22 Winbourne Street, West Ryde

Planning Proposal - Traffic Impact Assessment

CBRE Project Management

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1. INTRODUCTION

1.1 Background

1.1.1 Purpose of Report

This report provides a supplementary traffic impact assessment (TIA) to address Council's RFI and complete their assessment of the Planning Proposal.

1.1.2 Project History

Below outlines a summary of the project history relating to the Planning Proposal application:

- A Planning Proposal was lodged with City of Ryde Council (CoRC) on 4 June 2021 seeking Council support for rezoning of the existing Marsden High School site from SP2 Infrastructure to part RE1 Public Recreation and part C2 Environmental Conservation (now known as C2 Environmental Conservation).
- A pre-DA meeting was held on 15 July 2021 concurrent to the Planning Proposal (PP) submission, resulting in details of the proposed concept design for the facility being provided to Council, in an effort to streamline the various statutory planning pathways.
- CoRC issued a Request for Information (RFI) #1 on 16 July 2021 in relation to traffic and parking issues
- CoRC issued a Request for Information (RFI) #2 on 11 November 2021 in relation to traffic and parking issues.

1.1.3 Transport Assessment Chronology of Events

Prior to the preparation of this assessment, the following transport assessment items have been undertaken (in chronological order):

- SCT Consulting completed a Rapid Transport Assessment for the proposal to inform the project team (16 February 2021). The RTA reviewed the transport components and considerations to support the development and helped inform the planning proposal.
- As part of the PP application, SCT Consulting completed a Traffic Impact Assessment (TIA) in March 2021. This was submitted with the PP on 4 June 2021.
- Council responded to the TIA (16 July 2021) with a request for further information (RFI). The RFI outlined the following concerns regarding the SCT Consulting TIA:
  - The traffic generation was based on survey results from 2009, raising concerns about its suitability to accurately represent current operation
  - There is a lack of clarity on the likely operational characteristics of the indoor netball courts
  - Traffic modelling was requested to provide details of the expected impacts of the development on the road network during the weekday evening peak (5PM – 6PM) and Saturday midday peak (12PM – 1PM).
  - The parking impacts to the surrounding streets were not well documented or justified. A detailed assessment of off-street car parking provision necessary to support the development should be provided.
- SCT Consulting provided a response to Council's RFI on 14 September 2021.
- Council issued a further RFI (#2) on 11 November 2021. The RFI outlined a series of concerns regarding the traffic assessment assumptions as summarised below:
  - The information provided to date did not provide assurance about the level of traffic and parking impact resulting from the rezoning of the land
  - The impact of overflow parking resulting from the proposed facility is underestimated as the proposed parking rates provided are lower than the rates specified in the Development Control Plan

- The traffic surveys that were supporting the traffic analysis were undertaken in February 2021 during Covid-19 restrictions, and were shown to represent lower than usual traffic volumes when compared to SCATS data from 2019. The traffic surveys were not considered to be representative of typical traffic volumes.
- Further justification is required for the reduced traffic generation rate assumed during weekday PM peak period
- Traffic generation in the previous assessment did not include the four indoor courts
- Traffic modelling assumed upgrades to the layout of Victoria Road / Marsden Road intersection that will not necessarily be completed at the time of operation. The existing intersection layout should be used.
- It is unclear whether the current road and active transport infrastructure can support this land use
- Additional measures should be considered to reduce reliance upon private vehicles (i.e. active and public transport)

- In response to Council's RFI, Bitzios Consulting were engaged to undertake a peer review of the Rapid Transport Assessment, Traffic Impact Assessment and Council's comments.
- A meeting on the 22nd of February 2022 was held between the project team, Bitzios Consulting and Council to discuss Council's concerns regarding the proposal and help determine what level of detail was required to be submitted as part of the planning proposal in order to give Council's officers comfort that the transport impacts of the proposal could be adequately addressed
- Bitzios Consulting then undertook review and assessment of the core assumptions associated to the traffic assessments to date. This included additional reviews of example site operations including the different scale and frequency of events as well as review the practical transport impacts for such facilities in line with the communities' reasonable expectations.
- A meeting was held with Council officers to present Bitzios Consulting's findings. Council then reviewed the operational information and provided feedback to inform both this traffic assessment for the Planning Proposal as well as scope for more detailed requirements as part of future development applications. A summary of Council's feedback is presented in **Appendix A.**

1.2 Scope

The scope of works for this Planning Proposal traffic impact assessment includes:

- Review of the existing site and operation, the surrounding road network, public transport and active transport
- Undertaking benchmarking of operations, traffic and parking impacts at similar netball facilities
- Assessment of the car parking provision based on similar netball facilities, the site specific transport system
- Estimation of the development traffic generation, distribution and impacts on the surrounding road network through detailed SIDRA Intersection modelling
- Review and recommendation of walk, cycle and public transport facilities to support the proposal
- Identifying potential traffic and parking impact mitigations to support the intended land use and varying scale events
- Providing high level commentary on the operation and management of events on the site.

2. EXISTING CONDITIONS

2.1 Existing Site

The subject site is currently occupied by Marsden High School. Access is currently provided via Windbourne Street. The site is adjacent to residential dwellings, a childcare and a public primary school. The established nature of the existing school and adjacent primary school generate concentrated peak traffic periods during morning drop-off and afternoon pick-up periods.

Source: Nearmap

Figure 2.1: Subject Site Location

2.2 Surrounding Road Network

Details of the surrounding road network are outlined in Table 2.1 below.

Table 2.1: Surrounding Road Network Hierarchy

Road Name	Jurisdiction	No. of Lanes (Two-way)	Hierarchy	Divided	Posted Speed	Details
Winbourne Street	City of Ryde	2	Local	No	40km/hr	Primary access road (north-south) for the subject site
Marsden Road	TfNSW	4	Arterial	No	60km/h	North-south arterial road providing access to the site
Victoria Road	TfNSW	6	Arterial	Yes	70km/h	East-west arterial road providing access to the site

Road Name	Jurisdiction	No. of Lanes (Two-way)	Hierarchy	Divided	Posted Speed	Details
Brush Road	City of Ryde	2	Local	No	40km/h	North-south road fronting the subject site

The surrounding key intersections are identified in Figure 2.2 and detailed in Table 2.2.

Source: GoogleMaps

Figure 2.2: Surrounding Key Intersections

Table 2.2: Key Intersections

Intersection #	Intersection Name	Jurisdiction	Intersection Type
1	Victoria Road / Marsden Road	TfNSW	Signalised
2	Marsden Road / Winbourne Street	TfNSW	Priority-controlled
3	Victoria Road / Brush Road	TfNSW	Priority-controlled (left-in, left out)

2.3 Existing Traffic Operations and Observations

2.3.1 Overview

The existing high school located on the site is accessed primarily via Winbourne Street, where a kiss and drop (KnD) facility is provided along the site frontage from Hermoyne Street to No. 16 Winbourne Street. Informal access to the site is also available via Brush Road.

Data was collected to establish the existing traffic conditions and operation around the subject site, including:

- Dash camera footage taken via drive by of the subject site and surrounding road network during the existing school peak hours on 9th March, 2022

- Intersection counts at the 3 key intersections between 7:00AM – 9:00AM and 3:00PM – 6:00PM on 9th March 2022, and 8:00AM – 1:00PM on 12th March 2022.
- Queue counts to coincide with the intersection counts at Intersection #1 and 2
- 7-day tube counts undertaken on Winbourne Street and Brush Road commencing 9th March 2022.

The intersection count data, tube count data and queue count data are attached in **Appendix B.**

2.3.2 Network Peak Hours

Based on the traffic data collected, the current network peaks (based on two-way traffic movements) around the site are as follows:

- Key intersection 1 (Victoria Road / Marsden Road):
  - AM Peak: 8:00AM – 9:00AM
  - PM Peak: 5:00PM – 6:00PM
  - Weekend Peak: 11:45AM – 12:45PM
- Key intersection 2 (Marsden Road / Winbourne Street):
  - AM Peak: 8:00AM – 9:00AM
  - PM Peak: 3:00PM – 4:00PM
  - Weekend Peak: 11:30AM – 12:30PM
- Key intersection 3 (Victoria Road / Brush Road):
  - AM Peak: 7:45AM – 8:45AM
  - PM Peak: 4:45PM – 5:45PM
  - Weekend Peak: 12:00PM – 1:00PM
- Winbourne Street:
  - AM Peak: 8:00AM – 9:00AM
  - PM Peak: 3:00PM – 4:00PM
  - Weekend Peak: 11:00AM – 12:00PM
- Brush Road:
  - AM Peak: 8:00AM – 9:00AM
  - PM Peak: 3:00PM – 4:00PM
  - Weekend Peak: 12:00PM – 1:00PM

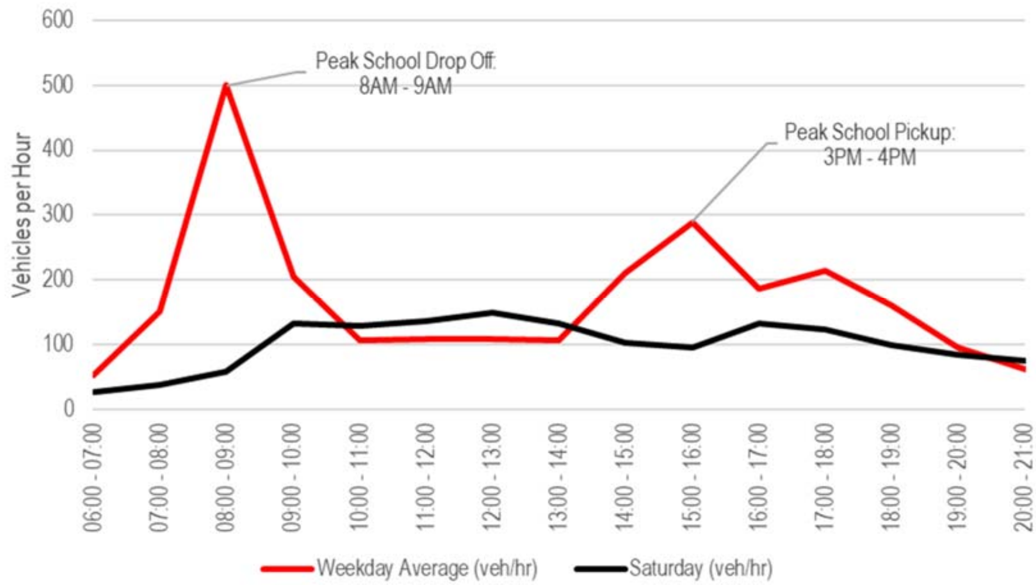
2.3.3 Existing Site Peak

Based on site observations and the current operating hours of Marsden High School, the existing site peak has been identified as 8:00AM – 9:00AM and 3:00PM – 4:00PM on weekdays. The existing site is not operational on weekends. Based on the above, the following conclusions can be made:

- The Marsden Road / Victoria Road intersection AM peak captures both commuter and high school drop off demand; however, the PM peak results only from commuters as it occurs after the high school operations cease (5:00pm – 6:00PM)
- The Winbourne Street / Marsden Road intersection peaks coincide with high school pick up and drop off (i.e. AM and PM peak).
- Similarly, the Winbourne Street and Brush Road peaks occur during the high school pick up and drop off
- The Brush Road / Victoria Road AM peak mostly aligns with school drop off; however, the PM peak results from commuters returning home, as it occurs later than school operational hours (4:45Pm – 5:45PM)
- Weekend peaks for all intersections / road links occur between 11AM – 1PM.

2.3.4 Winbourne Street Observations and Issues

There are high traffic volumes and low vehicle speeds during school peak hours on Winbourne Street. During weekends, traffic volumes reduce significantly and are primarily associated with surrounding residential based trip purposes. Average hourly weekday and weekend traffic volumes on Winbourne Street are highlighted in Figure 2.3 below.



Source: Matrix 7-day tube counts 9th March – 15th March 2022

Figure 2.3: Winbourne Street Two-way Hourly Traffic Volumes

Onsite observations revealed that the off-street bus facility north of Farnell Street on the western side of the subject site is utilised as an informal pick-up / drop-off area by parents. This creates a high volume of northbound right turns at this location, creating delays and queueing for southbound vehicles on Winbourne Street as shown in Figure 2.4 below.

Figure 2.4: Winbourne Street (Southbound) Observations – Utilisation of Bus Facility for Pick Up (3:04pm on 9 March 2022)

Additionally, vehicles were observed to queue back on Winbourne Street, waiting for an opportunity to exit onto Marsden Road and travel south to the Victoria Road intersection. Queueing data for the Winbourne Street / Marsden Road intersection indicated that queues of up to 17 vehicles (approx. 100m) occur in the southbound direction on Winbourne Street during both the AM and PM peak on weekdays. However, during weekends, minimal queueing was observed on this movement.

It is noted that the length of the right turn lane into Marsden Road only allows for approximately two vehicles to queue. Traffic count data at the intersection also indicates that during the commuter peak (5PM – 6PM), only 13% of vehicles exiting Winbourne Street into Marsden Road turn right, with the remaining 87% of vehicles turning left to continue to the Marsden Road / Victoria Road intersection.

2.3.5 Marsden Road Observations and Issues

Some queueing was observed in the southbound right turn lane on Marsden Road (north of the intersection with Victoria Road), as shown in Figure 2.5 below. This is attributed to the right turn movement onto Victoria Road heading westbound in the afternoon peak.

Figure 2.5: Marsden Road (Southbound) Observations – Queueing at Victoria Road Intersection (3:05pm on 9 March 2022)

Queueing data for the Winbourne Street / Marsden Road intersection indicated that queues of up to 17 vehicles (approx. 100m) extend north from the intersection during the AM peak. However, the maximum queueing on Marsden Road during the PM peak (approx.. 8 vehicles or 50m north of the intersection) occurred well after school pickup time (5:00PM – 6:00PM). On the weekends, minimal queueing was observed at this intersection.

2.3.6 Brush Road Observations and Issues

Brush Road experiences lower traffic demand related to school drop off and pick up compared to Winbourne Street, as indicated by the hourly traffic volumes shown in Figure 2.6 below.

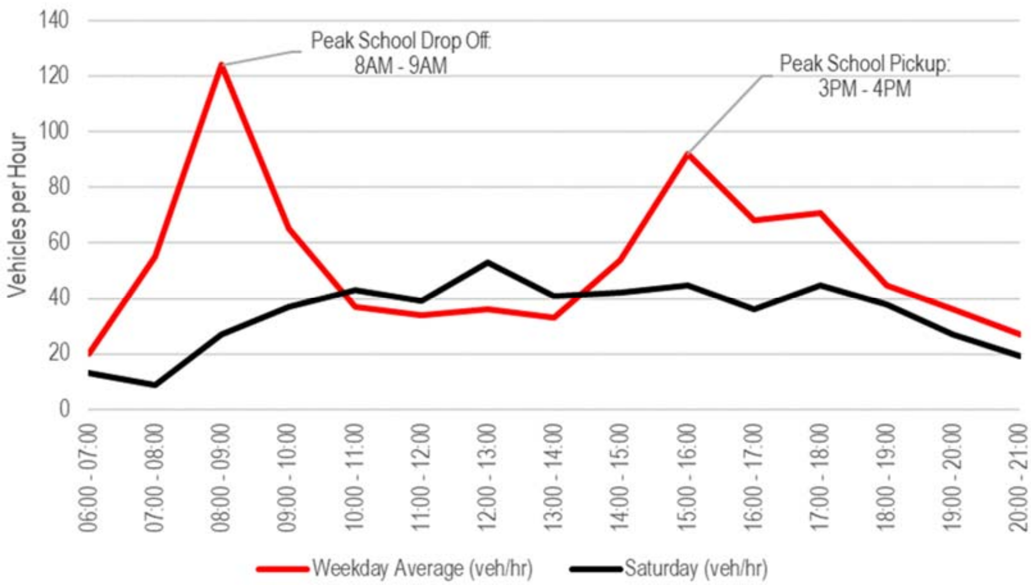


Figure 2.6: Brush Road Two-way Hourly Traffic Volumes

It was also noted that the northbound daily traffic on Brush Road was almost double the daily southbound traffic, so it is likely that the majority of parents utilising Brush Road for school pickup are continuing north rather than returning south to exit onto Victoria Road.

Due to on-street parking on both sides of Brush Road adjacent to the site frontage and the frequency of vehicles leaving the kerbside to enter the traffic lane, only a low speed can be maintained through Brush Road during site peak periods. Drivers must manoeuvre past each other as two-way access cannot be maintained when vehicles are parked on both sides of the road as shown in Figure 2.7.

Figure 2.7: Brush Road (Northbound) Observations – Constrained Road Width (3:00pm on March 9, 2022)

No queueing was observed from Brush Road into Victoria Road.

2.3.7 Existing Traffic Operation Summary

Key traffic impacts resulting from the existing site operation on the road network are summarised below:

- There is heavy traffic demand on Winbourne Street from 8AM – 9AM and 3PM – 4PM on weekdays, resulting in approx. 100m queues on Winbourne Street to the north of the Marsden Road / Winbourne Street intersection
- The majority (87%) of vehicles exiting Winbourne Street into Marsden Road are heading southbound during the afternoon commuter peak. The demand for the right turn into Marsden Road is low, likely due to route choice for the turning movement with less delays (i.e. left turn into Marsden Road) and the lack of space to queue for the right turn.
- There is some traffic impact to Brush Road on weekdays; however, the majority of the traffic is travelling northbound and is not as heavy as on Winbourne Street. No queueing was observed on Brush Road into Victoria Road.
- The traffic demand from the existing high school on weekdays does not determine the PM peak of the Victoria Road / Marsden Road intersection (5PM – 6PM)
- Some queuing (approx. 100m) occurs southbound on Marsden Road north of the Winbourne Street intersection during AM peak and may be resulting from the operation of the high school. However, the queueing in the PM peak (50m) occurs outside of school hours and is resulting from the commuter peak period (5PM – 6PM)
- There is no traffic impact from the existing site on the network during Saturdays.

2.4 Existing Parking Operation

2.4.1 Overview

As outlined in SCT Consulting's *Traffic and Transport Impact Assessment Report* and the *Rapid Transport Assessment*, on-street parking widely available in proximity to the subject site, as shown in Figure 2.8 below. This on-street parking is located along residential access and collector streets and apart form the existing school demands, does not exhibit any other major land uses or parking generators that result in high on-street parking utilisation.

Source: Marsden High School Netball Facility Rapid Transport Assessment (SCT Consulting, 2021)

Figure 2.8: On-street Parking Available in Proximity to the Subject Site

2.4.2 Background Parking Conditions

While existing parking surrounding the site associated with the school occurs during weekdays only and peaks during morning and afternoon periods, it is acknowledged that the period of when parking demands associated with the proposal will differ and be for a longer duration. Section 3 outlines the proposed facilities expected operations, with Section 5 reviewing the parking impacts and mitigation measures for further consideration through the development application phase to ensure the parking operations are acceptable to the communities expectations and do not result in any safety or amenity impacts to the surrounding area.

2.4.2.1 Winbourne Street Observations and Issues

Site observations during site peak hours revealed that the formalised kiss and drop zones along Winbourne Street are well utilised as shown in Figure 2.9 below. However, these parking impacts quickly dissipated after 9am and 4pm, with low parking occupancy observed on street after this time. As the school is not operational on weekends, there is low parking occupancy in the street on Saturdays.

Figure 2.9: **Winbourne Street (Southbound) On-street Parking Utilisation for School Pickup (3:05pm on 9 March 2022)**

2.4.2.2 Brush Road Observations and Issues

The informal parking opportunities along the subject site frontage on Brush Road are also well utilised during school peak periods, as shown in Figure 2.10 below.

Figure 2.10: **Brush Road (Northbound) On-street Parking Utilisation for School Pickup (3:00pm on 9 March 2022)**

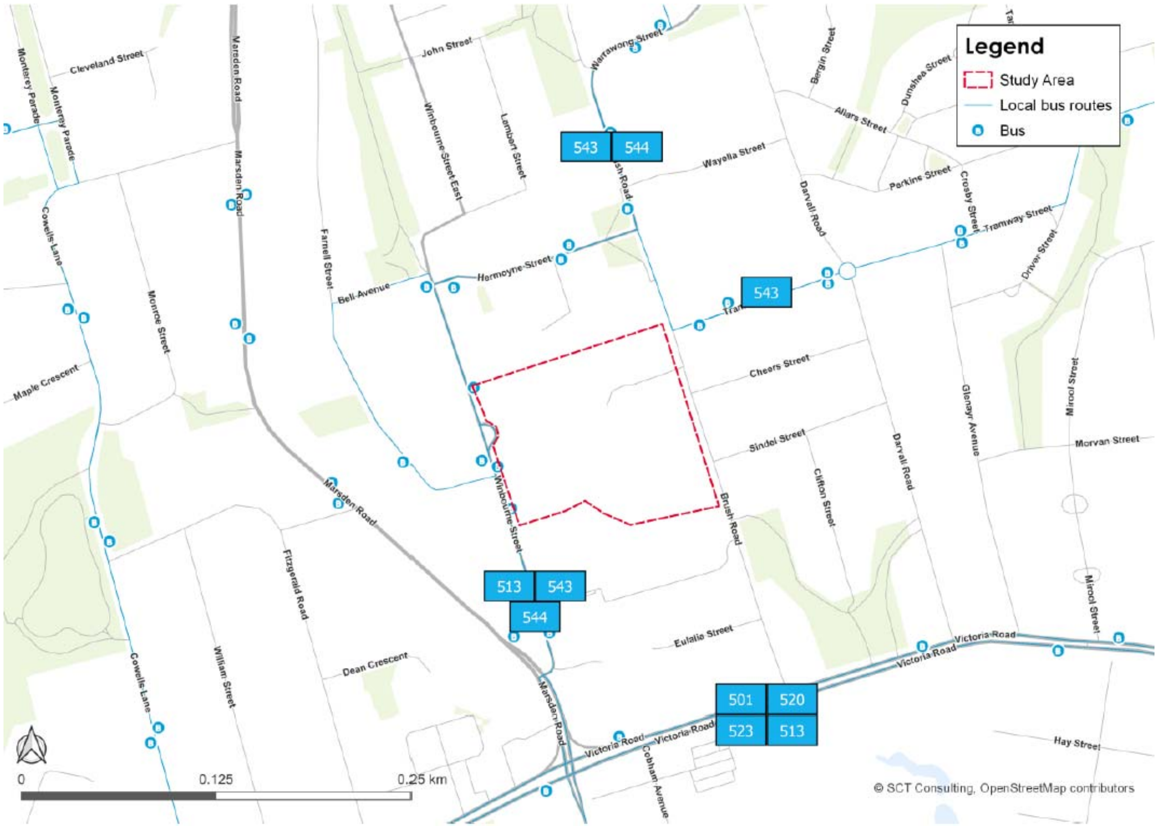
As with Winbourne Street, these impacts very quickly dissipate after these peak periods, with low parking occupancy observed after 9am and 4pm on the weekdays, and on weekends.

While Brush Road provides an opportunity for on-street parking associated with the site, the width of the road does not support parallel parking on both side and maintain two-way traffic flow.

It is expected that irrespective of the parking provision accessed via Winbourne Street as part of the proposed facility, patrons will approach and access the facility from the east via Brush Road and its connecting streets. Therefore, improvements to parking and travel lane line marking to manage traffic flow, driveway accesses and provide designated parking areas is recommended along Brush Road and connecting streets to the east of the site.

2.5 Public Transport

The existing public transport links are described in detail in the SCT Consulting *Traffic Impact Assessment* Report*.* Overall and by virtue of the historical school land use over the site, the site is a well located to existing public transport services including both local services as well as higher frequency services along Victoria Road connecting to Parramatta and the City. Key bus routes surrounding the site are shown in Figure 2.11 below.



Source: Marsden High School Recreational Facility Planning Proposal Traffic and Transport Impact Assessment (SCT Consulting, 2021)

Figure 2.11: Key Bus Routes in Proximity to the Subject Site

The frequency of bus services is outlined in Table 2.3 below.

Table 2.3: Bus Routes and Frequencies

Bus Route	Route Description	Frequency
501	Parramatta to Central Pitt St via Victoria Rd	9 minutes during peaks on weekdays
513	Carlingford to West Ryde	30 mins during peak on weekdays
523	West Ryde to Parramatta	30 mins during peak on weekdays
543	Eastwood to West Ryde	1 service in AM and 1 in PM
544	Auburn to Macquarie Centre via Eastwood	30 mins during peaks on weekdays

The bus routes provide direct links to Eastwood, Parramatta, Carlingford, and Auburn.

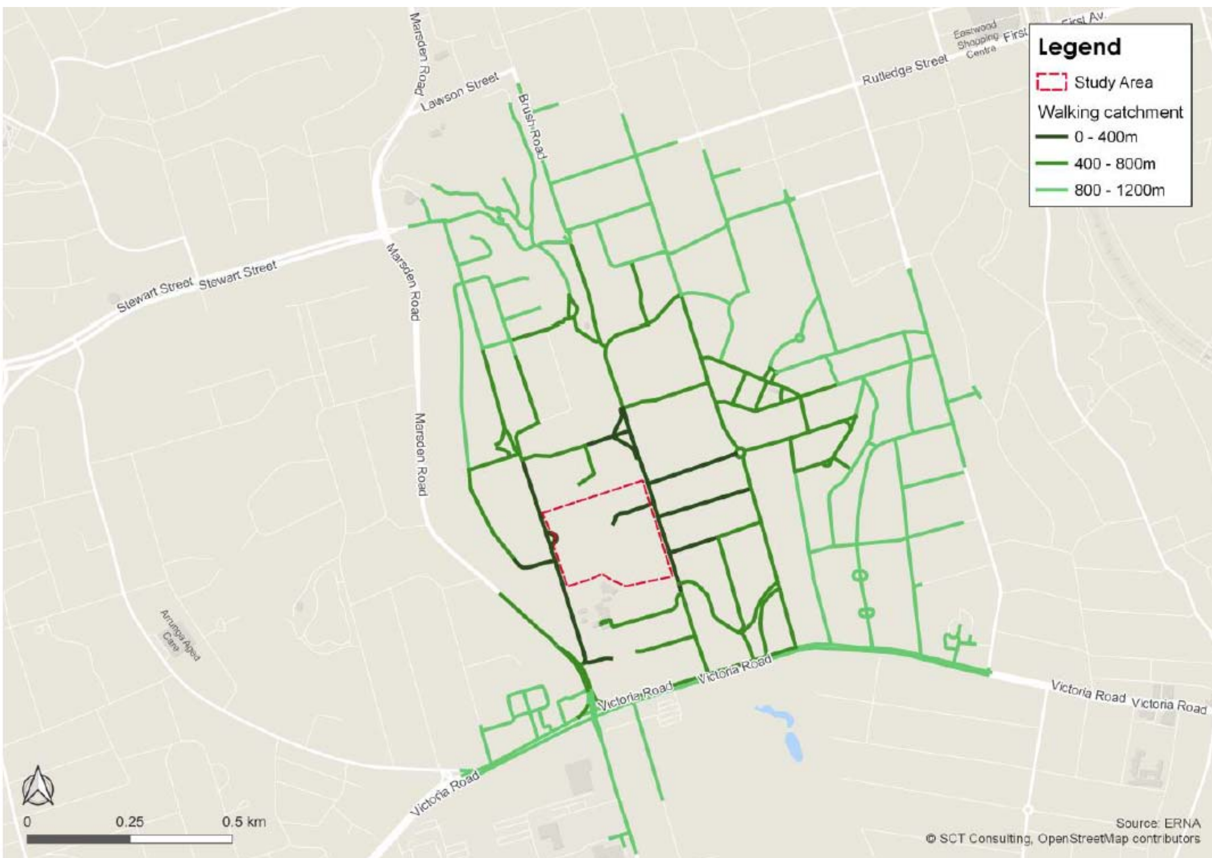
Bus routes also connect to the West Ryde Rail Station provides connecting rail services every 15 minutes to / from Sydney CBD, Hornsby, and Gordon.

Additionally, the site is within a 15-20min walk from the proposed Stage 2 preferred route alignment of the Parramatta Light Rail service passing through Melrose Park, which will provide links to Rydalmere to the west and Olympic Park to the south. This project was announced in October 2017 and is currently in the planning and development stage.

2.6 Active Transport

2.6.1 Pedestrian Facilities

The surrounding pedestrian facilities are described in detail in the SCT Consulting *Traffic Impact Assessment* Report *(Dated 25th March 2021)*. Overall and by virtue of the historical school land use, the site is well connected to existing pathway facilities. Figure 2.12 below indicates the walk-up catchment within 1200m of the subject site.



Source: Marsden High School Recreational Facility Planning Proposal Traffic and Transport Impact Assessment (SCT Consulting, 2021)

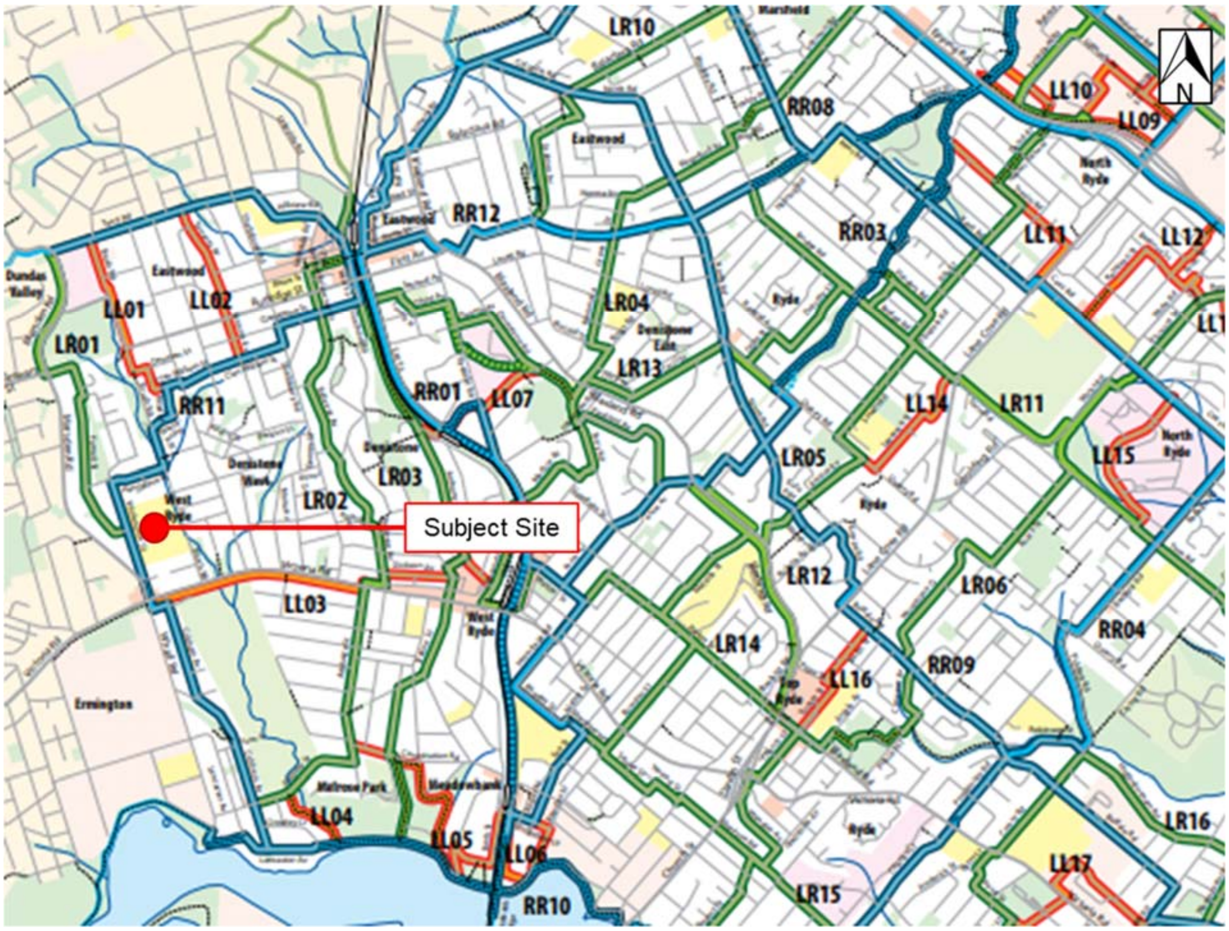
Figure 2.12: Walking Catchment Map

The subject site has a significant walk-up catchment potential, which provides an opportunity to support a lower private vehicle mode share for this proposed community facility. The existing pathway network does include some 'missing gaps' in proximity to the site. Updates to the pedestrian pathway facilities fronting and surrounding the site will be discussed further within Section 6.

2.6.2 Cycling Facilities

The nearby cycle facilities have previously been outlined in the SCT Consulting *Traffic Impact Assessment* Report. In summary, there are currently no dedicated cycling facilities in proximity to the site. The footpaths can be used by cyclists under the age of 16, along with their adult supervisors; however, the footpaths are narrow (<3m) and likely to result in conflicts between pedestrians and cyclists.

Winbourne Street and Hermoyne Street are identified as part of a planned regional bicycle route (RR11) that is intended to provide a north-south connection between Eastwood and the Parramatta Valley Cycleway (refer to Figure 2.13 below). This route has not yet been developed with infrastructure or wayfinding, and there is currently no estimate on when this route will be formally delivered.



Source: City of Ryde Bicycle Strategy and Masterplan (2014)

Figure 2.13: Key Cycling Routes

3. Planning Proposal's Transport and Operational Considerations

3.1 Overview

Given the application is for a Planning Proposal only, this section outlines the likely operational details of the proposal and how the transport aspects should be considered with respect to the subject site.

3.2 Indicative Proposed Future Development Components

The applicant is seeking to rezone the land from SP2 Educational Establishments to RE1 Public Recreation and part C2 Environmental Conservation. For the purpose of assessing the traffic and transport impacts of the proposal, a likely development inclusion has been prepared and may include:

- 32 outdoor netball courts
- 4 indoor multi sports courts
- A gym facility to be ancillary and associated with the multi-sports court facility.

Access is proposed both via Winbourne Street and to a lesser extent via Brush Road. The existing public bus stops and on-site bus pick up and drop off zone will be retained along Winbourne Street.

3.3 Proposed Site Operations and Benchmarking

3.3.1 Overview

The previous traffic reports utilised first principles assessments based on generalised advice from ERNA to determine the likely traffic and subsequent parking impacts of the proposed development. While this approach is generally considered reasonable in the absence of empirical data sets or detailed surveys, the assessments did not consider the temporal demand for the site over a standard day or week as well various use scenarios of intensity.

This section investigates the various factors that influence the use of the site for the purpose of assessing the site's transport needs. This includes:

- The different operational scenarios from day-to-day training use, through to major national event carnivals
- Review of other similar scale netball facilities across metropolitan and regional NSW
- Operational times and the various types of activities/events on the site
- Review of parking and traffic data collected for the existing ERNA site in 2018 and what site specific and behavioural factors that affected the transport operations
- Court occupancies and operational factors that influence the use of the courts
- Comparison of the proposed operations to the current use over the site being a high school.

3.3.2 Potential Operational Scenarios

For the purpose of understanding and managing the transport outcomes to support the planning proposal, three operational scenarios discussed with Council officers and include:

- **Scenario 1: Weekly Community Games and Training**
  - This scenario represents typical weekly operation and would include both weeknight training and Saturday competitions.

- Saturday competitions will be considered the peak day for this scenario, as court occupancies are likely to be highest on this day (the indoor courts will not be in use on Saturdays). These are expected to run between 8am and 5pm.
- Weekday training is likely to occur both during the school day as the site may be used for school sports, as well as after school training from 4pm – 6pm, with the main peak likely to occur in the evening.
- This scenario would apply during the netball season (April – September) yearly, and is the most frequently occurring usage scenario.
- The visitor catchment for this scenario includes visitors from within the local area or within nearby suburbs.

- **Scenario 2: Medium Events, e.g. Regional Competition**
  - This usage scenario represents an infrequent event occurring approximately 3 times per year between April and September
  - The events are expected to run between 8AM and 9PM at varying levels of intensity
  - Typically these events would occur on a weekend or a three-day weekend
  - Higher vehicle occupancies and number of spectators per court is assumed than Scenario 1
  - Higher reliance on buses is expected given the wider catchment of the event as well as the team structure of patrons and their spectators
  - The visitor catchment for this scenario includes visitors from within the local area and surrounding suburbs, as well as competitors or spectators from other regions. As such, higher vehicle occupancies and travel by bus / group travel is expected compared to day-to-day use
  - This scenario would be subject to an event management plan overlay and travel demand management strategies to accommodate the temporary increase in intensity and demand. Further details in Section 7.
- **Scenario 3: Large Events, e.g. National Competition**
  - This usage scenario represents a major event which would only occur once a year
  - Typically these events would occur on a weekend and would run at varying levels of intensity between 8AM and 9PM
  - These events may run in the evenings on the indoor courts only due to their elite status and higher spectator numbers compared to a standard court game
  - Higher vehicle occupancies are expected compared to day-to-day games
  - Higher reliance on buses is expected given the wider catchment of the event as well as the team structure of patrons and their spectators
  - A larger number of visitors / competitors will be travelling interstate via the airport, public transport, and private charter bus
  - The visitor catchment for this scenario includes competitors from other states and regions, and spectators from both the region and the local area.
  - This scenario would be subject to an event management plan overlay and travel demand management strategies to accommodate the temporary increase in intensity and demand. Further details in Section 7.

As the most common frequency scenario is Scenario 1 (weekly community games and training), it is considered reasonable that the site should accommodate for the traffic and parking demands of this scenario. These are discussed in further detail in Section 4 and 5 respectively.

The medium and high use scenarios are not regular occurrences and will be subject to additional event management planning, travel demand management, and other mitigation measures as discussed in Section 7 to ensure that the impacts are appropriately managed, but permanent infrastructure is proportionate to the site operations and also economically viable.

3.3.3 Similar Sites

A review of similar sites to the proposal was undertaken to benchmark the intended operation of the proposed development against that of existing and approved sites. Historical aerial photographs from Nearmap and Google 'popular times' were investigated at each of the similar sites to help inform the daily and weekly usage profiles, court occupancy, and parking occupancy and surrounding impacts.

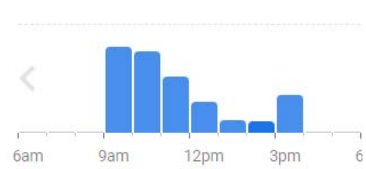
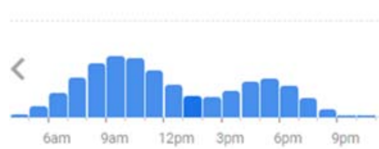
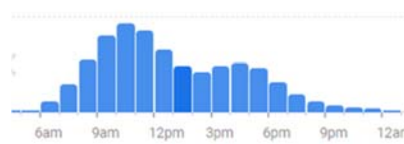
The findings from the benchmarking were used to inform the traffic and parking analysis to ensure that these assessments were representative of the likely intended operation of the site. These sites include:

- The existing Eastwood Ryde Netball Association netball courts at Meadowbank Park
- The Manly Warringah Netball Association (John Fisher Netball Courts)
- The Liverpool City Netball Association (Whitlam Leisure Centre)
- Sutherland Shire Netball Association (Bellingara Netball Courts).

3.3.4 Typical Daily and Weekly Usage Profiles

Google ‘popular times’ were investigated for each of the similar sites to identify the weekly peak periods. The findings are summarised in Table 3.1 below. It should be noted that ‘popular times’ were not available for all sites.

Table 3.1: Benchmarking Sites and Use Profiles

Site	Typical Weekday Profile	Typical Weekend Profile
Eastwood Ryde Netball Association		
Manly Warringah Netball Association		

As shown above, peak operation during the week typically occurs on Saturday morning, with another peak on Saturday afternoon and during the morning on weekdays.

This is consistent with the likely operation of the proposal, as school training will take place during the weekdays, after-school training will occur on weeknights, and competitions for various age groups will occur throughout the day on Saturday.

3.3.5 Court Occupancy

The historical aerial photographs of the selected sites demonstrated various court occupancies and parking demands that represented two of the three usage scenarios, as shown in Table 3.2.

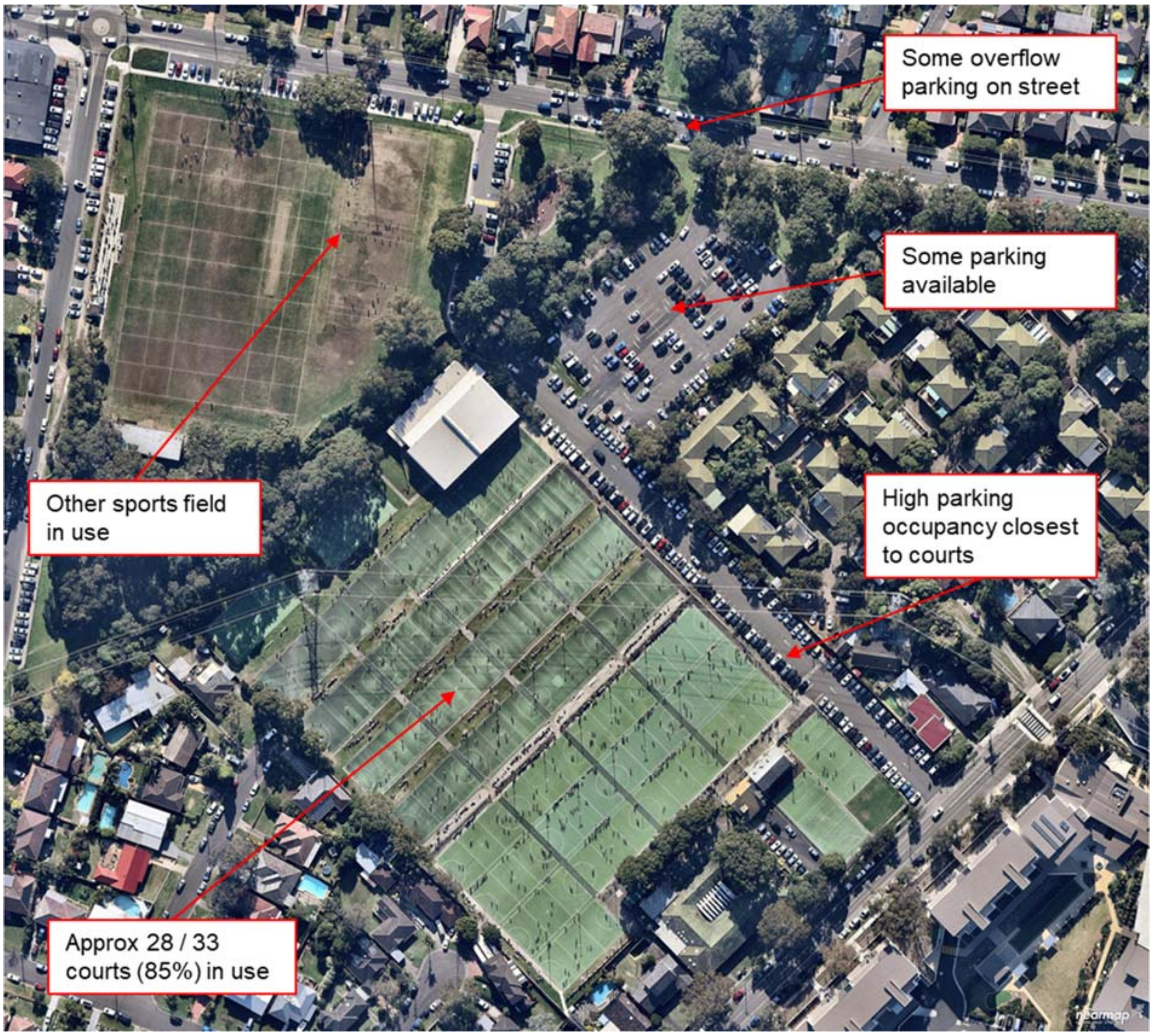
Table 3.2: Court Occupancy for Various Scenarios

Site Location	No. of Off-street Parking Spaces	Scenario	Court Occupancy (Occupied / No. of Courts)	Car Parking Occupancy
Eastwood Ryde Netball Association	429 (shared with soccer fields, parks and cricket nets)	Sc2 - Regional Event	17 / 27 (63%)	High
		Sc 1 – weekday event	10 / 27 (37%)	Low / Medium
Manly Warringah Netball Association	19	Sc 2 – Regional Event	24 / 25 (96%)	High with Overflow Parking
Liverpool City Netball Association	~260 (shared with oval and park)	Sc 1 - Saturday games	26 / 32 (81%)	High
		Sc 1 weekday games	20 -25 / 32 (63 - 78%)	Medium - High
		Sc 2 – regional event	32 / 32 (100%)	High Overflow
Sutherland Shire Netball Association	~330 (shared with playground and oval)	Sc 1 – Saturday event	23 – 30 / 33 (70 - 90%)	Medium / Overflow

Examples of aerial photos indicating court usage and parking for various scenarios are shown in Figure 3.1, Figure 3.2, and Figure 3.3 below.

Source: Nearmap. Date: 18 July 2017

Figure 3.1: Scenario 1 Example (Weekday) – Eastwood Ryde Netball Association (Meadowbank Park)



Source: Nearmap. Date: 24 June 2017

Figure 3.2: Scenario 1 (Weekend) Example – Sutherland Shire Netball Association (Bellingara Netball Courts Centre)

Source: Nearmap. Date: 27 July 2014

Figure 3.3: Scenario 2 Example (Weekend) – Eastwood Ryde Netball Association

To summarise, typical court occupancies for the three scenarios were as follows:

- Scenario 1 – Standard Community Games Days and Training
  - Weekday – between 30 – 80%
  - Saturday – between 70 – 90%
- Scenario 2 – Carnivals: between 95 – 100%
- Scenario 3 – Large Scale National Events: 100% expected. Likely to depend on event scheduling / timing of premium match offerings. Maximum court occupancy at any time will be similar to Scenario 2, with court usage reducing to only one court for the final.

For the purpose of traffic and parking analysis detailed hereafter, the maximum court occupancy for Scenario 1 has been based on a conservative 90% on Saturdays, and 70% on weeknights during background peak periods.

3.3.6 Expected Peak Hours

For Scenario 1, the main site peak (i.e. the time at which 90% court occupancy is reached) is likely to occur on Saturdays from 9am – 11am based on the daily profiles outlined in Section 3.3.4 above.

However, based on the network peak hours, the critical time period for further traffic analysis on Saturdays would be in the middle of the day from 12PM – 1PM to coincide with the Victoria Road / Marsden Road intersection peak. Based on the daily profile data indicated by Google 'popular times', this would only represent a court occupancy of approximately two-thirds of the AM peak (60%). This would align with the expected change over between junior competition (morning) and senior competition (afternoon). It is understood that on a regular / average weekend game day utilising the outdoor courts, the indoor netball courts are not likely to be in competition use concurrently.

