

Wilton Park Road & Berwick Park Road, Wilton

Planning Proposal Submission

17/05/2023 P2027



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Glossary

Acronym	Description
AGRD	Austroads Guide to Road Design
AGTM	Austroads Guide to Traffic Management
CC	Construction Certificate
Council	Wollondilly Shire Council
DA	Development Application
DCP	Development Control Plan
DoS	Degree of Saturation
DPE	Department of Planning and Environment
FSR	Floor space ratio
GFA	Gross Floor Area
HRV	Heavy Rigid Vehicle (as defined by AS2890.2:2018)
LEP	Local Environmental Plan
LGA	Local Government Area
LoS	Level of Service
MOD	Section 4.55 Modification (also referred as a S4.55)
MRV	Medium Rigid Vehicle (as defined by AS2890.2:2018)
NHVR	National Heavy Vehicle Regulator
OC	Occupation Certificate
PP	Planning Proposal
S4.55	Section 4.55 Modification (also referenced as MOD)
S96	Section 96 Modification (former process terminology for an S4.55)
SRV	Small Rigid Vehicle (as defined by AS2890.2:2018)
TDT 2013/04a	TfNSW Technical Direction, Guide to Traffic Generating Developments – Updated traffic surveys, August 2013
TfNSW	Transport for New South Wales
TfNSW Guide	Transport for NSW (formerly Roads and Traffic Authority), Guide to Traffic Generating Developments, 2002
TIA	Transport Impact Assessment
TIS	Transport Impact Statement
veh/hr	Vehicle movements per hour (1 vehicle in & out = 2 movements)



1 Introduction

1.1 Overview

Ason Group has been commissioned by Altis Property Partners (Altis) to prepare a Transport Assessment (TA) in support of a proposed Planning Proposal (PP). The PP relates to the proposed rezoning of the land at 10, 20, 30 Berwick Road and 25, 45, 55, 75, 85 and 95 Wilton Park Road (the Site) for industrial uses.

The PP aims to facilitate a proposed industrial development and seeks amendments to the Wollondilly Local Environmental Plan 2011 (Wollondilly LEP), including amendment to the Site's current zoning from *RU2 Rural Landscape* to *E4 General Industrial*.

A location plan is presented in **Figure 1** to demonstrate the extents of the Site in relation to the existing road network in the immediate vicinity.



Figure 1: Site Location

The subject site is situated within the Wilton Growth Area in Southwest Sydney, within the Wollondilly Shire Council Local Government Area (LGA). The land is strategically located on the junction of the Hume Motorway and Picton Road leading to Port Kembla. This access to two main road corridors is important for warehousing and distribution businesses, as well as the close proximity to increased residential populations within the Wilton Growth Centre, noting the Wilton Town Centre Precinct being approved on 30 September 2022. In this regard, there is clear strategic value in the use of the site for employment land to provide additional employment opportunities within close proximity to the future residential areas within the Growth Area.

Indeed, it is understood that the overarching studies supporting that Wilton Town Centre rezoning and the Picton Road Upgrade by Transport for New South Wales (TfNSW) – with detailed design expected to be released in late 2023 – has considered an industrial land use of the subject site within strategic planning for transport infrastructure in the area.



1.2 References

In preparing this TA, Ason Group has reviewed materials provided by Altis and relevant key strategic planning documents, including:

- Wollondilly Local Environmental Plan 2011 (Wollondilly LEP)
- Wollondilly Development Control Plan 2016 (Wollondilly DCP)
- NSW Government, Wilton 2040 A Plan for the Wilton Growth Area, 28 Sep 2018 (Wilton 2040)
- NSW Government, Wilton: Building a great new town, Nov 2020
- NSW Government, Proposed Special Infrastructure Contribution Wilton, Sept 2018 (Wilton SIC)
- Wilton Growth Area Development Control Plan 2021 (WGA DCP)
- Wilton: Building a great new town How critical infrastructure will be delivered in Wilton over 20 years, November 2020 (Wilton – 20 Years of Growth)
- TfNSW, Picton Bypass Strategic Corridor Options Report, Dec 2020 (Picton Bypass Option Report)
- TfNSW, Picton Bypass Consultation Report, Aug 2021
- TfNSW, Picton Road Upgrade Project Update, Aug 2021
- NSW Government, Wilton Town Centre Precinct Rezoning Finalisation Report, Sept 2021
- Macarthur Developments, Wilton Town Centre Precinct Rezoning Proposal, May 2017
- Parson Brinckerhoff, Wilton Junction Development Transport Management and Accessibility Plan, June 2014 (Wilton Junction Development TMAP)

