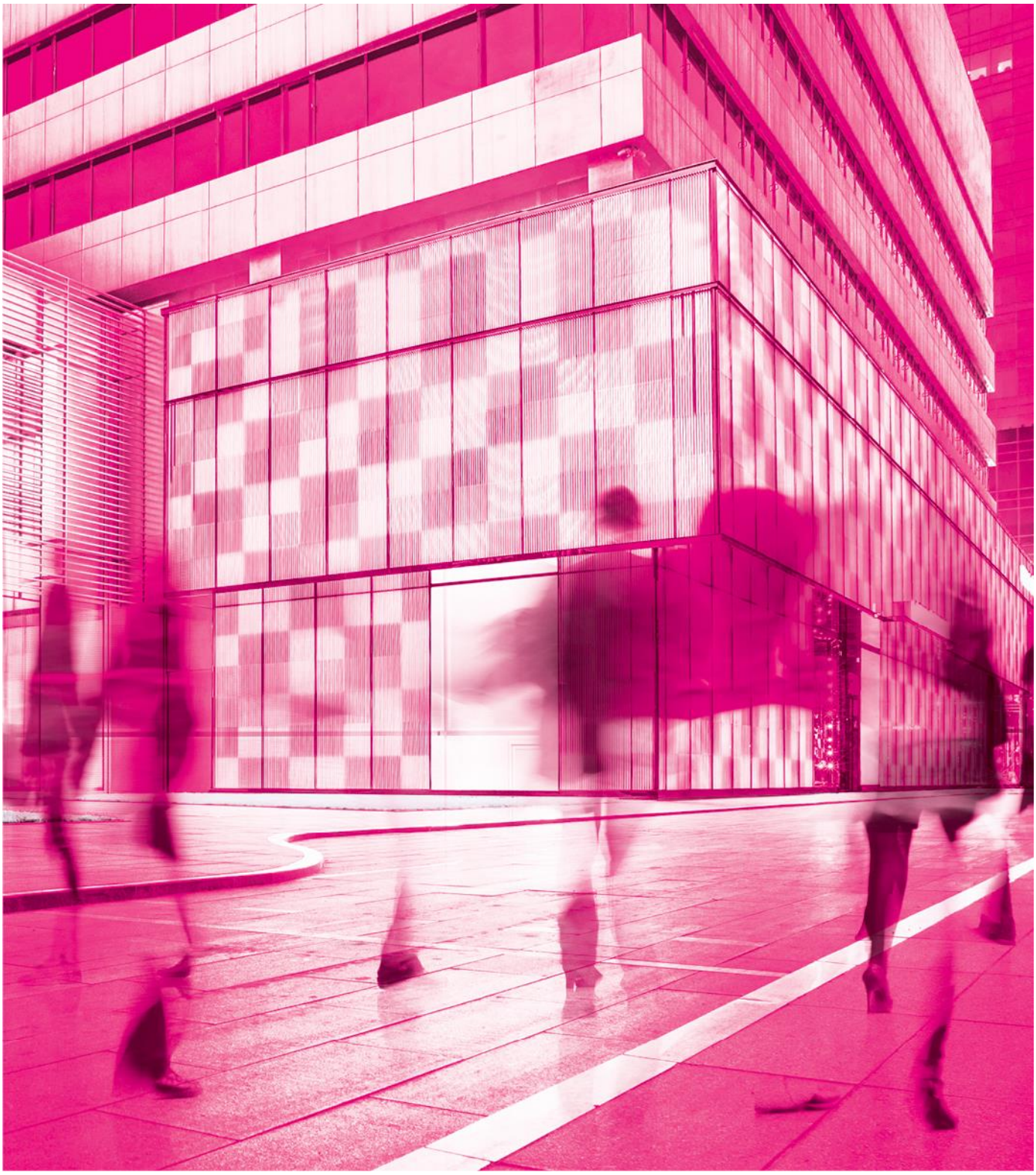

Traffic Impact Assessment;

The Hills Club - Redevelopment

For The Hills Club

29 July 2022

parking;
traffic;
civil design;
wayfinding;

ptc.

Document Control

The Hills Club - Redevelopment, Traffic Impact Assessment

Issue	Date	Issue Details	Author	Reviewed	For the attention of
1	18/11/21	First Draft	AP/AM	AM	Andrew Thurlow
2	25/01/22	Final	AP/AM	AM	Andrew Thurlow
3	29/07/22	Modified Scheme	AP/AM	AM	Andrew Thurlow

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Contents

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1. Response Table

The application has been reviewed by The Hills Shire Council and we are in receipt of the following comments relating to the contents of this report, which has been revised to respond to the comments as outlined in the following table:

Council Comment	Response and report reference
e) Traffic, Vehicular Access and Engineering	
The net traffic increase based on the data provided in the Traffic Impact Assessment will result in an additional 111 AM and 189 PM peak trips to the site. While this number of additional trips is not significant in isolation, existing traffic volumes on the Old Northern Road and the intersection with Seven Hills Road and Windsor Road are close to or at capacity and consideration must also be given to any cumulative impact associated with other uplift within Baulkham Hills Town Centre over the longer term.	We have modelled a future growth scenario based on 10 years (2033) from the original year of opening. Refer to section 7.6.3
In recognition of the existing regional traffic issues at Baulkham Hills Town Centre, Council's LSPS contains the action that Council will *"discourage commercial and residential uplift in Baulkham Hills town centre until transport and traffic issues are resolved".* This action reflects that irrespective of whether an application can address the impacts of incremental uplift on an individual site, concerns remain around permitting any uplift within the centre until such time as existing traffic and transport issues are resolved.	The development proposal has been adjusted so that all traffic (other than the loading dock) will enter and exit the site from Jenner Street, avoiding placing any traffic from the car park on to the state and regional roads. We consider that this detaches the development from the transport issues raised in the LSPS.
It should be noted that this action is one of a number of LSPS actions that relate to Council's planning for town centres, with all of these actions having weight in Council's assessment and consideration of the planning proposal. For reference, with respect to planning for town centres, the LSPS also states that Council will: • Prioritise place-making in new and emerging neighbourhoods; • Promote the economic benefits of centre redevelopment to businesses and landowners; • Only encourage planning proposals for local centres that align with our master plan for the centre and protect its primary role to provide goods	Noted. Given the revised access arrangement described above, the proposal is considered to be consistent with the actions and aims of the LSPS.

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and services, or be a place for new or evolving employment functions; • Protect items of Aboriginal and European cultural heritage significance from the impacts of development; • Investigate measures to encourage land uses that will promote vibrancy in higher density residential zones; and Work with the community to extend local character mapping to identified areas of significant local character, and develop local character statements to guide development in these areas.	
Notwithstanding the range of relevant factors, regional traffic will nonetheless be a major consideration and for any proposal to successfully progress, these issues would need to be resolved. It is anticipated that if Council is supportive of the proposal progressing to Gateway Determination, it would be necessary for public agency consultation be undertaken with TfNSW prior to any public exhibition, with a requirement for support and commitment from TfNSW to the resolution of the existing regional traffic issues.	We consider that the relocation of the car park access to Jenner Street provides a solution to distributing the development traffic away from the roads and intersections that are operating at capacity.
In terms of technical vehicle access and engineering matters, the following is identified for your consideration:	
• It is noted that access for service vehicles is proposed from Old Northern Road. Council officers understand that initial informal consultation with TfNSW has been undertaken in preparation of the Planning Proposal. However, it is noted that the documentation does not provide any indication of TfNSW feedback or willingness to agree to access to the development from Old Northern Road. TfNSW is the roads authority for Old Northern Road and their concurrence will be required for vehicular access from Old Northern Road into the development.	The plan has been referred to TfNSW and further discussion is pending.
• Vehicular access to the site carpark should be designed to facilitate Heavy Rigid Vehicles entering and exiting the site, compliant with the relevant Australian Standards;	Noted and this is the case for the loading dock (not the car park, which has no requirement for service vehicle access).

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• Vehicular access to the site, including the internal ramps, should be designed to provide a two-way traffic movement;	Noted and included.
• Stormwater Management will require Onsite Stormwater Detention (OSD) facilities and Water Sensitive Urban Design (WSUD) measures within the development; and	Not presented in this report.
• The Jenner Street drainage will need to be extended from the existing drainage network to the southern side of the development frontage.	Not presented in this report.
f) Local Infrastructure and Contributions	
The planning proposal is accompanied by a letter of offer to enter into a Voluntary Planning Agreement. While a comprehensive internal review of the offer is still underway, the following preliminary feedback is provided below for your consideration:	
• Further information is sought regarding the traffic and pedestrian improvements identified in the VPA offer. These monetary contributions have been valued at $1 million, however there is no rationale included in the offer to verify the value of this contribution. The offer includes possible intersections to expend the funds, such as Old Northern Road/Hill Street, Jenner/Railway Streets and Hill/Jenner Streets, however the Traffic Impact Assessment does not identify any upgrades necessary for these intersections.	Refer to Section 7.8 where we have outlined potential works within the road network. It is noted that these are over and above any mitigation required as a result of the development. This assessment has concluded that no mitigation measures are required, but that the measures identified in the VPA would improve the transport environment in the area. As part of the proposal, upgrades to the Old Northern Road intersections at Hill Street and Cook Street are offered as part of the VPA. These upgrades will not only mitigate the impact of new vehicle movements in the wider area, but they will also improve pedestrian and vehicle safety at these locations, which have been the site of multiple vehicle accidents and a pedestrian fatality in 2014.

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2. Introduction

2.1 Project summary

ptc. has been engaged by The Hills Club to prepare a Traffic Impact Assessment (TIA) to accompany the revised Planning Proposal (PP) application to The Hills Shire Council comprising a mixed-use development at 6-18 Jenner Street, Baulkham Hills.

The development documented within the PP comprises four buildings accommodating 197 residential units, 35 senior living units, bowling greens and a club house. The buildings will sit above a combined basement carpark.

The location of the proposed site is shown in Figure 1.

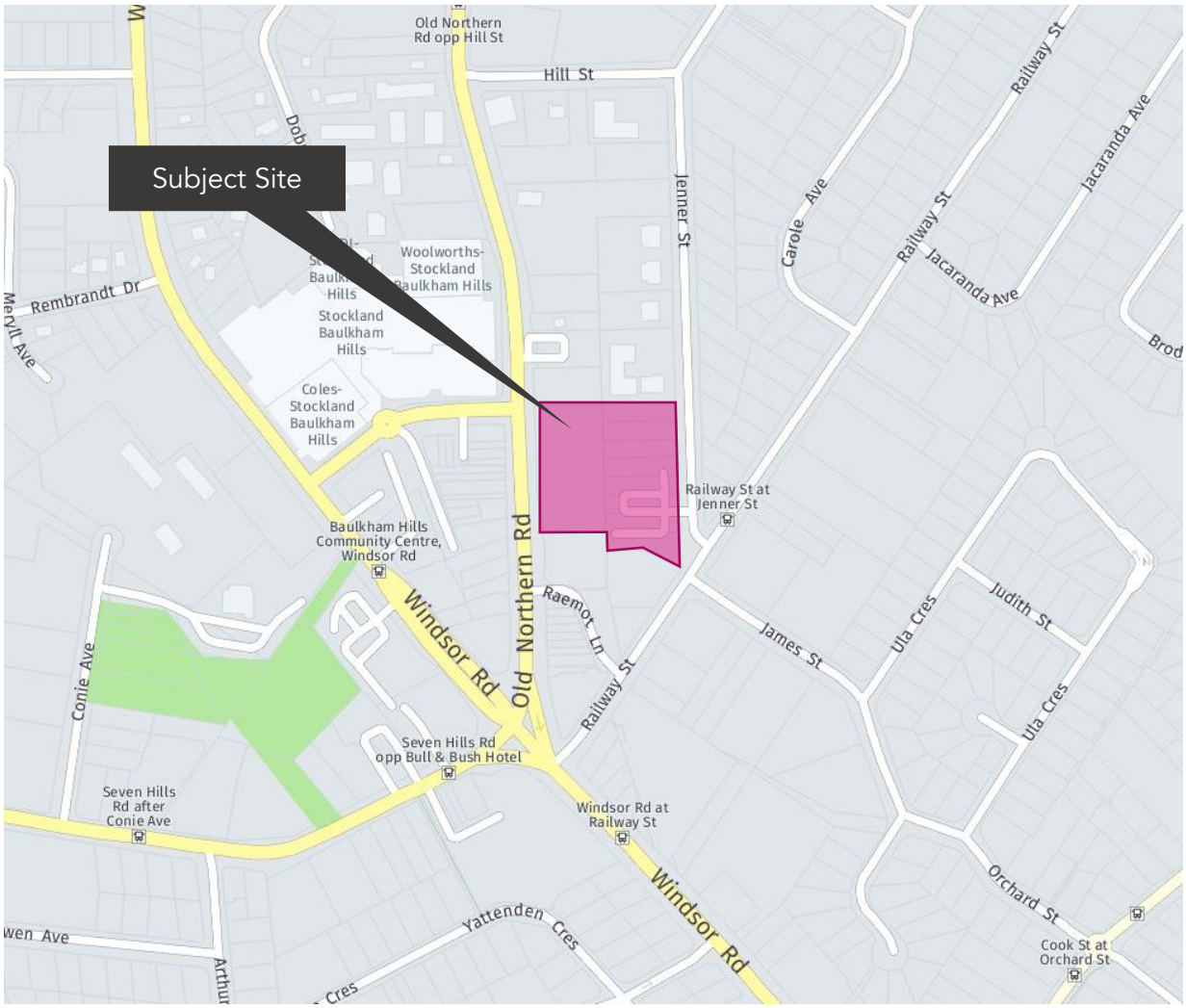

Figure 1 – Site Location (Source: Here WEGO Maps)

This report describes a revised Planning Proposal, and it is important to note that from a traffic engineering perspective, the access arrangement has been revised so that all traffic other than service vehicles will access the site from Jenner Street in order to distribute the traffic activity away from the town centre / state road network, which is operating at capacity.

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2.2 Purpose of this report

This report presents the following considerations in relation to the Traffic and Parking assessment of the proposal:

Section 2	A description of the project.
Section 3	A description of the road network serving the development property, and existing traffic volumes through key local intersections.
Section 4	Assessment of the proposed parking provision in the context of the relevant planning control requirements.
Section 5	Discussion of the access arrangement for the development proposal.
Section 6	Determination of the traffic activity associated with the development proposal, and the adequacy of the surrounding road network.
Section 7	Addresses the required carpark arrangement with compliance to relevant standards, and Council policies.
Section 8	Conclusion.

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3. Background Information

3.1 Site context

The site of the proposal lies within a Private Recreation (RE2) Zone. The local land use surrounding the subject site is shown in Figure 2 and is as follows:

- Local Centre (B2) Zoning
- Public Recreation (RE1) Zoning
- General Residential (R1) Zoning
- Low Density Residential (R2) Zoning
- Medium Density Residential (R3) Zoning
- High Density Residential (R4) Zoning

Figure 2 – Local land use map (Source: ePlanning Spatial Viewer)

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3.2 Development site

The proposal relates to the following sites:

- DP 1108855 / LOT 4
- DP 2489 / LOT 39, 40, 41, 42, 43, 44, 45
- DP 400638 / LOT Z

Figure 3 – Development site (Source: SIX Maps)

3.3 Planning proposal

This PP has been prepared to facilitate the redevelopment of The Hills Club (the club) in Baulkham Hills. The proposal seeks to retain the current RE2 Private Recreation zone under The Hills Local Environmental Plan 2019 and include new uses on the site to support the club and related activities. The additional uses include:

- a new Community Club with a diverse range of food and beverage offerings, members lounge, restaurant, cafe and dining facilities, multi-functional recreation areas, open air bowling green and an enclosed world championship bowling green with associated facilities, 178 car spaces and loading dock
- 228 residential apartments across four buildings
- commercial, retail and other ancillary uses
- site through link

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- basement residential carparking for approximately 414 cars (including 69 visitor spaces)
- public domain upgrades
- signage

The proposed Masterplan provides for 4 main buildings designed around a central communal open space and multi-purpose recreational facilities. The Masterplan sets out future land uses, setbacks, building envelopes and building height controls. The proposal seeks an overall floorspace ratio of 2.24:1 with the car park access from Jenner Street and a loading dock access from Old Northern Road.

Figure 4 – Proposed site plan (Source: Altis)

3.4 Transport for NSW (TfNSW)

A number of meetings have been held with TfNSW to discuss the access arrangement associated with the proposal and in particular access from Old Northern Road. The traffic modelling presented in this report has been undertaken using traffic data collected from the road network as well as SCATS data from TfNSW and has adopted the trip generation rates agreed with TfNSW, which is shown in Section 7.6. We will continue discussions with TfNSW during the PP assessment process.

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4. Existing Transport Facilities

4.1 Road hierarchy

The NSW administrative road hierarchy comprises the following road classifications, which align with the generic road hierarchy as follows:

State Roads - Freeways and Primary Arterials (TfNSW Managed)

Regional Roads - Secondary or sub arterials (Council Managed, partly funded by the State)

Local Roads - Collector and local access roads (Council Managed)

The subject site is located between Jenner Street (Local Street) and the Old Northern Road (State Road). The site is located within close proximity to a large intersection connecting the Old Northern Road, Windsor Road (State Road) and Seven Hills Road (Regional Road). The Old Northern Road provides connections to the north-west from the site while Windsor Road provides north-east and southern connections. Windsor Road also provides connections to the M2 Motorway south of the site. Seven Hills Road provides eastern connections to the M6 Motorway.

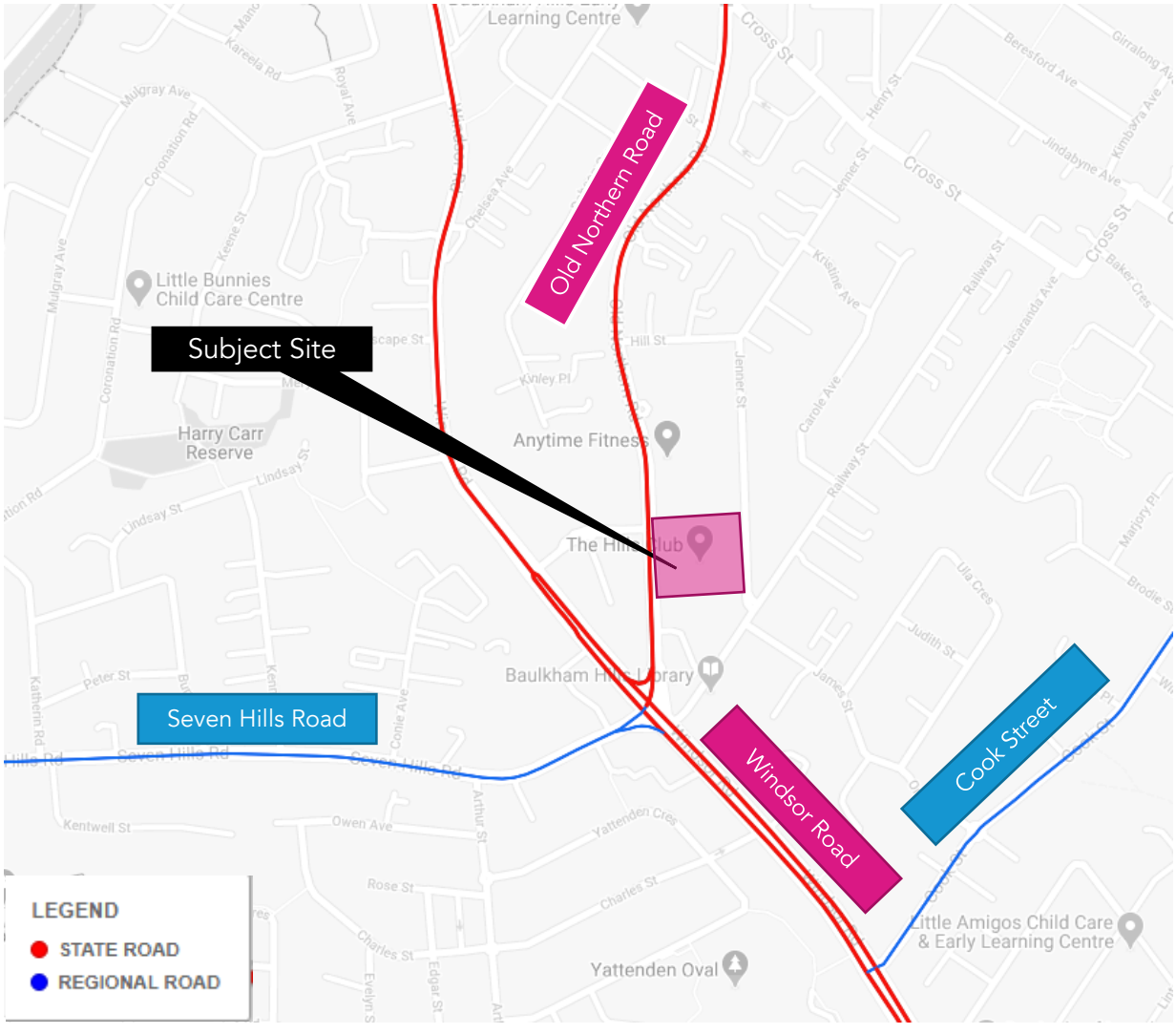

Figure 5 – Road hierarchy (Source: TfNSW State and Regional Roads)

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Table 1 – Existing road network: Jenner Street

Jenner Street	
Road Classification	Local Road
Alignment	North - South
Number of Lanes	1 lane in each direction
Carriageway Type	Undivided
Carriageway Width	Approximately 11m
Speed Limit	50 km/h
School Zone	No
Parking Controls	No Restrictions
Forms Site Frontage	Yes

Figure 6 – Jenner Street, northbound (Source: Google Maps)

Table 2 – Existing road network: Old Northern Road

Old Northern Road	
Road Classification	State Road
Alignment	North - South
Number of Lanes	2 lanes in each direction
Carriageway Type	Undivided
Carriageway Width	Approximately 12m
Speed Limit	60 km/h
School Zone	No
Parking Controls	No Parking
Forms Site Frontage	Yes

Figure 7 – Old Northern Road, northbouth (Source: Google Maps)

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Table 3 – Existing road network: Windsor Road

Windsor Road	
Road Classification	State Road
Alignment	North - South
Number of Lanes	2 lanes in each direction
Carriageway Type	Divided
Carriageway Width	Approximately 15m
Speed Limit	60 km/h
School Zone	No
Parking Controls	No Parking
Forms Site Frontage	No

Figure 8 – Windsor Road, southbound (Source: Google Maps)

Table 4 – Existing road network: Seven Hills Road

Seven Hills Road	
Road Classification	Regional Road
Alignment	East-West
Number of Lanes	2 lanes in each direction
Carriageway Type	Undivided
Carriageway Width	Approximately 12m
Speed Limit	60 km/h
School Zone	No
Parking Controls	No Parking (6:30-9:30am, 3:30-6:30pm)
Forms Site Frontage	No

Figure 9 – Seven Hills Road, westbound (Source: Google Maps)

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Table 5 – Existing road network: Railway Street

Railway Street	
Road Classification	Local Road
Alignment	East-West
Number of Lanes	1 lane in each direction
Carriageway Type	Undivided
Carriageway Width	Approximately 12m
Speed Limit	60 km/h
School Zone	No
Parking Controls	1P Parking (8:30am-6pm, Mon-Fri) , (8:30am-12:30pm, Sat)
Forms Site Frontage	No

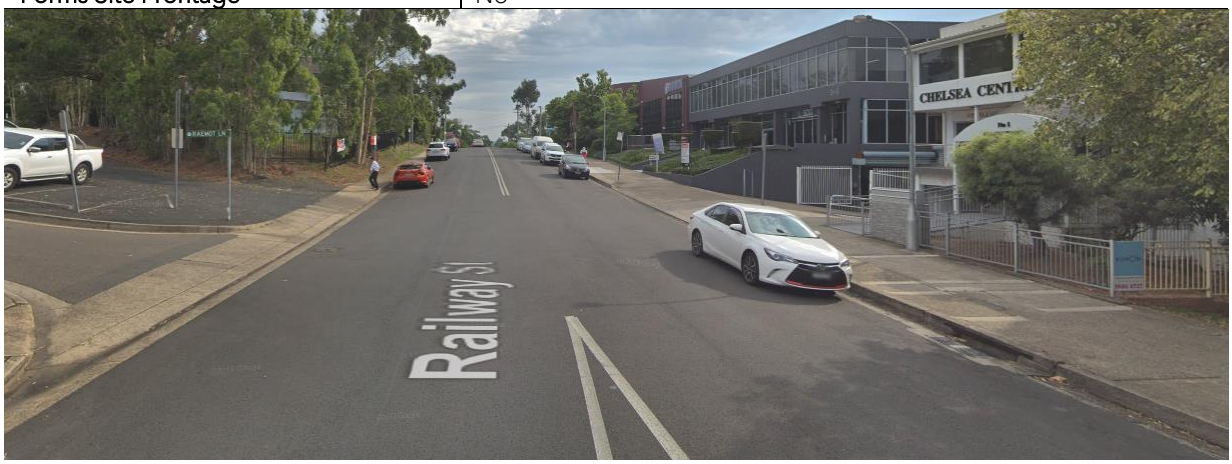

Figure 10 – Railway Street, westbound (Source: Google Maps)

Table 6 – Existing road network: Raemot Lane

Raemot Lane	
Road Classification	Local Road
Alignment	East-West
Number of Lanes	1 lane
Carriageway Type	Undivided
Carriageway Width	Approximately 4m
Speed Limit	50 km/h
School Zone	No
Parking Controls	No Stopping
Forms Site Frontage	No

Figure 11 – Raemot Lane, westbound (Source: Google Maps)

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4.2 Public transport

The locality has been assessed in the context of available forms of public transport that may be utilised by prospective staff and visitors. When defining accessibility, the NSW Guidelines to Walking & Cycling (2004) suggests that 400m-800m is a comfortable walking distance.

The 400m and 800m catchments are shown in Figure 12.

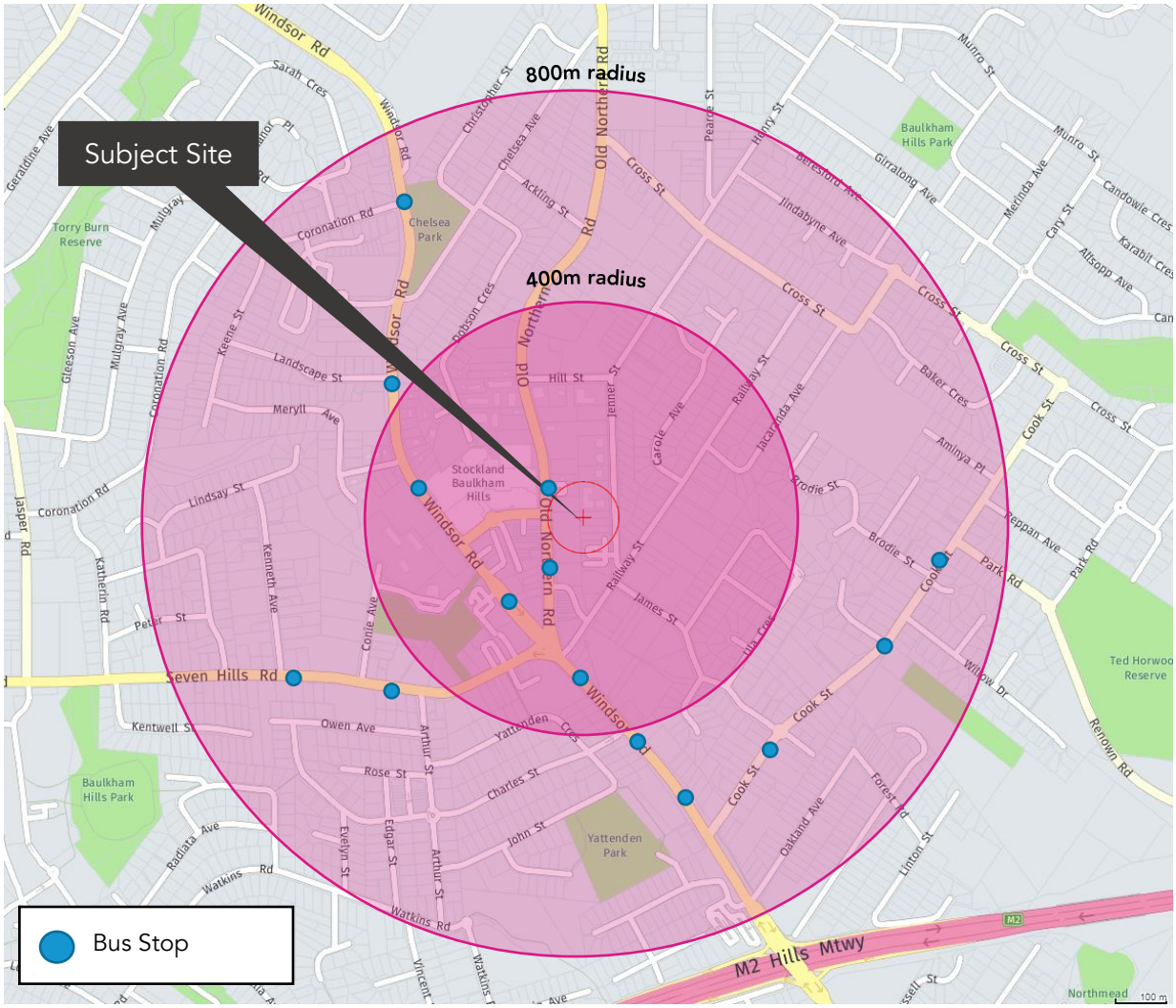

Figure 12 - Public transport services within 400m and 800m walking catchments

4.2.1 Bus Services

The surrounding area is well serviced by bus stops as shown in Figure 12. There is a bus stop located at the site frontage. Table 7 summarises the bus routes which service the site.

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Table 7 – Bus route summary

Bus Route	Coverage (to and from)	Service Frequency
600	Hornsby to Parramatta	Weekdays: AM/PM peak – every 10 minutes Off Peak – every 15 minutes Saturday: Service every 20 minutes Sunday and public holidays: Service every 20 minutes
610N	Norwest to City QVB via Castle Hill (Night Service)	Weekdays: Service every 30 minutes (1:20am-3:50am) Saturday: Service every 15 minutes (1:20am-4:20am) Sunday and public holidays: One service at 4:51am
610X	Kellyville to City QVB via Lane Cove Tunnel (Express Service)	Weekdays: AM/PM peak – every 10 minutes Off Peak – every 15 minutes Saturday: Service every 15 minutes Sunday and public holidays: Service every 15 minutes
612X	Castle Hill to North Sydney (Express Service)	Weekdays: Services every 10 minutes
619	Castle Hill to Macquarie Park via Baulkham Hills	Weekdays: Services every 20 minutes
2584	Oakhill College to Parramatta Station	One 3pm service on weekdays
3119	Old Northern Rd opp. Stonelea Circuit to Tara Anglican School for Girls via Castle Hill	One 7am service on weekdays
3133	Castle Hill Interchange to The King's School	One 7:30am service on weekdays
3163	Edward Bennett Dr before Curtis Cl to Kings School	One 7am service on weekdays
8579	Oakhill College to Parramatta	One 3:20pm service on weekdays

4.2.2 Active transport

As shown above in Figure 12, the 400m-800m catchments defined in the NSW Guidelines in to Walking and Cycling (2004), covers a large amount of bus services and facilities such as Baulkham Hills Stockland's and other local stores. The locality of the site is well serviced with pedestrian amenities such as footpaths, cycleways and street lighting.

A Walk Score assessment has been undertaken, using www.walkscore.com and this analysis indicates that the existing site has a Walk Score of 86. Based on this classification the site is deemed 'very walkable' as most errands can be accomplished by foot. Figure 13 summarises the factors which determine the walk score.

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Figure 13 – Walk Score (Source: Walk Score)

The Hills Shire Council provides some on-road and off-road cycleways within the locality of the subject site. Most of the cycleways are moderate difficulty and disjointed which may discourage cyclist from using the facilities provided to access the development.

Figure 14 shows the existing cycle routes available for cyclist travelling to the site.

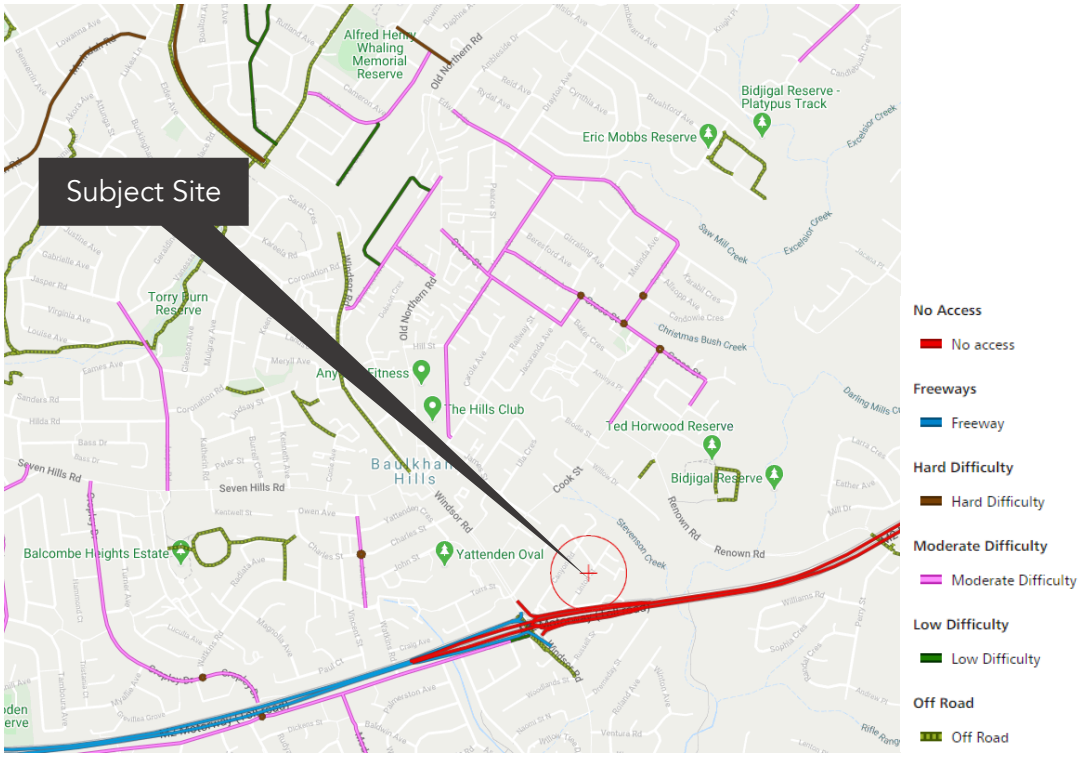

Figure 14 – Cycling routes (Source: TfNSW Cycleway Finder)

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5. Parking Provision

5.1 Planning policy

The proposed development is subject to the parking provision rates stipulated in the following planning document:

- The Hills Shire Council Development Control Plan (DCP) 2012; and
- State Environmental Planning Policy (Housing for Seniors or People with a Disability) (SEPP) 2004.

5.2 Proposed parking requirements

The following parking rates were obtained from the Hills Shire Council DCP for the mixed-use development:

- Residential Flat Buildings in Centre
    - 1 space per 1-bedroom unit
    - 1.5 spaces per 2-bedroom unit
    - 2 spaces per 3-bedroom unit
    - 2 visitor spaces per 5 units
- Registered Club
    - 1 space per 1.85m^2 of service area in bar and lounge plus 1 space per 2 employees
- Bowling Green
    - 30 spaces for the first green, plus 15 spaces per each additional green
- Retail
    - 1 space per 18.5m^2 GLFA
- Gym
    - It is assumed that the gym provided will only be utilised by residents, hence it will not generate any additional parking.

The mixed-use development will also be providing 35 dwellings for Senior Housing. The Hills Shire Council DCP refers to the SEPP parking rates for special land uses such as Senior Living. The following rates are summarised as per the SEPP:

- 0.5 car spaces for each bedroom where the development application is made by a person other than a social housing provider, or
- 1 car space for each 5 dwellings where the development application is made by, or is made by a person jointly with, a social housing provider.

The SEPP also states that private car accommodation for senior living must include the following requirements:

- Car parking spaces must comply with the requirements for parking for persons with a disability set out in AS2890,

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- 5% of the total number of car parking spaces (or at least one space if there are fewer than 20 spaces) must be designed to enable the width of the spaces to be increased to 3.8 metres, and
- Any garage must have a power-operated door, or there must be a power point and an area for motor or control rods to enable a power-operated door to be installed at a later date.

The mixed-use development carparking will be split into two sections for private use and public use. The private use will include all residential parking. The public carpark will be used by attendees and employees of the club, bowling green, retail and function rooms. The AS2890.1: 2004 categorises the private facilities as Class 1A while the public facilities are Class 2.

Table 8 and Table 9 summarises the calculated rates for the total parking space requirements for private and public use respectively.

Table 8 – Private parking provision (Class 1A)

Facility	Rate	Area/Number	Parking Required
Building A (Residential)	1 space per 1-bedroom unit	22	22
	1.5 spaces per 2-bedroom unit	90	135
	2 spaces per 3-bedroom unit	22	44
	2 visitor spaces per 5 units	134	54
	Total		**255**
Building B (Residential)	1 space per 1-bedroom unit	11	11
	1.5 spaces per 2-bedroom unit	18	27
	2 spaces per 3-bedroom unit	11	22
	2 visitor spaces per 5 units	40	16
	Total		**76**
Building C	1 space per 1-bedroom unit	3	3
	1.5 spaces per 2-bedroom unit	22	33
	2 spaces per 3-bedroom unit	7	14
	2 visitor spaces per 5 units	32	13
	Total		**63**
Building D (Residential)	1 space per 1-bedroom unit	4	4
	1.5 spaces per 2-bedroom unit	13	20
	2 spaces per 3-bedroom unit	5	10
	2 visitor spaces per 5 units	22	9
	Total		**43**
TOTAL		**228 Units**	**437**

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Table 9 – Public parking provision (Class 2)

Facility	Rate	Area/Number	Parking Required	Proposed
Bowling Green	**30 Spaces for the first green 15 spaces per each additional green**	**2**	**45**	**-**
Club (Service Area)	1 space per 1.85m^2 of service area in bar and lounge	100m^2*	54	-
	1 space per 2 employees	50	25	-
	Total		**79**	**-**
Retail	**1 space per 18.5m^2 GLFA**	**151m^2**	**8**	**-**
Function Room	1 space per 3 seats	200	66	-
	15 spaces per 100m^2 GFA	330m^2	50	-
	Greater of the two		**66**	**-**
TOTAL			**198**	**178**

* The club parking provision is based on the service area of the bar.

5.2.1 Accessible car parking requirements

The Hills Shire Council DCP stipulate for retail/commercial developments including entertainment and recreation venues are required to have 2% accessible spaces of the total parking provision. Table 10 summarises the accessible car parking provision required and proposed.

Table 10 – Accessible car parking provision

Car Spaces	Accessible Parking Rate	Parking Requirement	Proposed
178	2%	4	4

The 2% DCP requirement has also been applied to the visitor parking (70 spaces) so that 2 spaces are included.

5.3 Bicycle parking requirements

The Hills Shire Council DCP does not require that bicycle spaces are installed for proposed developments.

5.4 Motorcycle parking requirements

The Hills Shire Council DCP stipulates that motorcycle is to be provided in all developments which have on-site parking greater than 50 spaces. The rate required is 1 motorcycle space for every 50 car spaces. Table 11 summarises the parking requirements and the proposed parking for motorcycles.

Table 11 – Motorcycle parking provision

Car Spaces	Motorcycle Parking Rate	Parking Requirement	Proposed
592	0.02	12 spaces	12

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5.5 Service vehicle parking requirements

The Hills Shire Council DCP states that loading dock facilities need to be provided on-site. Larger developments must separate the loading and delivery areas from the other parking areas. The loading area must also not affect the amenity of adjoining residential properties.

5.6 Emergency parking requirements

The Hills Shire Council DCP requires driveways for residential flat buildings and Seniors Living SEPP developments to be able to be accessed by service vehicles such as ambulances, fire tankers and bushfire tankers.

5.7 Carwash bay requirements

The Hills Shire Council DCP stipulates a minimum provision for car wash bays at one bay per residential multi-unit development. Only one car wash bay is required, however it is recommended that each building is considered as its own development. Therefore, 4 car wash bays are to be provided. The car wash bay can be either a designated space separate to that of the total car spaces or can be a visitor space when not utilised by visitors.

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6. Access Arrangement Assessment

The declining business of the existing club and bowling green has resulted in the need to build a new revitalised modern club with state-of-the-art bowling and community facilities, which provides an opportunity for the site to contain high density residential It is recognised that the addition of residents to the property will introduce an increased number of vehicular trips in the area.

The planning proposal includes two access driveways on Jenner Street, which will service the total car parking, while a third access from Old Northern Road will provide dedicated access to the loading/servicing area. Extensive modelling and design assessments have been conducted to assess the impacts of the development having all car parking access from Jenner Street.

Figure 15 shows the location of both potential accesses.

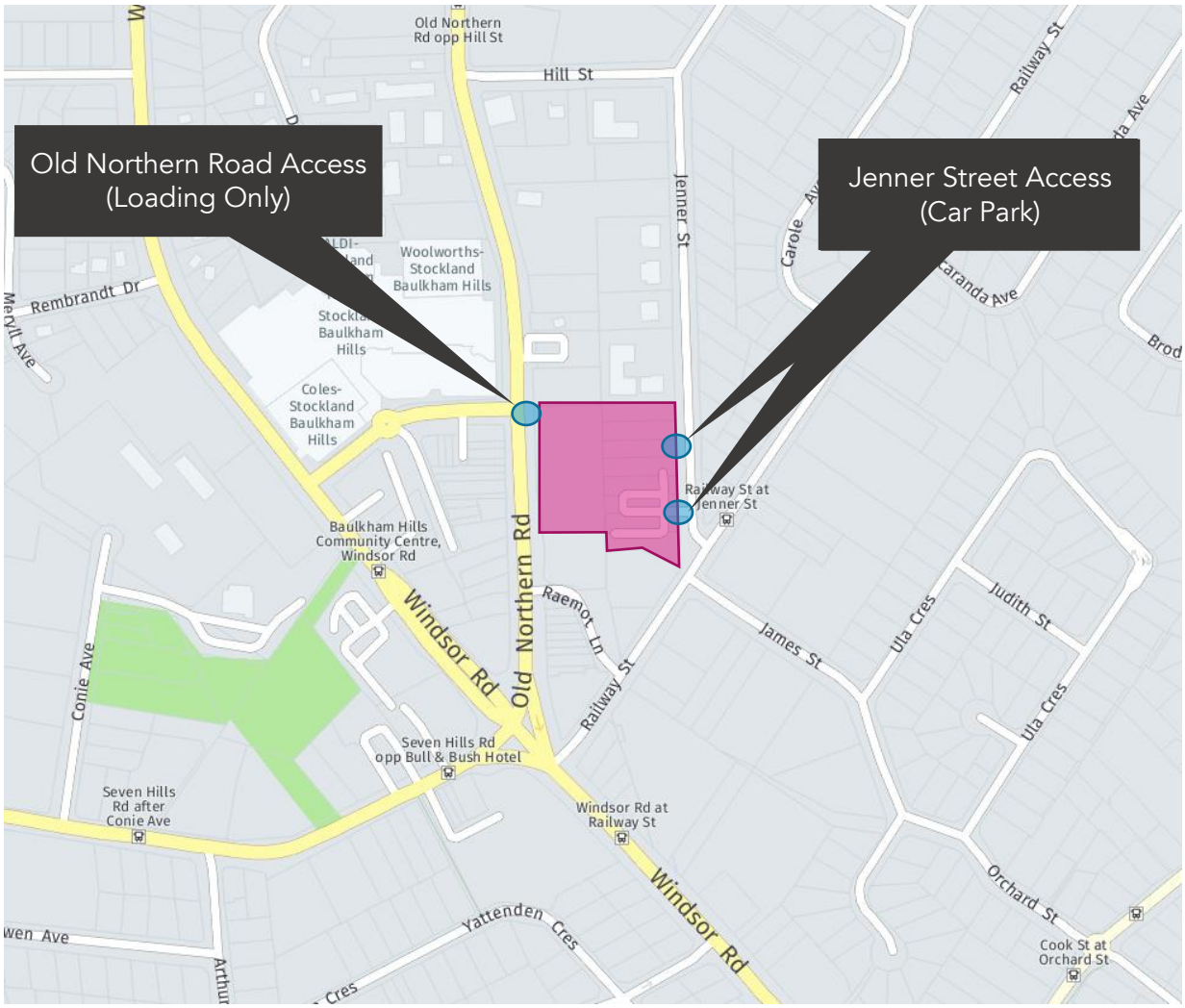

Figure 15 – Location of potential accesses

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6.1 State Environmental Planning Policy (Infrastructure) 2007 (SEPP)

It is recognised that providing access from a classified road requires assessment against the criteria within the SEPP as it is the position of TfNSW to limit access from these roads where possible. The site enjoys access from an alternative public road frontage and the development seeks to retain this access, however there are merits to providing access from Old Northern Road which are discussed below.