A smaller peak is expected to occur on weeknights between 4pm and 6pm for after-school and after-work training as indicated in the daily profiles above. It is expected that 70% court occupancy is reached during this time period. Based on the network peak hours, the critical time-period for the weekday evening training would be from 5 – 6PM.

It is noted that the proposed change in land use from a high school to a recreational facility results in a change in the timings of the site peaks, resulting in higher traffic volumes on Saturdays during the midday peak and on weeknights during the commuter peak. However, the proposed site peaks are likely to be spread over a longer time frame, rather than the concentrated morning and afternoon peaks as per the existing high school on the site.

3.3.7 Persons Per Court

For the purpose of understanding the person trip demands for the site, the estimated number of persons per court for various day-to-day scenarios are outlined in Table 3.3 below. These figures were provided by the operational consultants Otium and considered aspirational for the purpose of practical site operations.

Table 3.3: Persons Per Court

Scenario	No. of Players per Court	No. of Spectators per Court+	No. of Referees / Coaches per Court	Total Persons per Court
Saturday Competition	~16	10-30+	1-4^	~ 27-50
Weeknight Training	~16	16+	4^	~ 36

Source: Otium Operational Data

+: Spectators expected to be affiliated with players (family) or other games (pre or post) and therefore do not add to vehicular traffic

^: Referees would be expected to attend multiple games concurrently.

These numbers are a conservative assumption and are in line with the maximum operation of other types of facilities. It should be noted that some spectators, coaches and players may be present on site for multiple games and therefore may not leave the site after one game. In addition, referees would not be expected to attend one game, but rather attend recurring games over the course of a game day.

3.3.8 Typical Length of Games

Typically, netball matches are scheduled at one and a half hour (90 minute) intervals, which allows a 15-minute changeover period in between games as outlined in Bitzios Consulting's *Meadowbank Park Netball Traffic Impact Assessment* that details the operation of the existing Eastwood Ryde Netball Association. The proposed netball facility is also expected to operate in a similar manner.

3.4 Summary of Findings

Several usage scenarios were considered as part of the assessment; however, Scenario 1 (day-to-day operation on weekdays and weekends) will be the focus of the following traffic and parking assessment. Scenarios 2 and 3 (medium and large events) will be subject to event management overlays and planning to mitigate any potential impacts, as will be discussed in Section 7.

The proposed netball facility is intended to operate equivalent to similar facilities in the area in terms of peak hours, court occupancy, and number of persons on site. Therefore, the level of impact of the proposed change in land use is commensurate with the community's reasonable expectations for a facility of this nature. The benchmarking data collected is considered appropriate to further inform traffic and parking impact assessments and calculations detailed in latter sections of this report.

Based on this information, the impacts of the proposed land use will be spread over a larger period of time than the impacts of the existing school.

4. TRAFFIC ASSESSMENT

4.1 Assessment Context

The following traffic assessment assumes a day-to-day operational scenario. The purpose of the assessment is to determine the impacts of the proposed netball courts on the external road network. This requires that the proposal's impacts be determined at the anticipated 'year of opening' and at the 10-year design horizon. For the purpose of this assessment, the proposal's anticipated year of opening is 2024. As such, the 10-year design horizon year is 2034.

4.2 Assessment Area

Detailed analysis (SIDRA modelling) was undertaken on the following intersections to determine the impact of the proposed development:

- Intersection #1: Victoria Road / Marsden Road signalised intersection
- Intersection #2: Marsden Road / Winbourne Street priority-controlled intersection
- Intersection #3: Victoria Road / Brush Road priority-controlled intersection

Due to the proximity of Intersections #1 and 2, these were modelled as a network, whilst Intersection #3 was modelled as an individual site. Intersection movement summaries from the SIDRA modelling are attached in **Appendix F.**

4.3 Traffic Demands

The traffic demands to be modelled have been prepared for the following scenarios:

- **Year 2024 Weekday PM peak hour / Saturday peak hour, background traffic volumes**: determined by applying growth rates to the traffic survey data
- **Year 2024 Weekday PM peak hour / Saturday peak hour, design traffic volumes**: determined by combining background traffic and the development traffic
- **Year 2034 Weekday PM peak hour / Saturday peak hour, background traffic volumes**: determined by applying growth rates to the traffic survey data
- **Year 2034 Weekday PM peak hour / Saturday peak hour, design traffic volumes:** determined by combining background traffic and the development traffic.

4.4 Background Traffic

The following intersections were surveyed by Matrix on Wednesday 9th March 2022 between 7:00 AM to 9:00 AM and 15:00 PM to 18:00 PM, as well as on Saturday 12th March 2022 between 8:00 AM to 1:00 PM:

- Intersection #1: Victoria Road / Marden Road signalised intersection
- Intersection #2: Marsden Road / Winbourne Street priority-controlled intersection
- Intersection #3: Victoria Road / Brush Road priority-controlled intersection

The traffic survey data used in this traffic impact assessment has been provided in **Appendix B**.

Based on the intended site operation, site peak hours and existing network peak hours, the following 'worst case' peak hours for assessment were selected:

- Weekday PM Network Peak Hour: 5:00PM – 6:00PM
- Saturday Network Peak Hour: 11:45AM – 12:45PM

The selection of these peak periods also ensures that any background traffic from the existing high school is avoided in the analysis, as this land use will be removed from the site.

An annual compounding growth rate of 1.38% has been applied to Victoria Road, Wharf Road, and Marsden Road traffic volumes to forecast future background traffic, based on analysis of STFM modelling outputs from 2019 – 2026 on Victoria Road.

No growth has been applied to Brush Road or Winbourne Road as these have been assumed to be closed catchments with very little intensification of the existing local land uses.

The forecast background traffic has been provided in **Appendix C.**

4.5 Development Traffic Generation

4.5.1 Vehicle Occupancy

A vehicle occupancy of 2.5 persons per vehicle has been applied. This is based upon assessments undertaken at similar sites as well as advice from the potential user of the facility, Otium. SCT Consulting previously assumed a vehicle occupancy of 2.4 persons per vehicle in their *Rapid Transport Assessment* and *Traffic Impact Assessment*.

4.5.2 Mode Share

Typically, the mode share for netball courts is heavily reliant on private vehicles. Data provided by the operator (Otium) from surveys conducted at 7 similar facilities indicates that up to 90-95% of trips to netball courts are typically by private vehicle, with very low usage of public and active transport to this type of site.

However, as the goal of this development is to provide a recreational facility for the community that minimised the traffic generation utilising Winbourne Street during peak times, it is proposed to provide a proportionate level of on-site parking as a means to encourage visitors to make use of existing active and public transport facilities. The proximity of the proposed light rail corridor in Melrose Park, the bus stops on the site frontage, and the regional bicycle route on Winbourne Street further provide convenient connections to the facility. Therefore, a 90% mode share for private vehicles has been assumed.

4.5.3 Trip Rate per Court

As there is no standardised trip rate for netball courts, a first principles approach was used to calculate the number of vehicle trips. Based on the operational data outlined in Section 3.3 as well as the mode share considerations and vehicle occupancy outlined above, the number of vehicle trips per hour was calculated as shown in Table 4.1 below.

Table 4.1: Calculation of Trip Rate per Court

Day and Time	Maximum Court Occupancy for Day[1]	Likely Occupancy During Selected Period[2]	No. of Courts in Operation	Max. No of Persons Entering & Exiting the Site[3]	Two-way Vehicle Volumes per Hour[4]	Trip Rate / Court / Hr
Saturday 12PM - 1PM	90%	60%	20	1,280	461	23
Weekday 5PM – 6PM	70%	70%	22	1,408	507	23

[1]Based on court occupancy benchmarking
[2]Factored court occupancy based on estimated daily profiles
[3]Assuming all players leave at termination of the game, all players / spectators arrive in the 15 minutes prior to a game, and one game changeover during peak hour. 16 players and 16 spectators were assumed per court.
[4]Assuming 90% private vehicle mode share and 2.5 occupants per vehicle

This yields 461 vehicle trips during the weekend peak and 507 trips during the weeknight peak. It should be noted that all assumptions are conservative, resulting in a conservative traffic generation. The assessment does not account for visitors staying on site for multiple games (players and spectators).

4.5.4 Traffic Splits

Data sourced from a previous TIA report for the existing East Ryde Netball Association netball facilities in Meadowbank indicate that the In / Out split during peak traffic conditions was 54% / 46% per hour based on 2018 counts collected at the Andrew Street / Adelaide Street roundabout. Estimated vehicle trips in and out of the site are summarised in Table 4.2 below.

Table 4.2: Development Traffic Splits

Land Use	Weekday Peak Split		Saturday Peak Split		Weekday Peak Development Trips		Saturday Peak Development Trips	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT
Proposed netball courts	54%	46%	54%	46%	274	233	249	212

4.6 Traffic Distribution and Assignment

The traffic distribution for the proposed netball courts was determined using the following assumptions:

- 25% of trips to the site enter from the northern end of Brush Road, with half of those returning north via Brush Road
- 12.5% of trips to the site enter from the northern end of Windbourne Street, with the same percentage of trips returning north via Windbourne Street
- 25% of trips to the site enter from the northern side of Marsden Road
- 25% of trips to the site enter from the southern side of Marsden Road (via Victoria Road)
- 12.5% of trips to the site enter from Brush Road via Victoria Road
- 50% of trips leave the site southbound on Winbourne Street
- Existing left / right splits exiting Winbourne Street into Marsden Road were applied (i.e. 17% turning right and 83% turning left)
- Existing left / through / right splits exiting Marsden Road into Victoria Road were applied (i.e. 55% left, 17% through and 27% right)
- 25% of trips leave the site southbound on Brush Road onto Victoria Road

The traffic distribution is attached in **Appendix D**, and the resulting design traffic volumes (including background and development traffic) are attached in **Appendix E.**

4.7 Intersection Assessment

4.7.1 Intersection 1 - Victoria Road / Marsden Road Intersection

Figure 4.1 shows the geometric layout of Intersection 1.

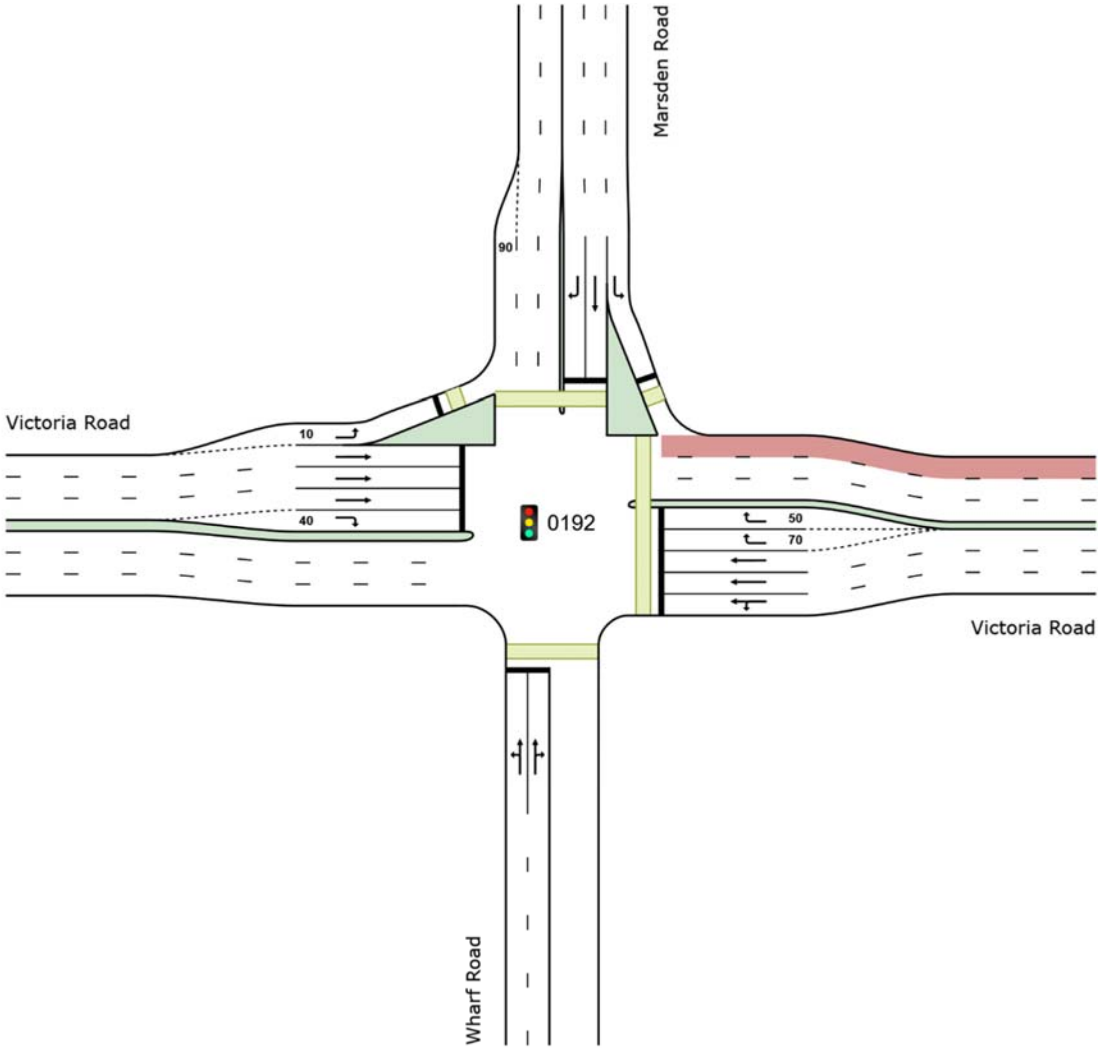


Figure 4.1: Intersection 1: Victoria Road / Marsden Road SIDRA Layout

The SIDRA results for Intersection 1 are summarised in Table 4.6.

Table 4.3: Victoria Road / Marsden Road SIDRA Results Summary

Peak Period	Year	Traffic Scenario	Victoria Road / Marsden Road		
			DOS	Average Delay (s)	95% Back of Queue (m)
Weekday PM Peak	2024	Forecast Background	0.94	51	396
		Design	0.98	60	458
	2034	Forecast Background	1.08	95	672
		Design	1.12	114	755
Weekend Peak	2024	Forecast Background	0.81	37	212
		Design	0.86	42	241
	2034	Forecast Background	0.92	47	303
		Design	0.97	59	374

It has been noted that the intersection is already approaching its capacity during the weekday PM peak in the 2024 forecast, as the DOS is >0.9. At the 10-year design horizon, the forecast background traffic demand exceeds the capacity of the intersection (DOS>1.0). Therefore, irrespective of the future development over the subject site, there are significant queues and delays at this intersection both at the year of opening and at the 10-year design horizon during peak periods. This peak period operation for Victoria Road is well known given its function as the primary urban arterial road north of the Parramatta River between Parramatta and Gladesville.

In regard to the impacts of the proposal, the results show that the proposal's traffic results in a minor increase in delay, with <10 seconds delay in the weekday PM peak at the year of opening and <20 seconds at the 10-year design horizon. Given the operations of the intersection, it is expected that patrons of the facility travelling to and from the site will consider these limitations when considering mode, travel time and route to the facility. Specifically, the grid network surrounding the site allows for other roads in the area to avoid localised congestion at this intersection, minimising the expected impacts to this intersection. Additionally, the promotion of alternate travel modes as outlined in the Green Travel Plan for this site will reduce the traffic demands resulting from the development.

Overall, the proposed development adds 203 vehicles to the intersection during the weekday PM peak and 185 vehicles to the intersection during the weekend peak. This represents an overall increase of 4% in traffic volumes through the intersection for both weekday PM peak and weekend peak at year of opening.

Given the above as well as TfNSW's future planning for Victoria Road to support Stage 2 of the Parramatta Light Rail, specific infrastructure upgrades are not recommended to be imposed at this location.

4.7.2 Intersection 2 - Marsden Road / Winbourne Street Intersection

Figure 4.2 shows the geometric layout of Intersection 2.

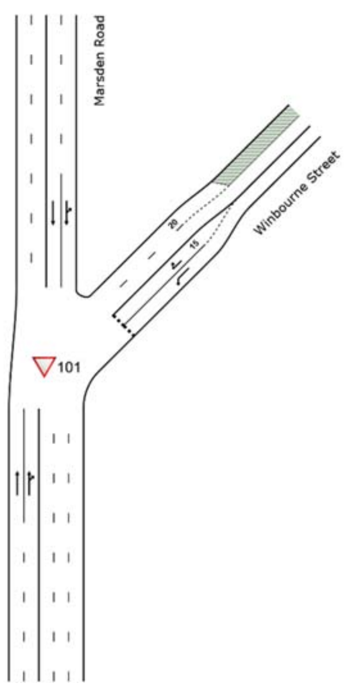


Figure 4.2: Intersection 2: Marsden Road / Winbourne Street SIDRA Layout

The SIDRA results for Intersection 2 are summarised in Table 4.4. It is important to note that the operation of this Winbourne Street / Marsden Road intersection is impacted by peak period queueing back from Victoria Road located to the south. Line marking and signage works were undertaken in 2017 to help formalise peak period traffic movements and manage queuing. The operations of this intersection and surrounding road network are shown within survey data to manipulate traffic distribution and discourage right turn movements out of Winbourne Street. Specifically, only 13% of trips exiting Winbourne Street turn right onto Marsden Road, while 87% exit left onto Marsden towards Victoria Road. This is an important factor for assessing the proposals likely traffic impacts to this intersection. When considering the road network operations and traffic generated by the proposal at this intersection, the road network will continue to operate in a similar manner with the inclusion of the proposal. Traffic modelling demonstrates that during both weekday peak period and weekend peak period operations of the Marsden Road / Winbourne Street intersection do not significantly worsen to a level that warrants additional mitigation measures to be imposed.

Specifically, the highest delay at the intersection is the right turn from Winbourne Street into Marsden Road. The modelling indicates that there is a minimal increase to delay resulting from the proposed development (<5 seconds at the 10-year design horizon during PM weekday peak).

The highest queues in the modelling result from northbound vehicles on Marsden Road queueing behind vehicles turning right into Winbourne Street; however, these queues are minimal (<10m, approximately equivalent to 1 vehicle).

Table 4.4: Marsden Road / Winbourne Street SIDRA Results Summary

Peak Period	Year	Traffic Scenario	Marsden Road / Winbourne Street		
			DOS	Average Delay (s)	95% Back of Queue (m)
Weekday PM Peak	2024	Forecast Background	0.18	16	5
		Design	0.28	18	7
	2034	Forecast Background	0.19	18	6
		Design	0.40	21	8
Weekend Peak	2024	Forecast Background	0.15	15	4
		Design	0.19	17	6
	2034	Forecast Background	0.17	17	4
		Design	0.26	20	7

4.7.3 Intersection 3 - Victoria Road / Brush Road Intersection

Figure 4.3 shows the geometric layout of Intersection 3.

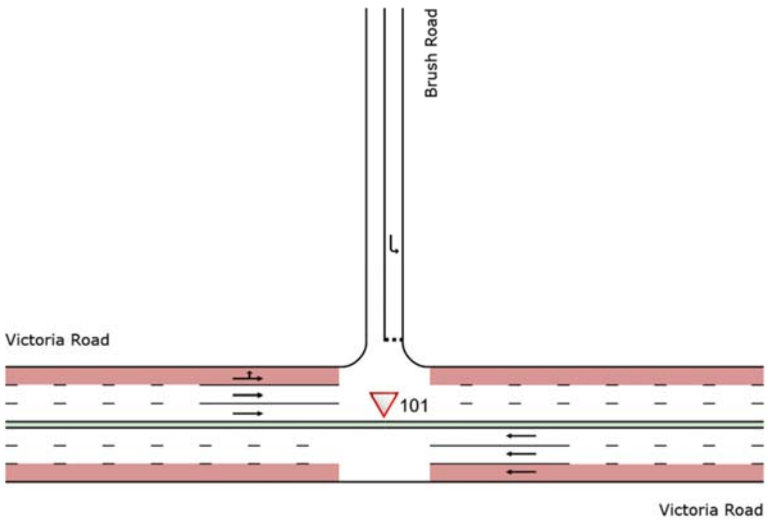


Figure 4.3: Intersection 2: Victoria Road / Brush Road SIDRA Layout

It has been noted that during the PM peak on weekdays, a bus lane operates westbound on Victoria Road. A nominal 10 buses per hour were added to the kerbside lane, which was prioritised to buses only in the model. The SIDRA results for Intersection 1 are summarised in Table 4.5.

Table 4.5: Victoria Road / Brush Road SIDRA Results Summary

Peak Period	Year	Traffic Scenario	Victoria Road / Brush Road		
			DOS	Average Delay (s)	95% Back of Queue (m)
Weekday PM Peak	2024	Forecast Background	0.60	11	1
		Design	0.61	11	4
	2034	Forecast Background	0.69	13	1
		Design	0.70	13	5
Weekend Peak	2024	Forecast Background	0.51	8	1
		Design	0.52	9	3
	2034	Forecast Background	0.59	10	1
		Design	0.60	10	3

The results show that the development traffic results in negligible (<5 seconds) increase in delays. Whilst the highest delay occurs at the left turn out of Brush Road into Victoria Road, the delay is still low (<15 seconds) and the intersection is operating well under capacity both at year of opening and at the 10-year design horizon.

As such, no mitigation measures or upgrades are warranted.

4.8 Capacity Assessment – Winbourne St and Brush Rd

Winbourne Street and Brush Road are both classified as local roads. To determine the forecast daily traffic volumes on Winbourne Street and Brush Road, the weekly average hourly vehicle volumes collected via 7-day tube counts were used. No growth was applied as these roads are assumed to be closed catchments.

The calculated daily trip generation from the netball courts was then added to determine the design traffic, and compared with the environmental capacity of the road (sourced from RTA *Guide to Traffic Generating Developments*), as shown in Table 4.6 below.

Table 4.6: Road Capacity Assessment

Road	Road Type	Capacity (per lane one-way) (veh/hr)	2022 PM Peak Volumes	Development Generated Two-wayTraffic (veh/hr)	Design Traffic (veh/hr)
Winbourne Street	Local	600	215	175	390
Brush Road	Local	600	71	142	213

The capacity of both Winbourne Street and Brush Road is sufficient to accommodate the additional traffic resulting from the intended future use of the site following the proposed rezoning.

4.9 Summary of Traffic Impacts

The proposed removal of the existing high school results in a decrease in traffic demands on Winbourne Street and Brush Road from 8AM – 9AM and 3PM – 4PM during weekdays. Additionally, the highest traffic impact for the proposed land use is likely to be outside the network peak hours (i.e. on Saturday morning and afternoon), where the surrounding road network has sufficient capacity to accommodate the traffic demands from the proposed land use during a typical day-to-day usage scenario.

It has been noted that Victoria Road / Marsden Road intersection is already nearing its capacity in the 2024 base case during the weekday PM commuter peak; however, SIDRA modelling indicates that the expected impact of the proposed netball facility results in negligible increases (<10 seconds at year of opening, and <20 seconds at 10-year horizon) in delay at the intersection during the weekday PM peak. The development traffic represents only a 4% increase from year of opening background traffic at this intersection.

Victoria Road / Marsden Road will continue to operate at capacity thresholds during peak periods in future years irrespective of the proposal. The proposal's net traffic impacts to the overall performance of the intersection are considered negligible and not result in specific upgrades or mitigation measures to support the proposal.

It is likely that the existing delay at the Victoria Road / Marsden Road intersection during the PM commuter peak will factor into travel mode choice consideration for the site including patrons within the local walking and cycling catchment to consider walking or cycling to the site.

The Winbourne Street / Marsden Road intersection functions under capacity during both peak periods for the year of opening and 10-year design horizon. Minor queueing (<10m or one vehicle) is expected northbound on Marsden Road at the right turn into Winbourne Street; however, the expected delay from this is minimal (<5 seconds).

All other key intersections are functioning under their capacity in both the base case and design case for year of opening and 10-year design horizon during weekday PM peak and weekend peak, with negligible increases to delay resulting from the proposed land use. Additionally, Winbourne Street and Brush Road have sufficient capacity to accommodate the proposed change in land use during the site's peak periods.

Overall, the preliminary modelling demonstrates that the proposal can be accommodated within the surrounding road network and intersections. Further detailed analysis of the traffic impacts will be undertaken as part of the development application's traffic impact assessment report.

5. CAR PARKING ASSESSMENT

5.1 Car Parking Requirement and Provision

While Council's *Development Control Plan* does include a parking rate for Recreation Facilities (outdoor) at a rate of 3 spaces per court, this parking rate has been acknowledged by Council as not representative to meeting the practical demands for the proposal and specifically netball courts. Therefore in response to Council's position, benchmarking of parking rates at similar sites was undertaken to determine a practical parking rate that has been applied by both Council and also other jurisdictions. The example site parking rates are summarised in Table 5.1 below.

Table 5.1: Parking Rates from Similar Sites

Site Name	Parking Provided	No. of Netball Courts	Parking Rate per Court (On-site Parking Only)
Eastwood Ryde Netball Association (ERNA)	429 (shared with soccer fields, parks and cricket nets)	28	15.3 spaces per court
Manly Warringah Netball Association	22 on site; 214 on street parking bays on Abbott Road (shared with football club and oval)	25	9.44 spaces per court
Liverpool City Netball Association	~260 (shared with oval and park)	32	8.1 spaces per court
Sutherland Shire Netball Association	~330 (shared with playground and oval)	30	11.0 spaces per court
Tweed Netball Association	148 spaces; including 40 off-street parking spaces shared with Tennis Facility and 108 on-street parking spaces on surrounding streets	24	6.1 spaces per court
		Average Parking Rate	8.18 spaces per court

Based on the review of the similar netball facilities, the average parking provision rate equates to 8.18 spaces per netball court. It is important to note that many of the other facilities provide shared parking with other community land uses, which often operate at the same time (i.e. concurrent sport training and game days). Therefore, these sites would exhibit a higher overall parking demand than the subject site on Winbourne Street. With consideration to the local ERNA site, the parking provision located adjacent to the netball facility (L H Waud Sports Field) includes 208 parking spaces and equates to a rate of 7.4 spaces per court. This site also experiences shared parking utilisation for neighbouring sport uses as outlined in Section 3 for weekday and weekend operations.

Many of the example sites are also reliant and designed around the use of formalised on-street parking fronting the site or within the surrounding road network. This community-based parking layout to support the facility allows for use of the sites parking provision by other neighbouring users outside peak operational times.

With consideration to the above parking rates applied to similar scale facilities, as well as the subject site's location with respect to for a potential walk-up catchment associated with the surrounding community use, an on-site parking provision of at least 8 spaces per court is considered appropriate.

When calculating the parking provision, it is noted that both the indoor netball courts and gym are not expected to be stand-alone or additional parking generators during peak operations times (i.e. Saturday morning competition hours). This is due to the indoor courts being reserved for major / elite games only and the gym operating as ancillary to the facility. Therefore, for the purpose of peak parking demand for the 32 outdoor netball courts is considered appropriate to determine the parking requirements for the proposal.

Based on a provision of 32 outdoor netball courts, a parking requirement of approximately **256 car parking spaces (8 spaces per outdoor court).** is considered appropriate for the proposal and consistent with the operation of similar facilities throughout regional New South Wales and metropolitan Sydney. This parking provision would also maximise the on-site parking to reduce impacts to the surrounding residents, whilst also managing the overall private vehicle trip generation accessing the site via Winbourne Street.

5.2 Behavioural Factors Influencing External Parking Usage

Irrespective of the on-site parking provision and consistent with the operations of the existing high school on the site, it is likely that some patrons to the facility accessing the site from the east by private vehicle may choose to park on the eastern side of the facility via Brush Road and surrounding streets. This may be due to a combination of the following factors:

- Convenient on-street parking in close proximity to the eastern courts for either game day or training
- Trip distribution and route choice favouring local streets over Marsden Road and Victoria Road.

Based on these behavioural considerations, it is recommended that mitigation measures be implemented on the surrounding streets and as part of operational planning for the facility. These measures may include but not limited to:

- Additional line marking and regulatory signage is installed to formalise parallel parking bays on Brush Road, maintain two-way traffic flow and ensure residents' driveways are not obstructed by visitors parking on street
- The facility's Transport Access Guide (TAG), Green Travel Plan (GTP) and any Event Traffic Management Plans should clearly outline designated parking areas within the facility along with any temporary off-site parking arrangements and alternates transport modes. Further details are outlined in Section 7 and will be provided as part of the Development Application traffic report.

5.3 General Car Park Design Recommendations

Given the application relates to the Planning Proposal phase of the project, detailed parking layouts and associated internal transport components of the design are not yet defined. Therefore, it is recommended that the internal transport components, parking areas as well as any external traffic works be designed in accordance with:

- Council's Development Control Plan (DCP)
- Australian Standards AS2890 Parking Facilities.
- Australian Standards AS1742 Manual for Uniform Traffic Control Devices
- Austroads Guidelines.

6. Alternative Transport Assessment

6.1 Pedestrian Access and Facilities Assessment

Given the site's historical use as a high school, the site is well located in an established residential are and generally well connected by surrounding pathway network. The key pedestrian desire lines to and from the subject site, as well as existing crossing locations, are shown in Figure 6.1 below.

Figure 6.1: Pedestrian Desire Lines and Existing Crossings

As shown above, pedestrian crossings on Winbourne Street and Brush Road will be retained as part of the proposal. Generally, the existing pedestrian network caters for the likely desire lines for the subject site. However, SCT Consulting's *Traffic and Transport Impact Assessment Report* identified several gaps in the pedestrian network surrounding the site, namely:

- Besides the school crossing adjacent to Ermington Public school, there are few formalised crossings on Brush Road to cater for east / west desire lines to and from the subject site
- Footpaths are only provided on one side of many of the east-west streets connecting with Brush Road (i.e. Sindel Street, Cheers Street, Tramway Street)
- Only one formal crossing is available on Victoria Road on the eastern leg of the Marsden Road / Victoria Road intersection

6.1.1 Pedestrian Access and Facility Recommendations

In order to improve pedestrian access and encourage higher usage of active transport to minimise traffic and parking impacts, the following upgrades are recommended in conjunction with the proposal:

- Providing an additional formalised crossing on Brush Road between Sindel Street and Cheers Street to facilitate safe pedestrian movements between the residential catchment to the west of the site and the site entry on Brush Road. This may be in the form of a pedestrian refuge island
- Formalising a shared path (minimum width 3m) through signage and line marking on Winbourne Street between Marsden Road and Hermoyne Street.

6.1.2 On Site Pedestrian Facilities Requirements

The following requirements for pedestrian facilities will apply to future designs of the proposed netball facility in order to comply with Council's *Development Control Plan* and AS2890.1:

- A pedestrian connection from both site frontages (i.e. Winbourne Street and Brush Road) to the building entrance will be required.
- The existing pedestrian footpaths along the site frontage (Winbourne Street, Brush Road) will be required to be retained post construction as per existing
- Pedestrian sight triangles will be required on both sides of the car park access/es to ensure sight visibility and pedestrian safety

6.1.3 On Site General Design Recommendations

The following design principles and recommendations should be considered as part of future development application stages to comply with Council's *Development Control Plan* and relevant Australian Standards:

- Line marked pedestrian paths should be provided within the carpark to the entrance of the facility
- Marked pedestrian crossings of the circulation aisles within the carpark should be provided.
- Bollards should be provided near any building accesses or pedestrian areas adjacent to traffic lanes.

6.2 Bicycle Access and Parking

6.2.1 Bicycle Access Assessment

As the subject site currently does not have any dedicated cycling paths in its vicinity, cycling access is limited to cyclists riding on the road network and juniors (under 16) riding on the footpaths. It is noted that school traffic and parking will reduced from Winbourne Street / Brush Road (except for Ermington Public School impacts) once the site is rezoned. In addition, the future delivery of the proposed Regional Bicycle Route (RR11) along Winbourne Street / Hermoyne Street would provide further cycling connectivity to the site from Eastwood and Parramatta.

The development therefore presents an opportunity to integrate with planned cycling links and infrastructure in the area.

6.2.2 Bicycle Access Recommendations

In order to better accommodate higher pedestrian activity as well as support cycling access along the frontage to the site, it is recommended to formalise the shared path (minimum width 2.5m) on the eastern side of Winbourne Street between Marsden Road and Hermoyne Street.

6.2.3 On Site Bicycle Facilities Requirements

The following requirements for cycling facilities will apply to future designs of the proposed netball facility in order to comply with Council's *Development Control Plan* and AS2890.3:

- A minimum of 10% of the minimum car parking requirement (i.e. 25 bicycle parking spaces) will be provided for visitors and employees
- Employee bicycle parking will be secure and undercover
- Visitor bicycle parking will be provided at a location that is visible at the entrance of the facility, designed so that visitors are able to lock at least the frame of the bicycle and one of the wheels to the bicycle parking device
- End-of-trip facilities (including at least one shower and change room) will be provided.

- A shared path link between the entrance of the facility and the footpaths on Brush Road and Winbourne Street will be provided.
- Wayfinding signage to the bicycle parking and end-of-trip facilities will be provided.

6.3 Public Transport Assessment

6.3.1 Public Bus Facilities

As outlined in Section 0 of the report, the subject site is surrounded by several bus stops which provide frequent service and links to and from several suburbs in the vicinity.

6.3.2 Private Bus / Coach Facilities

The existing on-site bus pick up and drop off area will be retained as part of the development with the capacity to accommodate at least one coach, as will the bus stops along both sides of Winbourne Street.

Additional capacity for buses and coaches will be included in the on-site parking design. Both permanent coach bays as well as flexible use parking bays (e.g. parallel parking bays that can be repurposed as bus bays during events) will be included. The demand for coach parking is likely to be low during day-to-day (Scenario 1) operations. For larger scale events, please refer to Section 7.

6.4 Green Travel Planning

For developments of this nature, the preparation of a Green Travel Plan (GTP) is recommended to support the facility by outlining strategies to reduce the dependency on private vehicles and encourages travel mode behaviour change towards more sustainable travel options such as cycling, walking, carpooling and public transport. Increased uptake of public transport and active transport can bring a number of benefits to employers, staff, local communities and the environment. These include:

- reduced congestion on surrounding roads and associated parking demands
- reduced emissions associated with private vehicle usage
- a healthier, more active and more productive community
- a greater sense of community among users if the facility
- reduction in car operating costs such as fuel and vehicle wear.

GTPs are designed to be used as ‘live document’ by the owner / operator of the facility. The GTP should be developed in consultation with users and transport stakeholders. It should also be monitored and updated on a regular basis (often annually) to monitor progress towards active transport mode share targets, incorporate new innovation in sustainable travel and review and updates strategies.

7. LARGER SCALE EVENTS AND TRAVEL DEMAND MANAGEMENT

7.1 Overview

Section 2 outlines the various scale of events and also frequency of use. While only occurring for limited days a year, regional (medium scale) and national (large scale) events will require additional event management overlays to occur over the site and surrounding transport system. Prior to any events, it is recommended that in addition to the Green Travel Plan (GTP) and event traffic and pedestrian management plan be developed and submitted to Council. As outlined in Section 3, the transport impacts of medium and larger scale events differ from day-to-day operations in several ways, namely:

- Visitors are travelling from a larger catchment outside greater Sydney, in some cases interstate and do so via public and group booked transport
- Vehicle occupancies are generally higher for major events as there are more spectators and groups. Based on similar projects, during events vehicle occupancies have been assessed at around 2.8-3.0 persons per vehicle
- Given the team nature of netball, larger groups commonly travel together if coming from another region, therefore increasing the demand for bus / coach parking and servicing will be greater that usual.

7.2 Event Traffic and Parking Management Strategies

For medium and large-scale events, it is expected that an event traffic and pedestrian management plan (ETPMP) would be development for the site. This may incorporate a overlay treatments to manage traffic demands and road network operations as well as off-site parking and transport services to connect to the site. To manage travel demands, the ETPMP may include:

- Providing travel advisory packages to visitors before the event promoting carpooling and catching the bus and rail services
- Partnering with Transport for NSW to provide supplementary bus services for special events
- Providing Park n Ride or shuttle buses to / from transport hubs, such as Meadowbank and West Ryde railway stations or the existing Meadowbank Park site
- Limiting on-site parking availability to event staff and shuttle buses / coaches and stating this to attendees prior to the event
- Repurposing on-site parking bays to bus / coach bays (e.g. parallel parking bays)
- Providing off site bus / coach parking
- Utilising nearby sites for overflow parking (e.g. Ermington Public School sports ground adjacent – approx.. 150 car spaces)
- Ensuring there is a pick-up / drop-off area within the site for a coach.

8. SUMMARY AND CONCLUSION

The key findings of the Traffic Impact Assessment for the proposed multi sports stadium to be located at 22 Winbourne Street, West Ryde are as follows:

- The proposal includes rezone the subject site from SP2 Educational Establishments to RE1 Recreation and part C2 Environmental Conservation (now known as C2 Environmental Conservation). The proposal has the potential to include sports facility uses including up to 32 outdoor netball courts, 4 indoor multi sports courts and an ancillary gym.
- The existing high school will be demolished, resulting in a decrease in traffic and parking demand to the surrounding road network during typical school peak operating times on weekdays. Preliminary traffic analysis has been undertaken on the surrounding road network to respond to Council's concerns regarding its ability to accommodate the proposal. It is important to note that following the Planning Proposal, a separate Development Application and further Traffic Impact Assessment Report will be prepared
- The subject site is well supported by public and active transport facilities and strategically located near established residential areas of Denistone West, Eastwood and West Ryde as well as new residential growth suburbs of Melrose Park.
- Planned improvements to the public transport system along Victoria Road along with Council's cycleway rollout will further enhance the walk, cycle and public transport facilities to support the proposal
- Immediately surrounding the site, some pathways and crossings within the established residential areas to the east of the site incorporate some 'missing links'. Therefore, as part of the future development application it is recommended to investigate with Council the opportunity to address and improve pathways and crossing facilities connecting to the site
- A review of similar operating facilities has been undertaken to derive the expected practical operating scale and frequency for the purpose of traffic generation and to identify what transport measures are required to support the proposal. It is appropriate to consider the day-to-day transport operations of the facility be addressed while also considering the traffic capacity limitations and context of the surrounding road network. The use of the site for larger more infrequent events would however be subject to additional event management planning, travel demand management, and other mitigation measures to ensure that the impacts are appropriately managed, but permanent infrastructure is proportionate to the site operations and also economically viable.
- While Council's *Development Control Plan* does include a parking rate for Recreation Facilities (outdoor) at a rate of 3 spaces per court, this parking rate has been acknowledged by Council as not representative to meeting the practical demands for the proposal and specifically netball courts. Therefore in response to Council's position, benchmarking of parking rates at similar sites was undertaken to determine a practical parking rate that has been applied by both Council and also other jurisdictions. Based on the review of the similar netball facilities and considering the sites established transport facilities and road network operations, a parking provision of approximately **256 car parking spaces (8 spaces per outdoor court).** is considered appropriate for the proposal and consistent with the operation of similar facilities throughout regional New South Wales and metropolitan Sydney. This parking provision would look to maximises the on-site parking to reduce impacts to the surrounding residents, while also managing the overall private vehicle trip generation accessing the site via Winbourne Street.
- Given the application relates to the Planning Proposal phase of the project, detailed parking layouts and associated internal transport components of the design are not yet defined. Therefore,

the detailed transport components, parking areas as well as any external traffic works would be subject to further traffic impact assessment as part of the development application stage.

- The development of a Green Travel Plan (GTP) to support the site and its operations would be expected to be conditioned following the development application stage. The GTP would outline strategies to reduce the dependency on private vehicles and encourages travel mode behaviour change towards more sustainable travel options such as cycling, walking, carpooling and public transport.
- The primary vehicular access is proposed to be via Winbourne Street, which remains consistent with the current high school site operations. A review of the traffic impacts associated with the proposal demonstrates that irrespective of the proposal, Winbourne Street / Marsden Road intersection is impacted by peak period queueing back from Victoria Road to the south. Line marking and signage works were undertaken in 2017 to help formalise peak period traffic movements and manage queuing. The operations of this intersection and surrounding road network are shown within survey data to manipulate traffic distribution and discourage right turn movements out of Winbourne Street. Specifically, only 13% of trips exiting Winbourne Street turn right onto Marsden Road, while 87% exit left onto Marsden towards Victoria Road. This is an important factor for assessing the proposals likely traffic impacts to this intersection. When considering the road network operations and traffic generated by the proposal at this intersection, the road network will continue to operate in a similar manner with the inclusion of the proposal. Traffic modelling demonstrates that during both weekday peak period and weekend peak period operations of the Marsden Road / Winbourne Street intersection do not significantly worsen to a level that warrants additional mitigation measures to be imposed.
- The surrounding road network includes a combination of major road corridors including Victoria Road and Marsden Road. These roads and intersections experience major traffic volumes during peak periods and are expected to see traffic growth and congestion in future years. Notwithstanding the above, planned infrastructure works by both Council and TfNSW in the area are focussed towards public transport and active transport infrastructure over conventional road capacity upgrades.
- Given the site layout and frontage to Brush Road, it is likely that some parking and traffic will seek to access the site from the east via Brush Road. It is therefore recommended that mitigation measures be implemented on the surrounding streets and as part of operational planning for the facility. These measures may include but not limited to:
  - Additional line marking and regulatory signage is installed to formalise parallel parking bays on Brush Road, maintain two-way traffic flow and ensure residents' driveways are not obstructed by visitors parking on street
  - The facility's Transport Access Guide (TAG), Green Travel Plan (GTP) and any Event Traffic Management Plans should clearly outline designated parking areas within the facility along with any temporary off-site parking arrangements and alternates transport modes.

Based on the above assessment, it is concluded that the traffic, parking and transport impacts of the proposal can be appropriately managed to accommodate the proposed rezoning of the site. Detailed aspects of the site layout and traffic all associated transport infrastructure inclusions will be assessed and determined through an additional Traffic Impact Assessment to accompany the Development Application.

