Faversham Street (looking south)

Figure 2.8: Hans Place (looking east)

Fitzroy Street

Fitzroy Street is a local road and is aligned in a north-south direction east of the site. It is a two-way road with one traffic lane and one parking lane in each direction, set within an approximately 13-metre-wide carriageway. It provides a convenient link between Sydenham Road to the south and Edinburgh Road to the north and is shown in Figure 2.9 and Figure 2.10.

Figure 2.9: Fitzroy Street (looking north)

Figure 2.10: Fitzroy Street (looking south)

2.2.3. Surrounding Intersections

The following key intersections currently exist near the site:

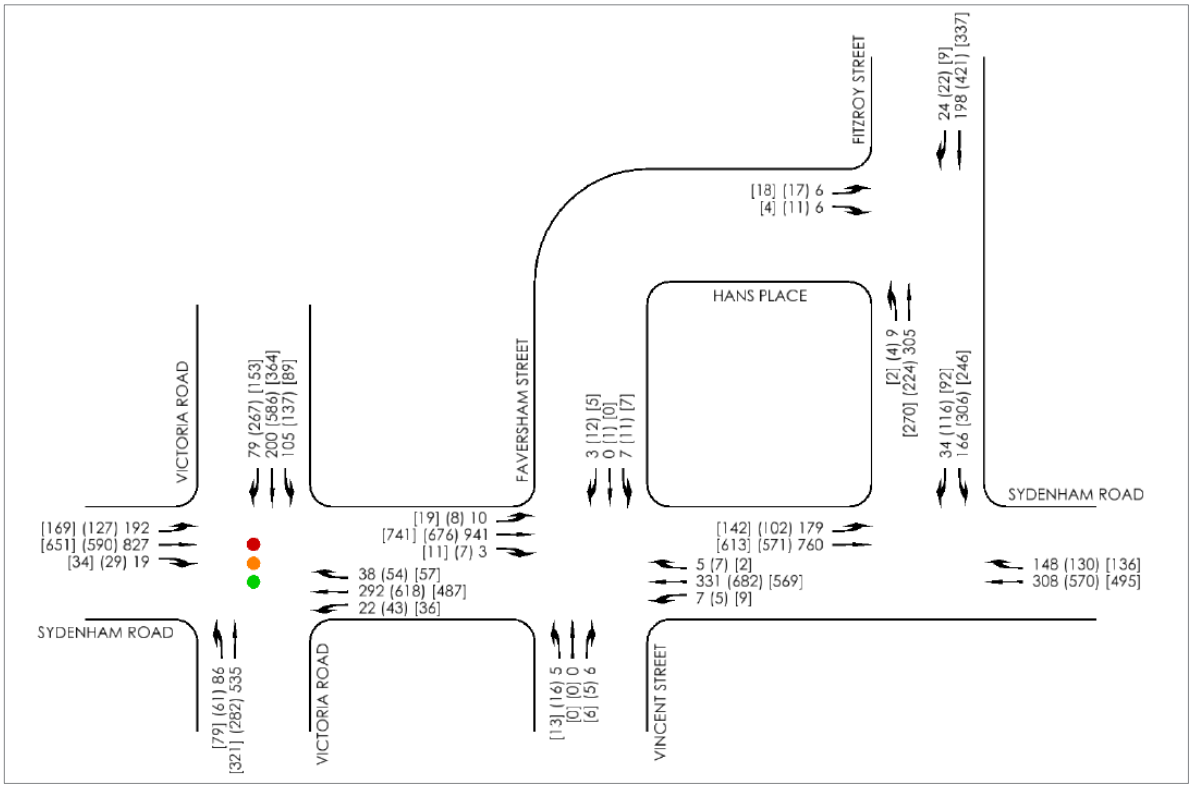
- Victoria Road/ Sydenham Road (signalised)
- Sydenham Road/ Faversham Street
- Sydenham Road/ Fitzroy Street
- Hans Place/ Fitzroy Street.

2.3. Traffic Volumes

Traffic surveys were completed at the key intersections near the site on Thursday 6 December and Saturday 8 December 2018 during the Weekday AM and PM peak periods and Saturday midday peak.

The AM and PM peak hours were found to occur from 7:45am to 8:45am and 4:30pm to 5:30pm on the Thursday and 11:30am to 1:00pm on Saturday, with traffic volumes summarised in Figure 2.11. Full survey results are included in Appendix A.

Figure 2.11: Existing peak hour traffic volumes – weekday AM, (PM), [Sat]



2.4. Intersection Operation

The operation of the key intersections within the study area have been assessed using SIDRA INTERSECTION[1] (SIDRA), a computer based modelling package which calculates intersection performance.

The commonly used measure of intersection performance, as defined by the Roads and Maritime, is vehicle delay. SIDRA determines the average delay that vehicles encounter and provides a measure of the level of service.

Table 2.1 shows the criteria that SIDRA adopts in assessing the level of service.

Table 2.1: SIDRA INTERSECTION level of service criteria

Level of Service (LoS)	Average Delay per vehicle (secs/ veh)	Traffic Signals, Roundabout	Give Way & Stop Sign
A	Less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required

[1] Program used under license from Akcelik & Associates Pty Ltd.

Level of Service (LoS)	Average Delay per vehicle (secs/ veh)	Traffic Signals, Roundabout	Give Way & Stop Sign
D	43 to 56	Near capacity	Near capacity, accident study required
E	57 to 70	At capacity, at signals incidents will cause excessive delays	At capacity, requires other control mode
F	Greater than 70	Extra capacity required	Extreme delay, major treatment required

Table 2.2 presents a summary of the existing operation of the intersection, with full results included in Appendix B.

Table 2.2: Existing operating conditions

Intersection	Peak	Degree of Saturation (DoS)	Average Delay (sec)	95th Percentile Queue (m)	Level of Service (LoS)
Sydenham Road/ Victoria Road	AM	0.76	32	253	C
	PM	0.88	31	183	C
	Saturday	0.94	39	206	C
Sydenham Road/ Faversham Street	AM	0.05	24	1	B
	PM	0.14	39	3	C
	Saturday	0.04	23	1	B
Sydenham Road/ Fitzroy Street	AM	0.38	56	11	D
	PM	0.81	63	31	E
	Saturday	0.66	50	21	D
Hans Place/ Fitzroy Street	AM	0.02	7	1	A
	PM	0.03	8	1	A
	Saturday	0.02	8	1	A

Table 2.2 indicates that the majority of the surrounding intersections operate satisfactorily in the surveyed road network peak hours. Results indicate that the Sydenham Road/ Victoria Road signalised intersection is operating near capacity however maintains an appropriate overall intersection operation (LoS C).

The critical movements resulting in the highest delay at the Sydenham Road/ Faversham Street and Sydenham Road/ Fitzroy Street intersections are the minor road right turns. This is common for priority controlled intersections where minor roads intersect with major roads. On-site observations also indicate that vehicles are generally willing to accept lower gaps in the flow of traffic along Sydenham Road to enter the traffic stream.

The Fitzroy Street Hans Place/ intersection currently operates satisfactorily with minimal delay in all peak periods.

2.5. Car Parking

A review of publicly available car parking in the vicinity of the site indicates that on-street parking is generally not time restricted, however there are various times during the day where parking is not permitted, corresponding to peak commuter periods. The various parking restrictions are summarised in Table 2.3.

Table 2.3: On-street parking restrictions near the site

Location	Restrictions
Victoria Road	Eastern side - no parking 4pm-6pm, unrestricted other times Western side - no parking 7pm-9pm, unrestricted other times
Sydenham Road	Northern side – various no stopping restrictions during weekday AM and PM peak periods, unrestricted all other times

Location	Restrictions
	Southern side – no parking 3:30pm-5:30pm, unrestricted other times
Faversham Street	Unrestricted
Hans Place	
Fitzroy Street	

On-site observations indicate that on-street parking demand is typically moderate to high, particularly on Victoria Road adjacent to local businesses and retail shops.

On-site parking is currently provided within a mix of formal marked spaces along the Victoria Road frontage and informal (mostly staff) parking internal to the site, as shown in Figure 2.12. The formal parking, mostly used by customers to the retail shops are perpendicular to Victoria Road, with vehicles required to manoeuvre on arrival or departure. On-site observations confirm that this can result in delay to southbound traffic on Victoria Road.

Figure 2.12: Existing on-site parking

Base image source: Nearmap

2.6. Public Transport

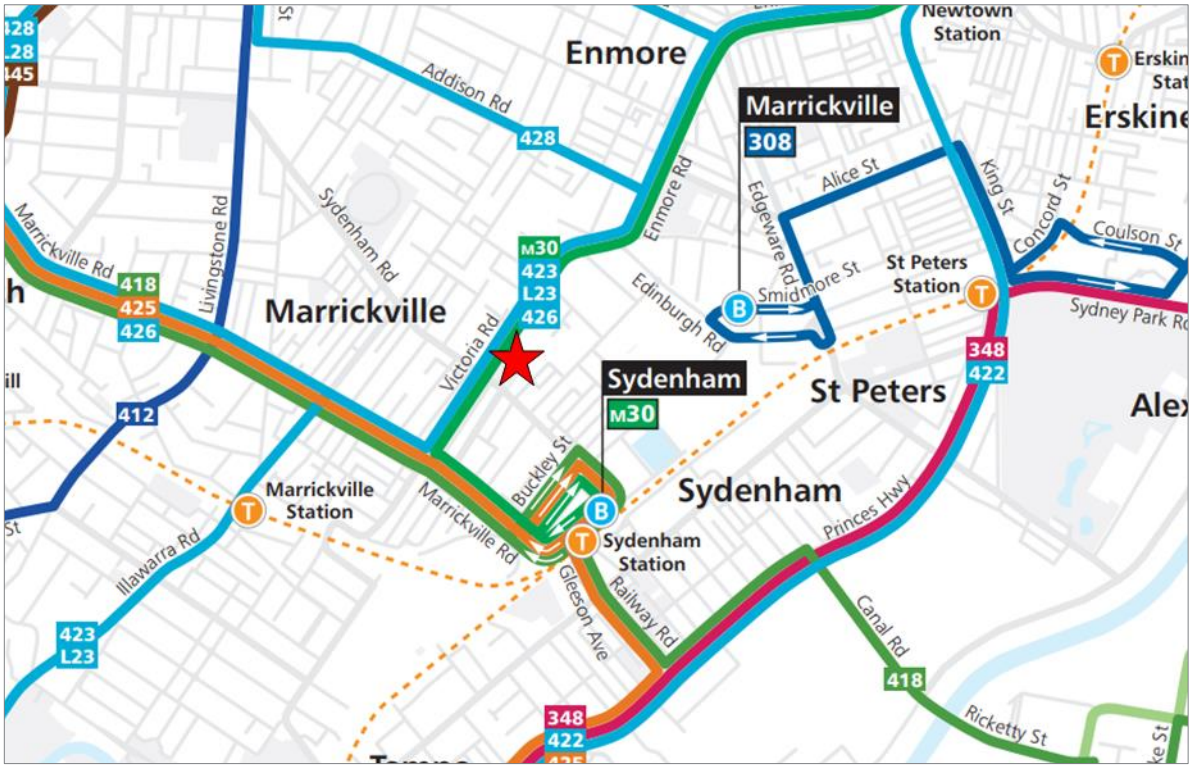
2.6.1. Existing Public Transport

The site is well serviced by a public transport, with several frequent bus services travelling on Victoria Road and regular train services through Sydenham Railway Station, within an easy walk of the site. A review of the public transport available near the site is summarised in Table 2.4 and shown indicatively in Figure 2.13.

Table 2.4: Public transport provision

Service	Route number	Route description	Location of stop	Distance to nearest stop	Frequency on/ off-peak
Bus	423	Kingsgrove to City Martin Place	Victoria Road near Sydenham Road	160m	10 mins/ 15 mins
	426	Dulwich Hill to City Martin Place			
	M30	Opal only - Sydenham to Taronga Zoo			
Train	T3, T4, T8, South Coast Line	T3 Bankstown Line, T4 Eastern Suburbs and Illawarra Line, T8 Airport and South Line, South Coast Line	Sydenham Railway Station	800m	3-10 mins peak and off peak

Figure 2.13: Surrounding public transport network



Base image source: Transport for NSW, accessed October 2019

2.6.2. Sydney Metro

Sydney Metro is Australia's biggest public transport project. This new standalone railway will deliver 31 metro stations and more than 66 kilometres of new metro rail.

Sydenham Station is subject to upgrades to accommodate metro services by 2024. Customers at Sydenham Station will have a new air-conditioned metro train every four minutes in the peak – that's 15 trains an hour. Sydenham Station is currently serviced by eight trains an hour in the morning peak. The station will be fully upgraded with lifts and level access between the platforms and trains Sydenham Station platforms one and two will be upgraded to Sydney Metro standards, including the installation of platform screen doors.

Overall, the planned station includes:

- new pedestrian plazas on Burrows Road and Railway Parade
- platforms one and two converted to Sydney Metro standards including platform screen doors and new canopies
- a new aerial concourse over the existing platforms with lifts and stairs to each platform
- fully accessible bus stops on Railway Parade and Burrows Avenue
- new pedestrian crossings on Georges Street, Burrows Avenue and Railway and Lower Railway Parades
- new taxi and kiss-and-ride bays on Burrows Avenue
- bike parking on Railway Parade and Burrows Avenue
- new crossover facilities for metro trains, north and south of the station.

Provision of such regular 'turn up and go' rail services will transform the areas within close proximity to the stations along the length of Sydney Metro. Higher density living and working communities will also be essential to the sustainable sue of such convenient public transport services.

2.7. Walking and Cycling Infrastructure

Well established pedestrian paths are generally provided on both sides of most surrounding roads. These facilities, while at times poorly maintained have long provided an acceptable level of pedestrian amenity. Wicks Park also ensures good permeability and pedestrian convenience through the area. With the changing nature of land uses and businesses in the local area, and opening of Sydney Metro, pedestrian activity is also expected to increase. Existing pedestrian amenity is shown in Figure 2.14 and Figure 2.15.

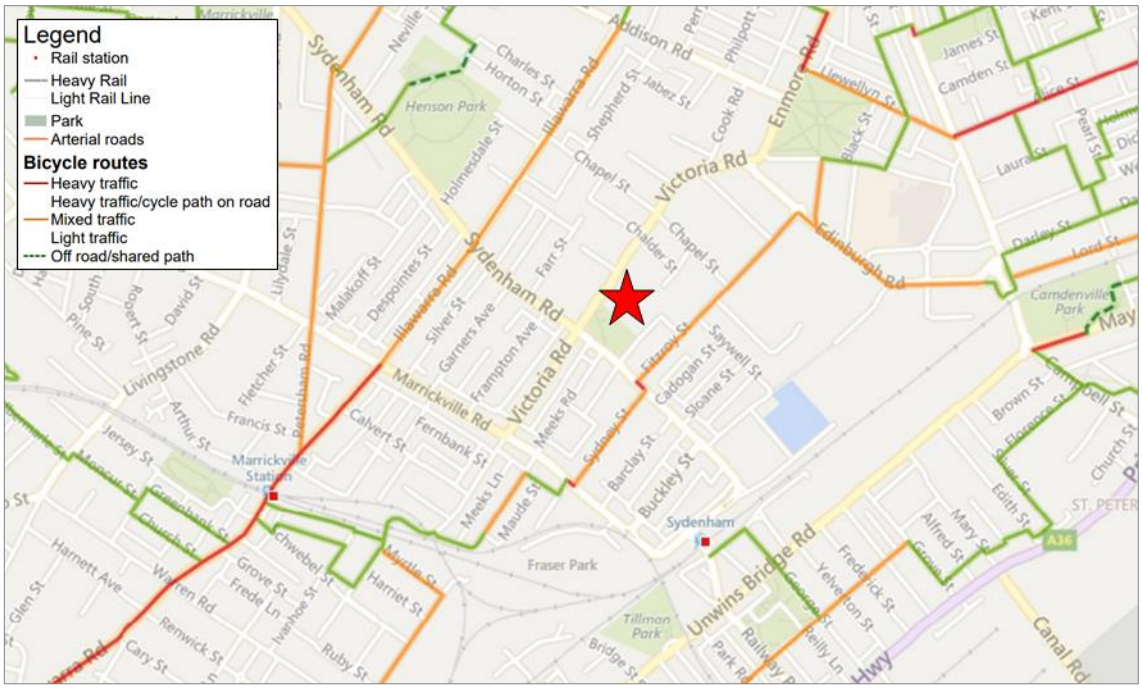
Figure 2.14:Victoria Road footpath

Figure 2.15:Sydenham Road footpaths adjacent to Wicks Park

There is limited designated cycling infrastructure near the site, however Fitzroy Street and Illawarra Street are each classified as mixed traffic bicycle routes near the site that provide north-south routes through Marrickville to neighbouring suburbs.

The surrounding cycling infrastructure is shown in Figure 2.16.

Figure 2.16: Surrounding cycling network



Base image source: Inner West Council Cycling Routes Map, dated 2017

2.8. Relevant Policies

2.8.1. Victoria Road Precinct

The Victoria Road Precinct (Precinct 47) Amendments to the Marrickville DCP 2011 establishes a framework to guide development in the Precinct 47 – Victoria Road (the precinct), the extent of which is shown in Figure 2.17.

Figure 2.17: Victoria Road Precinct

Source: Victoria Road Precinct (Precinct 47) Amendments to the Marrickville DCP 2011

The vision for the Victoria Road Precinct is to support the long-term transition of the precinct into a vibrant, and sustainable mixed-use precinct that provides interesting and appropriate built form, high quality public spaces, improved connectivity and increased employment opportunities that will make the precinct a highly desirable place to work and live. Mixed uses will increase opportunities for residents to work locally and use local retail and leisure facilities. Active uses such as cafes, studios and small retail opportunities which line the streets and face open spaces will assist in increasing activity levels and pedestrian traffic in the area.

The subject site is within the Wicks Park sub-precinct. This sub-precinct is proposed to comprise of a mixed-use area that will be characterised by non-residential ground floors with residential above, whilst a business development zone will encourage new enterprises and creative uses along Faversham Street.

The Wicks Park sub-precinct will also support the function of the commercial corridor along Victoria Road. Streetscape and street network improvements will directly link to Victoria Road, enhancing the permeability of the sub-precinct, and supporting the ongoing function of the Victoria Road Commercial Corridor. The amendment of Marrickville DCP 2011 details an extension of Hans Place to Victoria Road which will function as a one-way shareway providing a key pedestrian link from the creative hub precinct to the Victoria Road Commercial Corridor with the opportunity for active uses such as cafes, studios, boutique showrooms and smaller retail opportunities.

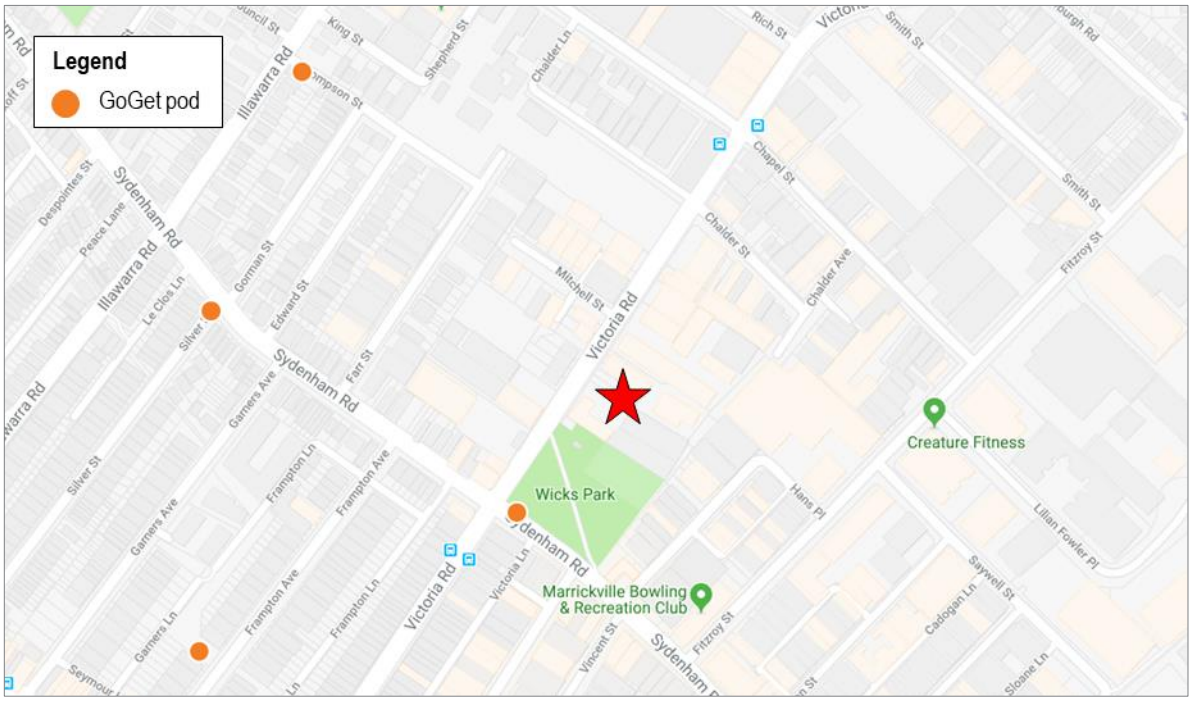
The focus of the Wicks Park sub-precinct is higher density residential uses along the northern edge of Wicks Park and to maximise high visual amenity of the open space area, whilst ground floor non-residential uses adjacent to Wicks Park will address the open space area in order to promote greater pedestrian amenity and activity.

2.9. Local Car Share Initiatives

GoGet (along with other car share schemes) has become increasingly common throughout Sydney and is now recognised as a viable transport option for drivers throughout Sydney. They are now a well-utilised service especially in the inner suburbs due to limited parking availability and the expense involved in parking close to the Sydney CBD. GoGet offer a viable alternative to the private car for trips where distances are short and are likely to be of benefit to future tenants and commercial residents of the proposed development.

GoGet car share pods located close to the site are shown in Figure 2.18, with the closest pod located on Sydenham Road near its intersection with Victoria Road. Contact has been made with GoGet in relation to car share pods being located within the proposed development. It is likely that such provision will ultimately form part of the proposal, with details to be included as part of design development, and as required.

Figure 2.18: Surrounding GoGet pod locations

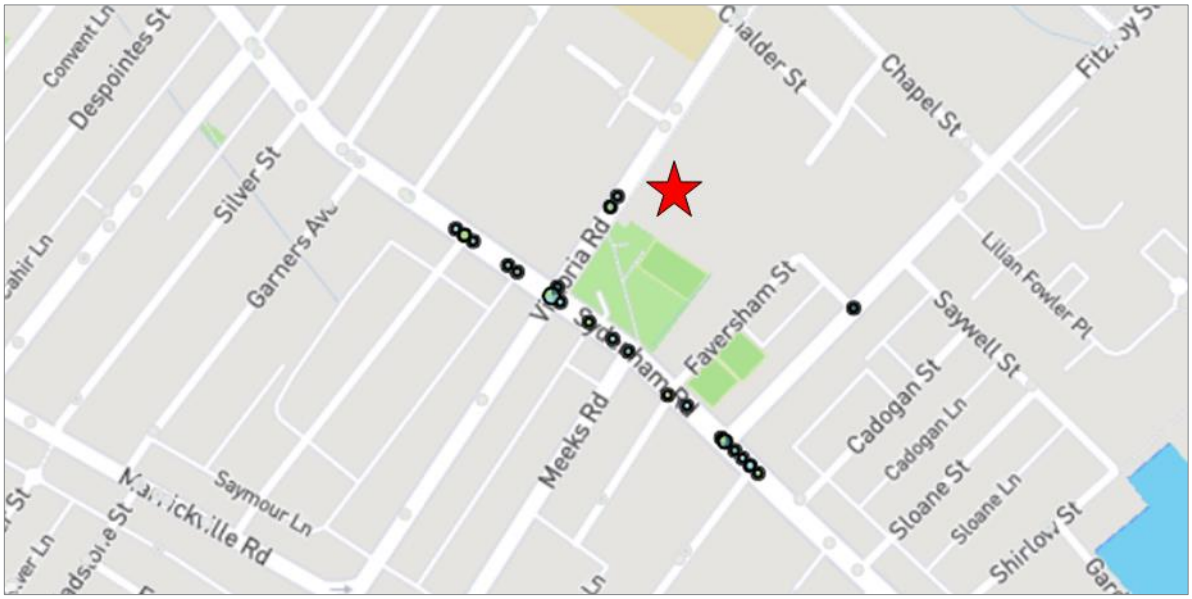


Base image source: GoGet, accessed October 2019

2.10. Crash History

An analysis of the most recent five-year period of available crash data from 2013 to 2017 has been completed based on crash data provided by Transport for NSW for the roads surrounding the site. The locations and severity of the crash data for the five-year period is shown in Figure 2.19.

Figure 2.19:Crash map 2013 to 2017



Base image source: Transport for NSW Centre for Road Safety, accessed January 2018

A review of the crash data indicates there is a small cluster of crashes close to the Sydenham Road/ Fitzroy Street intersection. These crashes were largely classified as rear end crashes (45 per cent) which are typical in busy urban environments that experience some level of congestion. Other crashes include right turning vehicles and sideswipes.

There is also incidence of crashes at the Victoria Road/ Sydenham Road intersection, with one involving a pedestrian. The other crashes mainly involved right turning vehicles (40 per cent) which is thought to be related to the absence of right turn bays, and rear end crashes (30 per cent).

3. DEVELOPMENT PROPOSAL

03

3.1. Land Uses

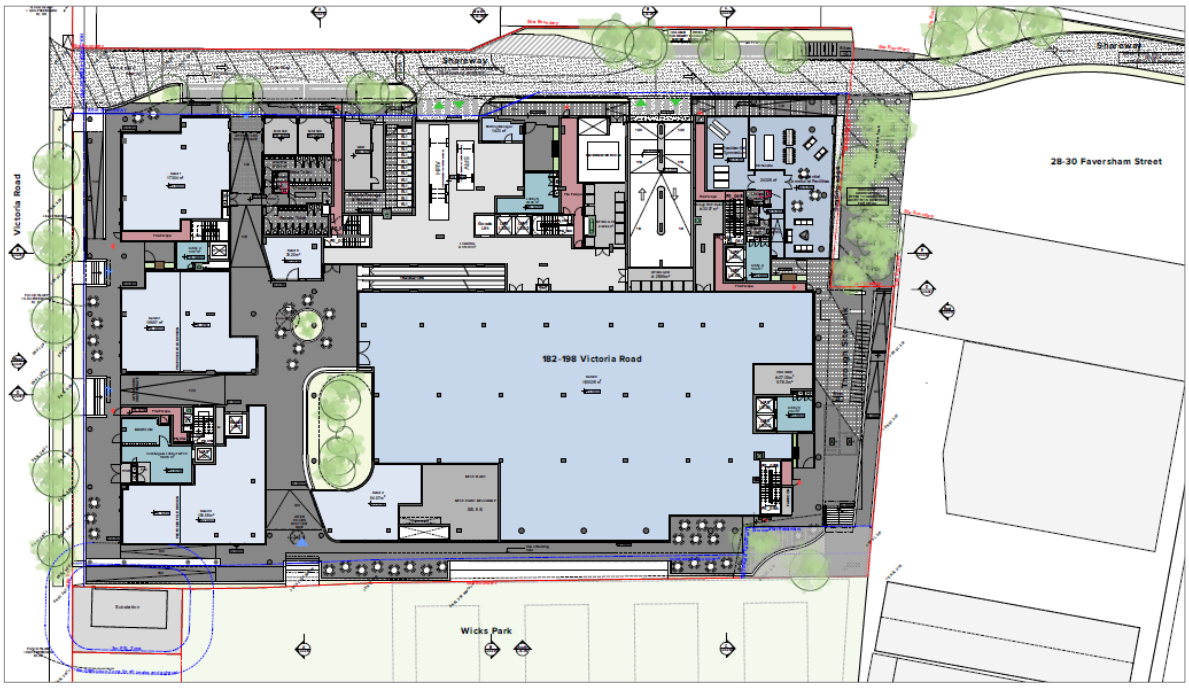
The proposal includes the construction of mixed-use development comprising approximately 272 residential apartments and ground floor retail, as summarised in Table 3.1.

Table 3.1: Development schedule

Use	Description	Size/ no. of apartments
Residential	1 bedroom	101
	2 bedroom	160
	3 bedroom	11
	Total	**272**
Retail		2,387m² GFA

The proposed ground floor plan is shown in Figure 3.1.

Figure 3.1: Proposed site layout plan



Source: Project Number 18041 Drawing Number A-DA-010, Turner, Revision 5

3.2. Vehicle Access

A one-way eastbound shareway is proposed from Victoria Road to Hans Place along the northern boundary of the site. This link will provide vehicle access to/ from the basement car park along with at-grade access to the on-site loading dock. The internal road has been designed to accommodate vehicles up to 12.5 metre heavy rigid vehicles and is proposed to allow for both left and right turns into the site from Victoria Road. This area will be well designed and intended to compliment the site layout and public domain generally.

3.3. Parking

The proposed development will provide a total of 306 car parking spaces for resident, staff and visitor use, with the breakdown of car parking spaces as follows:

- 241 residential spaces, including:
  - 159 resident spaces
  - 55 adaptable resident spaces
  - 17 visitor spaces
  - five visitor spaces in the shareway
  - five accessible spaces.
- 65 retail spaces:
  - 63 standard spaces
  - two accessible spaces.

In addition, 16 motorcycle parking spaces and one car wash bay are proposed in the basement car park. The five spaces along the shareway would likely be used by residential and retail visitors, as well as smaller service vehicles outside of peak periods.

3.4. Cycling Facilities

Parking for a total of 159 bicycles is proposed within storage cages. 13 of these are in a dedicated storage and workshop space on the ground level with direct access from the shareway and 146 in the two basement levels for exclusive use by residents. Parking for a further nine bicycles in Basement 1 is also proposed for use by staff. 32 publicly accessible bicycle racks on the ground level are also proposed as part of the public domain.

3.5. Loading Facilities

A loading dock is proposed at the northern end of the site, with capacity to accommodate independent access by a 6.4 metre small rigid vehicle (SRV), 8.8 metre medium rigid vehicle (MRV) and 12.5 metre heavy rigid vehicle (HRV). As mentioned previously, there are some designated parallel spaces are also proposed on the northern side of the shareway, east of the basement access ramp. These spaces could be used by smaller service vehicles and garbage trucks during non-peak periods (such as early in the morning). They would also be signposted for use as parking spaces for the retail uses and residential visitors at other times. Service vehicle access will be provided via the shareway.

4. PARKING ASSESSMENT

04

4.1. Car Parking

4.1.1. Parking Requirements

The car parking provision requirements for different development types are set out in Marrickville DCP 2011. A review of the car parking rates and the floor area schedule results in a DCP 2011 parking requirement for the proposed development as summarised in Table 4.1.

Table 4.1: DCP 2011 Parking Area 2 requirements

Use	Description	Apartments/ floor area	DCP 2011 Parking Rate	Parking Requirement
Residential	1 bed	101	0.5 spaces/ dwelling	50
	2 bed	160	1 space/ dwelling	160
	3 bed	11	1.2 spaces/ dwelling	13
	Visitor	-	0.1 spaces/ dwelling 0.25 spaces/ adaptable dwelling	36 (incl.14 accessible)
			Sub-total	**259 spaces**
Retail	Retail/ supermarket	2,387 sqm GFA	20 + 1/ 30m^2 GFA over 1,000m^2 GFA (including 1 accessible space / 50 car spaces as per the Building Code of Australia)	66 (including 2 accessible spaces)
			Total	**325 spaces**

[1] Resident parking requirement less adaptable apartment parking requirement
[2] 20 per cent of total apartments

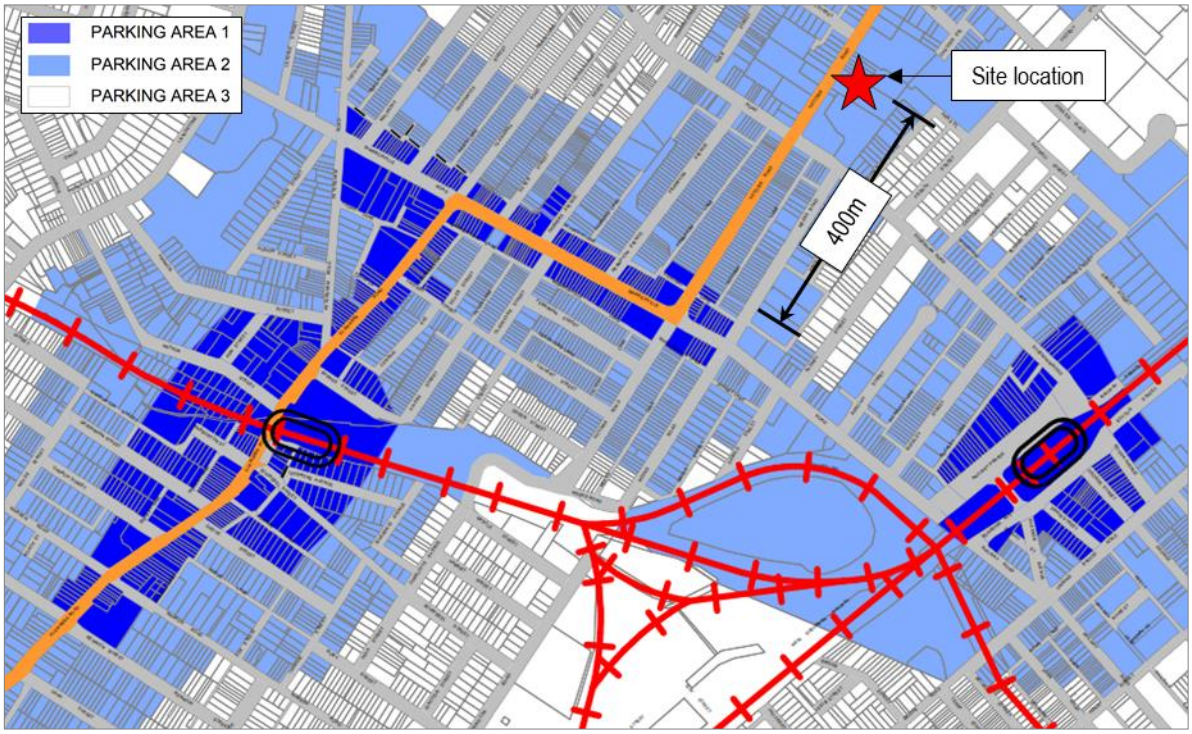
Based on DCP 2011 Parking Area 2 rates, the proposed development is required to provide 325 car parking spaces including 259 spaces for the residential apartments and 66 retail spaces. DCP 2011 also provides a requirement of one adaptable space per adaptable apartment equating to 55 of the 223 resident spaces being adaptable spaces.