In order to allow access from a classified road the proposed development must meet the clauses set by the SEPP. The proposed development is located with a frontage on a classified road therefore, it is subject to Clause 101 of the SEPP. The following table identifies the objectives of the clause and how the development proposes to achieve them:

SEPP Objective	Proposal
1. The objectives of this clause are—	
(a) to ensure that new development does not compromise the effective and ongoing operation and function of classified roads, and	Section 7.6 highlights through SIDRA modelling that the function and operation of the intersection is not compromised. It also allows for the function of a new pedestrian crossing on the southern leg further discussed in Section 6.3.
(b) to prevent or reduce the potential impact of traffic noise and vehicle emission on development adjacent to classified roads.	The additional traffic produced by the loading dock will be negligible in comparison to the existing traffic volumes. Adjacent developments on Old Northern Road are non-residential and unlikely to be impacted by additional traffic volumes.
2. The consent authority must not grant consent to development on land that has a frontage to a classified road unless it is satisfied that—	
(a) where practicable and safe, vehicular access to the land is provided by a road other than the classified road, and	The site benefits from access from a road other than the classified road, however there is merit in providing the access from Old Northern Road at the intersection with Olive Street, which goes to the issue of practical access for service vehicles, and also the distribution of the service vehicles away from the residential area to the east of the site.

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(b) the safety, efficiency and ongoing operation of the classified road will not be adversely affected by the development as a result of— (i) the design of the vehicular access to the land, or (ii) the emission of smoke or dust from the development, or (iii) the nature, volume or frequency of vehicles using the classified road to gain access to the land, and	As part of the works to add the access to the existing traffic signal intersection of Old Northern Road and Olive Street, the southern pedestrian crossing will be constructed, which can be achieved with minimal works to the existing traffic signals. This would achieve compliance with the requirement for a pedestrian crossing at each approach and would therefore improve the safety of the existing intersection. The intersection modelling presented in this report demonstrates that the efficiency of the intersection is minimal with only slight changes to the average delay to the existing movements.
(c) the development is of a type that is not sensitive to traffic noise or vehicle emissions, or is appropriately located and designed, or includes measures, to ameliorate potential traffic noise or vehicle emissions within the site of the development arising from the adjacent classified road.	The design of the development will incorporate appropriate measures the ameliorate potential traffic noise or vehicle emissions.

6.2 Traffic distribution

The Australian Bureau of Statistics (ABS) 2016 Census – Method of Travel to Work data was used to assess the typical directional split in the AM and PM peaks. The data is represented in shown in Figure 16 and Figure 17 respectively. Further information about the methodology of the distribution split for the SIDRA modelling can be found in Section 7.4.

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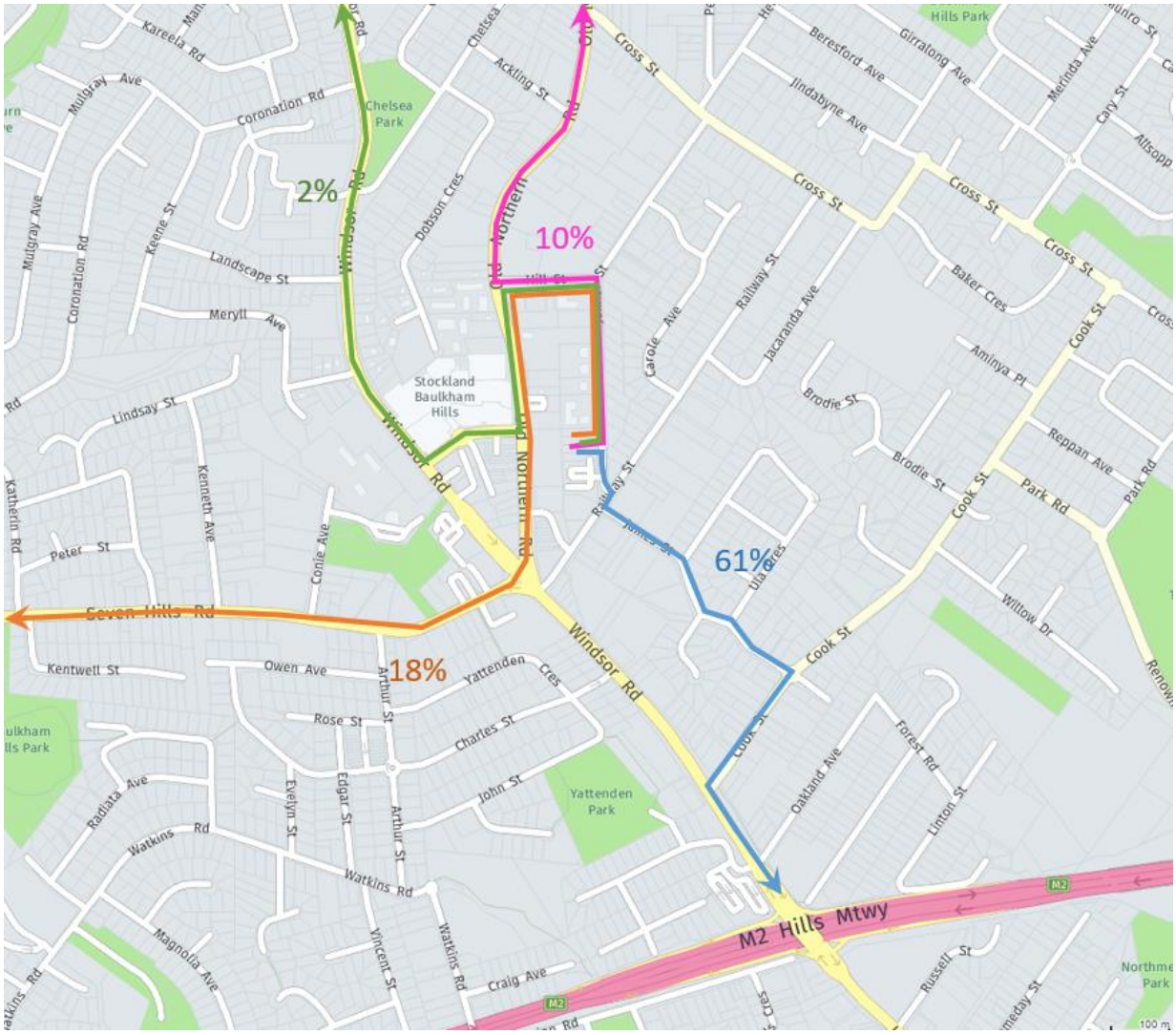

Figure 16 - AM peak outbound trips

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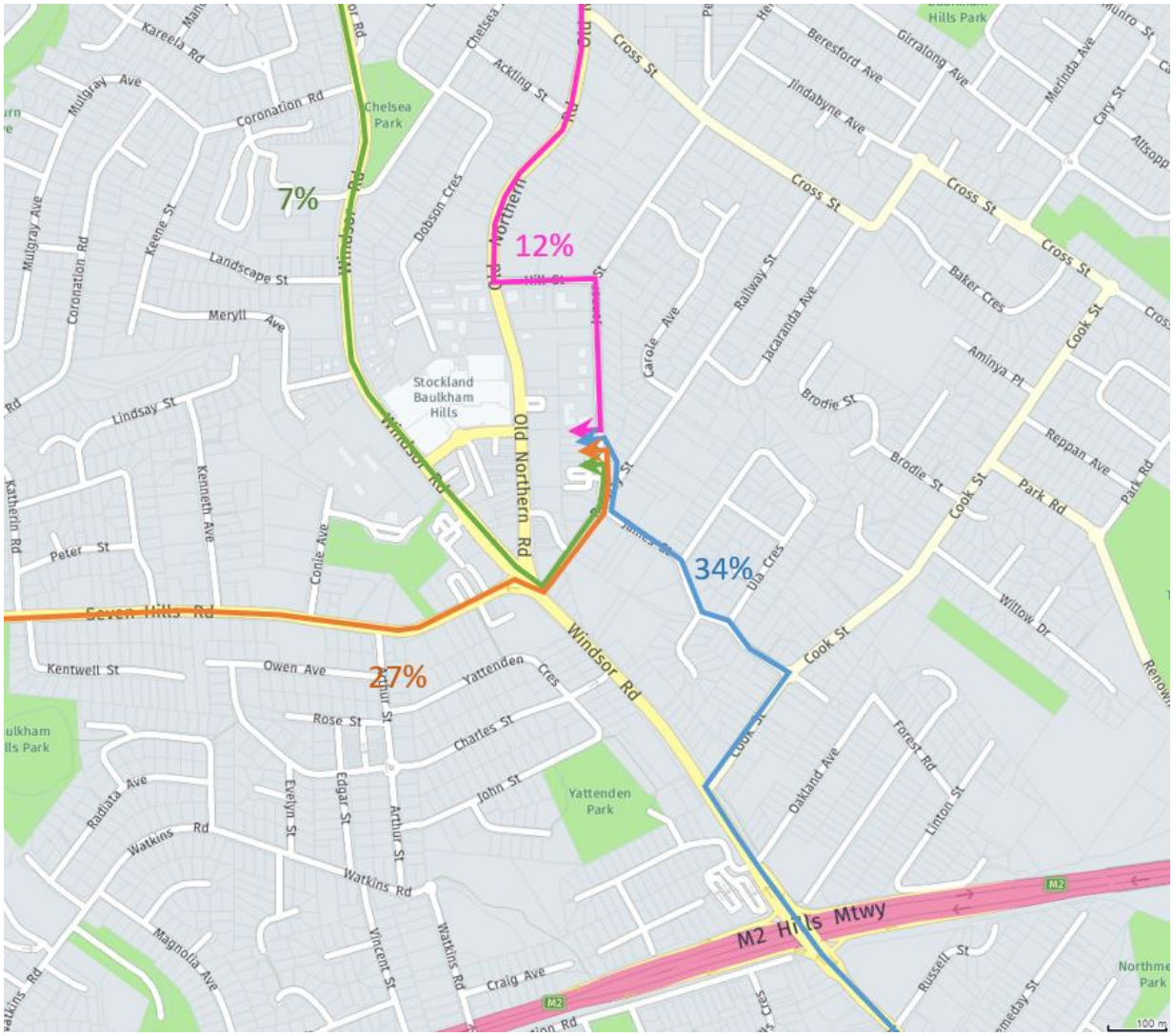

Figure 17 - PM peak inbound trips

The above figures illustrate that the majority of vehicles will arrive and depart using the south approach of Windsor Road due its connections to Parramatta CBD and the M2 Motorway. The residents and visitors who travel in this direction will be required to use the Cook Street and Windsor Road intersection and travel though the local streets, Orchard and James Street.

The SIDRA analysis in Section 7.6 show that the Cook Street and Windsor Road intersection is currently performing at a LoS E and with a 95% back queue distance of over 450m in both the AM and PM peaks. Video footage from the traffic surveys also shows vehicles queuing past the Cook Street and Orchard Street roundabout during both peak periods.

The Hill Street and Old Northern Road Intersection provides access to the north from the Jenner Street access and the development will distribute trips to this intersection. During the AM peak, the intersection will experience an increase in traffic egressing on to Old Northern Road.

It is anticipated that the primary service and refuse vehicle access would be predominantly from the M2 Motorway to the south, which links many depot connections in western Sydney. The additional residential and senior living facilities to the existing bowling club activity will increase heavy vehicle activity. A loading bay on Jenner Street would require trucks to follow the same route as light vehicles, which would introduce

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additional trips through the residential area. Heavy vehicles can also have notable impacts to the safety of pedestrians on local roads due to narrow streets and non-signalised intersections. For these reasons, access from Old Northern Road is being sought for the sole use of service vehicles.

6.3 Pedestrian desire lines

Section 2.4 of the *TfNSW Traffic Signal Design Section 2 – Warrants (2008)* states that a signalised pedestrian crossing is to be provided on each leg of a signalised intersection except where certain warrants are met.

The proposed Old Northern Road access will include a pedestrian crossing across the site access (the new eastern approach) and a new crossing on the southern approach to bring the intersection up to the current standards. The existing approaches will continue to perform similarly to the existing intersection (see Section 7.6) while also ensuring that the requirements in the TfNSW Traffic Signal Design guide are met.

The proposed development plans to continue serving an existing desire line for residents who live east of the town centre with the introduction of a public access through site link on the southern boundary. Therefore, the additional pedestrian crossing will support the link for the residents within the development and those who live east of the town centre.

6.4 Old Northern Road access concept (Loading dock only)

In assessing the potential to provide an access to the loading dock at the intersection of Old Northern Road and Olive Street, we have assessed the traffic impacts (refer Section 7.6) and the physical arrangement given the sensitive requirements associated with traffic signal layouts.

We have prepared a concept design, which has been informally presented to TfNSW, demonstrating that the access is achievable within the constraints of land ownership and traffic signal design requirements with minimal impact on the existing signal equipment.

In terms of the layout, the project is seeking all movements on exit from the development (left, right and through), the left movement in from Old Northern Road and the inbound through movement from Olive Street. This proposal is not seeking the right turn inbound movement from Old Northern Road (south approach), as this movement is facilitated by Windsor Road and the right turn into Olive Street.

It is noted that the entry movements to the development would be facilitated by the existing phases of the traffic signals (the left turn entry from Old Northern Road would run in Phases A, B and D, the through movement from Olive would run in Phase C).

The egress from the development would require an additional phase, which has been modelled, however this would only be called up on actuation of the detector loop within the development (also noting the need for an access easement over this equipment). Given the relatively low traffic volumes generated by the loading dock, we have modelled this being called up 50% of the cycles during the morning peak (30% during the evening peak) so that SIDRA does not include this phase on every cycle.

The inclusion of the southern pedestrian crossing can be achieved within the existing geometry of the intersection making use of the offset southern stop line, which means that the current stop line and signal equipment locations can be maintained.

The northern edge of the development entry would be slightly offset in relation to Olive Street, meaning that the egress lane aligns with the westbound lane of Olive Street, while the central approach lane in Olive

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Street (which is the northern right turn lane) aligns suitably with the development entry lane. This would become a shared right/through lane, leaving the current left turn lane as a dedicated lane.

Figure 18 illustrates the proposed concept design of the intersection.

Figure 18 – Proposed intersection concept design

6.5 Loading dock facilities

There are three available options for the loading dock within the development which have been summarised below.

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Figure 19 – Loading dock options

6.5.1 Option 1: Jenner Street

Cross Street, Hill Street and Railway Street have the signage, "Trucks Prohibited 3T and Over" which restricts heavy vehicle access to Jenner Street. Heavy vehicles travelling towards Jenner Street run the risk of damaging local road infrastructure, visual amenity and be a disruption to the residents.

6.5.2 Option 2: One-way entry and exit

A one-way entry at Old Northern Road with an exit at Jenner Street allows for no additional phase sequence at the Old Northern Road and Olive Street intersection. However, there are many significant design implications which will create issues for this option. The design will require additional excavation and would not be commercially viable.

Having an isolated 4.5m high tunnel which allows for a service vehicle to pass through the development will create a large void on the northern part of the site. This will create implications and compromise the design of the development and place the redevelopment of the site at risk of not proceeding.

6.5.3 Option 3: Old Northern Road & Olive Street intersection

A loading dock located on Old Northern Road is the preferred option as it provides a convenient access point for heavy vehicles away from local roads and the failing Cook Street intersection.

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In order to facilitate a loading dock, the Old Northern Road and Olive Street Intersection should be upgraded as abovementioned to contain an additional leg. This would also require a new phasing sequence which will coordinate with the rest of the system.

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7. Traffic Impact Assessment

Generally, the traffic activity associated with a particular type of land use can be determined through a number of approaches. For the purposes of this assessment, the traffic activity related to the existing land use for the existing and post-development traffic generation is determined with reference to the following documents:

- TfNSW Guide to Traffic Generating Developments 2002 (TfNSW Trip Guide); and
- TfNSW Technical Direction 2013/04a (TDT 2013/04a).
- TfNSW Trip Generation Surveys High Density Residential Car Based Data Report 2017 (TfNSW Residential Trip Guide)

7.1 Existing traffic generation

The existing site is currently occupied by an existing club and three bowling greens. The development proposal will involve redeveloping the club and bowling greens with the addition of three residential buildings and one senior housing facility.

The existing club has a GFA of 3,400 m^2, whereas the proposed club will have a GFA of 3,050m^2. The original three bowling greens will also be reduced to two synthetic multifunction bowling greens. It can be assumed that although there will be downsizing, the patronage will remain relatively similar.

7.2 Proposed traffic generation

The proposed traffic generation is dependent on each type of land use which is proposed for the development. This includes the residential & senior housing, club, bowling greens and retail developments.

7.2.1 Residential

The TfNSW Residential Trip Guide provides the most recent survey data for residential properties which are not well serviced by public transport. The report provides surveys of a similar site located in Baulkham Hills which is located within reasonable walking distance (approximately 300m) to a shopping centre. Therefore, the following trip generation rates were obtained from the report:

- AM peak (1 hour) vehicle trips per unit = 0.398
- PM peak (1 hour) vehicle trips per unit = 0.473

Table 12 summarises the calculation of the vehicle trip generation for the residential development.

Table 12 – Residential trip generation

Peak Hour	Number of Units	Trip Generation Rate	Generated Trips
AM	228	0.398 trips per unit	91
PM		0.473 trips per unit	108

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7.2.2 Senior living

The senior living trip generation was obtained from the TDT 2013/04a. The rates are provided per dwelling are summarised as follows:

- Weekday peak hour vehicle trips = 0.4 per dwelling

Table 13 summarises the calculation for the vehicle trip generation for the senior living development.

Table 13 – Senior living trip generation

Peak Hour	Number of Dwellings	Trip Generation Rate	Generated Trips
AM	32	0.4 trips per dwelling	13
PM		0.4 trips per dwelling	13

7.2.3 Club, function rooms and bowling green

The TfNSW Trip Guide traffic generation for clubs is 10 vehicles / hr / 100m^2 of licenced floor area. The TfNSW traffic generation rates for Clubs are based on surveys conducted in 1978 and behaviour changes since 1978, such as the introduction of random breath testing, make such generalisations more difficult.

As mentioned above in Section 7.1, the club area and bowling greens is being reduced. The proposed development will also have an additional 32 car parking spaces to the existing 170 spaces available for the services.

Therefore, the number of spaces within a carpark provides and more accurate representation of the traffic generation of a club as it effectively places a cap on the peak hour traffic generation. There will be 32 more vehicle trips expected for the club and bowling greens during the peak hours.

7.2.4 Retail

The tenancies for the proposed retail land use will be primarily for food stores. It is anticipated that the food stores will be used by those who reside within the development or other local residents and visitors of the club.

The carparking rates for all the services calculated in Section 5.2, includes the retail spaces with the club and bowling greens. Therefore, the traffic generation for the retail trips has been accounted for as part of the additional 32 vehicle trips during the peak hours.

7.2.5 Total traffic generation

Table 14 summarises the total peak hour trips generated by the entire development site.

Table 14 – Total development trip generation

Proposed Development	AM Peak	PM Peak
Residential	79	93
Senior Living	14	14

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Services (Club, Bowling Greens and Retail)	0	60
Total Peak Hour Trips	**93**	**167**

7.3 Existing traffic volumes

The traffic volumes in the vicinity of the subject site were determined through intersection surveys. The surveys were conducted on Thursday, 26th September 2020 at the following intersections:

- Hill Street / Old Northern Road
- Hill Street / Jenner Street
- Olive Street / Windsor Road
- Olive Street / Old Northern Road
- Windsor Road / Old Northern Road / Seven Hills Road / Railway Street
- James Street / Railway Street
- Jenner Street / Railway Street
- Cook Street / Windsor Road
- Orchard Street / Cook Street

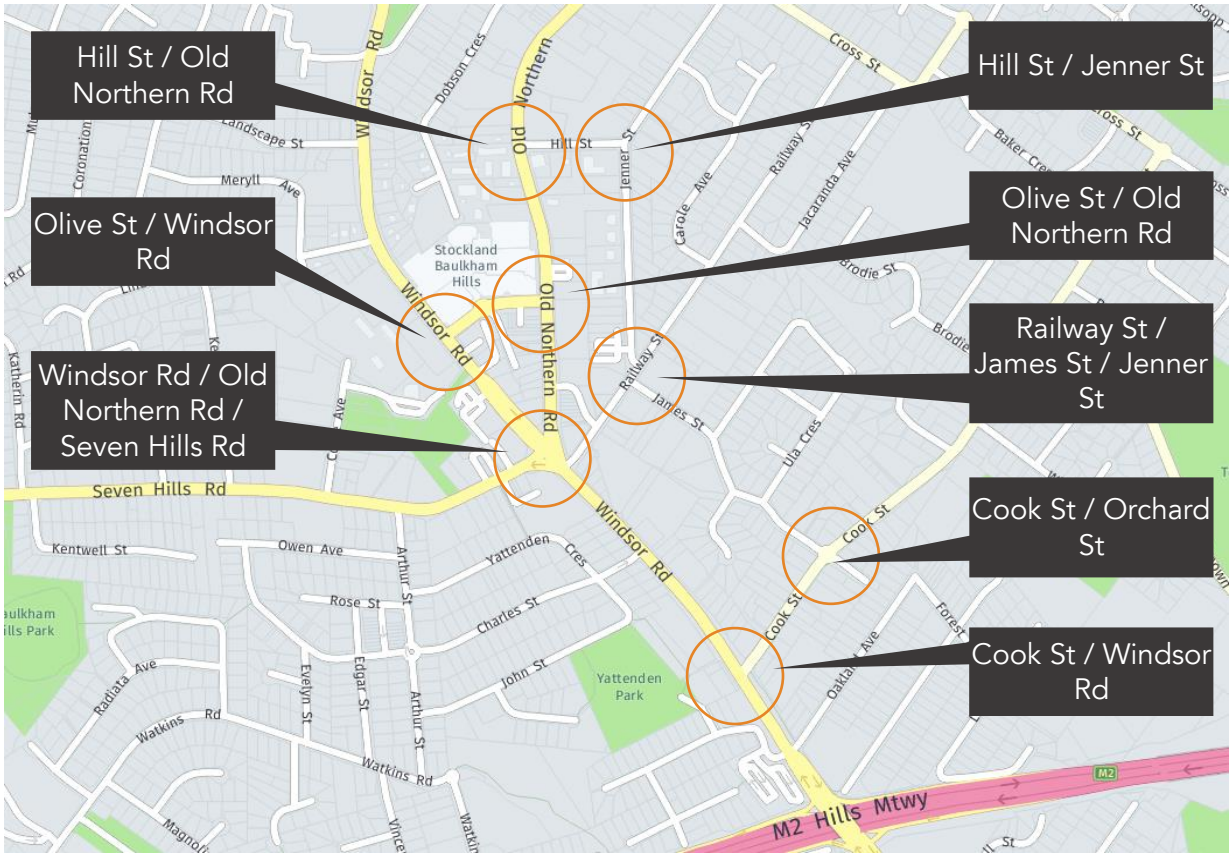

Figure 20 – Locations of intersection surveys

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7.3.1 Existing peak hour traffic volumes

The peak hour for the overall traffic network was determined by summing all intersection movements within the network for each hour. The hour which has the highest total for both the morning and afternoon will be considered the AM and PM peak respectively. The two peak periods which were evaluated are:

- Morning peak period: 8:00am – 9:00am
- Afternoon peak period: 5:00pm – 6:00pm

The traffic volumes for the AM and PM peak hours are shown in Attachment 1

7.4 Development traffic distribution

The following assumptions were made to determine the assignment of the additional trips generated by the proposed development:

- An assessment of the traffic activity based on car park access from Jenner Street and loading dock access as part of the Old Northern Road / Olive Street intersection.
- The proposed traffic generation for the new residential part of the development will assume that those who live there will generally work during business hours. Therefore, it is assumed that during the AM peak 80% of trips will be outbound while during the PM peak 80% of trips will be inbound.
- The method for calculating the club traffic volumes is described in Section 7.2.3. It is assumed that club patrons only will only attend in the afternoon with an equal amount of inbound and outbound trips during the PM peak.
- Service vehicles will most likely provide deliveries during off peak hours. Since heavy vehicles generally enter and leave a loading bay within an hour a 50-50 split for inbound and outbound trips is assumed. It is also assumed that all heavy vehicles will use the M2 as a connection between deliveries or from the depot. Heavy Vehicles would be arriving from the M2 Motorway onto Windsor Road and turning right at Olive Street to reach the proposed loading dock access.
- The Australian Bureau of Statistics (ABS) 2016 Census – Method of Travel to Work data was used to assess the directional split in the AM and PM peaks. Through the assessment of quickest routes for all Sydney regions which have significant vehicle trips (>10 trips) to the Baulkham Hills region a directional split was established. The directional split for both scenarios during the AM inbound and PM outbound (inbound for the club) trip is shown in Section 6.2 as Figure 16 and Figure 17 respectively.

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7.5 Modelling scenarios

Traffic conditions throughout 2020/21 have been affected by the lockdown restrictions caused by COVID-19 outbreaks. Through discussions with Council and TfNSW it was agreed that traffic surveys would be undertaken at the key intersections, but to account for the impact of the lockdowns, SCATS data on the same day in 2020 and 2019 would analysed so that the collected traffic volumes could be adjusted. This approach was followed as described in the following scenario descriptions.

The following scenarios have been assessed in this report:

- M1 - Existing (2020) – The existing road network with the existing traffic volumes as observed in the traffic survey.
- M2 - SCATS adjustment (2020) – SCATS data for the date of the existing surveys (Thursday, 24th September 2020) and the equivalent day in 2019 (Thursday, 26th September 2019) were compared to ensure a more accurate model was represented for the future development. The comparison was undertaken comparing the traffic volumes for each leg of the intersection. A robust approach was taken by only increasing the volume of the legs which had decreased since 2019, retaining the volumes that were higher in 2020.
- M3 - Growth Year 1 (2023 – opening year) – The future road network without the development traffic generation with a nominal growth rate of 1.4%p.a. for the AM peak and 1.1%p.a. for the PM peak. The growth rates were calculated by taking the average growth from a nearby traffic counter on Windsor Road. The traffic counter provided data historic volume data from 2019 to 2009. The growth rates were applied to all through movements on arterial roads.
- M4 - Development (2023 – opening year) – The 2023 future road network with development traffic distribution for all light vehicle access through Jenner Street and a Loading Dock on Old Northern Road.
- M5 - Future Growth 10 Years (2033) – The future road network without the development traffic generation with a nominal growth rate of 1.4%p.a. for the AM peak and 1.1%p.a. for the PM peak.
- M6 - Development (2033) – The 2033 future road network with development traffic distribution for all light vehicle access through Jenner Street and a Loading Dock on Old Northern Road.

7.6 SIDRA analysis

A volume analysis was performed using the SIDRA Intersection 9 software, a micro-analytical tool for individual intersection and whole-network modelling. The models are based on the collected traffic survey data. SIDRA provides a number of performance indicators outlined below:

- Degree of Saturation – The total usage of the intersection expressed as a factor of 1 with 1 representing 100% use/saturation. (e.g., 0.8=80% saturation).
- Average Delay – The average delay encountered by all vehicles passing through the intersection. It is often important to review the average delay of each approach as a side road could have a long delay time, while the large free flowing major traffic will provide an overall low average delay.
- 95% Queue Lengths (Q95) – is defined to be the queue length in metres that has only a 5-percent probability of being exceeded during the analysis time period. It transforms the average delay into measurable distance units.

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- Level of Service (LoS) – This is a categorization of average delay, intended for simple reference. It is a good indicator of overall performance for individual intersections. TfNSW adopts the bands shown in Table 15.

Table 15 – Intersection performance – Levels of Service

Level of Service	Average Delay (secs/vehicle)	Traffic Signals, Roundabout	Give Way & Stop Signs
A	<14	Good operation	
B	15 to 28	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity & accident study required
E	57 to 70	At capacity. At signals, incidents would cause excessive delays. Roundabouts require other control mode	At capacity, requires other control mode
F	>70	Extra capacity required	Extreme delay, major treatment required

A summary of the modelling results is presented in Sections 7.6.1, 7.6.2 and 7.6.3.

The full movement summary of the outputs from SIDRA along with the intersection layouts used are provided in Attachment 2.

7.6.1 Existing model

The following table compares the surveyed traffic volumes with the adjusted volumes based on SCATS data for Thursday, 24th September 2020 and the equivalent day in a year before, Thursday, 26th September 2019.

Intersection	Time	Scenario	Level of Service	Average Delay (s)	Degree of Saturation (%)	95% Queue Length (m)
Hill Street / Old Northern Road	AM Peak	M1: Existing (2020)	F	149.6	0.393	6.6
		M2: Adjustment (2020)	F	148.3	0.393	6.5
	PM Peak	M1: Existing (2020)	F	173.6	0.364	7.9
		M2: Adjustment (2020)	F	180.6	0.372	8.0
Hill Street / Jenner Street	AM Peak	M1: Existing (2020)	A	4.8	0.081	0.9
		M2: Adjustment (2020)	A	4.8	0.081	0.9
	PM Peak	M1: Existing (2020)	A	4.7	0.097	1.1
		M2: Adjustment (2020)	A	4.7	0.097	1.1
Windsor Road / Olive Street	AM Peak	M1: Existing (2020)	C	40.3	0.971	256.0
		M2: Adjustment (2020)	D	48.0	0.997	284.9
	PM Peak	M1: Existing (2020)	C	20.9	0.829	155.9
		M2: Adjustment (2020)	F	81.1	1.135	389.4

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Intersection	Time	Scenario	Level of Service	Average Delay (s)	Degree of Saturation (%)	95% Queue Length (m)
Olive Street / Old Northern Road	AM Peak	M1: Existing (2020)	B	25.7	0.846	130.0
		M2: Adjustment (2020)	B	25.7	0.835	126.3
	PM Peak	M1: Existing (2020)	B	17.6	0.603	67.1
		M2: Adjustment (2020)	B	17.2	0.596	67.0
Old Northern Road / Windsor Road / Seven Hills Road	AM Peak	M1: Existing (2020)	D	44.2	0.925	185.8
		M2: Adjustment (2020)	D	45.0	0.925	186.6
	PM Peak	M1: Existing (2020)	D	51.5	0.942	178.0
		M2: Adjustment (2020)	D	53.9	0.942	210.5
Windsor Road / Railway Street	AM Peak	M1: Existing (2020)	A	3.1	0.625	105.9
		M2: Adjustment (2020)	A	3.1	0.637	104.9
	PM Peak	M1: Existing (2020)	A	3.1	0.549	175.9
		M2: Adjustment (2020)	A	3.1	0.571	177.6
James Street / Railway Street	AM Peak	M1: Existing (2020)	A	7.6	0.109	1.1
		M2: Adjustment (2020)	A	7.6	0.109	1.1
	PM Peak	M1: Existing (2020)	A	7.6	0.123	1.2
		M2: Adjustment (2020)	A	7.6	0.123	1.2
Jenner Street / Railway Street	AM Peak	M1: Existing (2020)	A	8.4	0.071	0.6
		M2: Adjustment (2020)	A	8.4	0.071	0.6
	PM Peak	M1: Existing (2020)	A	8.4	0.091	0.6
		M2: Adjustment (2020)	A	8.4	0.091	0.7
Cook Street / Windsor Road	AM Peak	M1: Existing (2020)	E	58.8	1.219	230.0
		M2: Adjustment (2020)	F	82.9	1.365	230.0
	PM Peak	M1: Existing (2020)	E	55.0	1.142	230.0
		M2: Adjustment (2020)	E	55.2	1.142	230.0
Orchard Street / Cook Street	AM Peak	M1: Existing (2020)	F	81.8	1.071	160.2
		M2: Adjustment (2020)	F	81.7	1.071	160.1
	PM Peak	M1: Existing (2020)	F	186.6	1.190	324.3
		M2: Adjustment (2020)	F	186.5	1.190	324.3

7.6.2 Development completion (2023) model

The following table compares the three traffic scenarios in 2023.

Intersection	Time	Scenario	Level of Service	Average Delay (s)	Degree of Saturation (%)	95% Queue Length (m)
	AM Peak	M3: Future Growth (2023)	F	181.2	0.409	7.3

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Intersection	Time	Scenario	Level of Service	Average Delay (s)	Degree of Saturation (%)	95% Queue Length (m)
Hill Street / Old Northern Road		M4: Post Dev. (2023)	F	261.4	0.744	7.3
	PM Peak	M3: Future Growth (2023)	F	221.5	0.434	8.6
		M4: Post Dev. (2023)	F	216.3	0.585	8.0
Hill Street / Jenner Street	AM Peak	M3: Future Growth (2023)	A	4.7	0.080	0.9
		M4: Post Dev. (2023)	A	4.8	0.099	1.1
	PM Peak	M3: Future Growth (2023)	A	4.7	0.097	1.1
		M4: Post Dev. (2023)	A	4.7	0.107	1.2
Windsor Road / Olive Street	AM Peak	M3: Future Growth (2023)	E	67.0	1.061	348.7
		M4: Post Dev. (2023)	E	67.2	1.061	348.7
	PM Peak	M3: Future Growth (2023)	E	76.7	1.117	388.3
		M4: Post Dev. (2023)	F	104.5	1.208	457.9
Olive Street / Old Northern Road	AM Peak	M3: Future Growth (2023)	B	26.5	0.859	135.2
		M4: Post Dev. (2023)	C	29.2*	0.711	149.3
	PM Peak	M3: Future Growth (2023)	B	17.7	0.614	67.3
		M4: Post Dev. (2023)	C	22.2*	0.675	106.0
Site Access (Jenner Street)	AM Peak	M3: Future Growth (2023)	-	-	-	-
		M4: Post Dev. (2023)	A	6.1	0.065	0.5
	PM Peak	M3: Future Growth (2023)	-	-	-	-
		M4: Post Dev. (2023)	A	6.5	0.130	0.3
Old Northern Road / Windsor Road / Seven Hills Road	AM Peak	M3: Future Growth (2023)	D	55.6	1.074	189.3
		M4: Post Dev. (2023)	D	55.8	1.084	189.3
	PM Peak	M3: Future Growth (2023)	E	59.8	0.974	204.4
		M4: Post Dev. (2023)	E	66.8	0.991	230.7
Windsor Road / Railway Street	AM Peak	M3: Future Growth (2023)	A	3.1	0.621	112.5
		M4: Post Dev. (2023)	A	3.1	0.620	109.6
	PM Peak	M3: Future Growth (2023)	A	3.1	0.568	354.7
		M4: Post Dev. (2023)	A	3.1	0.567	212.6
James Street / Railway Street	AM Peak	M3: Future Growth (2023)	A	7.6	0.108	1.1
		M4: Post Dev. (2023)	A	7.8	0.126	1.3
	PM Peak	M3: Future Growth (2023)	A	7.6	0.121	1.2
		M4: Post Dev. (2023)	A	8.0	0.202	2.2
Jenner Street / Railway Street	AM Peak	M3: Future Growth (2023)	A	8.4	0.070	0.6
		M4: Post Dev. (2023)	A	8.4	0.121	1.2
	PM Peak	M3: Future Growth (2023)	A	8.4	0.091	0.6

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Intersection	Time	Scenario	Level of Service	Average Delay (s)	Degree of Saturation (%)	95% Queue Length (m)
		M4: Post Dev. (2023)	A	8.4	0.145	1.0
Cook Street / Windsor Road	AM Peak	M3: Future Growth (2023)	F	92.7	1.422	230.0
		M4: Post Dev. (2023)	F	107.7	1.489	230.0
	PM Peak	M3: Future Growth (2023)	E	62.8	1.193	230.0
		M4: Post Dev. (2023)	E	63.5	1.145	230.0
Orchard Street / Cook Street	AM Peak	M3: Future Growth (2023)	F	123.0	1.118	213.5
		M4: Post Dev. (2023)	F	122.9	1.118	213.4
	PM Peak	M3: Future Growth (2023)	F	225.1	1.233	374.8
		M4: Post Dev. (2023)	F	297.0	1.313	427.5

* It is noted that the average delay associated with the intersection includes the new delays associated with the proposed access, which are high due to the cycle time prioritising Old Northern Road and Olive Street. The current movements delays are barely impacted.

7.6.3 Future growth 10-year horizon (2033) model

The following table compares the background growth traffic scenarios in 2033 with and without the development.

Intersection	Time	Scenario	Level of Service	Average Delay (s)	Degree of Saturation (%)	95% Queue Length (m)
Hill Street / Old Northern Road	AM Peak	M5: Future Growth (2033)	F	401.0	0.636	12.7
		M6: Post Dev. (2033)	F	714.1	1.312	134.6
	PM Peak	M5: Future Growth (2033)	F	430.2	0.662	10.8
		M6: Post Dev. (2033)	F	254.7	0.632	9.8
Hill Street / Jenner Street	AM Peak	M5: Future Growth (2033)	A	4.7	0.076	0.8
		M6: Post Dev. (2033)	A	4.8	0.095	1.1
	PM Peak	M5: Future Growth (2033)	A	4.7	0.091	1.0
		M6: Post Dev. (2033)	A	4.7	0.100	1.1
Windsor Road / Olive Street	AM Peak	M5: Future Growth (2033)	F	130.5	1.230	548.8
		M6: Post Dev. (2033)	F	130.1	1.230	548.8
	PM Peak	M5: Future Growth (2033)	F	172.6	1.392	642.5
		M6: Post Dev. (2033)	F	186.6	1.428	665.7
Olive Street / Old Northern Road	AM Peak	M5: Future Growth (2033)	C	27.7	0.926	163.1
		M6: Post Dev. (2033)	E	60.4*	0.986	260.0
	PM Peak	M5: Future Growth (2033)	B	18.6	0.680	69.8
		M6: Post Dev. (2033)	C	30.8*	0.729	169.7
	AM Peak	M5: Future Growth (2033)	-	-	-	-

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Intersection	Time	Scenario	Level of Service	Average Delay (s)	Degree of Saturation (%)	95% Queue Length (m)
Site Access (Jenner Street)		M6: Post Dev. (2033)	A	6.1	0.061	0.5
	PM Peak	M5: Future Growth (2033)	-	-	-	-
		M6: Post Dev. (2033)	A	6.4	0.118	0.3
Old Northern Road / Windsor Road / Seven Hills Road	AM Peak	M5: Future Growth (2033)	F	91.5	1.218	379.6
		M6: Post Dev. (2033)	F	83.2	1.227	369.7
	PM Peak	M5: Future Growth (2033)	F	96.9	1.090	301.6
		M6: Post Dev. (2033)	F	126.8	1.107	304.1
Windsor Road / Railway Street	AM Peak	M5: Future Growth (2033)	A	3.1	0.656	177.0
		M6: Post Dev. (2033)	A	3.1	0.652	154.9
	PM Peak	M5: Future Growth (2033)	A	3.1	0.595	500
		M6: Post Dev. (2033)	A	3.1	0.564	331.4
James Street / Railway Street	AM Peak	M5: Future Growth (2033)	A	7.6	0.101	1.0
		M6: Post Dev. (2033)	A	7.8	0.115	1.2
	PM Peak	M5: Future Growth (2033)	A	7.6	0.113	1.1
		M6: Post Dev. (2033)	A	7.9	0.182	1.9
Jenner Street / Railway Street	AM Peak	M5: Future Growth (2033)	A	8.4	0.065	0.5
		M6: Post Dev. (2033)	A	8.4	0.120	1.2
	PM Peak	M5: Future Growth (2033)	A	8.4	0.085	0.6
		M6: Post Dev. (2033)	A	8.4	0.131	1.0
Cook Street / Windsor Road	AM Peak	M5: Future Growth (2033)	F	99.6	1.477	230.0
		M6: Post Dev. (2033)	F	96.6	1.445	230.0
	PM Peak	M5: Future Growth (2033)	F	122.3	1.338	517.0
		M6: Post Dev. (2033)	F	83.7	1.244	245.2
Orchard Street / Cook Street	AM Peak	M5: Future Growth (2033)	F	278.5	1.292	409.9
		M6: Post Dev. (2033)	F	394.0	1.420	493.5
	PM Peak	M5: Future Growth (2033)	F	365.0	1.390	559.4
		M6: Post Dev. (2033)	F	439.3	1.472	607.4

* It is noted that the average delay associated with the intersection includes the new delays associated with the proposed access, which are high due to the cycle time prioritising Old Northern Road and Olive Street. The current movements delays are barely impacted.

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7.7 Site summaries

7.7.1 Hill Street / Old Northern Road

High traffic volumes along Old Northern Road causes SIDRA modelling to output a LoS F for the Hill Street approach. Observations at the intersection contradict the values which SIDRA has output, however due to SIDRA's limitations these values cannot be presented more realistically. It should be noted that within the model 15% bunching was added and the 'Level of reduction with opposing traffic flow rate' was set to low.

The addition of development traffic in 2023 shows an increase for all factors, however although the LoS remains an F, the degree of saturation remains below 0.8 in both the AM and PM peaks. In the 10-year horizon model it is expected as traffic grows along Old Northern Road that the degree of saturation increases above 1.

7.7.2 Hill Street / Jenner Street

The Hill Street / Jenner Street performs relatively unaffected through all modelling scenarios as it currently experiences low traffic volumes for all legs.

7.7.3 Windsor Road / Olive Street

The SIDRA output for Windsor Road / Olive Street intersection with SCATS adjustments for COVID show that the intersection is already failing, particularly in the PM peak with a LoS F. Therefore, the inclusion of a growth factor to 2023 causes to intersection to fail for all scenarios.

In the PM peak the scenarios for both 2023 and 2033 result in an increase in delay and queue length due to the Old Northern Road / Windsor Road / Seven Hills Road intersection creating queues extending past this intersection.

7.7.4 Olive Street / Old Northern Road

The development is proposing a new approach for the Olive Street / Old Northern Road intersection as described in Section 6. The modelling scenario has an additional phase for the new approach with updated phase times. The modelling only allows truck movements as left turn exit movements. We have assumed that the new approach will be actuated, and the model has been run with the approach being activated 50% of the time during the AM peak and 30% during the PM peak due to inflow and outflows.

In the 2023 model, the model indicates a drop in the level of service however, it should be noted that all results are shown as averages for the whole intersection. The new approach is expected to perform at a LoS F with higher delays and degrees of saturation. When looking at individual approaches the proposed site access still allows the intersection to perform with very little impact.

It should also be noted that the offset timing of the intersection within the network was not adjusted although a new phase was added.

7.7.5 Jenner Street Site Access

The site access is shown to perform at a LoS A for all scenarios.

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7.7.6 Old Northern Road / Windsor Road / Seven Hills Road

The SIDRA results for the Old Northern Road / Windsor Road / Seven Hills Road intersection show that it is already failing at a LoS of D and degree of saturations above 0.9 for the AM and PM peaks. The output results also show that in both the growth models the intersection experiences further detriment to the LoS and other factors.

7.7.7 Windsor Road / Railway Street

This intersection was modelled separately from the larger intersection and performs at a LoS A for every scenario.

7.7.8 James Street / Railway Street and Jenner Street / Railway Street

The James Street and Jenner Street intersections with Railway Street are relatively unaffected by the development. They perform at a LoS A for every scenario apart from the 2033 growth model where the Jenner Street intersection increases to LoS B.

7.7.9 Cook Street / Windsor Road and Orchard Street / Cook Street Intersection

The existing Cook Street / Windsor Road intersection performs at a LoS F as the Cook Street leg experiences high traffic volumes. The 95% back of queue's extend past the Orchard Street / Cook Street intersection. This intersection continues to perform poorly due to growth and the additional development traffic.

7.8 Potential VPA Works

The traffic analysis undertaken as part of this assessment demonstrates that through distributing the development traffic to the east of the site (Jenner Street), the traffic activity has little notable impact on the operation of the surrounding road network or intersections.

A Voluntary Planning Agreement is being established to provide funding for community upgrades, including works to improve traffic and pedestrian activity within the local road network. Based on the distribution of traffic activity and discussions with Council, the following road improvements have been identified as potential VPA works:

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- Proposed additional pedestrian crossing on the southern approach to the Old Northern Road / Olive Street intersection,

- Potential new roundabout (elongated) to combine the intersections Jenner Street, Railway Street and James Street (specifically discussed with Council's traffic engineers to address current sight line issues on the James Street approach).