Appendix A: Council RFI and Responses

	Responses to Issues Raised in Council's RFI2 Letter			
Item	**Council RFI2 Issue**	**Project Team Response**	**Council Response**	**Project Team Response Jan 2022**
1	*It is noted that additional information was submitted to Council on 5 October 2021. Preliminary assessment of the original and additional information has been undertaken which indicates that the proposed use will have significant impacts on the surrounding road and traffic network. Whilst some of these impacts may be addressed via the development application process, there are broader adverse road and traffic network impacts on the surrounding area that must be considered at this strategic, rezoning level.*	It is agreed that the assessment of the most important transport impacts should be assessed as part of the planning proposal process. Some items can also be addressed either post- gateway or during the development application stage, such as where these are within the site footprint and part of the design optimisation process, (e.g. bicycle parking provision).	The scale and nature of the proposed development is such that appropriate infrastructure measures are needed within the surrounding public road network to adequately support the transport demands (e.g. vehicular traffic, cycling, walking, etc.) generated by the proposed development. As such, Council needs to ascertain from the traffic impact assessment what these infrastructure measures will be in order for the planning proposal to be endorsed by Council for referral to DPIE for Gateway Determination and subsequent public exhibition.	A peer review of the traffic and transport elements of the current Planning Proposal discussions has been carried out by Bitzios Traffic Consulting. The findings of their review are provided on a without prejudice basis for the purposes of discussing how each matter can be resolved to enable to the project to proceed. Bitzios agrees that the traffic and transport assessments to date do not yet provide sufficient certainty on the transport impacts and expected infrastructure upgrades to satisfy Council's requests. This is on the basis of various assumptions used within the assessments which are not yet validated against sufficient data sets. In addition, refinements to the expected operational assumptions would assist in Council understanding the facilities impacts on an average weekday or weekend versus major sporting events on the site which would occur at only a limited number of times per year and under additional event transport management planning overlays. Bitzios does however acknowledge that the planning proposal relates to the rezoning of the land only, rather than the specific approval of the proposed yield (i.e. 32 courts) or specific operational aspects of the facility that would impact and dictate the level of mitigation measures required to support the facility. In this regard, Bitzios also acknowledges that all operational aspects of the facility cannot be fully confirmed at this time and therefore should be based on similar operations and developed for a "potential use of the site" rather than a defined yield. The scale and nature of transport facilities associated with the proposal should be proportionate to its impacts and consider a series of scenarios of use for the site (i.e. small day-to-day communities use and larger regional events). A potential outcome of this scenario analysis is defining a set of transport measures (i.e. parking, traffic walking cycling, pick-up/drop-off facilities) to accommodate a level of development (i.e. number of courts and operational treatments) for day-to-day community based use. Beyond that level of use, additional transport measures (i.e. event management planning, temporary overlay and transport initiatives) would be required to support the maximum use on the site (i.e. major events across the site for a limited duration and occurrence per year). It is therefore recommended that further traffic and transport assessments be refined based on additional data on the operational aspects of the facility (both day-to-day and major events) to inform and confirm an acceptable Planning Proposal outcome and subsequent DA. It is estimated that additional data collection and analysis to inform the development proposal would required around 4 weeks to undertake. Following the outcomes of this analysis, incorporation into documentation for lodgement is estimated at 2 weeks.
2	*Based on the above operational characteristics, assuming that all netball courts are used during major competitions, the proposed 32 outdoor netball courts could generate a maximum parking demand of 320 vehicles, which exceeds the car parking provision that is proposed to be provided on site.* *The initial assessment of the proposal indicates that there will be a shortfall in on- site parking. The planning proposal states that the proposed parking is consistent with the Development Control Plan rate of "3 spaces per court" and "1 space per 20m2 GFA for indoor facility" (being 32 x 3 = 96 + 4,000m2/20m2 x 1 space = 200) totalling* *296 spaces. However, this parking calculation is considered a minimum and is not sufficient for the operation of the proposed facility. The proposed "overflow" on-street parking would not be satisfactory as this would significantly impact the surrounding road network.*	It is agreed that the site provides the minimum parking requirement stipulated by the Development Control Plan. It is noted that the indoor facility parking generation does compensate in some way for the lower parking provision per court. The calculation of 3 spaces per court doesn't take into account the parking supplied as part of the indoor facility. The total of 296 parking spaces is an average of eight parking spaces per court, assuming that spectators are drawn from those accompanying players to site. This is a vehicle occupancy of 2.5 players per vehicle, which is achievable with carpooling. Given that we have responded to the DCP rate and the associated parking generation issues to provide 296, we request Council confirm that the identified 320 parking spaces is the maximum required parking space target for the intended use. In consideration of the local community benefits of this project, we also request that Council advise if Council can provide (in part or full) any of the additional parking spaces above 296 within the vicinity of the site in order to meet Council's identified maximum required parking	If the proponent's position is that additional off- street parking will be required for its operation, a specific proposal of how that will be provided needs to be in the proposal. If it is suggested that it should be provided by Council on Council land, then a planning agreement would be required to facilitate that. However, Council does not own land in the vicinity of the site that could provide ancillary off-street parking, and this could not be relied upon to ensure the merit of the proposal. As discussed previously, the proposed overflow of on street-parking would significantly impact the surrounding road network and would not be satisfactory. Council remains of the view that more vehicles need to be accommodated for the number of courts proposed.	Bitzios considers that the parking rates and utilisation should be based on more representative data sets to determine the appropriate parking provision on site to ensure day-to-day operations do not result in adverse parking issues and are in line with the surrounding communities reasonable expectations. It is understood that given the Planning Proposal phase of the project, detailed surveys of parking utilisation, turn-over and duration of stay have not been undertaken on nearby or representative facilities. In addition, the collection of traffic and parking data has been hampered through 2020 and 2021 from COVID related impacts to sporting events and how people travel to and from these types of facilities. It is therefore unclear on the information provided what the current transport mode shares are expected for the facilities and how these may differ for various operational scenario (i.e. size to types of events) or days of the week. Following on from this, it is difficult to determine future changes in transport mode share as a result of potential initiatives the facility may introduce in order to manage parking impacts and external changes (i.e. development of Melrose Park) It is therefore recommended to undertake site reviews and surveys of nearby or comparable netball facilities to ground truth and refine parking rates for the facilities. This should also include consultation with operators regarding the scale of events and factors that may influence parking demands. These tasks would be undertaken as part of the data collection and analysis phase identified above (estimated at 4 weeks).
3	*In the additional information submitted on 5 October, the traffic surveys were undertaken on Saturday, 13 February 2021* *and Tuesday, 16 February 2021, during which COVID-19 restrictions were still in place. Comparing the 2019 SCATS and the 2021 traffic volume data for the intersection of Victoria Road and Marsden Road/Wharf Road for the weekday PM peak hour period (5pm – 6pm), it is evident that the 2019 results are higher. The 2021 base traffic volumes for all surveyed intersections should be calibrated to the*	The AADT counter on Victoria Road (Station 51235) from 2021 shows that the weekly total traffic was 430,519. Compared with a week in 2019, this is similar. Most weeks in 2019 had a weekly trip total of between 417,000 – 435,000. Hence the surveys conducted are considered to have a level of traffic similar to pre-COVID-19 conditions. Surveys were conducted at a time when there was no stay-at-home order in place. Can Council provide further information about why the survey is inappropriate given the similarity to pre-COVID in the weekly vehicle numbers?	Council has two sources of traffic counts, which show the peak hour traffic demands at the intersection of Victoria Rd/Marsden Rd/Wharf Rd to be higher than what has been adopted in the applicant's traffic modelling. As the modelling will also need to be reviewed by TfNSW, the accuracy of the traffic volumes modelled should also be verified by TfNSW.	Bitzios suggests that traffic surveys should be reviewed for particular time periods as opposed to being summarised for a full week. This is consistent with Council's request. Updates to the traffic modelling including base and project case is expected as part of the Development Application Phase and following confirmation of further site transport operations.
4	*Further justification is required to be provided on the reduced traffic generation estimated for the weekday PM peak hour period*	Advice from ERNA informed the assumptions regarding timing of games and scale of operations during the weekday evening peak. From an operational perspective, the major game events occur on a weekend. This is because night games tend to be associated with a smaller netball demographic – late high school and adults. In contrast, the weekend games draw from all ages including primary and early high school.	Surveys should be conducted and included in the traffic impact assessment for existing operations at other similar facilities in Sydney to remove doubt regarding the assumptions. The probability of overlapping matches/training sessions, etc also needs to be considered.	Bitzios generally agrees with Council regarding the refinement of assumptions to traffic generation in line with the responses above. The extent of traffic analysis should and defining of upgrades should however be proportionate to application at hand. As mentioned above, it is understood that the analysis is based on a potential development proposal that may be subject to change in scale and operations.
5	*Why was outbound traffic not considered for the weekday PM peak period to account for overlap between potential games/training sessions starting and finishing concurrently?* *Why was the traffic potentially generated by the four (4) indoor courts not considered?*			

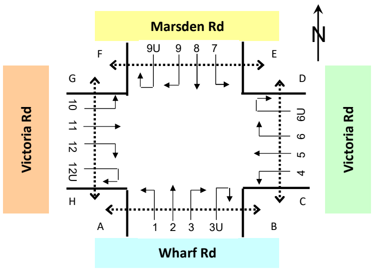
6	*The supplementary traffic statement indicates that the traffic modelling has been calibrated with the degree of saturation set to be less than 1 for all intersections to prevent "over-predicting congestion under current conditions". This is not considered to be appropriate as it may not be an accurate representation of the current operational performance of the surrounding road network (i.e. the current congestion surrounding road network could be underestimated).*	This approach is for the purpose of consistency of inputs and outputs and is standard traffic modelling practice when producing models for TfNSW. This will be raised with TfNSW at a future meeting. Traffic surveys count the number of vehicles that make it through the intersection during the survey period. Degree of saturation is the measure of throughput divided by capacity. A measure of greater than 1.0 indicates that the intersection could not service the full volume. Hence if the SIDRA indicates that the degree of saturation exceeds 1.0, then this is inconsistent with the inputs (being completed turning movements).	Council does not agree with the response as it has not addressed the fact that the modelling has assumed the intersection of Victoria Rd/Marsden Rd/Wharf Rd has spare capacity when this may not be the case. The modelling should be discussed further with TfNSW.	Work undertaken on the intersection previously for the City of Ryde indicates that the intersection will operate at a degree of saturation around 1.0 irrespective of the inclusion of the Planning Proposal, which indicates that the intersection is anticipated to be at capacity in future year scenarios. Further information regarding the intersection operations (i.e. queue lengths, peak times, delays and operational aspects) should be provided to qualify the current operations. From there, the development's traffic analysis needs to quantify the net impact as a result of the proposal during both background and site peak. No details have been provided on the catchment or distribution of the developments traffic. It is however reasonable to expect that the grid nature of the surrounding road network and local catchment of the facility would allow for development traffic to utilise other routes around congested intersections. It is reasonable for Council to request targeted analysis as part of future DAs to address identified concern locations in proximity to the site.
7	*It is understood that at this stage there are no formal plans for the upgrade of the intersection of Victoria Rd and Marsden Rd/Wharf Rd under the arrangement depicted in Figure 1 of supplementary traffic statement, being an extract of the Jacobs' TMAP. As such, it is likely that the proposed development (if approved) would be operational before any long-term infrastructure measures outlined in Jacobs' TMAP has been implemented. In this regard, it is advised that the traffic modelling for the 2031 scenarios be updated based on the current layout of the intersection of Victoria Rd and Marsden Rd/Wharf Rd.*	The upgrade of Victoria Road / Marsden Road / Wharf Road is part of the staging plan of Melrose Park TMAP – page 122 (extract below). The upgrade is triggered when 1,100 dwellings are provided. It would be unreasonable for traffic modelling to include the growth relating to the development of Melrose Park but not the infrastructure staging. It would result in the proponent becoming responsible for impacts that are separate to the subject site.	It is understood that there are no committed plans for the upgrade of the intersection of Victoria Rd/Marsden Rd/Wharf Rd from TfNSW and Parramatta City Council despite the rapid progress of the construction of the Payce development. Therefore, it is not unreasonable to assume the proposed recreational development will be delivered prior to any potential works being undertaken at the intersection of Victoria Rd/Marsden Rd/Wharf Rd associated with the Payce development. The applicant should seek advice from Parramatta City Council and TfNSW in relation to the timing and scope of works committed for the intersection of Victoria Rd/Marsden Rd/Wharf Rd.	
8		Either the growth of Melrose Park should be assessed with their proposed infrastructure schedule or Melrose Park should be excluded from the future growth.		
9	*It is clear from Council's assessment to date that the highest and best use of the RE1 Public Recreation zone, being the proposed netball facility, will have adverse impacts on the capacity and operation of the surrounding road network. On the information available it remains unclear whether this impact can be accommodated by the available network. In particular, Council is seeking sufficient information relating to traffic impacts to be able to ascertain whether upgrades to intersections (such as and upgrade of Victoria Road and/or an upgrade of Marsden Road/Wharf Road) may be required earlier than currently planned to support any rezoning.*	The traffic modelling indicated that the upgrade of Victoria Road / Marsden Road / Wharf Road was not required as a result of the development. Further modelling will be undertaken to evaluate whether without this upgrade and with a capped growth in Melrose Park, the network can accommodate the additional traffic. The suggested way forward is that traffic modelling is updated to evaluate this.	Noted. Background traffic growth should be based on TfNSW's STFM data.	It is noted that the STFM is a link based strategic model and does not include intersection penalties. Therefore, the outputs from the STFM are demand flows not actual flows that can be catered for by the intersection. The traffic assessment therefore needs to consider forecast growth at each intersection in context of the model limitation and practical on-site conditions.
10	*In order to minimise the potential spillover of parking onto the surrounding public roads and to encourage more people to travel to the site by active transport and reduce the potential traffic impacts, additional measures should be considered at the planning proposal stage, as without such measures Council does not consider that the site is suitable for rezoning for the*	As noted above, it is agreed that the assessment of the Planning Proposal include consideration of additional measures, as discussed in turn below. Car parking matters are discussed above. Transport matters are discussed further below.	See above comments in relation to parking and comments below.	Bitzios is of the view that based on further analysis of the proposal as well as other representative sites, a balance can be achieved for parking on site to meet the day-to-day needs of the facility and manage external parking impacts in line with the communities reasonable expectations. To do this, a series of further traffic assessments are required (either through the Planning Proposal phase or Development Application Phases) to assess various event scenarios or scale of activity over the site and development transport options for each.
11	*Some additional measures for consideration may include, but not be limited to, the following:* • *Adequate end of trip facilities (e.g. bicycle racks, showers, lockers, etc.) provided on site in accordance with the NSW Government's Planning Guidelines for Walking and Cycling.*	NSW Government's Planning Guidelines for Walking and Cycling is no longer on a NSW Government website, indicating that it is no longer in force. Are there particular sections or requests that Council is looking to achieve from this guidance document? As a netball facility, there are extensive end of trip facilities for players (showers and change rooms). There are nine showers including one DDA shower. Two of these are dedicated to umpires. Bicycle parking is being included as part of the current round of schematic design.	Guidelines to be provided by Council. There should be appropriate numbers of end-of trip facilities (e.g. bicycle racks/lockers) provided on site as well as active transport improvements within surrounding public roads to support a greater mode shift towards cycling and walking to the site, which will assist in reducing private vehicle traffic and parking demand.	Active transport facilities will be a key aspect of the site's transport system and recommended to be incorporated as part of all scenarios of events. Further detailed analysis is required in consultation with stakeholders to determine the walk and cycle catchments for the facility as well as achievable mode share targets and associated strategies.
12	• *A shared use (pedestrian and cycle) path be provided along the eastern side of Winbourne St between Marsden Road and Hermoyne St.*	This could be confirmed post-Gateway Determination of the planning proposal. It is noted that half of the route already has a generous footpath that could be line marked/signposted as a shared zone.	Noted. Council would anticipate conditioning in a future approval the provision of the path.	As per above, updates to surrounding active transport facilities including pathways or 'missing links' should be based on walk-up catchment analysis of the facility and the site's pedestrian desire lines. A nexus should be defined between the proposed facilities transport needs and any infrastructure upgrades that are imposed.
13	• *Appropriate full pedestrian crossing facilities across Brush Rd.*	This could be confirmed post-Gateway Determination of the planning proposal.	Noted. Council would anticipate conditioning in a future approval the provision of the crossing.	
14	• *Surrounding intersection upgrades be brought forward as a result of the proposed development*	This could be confirmed post-Gateway Determination of the planning proposal. SINSW is delivering community facilities and does not incur a development margin that assists with the delivery of public transport infrastructure. In general, the netball courts would not be busy at the times of peak demand on the transport network, meaning there will typically be spare capacity in the network. Traffic modelling should be the primary means of determining whether	See above comments relating to the traffic modelling. The traffic assessment needs to demonstrate that the traffic issues detailed in the RFIs can be resolved prior to the planning proposal being endorsed for public exhibition. There is no point progressing the planning proposal further if it cannot be demonstrated that the netball facility will be supported by necessary infrastructure.	As per above, traffic analysis and mitigation measures should be refined based on confirmed operational requirements of the proposal and traffic modelling outcomes. This should include a review of background peak and project peak assessments. Given the variables associated with the operational impact of the proposal, it is considered premature to condition such works at this time.

15	*The proposed netball facility has the potential to be a valuable community asset to West Ryde and the surrounding community. However, such a community asset should also be supported by commensurate supporting infrastructure so that the community amenity is maintained and improved. It is concerning that the information provided with the planning proposal has been minimal and there seems to be a reluctance to provide the appropriate level of information that will enable the assessment of this important facility on its strategic merit and in accordance with legislative requirements.*	The level of detail is fairly typical for an initial transport assessment. The RFI process and the Gateway Determination typically reveal the key issues that can then be assessed in further detail. It is noted that the project development process has coincided with COVID-19, which has impacted the ability to collect data on netball operations, though as we have mentioned above, the 2019 and 2021 traffic data appears comparable and is considered to be appropriate for the purposes of this assessment.	A full rather than 'initial' transport assessment should be provided for consideration prior to Council considering referring the planning proposal for Gateway Determination. The assessment needs to demonstrate that the traffic issues detailed in the RFIs can be resolved prior to the planning proposal being endorsed for public exhibition. There is no point progressing the planning proposal further if it cannot be demonstrated that the netball facility will be supported by necessary infrastructure.	Bitzios is of the view that refinements to the proposals transport assessment can be undertaken to provide sufficient confidence to Council for the Planning Proposal phase. It is clear however that not all aspect of the final development over the site can be locked in at this time and a series of caveats, limitations and requirements may be imposed subject to further Traffic Impact Assessments as part of future DA's.
16	*The above comments are raised for your consideration and Council recommends that we meet to discuss a way forward with the proposal. I will be seeking the assistance of Mr Kavanagh and Mr*	Having regard to the above responses, SINSW agrees that a meeting is required to discuss a way forward.	Noted.	

Appendix B: Traffic Volume Data

Job No.	: AUNSW3220
Client	: Bitzios Consulting
Suburb	: West Ryde
Location	: 2. Marsden Rd / Victoria Rd / Wharf Rd
Day/Date	: Wed, 9th Mar 2022
Weather	: Fine
Description	: Classified Intersection Count
	: 15 mins Data

	Class 1	Class 2	Class 3	Class 4
Classifications	Lights	Rigid Heavies	Articulated Heav	Cyclists



Approach	Wharf Rd																			
Direction	Direction 1 (Left Turn)					Direction 2 (Through)					Direction 3 (Right Turn)					Direction 3U (U Turn)				
Time Period	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
7:00 to 7:15	17	3	0	0	20	8	0	1	1	10	17	1	0	0	18	0	0	0	0	0
7:15 to 7:30	10	2	1	0	13	6	1	0	0	7	28	3	0	0	31	0	0	0	0	0
7:30 to 7:45	17	0	0	0	17	16	0	0	0	16	23	0	0	0	23	0	0	0	0	0
7:45 to 8:00	19	0	0	0	19	22	1	0	1	24	16	0	0	0	16	0	0	0	0	0
8:00 to 8:15	25	2	1	0	28	29	1	0	0	30	21	0	0	0	21	0	0	0	0	0
8:15 to 8:30	26	4	1	0	31	23	1	0	0	24	32	1	0	0	33	0	0	0	0	0
8:30 to 8:45	19	2	0	0	21	30	1	0	0	31	34	1	0	0	35	0	0	0	0	0
8:45 to 9:00	16	4	0	0	20	28	1	0	0	29	15	0	0	0	15	0	0	0	0	0
AM Totals	**149**	**17**	**3**	**0**	**169**	**162**	**6**	**1**	**2**	**171**	**186**	**6**	**0**	**0**	**192**	**0**	**0**	**0**	**0**	**0**
15:00 to 15:15	26	1	2	0	29	29	0	0	0	29	24	0	0	0	24	0	0	0	0	0
15:15 to 15:30	37	2	0	0	39	15	1	0	0	16	21	0	0	0	21	0	0	0	0	0
15:30 to 15:45	28	2	0	0	30	30	0	0	0	30	27	0	0	0	27	0	0	0	0	0
15:45 to 16:00	27	2	0	0	29	22	1	0	0	23	19	0	0	0	19	0	0	0	0	0
16:00 to 16:15	27	0	0	0	27	34	0	0	0	34	18	0	0	0	18	0	0	0	0	0
16:15 to 16:30	28	2	0	0	30	18	1	1	0	20	16	0	0	0	16	0	0	0	0	0
16:30 to 16:45	25	3	1	0	29	30	0	0	0	30	27	0	0	0	27	0	0	0	0	0
16:45 to 17:00	25	0	0	0	25	32	0	0	0	32	19	2	0	0	21	0	0	0	0	0
17:00 to 17:15	34	1	0	0	35	51	0	0	0	51	23	0	0	0	23	0	0	0	0	0
17:15 to 17:30	21	0	0	0	21	33	0	1	0	34	29	0	0	0	29	0	0	0	0	0
17:30 to 17:45	34	0	0	0	34	31	0	0	0	31	14	0	0	0	14	0	0	0	0	0
17:45 to 18:00	28	0	0	0	28	29	0	0	0	29	18	0	0	0	18	0	0	0	0	0
PM Totals	**340**	**13**	**3**	**0**	**356**	**354**	**3**	**2**	**0**	**359**	**255**	**2**	**0**	**0**	**257**	**0**	**0**	**0**	**0**	**0**

Approach	Victoria Rd																			
Direction	Direction 4 (Left Turn)					Direction 5 (Through)					Direction 6 (Right Turn)					Direction 6U (U Turn)				
Time Period	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
7:00 to 7:15	7	1	0	0	8	264	14	3	0	281	40	5	0	0	45	0	0	0	0	0
7:15 to 7:30	11	0	0	0	11	298	16	4	0	318	52	1	0	0	53	0	0	0	0	0
7:30 to 7:45	8	1	0	0	9	355	13	0	0	368	45	0	0	0	45	0	0	0	0	0
7:45 to 8:00	10	0	0	0	10	377	14	0	0	391	45	0	0	0	45	0	0	0	0	0
8:00 to 8:15	7	1	0	0	8	305	9	3	0	317	46	1	1	0	48	0	0	0	0	0
8:15 to 8:30	11	2	0	0	13	371	16	0	0	387	56	0	1	0	57	0	0	0	0	0
8:30 to 8:45	14	1	0	0	15	343	21	0	0	364	61	0	0	0	61	0	0	0	0	0
8:45 to 9:00	14	1	0	0	15	338	11	0	0	349	61	0	0	0	61	0	0	0	0	0
AM Totals	**82**	**7**	**0**	**0**	**89**	**2,651**	**114**	**10**	**0**	**2,775**	**406**	**7**	**2**	**0**	**415**	**0**	**0**	**0**	**0**	**0**
15:00 to 15:15	6	0	0	0	6	372	17	2	0	391	82	6	1	0	89	0	0	0	0	0
15:15 to 15:30	10	0	0	0	10	379	21	5	0	405	84	4	0	0	88	0	0	0	0	0
15:30 to 15:45	5	2	0	0	7	383	14	0	0	397	76	1	0	0	77	0	0	0	0	0
15:45 to 16:00	9	0	0	0	9	429	14	2	0	445	84	1	0	0	85	0	0	0	0	0
16:00 to 16:15	6	0	1	0	7	420	15	0	0	435	82	2	0	0	84	0	0	0	0	0
16:15 to 16:30	10	1	0	0	11	447	21	3	0	471	80	0	0	0	80	0	0	0	0	0
16:30 to 16:45	7	0	0	0	7	418	15	0	0	433	80	1	0	0	81	0	0	0	0	0
16:45 to 17:00	9	0	0	0	9	450	18	2	0	470	64	2	0	0	66	0	0	0	0	0
17:00 to 17:15	10	0	0	0	10	423	12	1	0	436	81	1	0	0	82	0	0	0	0	0
17:15 to 17:30	11	0	0	0	11	382	10	0	0	392	81	0	0	0	81	0	0	0	0	0
17:30 to 17:45	14	1	0	0	15	429	17	0	0	446	65	0	0	0	65	0	0	0	0	0
17:45 to 18:00	7	0	0	0	7	415	14	1	0	430	77	0	0	0	77	0	0	0	0	0
PM Totals	**104**	**4**	**1**	**0**	**109**	**4,947**	**188**	**16**	**0**	**5,151**	**936**	**18**	**1**	**0**	**955**	**0**	**0**	**0**	**0**	**0**

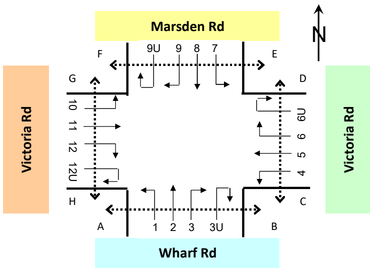
Approach	Marsden Rd																			
Direction	Direction 7 (Left Turn)					Direction 8 (Through)					Direction 9 (Right Turn)					Direction 9U (U Turn)				
Time Period	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
7:00 to 7:15	95	4	0	0	99	22	0	0	0	22	12	1	0	0	13	0	0	0	0	0
7:15 to 7:30	97	3	0	0	100	26	0	0	0	26	23	0	0	0	23	0	0	0	0	0
7:30 to 7:45	86	1	0	0	87	18	0	0	0	18	24	1	0	0	25	0	0	0	0	0
7:45 to 8:00	85	1	1	0	87	28	0	0	0	28	38	1	0	0	39	0	0	0	0	0
8:00 to 8:15	93	4	0	0	97	20	0	0	0	20	31	6	0	0	37	0	0	0	0	0
8:15 to 8:30	102	0	0	0	102	34	0	0	1	35	35	0	0	0	35	0	0	0	0	0
8:30 to 8:45	120	1	0	0	121	39	2	0	0	41	69	0	0	0	69	0	0	0	0	0
8:45 to 9:00	121	1	0	0	122	37	0	0	0	37	58	1	0	0	59	1	0	0	0	1
AM Totals	**799**	**15**	**1**	**0**	**815**	**224**	**2**	**0**	**1**	**227**	**290**	**10**	**0**	**0**	**300**	**1**	**0**	**0**	**0**	**1**
15:00 to 15:15	73	1	0	0	74	23	1	0	0	24	70	0	0	0	70	0	0	0	0	0
15:15 to 15:30	84	0	0	0	84	14	1	0	0	15	48	1	0	0	49	0	0	0	0	0
15:30 to 15:45	83	1	0	0	84	19	2	0	0	21	25	5	0	0	30	0	0	0	0	0
15:45 to 16:00	52	5	0	0	57	20	0	1	0	21	26	3	0	0	29	0	0	0	0	0
16:00 to 16:15	59	3	0	0	62	19	0	0	0	19	35	2	0	0	37	0	0	0	0	0
16:15 to 16:30	62	2	0	0	64	17	0	0	0	17	25	0	0	0	25	0	0	0	0	0
16:30 to 16:45	61	0	0	0	61	23	1	0	0	24	28	1	0	0	29	0	0	0	0	0
16:45 to 17:00	66	0	0	0	66	16	1	0	0	17	20	0	0	0	20	0	0	0	0	0
17:00 to 17:15	81	0	0	0	81	25	0	0	0	25	30	2	0	0	32	0	0	0	0	0
17:15 to 17:30	81	0	0	0	81	26	0	0	0	26	43	0	0	0	43	0	0	0	0	0
17:30 to 17:45	66	1	0	0	67	20	1	0	0	21	35	0	0	0	35	0	0	0	0	0
17:45 to 18:00	64	0	0	0	64	19	0	0	0	19	34	1	0	0	35	0	0	0	0	0
PM Totals	**832**	**13**	**0**	**0**	**845**	**241**	**7**	**1**	**0**	**249**	**419**	**15**	**0**	**0**	**434**	**0**	**0**	**0**	**0**	**0**

Approach	Victoria Rd																			
Direction	Direction 10 (Left Turn)					Direction 11 (Through)					Direction 12 (Right Turn)					Direction 12U (U Turn)				
Time Period	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
7:00 to 7:15	20	0	0	0	20	366	22	4	0	392	18	4	1	1	24	0	0	0	0	0
7:15 to 7:30	21	1	0	0	22	490	32	0	0	522	12	1	0	0	13	0	0	0	0	0
7:30 to 7:45	25	0	1	0	26	486	14	6	0	506	16	2	0	0	18	0	0	0	0	0
7:45 to 8:00	30	1	0	0	31	477	24	3	0	504	13	1	0	0	14	0	0	0	0	0
8:00 to 8:15	34	0	0	0	34	440	21	1	0	462	9	6	0	0	15	0	0	0	0	0
8:15 to 8:30	41	1	0	0	42	524	27	0	0	551	19	5	1	0	25	0	0	0	0	0
8:30 to 8:45	68	0	0	0	68	447	29	1	0	477	18	1	0	0	19	0	0	0	0	0
8:45 to 9:00	61	1	1	0	63	428	24	3	0	455	18	5	0	0	23	0	0	0	0	0
AM Totals	**300**	**4**	**2**	**0**	**306**	**3,658**	**193**	**18**	**0**	**3,869**	**123**	**25**	**2**	**1**	**151**	**0**	**0**	**0**	**0**	**0**
15:00 to 15:15	38	0	0	0	38	311	16	1	0	328	18	3	0	0	21	0	0	0	0	0
15:15 to 15:30	25	0	0	0	25	378	11	2	0	391	17	1	1	0	19	0	0	0	0	0
15:30 to 15:45	27	3	0	0	30	347	11	0	0	358	22	0	0	0	22	0	0	0	0	0
15:45 to 16:00	14	2	0	0	16	366	17	0	0	383	14	1	0	0	15	0	0	0	0	0
16:00 to 16:15	21	1	0	0	22	415	11	0	0	426	23	1	0	0	24	0	0	0	0	0
16:15 to 16:30	26	1	0	0	27	428	4	0	0	432	21	3	0	0	24	0	0	0	0	0
16:30 to 16:45	21	0	0	0	21	435	8	1	0	444	17	1	0	0	18	0	0	0	0	0
16:45 to 17:00	27	1	0	0	28	438	7	1	0	446	25	0	0	0	25	0	0	0	0	0
17:00 to 17:15	20	1	0	0	21	447	5	0	0	452	27	1	0	0	28	0	0	0	0	0
17:15 to 17:30	22	0	0	0	22	487	6	0	0	493	17	1	0	0	18	0	0	0	0	0
17:30 to 17:45	29	1	0	0	30	518	6	1	0	525	19	0	0	0	19	0	0	0	0	0
17:45 to 18:00	19	0	0	0	19	479	13	0	0	492	17	0	0	0	17	0	0	0	0	0
PM Totals	**289**	**10**	**0**	**0**	**299**	**5,049**	**115**	**6**	**0**	**5,170**	**237**	**12**	**1**	**0**	**250**	**0**	**0**	**0**	**0**	**0**

Crossing Pedestrians									
Time Period	B to A	A to B	D to C	C to D	F to E	E to F	H to G	G to H	Total
7:00 to 7:15	3	1	5	1	0	1	0	0	11
7:15 to 7:30	0	0	1	2	0	1	0	0	4
7:30 to 7:45	8	3	7	2	0	2	0	0	22
7:45 to 8:00	5	0	7	1	1	4	0	0	18
8:00 to 8:15	21	7	24	8	0	5	0	0	65
8:15 to 8:30	28	3	33	3	0	4	0	0	71
8:30 to 8:45	25	2	41	6	2	15	0	0	91
8:45 to 9:00	38	1	53	2	6	14	0	0	114
AM Totals	**128**	**17**	**171**	**25**	**9**	**46**	**0**	**0**	**396**
15:00 to 15:15	0	23	8	72	64	3	0	0	170
15:15 to 15:30	4	11	6	12	19	5	0	0	57
15:30 to 15:45	1	4	2	13	7	7	0	0	34
15:45 to 16:00	6	5	5	7	3	1	0	0	27
16:00 to 16:15	1	3	6	8	5	0	0	0	23
16:15 to 16:30	2	1	1	2	1	4	0	0	11
16:30 to 16:45	4	1	5	5	1	4	0	0	20
16:45 to 17:00	1	1	4	3	1	1	0	0	11
17:00 to 17:15	3	0	8	1	2	0	0	0	14
17:15 to 17:30	2	1	8	6	1	3	0	0	21
17:30 to 17:45	5	2	6	5	2	1	0	1	22
17:45 to 18:00	0	1	7	3	4	2	0	0	17
PM Totals	**29**	**53**	**66**	**137**	**110**	**31**	**0**	**1**	**427**

Job No. : AUNSW3220
Client : Bitzios Consulting
Suburb : West Ryde
Location : 2. Marsden Rd / Victoria Rd / Wharf Rd

Day/Date : Wed, 9th Mar 2022
Weather : Fine
Description : Classified Intersection Count
: Hourly Summary



Approach: Wharf Rd

Time Period	Direction 1 (Left Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 2 (Through) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 3 (Right Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 3U (U Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
7:00 to 8:00	63	5	1	0	**69**	52	2	1	2	**57**	84	4	0	0	**88**	0	0	0	0	**0**
7:15 to 8:15	71	4	2	0	**77**	73	3	0	1	**77**	88	3	0	0	**91**	0	0	0	0	**0**
7:30 to 8:30	87	6	2	0	**95**	90	3	0	1	**94**	92	1	0	0	**93**	0	0	0	0	**0**
7:45 to 8:45	89	8	2	0	**99**	104	4	0	1	**109**	103	2	0	0	**105**	0	0	0	0	**0**
8:00 to 9:00	86	12	2	0	**100**	110	4	0	0	**114**	102	2	0	0	**104**	0	0	0	0	**0**
AM Totals	**149**	**17**	**3**	**0**	**169**	**162**	**6**	**1**	**2**	**171**	**186**	**6**	**0**	**0**	**192**	**0**	**0**	**0**	**0**	**0**
15:00 to 16:00	118	7	2	0	**127**	96	2	0	0	**98**	91	0	0	0	**91**	0	0	0	0	**0**
15:15 to 16:15	119	6	0	0	**125**	101	2	0	0	**103**	85	0	0	0	**85**	0	0	0	0	**0**
15:30 to 16:30	110	6	0	0	**116**	104	2	1	0	**107**	80	0	0	0	**80**	0	0	0	0	**0**
15:45 to 16:45	107	7	1	0	**115**	104	2	1	0	**107**	80	0	0	0	**80**	0	0	0	0	**0**
16:00 to 17:00	105	5	1	0	**111**	114	1	1	0	**116**	80	2	0	0	**82**	0	0	0	0	**0**
16:15 to 17:15	112	6	1	0	**119**	131	1	1	0	**133**	85	2	0	0	**87**	0	0	0	0	**0**
16:30 to 17:30	105	4	1	0	**110**	146	0	1	0	**147**	98	2	0	0	**100**	0	0	0	0	**0**
16:45 to 17:45	114	1	0	0	**115**	147	0	1	0	**148**	85	2	0	0	**87**	0	0	0	0	**0**
17:00 to 18:00	117	1	0	0	**118**	144	0	1	0	**145**	84	0	0	0	**84**	0	0	0	0	**0**
PM Totals	**340**	**13**	**3**	**0**	**356**	**354**	**3**	**2**	**0**	**359**	**255**	**2**	**0**	**0**	**257**	**0**	**0**	**0**	**0**	**0**

Approach: Victoria Rd

Time Period	Direction 4 (Left Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 5 (Through) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 6 (Right Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 6U (U Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
7:00 to 8:00	36	2	0	0	**38**	1,294	57	7	0	**1,358**	182	6	0	0	**188**	0	0	0	0	**0**
7:15 to 8:15	36	2	0	0	**38**	1,335	52	7	0	**1,394**	188	2	1	0	**191**	0	0	0	0	**0**
7:30 to 8:30	36	4	0	0	**40**	1,408	52	3	0	**1,463**	192	1	2	0	**195**	0	0	0	0	**0**
7:45 to 8:45	42	4	0	0	**46**	1,396	60	3	0	**1,459**	208	1	2	0	**211**	0	0	0	0	**0**
8:00 to 9:00	46	5	0	0	**51**	1,357	57	3	0	**1,417**	224	1	2	0	**227**	0	0	0	0	**0**
AM Totals	**82**	**7**	**0**	**0**	**89**	**2,651**	**114**	**10**	**0**	**2,775**	**406**	**7**	**2**	**0**	**415**	**0**	**0**	**0**	**0**	**0**
15:00 to 16:00	30	2	0	0	**32**	1,563	66	9	0	**1,638**	326	12	1	0	**339**	0	0	0	0	**0**
15:15 to 16:15	30	2	1	0	**33**	1,611	64	7	0	**1,682**	326	8	0	0	**334**	0	0	0	0	**0**
15:30 to 16:30	30	3	1	0	**34**	1,679	64	5	0	**1,748**	322	4	0	0	**326**	0	0	0	0	**0**
15:45 to 16:45	32	1	1	0	**34**	1,714	65	5	0	**1,784**	326	4	0	0	**330**	0	0	0	0	**0**
16:00 to 17:00	32	1	1	0	**34**	1,735	69	5	0	**1,809**	306	5	0	0	**311**	0	0	0	0	**0**
16:15 to 17:15	36	1	0	0	**37**	1,738	66	6	0	**1,810**	305	4	0	0	**309**	0	0	0	0	**0**
16:30 to 17:30	37	0	0	0	**37**	1,673	55	3	0	**1,731**	306	4	0	0	**310**	0	0	0	0	**0**
16:45 to 17:45	44	1	0	0	**45**	1,684	57	3	0	**1,744**	291	3	0	0	**294**	0	0	0	0	**0**
17:00 to 18:00	42	1	0	0	**43**	1,649	53	2	0	**1,704**	304	1	0	0	**305**	0	0	0	0	**0**
PM Totals	**104**	**4**	**1**	**0**	**109**	**4,947**	**188**	**16**	**0**	**5,151**	**936**	**18**	**1**	**0**	**955**	**0**	**0**	**0**	**0**	**0**

Approach: Marsden Rd

Time Period	Direction 7 (Left Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 8 (Through) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 9 (Right Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 9U (U Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
7:00 to 8:00	363	9	1	0	**373**	94	0	0	0	**94**	97	3	0	0	**100**	0	0	0	0	**0**
7:15 to 8:15	361	9	1	0	**371**	92	0	0	0	**92**	116	8	0	0	**124**	0	0	0	0	**0**
7:30 to 8:30	366	6	1	0	**373**	100	0	0	1	**101**	128	8	0	0	**136**	0	0	0	0	**0**
7:45 to 8:45	400	6	1	0	**407**	121	2	0	1	**124**	173	7	0	0	**180**	0	0	0	0	**0**
8:00 to 9:00	436	6	0	0	**442**	130	2	0	1	**133**	193	7	0	0	**200**	1	0	0	0	**1**
AM Totals	**799**	**15**	**1**	**0**	**815**	**224**	**2**	**0**	**1**	**227**	**290**	**10**	**0**	**0**	**300**	**1**	**0**	**0**	**0**	**1**
15:00 to 16:00	292	7	0	0	**299**	76	4	1	0	**81**	169	9	0	0	**178**	0	0	0	0	**0**
15:15 to 16:15	278	9	0	0	**287**	72	3	1	0	**76**	134	11	0	0	**145**	0	0	0	0	**0**
15:30 to 16:30	256	11	0	0	**267**	75	2	1	0	**78**	111	10	0	0	**121**	0	0	0	0	**0**
15:45 to 16:45	234	10	0	0	**244**	79	1	1	0	**81**	114	6	0	0	**120**	0	0	0	0	**0**
16:00 to 17:00	248	5	0	0	**253**	75	2	0	0	**77**	108	3	0	0	**111**	0	0	0	0	**0**
16:15 to 17:15	270	2	0	0	**272**	81	2	0	0	**83**	103	3	0	0	**106**	0	0	0	0	**0**
16:30 to 17:30	289	0	0	0	**289**	90	2	0	0	**92**	121	3	0	0	**124**	0	0	0	0	**0**
16:45 to 17:45	294	1	0	0	**295**	87	2	0	0	**89**	128	2	0	0	**130**	0	0	0	0	**0**
17:00 to 18:00	292	1	0	0	**293**	90	1	0	0	**91**	142	3	0	0	**145**	0	0	0	0	**0**
PM Totals	**832**	**13**	**0**	**0**	**845**	**241**	**7**	**1**	**0**	**249**	**419**	**15**	**0**	**0**	**434**	**0**	**0**	**0**	**0**	**0**

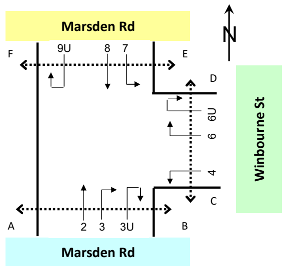
Approach: Victoria Rd

Time Period	Direction 10 (Left Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 11 (Through) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 12 (Right Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 12U (U Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
7:00 to 8:00	96	2	1	0	**99**	1,819	92	13	0	**1,924**	59	8	1	1	**69**	0	0	0	0	**0**
7:15 to 8:15	110	2	1	0	**113**	1,893	91	10	0	**1,994**	50	10	0	0	**60**	0	0	0	0	**0**
7:30 to 8:30	130	2	1	0	**133**	1,927	86	10	0	**2,023**	57	14	1	0	**72**	0	0	0	0	**0**
7:45 to 8:45	173	2	0	0	**175**	1,888	101	5	0	**1,994**	59	13	1	0	**73**	0	0	0	0	**0**
8:00 to 9:00	204	2	1	0	**207**	1,839	101	5	0	**1,945**	64	17	1	0	**82**	0	0	0	0	**0**
AM Totals	**300**	**4**	**2**	**0**	**306**	**3,658**	**193**	**18**	**0**	**3,869**	**123**	**25**	**2**	**1**	**151**	**0**	**0**	**0**	**0**	**0**
15:00 to 16:00	104	5	0	0	**109**	1,402	55	3	0	**1,460**	71	5	1	0	**77**	0	0	0	0	**0**
15:15 to 16:15	87	6	0	0	**93**	1,506	50	2	0	**1,558**	76	3	1	0	**80**	0	0	0	0	**0**
15:30 to 16:30	88	7	0	0	**95**	1,556	43	0	0	**1,599**	80	5	0	0	**85**	0	0	0	0	**0**
15:45 to 16:45	82	4	0	0	**86**	1,644	40	1	0	**1,685**	75	6	0	0	**81**	0	0	0	0	**0**
16:00 to 17:00	95	3	0	0	**98**	1,716	30	2	0	**1,748**	86	5	0	0	**91**	0	0	0	0	**0**
16:15 to 17:15	94	3	0	0	**97**	1,748	24	2	0	**1,774**	90	5	0	0	**95**	0	0	0	0	**0**
16:30 to 17:30	90	2	0	0	**92**	1,807	26	2	0	**1,835**	86	3	0	0	**89**	0	0	0	0	**0**
16:45 to 17:45	98	3	0	0	**101**	1,890	24	2	0	**1,916**	88	2	0	0	**90**	0	0	0	0	**0**
17:00 to 18:00	90	2	0	0	**92**	1,931	30	1	0	**1,962**	80	2	0	0	**82**	0	0	0	0	**0**
PM Totals	**289**	**10**	**0**	**0**	**299**	**5,049**	**115**	**6**	**0**	**5,170**	**237**	**12**	**1**	**0**	**250**	**0**	**0**	**0**	**0**	**0**

Crossing Pedestrians

Time Period	B to A	A to B	D to C	C to D	F to E	E to F	H to G	G to H	Total
7:00 to 8:00	16	4	20	6	1	8	0	0	**55**
7:15 to 8:15	34	10	39	13	1	12	0	0	**109**
7:30 to 8:30	62	13	71	14	1	15	0	0	**176**
7:45 to 8:45	79	12	105	18	3	28	0	0	**245**
8:00 to 9:00	112	13	151	19	8	38	0	0	**341**
AM Totals	**128**	**17**	**171**	**25**	**9**	**46**	**0**	**0**	**396**
15:00 to 16:00	11	43	21	104	93	16	0	0	**288**
15:15 to 16:15	12	23	19	40	34	13	0	0	**141**
15:30 to 16:30	10	13	14	30	16	12	0	0	**95**
15:45 to 16:45	13	10	17	22	10	9	0	0	**81**
16:00 to 17:00	8	6	16	18	8	9	0	0	**65**
16:15 to 17:15	10	3	18	11	5	9	0	0	**56**
16:30 to 17:30	10	3	25	15	5	8	0	0	**66**
16:45 to 17:45	11	4	26	15	6	5	0	1	**68**
17:00 to 18:00	10	4	29	15	9	6	0	1	**74**
PM Totals	**29**	**53**	**66**	**137**	**110**	**31**	**0**	**1**	**427**

Job No.	: AUNSW3220
Client	: Bitzios Consulting
Suburb	: West Ryde
Location	: 1. Winbourne St / Marsden Rd
Day/Date	: Wed, 9th Mar 2022
Weather	: Fine
Description	: Classified Intersection Count
	: 15 mins Data



	Class 1	Class 2	Class 3	Class 4
Classifications	Lights	Rigid Heavies	Articulated Heavies	Cyclists

Approach: Marsden Rd

Time Period	Dir 2 (Through) Lights	Dir 2 Rigid Heavies	Dir 2 Articulated Heavies	Dir 2 Cyclists	Dir 2 Total	Dir 3 (Right Turn) Lights	Dir 3 Rigid Heavies	Dir 3 Articulated Heavies	Dir 3 Cyclists	Dir 3 Total	Dir 3U (U Turn) Lights	Dir 3U Rigid Heavies	Dir 3U Articulated Heavies	Dir 3U Cyclists	Dir 3U Total
7:00 to 7:15	53	4	1	1	**59**	13	1	0	0	**14**	0	0	0	0	**0**
7:15 to 7:30	62	2	0	0	**64**	15	1	0	0	**16**	2	0	0	0	**2**
7:30 to 7:45	66	1	0	0	**67**	21	0	0	0	**21**	0	0	0	0	**0**
7:45 to 8:00	59	1	0	0	**60**	39	1	0	1	**41**	0	0	0	0	**0**
8:00 to 8:15	73	0	0	0	**73**	36	2	1	0	**39**	2	0	0	0	**2**
8:15 to 8:30	63	2	0	0	**65**	58	1	0	0	**59**	0	0	0	0	**0**
8:30 to 8:45	70	0	0	0	**70**	85	1	0	0	**86**	0	0	0	0	**0**
8:45 to 9:00	64	0	1	0	**65**	93	1	0	0	**94**	0	0	0	0	**0**
AM Totals	**510**	**10**	**2**	**1**	**523**	**360**	**8**	**1**	**1**	**370**	**4**	**0**	**0**	**0**	**4**
15:00 to 15:15	95	5	1	0	**101**	57	1	0	0	**58**	0	0	0	0	**0**
15:15 to 15:30	110	1	0	0	**111**	20	4	0	0	**24**	0	0	0	0	**0**
15:30 to 15:45	114	2	0	0	**116**	18	2	0	0	**20**	1	0	0	0	**1**
15:45 to 16:00	110	1	0	0	**111**	15	2	0	0	**17**	1	0	0	0	**1**
16:00 to 16:15	112	1	0	0	**113**	15	2	0	0	**17**	0	0	0	0	**0**
16:15 to 16:30	107	1	1	0	**109**	20	1	0	0	**21**	0	0	0	0	**0**
16:30 to 16:45	111	1	0	0	**112**	20	0	0	0	**20**	2	0	0	0	**2**
16:45 to 17:00	100	3	0	0	**103**	21	0	0	0	**21**	1	0	0	0	**1**
17:00 to 17:15	137	1	0	0	**138**	21	1	0	0	**22**	3	0	0	0	**3**
17:15 to 17:30	108	0	1	0	**109**	20	0	0	0	**20**	4	0	0	0	**4**
17:30 to 17:45	112	0	0	0	**112**	24	1	0	0	**25**	0	0	0	0	**0**
17:45 to 18:00	101	0	0	0	**101**	17	0	0	0	**17**	1	0	0	0	**1**
PM Totals	**1,317**	**16**	**3**	**0**	**1,336**	**268**	**14**	**0**	**0**	**282**	**13**	**0**	**0**	**0**	**13**

Approach: Winbourne St

Time Period	Dir 4 (Left Turn) Lights	Dir 4 Rigid Heavies	Dir 4 Articulated Heavies	Dir 4 Cyclists	Dir 4 Total	Dir 6 (Right Turn) Lights	Dir 6 Rigid Heavies	Dir 6 Articulated Heavies	Dir 6 Cyclists	Dir 6 Total	Dir 6U (U Turn) Lights	Dir 6U Rigid Heavies	Dir 6U Articulated Heavies	Dir 6U Cyclists	Dir 6U Total
7:00 to 7:15	10	1	0	0	**11**	2	0	0	0	**2**	0	0	0	0	**0**
7:15 to 7:30	20	0	0	0	**20**	1	0	0	0	**1**	0	0	0	0	**0**
7:30 to 7:45	35	1	0	0	**36**	2	0	0	0	**2**	0	0	0	0	**0**
7:45 to 8:00	43	2	0	0	**45**	7	0	0	0	**7**	0	0	0	0	**0**
8:00 to 8:15	40	4	0	0	**44**	6	0	0	0	**6**	0	0	0	0	**0**
8:15 to 8:30	48	0	0	0	**48**	3	0	0	0	**3**	0	0	0	0	**0**
8:30 to 8:45	99	1	0	0	**100**	6	0	0	0	**6**	0	0	0	0	**0**
8:45 to 9:00	101	2	0	0	**103**	9	0	0	0	**9**	0	0	0	0	**0**
AM Totals	**396**	**11**	**0**	**0**	**407**	**36**	**0**	**0**	**0**	**36**	**0**	**0**	**0**	**0**	**0**
15:00 to 15:15	99	0	0	0	**99**	19	0	0	0	**19**	0	0	0	0	**0**
15:15 to 15:30	38	1	0	0	**39**	5	2	0	0	**7**	0	0	0	0	**0**
15:30 to 15:45	34	4	0	0	**38**	10	0	0	0	**10**	0	0	0	0	**0**
15:45 to 16:00	30	3	0	0	**33**	3	0	0	0	**3**	0	0	0	0	**0**
16:00 to 16:15	34	3	0	0	**37**	3	0	0	0	**3**	0	0	0	0	**0**
16:15 to 16:30	20	1	0	0	**21**	5	0	0	0	**5**	0	0	0	0	**0**
16:30 to 16:45	25	1	0	0	**26**	9	0	0	0	**9**	0	0	0	0	**0**
16:45 to 17:00	28	0	0	0	**28**	5	0	0	0	**5**	0	0	0	0	**0**
17:00 to 17:15	29	1	0	0	**30**	6	1	0	0	**7**	0	0	0	0	**0**
17:15 to 17:30	41	0	0	1	**42**	2	0	0	0	**2**	0	0	0	0	**0**
17:30 to 17:45	34	0	0	0	**34**	7	0	0	0	**7**	0	0	0	0	**0**
17:45 to 18:00	32	1	0	0	**33**	6	0	0	0	**6**	0	0	0	0	**0**
PM Totals	**444**	**15**	**0**	**1**	**460**	**80**	**3**	**0**	**0**	**83**	**0**	**0**	**0**	**0**	**0**