In addition, this advice also refers to the following general guidelines and Standards:

- Transport for NSW (formerly Roads and Traffic Authority), Guide to Traffic Generating Developments, 2002 (TfNSW Guide)
- Roads and Maritime Services (RMS), Guide to Traffic Generating Developments Updated Traffic Surveys, 2013 (TfNSW Guide Update – TDT 2013/04a)



2 Overview of Proposal

2.1 Planning Control Amendments

A detailed description is provided within the wider PP prepared separately. In general, the Proposal seeks to:

• rezone the site from RU2 Rural Landscape to an E4 General Industrial zoning.

2.2 Indicative Development Outcome

An indicative Master Plan layout has been developed to inform assessment of the PP and is shown in **Figure 2**.



Figure 2: Wilton Industrial Park Masterplan_Rev E



This plan has been prepared for context only and detailed assessment of the subdivision plan and lot layouts is expected to occur as part of future Development Application phase assessment(s).

At this early stage in rezoning of the Site, it should be note that the following assumptions have been adopted for the purposes of conducting a conservative assessment:

- A total Gross Floor Area (GFA) of 215,235m².
- Site access at Wilton Park Road as the primary access point
 - At the time of preparation of this report, a priority-controlled (roundabout) intersection has been proposed as the site access. It should be noted that the modelling assessment undertaken within this TA has identified that a priority-controlled intersection would be sufficient for the site access based on the development traffic generation. However, a roundabout is proposed to align with the planned precinct wide road upgrades.





3 Existing Conditions

3.1 Site & Location

The subject site is situated within the Wilton Growth Area in Southwest Sydney, within the Wollondilly Shire Council Local Government Area (LGA). The land is strategically located on the junction of the Hume Motorway and Picton Road leading to Port Kembla.

It is situated approximately 3.2 kilometres northwest of the Wilton township, 8.0 kilometres southeast of Picton and 64 kilometres southwest of the Sydney CBD.

More specifically, the Site comprises:

. . _ . _

•	10 Berwick Park Road	2/-/DP609222
•	20 Berwick Park Road	1/-/DP609222

- 30 Berwick Park Road
 16/-/DP251051
- 25 Wilton Park Road 7/-/DP233845
- 45 Wilton Park Road 6/-/DP233845
- 55 Wilton Park Road
 5/-/DP233845
- 75 Wilton Park Road 41/-/DP749823
- 85 Wilton Park Road 40/-/DP749823
- 95 Wilton Park Road 3/-/DP233845

It has a combined gross development area of approximately 495,000m². It provides a frontage of 760 metres along Wilton Park Road to the north and 320 metres along Berwick Park Road to the north-east.

3.1.1 Existing Land Use

Currently, the Site is zoned *RU2 Rural Landscape* under the Wollondilly Shire LEP 2011 and is occupied by a small number of rural residential properties and agri-businesses.

3.2 Road Network

3.2.1 Road Hierarchy

Having regard for the proposed Wilton Town Centre Precinct it is noted that the existing roads are subject to expansion in line with the implementation of the development. Site location and the existing road network are demonstrated in **Table 1** below.



TABLE 1 ROAD HIERARCHY

Road	Details	Aerial Image
Hume Motorway	Classification: Arterial Parking: No parking or stopping allowed Sign-posted Speed Limit: 110 km/h Typical Peak Hour Traffic Volume: ~2,200 veh/hr	<image/>
Picton Road	Classification: State Parking: Parking on shoulder (NB carriageway) available for approx. 130m south-east of Picton Road/Wilton Park Road intersection Sign-posted Speed Limit:	Arrange are
	80 km/h Typical Peak Hour Traffic Volume: ~1,200 veh/hr	
	Classification: Local	
Wilton Park Road	Parking: Parking on shoulder (WB carriageway) available for approx. 300m west of Picton Road/Wilton Park Road intersection	
	Sign-posted Speed Limit: 80 km/h	



	Typical Peak Hour Traffic Volume: ~25 veh/hr	Union Park Ban Union Park Ban Coloridade a coloridade a Coloridade a coloridade a c
Berwick Park Road	Classification: Local Parking: Parking on shoulder available Sign-posted Speed Limit: 50 km/h Typical Peak Hour Traffic Volume: ~3 veh/hr	The second secon

Notes: 1) Hourly volumes based on 2022 traffic surveys

3.3 Public Transport Network

3.3.1 Train Connectivity

With regard to accessibility to existing rail network, the proposed Site is not situated within walking distance of a train station. The closest train station, Picton railway station, is located approximately 7 kilometres to the north-west, which provides connection to the T8 Airport & South line via Campbelltown Station.