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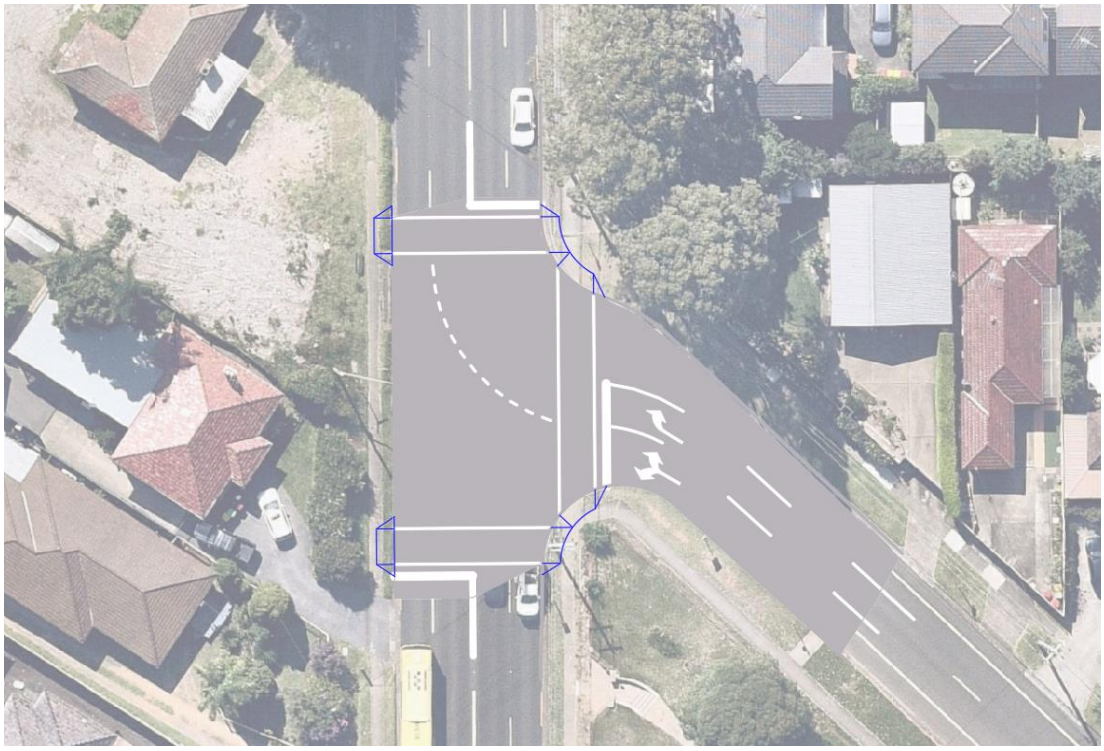
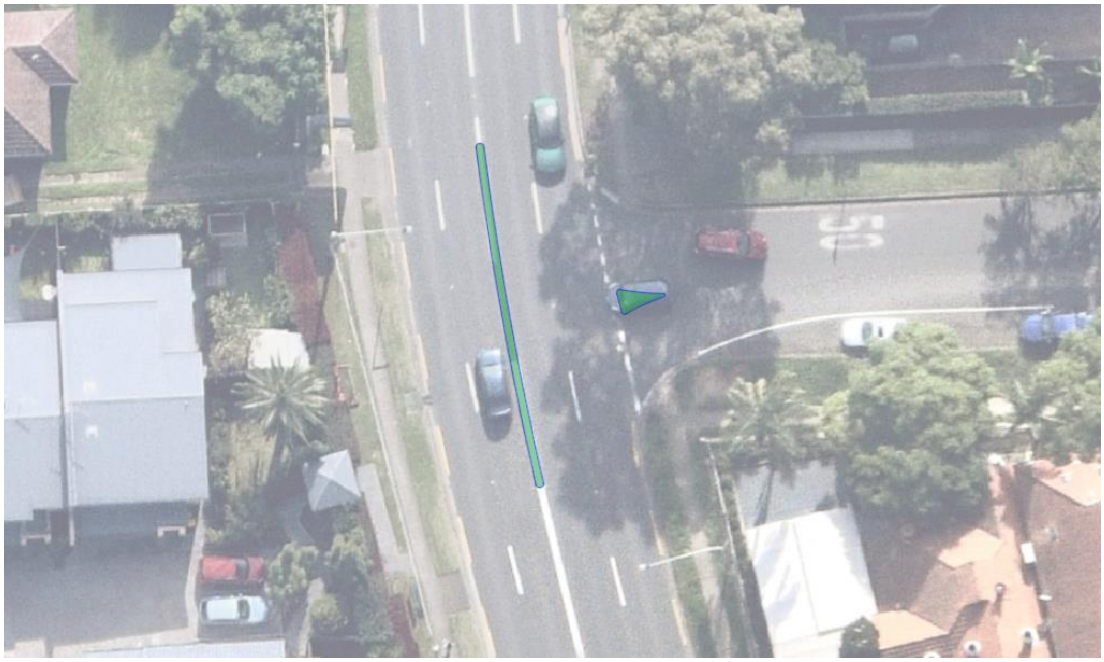
- Introduction of traffic signal controls at the intersection of Cross Street and Old Northern Road with crossings and pram ramps.



- Prohibited right turn movements at the intersection of Hill Street and Old Northern Road,



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8. Carpark Arrangement

The following section presents an assessment of the proposed development with reference to the requirements of AS2890.1:2004 (Off-street car parking), AS2890.2:2018 (Off-street commercial vehicle facilities), AS2890.3:2015 (Bicycle Parking) and AS2890.6:2009 (Off-street parking for people with disabilities).

8.1 Carpark arrangement

8.1.1 Residential & senior living parking

The car park access and parking arrangements are to be assessed against the requirements of AS2890.1:2004, with reference to Class 1A (residential/employee) facilities. The development is to provide the following dimensions for the parking spaces (90° angle parking):

- Car Spaces: 2.4m x 5.4m
- Aisle Width: 5.8m (minimum)

All parking spaces provided are to meet the minimum requirements stated in the Australian standards.

8.1.2 Club & retail parking

The car park access and parking arrangements are to be assessed against the requirements of AS2890.1:2004, with reference to Class 2 (medium-term) facilities. The development is to provide the following dimensions for the parking spaces (90° angle parking):

- Car Spaces: 2.5m x 5.4m
- Aisle Width: 5.8m (minimum)

All parking spaces provided are to meet the minimum requirements stated in the Australian standards.

8.1.3 Accessible parking

All accessible parking spaces are to be individually assessed against the requirements of AS2890.6. Accessible parking spaces are to be designed based on the following dimensions:

- Accessible Space: 2.4m x 5.4m
- Adjacent Shared Bay: 2.4m x 5.4m (with a bollard)

All shared bays and accessible spaces will be in accordance with AS2890.6, including the installation of bollards and relevant pavement marking. A minimum height clearance of 2.5m is to be maintained above all accessible and shared bays.

8.1.4 Bicycle parking

Approved bicycle parking devices (BPD's) shall be installed as per the following requirements of AS2890.3:2015:

- Horizontal Parking: 1800mm x 500mm
- Access Aisle: 1500mm

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Any bicycle spaces which are provided by the development will adhere to the above requirements.

8.1.5 Motorcycle parking

All motorcycle parking spaces are to be individually assessed against the requirements of AS2890.3:2015. Motorcycle parking spaces are to be designed based on the following dimensions:

- Horizontal Parking: 2400mm x 1200mm

The proposed development motorcycle spaces will adhere to the above requirements.

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9. Conclusion

ptc. has been engaged by The Hills Club to prepare a revised Traffic Impact Assessment to accompany a Planning Proposal to The Hills Shire Council for a mixed-use development at 6-18 Jenner Street, Baulkham Hills.

The development comprises the construction of four buildings accommodating 196 residential units, 32 senior living units, two bowling greens and club facilities. The buildings will sit above a combined basement carpark.

The site is located adjacent to the Baulkham Hills town centre where public transport and active transport options are present. There are no heavy rail services within proximity to the site however, there is a bus stop located adjacent to the site which is frequently services by buses. The town centre being within 400m walking distance also allows for residents of the buildings to walk to the shops and restaurants nearby.

The development is proposing 592 carparking spaces for the entire development with 414 for residents (and visitors) and 178 for the club attendees. Site access is proposed at both Jenner Street and Old Northern Road to alleviate heavy vehicle activity through the local roads. The access on Old Northern Road is proposed to be constructed as an additional approach, which will service the loading dock only.

Traffic generation due to the proposed development was modelled using SIDRA modelling for the new residential land use and for the additional 30 car spaces proposed for the club. The residential traffic volumes were determined using the TfNSW *Trip Generation Surveys High Density Residential Car Based Data Report 2017.* Survey data from Thursday, 26th September 2020 was used to determine the existing traffic volumes. To accommodate for lost traffic due to COVID, SCATS counter data for the same day and the same equivalent day in 2019 (Thursday, 26th September) was compared to determine a more realistic volume.

It was found that the following intersections surveyed are currently performing at poor levels of service:

- Hill Street / Old Northern Road
- Windsor Road / Olive Street
- Old Northern Road / Windsor Road / Seven Hills Road
- Cook Street / Windsor Road
- Orchard Street / Cook Street

It should be noted that the SIDRA model was unable to show a realistic representation of the traffic behaviour which was observed at the Hill Street/ Old Northern Road intersection.

The development does not further impact the operations of intersections which are currently performing at a level of service C or better apart for the proposed intersection at Olive Street and Old Northern Road. The results for the proposed upgrade for the Olive Street and Old Northern Road intersection show that although the level of service is compromised the additional approach does not significantly impact the existing movements.

The carpark design will be assessed accordingly within the Development Application stage of the project. It will be designed in accordance with The Hills Shire DCP and the AS2890 series.

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Attachment 1 Traffic Volumes

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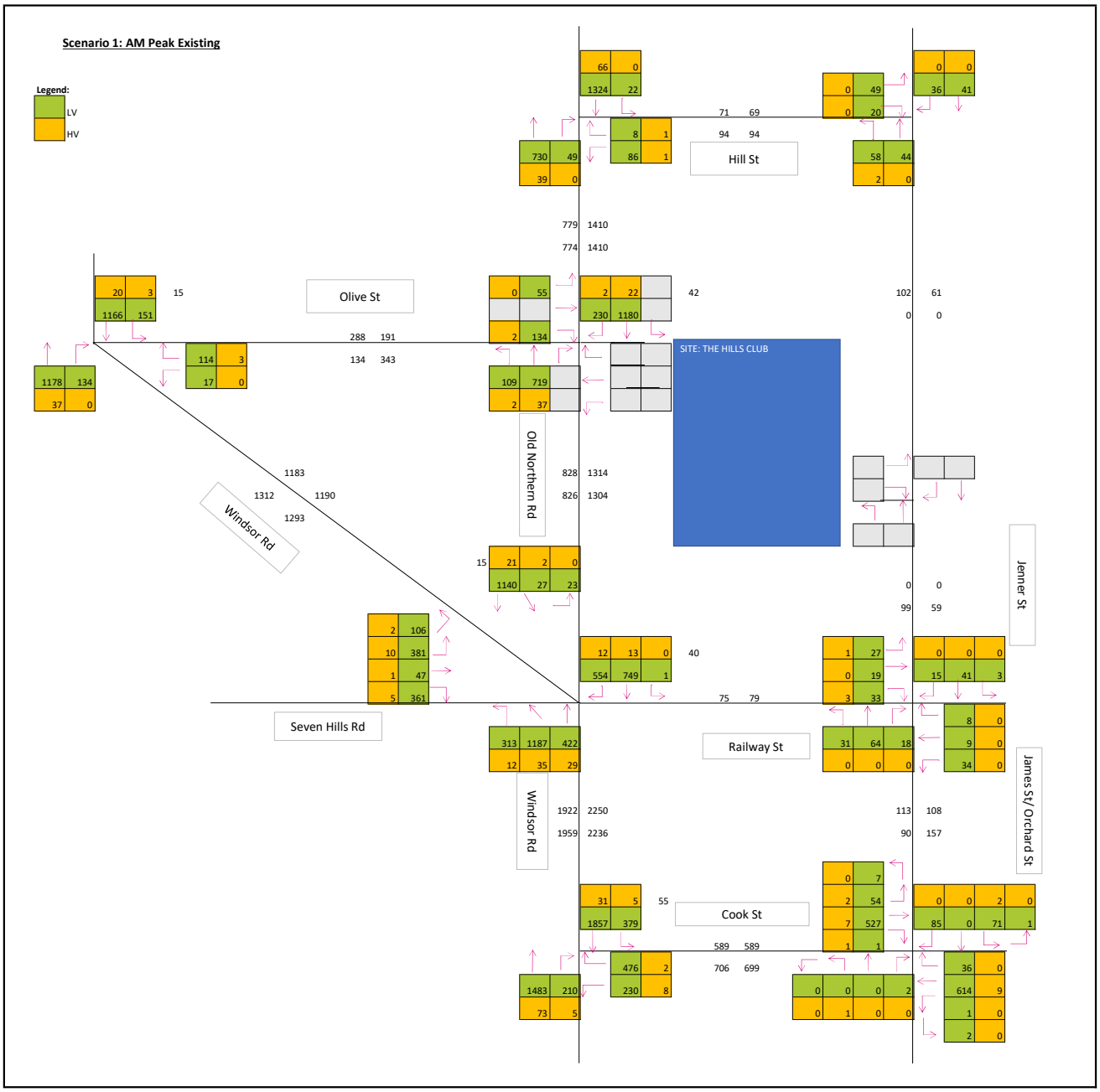
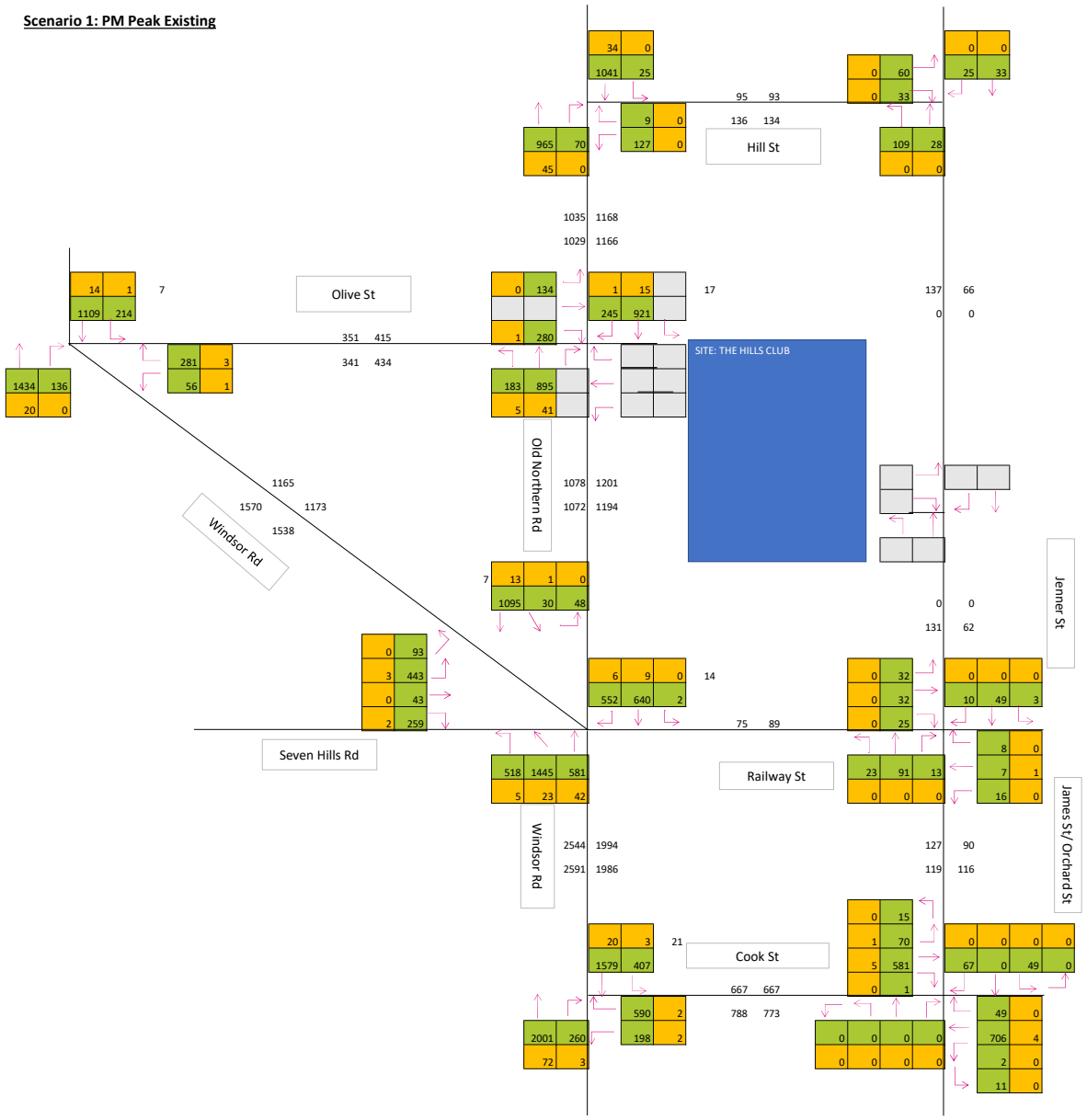
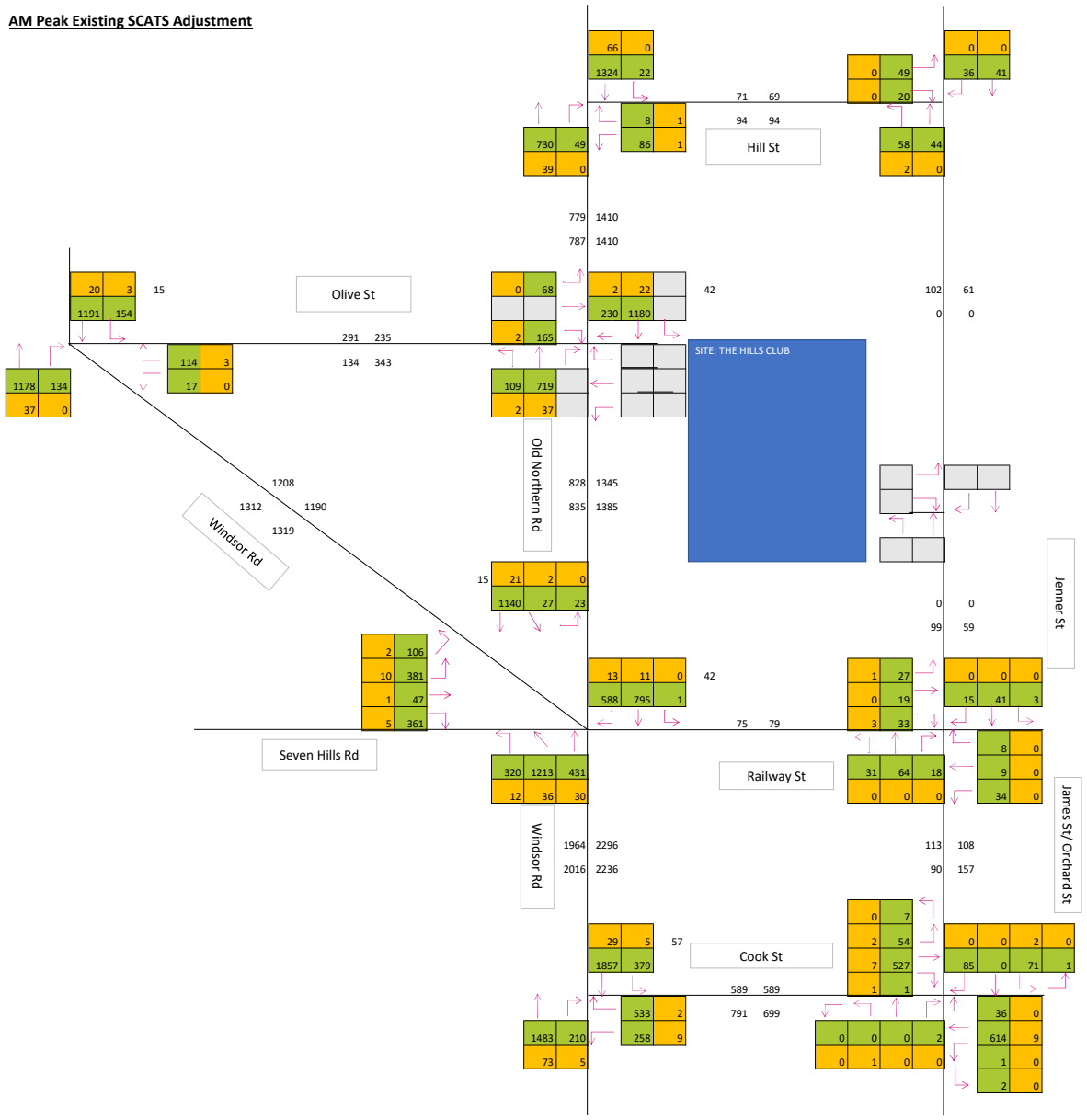

Scenario 1: AM Peak Existing
Legend:
LV
HV
Hill St
Olive St
Old Northern Rd
Windsor Rd
Seven Hills Rd
Railway St
Cook St
Jenner St
James St/ Orchard St
SITE: THE HILLS CLUB

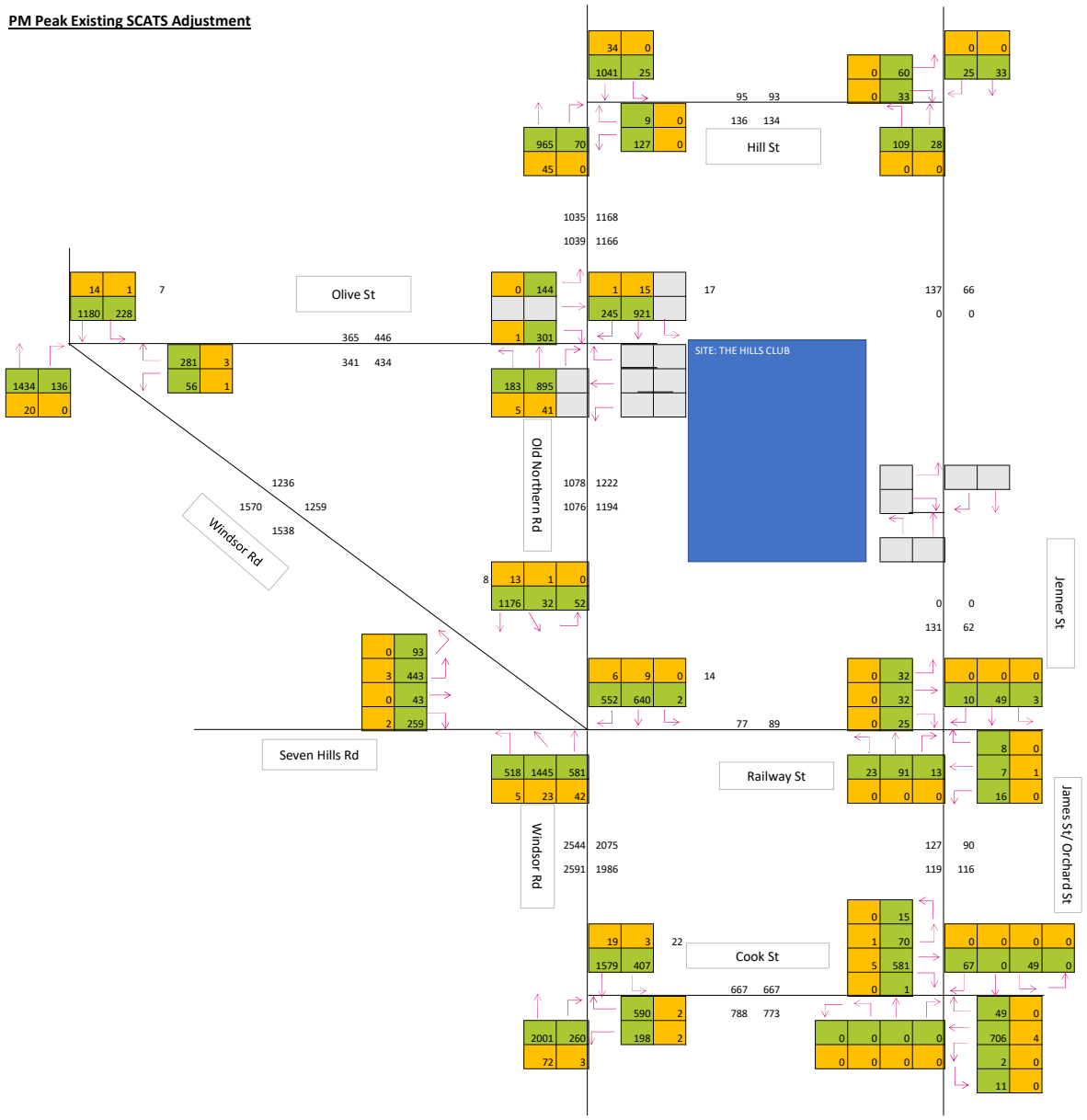
Scenario 1: PM Peak Existing



AM Peak Existing SCATS Adjustment



PM Peak Existing SCATS Adjustment



Attachment 2 SIDRA

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MOVEMENT SUMMARY

Site: TCS1196 [10AE - Cook Street / Windsor Road (AM EXISTING) (Site Folder: AM EXISTING)]

Network: N101 [AM Existing (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	1638	4.7	1638	4.7	0.416	9.7	LOS A	9.6	70.0	0.47	0.42	0.47	45.6
23	R2	226	2.3	226	2.3	0.785	36.2	LOS C	6.1	43.2	0.94	0.89	1.07	27.8
Approach		1864	4.4	1864	4.4	0.785	13.0	LOS A	9.6	70.0	0.52	0.48	0.54	42.3
NorthEast: Cook Street (NE)														
24	L2	251	3.4	250	3.4	* 1.219	275.7	LOS F	32.2	230.0	1.00	1.56	2.44	8.0
26	R2	503	0.4	503	0.4	1.219	276.2	LOS F	32.3	226.8	1.00	1.58	2.45	2.9
Approach		754	1.4	754	1.4	1.219	276.0	LOS F	32.3	230.0	1.00	1.58	2.45	4.7
NorthWest: Windsor Road (NW)														
27	L2	404	1.3	404	1.3	0.481	16.2	LOS B	6.8	53.1	0.60	0.73	0.60	40.0
28	T1	2045	4.4	2045	4.4	* 0.778	28.9	LOS C	24.5	174.2	0.84	0.77	0.84	40.7
Approach		2449	3.9	2449	3.9	0.778	26.8	LOS B	24.5	174.2	0.80	0.76	0.80	40.6
All Vehicles		5067	3.7	5067	3.7	1.219	58.8	LOS E	32.3	230.0	0.73	0.78	0.95	24.5

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)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	241.5	230.4	0.95
NorthEast: Cook Street (NE)											
P6	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	227.3	211.9	0.93
All Pedestrians		105	64.3	LOS F	0.2	0.2	0.96	0.96	234.4	221.2	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: 011 [11AE - Orchard Street / Cook Street (AM EXISTING) (Site Folder: AM EXISTING)]

Network: N101 [AM Existing (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Roundabout

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Orchard Street (SE)														
21	L2	1	100.0	1	100.0	0.014	13.8	LOS A	0.0	0.2	0.78	0.69	0.78	38.2
22	T1	1	0.0	1	0.0	0.014	8.4	LOS A	0.0	0.2	0.78	0.69	0.78	38.2
23	R2	2	0.0	2	0.0	0.014	11.6	LOS A	0.0	0.2	0.78	0.69	0.78	43.2
23u	U	1	0.0	1	0.0	0.014	13.1	LOS A	0.0	0.2	0.78	0.69	0.78	43.6
Approach		5	20.0	5	20.0	0.014	11.7	LOS A	0.0	0.2	0.78	0.69	0.78	41.9
NorthEast: Cook Street (NE)														
24	L2	1	0.0	1	0.0	1.071	77.2	LOS F	22.6	160.2	1.00	1.44	2.46	24.2
25	T1	656	1.4	656	1.4	1.071	77.1	LOS F	22.6	160.2	1.00	1.44	2.46	16.3
26	R2	38	0.0	38	0.0	1.071	80.3	LOS F	22.6	160.2	1.00	1.44	2.46	16.3
26u	U	2	0.0	2	0.0	1.071	81.8	LOS F	22.6	160.2	1.00	1.44	2.46	24.5
Approach		697	1.4	697	1.4	1.071	77.3	LOS F	22.6	160.2	1.00	1.44	2.46	16.3
NorthWest: Orchard Street (NW)														
27	L2	77	2.7	77	2.7	0.363	8.9	LOS A	0.7	4.8	0.72	0.76	0.72	43.2
28	T1	1	0.0	1	0.0	0.363	8.7	LOS A	0.7	4.8	0.72	0.76	0.72	43.9
29	R2	89	0.0	89	0.0	0.363	11.9	LOS A	0.7	4.8	0.72	0.76	0.72	39.1
29u	U	1	0.0	1	0.0	0.363	13.4	LOS A	0.7	4.8	0.72	0.76	0.72	39.1
Approach		168	1.3	168	1.3	0.363	10.5	LOS A	0.7	4.8	0.72	0.76	0.72	41.6
SouthWest: Cook Street (SW)														
30	L2	59	3.6	59	3.6	0.484	4.1	LOS A	1.6	11.6	0.23	0.42	0.23	39.5
31	T1	562	1.3	562	1.3	0.484	3.9	LOS A	1.6	11.6	0.23	0.42	0.23	46.1
32	R2	2	50.0	2	50.0	0.484	7.8	LOS A	1.6	11.6	0.23	0.42	0.23	44.9
32u	U	7	0.0	7	0.0	0.484	8.6	LOS A	1.6	11.6	0.23	0.42	0.23	39.5
Approach		631	1.7	631	1.7	0.484	4.0	LOS A	1.6	11.6	0.23	0.42	0.23	45.9
All Vehicles		1501	1.5	1501	1.5	1.071	38.8	LOS C	22.6	160.2	0.65	0.93	1.32	26.7

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.
Roundabout Capacity Model: SIDRA Standard.
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.

MOVEMENT SUMMARY

Site: 001 [1AE - Hill Street / Old Northern Road (AM EXISTING) (Site Folder: AM EXISTING)]

Network: N101 [AM Existing (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Old Northern Road (S)														
2	T1	809	5.1	794	5.2	0.296	2.8	LOS A	0.9	6.6	0.19	0.05	0.22	55.9
3	R2	52	0.0	51	0.0	0.296	21.5	LOS B	0.9	6.6	0.62	0.16	0.74	35.4
Approach		861	4.8	844 N1	4.9	0.296	3.9	NA	0.9	6.6	0.21	0.05	0.25	55.2
East: Hill Street (E)														
4	L2	92	1.1	92	1.1	0.145	11.5	LOS A	0.2	1.5	0.55	0.98	0.55	27.6
6	R2	9	11.1	9	11.1	0.322	149.6	LOS F	0.4	2.7	0.98	1.02	1.06	12.6
Approach		101	2.1	101	2.1	0.322	24.4	LOS B	0.4	2.7	0.59	0.98	0.60	20.6
North: Old Northern Road (N)														
7	L2	23	0.0	23	0.0	0.393	5.7	LOS A	0.0	0.0	0.00	0.02	0.00	59.4
8	T1	1463	4.7	1463	4.7	0.393	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	59.6
Approach		1486	4.7	1486	4.7	0.393	0.2	NA	0.0	0.0	0.00	0.01	0.00	59.6
All Vehicles		2448	4.6	2432 N1	4.6	0.393	2.5	NA	0.9	6.6	0.10	0.07	0.11	55.9

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.

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

MOVEMENT SUMMARY

Site: 002v [2AE - Hill Street / Jenner Street (AM EXISTING) (Site Folder: AM EXISTING)]

Network: N101 [AM Existing (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Jenner Street (S)														
1	L2	63	3.3	63	3.3	0.081	4.7	LOS A	0.1	0.9	0.11	0.51	0.11	43.1
3a	R1	46	0.0	46	0.0	0.081	4.5	LOS A	0.1	0.9	0.11	0.51	0.11	45.8
Approach		109	1.9	109	1.9	0.081	4.6	LOS A	0.1	0.9	0.11	0.51	0.11	44.7
NorthEast: Jenner Street (NE)														
24a	L1	43	0.0	43	0.0	0.042	4.4	LOS A	0.0	0.0	0.00	0.53	0.00	44.8
26a	R1	38	0.0	38	0.0	0.042	4.1	LOS A	0.0	0.0	0.00	0.53	0.00	44.8
Approach		81	0.0	81	0.0	0.042	4.3	NA	0.0	0.0	0.00	0.53	0.00	44.8
West: Hill Street (W)														
10a	L1	52	0.0	51	0.0	0.039	4.5	LOS A	0.0	0.3	0.11	0.50	0.11	44.2
12	R2	21	0.0	21	0.0	0.039	4.8	LOS A	0.0	0.3	0.11	0.50	0.11	35.8
Approach		73	0.0	72[N1]	0.0	0.039	4.6	NA	0.0	0.3	0.11	0.50	0.11	43.3
All Vehicles		263	0.8	262[N1]	0.8	0.081	4.5	NA	0.1	0.9	0.08	0.51	0.08	44.4

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.

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

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MOVEMENT SUMMARY

Site: TCS1764 [3AE - Windsor Road / Olive Street (AM EXISTING) (Site Folder: AM EXISTING)]

Network: N101 [AM Existing (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	1279	3.0	1230	3.2	0.392	1.1	LOS A	2.9	21.2	0.08	0.08	0.08	58.6
23	R2	141	0.0	135	0.0	0.279	31.2	LOS C	3.6	24.9	0.85	0.78	0.85	21.2
Approach		1420	2.7	1365[N1]	2.9	0.392	4.1	LOS A	3.6	24.9	0.16	0.15	0.16	54.4
NorthEast: Olive Street (NE)														
24	L2	18	0.0	18	0.0	* 0.024	31.1	LOS C	0.4	3.1	0.63	0.65	0.63	7.9
26	R2	123	2.6	123	2.6	0.315	68.2	LOS E	2.4	17.5	0.96	0.76	0.96	19.9
Approach		141	2.2	141	2.2	0.315	63.5	LOS E	2.4	17.5	0.92	0.74	0.92	19.3
NorthWest: Windsor Road (NW)														
27	L2	162	1.9	162	1.9	0.187	14.7	LOS B	2.3	17.8	0.53	0.69	0.53	32.3
28	T1	1264	2.9	1264	2.9	* 0.971	80.1	LOS F	36.1	256.0	0.99	1.20	1.36	17.0
Approach		1426	2.8	1426	2.8	0.971	72.6	LOS F	36.1	256.0	0.94	1.15	1.26	17.9
All Vehicles		2987	2.7	2933[N1]	2.8	0.971	40.3	LOS C	36.1	256.0	0.58	0.66	0.73	28.1

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

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	11	64.2	LOS F	0.0	0.0	0.96	0.96	236.3	223.8	0.95
NorthEast: Olive Street (NE)											
P6	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	232.3	218.5	0.94
All Pedestrians		63	64.3	LOS F	0.2	0.2	0.96	0.96	233.0	219.4	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: TCS1763 [4AE - Olive Street / Old Northern Road (AM EXISTING) (Site Folder: AM EXISTING)]

Network: N101 [AM Existing (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Old Northern Road (S)														
1	L2	117	1.8	114	1.8	* 0.846	60.5	LOS E	16.6	120.0	0.97	0.94	1.04	15.2
2	T1	796	4.9	779	5.0	0.846	45.5	LOS D	17.8	130.0	0.95	0.90	1.01	14.2
Approach		913	4.5	893 N1	4.6	0.846	47.4	LOS D	17.8	130.0	0.95	0.90	1.01	14.4
North: Old Northern Road (N)														
8	T1	1309	5.1	1309	5.1	* 0.466	9.3	LOS A	11.3	80.6	0.47	0.42	0.47	38.7
9	R2	244	0.9	244	0.9	0.396	20.2	LOS B	3.6	25.5	0.71	0.76	0.71	30.2
Approach		1554	4.5	1554	4.5	0.466	11.0	LOS A	11.3	80.6	0.51	0.48	0.51	36.6
West: Olive Street (W)														
10	L2	58	0.0	58	0.0	0.050	15.4	LOS B	0.9	6.4	0.41	0.63	0.41	16.6
12	R2	143	1.5	143	1.5	0.188	53.8	LOS D	2.5	17.5	0.86	0.75	0.86	6.2
Approach		201	1.0	201	1.0	0.188	42.7	LOS D	2.5	17.5	0.73	0.72	0.73	7.6
All Vehicles		2667	4.2	2648 N1	4.3	0.846	25.7	LOS B	17.8	130.0	0.67	0.64	0.69	22.8

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

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Old Northern Road (N)											
P3	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	234.9	221.8	0.94
West: Olive Street (W)											
P4	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	232.3	218.5	0.94
All Pedestrians		105	64.3	LOS F	0.2	0.2	0.96	0.96	233.6	220.2	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: TCS [6AE - Old Northern Road / Windsor Road / Seven Hills Road (AM EXISTING) (Site Folder: AM EXISTING)]

Network: N101 [AM Existing (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
21	L2	342	3.7	328	3.9	0.815	25.0	LOS B	2.8	20.0	0.77	0.80	0.77	34.3
22	T1	1286	2.9	1232	3.0	0.815	24.1	LOS B	2.8	20.0	0.80	0.77	0.80	5.4
23a	R1	475	6.4	455	6.7	* 0.737	66.6	LOS E	2.7	20.0	1.00	1.04	1.05	2.4
Approach		2103	3.8	2015 N1	4.0	0.815	33.8	LOS C	2.8	20.0	0.84	0.83	0.85	10.7
North: Old Northern Road (N)														
7a	L1	844	6.6	844	6.6	0.562	30.2	LOS C	10.8	76.9	0.65	0.74	0.65	19.2
9a	R1	596	2.1	596	2.1	* 0.820	66.5	LOS E	12.6	89.8	1.00	0.90	1.10	23.9
Approach		1440	4.8	1440	4.8	0.820	45.3	LOS D	12.6	89.8	0.79	0.81	0.83	22.2
NorthWest: Windsor Road (NW)														
27b	L3	24	0.0	24	0.0	0.086	25.2	LOS B	0.7	6.5	0.74	0.66	0.74	24.0
28	T1	1238	3.1	1238	3.1	* 0.925	42.6	LOS D	26.1	185.8	0.99	0.98	1.10	15.2
Approach		1262	3.0	1262	3.0	0.925	42.3	LOS C	26.1	185.8	0.98	0.97	1.10	15.2
SouthWest: Seven Hills Road (SW)														
30	L2	114	1.9	114	1.9	0.829	54.7	LOS D	21.2	151.4	0.99	0.92	1.05	22.2
30a	L1	412	2.6	412	2.6	0.829	53.3	LOS D	21.2	151.4	0.99	0.92	1.05	22.2
32	R2	385	1.4	385	1.4	* 0.916	88.5	LOS F	9.4	66.3	1.00	1.00	1.40	15.7
Approach		911	2.0	911	2.0	0.916	68.4	LOS E	21.2	151.4	0.99	0.95	1.20	18.9
All Vehicles		5716	3.6	5627 N1	3.6	0.925	44.2	LOS D	26.1	185.8	0.88	0.88	0.96	17.2

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

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	3	64.1	LOS F	0.0	0.0	0.96	0.96	238.8	227.1	0.95
North: Old Northern Road (N)											
P3	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94
P3B	Slip/ Bypass	53	64.3	LOS F	0.2	0.2	0.96	0.96	226.5	210.9	0.93

NorthWest: Windsor Road (NW)										
P7 Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
SouthWest: Seven Hills Road (SW)										
P8 Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
All Pedestrians	214	64.3	LOS F	0.2	0.2	0.96	0.96	231.1	216.9	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: 007 [7AE - Windsor Road / Railway Street (AM EXISTING) (Site Folder: AM EXISTING)]

Network: N101 [AM Existing (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	2023	0.0	1935	0.0	0.248	0.1	LOS A	15.1	105.9	0.00	0.00	0.00	59.9
Approach		2023	0.0	1935[N1]	0.0	0.248	0.1	NA	15.1	105.9	0.00	0.00	0.00	59.9
NorthWest: Windsor Road (NW)														
27	L2	82	3.8	82	3.8	0.094	3.1	LOS A	0.0	0.0	0.00	0.31	0.00	35.2
28	T1	2467	4.0	2467	4.0	0.625	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	58.8
Approach		2549	4.0	2549	4.0	0.625	0.1	NA	0.0	0.0	0.00	0.02	0.00	56.4
All Vehicles		4573	2.2	4484[N1]	2.3	0.625	0.1	NA	15.1	105.9	0.00	0.01	0.00	59.6

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.

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MOVEMENT SUMMARY

Site: 008 [8AE - James Street / Railway Street (AM EXISTING) (Site Folder: AM EXISTING)]

Network: N101 [AM Existing (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: James Street (SE)														
21	L2	33	0.0	33	0.0	0.109	7.5	LOS A	0.2	1.1	0.13	0.94	0.13	42.7
23	R2	86	0.0	86	0.0	0.109	7.6	LOS A	0.2	1.1	0.13	0.94	0.13	41.7
Approach		119	0.0	119	0.0	0.109	7.6	LOS A	0.2	1.1	0.13	0.94	0.13	42.0
NorthEast: Railway Street (NE)														
24	L2	79	0.0	79	0.0	0.055	2.3	LOS A	0.0	0.0	0.00	0.37	0.00	27.2
25	T1	25	0.0	25	0.0	0.055	0.0	LOS A	0.0	0.0	0.00	0.37	0.00	44.0
Approach		104	0.0	104	0.0	0.055	1.8	NA	0.0	0.0	0.00	0.37	0.00	36.4
SouthWest: Railway Street (SW)														
31	T1	49	2.1	49	2.1	0.051	0.2	LOS A	0.1	0.6	0.17	0.23	0.17	40.9
32	R2	38	8.3	38	8.3	0.051	5.0	LOS A	0.1	0.6	0.17	0.23	0.17	40.9
Approach		87	4.8	87	4.8	0.051	2.3	NA	0.1	0.6	0.17	0.23	0.17	40.9
All Vehicles		311	1.4	310[N1]	1.4	0.109	4.2	NA	0.2	1.1	0.10	0.55	0.10	41.3

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.

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MOVEMENT SUMMARY

Site: 009 [9AE - Jenner Street / Railway Street (AM EXISTING) (Site Folder: AM EXISTING)]

Network: N101 [AM Existing (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
NorthEast: Railway Street (NE)														
25	T1	45	0.0	45	0.0	0.029	0.1	LOS A	0.0	0.1	0.08	0.10	0.08	48.5
26b	R3	8	0.0	8	0.0	0.029	5.6	LOS A	0.0	0.1	0.08	0.10	0.08	48.5
Approach		54	0.0	54	0.0	0.029	0.9	NA	0.0	0.1	0.08	0.10	0.08	48.5
North: Jenner Street (N)														
7b	L3	3	0.0	3	0.0	0.060	8.4	LOS A	0.1	0.6	0.21	0.95	0.21	44.9
9a	R1	59	0.0	59	0.0	0.060	7.7	LOS A	0.1	0.6	0.21	0.95	0.21	40.2
Approach		62	0.0	62	0.0	0.060	7.7	LOS A	0.1	0.6	0.21	0.95	0.21	40.6
SouthWest: Railway Street (SW)														
30a	L1	97	1.1	97	1.1	0.071	2.0	LOS A	0.0	0.0	0.00	0.34	0.00	27.7
31	T1	39	0.0	39	0.0	0.071	0.0	LOS A	0.0	0.0	0.00	0.34	0.00	48.1
Approach		136	0.8	136	0.8	0.071	1.5	NA	0.0	0.0	0.00	0.34	0.00	44.6
All Vehicles		252	0.4	251[N1]	0.4	0.071	2.9	NA	0.1	0.6	0.07	0.44	0.07	44.3

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.