Approach: Marsden Rd

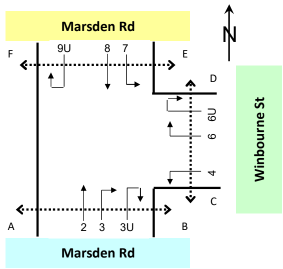
Time Period	Dir 7 (Left Turn) Lights	Dir 7 Rigid Heavies	Dir 7 Articulated Heavies	Dir 7 Cyclists	Dir 7 Total	Dir 8 (Through) Lights	Dir 8 Rigid Heavies	Dir 8 Articulated Heavies	Dir 8 Cyclists	Dir 8 Total	Dir 9U (U Turn) Lights	Dir 9U Rigid Heavies	Dir 9U Articulated Heavies	Dir 9U Cyclists	Dir 9U Total
7:00 to 7:15	3	0	0	0	**3**	115	4	0	0	**119**	0	0	0	0	**0**
7:15 to 7:30	3	0	0	0	**3**	127	3	0	0	**130**	0	0	0	0	**0**
7:30 to 7:45	5	0	0	0	**5**	109	1	0	0	**110**	0	0	0	0	**0**
7:45 to 8:00	5	0	0	0	**5**	125	2	1	0	**128**	0	0	0	0	**0**
8:00 to 8:15	5	0	0	0	**5**	107	4	0	0	**111**	0	0	0	0	**0**
8:15 to 8:30	11	0	0	0	**11**	131	0	0	1	**132**	0	0	0	0	**0**
8:30 to 8:45	6	1	0	0	**7**	139	2	0	0	**141**	0	0	0	0	**0**
8:45 to 9:00	6	0	0	0	**6**	91	2	0	0	**93**	0	0	0	0	**0**
AM Totals	**44**	**1**	**0**	**0**	**45**	**944**	**18**	**1**	**1**	**964**	**0**	**0**	**0**	**0**	**0**
15:00 to 15:15	6	0	0	0	**6**	89	2	0	0	**91**	0	0	0	0	**0**
15:15 to 15:30	2	0	0	0	**2**	98	1	0	0	**99**	0	0	0	0	**0**
15:30 to 15:45	5	1	0	0	**6**	102	4	0	0	**106**	0	0	0	0	**0**
15:45 to 16:00	1	0	0	0	**1**	79	5	1	0	**85**	0	0	0	0	**0**
16:00 to 16:15	4	0	0	0	**4**	74	2	0	0	**76**	0	0	0	0	**0**
16:15 to 16:30	6	0	0	0	**6**	83	1	0	0	**84**	0	0	0	0	**0**
16:30 to 16:45	3	0	0	0	**3**	84	1	0	0	**85**	0	0	0	0	**0**
16:45 to 17:00	4	0	0	0	**4**	85	1	0	0	**86**	0	0	0	0	**0**
17:00 to 17:15	0	0	0	0	**0**	109	1	0	0	**110**	0	0	0	0	**0**
17:15 to 17:30	5	0	0	0	**5**	107	1	0	0	**108**	0	0	0	0	**0**
17:30 to 17:45	1	0	0	0	**1**	86	1	0	0	**87**	0	0	0	0	**0**
17:45 to 18:00	2	0	0	0	**2**	87	1	0	0	**88**	0	0	0	0	**0**
PM Totals	**39**	**1**	**0**	**0**	**40**	**1,083**	**21**	**1**	**0**	**1,105**	**0**	**0**	**0**	**0**	**0**

Crossing Pedestrians

Time Period	B to A	A to B	D to C	C to D	F to E	E to F	Total
7:00 to 7:15	0	0	0	0	0	0	**0**
7:15 to 7:30	0	0	0	2	0	0	**2**
7:30 to 7:45	0	0	1	1	1	0	**3**
7:45 to 8:00	0	0	0	1	0	1	**2**
8:00 to 8:15	0	0	0	1	0	0	**1**
8:15 to 8:30	0	0	0	1	0	0	**1**
8:30 to 8:45	0	0	0	0	0	0	**0**
8:45 to 9:00	0	0	0	0	1	4	**5**
AM Totals	**0**	**0**	**1**	**6**	**2**	**5**	**14**
15:00 to 15:15	0	0	0	0	67	2	**69**
15:15 to 15:30	0	1	0	0	1	0	**2**
15:30 to 15:45	0	0	1	2	0	0	**3**
15:45 to 16:00	0	0	1	0	0	0	**1**
16:00 to 16:15	0	0	1	0	0	0	**1**
16:15 to 16:30	1	1	0	0	0	0	**2**
16:30 to 16:45	0	0	0	0	0	0	**0**
16:45 to 17:00	0	0	1	1	1	0	**3**
17:00 to 17:15	0	0	1	0	0	0	**1**
17:15 to 17:30	0	0	0	0	0	0	**0**
17:30 to 17:45	0	0	0	0	1	0	**1**
17:45 to 18:00	0	0	0	0	1	1	**2**
PM Totals	**1**	**2**	**5**	**3**	**71**	**3**	**85**

Job No. : AUNSW3220
Client : Bitzios Consulting
Suburb : West Ryde
Location : 1. Winbourne St / Marsden Rd

Day/Date : Wed, 9th Mar 2022
Weather : Fine
Description : Classified Intersection Count
: Hourly Summary



Approach	Marsden Rd														
Direction	Direction 2 (Through)					Direction 3 (Right Turn)					Direction 3U (U Turn)				
Time Period	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
7:00 to 8:00	240	8	1	1	**250**	88	3	0	1	**92**	2	0	0	0	**2**
7:15 to 8:15	260	4	0	0	**264**	111	4	1	1	**117**	4	0	0	0	**4**
7:30 to 8:30	261	4	0	0	**265**	154	4	1	1	**160**	2	0	0	0	**2**
7:45 to 8:45	265	3	0	0	**268**	218	5	1	1	**225**	2	0	0	0	**2**
8:00 to 9:00	270	2	1	0	**273**	272	5	1	0	**278**	2	0	0	0	**2**
AM Totals	**510**	**10**	**2**	**1**	**523**	**360**	**8**	**1**	**1**	**370**	**4**	**0**	**0**	**0**	**4**
15:00 to 16:00	429	9	1	0	**439**	110	9	0	0	**119**	2	0	0	0	**2**
15:15 to 16:15	446	5	0	0	**451**	68	10	0	0	**78**	2	0	0	0	**2**
15:30 to 16:30	443	5	1	0	**449**	68	7	0	0	**75**	2	0	0	0	**2**
15:45 to 16:45	440	4	1	0	**445**	70	5	0	0	**75**	3	0	0	0	**3**
16:00 to 17:00	430	6	1	0	**437**	76	3	0	0	**79**	3	0	0	0	**3**
16:15 to 17:15	455	6	1	0	**462**	82	2	0	0	**84**	6	0	0	0	**6**
16:30 to 17:30	456	5	1	0	**462**	82	1	0	0	**83**	10	0	0	0	**10**
16:45 to 17:45	457	4	1	0	**462**	86	2	0	0	**88**	8	0	0	0	**8**
17:00 to 18:00	458	1	1	0	**460**	82	2	0	0	**84**	8	0	0	0	**8**
PM Totals	**1,317**	**16**	**3**	**0**	**1,336**	**268**	**14**	**0**	**0**	**282**	**13**	**0**	**0**	**0**	**13**

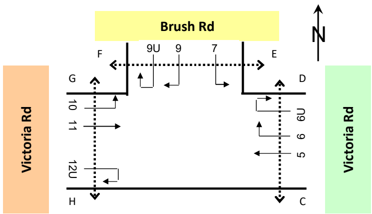
Approach	Winbourne St														
Direction	Direction 4 (Left Turn)					Direction 6 (Right Turn)					Direction 6U (U Turn)				
Time Period	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
7:00 to 8:00	108	4	0	0	**112**	12	0	0	0	**12**	0	0	0	0	**0**
7:15 to 8:15	138	7	0	0	**145**	16	0	0	0	**16**	0	0	0	0	**0**
7:30 to 8:30	166	7	0	0	**173**	18	0	0	0	**18**	0	0	0	0	**0**
7:45 to 8:45	230	7	0	0	**237**	22	0	0	0	**22**	0	0	0	0	**0**
8:00 to 9:00	288	7	0	0	**295**	24	0	0	0	**24**	0	0	0	0	**0**
AM Totals	**396**	**11**	**0**	**0**	**407**	**36**	**0**	**0**	**0**	**36**	**0**	**0**	**0**	**0**	**0**
15:00 to 16:00	201	8	0	0	**209**	37	2	0	0	**39**	0	0	0	0	**0**
15:15 to 16:15	136	11	0	0	**147**	21	2	0	0	**23**	0	0	0	0	**0**
15:30 to 16:30	118	11	0	0	**129**	21	0	0	0	**21**	0	0	0	0	**0**
15:45 to 16:45	109	8	0	0	**117**	20	0	0	0	**20**	0	0	0	0	**0**
16:00 to 17:00	107	5	0	0	**112**	22	0	0	0	**22**	0	0	0	0	**0**
16:15 to 17:15	102	3	0	0	**105**	25	1	0	0	**26**	0	0	0	0	**0**
16:30 to 17:30	123	2	0	1	**126**	22	1	0	0	**23**	0	0	0	0	**0**
16:45 to 17:45	132	1	0	1	**134**	20	1	0	0	**21**	0	0	0	0	**0**
17:00 to 18:00	136	2	0	1	**139**	21	1	0	0	**22**	0	0	0	0	**0**
PM Totals	**444**	**15**	**0**	**1**	**460**	**80**	**3**	**0**	**0**	**83**	**0**	**0**	**0**	**0**	**0**

Approach	Marsden Rd														
Direction	Direction 7 (Left Turn)					Direction 8 (Through)					Direction 9U (U Turn)				
Time Period	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
7:00 to 8:00	16	0	0	0	**16**	476	10	1	0	**487**	0	0	0	0	**0**
7:15 to 8:15	18	0	0	0	**18**	468	10	1	0	**479**	0	0	0	0	**0**
7:30 to 8:30	26	0	0	0	**26**	472	7	1	1	**481**	0	0	0	0	**0**
7:45 to 8:45	27	1	0	0	**28**	502	8	1	1	**512**	0	0	0	0	**0**
8:00 to 9:00	28	1	0	0	**29**	468	8	0	1	**477**	0	0	0	0	**0**
AM Totals	**44**	**1**	**0**	**0**	**45**	**944**	**18**	**1**	**1**	**964**	**0**	**0**	**0**	**0**	**0**
15:00 to 16:00	14	1	0	0	**15**	368	12	1	0	**381**	0	0	0	0	**0**
15:15 to 16:15	12	1	0	0	**13**	353	12	1	0	**366**	0	0	0	0	**0**
15:30 to 16:30	16	1	0	0	**17**	338	12	1	0	**351**	0	0	0	0	**0**
15:45 to 16:45	14	0	0	0	**14**	320	9	1	0	**330**	0	0	0	0	**0**
16:00 to 17:00	17	0	0	0	**17**	326	5	0	0	**331**	0	0	0	0	**0**
16:15 to 17:15	13	0	0	0	**13**	361	4	0	0	**365**	0	0	0	0	**0**
16:30 to 17:30	12	0	0	0	**12**	385	4	0	0	**389**	0	0	0	0	**0**
16:45 to 17:45	10	0	0	0	**10**	387	4	0	0	**391**	0	0	0	0	**0**
17:00 to 18:00	8	0	0	0	**8**	389	4	0	0	**393**	0	0	0	0	**0**
PM Totals	**39**	**1**	**0**	**0**	**40**	**1,083**	**21**	**1**	**0**	**1,105**	**0**	**0**	**0**	**0**	**0**

Time Period	Crossing Pedestrians: B to A	A to B	D to C	C to D	F to E	E to F	Total
7:00 to 8:00	0	0	1	4	1	1	**7**
7:15 to 8:15	0	0	1	5	1	1	**8**
7:30 to 8:30	0	0	1	4	1	1	**7**
7:45 to 8:45	0	0	0	3	0	1	**4**
8:00 to 9:00	0	0	0	2	1	4	**7**
AM Totals	**0**	**0**	**1**	**6**	**2**	**5**	**14**
15:00 to 16:00	0	1	2	2	68	2	**75**
15:15 to 16:15	0	1	3	2	1	0	**7**
15:30 to 16:30	1	1	3	2	0	0	**7**
15:45 to 16:45	1	1	2	0	0	0	**4**
16:00 to 17:00	1	1	2	1	1	0	**6**
16:15 to 17:15	1	1	2	1	1	0	**6**
16:30 to 17:30	0	0	2	1	1	0	**4**
16:45 to 17:45	0	0	2	1	2	0	**5**
17:00 to 18:00	0	0	1	0	2	1	**4**
PM Totals	**1**	**2**	**5**	**3**	**71**	**3**	**85**

Job No.	: AUNSW3220
Client	: Bitzios Consulting
Suburb	: West Ryde
Location	: 3. Victoria Rd / Brush Rd
Day/Date	: Wed, 9th Mar 2022
Weather	: Fine
Description	: Classified Intersection Count
	: 15 mins Data

	Class 1	Class 2	Class 3	Class 4
Classifications	Lights	Rigid Heavies	Articulated Heavies	Cyclists



MATRIX Traffic and Transport Data

Approach	Victoria Rd														
Direction	Direction 5 (Through)					Direction 6 (Right Turn)					Direction 6U (U Turn)				
Time Period	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
7:00 to 7:15	333	23	1	0	**357**	0	0	0	0	**0**	0	0	0	0	**0**
7:15 to 7:30	376	18	3	0	**397**	0	0	0	0	**0**	0	0	0	0	**0**
7:30 to 7:45	402	15	0	0	**417**	0	0	0	0	**0**	0	0	0	0	**0**
7:45 to 8:00	454	16	0	0	**470**	0	0	0	0	**0**	0	0	0	0	**0**
8:00 to 8:15	402	9	4	0	**415**	0	0	0	0	**0**	0	0	0	0	**0**
8:15 to 8:30	427	17	3	0	**447**	0	0	0	0	**0**	0	0	0	0	**0**
8:30 to 8:45	435	21	1	0	**457**	0	0	0	0	**0**	0	0	0	0	**0**
8:45 to 9:00	422	11	0	0	**433**	0	0	0	0	**0**	0	0	0	0	**0**
AM Totals	**3,251**	**130**	**12**	**0**	**3,393**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
15:00 to 15:15	454	29	2	0	**485**	0	0	0	0	**0**	0	0	0	0	**0**
15:15 to 15:30	470	20	3	0	**493**	0	0	0	0	**0**	0	0	0	0	**0**
15:30 to 15:45	478	16	0	0	**494**	0	0	0	0	**0**	0	0	0	0	**0**
15:45 to 16:00	543	16	3	0	**562**	0	0	0	0	**0**	0	0	0	0	**0**
16:00 to 16:15	541	15	1	0	**557**	0	0	0	0	**0**	0	0	0	0	**0**
16:15 to 16:30	537	22	2	0	**561**	0	0	0	0	**0**	0	0	0	0	**0**
16:30 to 16:45	518	16	0	0	**534**	0	0	0	0	**0**	0	0	0	0	**0**
16:45 to 17:00	533	21	2	0	**556**	0	0	0	0	**0**	0	0	0	0	**0**
17:00 to 17:15	529	12	1	0	**542**	0	0	0	0	**0**	0	0	0	0	**0**
17:15 to 17:30	525	12	0	0	**537**	0	0	0	0	**0**	0	0	0	0	**0**
17:30 to 17:45	504	15	0	0	**519**	0	0	0	0	**0**	0	0	0	0	**0**
17:45 to 18:00	497	12	2	0	**511**	0	0	0	0	**0**	0	0	0	0	**0**
PM Totals	**6,129**	**206**	**16**	**0**	**6,351**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

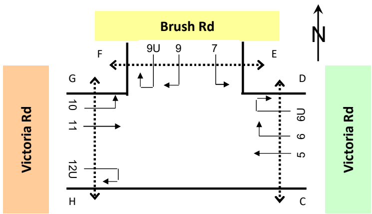
Approach	Brush Rd														
Direction	Direction 7 (Left Turn)					Direction 9 (Right Turn)					Direction 9U (U Turn)				
Time Period	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
7:00 to 7:15	2	0	0	0	**2**	0	0	0	0	**0**	0	0	0	0	**0**
7:15 to 7:30	6	1	0	0	**7**	0	0	0	0	**0**	0	0	0	0	**0**
7:30 to 7:45	1	0	0	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**
7:45 to 8:00	3	0	0	0	**3**	0	0	0	0	**0**	0	0	0	0	**0**
8:00 to 8:15	2	1	0	0	**3**	0	0	0	0	**0**	0	0	0	0	**0**
8:15 to 8:30	2	0	0	0	**2**	0	0	0	0	**0**	0	0	0	0	**0**
8:30 to 8:45	5	0	0	0	**5**	0	0	0	0	**0**	0	0	0	0	**0**
8:45 to 9:00	14	0	0	0	**14**	0	0	0	0	**0**	0	0	0	0	**0**
AM Totals	**35**	**2**	**0**	**0**	**37**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
15:00 to 15:15	20	0	0	0	**20**	0	0	0	0	**0**	0	0	0	0	**0**
15:15 to 15:30	6	0	0	0	**6**	0	0	0	0	**0**	0	0	0	0	**0**
15:30 to 15:45	7	0	0	0	**7**	0	0	0	0	**0**	0	0	0	0	**0**
15:45 to 16:00	6	0	0	0	**6**	0	0	0	0	**0**	0	0	0	0	**0**
16:00 to 16:15	6	0	0	0	**6**	0	0	0	0	**0**	0	0	0	0	**0**
16:15 to 16:30	8	0	0	0	**8**	0	0	0	0	**0**	0	0	0	0	**0**
16:30 to 16:45	6	0	0	0	**6**	0	0	0	0	**0**	0	0	0	0	**0**
16:45 to 17:00	5	0	0	0	**5**	0	0	0	0	**0**	0	0	0	0	**0**
17:00 to 17:15	6	0	0	0	**6**	0	0	0	0	**0**	0	0	0	0	**0**
17:15 to 17:30	5	1	0	0	**6**	0	0	0	0	**0**	0	0	0	0	**0**
17:30 to 17:45	5	0	0	0	**5**	0	0	0	0	**0**	0	0	0	0	**0**
17:45 to 18:00	1	0	0	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**
PM Totals	**81**	**1**	**0**	**0**	**82**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Approach	Victoria Rd														
Direction	Direction 10 (Left Turn)					Direction 11 (Through)					Direction 12U (U Turn)				
Time Period	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
7:00 to 7:15	6	0	0	0	**6**	457	28	3	0	**488**	0	0	0	0	**0**
7:15 to 7:30	7	0	0	0	**7**	641	41	0	0	**682**	0	0	0	0	**0**
7:30 to 7:45	9	0	0	0	**9**	604	17	4	0	**625**	0	0	0	0	**0**
7:45 to 8:00	16	0	0	0	**16**	578	23	4	0	**605**	0	0	0	0	**0**
8:00 to 8:15	6	0	0	0	**6**	586	27	1	0	**614**	0	0	0	0	**0**
8:15 to 8:30	12	0	0	0	**12**	648	28	0	0	**676**	0	0	0	0	**0**
8:30 to 8:45	23	0	0	0	**23**	613	30	1	0	**644**	0	0	0	0	**0**
8:45 to 9:00	23	1	0	0	**24**	545	25	2	0	**572**	0	0	0	0	**0**
AM Totals	**102**	**1**	**0**	**0**	**103**	**4,672**	**219**	**15**	**0**	**4,906**	**0**	**0**	**0**	**0**	**0**
15:00 to 15:15	22	0	0	0	**22**	392	17	1	0	**410**	0	0	0	0	**0**
15:15 to 15:30	14	0	0	0	**14**	489	12	2	0	**503**	0	0	0	0	**0**
15:30 to 15:45	14	0	0	0	**14**	462	12	0	0	**474**	0	0	0	0	**0**
15:45 to 16:00	11	0	0	0	**11**	454	22	1	0	**477**	0	0	0	0	**0**
16:00 to 16:15	15	0	0	0	**15**	488	13	0	0	**501**	0	0	0	0	**0**
16:15 to 16:30	11	0	0	0	**11**	468	7	0	0	**475**	0	0	0	0	**0**
16:30 to 16:45	14	0	0	0	**14**	515	8	1	0	**524**	0	0	0	0	**0**
16:45 to 17:00	11	0	0	0	**11**	564	8	1	0	**573**	0	0	0	0	**0**
17:00 to 17:15	6	0	0	0	**6**	524	4	0	0	**528**	0	0	0	0	**0**
17:15 to 17:30	20	0	0	0	**20**	618	7	0	0	**625**	0	0	0	0	**0**
17:30 to 17:45	9	0	0	0	**9**	593	8	1	0	**602**	0	0	0	0	**0**
17:45 to 18:00	11	0	0	0	**11**	565	12	0	0	**577**	0	0	0	0	**0**
PM Totals	**158**	**0**	**0**	**0**	**158**	**6,132**	**130**	**7**	**0**	**6,269**	**0**	**0**	**0**	**0**	**0**

Crossing Pedestrians							
Time Period	D to C	C to D	F to E	E to F	H to G	G to H	Total
7:00 to 7:15	0	0	0	0	0	0	**0**
7:15 to 7:30	0	0	3	0	0	0	**3**
7:30 to 7:45	0	0	1	2	0	0	**3**
7:45 to 8:00	0	0	1	0	0	0	**1**
8:00 to 8:15	0	0	1	0	0	0	**1**
8:15 to 8:30	0	0	5	0	0	0	**5**
8:30 to 8:45	0	0	4	2	0	0	**6**
8:45 to 9:00	0	0	2	2	0	0	**4**
AM Totals	**0**	**0**	**17**	**6**	**0**	**0**	**23**
15:00 to 15:15	0	0	0	17	0	0	**17**
15:15 to 15:30	0	0	1	0	0	0	**1**
15:30 to 15:45	0	0	0	3	0	0	**3**
15:45 to 16:00	1	0	3	0	0	0	**4**
16:00 to 16:15	0	0	0	1	0	0	**1**
16:15 to 16:30	0	0	0	0	0	0	**0**
16:30 to 16:45	0	0	1	1	0	0	**2**
16:45 to 17:00	0	0	1	1	0	0	**2**
17:00 to 17:15	0	0	0	1	0	0	**1**
17:15 to 17:30	0	0	0	1	0	0	**1**
17:30 to 17:45	0	0	1	0	0	0	**1**
17:45 to 18:00	0	0	2	1	0	0	**3**
PM Totals	**1**	**0**	**9**	**26**	**0**	**0**	**36**

Job No. : AUNSW3220
Client : Bitzios Consulting
Suburb : West Ryde
Location : 3. Victoria Rd / Brush Rd

Day/Date : Wed, 9th Mar 2022
Weather : Fine
Description : Classified Intersection Count
: Hourly Summary



MATRIX Traffic and Transport Data

Approach: Victoria Rd

Time Period	Dir 5 (Through) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Dir 6 (Right Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Dir 6U (U Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
7:00 to 8:00	1,565	72	4	0	**1,641**	0	0	0	0	**0**	0	0	0	0	**0**
7:15 to 8:15	1,634	58	7	0	**1,699**	0	0	0	0	**0**	0	0	0	0	**0**
7:30 to 8:30	1,685	57	7	0	**1,749**	0	0	0	0	**0**	0	0	0	0	**0**
7:45 to 8:45	1,718	63	8	0	**1,789**	0	0	0	0	**0**	0	0	0	0	**0**
8:00 to 9:00	1,686	58	8	0	**1,752**	0	0	0	0	**0**	0	0	0	0	**0**
AM Totals	**3,251**	**130**	**12**	**0**	**3,393**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
15:00 to 16:00	1,945	81	8	0	**2,034**	0	0	0	0	**0**	0	0	0	0	**0**
15:15 to 16:15	2,032	67	7	0	**2,106**	0	0	0	0	**0**	0	0	0	0	**0**
15:30 to 16:30	2,099	69	6	0	**2,174**	0	0	0	0	**0**	0	0	0	0	**0**
15:45 to 16:45	2,139	69	6	0	**2,214**	0	0	0	0	**0**	0	0	0	0	**0**
16:00 to 17:00	2,129	74	5	0	**2,208**	0	0	0	0	**0**	0	0	0	0	**0**
16:15 to 17:15	2,117	71	5	0	**2,193**	0	0	0	0	**0**	0	0	0	0	**0**
16:30 to 17:30	2,105	61	3	0	**2,169**	0	0	0	0	**0**	0	0	0	0	**0**
16:45 to 17:45	2,091	60	3	0	**2,154**	0	0	0	0	**0**	0	0	0	0	**0**
17:00 to 18:00	2,055	51	3	0	**2,109**	0	0	0	0	**0**	0	0	0	0	**0**
PM Totals	**6,129**	**206**	**16**	**0**	**6,351**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Approach: Brush Rd

Time Period	Dir 7 (Left Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Dir 9 (Right Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Dir 9U (U Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
7:00 to 8:00	12	1	0	0	**13**	0	0	0	0	**0**	0	0	0	0	**0**
7:15 to 8:15	12	2	0	0	**14**	0	0	0	0	**0**	0	0	0	0	**0**
7:30 to 8:30	8	1	0	0	**9**	0	0	0	0	**0**	0	0	0	0	**0**
7:45 to 8:45	12	1	0	0	**13**	0	0	0	0	**0**	0	0	0	0	**0**
8:00 to 9:00	23	1	0	0	**24**	0	0	0	0	**0**	0	0	0	0	**0**
AM Totals	**35**	**2**	**0**	**0**	**37**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
15:00 to 16:00	39	0	0	0	**39**	0	0	0	0	**0**	0	0	0	0	**0**
15:15 to 16:15	25	0	0	0	**25**	0	0	0	0	**0**	0	0	0	0	**0**
15:30 to 16:30	27	0	0	0	**27**	0	0	0	0	**0**	0	0	0	0	**0**
15:45 to 16:45	26	0	0	0	**26**	0	0	0	0	**0**	0	0	0	0	**0**
16:00 to 17:00	25	0	0	0	**25**	0	0	0	0	**0**	0	0	0	0	**0**
16:15 to 17:15	25	0	0	0	**25**	0	0	0	0	**0**	0	0	0	0	**0**
16:30 to 17:30	22	1	0	0	**23**	0	0	0	0	**0**	0	0	0	0	**0**
16:45 to 17:45	21	1	0	0	**22**	0	0	0	0	**0**	0	0	0	0	**0**
17:00 to 18:00	17	1	0	0	**18**	0	0	0	0	**0**	0	0	0	0	**0**
PM Totals	**81**	**1**	**0**	**0**	**82**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Approach: Victoria Rd

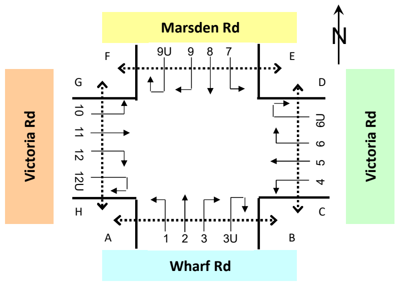
Time Period	Dir 10 (Left Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Dir 11 (Through) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Dir 12U (U Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
7:00 to 8:00	38	0	0	0	**38**	2,280	109	11	0	**2,400**	0	0	0	0	**0**
7:15 to 8:15	38	0	0	0	**38**	2,409	108	9	0	**2,526**	0	0	0	0	**0**
7:30 to 8:30	43	0	0	0	**43**	2,416	95	9	0	**2,520**	0	0	0	0	**0**
7:45 to 8:45	57	0	0	0	**57**	2,425	108	6	0	**2,539**	0	0	0	0	**0**
8:00 to 9:00	64	1	0	0	**65**	2,392	110	4	0	**2,506**	0	0	0	0	**0**
AM Totals	**102**	**1**	**0**	**0**	**103**	**4,672**	**219**	**15**	**0**	**4,906**	**0**	**0**	**0**	**0**	**0**
15:00 to 16:00	61	0	0	0	**61**	1,797	63	4	0	**1,864**	0	0	0	0	**0**
15:15 to 16:15	54	0	0	0	**54**	1,893	59	3	0	**1,955**	0	0	0	0	**0**
15:30 to 16:30	51	0	0	0	**51**	1,872	54	1	0	**1,927**	0	0	0	0	**0**
15:45 to 16:45	51	0	0	0	**51**	1,925	50	2	0	**1,977**	0	0	0	0	**0**
16:00 to 17:00	51	0	0	0	**51**	2,035	36	2	0	**2,073**	0	0	0	0	**0**
16:15 to 17:15	42	0	0	0	**42**	2,071	27	2	0	**2,100**	0	0	0	0	**0**
16:30 to 17:30	51	0	0	0	**51**	2,221	27	2	0	**2,250**	0	0	0	0	**0**
16:45 to 17:45	46	0	0	0	**46**	2,299	27	2	0	**2,328**	0	0	0	0	**0**
17:00 to 18:00	46	0	0	0	**46**	2,300	31	1	0	**2,332**	0	0	0	0	**0**
PM Totals	**158**	**0**	**0**	**0**	**158**	**6,132**	**130**	**7**	**0**	**6,269**	**0**	**0**	**0**	**0**	**0**

Crossing Pedestrians

Time Period	D to C	C to D	F to E	E to F	H to G	G to H	Total
7:00 to 8:00	0	0	5	2	0	0	**7**
7:15 to 8:15	0	0	6	2	0	0	**8**
7:30 to 8:30	0	0	8	2	0	0	**10**
7:45 to 8:45	0	0	11	2	0	0	**13**
8:00 to 9:00	0	0	12	4	0	0	**16**
AM Totals	**0**	**0**	**17**	**6**	**0**	**0**	**23**
15:00 to 16:00	1	0	4	20	0	0	**25**
15:15 to 16:15	1	0	4	4	0	0	**9**
15:30 to 16:30	1	0	3	4	0	0	**8**
15:45 to 16:45	1	0	4	2	0	0	**7**
16:00 to 17:00	0	0	2	3	0	0	**5**
16:15 to 17:15	0	0	2	3	0	0	**5**
16:30 to 17:30	0	0	2	4	0	0	**6**
16:45 to 17:45	0	0	2	3	0	0	**5**
17:00 to 18:00	0	0	3	3	0	0	**6**
PM Totals	**1**	**0**	**9**	**26**	**0**	**0**	**36**

Job No.	: AUNSW3220
Client	: Bitzios Consulting
Suburb	: West Ryde
Location	: 2. Marsden Rd / Victoria Rd / Wharf Rd
Day/Date	: Sat, 12th Mar 2022
Weather	: Fine
Description	: Classified Intersection Count
	: 15 mins Data

	Class 1	Class 2	Class 3	Class 4
Classifications	Lights	Rigid Heavies	Articulated Hea	Cyclists



MATRIX Traffic and Transport Data

Approach	Wharf Rd																			
Direction	Direction 1 (Left Turn)					Direction 2 (Through)					Direction 3 (Right Turn)					Direction 3U (U Turn)				
Time Period	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
8:00 to 8:15	9	1	0	0	**10**	5	0	0	0	**5**	13	0	0	0	**13**	0	0	0	0	**0**
8:15 to 8:30	16	1	1	0	**18**	10	1	0	0	**11**	14	0	0	0	**14**	0	0	0	0	**0**
8:30 to 8:45	12	0	1	0	**13**	8	0	0	0	**8**	22	0	0	0	**22**	0	0	0	0	**0**
8:45 to 9:00	15	0	0	0	**15**	16	0	0	0	**16**	26	0	0	0	**26**	0	0	0	0	**0**
9:00 to 9:15	21	0	0	0	**21**	17	0	0	0	**17**	24	0	0	0	**24**	0	0	0	0	**0**
9:15 to 9:30	20	0	0	0	**20**	8	0	0	0	**8**	25	0	0	0	**25**	0	0	0	0	**0**
9:30 to 9:45	19	1	1	0	**21**	16	0	0	0	**16**	22	2	0	0	**24**	0	0	0	0	**0**
9:45 to 10:00	22	0	1	0	**23**	17	0	0	0	**17**	29	1	0	0	**30**	0	0	0	0	**0**
10:00 to 10:15	18	1	1	0	**20**	13	1	0	0	**14**	17	0	0	0	**17**	0	0	0	0	**0**
10:15 to 10:30	25	0	0	0	**25**	21	1	0	0	**22**	23	0	0	0	**23**	0	0	0	0	**0**
10:30 to 10:45	15	0	1	0	**16**	14	1	0	1	**16**	28	0	0	0	**28**	0	0	0	0	**0**
10:45 to 11:00	26	0	0	0	**26**	15	0	0	0	**15**	24	1	0	0	**25**	0	0	0	0	**0**
11:00 to 11:15	28	0	0	0	**28**	16	0	0	0	**16**	17	0	0	0	**17**	0	0	0	0	**0**
11:15 to 11:30	26	1	0	0	**27**	17	0	0	0	**17**	26	0	0	0	**26**	0	0	0	0	**0**
11:30 to 11:45	20	0	0	0	**20**	24	0	0	0	**24**	27	0	0	0	**27**	0	0	0	0	**0**
11:45 to 12:00	41	0	1	0	**42**	14	0	0	0	**14**	22	0	0	0	**22**	0	0	0	0	**0**
12:00 to 12:15	17	1	3	0	**21**	16	0	0	0	**16**	23	1	0	0	**24**	0	0	0	0	**0**
12:15 to 12:30	32	0	0	0	**32**	32	0	0	0	**32**	27	0	0	0	**27**	0	0	0	0	**0**
12:30 to 12:45	18	1	0	0	**19**	20	0	0	0	**20**	21	0	0	0	**21**	0	0	0	0	**0**
12:45 to 13:00	36	0	0	0	**36**	19	0	0	0	**19**	22	0	0	0	**22**	0	0	0	0	**0**
Total	**436**	**7**	**10**	**0**	**453**	**318**	**4**	**0**	**1**	**323**	**452**	**5**	**0**	**0**	**457**	**0**	**0**	**0**	**0**	**0**

Approach	Victoria Rd																			
Direction	Direction 4 (Left Turn)					Direction 5 (Through)					Direction 6 (Right Turn)					Direction 6U (U Turn)				
Time Period	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
8:00 to 8:15	7	0	0	0	**7**	176	8	0	0	**184**	32	1	0	0	**33**	0	0	0	0	**0**
8:15 to 8:30	4	1	0	0	**5**	182	11	3	0	**196**	30	0	0	0	**30**	0	0	0	0	**0**
8:30 to 8:45	3	0	0	0	**3**	192	18	1	0	**211**	39	5	0	0	**44**	0	0	0	0	**0**
8:45 to 9:00	5	0	0	0	**5**	232	10	3	0	**245**	45	2	0	0	**47**	0	0	0	0	**0**
9:00 to 9:15	7	0	0	0	**7**	244	11	1	0	**256**	40	0	0	0	**40**	0	0	0	0	**0**
9:15 to 9:30	10	0	0	0	**10**	228	11	0	0	**239**	71	0	0	0	**71**	0	0	0	0	**0**
9:30 to 9:45	8	0	0	0	**8**	263	8	0	0	**271**	47	1	1	0	**49**	0	0	0	0	**0**
9:45 to 10:00	12	0	0	0	**12**	292	7	1	0	**300**	76	0	0	0	**76**	0	0	0	0	**0**
10:00 to 10:15	9	0	0	0	**9**	265	7	1	0	**273**	69	1	0	0	**70**	0	0	0	0	**0**
10:15 to 10:30	13	0	0	0	**13**	286	11	0	0	**297**	57	0	0	0	**57**	0	0	0	0	**0**
10:30 to 10:45	11	0	0	0	**11**	287	10	0	0	**297**	76	1	0	0	**77**	0	0	0	0	**0**
10:45 to 11:00	7	0	0	0	**7**	287	7	1	0	**295**	72	1	0	0	**73**	0	0	0	0	**0**
11:00 to 11:15	23	2	1	0	**26**	315	6	0	1	**322**	68	2	0	0	**70**	0	0	0	0	**0**
11:15 to 11:30	18	0	0	0	**18**	329	6	0	0	**335**	62	0	0	0	**62**	0	0	0	0	**0**
11:30 to 11:45	15	0	0	0	**15**	352	10	2	0	**364**	92	1	0	0	**93**	0	0	0	0	**0**
11:45 to 12:00	9	0	0	0	**9**	341	4	2	0	**347**	74	1	0	0	**75**	0	0	0	0	**0**
12:00 to 12:15	9	0	0	0	**9**	370	11	0	0	**381**	73	0	0	0	**73**	0	0	0	0	**0**
12:15 to 12:30	10	0	0	0	**10**	336	12	1	0	**349**	64	0	0	0	**64**	0	0	0	0	**0**
12:30 to 12:45	12	0	0	0	**12**	369	12	1	0	**382**	82	0	0	0	**82**	0	0	0	0	**0**
12:45 to 13:00	8	0	0	0	**8**	330	11	0	0	**341**	110	0	0	0	**110**	0	0	0	0	**0**
Total	**200**	**3**	**1**	**0**	**204**	**5,676**	**191**	**17**	**1**	**5,885**	**1,279**	**16**	**1**	**0**	**1,296**	**0**	**0**	**0**	**0**	**0**

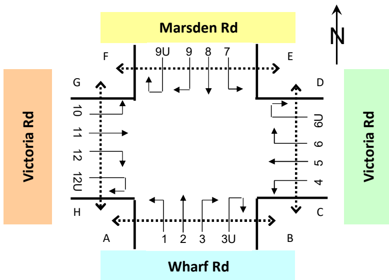
Approach	Marsden Rd																			
Direction	Direction 7 (Left Turn)					Direction 8 (Through)					Direction 9 (Right Turn)					Direction 9U (U Turn)				
Time Period	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
8:00 to 8:15	60	0	0	0	**60**	7	0	0	0	**7**	10	1	0	0	**11**	0	0	0	0	**0**
8:15 to 8:30	77	2	0	0	**79**	8	1	0	0	**9**	16	1	0	0	**17**	0	0	0	0	**0**
8:30 to 8:45	85	2	0	0	**87**	9	0	0	0	**9**	19	0	0	0	**19**	0	0	0	0	**0**
8:45 to 9:00	71	4	0	0	**75**	14	0	0	0	**14**	12	0	0	0	**12**	0	0	0	0	**0**
9:00 to 9:15	85	1	0	0	**86**	14	0	0	0	**14**	24	0	0	0	**24**	0	0	0	0	**0**
9:15 to 9:30	81	0	0	0	**81**	15	0	0	0	**15**	28	0	0	0	**28**	0	0	0	0	**0**
9:30 to 9:45	98	0	0	0	**98**	14	0	0	0	**14**	25	3	0	0	**28**	0	0	0	0	**0**
9:45 to 10:00	97	2	0	0	**99**	15	0	0	0	**15**	19	0	0	0	**19**	0	0	0	0	**0**
10:00 to 10:15	87	0	0	0	**87**	15	0	0	0	**15**	22	1	0	0	**23**	0	0	0	0	**0**
10:15 to 10:30	94	1	0	0	**95**	28	1	0	0	**29**	27	0	0	0	**27**	0	0	0	0	**0**
10:30 to 10:45	79	1	0	0	**80**	25	0	0	0	**25**	29	1	0	0	**30**	0	0	0	0	**0**
10:45 to 11:00	91	0	0	0	**91**	26	0	0	0	**26**	22	1	0	0	**23**	0	0	0	0	**0**
11:00 to 11:15	77	0	0	0	**77**	24	0	0	0	**24**	23	0	0	0	**23**	0	0	0	0	**0**
11:15 to 11:30	90	0	0	0	**90**	12	0	0	0	**12**	32	0	0	0	**32**	0	0	0	0	**0**
11:30 to 11:45	75	1	0	0	**76**	24	1	0	0	**25**	38	1	0	0	**39**	0	0	0	0	**0**
11:45 to 12:00	88	1	0	0	**89**	17	0	0	0	**17**	32	0	0	0	**32**	0	0	0	0	**0**
12:00 to 12:15	84	1	0	0	**85**	20	0	0	0	**20**	33	0	0	0	**33**	0	0	0	0	**0**
12:15 to 12:30	60	2	0	0	**62**	20	0	0	0	**20**	26	0	0	0	**26**	0	0	0	0	**0**
12:30 to 12:45	70	1	0	0	**71**	34	1	0	0	**35**	33	1	0	0	**34**	0	0	0	0	**0**
12:45 to 13:00	77	0	0	0	**77**	22	0	0	0	**22**	34	1	0	0	**35**	0	0	0	0	**0**
Total	**1,626**	**19**	**0**	**0**	**1,645**	**363**	**4**	**0**	**0**	**367**	**504**	**11**	**0**	**0**	**515**	**0**	**0**	**0**	**0**	**0**

Approach	Victoria Rd																			
Direction	Direction 10 (Left Turn)					Direction 11 (Through)					Direction 12 (Right Turn)					Direction 12U (U Turn)				
Time Period	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
8:00 to 8:15	9	0	0	0	**9**	277	11	3	0	**291**	13	1	0	0	**14**	0	0	0	0	**0**
8:15 to 8:30	9	2	0	0	**11**	280	14	3	0	**297**	6	0	0	0	**6**	0	0	0	0	**0**
8:30 to 8:45	17	0	0	0	**17**	316	15	1	0	**332**	8	0	0	0	**8**	0	0	0	0	**0**
8:45 to 9:00	23	0	0	0	**23**	321	12	0	0	**333**	7	1	0	0	**8**	0	0	0	0	**0**
9:00 to 9:15	17	0	0	0	**17**	294	9	1	2	**306**	10	0	0	0	**10**	0	0	0	0	**0**
9:15 to 9:30	20	1	0	0	**21**	337	12	0	0	**349**	16	2	0	0	**18**	0	0	0	0	**0**
9:30 to 9:45	12	0	0	0	**12**	369	6	2	0	**377**	15	2	0	0	**17**	0	0	0	0	**0**
9:45 to 10:00	15	1	0	0	**16**	327	9	0	0	**336**	17	1	1	0	**19**	0	0	0	0	**0**
10:00 to 10:15	22	1	0	0	**23**	322	8	0	0	**330**	24	0	0	0	**24**	0	0	0	0	**0**
10:15 to 10:30	16	0	0	0	**16**	336	9	1	0	**346**	20	0	0	0	**20**	0	0	0	0	**0**
10:30 to 10:45	26	0	0	0	**26**	331	12	1	0	**344**	30	0	0	0	**30**	0	0	0	0	**0**
10:45 to 11:00	26	2	0	0	**28**	372	7	2	0	**381**	16	0	0	0	**16**	0	0	0	0	**0**
11:00 to 11:15	30	1	0	0	**31**	314	7	0	0	**321**	33	2	1	0	**36**	0	0	0	0	**0**
11:15 to 11:30	27	1	0	0	**28**	325	12	0	0	**337**	32	0	0	0	**32**	0	0	0	0	**0**
11:30 to 11:45	24	0	0	0	**24**	331	8	0	0	**339**	22	3	0	0	**25**	0	0	0	0	**0**
11:45 to 12:00	35	0	0	0	**35**	352	9	0	0	**361**	30	2	0	0	**32**	0	0	0	0	**0**
12:00 to 12:15	22	0	0	0	**22**	380	4	0	0	**384**	30	1	0	0	**31**	0	0	0	0	**0**
12:15 to 12:30	22	1	0	0	**23**	373	5	1	0	**379**	34	0	0	0	**34**	0	0	0	0	**0**
12:30 to 12:45	17	0	0	0	**17**	351	7	0	0	**358**	27	1	0	0	**28**	0	0	0	0	**0**
12:45 to 13:00	19	0	0	0	**19**	297	7	0	0	**304**	29	0	0	0	**29**	0	0	0	0	**0**
Total	**408**	**10**	**0**	**0**	**418**	**6,605**	**183**	**15**	**2**	**6,805**	**419**	**16**	**2**	**0**	**437**	**0**	**0**	**0**	**0**	**0**

Time Period	Crossing Pedestrians								
	B to A	A to B	D to C	C to D	F to E	E to F	H to G	G to H	Total
8:00 to 8:15	1	0	2	0	1	0	0	0	**4**
8:15 to 8:30	0	0	1	1	0	1	0	0	**3**
8:30 to 8:45	0	0	0	0	1	2	0	0	**3**
8:45 to 9:00	0	1	0	0	1	1	0	0	**3**
9:00 to 9:15	1	1	2	0	1	0	0	0	**5**
9:15 to 9:30	2	1	4	2	1	2	0	0	**12**
9:30 to 9:45	1	0	3	1	0	1	0	0	**6**
9:45 to 10:00	2	0	0	1	0	3	0	0	**6**
10:00 to 10:15	0	1	3	2	0	0	0	0	**6**
10:15 to 10:30	3	1	6	1	0	2	0	0	**13**
10:30 to 10:45	0	1	2	2	2	1	0	0	**8**
10:45 to 11:00	1	3	2	3	0	0	0	0	**9**
11:00 to 11:15	0	1	1	6	0	0	0	0	**8**
11:15 to 11:30	1	1	4	3	1	2	0	0	**12**
11:30 to 11:45	3	1	6	1	3	0	0	0	**14**
11:45 to 12:00	2	1	6	4	2	2	0	0	**17**
12:00 to 12:15	2	0	7	6	3	2	0	0	**20**
12:15 to 12:30	1	4	2	2	0	4	0	0	**13**
12:30 to 12:45	3	0	4	3	2	2	0	0	**14**
12:45 to 13:00	1	2	3	3	2	1	0	0	**12**
Total	**24**	**19**	**58**	**41**	**20**	**26**	**0**	**0**	**188**

Job No. : AUNSW3220
Client : Bitzios Consulting
Suburb : West Ryde
Location : 2. Marsden Rd / Victoria Rd / Wharf Rd

Day/Date : Sat, 12th Mar 2022
Weather : Fine
Description : Classified Intersection Count
: Hourly Summary