Motorbike parking is to be provided at a rate of one space per 20 car parking spaces. This results in a requirement of 16 motorbike spaces based on provision of 325 car parking spaces.

4.1.2. Empirical Assessment

Marrickville DCP 2011 provides different parking rates for various areas throughout Marrickville Local Government Area (LGA). In general, areas close to town centres, light rail stops and/ or railway stations are in Parking Area 1 and have a lower parking requirement. The subject site is located approximately 400 metres from the closest Parking Area 1, as shown in Figure 4.1.

Figure 4.1: Site location in context of Marrickville Parking Areas



Base image source: Marrickville DCP 2011 Parking Areas

For comparative purposes, Table 4.2 sets out the parking requirement based on Parking Area 1 requirements.

Table 4.2: DCP 2011 Parking Area 1 requirements

Use	Description	Apartments/ floor area	DCP 2011 Parking Rate	Parking Requirement
Residential	1 bed	101	0.4 spaces/ dwelling	40
	2 bed	160	0.8 space/ dwelling	128
	3 bed	11	1.1 spaces/ dwelling	12
			Sub-total	**180 spaces**
Retail	Retail/ supermarket	2,387 sqm GFA	15 + 1 / 35m² GFA over 1,000m² GFA (including 1 accessible space/ 50 car spaces as per the Building Code of Australia)	55 (including 2 accessible spaces)
			Total	**235 spaces**

[3] Resident parking requirement less adaptable apartment parking requirement
[4] 20 per cent of total apartments

Table 4.2 indicates that Parking Area 1 rates result in a requirement of 235 car parking spaces with 180 spaces for residents and 55 spaces for the retail uses. Similar to Parking Area 2, the 180 parking spaces includes 55 adaptable spaces. Given the significant difference in the parking rates applicable to each parking area, and having regard to the location of the site, a parking provision that considers the merits of each DCP 2011 parking area is considered appropriate.

In this regard, a reduced parking rate could be considered more reflective of the site for the following reasons:

- the intent of the Victoria Road Precinct of combining residential space with places of work
- the proposed mixed-use of the development that encourages internal trips and pedestrian activity from the surrounding residents and workers
- close proximity to frequent public transport and future Sydney Metro.

A review of the residential rates adopted in the neighbouring Leichhardt DCP 2013 is provided in Table 4.3.

Table 4.3: Comparison of other DCP car parking requirements

Land use	Marrickville DCP 2011 Parking Area 2		Leichhardt DCP 2013			
	Rate	Requirement	Minimum rate	Maximum rate	Minimum requirement	Maximum rate
1 bed	0.5 spaces/ dwelling	50	0.33 space/ dwelling	0.5 spaces/ dwelling	34	51
2 bed	1 space/ dwelling	160	0.5 spaces/ dwelling	1 space/ dwelling	80	160
3 bed	1.2 spaces/ dwelling	13	1 space/ dwelling	1.2 spaces/ dwelling	11	13
Visitor	0.1 space/ dwelling 0.25 space/ adaptable dwelling	36 (22 non-accessible 14 accessible)	1 space/ 11 dwellings	1 space/ 8 dwellings	25	34
Total		**259**	**-**	**-**	**150**	**258**

Table 4.3 illustrates that the residential parking rates of nearby areas results in a significantly lower minimum parking requirement of 150 parking spaces, while the maximum parking requirement is similar to the requirements under Marrickville DCP 2011.

4.1.3. Adequacy of Car Parking Supply

The development proposes a total of 306 car parking spaces with a breakdown provided in Table 4.4.

Table 4.4: Proposed car parking provision

Use	Description	Marrickville DCP 2011 Parking Area 2 requirement	Proposed parking provision
Residential	Resident	223 (including 55 adaptable spaces)	214 (including 55 adaptable spaces)
	Visitor	36 (22 non-accessible 14 accessible)	27 (22 non-accessible 5 accessible)
Retail	Customer	66 (including 2 accessible spaces)	65 (including 2 accessible spaces)
Total		**325 spaces**	**306 spaces**

This represents a minor shortfall of 19 spaces when assessed against DCP 2011 Parking Area 2 and an excess of 71 based on Parking Area 1 requirements. Overall, the proposal finds a balance between the applicable rates and considers the sites location in a changing environment close to expanding public transport services. The proposed provision seeks to mostly meet the DCP 2011 retail parking requirements so as to adequately accommodate retail demand wholly within the site, while marginally reducing residential parking provision to encourage a mode shift away from daily travel by private car. The provision is also at the upper end of Leichhardt DCP 2013 residential parking requirements.

It is recommended that a green travel plan be implemented to encourage residents, staff and visitors to travel to and from the site by modes other than private vehicle. An outline of a green travel plan with some initiatives which could be implemented is included Section 6 of this report. A total of 16 motorbike spaces are also proposed. This meets the DCP 2011 Parking Area 2 requirement.

4.2. Bicycle Parking

The bicycle parking provision requirements for different development types are set out in DCP 2011. A review of the bicycle parking rates and the floor area schedule results in a DCP 2011 parking requirement for the proposed development as summarised in Table 4.5.

Table 4.5: DCP 2011 bicycle parking requirements

Use	Description	Size	Bicycle parking rate requirement	Bicycle parking requirement
Residential	Resident	272 apartments	0.5 spaces/ dwelling	136
	Visitor		0.1 space/ dwellings	27
Retail	Staff	2,387m² GFA	1 space/ 300m² GFA	8
	Visitor		1 space/ 500m² GFA	5
Total				**176 spaces**

Based on the above, the proposed development is required to provide 176 bicycle parking spaces, with 144 spaces for use by residents and staff, and 32 spaces for visitors. Resident and staff spaces should be in the form of lockers or racks in a secure location such as the basement car park, while visitor spaces are to form part of the public domain and easily accessible to encourage use. The retail component of the site should also provide one shower for staff use.

The proposed development provides 168 bicycle storage spaces in the basement car park and on ground level for use by residents and staff. Capacity for bicycle racks has also been allowed for as part of the public domain on the ground level, accommodating 32 spaces for visitors. As such, the proposed bicycle parking provision meets DCP 2011 requirements.

4.3. Loading Facilities

DCP 2011 requires one service vehicle space per 50 apartments up to 200 apartments, plus one space per 100 apartments thereafter. DCP 2011 also specifies a rate of one truck space per 400m² GFA up to 2,000m² GFA, plus one bay per 1,000m² GFA thereafter.

Based on these rates, the proposed development is required to provide five service vehicle spaces for the residential apartments and spaces for the retail uses. This requirement is considered excessive having regard to first principles assessment and the size of the development.

GTA's database of loading demand associated with the proposed uses indicates that specialty retail stores typically receive an average of 0.5 deliveries per day per tenant and mini majors 3.1 deliveries per day. Considering the proposed seven specialty retail tenancies and one mini major, this would likely result in six to seven deliveries per day. Applying a 50 per cent contingency results in up to 10 deliveries per day.

The average residential apartment turnover rate is approximately 0.2 per cent of all apartments in any given week. Conservatively assuming a rate of 0.5 per cent to account for seasonal variations and given the proposed 270 apartments, there would be an average of one to two apartments moving in or out in any given week. Waste collection for the residential apartments is likely to be three vehicles per week.

The proposed development proposes two loading bays. Swept paths have been completed that show each area is independently accessible by all service vehicles and with typical dock management in place, the loading area is considered acceptable and able to accommodate the servicing demands of the site. The swept path assessment is included in Appendix C. As discussed, the parking area on the northern boundary of the site could also be for use by smaller service vehicles and garbage trucks at specific times of the day.

Other typical dock management measures include pavement treatments, linemarking, signage and/ or simple signal systems. It will be important to implement a dock management system to manage and control the use of the dock, particularly during peak retail and road network peaks. This will limit the potential effects of trucks reversing in on entry and impacts on residents and retail customers entering the basement car park.

4.4. Car Parking Layout Review

The car park layout has been reviewed against the requirements of the Australian Standard for Off Street Car Parking (AS/NZS2890.1:2004 and AS/NZS2890.6:2009) and Parking Facilities Off-Street Commercial Vehicle Facilities (AS2890.2-2018). This assessment included a review of the following:

- bay and aisle width
- adjacent structures
- circulation roads and ramps
- parking for persons with disabilities
- motorcycle parking.

This review indicates that the car park layout is generally consistent with the Australian Standards and is expected to operate satisfactorily. Access to the basement car park will be adequately controlled (boom gate, security gate) with internal security gates to separate retail parking from resident parking areas. Ramp grades have been designed in accordance with the requirements of AS/NZS2890.1:2004. Appropriate measures (such as warning lights and signage) will allow appropriate use of the dock and interaction between pedestrians and service vehicles, especially when vehicles are exiting the dock.

The full review is included in Appendix C.

5. TRAFFIC IMPACT ASSESSMENT

05

5.1. Traffic Generation

5.1.1. Existing Uses

As discussed, the site is currently occupied by industrial uses with shop fronts, and other local businesses. Reference has been made to the Roads and Maritime Guide to Traffic Generating Developments (Guide) 2002 and Technical Direction: Updated Traffic Surveys (TDT 2013/ 04a) for estimating the existing traffic generation of the site.

TDT 2013/ 04a indicates a traffic generation rate of 1.5 trips per 100 square metres GFA based on surveys of similar land uses and accessibility. This is considered a similar land use to the existing site being mostly industrial in nature, with added generation attributed to the retail shop fronts open to customers.

The existing uses currently cover approximately 5,100 square metres of GFA, resulting in an anticipated traffic generation of 77 vehicle trips in any peak hour. Considering the majority of the existing businesses operate during the road network peaks on Saturdays, these estimations have been adopted for the weekday AM and PM, and Saturday midday peak periods.

5.1.2. Proposed Uses

TDT 2013/ 04a specifies traffic generation rates of 0.19, 0.15 and 0.25 trips per dwelling for high density residential flats in the weekday AM and PM, and Saturday midday peak hours respectively. These rates are based on surveys of residential apartments across Sydney which are greater than six storeys, close to public transport and almost exclusively residential in nature, all of which are characteristics of the proposed development.

The Guide 2002 also specifies rates for supermarkets and specialty retail during the peak Thursday PM and Saturday midday periods, as summarised in Table 5.1. Due to less activity associated with the retail uses in the weekday AM peak hour, a 50 per cent reduction on the PM peak hour rate has been applied.

Estimates of peak hour traffic volumes resulting from the proposal are set out in Table 5.1.

Table 5.1: Traffic generation estimates

Use	Size	Traffic generation rate (trips/ hour)			Traffic generation estimates (trips/ hour)		
		AM	PM	Saturday	AM	PM	Saturday
Residential	272 apartments	0.19/ dwelling	0.15/ dwelling	0.25/ dwelling	52	41	68
Retail (supermarket)	1,500m^2 GFA	7.8/ 100m^2 GLFA	15.5/ 100m^2 GLFA	14.7/ 100m^2 GLFA	117	233	221
Retail (specialty retail)	887m^2 GFA	2.3/ 100m^2 GLFA	4.6/ 100m^2 GLFA	10.7/ 100m^2 GLFA	20	41	95
Total					**189**	**315**	**384**

Table 5.1 indicates that the site could potentially generate up to 315 vehicle trips during the weekday PM peak hour and 384 vehicle trips during the Saturday midday peak hour.

The retail rates have been reduced by 20 per cent in accordance with the Roads and Maritime Guide to take into account internal trips from residents of the development. Linked trips, in which retail customers visit the retail shops as part of their normal trip past the site would also occur and do not contribute to 'new' trips associated with the proposed development. That said, a conservative approach has been adopted, with a reduction applied to account for internal trips only forming part of the traffic assessment. This results in traffic generation estimates of 162, 259 and 321 vehicle trips during the weekday AM and PM, and Saturday midday peak hours, respectively.

5.1.3. Summary

Considering the existing land uses, Table 5.2 provides a summary of the anticipated net change in traffic generation associated with the proposed development.

Table 5.2: Net post development traffic generation

Use	Traffic generation estimates (trip/ hour)		
	AM	PM	Saturday
Existing uses	-77	-77	-77
Development proposal	162	259	321
Net change	**85**	**182**	**244**

Table 5.2 indicates that the proposed development would generate a net increase of between approximately 90 and 240 vehicle trips during any peak hour.

5.2. Distribution and Assignment

The directional distribution and assignment of traffic generated by the proposed development will be influenced by several factors, including the:

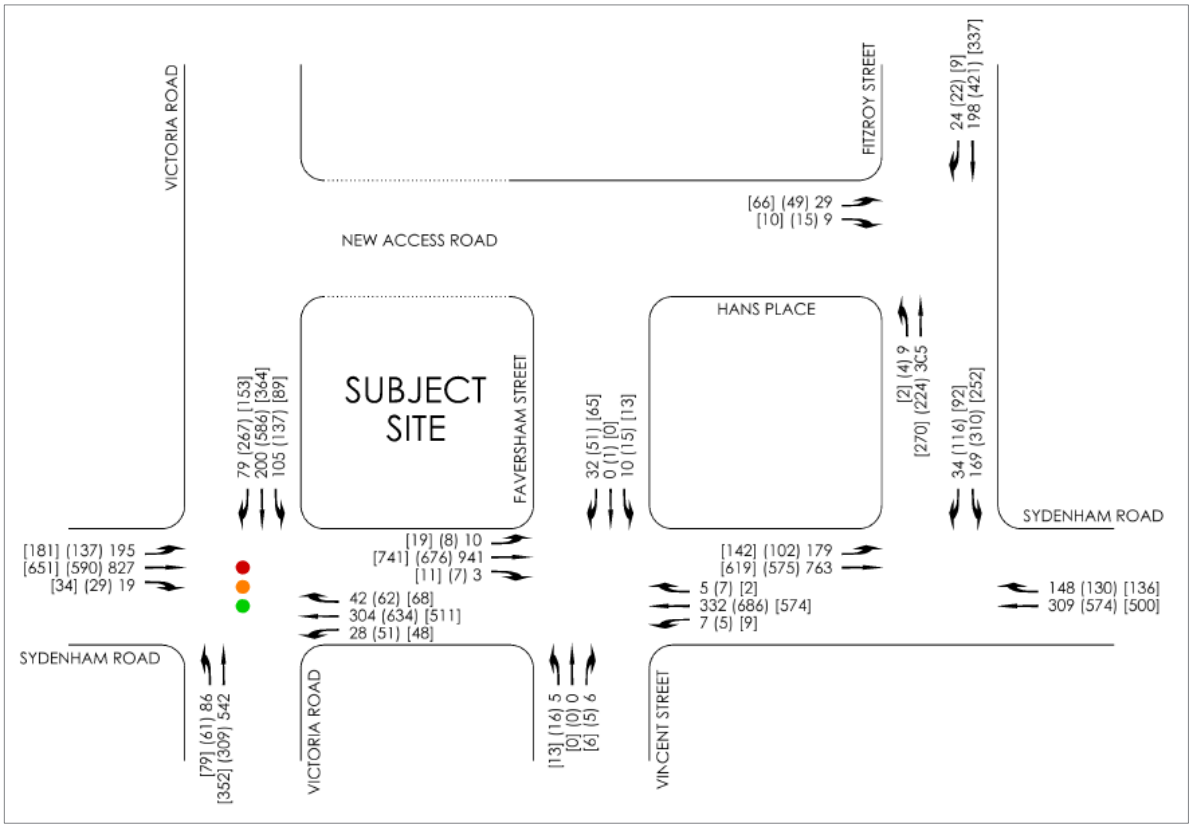
- configuration of the arterial road network in the immediate vicinity of the site
- existing operation of intersections providing access between the local and arterial road network
- distribution of households in the vicinity of the site
- surrounding employment centres, retail centres and schools in relation to the site
- likely distribution of employee's residences in relation to the site
- configuration of access points to the site.

Having consideration to the above, and for the purposes of estimating vehicle movements, the directional distributions have been adopted as part of this assessment, with SIDRA INTERSECTION modelling of the key intersections reflecting the likely future traffic volumes at key intersections.

In addition, the directional split of traffic (i.e. the ratio between the inbound and outbound traffic movements) of 80 per cent outbound and 20 per cent inbound has been applied to residential trips during the weekday AM peak hour (reversed for the weekday PM). A 50:50 directional split has been applied to retail trips in all peak hours, along with residential trips during the Saturday midday peak period.

Based on the above, Figure 5.1 has been prepared to show the estimated turning movements near the site following full site development.

Figure 5.1: Existing plus development peak hour traffic volumes – weekday AM (PM) [Sat]



5.3. Traffic Impact

5.3.1. Intersection Operation

The key surveyed intersections near the site have been modelled with the anticipated additional traffic from the proposed development. Table 5.3 provides a summary of the SIDRA modelling results.

Table 5.3: Post development operating conditions

Intersection	Peak	Degree of Saturation (DoS)	Average Delay (sec)	95th Percentile Queue (m)	Level of Service (LoS)
Sydenham Road/ Victoria Road	AM	0.76	32	259	C
	PM	0.92	32	189	C
	Sat	0.93	36	208	C
Sydenham Road/ Faversham Street	AM	0.22	26	5	B
	PM	0.53	55	15	D
	Sat	0.40	29	10	C
Sydenham Road/ Fitzroy Street	AM	0.39	57	11	E
	PM	0.82	66	32	E
	Sat	0.68	52	21	D
Hans Place/ Fitzroy Street	AM	0.04	7	1	A
	PM	0.07	8	2	A
	Sat	0.07	8	2	A

Table 5.3 indicates that the key surveyed intersections will continue to operate satisfactorily in the all peak periods. The Sydenham Road/ Fitzroy Street intersection is already operating close to capacity, with the proposed development unlikely to materially change the overall intersection operation.

The Sydenham Road/ Victoria Road intersection is expected to experience a minor increase in 95th percentile queues of up to six metres (one car) and delays of up to three seconds in any peak hour. Overall, the existing level of service is expected to be maintained during the respective peak hours.

The Sydenham Road/ Faversham Street intersection is expected to experience some change to delay, primarily for the right turns from Faversham Street. Notwithstanding, delays are expected to remain within satisfactory levels of service in all peak hours.

The Sydenham Road/ Fitzroy Street intersection is expected to experience a minor increase in delay (of one second) for the right turn from Fitzroy Street during the AM peak hour. The weekday PM and Saturday midday peak hours are expected to continue operating at a LoS E and D respectively, similar to existing conditions.

Minimal delay and queuing are expected at the Hans Place/ Fitzroy Street intersection in all peak hours.

Against existing traffic volumes in the vicinity of the site, the additional traffic generated by the proposed development could not be expected to compromise the safety or function of the surrounding road network.

5.3.2. Site Access

No direct access to the basement car park is proposed via Victoria Road. Access is proposed via a one-way eastbound shareway to allow entry from Victoria Road, access to on-site loading and basement parking, and exit to Hans Place to the east. The shareway is proposed adjacent to the northern boundary and north of Sydenham Road and is in the same location as an existing access road. Consolidating the site access into a single crossover will also reduce conflict of multiple turning movements in several locations and maintain a more consistent layout along Victoria Road.

With some queuing for southbound vehicles on approach to the Sydenham Road traffic signals, there may be some delay associated with vehicles turning right into the site, across this traffic stream. Such arrangements are reasonably common in high density urban environments with some degree of traffic congestion.

The Victoria Road/ Sydenham Road intersection configuration is also understood to be under review with upgrades proposed. These upgrades include road widening on the western side of Victoria Road north of Sydenham Road to accommodate a left turn slip lane for the Sydenham Road western approach and dedicated right turn bay on Victoria Road northern approach. No stopping zones are also proposed along Victoria Road on both sides of the road from north of the proposed site entry driveway south to Sydenham Road. GTA has modelled post development traffic conditions at the proposed site entry driveway on Victoria Road during the weekday morning and afternoon, and Saturday midday peak periods. The results indicate that under each scenario, there is no discernible queuing on Victoria Road (less than three vehicles) nor delay (up to five seconds) for northbound vehicles on Victoria Road in any peak period.

It is also noted that existing arrangements include a total of 12 crossovers to Victoria Road, each providing direct access for both north and south bound vehicles. Under the proposal, these 12 driveways will be removed and replaced with the single shareway from Victoria Road thus improving vehicle, cyclist and pedestrian amenity. Considering the above and the available sight lines, the proposed access arrangements would significantly improve existing arrangements and likely contribute to reduced delay to Victoria Road through traffic.

6. OVERVIEW GREEN TRAVEL PLAN

06

6.1. Introduction

6.1.1. Travel plan framework

Transport is a necessary part of life, but it has economic, public health and environmental consequences. The transport sector is one of the fastest growing emissions sectors in Australia, and therefore is one of the key opportunities for reducing greenhouse gases. As well as delivering better environmental outcomes, providing a range of travel choices with a focus on walking, cycling and public transport will have major public health benefits and will ensure a strong and prosperous community.

The physical infrastructure being provided as part of the development is only part of the solution. A green travel plan will ensure that the transport infrastructure, services and policies both within and external to the site are tailored to the users and co-ordinated to achieve the most sustainable outcome possible.

6.1.2. What is a Green Travel Plan

A green travel plan is a package of measures aimed at promoting sustainable travel and reducing reliance on the private car. It is not designed to be 'anti-car' however will encourage and support people's aspirations for carrying out their daily business in a more sustainable way. Travel plans can provide both:

- measures which restrict car use (disincentives or 'sticks')
- measures which encourage or support sustainable travel, reduce the need to travel or make travelling more efficient (incentives or 'carrots').

The travel plan would promote the use of transport, other than the private car, provide choice for staff to travel to and from the site, which is more sustainable and environmentally friendly.

Indeed, there are a range of "non-car" transport options that are available at the site which have been described in this report.

Given the developments aim to reduce private travel to the site, the implementation of a green travel plan would be beneficial.

6.2. Key objectives

The aim of the green travel plan is to bring about better transport arrangements for living and working at the site. The key objectives of the Travel Plan are:

- to encourage walking
- to encourage cycling
- to encourage the use of public transport
- to reduce the use of the car, in particular single car occupancy
- where it is necessary to use the car, encourage more efficient use.

It is the intention therefore that the travel plan will deliver the following benefits:

- enable higher public and active travel mode share targets to be achieved
- contribute to greenhouse gas emission reductions and carbon footprint minimisation
- contribute to healthy living for all
- contribute to social equity and reduction in social exclusion
- improve knowledge and contribute to learning.

6.3. Site specific measures

The location of the site, in terms of its proximity to a wide range of sustainable transport including Sydenham Station and bus routes along Victoria Road, is a key consideration for development in the precinct. A GTP will put in place measures to raise awareness and further influence the travel patterns of people living, working or visiting the site with a view to encouraging modal shift away from cars.

The following potential measures and initiatives could be implemented to encourage more sustainable travel modes:

1. Limiting on-site parking provision.
2. Provide a Travel Access Guide (TAG) which would be provided to all residents and staff and publicly available to all visitors. The document would be based on facilities available at the site and include detail on the surrounding public transport services and active transport initiatives. The TAG would be updated as the surrounding transport environment changes.
3. Providing public transport information boards/ apps to inform residents, staff and visitors of alternative transport options (the format of such information boards would be based upon the TAG).
4. Providing a car sharing pod(s) on-site or nearby and promoting the availability of car sharing pods for trips that require the use of private vehicles.
5. Providing bicycle facilities including secure bicycle parking for staff, bicycle racks/ rails for visitors and shower and change room facilities.
6. Encouraging staff that drive to work and park on surrounding roads to carpool through creation of a carpooling club or registry/ forum.
7. Regularly promoting ride/ walk to work days.
8. Providing a regular newsletter to all residents and staff members bringing the latest news on sustainable travel initiatives in the area.

6.3.1. Travel Access Guide

A TAG provides information to residents, staff and visitors on how to travel to the site using sustainable transport modes such as walking and public transport. The information is presented visually in the format of a map (or app) showing the site location and nearby transport modes highlighting available pedestrian and cycle routes. The information is usually presented as a brochure (or app) to be included in a welcome pack or on the back of company stationery and business cards.

6.3.2. Information and communication

Several opportunities exist to provide residents, staff and visitors with information about nearby transport options. Connecting residents, staff and visitors with information would help to facilitate journey planning and increase their awareness of convenient and inexpensive transport options which support change in travel behaviour. These include:

- Transport NSW provides bus, train and ferry routes, timetables and journey planning through their Transport Info website: http://www.transportnsw.info.

Council provides a number of services and a range of information and events to encourage people of all levels of experience to travel by bicycle: https://www.innerwest.nsw.gov.au/explore/parks-sport-and-recreation/walking-and-cycling.

In addition, connecting residents, staff and visitors via social media may provide a platform to informally pilot new programs or create travel-buddy networks and communication.

6.3.3. Monitoring of the GTP

There is no standard methodology for monitoring the GTP, but it is suggested that it be monitored to ensure that it is achieving the desired benefits and modify it if required. It will not be possible at this stage to state what additional modifications might be made as this will be dependent upon the particular circumstances prevailing at that time.

The GTP should be monitored on a regular basis, e.g. yearly, by carrying out travel surveys. Travel surveys will allow the most effective initiatives of the GTP to be identified, and conversely less effective initiatives can be modified or replaced to ensure the best outcomes are achieved. It will clearly be important to understand people's reasons for travelling the way they do: - any barriers to changing their behaviour, and their propensity to change.

To ensure the successful implementation of the GTP, a Travel Plan Coordinator (TPC) should be appointed to ensure the successful implementation of the GTP. This could be the building manager or a member of the body corporate.

6.4. Summary

The proposed development would be able to develop and utilise a travel plan to actively promote increased use of sustainable transport modes. Although it is difficult to predict what measures might be achievable, the above measures provide a framework for the site and implementation of a future travel plan.

7. CONCLUSION

07

CONCLUSION

Based on the analysis and discussions presented within this report, the following conclusions are made:

1. The proposed development generates a DCP 2011 parking requirement of 325 spaces, for those uses with nominated rates.
2. The proposed supply of 306 spaces is marginally less than the DCP 2011 parking requirement however is considered appropriate having consideration to the intent of the Victoria Road Precinct, locality to future Sydney Metro, the proposed mixed land uses that encourage internal trips and comparison with surrounding DCPs.
3. A green travel plan could be implemented as a way of limiting the parking and travel demand of the site.
4. The proposed parking layout is generally consistent with the dimensional requirements as set out in the Australian/New Zealand Standard for Off Street Car Parking (AS/NZS2890.1:2004 and AS/NZS2890.6:2009) and Off-Street Commercial Vehicle Facilities (AS2890.2-2018).
5. The proposed development includes 159 secure resident bicycle cages, nine staff bicycle racks and 32 publicly accessible racks and exceeds DCP 2011 requirements.
6. The proposed loading dock accommodates all relevant service vehicles up to large rigid trucks and is considered acceptable.
7. The site is expected to generate a net increase of up to 90, 180 and 240 vehicle trips in the weekday AM and PM, and Saturday midday peak hours respectively.
8. There anticipated increase in traffic volumes is not expected to compromise the safety or existing functionality of the surrounding road network.
9. Considering the planned upgrades of the Victoria Road/ Sydenham Road intersection and the consolidation of driveways as a result of the proposal, the proposed access arrangements would significantly improve existing arrangements and likely contribute to reduced delay to Victoria Road through traffic.

A. SURVEY RESULTS

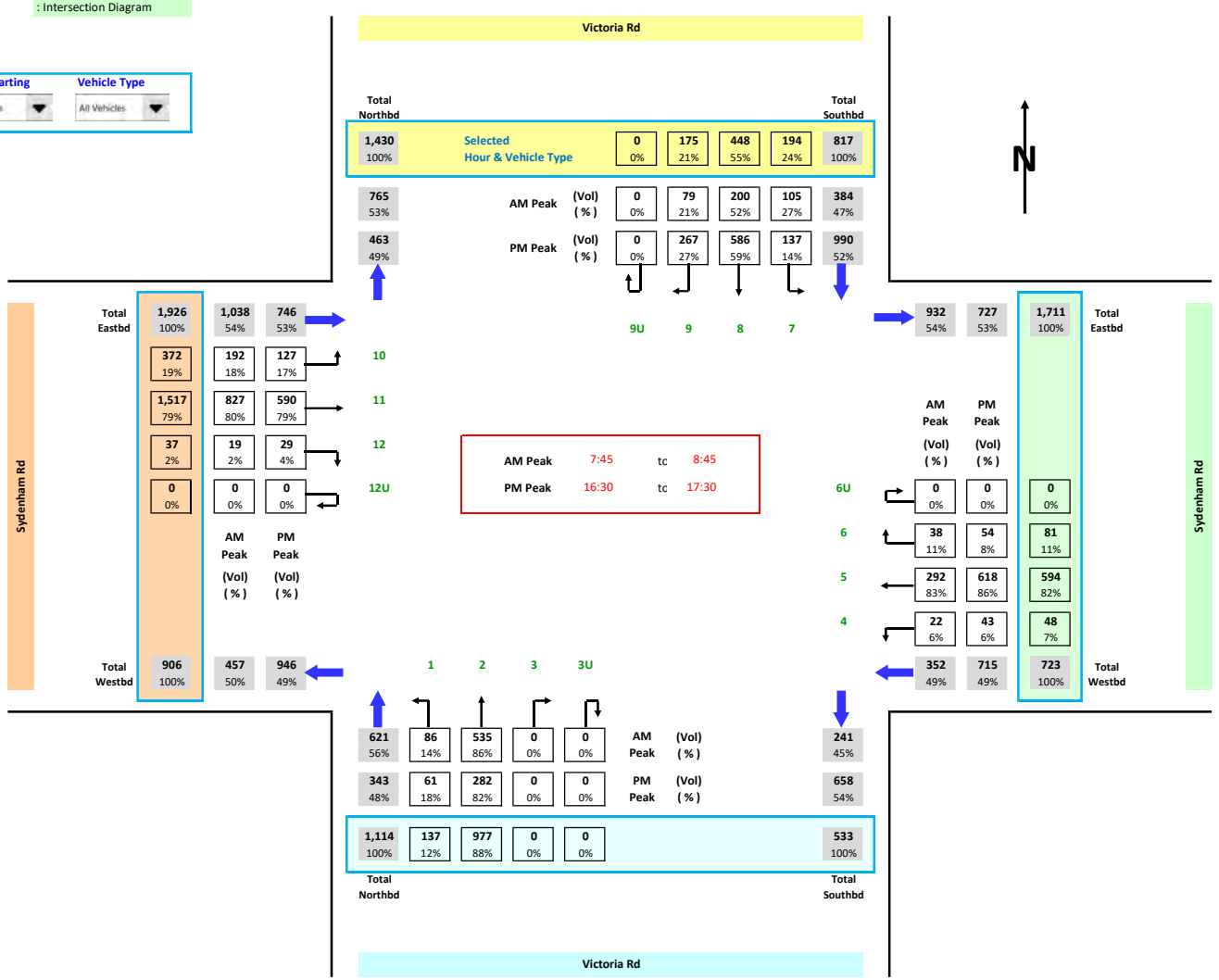
A

Job No. : N4660
Client : GTA
Suburb : Sydenham Rd
Location : 1. Sydenham Rd / Victoria Rd

Day/Date : Thu, 6th Dec 2018
Weather : Fine
Description : Classified Intersection Count
: Intersection Diagram