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MOVEMENT SUMMARY

Site: 011 [11PE - Orchard Street / Cook Street (PM EXISTING) (Site Folder: PM EXISTING)]

Network: N101 [PM Existing (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Roundabout

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Orchard Street (SE)														
21	L2	1	0.0	1	0.0	0.010	8.6	LOS A	0.0	0.1	0.79	0.66	0.79	39.1
22	T1	1	0.0	1	0.0	0.010	8.5	LOS A	0.0	0.1	0.79	0.66	0.79	39.1
23	R2	1	0.0	1	0.0	0.010	11.7	LOS B	0.0	0.1	0.79	0.66	0.79	43.7
23u	U	1	0.0	1	0.0	0.010	13.2	LOS B	0.0	0.1	0.79	0.66	0.79	44.2
Approach		4	0.0	4	0.0	0.010	10.5	LOS B	0.0	0.1	0.79	0.66	0.79	42.2
NorthEast: Cook Street (NE)														
24	L2	2	0.0	2	0.0	1.190	182.0	LOS F	46.1	324.3	1.00	2.27	3.94	14.3
25	T1	747	0.6	747	0.6	1.190	181.9	LOS F	46.1	324.3	1.00	2.27	3.94	8.5
26	R2	52	0.0	52	0.0	1.190	185.1	LOS F	46.1	324.3	1.00	2.27	3.94	8.5
26u	U	12	0.0	12	0.0	1.190	186.6	LOS F	46.1	324.3	1.00	2.27	3.94	14.4
Approach		813	0.5	813	0.5	1.190	182.1	LOS F	46.1	324.3	1.00	2.27	3.94	8.6
NorthWest: Orchard Street (NW)														
27	L2	52	0.0	51	0.0	0.286	9.6	LOS A	0.6	4.0	0.76	0.75	0.76	42.8
28	T1	1	0.0	1	0.0	0.286	9.5	LOS A	0.6	4.0	0.76	0.75	0.76	43.4
29	R2	71	0.0	70	0.0	0.286	12.7	LOS B	0.6	4.0	0.76	0.75	0.76	38.3
29u	U	1	0.0	1	0.0	0.286	14.2	LOS B	0.6	4.0	0.76	0.75	0.76	38.3
Approach		124	0.0	124	0.0	0.286	11.4	LOS B	0.6	4.0	0.76	0.75	0.76	40.9
SouthWest: Cook Street (SW)														
30	L2	75	1.4	75	1.4	0.566	4.2	LOS A	2.1	15.1	0.29	0.44	0.29	39.0
31	T1	617	0.9	617	0.9	0.566	4.1	LOS A	2.1	15.1	0.29	0.44	0.29	45.9
32	R2	1	0.0	1	0.0	0.566	7.3	LOS A	2.1	15.1	0.29	0.44	0.29	45.7
32u	U	16	0.0	16	0.0	0.566	8.8	LOS A	2.1	15.1	0.29	0.44	0.29	39.0
Approach		708	0.9	708	0.9	0.566	4.3	LOS A	2.1	15.1	0.29	0.44	0.29	45.5
All Vehicles		1649	0.6	1649	0.6	1.190	92.5	LOS F	46.1	324.3	0.67	1.36	2.12	16.1

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

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MOVEMENT SUMMARY

Site: 001 [1PE - Hill Street / Old Northern Road (PM EXISTING) (Site Folder: PM EXISTING)]

Network: N101 [PM Existing (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Old Northern Road (S)														
2	T1	1063	4.5	1045	4.5	0.364	2.0	LOS A	1.1	7.9	0.18	0.05	0.24	56.7
3	R2	74	0.0	72	0.0	0.364	17.3	LOS C	1.1	7.9	0.54	0.15	0.71	40.8
Approach		1137	4.2	1118[N1]	4.2	0.364	3.0	NA	1.1	7.9	0.21	0.06	0.27	56.2
East: Hill Street (E)														
4	L2	134	0.0	134	0.0	0.169	9.9	LOS A	0.3	1.8	0.47	0.94	0.47	29.4
6	R2	9	0.0	9	0.0	0.361	173.6	LOS F	0.4	2.7	0.99	1.02	1.07	11.2
Approach		143	0.0	143	0.0	0.361	20.7	LOS C	0.4	2.7	0.50	0.94	0.51	21.8
North: Old Northern Road (N)														
7	L2	26	0.0	26	0.0	0.303	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	59.3
8	T1	1132	3.2	1132	3.2	0.303	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	59.6
Approach		1158	3.1	1158	3.1	0.303	0.2	NA	0.0	0.0	0.00	0.01	0.00	59.6
All Vehicles		2438	3.4	2419[N1]	3.4	0.364	2.7	NA	1.1	7.9	0.12	0.09	0.16	55.7

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

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MOVEMENT SUMMARY

Site: 002v [2PE - Hill Street / Jenner Street (PM EXISTING) (Site Folder: PM EXISTING)]

Network: N101 [PM Existing (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Jenner Street (S)														
1	L2	115	0.0	115	0.0	0.097	4.6	LOS A	0.2	1.1	0.08	0.51	0.08	43.1
3a	R1	29	0.0	29	0.0	0.097	4.6	LOS A	0.2	1.1	0.08	0.51	0.08	45.8
Approach		144	0.0	144	0.0	0.097	4.6	LOS A	0.2	1.1	0.08	0.51	0.08	44.0
NorthEast: Jenner Street (NE)														
24a	L1	35	0.0	35	0.0	0.032	4.4	LOS A	0.0	0.0	0.00	0.54	0.00	44.8
26a	R1	26	0.0	26	0.0	0.032	4.1	LOS A	0.0	0.0	0.00	0.54	0.00	44.8
Approach		61	0.0	61	0.0	0.032	4.3	NA	0.0	0.0	0.00	0.54	0.00	44.8
West: Hill Street (W)														
10a	L1	63	0.0	62	0.0	0.053	4.5	LOS A	0.1	0.5	0.11	0.51	0.11	44.2
12	R2	35	0.0	34	0.0	0.053	4.7	LOS A	0.1	0.5	0.11	0.51	0.11	35.8
Approach		98	0.0	97 N1	0.0	0.053	4.6	NA	0.1	0.5	0.11	0.51	0.11	43.0
All Vehicles		303	0.0	302 N1	0.0	0.097	4.5	NA	0.2	1.1	0.07	0.51	0.07	43.9

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

MOVEMENT SUMMARY

Site: TCS1764 [3PE - Windsor Road / Olive Street (PM EXISTING) (Site Folder: PM EXISTING)]

Network: N101 [PM Existing (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	1531	1.4	1478	1.4	0.515	2.9	LOS A	7.4	52.1	0.17	0.15	0.17	56.3
23	R2	143	0.0	138	0.0	0.409	25.2	LOS C	2.5	17.3	0.69	0.74	0.69	24.0
Approach		1674	1.3	1617[N1]	1.3	0.515	4.8	LOS A	7.4	52.1	0.21	0.20	0.21	53.6
NorthEast: Olive Street (NE)														
24	L2	60	1.8	60	1.8	* 0.085	33.3	LOS C	1.6	11.1	0.67	0.70	0.67	7.4
26	R2	299	1.1	299	1.1	0.473	61.4	LOS E	5.7	40.3	0.95	0.80	0.95	21.2
Approach		359	1.2	359	1.2	0.473	56.7	LOS E	5.7	40.3	0.90	0.78	0.90	20.2
NorthWest: Windsor Road (NW)														
27	L2	226	0.5	226	0.5	0.203	11.1	LOS B	2.0	14.8	0.44	0.68	0.44	34.0
28	T1	1189	1.9	1189	1.9	* 0.829	33.8	LOS C	22.0	155.9	0.91	0.87	0.95	28.8
Approach		1416	1.6	1416	1.6	0.829	30.1	LOS C	22.0	155.9	0.83	0.84	0.87	29.6
All Vehicles		3448	1.4	3391[N1]	1.4	0.829	20.9	LOS C	22.0	155.9	0.54	0.53	0.56	37.3

Site Level of Service (LOS) Method: Delay (SIDRA). 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)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	11	64.2	LOS F	0.0	0.0	0.96	0.96	236.3	223.8	0.95
NorthEast: Olive Street (NE)											
P6	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	232.3	218.5	0.94
All Pedestrians		63	64.3	LOS F	0.2	0.2	0.96	0.96	233.0	219.4	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: TCS1763 [4PE - Olive Street / Old Northern Road (PM EXISTING) (Site Folder: PM EXISTING)]

Network: N101 [PM Existing (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Old Northern Road (S)														
1	L2	198	2.7	194	2.7	0.526	14.6	LOS B	7.3	52.7	0.33	0.43	0.33	36.3
2	T1	985	4.4	966	4.4	* 0.526	9.4	LOS A	7.9	57.2	0.35	0.37	0.35	35.2
Approach		1183	4.1	1160 N1	4.2	0.526	10.2	LOS B	7.9	57.2	0.34	0.38	0.34	35.5
North: Old Norther Road (N)														
8	T1	1003	3.4	1003	3.4	0.340	6.1	LOS A	6.7	47.8	0.36	0.32	0.36	44.0
9	R2	259	0.4	259	0.4	* 0.603	31.1	LOS C	9.6	67.1	0.96	0.91	0.96	24.2
Approach		1262	2.8	1262	2.8	0.603	11.3	LOS B	9.6	67.1	0.48	0.44	0.48	36.4
West: Olive Street (W)														
10	L2	141	0.0	141	0.0	0.231	40.9	LOS D	4.2	29.7	0.77	0.75	0.77	7.8
12	R2	296	0.4	296	0.4	* 0.486	62.5	LOS E	5.7	40.0	0.96	0.80	0.96	5.4
Approach		437	0.2	437	0.2	0.486	55.5	LOS E	5.7	40.0	0.90	0.79	0.90	6.0
All Vehicles		2882	2.9	2859 N1	2.9	0.603	17.6	LOS B	9.6	67.1	0.49	0.47	0.49	27.3

Site Level of Service (LOS) Method: Delay (SIDRA). 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)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Old Norther Road (N)											
P3	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	234.9	221.8	0.94
West: Olive Street (W)											
P4	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	232.3	218.5	0.94
All Pedestrians		105	64.3	LOS F	0.2	0.2	0.96	0.96	233.6	220.2	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: TCS [6PE - Old Northern Road / Windsor Road / Seven Hills Road (PM EXISTING) (Site Folder: PM EXISTING)]

Network: N101 [PM Existing (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
21	L2	551	1.0	530	1.0	0.941	35.2	LOS D	2.8	20.0	0.86	0.98	0.99	29.1
22	T1	1545	1.6	1488	1.6	* 0.941	34.9	LOS C	2.8	20.0	0.92	0.97	1.04	3.8
23a	R1	656	6.7	633	7.0	0.758	61.8	LOS E	2.7	20.0	1.00	1.07	1.04	2.6
Approach		2752	2.7	2651 N1	2.8	0.941	41.4	LOS D	2.8	20.0	0.93	1.00	1.03	10.2
North: Old Northern Road (N)														
7a	L1	698	3.5	698	3.5	0.435	33.6	LOS C	8.7	61.8	0.66	0.74	0.66	17.8
9a	R1	587	1.1	587	1.1	* 0.942	75.4	LOS E	13.8	97.6	1.00	0.98	1.24	22.2
Approach		1285	2.4	1285	2.4	0.942	52.7	LOS D	13.8	97.6	0.82	0.85	0.93	20.8
NorthWest: Windsor Road (NW)														
27b	L3	51	0.0	51	0.0	0.097	23.7	LOS C	1.0	7.4	0.60	0.68	0.60	24.0
28	T1	1174	1.8	1174	1.8	0.898	56.2	LOS E	25.2	178.0	1.00	0.99	1.12	12.3
Approach		1224	1.7	1224	1.7	0.898	54.9	LOS D	25.2	178.0	0.98	0.98	1.10	12.5
SouthWest: Seven Hills Road (SW)														
30	L2	98	0.0	98	0.0	0.908	70.6	LOS E	24.4	171.7	1.00	1.00	1.20	18.7
30a	L1	469	0.7	469	0.7	0.908	70.9	LOS E	24.4	171.7	1.00	1.00	1.22	18.4
32	R2	275	0.8	275	0.8	* 0.908	88.3	LOS F	8.0	56.4	1.00	1.00	1.40	15.7
Approach		842	0.6	842	0.6	0.908	76.6	LOS E	24.4	171.7	1.00	1.00	1.28	17.4
All Vehicles		6103	2.1	6003 N1	2.2	0.942	51.5	LOS D	25.2	178.0	0.92	0.96	1.06	14.9

Site Level of Service (LOS) Method: Delay (SIDRA). 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)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	239.0	227.1	0.95
North: Old Northern Road (N)											
P3	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94
P3B	Slip/ Bypass	53	64.3	LOS F	0.2	0.2	0.96	0.96	226.5	210.9	0.93
NorthWest: Windsor Road (NW)											

P7 Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
SouthWest: Seven Hills Road (SW)										
P8 Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
All Pedestrians	263	64.3	LOS F	0.2	0.2	0.96	0.96	232.6	218.8	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: 007 [7PE - Windsor Road / Railway Street (PM EXISTING) (Site Folder: PM EXISTING)]

Network: N101 [PM Existing (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	2756	2.8	2655	2.9	0.347	0.1	LOS A	24.5	175.9	0.00	0.00	0.00	59.8
Approach		2756	2.8	2655 N1	2.9	0.347	0.1	NA	24.5	175.9	0.00	0.00	0.00	59.8
NorthWest: Windsor Road (NW)														
27	L2	80	1.3	80	1.3	0.062	3.1	LOS A	0.0	0.0	0.00	0.41	0.00	32.1
28	T1	2146	2.2	2146	2.2	0.549	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.2
Approach		2226	2.2	2226	2.2	0.549	0.1	NA	0.0	0.0	0.00	0.02	0.00	56.2
All Vehicles		4982	2.5	4882 N1	2.6	0.549	0.1	NA	24.5	175.9	0.00	0.01	0.00	59.6

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

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MOVEMENT SUMMARY

Site: 008 [8PE - James Street / Railway Street (PM EXISTING) (Site Folder: PM EXISTING)]

Network: N101 [PM Existing (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: James Street (SE)														
21	L2	24	0.0	24	0.0	0.123	7.5	LOS A	0.2	1.2	0.13	0.94	0.13	42.7
23	R2	109	0.0	107	0.0	0.123	7.6	LOS A	0.2	1.2	0.13	0.94	0.13	41.7
Approach		134	0.0	131 N1	0.0	0.123	7.6	LOS A	0.2	1.2	0.13	0.94	0.13	41.9
NorthEast: Railway Street (NE)														
24	L2	68	0.0	68	0.0	0.047	2.3	LOS A	0.0	0.0	0.00	0.38	0.00	26.8
25	T1	19	5.6	19	5.6	0.047	0.0	LOS A	0.0	0.0	0.00	0.38	0.00	43.7
Approach		87	1.2	87	1.2	0.047	1.8	NA	0.0	0.0	0.00	0.38	0.00	35.4
SouthWest: Railway Street (SW)														
31	T1	67	0.0	67	0.0	0.051	0.1	LOS A	0.1	0.4	0.11	0.15	0.11	43.5
32	R2	26	0.0	26	0.0	0.051	4.8	LOS A	0.1	0.4	0.11	0.15	0.11	43.5
Approach		94	0.0	94	0.0	0.051	1.4	NA	0.1	0.4	0.11	0.15	0.11	43.5
All Vehicles		315	0.3	312 N1	0.3	0.123	4.1	NA	0.2	1.2	0.09	0.55	0.09	41.7

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

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MOVEMENT SUMMARY

Site: 009 [9PE - Jenner Street / Railway Street (PM EXISTING) (Site Folder: PM EXISTING)]

Network: N101 [PM Existing (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
NorthEast: Railway Street (NE)														
25	T1	25	4.2	25	4.2	0.019	0.2	LOS A	0.0	0.1	0.15	0.16	0.15	47.5
26b	R3	8	0.0	8	0.0	0.019	5.7	LOS A	0.0	0.1	0.15	0.16	0.15	47.5
Approach		34	3.1	34	3.1	0.019	1.6	NA	0.0	0.1	0.15	0.16	0.15	47.5
North: Jenner Street (N)														
7b	L3	3	0.0	3	0.0	0.063	8.4	LOS A	0.1	0.6	0.22	0.95	0.22	44.9
9a	R1	62	0.0	62	0.0	0.063	7.7	LOS A	0.1	0.6	0.22	0.95	0.22	40.2
Approach		65	0.0	65	0.0	0.063	7.7	LOS A	0.1	0.6	0.22	0.95	0.22	40.6
SouthWest: Railway Street (SW)														
30a	L1	129	0.0	129	0.0	0.091	2.0	LOS A	0.0	0.0	0.00	0.35	0.00	27.3
31	T1	47	0.0	47	0.0	0.091	0.0	LOS A	0.0	0.0	0.00	0.35	0.00	48.1
Approach		177	0.0	176[N1]	0.0	0.091	1.5	NA	0.0	0.0	0.00	0.35	0.00	44.2
All Vehicles		276	0.4	274[N1]	0.4	0.091	3.0	NA	0.1	0.6	0.07	0.47	0.07	43.4

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

MOVEMENT SUMMARY

Site: TCS1196 [10PE - Cook Street / Windsor Road (PM EXISTING) (Site Folder: PM EXISTING)]

Network: N101 [PM Existing (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	2182	3.5	2182	3.5	0.637	15.4	LOS B	19.4	139.5	0.63	0.58	0.63	40.0
23	R2	277	1.1	277	1.1	0.836	49.4	LOS D	8.9	63.1	0.98	0.97	1.16	23.2
Approach		2459	3.2	2459	3.2	0.836	19.2	LOS B	19.4	139.5	0.67	0.62	0.69	37.0
NorthEast: Cook Street (NE)														
24	L2	211	1.0	201	1.0	* 1.142	212.6	LOS F	32.7	230.0	1.00	1.42	2.13	10.0
26	R2	623	0.3	595	0.3	1.142	213.2	LOS F	32.7	230.0	1.00	1.44	2.14	3.8
Approach		834	0.5	795 N1	0.5	1.142	213.1	LOS F	32.7	230.0	1.00	1.43	2.14	5.5
NorthWest: Windsor Road (NW)														
27	L2	432	0.7	432	0.7	0.456	17.6	LOS B	7.4	54.2	0.76	0.80	0.76	38.4
28	T1	1705	2.5	1705	2.5	* 0.801	42.4	LOS D	23.8	168.3	0.97	0.88	0.99	35.4
Approach		2137	2.2	2137	2.2	0.801	37.4	LOS D	23.8	168.3	0.93	0.87	0.94	35.7
All Vehicles		5429	2.4	5391 N1	2.4	1.142	55.0	LOS E	32.7	230.0	0.82	0.84	1.00	24.5

Site Level of Service (LOS) Method: Delay (SIDRA). 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)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	239.0	227.1	0.95
NorthEast: Cook Street (NE)											
P6	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	227.3	211.9	0.93
All Pedestrians		105	64.3	LOS F	0.2	0.2	0.96	0.96	233.1	219.5	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 011 [11 - Orchard Street / Cook Street (AM EXISTING SCATS ADJUSTMENT) (Site Folder: AM SCATS ADJUSTMENT)]

Network: N101 [AM Existing - Scats Adjusted (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Roundabout

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Orchard Street (SE)														
21	L2	1	100.0	1	100.0	0.014	13.8	LOS A	0.0	0.2	0.78	0.69	0.78	38.2
22	T1	1	0.0	1	0.0	0.014	8.4	LOS A	0.0	0.2	0.78	0.69	0.78	38.2
23	R2	2	0.0	2	0.0	0.014	11.6	LOS A	0.0	0.2	0.78	0.69	0.78	43.2
23u	U	1	0.0	1	0.0	0.014	13.1	LOS A	0.0	0.2	0.78	0.69	0.78	43.6
Approach		5	20.0	5	20.0	0.014	11.7	LOS A	0.0	0.2	0.78	0.69	0.78	41.9
NorthEast: Cook Street (NE)														
24	L2	1	0.0	1	0.0	1.071	77.1	LOS F	22.6	160.1	1.00	1.43	2.46	24.2
25	T1	656	1.4	656	1.4	1.071	77.0	LOS F	22.6	160.1	1.00	1.43	2.46	16.3
26	R2	38	0.0	38	0.0	1.071	80.2	LOS F	22.6	160.1	1.00	1.43	2.46	16.3
26u	U	2	0.0	2	0.0	1.071	81.7	LOS F	22.6	160.1	1.00	1.43	2.46	24.5
Approach		697	1.4	697	1.4	1.071	77.2	LOS F	22.6	160.1	1.00	1.43	2.46	16.4
NorthWest: Orchard Street (NW)														
27	L2	77	2.7	77	2.7	0.361	8.9	LOS A	0.7	4.8	0.72	0.76	0.72	43.2
28	T1	1	0.0	1	0.0	0.361	8.7	LOS A	0.7	4.8	0.72	0.76	0.72	43.9
29	R2	89	0.0	89	0.0	0.361	11.9	LOS A	0.7	4.8	0.72	0.76	0.72	39.0
29u	U	1	0.0	1	0.0	0.361	13.4	LOS A	0.7	4.8	0.72	0.76	0.72	39.0
Approach		168	1.3	168	1.3	0.361	10.5	LOS A	0.7	4.8	0.72	0.76	0.72	41.6
SouthWest: Cook Street (SW)														
30	L2	59	3.6	59	3.6	0.484	4.1	LOS A	1.6	11.6	0.23	0.42	0.23	39.5
31	T1	562	1.3	562	1.3	0.484	3.9	LOS A	1.6	11.6	0.23	0.42	0.23	46.2
32	R2	2	50.0	2	50.0	0.484	7.8	LOS A	1.6	11.6	0.23	0.42	0.23	44.9
32u	U	7	0.0	7	0.0	0.484	8.6	LOS A	1.6	11.6	0.23	0.42	0.23	39.5
Approach		631	1.7	631	1.7	0.484	4.0	LOS A	1.6	11.6	0.23	0.42	0.23	45.9
All Vehicles		1501	1.5	1501	1.5	1.071	38.7	LOS C	22.6	160.1	0.64	0.93	1.32	26.7

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.
Roundabout Capacity Model: SIDRA Standard.
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.

MOVEMENT SUMMARY

Site: 001 [1 - Hill Street / Old Northern Road (AM EXISTING SCATS ADJUSTMENT) (Site Folder: AM SCATS ADJUSTMENT)]

Network: N101 [AM Existing - Scats Adjusted (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Old Northern Road (S)														
2	T1	809	5.1	784	5.2	0.292	2.8	LOS A	0.9	6.5	0.18	0.05	0.22	55.9
3	R2	52	0.0	50	0.0	0.292	21.4	LOS B	0.9	6.5	0.62	0.16	0.73	35.5
Approach		861	4.8	834 N1	4.9	0.292	3.9	NA	0.9	6.5	0.21	0.05	0.25	55.2
East: Hill Street (E)														
4	L2	92	1.1	92	1.1	0.145	11.5	LOS A	0.2	1.5	0.55	0.98	0.55	27.6
6	R2	9	11.1	9	11.1	0.320	148.3	LOS F	0.3	2.7	0.98	1.02	1.05	12.7
Approach		101	2.1	101	2.1	0.320	24.3	LOS B	0.3	2.7	0.59	0.98	0.60	20.7
North: Old Northern Road (N)														
7	L2	23	0.0	23	0.0	0.393	5.7	LOS A	0.0	0.0	0.00	0.02	0.00	59.4
8	T1	1463	4.7	1463	4.7	0.393	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	59.6
Approach		1486	4.7	1486	4.7	0.393	0.2	NA	0.0	0.0	0.00	0.01	0.00	59.6
All Vehicles		2448	4.6	2421 N1	4.7	0.393	2.5	NA	0.9	6.5	0.10	0.07	0.11	55.9

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.

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

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MOVEMENT SUMMARY

Site: 002v [2 - Hill Street / Jenner Street (AM EXISTING SCATS ADJUSTMENT) (Site Folder: AM SCATS ADJUSTMENT)]

Network: N101 [AM Existing - Scats Adjusted (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Jenner Street (S)														
1	L2	63	3.3	63	3.3	0.081	4.7	LOS A	0.1	0.9	0.11	0.51	0.11	43.1
3a	R1	46	0.0	46	0.0	0.081	4.5	LOS A	0.1	0.9	0.11	0.51	0.11	45.8
Approach		109	1.9	109	1.9	0.081	4.6	LOS A	0.1	0.9	0.11	0.51	0.11	44.7
NorthEast: Jenner Street (NE)														
24a	L1	43	0.0	43	0.0	0.042	4.4	LOS A	0.0	0.0	0.00	0.53	0.00	44.8
26a	R1	38	0.0	38	0.0	0.042	4.1	LOS A	0.0	0.0	0.00	0.53	0.00	44.8
Approach		81	0.0	81	0.0	0.042	4.3	NA	0.0	0.0	0.00	0.53	0.00	44.8
West: Hill Street (W)														
10a	L1	52	0.0	50	0.0	0.039	4.5	LOS A	0.0	0.3	0.11	0.50	0.11	44.2
12	R2	21	0.0	21	0.0	0.039	4.8	LOS A	0.0	0.3	0.11	0.50	0.11	35.8
Approach		73	0.0	71 N1	0.0	0.039	4.6	NA	0.0	0.3	0.11	0.50	0.11	43.3
All Vehicles		263	0.8	261 N1	0.8	0.081	4.5	NA	0.1	0.9	0.08	0.51	0.08	44.4

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.

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

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MOVEMENT SUMMARY

Site: TCS1764 [3 - Windsor Road / Olive Street (AM EXISTING SCATS ADJUSTMENT) (Site Folder: AM SCATS ADJUSTMENT)]

Network: N101 [AM Existing - Scats Adjusted (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	1279	3.0	1198	3.3	0.382	1.0	LOS A	2.8	19.9	0.08	0.07	0.08	58.6
23	R2	141	0.0	132	0.0	0.278	34.3	LOS C	3.7	25.8	0.90	0.78	0.90	20.0
Approach		1420	2.7	1330 N1	2.9	0.382	4.3	LOS A	3.7	25.8	0.16	0.14	0.16	54.1
NorthEast: Olive Street (NE)														
24	L2	18	0.0	18	0.0	* 0.024	31.1	LOS C	0.4	3.1	0.63	0.65	0.63	7.9
26	R2	123	2.6	123	2.6	0.315	68.2	LOS E	2.4	17.5	0.96	0.76	0.96	19.9
Approach		141	2.2	141	2.2	0.315	63.5	LOS E	2.4	17.5	0.92	0.74	0.92	19.3
NorthWest: Windsor Road (NW)														
27	L2	165	1.9	165	1.9	0.190	14.7	LOS B	2.4	18.1	0.53	0.69	0.53	32.2
28	T1	1291	2.9	1291	2.9	* 0.997	95.7	LOS F	40.1	284.9	0.99	1.28	1.45	15.0
Approach		1456	2.7	1456	2.7	0.997	86.5	LOS F	40.1	284.9	0.94	1.21	1.35	15.8
All Vehicles		3017	2.7	2927 N1	2.8	0.997	48.0	LOS D	40.1	284.9	0.59	0.70	0.79	25.5

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

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	11	64.2	LOS F	0.0	0.0	0.96	0.96	236.3	223.8	0.95
NorthEast: Olive Street (NE)											
P6	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	232.3	218.5	0.94
All Pedestrians		63	64.3	LOS F	0.2	0.2	0.96	0.96	233.0	219.4	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: TCS1763 [4 - Olive Street / Old Northern Road (AM EXISTING SCATS ADJUSTMENT) (Site Folder: AM SCATS ADJUSTMENT)]

Network: N101 [AM Existing - Scats Adjusted (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Old Northern Road (S)														
1	L2	117	1.8	113	1.9	* 0.835	59.8	LOS E	16.1	116.8	0.96	0.93	1.02	15.3
2	T1	796	4.9	768	5.1	0.835	44.9	LOS D	17.3	126.3	0.94	0.88	0.99	14.4
Approach		913	4.5	881 N1	4.7	0.835	46.8	LOS D	17.3	126.3	0.94	0.89	0.99	14.5
North: Old Northern Road (N)														
8	T1	1309	5.1	1309	5.1	* 0.466	9.3	LOS A	11.3	80.6	0.47	0.42	0.47	38.7
9	R2	244	0.9	244	0.9	0.395	19.9	LOS B	3.6	25.5	0.71	0.76	0.71	30.5
Approach		1554	4.5	1554	4.5	0.466	11.0	LOS A	11.3	80.6	0.50	0.48	0.50	36.7
West: Olive Street (W)														
10	L2	72	0.0	72	0.0	0.062	15.4	LOS B	1.1	8.0	0.41	0.64	0.41	16.5
12	R2	176	1.2	176	1.2	0.230	54.3	LOS D	3.1	21.7	0.87	0.76	0.87	6.1
Approach		247	0.9	247	0.9	0.230	43.1	LOS D	3.1	21.7	0.74	0.72	0.74	7.5
All Vehicles		2714	4.2	2682 N1	4.2	0.835	25.7	LOS B	17.3	126.3	0.67	0.64	0.69	22.6

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

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Old Northern Road (N)											
P3	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	234.9	221.8	0.94
West: Olive Street (W)											
P4	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	232.3	218.5	0.94
All Pedestrians		105	64.3	LOS F	0.2	0.2	0.96	0.96	233.6	220.2	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: TCS [6 - Old Northern Road / Windsor Road / Seven Hills Road (AM EXISTING SCATS ADJUSTMENT) (Site Folder: AM SCATS ADJUSTMENT)]

Network: N101 [AM Existing - Scats Adjusted (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
21	L2	349	3.6	326	3.9	0.811	25.0	LOS B	2.8	20.0	0.76	0.80	0.76	34.3
22	T1	1315	2.9	1224	3.1	0.811	24.0	LOS B	2.8	20.0	0.79	0.76	0.79	5.4
23a	R1	485	6.5	453	7.0	* 0.729	66.3	LOS E	2.7	20.0	1.00	1.04	1.04	2.4
Approach		2149	3.8	2003 N1	4.1	0.811	33.7	LOS C	2.8	20.0	0.83	0.83	0.84	10.7
North: Old Northern Road (N)														
7a	L1	895	6.5	895	6.5	0.595	31.5	LOS C	12.1	85.7	0.68	0.75	0.68	18.7
9a	R1	631	1.8	631	1.8	* 0.866	70.4	LOS E	13.9	98.8	1.00	0.94	1.15	23.1
Approach		1525	4.6	1525	4.6	0.866	47.6	LOS D	13.9	98.8	0.81	0.83	0.88	21.5
NorthWest: Windsor Road (NW)														
27b	L3	24	0.0	24	0.0	0.086	25.2	LOS B	0.7	6.4	0.74	0.66	0.74	24.0
28	T1	1238	3.1	1238	3.1	* 0.925	43.7	LOS D	26.3	186.6	0.99	0.98	1.11	14.9
Approach		1262	3.0	1262	3.0	0.925	43.4	LOS D	26.3	186.6	0.99	0.98	1.10	15.0
SouthWest: Seven Hills Road (SW)														
30	L2	114	1.9	114	1.9	0.825	54.2	LOS D	21.0	150.3	0.98	0.91	1.04	22.3
30a	L1	412	2.6	412	2.6	0.825	52.8	LOS D	21.0	150.3	0.98	0.91	1.04	22.3
32	R2	385	1.4	385	1.4	* 0.916	88.5	LOS F	9.4	66.3	1.00	1.00	1.40	15.7
Approach		911	2.0	911	2.0	0.916	68.1	LOS E	21.0	150.3	0.99	0.95	1.19	18.9
All Vehicles		5847	3.5	5701 N1	3.6	0.925	45.0	LOS D	26.3	186.6	0.89	0.88	0.96	17.1

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

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	3	64.1	LOS F	0.0	0.0	0.96	0.96	238.8	227.1	0.95
North: Old Northern Road (N)											
P3	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94
P3B	Slip/	53	64.3	LOS F	0.2	0.2	0.96	0.96	226.5	210.9	0.93

	Bypass										
NorthWest: Windsor Road (NW)											
P7	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
SouthWest: Seven Hills Road (SW)											
P8	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
All Pedestrians		214	64.3	LOS F	0.2	0.2	0.96	0.96	231.1	216.9	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: 007 [7 - Windsor Road / Railway Street (AM EXISTING SCATS ADJUSTMENT) (Site Folder: AM SCATS ADJUSTMENT)]

Network: N101 [AM Existing - Scats Adjusted (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	2067	0.0	1921	0.0	0.246	0.1	LOS A	15.0	104.9	0.00	0.00	0.00	59.9
Approach		2067	0.0	1921[N1]	0.0	0.246	0.1	NA	15.0	104.9	0.00	0.00	0.00	59.9
NorthWest: Windsor Road (NW)														
27	L2	82	3.8	82	3.8	0.096	3.1	LOS A	0.0	0.0	0.00	0.31	0.00	35.3
28	T1	2518	4.0	2518	4.0	0.637	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	58.7
Approach		2600	4.0	2600	4.0	0.637	0.1	NA	0.0	0.0	0.00	0.02	0.00	56.4
All Vehicles		4667	2.2	4521[N1]	2.3	0.637	0.1	NA	15.0	104.9	0.00	0.01	0.00	59.6

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.

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MOVEMENT SUMMARY

Site: 008 [8 - James Street / Railway Street (AM EXISTING SCATS ADJUSTMENT) (Site Folder: AM SCATS ADJUSTMENT)]

Network: N101 [AM Existing - Scats Adjusted (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: James Street (SE)														
21	L2	33	0.0	33	0.0	0.109	7.5	LOS A	0.2	1.1	0.13	0.94	0.13	42.7
23	R2	86	0.0	86	0.0	0.109	7.6	LOS A	0.2	1.1	0.13	0.94	0.13	41.7
Approach		119	0.0	119	0.0	0.109	7.6	LOS A	0.2	1.1	0.13	0.94	0.13	42.0
NorthEast: Railway Street (NE)														
24	L2	79	0.0	79	0.0	0.055	2.3	LOS A	0.0	0.0	0.00	0.37	0.00	27.2
25	T1	25	0.0	25	0.0	0.055	0.0	LOS A	0.0	0.0	0.00	0.37	0.00	44.0
Approach		104	0.0	104	0.0	0.055	1.8	NA	0.0	0.0	0.00	0.37	0.00	36.4
SouthWest: Railway Street (SW)														
31	T1	49	2.1	49	2.1	0.051	0.2	LOS A	0.1	0.6	0.17	0.23	0.17	40.9
32	R2	38	8.3	38	8.3	0.051	5.0	LOS A	0.1	0.6	0.17	0.23	0.17	40.9
Approach		87	4.8	87	4.8	0.051	2.3	NA	0.1	0.6	0.17	0.23	0.17	40.9
All Vehicles		311	1.4	310[N1]	1.4	0.109	4.2	NA	0.2	1.1	0.10	0.55	0.10	41.3

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.

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MOVEMENT SUMMARY

Site: 009 [9 - Jenner Street / Railway Street (AM EXISTING SCATS ADJUSTMENT) (Site Folder: AM SCATS ADJUSTMENT)]

Network: N101 [AM Existing - Scats Adjusted (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
NorthEast: Railway Street (NE)														
25	T1	45	0.0	45	0.0	0.029	0.1	LOS A	0.0	0.1	0.08	0.10	0.08	48.5
26b	R3	8	0.0	8	0.0	0.029	5.6	LOS A	0.0	0.1	0.08	0.10	0.08	48.5
Approach		54	0.0	54	0.0	0.029	0.9	NA	0.0	0.1	0.08	0.10	0.08	48.5
North: Jenner Street (N)														
7b	L3	3	0.0	3	0.0	0.060	8.4	LOS A	0.1	0.6	0.21	0.95	0.21	44.9
9a	R1	59	0.0	59	0.0	0.060	7.7	LOS A	0.1	0.6	0.21	0.95	0.21	40.2
Approach		62	0.0	62	0.0	0.060	7.7	LOS A	0.1	0.6	0.21	0.95	0.21	40.6
SouthWest: Railway Street (SW)														
30a	L1	97	1.1	97	1.1	0.071	2.0	LOS A	0.0	0.0	0.00	0.34	0.00	27.7
31	T1	39	0.0	39	0.0	0.071	0.0	LOS A	0.0	0.0	0.00	0.34	0.00	48.1
Approach		136	0.8	136	0.8	0.071	1.5	NA	0.0	0.0	0.00	0.34	0.00	44.6
All Vehicles		252	0.4	251[N1]	0.4	0.071	2.9	NA	0.1	0.6	0.07	0.44	0.07	44.4

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.

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

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MOVEMENT SUMMARY

Site: TCS1196 [10 - Cook Street / Windsor Road (AM EXISTING SCATS ADJUSTMENT) (Site Folder: AM SCATS ADJUSTMENT)]

Network: N101 [AM Existing - Scats Adjusted (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	1638	4.7	1638	4.7	0.416	9.7	LOS A	9.6	70.0	0.47	0.42	0.47	45.6
23	R2	226	2.3	226	2.3	0.785	36.2	LOS C	6.1	43.2	0.94	0.89	1.07	27.8
Approach		1864	4.4	1864	4.4	0.785	13.0	LOS A	9.6	70.0	0.52	0.48	0.54	42.3
NorthEast: Cook Street (NE)														
24	L2	281	3.4	281	3.4	* 1.365	399.2	LOS F	32.3	230.0	1.00	1.81	2.93	5.8
26	R2	563	0.4	563	0.4	1.365	399.5	LOS F	32.8	230.0	1.00	1.84	2.94	2.1
Approach		844	1.4	844	1.4	1.365	399.4	LOS F	32.8	230.0	1.00	1.83	2.94	3.4
NorthWest: Windsor Road (NW)														
27	L2	404	1.3	404	1.3	0.487	15.9	LOS B	7.2	56.6	0.62	0.74	0.62	40.2
28	T1	2045	4.4	2045	4.4	* 0.778	29.3	LOS C	24.7	175.2	0.85	0.77	0.85	40.5
Approach		2449	3.9	2449	3.9	0.778	27.1	LOS B	24.7	175.2	0.81	0.77	0.81	40.4
All Vehicles		5158	3.7	5158	3.7	1.365	82.9	LOS F	32.8	230.0	0.74	0.84	1.06	19.6

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)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	241.5	230.4	0.95
NorthEast: Cook Street (NE)											
P6	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	227.3	211.9	0.93
All Pedestrians		105	64.3	LOS F	0.2	0.2	0.96	0.96	234.4	221.2	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 011 [11 - Orchard Street / Cook Street (PM EXISTING SCATS ADJUSTMENT) (Site Folder: PM SCATS ADJUSTMENT)]

Network: N101 [PM Existing - Scats Adjustment (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Roundabout

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Orchard Street (SE)														
21	L2	1	0.0	1	0.0	0.010	8.6	LOS A	0.0	0.1	0.79	0.66	0.79	39.1
22	T1	1	0.0	1	0.0	0.010	8.5	LOS A	0.0	0.1	0.79	0.66	0.79	39.1
23	R2	1	0.0	1	0.0	0.010	11.7	LOS B	0.0	0.1	0.79	0.66	0.79	43.7
23u	U	1	0.0	1	0.0	0.010	13.2	LOS B	0.0	0.1	0.79	0.66	0.79	44.2
Approach		4	0.0	4	0.0	0.010	10.5	LOS B	0.0	0.1	0.79	0.66	0.79	42.2
NorthEast: Cook Street (NE)														
24	L2	2	0.0	2	0.0	1.190	181.9	LOS F	46.1	324.3	1.00	2.27	3.94	14.3
25	T1	747	0.6	747	0.6	1.190	181.9	LOS F	46.1	324.3	1.00	2.27	3.94	8.5
26	R2	52	0.0	52	0.0	1.190	185.1	LOS F	46.1	324.3	1.00	2.27	3.94	8.5
26u	U	12	0.0	12	0.0	1.190	186.5	LOS F	46.1	324.3	1.00	2.27	3.94	14.4
Approach		813	0.5	813	0.5	1.190	182.1	LOS F	46.1	324.3	1.00	2.27	3.94	8.6
NorthWest: Orchard Street (NW)														
27	L2	52	0.0	51	0.0	0.287	9.6	LOS A	0.6	4.0	0.76	0.75	0.76	42.8
28	T1	1	0.0	1	0.0	0.287	9.5	LOS A	0.6	4.0	0.76	0.75	0.76	43.4
29	R2	71	0.0	70	0.0	0.287	12.7	LOS B	0.6	4.0	0.76	0.75	0.76	38.3
29u	U	1	0.0	1	0.0	0.287	14.2	LOS B	0.6	4.0	0.76	0.75	0.76	38.3
Approach		124	0.0	124	0.0	0.287	11.4	LOS B	0.6	4.0	0.76	0.75	0.76	40.9
SouthWest: Cook Street (SW)														
30	L2	75	1.4	75	1.4	0.566	4.2	LOS A	2.1	15.1	0.29	0.44	0.29	39.0
31	T1	617	0.9	617	0.9	0.566	4.1	LOS A	2.1	15.1	0.29	0.44	0.29	45.9
32	R2	1	0.0	1	0.0	0.566	7.3	LOS A	2.1	15.1	0.29	0.44	0.29	45.7
32u	U	16	0.0	16	0.0	0.566	8.8	LOS A	2.1	15.1	0.29	0.44	0.29	39.0
Approach		708	0.9	708	0.9	0.566	4.3	LOS A	2.1	15.1	0.29	0.44	0.29	45.5
All Vehicles		1649	0.6	1649	0.6	1.190	92.5	LOS F	46.1	324.3	0.67	1.36	2.12	16.1

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

MOVEMENT SUMMARY

Site: 001 [1 - Hill Street / Old Northern Road (PM EXISTING SCATS ADJUSTMENT) (Site Folder: PM SCATS ADJUSTMENT)]

Network: N101 [PM Existing - Scats Adjustment (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Old Northern Road (S)														
2	T1	1063	4.5	1045	4.5	0.364	2.0	LOS A	1.1	8.0	0.18	0.05	0.24	56.7
3	R2	74	0.0	72	0.0	0.364	17.3	LOS C	1.1	8.0	0.54	0.15	0.71	40.7
Approach		1137	4.2	1118 N1	4.2	0.364	3.0	NA	1.1	8.0	0.21	0.06	0.27	56.2
East: Hill Street (E)														
4	L2	134	0.0	134	0.0	0.169	9.9	LOS A	0.3	1.8	0.47	0.94	0.47	29.4
6	R2	9	0.0	9	0.0	0.372	180.6	LOS F	0.4	2.8	0.99	1.02	1.07	10.9
Approach		143	0.0	143	0.0	0.372	21.2	LOS C	0.4	2.8	0.50	0.94	0.51	21.5
North: Old Northern Road (N)														
7	L2	26	0.0	26	0.0	0.303	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	59.3
8	T1	1132	3.2	1132	3.2	0.303	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	59.6
Approach		1158	3.1	1158	3.1	0.303	0.2	NA	0.0	0.0	0.00	0.01	0.00	59.6
All Vehicles		2438	3.4	2419 N1	3.4	0.372	2.7	NA	1.1	8.0	0.12	0.09	0.16	55.6

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

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MOVEMENT SUMMARY

Site: 002v [2 - Hill Street / Jenner Street (PM EXISTING SCATS ADJUSTMENT) (Site Folder: PM SCATS ADJUSTMENT)]

Network: N101 [PM Existing - Scats Adjustment (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Jenner Street (S)														
1	L2	115	0.0	115	0.0	0.097	4.6	LOS A	0.2	1.1	0.08	0.51	0.08	43.1
3a	R1	29	0.0	29	0.0	0.097	4.6	LOS A	0.2	1.1	0.08	0.51	0.08	45.8
Approach		144	0.0	144	0.0	0.097	4.6	LOS A	0.2	1.1	0.08	0.51	0.08	44.0
NorthEast: Jenner Street (NE)														
24a	L1	35	0.0	35	0.0	0.032	4.4	LOS A	0.0	0.0	0.00	0.54	0.00	44.8
26a	R1	26	0.0	26	0.0	0.032	4.1	LOS A	0.0	0.0	0.00	0.54	0.00	44.8
Approach		61	0.0	61	0.0	0.032	4.3	NA	0.0	0.0	0.00	0.54	0.00	44.8
West: Hill Street (W)														
10a	L1	63	0.0	62	0.0	0.053	4.5	LOS A	0.1	0.5	0.11	0.51	0.11	44.2
12	R2	35	0.0	34	0.0	0.053	4.7	LOS A	0.1	0.5	0.11	0.51	0.11	35.8
Approach		98	0.0	97 N1	0.0	0.053	4.6	NA	0.1	0.5	0.11	0.51	0.11	43.0
All Vehicles		303	0.0	302 N1	0.0	0.097	4.5	NA	0.2	1.1	0.07	0.51	0.07	43.9

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

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MOVEMENT SUMMARY

Site: TCS1764 [3 - Windsor Road / Olive Street (PM EXISTING SCATS ADJUSTMENT) (Site Folder: PM SCATS ADJUSTMENT)]