Approach: Wharf Rd

Time Period	Direction 1 (Left Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 2 (Through) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 3 (Right Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 3U (U Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
8:00 to 9:00	52	2	2	0	**56**	39	1	0	0	**40**	75	0	0	0	**75**	0	0	0	0	**0**
8:15 to 9:15	64	1	2	0	**67**	51	1	0	0	**52**	86	0	0	0	**86**	0	0	0	0	**0**
8:30 to 9:30	68	0	1	0	**69**	49	0	0	0	**49**	97	0	0	0	**97**	0	0	0	0	**0**
8:45 to 9:45	75	1	1	0	**77**	57	0	0	0	**57**	97	2	0	0	**99**	0	0	0	0	**0**
9:00 to 10:00	82	1	2	0	**85**	58	0	0	0	**58**	100	3	0	0	**103**	0	0	0	0	**0**
9:15 to 10:15	79	2	3	0	**84**	54	1	0	0	**55**	93	3	0	0	**96**	0	0	0	0	**0**
9:30 to 10:30	84	2	3	0	**89**	67	2	0	0	**69**	91	3	0	0	**94**	0	0	0	0	**0**
9:45 to 10:45	80	1	3	0	**84**	65	3	0	1	**69**	97	1	0	0	**98**	0	0	0	0	**0**
10:00 to 11:00	84	1	2	0	**87**	63	3	0	1	**67**	92	1	0	0	**93**	0	0	0	0	**0**
10:15 to 11:15	94	0	1	0	**95**	66	2	0	1	**69**	92	1	0	0	**93**	0	0	0	0	**0**
10:30 to 11:30	95	1	1	0	**97**	62	1	0	1	**64**	95	1	0	0	**96**	0	0	0	0	**0**
10:45 to 11:45	100	1	0	0	**101**	72	0	0	0	**72**	94	1	0	0	**95**	0	0	0	0	**0**
11:00 to 12:00	115	1	1	0	**117**	71	0	0	0	**71**	92	0	0	0	**92**	0	0	0	0	**0**
11:15 to 12:15	104	2	4	0	**110**	71	0	0	0	**71**	98	1	0	0	**99**	0	0	0	0	**0**
11:30 to 12:30	110	1	4	0	**115**	86	0	0	0	**86**	99	1	0	0	**100**	0	0	0	0	**0**
11:45 to 12:45	108	2	4	0	**114**	82	0	0	0	**82**	93	1	0	0	**94**	0	0	0	0	**0**
12:00 to 13:00	103	2	3	0	**108**	87	0	0	0	**87**	93	1	0	0	**94**	0	0	0	0	**0**
Total	**436**	**7**	**10**	**0**	**453**	**318**	**4**	**0**	**1**	**323**	**452**	**5**	**0**	**0**	**457**	**0**	**0**	**0**	**0**	**0**

Approach: Victoria Rd

Time Period	Direction 4 (Left Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 5 (Through) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 6 (Right Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 6U (U Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
8:00 to 9:00	19	1	0	0	**20**	782	47	7	0	**836**	146	8	0	0	**154**	0	0	0	0	**0**
8:15 to 9:15	19	1	0	0	**20**	850	50	8	0	**908**	154	7	0	0	**161**	0	0	0	0	**0**
8:30 to 9:30	25	0	0	0	**25**	896	50	5	0	**951**	195	7	0	0	**202**	0	0	0	0	**0**
8:45 to 9:45	30	0	0	0	**30**	967	40	4	0	**1,011**	203	3	1	0	**207**	0	0	0	0	**0**
9:00 to 10:00	37	0	0	0	**37**	1,027	37	2	0	**1,066**	234	1	1	0	**236**	0	0	0	0	**0**
9:15 to 10:15	39	0	0	0	**39**	1,048	33	2	0	**1,083**	263	2	1	0	**266**	0	0	0	0	**0**
9:30 to 10:30	42	0	0	0	**42**	1,106	33	2	0	**1,141**	249	2	1	0	**252**	0	0	0	0	**0**
9:45 to 10:45	45	0	0	0	**45**	1,130	35	2	0	**1,167**	278	2	0	0	**280**	0	0	0	0	**0**
10:00 to 11:00	40	0	0	0	**40**	1,125	35	2	0	**1,162**	274	3	0	0	**277**	0	0	0	0	**0**
10:15 to 11:15	54	2	1	0	**57**	1,175	34	1	1	**1,211**	273	4	0	0	**277**	0	0	0	0	**0**
10:30 to 11:30	59	2	1	0	**62**	1,218	29	1	1	**1,249**	278	4	0	0	**282**	0	0	0	0	**0**
10:45 to 11:45	63	2	1	0	**66**	1,283	29	3	1	**1,316**	294	4	0	0	**298**	0	0	0	0	**0**
11:00 to 12:00	65	2	1	0	**68**	1,337	26	4	1	**1,368**	296	4	0	0	**300**	0	0	0	0	**0**
11:15 to 12:15	51	0	0	0	**51**	1,392	31	4	0	**1,427**	301	2	0	0	**303**	0	0	0	0	**0**
11:30 to 12:30	43	0	0	0	**43**	1,399	37	5	0	**1,441**	303	2	0	0	**305**	0	0	0	0	**0**
11:45 to 12:45	40	0	0	0	**40**	1,416	39	4	0	**1,459**	293	1	0	0	**294**	0	0	0	0	**0**
12:00 to 13:00	39	0	0	0	**39**	1,405	46	2	0	**1,453**	329	0	0	0	**329**	0	0	0	0	**0**
Total	**200**	**3**	**1**	**0**	**204**	**5,676**	**191**	**17**	**1**	**5,885**	**1,279**	**16**	**1**	**0**	**1,296**	**0**	**0**	**0**	**0**	**0**

Approach: Marsden Rd

Time Period	Direction 7 (Left Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 8 (Through) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 9 (Right Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 9U (U Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
8:00 to 9:00	293	8	0	0	**301**	38	1	0	0	**39**	57	2	0	0	**59**	0	0	0	0	**0**
8:15 to 9:15	318	9	0	0	**327**	45	1	0	0	**46**	71	1	0	0	**72**	0	0	0	0	**0**
8:30 to 9:30	322	7	0	0	**329**	52	0	0	0	**52**	83	0	0	0	**83**	0	0	0	0	**0**
8:45 to 9:45	335	5	0	0	**340**	57	0	0	0	**57**	89	3	0	0	**92**	0	0	0	0	**0**
9:00 to 10:00	361	3	0	0	**364**	58	0	0	0	**58**	96	3	0	0	**99**	0	0	0	0	**0**
9:15 to 10:15	363	2	0	0	**365**	59	0	0	0	**59**	94	4	0	0	**98**	0	0	0	0	**0**
9:30 to 10:30	376	3	0	0	**379**	72	1	0	0	**73**	93	4	0	0	**97**	0	0	0	0	**0**
9:45 to 10:45	357	4	0	0	**361**	83	1	0	0	**84**	97	2	0	0	**99**	0	0	0	0	**0**
10:00 to 11:00	351	2	0	0	**353**	94	1	0	0	**95**	100	3	0	0	**103**	0	0	0	0	**0**
10:15 to 11:15	341	2	0	0	**343**	103	1	0	0	**104**	101	2	0	0	**103**	0	0	0	0	**0**
10:30 to 11:30	337	1	0	0	**338**	87	0	0	0	**87**	106	2	0	0	**108**	0	0	0	0	**0**
10:45 to 11:45	333	1	0	0	**334**	86	1	0	0	**87**	115	2	0	0	**117**	0	0	0	0	**0**
11:00 to 12:00	330	2	0	0	**332**	77	1	0	0	**78**	125	1	0	0	**126**	0	0	0	0	**0**
11:15 to 12:15	337	3	0	0	**340**	73	1	0	0	**74**	135	1	0	0	**136**	0	0	0	0	**0**
11:30 to 12:30	307	5	0	0	**312**	81	1	0	0	**82**	129	1	0	0	**130**	0	0	0	0	**0**
11:45 to 12:45	302	5	0	0	**307**	91	1	0	0	**92**	124	1	0	0	**125**	0	0	0	0	**0**
12:00 to 13:00	291	4	0	0	**295**	96	1	0	0	**97**	126	2	0	0	**128**	0	0	0	0	**0**
Total	**1,626**	**19**	**0**	**0**	**1,645**	**363**	**4**	**0**	**0**	**367**	**504**	**11**	**0**	**0**	**515**	**0**	**0**	**0**	**0**	**0**

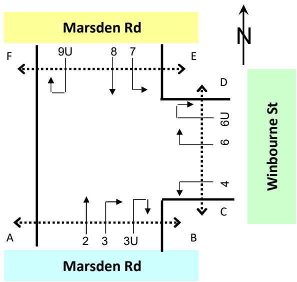
Approach: Victoria Rd

Time Period	Direction 10 (Left Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 11 (Through) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 12 (Right Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 12U (U Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
8:00 to 9:00	58	2	0	0	**60**	1,194	52	7	0	**1,253**	34	2	0	0	**36**	0	0	0	0	**0**
8:15 to 9:15	66	2	0	0	**68**	1,211	50	5	2	**1,268**	31	1	0	0	**32**	0	0	0	0	**0**
8:30 to 9:30	77	1	0	0	**78**	1,268	48	2	2	**1,320**	41	3	0	0	**44**	0	0	0	0	**0**
8:45 to 9:45	72	1	0	0	**73**	1,321	39	3	2	**1,365**	48	5	0	0	**53**	0	0	0	0	**0**
9:00 to 10:00	64	2	0	0	**66**	1,327	36	3	2	**1,368**	58	5	1	0	**64**	0	0	0	0	**0**
9:15 to 10:15	69	3	0	0	**72**	1,355	35	2	0	**1,392**	72	5	1	0	**78**	0	0	0	0	**0**
9:30 to 10:30	65	2	0	0	**67**	1,354	32	3	0	**1,389**	76	3	1	0	**80**	0	0	0	0	**0**
9:45 to 10:45	79	2	0	0	**81**	1,316	38	2	0	**1,356**	91	1	1	0	**93**	0	0	0	0	**0**
10:00 to 11:00	90	3	0	0	**93**	1,361	36	4	0	**1,401**	90	0	0	0	**90**	0	0	0	0	**0**
10:15 to 11:15	98	3	0	0	**101**	1,353	35	4	0	**1,392**	99	2	1	0	**102**	0	0	0	0	**0**
10:30 to 11:30	109	4	0	0	**113**	1,342	38	3	0	**1,383**	111	2	1	0	**114**	0	0	0	0	**0**
10:45 to 11:45	107	4	0	0	**111**	1,342	34	2	0	**1,378**	103	5	1	0	**109**	0	0	0	0	**0**
11:00 to 12:00	116	2	0	0	**118**	1,322	36	0	0	**1,358**	117	7	1	0	**125**	0	0	0	0	**0**
11:15 to 12:15	108	1	0	0	**109**	1,388	33	0	0	**1,421**	114	6	0	0	**120**	0	0	0	0	**0**
11:30 to 12:30	103	1	0	0	**104**	1,436	26	1	0	**1,463**	116	6	0	0	**122**	0	0	0	0	**0**
11:45 to 12:45	96	1	0	0	**97**	1,456	25	1	0	**1,482**	121	4	0	0	**125**	0	0	0	0	**0**
12:00 to 13:00	80	1	0	0	**81**	1,401	23	1	0	**1,425**	120	2	0	0	**122**	0	0	0	0	**0**
Total	**408**	**10**	**0**	**0**	**418**	**6,605**	**183**	**15**	**2**	**6,805**	**419**	**16**	**2**	**0**	**437**	**0**	**0**	**0**	**0**	**0**

Crossing Pedestrians

Time Period	B to A	A to B	D to C	C to D	F to E	E to F	H to G	G to H	Total
8:00 to 9:00	1	1	3	1	3	4	0	0	**13**
8:15 to 9:15	1	2	3	1	3	4	0	0	**14**
8:30 to 9:30	3	3	6	2	4	5	0	0	**23**
8:45 to 9:45	4	3	9	3	3	4	0	0	**26**
9:00 to 10:00	6	2	9	4	2	6	0	0	**29**
9:15 to 10:15	5	2	10	6	1	6	0	0	**30**
9:30 to 10:30	6	2	12	5	0	6	0	0	**31**
9:45 to 10:45	5	3	11	6	2	6	0	0	**33**
10:00 to 11:00	4	6	13	8	2	3	0	0	**36**
10:15 to 11:15	4	6	11	12	2	3	0	0	**38**
10:30 to 11:30	2	6	9	14	3	3	0	0	**37**
10:45 to 11:45	5	6	13	13	4	2	0	0	**43**
11:00 to 12:00	6	4	17	14	6	4	0	0	**51**
11:15 to 12:15	8	3	23	14	9	6	0	0	**63**
11:30 to 12:30	8	6	21	13	8	8	0	0	**64**
11:45 to 12:45	8	5	19	15	7	10	0	0	**64**
12:00 to 13:00	7	6	16	14	7	9	0	0	**59**
Total	**24**	**19**	**58**	**41**	**20**	**26**	**0**	**0**	**188**

Job No.	: AUNSW3220
Client	: Bitzios Consulting
Suburb	: West Ryde
Location	: 1. Winbourne St / Marsden Rd
Day/Date	: Sat, 12th Mar 2022
Weather	: Fine
Description	: Classified Intersection Count
	: 15 mins Data



MATRIX Traffic and Transport Data

	Class 1	Class 2	Class 3	Class 4
Classifications	Lights	Rigid Heavies	Articulated Hea	Cyclists

Approach: Marsden Rd

Time Period	Dir 2 (Through) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Dir 3 (Right Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Dir 3U (U Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
8:00 to 8:15	41	1	0	0	**42**	0	0	0	0	**0**	2	0	0	0	**2**
8:15 to 8:30	45	2	0	0	**47**	2	1	0	0	**3**	1	0	0	0	**1**
8:30 to 8:45	55	5	0	0	**60**	2	0	0	0	**2**	5	0	0	0	**5**
8:45 to 9:00	72	2	0	0	**74**	6	0	0	0	**6**	3	0	0	0	**3**
9:00 to 9:15	60	0	0	0	**60**	12	0	0	0	**12**	1	0	0	0	**1**
9:15 to 9:30	83	0	0	0	**83**	9	1	0	0	**10**	3	0	0	0	**3**
9:30 to 9:45	72	1	1	0	**74**	9	0	0	0	**9**	1	0	0	0	**1**
9:45 to 10:00	100	0	0	0	**100**	10	1	0	0	**11**	5	0	0	0	**5**
10:00 to 10:15	88	2	0	0	**90**	8	0	0	0	**8**	2	1	0	0	**3**
10:15 to 10:30	87	1	0	0	**88**	8	0	0	0	**8**	4	0	0	0	**4**
10:30 to 10:45	102	2	0	1	**105**	14	1	0	0	**15**	0	0	0	0	**0**
10:45 to 11:00	101	3	0	0	**104**	11	0	0	0	**11**	4	0	0	0	**4**
11:00 to 11:15	99	3	0	0	**102**	5	0	0	0	**5**	5	0	0	0	**5**
11:15 to 11:30	88	0	0	0	**88**	16	1	0	0	**17**	1	0	0	0	**1**
11:30 to 11:45	122	1	0	0	**123**	11	0	0	0	**11**	3	0	0	0	**3**
11:45 to 12:00	102	1	0	0	**103**	13	0	0	0	**13**	5	0	0	0	**5**
12:00 to 12:15	99	0	0	0	**99**	11	0	0	0	**11**	3	0	0	0	**3**
12:15 to 12:30	102	0	0	0	**102**	11	1	0	0	**12**	3	0	0	0	**3**
12:30 to 12:45	110	0	0	0	**110**	13	0	0	0	**13**	2	0	0	0	**2**
12:45 to 13:00	123	0	0	0	**123**	16	0	0	0	**16**	0	0	0	0	**0**
Total	**1,751**	**24**	**1**	**1**	**1,777**	**187**	**6**	**0**	**0**	**193**	**53**	**1**	**0**	**0**	**54**

Approach: Winbourne St

Time Period	Dir 4 (Left Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Dir 6 (Right Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Dir 6U (U Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
8:00 to 8:15	4	1	0	0	**5**	1	0	0	0	**1**	0	0	0	0	**0**
8:15 to 8:30	8	2	0	0	**10**	2	0	0	0	**2**	0	0	0	0	**0**
8:30 to 8:45	18	1	0	0	**19**	2	0	0	0	**2**	0	0	0	0	**0**
8:45 to 9:00	11	0	0	0	**11**	1	0	0	0	**1**	0	0	0	0	**0**
9:00 to 9:15	17	0	0	0	**17**	1	0	0	0	**1**	0	0	0	0	**0**
9:15 to 9:30	23	0	0	0	**23**	0	0	0	0	**0**	0	0	0	0	**0**
9:30 to 9:45	19	2	0	0	**21**	1	0	0	0	**1**	0	0	0	0	**0**
9:45 to 10:00	18	0	0	0	**18**	2	0	0	0	**2**	0	0	0	0	**0**
10:00 to 10:15	12	0	0	0	**12**	2	0	0	0	**2**	0	0	0	0	**0**
10:15 to 10:30	26	0	0	0	**26**	0	0	0	0	**0**	0	0	0	0	**0**
10:30 to 10:45	29	1	0	0	**30**	3	0	0	0	**3**	0	0	0	0	**0**
10:45 to 11:00	26	1	0	0	**27**	4	0	0	0	**4**	0	0	0	0	**0**
11:00 to 11:15	11	0	0	0	**11**	3	0	0	0	**3**	0	0	0	0	**0**
11:15 to 11:30	25	0	0	0	**25**	3	0	0	0	**3**	0	0	0	0	**0**
11:30 to 11:45	25	1	0	0	**26**	7	0	0	0	**7**	0	0	0	0	**0**
11:45 to 12:00	26	0	0	0	**26**	5	0	0	0	**5**	0	0	0	0	**0**
12:00 to 12:15	23	0	0	0	**23**	2	0	0	0	**2**	0	0	0	0	**0**
12:15 to 12:30	23	0	0	0	**23**	6	0	0	0	**6**	0	0	0	0	**0**
12:30 to 12:45	21	1	0	0	**22**	2	0	0	0	**2**	0	0	0	0	**0**
12:45 to 13:00	18	0	0	0	**18**	3	0	0	0	**3**	0	0	0	0	**0**
Total	**383**	**10**	**0**	**0**	**393**	**50**	**0**	**0**	**0**	**50**	**0**	**0**	**0**	**0**	**0**

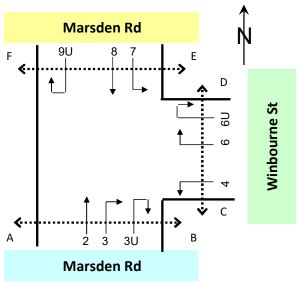
Approach: Marsden Rd

Time Period	Dir 7 (Left Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Dir 8 (Through) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Dir 9U (U Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
8:00 to 8:15	1	0	0	0	**1**	71	0	0	0	**71**	0	0	0	0	**0**
8:15 to 8:30	1	0	0	0	**1**	98	1	0	0	**99**	0	0	0	0	**0**
8:30 to 8:45	0	0	0	0	**0**	98	1	0	0	**99**	0	0	0	0	**0**
8:45 to 9:00	2	0	0	0	**2**	101	4	0	0	**105**	1	0	0	0	**1**
9:00 to 9:15	2	0	0	0	**2**	109	1	0	0	**110**	0	0	0	0	**0**
9:15 to 9:30	2	0	0	0	**2**	104	0	0	0	**104**	0	0	0	0	**0**
9:30 to 9:45	2	0	0	0	**2**	114	1	0	0	**115**	0	0	0	0	**0**
9:45 to 10:00	2	0	0	0	**2**	110	2	0	0	**112**	0	0	0	0	**0**
10:00 to 10:15	2	0	0	0	**2**	111	0	0	0	**111**	0	0	0	0	**0**
10:15 to 10:30	2	0	0	0	**2**	115	2	0	2	**119**	0	0	0	0	**0**
10:30 to 10:45	0	0	0	0	**0**	107	2	0	0	**109**	0	0	0	0	**0**
10:45 to 11:00	1	0	0	0	**1**	122	0	0	0	**122**	0	0	0	0	**0**
11:00 to 11:15	4	0	0	0	**4**	104	0	0	0	**104**	0	0	0	0	**0**
11:15 to 11:30	1	0	0	0	**1**	112	0	0	0	**112**	0	0	0	0	**0**
11:30 to 11:45	4	0	0	0	**4**	102	2	1	0	**105**	0	0	0	0	**0**
11:45 to 12:00	1	0	0	0	**1**	125	1	0	0	**126**	0	0	0	0	**0**
12:00 to 12:15	1	0	0	0	**1**	112	1	0	1	**114**	0	0	0	0	**0**
12:15 to 12:30	4	0	0	0	**4**	96	3	0	0	**99**	0	0	0	0	**0**
12:30 to 12:45	2	0	0	0	**2**	106	1	0	0	**107**	0	0	0	0	**0**
12:45 to 13:00	0	0	0	0	**0**	118	1	0	0	**119**	0	0	0	0	**0**
Total	**34**	**0**	**0**	**0**	**34**	**2,135**	**23**	**1**	**3**	**2,162**	**1**	**0**	**0**	**0**	**1**

Crossing Pedestrians

Time Period	B to A	A to B	D to C	C to D	F to E	E to F	Total
8:00 to 8:15	0	0	0	1	0	0	**1**
8:15 to 8:30	0	0	0	0	0	0	**0**
8:30 to 8:45	0	0	0	0	0	0	**0**
8:45 to 9:00	0	1	0	0	0	0	**1**
9:00 to 9:15	0	0	0	0	0	0	**0**
9:15 to 9:30	0	0	0	0	0	0	**0**
9:30 to 9:45	0	0	0	0	0	0	**0**
9:45 to 10:00	0	0	0	0	0	0	**0**
10:00 to 10:15	0	0	0	0	0	0	**0**
10:15 to 10:30	0	0	0	0	0	0	**0**
10:30 to 10:45	0	0	0	2	0	0	**2**
10:45 to 11:00	0	0	0	0	0	0	**0**
11:00 to 11:15	0	0	0	0	0	0	**0**
11:15 to 11:30	0	0	0	0	0	0	**0**
11:30 to 11:45	0	2	0	0	1	0	**3**
11:45 to 12:00	2	0	0	1	0	1	**4**
12:00 to 12:15	0	0	0	1	0	0	**1**
12:15 to 12:30	0	0	0	0	0	0	**0**
12:30 to 12:45	0	0	0	0	0	0	**0**
12:45 to 13:00	0	0	0	0	0	0	**0**
Total	**2**	**3**	**0**	**5**	**1**	**1**	**12**

Job No.	: AUNSW3220
Client	: Bitzios Consulting
Suburb	: West Ryde
Location	: 1. Winbourne St / Marsden Rd
Day/Date	: Sat, 12th Mar 2022
Weather	: Fine
Description	: Classified Intersection Count
	: Hourly Summary



MATRIX Traffic and Transport Data

Approach: Marsden Rd

Time Period	Direction 2 (Through) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 3 (Right Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 3U (U Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
8:00 to 9:00	213	10	0	0	**223**	10	1	0	0	**11**	11	0	0	0	**11**
8:15 to 9:15	232	9	0	0	**241**	22	1	0	0	**23**	10	0	0	0	**10**
8:30 to 9:30	270	7	0	0	**277**	29	1	0	0	**30**	12	0	0	0	**12**
8:45 to 9:45	287	3	1	0	**291**	36	1	0	0	**37**	8	0	0	0	**8**
9:00 to 10:00	315	1	1	0	**317**	40	2	0	0	**42**	10	0	0	0	**10**
9:15 to 10:15	343	3	1	0	**347**	36	2	0	0	**38**	11	1	0	0	**12**
9:30 to 10:30	347	4	1	0	**352**	35	1	0	0	**36**	12	1	0	0	**13**
9:45 to 10:45	377	5	0	1	**383**	40	2	0	0	**42**	11	1	0	0	**12**
10:00 to 11:00	378	8	0	1	**387**	41	1	0	0	**42**	10	1	0	0	**11**
10:15 to 11:15	389	9	0	1	**399**	38	1	0	0	**39**	13	0	0	0	**13**
10:30 to 11:30	390	8	0	1	**399**	46	2	0	0	**48**	10	0	0	0	**10**
10:45 to 11:45	410	7	0	0	**417**	43	1	0	0	**44**	13	0	0	0	**13**
11:00 to 12:00	411	5	0	0	**416**	45	1	0	0	**46**	14	0	0	0	**14**
11:15 to 12:15	411	2	0	0	**413**	51	1	0	0	**52**	12	0	0	0	**12**
11:30 to 12:30	425	2	0	0	**427**	46	1	0	0	**47**	14	0	0	0	**14**
11:45 to 12:45	413	1	0	0	**414**	48	1	0	0	**49**	13	0	0	0	**13**
12:00 to 13:00	434	0	0	0	**434**	51	1	0	0	**52**	8	0	0	0	**8**
Total	**1,751**	**24**	**1**	**1**	**1,777**	**187**	**6**	**0**	**0**	**193**	**53**	**1**	**0**	**0**	**54**

Approach: Winbourne St

Time Period	Direction 4 (Left Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 6 (Right Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 6U (U Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
8:00 to 9:00	41	4	0	0	**45**	6	0	0	0	**6**	0	0	0	0	**0**
8:15 to 9:15	54	3	0	0	**57**	6	0	0	0	**6**	0	0	0	0	**0**
8:30 to 9:30	69	1	0	0	**70**	4	0	0	0	**4**	0	0	0	0	**0**
8:45 to 9:45	70	2	0	0	**72**	3	0	0	0	**3**	0	0	0	0	**0**
9:00 to 10:00	77	2	0	0	**79**	4	0	0	0	**4**	0	0	0	0	**0**
9:15 to 10:15	72	2	0	0	**74**	5	0	0	0	**5**	0	0	0	0	**0**
9:30 to 10:30	75	2	0	0	**77**	5	0	0	0	**5**	0	0	0	0	**0**
9:45 to 10:45	85	1	0	0	**86**	7	0	0	0	**7**	0	0	0	0	**0**
10:00 to 11:00	93	2	0	0	**95**	9	0	0	0	**9**	0	0	0	0	**0**
10:15 to 11:15	92	2	0	0	**94**	10	0	0	0	**10**	0	0	0	0	**0**
10:30 to 11:30	91	2	0	0	**93**	13	0	0	0	**13**	0	0	0	0	**0**
10:45 to 11:45	87	2	0	0	**89**	17	0	0	0	**17**	0	0	0	0	**0**
11:00 to 12:00	87	1	0	0	**88**	18	0	0	0	**18**	0	0	0	0	**0**
11:15 to 12:15	99	1	0	0	**100**	17	0	0	0	**17**	0	0	0	0	**0**
11:30 to 12:30	97	1	0	0	**98**	20	0	0	0	**20**	0	0	0	0	**0**
11:45 to 12:45	93	1	0	0	**94**	15	0	0	0	**15**	0	0	0	0	**0**
12:00 to 13:00	85	1	0	0	**86**	13	0	0	0	**13**	0	0	0	0	**0**
Total	**383**	**10**	**0**	**0**	**393**	**50**	**0**	**0**	**0**	**50**	**0**	**0**	**0**	**0**	**0**

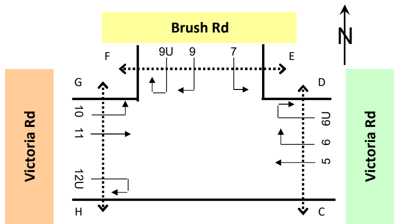
Approach: Marsden Rd

Time Period	Direction 7 (Left Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 8 (Through) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Direction 9U (U Turn) Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
8:00 to 9:00	4	0	0	0	**4**	368	6	0	0	**374**	1	0	0	0	**1**
8:15 to 9:15	5	0	0	0	**5**	406	7	0	0	**413**	1	0	0	0	**1**
8:30 to 9:30	6	0	0	0	**6**	412	6	0	0	**418**	1	0	0	0	**1**
8:45 to 9:45	8	0	0	0	**8**	428	6	0	0	**434**	1	0	0	0	**1**
9:00 to 10:00	8	0	0	0	**8**	437	4	0	0	**441**	0	0	0	0	**0**
9:15 to 10:15	8	0	0	0	**8**	439	3	0	0	**442**	0	0	0	0	**0**
9:30 to 10:30	8	0	0	0	**8**	450	5	0	2	**457**	0	0	0	0	**0**
9:45 to 10:45	6	0	0	0	**6**	443	6	0	2	**451**	0	0	0	0	**0**
10:00 to 11:00	5	0	0	0	**5**	455	4	0	2	**461**	0	0	0	0	**0**
10:15 to 11:15	7	0	0	0	**7**	448	4	0	2	**454**	0	0	0	0	**0**
10:30 to 11:30	6	0	0	0	**6**	445	2	0	0	**447**	0	0	0	0	**0**
10:45 to 11:45	10	0	0	0	**10**	440	2	1	0	**443**	0	0	0	0	**0**
11:00 to 12:00	10	0	0	0	**10**	443	3	1	0	**447**	0	0	0	0	**0**
11:15 to 12:15	7	0	0	0	**7**	451	4	1	1	**457**	0	0	0	0	**0**
11:30 to 12:30	10	0	0	0	**10**	435	7	1	1	**444**	0	0	0	0	**0**
11:45 to 12:45	8	0	0	0	**8**	439	6	0	1	**446**	0	0	0	0	**0**
12:00 to 13:00	7	0	0	0	**7**	432	6	0	1	**439**	0	0	0	0	**0**
Total	**34**	**0**	**0**	**0**	**34**	**2,135**	**23**	**1**	**3**	**2,162**	**1**	**0**	**0**	**0**	**1**

Crossing Pedestrians

Time Period	B to A	A to B	D to C	C to D	F to E	E to F	Total
8:00 to 9:00	0	1	0	1	0	0	**2**
8:15 to 9:15	0	1	0	0	0	0	**1**
8:30 to 9:30	0	1	0	0	0	0	**1**
8:45 to 9:45	0	1	0	0	0	0	**1**
9:00 to 10:00	0	0	0	0	0	0	**0**
9:15 to 10:15	0	0	0	0	0	0	**0**
9:30 to 10:30	0	0	0	0	0	0	**0**
9:45 to 10:45	0	0	0	2	0	0	**2**
10:00 to 11:00	0	0	0	2	0	0	**2**
10:15 to 11:15	0	0	0	2	0	0	**2**
10:30 to 11:30	0	0	0	2	0	0	**2**
10:45 to 11:45	0	2	0	0	1	0	**3**
11:00 to 12:00	2	2	0	1	1	1	**7**
11:15 to 12:15	2	2	0	2	1	1	**8**
11:30 to 12:30	2	2	0	2	1	1	**8**
11:45 to 12:45	2	0	0	2	0	1	**5**
12:00 to 13:00	0	0	0	1	0	0	**1**
Total	**2**	**3**	**0**	**5**	**1**	**1**	**12**

Job No.	: AUNSW3220
Client	: Bitzios Consulting
Suburb	: West Ryde
Location	: 3. Victoria Rd / Brush Rd
Day/Date	: Sat, 12th Mar 2022
Weather	: Fine
Description	: Classified Intersection Count
	: 15 mins Data



MATRIX Traffic and Transport Data

	Class 1	Class 2	Class 3	Class 4
Classifications	Lights	Rigid Heavies	Articulated Hea	Cyclists

Approach	Victoria Rd														
Direction	Direction 5 (Through)					Direction 6 (Right Turn)					Direction 6U (U Turn)				
Time Period	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
8:00 to 8:15	220	9	0	0	**229**	0	0	0	0	**0**	0	0	0	0	**0**
8:15 to 8:30	213	15	2	0	**230**	0	0	0	0	**0**	0	0	0	0	**0**
8:30 to 8:45	253	23	1	0	**277**	0	0	0	0	**0**	0	0	0	0	**0**
8:45 to 9:00	287	11	2	0	**300**	0	0	0	0	**0**	0	0	0	0	**0**
9:00 to 9:15	296	11	1	0	**308**	0	0	0	0	**0**	0	0	0	0	**0**
9:15 to 9:30	295	11	0	0	**306**	0	0	0	0	**0**	0	0	0	0	**0**
9:30 to 9:45	340	9	1	0	**350**	0	0	0	0	**0**	0	0	0	0	**0**
9:45 to 10:00	393	7	1	0	**401**	0	0	0	0	**0**	0	0	0	0	**0**
10:00 to 10:15	348	9	1	0	**358**	0	0	0	0	**0**	0	0	0	0	**0**
10:15 to 10:30	369	12	0	0	**381**	0	0	0	0	**0**	0	0	0	0	**0**
10:30 to 10:45	390	9	0	0	**399**	0	0	0	0	**0**	0	0	0	0	**0**
10:45 to 11:00	359	11	1	0	**371**	0	0	0	0	**0**	0	0	0	0	**0**
11:00 to 11:15	421	8	1	0	**430**	0	0	0	0	**0**	0	0	0	0	**0**
11:15 to 11:30	444	6	0	0	**450**	0	0	0	0	**0**	0	0	0	0	**0**
11:30 to 11:45	472	11	2	0	**485**	0	0	0	0	**0**	0	0	0	0	**0**
11:45 to 12:00	404	6	2	0	**412**	0	0	0	0	**0**	0	0	0	0	**0**
12:00 to 12:15	451	12	0	0	**463**	0	0	0	0	**0**	0	0	0	0	**0**
12:15 to 12:30	422	12	1	0	**435**	0	0	0	0	**0**	0	0	0	0	**0**
12:30 to 12:45	475	11	1	0	**487**	0	0	0	0	**0**	0	0	0	0	**0**
12:45 to 13:00	457	13	0	0	**470**	0	0	0	0	**0**	0	0	0	0	**0**
Total	**7,309**	**216**	**17**	**0**	**7,542**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

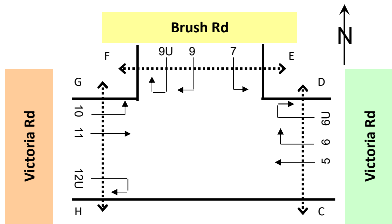
Approach	Brush Rd														
Direction	Direction 7 (Left Turn)					Direction 9 (Right Turn)					Direction 9U (U Turn)				
Time Period	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
8:00 to 8:15	4	0	0	0	**4**	0	0	0	0	**0**	0	0	0	0	**0**
8:15 to 8:30	2	0	0	0	**2**	0	0	0	0	**0**	0	0	0	0	**0**
8:30 to 8:45	2	0	0	0	**2**	0	0	0	0	**0**	0	0	0	0	**0**
8:45 to 9:00	3	0	0	0	**3**	0	0	0	0	**0**	0	0	0	0	**0**
9:00 to 9:15	2	0	0	0	**2**	0	0	0	0	**0**	0	0	0	0	**0**
9:15 to 9:30	4	0	0	0	**4**	0	0	0	0	**0**	0	0	0	0	**0**
9:30 to 9:45	8	0	0	0	**8**	0	0	0	0	**0**	0	0	0	0	**0**
9:45 to 10:00	4	0	0	0	**4**	0	0	0	0	**0**	0	0	0	0	**0**
10:00 to 10:15	3	0	0	0	**3**	0	0	0	0	**0**	0	0	0	0	**0**
10:15 to 10:30	1	0	0	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**
10:30 to 10:45	6	0	0	0	**6**	0	0	0	0	**0**	0	0	0	0	**0**
10:45 to 11:00	3	0	0	0	**3**	0	0	0	0	**0**	0	0	0	0	**0**
11:00 to 11:15	7	0	0	0	**7**	0	0	0	0	**0**	0	0	0	0	**0**
11:15 to 11:30	1	0	0	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**
11:30 to 11:45	3	0	0	0	**3**	0	0	0	0	**0**	0	0	0	0	**0**
11:45 to 12:00	6	0	0	0	**6**	0	0	0	0	**0**	0	0	0	0	**0**
12:00 to 12:15	1	0	0	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**
12:15 to 12:30	4	0	0	0	**4**	0	0	0	0	**0**	0	0	0	0	**0**
12:30 to 12:45	4	0	0	0	**4**	0	0	0	0	**0**	0	0	0	0	**0**
12:45 to 13:00	4	0	0	0	**4**	0	0	0	0	**0**	0	0	0	0	**0**
Total	**72**	**0**	**0**	**0**	**72**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Approach	Victoria Rd														
Direction	Direction 10 (Left Turn)					Direction 11 (Through)					Direction 12U (U Turn)				
Time Period	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
8:00 to 8:15	2	0	0	0	**2**	350	11	2	0	**363**	0	0	0	0	**0**
8:15 to 8:30	3	0	0	0	**3**	381	17	3	0	**401**	0	0	0	0	**0**
8:30 to 8:45	0	0	0	0	**0**	430	18	1	0	**449**	0	0	0	0	**0**
8:45 to 9:00	4	0	0	0	**4**	421	16	0	0	**437**	0	0	0	0	**0**
9:00 to 9:15	1	0	0	0	**1**	397	11	1	0	**409**	0	0	0	0	**0**
9:15 to 9:30	3	0	0	0	**3**	457	11	0	2	**470**	0	0	0	0	**0**
9:30 to 9:45	9	0	0	0	**9**	487	9	2	0	**498**	0	0	0	0	**0**
9:45 to 10:00	3	0	0	0	**3**	444	12	0	0	**456**	0	0	0	0	**0**
10:00 to 10:15	3	0	0	0	**3**	426	8	0	0	**434**	0	0	0	0	**0**
10:15 to 10:30	10	0	0	0	**10**	453	10	1	0	**464**	0	0	0	0	**0**
10:30 to 10:45	7	0	0	0	**7**	440	13	1	0	**454**	0	0	0	0	**0**
10:45 to 11:00	6	0	0	0	**6**	467	9	2	0	**478**	0	0	0	0	**0**
11:00 to 11:15	3	0	0	0	**3**	431	7	0	0	**438**	0	0	0	0	**0**
11:15 to 11:30	4	0	0	0	**4**	449	11	0	0	**460**	0	0	0	0	**0**
11:30 to 11:45	8	0	0	0	**8**	433	10	0	0	**443**	0	0	0	0	**0**
11:45 to 12:00	8	0	0	0	**8**	462	10	0	0	**472**	0	0	0	0	**0**
12:00 to 12:15	10	1	0	0	**11**	487	4	0	0	**491**	0	0	0	0	**0**
12:15 to 12:30	13	0	0	0	**13**	459	9	1	0	**469**	0	0	0	0	**0**
12:30 to 12:45	5	0	0	0	**5**	452	7	1	0	**460**	0	0	0	0	**0**
12:45 to 13:00	7	0	0	0	**7**	412	6	0	0	**418**	0	0	0	0	**0**
Total	**109**	**1**	**0**	**0**	**110**	**8,738**	**209**	**15**	**2**	**8,964**	**0**	**0**	**0**	**0**	**0**

Time Period	Crossing Pedestrians						
	D to C	C to D	F to E	E to F	H to G	G to H	Total
8:00 to 8:15	0	0	0	1	0	1	**2**
8:15 to 8:30	0	0	0	0	0	0	**0**
8:30 to 8:45	0	0	1	1	0	0	**2**
8:45 to 9:00	0	0	1	0	0	0	**1**
9:00 to 9:15	0	0	0	0	0	0	**0**
9:15 to 9:30	0	0	1	0	0	0	**1**
9:30 to 9:45	0	0	1	1	0	0	**2**
9:45 to 10:00	0	0	0	4	0	0	**4**
10:00 to 10:15	0	0	0	4	0	0	**4**
10:15 to 10:30	0	0	0	1	0	0	**1**
10:30 to 10:45	0	0	0	2	0	0	**2**
10:45 to 11:00	0	0	1	1	0	0	**2**
11:00 to 11:15	0	0	0	2	0	0	**2**
11:15 to 11:30	0	0	1	0	0	0	**1**
11:30 to 11:45	0	0	0	0	0	0	**0**
11:45 to 12:00	0	0	0	1	0	0	**1**
12:00 to 12:15	0	0	0	1	0	0	**1**
12:15 to 12:30	0	0	4	1	0	0	**5**
12:30 to 12:45	0	0	0	0	0	0	**0**
12:45 to 13:00	0	0	3	2	0	0	**5**
Total	**0**	**0**	**13**	**22**	**0**	**1**	**36**

Job No. : AUNSW3220
Client : Bitzios Consulting
Suburb : West Ryde
Location : 3. Victoria Rd / Brush Rd

Day/Date : Sat, 12th Mar 2022
Weather : Fine
Description : Classified Intersection Count
: Hourly Summary



MATRIX Traffic and Transport Data

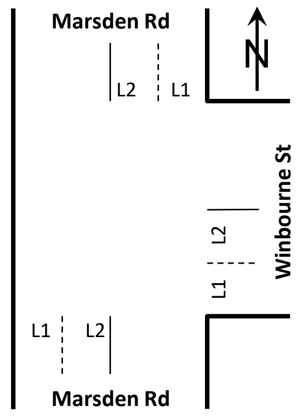
Approach	Victoria Rd														
Direction	Direction 5 (Through)					Direction 6 (Right Turn)					Direction 6U (U Turn)				
Time Period	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
8:00 to 9:00	973	58	5	0	**1,036**	0	0	0	0	**0**	0	0	0	0	**0**
8:15 to 9:15	1,049	60	6	0	**1,115**	0	0	0	0	**0**	0	0	0	0	**0**
8:30 to 9:30	1,131	56	4	0	**1,191**	0	0	0	0	**0**	0	0	0	0	**0**
8:45 to 9:45	1,218	42	4	0	**1,264**	0	0	0	0	**0**	0	0	0	0	**0**
9:00 to 10:00	1,324	38	3	0	**1,365**	0	0	0	0	**0**	0	0	0	0	**0**
9:15 to 10:15	1,376	36	3	0	**1,415**	0	0	0	0	**0**	0	0	0	0	**0**
9:30 to 10:30	1,450	37	3	0	**1,490**	0	0	0	0	**0**	0	0	0	0	**0**
9:45 to 10:45	1,500	37	2	0	**1,539**	0	0	0	0	**0**	0	0	0	0	**0**
10:00 to 11:00	1,466	41	2	0	**1,509**	0	0	0	0	**0**	0	0	0	0	**0**
10:15 to 11:15	1,539	40	2	0	**1,581**	0	0	0	0	**0**	0	0	0	0	**0**
10:30 to 11:30	1,614	34	2	0	**1,650**	0	0	0	0	**0**	0	0	0	0	**0**
10:45 to 11:45	1,696	36	4	0	**1,736**	0	0	0	0	**0**	0	0	0	0	**0**
11:00 to 12:00	1,741	31	5	0	**1,777**	0	0	0	0	**0**	0	0	0	0	**0**
11:15 to 12:15	1,771	35	4	0	**1,810**	0	0	0	0	**0**	0	0	0	0	**0**
11:30 to 12:30	1,749	41	5	0	**1,795**	0	0	0	0	**0**	0	0	0	0	**0**
11:45 to 12:45	1,752	41	4	0	**1,797**	0	0	0	0	**0**	0	0	0	0	**0**
12:00 to 13:00	1,805	48	2	0	**1,855**	0	0	0	0	**0**	0	0	0	0	**0**
Total	**7,309**	**216**	**17**	**0**	**7,542**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Approach	Brush Rd														
Direction	Direction 7 (Left Turn)					Direction 9 (Right Turn)					Direction 9U (U Turn)				
Time Period	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
8:00 to 9:00	11	0	0	0	**11**	0	0	0	0	**0**	0	0	0	0	**0**
8:15 to 9:15	9	0	0	0	**9**	0	0	0	0	**0**	0	0	0	0	**0**
8:30 to 9:30	11	0	0	0	**11**	0	0	0	0	**0**	0	0	0	0	**0**
8:45 to 9:45	17	0	0	0	**17**	0	0	0	0	**0**	0	0	0	0	**0**
9:00 to 10:00	18	0	0	0	**18**	0	0	0	0	**0**	0	0	0	0	**0**
9:15 to 10:15	19	0	0	0	**19**	0	0	0	0	**0**	0	0	0	0	**0**
9:30 to 10:30	16	0	0	0	**16**	0	0	0	0	**0**	0	0	0	0	**0**
9:45 to 10:45	14	0	0	0	**14**	0	0	0	0	**0**	0	0	0	0	**0**
10:00 to 11:00	13	0	0	0	**13**	0	0	0	0	**0**	0	0	0	0	**0**
10:15 to 11:15	17	0	0	0	**17**	0	0	0	0	**0**	0	0	0	0	**0**
10:30 to 11:30	17	0	0	0	**17**	0	0	0	0	**0**	0	0	0	0	**0**
10:45 to 11:45	14	0	0	0	**14**	0	0	0	0	**0**	0	0	0	0	**0**
11:00 to 12:00	17	0	0	0	**17**	0	0	0	0	**0**	0	0	0	0	**0**
11:15 to 12:15	11	0	0	0	**11**	0	0	0	0	**0**	0	0	0	0	**0**
11:30 to 12:30	14	0	0	0	**14**	0	0	0	0	**0**	0	0	0	0	**0**
11:45 to 12:45	15	0	0	0	**15**	0	0	0	0	**0**	0	0	0	0	**0**
12:00 to 13:00	13	0	0	0	**13**	0	0	0	0	**0**	0	0	0	0	**0**
Total	**72**	**0**	**0**	**0**	**72**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Approach	Victoria Rd														
Direction	Direction 10 (Left Turn)					Direction 11 (Through)					Direction 12U (U Turn)				
Time Period	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total	Lights	Rigid Heavies	Articulated Heavies	Cyclists	Total
8:00 to 9:00	9	0	0	0	**9**	1,582	62	6	0	**1,650**	0	0	0	0	**0**
8:15 to 9:15	8	0	0	0	**8**	1,629	62	5	0	**1,696**	0	0	0	0	**0**
8:30 to 9:30	8	0	0	0	**8**	1,705	56	2	2	**1,765**	0	0	0	0	**0**
8:45 to 9:45	17	0	0	0	**17**	1,762	47	3	2	**1,814**	0	0	0	0	**0**
9:00 to 10:00	16	0	0	0	**16**	1,785	43	3	2	**1,833**	0	0	0	0	**0**
9:15 to 10:15	18	0	0	0	**18**	1,814	40	2	2	**1,858**	0	0	0	0	**0**
9:30 to 10:30	25	0	0	0	**25**	1,810	39	3	0	**1,852**	0	0	0	0	**0**
9:45 to 10:45	23	0	0	0	**23**	1,763	43	2	0	**1,808**	0	0	0	0	**0**
10:00 to 11:00	26	0	0	0	**26**	1,786	40	4	0	**1,830**	0	0	0	0	**0**
10:15 to 11:15	26	0	0	0	**26**	1,791	39	4	0	**1,834**	0	0	0	0	**0**
10:30 to 11:30	20	0	0	0	**20**	1,787	40	3	0	**1,830**	0	0	0	0	**0**
10:45 to 11:45	21	0	0	0	**21**	1,780	37	2	0	**1,819**	0	0	0	0	**0**
11:00 to 12:00	23	0	0	0	**23**	1,775	38	0	0	**1,813**	0	0	0	0	**0**
11:15 to 12:15	30	1	0	0	**31**	1,831	35	0	0	**1,866**	0	0	0	0	**0**
11:30 to 12:30	39	1	0	0	**40**	1,841	33	1	0	**1,875**	0	0	0	0	**0**
11:45 to 12:45	36	1	0	0	**37**	1,860	30	2	0	**1,892**	0	0	0	0	**0**
12:00 to 13:00	35	1	0	0	**36**	1,810	26	2	0	**1,838**	0	0	0	0	**0**
Total	**109**	**1**	**0**	**0**	**110**	**8,738**	**209**	**15**	**2**	**8,964**	**0**	**0**	**0**	**0**	**0**