Serviceability details of the train lines are provided in Table 2 below.

TABLE 2 TRAIN SERVICES

Line	Connection	Name	Frequency
Southern Highlands Line	Picton Station	Goulburn to Campbelltown	~ 2 services per hour
Т8	Campbelltown	Macarthur to City via Airport or Sydenham	~ 4 services per hour



3.3.2 Public Bus Connectivity

The *Integrated Public Transport Service Planning Guidelines* states that bus services influence the travel mode choices of areas within 400 metres walk (approximately 5 minutes) of a bus stop. In this regard, no bus stops or services are available in proximity of the Site. The closest bus stop is located approximately 6.0 kilometres north-west of the Site and is considered non-accessible.

However, it is expected that the significant changes planned for the area will result in changes to the existing public transport service network and frequencies. Future bus connectivity is discussed further in Section 4.6.1.

3.4 Active Transport

3.4.1 Pedestrian & Cycling Accessibility

In its existing form, there is limited pedestrian and cycling infrastructure provided in the vicinity of the Site. No pedestrian footpath or cycle lanes are provided along site frontage roads or at Picton Rd / Hume Motorway interchange in its existing configuration.

3.5 Journey to Work Data Analysis

An analysis of the ABS 2016 Census Data was undertaken to determine the existing travel mode share of trips to Place of Work into Destination Zone (114464866). Table below presents the relevant mode share details.

TABLE 3 DAILY PERSON TRIPS BY TRANSPORT MODE

Travel Mode ¹	Mode Share %	
Vehicle	90.6%	
Car (as passenger)	6.3%	
Train	0.0%	
Bus	0.0%	
Bicycle	0.0%	
Motorbike/Scooter	0.0%	
Walked only	3.1%	
Other Mode	0.0%	
Total	100.0%	

Note: 1) Excludes people who worked from home or do not work

In summary, the table indicates that 96.9% of trips travelling to the area arrive via car including 90.6% as car drivers. The analysis indicates minimal dependencies on public transport, which reflects the limited public transport network availability within vicinity of the site



3.6.1 SIDRA Performance Assessment Criteria

The performance of the key intersections has been analysed using the SIDRA Intersection computer program. SIDRA modelling outputs a range of performance measures, in particular:

- Average Vehicle Delay (AVD) The AVD (or average delay per vehicle in seconds) for intersections also
 provides a measure of the operational performance of an intersection and is used to determine an
 intersection's Level of Service (see below). For signalised intersections, the AVD reported relates to the
 average of all vehicle movements through the intersection. For priority (Give Way, Stop & Roundabout
 controlled) intersections, the AVD reported is that for the movement with the highest AVD.
- Level of Service (LOS) This is a comparative measure that provides an indication of the operating performance, based on AVD.

The following table provides a recommended baseline for assessment as per the TfNSW Guide.

TABLE 4 INTERSECTION LEVEL OF SERVICE CRITERIA

Level of Service	Average Delay per Vehicle (sec/veh)	Traffic Signals, Roundabout	Give Way and Stop Signs
А	Less than 14	Good operation	Good operation
В	15 to 28	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
С	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 will cause excessive delays. Roundabouts require other control mode	At capacity, requires other control mode
F	More than 70	Unsatisfactory and requires additional capacity.	Unsatisfactory and requires other control mode or major treatment.

3.6.2 Baseline Volumes

Traffic surveys were undertaken on 28 June 2022 to establish the baseline traffic flows on the surrounding road network for the following key intersections:

- Hume Motorway / Picton Road (Western Intersection) Signalised Intersection (TCS ID: 4715).
- Hume Motorway / Picton Road (Eastern Intersection) Signalised Intersection (TCS ID: 4716).
- Picton Road / Wilton Park Road Priority controlled Intersection.

The traffic survey data indicated the following:



- Morning peak hour period was between 7:15am 8:15am.
- Evening peak hour period was between 3:30pm 4:30pm.