MATRIX Traffic and Transport Data

Hour Starting AM Totals **Vehicle Type** All Vehicles

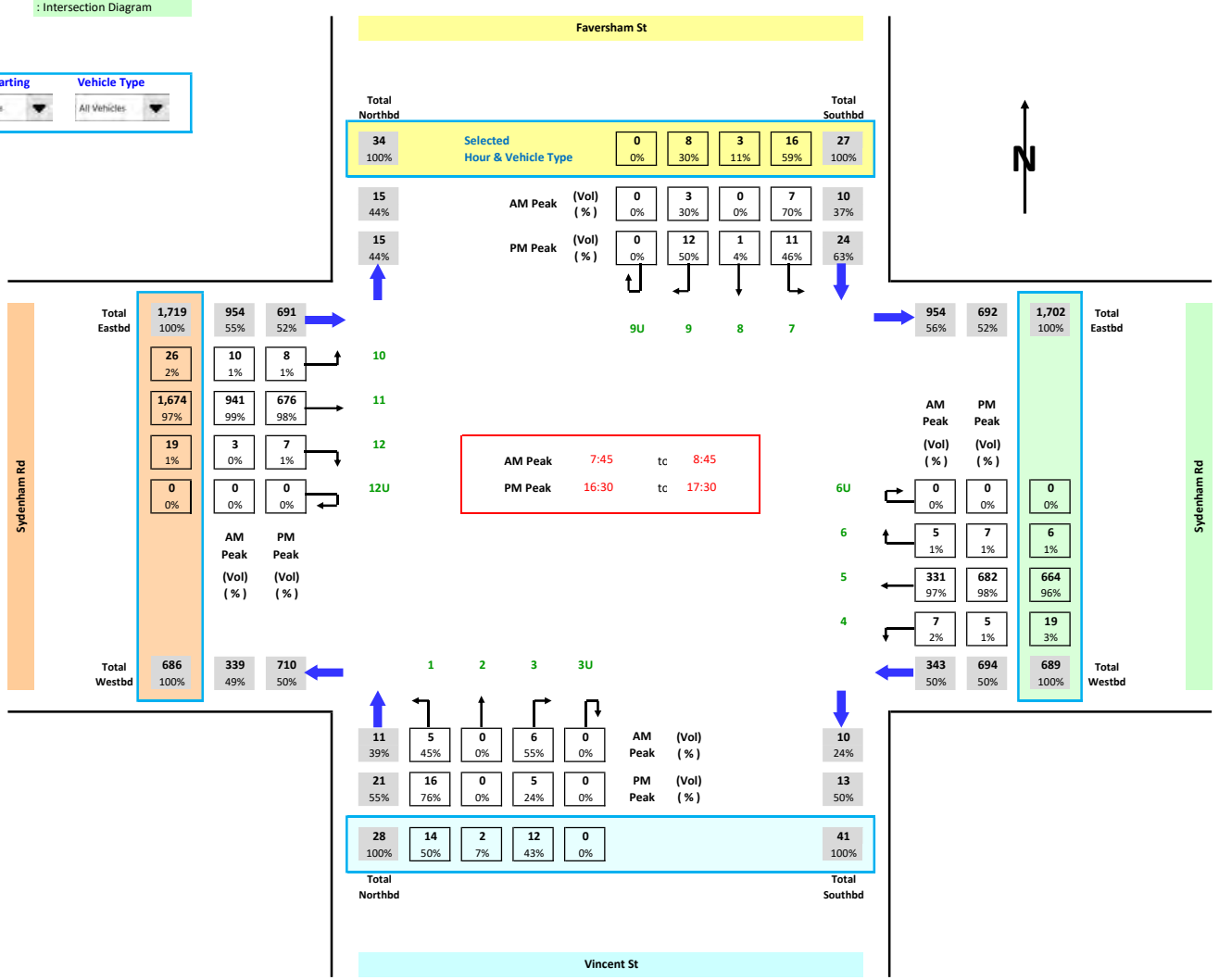


Job No. : N4660
Client : GTA
Suburb : Sydenham Rd
Location : 2. Sydenham Rd / Faversham St

Day/Date : Thu, 6th Dec 2018
Weather : Fine
Description : Classified Intersection Count
: Intersection Diagram

MATRIX Traffic and Transport Data

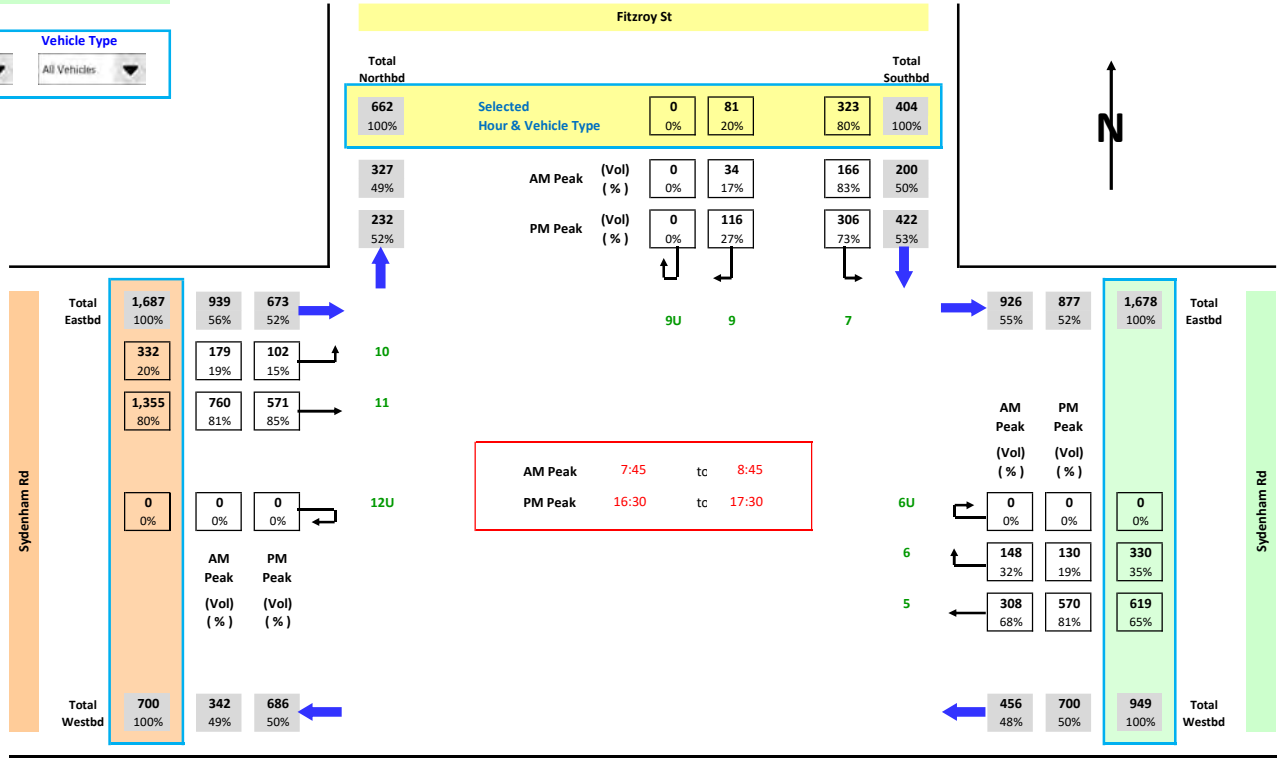
Hour Starting AM Totals **Vehicle Type** All Vehicles



Job No. : N4660
Client : GTA
Suburb : Sydenham Rd
Location : 3. Sydenham Rd / Fitzroy St

Day/Date : Thu, 6th Dec 2018
Weather : Fine
Description : Classified Intersection Count
: Intersection Diagram

Hour Starting AM Totals **Vehicle Type** All Vehicles

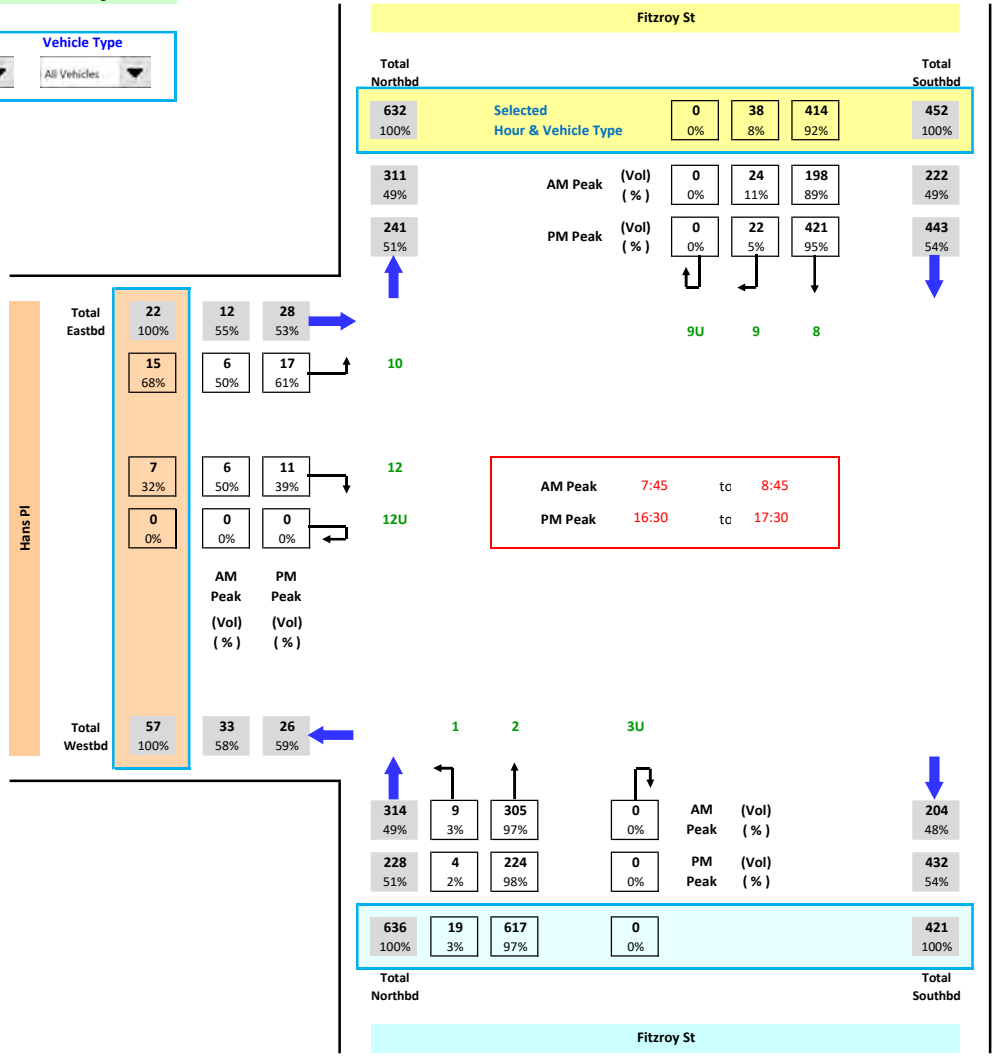


Job No. : N4660
Client : GTA
Suburb : Sydenham Rd
Location : 4. Fitzroy St / Hans Pl

Day/Date : Thu, 6th Dec 2018
Weather : Fine
Description : Classified Intersection Count
: Intersection Diagram

MATRIX Traffic and Transport Data

Hour Starting AM Totals
Vehicle Type All Vehicles

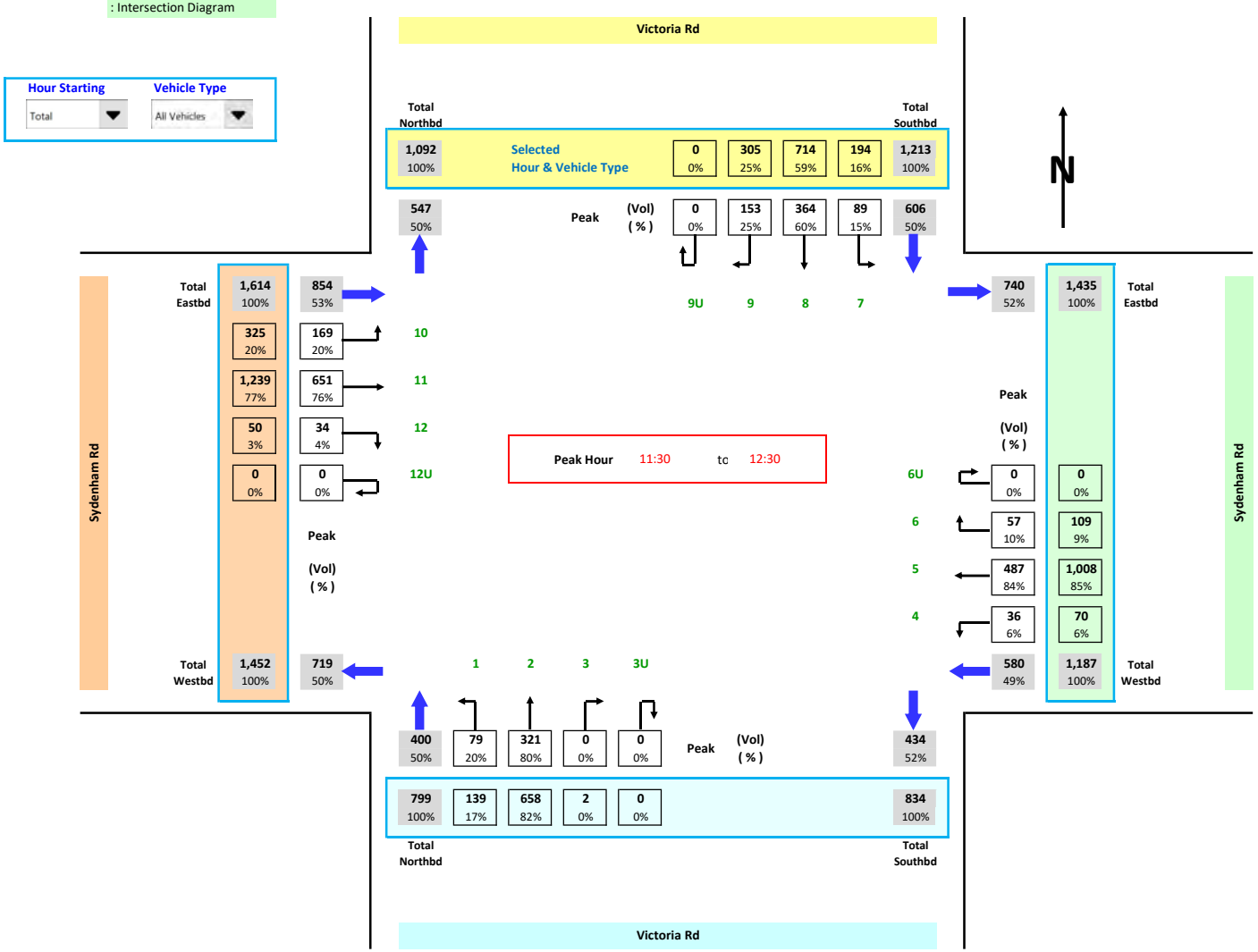


N

Job No. : N4660
Client : GTA
Suburb : Sydenham Rd
Location : 1. Sydenham Rd / Victoria Rd

Day/Date : Sat, 01st December 2018
Weather : Fine
Description : Classified Intersection Count
: Intersection Diagram

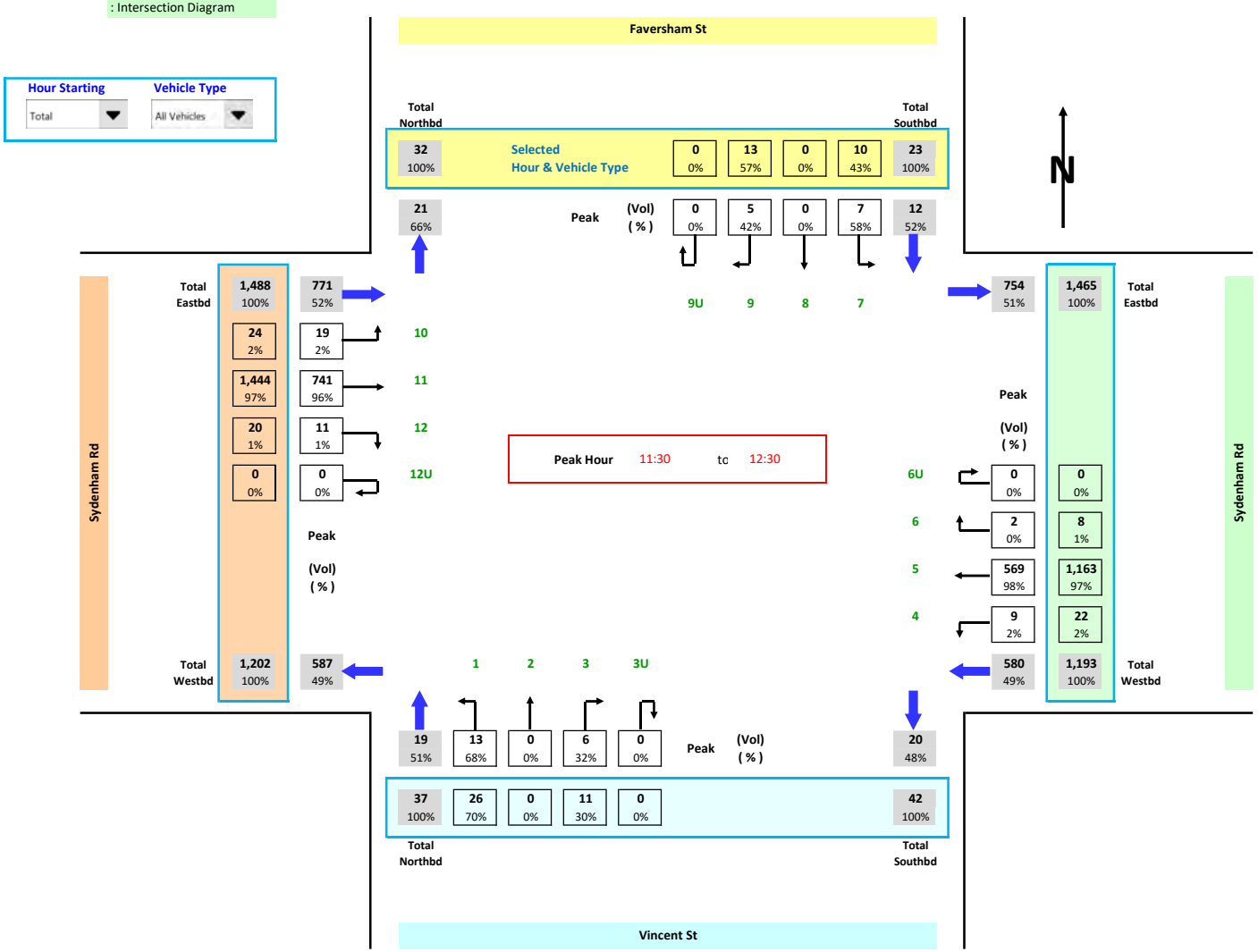
MATRIX Traffic and Transport Data



Job No. : N4660
Client : GTA
Suburb : Sydenham Rd
Location : 2. Sydenham Rd / Faversham St

Day/Date : Sat, 01st December 2018
Weather : Fine
Description : Classified Intersection Count
: Intersection Diagram

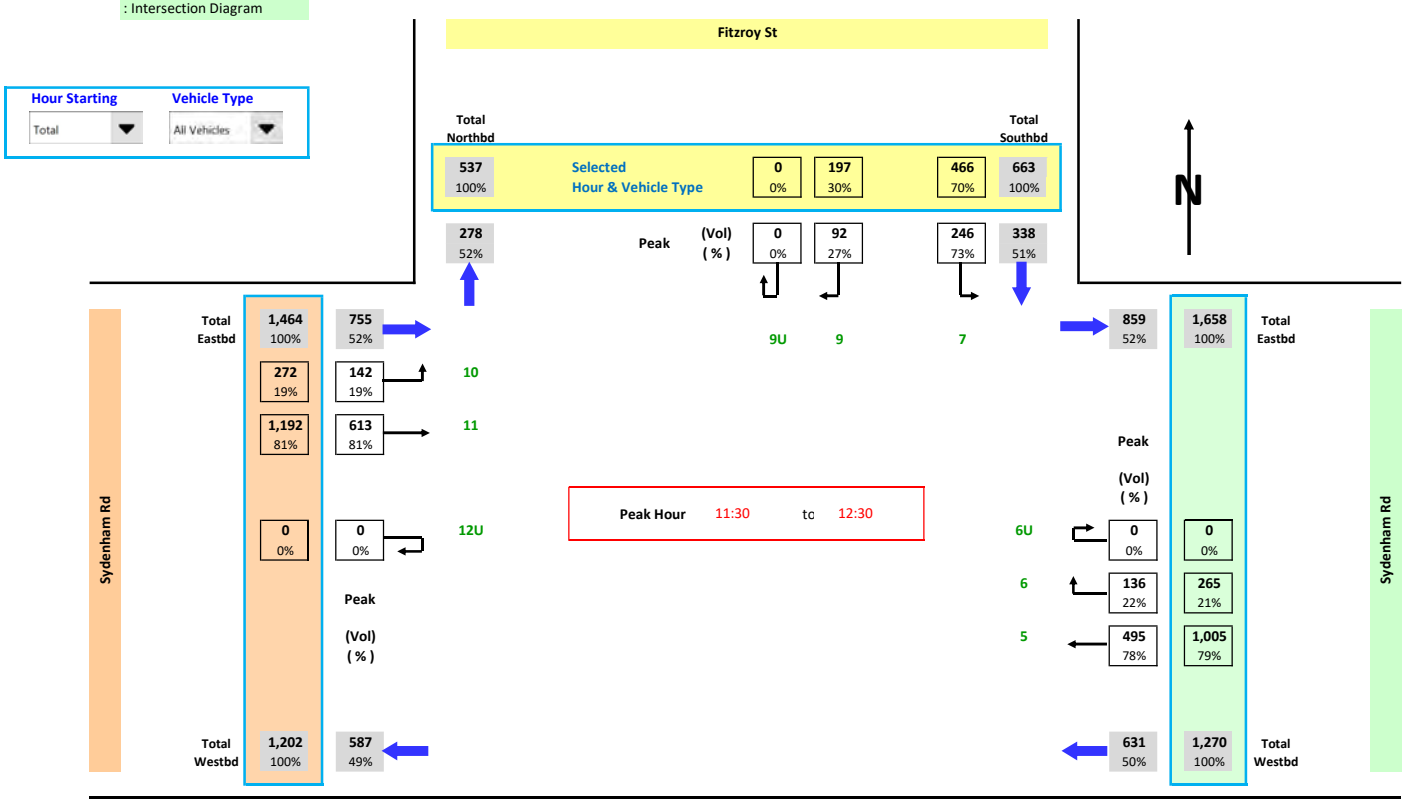
MATRIX Traffic and Transport Data



Job No. : N4660
Client : GTA
Suburb : Sydenham Rd
Location : 3. Sydenham Rd / Fitzroy St

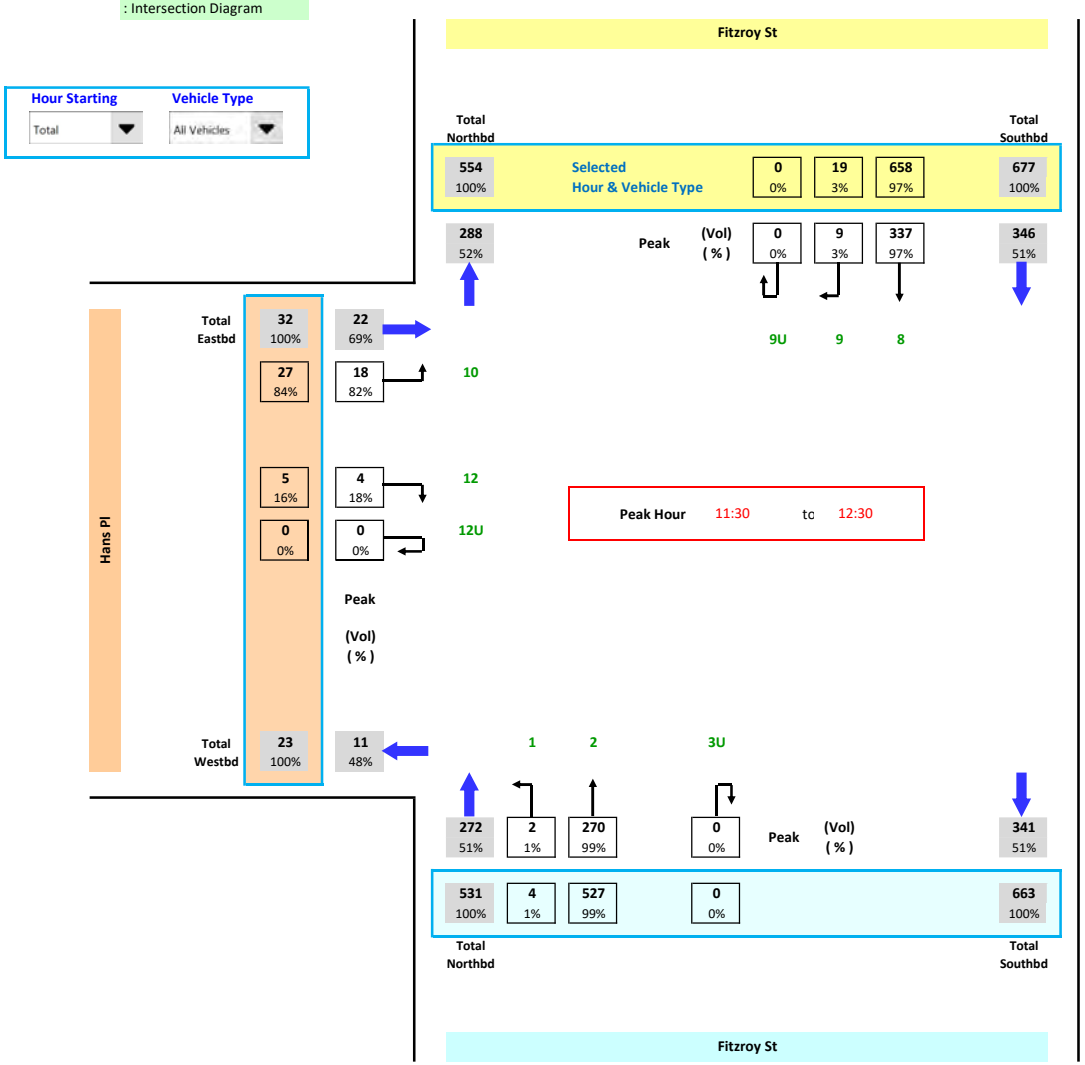
Day/Date : Sat, 01st December 2018
Weather : Fine
Description : Classified Intersection Count
: Intersection Diagram

MATRIX Traffic and Transport Data



Job No. : N4660
Client : GTA
Suburb : Sydenham Rd
Location : 4. Fitzroy St / Hans Pl

Day/Date : Sat, 01st December 2018
Weather : Fine
Description : Classified Intersection Count
: Intersection Diagram



B. SIDRA RESULTS

B

USER REPORT FOR SITE

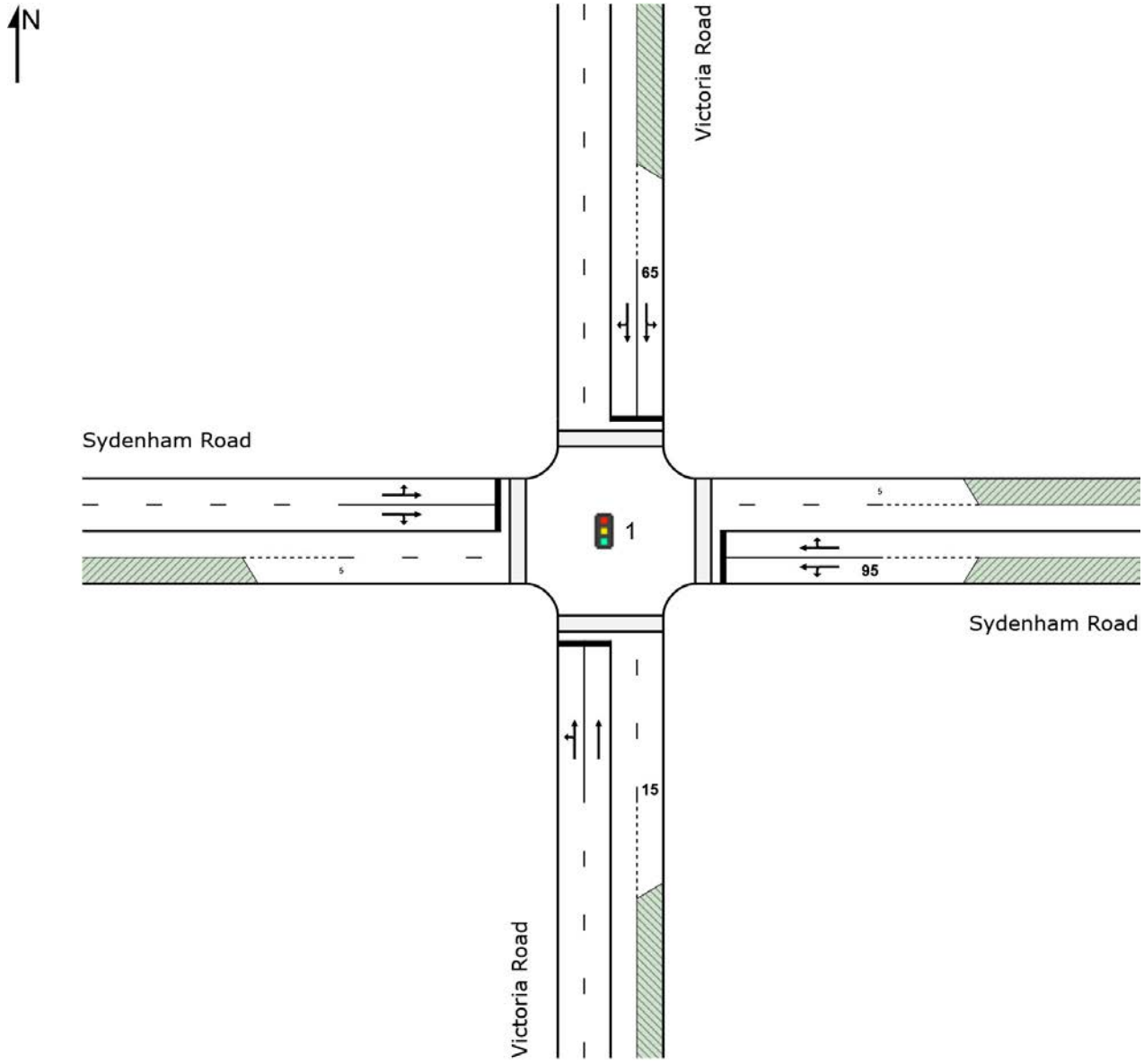
Project: 190108-N156270 Wicks Park, Marrickville Existing | **Template: Default Site User Report**

Site: 1 [1 Victoria/ Sydenham AM EX]

Site Category: -
Signals - Fixed Time Coordinated Cycle Time = 110 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Variable Phasing
Reference Phase: Phase A
Input Phase Sequence: B, A, C
Output Phase Sequence: B, A, C

Site Layout

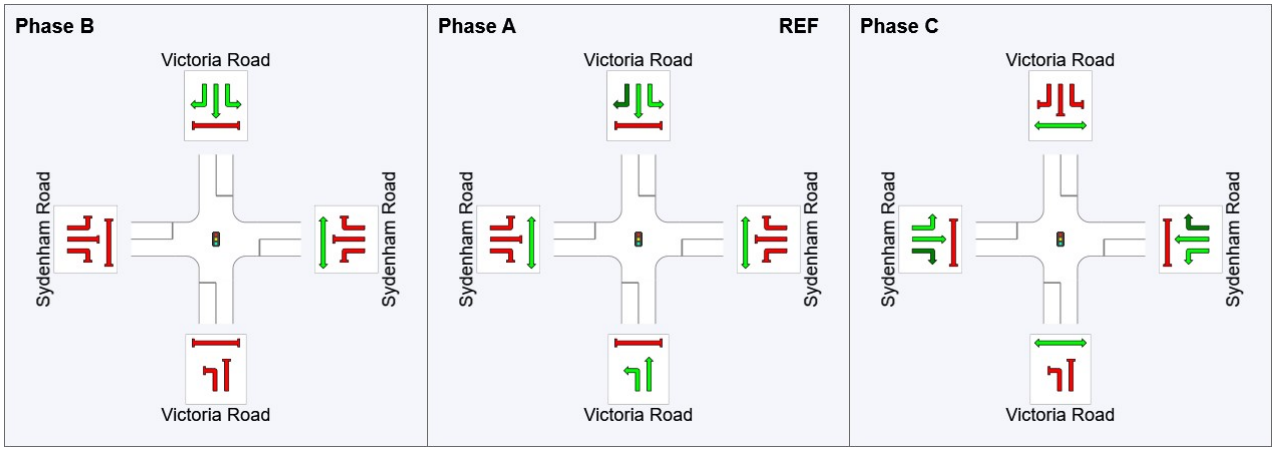


Movement Performance - Vehicles

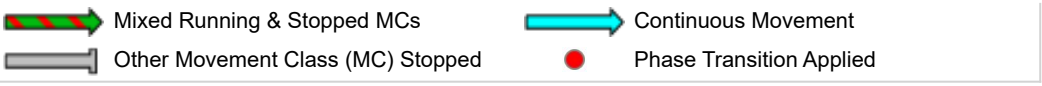
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Victoria Road												
1	L2	91	4.7	0.763	51.3	LOS D	16.9	125.0	0.99	0.90	1.07	22.0
2	T1	563	7.7	0.763	45.2	LOS D	17.6	131.4	0.99	0.90	1.07	28.1
Approach		654	7.2	0.763	46.1	LOS D	17.6	131.4	0.99	0.90	1.07	27.3
East: Sydenham Road												
4	L2	23	4.5	0.229	26.3	LOS B	6.0	45.4	0.66	0.58	0.66	32.5
5	T1	307	9.9	0.508	28.3	LOS B	8.7	65.9	0.77	0.67	0.77	21.4
6	R2	40	7.9	0.508	42.0	LOS C	8.7	65.9	0.89	0.76	0.89	24.8
Approach		371	9.4	0.508	29.7	LOS C	8.7	65.9	0.78	0.67	0.78	22.7
North: Victoria Road												
7	L2	111	7.6	0.229	26.3	LOS B	5.9	44.7	0.66	0.68	0.66	30.9
8	T1	211	11.5	0.510	22.5	LOS B	7.8	60.6	0.82	0.74	0.82	37.0
9	R2	83	13.9	0.510	29.0	LOS C	7.8	60.6	0.89	0.76	0.89	30.4
Approach		404	10.9	0.510	24.9	LOS B	7.8	60.6	0.79	0.73	0.79	34.3
West: Sydenham Road												
10	L2	202	3.6	0.336	25.8	LOS B	7.4	53.3	0.58	0.69	0.58	31.2
11	T1	871	6.9	0.748	25.6	LOS B	34.1	253.1	0.81	0.74	0.81	23.1
12	R2	20	15.8	0.748	31.7	LOS C	34.1	253.1	0.83	0.75	0.83	30.0
Approach		1093	6.5	0.748	25.8	LOS B	34.1	253.1	0.77	0.73	0.77	25.1
All Vehicles		2521	7.8	0.763	31.5	LOS C	34.1	253.1	0.83	0.77	0.85	27.2