Network: N101 [PM Existing - Scats Adjustment (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	1531	1.4	1478	1.4	0.515	2.9	LOS A	7.4	52.1	0.17	0.15	0.17	56.3
23	R2	143	0.0	138	0.0	0.486	39.3	LOS D	3.7	25.6	0.93	0.79	0.93	18.3
Approach		1674	1.3	1617 N1	1.3	0.515	6.0	LOS A	7.4	52.1	0.23	0.21	0.23	52.3
NorthEast: Olive Street (NE)														
24	L2	60	1.8	60	1.8	* 0.085	33.3	LOS C	1.6	11.1	0.67	0.70	0.67	7.4
26	R2	299	1.1	299	1.1	0.473	61.4	LOS E	5.7	40.3	0.95	0.80	0.95	21.2
Approach		359	1.2	359	1.2	0.473	56.7	LOS E	5.7	40.3	0.90	0.78	0.90	20.2
NorthWest: Windsor Road (NW)														
27	L2	241	0.4	241	0.4	0.215	11.1	LOS B	2.2	15.8	0.44	0.69	0.44	33.9
28	T1	1264	1.7	1264	1.7	* 1.135	197.3	LOS F	55.1	389.4	1.00	1.76	2.05	8.2
Approach		1505	1.5	1505	1.5	1.135	167.5	LOS F	55.1	389.4	0.91	1.59	1.79	9.3
All Vehicles		3538	1.4	3481 N1	1.4	1.135	81.1	LOS F	55.1	389.4	0.59	0.86	0.98	18.1

Site Level of Service (LOS) Method: Delay (SIDRA). 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)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	11	64.2	LOS F	0.0	0.0	0.96	0.96	236.3	223.8	0.95
NorthEast: Olive Street (NE)											
P6	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	232.3	218.5	0.94
All Pedestrians		63	64.3	LOS F	0.2	0.2	0.96	0.96	233.0	219.4	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: TCS1763 [4 - Olive Street / Old Northern Road (PM EXISTING SCATS ADJUSTMENT) (Site Folder: PM SCATS ADJUSTMENT)]

Network: N101 [PM Existing - Scats Adjustment (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Old Northern Road (S)														
1	L2	198	2.7	194	2.7	0.526	13.2	LOS B	6.3	45.4	0.29	0.40	0.29	38.0
2	T1	985	4.4	966	4.4	* 0.526	7.7	LOS A	6.6	48.0	0.29	0.32	0.29	37.8
Approach		1183	4.1	1160 N1	4.2	0.526	8.6	LOS A	6.6	48.0	0.29	0.34	0.29	37.8
North: Old Norther Road (N)														
8	T1	1003	3.4	1003	3.4	0.340	6.1	LOS A	6.7	47.8	0.36	0.32	0.36	44.0
9	R2	259	0.4	259	0.4	* 0.596	28.8	LOS C	9.5	67.0	0.96	0.90	0.96	25.3
Approach		1262	2.8	1262	2.8	0.596	10.8	LOS B	9.5	67.0	0.48	0.44	0.48	37.0
West: Olive Street (W)														
10	L2	152	0.0	152	0.0	0.248	41.1	LOS D	4.6	32.1	0.77	0.76	0.77	7.8
12	R2	318	0.3	318	0.3	* 0.522	62.9	LOS E	6.2	43.3	0.96	0.81	0.96	5.4
Approach		469	0.2	469	0.2	0.522	55.9	LOS E	6.2	43.3	0.90	0.79	0.90	6.0
All Vehicles		2915	2.9	2892 N1	2.9	0.596	17.2	LOS B	9.5	67.0	0.47	0.46	0.47	27.5

Site Level of Service (LOS) Method: Delay (SIDRA). 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)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Old Norther Road (N)											
P3	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	234.9	221.8	0.94
West: Olive Street (W)											
P4	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	232.3	218.5	0.94
All Pedestrians		105	64.3	LOS F	0.2	0.2	0.96	0.96	233.6	220.2	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: TCS [6 - Old Northern Road / Windsor Road / Seven Hills Road (PM EXISTING SCATS ADJUSTMENT) (Site Folder: PM SCATS ADJUSTMENT)]

Network: N101 [PM Existing - Scats Adjustment (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
21	L2	551	1.0	530	1.0	0.941	35.2	LOS D	2.8	20.0	0.86	0.98	0.99	29.1
22	T1	1545	1.6	1488	1.6	* 0.941	34.9	LOS C	2.8	20.0	0.92	0.97	1.04	3.8
23a	R1	656	6.7	633	7.0	0.795	65.7	LOS E	2.7	20.0	1.00	1.09	1.09	2.4
Approach		2752	2.7	2651 N1	2.8	0.941	42.3	LOS D	2.8	20.0	0.93	1.00	1.04	10.0
North: Old Northern Road (N)														
7a	L1	698	3.5	698	3.5	0.439	33.5	LOS C	8.7	61.4	0.66	0.74	0.66	17.9
9a	R1	587	1.1	587	1.1	* 0.942	75.5	LOS E	13.8	97.6	1.00	0.98	1.24	22.2
Approach		1285	2.4	1285	2.4	0.942	52.7	LOS D	13.8	97.6	0.81	0.85	0.93	20.8
NorthWest: Windsor Road (NW)														
27b	L3	55	0.0	54	0.0	0.099	27.4	LOS C	1.5	12.0	0.84	0.74	0.84	21.9
28	T1	1260	1.8	1239	1.8	0.926	65.6	LOS E	29.8	210.5	1.00	1.07	1.21	10.8
Approach		1315	1.7	1292 N1	1.7	0.926	64.0	LOS E	29.8	210.5	0.99	1.05	1.20	11.0
SouthWest: Seven Hills Road (SW)														
30	L2	98	0.0	98	0.0	0.908	70.6	LOS E	24.4	171.7	1.00	1.00	1.20	18.7
30a	L1	469	0.7	469	0.7	0.908	70.9	LOS E	24.4	171.7	1.00	1.00	1.22	18.4
32	R2	275	0.8	275	0.8	* 0.908	88.3	LOS F	8.0	56.4	1.00	1.00	1.40	15.7
Approach		842	0.6	842	0.6	0.908	76.6	LOS E	24.4	171.7	1.00	1.00	1.28	17.4
All Vehicles		6194	2.1	6071 N1	2.2	0.942	53.9	LOS D	29.8	210.5	0.93	0.98	1.08	14.4

Site Level of Service (LOS) Method: Delay (SIDRA). 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)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	239.0	227.1	0.95
North: Old Northern Road (N)											
P3	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94

P3B	Slip/ Bypass	53	64.3	LOS F	0.2	0.2	0.96	0.96	226.5	210.9	0.93
NorthWest: Windsor Road (NW)											
P7	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
SouthWest: Seven Hills Road (SW)											
P8	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
All Pedestrians		263	64.3	LOS F	0.2	0.2	0.96	0.96	232.6	218.8	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: 007 [7 - Windsor Road / Railway Street (PM EXISTING SCATS ADJUSTMENT) (Site Folder: PM SCATS ADJUSTMENT)]

Network: N101 [PM Existing - Scats Adjustment (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	2756	2.8	2655	2.9	0.347	0.1	LOS A	24.8	177.6	0.00	0.00	0.00	59.8
Approach		2756	2.8	2655[N1]	2.9	0.347	0.1	NA	24.8	177.6	0.00	0.00	0.00	59.8
NorthWest: Windsor Road (NW)														
27	L2	82	1.3	82	1.3	0.064	3.1	LOS A	0.0	0.0	0.00	0.40	0.00	32.2
28	T1	2233	2.2	2233	2.2	0.571	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.2
Approach		2315	2.1	2315	2.1	0.571	0.1	NA	0.0	0.0	0.00	0.02	0.00	56.2
All Vehicles		5071	2.5	4970[N1]	2.6	0.571	0.1	NA	24.8	177.6	0.00	0.01	0.00	59.6

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

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MOVEMENT SUMMARY

Site: 008 [8 - James Street / Railway Street (PM EXISTING SCATS ADJUSTMENT) (Site Folder: PM SCATS ADJUSTMENT)]

Network: N101 [PM Existing - Scats Adjustment (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: James Street (SE)														
21	L2	24	0.0	24	0.0	0.123	7.5	LOS A	0.2	1.2	0.13	0.94	0.13	42.7
23	R2	109	0.0	107	0.0	0.123	7.6	LOS A	0.2	1.2	0.13	0.94	0.13	41.7
Approach		134	0.0	131 N1	0.0	0.123	7.6	LOS A	0.2	1.2	0.13	0.94	0.13	41.9
NorthEast: Railway Street (NE)														
24	L2	68	0.0	68	0.0	0.047	2.3	LOS A	0.0	0.0	0.00	0.38	0.00	26.8
25	T1	19	5.6	19	5.6	0.047	0.0	LOS A	0.0	0.0	0.00	0.38	0.00	43.7
Approach		87	1.2	87	1.2	0.047	1.8	NA	0.0	0.0	0.00	0.38	0.00	35.4
SouthWest: Railway Street (SW)														
31	T1	67	0.0	67	0.0	0.051	0.1	LOS A	0.1	0.4	0.11	0.15	0.11	43.5
32	R2	26	0.0	26	0.0	0.051	4.8	LOS A	0.1	0.4	0.11	0.15	0.11	43.5
Approach		94	0.0	94	0.0	0.051	1.4	NA	0.1	0.4	0.11	0.15	0.11	43.5
All Vehicles		315	0.3	312 N1	0.3	0.123	4.1	NA	0.2	1.2	0.09	0.55	0.09	41.7

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

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MOVEMENT SUMMARY

Site: 009 [9 - Jenner Street / Railway Street (PM EXISTING SCATS ADJUSTMENT) (Site Folder: PM SCATS ADJUSTMENT)]

Network: N101 [PM Existing - Scats Adjustment (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
NorthEast: Railway Street (NE)														
25	T1	25	4.2	25	4.2	0.019	0.2	LOS A	0.0	0.1	0.15	0.16	0.15	47.5
26b	R3	8	0.0	8	0.0	0.019	5.7	LOS A	0.0	0.1	0.15	0.16	0.15	47.5
Approach		34	3.1	34	3.1	0.019	1.6	NA	0.0	0.1	0.15	0.16	0.15	47.5
North: Jenner Street (N)														
7b	L3	3	0.0	3	0.0	0.063	8.4	LOS A	0.1	0.6	0.22	0.95	0.22	44.9
9a	R1	62	0.0	62	0.0	0.063	7.7	LOS A	0.1	0.6	0.22	0.95	0.22	40.2
Approach		65	0.0	65	0.0	0.063	7.7	LOS A	0.1	0.6	0.22	0.95	0.22	40.6
SouthWest: Railway Street (SW)														
30a	L1	129	0.0	129	0.0	0.091	2.0	LOS A	0.0	0.0	0.00	0.35	0.00	27.3
31	T1	47	0.0	47	0.0	0.091	0.0	LOS A	0.0	0.0	0.00	0.35	0.00	48.1
Approach		177	0.0	176 N1	0.0	0.091	1.5	NA	0.0	0.0	0.00	0.35	0.00	44.2
All Vehicles		276	0.4	274 N1	0.4	0.091	3.0	NA	0.1	0.6	0.07	0.47	0.07	43.4

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

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MOVEMENT SUMMARY

Site: TCS1196 [10 - Cook Street / Windsor Road (PM EXISTING SCATS ADJUSTMENT) (Site Folder: PM SCATS ADJUSTMENT)]

Network: N101 [PM Existing - Scats Adjustment (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	2182	3.5	2182	3.5	0.637	15.4	LOS B	19.4	139.5	0.63	0.58	0.63	40.0
23	R2	277	1.1	277	1.1	0.836	49.5	LOS D	8.9	63.2	0.98	0.97	1.16	23.2
Approach		2459	3.2	2459	3.2	0.836	19.2	LOS B	19.4	139.5	0.67	0.62	0.69	37.0
NorthEast: Cook Street (NE)														
24	L2	211	1.0	201	1.0	* 1.142	212.6	LOS F	32.7	230.0	1.00	1.42	2.13	10.0
26	R2	623	0.3	595	0.3	1.142	213.2	LOS F	32.7	230.0	1.00	1.44	2.14	3.8
Approach		834	0.5	795 N1	0.5	1.142	213.1	LOS F	32.7	230.0	1.00	1.43	2.14	5.5
NorthWest: Windsor Road (NW)														
27	L2	432	0.7	432	0.7	0.460	17.5	LOS B	7.3	54.0	0.76	0.80	0.76	38.5
28	T1	1705	2.5	1705	2.5	* 0.801	43.1	LOS D	23.9	169.2	0.98	0.89	0.99	35.1
Approach		2137	2.2	2137	2.2	0.801	37.9	LOS D	23.9	169.2	0.93	0.87	0.94	35.5
All Vehicles		5429	2.4	5391 N1	2.4	1.142	55.2	LOS E	32.7	230.0	0.82	0.84	1.01	24.5

Site Level of Service (LOS) Method: Delay (SIDRA). 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)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	239.0	227.1	0.95
NorthEast: Cook Street (NE)											
P6	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	227.3	211.9	0.93
All Pedestrians		105	64.3	LOS F	0.2	0.2	0.96	0.96	233.1	219.5	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 011 [11 - Orchard Street / Cook Street (AM 2033 GROWTH) (Site Folder: AM FUTURE GROWTH 2033)]

Network: N101 [AM 2033 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Roundabout

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Orchard Street (SE)														
21	L2	1	100.0	1	100.0	0.014	13.9	LOS A	0.0	0.2	0.78	0.69	0.78	38.2
22	T1	1	0.0	1	0.0	0.014	8.4	LOS A	0.0	0.2	0.78	0.69	0.78	38.2
23	R2	2	0.0	2	0.0	0.014	11.6	LOS A	0.0	0.2	0.78	0.69	0.78	43.2
23u	U	1	0.0	1	0.0	0.014	13.1	LOS A	0.0	0.2	0.78	0.69	0.78	43.6
Approach		5	20.0	5	20.0	0.014	11.7	LOS A	0.0	0.2	0.78	0.69	0.78	41.9
NorthEast: Cook Street (NE)														
24	L2	1	0.0	1	0.0	1.292	273.9	LOS F	58.0	409.9	1.00	3.66	6.17	10.5
25	T1	783	1.2	783	1.2	1.292	273.9	LOS F	58.0	409.9	1.00	3.66	6.17	6.0
26	R2	38	0.0	38	0.0	1.292	277.0	LOS F	58.0	409.9	1.00	3.66	6.17	6.0
26u	U	2	0.0	2	0.0	1.292	278.5	LOS F	58.0	409.9	1.00	3.66	6.17	10.6
Approach		824	1.1	824	1.1	1.292	274.0	LOS F	58.0	409.9	1.00	3.66	6.17	6.0
NorthWest: Orchard Street (NW)														
27	L2	92	2.3	89	2.2	0.437	10.1	LOS A	0.9	6.4	0.79	0.78	0.79	42.6
28	T1	1	0.0	1	0.0	0.437	9.8	LOS A	0.9	6.4	0.79	0.78	0.79	43.3
29	R2	107	0.0	104	0.0	0.437	13.1	LOS A	0.9	6.4	0.79	0.78	0.79	38.1
29u	U	1	0.0	1	0.0	0.437	14.6	LOS B	0.9	6.4	0.79	0.78	0.79	38.1
Approach		201	1.0	195 N1	1.0	0.437	11.7	LOS A	0.9	6.4	0.79	0.78	0.79	40.8
SouthWest: Cook Street (SW)														
30	L2	59	3.6	54	3.6	0.511	4.0	LOS A	1.8	13.0	0.21	0.42	0.21	39.7
31	T1	672	1.1	620	1.1	0.511	3.9	LOS A	1.8	13.0	0.21	0.42	0.21	46.2
32	R2	2	50.0	2	50.5	0.511	7.7	LOS A	1.8	13.0	0.21	0.42	0.21	45.0
32u	U	8	0.0	8	0.0	0.511	8.6	LOS A	1.8	13.0	0.21	0.42	0.21	39.7
Approach		741	1.4	684 N1	1.4	0.511	4.0	LOS A	1.8	13.0	0.21	0.42	0.21	46.0
All Vehicles		1772	1.3	1709 N1	1.4	1.292	135.1	LOS F	58.0	409.9	0.66	2.02	3.15	12.4

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.
Roundabout Capacity Model: SIDRA Standard.
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.

MOVEMENT SUMMARY

Site: 001 [1 - Hill Street / Old Northern Road (AM 2033 GROWTH) (Site Folder: AM FUTURE GROWTH 2033)]

Network: N101 [AM 2033 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Old Northern Road (S)														
2	T1	969	5.1	879	5.5	0.358	4.3	LOS A	1.8	12.7	0.23	0.05	0.27	54.3
3	R2	52	0.0	47	0.0	0.358	31.5	LOS C	1.8	12.7	1.00	0.20	1.17	26.4
Approach		1021	4.8	925 N1	5.2	0.358	5.7	NA	1.8	12.7	0.27	0.05	0.32	53.3
East: Hill Street (E)														
4	L2	92	1.1	89	1.1	0.166	12.9	LOS A	0.2	1.7	0.61	1.00	0.61	26.1
6	R2	9	11.1	9	11.1	0.636	401.0	LOS F	0.7	5.2	1.00	1.04	1.16	5.5
Approach		101	2.1	98 N1	2.1	0.636	49.2	LOS D	0.7	5.2	0.65	1.00	0.67	12.6
North: Old Northern Road (N)														
7	L2	23	0.0	23	0.0	0.469	5.7	LOS A	0.0	0.0	0.00	0.02	0.00	59.3
8	T1	1752	4.7	1752	4.7	0.469	0.2	LOS A	0.0	0.0	0.00	0.01	0.00	59.5
Approach		1775	4.7	1775	4.7	0.469	0.3	NA	0.0	0.0	0.00	0.01	0.00	59.5
All Vehicles		2897	4.7	2798 N1	4.8	0.636	3.8	NA	1.8	12.7	0.11	0.06	0.13	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.

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

MOVEMENT SUMMARY

Site: 002v [2 - Hill Street / Jenner Street (AM 2033 GROWTH) (Site Folder: AM FUTURE GROWTH 2033)]

Network: N101 [AM 2033 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Jenner Street (S)														
1	L2	63	3.3	60	3.4	0.076	4.7	LOS A	0.1	0.8	0.11	0.51	0.11	43.1
3a	R1	46	0.0	44	0.0	0.076	4.5	LOS A	0.1	0.8	0.11	0.51	0.11	45.8
Approach		109	1.9	103 N1	2.0	0.076	4.6	LOS A	0.1	0.8	0.11	0.51	0.11	44.7
NorthEast: Jenner Street (NE)														
24a	L1	43	0.0	43	0.0	0.044	4.5	LOS A	0.1	0.5	0.06	0.51	0.06	44.5
26a	R1	38	0.0	38	0.0	0.044	4.1	LOS A	0.1	0.5	0.06	0.51	0.06	44.5
Approach		81	0.0	81	0.0	0.044	4.3	NA	0.1	0.5	0.06	0.51	0.06	44.5
West: Hill Street (W)														
10a	L1	52	0.0	48	0.0	0.037	4.5	LOS A	0.0	0.3	0.07	0.52	0.07	44.3
12	R2	21	0.0	20	0.0	0.037	4.7	LOS A	0.0	0.3	0.07	0.52	0.07	36.1
Approach		73	0.0	68 N1	0.0	0.037	4.5	NA	0.0	0.3	0.07	0.52	0.07	43.4
All Vehicles		263	0.8	252 N1	0.8	0.076	4.5	NA	0.1	0.8	0.09	0.51	0.09	44.3

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.

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MOVEMENT SUMMARY

Site: TCS1764 [3 - Windsor Road / Olive Street (AM 2033 GROWTH) (Site Folder: AM FUTURE GROWTH 2033)]

Network: N101 [AM 2033 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	1531	3.0	1376	3.3	0.439	2.7	LOS A	5.4	39.2	0.20	0.19	0.20	56.5
23	R2	141	0.0	126	0.0	0.267	34.0	LOS C	3.5	24.4	0.88	0.78	0.88	20.1
Approach		1672	2.8	1503 N1	3.1	0.439	5.3	LOS A	5.4	39.2	0.26	0.24	0.26	53.0
NorthEast: Olive Street (NE)														
24	L2	18	0.0	18	0.0	* 0.024	31.1	LOS C	0.4	3.1	0.63	0.65	0.63	7.9
26	R2	147	2.9	147	2.9	0.378	68.8	LOS E	2.9	21.1	0.97	0.77	0.97	19.8
Approach		165	2.5	165	2.5	0.378	64.7	LOS E	2.9	21.1	0.94	0.75	0.94	19.3
NorthWest: Windsor Road (NW)														
27	L2	165	1.9	165	1.9	0.190	14.7	LOS B	2.4	18.1	0.53	0.69	0.53	32.2
28	T1	1542	2.7	1542	2.7	* 1.230	271.9	LOS F	77.3	548.8	1.00	2.04	2.40	6.3
Approach		1707	2.6	1707	2.6	1.230	247.0	LOS F	77.3	548.8	0.95	1.91	2.22	6.6
All Vehicles		3544	2.7	3375 N1	2.8	1.230	130.5	LOS F	77.3	548.8	0.64	1.11	1.28	12.7

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

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	11	64.2	LOS F	0.0	0.0	0.96	0.96	236.3	223.8	0.95
NorthEast: Olive Street (NE)											
P6	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	232.3	218.5	0.94
All Pedestrians		63	64.3	LOS F	0.2	0.2	0.96	0.96	233.0	219.4	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: TCS1763 [4 - Olive Street / Old Northern Road (AM 2033 GROWTH) (Site Folder: AM FUTURE GROWTH 2033)]

Network: N101 [AM 2033 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Old Northern Road (S)														
1	L2	139	1.5	124	1.7	* 0.926	59.5	LOS E	20.3	147.1	1.00	1.03	1.16	15.4
2	T1	953	4.9	852	5.3	0.926	49.5	LOS D	22.3	163.1	1.00	1.01	1.15	13.4
Approach		1092	4.4	976 N1	4.8	0.926	50.8	LOS D	22.3	163.1	1.00	1.01	1.15	13.7
North: Old Northern Road (N)														
8	T1	1559	4.6	1557	4.6	* 0.721	11.7	LOS A	20.1	143.1	0.59	0.54	0.59	35.4
9	R2	244	0.9	244	0.9	0.407	21.7	LOS B	3.8	26.5	0.75	0.77	0.75	29.3
Approach		1803	4.1	1801 N1	4.1	0.721	13.0	LOS A	20.1	143.1	0.61	0.57	0.61	34.2
West: Olive Street (W)														
10	L2	72	0.0	72	0.0	0.062	15.4	LOS B	1.1	8.0	0.41	0.64	0.41	16.5
12	R2	176	1.2	176	1.2	0.293	55.6	LOS D	3.1	22.2	0.89	0.77	0.89	6.0
Approach		247	0.9	247	0.9	0.293	44.0	LOS D	3.1	22.2	0.75	0.73	0.75	7.4
All Vehicles		3142	4.0	3025 N1	4.1	0.926	27.7	LOS B	22.3	163.1	0.75	0.73	0.79	21.6

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

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Old Northern Road (N)											
P3	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	234.9	221.8	0.94
West: Olive Street (W)											
P4	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	232.3	218.5	0.94
All Pedestrians		105	64.3	LOS F	0.2	0.2	0.96	0.96	233.6	220.2	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: TCS [6 - Old Northern Road / Windsor Road / Seven Hills Road (AM 2033 GROWTH) (Site Folder: AM FUTURE GROWTH 2033)]

Network: N101 [AM 2033 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
21	L2	419	3.8	377	4.2	0.939	47.0	LOS D	2.8	20.0	0.95	1.04	1.11	24.7
22	T1	1574	2.9	1416	3.2	0.939	43.5	LOS D	2.8	20.0	0.97	1.02	1.10	3.1
23a	R1	580	6.4	524	7.0	* 1.023	84.1	LOS F	2.7	20.0	1.00	1.11	1.72	1.2
Approach		2573	3.8	2317 N1	4.2	1.023	53.3	LOS D	2.8	20.0	0.97	1.04	1.24	6.1
North: Old Northern Road (N)														
7a	L1	1061	5.5	1060	5.5	0.843	39.3	LOS C	19.0	134.7	0.87	0.86	0.91	16.0
9a	R1	757	2.1	756	2.1	1.040	117.9	LOS F	22.6	161.3	1.00	1.17	1.55	16.2
Approach		1818	4.1	1816 N1	4.1	1.040	72.0	LOS F	22.6	161.3	0.92	0.99	1.18	16.1
NorthWest: Windsor Road (NW)														
27b	L3	29	0.0	24	0.0	0.093	28.8	LOS C	0.9	8.8	0.75	0.66	0.75	21.9
28	T1	1507	2.8	1223	3.0	* 0.913	57.0	LOS E	26.8	190.5	1.00	1.01	1.14	12.1
Approach		1537	2.7	1247 N1	3.0	0.913	56.5	LOS D	26.8	190.5	0.99	1.00	1.13	12.2
SouthWest: Seven Hills Road (SW)														
30	L2	136	1.6	136	1.6	1.144	210.2	LOS F	53.2	379.6	1.00	1.50	2.08	7.6
30a	L1	493	2.6	493	2.6	* 1.144	208.8	LOS F	53.2	379.6	1.00	1.50	2.08	7.6
32	R2	512	1.4	512	1.4	1.218	274.4	LOS F	23.8	168.4	1.00	1.49	2.46	5.9
Approach		1140	1.9	1140	1.9	1.218	238.4	LOS F	53.2	379.6	1.00	1.50	2.25	6.8
All Vehicles		7067	3.3	6520 N1	3.6	1.218	91.5	LOS F	53.2	379.6	0.97	1.10	1.38	9.5

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

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	3	64.1	LOS F	0.0	0.0	0.96	0.96	238.8	227.1	0.95
North: Old Northern Road (N)											
P3	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94

P3B	Slip/ Bypass	53	64.3	LOS F	0.2	0.2	0.96	0.96	226.5	210.9	0.93
NorthWest: Windsor Road (NW)											
P7	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
SouthWest: Seven Hills Road (SW)											
P8	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
All Pedestrians		214	64.3	LOS F	0.2	0.2	0.96	0.96	231.1	216.9	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: 007 [7 - Windsor Road / Railway Street (AM 2033 GROWTH) (Site Folder: AM FUTURE GROWTH 2033)]

Network: N101 [AM 2033 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	2475	0.0	2219	0.0	0.306	0.1	LOS A	25.3	177.0	0.00	0.00	0.00	59.8
Approach		2475	0.0	2219[N1]	0.0	0.306	0.1	NA	25.3	177.0	0.00	0.00	0.00	59.8
NorthWest: Windsor Road (NW)														
27	L2	82	3.8	71	3.8	0.101	3.1	LOS A	0.0	0.0	0.00	0.26	0.00	37.0
28	T1	3013	3.9	2606	4.3	0.656	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	58.6
Approach		3095	3.9	2676[N1]	4.3	0.656	0.1	NA	0.0	0.0	0.00	0.01	0.00	56.8
All Vehicles		5569	2.2	4896[N1]	2.5	0.656	0.1	NA	25.3	177.0	0.00	0.01	0.00	59.6

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.

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MOVEMENT SUMMARY

Site: 008 [8 - James Street / Railway Street (AM 2033 GROWTH) (Site Folder: AM FUTURE GROWTH 2033)]

Network: N101 [AM 2033 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: James Street (SE)														
21	L2	33	0.0	30	0.0	0.101	7.5	LOS A	0.1	1.0	0.12	0.93	0.12	42.8
23	R2	86	0.0	80	0.0	0.101	7.6	LOS A	0.1	1.0	0.12	0.93	0.12	41.7
Approach		119	0.0	111 N1	0.0	0.101	7.6	LOS A	0.1	1.0	0.12	0.93	0.12	42.1
NorthEast: Railway Street (NE)														
24	L2	79	0.0	78	0.0	0.060	2.3	LOS A	0.0	0.0	0.00	0.37	0.00	27.2
25	T1	25	0.0	25	0.0	0.060	0.0	LOS A	0.0	0.0	0.00	0.37	0.00	44.0
Approach		104	0.0	103 N1	0.0	0.060	1.8	NA	0.0	0.0	0.00	0.37	0.00	36.4
SouthWest: Railway Street (SW)														
31	T1	49	2.1	43	2.2	0.047	0.2	LOS A	0.1	0.5	0.17	0.23	0.17	40.9
32	R2	38	8.3	33	8.6	0.047	5.0	LOS A	0.1	0.5	0.17	0.23	0.17	40.9
Approach		87	4.8	76 N1	5.0	0.047	2.3	NA	0.1	0.5	0.17	0.23	0.17	40.9
All Vehicles		311	1.4	289 N1	1.5	0.101	4.1	NA	0.1	1.0	0.09	0.55	0.09	41.3

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.

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MOVEMENT SUMMARY

Site: 009 [9 - Jenner Street / Railway Street (AM 2033 GROWTH) (Site Folder: AM FUTURE GROWTH 2033)]

Network: N101 [AM 2033 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
NorthEast: Railway Street (NE)														
25	T1	45	0.0	45	0.0	0.029	0.1	LOS A	0.0	0.1	0.08	0.10	0.08	48.5
26b	R3	8	0.0	8	0.0	0.029	5.5	LOS A	0.0	0.1	0.08	0.10	0.08	48.5
Approach		54	0.0	54	0.0	0.029	0.9	NA	0.0	0.1	0.08	0.10	0.08	48.5
North: Jenner Street (N)														
7b	L3	3	0.0	3	0.0	0.059	8.4	LOS A	0.1	0.5	0.20	0.96	0.20	44.9
9a	R1	59	0.0	58	0.0	0.059	7.7	LOS A	0.1	0.5	0.20	0.96	0.20	40.2
Approach		62	0.0	61 N1	0.0	0.059	7.7	LOS A	0.1	0.5	0.20	0.96	0.20	40.6
SouthWest: Railway Street (SW)														
30a	L1	97	1.1	89	1.1	0.065	2.0	LOS A	0.0	0.0	0.00	0.34	0.00	27.7
31	T1	39	0.0	36	0.0	0.065	0.0	LOS A	0.0	0.0	0.00	0.34	0.00	48.1
Approach		136	0.8	125 N1	0.8	0.065	1.5	NA	0.0	0.0	0.00	0.34	0.00	44.6
All Vehicles		252	0.4	240 N1	0.4	0.065	2.9	NA	0.1	0.5	0.07	0.44	0.07	44.4

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.

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

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MOVEMENT SUMMARY

Site: TCS1196 [10 - Cook Street / Windsor Road (AM 2033 GROWTH) (Site Folder: AM FUTURE GROWTH 2033)]

Network: N101 [AM 2033 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	1960	4.7	1960	4.7	0.498	10.6	LOS A	12.5	91.1	0.51	0.46	0.51	44.6
23	R2	271	2.3	271	2.3	0.946	73.1	LOS F	11.4	81.4	1.00	1.07	1.46	18.0
Approach		2231	4.4	2231	4.4	0.946	18.2	LOS B	12.5	91.1	0.57	0.54	0.62	37.8
NorthEast: Cook Street (NE)														
24	L2	337	3.4	304	3.5	* 1.477	496.7	LOS F	32.2	230.0	1.00	1.98	3.26	4.8
26	R2	676	0.5	609	0.5	1.477	496.8	LOS F	32.7	230.0	1.00	2.00	3.27	1.7
Approach		1013	1.5	913 N1	1.5	1.477	496.7	LOS F	32.7	230.0	1.00	1.99	3.27	2.7
NorthWest: Windsor Road (NW)														
27	L2	484	1.3	418	1.3	0.498	15.8	LOS B	7.4	57.9	0.63	0.74	0.63	40.3
28	T1	2436	3.9	2111	4.3	* 0.807	30.5	LOS C	26.3	186.3	0.86	0.80	0.87	39.9
Approach		2920	3.5	2529 N1	3.8	0.807	28.1	LOS B	26.3	186.3	0.82	0.79	0.83	39.9
All Vehicles		6163	3.5	5672 N1	3.8	1.477	99.6	LOS F	32.7	230.0	0.75	0.88	1.14	17.1

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

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	241.5	230.4	0.95
NorthEast: Cook Street (NE)											
P6	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	227.3	211.9	0.93
All Pedestrians		105	64.3	LOS F	0.2	0.2	0.96	0.96	234.4	221.2	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 011 [11 - Orchard Street / Cook Street (PM 2033 GROWTH) (Site Folder: PM FUTURE GROWTH 2033)]

Network: N101 [PM 2033 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Roundabout

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Orchard Street (SE)														
21	L2	1	0.0	1	0.0	0.010	8.6	LOS A	0.0	0.1	0.79	0.66	0.79	39.1
22	T1	1	0.0	1	0.0	0.010	8.5	LOS A	0.0	0.1	0.79	0.66	0.79	39.1
23	R2	1	0.0	1	0.0	0.010	11.8	LOS B	0.0	0.1	0.79	0.66	0.79	43.7
23u	U	1	0.0	1	0.0	0.010	13.2	LOS B	0.0	0.1	0.79	0.66	0.79	44.2
Approach		4	0.0	4	0.0	0.010	10.5	LOS B	0.0	0.1	0.79	0.66	0.79	42.2
NorthEast: Cook Street (NE)														
24	L2	2	0.0	2	0.0	1.390	360.4	LOS F	79.5	559.4	1.00	3.87	6.62	8.4
25	T1	866	0.6	866	0.6	1.390	360.3	LOS F	79.5	559.4	1.00	3.87	6.62	4.7
26	R2	52	0.0	52	0.0	1.390	363.5	LOS F	79.5	559.4	1.00	3.87	6.62	4.7
26u	U	14	0.0	14	0.0	1.390	365.0	LOS F	79.5	559.4	1.00	3.87	6.62	8.5
Approach		934	0.6	934	0.6	1.390	360.6	LOS F	79.5	559.4	1.00	3.87	6.62	4.8
NorthWest: Orchard Street (NW)														
27	L2	60	0.0	59	0.0	0.350	10.7	LOS B	0.7	5.0	0.81	0.79	0.81	42.3
28	T1	1	0.0	1	0.0	0.350	10.6	LOS B	0.7	5.0	0.81	0.79	0.81	42.9
29	R2	82	0.0	80	0.0	0.350	13.8	LOS B	0.7	5.0	0.81	0.79	0.81	37.5
29u	U	1	0.0	1	0.0	0.350	15.3	LOS B	0.7	5.0	0.81	0.79	0.81	37.5
Approach		144	0.0	141 N1	0.0	0.350	12.5	LOS B	0.7	5.0	0.81	0.79	0.81	40.2
SouthWest: Cook Street (SW)														
30	L2	75	1.4	71	1.4	0.600	4.2	LOS A	2.5	17.3	0.29	0.43	0.29	39.0
31	T1	714	0.7	680	0.7	0.600	4.1	LOS A	2.5	17.3	0.29	0.43	0.29	45.9
32	R2	1	0.0	1	0.0	0.600	7.3	LOS A	2.5	17.3	0.29	0.43	0.29	45.7
32u	U	18	0.0	17	0.0	0.600	8.8	LOS A	2.5	17.3	0.29	0.43	0.29	39.0
Approach		807	0.8	769 N1	0.8	0.600	4.2	LOS A	2.5	17.3	0.29	0.43	0.29	45.6
All Vehicles		1889	0.6	1848 N1	0.6	1.390	184.9	LOS F	79.5	559.4	0.69	2.20	3.53	9.6

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

MOVEMENT SUMMARY

Site: 001 [1 - Hill Street / Old Northern Road (PM 2033 GROWTH) (Site Folder: PM FUTURE GROWTH 2033)]

Network: N101 [PM 2033 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Old Northern Road (S)														
2	T1	1232	4.4	1158	4.7	0.416	2.8	LOS A	1.5	10.8	0.19	0.05	0.27	55.8
3	R2	74	0.0	69	0.0	0.416	22.0	LOS C	1.5	10.8	0.61	0.15	0.84	36.3
Approach		1305	4.2	1227 N1	4.4	0.416	3.9	NA	1.5	10.8	0.22	0.05	0.30	55.2
East: Hill Street (E)														
4	L2	134	0.0	129	0.0	0.231	12.7	LOS B	0.3	2.4	0.62	1.01	0.65	26.3
6	R2	9	0.0	9	0.0	0.662	430.2	LOS F	0.7	5.0	1.00	1.04	1.16	5.1
Approach		143	0.0	138 N1	0.0	0.662	40.3	LOS E	0.7	5.0	0.64	1.01	0.69	14.0
North: Old Northern Road (N)														
7	L2	26	0.0	26	0.0	0.350	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	59.3
8	T1	1311	3.1	1311	3.1	0.350	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	59.6
Approach		1337	3.1	1337	3.1	0.350	0.2	NA	0.0	0.0	0.00	0.01	0.00	59.6
All Vehicles		2785	3.4	2702 N1	3.5	0.662	3.9	NA	1.5	10.8	0.13	0.08	0.17	54.0

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

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MOVEMENT SUMMARY

Site: 002v [2 - Hill Street / Jenner Street (PM 2033 GROWTH) (Site Folder: PM FUTURE GROWTH 2033)]

Network: N101 [PM 2033 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Jenner Street (S)														
1	L2	115	0.0	108	0.0	0.091	4.6	LOS A	0.1	1.0	0.08	0.51	0.08	43.1
3a	R1	29	0.0	28	0.0	0.091	4.6	LOS A	0.1	1.0	0.08	0.51	0.08	45.8
Approach		144	0.0	136 N1	0.0	0.091	4.6	LOS A	0.1	1.0	0.08	0.51	0.08	44.0
NorthEast: Jenner Street (NE)														
24a	L1	35	0.0	35	0.0	0.033	4.5	LOS A	0.1	0.4	0.08	0.50	0.08	44.5
26a	R1	26	0.0	26	0.0	0.033	4.1	LOS A	0.1	0.4	0.08	0.50	0.08	44.5
Approach		61	0.0	61	0.0	0.033	4.3	NA	0.1	0.4	0.08	0.50	0.08	44.5
West: Hill Street (W)														
10a	L1	63	0.0	60	0.0	0.051	4.5	LOS A	0.1	0.5	0.08	0.52	0.08	44.3
12	R2	35	0.0	33	0.0	0.051	4.7	LOS A	0.1	0.5	0.08	0.52	0.08	36.0
Approach		98	0.0	94 N1	0.0	0.051	4.5	NA	0.1	0.5	0.08	0.52	0.08	43.1
All Vehicles		303	0.0	290 N1	0.0	0.091	4.5	NA	0.1	1.0	0.08	0.51	0.08	43.8

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

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MOVEMENT SUMMARY

Site: TCS1764 [3 - Windsor Road / Olive Street (PM 2033 GROWTH) (Site Folder: PM FUTURE GROWTH 2033)]

Network: N101 [PM 2033 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	1773	1.4	1558	1.5	0.543	5.5	LOS A	11.2	79.4	0.30	0.28	0.30	53.3
23	R2	143	0.0	126	0.0	0.442	39.0	LOS D	3.3	23.3	0.93	0.78	0.93	18.4
Approach		1916	1.3	1684 N1	1.4	0.543	8.0	LOS A	11.2	79.4	0.35	0.32	0.35	50.3
NorthEast: Olive Street (NE)														
24	L2	60	1.8	60	1.8	* 0.085	33.3	LOS C	1.6	11.1	0.67	0.70	0.67	7.4
26	R2	299	1.1	299	1.1	0.473	61.4	LOS E	5.7	40.3	0.95	0.80	0.95	21.2
Approach		359	1.2	359	1.2	0.473	56.7	LOS E	5.7	40.3	0.90	0.78	0.90	20.2
NorthWest: Windsor Road (NW)														
27	L2	241	0.4	241	0.4	0.215	11.1	LOS B	2.2	15.8	0.44	0.69	0.44	33.9
28	T1	1465	1.7	1465	1.7	* 1.392	416.7	LOS F	90.8	642.5	1.00	2.51	2.98	4.3
Approach		1706	1.5	1706	1.5	1.392	359.4	LOS F	90.8	642.5	0.92	2.26	2.62	4.7
All Vehicles		3981	1.4	3749 N1	1.5	1.392	172.6	LOS F	90.8	642.5	0.66	1.24	1.44	10.2

Site Level of Service (LOS) Method: Delay (SIDRA). 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)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	11	64.2	LOS F	0.0	0.0	0.96	0.96	236.3	223.8	0.95
NorthEast: Olive Street (NE)											
P6	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	232.3	218.5	0.94
All Pedestrians		63	64.3	LOS F	0.2	0.2	0.96	0.96	233.0	219.4	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: TCS1763 [4 - Olive Street / Old Northern Road (PM 2033 GROWTH) (Site Folder: PM FUTURE GROWTH 2033)]

Network: N101 [PM 2033 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Old Northern Road (S)														
1	L2	198	2.7	184	2.8	0.565	13.2	LOS B	7.0	50.5	0.30	0.39	0.30	38.3
2	T1	1142	4.4	1061	4.7	* 0.565	9.5	LOS A	9.6	69.8	0.36	0.38	0.36	35.1
Approach		1340	4.2	1245 N1	4.4	0.565	10.0	LOS B	9.6	69.8	0.35	0.38	0.35	35.7
North: Old Northern Road (N)														
8	T1	1159	3.1	1156	3.1	0.512	7.4	LOS A	9.5	67.2	0.44	0.40	0.44	41.6
9	R2	259	0.4	258	0.4	* 0.642	37.6	LOS D	9.6	67.6	0.98	0.95	0.98	21.7
Approach		1418	2.6	1414 N1	2.6	0.642	13.0	LOS B	9.6	67.6	0.54	0.50	0.54	34.4
West: Olive Street (W)														
10	L2	152	0.0	152	0.0	0.248	41.1	LOS D	4.6	32.1	0.77	0.76	0.77	7.8
12	R2	318	0.3	318	0.3	* 0.680	66.4	LOS E	6.5	45.7	0.99	0.84	1.04	5.1
Approach		469	0.2	469	0.2	0.680	58.2	LOS E	6.5	45.7	0.92	0.82	0.95	5.8
All Vehicles		3227	2.9	3128 N1	3.0	0.680	18.6	LOS B	9.6	69.8	0.52	0.50	0.52	26.5

Site Level of Service (LOS) Method: Delay (SIDRA). 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)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Old Northern Road (N)											
P3	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	234.9	221.8	0.94
West: Olive Street (W)											
P4	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	232.3	218.5	0.94
All Pedestrians		105	64.3	LOS F	0.2	0.2	0.96	0.96	233.6	220.2	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: TCS [6 - Old Northern Road / Windsor Road / Seven Hills Road (PM 2033 GROWTH) (Site Folder: PM FUTURE GROWTH 2033)]

Network: N101 [PM 2033 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
21	L2	638	1.0	587	1.1	1.053	98.6	LOS F	2.8	20.0	1.00	1.23	1.57	13.4
22	T1	1791	1.6	1649	1.7	* 1.053	104.6	LOS F	2.8	20.0	1.00	1.32	1.54	1.3
23a	R1	760	6.8	703	7.3	0.864	71.8	LOS E	2.7	20.0	1.00	1.15	1.17	2.2
Approach		3188	2.7	2939 N1	2.9	1.053	95.5	LOS F	2.8	20.0	1.00	1.26	1.46	4.6
North: Old Northern Road (N)														
7a	L1	808	3.1	807	3.1	0.490	33.6	LOS C	10.3	73.0	0.68	0.75	0.68	17.8
9a	R1	681	1.1	680	1.1	1.090	150.6	LOS F	23.3	164.7	1.00	1.28	1.77	13.3
Approach		1489	2.2	1487 N1	2.2	1.090	87.1	LOS F	23.3	164.7	0.82	0.99	1.18	14.3
NorthWest: Windsor Road (NW)														
27b	L3	63	0.0	51	0.0	0.099	28.5	LOS C	1.5	11.9	0.80	0.72	0.80	21.4
28	T1	1492	1.6	1213	1.8	0.946	73.4	LOS E	30.7	217.2	1.00	1.11	1.27	9.9
Approach		1555	1.6	1264 N1	1.7	0.946	71.6	LOS E	30.7	217.2	0.99	1.09	1.25	10.1
SouthWest: Seven Hills Road (SW)														
30	L2	114	0.0	114	0.0	1.059	144.2	LOS F	42.9	301.6	1.00	1.30	1.71	10.6
30a	L1	543	0.6	543	0.6	* 1.059	143.3	LOS F	42.9	301.6	1.00	1.29	1.72	10.6
32	R2	363	0.6	363	0.6	1.059	152.0	LOS F	13.5	94.7	1.00	1.23	1.88	10.0
Approach		1020	0.5	1020	0.5	1.059	146.5	LOS F	42.9	301.6	1.00	1.27	1.78	10.4
All Vehicles		7253	2.0	6710 N1	2.2	1.090	96.9	LOS F	42.9	301.6	0.96	1.17	1.41	8.9

Site Level of Service (LOS) Method: Delay (SIDRA). 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)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	239.0	227.1	0.95
North: Old Northern Road (N)											
P3	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94
P3B	Slip/	53	64.3	LOS F	0.2	0.2	0.96	0.96	226.5	210.9	0.93