Traffic volumes during each of the peak periods on the study road network – derived from the traffic surveys – are presented overleaf in **Figure 4** and **Figure 5**.

3.6.3 SIDRA Network Model Layout

For the purposes of modelling, the Picton Road / Hume Motorway intersection has been modelled as two connected junctions as shown below.



Figure 3: Hume Motorway / Picton Road intersection layouts





Figure 4: Baseline Traffic Volume - AM Peak



Figure 5: Baseline Traffic Volume - PM Peak



Some adjustments were made to the SIDRA input parameters to calibrate the models to align more closely with surveyed queue length data and on-site observations. These are summarised as follows:

- Extra bunching factors applied in accordance with Table 14.1 of the RMS (now TfNSW) *Traffic Modelling Guidelines* 2013 to account for platooning of vehicles from nearby signalised intersections.
- Lane utilisation adjustments and lane movement flow proportion adjustments at various intersections to reflect the observed traffic movements and reduce excessive lane changing and weaving behaviour more accurately. For example, 'lane movement flow' of the off-ramp right turn movements were adjusted so that lane demands reflect turning volumes at downstream right turn bays.
- Common Control Group and routes applied to the Picton Road / Hume Motorway (W) and Picton Road / Hume Motorway (E) signalised intersections, network timing adjustment to calibrate movement timing operation as observed.

3.6.5 Input Parameters

The settings of all models were:

- 'Current Setup' was set to New South Wales.
- Site Level of Service Method was set to 'Delay (SIDRA)'.
- Physical features of the intersections were determined based on aerial imagery as well as site visit observations.
- Speed limits were input as per existing posted speed limits.
- Default values for Basic Saturation Flow were used.
- Default values/setting were used for gap acceptance and follow-up headway for all turns.

3.6.6 Existing Intersection Performance

SIDRA Network (version 9) models were developed for the key intersections; referred to as the 'existing base case' scenario. The models were calibrated and validated to represent the existing conditions observed during the site visit. **Table 5** presents the SIDRA assessment results of the key intersections under the existing conditions.

Overall, the intersections demonstrate satisfactory performance across the assessed peak periods at a LoS C, with minimal delays and queuing distances.



TABLE 5 EXISTING CASE MODELLING RESULTS					
Intersection	Control ¹	Period	DoS	AVD	LOS
Picton Rd / Wilton Park Rd	Priority	AM	0.100	23.3	С
		PM	0.136	34.4	D
Hume Motorway / Picton Rd (W)	Signalised	AM	0.756	25.9	С
		PM	0.817	38.0	D
Hume Motorway / Picton Rd (E)	Signalised	AM	0.746	21.0	С
		PM	0.864	34.0	С

Notes) 1. For priority-controlled intersections, results are based on the 'worst movement' result.

2. Queue distance relates to the 95th percentile queue lengths.

3.6.7 Existing Site Traffic

Approximately 9 rural residential properties are currently situated on the site. With reference to the TfNSW Guide – TDT 2013/04a updated trip rates for low density residential dwellings. The following trips rates have been adopted during peak network periods:

- AM Peak: 0.71 per dwelling in regional area
- PM Peak: 0.78 per dwelling in regional area

The existing site – comprising 9 residential properties – is therefore expected to generate in the order of 6 and 7 trips during the AM and PM peak, respectively.



4 Strategic Context

4.1 Introduction

Reference has been made to the state, regional and local planning documents that are considered relevant to the context of the PP. These key, reference documents and policies are discussed in the following sections.

4.2 Wilton Growth Area

The Site is located within Wilton Growth Area (WGA), which is positioned at the junction of the Hume Motorway and Picton Road in the Wollondilly Shire LGA. There are seven precincts within the WGA and each precinct is expected to create growing local communities with new homes, job opportunities, public transport, and community facilities. The subject site forms part of the "West Wilton" sub-precinct and is located south of the recently approved Wilton Town Centre precinct.

4.2.1 Wilton 2040 – A Plan for the Wilton Growth Area (2018)

Wilton 2040 – A Plan for the Wilton Growth Area (Wilton 2040, previously known as the Wilton Interim Land Use and Infrastructure Implementation Plan) confirms and supports the strategic planning undertaken for the growth area since 2011. The plan provides a high-level framework for the Wilton Town Centre and outlines the delivery of key infrastructure to support the development. The plan will be reviewed regularly to ensure that infrastructure delivery remains aligned with the rate of growth.