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

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Phase Timing Summary

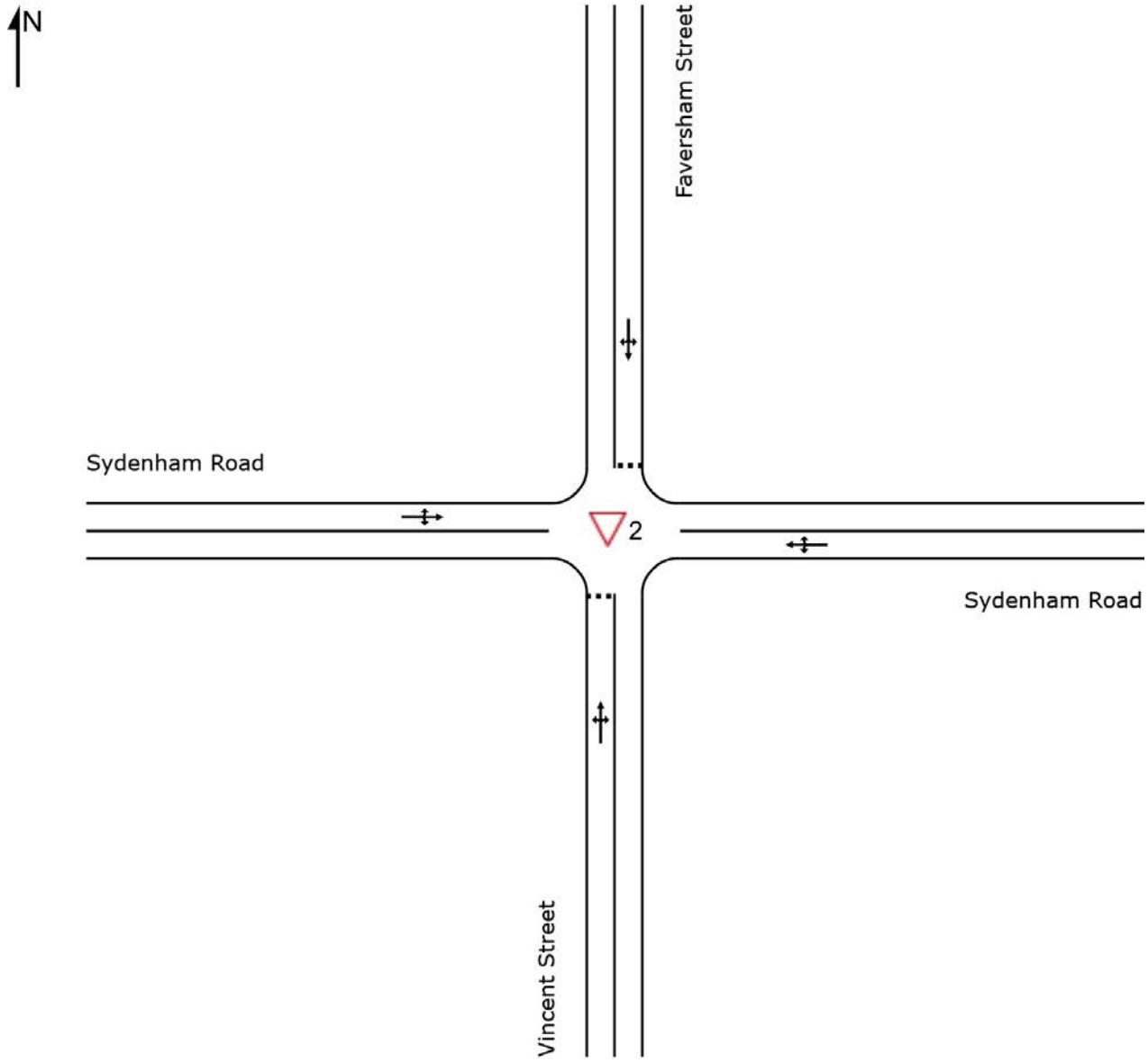
Phase	B	A	C
Phase Change Time (sec)	86	0	32
Green Time (sec)	18	26	48
Phase Time (sec)	24	32	54
Phase Split	22%	29%	49%

See the Phase Information section in the Detailed Output 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, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Site: 2 [2 Sydenham/ Faversham AM Ex]

Site Category: -
Giveway / Yield (Two-Way)

Site Layout



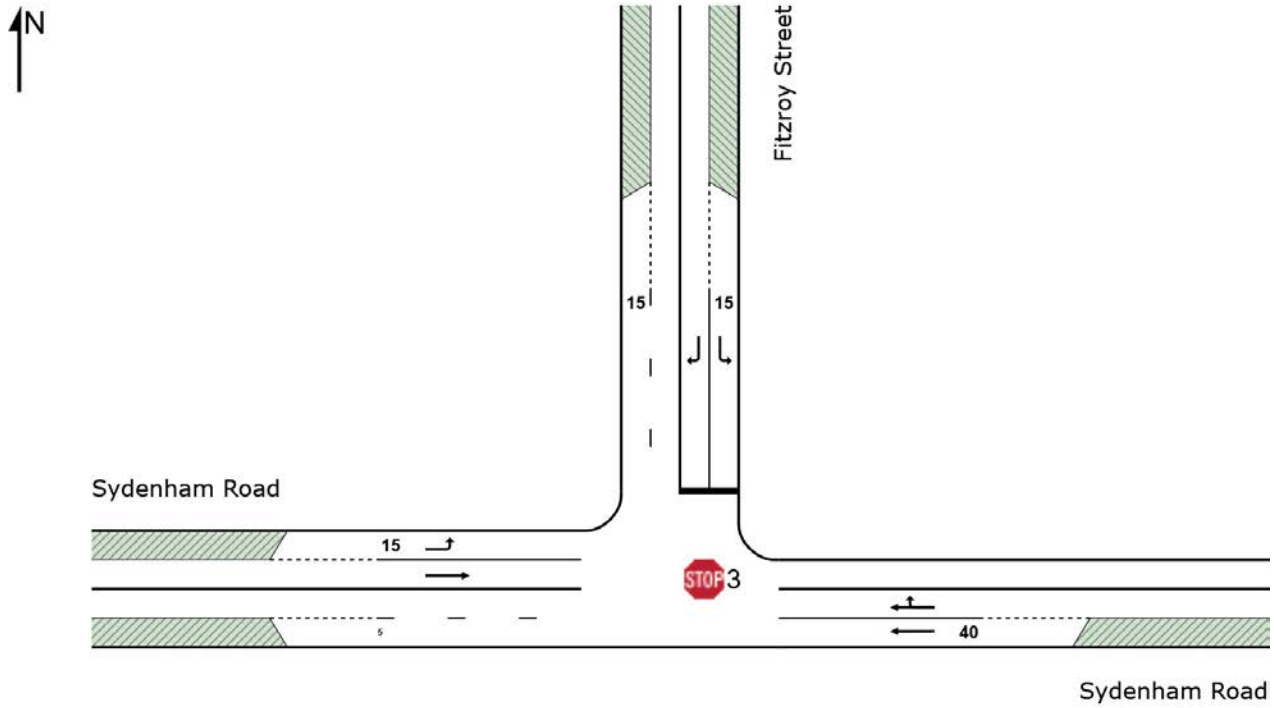
Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Vincent Street												
1	L2	5	0.0	0.046	5.8	LOS A	0.1	1.0	0.69	0.76	0.69	28.3
2	T1	1	0.0	0.046	19.0	LOS B	0.1	1.0	0.69	0.76	0.69	32.2
3	R2	6	0.0	0.046	23.7	LOS B	0.1	1.0	0.69	0.76	0.69	24.1
Approach		13	0.0	0.046	15.8	LOS B	0.1	1.0	0.69	0.76	0.69	26.7
East: Sydenham Road												
4	L2	7	0.0	0.205	10.8	LOS A	0.2	1.7	0.06	0.02	0.06	48.1
5	T1	348	10.9	0.205	0.4	LOS A	0.2	1.7	0.06	0.02	0.06	56.1
6	R2	5	0.0	0.205	13.2	LOS A	0.2	1.7	0.06	0.02	0.06	47.1
Approach		361	10.5	0.205	0.8	NA	0.2	1.7	0.06	0.02	0.06	55.6
North: Faversham Street												
7	L2	7	0.0	0.038	11.1	LOS A	0.1	0.9	0.78	0.87	0.78	24.4
8	T1	1	0.0	0.038	18.8	LOS B	0.1	0.9	0.78	0.87	0.78	32.6
9	R2	3	0.0	0.038	23.7	LOS B	0.1	0.9	0.78	0.87	0.78	31.2
Approach		12	0.0	0.038	15.2	LOS B	0.1	0.9	0.78	0.87	0.78	26.9
West: Sydenham Road												
10	L2	11	10.0	0.542	6.9	LOS A	0.1	0.9	0.01	0.01	0.01	50.9
11	T1	991	7.5	0.542	0.0	LOS A	0.1	0.9	0.01	0.01	0.01	59.3
12	R2	3	33.3	0.542	10.1	LOS A	0.1	0.9	0.01	0.01	0.01	47.8
Approach		1004	7.7	0.542	0.1	NA	0.1	0.9	0.01	0.01	0.01	59.1
All Vehicles		1389	8.3	0.542	0.6	NA	0.2	1.7	0.03	0.03	0.04	56.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 3 [3 Sydenham/ Fitzroy AM Ex]

Site Category: -
Stop (Two-Way)

Site Layout



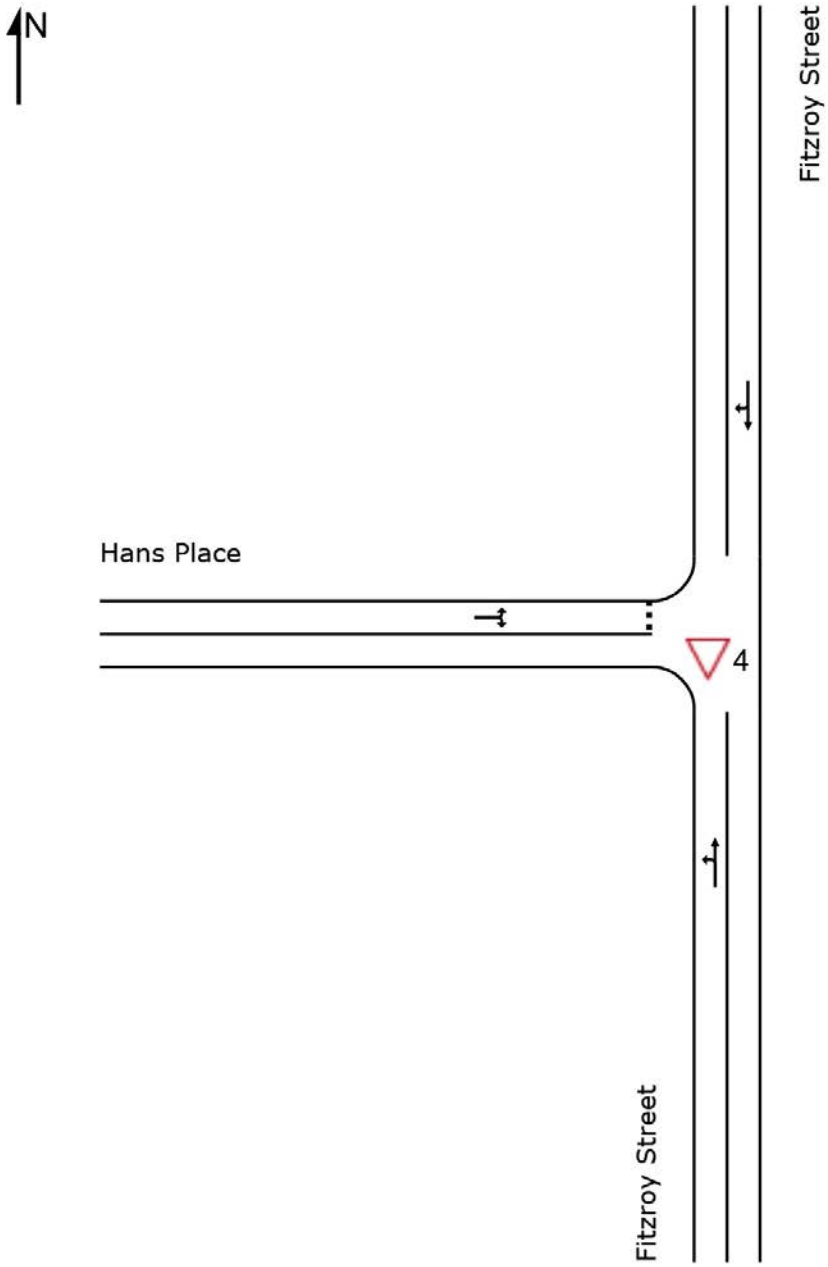
Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Sydenham Road												
5	T1	324	8.1	0.442	5.3	LOS A	3.8	28.4	0.40	0.26	0.59	43.2
6	R2	156	6.8	0.442	17.4	LOS B	3.8	28.4	0.82	0.52	1.20	34.8
Approach		480	7.7	0.442	9.2	NA	3.8	28.4	0.54	0.34	0.79	39.5
North: Fitzroy Street												
7	L2	175	9.6	0.456	20.0	LOS B	2.2	17.0	0.78	1.12	1.13	30.4
9	R2	36	29.4	0.383	56.3	LOS D	1.3	11.0	0.94	1.06	1.12	11.7
Approach		211	13.0	0.456	26.2	LOS B	2.2	17.0	0.81	1.11	1.13	25.9
West: Sydenham Road												
10	L2	188	12.3	0.110	4.3	LOS A	0.0	0.0	0.00	0.55	0.00	39.9
11	T1	800	6.3	0.427	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		988	7.5	0.427	0.8	NA	0.0	0.0	0.00	0.11	0.00	55.5
All Vehicles		1679	8.2	0.456	6.4	NA	3.8	28.4	0.26	0.30	0.37	42.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 4 [4 Fitzroy/ Hans AM Ex]

Site Category: -
Giveway / Yield (Two-Way)

Site Layout



Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Fitzroy Street												
1	L2	9	0.0	0.180	4.6	LOS A	0.0	0.0	0.00	0.02	0.00	48.6
2	T1	321	9.8	0.180	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	49.8
Approach		331	9.6	0.180	0.1	NA	0.0	0.0	0.00	0.02	0.00	49.8
North: Fitzroy Street												
8	T1	208	13.1	0.135	0.2	LOS A	0.2	1.7	0.11	0.06	0.11	48.9
9	R2	25	0.0	0.135	5.9	LOS A	0.2	1.7	0.11	0.06	0.11	47.7
Approach		234	11.7	0.135	0.8	NA	0.2	1.7	0.11	0.06	0.11	48.7
West: Hans Place												
10	L2	6	16.7	0.015	6.0	LOS A	0.0	0.4	0.42	0.60	0.42	43.5
12	R2	6	0.0	0.015	7.1	LOS A	0.0	0.4	0.42	0.60	0.42	39.5
Approach		13	8.3	0.015	6.5	LOS A	0.0	0.4	0.42	0.60	0.42	41.9
All Vehicles		577	10.4	0.180	0.6	NA	0.2	1.7	0.06	0.05	0.06	49.2

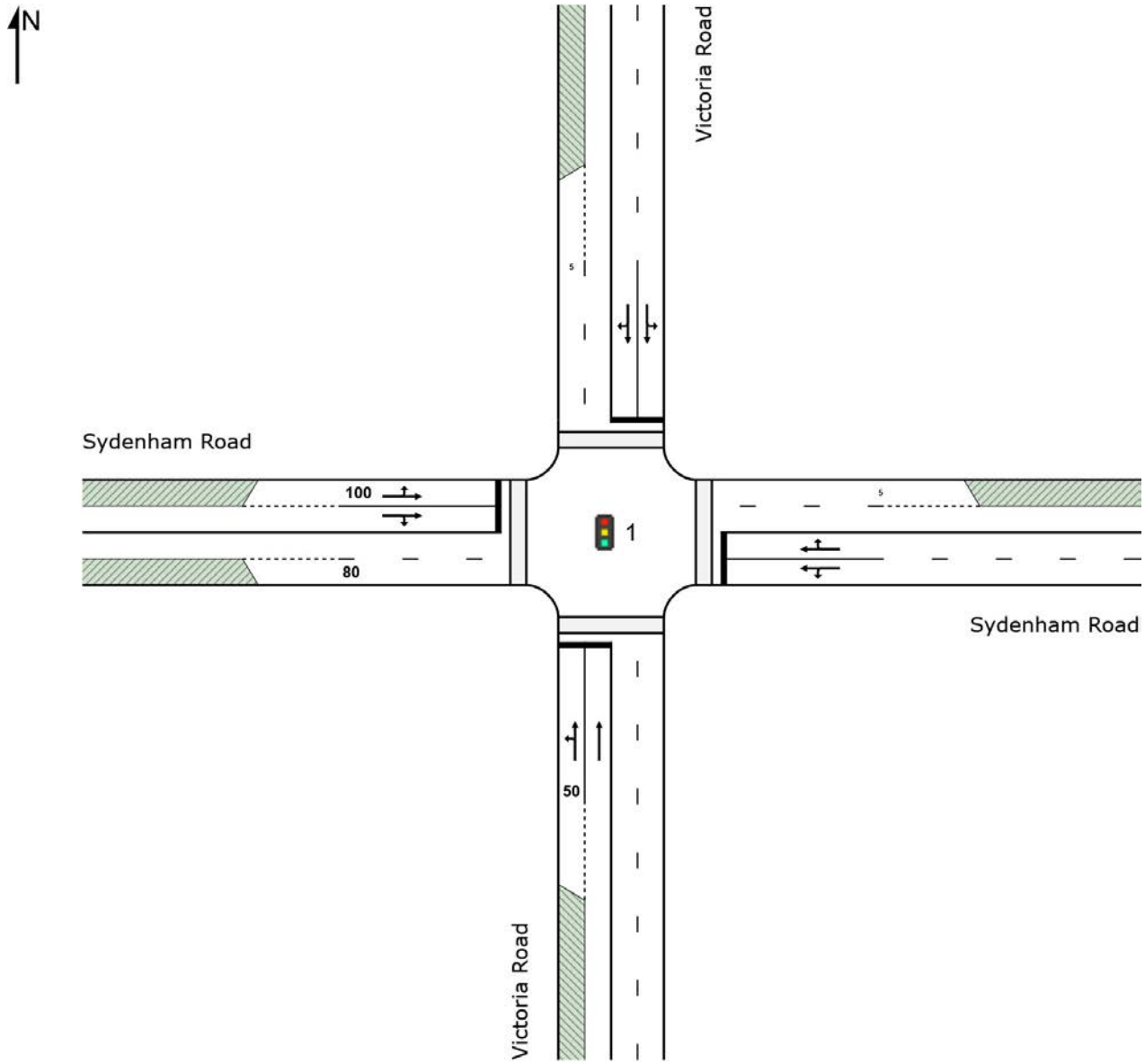
Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 1 [1 Victoria/ Sydenham PM Ex]

Site Category: -
Signals - Fixed Time Coordinated Cycle Time = 90 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Variable Phasing
Reference Phase: Phase A
Input Phase Sequence: B, A, C
Output Phase Sequence: B, A, C

Site Layout

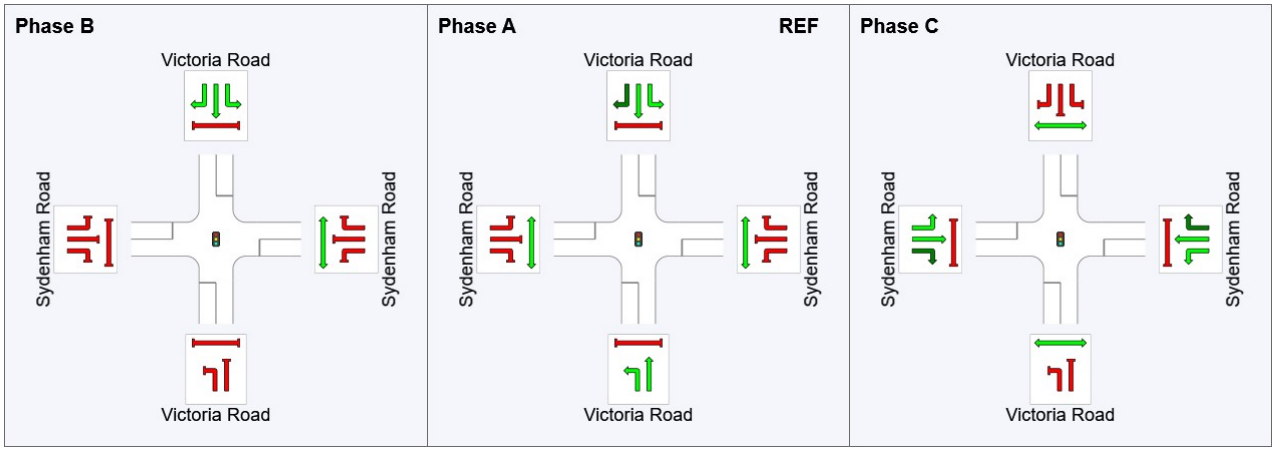


Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Victoria Road												
1	L2	64	1.6	0.398	44.6	LOS D	4.3	31.1	0.95	0.77	0.95	23.5
2	T1	297	6.7	0.884	49.5	LOS D	13.1	97.3	0.99	1.01	1.34	26.8
Approach		361	5.8	0.884	48.7	LOS D	13.1	97.3	0.99	0.97	1.27	26.3
East: Sydenham Road												
4	L2	45	0.0	0.383	25.5	LOS B	9.1	65.2	0.74	0.66	0.74	33.1
5	T1	651	3.4	0.851	31.8	LOS C	21.8	157.8	0.90	0.88	1.03	20.0
6	R2	57	5.6	0.851	44.8	LOS D	21.8	157.8	1.00	1.02	1.21	24.0
Approach		753	3.4	0.851	32.4	LOS C	21.8	157.8	0.90	0.88	1.02	21.2
North: Victoria Road												
7	L2	144	5.1	0.775	29.3	LOS C	25.0	182.7	0.91	0.85	0.94	30.6
8	T1	617	4.9	0.775	24.2	LOS B	25.0	182.7	0.92	0.86	0.97	36.5
9	R2	281	1.5	0.775	32.2	LOS C	13.9	99.4	0.98	0.90	1.12	28.2
Approach		1042	4.0	0.775	27.1	LOS B	25.0	182.7	0.93	0.87	1.01	33.6
West: Sydenham Road												
10	L2	134	0.8	0.281	23.1	LOS B	5.0	35.6	0.58	0.64	0.58	33.5
11	T1	621	2.0	0.624	24.9	LOS B	19.4	138.0	0.79	0.71	0.79	23.3
12	R2	31	3.4	0.624	31.5	LOS C	19.4	138.0	0.82	0.72	0.82	30.2
Approach		785	1.9	0.624	24.9	LOS B	19.4	138.0	0.76	0.70	0.76	25.7
All Vehicles		2941	3.5	0.884	30.5	LOS C	25.0	182.7	0.88	0.84	0.98	27.9

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

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

Phase Timing Summary

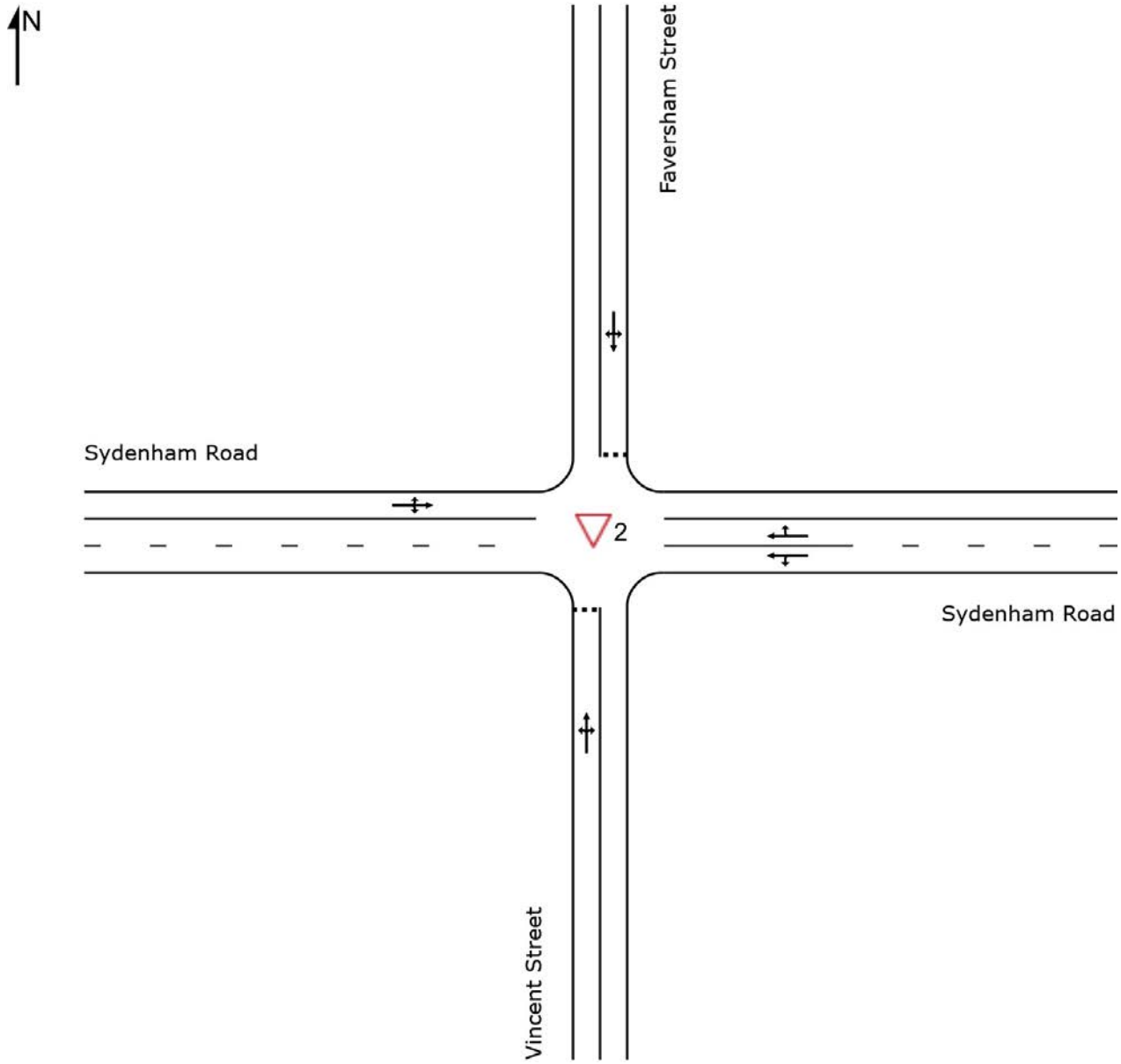
Phase	B	A	C
Phase Change Time (sec)	63	0	20
Green Time (sec)	21	14	37
Phase Time (sec)	27	20	43
Phase Split	30%	22%	48%

See the Phase Information section in the Detailed Output 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, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Site: 2 [2 Sydenham/ Faversham PM Ex]

Site Category: -
Giveway / Yield (Two-Way)

Site Layout



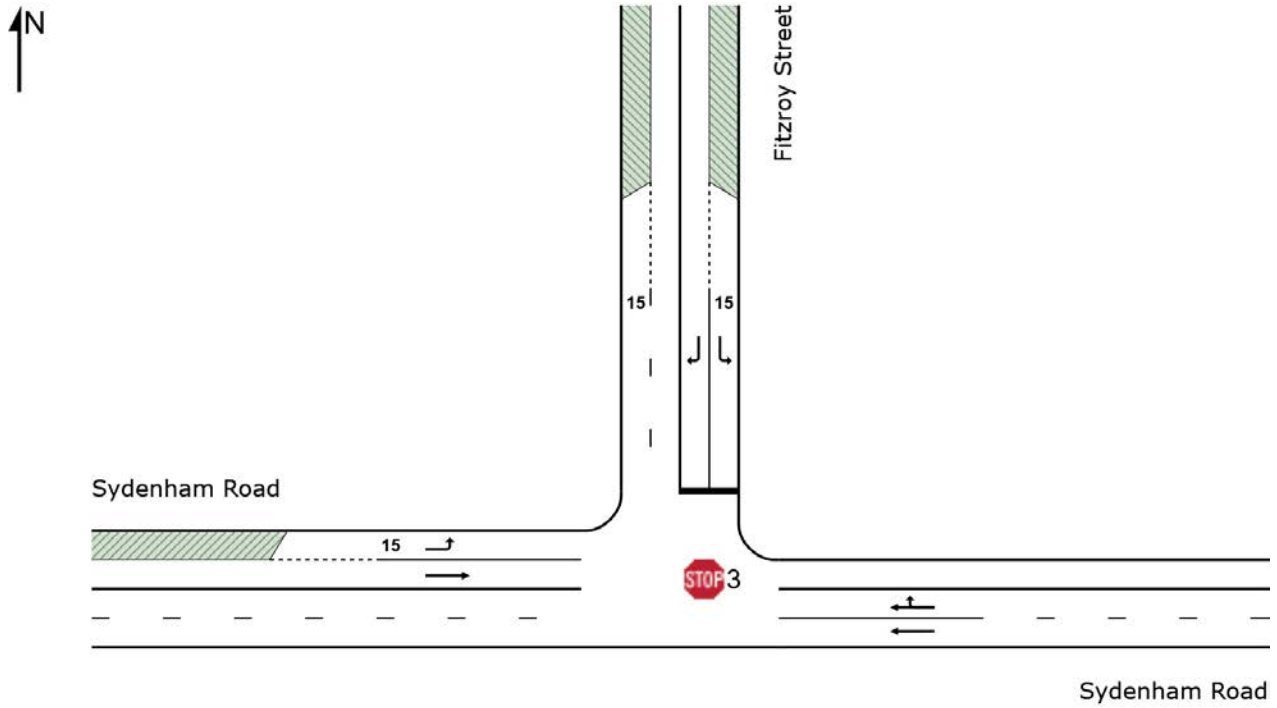
Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Vincent Street												
1	L2	17	0.0	0.070	5.8	LOS A	0.2	1.6	0.64	0.69	0.64	29.8
2	T1	1	0.0	0.070	28.0	LOS B	0.2	1.6	0.64	0.69	0.64	33.7
3	R2	5	0.0	0.070	37.8	LOS C	0.2	1.6	0.64	0.69	0.64	25.7
Approach		23	0.0	0.070	14.1	LOS A	0.2	1.6	0.64	0.69	0.64	29.2
East: Sydenham Road												
4	L2	5	0.0	0.194	4.3	LOS A	0.0	0.0	0.00	0.01	0.00	53.2
5	T1	718	3.8	0.194	0.1	LOS A	0.1	1.0	0.02	0.01	0.02	58.9
6	R2	7	0.0	0.194	8.5	LOS A	0.1	1.0	0.04	0.01	0.04	47.9
Approach		731	3.7	0.194	0.2	NA	0.1	1.0	0.02	0.01	0.02	58.6
North: Faversham Street												
7	L2	12	0.0	0.139	7.8	LOS A	0.4	3.1	0.83	0.90	0.83	20.5
8	T1	1	0.0	0.139	28.1	LOS B	0.4	3.1	0.83	0.90	0.83	27.4
9	R2	13	0.0	0.139	38.7	LOS C	0.4	3.1	0.83	0.90	0.83	25.9
Approach		25	0.0	0.139	24.1	LOS B	0.4	3.1	0.83	0.90	0.83	23.4
West: Sydenham Road												
10	L2	8	0.0	0.388	10.4	LOS A	0.3	1.9	0.04	0.01	0.05	50.8
11	T1	712	3.0	0.388	0.2	LOS A	0.3	1.9	0.04	0.01	0.05	57.8
12	R2	7	0.0	0.388	12.6	LOS A	0.3	1.9	0.04	0.01	0.05	50.2
Approach		727	2.9	0.388	0.4	NA	0.3	1.9	0.04	0.01	0.05	57.5
All Vehicles		1506	3.2	0.388	0.9	NA	0.4	3.1	0.05	0.04	0.06	54.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 3 [3 Sydenham/ Fitzroy PM Ex]

Site Category: -
Stop (Two-Way)