	Bypass										
NorthWest: Windsor Road (NW)											
P7	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
SouthWest: Seven Hills Road (SW)											
P8	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
All Pedestrians		263	64.3	LOS F	0.2	0.2	0.96	0.96	232.6	218.8	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: 007 [7 - Windsor Road / Railway Street (PM 2033 GROWTH) (Site Folder: PM FUTURE GROWTH 2033)]

Network: N101 [PM 2033 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	3187	2.7	2934	2.9	0.383	0.1	LOS A	69.7	500.0	0.00	0.00	0.00	59.7
Approach		3187	2.7	2934[N1]	2.9	0.383	0.1	NA	69.7	500.0	0.00	0.00	0.00	59.7
NorthWest: Windsor Road (NW)														
27	L2	82	1.3	74	1.3	0.062	3.1	LOS A	0.0	0.0	0.00	0.38	0.00	32.7
28	T1	2586	2.2	2329	2.3	0.595	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.1
Approach		2668	2.1	2402[N1]	2.3	0.595	0.1	NA	0.0	0.0	0.00	0.02	0.00	56.5
All Vehicles		5856	2.4	5337[N1]	2.7	0.595	0.1	NA	69.7	500.0	0.00	0.01	0.00	59.6

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

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MOVEMENT SUMMARY

Site: 008 [8 - James Street / Railway Street (PM 2033 GROWTH) (Site Folder: PM FUTURE GROWTH 2033)]

Network: N101 [PM 2033 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: James Street (SE)														
21	L2	24	0.0	22	0.0	0.113	7.5	LOS A	0.2	1.1	0.13	0.94	0.13	42.8
23	R2	109	0.0	99	0.0	0.113	7.6	LOS A	0.2	1.1	0.13	0.94	0.13	41.7
Approach		134	0.0	121 N1	0.0	0.113	7.6	LOS A	0.2	1.1	0.13	0.94	0.13	41.9
NorthEast: Railway Street (NE)														
24	L2	68	0.0	67	0.0	0.046	2.3	LOS A	0.0	0.0	0.00	0.38	0.00	26.8
25	T1	19	5.6	19	5.7	0.046	0.0	LOS A	0.0	0.0	0.00	0.38	0.00	43.7
Approach		87	1.2	86 N1	1.2	0.046	1.8	NA	0.0	0.0	0.00	0.38	0.00	35.4
SouthWest: Railway Street (SW)														
31	T1	67	0.0	62	0.0	0.047	0.1	LOS A	0.1	0.4	0.11	0.15	0.11	43.5
32	R2	26	0.0	24	0.0	0.047	4.8	LOS A	0.1	0.4	0.11	0.15	0.11	43.5
Approach		94	0.0	87 N1	0.0	0.047	1.4	NA	0.1	0.4	0.11	0.15	0.11	43.5
All Vehicles		315	0.3	294 N1	0.4	0.113	4.1	NA	0.2	1.1	0.08	0.54	0.08	41.7

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

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MOVEMENT SUMMARY

Site: 009 [9 - Jenner Street / Railway Street (PM 2033 GROWTH) (Site Folder: PM FUTURE GROWTH 2033)]

Network: N101 [PM 2033 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
NorthEast: Railway Street (NE)														
25	T1	25	4.2	25	4.2	0.019	0.2	LOS A	0.0	0.1	0.14	0.16	0.14	47.6
26b	R3	8	0.0	8	0.0	0.019	5.6	LOS A	0.0	0.1	0.14	0.16	0.14	47.6
Approach		34	3.1	34	3.1	0.019	1.5	NA	0.0	0.1	0.14	0.16	0.14	47.6
North: Jenner Street (N)														
7b	L3	3	0.0	3	0.0	0.062	8.4	LOS A	0.1	0.6	0.21	0.95	0.21	44.9
9a	R1	62	0.0	61	0.0	0.062	7.7	LOS A	0.1	0.6	0.21	0.95	0.21	40.2
Approach		65	0.0	64 N1	0.0	0.062	7.7	LOS A	0.1	0.6	0.21	0.95	0.21	40.6
SouthWest: Railway Street (SW)														
30a	L1	129	0.0	120	0.0	0.085	2.0	LOS A	0.0	0.0	0.00	0.35	0.00	27.3
31	T1	47	0.0	44	0.0	0.085	0.0	LOS A	0.0	0.0	0.00	0.35	0.00	48.1
Approach		177	0.0	163 N1	0.0	0.085	1.5	NA	0.0	0.0	0.00	0.35	0.00	44.2
All Vehicles		276	0.4	261 N1	0.4	0.085	3.0	NA	0.1	0.6	0.07	0.47	0.07	43.4

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

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MOVEMENT SUMMARY

Site: TCS1196 [10 - Cook Street / Windsor Road (PM 2033 GROWTH) (Site Folder: PM FUTURE GROWTH 2033)]

Network: N101 [PM 2033 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	2527	3.5	2527	3.5	* 1.041	114.9	LOS F	71.7	517.0	1.00	1.40	1.59	12.6
23	R2	320	1.0	320	1.0	0.983	95.4	LOS F	15.8	111.5	1.00	1.14	1.54	14.8
Approach		2847	3.2	2847	3.2	1.041	112.7	LOS F	71.7	517.0	1.00	1.38	1.58	12.8
NorthEast: Cook Street (NE)														
24	L2	243	0.9	202	0.8	1.338	379.8	LOS F	32.7	230.0	1.00	1.80	2.87	6.1
26	R2	722	0.3	600	0.3	* 1.338	377.8	LOS F	32.8	230.0	1.00	1.81	2.86	2.2
Approach		965	0.4	801 N1	0.4	1.338	378.3	LOS F	32.8	230.0	1.00	1.80	2.87	3.2
NorthWest: Windsor Road (NW)														
27	L2	500	0.6	458	0.6	0.483	15.8	LOS B	7.0	51.0	0.68	0.77	0.68	40.0
28	T1	1972	2.3	1807	2.5	0.863	50.9	LOS D	27.9	197.0	0.99	0.94	1.06	32.7
Approach		2472	2.0	2265 N 1	2.1	0.863	43.8	LOS D	27.9	197.0	0.93	0.91	0.98	33.3
All Vehicles		6284	2.3	5914 N 1	2.4	1.338	122.3	LOS F	71.7	517.0	0.97	1.26	1.53	14.2

Site Level of Service (LOS) Method: Delay (SIDRA). 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)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	239.0	227.1	0.95
NorthEast: Cook Street (NE)											
P6	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	227.3	211.9	0.93
All Pedestrians		105	64.3	LOS F	0.2	0.2	0.96	0.96	233.1	219.5	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 011 [11 - Orchard Street / Cook Street (AM 2023 GROWTH) (Site Folder: AM FUTURE GROWTH 2023)]

Network: N101 [AM 2023 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Roundabout

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Orchard Street (SE)														
21	L2	1	100.0	1	100.0	0.014	13.8	LOS A	0.0	0.2	0.78	0.69	0.78	38.2
22	T1	1	0.0	1	0.0	0.014	8.4	LOS A	0.0	0.2	0.78	0.69	0.78	38.2
23	R2	2	0.0	2	0.0	0.014	11.6	LOS A	0.0	0.2	0.78	0.69	0.78	43.2
23u	U	1	0.0	1	0.0	0.014	13.1	LOS A	0.0	0.2	0.78	0.69	0.78	43.6
Approach		5	20.0	5	20.0	0.014	11.7	LOS A	0.0	0.2	0.78	0.69	0.78	41.9
NorthEast: Cook Street (NE)														
24	L2	1	0.0	1	0.0	1.118	118.4	LOS F	30.2	213.5	1.00	1.93	3.29	19.0
25	T1	683	1.4	683	1.4	1.118	118.3	LOS F	30.2	213.5	1.00	1.93	3.29	12.0
26	R2	38	0.0	38	0.0	1.118	121.5	LOS F	30.2	213.5	1.00	1.93	3.29	12.0
26u	U	2	0.0	2	0.0	1.118	123.0	LOS F	30.2	213.5	1.00	1.93	3.29	19.2
Approach		724	1.3	724	1.3	1.118	118.5	LOS F	30.2	213.5	1.00	1.93	3.29	12.0
NorthWest: Orchard Street (NW)														
27	L2	80	2.6	79	2.6	0.376	9.1	LOS A	0.7	5.1	0.73	0.76	0.73	43.1
28	T1	1	0.0	1	0.0	0.376	8.8	LOS A	0.7	5.1	0.73	0.76	0.73	43.8
29	R2	94	0.0	93	0.0	0.376	12.1	LOS A	0.7	5.1	0.73	0.76	0.73	38.9
29u	U	1	0.0	1	0.0	0.376	13.6	LOS A	0.7	5.1	0.73	0.76	0.73	38.9
Approach		176	1.2	174 N1	1.2	0.376	10.7	LOS A	0.7	5.1	0.73	0.76	0.73	41.5
SouthWest: Cook Street (SW)														
30	L2	59	3.6	57	3.6	0.485	4.1	LOS A	1.7	11.7	0.22	0.42	0.22	39.6
31	T1	585	1.3	570	1.3	0.485	3.9	LOS A	1.7	11.7	0.22	0.42	0.22	46.2
32	R2	2	50.0	2	50.2	0.485	7.8	LOS A	1.7	11.7	0.22	0.42	0.22	44.9
32u	U	7	0.0	7	0.0	0.485	8.6	LOS A	1.7	11.7	0.22	0.42	0.22	39.6
Approach		654	1.6	636 N1	1.6	0.485	4.0	LOS A	1.7	11.7	0.22	0.42	0.22	45.9
All Vehicles		1559	1.5	1540 N1	1.5	1.118	58.6	LOS E	30.2	213.5	0.65	1.17	1.72	21.6

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.
Roundabout Capacity Model: SIDRA Standard.
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.

MOVEMENT SUMMARY

Site: 001 [1 - Hill Street / Old Northern Road (AM 2023 GROWTH) (Site Folder: AM FUTURE GROWTH 2023)]

Network: N101 [AM 2023 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Old Northern Road (S)														
2	T1	844	5.1	812	5.3	0.308	3.1	LOS A	1.0	7.3	0.19	0.05	0.22	55.6
3	R2	52	0.0	50	0.0	0.308	23.2	LOS B	1.0	7.3	0.65	0.16	0.78	33.6
Approach		896	4.8	862 N1	5.0	0.308	4.2	NA	1.0	7.3	0.21	0.05	0.25	54.8
East: Hill Street (E)														
4	L2	92	1.1	91	1.1	0.149	11.8	LOS A	0.2	1.6	0.57	0.99	0.57	27.3
6	R2	9	11.1	9	11.1	0.372	181.2	LOS F	0.4	3.1	0.99	1.02	1.07	10.8
Approach		101	2.1	101	2.1	0.372	27.6	LOS B	0.4	3.1	0.61	0.99	0.61	19.1
North: Old Northern Road (N)														
7	L2	23	0.0	23	0.0	0.409	5.7	LOS A	0.0	0.0	0.00	0.02	0.00	59.4
8	T1	1525	4.8	1525	4.8	0.409	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	59.5
Approach		1548	4.7	1548	4.7	0.409	0.2	NA	0.0	0.0	0.00	0.01	0.00	59.5
All Vehicles		2545	4.6	2511 N1	4.7	0.409	2.7	NA	1.0	7.3	0.10	0.06	0.11	55.6

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.

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MOVEMENT SUMMARY

Site: 002v [2 - Hill Street / Jenner Street (AM 2023 GROWTH) (Site Folder: AM FUTURE GROWTH 2023)]

Network: N101 [AM 2023 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Jenner Street (S)														
1	L2	63	3.3	63	3.3	0.080	4.7	LOS A	0.1	0.9	0.11	0.51	0.11	43.1
3a	R1	46	0.0	46	0.0	0.080	4.5	LOS A	0.1	0.9	0.11	0.51	0.11	45.8
Approach		109	1.9	109	1.9	0.080	4.6	LOS A	0.1	0.9	0.11	0.51	0.11	44.7
NorthEast: Jenner Street (NE)														
24a	L1	43	0.0	43	0.0	0.044	4.5	LOS A	0.1	0.5	0.07	0.51	0.07	44.5
26a	R1	38	0.0	38	0.0	0.044	4.1	LOS A	0.1	0.5	0.07	0.51	0.07	44.5
Approach		81	0.0	81	0.0	0.044	4.3	NA	0.1	0.5	0.07	0.51	0.07	44.5
West: Hill Street (W)														
10a	L1	52	0.0	50	0.0	0.038	4.5	LOS A	0.0	0.3	0.07	0.52	0.07	44.3
12	R2	21	0.0	20	0.0	0.038	4.7	LOS A	0.0	0.3	0.07	0.52	0.07	36.1
Approach		73	0.0	71 N1	0.0	0.038	4.5	NA	0.0	0.3	0.07	0.52	0.07	43.4
All Vehicles		263	0.8	260 N1	0.8	0.080	4.5	NA	0.1	0.9	0.09	0.51	0.09	44.3

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.

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MOVEMENT SUMMARY

Site: TCS1764 [3 - Windsor Road / Olive Street (AM 2023 GROWTH) (Site Folder: AM FUTURE GROWTH 2023)]

Network: N101 [AM 2023 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	1334	3.1	1240	3.3	0.395	1.0	LOS A	2.8	20.4	0.08	0.07	0.08	58.6
23	R2	141	0.0	131	0.0	0.276	34.6	LOS C	3.7	25.6	0.90	0.78	0.90	19.9
Approach		1475	2.8	1371 N1	3.0	0.395	4.2	LOS A	3.7	25.6	0.16	0.14	0.16	54.2
NorthEast: Olive Street (NE)														
24	L2	18	0.0	18	0.0	* 0.024	31.1	LOS C	0.4	3.1	0.63	0.65	0.63	7.9
26	R2	123	2.6	123	2.6	0.315	68.2	LOS E	2.4	17.5	0.96	0.76	0.96	19.9
Approach		141	2.2	141	2.2	0.315	63.5	LOS E	2.4	17.5	0.92	0.74	0.92	19.3
NorthWest: Windsor Road (NW)														
27	L2	165	1.9	165	1.9	0.190	14.7	LOS B	2.4	18.1	0.53	0.69	0.53	32.2
28	T1	1345	2.8	1345	2.8	* 1.061	137.7	LOS F	49.1	348.7	0.99	1.49	1.71	11.2
Approach		1511	2.7	1511	2.7	1.061	124.2	LOS F	49.1	348.7	0.94	1.40	1.58	11.9
All Vehicles		3126	2.7	3023 N1	2.8	1.061	67.0	LOS E	49.1	348.7	0.59	0.80	0.91	20.7

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

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	11	64.2	LOS F	0.0	0.0	0.96	0.96	236.3	223.8	0.95
NorthEast: Olive Street (NE)											
P6	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	232.3	218.5	0.94
All Pedestrians		63	64.3	LOS F	0.2	0.2	0.96	0.96	233.0	219.4	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: TCS1763 [4 - Olive Street / Old Northern Road (AM 2023 GROWTH) (Site Folder: AM FUTURE GROWTH 2023)]

Network: N101 [AM 2023 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Old Northern Road (S)														
1	L2	117	1.8	112	1.9	* 0.859	62.2	LOS E	17.2	124.6	0.98	0.96	1.06	14.9
2	T1	829	4.9	795	5.2	0.859	47.3	LOS D	18.5	135.2	0.96	0.92	1.03	13.9
Approach		946	4.6	907 N1	4.8	0.859	49.1	LOS D	18.5	135.2	0.96	0.92	1.03	14.0
North: Old Northern Road (N)														
8	T1	1363	5.0	1363	5.0	* 0.487	9.5	LOS A	12.1	86.1	0.48	0.43	0.48	38.4
9	R2	244	0.9	244	0.9	0.398	20.3	LOS B	3.6	25.5	0.71	0.77	0.71	30.2
Approach		1607	4.4	1607	4.4	0.487	11.1	LOS A	12.1	86.1	0.51	0.48	0.51	36.5
West: Olive Street (W)														
10	L2	72	0.0	72	0.0	0.062	15.4	LOS B	1.1	8.0	0.41	0.64	0.41	16.5
12	R2	176	1.2	176	1.2	0.230	54.3	LOS D	3.1	21.7	0.87	0.76	0.87	6.1
Approach		247	0.9	247	0.9	0.230	43.1	LOS D	3.1	21.7	0.74	0.72	0.74	7.5
All Vehicles		2801	4.1	2761 N1	4.2	0.859	26.5	LOS B	18.5	135.2	0.68	0.65	0.70	22.2

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

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Old Northern Road (N)											
P3	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	234.9	221.8	0.94
West: Olive Street (W)											
P4	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	232.3	218.5	0.94
All Pedestrians		105	64.3	LOS F	0.2	0.2	0.96	0.96	233.6	220.2	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: TCS [6 - Old Northern Road / Windsor Road / Seven Hills Road (AM 2023 GROWTH) (Site Folder: AM FUTURE GROWTH 2023)]

Network: N101 [AM 2023 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
21	L2	364	3.8	337	4.1	0.838	27.5	LOS B	2.8	20.0	0.80	0.84	0.81	32.9
22	T1	1369	2.8	1265	3.1	0.838	25.6	LOS B	2.8	20.0	0.83	0.80	0.83	5.1
23a	R1	505	6.5	468	7.0	* 0.772	68.3	LOS E	2.7	20.0	1.00	1.06	1.07	2.3
Approach		2239	3.8	2070 N1	4.1	0.838	35.6	LOS C	2.8	20.0	0.86	0.86	0.89	10.3
North: Old Northern Road (N)														
7a	L1	931	6.1	930	6.1	0.612	31.7	LOS C	12.7	90.1	0.69	0.76	0.69	18.6
9a	R1	659	2.1	659	2.1	* 0.906	75.4	LOS F	15.2	108.5	1.00	0.98	1.22	22.2
Approach		1589	4.4	1589	4.4	0.906	49.8	LOS D	15.2	108.5	0.82	0.85	0.91	20.9
NorthWest: Windsor Road (NW)														
27b	L3	25	0.0	23	0.0	0.084	25.7	LOS B	0.7	6.8	0.76	0.66	0.76	23.7
28	T1	1320	3.1	1219	3.2	* 0.911	56.6	LOS E	26.6	189.3	1.00	1.00	1.14	12.2
Approach		1345	3.1	1242 N1	3.2	0.911	56.0	LOS D	26.6	189.3	0.99	1.00	1.13	12.3
SouthWest: Seven Hills Road (SW)														
30	L2	118	1.8	118	1.8	0.872	60.4	LOS E	23.7	169.0	1.00	0.96	1.12	20.8
30a	L1	428	2.5	428	2.5	0.872	59.0	LOS E	23.7	169.0	1.00	0.96	1.12	20.8
32	R2	452	1.4	452	1.4	* 1.074	162.2	LOS F	15.6	110.3	1.00	1.24	1.92	9.5
Approach		998	1.9	998	1.9	1.074	105.8	LOS F	23.7	169.0	1.00	1.09	1.48	13.5
All Vehicles		6172	3.5	5899 N1	3.7	1.074	55.6	LOS D	26.6	189.3	0.90	0.93	1.04	14.7

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

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	3	64.1	LOS F	0.0	0.0	0.96	0.96	238.8	227.1	0.95
North: Old Northern Road (N)											
P3	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94

P3B	Slip/ Bypass	53	64.3	LOS F	0.2	0.2	0.96	0.96	226.5	210.9	0.93
NorthWest: Windsor Road (NW)											
P7	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
SouthWest: Seven Hills Road (SW)											
P8	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
All Pedestrians		214	64.3	LOS F	0.2	0.2	0.96	0.96	231.1	216.9	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: 007 [7 - Windsor Road / Railway Street (AM 2023 GROWTH) (Site Folder: AM FUTURE GROWTH 2023)]

Network: N101 [AM 2023 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	2155	0.0	1985	0.0	0.255	0.1	LOS A	16.1	112.5	0.00	0.00	0.00	59.9
Approach		2155	0.0	1985[N1]	0.0	0.255	0.1	NA	16.1	112.5	0.00	0.00	0.00	59.9
NorthWest: Windsor Road (NW)														
27	L2	82	3.8	77	3.8	0.096	3.1	LOS A	0.0	0.0	0.00	0.29	0.00	35.9
28	T1	2624	4.0	2458	4.1	0.621	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	58.7
Approach		2706	4.0	2535[N1]	4.1	0.621	0.1	NA	0.0	0.0	0.00	0.02	0.00	56.6
All Vehicles		4861	2.2	4520[N1]	2.4	0.621	0.1	NA	16.1	112.5	0.00	0.01	0.00	59.6

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.

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MOVEMENT SUMMARY

Site: 008 [8 - James Street / Railway Street (AM 2023 GROWTH) (Site Folder: AM FUTURE GROWTH 2023)]

Network: N101 [AM 2023 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: James Street (SE)														
21	L2	33	0.0	32	0.0	0.108	7.5	LOS A	0.2	1.1	0.13	0.93	0.13	42.8
23	R2	86	0.0	86	0.0	0.108	7.6	LOS A	0.2	1.1	0.13	0.93	0.13	41.7
Approach		119	0.0	118 N1	0.0	0.108	7.6	LOS A	0.2	1.1	0.13	0.93	0.13	42.0
NorthEast: Railway Street (NE)														
24	L2	79	0.0	79	0.0	0.055	2.3	LOS A	0.0	0.0	0.00	0.37	0.00	27.2
25	T1	25	0.0	25	0.0	0.055	0.0	LOS A	0.0	0.0	0.00	0.37	0.00	44.0
Approach		104	0.0	104	0.0	0.055	1.8	NA	0.0	0.0	0.00	0.37	0.00	36.4
SouthWest: Railway Street (SW)														
31	T1	49	2.1	47	2.2	0.048	0.2	LOS A	0.1	0.6	0.17	0.23	0.17	40.9
32	R2	38	8.3	36	8.4	0.048	5.0	LOS A	0.1	0.6	0.17	0.23	0.17	40.9
Approach		87	4.8	82 N1	4.9	0.048	2.3	NA	0.1	0.6	0.17	0.23	0.17	40.9
All Vehicles		311	1.4	304 N1	1.4	0.108	4.2	NA	0.2	1.1	0.10	0.55	0.10	41.3

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.

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MOVEMENT SUMMARY

Site: 009 [9 - Jenner Street / Railway Street (AM 2023 GROWTH) (Site Folder: AM FUTURE GROWTH 2023)]

Network: N101 [AM 2023 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
NorthEast: Railway Street (NE)														
25	T1	45	0.0	45	0.0	0.029	0.1	LOS A	0.0	0.1	0.08	0.10	0.08	48.5
26b	R3	8	0.0	8	0.0	0.029	5.6	LOS A	0.0	0.1	0.08	0.10	0.08	48.5
Approach		54	0.0	54	0.0	0.029	0.9	NA	0.0	0.1	0.08	0.10	0.08	48.5
North: Jenner Street (N)														
7b	L3	3	0.0	3	0.0	0.060	8.4	LOS A	0.1	0.6	0.21	0.95	0.21	44.9
9a	R1	59	0.0	58	0.0	0.060	7.7	LOS A	0.1	0.6	0.21	0.95	0.21	40.2
Approach		62	0.0	62	0.0	0.060	7.7	LOS A	0.1	0.6	0.21	0.95	0.21	40.6
SouthWest: Railway Street (SW)														
30a	L1	97	1.1	95	1.1	0.070	2.0	LOS A	0.0	0.0	0.00	0.34	0.00	27.7
31	T1	39	0.0	38	0.0	0.070	0.0	LOS A	0.0	0.0	0.00	0.34	0.00	48.1
Approach		136	0.8	134[N1]	0.8	0.070	1.5	NA	0.0	0.0	0.00	0.34	0.00	44.6
All Vehicles		252	0.4	249[N1]	0.4	0.070	2.9	NA	0.1	0.6	0.07	0.44	0.07	44.4

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.

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

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MOVEMENT SUMMARY

Site: TCS1196 [10 - Cook Street / Windsor Road (AM 2023 GROWTH) (Site Folder: AM FUTURE GROWTH 2023)]

Network: N101 [AM 2023 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	1707	4.7	1707	4.7	0.434	9.9	LOS A	10.2	74.3	0.48	0.43	0.48	45.4
23	R2	236	2.2	236	2.2	0.813	38.8	LOS C	6.6	47.3	0.94	0.91	1.11	26.8
Approach		1943	4.4	1943	4.4	0.813	13.4	LOS A	10.2	74.3	0.53	0.49	0.55	41.8
NorthEast: Cook Street (NE)														
24	L2	293	3.2	292	3.2	* 1.422	448.5	LOS F	32.3	230.0	1.00	1.90	3.11	5.2
26	R2	587	0.4	587	0.4	1.422	448.6	LOS F	32.8	230.0	1.00	1.92	3.12	1.9
Approach		880	1.3	879 N1	1.3	1.422	448.6	LOS F	32.8	230.0	1.00	1.92	3.11	3.0
NorthWest: Windsor Road (NW)														
27	L2	421	1.3	395	1.3	0.486	16.6	LOS B	7.0	55.2	0.61	0.73	0.61	39.7
28	T1	2133	4.4	2005	4.6	* 0.757	28.4	LOS B	23.5	166.7	0.83	0.76	0.83	40.9
Approach		2554	3.9	2401 N1	4.1	0.757	26.4	LOS B	23.5	166.7	0.79	0.75	0.79	40.7
All Vehicles		5377	3.7	5223 N1	3.8	1.422	92.7	LOS F	32.8	230.0	0.73	0.85	1.09	18.0

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

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	241.5	230.4	0.95
NorthEast: Cook Street (NE)											
P6	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	227.3	211.9	0.93
All Pedestrians		105	64.3	LOS F	0.2	0.2	0.96	0.96	234.4	221.2	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 011 [11 - Orchard Street / Cook Street (PM 2023 GROWTH) (Site Folder: PM FUTURE GROWTH 2023)]

Network: N101 [PM 2023 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Roundabout

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Orchard Street (SE)														
21	L2	1	0.0	1	0.0	0.010	8.6	LOS A	0.0	0.1	0.79	0.66	0.79	39.1
22	T1	1	0.0	1	0.0	0.010	8.5	LOS A	0.0	0.1	0.79	0.66	0.79	39.1
23	R2	1	0.0	1	0.0	0.010	11.7	LOS B	0.0	0.1	0.79	0.66	0.79	43.7
23u	U	1	0.0	1	0.0	0.010	13.2	LOS B	0.0	0.1	0.79	0.66	0.79	44.2
Approach		4	0.0	4	0.0	0.010	10.5	LOS B	0.0	0.1	0.79	0.66	0.79	42.2
NorthEast: Cook Street (NE)														
24	L2	2	0.0	2	0.0	1.233	220.4	LOS F	53.3	374.8	1.00	2.64	4.56	12.4
25	T1	773	0.5	773	0.5	1.233	220.4	LOS F	53.3	374.8	1.00	2.64	4.56	7.2
26	R2	52	0.0	52	0.0	1.233	223.6	LOS F	53.3	374.8	1.00	2.64	4.56	7.2
26u	U	12	0.0	12	0.0	1.233	225.1	LOS F	53.3	374.8	1.00	2.64	4.56	12.5
Approach		838	0.5	838	0.5	1.233	220.6	LOS F	53.3	374.8	1.00	2.64	4.56	7.3
NorthWest: Orchard Street (NW)														
27	L2	54	0.0	54	0.0	0.301	10.0	LOS B	0.6	4.3	0.78	0.76	0.78	42.6
28	T1	1	0.0	1	0.0	0.301	9.9	LOS A	0.6	4.3	0.78	0.76	0.78	43.2
29	R2	73	0.0	72	0.0	0.301	13.1	LOS B	0.6	4.3	0.78	0.76	0.78	38.0
29u	U	1	0.0	1	0.0	0.301	14.6	LOS B	0.6	4.3	0.78	0.76	0.78	38.0
Approach		128	0.0	128	0.0	0.301	11.8	LOS B	0.6	4.3	0.78	0.76	0.78	40.6
SouthWest: Cook Street (SW)														
30	L2	75	1.4	75	1.4	0.580	4.2	LOS A	2.3	15.9	0.28	0.44	0.28	39.0
31	T1	638	0.8	638	0.8	0.580	4.1	LOS A	2.3	15.9	0.28	0.44	0.28	45.9
32	R2	1	0.0	1	0.0	0.580	7.3	LOS A	2.3	15.9	0.28	0.44	0.28	45.7
32u	U	17	0.0	17	0.0	0.580	8.8	LOS A	2.3	15.9	0.28	0.44	0.28	39.0
Approach		731	0.9	731	0.9	0.580	4.2	LOS A	2.3	15.9	0.28	0.44	0.28	45.6
All Vehicles		1701	0.6	1701	0.6	1.233	111.4	LOS F	53.3	374.8	0.68	1.54	2.43	14.1

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

MOVEMENT SUMMARY

Site: 001 [1 - Hill Street / Old Northern Road (PM 2023 GROWTH) (Site Folder: PM FUTURE GROWTH 2023)]

Network: N101 [PM 2023 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Old Northern Road (S)														
2	T1	1100	4.5	1074	4.6	0.377	2.2	LOS A	1.2	8.6	0.19	0.05	0.25	56.5
3	R2	74	0.0	72	0.0	0.377	18.3	LOS C	1.2	8.6	0.55	0.15	0.74	39.8
Approach		1174	4.2	1145 N1	4.3	0.377	3.2	NA	1.2	8.6	0.21	0.06	0.28	56.0
East: Hill Street (E)														
4	L2	134	0.0	134	0.0	0.216	11.7	LOS B	0.3	2.2	0.57	1.00	0.57	27.3
6	R2	9	0.0	9	0.0	0.434	221.5	LOS F	0.5	3.3	0.99	1.02	1.09	9.2
Approach		143	0.0	143	0.0	0.434	25.6	LOS D	0.5	3.3	0.60	1.00	0.61	19.2
North: Old Northern Road (N)														
7	L2	26	0.0	26	0.0	0.313	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	59.3
8	T1	1171	3.1	1171	3.1	0.313	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	59.6
Approach		1197	3.1	1197	3.1	0.313	0.2	NA	0.0	0.0	0.00	0.01	0.00	59.6
All Vehicles		2514	3.4	2485 N1	3.5	0.434	3.0	NA	1.2	8.6	0.13	0.09	0.16	55.2

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

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MOVEMENT SUMMARY

Site: 002v [2 - Hill Street / Jenner Street (PM 2023 GROWTH) (Site Folder: PM FUTURE GROWTH 2023)]

Network: N101 [PM 2023 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Jenner Street (S)														
1	L2	115	0.0	114	0.0	0.097	4.6	LOS A	0.2	1.1	0.08	0.51	0.08	43.1
3a	R1	29	0.0	29	0.0	0.097	4.6	LOS A	0.2	1.1	0.08	0.51	0.08	45.8
Approach		144	0.0	143 N1	0.0	0.097	4.6	LOS A	0.2	1.1	0.08	0.51	0.08	44.0
NorthEast: Jenner Street (NE)														
24a	L1	35	0.0	35	0.0	0.033	4.5	LOS A	0.1	0.4	0.08	0.50	0.08	44.5
26a	R1	26	0.0	26	0.0	0.033	4.2	LOS A	0.1	0.4	0.08	0.50	0.08	44.5
Approach		61	0.0	61	0.0	0.033	4.3	NA	0.1	0.4	0.08	0.50	0.08	44.5
West: Hill Street (W)														
10a	L1	63	0.0	62	0.0	0.052	4.5	LOS A	0.1	0.5	0.08	0.52	0.08	44.3
12	R2	35	0.0	34	0.0	0.052	4.7	LOS A	0.1	0.5	0.08	0.52	0.08	36.0
Approach		98	0.0	96 N1	0.0	0.052	4.5	NA	0.1	0.5	0.08	0.52	0.08	43.1
All Vehicles		303	0.0	301 N1	0.0	0.097	4.5	NA	0.2	1.1	0.08	0.51	0.08	43.8

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

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MOVEMENT SUMMARY

Site: TCS1764 [3 - Windsor Road / Olive Street (PM 2023 GROWTH) (Site Folder: PM FUTURE GROWTH 2023)]

Network: N101 [PM 2023 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	1584	1.4	1511	1.5	0.527	3.8	LOS A	8.7	61.5	0.22	0.20	0.22	55.2
23	R2	143	0.0	136	0.0	0.480	39.2	LOS D	3.6	25.3	0.93	0.79	0.93	18.4
Approach		1727	1.3	1648 N1	1.3	0.527	6.8	LOS A	8.7	61.5	0.27	0.25	0.27	51.5
NorthEast: Olive Street (NE)														
24	L2	60	1.8	60	1.8	* 0.085	33.3	LOS C	1.6	11.1	0.67	0.70	0.67	7.4
26	R2	299	1.1	299	1.1	0.473	61.4	LOS E	5.7	40.3	0.95	0.80	0.95	21.2
Approach		359	1.2	359	1.2	0.473	56.7	LOS E	5.7	40.3	0.90	0.78	0.90	20.2
NorthWest: Windsor Road (NW)														
27	L2	241	0.4	241	0.4	0.215	11.1	LOS B	2.2	15.8	0.44	0.69	0.44	33.9
28	T1	1308	1.8	1308	1.8	* 1.117	182.2	LOS F	54.9	388.3	1.00	1.70	1.97	8.8
Approach		1549	1.6	1549	1.6	1.117	155.6	LOS F	54.9	388.3	0.91	1.54	1.73	9.9
All Vehicles		3636	1.4	3556 N1	1.4	1.117	76.7	LOS E	54.9	388.3	0.62	0.86	0.97	18.9

Site Level of Service (LOS) Method: Delay (SIDRA). 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)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	11	64.2	LOS F	0.0	0.0	0.96	0.96	236.3	223.8	0.95
NorthEast: Olive Street (NE)											
P6	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	232.3	218.5	0.94
All Pedestrians		63	64.3	LOS F	0.2	0.2	0.96	0.96	233.0	219.4	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: TCS1763 [4 - Olive Street / Old Northern Road (PM 2023 GROWTH) (Site Folder: PM FUTURE GROWTH 2023)]

Network: N101 [PM 2023 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Old Northern Road (S)														
1	L2	198	2.7	192	2.7	0.535	12.0	LOS B	5.6	40.5	0.25	0.37	0.25	39.5
2	T1	1019	4.3	989	4.4	* 0.535	8.7	LOS A	8.5	62.0	0.33	0.35	0.33	36.1
Approach		1217	4.1	1181 N1	4.2	0.535	9.3	LOS A	8.5	62.0	0.32	0.36	0.32	36.8
North: Old Northern Road (N)														
8	T1	1038	3.3	1038	3.3	0.352	6.2	LOS A	7.1	50.1	0.37	0.33	0.37	43.8
9	R2	259	0.4	259	0.4	* 0.614	33.1	LOS C	9.6	67.3	0.97	0.92	0.97	23.4
Approach		1297	2.8	1297	2.8	0.614	11.6	LOS B	9.6	67.3	0.49	0.45	0.49	36.0
West: Olive Street (W)														
10	L2	152	0.0	152	0.0	0.248	41.1	LOS D	4.6	32.1	0.77	0.76	0.77	7.8
12	R2	318	0.3	318	0.3	* 0.522	62.9	LOS E	6.2	43.3	0.96	0.81	0.96	5.4
Approach		469	0.2	469	0.2	0.522	55.9	LOS E	6.2	43.3	0.90	0.79	0.90	6.0
All Vehicles		2983	2.9	2947 N1	2.9	0.614	17.7	LOS B	9.6	67.3	0.48	0.47	0.48	27.1

Site Level of Service (LOS) Method: Delay (SIDRA). 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)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Old Northern Road (N)											
P3	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	234.9	221.8	0.94
West: Olive Street (W)											
P4	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	232.3	218.5	0.94
All Pedestrians		105	64.3	LOS F	0.2	0.2	0.96	0.96	233.6	220.2	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: TCS [6 - Old Northern Road / Windsor Road / Seven Hills Road (PM 2023 GROWTH) (Site Folder: PM FUTURE GROWTH 2023)]

Network: N101 [PM 2023 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
21	L2	569	0.9	541	1.0	0.970	44.2	LOS D	2.8	20.0	0.93	1.07	1.13	25.6
22	T1	1599	1.6	1519	1.7	* 0.970	46.9	LOS D	2.8	20.0	0.98	1.08	1.17	2.9
23a	R1	678	6.7	645	7.0	0.811	66.9	LOS E	2.7	20.0	1.00	1.10	1.10	2.4
Approach		2846	2.7	2705 N1	2.8	0.970	51.1	LOS D	2.8	20.0	0.97	1.08	1.15	8.6
North: Old Northern Road (N)														
7a	L1	723	3.3	723	3.3	0.454	32.1	LOS C	8.7	61.7	0.64	0.73	0.64	18.4
9a	R1	607	1.0	607	1.0	* 0.974	80.1	LOS F	15.1	107.0	1.00	1.03	1.33	21.3
Approach		1331	2.3	1331	2.3	0.974	54.0	LOS D	15.1	107.0	0.80	0.87	0.95	20.4
NorthWest: Windsor Road (NW)														
27b	L3	56	0.0	50	0.0	0.096	27.2	LOS C	1.4	11.3	0.82	0.73	0.82	22.1
28	T1	1336	1.7	1209	1.7	0.923	65.3	LOS E	28.9	204.3	1.00	1.06	1.21	10.9
Approach		1392	1.6	1260 N1	1.7	0.923	63.8	LOS E	28.9	204.3	0.99	1.05	1.19	11.1
SouthWest: Seven Hills Road (SW)														
30	L2	101	0.0	101	0.0	0.952	83.6	LOS F	29.1	204.4	1.00	1.07	1.31	16.6
30a	L1	485	0.7	485	0.7	0.952	83.0	LOS F	29.1	204.4	1.00	1.07	1.32	16.4
32	R2	329	0.6	329	0.6	* 0.952	98.0	LOS F	9.3	65.8	1.00	1.05	1.52	14.5
Approach		916	0.6	916	0.6	0.952	88.4	LOS F	29.1	204.4	1.00	1.06	1.39	15.7
All Vehicles		6484	2.1	6211 N1	2.2	0.974	59.8	LOS E	29.1	204.4	0.94	1.03	1.15	13.4

Site Level of Service (LOS) Method: Delay (SIDRA). 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)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	239.0	227.1	0.95
North: Old Northern Road (N)											
P3	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94

P3B	Slip/ Bypass	53	64.3	LOS F	0.2	0.2	0.96	0.96	226.5	210.9	0.93
NorthWest: Windsor Road (NW)											
P7	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
SouthWest: Seven Hills Road (SW)											
P8	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
All Pedestrians		263	64.3	LOS F	0.2	0.2	0.96	0.96	232.6	218.8	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: 007 [7 - Windsor Road / Railway Street (PM 2023 GROWTH) (Site Folder: PM FUTURE GROWTH 2023)]

Network: N101 [PM 2023 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	2848	2.7	2707	2.9	0.353	0.1	LOS A	49.5	354.7	0.00	0.00	0.00	59.8
Approach		2848	2.7	2707[N1]	2.9	0.353	0.1	NA	49.5	354.7	0.00	0.00	0.00	59.8
NorthWest: Windsor Road (NW)														
27	L2	82	1.3	79	1.3	0.063	3.1	LOS A	0.0	0.0	0.00	0.40	0.00	32.4
28	T1	2309	2.2	2221	2.2	0.568	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.2
Approach		2392	2.2	2300[N1]	2.2	0.568	0.1	NA	0.0	0.0	0.00	0.02	0.00	56.3
All Vehicles		5240	2.5	5007[N1]	2.6	0.568	0.1	NA	49.5	354.7	0.00	0.01	0.00	59.6

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

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MOVEMENT SUMMARY

Site: 008 [8 - James Street / Railway Street (PM 2023 GROWTH) (Site Folder: PM FUTURE GROWTH 2023)]

Network: N101 [PM 2023 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: James Street (SE)														
21	L2	24	0.0	23	0.0	0.121	7.5	LOS A	0.2	1.2	0.13	0.94	0.13	42.8
23	R2	109	0.0	106	0.0	0.121	7.6	LOS A	0.2	1.2	0.13	0.94	0.13	41.7
Approach		134	0.0	129[N1]	0.0	0.121	7.6	LOS A	0.2	1.2	0.13	0.94	0.13	41.9
NorthEast: Railway Street (NE)														
24	L2	68	0.0	68	0.0	0.047	2.3	LOS A	0.0	0.0	0.00	0.38	0.00	26.8
25	T1	19	5.6	19	5.6	0.047	0.0	LOS A	0.0	0.0	0.00	0.38	0.00	43.7
Approach		87	1.2	87	1.2	0.047	1.8	NA	0.0	0.0	0.00	0.38	0.00	35.4
SouthWest: Railway Street (SW)														
31	T1	67	0.0	66	0.0	0.050	0.1	LOS A	0.1	0.4	0.11	0.15	0.11	43.5
32	R2	26	0.0	26	0.0	0.050	4.8	LOS A	0.1	0.4	0.11	0.15	0.11	43.5
Approach		94	0.0	92[N1]	0.0	0.050	1.4	NA	0.1	0.4	0.11	0.15	0.11	43.5
All Vehicles		315	0.3	308[N1]	0.3	0.121	4.1	NA	0.2	1.2	0.09	0.55	0.09	41.7

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

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MOVEMENT SUMMARY

Site: 009 [9 - Jenner Street / Railway Street (PM 2023 GROWTH) (Site Folder: PM FUTURE GROWTH 2023)]

Network: N101 [PM 2023 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
NorthEast: Railway Street (NE)														
25	T1	25	4.2	25	4.2	0.019	0.2	LOS A	0.0	0.1	0.15	0.16	0.15	47.5
26b	R3	8	0.0	8	0.0	0.019	5.7	LOS A	0.0	0.1	0.15	0.16	0.15	47.5
Approach		34	3.1	34	3.1	0.019	1.6	NA	0.0	0.1	0.15	0.16	0.15	47.5
North: Jenner Street (N)														
7b	L3	3	0.0	3	0.0	0.063	8.4	LOS A	0.1	0.6	0.22	0.95	0.22	44.9
9a	R1	62	0.0	62	0.0	0.063	7.7	LOS A	0.1	0.6	0.22	0.95	0.22	40.2
Approach		65	0.0	65	0.0	0.063	7.7	LOS A	0.1	0.6	0.22	0.95	0.22	40.6
SouthWest: Railway Street (SW)														
30a	L1	129	0.0	128	0.0	0.091	2.0	LOS A	0.0	0.0	0.00	0.35	0.00	27.3
31	T1	47	0.0	47	0.0	0.091	0.0	LOS A	0.0	0.0	0.00	0.35	0.00	48.1
Approach		177	0.0	174[N1]	0.0	0.091	1.5	NA	0.0	0.0	0.00	0.35	0.00	44.2
All Vehicles		276	0.4	273[N1]	0.4	0.091	3.0	NA	0.1	0.6	0.07	0.47	0.07	43.4

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

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MOVEMENT SUMMARY

Site: TCS1196 [10 - Cook Street / Windsor Road (PM 2023 GROWTH) (Site Folder: PM FUTURE GROWTH 2023)]

Network: N101 [PM 2023 Growth Model (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	2257	3.5	2257	3.5	0.722	16.7	LOS B	23.1	166.6	0.69	0.64	0.69	38.9
23	R2	286	1.1	286	1.1	0.869	55.6	LOS E	10.1	71.2	1.00	1.00	1.24	21.5
Approach		2543	3.2	2543	3.2	0.869	21.1	LOS C	23.1	166.6	0.72	0.68	0.75	35.6
NorthEast: Cook Street (NE)														
24	L2	218	1.0	201	1.0	* 1.193	254.9	LOS F	32.7	230.0	1.00	1.53	2.34	8.6
26	R2	644	0.3	596	0.3	1.193	254.8	LOS F	32.8	230.0	1.00	1.54	2.34	3.2
Approach		862	0.5	797 N1	0.5	1.193	254.8	LOS F	32.8	230.0	1.00	1.54	2.34	4.7
NorthWest: Windsor Road (NW)														
27	L2	446	0.7	437	0.7	0.470	17.9	LOS B	7.6	56.2	0.76	0.80	0.76	38.3
28	T1	1765	2.6	1730	2.6	* 0.818	46.8	LOS D	25.0	177.0	0.99	0.91	1.02	33.9
Approach		2212	2.2	2167 N1	2.2	0.818	41.0	LOS D	25.0	177.0	0.95	0.89	0.97	34.3
All Vehicles		5617	2.4	5508 N1	2.4	1.193	62.8	LOS E	32.8	230.0	0.85	0.88	1.07	22.6

Site Level of Service (LOS) Method: Delay (SIDRA). 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)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	239.0	227.1	0.95
NorthEast: Cook Street (NE)											
P6	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	227.3	211.9	0.93
All Pedestrians		105	64.3	LOS F	0.2	0.2	0.96	0.96	233.1	219.5	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 011 [11 - Orchard Street / Cook Street (AM 2023 DEVELOPMENT SCENARIO 1) (Site Folder: AM DEVELOPMENT 2023 SCENARIO 1)]

Network: N101 [AM 2023 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Roundabout

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Orchard Street (SE)														
21	L2	1	100.0	1	100.0	0.014	13.8	LOS A	0.0	0.2	0.78	0.69	0.78	38.2
22	T1	1	0.0	1	0.0	0.014	8.4	LOS A	0.0	0.2	0.78	0.69	0.78	38.2
23	R2	2	0.0	2	0.0	0.014	11.6	LOS A	0.0	0.2	0.78	0.69	0.78	43.2
23u	U	1	0.0	1	0.0	0.014	13.1	LOS A	0.0	0.2	0.78	0.69	0.78	43.6
Approach		5	20.0	5	20.0	0.014	11.7	LOS A	0.0	0.2	0.78	0.69	0.78	41.9
NorthEast: Cook Street (NE)														
24	L2	1	0.0	1	0.0	1.118	118.3	LOS F	30.2	213.4	1.00	1.93	3.28	19.0
25	T1	683	1.4	683	1.4	1.118	118.2	LOS F	30.2	213.4	1.00	1.93	3.28	12.0
26	R2	38	0.0	38	0.0	1.118	121.4	LOS F	30.2	213.4	1.00	1.93	3.28	12.0
26u	U	2	0.0	2	0.0	1.118	122.9	LOS F	30.2	213.4	1.00	1.93	3.28	19.2
Approach		724	1.3	724	1.3	1.118	118.4	LOS F	30.2	213.4	1.00	1.93	3.28	12.0
NorthWest: Orchard Street (NW)														
27	L2	80	2.6	79	2.6	0.376	9.1	LOS A	0.7	5.1	0.73	0.76	0.73	43.1
28	T1	1	0.0	1	0.0	0.376	8.8	LOS A	0.7	5.1	0.73	0.76	0.73	43.8
29	R2	94	0.0	93	0.0	0.376	12.1	LOS A	0.7	5.1	0.73	0.76	0.73	38.9
29u	U	1	0.0	1	0.0	0.376	13.6	LOS A	0.7	5.1	0.73	0.76	0.73	38.9
Approach		176	1.2	174 N1	1.2	0.376	10.7	LOS A	0.7	5.1	0.73	0.76	0.73	41.4
SouthWest: Cook Street (SW)														
30	L2	59	3.6	57	3.6	0.485	4.1	LOS A	1.7	11.7	0.22	0.42	0.22	39.6
31	T1	585	1.3	569	1.3	0.485	3.9	LOS A	1.7	11.7	0.22	0.42	0.22	46.2
32	R2	2	50.0	2	50.2	0.485	7.8	LOS A	1.7	11.7	0.22	0.42	0.22	44.9
32u	U	7	0.0	7	0.0	0.485	8.6	LOS A	1.7	11.7	0.22	0.42	0.22	39.6
Approach		654	1.6	636 N1	1.6	0.485	4.0	LOS A	1.7	11.7	0.22	0.42	0.22	45.9
All Vehicles		1559	1.5	1539 N1	1.5	1.118	58.6	LOS E	30.2	213.4	0.65	1.17	1.72	21.6

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.
Roundabout Capacity Model: SIDRA Standard.
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.