Crossing Pedestrians							
Time Period	D to C	C to D	F to E	E to F	H to G	G to H	Total
8:00 to 9:00	0	0	2	2	0	1	**5**
8:15 to 9:15	0	0	2	1	0	0	**3**
8:30 to 9:30	0	0	3	1	0	0	**4**
8:45 to 9:45	0	0	3	1	0	0	**4**
9:00 to 10:00	0	0	2	5	0	0	**7**
9:15 to 10:15	0	0	2	9	0	0	**11**
9:30 to 10:30	0	0	1	10	0	0	**11**
9:45 to 10:45	0	0	0	11	0	0	**11**
10:00 to 11:00	0	0	1	8	0	0	**9**
10:15 to 11:15	0	0	1	6	0	0	**7**
10:30 to 11:30	0	0	2	5	0	0	**7**
10:45 to 11:45	0	0	2	3	0	0	**5**
11:00 to 12:00	0	0	1	3	0	0	**4**
11:15 to 12:15	0	0	1	2	0	0	**3**
11:30 to 12:30	0	0	4	3	0	0	**7**
11:45 to 12:45	0	0	4	3	0	0	**7**
12:00 to 13:00	0	0	7	4	0	0	**11**
Total	**0**	**0**	**13**	**22**	**0**	**1**	**36**

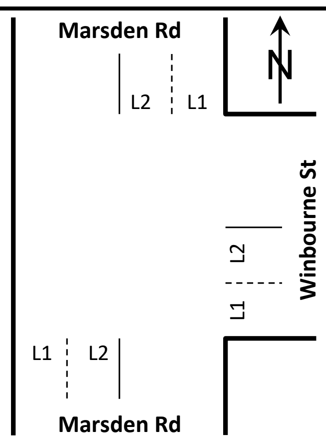
Client	Bitzios Consulting
Location	1. Winbourne St / Marsden Rd
Date	Wed, 9th Mar 2022
Survey Time	7:00-9:00 & 15:00-18:00 (5hrs)
Description	Queue Length Survey



AM	South Leg (Marsden Rd)		East Leg (Winbourne St)		North Leg (Marsden Rd)	
	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
7:00 to 7:05	0	1	1	0	12	0
7:05 to 7:10	0	1	0	1	0	0
7:10 to 7:15	0	1	1	0	0	0
7:15 to 7:20	0	1	1	1	3	0
7:20 to 7:25	0	1	1	0	1	0
7:25 to 7:30	0	2	2	0	5	0
7:30 to 7:35	0	1	2	0	0	0
7:35 to 7:40	0	1	2	1	4	0
7:40 to 7:45	0	2	2	1	0	0
7:45 to 7:50	0	1	2	0	0	0
7:50 to 7:55	0	5	2	1	7	0
7:55 to 8:00	0	2	2	1	5	0
8:00 to 8:05	0	2	3	1	4	0
8:05 to 8:10	0	2	1	1	0	0
8:10 to 8:15	0	3	1	1	9	0
8:15 to 8:20	0	2	2	1	4	0
8:20 to 8:25	0	2	2	0	4	0
8:25 to 8:30	0	5	4	1	10	0
8:30 to 8:35	0	3	9	1	11	0
8:35 to 8:40	0	5	12	1	17	0
8:40 to 8:45	0	4	13	2	17	0
8:45 to 8:50	0	5	15	12	17	0
8:50 to 8:55	0	4	17	13	4	2
8:55 to 9:00	0	2	17	1	17	2
MAX	0	5	17	13	17	2
MIN	0	1	0	0	0	0

PM	South Leg (Marsden Rd)		East Leg (Winbourne St)		North Leg (Marsden Rd)	
	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
15:00 to 15:05	0	3	3	1	0	0
15:05 to 15:10	0	3	11	4	0	1
15:10 to 15:15	0	1	17	2	3	1
15:15 to 15:20	0	1	7	1	0	0
15:20 to 15:25	0	1	2	2	0	0
15:25 to 15:30	0	3	2	0	4	0
15:30 to 15:35	0	1	1	1	0	0
15:35 to 15:40	0	1	1	4	0	0
15:40 to 15:45	0	2	2	0	0	0
15:45 to 15:50	0	3	0	1	1	0
15:50 to 15:55	0	1	1	1	0	0
15:55 to 16:00	0	1	2	1	0	0
16:00 to 16:05	0	2	4	0	2	0
16:05 to 16:10	0	1	1	0	0	0
16:10 to 16:15	0	2	1	1	0	0
16:15 to 16:20	0	1	0	1	0	0
16:20 to 16:25	0	1	1	0	0	0
16:25 to 16:30	0	1	1	1	2	0
16:30 to 16:35	0	1	1	0	0	0
16:35 to 16:40	0	1	1	0	0	0
16:40 to 16:45	0	1	2	2	0	0
16:45 to 16:50	0	0	1	1	0	0
16:50 to 16:55	0	1	1	1	0	0
16:55 to 17:00	0	1	1	1	0	0
17:00 to 17:05	0	1	0	1	0	0
17:05 to 17:10	0	2	2	2	0	0
17:10 to 17:15	0	2	2	2	0	0
17:15 to 17:20	0	2	1	1	0	0
17:20 to 17:25	0	1	4	1	8	0
17:25 to 17:30	0	2	1	0	0	0
17:30 to 17:35	0	4	1	1	0	0
17:35 to 17:40	0	2	2	1	1	0
17:40 to 17:45	0	1	3	2	0	0
17:45 to 17:50	0	2	2	1	1	0
17:50 to 17:55	0	2	2	0	0	0
17:55 to 18:00	0	1	1	1	0	0
MAX	0	4	17	4	8	1
MIN	0	0	0	0	0	0

Client	Bitzios Consulting
Location	1. Winbourne St / Marsden Rd
Date	Sat, 12th Mar 2022
Survey Time	8:00-13:00 (5hrs)
Description	Queue Length Survey



MATRIX Traffic and Transport Data

Time	South Leg (Marsden Rd)		East Leg (Winbourne St)		North Leg (Marsden Rd)	
	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
8:00 to 8:05	0	0	0	0	0	0
8:05 to 8:10	0	0	1	1	0	0
8:10 to 8:15	0	0	0	0	0	0
8:15 to 8:20	0	0	0	1	6	0
8:20 to 8:25	0	0	2	1	4	0
8:25 to 8:30	0	1	1	0	1	0
8:30 to 8:35	0	1	1	0	0	0
8:35 to 8:40	0	0	2	0	0	0
8:40 to 8:45	0	1	1	1	5	0
8:45 to 8:50	0	0	1	1	3	0
8:50 to 8:55	0	1	1	0	0	0
8:55 to 9:00	0	1	2	0	6	0
9:00 to 9:05	0	1	1	0	2	0
9:05 to 9:10	0	1	2	0	5	0
9:10 to 9:15	0	1	1	0	9	0
9:15 to 9:20	0	4	2	0	0	0
9:20 to 9:25	0	2	1	0	0	0
9:25 to 9:30	0	1	2	0	6	0
9:30 to 9:35	0	1	2	1	1	0
9:35 to 9:40	0	0	1	0	1	0
9:40 to 9:45	0	1	0	0	1	0
9:45 to 9:50	0	1	2	1	5	0
9:50 to 9:55	0	1	1	1	2	0
9:55 to 10:00	0	2	1	0	0	0
10:00 to 10:05	0	1	1	0	0	0
10:05 to 10:10	0	1	1	1	2	0
10:10 to 10:15	0	1	1	1	0	0
10:15 to 10:20	0	2	0	0	5	0
10:20 to 10:25	0	1	1	0	3	0
10:25 to 10:30	0	1	0	0	0	0
10:30 to 10:35	0	1	2	1	0	0
10:35 to 10:40	0	2	2	1	2	0
10:40 to 10:45	0	0	1	0	0	0
10:45 to 10:50	0	1	1	1	2	0
10:50 to 10:55	0	2	1	1	4	0
10:55 to 11:00	0	1	1	0	2	0
11:00 to 11:05	0	2	1	1	0	0
11:05 to 11:10	0	1	1	0	1	0
11:10 to 11:15	0	1	0	0	0	0
11:15 to 11:20	0	1	2	1	3	1
11:20 to 11:25	0	1	1	1	4	0
11:25 to 11:30	0	2	0	1	0	1
11:30 to 11:35	0	1	2	0	3	0
11:35 to 11:40	0	1	2	2	0	0
11:40 to 11:45	0	1	3	1	0	0
11:45 to 11:50	0	1	2	1	5	0
11:50 to 11:55	0	2	1	1	4	0
11:55 to 12:00	0	1	1	1	6	0
12:00 to 12:05	0	1	1	1	5	0
12:05 to 12:10	0	2	1	0	10	0
12:10 to 12:15	0	1	1	1	1	0
12:15 to 12:20	0	0	0	0	1	0
12:20 to 12:25	0	2	1	1	0	0
12:25 to 12:30	0	1	2	2	3	0
12:30 to 12:35	0	2	3	1	3	0
12:35 to 12:40	0	1	2	0	0	0
12:40 to 12:45	0	1	1	0	0	0
12:45 to 12:50	0	1	1	0	0	0
12:50 to 12:55	0	1	1	1	0	0
12:55 to 13:00	0	1	1	1	0	0
MAX	0	4	3	2	10	1
MIN	0	0	0	0	0	0

Job No	AUNSW3220
Client	Bitzios
Site	Winbourne Street
Location	between Farnell Street and Marsden Road
Site No	2
Start Date	9-Mar-22
Description	Volume Summary
Direction	Combined

Hour Starting	Day of Week							W'Day Ave	7 Day Ave
	Mon	Tue	Wed	Thu	Fri	Sat	Sun		
	14-Mar	15-Mar	9-Mar	10-Mar	11-Mar	12-Mar	13-Mar		
AM Peak	480	478	489	510	543	138	129		
PM Peak	293	250	320	297	329	149	111	2711	2382
0:00	5	11	7	6	4	18	28	7	11
1:00	7	4	4	2	7	9	14	5	7
2:00	3	2	2	2	4	14	5	3	5
3:00	5	4	7	4	5	4	6	5	5
4:00	7	5	7	6	5	5	7	6	6
5:00	30	21	26	27	22	15	4	25	21
6:00	56	54	49	46	56	27	12	52	43
7:00	135	130	183	150	160	38	39	152	119
8:00	480	478	489	510	543	58	63	500	374
9:00	205	206	205	226	184	133	100	205	180
10:00	131	98	102	100	104	129	116	107	111
11:00	118	109	102	99	114	138	129	108	116
12:00	90	137	104	115	99	149	109	109	115
13:00	96	130	92	91	123	132	99	106	109
14:00	217	250	201	190	197	103	111	211	181
15:00	293	207	320	297	329	95	82	289	232
16:00	160	178	194	200	199	132	89	186	165
17:00	186	217	236	214	222	124	81	215	183
18:00	137	183	149	169	163	99	80	160	140
19:00	78	93	95	96	113	84	77	95	91
20:00	53	49	74	55	75	74	55	61	62
21:00	32	40	52	53	54	49	50	46	47
22:00	23	33	32	27	46	44	36	32	34
23:00	20	20	28	28	27	39	19	25	26
Total	2567	2659	2760	2713	2855	1712	1411	2711	2382

7-19	2248	2323	2377	2361	2437	1330	1098	2349	2025
6-22	2467	2559	2647	2611	2735	1564	1292	2604	2268
6-24	2510	2612	2707	2666	2808	1647	1347	2661	2328
0-24	2567	2659	2760	2713	2855	1712	1411	2711	2382

Job No	AUNSW3220
Client	Bitzios
Site	Brush Road
Location	between Sindel Street and Eulalia Street
Site No	1
Start Date	9-Mar-22
Description	Volume Summary
Direction	Combined

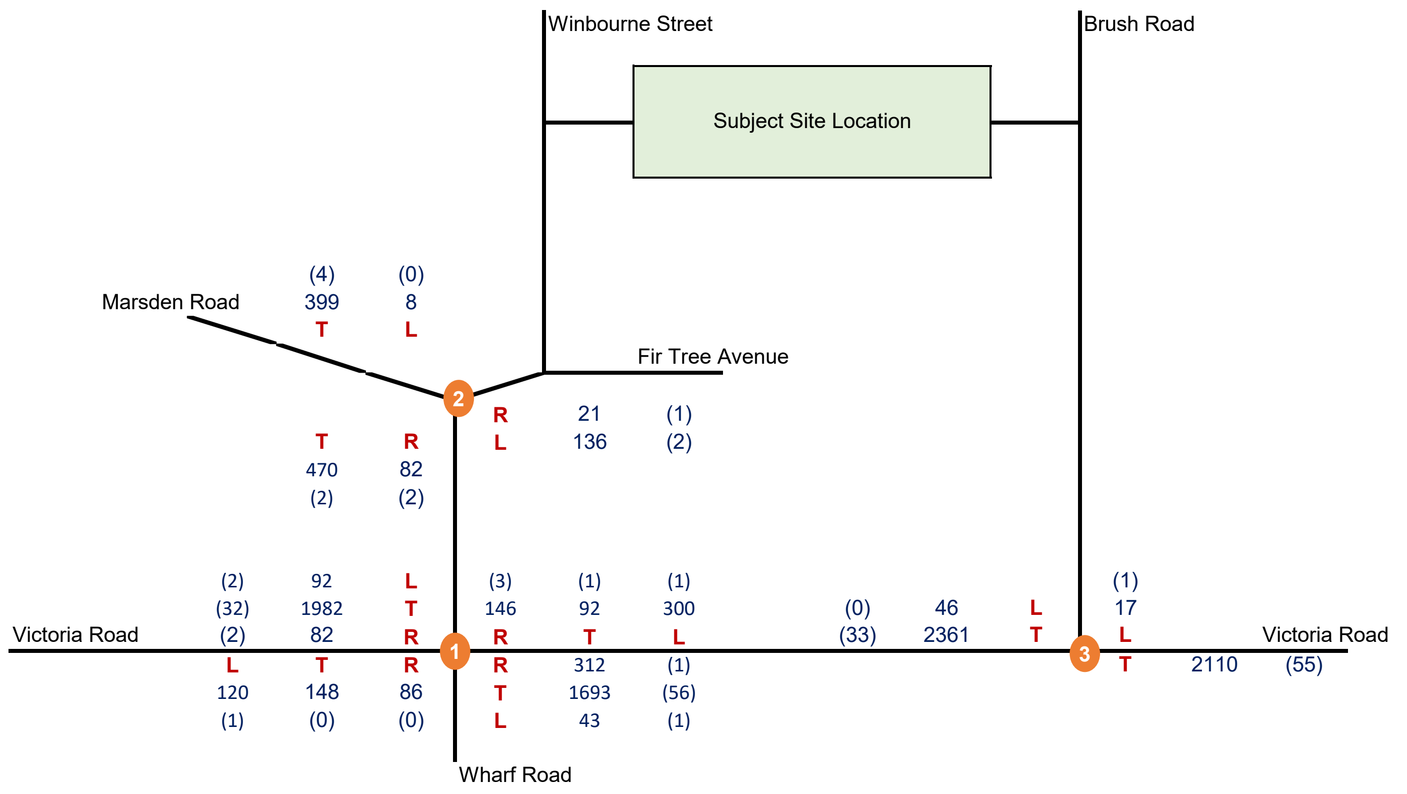
Hour Starting	Day of Week							W'Day Ave	7 Day Ave
	Mon 14-Mar	Tue 15-Mar	Wed 9-Mar	Thu 10-Mar	Fri 11-Mar	Sat 12-Mar	Sun 13-Mar		
AM Peak	114	147	110	132	116	43	39		
PM Peak	87	80	104	88	99	53	50	**866**	**775**
0:00	5	4	4	2	2	7	7	3	4
1:00	3	4	2	2	4	1	4	3	3
2:00	1	0	2	2	2	6	3	1	2
3:00	4	2	2	2	2	3	1	2	2
4:00	7	6	2	7	6	1	2	6	4
5:00	7	6	12	7	8	5	1	8	7
6:00	18	25	19	17	21	13	9	20	17
7:00	59	62	55	55	44	9	10	55	42
8:00	114	147	110	132	116	27	19	124	95
9:00	64	76	69	64	50	37	39	65	57
10:00	33	27	41	37	45	43	30	37	37
11:00	32	33	28	34	42	39	37	34	35
12:00	32	45	30	43	30	53	50	36	40
13:00	33	40	29	33	32	41	49	33	37
14:00	61	47	44	58	62	42	32	54	49
15:00	87	80	104	88	99	45	27	92	76
16:00	46	68	89	71	64	36	39	68	59
17:00	67	63	71	75	81	45	34	71	62
18:00	38	54	48	45	53	38	23	48	43
19:00	39	36	33	30	40	27	37	36	35
20:00	25	26	36	22	24	19	29	27	26
21:00	16	24	14	21	20	11	20	19	18
22:00	9	16	20	13	19	20	10	15	15
23:00	6	8	13	10	11	9	10	10	10
Total	806	899	877	870	877	577	522	866	775

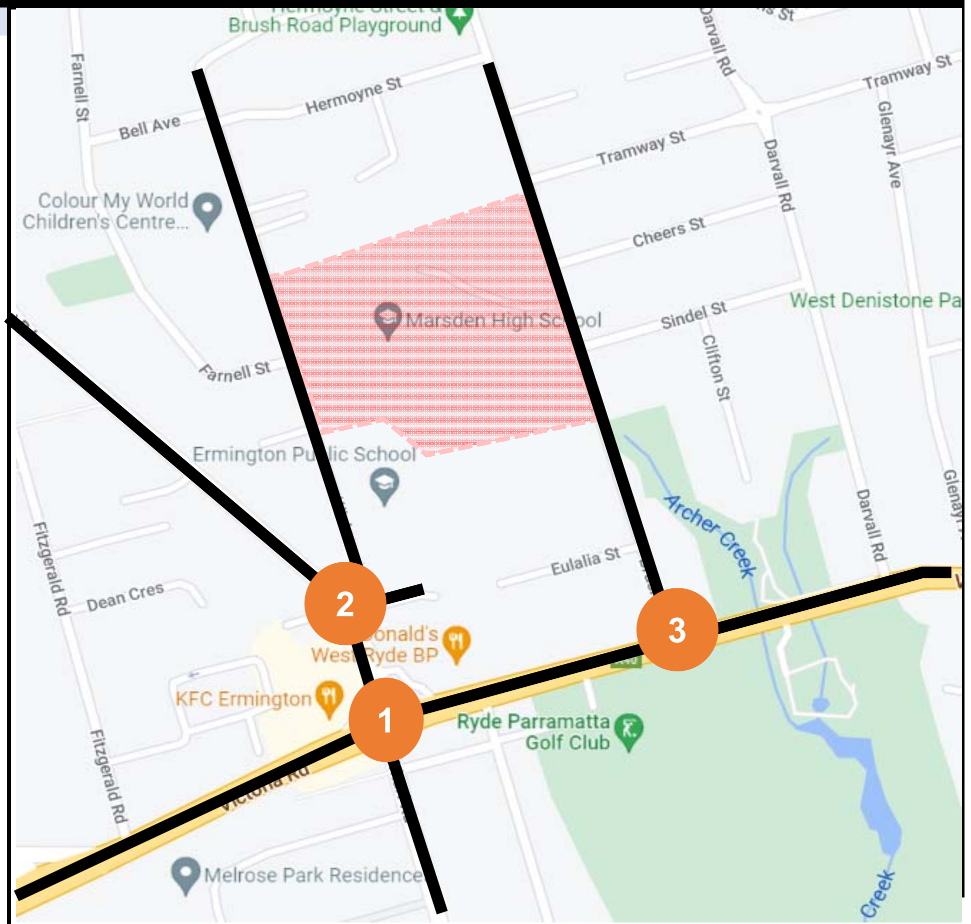
7-19	666	742	718	735	718	455	389	716	632
6-22	764	853	820	825	823	525	484	817	728
6-24	779	877	853	848	853	554	504	842	753
0-24	806	899	877	870	877	577	522	866	775

Appendix C: Forecast 2024 & 2034 Traffic Volumes

2024 BACKGROUND	LOCALITY PLAN

PM Peak Period (5:00PM - 6:00PM)





Scenario: 2024 BACKGROUND

	Total Volumes			%LV			%HV		
Site	#1	#2	#3	#1	#2	#3	#1	#2	#3
PM	(5198)	(1128)	4623.02	98.06%	99.01%	98.07%	1.94%	0.99%	1.93%
TOTAL	5197.55	1127.67	4623.02	0.98064	0.9901	0.98069	0.01936	0.0099	0.01931
TOTAL	10948								

DETAILS

Scenario Year: 2024

PM Peak: 5:00PM - 6:00PM

Growth Rate: N/A

Base Year: 2022

DOCUMENT CONTROL

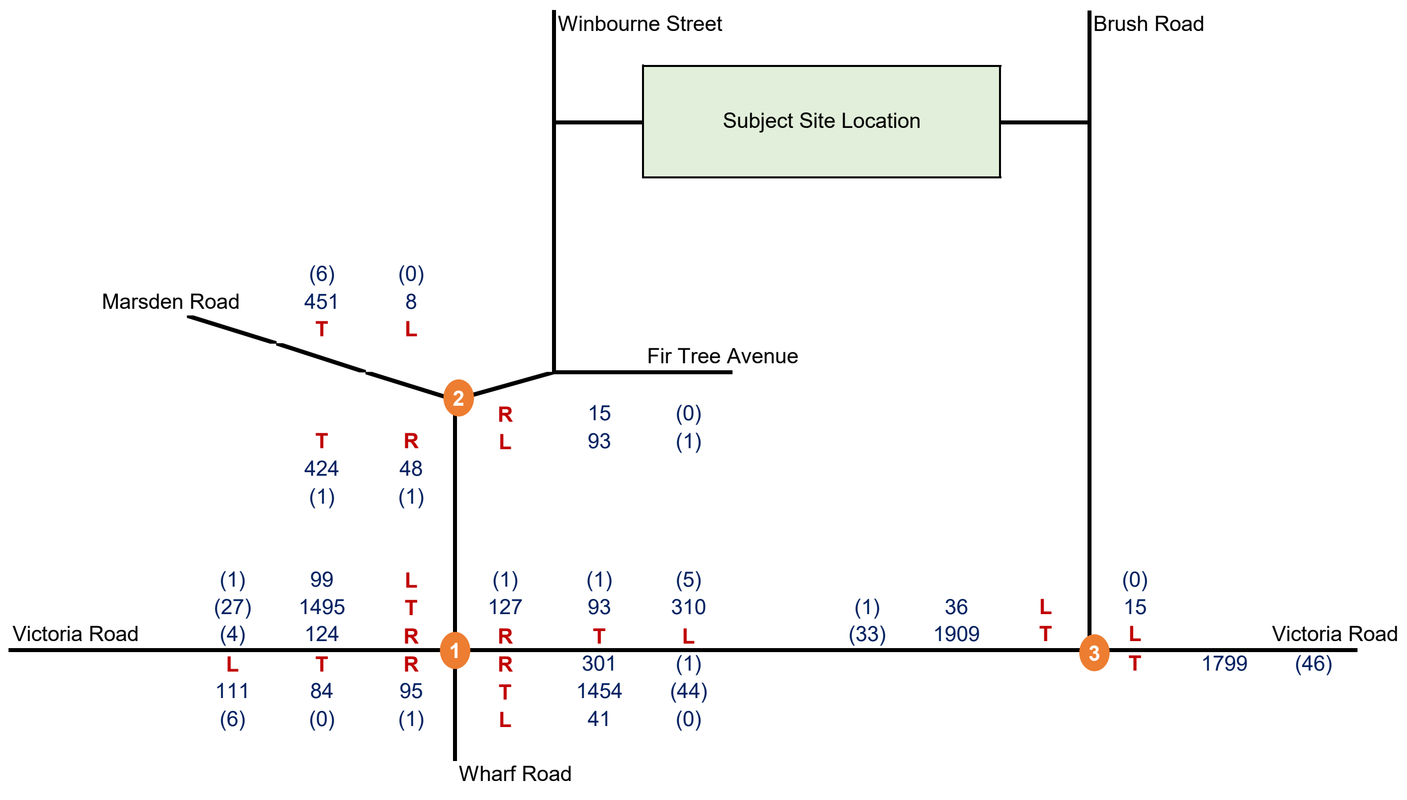
Job Number: P5556
Job Name: West Ryde Multi Sports Facility TIA
Prepared By: Adele Packer
Prepared Date: 28/03/2022
Reviewed By: Andrew Eke
Reviewed Date: 30/03/2022
File Path:

LEGEND

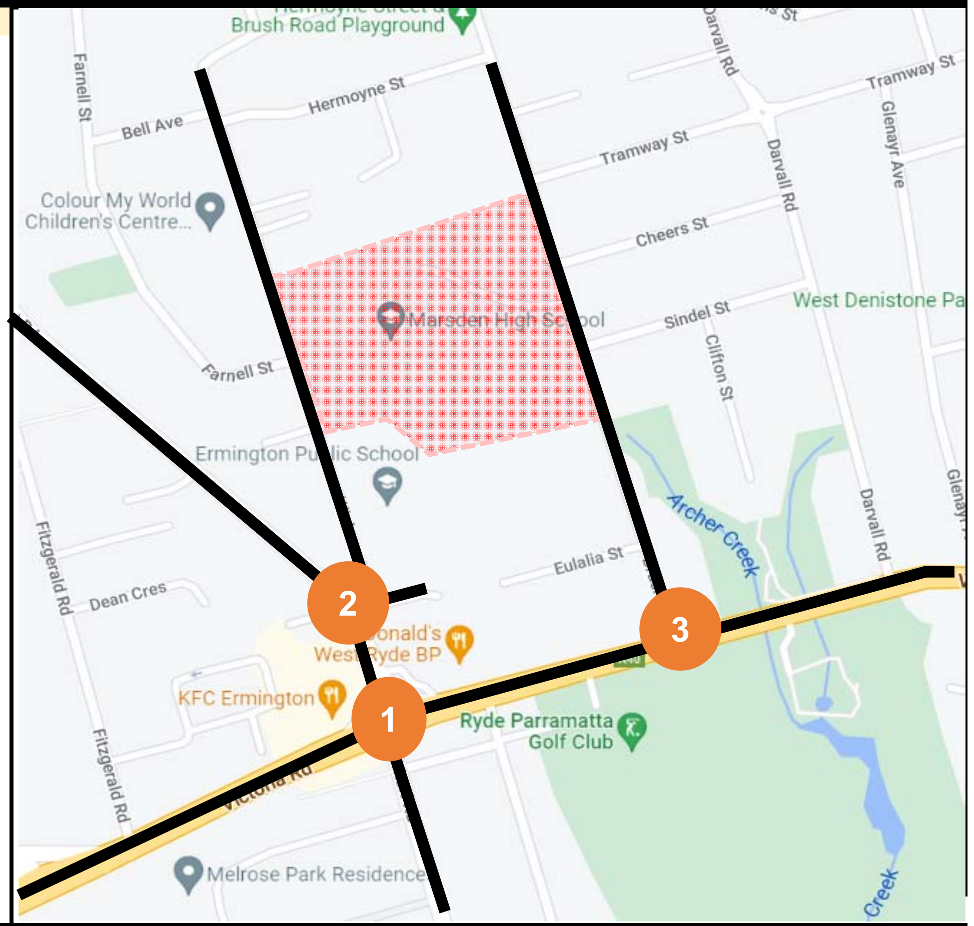
##	Light Vehicle (LV) Volumes	T	Through Turn Movement
(##)	Heavy Vehicle (HV) Volumes	R	Right Turn Movement
L	Left Turn Movement	#	Intersection ID

2024 BACKGROUND

Weekend Peak Period (11:45AM - 12:45PM)



LOCALITY PLAN



Scenario: 2024 BACKGROUND

	Total Volumes			%LV			%HV		
Site	**#1**	**#2**	**#3**	**#1**	**#2**	**#3**	**#1**	**#2**	**#3**
Peak	4425.56	1047.83	3839.03	97.94%	99.12%	97.91%	2.06%	0.88%	2.09%
TOTAL	9312								

DETAILS

Scenario Year: 2024

Peak: 11:45AM - 12:45PM

Growth Rate: N/A

Base Year: 2022

DOCUMENT CONTROL

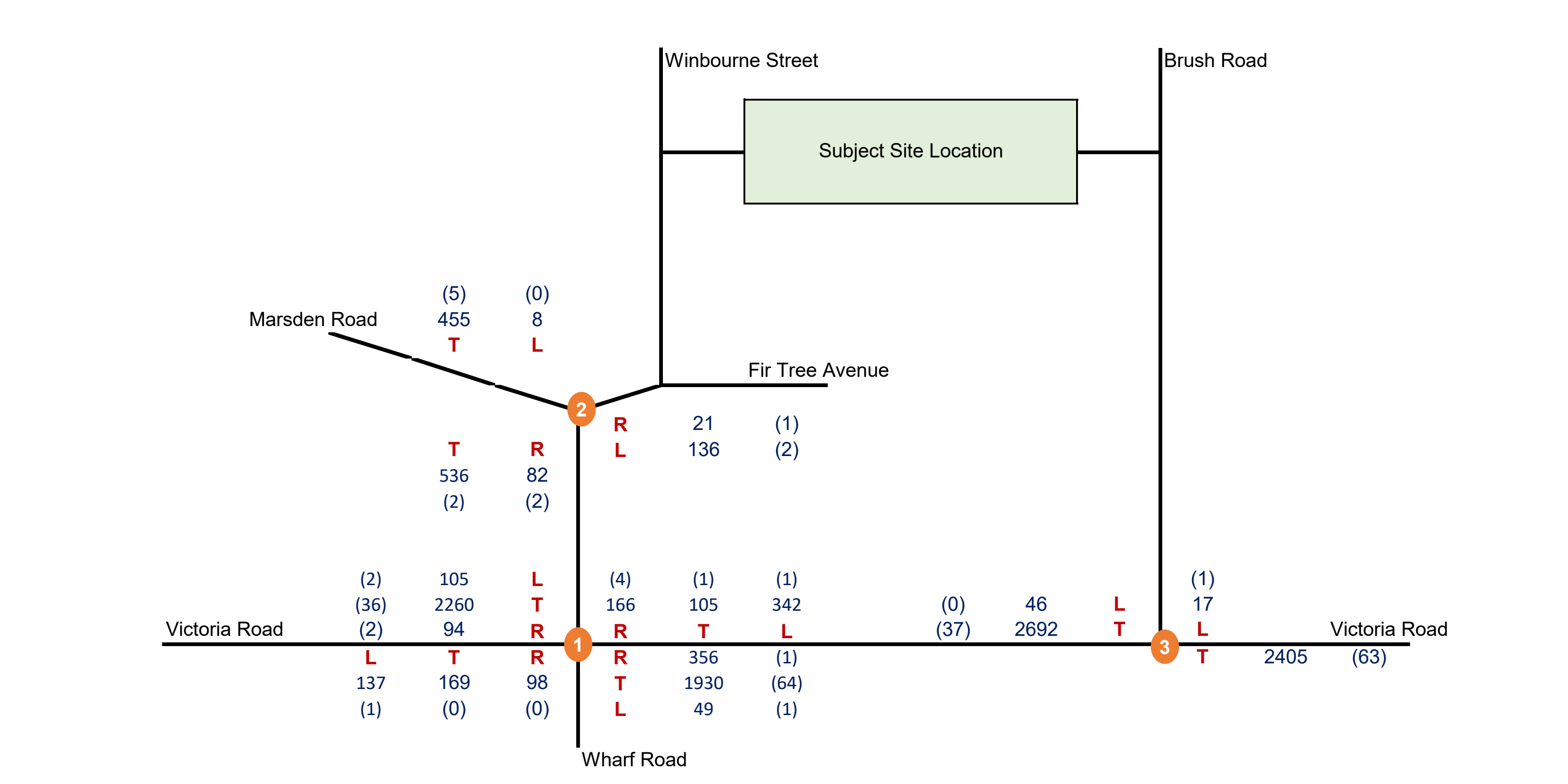
Job Number: P5556
Job Name: West Ryde Multi Sports Facility TIA
Prepared By: Adele Packer
Prepared Date: 28/03/2022
Reviewed By: Andrew Eke
Reviewed Date: 30/03/2022
File Path:

LEGEND

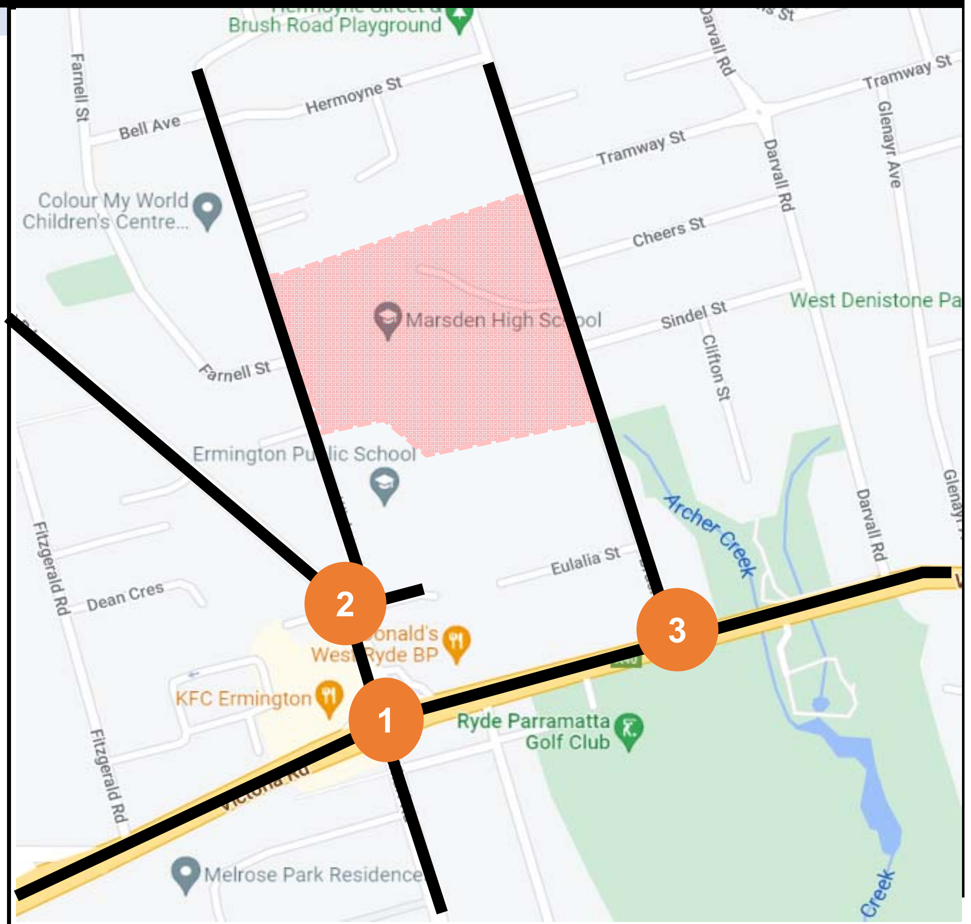
- ## — Light Vehicle (LV) Volumes
- (##) — Heavy Vehicle (HV) Volumes
- L — Left Turn Movement
- T — Through Turn Movement
- R — Right Turn Movement
- # — Intersection ID

2034 BACKGROUND

PM Peak Period (5:00PM - 6:00PM)



LOCALITY PLAN



Scenario: 2034 BACKGROUND

	Total Volumes			%LV			%HV		
Site	**#1**	**#2**	**#3**	**#1**	**#2**	**#3**	**#1**	**#2**	**#3**
PM	(5926)	(1250)	5260.84	98.06%	99.04%	98.09%	1.94%	0.96%	1.93%
TOTAL	**5925.84**	**1250.37**	**5260.84**	**0.98064**	**0.99038**	**0.98087**	**0.01936**	**0.00962**	**0.01932**
TOTAL	**12437**								

DETAILS

Scenario Year: 2034

PM Peak: 5:00PM - 6:00PM

Growth Rate: N/A

Base Year: 2022

DOCUMENT CONTROL

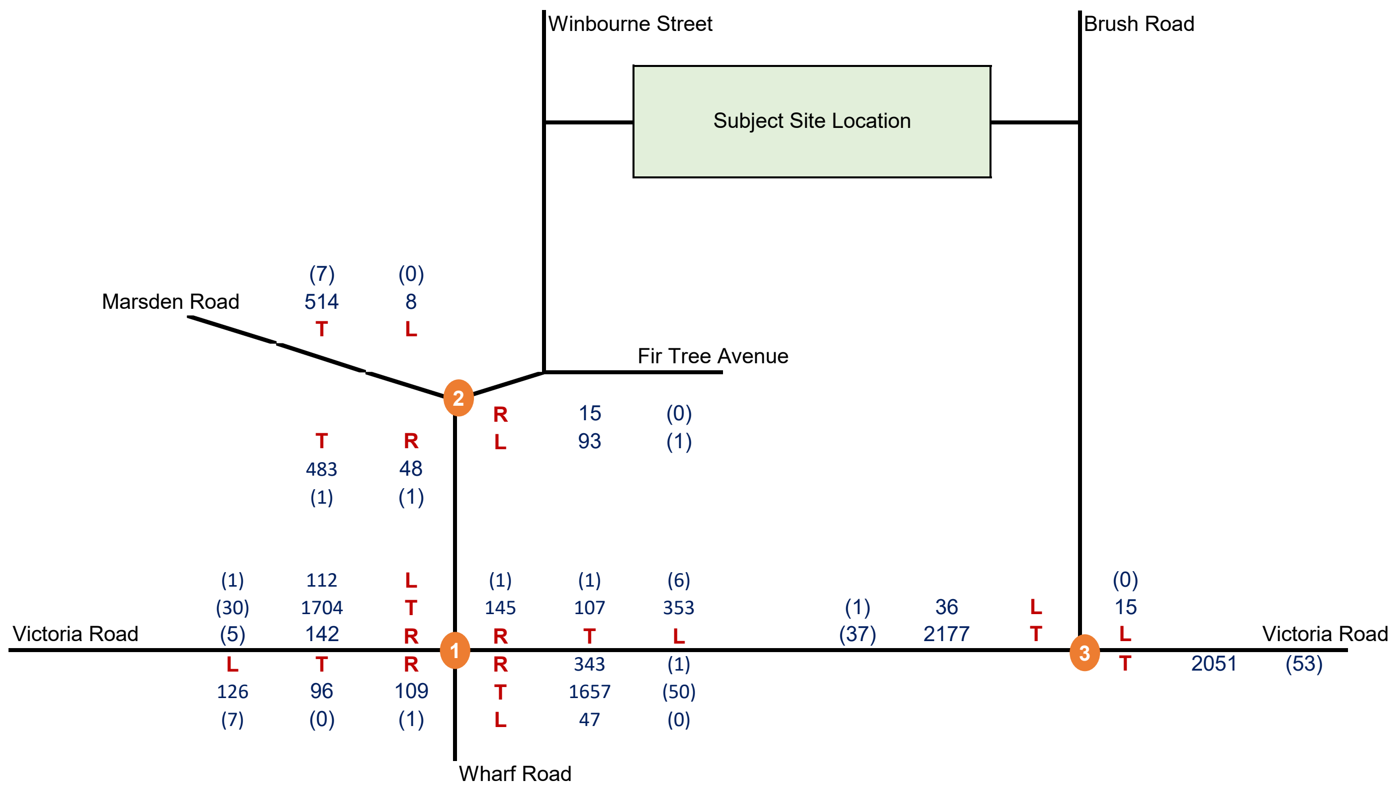
Job Number:	P5556	Job Name:	West Ryde Multi Sports Facility TIA
Prepared By:	Adele Packer	Prepared Date:	28/03/2022
Reviewed By:	Andrew Eke	Reviewed Date:	30/03/2022
File Path:			

LEGEND

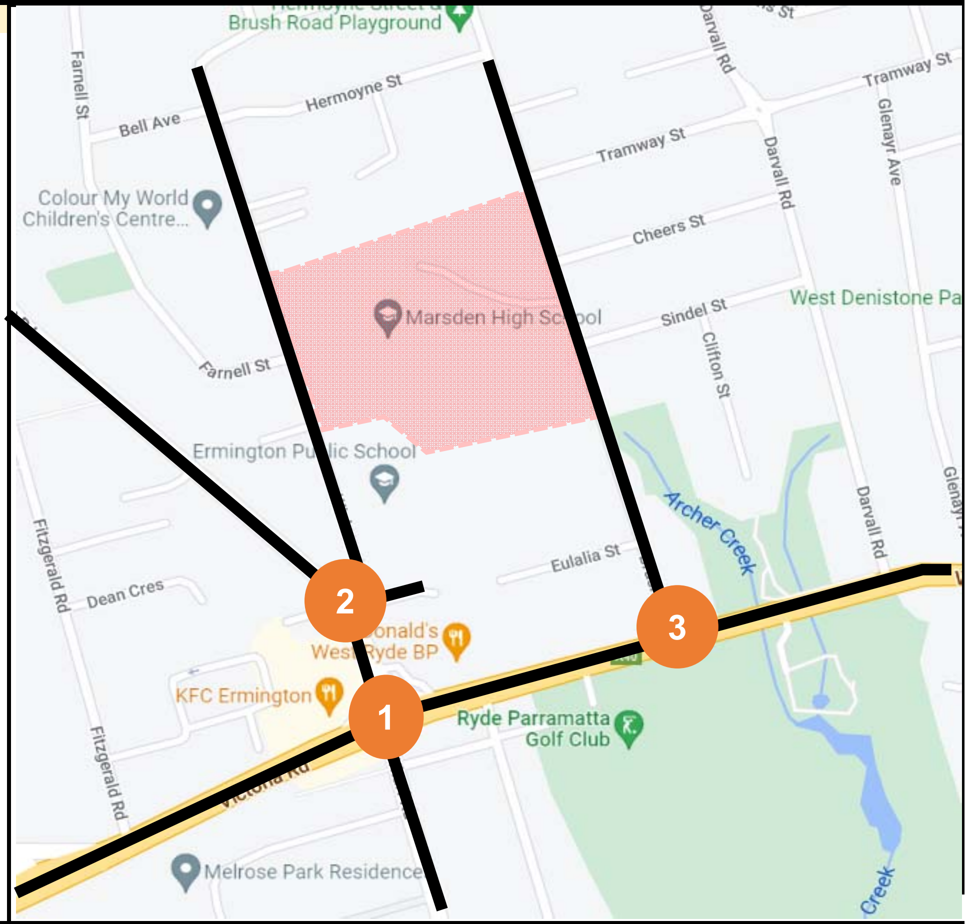
##	Light Vehicle (LV) Volumes	T	Through Turn Movement
(##)	Heavy Vehicle (HV) Volumes	R	Right Turn Movement
L	Left Turn Movement	#	Intersection ID

2034 BACKGROUND

Weekend Peak Period (11:45AM - 12:45PM)



LOCALITY PLAN



Scenario: 2034 BACKGROUND

	Total Volumes			%LV			%HV		
Site	#1	#2	#3	#1	#2	#3	#1	#2	#3
Peak	5046	1171	4370	97.94%	99.13%	97.91%	2.06%	0.87%	2.09%
TOTAL	10587								

DETAILS

Peak: 11:45AM - 12:45PM

Base Year: 2022

Scenario Year: 2034

Growth Rate: N/A

DOCUMENT CONTROL

Job Number: P5556
Prepared By: Adele Packer
Reviewed By: Andrew Eke
File Path:

Job Name: West Ryde Multi Sports Facility TIA
Prepared Date: 28/03/2022
Reviewed Date: 30/03/2022

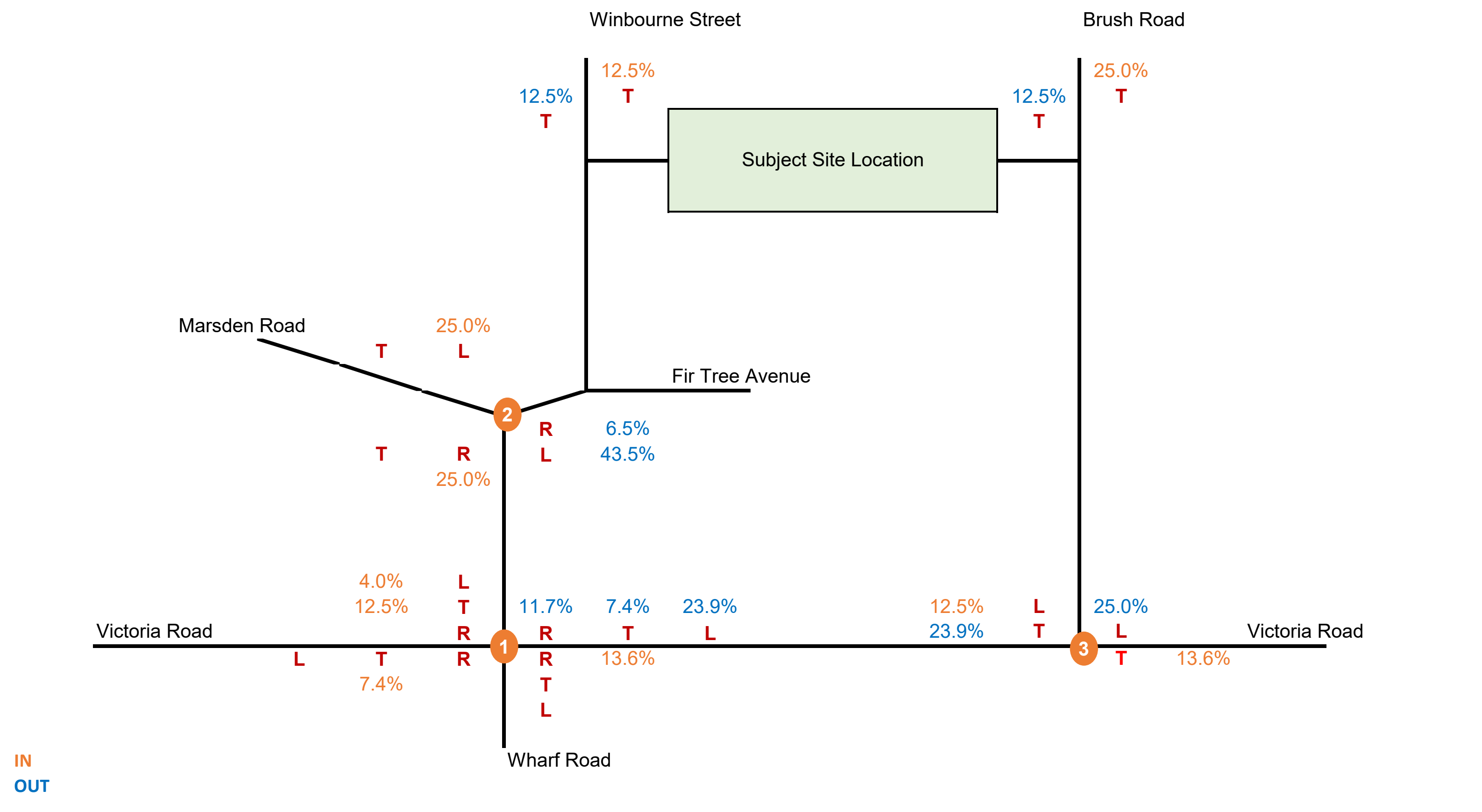
LEGEND

##	Light Vehicle (LV) Volumes
(##)	Heavy Vehicle (HV) Volumes
L	Left Turn Movement
T	Through Turn Movement
R	Right Turn Movement
#	Intersection ID