Site Layout



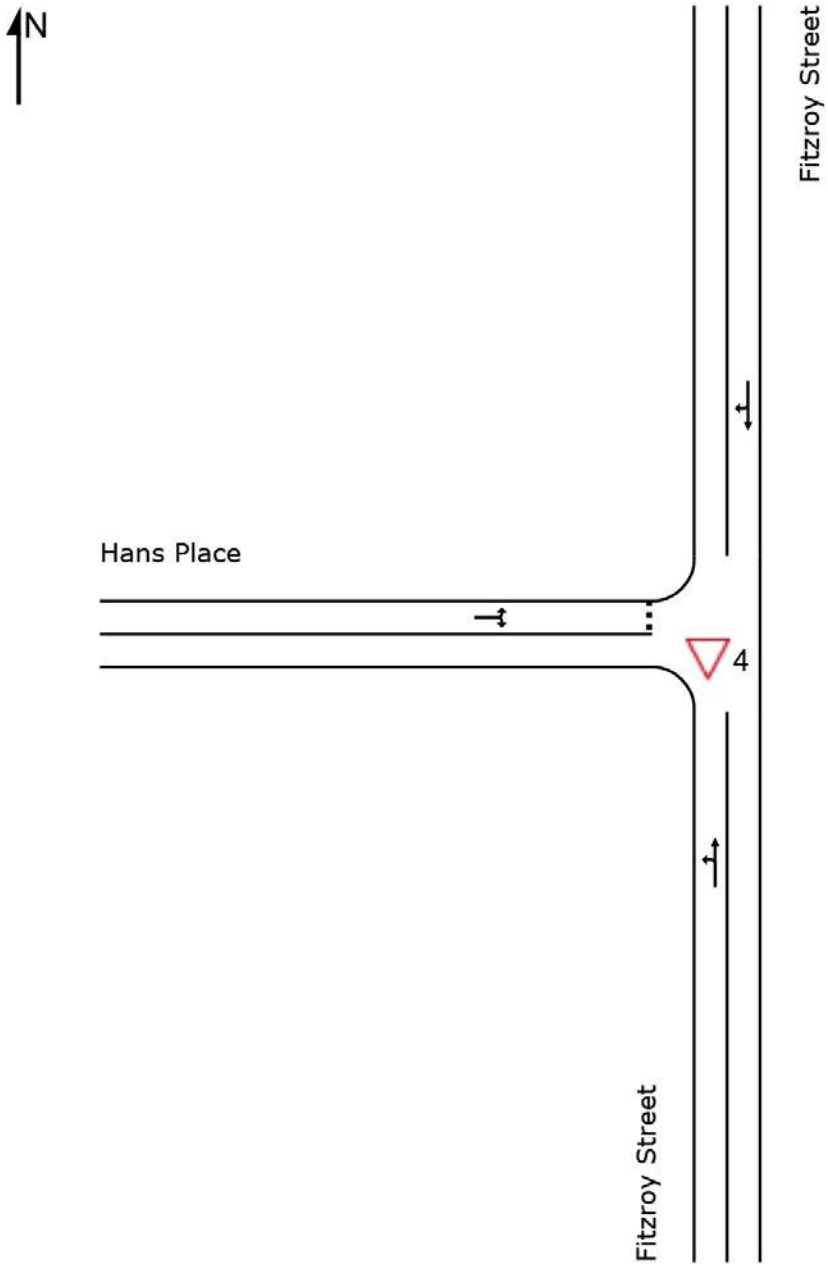
Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Sydenham Road												
5	T1	600	3.9	0.257	0.9	LOS A	1.7	12.2	0.11	0.09	0.12	55.4
6	R2	137	6.9	0.257	10.7	LOS A	1.7	12.2	0.62	0.47	0.66	41.0
Approach		737	4.4	0.257	2.7	NA	1.7	12.2	0.21	0.16	0.22	51.2
North: Fitzroy Street												
7	L2	322	3.9	0.554	16.1	LOS B	3.8	27.7	0.71	1.18	1.17	33.4
9	R2	122	3.4	0.806	62.7	LOS E	4.2	30.6	0.97	1.32	2.10	10.7
Approach		444	3.8	0.806	28.9	LOS C	4.2	30.6	0.78	1.22	1.43	24.0
West: Sydenham Road												
10	L2	107	3.9	0.059	4.3	LOS A	0.0	0.0	0.00	0.56	0.00	41.3
11	T1	601	3.0	0.314	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		708	3.1	0.314	0.7	NA	0.0	0.0	0.00	0.08	0.00	56.8
All Vehicles		1889	3.8	0.806	8.1	NA	4.2	30.6	0.27	0.38	0.42	40.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 4 [4 Fitzroy/ Hans PM Ex]

Site Category: -
Giveway / Yield (Two-Way)

Site Layout



Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Fitzroy Street												
1	L2	4	0.0	0.128	4.6	LOS A	0.0	0.0	0.00	0.01	0.00	48.7
2	T1	236	6.7	0.128	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	49.9
Approach		240	6.6	0.128	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.9
North: Fitzroy Street												
8	T1	443	4.3	0.251	0.1	LOS A	0.2	1.6	0.05	0.03	0.05	49.5
9	R2	23	4.5	0.251	5.7	LOS A	0.2	1.6	0.05	0.03	0.05	48.1
Approach		466	4.3	0.251	0.4	NA	0.2	1.6	0.05	0.03	0.05	49.4
West: Hans Place												
10	L2	18	5.9	0.033	5.4	LOS A	0.1	0.8	0.36	0.60	0.36	43.7
12	R2	12	0.0	0.033	8.2	LOS A	0.1	0.8	0.36	0.60	0.36	39.5
Approach		29	3.6	0.033	6.5	LOS A	0.1	0.8	0.36	0.60	0.36	42.4
All Vehicles		736	5.0	0.251	0.5	NA	0.2	1.6	0.05	0.05	0.05	49.3

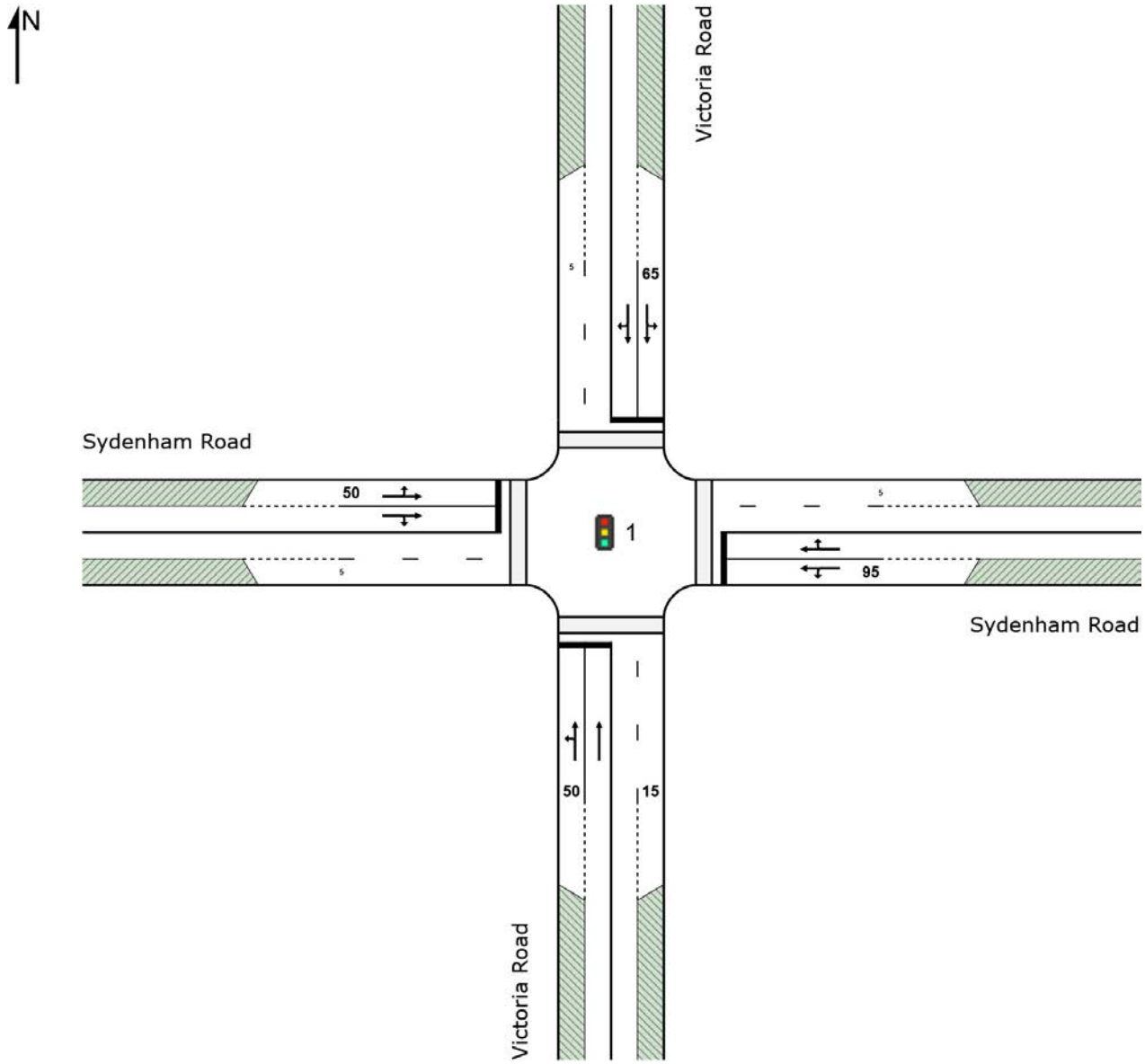
Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 1 [1 Victoria/ Sydenham Sat Ex]

Site Category: -
Signals - Fixed Time Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Variable Phasing
Reference Phase: Phase B
Input Phase Sequence: B, A, C
Output Phase Sequence: B, A, C

Site Layout

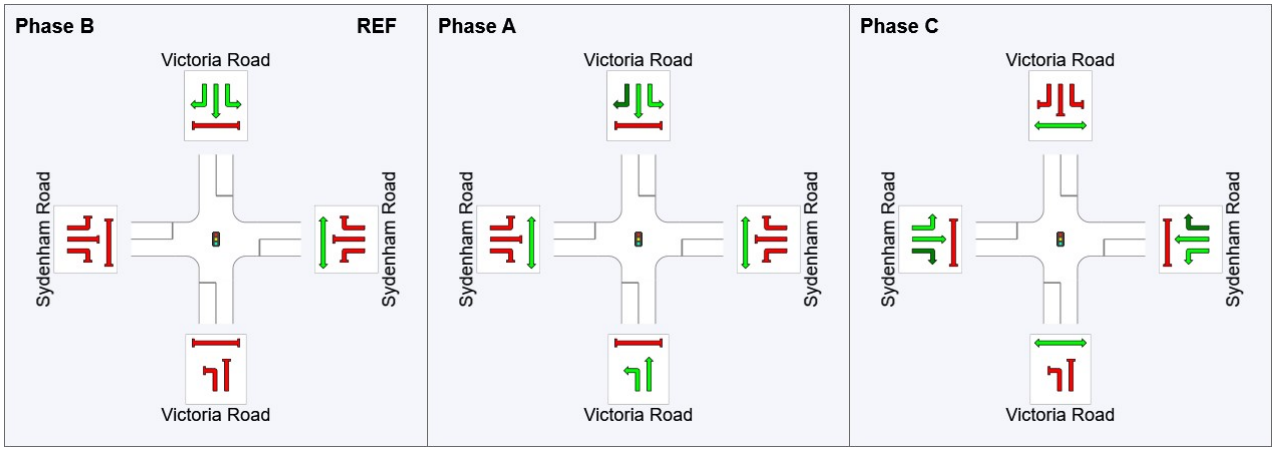


Movement Performance - Vehicles

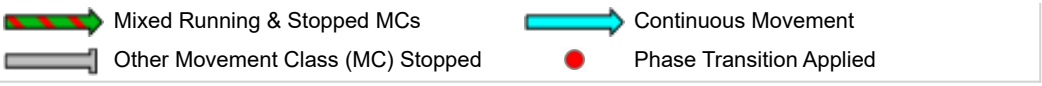
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Victoria Road												
1	L2	83	0.0	0.422	54.6	LOS D	7.0	49.5	0.94	0.78	0.94	20.7
2	T1	338	3.4	0.937	70.1	LOS E	20.7	148.9	0.99	1.07	1.38	21.8
Approach		421	2.8	0.937	67.0	LOS E	20.7	148.9	0.98	1.01	1.29	21.6
East: Sydenham Road												
4	L2	38	8.3	0.324	27.0	LOS B	10.3	74.1	0.67	0.60	0.67	32.0
5	T1	513	2.5	0.720	31.9	LOS C	17.5	125.0	0.82	0.73	0.83	19.9
6	R2	60	1.8	0.720	47.2	LOS D	17.5	125.0	0.95	0.85	0.98	23.2
Approach		611	2.8	0.720	33.1	LOS C	17.5	125.0	0.82	0.73	0.83	21.1
North: Victoria Road												
7	L2	94	0.0	0.342	30.2	LOS C	10.6	76.0	0.72	0.67	0.72	29.8
8	T1	383	3.6	0.760	27.8	LOS B	15.9	113.8	0.86	0.78	0.88	34.4
9	R2	161	2.0	0.760	36.1	LOS C	15.9	113.8	0.98	0.87	1.03	27.2
Approach		638	2.6	0.760	30.3	LOS C	15.9	113.8	0.87	0.79	0.90	32.1
West: Sydenham Road												
10	L2	178	1.2	0.410	24.6	LOS B	10.4	74.5	0.56	0.62	0.56	33.0
11	T1	685	3.4	0.912	38.6	LOS C	28.6	205.9	0.73	0.78	0.87	17.5
12	R2	36	2.9	0.912	50.6	LOS D	28.6	205.9	0.78	0.84	0.98	22.6
Approach		899	2.9	0.912	36.3	LOS C	28.6	205.9	0.70	0.75	0.81	20.6
All Vehicles		2568	2.8	0.937	39.1	LOS C	28.6	205.9	0.82	0.80	0.92	23.9

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

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Phase Timing Summary

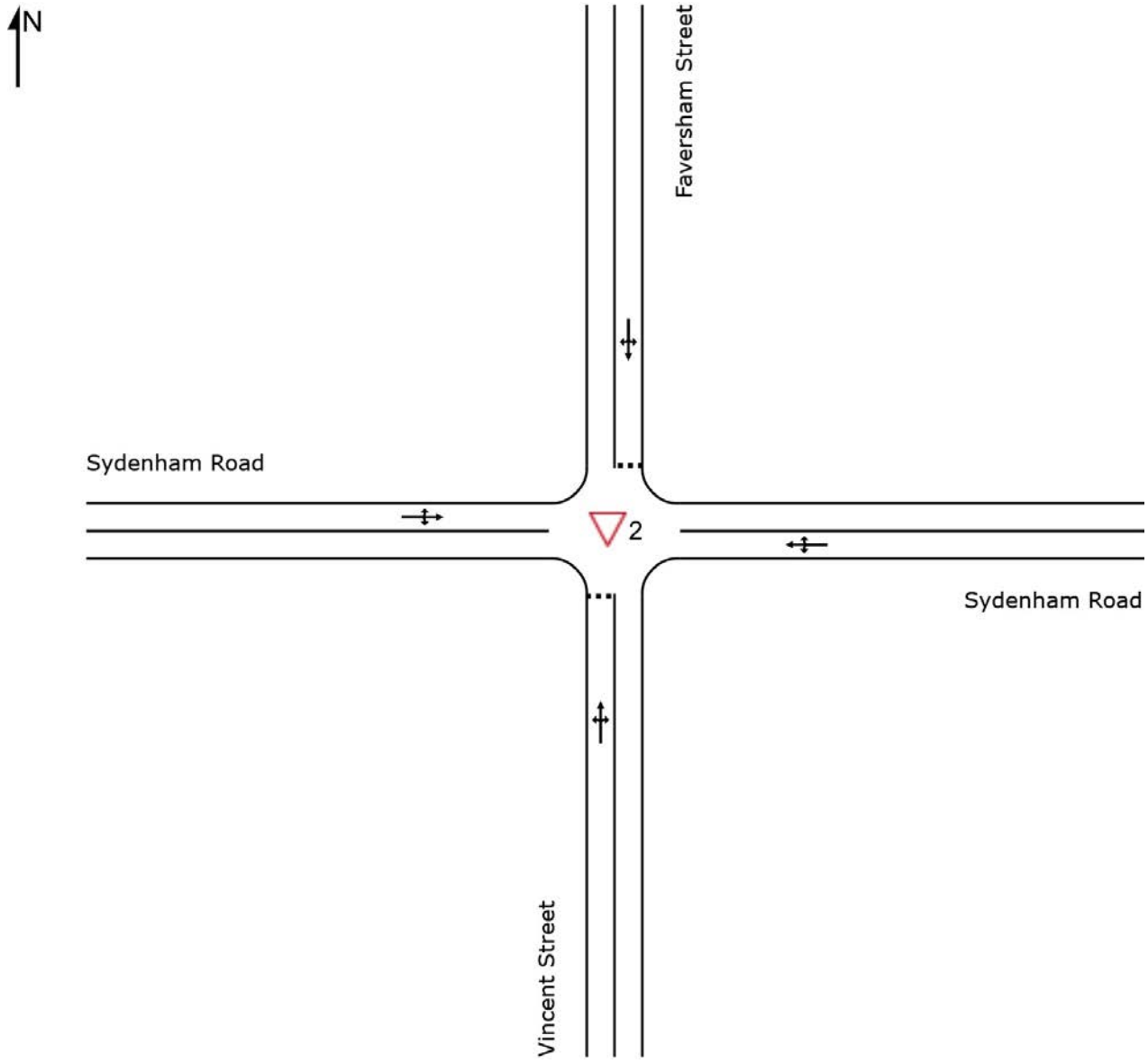
Phase	B	A	C
Phase Change Time (sec)	0	30	58
Green Time (sec)	24	22	56
Phase Time (sec)	30	28	62
Phase Split	25%	23%	52%

See the Phase Information section in the Detailed Output 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, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Site: 2 [2 Sydenham/ Faversham Sat Ex]

Site Category: -
Giveway / Yield (Two-Way)

Site Layout



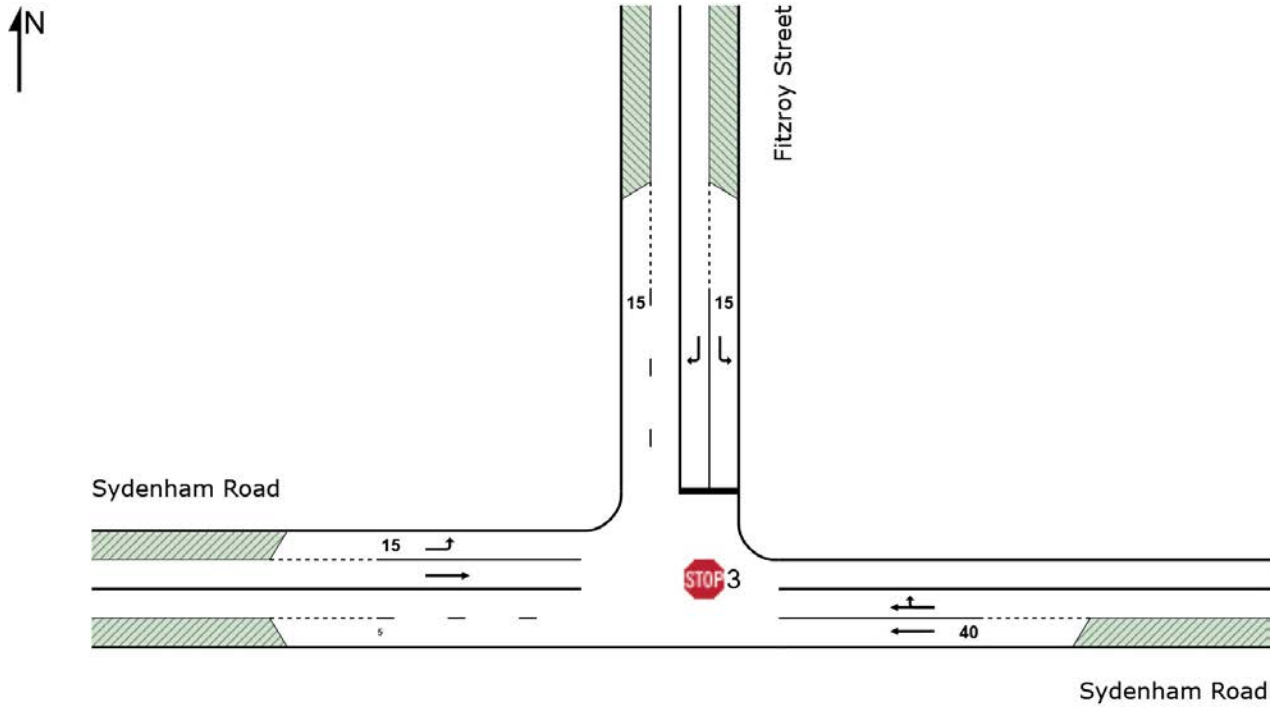
Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Vincent Street												
1	L2	14	0.0	0.055	7.1	LOS A	0.2	1.2	0.68	0.78	0.68	31.4
2	T1	1	0.0	0.055	18.1	LOS B	0.2	1.2	0.68	0.78	0.68	34.9
3	R2	6	0.0	0.055	22.7	LOS B	0.2	1.2	0.68	0.78	0.68	26.9
Approach		21	0.0	0.055	12.3	LOS A	0.2	1.2	0.68	0.78	0.68	30.4
East: Sydenham Road												
4	L2	9	0.0	0.320	6.2	LOS A	0.1	0.6	0.01	0.01	0.02	49.8
5	T1	599	2.5	0.320	0.1	LOS A	0.1	0.6	0.01	0.01	0.02	59.0
6	R2	2	0.0	0.320	10.6	LOS A	0.1	0.6	0.01	0.01	0.02	48.3
Approach		611	2.4	0.320	0.2	NA	0.1	0.6	0.01	0.01	0.02	58.7
North: Faversham Street												
7	L2	7	0.0	0.044	8.3	LOS A	0.1	1.0	0.74	0.82	0.74	24.7
8	T1	1	0.0	0.044	17.7	LOS B	0.1	1.0	0.74	0.82	0.74	33.1
9	R2	5	0.0	0.044	22.8	LOS B	0.1	1.0	0.74	0.82	0.74	31.7
Approach		14	0.0	0.044	14.6	LOS B	0.1	1.0	0.74	0.82	0.74	27.9
West: Sydenham Road												
10	L2	20	0.0	0.431	8.0	LOS A	0.3	2.3	0.04	0.02	0.06	50.6
11	T1	780	3.0	0.431	0.2	LOS A	0.3	2.3	0.04	0.02	0.06	57.5
12	R2	12	0.0	0.431	10.4	LOS A	0.3	2.3	0.04	0.02	0.06	49.1
Approach		812	2.9	0.431	0.5	NA	0.3	2.3	0.04	0.02	0.06	56.9
All Vehicles		1457	2.6	0.431	0.7	NA	0.3	2.3	0.05	0.04	0.06	55.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 3 [3 Sydenham/ Fitzroy Sat Ex]

Site Category: -
Stop (Two-Way)

Site Layout



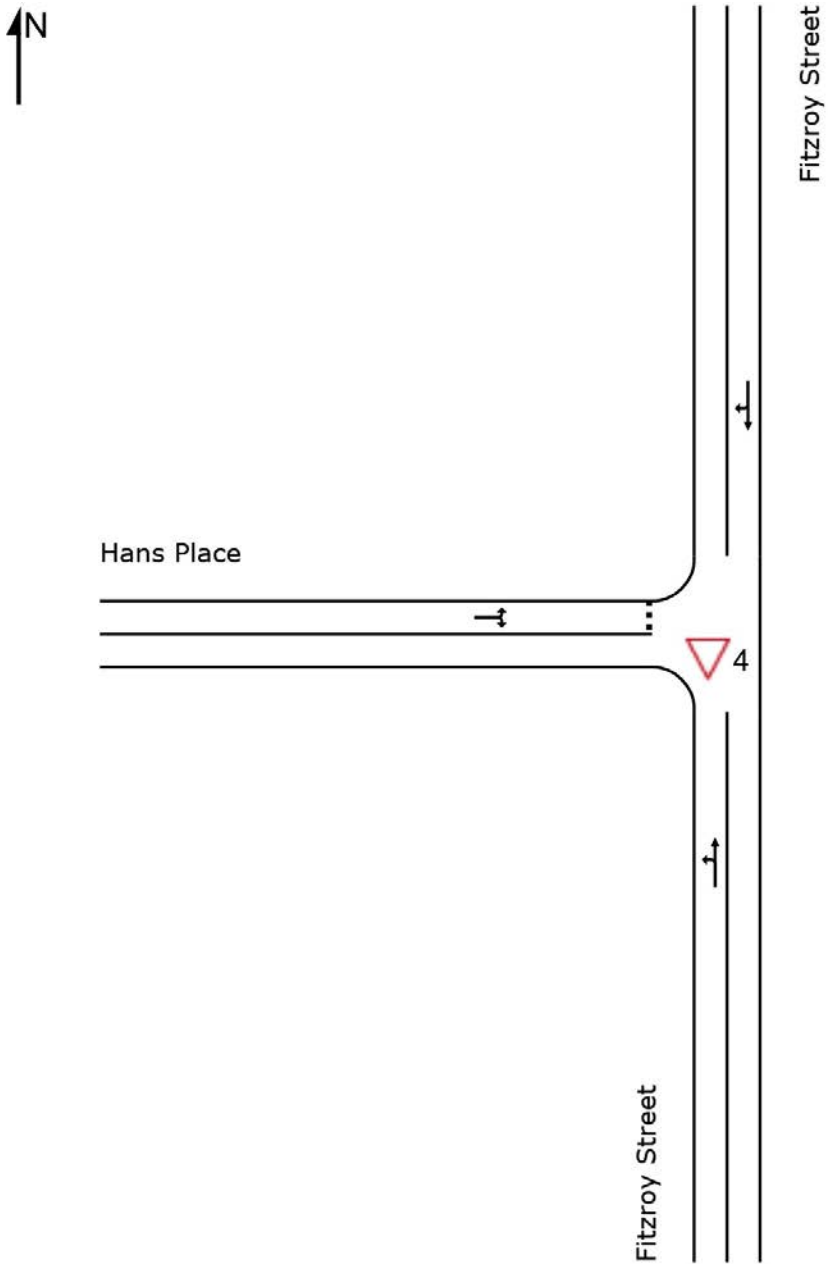
Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Sydenham Road												
5	T1	521	1.8	0.420	3.5	LOS A	3.8	27.4	0.40	0.18	0.57	46.7
6	R2	143	3.7	0.420	13.2	LOS A	3.8	27.4	0.58	0.26	0.83	41.7
Approach		664	2.2	0.420	5.6	NA	3.8	27.4	0.44	0.19	0.63	45.2
North: Fitzroy Street												
7	L2	259	0.8	0.464	15.3	LOS B	2.7	19.0	0.68	1.12	1.01	34.3
9	R2	97	5.4	0.661	50.1	LOS D	2.8	20.6	0.95	1.18	1.56	12.7
Approach		356	2.1	0.661	24.8	LOS B	2.8	20.6	0.75	1.14	1.16	26.2
West: Sydenham Road												
10	L2	149	2.1	0.082	4.3	LOS A	0.0	0.0	0.00	0.56	0.00	41.7
11	T1	645	3.1	0.338	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		795	2.9	0.338	0.8	NA	0.0	0.0	0.00	0.10	0.00	56.1
All Vehicles		1815	2.5	0.661	7.3	NA	3.8	27.4	0.31	0.34	0.46	41.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 4 [4 Fitzroy/ Hans Sat Ex]

Site Category: -
Giveway / Yield (Two-Way)

Site Layout



Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Fitzroy Street												
1	L2	2	0.0	0.149	4.6	LOS A	0.0	0.0	0.00	0.00	0.00	48.7
2	T1	284	2.6	0.149	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		286	2.6	0.149	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.9
North: Fitzroy Street												
8	T1	355	2.4	0.192	0.0	LOS A	0.1	0.6	0.03	0.01	0.03	49.7
9	R2	9	0.0	0.192	5.7	LOS A	0.1	0.6	0.03	0.01	0.03	48.4
Approach		364	2.3	0.192	0.2	NA	0.1	0.6	0.03	0.01	0.03	49.7
West: Hans Place												
10	L2	19	0.0	0.021	5.5	LOS A	0.1	0.5	0.36	0.56	0.36	44.2
12	R2	4	0.0	0.021	7.6	LOS A	0.1	0.5	0.36	0.56	0.36	40.0
Approach		23	0.0	0.021	5.8	LOS A	0.1	0.5	0.36	0.56	0.36	43.6
All Vehicles		674	2.3	0.192	0.3	NA	0.1	0.6	0.03	0.03	0.03	49.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

USER REPORT FOR SITE

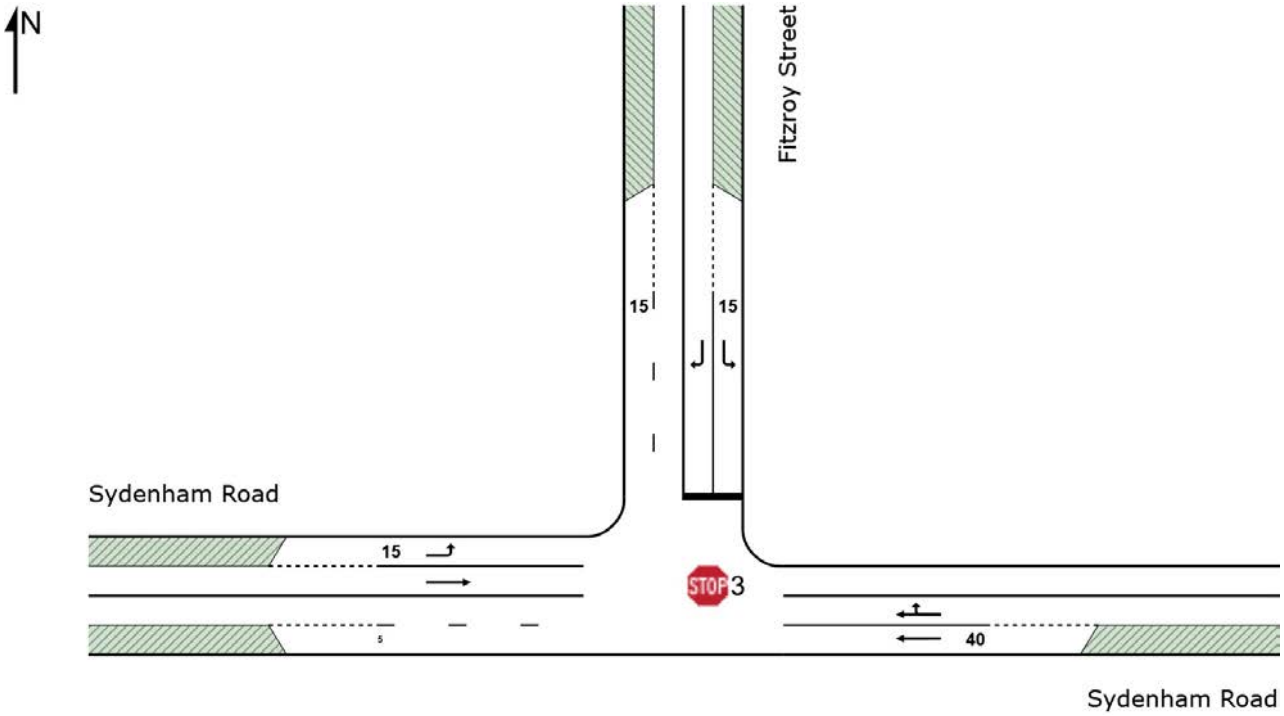
Project: 190108-N156270 Wicks Park, Marrickville Future

Template: Default Site User Report

Site: 3 [3 Sydenham/ Fitzroy AM Fut]

Site Category: -
Stop (Two-Way)

Site Layout



Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Sydenham Road												
5	T1	325	8.1	0.444	5.4	LOS A	3.8	28.6	0.41	0.25	0.59	43.1
6	R2	156	6.8	0.444	17.5	LOS B	3.8	28.6	0.82	0.52	1.20	34.7
Approach		481	7.7	0.444	9.3	NA	3.8	28.6	0.54	0.34	0.79	39.4
North: Fitzroy Street												
7	L2	178	9.6	0.467	20.3	LOS B	2.3	17.6	0.79	1.13	1.16	30.2
9	R2	36	29.4	0.387	57.0	LOS E	1.3	11.1	0.94	1.06	1.12	11.6
Approach		214	13.0	0.467	26.4	LOS B	2.3	17.6	0.81	1.12	1.15	25.8
West: Sydenham Road												
10	L2	188	12.3	0.110	4.3	LOS A	0.0	0.0	0.00	0.55	0.00	39.9
11	T1	803	6.3	0.429	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		992	7.5	0.429	0.8	NA	0.0	0.0	0.00	0.11	0.00	55.5
All Vehicles		1686	8.2	0.467	6.5	NA	3.8	28.6	0.26	0.30	0.37	42.7