With reference to Wilton 2040 Land Use Plan, the Site is identified as 'Employment Land Use for Further Investigation'. A reduced copy of the Structure Plan is provided in **Figure 6**. Subsequently, TfNSW has confirmed that strategic transport infrastructure planning for the locality has considered the subject site as future industrial use. This is consistent with that now being proposed.



Figure 6: Wilton 2040 - Wilton Growth Area Structure Plan

Noting the Site is located in close vicinity of Wilton Town Centre Precinct, which has recently been rezoned (30 September 2022) with an expectation to become a major retail and commercial centre, several



infrastructure upgrades were proposed around the Wilton Town Centre Precinct and the Site, as shown in **Figure 7** and summarised in **Table 6**.



Figure 7: Wilton 2040 - Key Infrastructure

TABLE 6 KEY	INFRASTRUCTURE	UPGRADES	AROUND THE SITE
		U I U I U I U I U	

Ref. ¹	ltem	Measure	Timing
3	Picton Road and Wilton Park Road intersection	Signalised upgrade on Picton Road with realigned Wilton Park Road	Required with development of Wilton West and/or Town Centre
5	Sub-arterial from Picton Road to Niloc Bridge Link	New road	Staged upgrade, initial stage required with development of Town Centre
6	Sub-arterial connection from Picton Road towards Tahmoor/Picton	New road (realignment of Wilton Park Road)	Staged upgrade linked to development of Wilton West
11	Picton Road	Investigate capacity improvements on Picton Road within the boundary of the Growth Area	Timing to be determined
12	Picton Road / Hume Motorway interchange	Investigate capacity improvements at the interchange	Timing to be determined by DPE/TfNSW

Note: 1) Based on Wilton 2040 - Figure 13: Key Infrastructure and Appendices – Draft infrastructure list.



Detailed infrastructure phasing is provided in the following section.

4.2.2 Wilton Growth Area – Infrastructure Phasing Plan (2020)

The Department of Planning and Environment (DPE) has been working with Wollondilly Shire Council, state agencies and major landowners in Wilton to determine the staging and prioritisation of critical transport and social infrastructure in Wilton. This assessment generally consists of four components:

- A background review of existing studies;
- Review of landowner Voluntary Planning Agreement (VPAs) and staging plans;
- Special Infrastructure Contribution (SIC) infrastructure analysis; and

• SIC cashflow analysis.

Accordingly, delivery timing and contribution method of the above-mentioned key infrastructure items are summarised in **Table 7**. Relevant maps of the phasing plan are extracted and provided in **Appendix B**.

TABLE / KET INFRASTRUCTURE PRASING PLAN				
Ref. ¹	ltem	Delivery Timing	Contribution Method	
8	North Wilton precinct boundary to Picton Road four-lane sub- arterial road with cycleway	Year 2030	SIC	
13	Picton Rd Upgrade – Widening to four lanes immediately west of Hume Motorway and to the west of the Wilton Town Centre precinct	Year 2030	SIC	
22	Hume Motorway/Picton Road Interchange Upgrade	Year 2035	VPA & SIC	
26	Picton Rd Upgrade – Widening to six lanes immediately west of Hume Motorway and to the west of the Wilton Town Centre precinct	Year 2040	SIC	
23/27	West Wilton four-lane sub- arterial road with potential future Tahmoor Link / West Wilton sub-arterial road river crossing	Year 2040 (subject to Picton Road by- pass route)	SIC	

Note: 1) Based on the Infrastructure Phasing Plan.

2) Picton Road Bypass Route is further discussed in later section.



Wilton SIC is proposed to help fund new and upgraded infrastructure required to support the delivery of WGA in 2040. The proposed Wilton SIC provides for developer contributions of \$771 million towards the cost of delivering required infrastructure to support the growing community of Wilton, including:

- Roads, intersections, bridges and cycleway improvements \$655 million
- Biodiversity conservation and regional open space \$65 million
- Education \$31.2 million
- Bus infrastructure \$5 million
- Health facilities \$750,000
- Emergency services \$625,000
- Planning and delivery \$14 million.