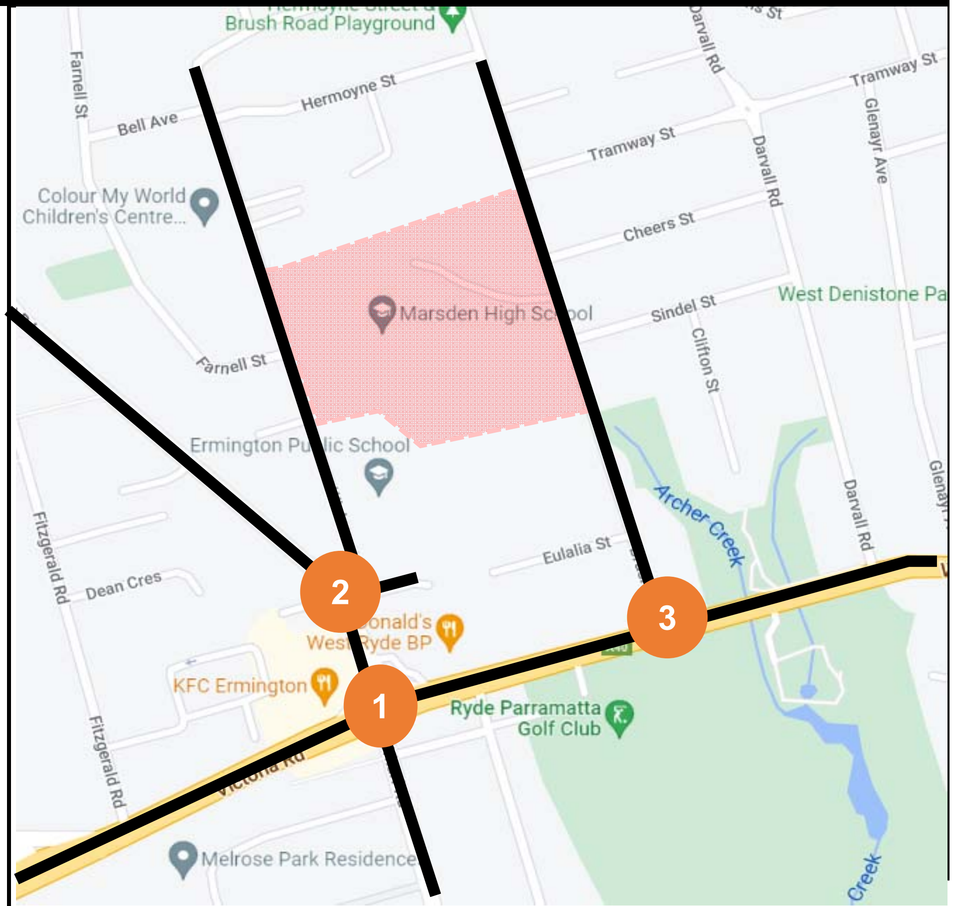
BITZIOS

Appendix D: Development Traffic Distribution and Volumes

DEVELOPMENT TRIP DISTRIBUTION



LOCALITY PLAN



Scenario: **DEVELOPMENT DISTRIBUTION**

DETAILS

Scenario Year: N/A

Growth Rate: N/A

DOCUMENT CONTROL

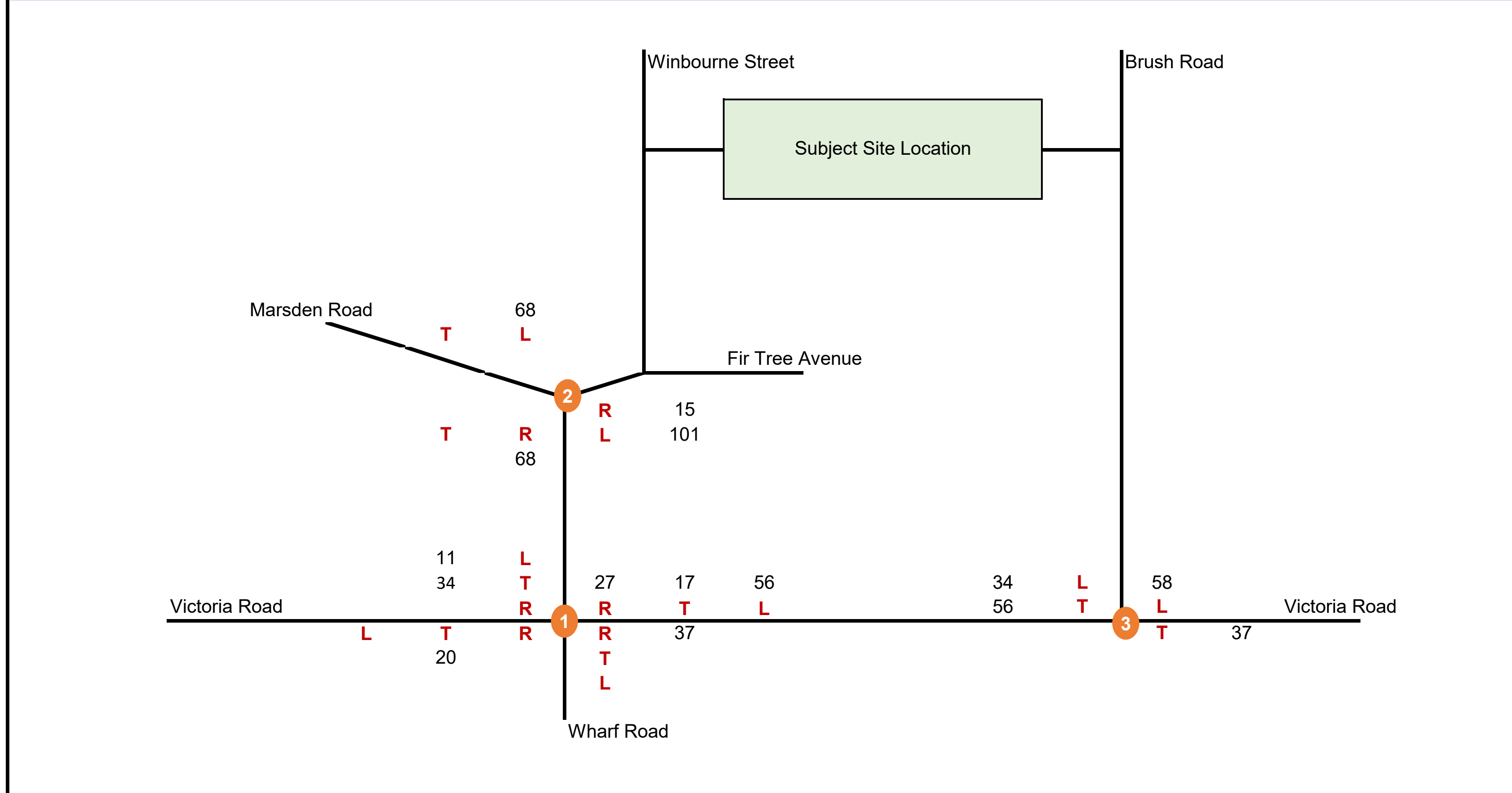
Job Number:	P5556	Job Name:	West Ryde Multi Sports Facility TIA
Prepared By:	Adele Packer	Prepared Date:	28/03/2022
Reviewed By:	Andrew Eke	Reviewed Date:	30/03/2022
File Path:			

LEGEND

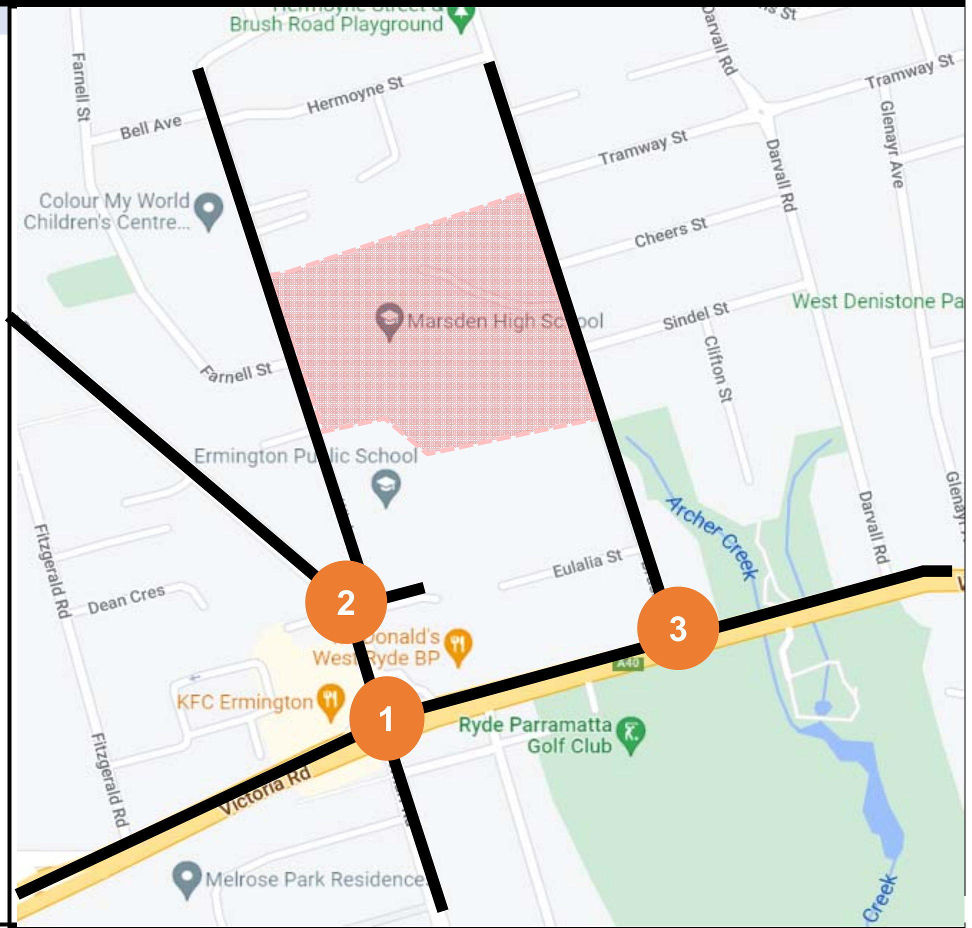
##	Light Vehicle (LV) Volumes	T	Through Turn Movement
(##)	Heavy Vehicle (HV) Volumes	R	Right Turn Movement
L	Left Turn Movement	#	Intersection ID

DEVELOPMENT TRAFFIC

PM Peak Period (5:00PM - 6:00PM)



LOCALITY PLAN



Scenario: DEVELOPMENT TRAFFIC

	Total Volumes		
Site	**#1**	**#2**	**#3**
AM	203	253	186
TOTAL	**203**	**253**	**186**
TOTAL		**642**	

DETAILS

PM Peak: 5:00PM - 6:00PM
Base Year: 2022

Scenario Year: N/A

Growth Rate: N/A

DOCUMENT CONTROL

Job Number: P5556
Prepared By: Adele Packer
Reviewed By: Andrew Eke
File Path:

Job Name: West Ryde Multi Sports Facility TIA
Prepared Date: 28/03/2022
Reviewed Date: 30/03/2022

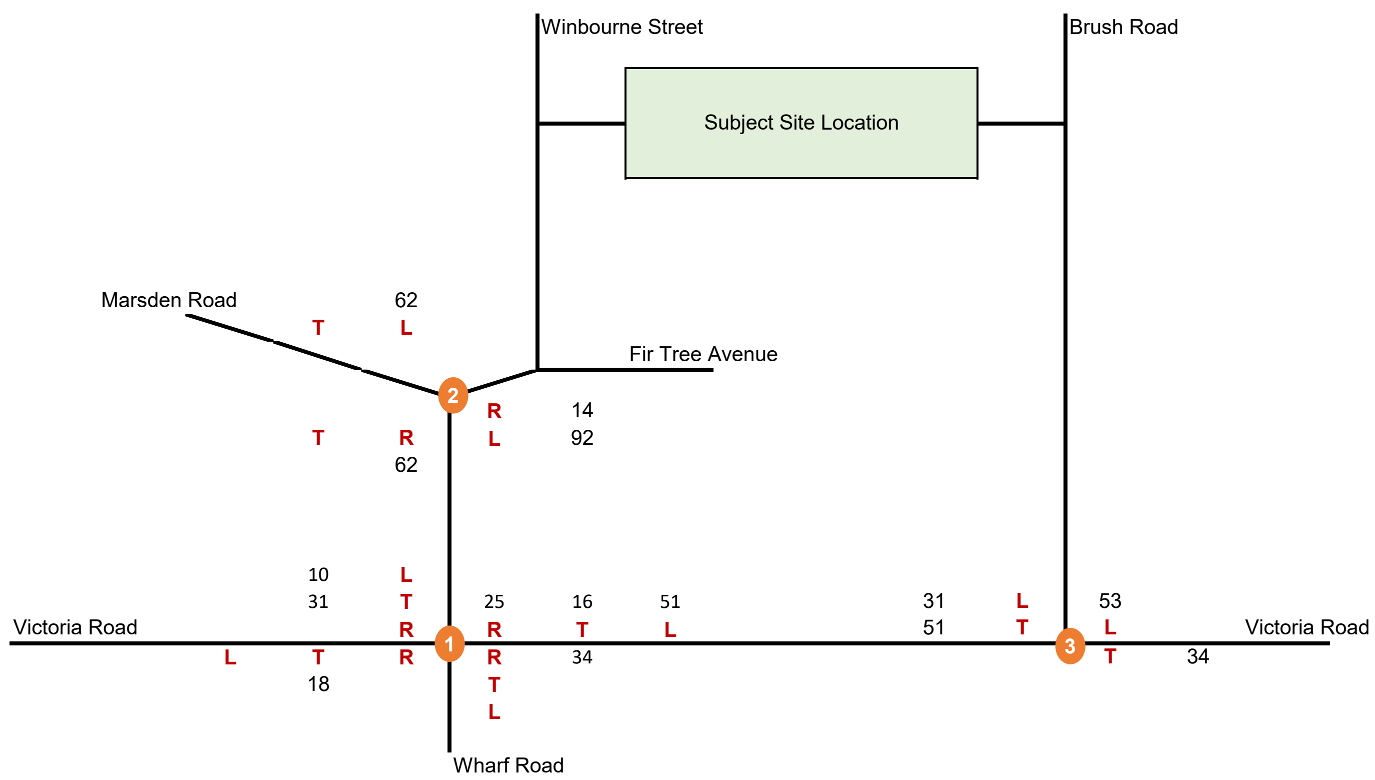
LEGEND

##	Light Vehicle (LV) Volumes
(##)	Heavy Vehicle (HV) Volumes
L	Left Turn Movement
T	Through Turn Movement
R	Right Turn Movement
#	Intersection ID

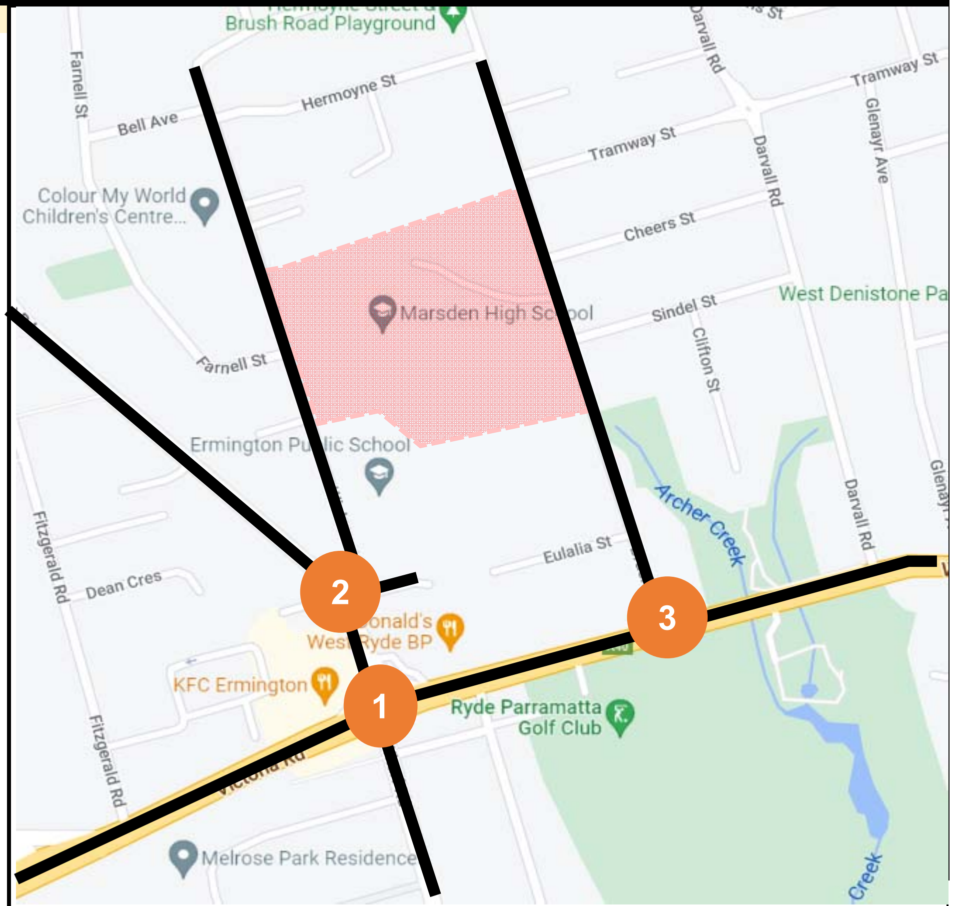
BITZIOS

DEVELOPMENT TRAFFIC

Weekend Peak Period (11:45AM - 12:45PM)



LOCALITY PLAN



Scenario: DEVELOPMENT TRAFFIC

	Total Volumes		
Site	**#1**	**#2**	**#3**
Peak	185	230	169
TOTAL	**584**		

DETAILS

Peak: 11:45AM - 12:45PM
Base Year: 2022

Scenario Year: N/A
Growth Rate: N/A

DOCUMENT CONTROL

Job Number: P5556
Prepared By: Adele Packer
Reviewed By: Andrew Eke
File Path:

Job Name: West Ryde Multi Sports Facility TIA
Prepared Date: 28/03/2022
Reviewed Date: 30/03/2022

LEGEND

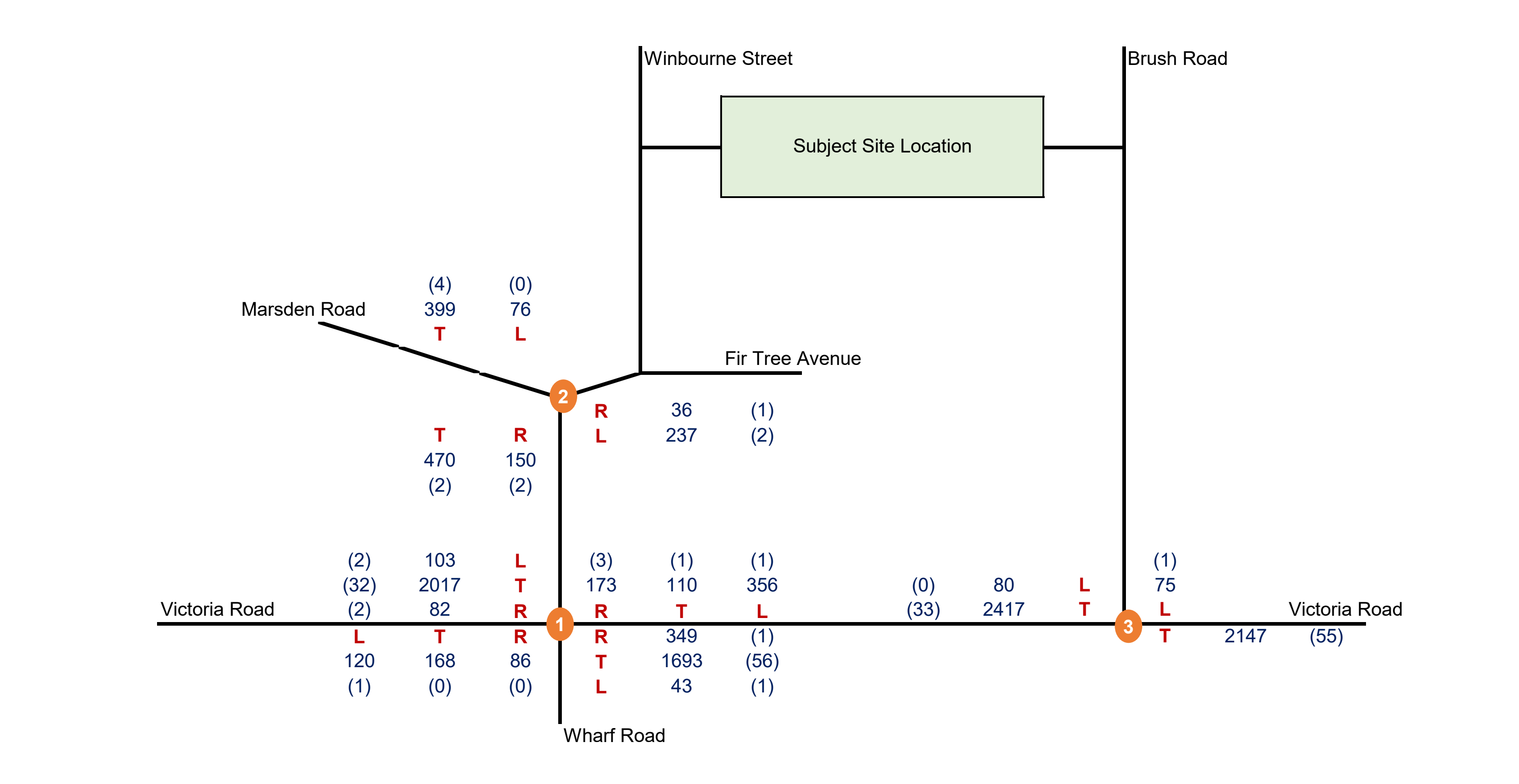
##	Light Vehicle (LV) Volumes	T	Through Turn Movement
(##)	Heavy Vehicle (HV) Volumes	R	Right Turn Movement
L	Left Turn Movement	#	Intersection ID

BITZIOS

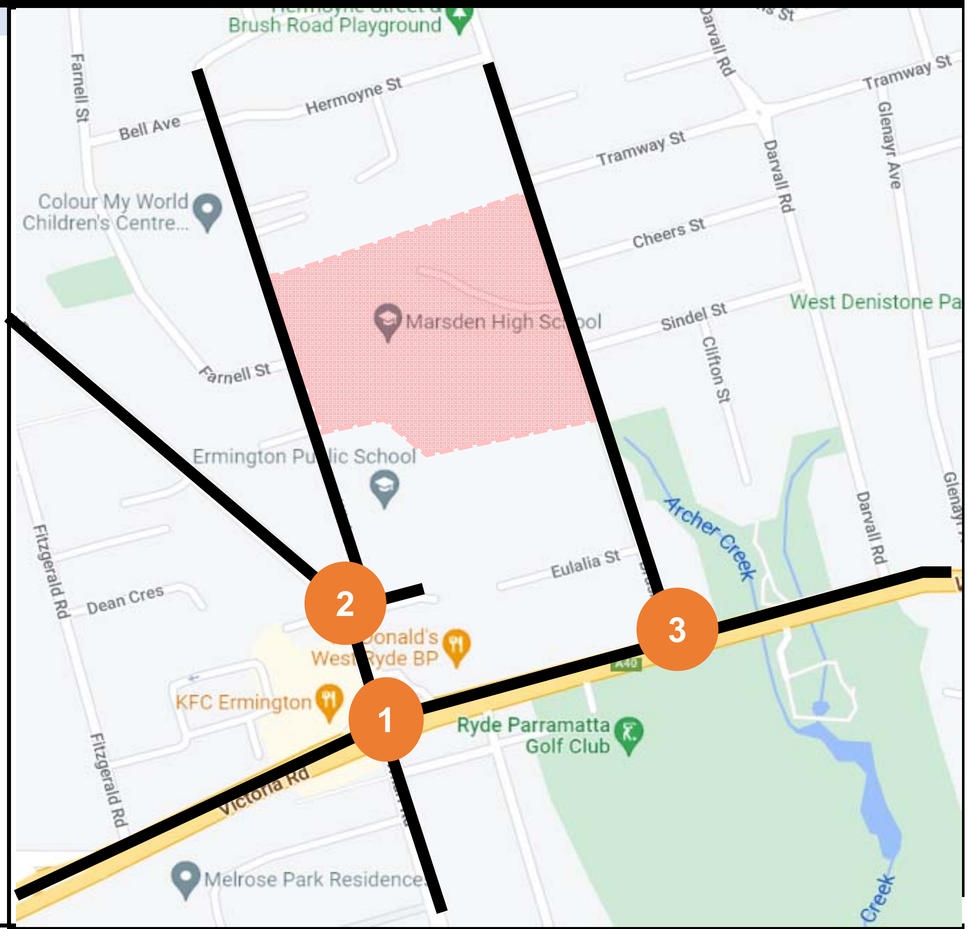
Appendix E: Design Case Traffic Volumes

2024 DESIGN

PM Peak Period (5:00PM - 6:00PM)



LOCALITY PLAN



Scenario: **2024 DESIGN**

	Total Volumes		
Site	**#1**	**#2**	**#3**
PM	5400.59	1381.09	4808.53
TOTAL	**5400.59**	**1381.09**	**4808.53**
TOTAL	**11590**		

DETAILS

Scenario Year: **2024**

PM Peak: 5:00PM - 6:00PM

Growth Rate: **N/A**

Base Year: 2022

DOCUMENT CONTROL

Job Number: P5556

Job Name: West Ryde Multi Sports Facility TIA

Prepared By: Adele Packer

Prepared Date: 28/03/2022

Reviewed By: Andrew Eke

Reviewed Date: 30/03/2022

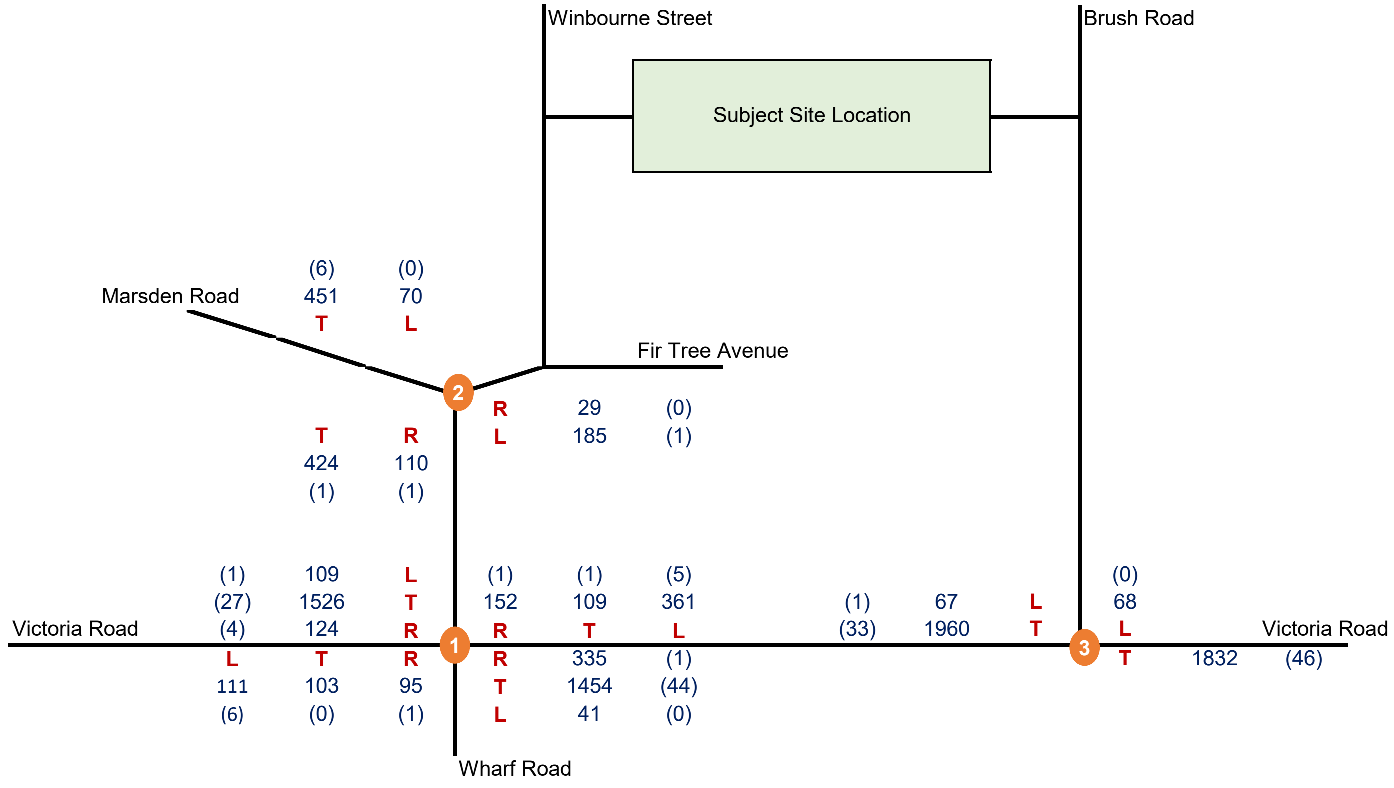
File Path:

LEGEND

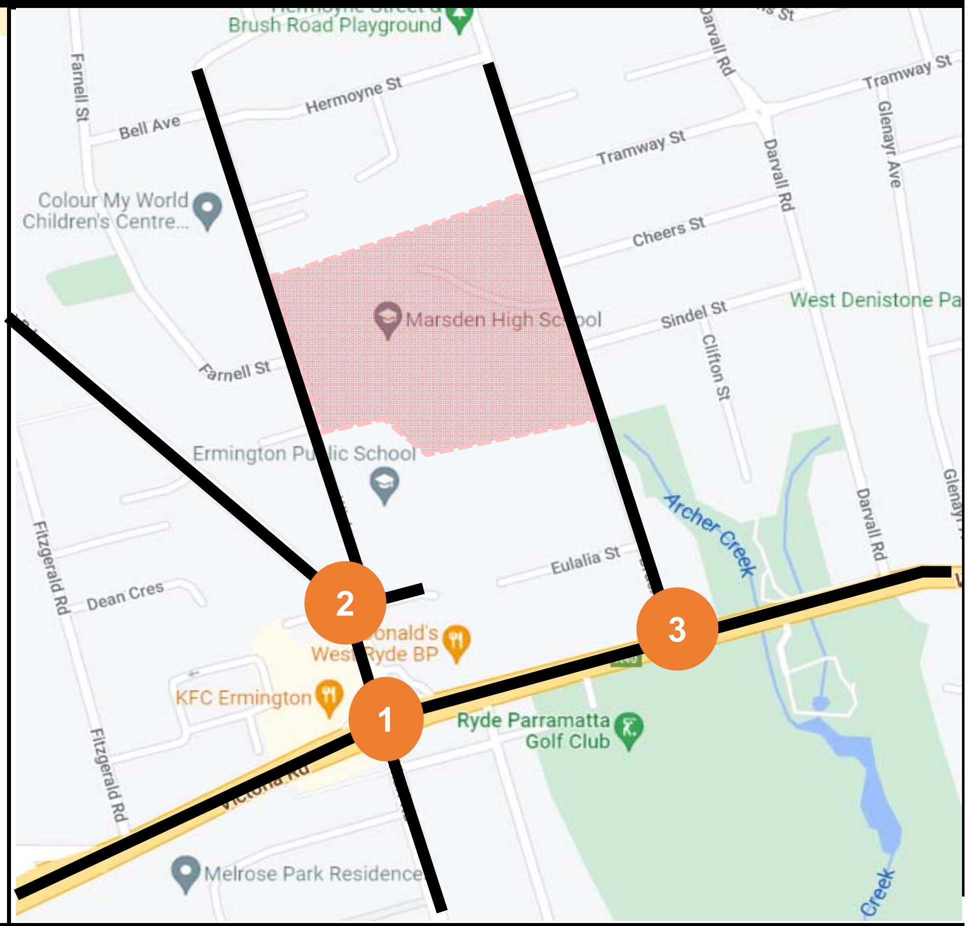
##	Light Vehicle (LV) Volumes	T	Through Turn Movement
(##)	Heavy Vehicle (HV) Volumes	R	Right Turn Movement
L	Left Turn Movement	#	Intersection ID

2024 DESIGN

Weekend Peak Period (11:45AM - 12:45PM)



LOCALITY PLAN



Scenario: **2024 DESIGN**

	Total Volumes		
Site	**#1**	**#2**	**#3**
Peak	4610.15	1278.21	4007.68
TOTAL	**9896**		

DETAILS

Peak: 11:45AM - 12:45PM

Base Year: 2022

Scenario Year: 2024

Growth Rate: N/A

DOCUMENT CONTROL

Job Number: P5556
Prepared By: Adele Packer
Reviewed By: Andrew Eke
File Path:

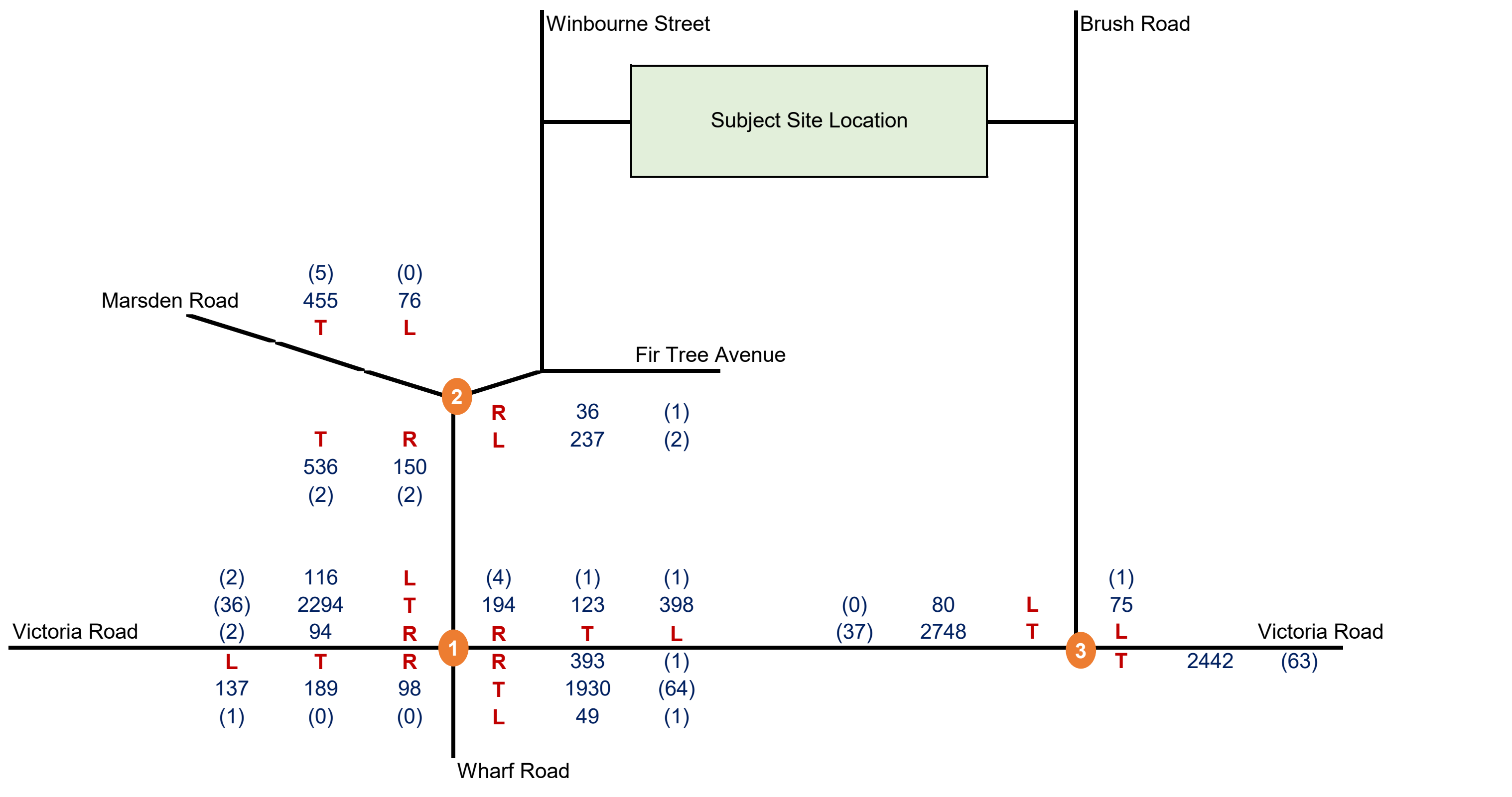
Job Name: West Ryde Multi Sports Facility TIA
Prepared Date: 28/03/2022
Reviewed Date: 30/03/2022

LEGEND

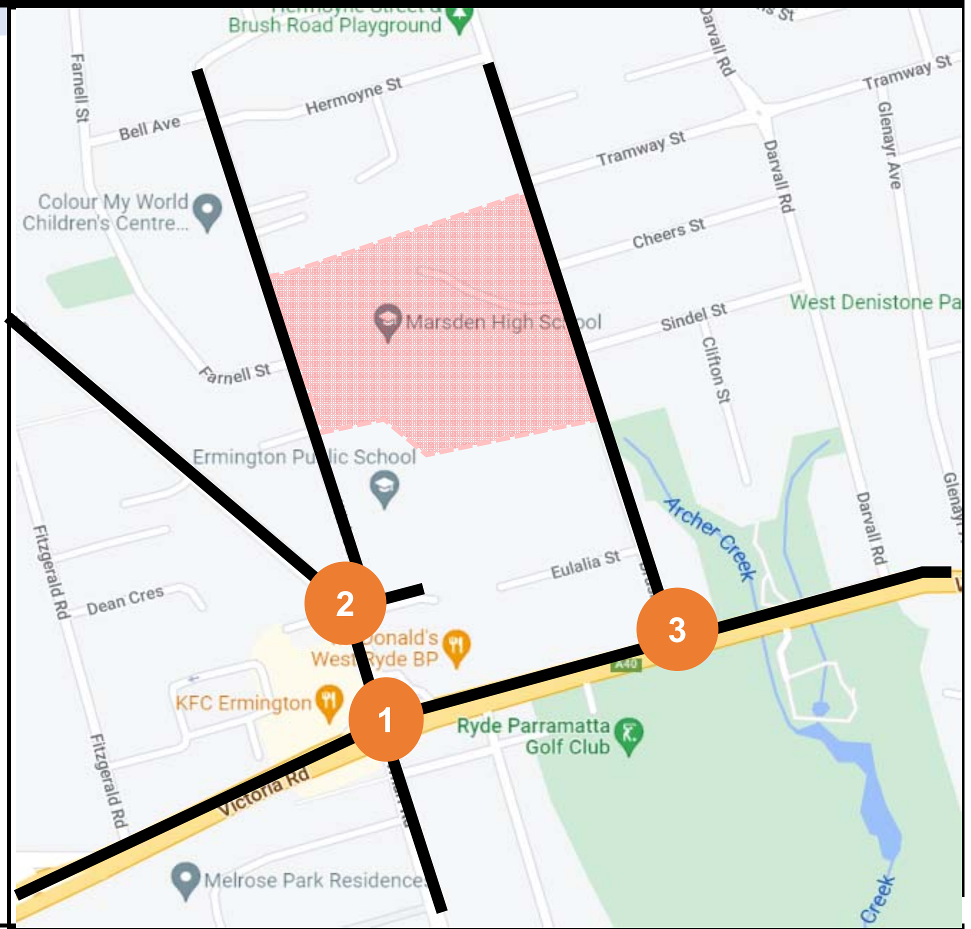
##	Light Vehicle (LV) Volumes
(##)	Heavy Vehicle (HV) Volumes
L	Left Turn Movement
T	Through Turn Movement
R	Right Turn Movement
#	Intersection ID

2034 DESIGN

PM Peak Period (5:00PM - 6:00PM)



LOCALITY PLAN



Scenario: 2034 DESIGN

	Total Volumes		
Site	**#1**	**#2**	**#3**
PM	6128.88	1503.8	5447.36
TOTAL	**6128.88**	**1503.8**	**5447.36**
TOTAL	**13080**		

DETAILS

Scenario Year: 2034

PM Peak: 5:00PM - 6:00PM

Base Year: 2022

Growth Rate: N/A

DOCUMENT CONTROL

Job Number: P5556

Job Name: West Ryde Multi Sports Facility TIA

Prepared By: Adele Packer

Prepared Date: 28/03/2022

Reviewed By: Andrew Eke

Reviewed Date: 30/03/2022

File Path:

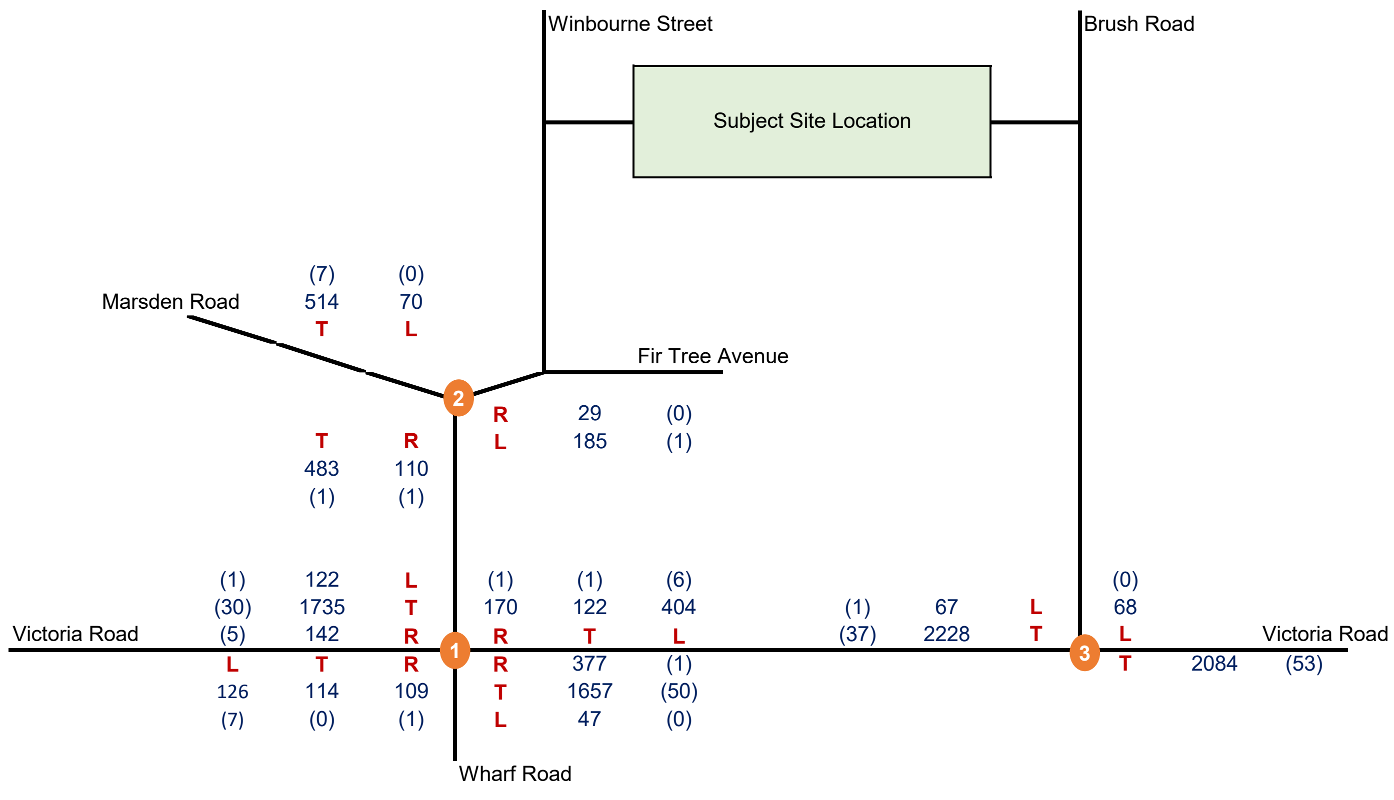
LEGEND

##	Light Vehicle (LV) Volumes	T	Through Turn Movement
(##)	Heavy Vehicle (HV) Volumes	R	Right Turn Movement
L	Left Turn Movement	#	Intersection ID

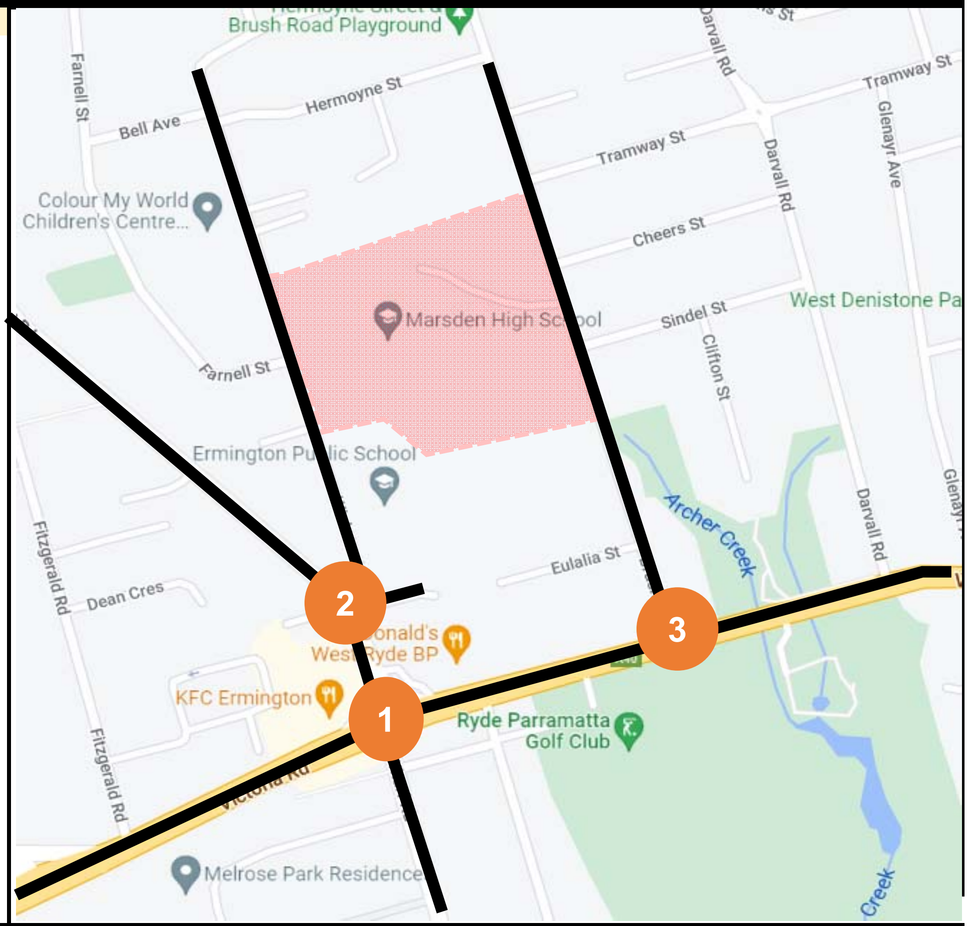
BITZIOS

2034 DESIGN

Weekend Peak Period (11:45AM - 12:45PM)