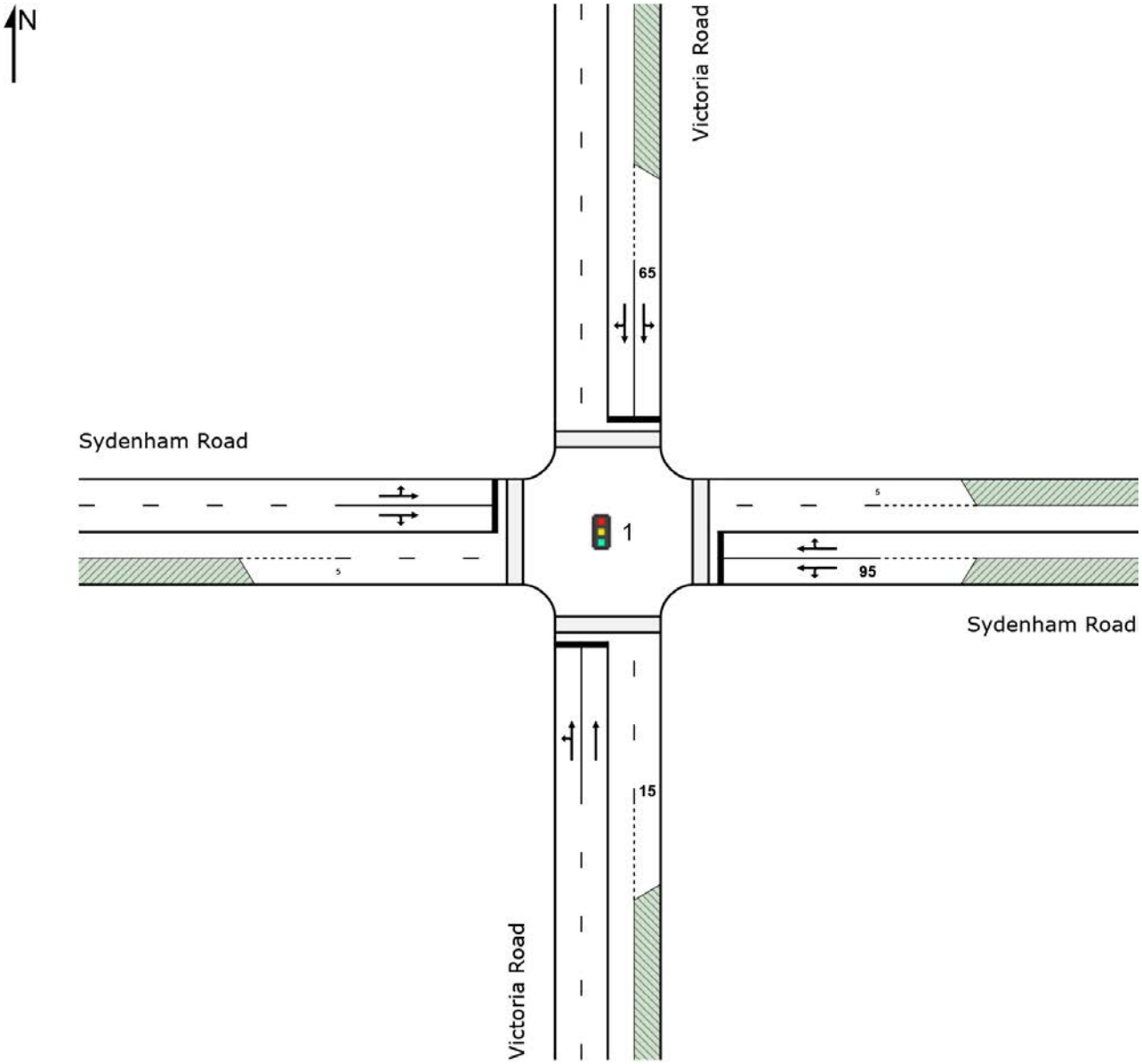
Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 1 [1 Victoria/ Sydenham AM Fut]

Site Category: -
Signals - Fixed Time Coordinated Cycle Time = 110 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Variable Phasing
Reference Phase: Phase A
Input Phase Sequence: B, A, C
Output Phase Sequence: B, A, C

Site Layout

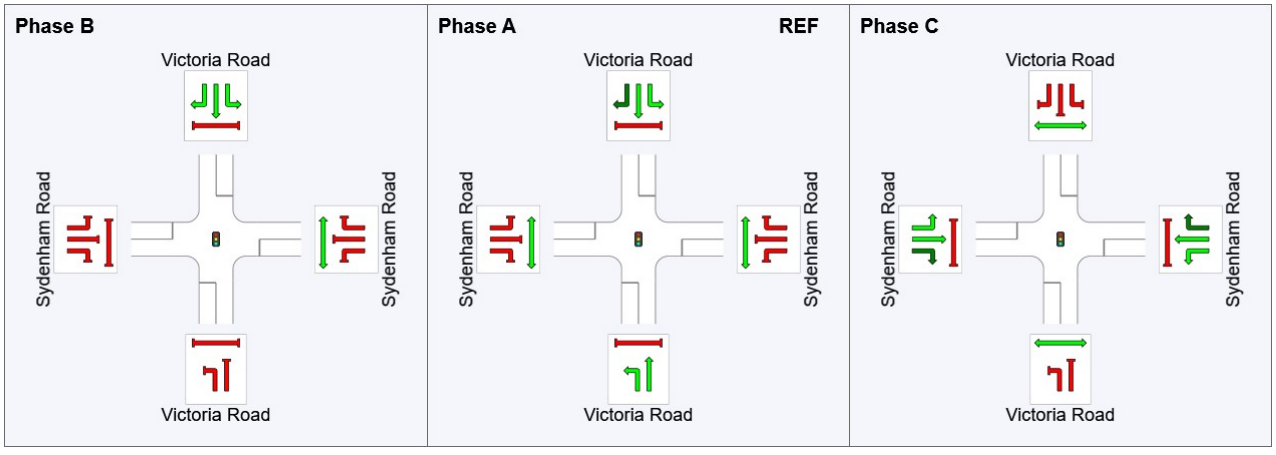


Movement Performance - Vehicles

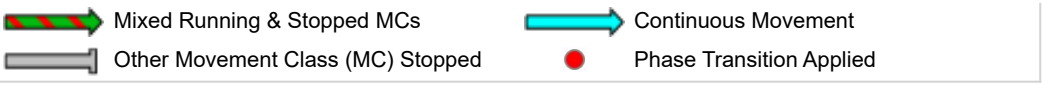
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Victoria Road												
1	L2	91	4.7	0.742	49.6	LOS D	16.7	123.9	0.99	0.88	1.04	22.5
2	T1	571	7.7	0.742	43.5	LOS D	17.4	129.8	0.98	0.88	1.04	28.6
Approach		661	7.3	0.742	44.3	LOS D	17.4	129.8	0.98	0.88	1.04	27.9
East: Sydenham Road												
4	L2	29	4.5	0.251	26.5	LOS B	6.7	50.2	0.67	0.59	0.67	32.3
5	T1	319	9.9	0.558	29.2	LOS C	9.2	69.9	0.79	0.68	0.79	21.0
6	R2	44	7.9	0.558	44.1	LOS D	9.2	69.9	0.92	0.78	0.92	24.0
Approach		393	9.3	0.558	30.7	LOS C	9.2	69.9	0.79	0.69	0.79	22.3
North: Victoria Road												
7	L2	111	7.6	0.232	26.3	LOS B	6.0	45.2	0.67	0.68	0.67	30.9
8	T1	211	11.5	0.514	22.5	LOS B	7.8	60.2	0.82	0.73	0.82	37.0
9	R2	83	13.9	0.514	29.1	LOS C	7.8	60.2	0.89	0.76	0.89	30.4
Approach		404	10.9	0.514	24.9	LOS B	7.8	60.2	0.79	0.72	0.79	34.3
West: Sydenham Road												
10	L2	205	3.6	0.342	25.9	LOS B	7.5	54.4	0.58	0.69	0.58	31.2
11	T1	871	6.9	0.759	26.6	LOS B	34.8	258.5	0.83	0.76	0.83	22.6
12	R2	20	15.8	0.759	32.7	LOS C	34.8	258.5	0.85	0.76	0.85	29.4
Approach		1096	6.4	0.759	26.6	LOS B	34.8	258.5	0.78	0.75	0.78	24.7
All Vehicles		2554	7.8	0.759	31.5	LOS C	34.8	258.5	0.84	0.77	0.85	27.1

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

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Phase Timing Summary

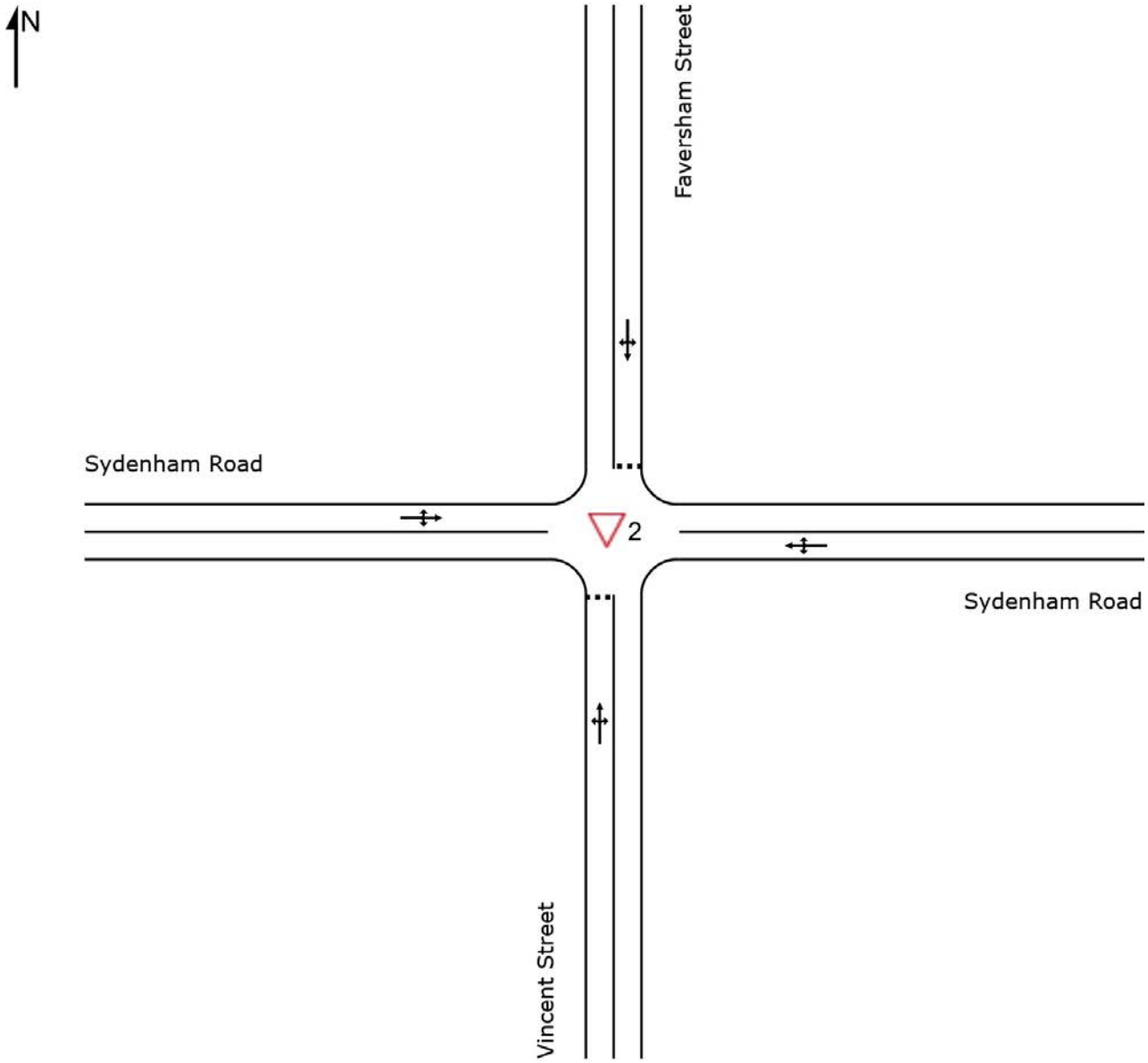
Phase	B	A	C
Phase Change Time (sec)	87	0	33
Green Time (sec)	17	27	48
Phase Time (sec)	23	33	54
Phase Split	21%	30%	49%

See the Phase Information section in the Detailed Output 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, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Site: 2 [2 Sydenham/ Faversham AM Fut]

Site Category: -
Giveway / Yield (Two-Way)

Site Layout



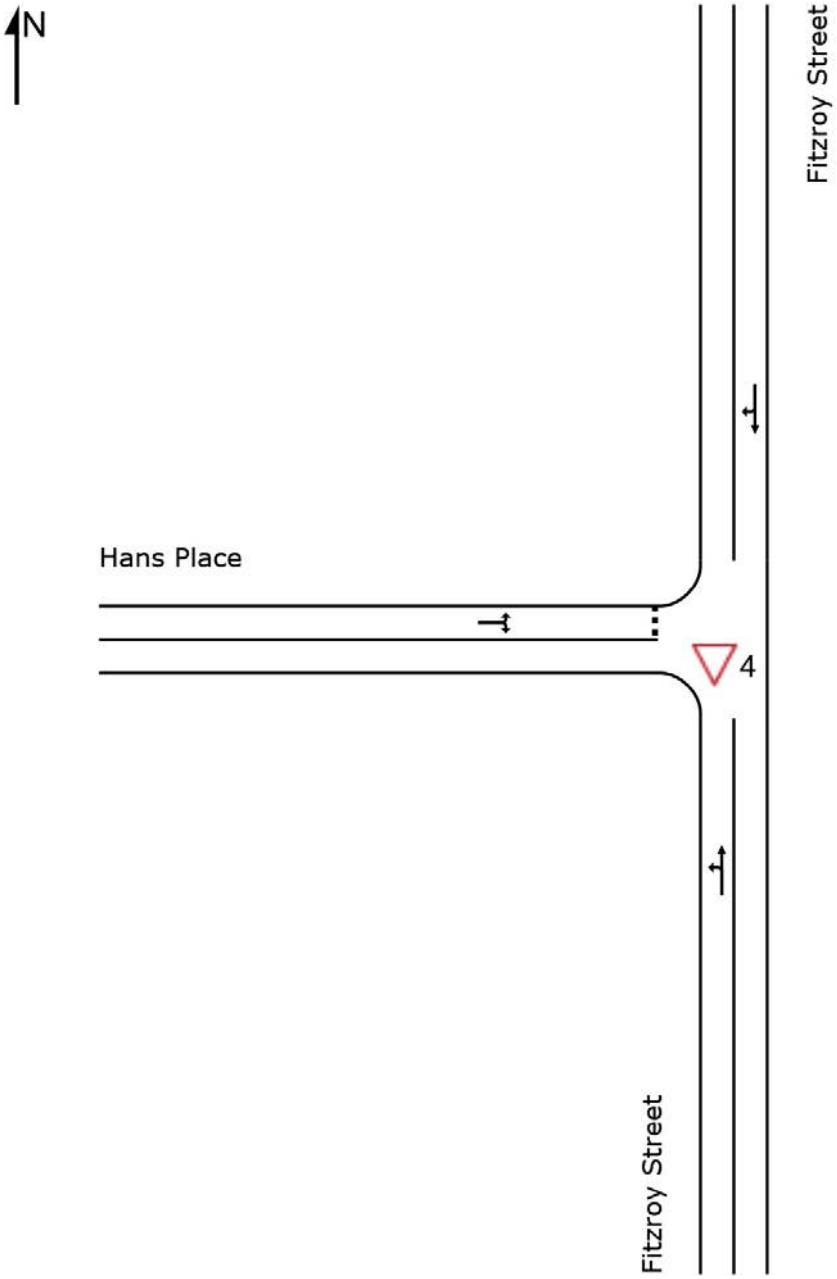
Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Vincent Street												
1	L2	5	0.0	0.046	5.8	LOS A	0.1	1.0	0.69	0.77	0.69	28.3
2	T1	1	0.0	0.046	19.1	LOS B	0.1	1.0	0.69	0.77	0.69	32.1
3	R2	6	0.0	0.046	23.8	LOS B	0.1	1.0	0.69	0.77	0.69	24.1
Approach		13	0.0	0.046	15.9	LOS B	0.1	1.0	0.69	0.77	0.69	26.7
East: Sydenham Road												
4	L2	7	0.0	0.206	10.8	LOS A	0.2	1.7	0.06	0.02	0.06	48.1
5	T1	349	10.9	0.206	0.4	LOS A	0.2	1.7	0.06	0.02	0.06	56.1
6	R2	5	0.0	0.206	13.2	LOS A	0.2	1.7	0.06	0.02	0.06	47.1
Approach		362	10.5	0.206	0.8	NA	0.2	1.7	0.06	0.02	0.06	55.6
North: Faversham Street												
7	L2	11	0.0	0.222	12.5	LOS A	0.7	5.0	0.86	0.96	0.93	20.9
8	T1	1	0.0	0.222	21.0	LOS B	0.7	5.0	0.86	0.96	0.93	27.9
9	R2	34	0.0	0.222	26.0	LOS B	0.7	5.0	0.86	0.96	0.93	26.5
Approach		45	0.0	0.222	22.8	LOS B	0.7	5.0	0.86	0.96	0.93	25.2
West: Sydenham Road												
10	L2	11	10.0	0.542	6.9	LOS A	0.1	0.9	0.01	0.01	0.01	50.9
11	T1	991	7.5	0.542	0.0	LOS A	0.1	0.9	0.01	0.01	0.01	59.3
12	R2	3	33.3	0.542	10.1	LOS A	0.1	0.9	0.01	0.01	0.01	47.8
Approach		1004	7.7	0.542	0.1	NA	0.1	0.9	0.01	0.01	0.01	59.1
All Vehicles		1424	8.1	0.542	1.2	NA	0.7	5.0	0.06	0.05	0.06	53.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 4 [4 Fitzroy/ Hans AM Fut]

Site Category: -
Giveway / Yield (Two-Way)

Site Layout



Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Fitzroy Street												
1	L2	9	0.0	0.180	4.6	LOS A	0.0	0.0	0.00	0.02	0.00	48.6
2	T1	321	9.8	0.180	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	49.8
Approach		331	9.6	0.180	0.1	NA	0.0	0.0	0.00	0.02	0.00	49.8
North: Fitzroy Street												
8	T1	208	13.1	0.135	0.2	LOS A	0.2	1.7	0.11	0.06	0.11	48.9
9	R2	25	0.0	0.135	5.9	LOS A	0.2	1.7	0.11	0.06	0.11	47.7
Approach		234	11.7	0.135	0.8	NA	0.2	1.7	0.11	0.06	0.11	48.7
West: Hans Place												
10	L2	31	16.7	0.041	6.0	LOS A	0.1	1.2	0.41	0.61	0.41	43.7
12	R2	9	0.0	0.041	7.2	LOS A	0.1	1.2	0.41	0.61	0.41	39.8
Approach		40	12.7	0.041	6.3	LOS A	0.1	1.2	0.41	0.61	0.41	43.0
All Vehicles		604	10.6	0.180	0.8	NA	0.2	1.7	0.07	0.07	0.07	48.8

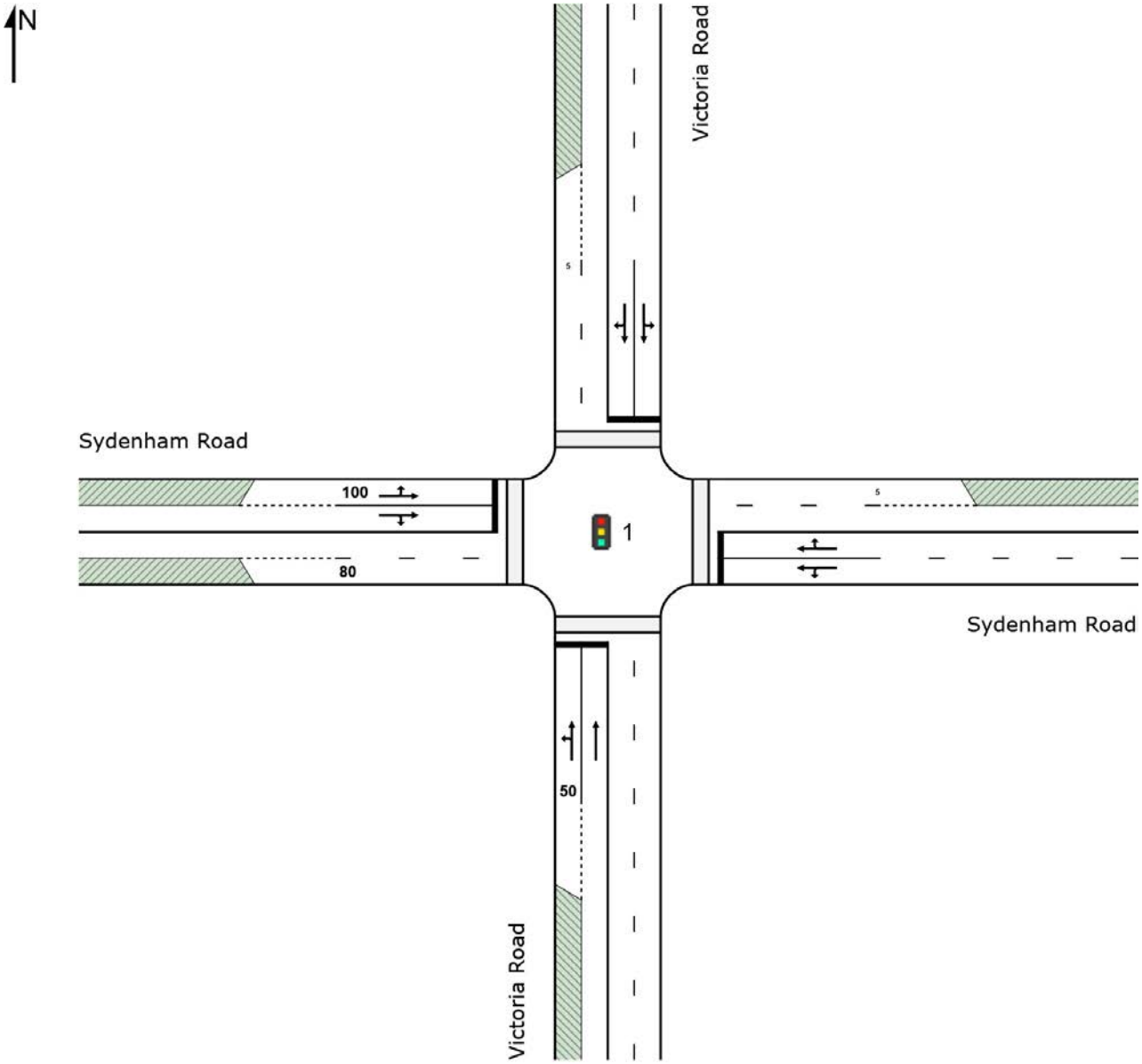
Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 1 [1 Victoria/ Sydenham PM Fut]

Site Category: -
Signals - Fixed Time Coordinated Cycle Time = 90 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Variable Phasing
Reference Phase: Phase A
Input Phase Sequence: B, A, C
Output Phase Sequence: B, A, C

Site Layout

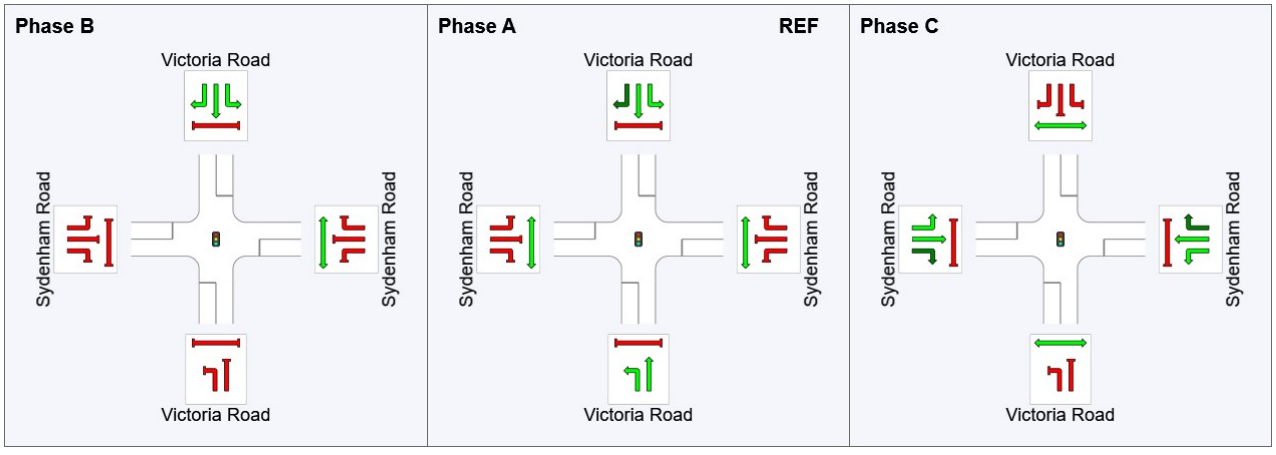


Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Victoria Road												
1	L2	64	1.6	0.373	42.5	LOS D	4.6	33.2	0.93	0.76	0.93	24.3
2	T1	325	6.7	0.829	43.8	LOS D	13.2	97.5	0.99	0.94	1.19	28.6
Approach		389	5.9	0.829	43.6	LOS D	13.2	97.5	0.98	0.91	1.15	28.0
East: Sydenham Road												
4	L2	54	0.0	0.415	25.8	LOS B	10.0	71.8	0.76	0.67	0.76	32.8
5	T1	667	3.4	0.923	39.5	LOS C	26.1	188.8	0.90	0.96	1.15	17.2
6	R2	65	5.6	0.923	58.1	LOS E	26.1	188.8	1.00	1.16	1.41	20.2
Approach		786	3.3	0.923	40.1	LOS C	26.1	188.8	0.90	0.96	1.15	18.5
North: Victoria Road												
7	L2	144	5.1	0.786	30.0	LOS C	25.9	188.8	0.91	0.86	0.96	30.2
8	T1	617	4.9	0.786	24.4	LOS B	25.9	188.8	0.93	0.87	0.98	36.4
9	R2	281	1.5	0.786	30.0	LOS C	12.8	91.6	0.99	0.90	1.11	29.2
Approach		1042	4.0	0.786	26.7	LOS B	25.9	188.8	0.94	0.88	1.01	33.8
West: Sydenham Road												
10	L2	144	0.8	0.293	23.2	LOS B	5.3	37.2	0.59	0.65	0.59	33.3
11	T1	621	2.0	0.650	26.1	LOS B	20.1	143.3	0.82	0.73	0.82	22.7
12	R2	31	3.4	0.650	32.8	LOS C	20.1	143.3	0.85	0.75	0.85	29.6
Approach		796	1.9	0.650	25.8	LOS B	20.1	143.3	0.78	0.72	0.78	25.2
All Vehicles		3014	3.5	0.923	32.1	LOS C	26.1	188.8	0.89	0.86	1.00	27.1

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

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

Phase Timing Summary

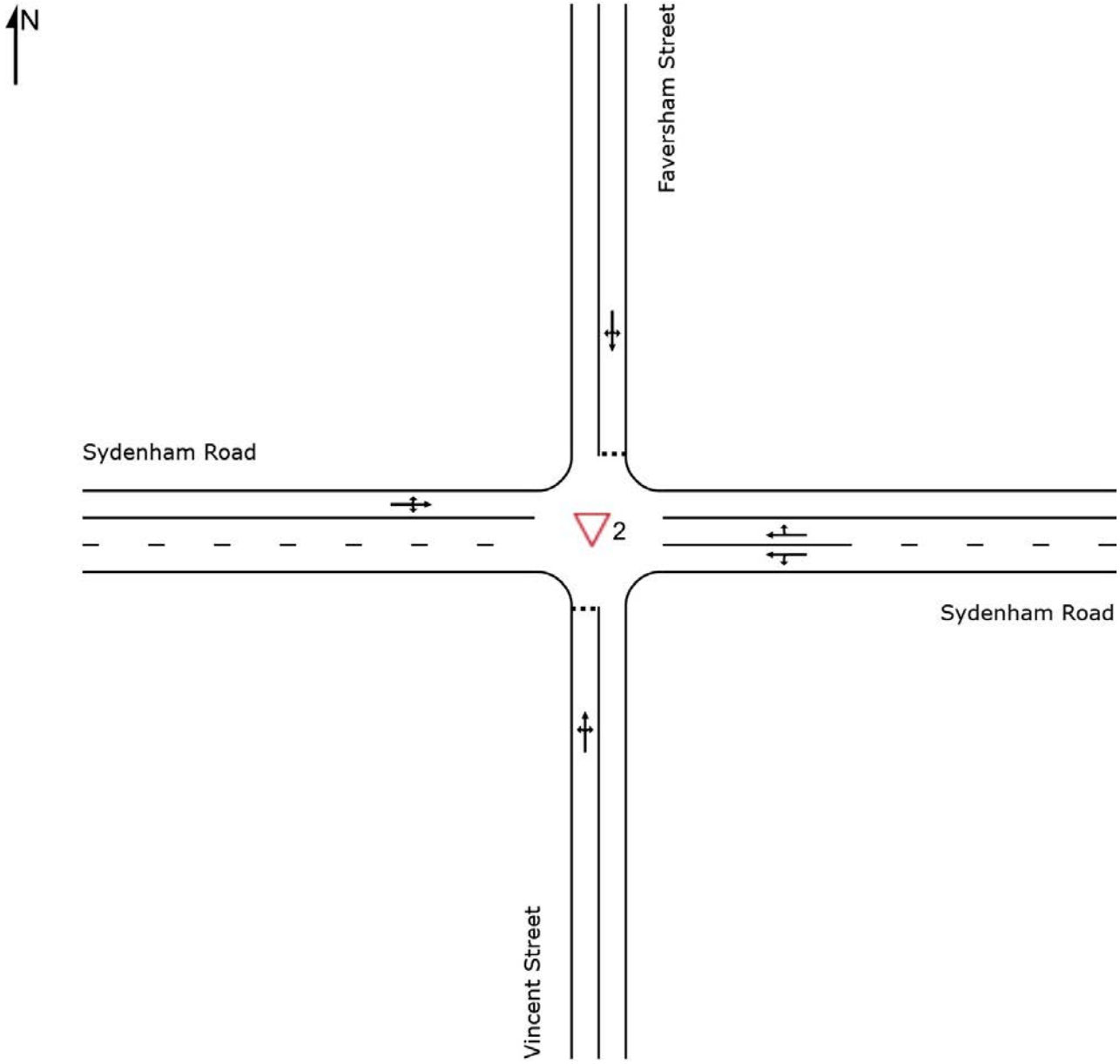
Phase	B	A	C
Phase Change Time (sec)	65	0	22
Green Time (sec)	19	16	37
Phase Time (sec)	25	22	43
Phase Split	28%	24%	48%

See the Phase Information section in the Detailed Output 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, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Site: 2 [2 Sydenham/ Faversham PM Fut]

Site Category: -
Giveway / Yield (Two-Way)

Site Layout



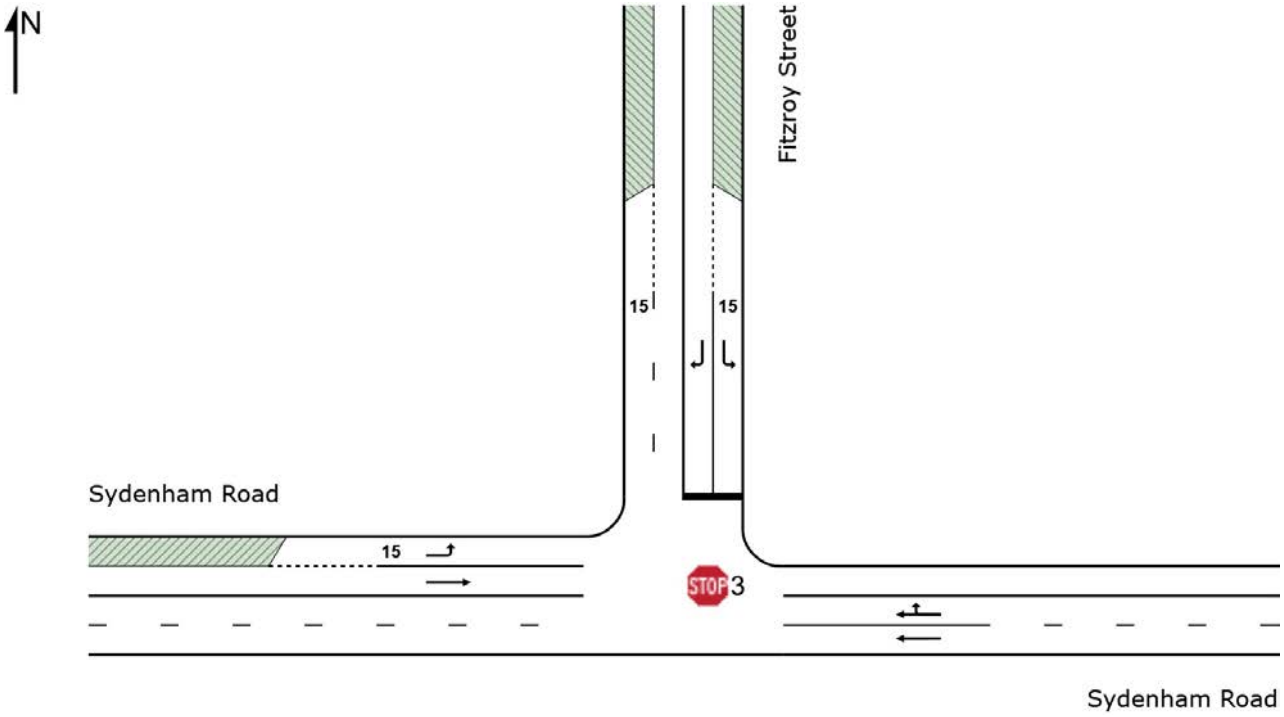
Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Vincent Street												
1	L2	17	0.0	0.071	5.8	LOS A	0.2	1.6	0.65	0.70	0.65	29.7
2	T1	1	0.0	0.071	28.2	LOS B	0.2	1.6	0.65	0.70	0.65	33.6
3	R2	5	0.0	0.071	38.4	LOS C	0.2	1.6	0.65	0.70	0.65	25.6
Approach		23	0.0	0.071	14.2	LOS A	0.2	1.6	0.65	0.70	0.65	29.1
East: Sydenham Road												
4	L2	5	0.0	0.195	4.3	LOS A	0.0	0.0	0.00	0.01	0.00	53.2
5	T1	722	3.8	0.195	0.1	LOS A	0.1	1.0	0.02	0.01	0.02	58.9
6	R2	7	0.0	0.195	8.6	LOS A	0.1	1.0	0.04	0.01	0.04	47.9
Approach		735	3.7	0.195	0.2	NA	0.1	1.0	0.02	0.01	0.02	58.6
North: Faversham Street												
7	L2	16	0.0	0.532	21.3	LOS B	2.1	14.6	0.92	1.08	1.31	14.4
8	T1	1	0.0	0.532	43.4	LOS D	2.1	14.6	0.92	1.08	1.31	19.2
9	R2	54	0.0	0.532	54.7	LOS D	2.1	14.6	0.92	1.08	1.31	17.9
Approach		71	0.0	0.532	47.0	LOS D	2.1	14.6	0.92	1.08	1.31	17.1
West: Sydenham Road												
10	L2	8	0.0	0.388	10.5	LOS A	0.3	1.9	0.04	0.01	0.05	50.8
11	T1	712	3.0	0.388	0.2	LOS A	0.3	1.9	0.04	0.01	0.05	57.8
12	R2	7	0.0	0.388	12.7	LOS A	0.3	1.9	0.04	0.01	0.05	50.2
Approach		727	2.9	0.388	0.4	NA	0.3	1.9	0.04	0.01	0.05	57.5
All Vehicles		1556	3.1	0.532	2.6	NA	2.1	14.6	0.08	0.07	0.10	47.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 3 [3 Sydenham/ Fitzroy PM Fut]