MOVEMENT SUMMARY

Site: 001 [1 - Hill Street / Old Northern Road (AM 2023 DEVELOPMENT SCENARIO 1) (Site Folder: AM DEVELOPMENT 2023 SCENARIO 1)]

Network: N101 [AM 2023 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Old Northern Road (S)														
2	T1	844	5.1	809	5.3	0.308	3.1	LOS A	1.0	7.3	0.19	0.05	0.22	55.6
3	R2	52	0.0	49	0.0	0.308	23.3	LOS B	1.0	7.3	0.65	0.16	0.78	33.5
Approach		896	4.8	859 N1	5.0	0.308	4.2	NA	1.0	7.3	0.21	0.05	0.25	54.8
East: Hill Street (E)														
4	L2	112	0.9	111	0.9	0.182	11.8	LOS A	0.3	1.9	0.57	1.00	0.57	27.2
6	R2	20	5.3	20	5.3	0.744	261.4	LOS F	0.9	6.7	0.99	1.09	1.34	8.0
Approach		132	1.6	131 N1	1.6	0.744	49.8	LOS D	0.9	6.7	0.64	1.01	0.69	13.7
North: Old Northern Road (N)														
7	L2	25	0.0	25	0.0	0.410	5.7	LOS A	0.0	0.0	0.00	0.02	0.00	59.4
8	T1	1525	4.8	1525	4.8	0.410	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	59.5
Approach		1551	4.7	1551	4.7	0.410	0.2	NA	0.0	0.0	0.00	0.01	0.00	59.5
All Vehicles		2578	4.6	2540 N1	4.6	0.744	4.1	NA	1.0	7.3	0.10	0.08	0.12	53.5

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.

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

MOVEMENT SUMMARY

Site: 002v [2 - Hill Street / Jenner Street (AM 2023 DEVELOPMENT SCENARIO 1) (Site Folder: AM DEVELOPMENT 2023 SCENARIO 1)]

Network: N101 [AM 2023 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Jenner Street (S)														
1	L2	94	2.2	93	2.3	0.099	4.7	LOS A	0.2	1.1	0.11	0.51	0.11	41.7
3a	R1	46	0.0	46	0.0	0.099	4.5	LOS A	0.2	1.1	0.11	0.51	0.11	45.5
Approach		140	1.5	139 N1	1.5	0.099	4.6	LOS A	0.2	1.1	0.11	0.51	0.11	43.7
NorthEast: Jenner Street (NE)														
24a	L1	43	0.0	43	0.0	0.042	4.4	LOS A	0.0	0.0	0.00	0.53	0.00	44.8
26a	R1	38	0.0	38	0.0	0.042	4.1	LOS A	0.0	0.0	0.00	0.53	0.00	44.8
Approach		81	0.0	81	0.0	0.042	4.3	NA	0.0	0.0	0.00	0.53	0.00	44.8
West: Hill Street (W)														
10a	L1	52	0.0	50	0.0	0.040	4.5	LOS A	0.0	0.3	0.11	0.50	0.11	44.2
12	R2	23	0.0	23	0.0	0.040	4.8	LOS A	0.0	0.3	0.11	0.50	0.11	35.7
Approach		75	0.0	73 N1	0.0	0.040	4.6	NA	0.0	0.3	0.11	0.50	0.11	43.2
All Vehicles		296	0.7	293 N1	0.7	0.099	4.5	NA	0.2	1.1	0.08	0.51	0.08	43.9

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.

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

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MOVEMENT SUMMARY

Site: TCS1764 [3 - Windsor Road / Olive Street (AM 2023 DEVELOPMENT SCENARIO 1) (Site Folder: AM DEVELOPMENT 2023 SCENARIO 1)]

Network: N101 [AM 2023 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	1334	3.1	1230	3.3	0.392	1.1	LOS A	2.8	20.5	0.08	0.07	0.08	58.6
23	R2	142	0.7	131	0.8	0.278	34.6	LOS C	3.7	25.7	0.90	0.78	0.90	19.9
Approach		1476	2.9	1361 N1	3.1	0.392	4.3	LOS A	3.7	25.7	0.16	0.14	0.16	54.2
NorthEast: Olive Street (NE)														
24	L2	18	0.0	18	0.0	* 0.024	31.1	LOS C	0.4	3.1	0.63	0.65	0.63	7.9
26	R2	125	2.5	125	2.5	0.320	68.2	LOS E	2.5	17.8	0.96	0.76	0.96	19.9
Approach		143	2.2	143	2.2	0.320	63.6	LOS E	2.5	17.8	0.92	0.74	0.92	19.3
NorthWest: Windsor Road (NW)														
27	L2	165	1.9	165	1.9	0.190	14.7	LOS B	2.4	18.1	0.53	0.69	0.53	32.2
28	T1	1345	2.8	1345	2.8	* 1.061	137.7	LOS F	49.1	348.7	0.99	1.49	1.71	11.2
Approach		1511	2.7	1511	2.7	1.061	124.2	LOS F	49.1	348.7	0.94	1.40	1.58	11.9
All Vehicles		3129	2.8	3015 N1	2.9	1.061	67.2	LOS E	49.1	348.7	0.59	0.80	0.91	20.6

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

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	11	64.2	LOS F	0.0	0.0	0.96	0.96	236.3	223.8	0.95
NorthEast: Olive Street (NE)											
P6	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	232.3	218.5	0.94
All Pedestrians		63	64.3	LOS F	0.2	0.2	0.96	0.96	233.0	219.4	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: TCS1763 [4 - Olive Street / Old Northern Road (AM 2023 DEVELOPMENT SCENARIO 1) (Site Folder: AM DEVELOPMENT 2023 SCENARIO 1)]

Network: N101 [AM 2023 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Old Northern Road (S)														
1	L2	117	1.8	111	1.9	* 0.711	39.9	LOS C	13.7	99.8	0.83	0.79	0.83	20.6
2	T1	829	4.9	792	5.2	0.711	31.3	LOS C	14.4	105.5	0.81	0.74	0.81	18.6
Approach		946	4.6	903 N1	4.8	0.711	32.3	LOS C	14.4	105.5	0.81	0.75	0.81	18.9
East: Site Access (Building A Residents)														
4	L2	2	50.0	2	50.0	* 0.092	85.8	LOS F	0.1	1.3	1.00	0.62	1.00	16.5
5	T1	1	0.0	1	0.0	0.092	79.7	LOS F	0.1	1.3	1.00	0.62	1.00	18.4
Approach		3	33.3	3	33.3	0.092	83.7	LOS F	0.1	1.3	1.00	0.62	1.00	17.1
North: Old Northern Road (N)														
7	L2	1	0.0	1	0.0	0.066	19.3	LOS B	0.8	10.3	0.46	0.37	0.46	45.0
8	T1	1381	5.0	1381	5.0	0.690	20.7	LOS B	21.0	149.3	0.71	0.64	0.71	26.9
9	R2	246	0.9	246	0.9	* 0.554	53.1	LOS D	8.7	61.4	0.93	0.97	0.93	17.3
Approach		1628	4.3	1628	4.3	0.690	25.6	LOS B	21.0	149.3	0.74	0.69	0.74	24.3
West: Olive Street (W)														
10	L2	72	0.0	72	0.0	0.079	24.8	LOS B	1.6	10.9	0.56	0.68	0.56	11.8
11	T1	2	50.0	2	50.0	0.183	42.5	LOS D	2.8	20.3	0.81	0.74	0.81	25.8
12	R2	176	1.2	176	1.2	0.183	47.1	LOS D	2.9	20.3	0.81	0.74	0.81	7.0
Approach		249	1.3	249	1.3	0.183	40.7	LOS C	2.9	20.3	0.74	0.73	0.74	8.2
All Vehicles		2827	4.2	2784 N1	4.2	0.711	29.2	LOS C	21.0	149.3	0.77	0.71	0.77	20.9

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

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Old Northern Road (S)											
P1	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
East: Site Access (Building A Residents)											
P2	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	226.3	210.6	0.93
North: Old Northern Road (N)											

P3 Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	234.9	221.8	0.94
West: Olive Street (W)										
P4 Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	232.3	218.5	0.94
All Pedestrians	211	64.3	LOS F	0.2	0.2	0.96	0.96	231.8	217.9	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: 101 [5 - Jenner Street Site Access (AM 2023 DEVELOPMENT SCENARIO 1) (Site Folder: AM DEVELOPMENT 2023 SCENARIO 1)]

Network: N101 [AM 2023 Development Scenario 1 (Network Folder: General)]

New Site
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Jenner Street (S)														
1	L2	20	0.0	20	0.0	0.065	4.9	LOS A	0.0	0.0	0.00	0.09	0.00	56.1
2	T1	107	0.0	107	0.0	0.065	0.0	LOS A	0.0	0.0	0.00	0.09	0.00	52.6
Approach		127	0.0	126 N1	0.0	0.065	0.8	NA	0.0	0.0	0.00	0.09	0.00	54.4
North: Jenner Street (N)														
8	T1	64	0.0	64	0.0	0.034	0.0	LOS A	0.0	0.0	0.02	0.02	0.02	59.3
9	R2	2	0.0	2	0.0	0.034	5.9	LOS A	0.0	0.0	0.02	0.02	0.02	57.4
Approach		66	0.0	66	0.0	0.034	0.2	NA	0.0	0.0	0.02	0.02	0.02	59.1
West: Site Access														
10	L2	32	0.0	32	0.0	0.021	5.8	LOS A	0.0	0.2	0.19	0.54	0.19	49.8
12	R2	62	0.0	62	0.0	0.056	6.1	LOS A	0.1	0.5	0.25	0.58	0.25	49.6
Approach		94	0.0	94	0.0	0.056	6.0	LOS A	0.1	0.5	0.23	0.57	0.23	49.7
All Vehicles		287	0.0	286 N1	0.0	0.065	2.4	NA	0.1	0.5	0.08	0.23	0.08	52.9

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.

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

MOVEMENT SUMMARY

Site: TCS [6 - Old Northern Road / Windsor Road / Seven Hills Road (AM 2023 DEVELOPMENT SCENARIO 1) (Site Folder: AM DEVELOPMENT 2023 SCENARIO 1)]

Network: N101 [AM 2023 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
21	L2	364	3.8	334	4.1	0.832	26.6	LOS B	2.8	20.0	0.78	0.83	0.80	33.4
22	T1	1371	2.9	1255	3.2	0.832	24.6	LOS B	2.8	20.0	0.81	0.78	0.82	5.3
23a	R1	505	6.5	464	7.0	* 0.746	66.9	LOS E	2.7	20.0	1.00	1.05	1.05	2.4
Approach		2240	3.9	2053 N1	4.2	0.832	34.5	LOS C	2.8	20.0	0.85	0.85	0.87	10.5
North: Old Northern Road (N)														
7a	L1	932	6.2	931	6.2	0.616	40.4	LOS C	14.6	103.3	0.82	0.81	0.82	15.7
9a	R1	677	2.0	677	2.0	* 0.931	63.8	LOS E	15.5	110.1	1.00	0.97	1.20	24.5
Approach		1608	4.5	1608	4.5	0.931	50.3	LOS D	15.5	110.1	0.90	0.88	0.98	20.9
NorthWest: Windsor Road (NW)														
27b	L3	25	0.0	23	0.0	0.084	25.6	LOS B	0.7	6.7	0.76	0.66	0.76	23.7
28	T1	1320	3.1	1219	3.2	* 0.911	56.6	LOS E	26.6	189.3	1.00	1.00	1.14	12.2
Approach		1345	3.1	1242 N1	3.2	0.911	56.0	LOS D	26.6	189.3	0.99	1.00	1.13	12.3
SouthWest: Seven Hills Road (SW)														
30	L2	118	1.8	118	1.8	0.857	58.0	LOS E	23.0	164.2	1.00	0.94	1.09	21.4
30a	L1	428	2.5	428	2.5	0.857	56.5	LOS E	23.0	164.2	1.00	0.94	1.09	21.4
32	R2	456	1.4	456	1.4	* 1.084	169.3	LOS F	16.1	114.0	1.00	1.26	1.96	9.1
Approach		1002	1.9	1002	1.9	1.084	108.0	LOS F	23.0	164.2	1.00	1.09	1.49	13.3
All Vehicles		6196	3.5	5905 N1	3.7	1.084	55.8	LOS D	26.6	189.3	0.92	0.93	1.06	14.7

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

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	3	64.1	LOS F	0.0	0.0	0.96	0.96	238.8	227.1	0.95
North: Old Northern Road (N)											
P3	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94

P3B	Slip/ Bypass	53	64.3	LOS F	0.2	0.2	0.96	0.96	226.5	210.9	0.93
NorthWest: Windsor Road (NW)											
P7	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
SouthWest: Seven Hills Road (SW)											
P8	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
All Pedestrians		214	64.3	LOS F	0.2	0.2	0.96	0.96	231.1	216.9	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: 007 [7 - Windsor Road / Railway Street (AM 2023 DEVELOPMENT SCENARIO 1) (Site Folder: AM DEVELOPMENT 2023 SCENARIO 1)]

Network: N101 [AM 2023 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	2155	0.0	1967	0.0	0.252	0.1	LOS A	15.7	109.6	0.00	0.00	0.00	59.9
Approach		2155	0.0	1967 N1	0.0	0.252	0.1	NA	15.7	109.6	0.00	0.00	0.00	59.9
NorthWest: Windsor Road (NW)														
27	L2	86	3.7	81	3.7	0.098	3.1	LOS A	0.0	0.0	0.00	0.30	0.00	35.6
28	T1	2625	4.0	2456	4.2	0.620	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	58.7
Approach		2712	4.0	2536 N1	4.2	0.620	0.1	NA	0.0	0.0	0.00	0.02	0.00	56.4
All Vehicles		4866	2.2	4503 N1	2.4	0.620	0.1	NA	15.7	109.6	0.00	0.01	0.00	59.6

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.

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MOVEMENT SUMMARY

Site: 008 [8 - James Street / Railway Street (AM 2023 DEVELOPMENT SCENARIO 1) (Site Folder: AM DEVELOPMENT 2023 SCENARIO 1)]

Network: N101 [AM 2023 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: James Street (SE)														
21	L2	33	0.0	32	0.0	0.126	7.5	LOS A	0.2	1.3	0.14	0.94	0.14	42.6
23	R2	101	0.0	101	0.0	0.126	7.8	LOS A	0.2	1.3	0.14	0.94	0.14	41.5
Approach		134	0.0	133 N1	0.0	0.126	7.7	LOS A	0.2	1.3	0.14	0.94	0.14	41.9
NorthEast: Railway Street (NE)														
24	L2	140	0.0	140	0.0	0.088	2.3	LOS A	0.0	0.0	0.00	0.41	0.00	26.1
25	T1	25	0.0	25	0.0	0.088	0.0	LOS A	0.0	0.0	0.00	0.41	0.00	43.4
Approach		165	0.0	165	0.0	0.088	2.0	NA	0.0	0.0	0.00	0.41	0.00	32.9
SouthWest: Railway Street (SW)														
31	T1	55	1.9	51	1.9	0.052	0.3	LOS A	0.1	0.6	0.22	0.22	0.22	40.6
32	R2	38	8.3	36	8.4	0.052	5.2	LOS A	0.1	0.6	0.22	0.22	0.22	40.6
Approach		93	4.5	87 N1	4.6	0.052	2.3	NA	0.1	0.6	0.22	0.22	0.22	40.6
All Vehicles		392	1.1	385 N1	1.1	0.126	4.0	NA	0.2	1.3	0.10	0.55	0.10	40.7

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.

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MOVEMENT SUMMARY

Site: 009 [9 - Jenner Street / Railway Street ((AM 2023 DEVELOPMENT SCENARIO 1) (Site Folder: AM DEVELOPMENT 2023 SCENARIO 1)]

Network: N101 [AM 2023 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
NorthEast: Railway Street (NE)														
25	T1	45	0.0	45	0.0	0.029	0.1	LOS A	0.0	0.2	0.09	0.10	0.09	42.0
26b	R3	8	0.0	8	0.0	0.029	5.6	LOS A	0.0	0.2	0.09	0.10	0.09	42.0
Approach		54	0.0	54	0.0	0.029	1.0	NA	0.0	0.2	0.09	0.10	0.09	42.0
North: Jenner Street (N)														
7b	L3	3	0.0	3	0.0	0.121	8.4	LOS A	0.2	1.2	0.24	0.95	0.24	39.7
9a	R1	120	0.0	119	0.0	0.121	7.8	LOS A	0.2	1.2	0.24	0.95	0.24	40.1
Approach		123	0.0	123	0.0	0.121	7.8	LOS A	0.2	1.2	0.24	0.95	0.24	40.1
SouthWest: Railway Street (SW)														
30a	L1	117	0.9	115	0.9	0.080	2.0	LOS A	0.0	0.0	0.00	0.36	0.00	27.0
31	T1	39	0.0	38	0.0	0.080	0.0	LOS A	0.0	0.0	0.00	0.36	0.00	41.2
Approach		156	0.7	153 N1	0.7	0.080	1.5	NA	0.0	0.0	0.00	0.36	0.00	33.6
All Vehicles		333	0.3	329 N1	0.3	0.121	3.8	NA	0.2	1.2	0.10	0.54	0.10	39.4

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.

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

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MOVEMENT SUMMARY

Site: TCS1196 [10 - Cook Street / Windsor Road (AM 2023 DEVELOPMENT SCENARIO 1) (Site Folder: AM DEVELOPMENT 2023 SCENARIO 1)]

Network: N101 [AM 2023 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	1708	4.7	1708	4.7	0.434	9.9	LOS A	10.2	74.4	0.48	0.43	0.48	45.4
23	R2	251	2.1	251	2.1	0.861	46.4	LOS D	7.9	56.6	0.96	0.96	1.22	24.2
Approach		1959	4.4	1959	4.4	0.861	14.6	LOS B	10.2	74.4	0.54	0.50	0.57	40.7
NorthEast: Cook Street (NE)														
24	L2	354	2.7	353	2.7	* 1.489	506.7	LOS F	32.3	230.0	1.00	1.99	3.29	4.7
26	R2	587	0.4	587	0.4	1.489	506.8	LOS F	32.8	230.0	1.00	2.02	3.30	1.6
Approach		941	1.2	940 N1	1.2	1.489	506.8	LOS F	32.8	230.0	1.00	2.01	3.30	2.8
NorthWest: Windsor Road (NW)														
27	L2	421	1.3	395	1.3	0.486	16.6	LOS B	6.9	54.8	0.61	0.73	0.61	39.7
28	T1	2134	4.5	2004	4.7	* 0.754	29.3	LOS C	22.9	162.7	0.81	0.74	0.81	40.5
Approach		2555	4.0	2398 N1	4.1	0.754	27.2	LOS B	22.9	162.7	0.78	0.74	0.78	40.4
All Vehicles		5455	3.6	5297 N1	3.8	1.489	107.7	LOS F	32.8	230.0	0.73	0.88	1.15	16.2

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

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	241.5	230.4	0.95
NorthEast: Cook Street (NE)											
P6	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	227.3	211.9	0.93
All Pedestrians		105	64.3	LOS F	0.2	0.2	0.96	0.96	234.4	221.2	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 011 [11 - Orchard Street / Cook Street (PM 2023 DEVELOPMENT SCENARIO 1) (Site Folder: PM DEVELOPMENT 2023 SCENARIO 1)]

Network: N101 [PM 2023 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Roundabout

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Orchard Street (SE)														
21	L2	1	0.0	1	0.0	0.010	8.6	LOS A	0.0	0.1	0.78	0.66	0.78	39.1
22	T1	1	0.0	1	0.0	0.010	8.5	LOS A	0.0	0.1	0.78	0.66	0.78	39.1
23	R2	1	0.0	1	0.0	0.010	11.7	LOS B	0.0	0.1	0.78	0.66	0.78	43.8
23u	U	1	0.0	1	0.0	0.010	13.2	LOS B	0.0	0.1	0.78	0.66	0.78	44.2
Approach		4	0.0	4	0.0	0.010	10.5	LOS B	0.0	0.1	0.78	0.66	0.78	42.2
NorthEast: Cook Street (NE)														
24	L2	2	0.0	2	0.0	1.313	292.4	LOS F	60.8	427.5	1.00	4.04	6.83	10.0
25	T1	773	0.5	773	0.5	1.313	292.3	LOS F	60.8	427.5	1.00	4.04	6.83	5.7
26	R2	52	0.0	52	0.0	1.313	295.5	LOS F	60.8	427.5	1.00	4.04	6.83	5.7
26u	U	12	0.0	12	0.0	1.313	297.0	LOS F	60.8	427.5	1.00	4.04	6.83	10.0
Approach		838	0.5	838	0.5	1.313	292.5	LOS F	60.8	427.5	1.00	4.04	6.83	5.7
NorthWest: Orchard Street (NW)														
27	L2	54	0.0	54	0.0	0.403	9.7	LOS A	0.8	5.5	0.78	0.77	0.78	42.6
28	T1	1	0.0	1	0.0	0.403	9.6	LOS A	0.8	5.5	0.78	0.77	0.78	43.2
29	R2	111	0.0	110	0.0	0.403	12.9	LOS B	0.8	5.5	0.78	0.77	0.78	38.0
29u	U	1	0.0	1	0.0	0.403	14.3	LOS B	0.8	5.5	0.78	0.77	0.78	38.0
Approach		166	0.0	166	0.0	0.403	11.8	LOS B	0.8	5.5	0.78	0.77	0.78	40.1
SouthWest: Cook Street (SW)														
30	L2	166	0.6	150	0.7	0.603	4.2	LOS A	2.5	17.6	0.28	0.44	0.28	39.1
31	T1	638	0.8	605	0.8	0.603	4.1	LOS A	2.5	17.6	0.28	0.44	0.28	45.9
32	R2	1	0.0	1	0.0	0.603	7.3	LOS A	2.5	17.6	0.28	0.44	0.28	45.7
32u	U	17	0.0	16	0.0	0.603	8.8	LOS A	2.5	17.6	0.28	0.44	0.28	39.1
Approach		822	0.8	772 N1	0.8	0.603	4.2	LOS A	2.5	17.6	0.28	0.44	0.28	45.3
All Vehicles		1831	0.6	1780 N1	0.6	1.313	140.7	LOS F	60.8	427.5	0.67	2.17	3.41	11.6

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

MOVEMENT SUMMARY

Site: 001 [1 - Hill Street / Old Northern Road (PM 2023 DEVELOPMENT SCENARIO 1) (Site Folder: PM DEVELOPMENT 2023 SCENARIO 1)]

Network: N101 [PM 2023 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Old Northern Road (S)														
2	T1	1100	4.5	1074	4.6	0.378	2.2	LOS A	1.1	8.0	0.19	0.05	0.24	56.5
3	R2	74	0.0	72	0.0	0.378	18.5	LOS C	1.1	8.0	0.56	0.15	0.73	39.5
Approach		1174	4.2	1145 N1	4.3	0.378	3.2	NA	1.1	8.0	0.21	0.06	0.28	55.9
East: Hill Street (E)														
4	L2	146	0.0	145	0.0	0.184	10.0	LOS A	0.3	2.0	0.48	0.94	0.48	29.3
6	R2	16	0.0	16	0.0	0.585	216.3	LOS F	0.7	4.7	0.99	1.05	1.18	9.4
Approach		162	0.0	160 N1	0.0	0.585	30.1	LOS D	0.7	4.7	0.53	0.95	0.55	18.0
North: Old Northern Road (N)														
7	L2	42	0.0	42	0.0	0.318	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	59.1
8	T1	1171	3.1	1171	3.1	0.318	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.4
Approach		1213	3.0	1213	3.0	0.318	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.4
All Vehicles		2548	3.4	2518 N1	3.4	0.585	3.5	NA	1.1	8.0	0.13	0.10	0.16	54.5

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

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MOVEMENT SUMMARY

Site: 002v [2 - Hill Street / Jenner Street (PM 2023 DEVELOPMENT SCENARIO 1) (Site Folder: PM DEVELOPMENT 2023 SCENARIO 1)]

Network: N101 [PM 2023 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Jenner Street (S)														
1	L2	134	0.0	131	0.0	0.107	4.6	LOS A	0.2	1.2	0.08	0.51	0.08	41.8
3a	R1	29	0.0	29	0.0	0.107	4.6	LOS A	0.2	1.2	0.08	0.51	0.08	45.5
Approach		163	0.0	159 N1	0.0	0.107	4.6	LOS A	0.2	1.2	0.08	0.51	0.08	43.0
NorthEast: Jenner Street (NE)														
24a	L1	35	0.0	35	0.0	0.032	4.4	LOS A	0.0	0.0	0.00	0.54	0.00	44.8
26a	R1	26	0.0	26	0.0	0.032	4.1	LOS A	0.0	0.0	0.00	0.54	0.00	44.8
Approach		61	0.0	61	0.0	0.032	4.3	NA	0.0	0.0	0.00	0.54	0.00	44.8
West: Hill Street (W)														
10a	L1	63	0.0	62	0.0	0.062	4.6	LOS A	0.1	0.7	0.12	0.50	0.12	44.2
12	R2	51	0.0	50	0.0	0.062	4.7	LOS A	0.1	0.7	0.12	0.50	0.12	35.6
Approach		114	0.0	112 N1	0.0	0.062	4.6	NA	0.1	0.7	0.12	0.50	0.12	42.4
All Vehicles		338	0.0	333 N1	0.0	0.107	4.6	NA	0.2	1.2	0.08	0.51	0.08	43.2

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

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MOVEMENT SUMMARY

Site: TCS1764 [3 - Windsor Road / Olive Street (PM 2023 DEVELOPMENT SCENARIO 1) (Site Folder: PM DEVELOPMENT 2023 SCENARIO 1)]

Network: N101 [PM 2023 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	1584	1.4	1512	1.5	0.527	3.9	LOS A	8.8	62.1	0.22	0.20	0.22	55.1
23	R2	144	0.7	138	0.8	0.486	39.3	LOS D	3.7	25.8	0.93	0.79	0.93	18.3
Approach		1728	1.3	1649 N1	1.4	0.527	6.9	LOS A	8.8	62.1	0.28	0.25	0.28	51.4
NorthEast: Olive Street (NE)														
24	L2	60	1.8	60	1.8	* 0.085	33.3	LOS C	1.6	11.1	0.67	0.70	0.67	7.4
26	R2	300	1.1	300	1.1	0.475	61.4	LOS E	5.7	40.5	0.95	0.80	0.95	21.2
Approach		360	1.2	360	1.2	0.475	56.7	LOS E	5.7	40.5	0.90	0.78	0.90	20.2
NorthWest: Windsor Road (NW)														
27	L2	241	0.4	241	0.4	0.215	11.1	LOS B	2.2	15.8	0.44	0.69	0.44	33.9
28	T1	1311	1.8	1311	1.8	* 1.208	257.7	LOS F	64.7	457.9	1.00	2.00	2.34	6.5
Approach		1552	1.6	1552	1.6	1.208	219.4	LOS F	64.7	457.9	0.91	1.80	2.05	7.4
All Vehicles		3640	1.4	3561 N1	1.4	1.208	104.5	LOS F	64.7	457.9	0.62	0.98	1.11	15.1

Site Level of Service (LOS) Method: Delay (SIDRA). 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)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	11	64.2	LOS F	0.0	0.0	0.96	0.96	236.3	223.8	0.95
NorthEast: Olive Street (NE)											
P6	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	232.3	218.5	0.94
All Pedestrians		63	64.3	LOS F	0.2	0.2	0.96	0.96	233.0	219.4	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: TCS1763 [4 - Olive Street / Old Northern Road (PM 2023 DEVELOPMENT SCENARIO 1) (Site Folder: PM DEVELOPMENT 2023 SCENARIO 1)]

Network: N101 [PM 2023 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Old Northern Road (S)														
1	L2	198	2.7	192	2.7	* 0.675	30.5	LOS C	14.7	106.0	0.69	0.71	0.69	24.4
2	T1	1019	4.3	989	4.4	0.675	21.5	LOS C	14.7	106.0	0.64	0.61	0.64	23.5
Approach		1217	4.1	1181 N1	4.2	0.675	23.0	LOS C	14.7	106.0	0.65	0.63	0.65	23.7
East: Site Access (Building A Residents)														
4	L2	1	100.0	1	100.0	* 0.106	91.0	LOS F	0.1	1.0	1.00	0.61	1.00	15.7
5	T1	1	0.0	1	0.0	0.106	84.3	LOS F	0.1	1.0	1.00	0.61	1.00	17.7
Approach		2	50.0	2	50.0	0.106	87.6	LOS F	0.1	1.0	1.00	0.61	1.00	16.7
North: Old Norther Road (N)														
7	L2	1	0.0	1	0.0	0.022	11.3	LOS B	0.2	2.8	0.30	0.25	0.30	51.4
8	T1	1049	3.3	1048	3.3	0.374	8.1	LOS A	8.2	58.1	0.42	0.38	0.42	40.4
9	R2	260	0.4	260	0.4	* 0.633	21.0	LOS C	4.3	30.1	0.76	0.79	0.76	29.7
Approach		1311	2.7	1309 N1	2.7	0.633	10.7	LOS B	8.2	58.1	0.49	0.46	0.49	37.2
West: Olive Street (W)														
10	L2	152	0.0	152	0.0	* 0.224	30.9	LOS C	3.9	27.0	0.73	0.74	0.73	9.9
11	T1	2	50.0	2	50.0	0.505	57.3	LOS E	6.1	43.3	0.96	0.80	0.96	21.9
12	R2	318	0.3	318	0.3	0.505	61.9	LOS E	6.2	43.2	0.96	0.80	0.96	5.5
Approach		472	0.4	472	0.4	0.505	51.9	LOS D	6.2	43.3	0.88	0.78	0.88	6.5
All Vehicles		3001	2.9	2963 N1	3.0	0.675	22.2	LOS C	14.7	106.0	0.62	0.58	0.62	23.9

Site Level of Service (LOS) Method: Delay (SIDRA). 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)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Old Northern Road (S)											
P1	Full	11	64.2	LOS F	0.0	0.0	0.96	0.96	233.8	220.5	0.94
East: Site Access (Building A Residents)											
P2	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	226.3	210.6	0.93

North: Old Norther Road (N)										
P3 Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	234.9	221.8	0.94
West: Olive Street (W)										
P4 Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	232.3	218.5	0.94
All Pedestrians	168	64.3	LOS F	0.2	0.2	0.96	0.96	231.3	217.2	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: 101 [5 - Jenner Street Site Access (PM 2023 DEVELOPMENT SCENARIO 1) (Site Folder: PM DEVELOPMENT 2023 SCENARIO 1)]

Network: N101 [PM 2023 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Jenner Street (S)														
1	L2	121	0.0	109	0.0	0.130	4.9	LOS A	0.0	0.0	0.00	0.26	0.00	54.0
2	T1	143	0.0	138	0.0	0.130	0.0	LOS A	0.0	0.0	0.00	0.26	0.00	42.9
Approach		264	0.0	247[N1]	0.0	0.130	2.2	NA	0.0	0.0	0.00	0.26	0.00	51.8
North: Jenner Street (N)														
8	T1	69	0.0	69	0.0	0.047	0.2	LOS A	0.0	0.3	0.15	0.11	0.15	55.4
9	R2	16	0.0	16	0.0	0.047	6.3	LOS A	0.0	0.3	0.15	0.11	0.15	55.9
Approach		85	0.0	85	0.0	0.047	1.4	NA	0.0	0.3	0.15	0.11	0.15	55.6
West: Site Access														
10	L2	20	0.0	20	0.0	0.014	5.9	LOS A	0.0	0.2	0.22	0.54	0.22	49.6
12	R2	39	0.0	39	0.0	0.039	6.5	LOS A	0.0	0.3	0.31	0.60	0.31	49.3
Approach		59	0.0	59	0.0	0.039	6.3	LOS A	0.0	0.3	0.28	0.58	0.28	49.4
All Vehicles		408	0.0	391[N1]	0.0	0.130	2.6	NA	0.0	0.3	0.07	0.27	0.07	52.2

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

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MOVEMENT SUMMARY

Site: TCS [6 - Old Northern Road / Windsor Road / Seven Hills Road (PM 2023 DEVELOPMENT SCENARIO 1) (Site Folder: PM DEVELOPMENT 2023 SCENARIO 1)]

Network: N101 [PM 2023 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
21	L2	569	0.9	541	1.0	0.971	47.9	LOS D	2.8	20.0	0.96	1.09	1.18	24.4
22	T1	1600	1.6	1521	1.7	* 0.971	47.5	LOS D	2.8	20.0	0.99	1.09	1.19	2.9
23a	R1	678	6.7	646	7.0	0.791	64.9	LOS E	2.7	20.0	1.00	1.08	1.08	2.5
Approach		2847	2.7	2708 N1	2.8	0.971	51.7	LOS D	2.8	20.0	0.99	1.09	1.16	8.5
North: Old Northern Road (N)														
7a	L1	724	3.5	724	3.5	0.445	35.5	LOS D	9.8	69.2	0.71	0.76	0.71	17.2
9a	R1	619	1.0	618	1.0	0.991	109.4	LOS F	17.5	123.7	1.00	1.16	1.55	17.3
Approach		1343	2.4	1342 N1	2.4	0.991	69.5	LOS E	17.5	123.7	0.84	0.94	1.10	17.3
NorthWest: Windsor Road (NW)														
27b	L3	56	0.0	50	0.0	0.098	27.9	LOS C	1.4	11.3	0.82	0.73	0.82	21.7
28	T1	1338	1.7	1207	1.7	0.942	71.8	LOS E	30.3	213.7	1.00	1.10	1.26	10.1
Approach		1394	1.6	1258 N1	1.7	0.942	70.0	LOS E	30.3	213.7	0.99	1.09	1.24	10.2
SouthWest: Seven Hills Road (SW)														
30	L2	101	0.0	101	0.0	0.984	98.4	LOS F	32.8	230.7	1.00	1.13	1.41	14.7
30a	L1	485	0.7	485	0.7	* 0.984	97.1	LOS F	32.8	230.7	1.00	1.13	1.42	14.6
32	R2	357	0.6	357	0.6	0.984	110.2	LOS F	10.1	71.3	1.00	1.10	1.62	13.3
Approach		943	0.6	943	0.6	0.984	102.2	LOS F	32.8	230.7	1.00	1.11	1.49	14.1
All Vehicles		6527	2.1	6250 N1	2.2	0.991	66.8	LOS E	32.8	230.7	0.96	1.06	1.21	12.4

Site Level of Service (LOS) Method: Delay (SIDRA). 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)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	239.0	227.1	0.95
North: Old Northern Road (N)											
P3	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94
P3B	Slip/	53	64.3	LOS F	0.2	0.2	0.96	0.96	226.5	210.9	0.93

	Bypass										
NorthWest: Windsor Road (NW)											
P7	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
SouthWest: Seven Hills Road (SW)											
P8	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
All Pedestrians		263	64.3	LOS F	0.2	0.2	0.96	0.96	232.6	218.8	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: 007 [7 - Windsor Road / Railway Street (PM 2023 DEVELOPMENT SCENARIO 1) (Site Folder: PM DEVELOPMENT 2023 SCENARIO 1)]

Network: N101 [PM 2023 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	2849	2.8	2709	2.9	0.354	0.1	LOS A	29.6	212.6	0.00	0.00	0.00	59.8
Approach		2849	2.8	2709 N1	2.9	0.354	0.1	NA	29.6	212.6	0.00	0.00	0.00	59.8
NorthWest: Windsor Road (NW)														
27	L2	112	0.9	108	0.9	0.079	3.1	LOS A	0.0	0.0	0.00	0.42	0.00	31.7
28	T1	2311	2.2	2217	2.3	0.567	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.2
Approach		2422	2.2	2325 N1	2.2	0.567	0.2	NA	0.0	0.0	0.00	0.02	0.00	55.3
All Vehicles		5272	2.5	5034 N1	2.6	0.567	0.1	NA	29.6	212.6	0.00	0.01	0.00	59.5

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

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MOVEMENT SUMMARY

Site: 008 [8 - James Street / Railway Street (PM 2023 DEVELOPMENT SCENARIO 1) (Site Folder: PM DEVELOPMENT 2023 SCENARIO 1)]

Network: N101 [PM 2023 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: James Street (SE)														
21	L2	24	0.0	22	0.0	0.202	7.5	LOS A	0.3	2.2	0.18	0.93	0.18	42.6
23	R2	201	0.0	180	0.0	0.202	8.0	LOS A	0.3	2.2	0.18	0.93	0.18	41.5
Approach		225	0.0	202 N1	0.0	0.202	7.9	LOS A	0.3	2.2	0.18	0.93	0.18	41.6
NorthEast: Railway Street (NE)														
24	L2	106	0.0	106	0.0	0.067	2.3	LOS A	0.0	0.0	0.00	0.41	0.00	26.0
25	T1	19	5.6	19	5.6	0.067	0.0	LOS A	0.0	0.0	0.00	0.41	0.00	43.3
Approach		125	0.8	125	0.8	0.067	2.0	NA	0.0	0.0	0.00	0.41	0.00	32.7
SouthWest: Railway Street (SW)														
31	T1	97	0.0	95	0.0	0.065	0.1	LOS A	0.1	0.5	0.11	0.12	0.11	44.5
32	R2	26	0.0	26	0.0	0.065	4.9	LOS A	0.1	0.5	0.11	0.12	0.11	44.5
Approach		123	0.0	121 N1	0.0	0.065	1.1	NA	0.1	0.5	0.11	0.12	0.11	44.5
All Vehicles		474	0.2	448 N1	0.2	0.202	4.4	NA	0.3	2.2	0.11	0.57	0.11	41.5

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

MOVEMENT SUMMARY

Site: 009 [9 - Jenner Street / Railway Street (PM 2023 DEVELOPMENT SCENARIO 1) (Site Folder: PM DEVELOPMENT 2023 SCENARIO 1)]

Network: N101 [PM 2023 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
NorthEast: Railway Street (NE)														
25	T1	25	4.2	25	4.2	0.020	0.3	LOS A	0.0	0.2	0.20	0.16	0.20	37.3
26b	R3	8	0.0	8	0.0	0.020	6.0	LOS A	0.0	0.2	0.20	0.16	0.20	37.3
Approach		34	3.1	34	3.1	0.020	1.8	NA	0.0	0.2	0.20	0.16	0.20	37.3
North: Jenner Street (N)														
7b	L3	3	0.0	3	0.0	0.106	8.4	LOS A	0.1	1.0	0.27	0.95	0.27	39.6
9a	R1	100	0.0	99	0.0	0.106	8.0	LOS A	0.1	1.0	0.27	0.95	0.27	40.0
Approach		103	0.0	103	0.0	0.106	8.0	LOS A	0.1	1.0	0.27	0.95	0.27	40.0
SouthWest: Railway Street (SW)														
30a	L1	251	0.0	233	0.0	0.145	2.0	LOS A	0.0	0.0	0.00	0.40	0.00	25.6
31	T1	47	0.0	45	0.0	0.145	0.0	LOS A	0.0	0.0	0.00	0.40	0.00	40.4
Approach		298	0.0	278 N1	0.0	0.145	1.7	NA	0.0	0.0	0.00	0.40	0.00	30.5
All Vehicles		435	0.2	414 N1	0.3	0.145	3.3	NA	0.1	1.0	0.08	0.52	0.08	37.6

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

MOVEMENT SUMMARY

Site: TCS1196 [10 - Cook Street / Windsor Road (PM 2023 DEVELOPMENT SCENARIO 1) (Site Folder: PM DEVELOPMENT 2023 SCENARIO 1)]

Network: N101 [PM 2023 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	2258	3.5	2258	3.5	0.672	15.8	LOS B	21.2	153.1	0.65	0.60	0.65	39.6
23	R2	378	0.8	378	0.8	1.145	196.0	LOS F	26.2	184.8	1.00	1.34	2.17	7.2
Approach		2636	3.1	2636	3.1	1.145	41.7	LOS D	26.2	184.8	0.70	0.71	0.87	24.0
NorthEast: Cook Street (NE)														
24	L2	256	0.8	228	0.8	* 1.125	199.0	LOS F	32.7	230.0	1.00	1.39	2.06	10.6
26	R2	644	0.3	563	0.3	1.125	200.0	LOS F	32.7	230.0	1.00	1.40	2.08	4.0
Approach		900	0.5	792 N1	0.5	1.125	199.7	LOS F	32.7	230.0	1.00	1.40	2.07	6.1
NorthWest: Windsor Road (NW)														
27	L2	446	0.7	436	0.7	0.469	18.3	LOS B	7.8	57.4	0.78	0.81	0.78	37.9
28	T1	1766	2.6	1727	2.7	* 0.813	45.9	LOS D	24.9	176.1	0.98	0.90	1.01	34.2
Approach		2213	2.2	2163 N1	2.3	0.813	40.3	LOS D	24.9	176.1	0.94	0.88	0.96	34.6
All Vehicles		5748	2.4	5591 N1	2.4	1.145	63.5	LOS E	32.7	230.0	0.84	0.87	1.08	22.1

Site Level of Service (LOS) Method: Delay (SIDRA). 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)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	239.0	227.1	0.95
NorthEast: Cook Street (NE)											
P6	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	227.3	211.9	0.93
All Pedestrians		105	64.3	LOS F	0.2	0.2	0.96	0.96	233.1	219.5	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 011 [11 - Orchard Street / Cook Street (AM 2033 DEVELOPMENT SCENARIO 1) (Site Folder: AM 2033 DEVELOPMENT SCENARIO 1)]

Network: N101 [AM 2033 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Roundabout

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Orchard Street (SE)														
21	L2	1	100.0	1	100.0	0.014	13.9	LOS A	0.0	0.2	0.77	0.69	0.77	38.2
22	T1	1	0.0	1	0.0	0.014	8.4	LOS A	0.0	0.2	0.77	0.69	0.77	38.2
23	R2	2	0.0	2	0.0	0.014	11.6	LOS A	0.0	0.2	0.77	0.69	0.77	43.1
23u	U	1	0.0	1	0.0	0.014	13.1	LOS A	0.0	0.2	0.77	0.69	0.77	43.6
Approach		5	20.0	5	20.0	0.014	11.8	LOS A	0.0	0.2	0.77	0.69	0.77	41.8
NorthEast: Cook Street (NE)														
24	L2	1	0.0	1	0.0	1.420	389.4	LOS F	69.8	493.5	1.00	6.06	10.06	7.9
25	T1	783	1.2	783	1.2	1.420	389.3	LOS F	69.8	493.5	1.00	6.06	10.06	4.4
26	R2	38	0.0	38	0.0	1.420	392.5	LOS F	69.8	493.5	1.00	6.06	10.06	4.4
26u	U	2	0.0	2	0.0	1.420	394.0	LOS F	69.8	493.5	1.00	6.06	10.06	7.9
Approach		824	1.1	824	1.1	1.420	389.5	LOS F	69.8	493.5	1.00	6.06	10.06	4.4
NorthWest: Orchard Street (NW)														
27	L2	92	2.3	89	2.1	0.613	15.2	LOS B	1.6	11.4	0.83	0.92	1.06	40.1
28	T1	1	0.0	1	0.0	0.613	15.0	LOS B	1.6	11.4	0.83	0.92	1.06	40.7
29	R2	168	0.0	166	0.0	0.613	18.2	LOS B	1.6	11.4	0.83	0.92	1.06	34.4
29u	U	1	0.0	1	0.0	0.613	19.7	LOS B	1.6	11.4	0.83	0.92	1.06	34.4
Approach		262	0.8	257 N1	0.7	0.613	17.1	LOS B	1.6	11.4	0.83	0.92	1.06	37.1
SouthWest: Cook Street (SW)														
30	L2	74	2.9	69	2.9	0.515	4.0	LOS A	1.9	13.3	0.20	0.42	0.20	39.8
31	T1	672	1.1	619	1.1	0.515	3.9	LOS A	1.9	13.3	0.20	0.42	0.20	46.3
32	R2	2	50.0	2	50.5	0.515	7.7	LOS A	1.9	13.3	0.20	0.42	0.20	45.0
32u	U	8	0.0	8	0.0	0.515	8.6	LOS A	1.9	13.3	0.20	0.42	0.20	39.8
Approach		756	1.4	698 N1	1.4	0.515	3.9	LOS A	1.9	13.3	0.20	0.42	0.20	46.0
All Vehicles		1847	1.3	1785 N1	1.3	1.420	183.9	LOS F	69.8	493.5	0.66	3.10	4.88	9.7

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.
Roundabout Capacity Model: SIDRA Standard.
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.