LOCALITY PLAN



Scenario: 2034 DESIGN

	Total Volumes		
Site	#1	#2	#3
Peak	5230.27	1401.78	4538.33
TOTAL	11170		

DETAILS

Date of Surveys:		**Scenario Year:**	**2034**
AM Peak:			
PM Peak:		**Growth Rate:**	**N/A**
Base Year:			

DOCUMENT CONTROL

Job Number:	P5556	Job Name:	West Ryde Multi Sports Facility TIA
Prepared By:	Adele Packer	Prepared Date:	28/03/2022
Reviewed By:	Andrew Eke	Reviewed Date:	30/03/2022
File Path:			

LEGEND

##	Light Vehicle (LV) Volumes	T	Through Turn Movement
(##)	Heavy Vehicle (HV) Volumes	R	Right Turn Movement
L	Left Turn Movement	#	Intersection ID

BITZIOS

Appendix F: SIDRA Modelling Outputs

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: P5556 Intersection Models

Template: Movement Summary

Site: 0192 [BG2024_Victoria Road / Marsden Road_PM Peak (Site Folder: BG2024_Weekday_PM)]

Network: 3 [BG2024_Weekday PM (Network Folder: BG2024)]

BG 2024
Victoria Road / Marsden Road
PM Peak
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 122 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: E-W Major Intersection
Reference Phase: Phase A
Input Phase Sequence: A, D, E, F
Output Phase Sequence: A, D, E, F

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	DEMAND FLOWS HV] %	ARRIVAL FLOWS [Total veh/h	ARRIVAL FLOWS HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	95% BACK OF QUEUE Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Wharf Road														
1	L2	127	0.8	127	0.8	0.510	54.0	LOS D	8.9	62.8	0.95	0.80	0.95	28.7
2	T1	156	0.0	156	0.0	* 0.911	67.1	LOS E	14.6	102.4	0.99	1.02	1.30	17.6
3	R2	91	0.0	91	0.0	0.911	76.7	LOS F	14.6	102.4	1.00	1.08	1.41	26.5
Approach		374	0.3	374	0.3	0.911	65.0	LOS E	14.6	102.4	0.98	0.96	1.21	23.8
East: Victoria Road														
4	L2	46	2.3	46	2.3	0.827	42.7	LOS D	36.4	261.9	0.96	0.90	1.00	36.6
5	T1	1841	3.2	1841	3.2	0.827	36.0	LOS C	36.6	262.9	0.93	0.88	0.99	39.3
6	R2	329	0.3	329	0.3	* 0.918	81.6	LOS F	11.6	81.3	1.00	0.99	1.48	17.2
Approach		2217	2.8	2217	2.8	0.918	42.9	LOS D	36.6	262.9	0.94	0.90	1.06	35.2
North: Marsden Road														
7	L2	317	0.3	317	0.3	* 0.684	32.2	LOS C	12.3	86.5	0.96	0.83	0.96	33.2
8	T1	98	1.1	98	1.1	0.330	51.3	LOS D	5.3	37.2	0.93	0.75	0.93	23.6
9	R2	157	2.0	157	2.0	0.559	58.1	LOS E	8.8	62.9	0.97	0.81	0.97	20.6
Approach		572	0.9	572	0.9	0.684	42.6	LOS D	12.3	86.5	0.96	0.81	0.96	27.3
West: Victoria Road														
10	L2	99	2.1	99	2.1	0.472	29.6	LOS C	3.5	25.1	0.64	0.71	0.64	29.2
11	T1	2120	1.6	2120	1.6	* 0.943	59.4	LOS E	55.8	395.6	0.98	1.10	1.26	30.7
12	R2	88	2.4	88	2.4	0.500	65.0	LOS E	5.2	37.1	0.99	0.78	0.99	26.6
Approach		2307	1.6	2307	1.6	0.943	58.3	LOS E	55.8	395.6	0.96	1.07	1.22	30.5
All Vehicles		5469	1.9	5469	1.9	0.943	50.9	LOS D	55.8	395.6	0.96	0.97	1.13	31.4

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

* Critical Movement (Signal Timing)

Site: 101 [BG2024_Winbourne Street / Marsden Road_PM Peak (Site Folder: BG2024_Weekday_PM)]

Network: 3 [BG2024_Weekday PM (Network Folder: BG2024)]

BG2024
Winbourne Street / Marsden Road
PM Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Marsden Road														
2	T1	497	0.4	497	0.4	0.177	0.5	LOS A	0.8	5.3	0.10	0.07	0.10	58.3
3a	R1	88	2.4	88	2.4	0.177	6.7	LOS A	0.8	5.3	0.32	0.22	0.32	47.6
Approach		585	0.7	585	0.7	0.177	1.4	NA	0.8	5.3	0.14	0.09	0.14	56.4
NorthEast: Winbourne Street														
24a	L1	145	1.4	145	1.4	0.134	4.5	LOS A	0.5	3.6	0.31	0.53	0.31	44.2
26b	R3	23	4.5	23	4.5	0.075	15.9	LOS B	0.3	1.9	0.73	0.89	0.73	42.9
Approach		168	1.9	168	1.9	0.134	6.1	LOS A	0.5	3.6	0.37	0.58	0.37	43.9
North: Marsden Road														
7b	L3	8	0.0	8	0.0	0.114	6.6	LOS A	0.0	0.0	0.00	0.03	0.00	58.5
8	T1	424	1.0	424	1.0	0.114	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.7
Approach		433	1.0	433	1.0	0.114	0.2	NA	0.0	0.0	0.00	0.01	0.00	59.7
All Vehicles		1186	1.0	1186	1.0	0.177	1.6	NA	0.8	5.3	0.12	0.13	0.12	55.1

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

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: P5556 Intersection Models — **Template: Movement Summary**

Site: 0192 [DES2024_Victoria Road / Marsden Road_PM Peak (Site Folder: DES2024_Weekday_PM)]

Network: 7 [DES2024_Weekday PM (Network Folder: DES2024)]

DES 2024
Victoria Road / Marsden Road
PM Peak
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 122 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: E-W Major Intersection
Reference Phase: Phase A
Input Phase Sequence: A, D, E, F
Output Phase Sequence: A, D, E, F

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Wharf Road														
1	L2	127	0.8	127	0.8	0.545	55.2	LOS D	9.4	66.0	0.96	0.80	0.96	28.4
2	T1	177	0.0	177	0.0	* 0.975	80.5	LOS F	17.7	123.9	0.99	1.12	1.46	15.7
3	R2	91	0.0	91	0.0	0.975	94.1	LOS F	17.7	123.9	1.00	1.22	1.61	23.6
Approach		395	0.3	395	0.3	0.975	75.5	LOS F	17.7	123.9	0.98	1.04	1.34	21.6
East: Victoria Road														
4	L2	46	2.3	46	2.3	0.847	45.7	LOS D	38.2	274.7	0.97	0.94	1.05	35.6
5	T1	1841	3.2	1841	3.2	0.847	39.0	LOS C	38.3	275.8	0.95	0.92	1.03	38.0
6	R2	368	0.3	368	0.3	* 0.948	87.8	LOS F	13.6	95.5	1.00	1.03	1.55	16.3
Approach		2256	2.7	2256	2.7	0.948	47.1	LOS D	38.3	275.8	0.96	0.93	1.12	33.4
North: Marsden Road														
7	L2	376	0.3	376	0.3	* 0.785	35.4	LOS C	15.9	111.6	0.99	0.88	1.06	31.7
8	T1	117	0.9	117	0.9	0.393	51.9	LOS D	6.4	44.9	0.94	0.76	0.94	23.4
9	R2	185	1.7	185	1.7	0.659	59.4	LOS E	10.7	76.0	0.99	0.83	1.01	20.3
Approach		678	0.8	678	0.8	0.785	44.8	LOS D	15.9	111.6	0.98	0.85	1.03	26.5
West: Victoria Road														
10	L2	111	1.9	111	1.9	0.578	30.5	LOS C	4.0	28.6	0.65	0.72	0.65	28.7
11	T1	2157	1.6	2157	1.6	* 0.981	77.3	LOS F	64.6	458.1	0.99	1.22	1.41	26.2
12	R2	88	2.4	88	2.4	0.462	63.7	LOS E	5.1	36.6	0.98	0.78	0.98	26.9
Approach		2356	1.6	2356	1.6	0.981	74.6	LOS F	64.6	458.1	0.97	1.18	1.36	26.3
All Vehicles		5684	1.9	5684	1.9	0.981	60.2	LOS E	64.6	458.1	0.97	1.03	1.22	28.4

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

* Critical Movement (Signal Timing)

Site: 101 [DES2024_Winbourne Street / Marsden Road_PM Peak (Site Folder: DES2024_Weekday_PM)]

Network: 7 [DES2024_Weekday PM (Network Folder: DES2024)]

DES2024
Winbourne Street / Marsden Road
PM Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Marsden Road														
2	T1	497	0.4	497	0.4	0.222	0.4	LOS A	1.0	6.9	0.07	0.07	0.07	58.6
3a	R1	160	1.3	160	1.3	0.222	7.3	LOS A	1.0	6.9	0.48	0.48	0.48	45.1
Approach		657	0.6	657	0.6	0.222	2.1	NA	1.0	6.9	0.17	0.17	0.17	54.6
NorthEast: Winbourne Street														
24a	L1	252	0.8	252	0.8	0.279	4.3	LOS A	0.9	6.4	0.27	0.51	0.27	44.4
26b	R3	39	2.7	39	2.7	0.146	18.4	LOS B	0.5	3.6	0.78	0.91	0.78	41.7
Approach		291	1.1	291	1.1	0.279	6.2	LOS A	0.9	6.4	0.34	0.57	0.34	43.7
North: Marsden Road														
7b	L3	80	0.0	80	0.0	0.148	6.8	LOS A	0.0	0.0	0.00	0.24	0.00	56.6
8	T1	424	1.0	424	1.0	0.148	0.0	LOS A	0.0	0.0	0.00	0.08	0.00	58.4
Approach		504	0.8	504	0.8	0.148	1.1	NA	0.0	0.0	0.00	0.11	0.00	57.9
All Vehicles		1452	0.8	1452	0.8	0.279	2.6	NA	1.0	6.9	0.14	0.23	0.14	53.1

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

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: P5556 Intersection Models

Template: Movement Summary

Site: 0192 [BG2024_Victoria Road / Marsden Road_Sat Peak (Site Folder: BG2024_Saturday Peak)]

Network: 4 [BG2024_Saturday (Network Folder: BG2024)]

BG 2024
Victoria Road / Marsden Road
Saturday Peak
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated   Cycle Time = 111 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: E-W Major Intersection
Reference Phase: Phase A
Input Phase Sequence: A, D, E, F
Output Phase Sequence: A, D, E, F

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Wharf Road														
1	L2	123	5.1	123	5.1	0.427	47.3	LOS D	7.1	51.5	0.92	0.79	0.92	30.1
2	T1	88	0.0	88	0.0	* 0.764	52.4	LOS D	9.4	66.2	0.98	0.87	1.10	20.3
3	R2	101	1.0	101	1.0	0.764	60.3	LOS E	9.4	66.2	1.00	0.90	1.16	29.8
Approach		313	2.4	313	2.4	0.764	53.0	LOS D	9.4	66.2	0.96	0.85	1.05	27.6
East: Victoria Road														
4	L2	43	0.0	43	0.0	0.761	37.9	LOS C	26.7	191.2	0.93	0.84	0.94	38.5
5	T1	1577	2.9	1577	2.9	0.761	31.2	LOS C	26.8	192.1	0.91	0.82	0.93	41.7
6	R2	318	0.3	318	0.3	* 0.806	65.0	LOS E	9.3	65.1	1.00	0.90	1.24	20.4
Approach		1938	2.4	1938	2.4	0.806	36.9	LOS C	26.8	192.1	0.93	0.83	0.98	37.7
North: Marsden Road														
7	L2	332	1.6	332	1.6	* 0.679	28.8	LOS C	11.5	81.4	0.95	0.83	0.95	34.8
8	T1	99	1.1	99	1.1	0.320	46.3	LOS D	4.8	34.1	0.93	0.74	0.93	24.9
9	R2	135	0.8	135	0.8	0.457	52.0	LOS D	6.8	47.7	0.95	0.79	0.95	22.2
Approach		565	1.3	565	1.3	0.679	37.4	LOS C	11.5	81.4	0.95	0.81	0.95	29.3
West: Victoria Road														
10	L2	105	1.0	105	1.0	0.409	29.8	LOS C	3.6	25.5	0.68	0.72	0.68	29.0
11	T1	1602	1.8	1602	1.8	* 0.799	33.2	LOS C	29.8	211.8	0.91	0.84	0.96	40.8
12	R2	135	3.1	135	3.1	0.697	61.5	LOS E	7.5	53.9	1.00	0.84	1.10	27.4
Approach		1842	1.8	1842	1.8	0.799	35.1	LOS C	29.8	211.8	0.90	0.84	0.96	38.9
All Vehicles		4658	2.1	4658	2.1	0.806	37.3	LOS C	29.8	211.8	0.92	0.83	0.97	36.4

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

* Critical Movement (Signal Timing)

Site: 101 [BG2024_Winbourne Street / Marsden Road_Sat Peak (Site Folder: BG2024_Saturday Peak)]

Network: 4 [BG2024_Saturday (Network Folder: BG2024)]

BG2024
Winbourne Street / Marsden Road
Saturday Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Marsden Road														
2	T1	447	0.2	447	0.2	0.146	0.5	LOS A	0.5	3.6	0.10	0.05	0.10	58.4
3a	R1	52	2.0	52	2.0	0.146	7.1	LOS A	0.5	3.6	0.26	0.14	0.26	48.4
Approach		499	0.4	499	0.4	0.146	1.1	NA	0.5	3.6	0.11	0.06	0.11	57.2
NorthEast: Winbourne Street														
24a	L1	99	1.1	99	1.1	0.094	4.6	LOS A	0.3	2.4	0.33	0.54	0.33	44.2
26b	R3	16	0.0	16	0.0	0.047	14.6	LOS B	0.2	1.2	0.70	0.87	0.70	43.7
Approach		115	0.9	115	0.9	0.094	6.0	LOS A	0.3	2.4	0.38	0.58	0.38	44.1
North: Marsden Road														
7b	L3	8	0.0	8	0.0	0.129	6.6	LOS A	0.0	0.0	0.00	0.02	0.00	58.5
8	T1	481	1.3	481	1.3	0.129	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.7
Approach		489	1.3	489	1.3	0.129	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.7
All Vehicles		1103	0.9	1103	0.9	0.146	1.2	NA	0.5	3.6	0.09	0.09	0.09	56.4

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

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: P5556 Intersection Models

Template: Movement Summary

Site: 0192 [DES2024_Victoria Road / Marsden Road_Sat Peak (Site Folder: DES2024_Saturday Peak)]

Network: 8 [DES2024_Saturday (Network Folder: DES2024)]

DES 2024
Victoria Road / Marsden Road
Saturday Peak
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 111 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: E-W Major Intersection
Reference Phase: Phase A
Input Phase Sequence: A, D, E, F
Output Phase Sequence: A, D, E, F

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Wharf Road														
1	L2	123	5.1	123	5.1	0.464	48.5	LOS D	7.5	54.2	0.94	0.79	0.94	29.9
2	T1	108	0.0	108	0.0	* 0.829	55.0	LOS D	10.6	74.7	0.98	0.92	1.17	19.8
3	R2	101	1.0	101	1.0	0.829	63.3	LOS E	10.6	74.7	1.00	0.97	1.26	29.1
Approach		333	2.2	333	2.2	0.829	55.1	LOS D	10.6	74.7	0.97	0.89	1.11	26.7
East: Victoria Road														
4	L2	43	0.0	43	0.0	0.799	41.9	LOS C	28.6	204.9	0.96	0.89	1.01	36.9
5	T1	1577	2.9	1577	2.9	0.799	35.2	LOS C	28.7	206.0	0.94	0.87	0.99	39.7
6	R2	354	0.3	354	0.3	* 0.828	65.4	LOS E	10.4	73.1	1.00	0.91	1.26	20.3
Approach		1974	2.4	1974	2.4	0.828	40.7	LOS C	28.7	206.0	0.95	0.88	1.04	35.8
North: Marsden Road														
7	L2	385	1.4	385	1.4	* 0.738	29.2	LOS C	13.7	96.8	0.96	0.86	0.99	34.6
8	T1	116	0.9	116	0.9	0.354	45.7	LOS D	5.6	39.7	0.93	0.75	0.93	25.1
9	R2	161	0.7	161	0.7	0.517	51.7	LOS D	8.1	57.1	0.96	0.80	0.96	22.3
Approach		662	1.1	662	1.1	0.738	37.5	LOS C	13.7	96.8	0.95	0.83	0.97	29.2
West: Victoria Road														
10	L2	116	0.9	116	0.9	0.509	31.5	LOS C	4.1	29.1	0.70	0.73	0.70	28.1
11	T1	1635	1.7	1635	1.7	* 0.856	40.4	LOS C	34.0	241.4	0.94	0.93	1.08	37.4
12	R2	135	3.1	135	3.1	0.643	59.5	LOS E	7.3	52.6	1.00	0.82	1.05	27.8
Approach		1885	1.8	1885	1.8	0.856	41.2	LOS C	34.0	241.4	0.93	0.91	1.05	36.1
All Vehicles		4854	2.0	4854	2.0	0.856	41.5	LOS C	34.0	241.4	0.94	0.89	1.04	34.4

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

* Critical Movement (Signal Timing)

Site: 101 [DES2024_Winbourne Street / Marsden Road_Sat Peak (Site Folder: DES2024_Saturday Peak)]

Network: 8 [DES2024_Saturday (Network Folder: DES2024)]

DES2024
Winbourne Street / Marsden Road
Saturday Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Marsden Road														
2	T1	447	0.2	447	0.2	0.188	0.6	LOS A	0.9	6.0	0.09	0.08	0.09	58.2
3a	R1	117	0.9	117	0.9	0.188	7.6	LOS A	0.9	6.0	0.49	0.40	0.49	45.4
Approach		564	0.4	564	0.4	0.188	2.0	NA	0.9	6.0	0.18	0.15	0.18	55.0
NorthEast: Winbourne Street														
24a	L1	196	0.5	196	0.5	0.194	4.4	LOS A	0.7	4.9	0.31	0.53	0.31	44.3
26b	R3	31	0.0	31	0.0	0.106	17.1	LOS B	0.4	2.6	0.76	0.90	0.76	42.4
Approach		226	0.5	226	0.5	0.194	6.1	LOS A	0.7	4.9	0.37	0.58	0.37	43.8
North: Marsden Road														
7b	L3	74	0.0	74	0.0	0.155	6.7	LOS A	0.0	0.0	0.00	0.19	0.00	57.0
8	T1	481	1.3	481	1.3	0.155	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	58.6
Approach		555	1.1	555	1.1	0.155	0.9	NA	0.0	0.0	0.00	0.09	0.00	58.2
All Vehicles		1345	0.7	1345	0.7	0.194	2.3	NA	0.9	6.0	0.14	0.20	0.14	53.9

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

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: P5556 Intersection Models — **Template: Movement Summary**

Site: 0192 [BG2034_Victoria Road / Marsden Road_PM Peak (Site Folder: BG2034_Weekday_PM)]

Network: 5 [BG2034_Weekday PM (Network Folder: BG2034)]

BG 2034
Victoria Road / Marsden Road
PM Peak
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated   Cycle Time = 122 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: E-W Major Intersection
Reference Phase: Phase A
Input Phase Sequence: A, D, E, F
Output Phase Sequence: A, D, E, F

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Wharf Road														
1	L2	145	0.7	145	0.7	0.581	54.8	LOS D	10.3	72.8	0.97	0.81	0.97	28.5
2	T1	178	0.0	178	0.0	* 1.039	106.6	LOS F	22.4	157.1	0.99	1.25	1.66	12.7
3	R2	103	0.0	103	0.0	1.039	127.7	LOS F	22.4	157.1	1.00	1.38	1.87	19.2
Approach		426	0.2	426	0.2	1.039	94.0	LOS F	22.4	157.1	0.99	1.13	1.48	18.9
East: Victoria Road														
4	L2	53	2.0	53	2.0	0.943	66.2	LOS E	55.2	396.5	1.00	1.11	1.26	29.7
5	T1	2099	3.2	2099	3.2	0.943	59.8	LOS E	55.3	398.1	0.98	1.10	1.26	30.5
6	R2	376	0.3	376	0.3	* 1.047	135.1	LOS F	17.8	125.1	1.00	1.18	1.95	11.4
Approach		2527	2.7	2527	2.7	1.047	71.1	LOS F	55.3	398.1	0.98	1.12	1.36	26.4
North: Marsden Road														
7	L2	361	0.3	361	0.3	* 0.779	35.6	LOS C	15.3	107.3	0.99	0.88	1.06	31.6
8	T1	112	0.9	112	0.9	0.376	51.8	LOS D	6.1	42.8	0.94	0.76	0.94	23.5
9	R2	179	2.4	179	2.4	0.639	59.0	LOS E	10.3	73.3	0.99	0.82	1.00	20.3
Approach		652	1.0	652	1.0	0.779	44.8	LOS D	15.3	107.3	0.98	0.84	1.02	26.5
West: Victoria Road														
10	L2	113	1.9	113	1.9	0.648	32.5	LOS C	4.3	30.6	0.65	0.75	0.72	27.6
11	T1	2417	1.6	2417	1.6	* 1.075	138.7	LOS F	94.7	671.6	1.00	1.57	1.84	17.3
12	R2	101	2.1	101	2.1	0.570	65.5	LOS E	6.0	42.7	1.00	0.78	1.00	26.5
Approach		2631	1.6	2631	1.6	1.075	131.4	LOS F	94.7	671.6	0.98	1.51	1.76	17.7
All Vehicles		6236	1.9	6236	1.9	1.075	95.3	LOS F	94.7	671.6	0.98	1.25	1.50	21.2

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

* Critical Movement (Signal Timing)

Site: 101 [BG2034_Winbourne Street / Marsden Road_PM Peak (Site Folder: BG2034_Weekday_PM)]

Network: 5 [BG2034_Weekday PM (Network Folder: BG2034)]

BG2034
Winbourne Street / Marsden Road
PM Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Marsden Road														
2	T1	566	0.4	548	0.4	0.192	0.6	LOS A	0.8	5.8	0.11	0.07	0.11	58.2
3a	R1	88	2.4	86	2.4	0.192	7.2	LOS A	0.8	5.8	0.35	0.20	0.35	47.4
Approach		655	0.6	633 N1	0.7	0.192	1.5	NA	0.8	5.8	0.15	0.09	0.15	56.4
NorthEast: Winbourne Street														
24a	L1	145	1.4	145	1.4	0.166	4.5	LOS A	0.5	3.6	0.32	0.54	0.32	44.2
26b	R3	23	4.5	23	4.5	0.087	18.2	LOS B	0.3	2.2	0.77	0.91	0.77	41.8
Approach		168	1.9	168	1.9	0.166	6.4	LOS A	0.5	3.6	0.38	0.59	0.38	43.6
North: Marsden Road														
7b	L3	8	0.0	8	0.0	0.143	6.6	LOS A	0.0	0.0	0.00	0.03	0.00	58.5
8	T1	484	1.1	484	1.1	0.143	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.7
Approach		493	1.1	493	1.1	0.143	0.2	NA	0.0	0.0	0.00	0.01	0.00	59.7
All Vehicles		1316	1.0	1294 N1	1.0	0.192	1.6	NA	0.8	5.8	0.12	0.12	0.12	55.3

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

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: P5556 Intersection Models — **Template: Movement Summary**

Site: 0192 [DES2034_Victoria Road / Marsden Road_PM Peak (Site Folder: DES2034_Weekday_PM)]

Network: 9 [DES2034_Weekday PM (Network Folder: DES2034)]

DES 2034
Victoria Road / Marsden Road
PM Peak
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated   Cycle Time = 122 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: E-W Major Intersection
Reference Phase: Phase A
Input Phase Sequence: A, D, E, F
Output Phase Sequence: A, D, E, F

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Wharf Road														
1	L2	145	0.7	145	0.7	0.617	55.9	LOS D	10.8	76.1	0.98	0.82	0.98	28.3
2	T1	199	0.0	199	0.0	* 1.103	140.6	LOS F	28.3	198.3	0.99	1.39	1.87	10.2
3	R2	103	0.0	103	0.0	1.103	172.5	LOS F	28.3	198.3	1.00	1.56	2.15	15.4
Approach		447	0.2	447	0.2	1.103	120.4	LOS F	28.3	198.3	0.99	1.24	1.65	15.7
East: Victoria Road														
4	L2	53	2.0	53	2.0	0.965	76.0	LOS F	59.5	427.8	1.00	1.17	1.34	27.5
5	T1	2099	3.2	2099	3.2	0.965	69.6	LOS E	59.7	429.5	0.98	1.17	1.34	27.9
6	R2	415	0.3	415	0.3	* 1.066	148.3	LOS F	20.8	146.3	1.00	1.21	2.02	10.4
Approach		2566	2.7	2566	2.7	1.066	82.5	LOS F	59.7	429.5	0.99	1.17	1.45	23.9
North: Marsden Road														
7	L2	420	0.3	420	0.3	* 0.877	43.8	LOS D	20.6	144.3	1.00	0.96	1.20	28.3
8	T1	131	0.8	131	0.8	0.439	52.4	LOS D	7.2	50.6	0.95	0.77	0.95	23.3
9	R2	208	2.0	208	2.0	0.743	61.9	LOS E	12.5	89.0	1.00	0.87	1.09	19.7
Approach		759	0.8	759	0.8	0.877	50.2	LOS D	20.6	144.3	0.99	0.90	1.13	24.8
West: Victoria Road														
10	L2	124	1.7	124	1.7	0.745	39.9	LOS C	5.4	38.6	0.66	0.81	0.87	24.2
11	T1	2453	1.5	2453	1.5	* 1.115	170.3	LOS F	106.4	754.5	1.00	1.73	2.05	14.7
12	R2	101	2.1	101	2.1	0.526	64.2	LOS E	5.9	42.1	0.99	0.78	0.99	26.8
Approach		2678	1.6	2678	1.6	1.115	160.2	LOS F	106.4	754.5	0.98	1.65	1.95	15.1
All Vehicles		6451	1.8	6451	1.8	1.115	113.6	LOS F	106.4	754.5	0.99	1.34	1.63	18.5

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

* Critical Movement (Signal Timing)

Site: 101 [DES2034_Winbourne Street / Marsden Road_PM Peak (Site Folder: DES2034_Weekday_PM)]

Network: 9 [DES2034_Weekday PM (Network Folder: DES2034)]

DES2034
Winbourne Street / Marsden Road
PM Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Marsden Road														
2	T1	566	0.4	536	0.4	0.233	0.5	LOS A	1.1	7.6	0.09	0.08	0.09	58.4
3a	R1	160	1.3	151	1.4	0.233	7.8	LOS A	1.1	7.6	0.52	0.47	0.52	44.9
Approach		726	0.6	687 N1	0.6	0.233	2.1	NA	1.1	7.6	0.18	0.16	0.18	54.7
NorthEast: Winbourne Street														
24a	L1	252	0.8	252	0.8	0.399	4.2	LOS A	0.9	6.3	0.26	0.51	0.26	44.5
26b	R3	39	2.7	39	2.7	0.168	20.9	LOS B	0.6	4.1	0.82	0.92	0.82	40.6
Approach		291	1.1	291	1.1	0.399	6.4	LOS A	0.9	6.3	0.34	0.57	0.34	43.5
North: Marsden Road														
7b	L3	80	0.0	80	0.0	0.184	6.8	LOS A	0.0	0.0	0.00	0.25	0.00	56.5
8	T1	484	1.1	484	1.1	0.184	0.1	LOS A	0.0	0.0	0.00	0.07	0.00	58.6
Approach		564	0.9	564	0.9	0.184	1.0	NA	0.0	0.0	0.00	0.09	0.00	58.1
All Vehicles		1581	0.8	1542 N1	0.8	0.399	2.5	NA	1.1	7.6	0.14	0.21	0.14	53.3

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

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: P5556 Intersection Models

Template: Movement Summary

Site: 0192 [BG2034_Victoria Road / Marsden Road_Sat Peak (Site Folder: BG2034_Saturday Peak)]

Network: 6 [BG2034_Saturday (Network Folder: BG2034)]

BG 2034
Victoria Road / Marsden Road
Saturday Peak
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated   Cycle Time = 111 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: E-W Major Intersection
Reference Phase: Phase A
Input Phase Sequence: A, D, E, F
Output Phase Sequence: A, D, E, F

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Wharf Road														
1	L2	140	5.3	140	5.3	0.489	48.0	LOS D	8.2	59.5	0.94	0.80	0.94	30.0
2	T1	101	0.0	101	0.0	* 0.874	57.4	LOS E	11.6	81.7	0.98	0.97	1.24	19.2
3	R2	116	0.9	116	0.9	0.874	66.9	LOS E	11.6	81.7	1.00	1.03	1.36	28.3
Approach		357	2.4	357	2.4	0.874	56.8	LOS E	11.6	81.7	0.97	0.92	1.16	26.7
East: Victoria Road														
4	L2	49	0.0	49	0.0	0.867	47.5	LOS D	36.3	260.0	0.99	0.99	1.12	34.9
5	T1	1797	2.9	1797	2.9	0.867	41.0	LOS C	36.4	261.3	0.97	0.97	1.11	37.1
6	R2	362	0.3	362	0.3	* 0.918	75.5	LOS F	11.7	82.2	1.00	1.00	1.50	18.3
Approach		2208	2.4	2208	2.4	0.918	46.8	LOS D	36.4	261.3	0.97	0.98	1.17	33.5
North: Marsden Road														
7	L2	378	1.7	378	1.7	* 0.774	32.0	LOS C	14.3	101.6	0.98	0.88	1.05	33.1
8	T1	114	0.9	114	0.9	0.367	46.7	LOS D	5.6	39.5	0.94	0.76	0.94	24.8
9	R2	154	0.7	154	0.7	0.521	52.6	LOS D	7.8	55.0	0.96	0.80	0.96	22.0
Approach		645	1.3	645	1.3	0.774	39.5	LOS C	14.3	101.6	0.97	0.84	1.01	28.5
West: Victoria Road														
10	L2	119	0.9	119	0.9	0.543	30.1	LOS C	4.1	29.0	0.68	0.73	0.68	28.9
11	T1	1825	1.7	1825	1.7	* 0.910	49.0	LOS D	42.6	302.7	0.95	1.03	1.20	34.0
12	R2	154	2.7	154	2.7	0.793	64.5	LOS E	8.9	63.8	1.00	0.89	1.22	26.7
Approach		2098	1.8	2098	1.8	0.910	49.0	LOS D	42.6	302.7	0.94	1.00	1.17	33.2
All Vehicles		5308	2.0	5308	2.0	0.918	47.4	LOS D	42.6	302.7	0.96	0.97	1.15	32.3

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

* Critical Movement (Signal Timing)

Site: 101 [BG2034_Winbourne Street / Marsden Road_Sat Peak (Site Folder: BG2034_Saturday Peak)]

Network: 6 [BG2034_Saturday (Network Folder: BG2034)]

BG2034
Winbourne Street / Marsden Road
Saturday Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Marsden Road														
2	T1	509	0.2	509	0.2	0.165	0.5	LOS A	0.6	4.2	0.11	0.05	0.11	58.3
3a	R1	52	2.0	52	2.0	0.165	7.7	LOS A	0.6	4.2	0.28	0.13	0.28	48.3
Approach		561	0.4	561	0.4	0.165	1.2	NA	0.6	4.2	0.12	0.06	0.12	57.2
NorthEast: Winbourne Street														
24a	L1	99	1.1	99	1.1	0.111	4.7	LOS A	0.3	2.5	0.34	0.55	0.34	44.1
26b	R3	16	0.0	16	0.0	0.057	17.2	LOS B	0.2	1.4	0.76	0.90	0.76	42.3
Approach		115	0.9	115	0.9	0.111	6.4	LOS A	0.3	2.5	0.40	0.60	0.40	43.7
North: Marsden Road														
7b	L3	8	0.0	8	0.0	0.157	6.6	LOS A	0.0	0.0	0.00	0.02	0.00	58.5
8	T1	548	1.3	548	1.3	0.157	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.7
Approach		557	1.3	557	1.3	0.157	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.7
All Vehicles		1233	0.9	1233	0.9	0.165	1.2	NA	0.6	4.2	0.09	0.09	0.09	56.5

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

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: P5556 Intersection Models

Template: Movement Summary

Site: 0192 [DES2034_Victoria Road / Marsden Road_Sat Peak (Site Folder: DES2034_Saturday Peak)]

Network: 10 [DES2034_Saturday (Network Folder: DES2034)]

DES2034
Victoria Road / Marsden Road
Saturday Peak
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 111 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: E-W Major Intersection
Reference Phase: Phase A
Input Phase Sequence: A, D, E, F
Output Phase Sequence: A, D, E, F

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Wharf Road														
1	L2	140	5.3	140	5.3	0.523	49.1	LOS D	8.6	62.2	0.95	0.80	0.95	29.7
2	T1	120	0.0	120	0.0	* 0.935	64.6	LOS E	13.5	95.2	0.99	1.05	1.38	18.0
3	R2	116	0.9	116	0.9	0.935	76.3	LOS F	13.5	95.2	1.00	1.14	1.53	26.4
Approach		376	2.2	376	2.2	0.935	62.4	LOS E	13.5	95.2	0.98	0.98	1.26	25.1
East: Victoria Road														
4	L2	49	0.0	49	0.0	0.910	57.0	LOS E	40.5	290.3	1.00	1.07	1.23	32.1
5	T1	1797	2.9	1797	2.9	0.910	50.5	LOS D	40.7	291.7	0.98	1.05	1.22	33.4
6	R2	398	0.3	398	0.3	* 0.931	77.6	LOS F	13.2	92.4	1.00	1.02	1.52	17.9
Approach		2244	2.4	2244	2.4	0.931	55.5	LOS D	40.7	291.7	0.99	1.05	1.28	30.5
North: Marsden Road														
7	L2	432	1.5	432	1.5	* 0.827	34.3	LOS C	17.3	122.6	1.00	0.92	1.12	32.0
8	T1	129	0.8	129	0.8	0.396	46.0	LOS D	6.4	44.8	0.93	0.76	0.93	25.0
9	R2	180	0.6	180	0.6	0.578	52.2	LOS D	9.2	64.6	0.97	0.81	0.97	22.1
Approach		741	1.1	741	1.1	0.827	40.7	LOS C	17.3	122.6	0.98	0.87	1.05	28.0
West: Victoria Road														
10	L2	129	0.8	129	0.8	0.642	33.5	LOS C	4.9	34.2	0.71	0.76	0.77	27.1
11	T1	1858	1.7	1858	1.7	* 0.973	72.4	LOS F	52.7	374.3	0.98	1.20	1.44	27.3
12	R2	155	3.4	155	3.4	0.740	61.8	LOS E	8.7	62.7	1.00	0.86	1.14	27.3
Approach		2142	1.8	2142	1.8	0.973	69.3	LOS E	52.7	374.3	0.96	1.15	1.37	27.3
All Vehicles		5503	2.0	5503	2.0	0.973	59.3	LOS E	52.7	374.3	0.98	1.06	1.28	28.4

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

* Critical Movement (Signal Timing)

Site: 101 [DES2034_Winbourne Street / Marsden Road_Sat Peak (Site Folder: DES2034_Saturday Peak)]

Network: 10 [DES2034_Saturday (Network Folder: DES2034)]

DES2034
Winbourne Street / Marsden Road
Saturday Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Marsden Road														
2	T1	509	0.2	509	0.2	0.210	0.7	LOS A	1.0	7.1	0.11	0.08	0.11	58.0
3a	R1	117	0.9	117	0.9	0.210	8.3	LOS A	1.0	7.1	0.53	0.40	0.53	45.1
Approach		626	0.3	626	0.3	0.210	2.1	NA	1.0	7.1	0.19	0.14	0.19	55.1
NorthEast: Winbourne Street														
24a	L1	196	0.5	196	0.5	0.255	4.4	LOS A	0.7	4.9	0.31	0.54	0.31	44.3
26b	R3	31	0.0	31	0.0	0.130	20.3	LOS B	0.4	3.1	0.81	0.92	0.81	40.9
Approach		226	0.5	226	0.5	0.255	6.6	LOS A	0.7	4.9	0.37	0.59	0.37	43.4
North: Marsden Road														
7b	L3	74	0.0	74	0.0	0.190	6.7	LOS A	0.0	0.0	0.00	0.19	0.00	57.0
8	T1	548	1.3	548	1.3	0.190	0.1	LOS A	0.0	0.0	0.00	0.06	0.00	58.7
Approach		622	1.2	622	1.2	0.190	0.8	NA	0.0	0.0	0.00	0.08	0.00	58.3
All Vehicles		1475	0.7	1475	0.7	0.255	2.3	NA	1.0	7.1	0.14	0.18	0.14	54.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.
Delay Model: SIDRA Standard (Geometric Delay is included).
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

All Movement Classes

Project: P5556 Intersection Models

Template: Movement Summary

Site: 101 [BG2024_Brush Road / Victoria Road_PM Peak (Site Folder: BG2024_Weekday_PM)]

BG2024
Brush Road / Victoria Road
PM Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Victoria Road														
5	T1	2175	65	2289	3.0	0.603	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	69.3
Approach		2175	65	2289	3.0	0.603	0.3	NA	0.0	0.0	0.00	0.00	0.00	69.3
North: Brush Road														
7	L2	18	1	19	5.6	0.042	10.8	LOS A	0.1	1.0	0.66	0.83	0.66	46.9
Approach		18	1	19	5.6	0.042	10.8	LOS A	0.1	1.0	0.66	0.83	0.66	46.9
West: Victoria Road														
10	L2	46	0	48	0.0	0.450	6.5	LOS A	0.0	0.0	0.00	0.04	0.00	65.9
11	T1	2394	33	2520	1.4	0.450	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	69.5
Approach		2440	33	2568	1.4	0.450	0.3	NA	0.0	0.0	0.00	0.01	0.00	69.4
All Vehicles		4633	99	4877	2.1	0.603	0.3	NA	0.1	1.0	0.00	0.01	0.00	69.2

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [DES2024_Brush Road / Victoria Road_PM Peak (Site Folder: DES2024_Weekday_PM)]

DES2024
Brush Road / Victoria Road
PM Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Victoria Road														
5	T1	2212	65	2328	2.9	0.614	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	69.2
Approach		2212	65	2328	2.9	0.614	0.3	NA	0.0	0.0	0.00	0.00	0.00	69.2
North: Brush Road														
7	L2	76	1	80	1.3	0.167	10.8	LOS A	0.6	4.0	0.68	0.85	0.68	47.7
Approach		76	1	80	1.3	0.167	10.8	LOS A	0.6	4.0	0.68	0.85	0.68	47.7
West: Victoria Road														
10	L2	80	0	84	0.0	0.467	6.5	LOS A	0.0	0.0	0.00	0.06	0.00	65.6
11	T1	2450	33	2579	1.3	0.467	0.2	LOS A	0.0	0.0	0.00	0.02	0.00	69.3
Approach		2530	33	2663	1.3	0.467	0.4	NA	0.0	0.0	0.00	0.02	0.00	69.2
All Vehicles		4818	99	5072	2.1	0.614	0.5	NA	0.6	4.0	0.01	0.02	0.01	68.7

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [BG2034_Brush Road / Victoria Road_PM Peak (Site Folder: BG2034_Weekday_PM)]

BG2034
Brush Road / Victoria Road
PM Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Victoria Road														
5	T1	2478	73	2608	2.9	0.688	0.4	LOS A	0.0	0.0	0.00	0.00	0.00	69.0
Approach		2478	73	2608	2.9	0.688	0.4	NA	0.0	0.0	0.00	0.00	0.00	69.0
North: Brush Road														
7	L2	18	1	19	5.6	0.053	13.0	LOS A	0.2	1.2	0.73	0.87	0.73	45.6
Approach		18	1	19	5.6	0.053	13.0	LOS A	0.2	1.2	0.73	0.87	0.73	45.6
West: Victoria Road														
10	L2	46	0	48	0.0	0.512	6.5	LOS A	0.0	0.0	0.00	0.03	0.00	65.9
11	T1	2729	37	2873	1.4	0.512	0.2	LOS A	0.0	0.0	0.00	0.01	0.00	69.4
Approach		2775	37	2921	1.3	0.512	0.3	NA	0.0	0.0	0.00	0.01	0.00	69.3
All Vehicles		5271	111	5548	2.1	0.688	0.4	NA	0.2	1.2	0.00	0.01	0.00	69.0

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [DES2034_Brush Road / Victoria Road_PM Peak (Site Folder: DES2034_Weekday_PM)]

DES2034
Brush Road / Victoria Road
PM Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Victoria Road														
5	T1	2515	73	2647	2.9	0.698	0.4	LOS A	0.0	0.0	0.00	0.00	0.00	68.9
Approach		2515	73	2647	2.9	0.698	0.4	NA	0.0	0.0	0.00	0.00	0.00	68.9
North: Brush Road														
7	L2	76	1	80	1.3	0.209	13.3	LOS A	0.7	5.0	0.76	0.90	0.80	46.2
Approach		76	1	80	1.3	0.209	13.3	LOS A	0.7	5.0	0.76	0.90	0.80	46.2
West: Victoria Road														
10	L2	80	0	84	0.0	0.529	6.5	LOS A	0.0	0.0	0.00	0.05	0.00	65.6
11	T1	2785	37	2932	1.3	0.529	0.2	LOS A	0.0	0.0	0.00	0.02	0.00	69.3
Approach		2865	37	3016	1.3	0.529	0.4	NA	0.0	0.0	0.00	0.02	0.00	69.1
All Vehicles		5456	111	5743	2.0	0.698	0.6	NA	0.7	5.0	0.01	0.02	0.01	68.6

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

Site: 101 [BG2024_Brush Road / Victoria Road_Sat Peak (Site Folder: BG2024_Saturday Peak)]

BG2024
Brush Road / Victoria Road
Saturday Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Victoria Road														
5	T1	1855	56	1953	3.0	0.514	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	69.5
Approach		1855	56	1953	3.0	0.514	0.2	NA	0.0	0.0	0.00	0.00	0.00	69.5
North: Brush Road														
7	L2	15	0	16	0.0	0.025	8.4	LOS A	0.1	0.6	0.54	0.71	0.54	49.5
Approach		15	0	16	0.0	0.025	8.4	LOS A	0.1	0.6	0.54	0.71	0.54	49.5
West: Victoria Road														
10	L2	37	1	39	2.7	0.366	6.5	LOS A	0.0	0.0	0.00	0.04	0.00	65.0
11	T1	1942	33	2044	1.7	0.366	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	69.6
Approach		1979	34	2083	1.7	0.366	0.2	NA	0.0	0.0	0.00	0.01	0.00	69.5
All Vehicles		3849	90	4052	2.3	0.514	0.2	NA	0.1	0.6	0.00	0.01	0.00	69.4

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

Site: 101 [DES2024_Brush Road / Victoria Road_Sat Peak (Site Folder: DES2024_Saturday Peak)]

DES2024
Brush Road / Victoria Road
Saturday Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Victoria Road														
5	T1	1888	56	1987	3.0	0.523	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	69.5
Approach		1888	56	1987	3.0	0.523	0.2	NA	0.0	0.0	0.00	0.00	0.00	69.5
North: Brush Road														
7	L2	68	0	72	0.0	0.114	8.6	LOS A	0.4	2.8	0.56	0.79	0.56	49.4
Approach		68	0	72	0.0	0.114	8.6	LOS A	0.4	2.8	0.56	0.79	0.56	49.4
West: Victoria Road														
10	L2	68	1	72	1.5	0.381	6.5	LOS A	0.0	0.0	0.00	0.06	0.00	65.1
11	T1	1993	33	2098	1.7	0.381	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	69.5
Approach		2061	34	2169	1.6	0.381	0.3	NA	0.0	0.0	0.00	0.02	0.00	69.3
All Vehicles		4017	90	4228	2.2	0.523	0.4	NA	0.4	2.8	0.01	0.02	0.01	68.9

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.
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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [BG2034_Brush Road / Victoria Road_Sat Peak (Site Folder: BG2034_Saturday Peak)]

BG2034
Brush Road / Victoria Road
Saturday Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Victoria Road														
5	T1	2114	63	2225	3.0	0.586	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	69.3
Approach		2114	63	2225	3.0	0.586	0.3	NA	0.0	0.0	0.00	0.00	0.00	69.3
North: Brush Road														
7	L2	15	0	16	0.0	0.030	9.5	LOS A	0.1	0.7	0.61	0.77	0.61	48.8
Approach		15	0	16	0.0	0.030	9.5	LOS A	0.1	0.7	0.61	0.77	0.61	48.8
West: Victoria Road														
10	L2	37	1	39	2.7	0.416	6.5	LOS A	0.0	0.0	0.00	0.03	0.00	65.0
11	T1	2214	37	2331	1.7	0.416	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	69.5
Approach		2251	38	2369	1.7	0.416	0.2	NA	0.0	0.0	0.00	0.01	0.00	69.5
All Vehicles		4380	101	4611	2.3	0.586	0.3	NA	0.1	0.7	0.00	0.01	0.00	69.3

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [DES2034_Brush Road / Victoria Road_Sat Peak (Site Folder: DES2034_Saturday Peak)]

DES2034
Brush Road / Victoria Road
Saturday Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Victoria Road														
5	T1	2147	63	2260	2.9	0.595	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	69.3
Approach		2147	63	2260	2.9	0.595	0.3	NA	0.0	0.0	0.00	0.00	0.00	69.3
North: Brush Road														
7	L2	68	0	72	0.0	0.133	9.8	LOS A	0.5	3.2	0.63	0.83	0.63	48.6
Approach		68	0	72	0.0	0.133	9.8	LOS A	0.5	3.2	0.63	0.83	0.63	48.6
West: Victoria Road														
10	L2	68	1	72	1.5	0.432	6.5	LOS A	0.0	0.0	0.00	0.06	0.00	65.2
11	T1	2265	37	2384	1.6	0.432	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	69.4
Approach		2333	38	2456	1.6	0.432	0.3	NA	0.0	0.0	0.00	0.02	0.00	69.3
All Vehicles		4548	101	4787	2.2	0.595	0.4	NA	0.5	3.2	0.01	0.02	0.01	68.8

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.