Site Category: -
Stop (Two-Way)

Site Layout



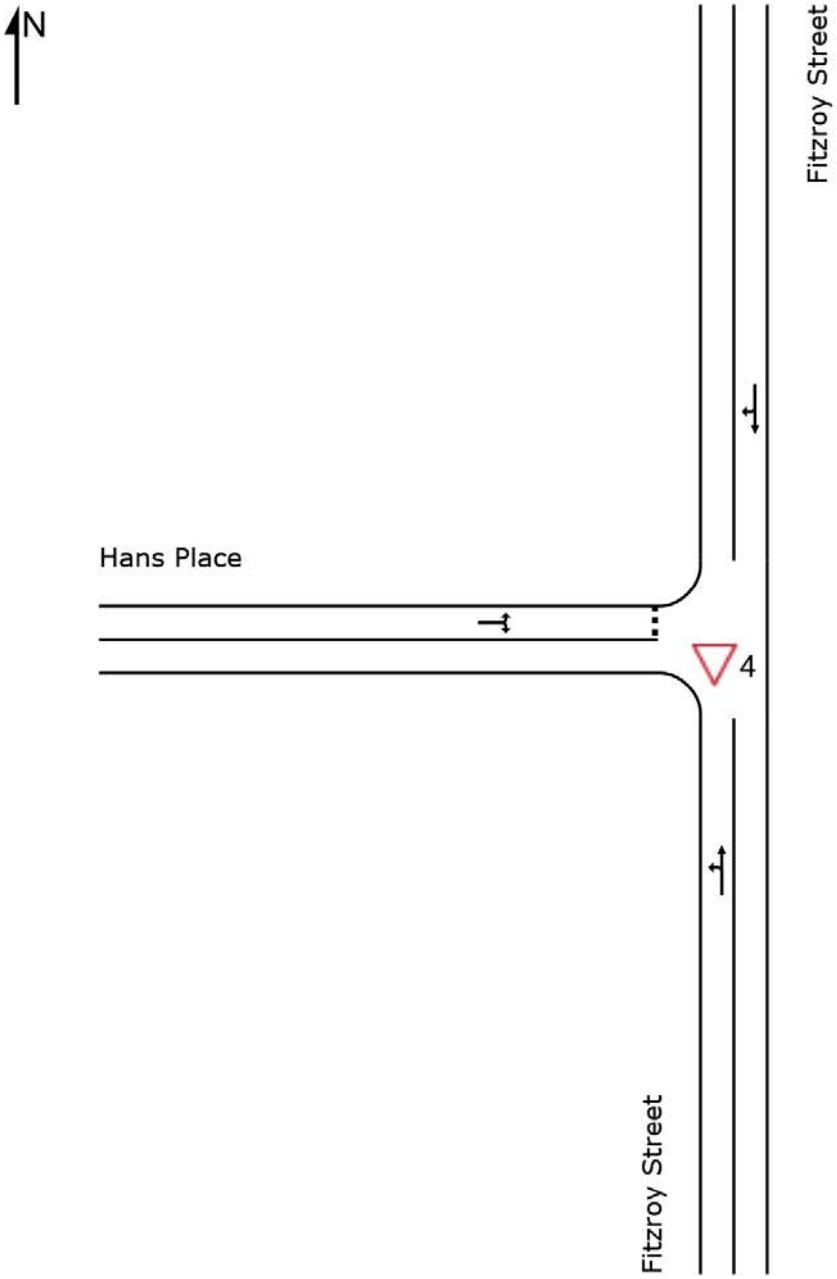
Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Sydenham Road												
5	T1	604	3.9	0.259	0.9	LOS A	1.7	12.4	0.12	0.09	0.12	55.4
6	R2	137	6.9	0.259	10.7	LOS A	1.7	12.4	0.62	0.47	0.67	40.9
Approach		741	4.4	0.259	2.7	NA	1.7	12.4	0.21	0.16	0.22	51.2
North: Fitzroy Street												
7	L2	326	3.9	0.565	16.4	LOS B	4.0	28.6	0.71	1.19	1.20	33.3
9	R2	122	3.4	0.819	65.5	LOS E	4.4	31.7	0.97	1.34	2.17	10.3
Approach		448	3.8	0.819	29.7	LOS C	4.4	31.7	0.78	1.23	1.47	23.7
West: Sydenham Road												
10	L2	107	3.9	0.059	4.3	LOS A	0.0	0.0	0.00	0.56	0.00	41.3
11	T1	605	3.0	0.316	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		713	3.1	0.316	0.7	NA	0.0	0.0	0.00	0.08	0.00	56.8
All Vehicles		1902	3.8	0.819	8.3	NA	4.4	31.7	0.27	0.38	0.43	40.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 4 [4 Fitzroy/ Hans PM Fut]

Site Category: -
Giveway / Yield (Two-Way)

Site Layout



Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Fitzroy Street												
1	L2	4	0.0	0.128	4.6	LOS A	0.0	0.0	0.00	0.01	0.00	48.7
2	T1	236	6.7	0.128	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	49.9
Approach		240	6.6	0.128	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.9
North: Fitzroy Street												
8	T1	443	4.3	0.251	0.1	LOS A	0.2	1.6	0.05	0.03	0.05	49.5
9	R2	23	4.5	0.251	5.7	LOS A	0.2	1.6	0.05	0.03	0.05	48.1
Approach		466	4.3	0.251	0.4	NA	0.2	1.6	0.05	0.03	0.05	49.4
West: Hans Place												
10	L2	51	5.9	0.065	5.4	LOS A	0.2	1.7	0.35	0.59	0.35	44.0
12	R2	16	0.0	0.065	8.4	LOS A	0.2	1.7	0.35	0.59	0.35	39.9
Approach		66	4.5	0.065	6.1	LOS A	0.2	1.7	0.35	0.59	0.35	43.3
All Vehicles		773	5.0	0.251	0.8	NA	0.2	1.7	0.06	0.07	0.06	49.0

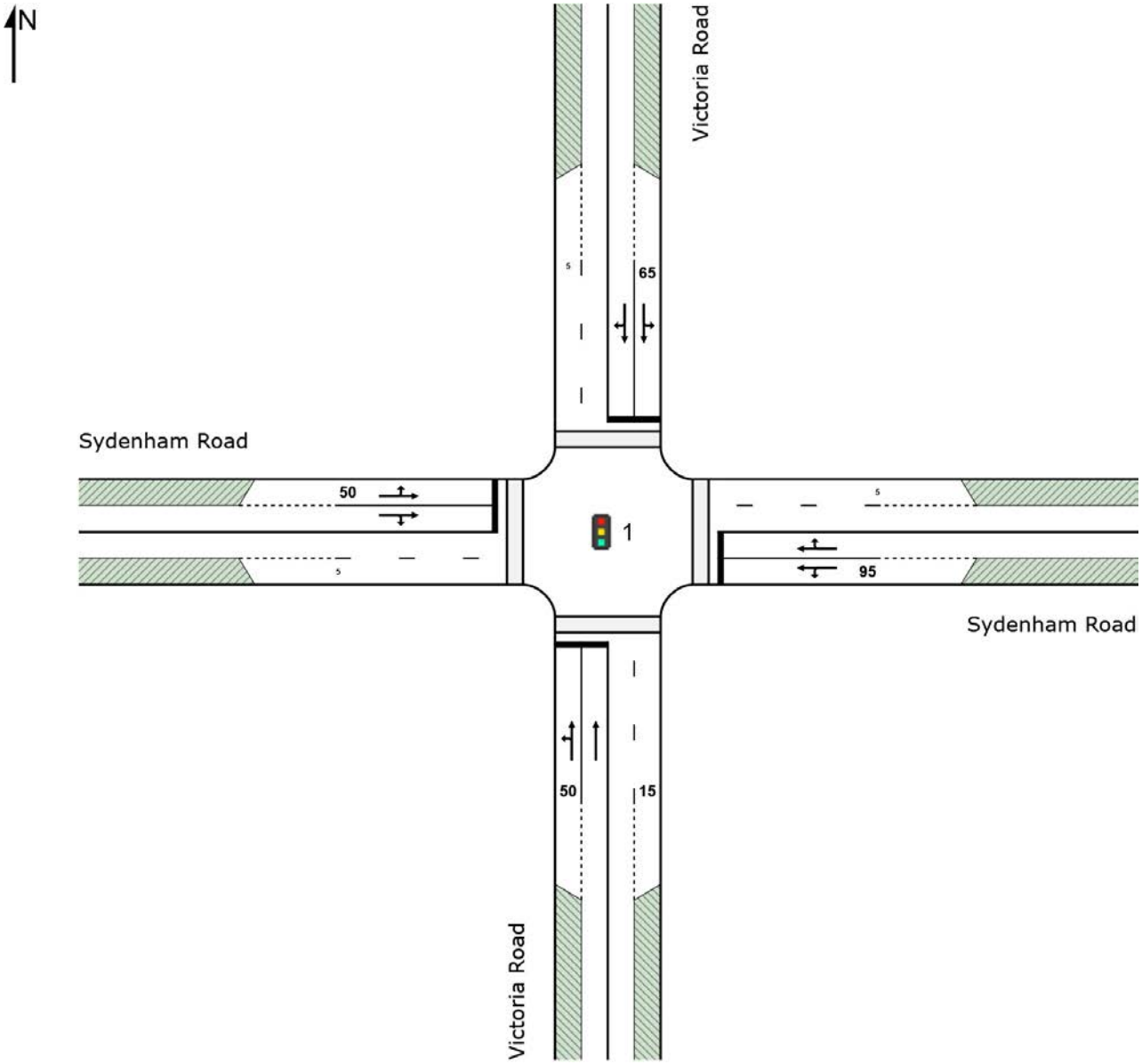
Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 1 [1 Victoria/ Sydenham Sat Fut]

Site Category: -
Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Site Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Variable Phasing
Reference Phase: Phase B
Input Phase Sequence: B, A, C
Output Phase Sequence: B, A, C

Site Layout

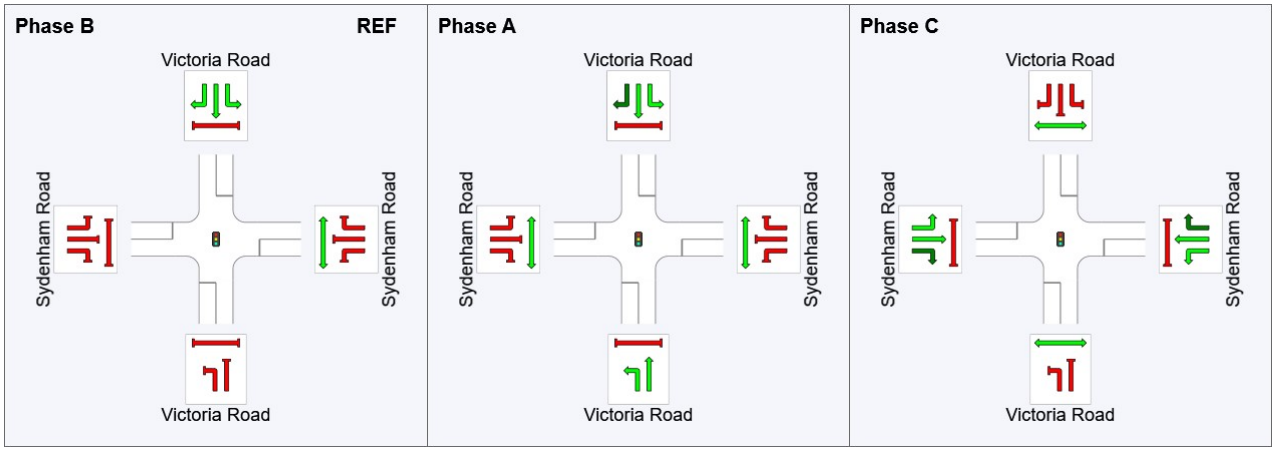


Movement Performance - Vehicles

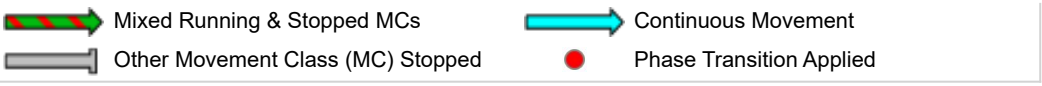
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Victoria Road												
1	L2	83	0.0	0.406	45.5	LOS D	6.0	42.8	0.93	0.77	0.93	23.3
2	T1	369	3.4	0.902	53.5	LOS D	18.0	129.9	0.99	1.03	1.31	25.6
Approach		453	2.8	0.902	52.0	LOS D	18.0	129.9	0.98	0.98	1.24	25.3
East: Sydenham Road												
4	L2	51	8.3	0.366	26.9	LOS B	9.5	68.7	0.73	0.65	0.73	31.9
5	T1	537	2.5	0.814	32.4	LOS C	18.8	134.2	0.88	0.83	0.96	19.6
6	R2	71	1.8	0.814	46.7	LOS D	18.8	134.2	0.99	0.96	1.14	23.3
Approach		658	2.8	0.814	33.5	LOS C	18.8	134.2	0.88	0.83	0.96	21.1
North: Victoria Road												
7	L2	94	0.0	0.327	24.5	LOS B	8.6	61.6	0.69	0.65	0.69	33.2
8	T1	383	3.6	0.726	21.3	LOS B	12.5	89.4	0.83	0.75	0.85	37.9
9	R2	161	2.0	0.726	29.1	LOS C	12.5	89.4	0.96	0.85	1.00	30.5
Approach		638	2.6	0.726	23.8	LOS B	12.5	89.4	0.84	0.76	0.86	35.5
West: Sydenham Road												
10	L2	191	1.2	0.418	26.3	LOS B	9.1	64.8	0.64	0.68	0.64	31.6
11	T1	685	3.4	0.928	39.7	LOS C	28.9	208.3	0.80	0.89	1.01	17.2
12	R2	36	2.9	0.928	49.3	LOS D	28.9	208.3	0.83	0.93	1.09	23.0
Approach		912	2.9	0.928	37.3	LOS C	28.9	208.3	0.77	0.85	0.94	20.4
All Vehicles		2660	2.8	0.928	35.6	LOS C	28.9	208.3	0.85	0.85	0.98	25.2

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

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Phase Timing Summary

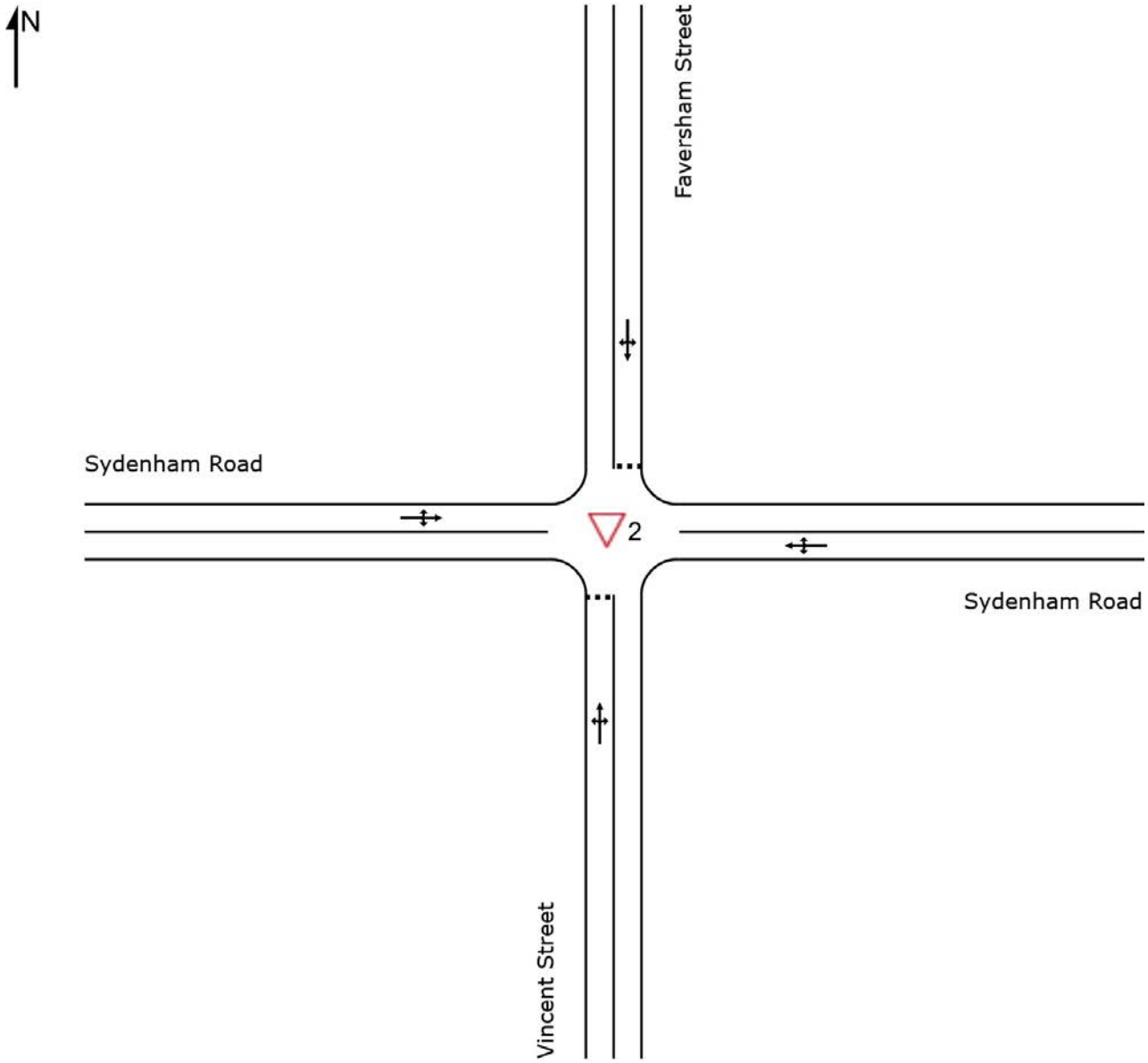
Phase	B	A	C
Phase Change Time (sec)	0	26	52
Green Time (sec)	20	20	42
Phase Time (sec)	26	26	48
Phase Split	26%	26%	48%

See the Phase Information section in the Detailed Output 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, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Site: 2 [2 Sydenham/ Faversham Sat Fut]

Site Category: -
Giveway / Yield (Two-Way)

Site Layout



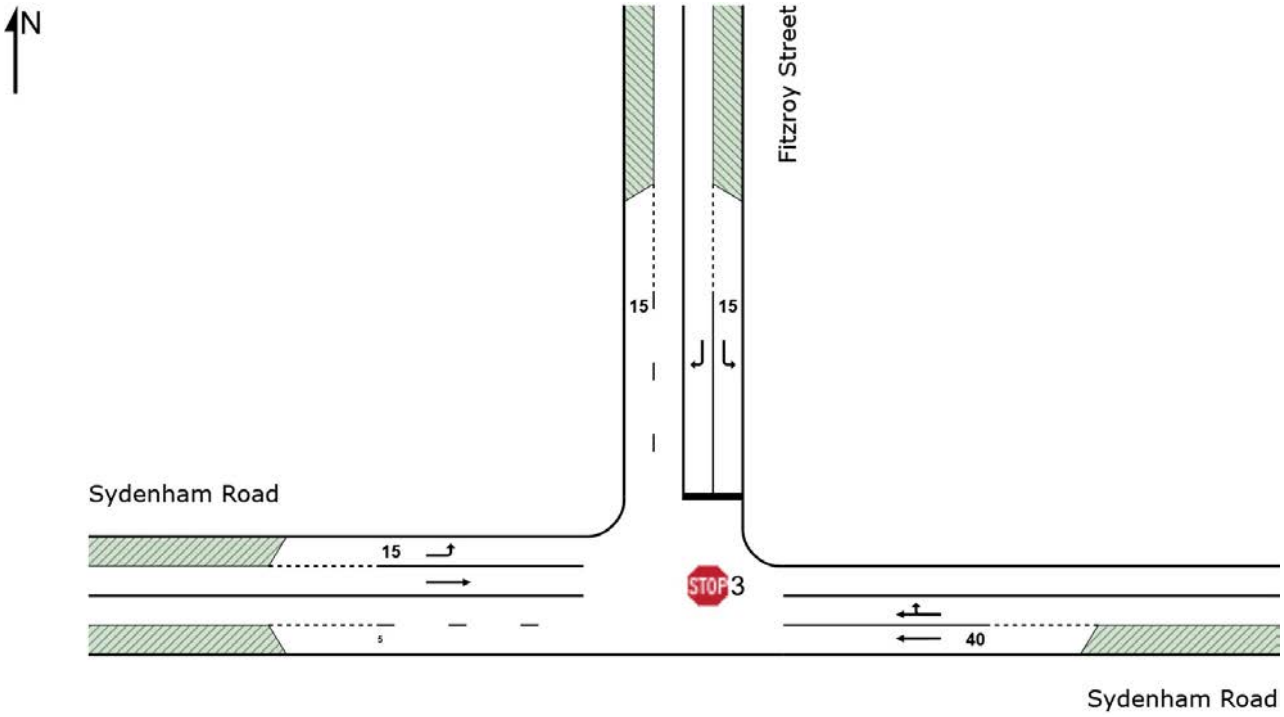
Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Vincent Street												
1	L2	14	0.0	0.056	7.1	LOS A	0.2	1.2	0.68	0.79	0.68	31.3
2	T1	1	0.0	0.056	18.2	LOS B	0.2	1.2	0.68	0.79	0.68	34.8
3	R2	6	0.0	0.056	23.0	LOS B	0.2	1.2	0.68	0.79	0.68	26.8
Approach		21	0.0	0.056	12.4	LOS A	0.2	1.2	0.68	0.79	0.68	30.2
East: Sydenham Road												
4	L2	9	0.0	0.323	6.3	LOS A	0.1	0.6	0.01	0.01	0.02	49.8
5	T1	604	2.5	0.323	0.1	LOS A	0.1	0.6	0.01	0.01	0.02	59.0
6	R2	2	0.0	0.323	10.6	LOS A	0.1	0.6	0.01	0.01	0.02	48.3
Approach		616	2.4	0.323	0.2	NA	0.1	0.6	0.01	0.01	0.02	58.7
North: Faversham Street												
7	L2	14	0.0	0.397	12.5	LOS A	1.4	10.0	0.88	1.02	1.12	19.7
8	T1	1	0.0	0.397	23.3	LOS B	1.4	10.0	0.88	1.02	1.12	26.3
9	R2	66	0.0	0.397	28.9	LOS C	1.4	10.0	0.88	1.02	1.12	24.9
Approach		81	0.0	0.397	26.0	LOS B	1.4	10.0	0.88	1.02	1.12	24.0
West: Sydenham Road												
10	L2	20	0.0	0.431	8.0	LOS A	0.3	2.3	0.04	0.02	0.06	50.6
11	T1	780	3.0	0.431	0.2	LOS A	0.3	2.3	0.04	0.02	0.06	57.4
12	R2	12	0.0	0.431	10.4	LOS A	0.3	2.3	0.04	0.02	0.06	49.1
Approach		812	2.9	0.431	0.5	NA	0.3	2.3	0.04	0.02	0.06	56.9
All Vehicles		1529	2.5	0.431	1.9	NA	1.4	10.0	0.08	0.08	0.11	50.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 3 [3 Sydenham/ Fitzroy Sat Fut]

Site Category: -
Stop (Two-Way)

Site Layout



Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Sydenham Road												
5	T1	526	1.8	0.424	3.5	LOS A	3.9	27.9	0.40	0.18	0.58	46.5
6	R2	143	3.7	0.424	13.4	LOS A	3.9	27.9	0.59	0.26	0.84	41.6
Approach		669	2.2	0.424	5.6	NA	3.9	27.9	0.44	0.19	0.63	45.1
North: Fitzroy Street												
7	L2	265	0.8	0.480	15.6	LOS B	2.8	20.0	0.69	1.13	1.04	34.1
9	R2	97	5.4	0.676	52.1	LOS D	2.9	21.2	0.95	1.18	1.59	12.3
Approach		362	2.0	0.676	25.4	LOS B	2.9	21.2	0.76	1.15	1.19	25.9
West: Sydenham Road												
10	L2	149	2.1	0.082	4.3	LOS A	0.0	0.0	0.00	0.56	0.00	41.7
11	T1	652	3.1	0.341	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		801	2.9	0.341	0.8	NA	0.0	0.0	0.00	0.10	0.00	56.1
All Vehicles		1833	2.5	0.676	7.4	NA	3.9	27.9	0.31	0.34	0.47	41.5

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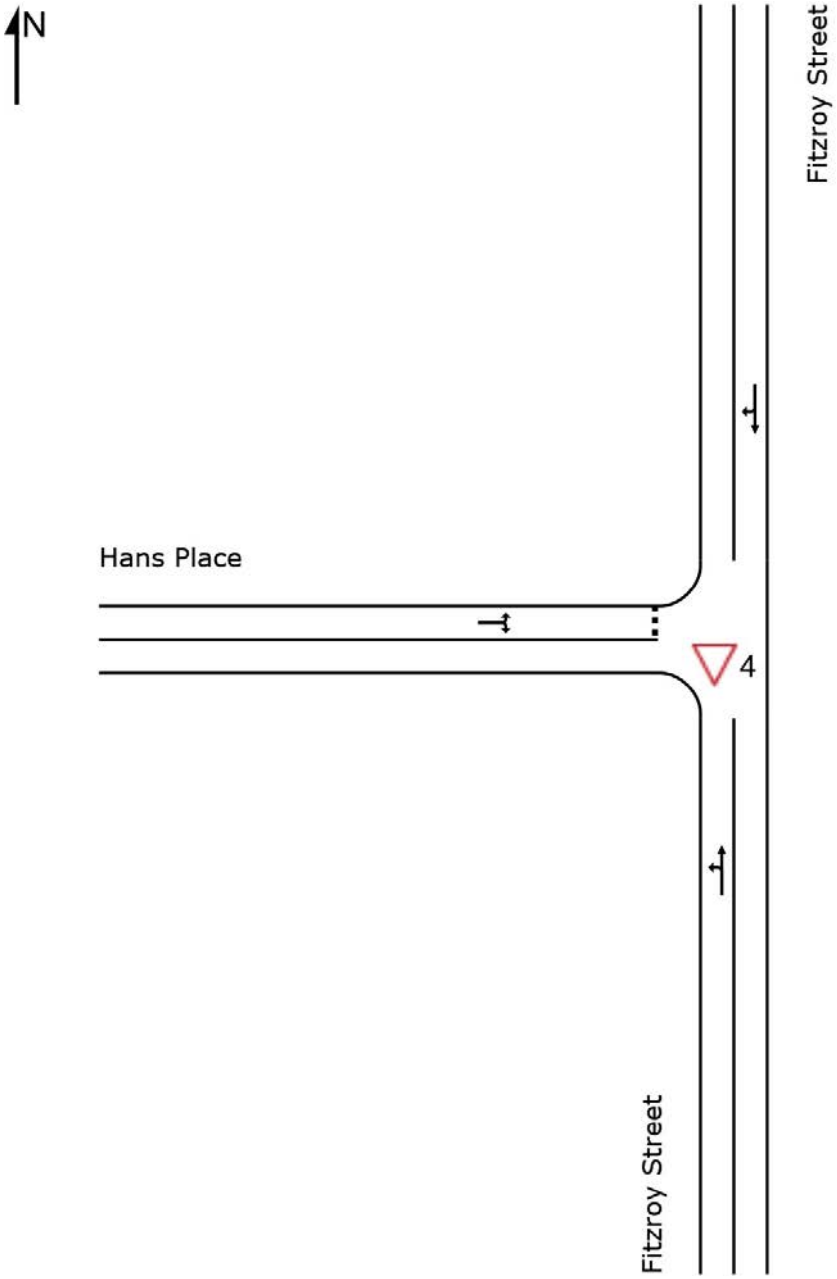
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 4 [4 Fitzroy/ Hans Sat Fut]

Site Category: -
Giveway / Yield (Two-Way)

Site Layout



Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Fitzroy Street												
1	L2	2	0.0	0.149	4.6	LOS A	0.0	0.0	0.00	0.00	0.00	48.7
2	T1	284	2.6	0.149	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		286	2.6	0.149	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.9
North: Fitzroy Street												
8	T1	355	2.4	0.192	0.0	LOS A	0.1	0.6	0.03	0.01	0.03	49.7
9	R2	9	0.0	0.192	5.7	LOS A	0.1	0.6	0.03	0.01	0.03	48.4
Approach		364	2.3	0.192	0.2	NA	0.1	0.6	0.03	0.01	0.03	49.7
West: Hans Place												
10	L2	68	0.0	0.070	5.5	LOS A	0.3	1.8	0.37	0.58	0.37	44.1
12	R2	11	0.0	0.070	7.8	LOS A	0.3	1.8	0.37	0.58	0.37	40.0
Approach		79	0.0	0.070	5.8	LOS A	0.3	1.8	0.37	0.58	0.37	43.8
All Vehicles		729	2.2	0.192	0.7	NA	0.3	1.8	0.05	0.07	0.05	49.0

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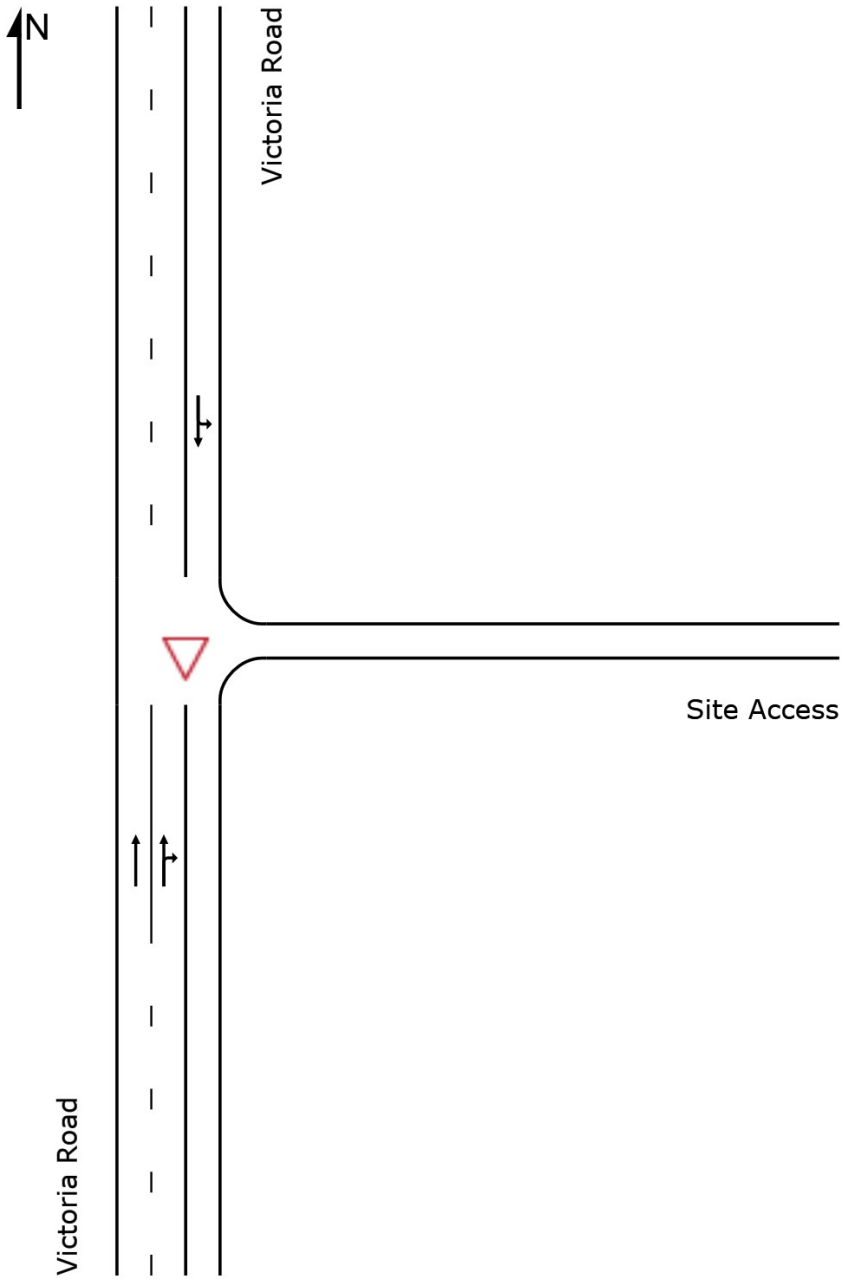
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: [5 Site Access AM Fut]