MOVEMENT SUMMARY

Site: 001 [1 - Hill Street / Old Northern Road (AM 2033 DEVELOPMENT SCENARIO 1) (Site Folder: AM 2033 DEVELOPMENT SCENARIO 1)]

Network: N101 [AM 2033 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Old Northern Road (S)														
2	T1	969	5.1	912	5.4	0.372	4.4	LOS A	1.8	13.3	0.23	0.05	0.27	54.2
3	R2	52	0.0	48	0.0	0.372	32.0	LOS C	1.8	13.3	1.00	0.20	1.19	26.1
Approach		1021	4.8	960 N1	5.1	0.372	5.8	NA	1.8	13.3	0.27	0.06	0.32	53.2
East: Hill Street (E)														
4	L2	112	0.9	109	1.0	0.404	14.6	LOS B	2.6	18.0	0.62	1.06	0.80	24.4
6	R2	20	5.3	20	5.3	1.312	714.1	LOS F	2.7	19.4	1.00	1.33	2.34	3.0
Approach		132	1.6	128 N1	1.6	1.312	122.2	LOS F	2.7	19.4	0.68	1.11	1.04	6.2
North: Old Northern Road (N)														
7	L2	25	0.0	25	0.0	0.470	5.7	LOS A	18.5	134.6	0.00	0.02	0.00	59.3
8	T1	1752	4.7	1752	4.7	0.470	0.2	LOS A	18.5	134.6	0.00	0.01	0.00	59.5
Approach		1777	4.7	1777	4.7	0.470	0.3	NA	18.5	134.6	0.00	0.01	0.00	59.5
All Vehicles		2929	4.6	2865 N1	4.7	1.312	7.6	NA	18.5	134.6	0.12	0.07	0.15	48.8

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.

MOVEMENT SUMMARY

Site: 002v [2 - Hill Street / Jenner Street (AM 2033 DEVELOPMENT SCENARIO 1) (Site Folder: AM 2033 DEVELOPMENT SCENARIO 1)]

Network: N101 [AM 2033 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Jenner Street (S)														
1	L2	94	2.2	90	2.3	0.095	4.7	LOS A	0.1	1.1	0.11	0.51	0.11	41.7
3a	R1	46	0.0	43	0.0	0.095	4.5	LOS A	0.1	1.1	0.11	0.51	0.11	45.5
Approach		140	1.5	133 N1	1.6	0.095	4.6	LOS A	0.1	1.1	0.11	0.51	0.11	43.7
NorthEast: Jenner Street (NE)														
24a	L1	43	0.0	43	0.0	0.042	4.4	LOS A	0.0	0.0	0.00	0.53	0.00	44.8
26a	R1	38	0.0	38	0.0	0.042	4.1	LOS A	0.0	0.0	0.00	0.53	0.00	44.8
Approach		81	0.0	81	0.0	0.042	4.3	NA	0.0	0.0	0.00	0.53	0.00	44.8
West: Hill Street (W)														
10a	L1	52	0.0	49	0.0	0.039	4.5	LOS A	0.0	0.3	0.11	0.50	0.11	44.2
12	R2	23	0.0	22	0.0	0.039	4.8	LOS A	0.0	0.3	0.11	0.50	0.11	35.7
Approach		75	0.0	72 N1	0.0	0.039	4.6	NA	0.0	0.3	0.11	0.50	0.11	43.2
All Vehicles		296	0.7	286 N1	0.7	0.095	4.5	NA	0.1	1.1	0.08	0.51	0.08	43.9

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.

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

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MOVEMENT SUMMARY

Site: TCS1764 [3 - Windsor Road / Olive Street (AM 2033 DEVELOPMENT SCENARIO 1) (Site Folder: AM 2033 DEVELOPMENT SCENARIO 1)]

Network: N101 [AM 2033 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	1531	3.0	1379	3.4	0.440	2.3	LOS A	5.1	36.7	0.18	0.16	0.18	57.0
23	R2	142	0.7	128	0.8	0.271	33.9	LOS C	3.5	24.7	0.88	0.78	0.88	20.2
Approach		1673	2.8	1507 N1	3.1	0.440	5.0	LOS A	5.1	36.7	0.24	0.22	0.24	53.4
NorthEast: Olive Street (NE)														
24	L2	18	0.0	18	0.0	* 0.024	31.1	LOS C	0.4	3.1	0.63	0.65	0.63	7.9
26	R2	149	2.8	149	2.8	0.383	68.8	LOS E	3.0	21.4	0.97	0.77	0.97	19.7
Approach		167	2.5	167	2.5	0.383	64.8	LOS E	3.0	21.4	0.94	0.75	0.94	19.3
NorthWest: Windsor Road (NW)														
27	L2	165	1.9	165	1.9	0.190	14.7	LOS B	2.4	18.1	0.53	0.69	0.53	32.2
28	T1	1542	2.7	1542	2.7	* 1.230	271.9	LOS F	77.3	548.8	1.00	2.04	2.40	6.3
Approach		1707	2.6	1707	2.6	1.230	247.0	LOS F	77.3	548.8	0.95	1.91	2.22	6.6
All Vehicles		3547	2.7	3382 N1	2.8	1.230	130.1	LOS F	77.3	548.8	0.63	1.10	1.27	12.8

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

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	11	64.2	LOS F	0.0	0.0	0.96	0.96	236.3	223.8	0.95
NorthEast: Olive Street (NE)											
P6	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	232.3	218.5	0.94
All Pedestrians		63	64.3	LOS F	0.2	0.2	0.96	0.96	233.0	219.4	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: TCS1763 [4 - Olive Street / Old Northern Road (AM 2033 DEVELOPMENT SCENARIO 1) (Site Folder: AM 2033 DEVELOPMENT SCENARIO 1)]

Network: N101 [AM 2033 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Old Northern Road (S)														
1	L2	139	1.5	130	1.6	* 0.805	49.9	LOS D	17.4	126.4	0.91	0.87	0.94	17.5
2	T1	953	4.9	892	5.2	0.805	37.4	LOS C	18.4	134.8	0.89	0.83	0.91	16.4
Approach		1092	4.4	1022 N1	4.7	0.805	39.0	LOS C	18.4	134.8	0.89	0.83	0.92	16.6
East: Site Access (Building A Residents)														
4	L2	2	50.0	2	50.0	* 0.092	85.8	LOS F	0.1	1.3	1.00	0.62	1.00	16.5
5	T1	1	0.0	1	0.0	0.092	79.7	LOS F	0.1	1.3	1.00	0.62	1.00	18.4
Approach		3	33.3	3	33.3	0.092	83.7	LOS F	0.1	1.3	1.00	0.62	1.00	17.1
North: Old Northern Road (N)														
7	L2	1	0.0	1	0.0	0.066	19.3	LOS B	0.8	10.3	0.46	0.37	0.46	45.0
8	T1	1577	4.5	1575	4.5	* 0.986	77.6	LOS F	36.6	260.0	0.94	1.16	1.31	11.1
9	R2	246	0.9	246	0.9	0.588	58.3	LOS E	8.9	62.6	0.95	1.00	0.95	16.2
Approach		1824	4.0	1822 N1	4.0	0.986	75.0	LOS F	36.6	260.0	0.94	1.14	1.26	11.3
West: Olive Street (W)														
10	L2	72	0.0	72	0.0	0.079	24.8	LOS B	1.6	10.9	0.56	0.68	0.56	11.8
11	T1	2	50.0	2	50.0	0.239	43.7	LOS D	2.9	20.9	0.83	0.75	0.83	25.4
12	R2	176	1.2	176	1.2	0.239	48.2	LOS D	2.9	20.7	0.83	0.76	0.83	6.8
Approach		249	1.3	249	1.3	0.239	41.5	LOS C	2.9	20.9	0.75	0.73	0.75	8.0
All Vehicles		3168	4.0	3097 N1	4.1	0.986	60.4	LOS E	36.6	260.0	0.91	1.01	1.11	12.4

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

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Old Northern Road (S)											
P1	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
East: Site Access (Building A Residents)											
P2	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	226.3	210.6	0.93

North: Old Northern Road (N)										
P3 Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	234.9	221.8	0.94
West: Olive Street (W)										
P4 Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	232.3	218.5	0.94
All Pedestrians	211	64.3	LOS F	0.2	0.2	0.96	0.96	231.8	217.9	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: 101 [5 - Jenner Street Site Access (AM 2033 DEVELOPMENT SCENARIO 1) (Site Folder: AM 2033 DEVELOPMENT SCENARIO 1)]

Network: N101 [AM 2033 Development Scenario 1 (Network Folder: General)]

New Site
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Jenner Street (S)														
1	L2	20	0.0	19	0.0	0.061	4.9	LOS A	0.0	0.0	0.00	0.10	0.00	56.0
2	T1	107	0.0	99	0.0	0.061	0.0	LOS A	0.0	0.0	0.00	0.10	0.00	52.4
Approach		127	0.0	118[N1]	0.0	0.061	0.8	NA	0.0	0.0	0.00	0.10	0.00	54.3
North: Jenner Street (N)														
8	T1	64	0.0	63	0.0	0.034	0.0	LOS A	0.0	0.0	0.02	0.02	0.02	59.3
9	R2	2	0.0	2	0.0	0.034	5.8	LOS A	0.0	0.0	0.02	0.02	0.02	57.4
Approach		66	0.0	65[N1]	0.0	0.034	0.2	NA	0.0	0.0	0.02	0.02	0.02	59.1
West: Site Access														
10	L2	32	0.0	32	0.0	0.021	5.8	LOS A	0.0	0.2	0.19	0.54	0.19	49.9
12	R2	62	0.0	62	0.0	0.056	6.1	LOS A	0.1	0.5	0.24	0.58	0.24	49.6
Approach		94	0.0	94	0.0	0.056	6.0	LOS A	0.1	0.5	0.22	0.56	0.22	49.7
All Vehicles		287	0.0	278[N1]	0.0	0.061	2.4	NA	0.1	0.5	0.08	0.24	0.08	52.8

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.

MOVEMENT SUMMARY

Site: TCS [6 - Old Northern Road / Windsor Road / Seven Hills Road (AM 2033 DEVELOPMENT SCENARIO 1) (Site Folder: AM 2033 DEVELOPMENT SCENARIO 1)]

Network: N101 [AM 2033 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
21	L2	419	3.8	374	4.2	0.933	45.0	LOS D	2.8	20.0	0.94	1.03	1.08	25.4
22	T1	1575	2.9	1406	3.3	0.933	41.5	LOS C	2.8	20.0	0.96	1.00	1.08	3.3
23a	R1	580	6.4	520	7.1	* 0.859	76.7	LOS F	2.7	20.0	1.00	1.15	1.22	2.1
Approach		2574	3.8	2300 N1	4.3	0.933	50.0	LOS D	2.8	20.0	0.96	1.04	1.11	7.7
North: Old Northern Road (N)														
7a	L1	1062	5.6	1033	5.7	0.670	44.7	LOS D	18.5	130.8	0.93	0.86	0.93	14.6
9a	R1	775	2.0	753	2.0	* 1.035	126.2	LOS F	23.2	165.1	1.00	1.20	1.61	15.4
Approach		1837	4.1	1786 N1	4.1	1.035	79.0	LOS F	23.2	165.1	0.96	1.00	1.22	15.1
NorthWest: Windsor Road (NW)														
27b	L3	29	0.0	24	0.0	0.085	27.3	LOS B	0.8	7.7	0.72	0.64	0.72	22.7
28	T1	1507	2.8	1223	3.0	* 0.913	57.0	LOS E	26.8	190.5	1.00	1.01	1.14	12.2
Approach		1537	2.7	1247 N1	3.0	0.913	56.4	LOS D	26.8	190.5	0.99	1.00	1.13	12.2
SouthWest: Seven Hills Road (SW)														
30	L2	136	1.6	136	1.6	1.003	107.2	LOS F	37.8	269.7	1.00	1.16	1.47	13.7
30a	L1	493	2.6	493	2.6	1.003	105.8	LOS F	37.8	269.7	1.00	1.16	1.47	13.7
32	R2	516	1.4	516	1.4	* 1.227	282.6	LOS F	24.4	172.6	1.00	1.51	2.50	5.7
Approach		1144	1.9	1144	1.9	1.227	185.7	LOS F	37.8	269.7	1.00	1.32	1.93	8.4
All Vehicles		7092	3.4	6478 N1	3.7	1.227	83.2	LOS F	37.8	269.7	0.97	1.07	1.29	10.7

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

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	3	64.1	LOS F	0.0	0.0	0.96	0.96	238.8	227.1	0.95
North: Old Northern Road (N)											
P3	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94

P3B	Slip/ Bypass	53	64.3	LOS F	0.2	0.2	0.96	0.96	226.5	210.9	0.93
NorthWest: Windsor Road (NW)											
P7	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
SouthWest: Seven Hills Road (SW)											
P8	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
All Pedestrians		214	64.3	LOS F	0.2	0.2	0.96	0.96	231.1	216.9	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: 007 [7 - Windsor Road / Railway Street (AM 2033 DEVELOPMENT SCENARIO 1) (Site Folder: AM 2033 DEVELOPMENT SCENARIO 1)]

Network: N101 [AM 2033 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	2475	0.0	2201	0.0	0.282	0.1	LOS A	22.1	154.9	0.00	0.00	0.00	59.8
Approach		2475	0.0	2201 N1	0.0	0.282	0.1	NA	22.1	154.9	0.00	0.00	0.00	59.8
NorthWest: Windsor Road (NW)														
27	L2	86	3.7	74	3.7	0.102	3.1	LOS A	0.0	0.0	0.00	0.27	0.00	36.8
28	T1	3014	4.0	2591	4.4	0.652	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	58.6
Approach		3100	4.0	2664 N1	4.4	0.652	0.1	NA	0.0	0.0	0.00	0.01	0.00	56.7
All Vehicles		5575	2.2	4865 N1	2.5	0.652	0.1	NA	22.1	154.9	0.00	0.01	0.00	59.6

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.

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MOVEMENT SUMMARY

Site: 008 [8 - James Street / Railway Street (AM 2033 DEVELOPMENT SCENARIO 1) (Site Folder: AM 2033 DEVELOPMENT SCENARIO 1)]

Network: N101 [AM 2033 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: James Street (SE)														
21	L2	33	0.0	29	0.0	0.115	7.5	LOS A	0.2	1.2	0.13	0.94	0.13	42.7
23	R2	101	0.0	93	0.0	0.115	7.8	LOS A	0.2	1.2	0.13	0.94	0.13	41.6
Approach		134	0.0	122 N1	0.0	0.115	7.7	LOS A	0.2	1.2	0.13	0.94	0.13	41.9
NorthEast: Railway Street (NE)														
24	L2	140	0.0	139	0.0	0.088	2.3	LOS A	0.0	0.0	0.00	0.41	0.00	26.1
25	T1	25	0.0	25	0.0	0.088	0.0	LOS A	0.0	0.0	0.00	0.41	0.00	43.4
Approach		165	0.0	164 N1	0.0	0.088	2.0	NA	0.0	0.0	0.00	0.41	0.00	32.9
SouthWest: Railway Street (SW)														
31	T1	55	1.9	48	2.0	0.048	0.3	LOS A	0.1	0.6	0.22	0.22	0.22	40.6
32	R2	38	8.3	33	8.6	0.048	5.2	LOS A	0.1	0.6	0.22	0.22	0.22	40.6
Approach		93	4.5	81 N1	4.7	0.048	2.3	NA	0.1	0.6	0.22	0.22	0.22	40.6
All Vehicles		392	1.1	367 N1	1.1	0.115	4.0	NA	0.2	1.2	0.09	0.54	0.09	40.6

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.

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MOVEMENT SUMMARY

Site: 009 [9 - Jenner Street / Railway Street (AM 2033 DEVELOPMENT SCENARIO 1) (Site Folder: AM 2033 DEVELOPMENT SCENARIO 1)]

Network: N101 [AM 2033 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
NorthEast: Railway Street (NE)														
25	T1	45	0.0	45	0.0	0.029	0.1	LOS A	0.0	0.1	0.09	0.10	0.09	42.1
26b	R3	8	0.0	8	0.0	0.029	5.6	LOS A	0.0	0.1	0.09	0.10	0.09	42.1
Approach		54	0.0	54	0.0	0.029	1.0	NA	0.0	0.1	0.09	0.10	0.09	42.1
North: Jenner Street (N)														
7b	L3	3	0.0	3	0.0	0.120	8.4	LOS A	0.2	1.2	0.23	0.95	0.23	39.7
9a	R1	120	0.0	119	0.0	0.120	7.7	LOS A	0.2	1.2	0.23	0.95	0.23	40.2
Approach		123	0.0	122 N1	0.0	0.120	7.8	LOS A	0.2	1.2	0.23	0.95	0.23	40.1
SouthWest: Railway Street (SW)														
30a	L1	117	0.9	107	0.9	0.074	2.0	LOS A	0.0	0.0	0.00	0.36	0.00	27.0
31	T1	39	0.0	35	0.0	0.074	0.0	LOS A	0.0	0.0	0.00	0.36	0.00	41.2
Approach		156	0.7	142 N1	0.7	0.074	1.5	NA	0.0	0.0	0.00	0.36	0.00	33.6
All Vehicles		333	0.3	318 N1	0.3	0.120	3.8	NA	0.2	1.2	0.10	0.54	0.10	39.5

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.

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

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MOVEMENT SUMMARY

Site: TCS1196 [10 - Cook Street / Windsor Road (AM 2033 DEVELOPMENT SCENARIO 1) (Site Folder: AM 2033 DEVELOPMENT SCENARIO 1)]

Network: N101 [AM 2033 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	1961	4.7	1961	4.7	0.499	10.6	LOS A	12.5	91.3	0.51	0.46	0.51	44.6
23	R2	285	2.2	285	2.2	0.997	100.4	LOS F	14.6	103.9	1.00	1.15	1.63	14.3
Approach		2246	4.4	2246	4.4	0.997	22.0	LOS B	14.6	103.9	0.57	0.55	0.65	35.0
NorthEast: Cook Street (NE)														
24	L2	398	2.9	344	2.9	* 1.445	468.5	LOS F	32.3	230.0	1.00	1.93	3.17	5.0
26	R2	676	0.5	568	0.5	1.445	468.7	LOS F	32.7	230.0	1.00	1.96	3.18	1.8
Approach		1074	1.4	912 N1	1.4	1.445	468.6	LOS F	32.7	230.0	1.00	1.95	3.18	3.0
NorthWest: Windsor Road (NW)														
27	L2	484	1.3	417	1.3	0.498	16.3	LOS B	7.6	59.8	0.64	0.75	0.64	39.9
28	T1	2437	4.0	2109	4.4	* 0.807	31.0	LOS C	26.4	187.2	0.87	0.80	0.88	39.7
Approach		2921	3.5	2527 N1	3.9	0.807	28.6	LOS C	26.4	187.2	0.83	0.79	0.84	39.7
All Vehicles		6241	3.5	5686 N1	3.8	1.445	96.6	LOS F	32.7	230.0	0.76	0.88	1.14	17.5

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

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	241.5	230.4	0.95
NorthEast: Cook Street (NE)											
P6	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	227.3	211.9	0.93
All Pedestrians		105	64.3	LOS F	0.2	0.2	0.96	0.96	234.4	221.2	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 011 [11 - Orchard Street / Cook Street (PM 2033 DEVELOPMENT SCENARIO 1) (Site Folder: PM 2033 DEVELOPMENT SCENARIO 1)]

Network: N101 [PM 2033 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Roundabout

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Orchard Street (SE)														
21	L2	1	0.0	1	0.0	0.010	8.6	LOS A	0.0	0.1	0.78	0.66	0.78	39.1
22	T1	1	0.0	1	0.0	0.010	8.5	LOS A	0.0	0.1	0.78	0.66	0.78	39.1
23	R2	1	0.0	1	0.0	0.010	11.7	LOS B	0.0	0.1	0.78	0.66	0.78	43.8
23u	U	1	0.0	1	0.0	0.010	13.2	LOS B	0.0	0.1	0.78	0.66	0.78	44.2
Approach		4	0.0	4	0.0	0.010	10.5	LOS B	0.0	0.1	0.78	0.66	0.78	42.2
NorthEast: Cook Street (NE)														
24	L2	2	0.0	2	0.0	1.472	434.7	LOS F	86.4	607.4	1.00	5.39	9.09	7.2
25	T1	866	0.6	866	0.6	1.472	434.6	LOS F	86.4	607.4	1.00	5.39	9.09	4.0
26	R2	52	0.0	52	0.0	1.472	437.8	LOS F	86.4	607.4	1.00	5.39	9.09	4.0
26u	U	14	0.0	14	0.0	1.472	439.3	LOS F	86.4	607.4	1.00	5.39	9.09	7.2
Approach		934	0.6	934	0.6	1.472	434.8	LOS F	86.4	607.4	1.00	5.39	9.09	4.0
NorthWest: Orchard Street (NW)														
27	L2	60	0.0	58	0.0	0.429	9.9	LOS A	0.8	5.9	0.79	0.77	0.79	42.5
28	T1	1	0.0	1	0.0	0.429	9.7	LOS A	0.8	5.9	0.79	0.77	0.79	43.2
29	R2	120	0.0	118	0.0	0.429	13.0	LOS B	0.8	5.9	0.79	0.77	0.79	38.0
29u	U	1	0.0	1	0.0	0.429	14.5	LOS B	0.8	5.9	0.79	0.77	0.79	38.0
Approach		182	0.0	178 N1	0.0	0.429	11.9	LOS B	0.8	5.9	0.79	0.77	0.79	40.1
SouthWest: Cook Street (SW)														
30	L2	166	0.6	137	0.7	0.585	4.2	LOS A	2.4	16.6	0.26	0.43	0.26	39.2
31	T1	714	0.7	604	0.7	0.585	4.1	LOS A	2.4	16.6	0.26	0.43	0.26	46.0
32	R2	1	0.0	1	0.0	0.585	7.3	LOS A	2.4	16.6	0.26	0.43	0.26	45.8
32u	U	18	0.0	15	0.0	0.585	8.8	LOS A	2.4	16.6	0.26	0.43	0.26	39.2
Approach		899	0.7	756 N1	0.7	0.585	4.2	LOS A	2.4	16.6	0.26	0.43	0.26	45.4
All Vehicles		2019	0.6	1872 N1	0.6	1.472	219.7	LOS F	86.4	607.4	0.68	2.94	4.71	8.1

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

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MOVEMENT SUMMARY

Site: 001 [1 - Hill Street / Old Northern Road (PM 2033 DEVELOPMENT SCENARIO 1) (Site Folder: PM 2033 DEVELOPMENT SCENARIO 1)]

Network: N101 [PM 2033 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Old Northern Road (S)														
2	T1	1232	4.4	1132	4.7	0.405	2.8	LOS A	1.3	9.8	0.20	0.05	0.25	55.8
3	R2	74	0.0	68	0.0	0.405	22.1	LOS C	1.3	9.8	0.61	0.14	0.79	36.3
Approach		1305	4.2	1200[N 1]	4.5	0.405	3.9	NA	1.3	9.8	0.22	0.05	0.28	55.2
East: Hill Street (E)														
4	L2	146	0.0	137	0.0	0.186	10.4	LOS B	0.3	2.0	0.51	0.96	0.51	28.8
6	R2	16	0.0	15	0.0	0.632	254.7	LOS F	0.7	5.1	0.99	1.05	1.20	8.2
Approach		162	0.0	152[N1]	0.0	0.632	34.7	LOS D	0.7	5.1	0.55	0.97	0.57	16.4
North: Old Northern Road (N)														
7	L2	42	0.0	42	0.0	0.354	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	59.1
8	T1	1311	3.1	1311	3.1	0.354	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.4
Approach		1353	3.0	1353	3.0	0.354	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.4
All Vehicles		2820	3.4	2704[N 1]	3.5	0.632	3.8	NA	1.3	9.8	0.13	0.09	0.16	54.1

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

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MOVEMENT SUMMARY

Site: 002v [2 - Hill Street / Jenner Street (PM 2033 DEVELOPMENT SCENARIO 1) (Site Folder: PM 2033 DEVELOPMENT SCENARIO 1)]

Network: N101 [PM 2033 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Jenner Street (S)														
1	L2	134	0.0	122	0.0	0.100	4.6	LOS A	0.2	1.1	0.08	0.51	0.08	41.8
3a	R1	29	0.0	26	0.0	0.100	4.6	LOS A	0.2	1.1	0.08	0.51	0.08	45.5
Approach		163	0.0	149 N1	0.0	0.100	4.6	LOS A	0.2	1.1	0.08	0.51	0.08	43.0
NorthEast: Jenner Street (NE)														
24a	L1	35	0.0	35	0.0	0.032	4.4	LOS A	0.0	0.0	0.00	0.54	0.00	44.8
26a	R1	26	0.0	26	0.0	0.032	4.1	LOS A	0.0	0.0	0.00	0.54	0.00	44.8
Approach		61	0.0	61	0.0	0.032	4.3	NA	0.0	0.0	0.00	0.54	0.00	44.8
West: Hill Street (W)														
10a	L1	63	0.0	59	0.0	0.060	4.6	LOS A	0.1	0.7	0.13	0.50	0.13	44.2
12	R2	51	0.0	48	0.0	0.060	4.7	LOS A	0.1	0.7	0.13	0.50	0.13	35.6
Approach		114	0.0	107 N1	0.0	0.060	4.6	NA	0.1	0.7	0.13	0.50	0.13	42.4
All Vehicles		338	0.0	317 N1	0.0	0.100	4.6	NA	0.2	1.1	0.08	0.51	0.08	43.2

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

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MOVEMENT SUMMARY

Site: TCS1764 [3 - Windsor Road / Olive Street (PM 2033 DEVELOPMENT SCENARIO 1) (Site Folder: PM 2033 DEVELOPMENT SCENARIO 1)]

Network: N101 [PM 2033 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	1773	1.4	1523	1.5	0.531	4.9	LOS A	10.0	70.7	0.27	0.25	0.27	54.1
23	R2	144	0.7	124	0.8	0.437	38.9	LOS D	3.3	23.0	0.93	0.78	0.93	18.4
Approach		1917	1.3	1647 N1	1.4	0.531	7.4	LOS A	10.0	70.7	0.32	0.29	0.32	50.9
NorthEast: Olive Street (NE)														
24	L2	60	1.8	60	1.8	* 0.085	33.3	LOS C	1.6	11.1	0.67	0.70	0.67	7.4
26	R2	300	1.1	300	1.1	0.475	61.4	LOS E	5.7	40.5	0.95	0.80	0.95	21.2
Approach		360	1.2	360	1.2	0.475	56.7	LOS E	5.7	40.5	0.90	0.78	0.90	20.2
NorthWest: Windsor Road (NW)														
27	L2	241	0.4	241	0.4	0.215	11.1	LOS B	2.2	15.8	0.44	0.69	0.44	33.9
28	T1	1467	1.7	1467	1.7	* 1.428	448.6	LOS F	94.1	665.7	1.00	2.60	3.09	4.0
Approach		1708	1.5	1708	1.5	1.428	386.8	LOS F	94.1	665.7	0.92	2.33	2.72	4.4
All Vehicles		3985	1.4	3716 N1	1.5	1.428	186.6	LOS F	94.1	665.7	0.65	1.28	1.48	9.5

Site Level of Service (LOS) Method: Delay (SIDRA). 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)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	11	64.2	LOS F	0.0	0.0	0.96	0.96	236.3	223.8	0.95
NorthEast: Olive Street (NE)											
P6	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	232.3	218.5	0.94
All Pedestrians		63	64.3	LOS F	0.2	0.2	0.96	0.96	233.0	219.4	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: TCS1763 [4 - Olive Street / Old Northern Road (PM 2033 DEVELOPMENT SCENARIO 1) (Site Folder: PM 2033 DEVELOPMENT SCENARIO 1)]

Network: N101 [PM 2033 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Old Northern Road (S)														
1	L2	198	2.7	179	2.9	* 0.695	47.4	LOS D	21.5	156.3	0.98	0.91	0.98	18.1
2	T1	1142	4.4	1037	4.8	0.695	40.3	LOS D	23.3	169.7	0.97	0.89	0.97	15.6
Approach		1340	4.2	1217 N1	4.5	0.695	41.3	LOS D	23.3	169.7	0.97	0.89	0.97	16.0
East: Site Access (Building A Residents)														
4	L2	1	100.0	1	100.0	* 0.106	91.0	LOS F	0.1	1.0	1.00	0.61	1.00	15.7
5	T1	1	0.0	1	0.0	0.106	84.3	LOS F	0.1	1.0	1.00	0.61	1.00	17.7
Approach		2	50.0	2	50.0	0.106	87.6	LOS F	0.1	1.0	1.00	0.61	1.00	16.7
North: Old Norther Road (N)														
7	L2	1	0.0	1	0.0	0.022	11.3	LOS B	0.2	2.8	0.30	0.25	0.30	51.4
8	T1	1171	3.1	1164	3.1	0.603	10.5	LOS B	11.9	84.3	0.54	0.50	0.54	36.9
9	R2	260	0.4	259	0.4	* 0.685	26.6	LOS C	5.4	38.2	0.87	0.82	0.87	26.4
Approach		1432	2.6	1424 N1	2.6	0.685	13.5	LOS B	11.9	84.3	0.60	0.55	0.60	33.8
West: Olive Street (W)														
10	L2	152	0.0	152	0.0	* 0.224	30.9	LOS C	3.9	27.0	0.73	0.74	0.73	9.9
11	T1	2	50.0	2	50.0	0.729	63.4	LOS E	6.7	47.6	1.00	0.87	1.09	20.7
12	R2	318	0.3	318	0.3	0.729	67.9	LOS E	6.7	47.6	1.00	0.87	1.09	5.0
Approach		472	0.4	472	0.4	0.729	56.0	LOS E	6.7	47.6	0.91	0.83	0.98	6.1
All Vehicles		3245	3.0	3114 N1	3.1	0.729	30.8	LOS C	23.3	169.7	0.79	0.73	0.80	19.5

Site Level of Service (LOS) Method: Delay (SIDRA). 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)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Old Northern Road (S)											
P1	Full	11	64.2	LOS F	0.0	0.0	0.96	0.96	233.8	220.5	0.94
East: Site Access (Building A Residents)											
P2	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	226.3	210.6	0.93

North: Old Norther Road (N)										
P3 Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	234.9	221.8	0.94
West: Olive Street (W)										
P4 Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	232.3	218.5	0.94
All Pedestrians	168	64.3	LOS F	0.2	0.2	0.96	0.96	231.3	217.2	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: 101 [5 - Jenner Street Site Access (PM 2033 DEVELOPMENT SCENARIO 1) (Site Folder: PM 2033 DEVELOPMENT SCENARIO 1)]

Network: N101 [PM 2033 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Jenner Street (S)														
1	L2	121	0.0	98	0.0	0.118	4.9	LOS A	0.0	0.0	0.00	0.25	0.00	54.1
2	T1	144	0.0	128	0.0	0.118	0.0	LOS A	0.0	0.0	0.00	0.25	0.00	43.1
Approach		265	0.0	226[N1]	0.0	0.118	2.1	NA	0.0	0.0	0.00	0.25	0.00	51.9
North: Jenner Street (N)														
8	T1	69	0.0	67	0.0	0.045	0.2	LOS A	0.0	0.3	0.14	0.11	0.14	55.4
9	R2	16	0.0	16	0.0	0.045	6.2	LOS A	0.0	0.3	0.14	0.11	0.14	55.9
Approach		85	0.0	83[N1]	0.0	0.045	1.4	NA	0.0	0.3	0.14	0.11	0.14	55.6
West: Site Access														
10	L2	20	0.0	20	0.0	0.014	5.9	LOS A	0.0	0.1	0.21	0.54	0.21	49.7
12	R2	39	0.0	39	0.0	0.038	6.4	LOS A	0.0	0.3	0.30	0.60	0.30	49.3
Approach		59	0.0	59	0.0	0.038	6.3	LOS A	0.0	0.3	0.27	0.58	0.27	49.4
All Vehicles		409	0.0	368[N1]	0.0	0.118	2.6	NA	0.0	0.3	0.08	0.27	0.08	52.2

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

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MOVEMENT SUMMARY

Site: TCS [6 - Old Northern Road / Windsor Road / Seven Hills Road (PM 2033 DEVELOPMENT SCENARIO 1) (Site Folder: PM 2033 DEVELOPMENT SCENARIO 1)]

Network: N101 [PM 2033 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
21	L2	638	1.0	587	1.1	1.086	118.6	LOS F	2.8	20.0	1.00	1.30	1.70	12.1
22	T1	1792	1.6	1650	1.8	* 1.086	123.5	LOS F	2.8	20.0	1.00	1.43	1.69	1.1
23a	R1	760	6.8	703	7.3	1.017	68.2	LOS E	2.7	20.0	1.00	1.04	1.56	1.3
Approach		3189	2.7	2940 N1	2.9	1.086	109.3	LOS F	2.8	20.0	1.00	1.31	1.66	3.8
North: Old Northern Road (N)														
7a	L1	809	3.3	807	3.3	0.582	38.7	LOS D	13.5	95.6	0.88	0.83	0.88	16.1
9a	R1	693	1.1	690	1.1	1.107	178.2	LOS F	25.4	179.2	1.00	1.37	1.92	11.6
Approach		1502	2.2	1497 N1	2.3	1.107	103.0	LOS F	25.4	179.2	0.93	1.08	1.36	12.6
NorthWest: Windsor Road (NW)														
27b	L3	63	0.0	51	0.0	0.135	34.0	LOS C	1.7	13.6	0.81	0.73	0.81	18.9
28	T1	1494	1.6	1213	1.7	1.088	160.0	LOS F	31.1	220.0	1.00	1.55	1.83	4.9
Approach		1557	1.6	1264 N1	1.7	1.088	154.9	LOS F	31.1	220.0	0.99	1.52	1.79	5.0
SouthWest: Seven Hills Road (SW)														
30	L2	114	0.0	114	0.0	1.097	174.5	LOS F	43.3	304.1	1.00	1.40	1.89	9.0
30a	L1	543	0.6	543	0.6	* 1.097	174.0	LOS F	43.3	304.1	1.00	1.39	1.91	9.0
32	R2	391	0.5	391	0.5	1.097	178.8	LOS F	18.0	126.3	1.00	1.31	2.00	8.7
Approach		1047	0.5	1047	0.5	1.097	175.9	LOS F	43.3	304.1	1.00	1.36	1.95	8.9
All Vehicles		7296	2.1	6749 N1	2.2	1.107	126.8	LOS F	43.3	304.1	0.98	1.31	1.66	6.8

Site Level of Service (LOS) Method: Delay (SIDRA). 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)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	239.0	227.1	0.95
North: Old Northern Road (N)											
P3	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	229.8	215.2	0.94
P3B	Slip/	53	64.3	LOS F	0.2	0.2	0.96	0.96	226.5	210.9	0.93

	Bypass										
NorthWest: Windsor Road (NW)											
P7	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
SouthWest: Seven Hills Road (SW)											
P8	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	233.9	220.5	0.94
All Pedestrians		263	64.3	LOS F	0.2	0.2	0.96	0.96	232.6	218.8	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: 007 [7 - Windsor Road / Railway Street (PM 2033 DEVELOPMENT SCENARIO 1) (Site Folder: PM 2033 DEVELOPMENT SCENARIO 1)]

Network: N101 [PM 2033 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	3188	2.7	2937	2.9	0.384	0.1	LOS A	46.2	331.4	0.00	0.00	0.00	59.7
Approach		3188	2.7	2937[N1]	2.9	0.384	0.1	NA	46.2	331.4	0.00	0.00	0.00	59.7
NorthWest: Windsor Road (NW)														
27	L2	112	0.9	96	1.0	0.074	3.1	LOS A	0.0	0.0	0.00	0.41	0.00	32.1
28	T1	2587	2.2	2208	2.4	0.564	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.2
Approach		2699	2.1	2303[N1]	2.3	0.564	0.1	NA	0.0	0.0	0.00	0.02	0.00	55.7
All Vehicles		5887	2.4	5240[N1]	2.8	0.564	0.1	NA	46.2	331.4	0.00	0.01	0.00	59.5

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

MOVEMENT SUMMARY

Site: 008 [8 - James Street / Railway Street (PM 2033 DEVELOPMENT SCENARIO 1) (Site Folder: PM 2033 DEVELOPMENT SCENARIO 1)]

Network: N101 [PM 2033 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: James Street (SE)														
21	L2	24	0.0	20	0.0	0.182	7.5	LOS A	0.3	1.9	0.17	0.93	0.17	42.6
23	R2	201	0.0	164	0.0	0.182	7.9	LOS A	0.3	1.9	0.17	0.93	0.17	41.5
Approach		225	0.0	184 N1	0.0	0.182	7.8	LOS A	0.3	1.9	0.17	0.93	0.17	41.7
NorthEast: Railway Street (NE)														
24	L2	106	0.0	105	0.0	0.066	2.3	LOS A	0.0	0.0	0.00	0.41	0.00	25.9
25	T1	19	5.6	19	5.7	0.066	0.0	LOS A	0.0	0.0	0.00	0.41	0.00	43.3
Approach		125	0.8	123 N1	0.9	0.066	2.0	NA	0.0	0.0	0.00	0.41	0.00	32.7
SouthWest: Railway Street (SW)														
31	T1	97	0.0	85	0.0	0.059	0.1	LOS A	0.1	0.4	0.11	0.12	0.11	44.5
32	R2	26	0.0	23	0.0	0.059	4.9	LOS A	0.1	0.4	0.11	0.12	0.11	44.5
Approach		123	0.0	109 N1	0.0	0.059	1.1	NA	0.1	0.4	0.11	0.12	0.11	44.5
All Vehicles		474	0.2	416 N1	0.3	0.182	4.3	NA	0.3	1.9	0.10	0.57	0.10	41.5

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

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MOVEMENT SUMMARY

Site: 009 [9 - Jenner Street / Railway Street (PM 2033 DEVELOPMENT SCENARIO 1) (Site Folder: PM 2033 DEVELOPMENT SCENARIO 1)]

Network: N101 [PM 2033 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Stop (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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
NorthEast: Railway Street (NE)														
25	T1	25	4.2	25	4.2	0.020	0.3	LOS A	0.0	0.2	0.18	0.16	0.18	37.5
26b	R3	8	0.0	8	0.0	0.020	5.9	LOS A	0.0	0.2	0.18	0.16	0.18	37.5
Approach		34	3.1	34	3.1	0.020	1.7	NA	0.0	0.2	0.18	0.16	0.18	37.5
North: Jenner Street (N)														
7b	L3	3	0.0	3	0.0	0.102	8.4	LOS A	0.1	1.0	0.26	0.95	0.26	39.6
9a	R1	100	0.0	98	0.0	0.102	7.9	LOS A	0.1	1.0	0.26	0.95	0.26	40.0
Approach		103	0.0	101 N1	0.0	0.102	7.9	LOS A	0.1	1.0	0.26	0.95	0.26	40.0
SouthWest: Railway Street (SW)														
30a	L1	251	0.0	210	0.0	0.131	2.0	LOS A	0.0	0.0	0.00	0.40	0.00	25.6
31	T1	47	0.0	41	0.0	0.131	0.0	LOS A	0.0	0.0	0.00	0.40	0.00	40.4
Approach		298	0.0	251 N1	0.0	0.131	1.7	NA	0.0	0.0	0.00	0.40	0.00	30.5
All Vehicles		435	0.2	386 N1	0.3	0.131	3.3	NA	0.1	1.0	0.08	0.52	0.08	37.8

Site Level of Service (LOS) Method: Delay (SIDRA). 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.

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MOVEMENT SUMMARY

Site: TCS1196 [10 - Cook Street / Windsor Road (PM 2033 DEVELOPMENT SCENARIO 1) (Site Folder: PM 2033 DEVELOPMENT SCENARIO 1)]

Network: N101 [PM 2033 Development Scenario 1 (Network Folder: General)]

AM Peak Hour: 08:00-09:00
PM Peak Hour: 17:00-18:00
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Site User-Given Phase Times)

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	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Windsor Road (SE)														
22	T1	2528	3.5	2528	3.5	0.855	22.5	LOS C	32.2	232.1	0.82	0.78	0.84	34.7
23	R2	412	0.8	412	0.8	1.244	278.0	LOS F	34.8	245.2	1.00	1.50	2.54	5.4
Approach		2940	3.1	2940	3.1	1.244	58.3	LOS E	34.8	245.2	0.84	0.88	1.08	19.7
NorthEast: Cook Street (NE)														
24	L2	281	0.7	229	0.7	* 1.240	293.0	LOS F	32.7	230.0	1.00	1.61	2.51	7.6
26	R2	722	0.3	568	0.3	1.240	294.5	LOS F	32.8	230.0	1.00	1.63	2.53	2.8
Approach		1003	0.4	798 N1	0.4	1.240	294.1	LOS F	32.8	230.0	1.00	1.63	2.52	4.3
NorthWest: Windsor Road (NW)														
27	L2	500	0.6	431	0.6	0.460	18.1	LOS B	7.6	55.5	0.78	0.81	0.78	38.1
28	T1	1973	2.4	1705	2.6	* 0.803	45.8	LOS D	24.4	172.7	0.99	0.90	1.00	34.2
Approach		2473	2.0	2136 N1	2.2	0.803	40.2	LOS D	24.4	172.7	0.95	0.88	0.96	34.6
All Vehicles		6416	2.3	5874 N1	2.5	1.244	83.7	LOS F	34.8	245.2	0.90	0.98	1.23	18.3

Site Level of Service (LOS) Method: Delay (SIDRA). 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)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Windsor Road (SE)											
P5	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	239.0	227.1	0.95
NorthEast: Cook Street (NE)											
P6	Full	53	64.3	LOS F	0.2	0.2	0.96	0.96	227.3	211.9	0.93
All Pedestrians		105	64.3	LOS F	0.2	0.2	0.96	0.96	233.1	219.5	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.