Site Category: -
Giveway / Yield (Two-Way)

Site Layout



Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Victoria Road												
2	T1	805	2.0	0.221	0.1	LOS A	0.3	2.1	0.04	0.03	0.04	58.8
3	R2	27	0.0	0.221	9.3	LOS A	0.3	2.1	0.08	0.06	0.08	26.6
Approach		833	1.9	0.221	0.4	NA	0.3	2.1	0.04	0.03	0.04	57.3
North: Victoria Road												
7	L2	41	0.0	0.232	8.9	LOS A	0.0	0.0	0.00	0.11	0.00	30.4
8	T1	404	2.0	0.232	0.0	LOS A	0.0	0.0	0.00	0.11	0.00	57.5
Approach		445	1.8	0.232	0.8	NA	0.0	0.0	0.00	0.11	0.00	54.3
All Vehicles		1278	1.9	0.232	0.6	NA	0.3	2.1	0.03	0.06	0.03	56.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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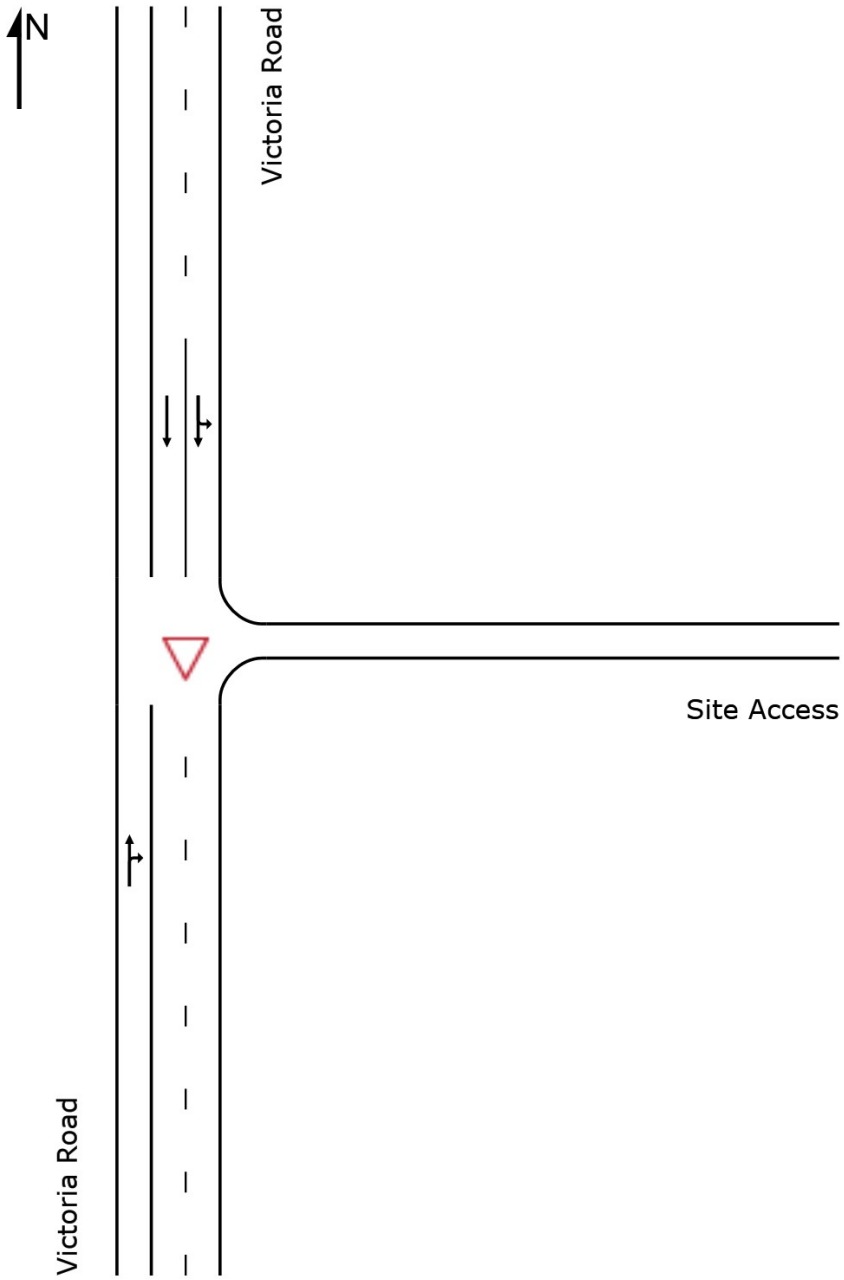
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: [5 Site Access PM Fut]

Site Category: -
Giveway / Yield (Two-Way)

Site Layout



Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Victoria Road												
2	T1	487	2.0	0.384	3.6	LOS A	2.3	16.4	0.37	0.11	0.48	47.4
3	R2	59	0.0	0.384	18.7	LOS B	2.3	16.4	0.37	0.11	0.48	23.0
Approach		546	1.8	0.384	5.2	NA	2.3	16.4	0.37	0.11	0.48	44.1
North: Victoria Road												
7	L2	88	0.0	0.294	8.9	LOS A	0.0	0.0	0.00	0.18	0.00	29.8
8	T1	1042	2.0	0.294	0.0	LOS A	0.0	0.0	0.00	0.08	0.00	58.0
Approach		1131	1.8	0.294	0.7	NA	0.0	0.0	0.00	0.09	0.00	55.1
All Vehicles		1677	1.8	0.384	2.2	NA	2.3	16.4	0.12	0.10	0.16	51.0

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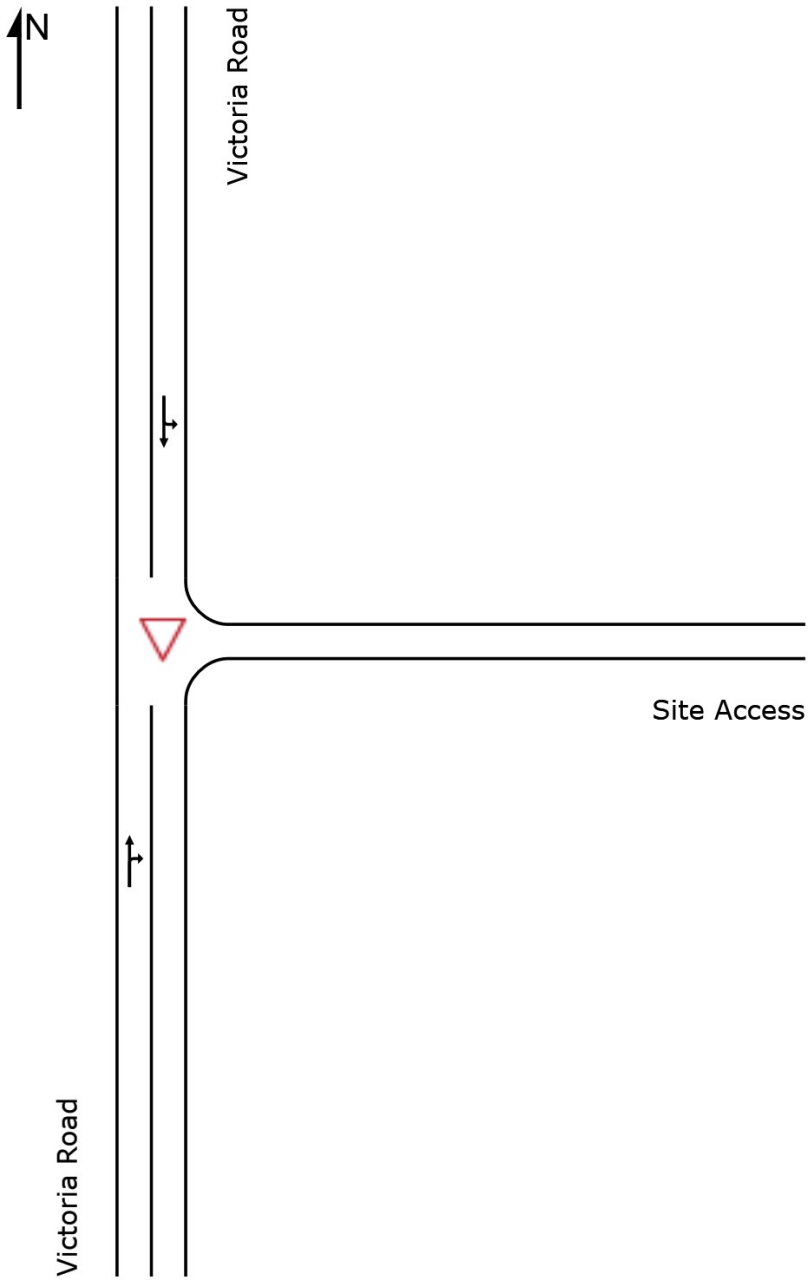
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: [5 Site Access Sat Fut]

Site Category: -
Giveway / Yield (Two-Way)

Site Layout



Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Victoria Road												
2	T1	576	2.0	0.378	1.3	LOS A	1.5	10.4	0.24	0.10	0.30	53.2
3	R2	65	0.0	0.378	12.9	LOS A	1.5	10.4	0.24	0.10	0.30	25.1
Approach		641	1.8	0.378	2.5	NA	1.5	10.4	0.24	0.10	0.30	49.5
North: Victoria Road												
7	L2	98	0.0	0.384	8.9	LOS A	0.0	0.0	0.00	0.15	0.00	30.0
8	T1	638	2.0	0.384	0.0	LOS A	0.0	0.0	0.00	0.15	0.00	56.5
Approach		736	1.7	0.384	1.2	NA	0.0	0.0	0.00	0.15	0.00	52.0
All Vehicles		1377	1.8	0.384	1.8	NA	1.5	10.4	0.11	0.13	0.14	50.8

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

C. CAR PARK REVIEW

C

N

A WARNING SIGNAL FOR PEDESTRIANS SHOULD BE PROVIDED

TO COMPLY WITH AS2890.2-2002 A MINIMUM HEIGHT CLEARANCE (TO SERVICES AND STRUCTURE) OF 4.5m SHOULD BE PROVIDED ABOVE FOR LOADING DOCKS AND ACCESS ROADWAYS FOR SERVICE VEHICLES LONGER THAN 6.4m RIGID VEHICLES

PROVIDE 2.5m x 2m CLEAR SIGHT LINES AT THE PROPERTY LINE TO ENSURE ADEQUATE VISIBILITY TO PEDESTRIANS FOR EXITING VEHICLES

COLUMN LOCATION WILL IMPACT UNLOADING/ LOADING FROM REAR OF SERVICE VEHICLE E.G. UNLOADING PALLETS USING SMALL FORKLIFTS OR WALKIE STAKER

NOTES:

- PROVIDE A MAXIMUM GRADE OF 1:20 FOR AT LEAST 6.6m(RECOMMEND 7m TO COMPLY WITH CHANGE IN GRADE TRANSITION LENGTH) PRIOR TO PROPERTY LINE / PEDESTRIAN WALKWAY FOR A 12.5m LARGE RIGID VEHICLE EXIT
- MAXIMUM CHANGE IN GRADE FOR UP TO A 12.5m RIGID VEHICLE SHOULD BE 1:16 OVER 7m TO A MAXIMUM GRADE OF 1:6.5 (eg from a grade of 1:16 the maximum grade of the next transition should be 1:8)
- GRADES AND/ OR RLs TO BE CONFIRMED IN DETAILED DESIGN

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Sydney	02 8448 1800
Brisbane	07 3113 5000
Adelaide	08 8334 3600
Perth	08 6169 1000

PRELIMINARY PLAN
FOR DISCUSSION PURPOSES ONLY
SUBJECT TO CHANGE WITHOUT NOTIFICATION

WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

DESIGNED	R.ZHANG
DESIGN CHECK	H.OBERMAIER
APPROVED BY	R.HAZELL
DATE ISSUED	06 NOVEMBER 2019

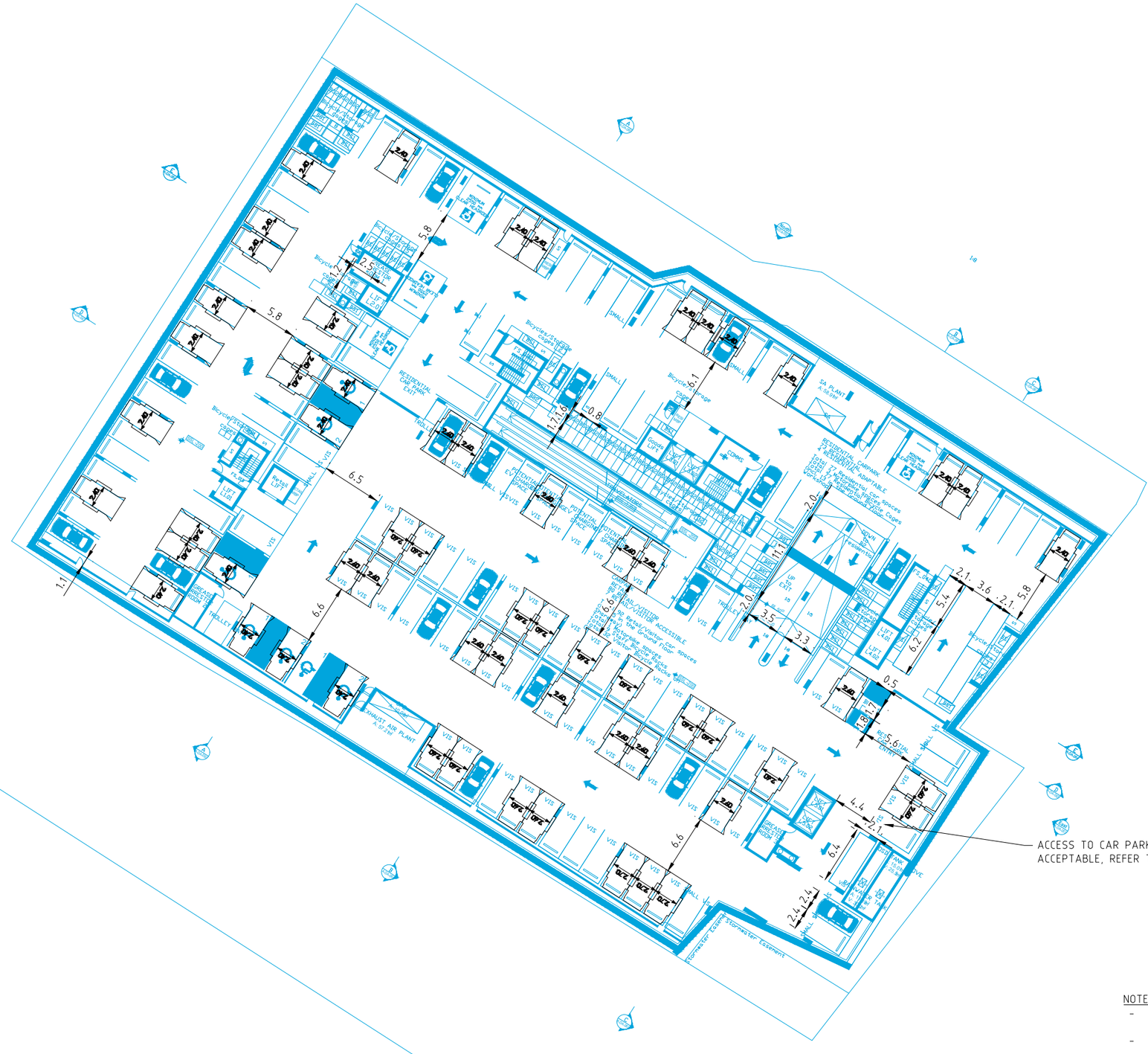
SCALE A3 0 2.5 5 10 1:500

CAD FILE NO. N156271-02-P3.DWG

182 - 198 VICTORIA ROAD, MARRICKVILLE

GROUND
CAR PARK COMPLIANCE REVIEW

DRAWING NO. N156271-02-01 SHEET 01 OF 08 ISSUE P3



NOTES:

- MINIMUM HEIGHT CLEARANCE OF 2.2m (TO SERVICES AND STRUCTURE) SHOULD BE PROVIDED ABOVE PARKING SPACES
- MINIMUM HEIGHT CLEARANCE OF 2.5m (TO SERVICES AND STRUCTURE) SHOULD BE PROVIDED ABOVE DISABLED PARKING SPACES
- WHEEL STOP LOCATIONS TO BE CONFIRMED AS PART OF DETAILED DESIGN
- GRADES AND/ OR RLs TO BE CONFIRMED IN DETAILED DESIGN

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DESIGNED R.ZHANG	DESIGN CHECK H.OBERMAIER
APPROVED BY R.HAZELL	DATE ISSUED 06 NOVEMBER 2019

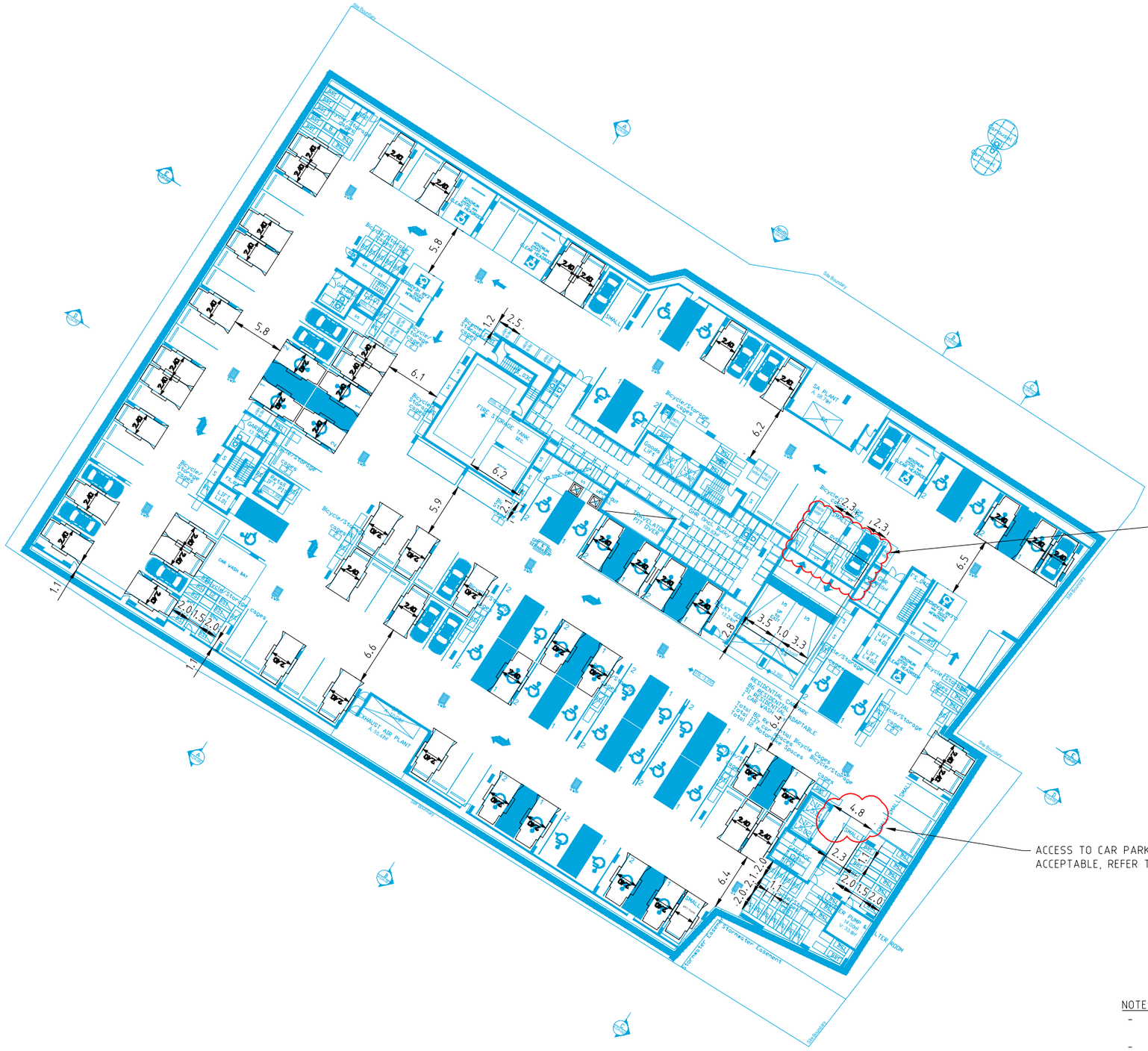
SCALE A3 0 2.5 5 10 1:500

CAD FILE NO. N156271-02-P3.DWG

182 - 198 VICTORIA ROAD, MARRICKVILLE

BASEMENT 1
CAR PARK COMPLIANCE REVIEW

DRAWING NO. N156271-02-02 SHEET 02 OF 08 ISSUE P3



NOTES:

- MINIMUM HEIGHT CLEARANCE OF 2.2m (TO SERVICES AND STRUCTURE) SHOULD BE PROVIDED ABOVE PARKING SPACES
- MINIMUM HEIGHT CLEARANCE OF 2.5m (TO SERVICES AND STRUCTURE) SHOULD BE PROVIDED ABOVE DISABLED PARKING SPACES
- WHEEL STOP LOCATIONS TO BE CONFIRMED AS PART OF DETAILED DESIGN
- GRADES AND/ OR RLs TO BE CONFIRMED IN DETAILED DESIGN

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Brisbane 07 3113 5000
Adelaide 08 8334 3600
Perth 08 6169 1000

PRELIMINARY PLAN
FOR DISCUSSION PURPOSES ONLY
SUBJECT TO CHANGE WITHOUT NOTIFICATION

WARNING
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DESIGNED R.ZHANG
DESIGN CHECK H.OBERMAIER
APPROVED BY R.HAZELL
DATE ISSUED 06 NOVEMBER 2019
SCALE A3 0 2.5 5 10 1:500
CAD FILE NO. N156271-02-P3.DWG

182 - 198 VICTORIA ROAD, MARRICKVILLE

BASEMENT 2
CAR PARK COMPLIANCE REVIEW

DRAWING NO. N156271-02-03 SHEET 03 OF 08 ISSUE P3

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PRELIMINARY PLAN
FOR DISCUSSION PURPOSES ONLY SUBJECT TO CHANGE WITHOUT NOTIFICATION

WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

DESIGNED R.ZHANG
DESIGN CHECK H.OBERMAIER
APPROVED BY R.HAZELL
DATE ISSUED 06 NOVEMBER 2019
SCALE A3 0 2.5 5 10 1:500
CAD FILE NO. N156271-02-P3.DWG

182 - 198 VICTORIA ROAD, MARRICKVILLE

GROUND
SWEPT PATH ASSESSMENT

DRAWING NO. N156271-02-04 SHEET 04 OF 08 ISSUE P3

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SCALE A3 0 2.5 5 10 1:500
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182 - 198 VICTORIA ROAD, MARRICKVILLE

GROUND
SWEPT PATH ASSESSMENT

DRAWING NO. N156271-02-05 SHEET 05 OF 08 ISSUE P3

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DESIGNED
R.ZHANG

DESIGN CHECK
H.OBERMAIER

APPROVED BY
R.HAZELL

DATE ISSUED
06 NOVEMBER 2019

SCALE
A3 0 2.5 5 10 1:500

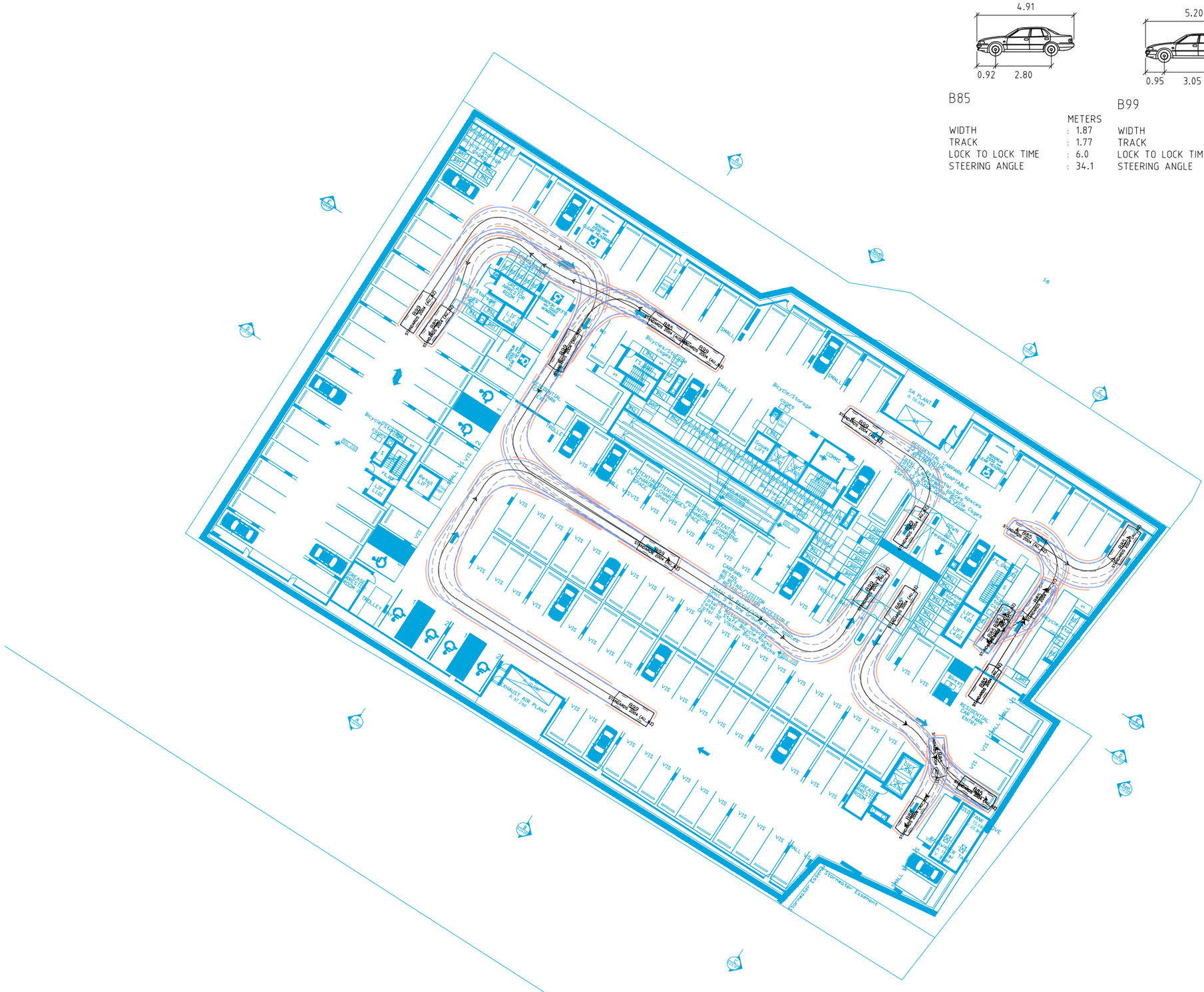
CAD FILE NO.
N156271-02-P3.DWG

182 - 198 VICTORIA ROAD, MARRICKVILLE

GROUND
SWEPT PATH ASSESSMENT

DRAWING NO. N156271-02-06 SHEET 06 OF 08 ISSUE P3

\\GTA.COM.AU\PROJECTFILES\PROJECTFILESSYD\N15600-15699\N156271 182-198 VICTORIA ROAD, MARRICKVILLE\CAD\N156271-02-P3.DWG PLOTTED BY RAYMOND ZHANG ON 06/11/2019 AT 17:31



B85

		METERS
WIDTH	:	1.87
TRACK	:	1.77
LOCK TO LOCK TIME	:	6.0
STEERING ANGLE	:	34.1

B99

		METERS
WIDTH	:	1.94
TRACK	:	1.84
LOCK TO LOCK TIME	:	6.0
STEERING ANGLE	:	33.9

SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h

N

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DATE ISSUED 06 NOVEMBER 2019

SCALE A3 0 2.5 5 10 1:500
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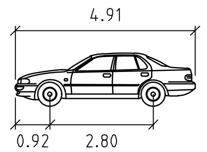
182 - 198 VICTORIA ROAD, MARRICKVILLE

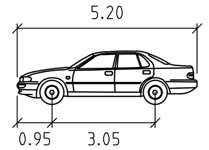
BASEMENT 1
SWEPT PATH ASSESSMENT

DRAWING NO. N156271-02-07 SHEET 07 OF 08 ISSUE P3



B85

	METERS
WIDTH	: 1.87
TRACK	: 1.77
LOCK TO LOCK TIME	: 6.0
STEERING ANGLE	: 34.1



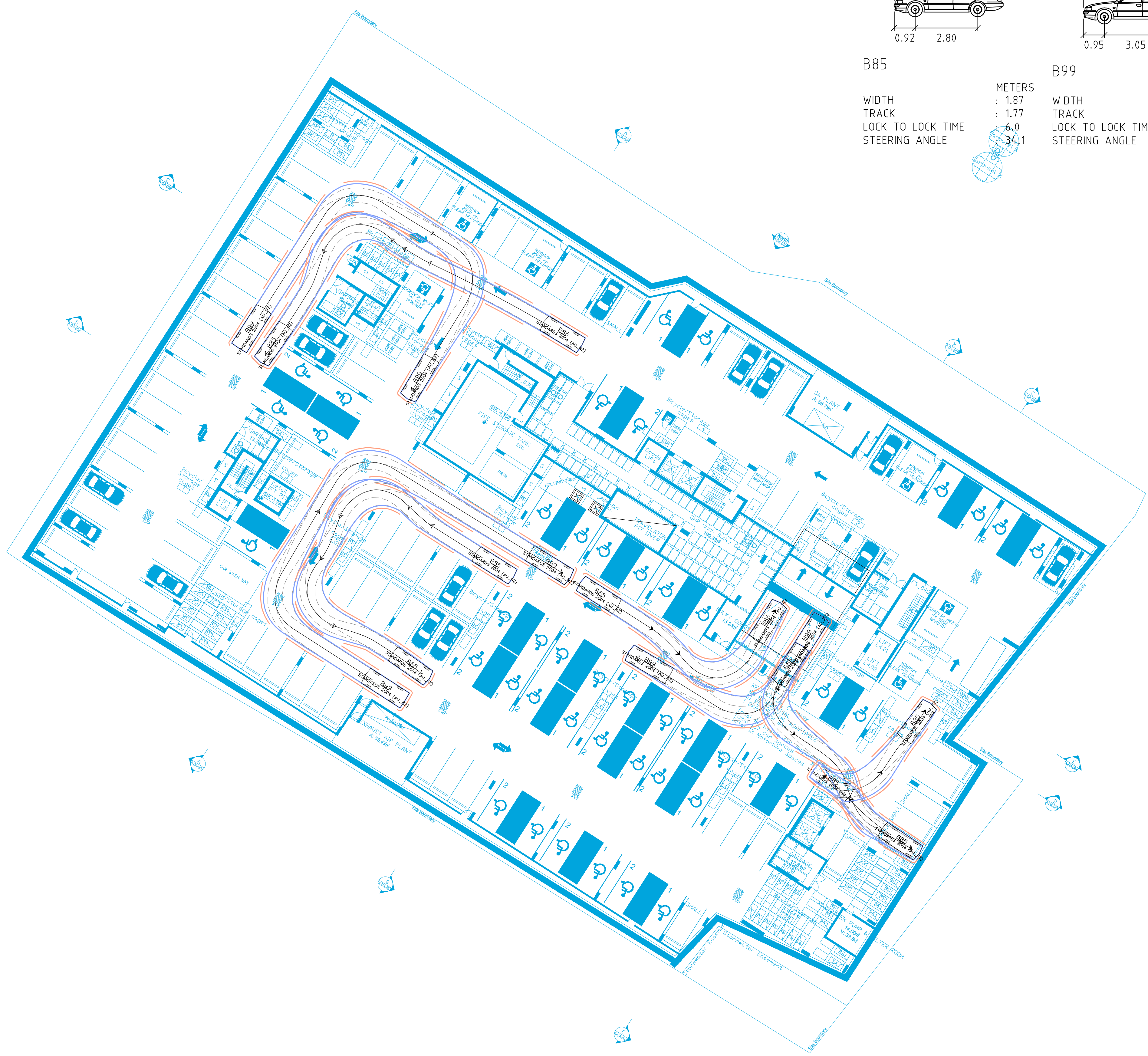
B99

	METERS
WIDTH	: 1.94
TRACK	: 1.84
LOCK TO LOCK TIME	: 6.0
STEERING ANGLE	: 33.9

SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h



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DESIGNED R.ZHANG	DESIGN CHECK H.OBERMAIER
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CAD FILE NO. N156271-02-P3.DWG

182 - 198 VICTORIA ROAD, MARRICKVILLE

BASEMENT 2
SWEPT PATH ASSESSMENT

DRAWING NO. N156271-02-08 SHEET 08 OF 08 ISSUE P3

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