A detailed breakdown of the \$771 million is provided in the Wilton SIC. Accordingly, contributions for the relevant key infrastructure upgrades are as follows:

TABLE 8 WILTON SIC 2018			
Ref. ¹	Item	Contribution	
R1	Picton Rd Upgrade - widening to 4 lanes	\$219,547,268	
R3	Hume Motorway/Picton Rd Interchange Upgrade	\$35,904,621	
R5	Picton Rd east and west of interchange - widening to 6 lanes	\$30,073,280	
R6	West Wilton Sub-arterial with potential future Tahmoor Link	\$70,000,000	
R9	Sub-Arterial from MDB Crossing to Picton Rd	\$26,279,721	

Note: 1) Based on Wilton SIC – Proposed Infrastructure Schedule and Map

A copy of the Proposed Infrastructure Schedule and Map is included in Appendix B.

4.2.4 Wilton Growth Area Development Control Plan 2021 (WGA DCP)

The current WGA DCP applies to land in the South East Wilton and North Wilton Precincts within the Wilton Growth Area as mapped in the Growth Centres SEPP; therefore, it does not provide specific guidelines / requirements for the Site (or any other industrial land uses). However, as mentioned in the WGA DCP, it is anticipated that when other precincts within the WGA are rezoned, schedules for those precincts will be added to this DCP through amendments.



4.3 Picton Bypass Route

NSW Government has provided \$3 million for TfNSW to investigate potential options for a future bypass of Picton town centre. A proposed bypass would provide an alternative route for heavy vehicles by linking Thirlmere and Tahmoor with the Hume Motorway via Picton Road.

As mentioned in the WGA Infrastructure Phasing Plan, upgrades for West Wilton four-lane sub-arterial road and west Wilton sub-arterial road river crossing are subject to the Picton Bypass Route.

It is noted that a total of 18 strategic corridor options were initially identified, and the shortlisting process resulted in four strategic corridor options being selected for traffic modelling assessment. The four strategic corridor options selected are shown in the figure below.



Figure 8: Picton Bypass - Four Selected Strategic Corridor Options



As showed, a sub-arterial connection from Picton Road towards Tahmoor/Picton (Ref. 6 in Table 5, Ref. 23/27 in Table 6, Ref. R6 in Table 7) is shortlisted as one of the four strategic corridor options (Corridor 14):

"A new two-lane, two-way connection between Remembrance Driveway, at a new intersection around 300 metres north of Koorana Road and Picton Road, at the intersection of Wilton Park Road."

According to the Picton Bypass Option Report (December 2020), this option is considered to provide the greatest improvement in overall travel times and result in the best overall network performance; however, due to the complex access requirements to the gorge and a bridge height of around 100 metres, it is also considered as one of the most difficult options to construct.

Furthermore, in the latest Picton Bypass Consultation Report (August 2021), TfNSW advised that Corridor 9 was recommended for community consultation and further development as a result of a series of investigations and studies.

Therefore, it is unclear if the sub-arterial connection from Picton Road towards Tahmoor/Picton is still going to be pursued, nothing that Corridor 9 is recommended by TfNSW while further review and consultation is still required. If the sub-arterial connection through Wilton Park Road is still pursued (forecast to be delivered by 2040 based on WGA Infrastructure Phasing Plan), it is likely that it will have impact on the proposed configuration of the site access.

Notwithstanding, the proposed cross section for the future Picton Bypass Route is extracted from the Picton Bypass Option Report and provided below for reference.



Figure 9: Cross Section adopted for Strategic Corridor Option

A summary of the potential infrastructure upgrades at the intersection of Picton Road / Wilton Park Road is provided below:

- Northwest approach:
 - Picton Road towards Nepean River: widening to 4 lanes (by 2030)
- Northeast approach:
 - Wilton Park Road (new road) towards Maldon-Dombarton rail line: new four-lane sub-arterial road with cycleway (by 2030)
- Southeast approach:
 - Picton Road between Hume Motorway and realigned Wilton Park Road:
 - Widening to 4 lanes (by 2030)



- Widening to 6 lanes (by 2040)
- Southwest approach:
 - Realigned section of Wilton Park Road: widening to four-lane sub-arterial road with cycleway (by 2030)
 - Potential future Tahmoor Link: subject to Picton Bypass Route

4.4 Picton Road Upgrades

Picton Road is an important transport corridor linking the Illawarra Region with Sydney and the Greater Macarthur Growth area. An upgrade of Picton Road would support growing communities and business across the areas by providing improved access to jobs, services, education and recreation between the neighbouring regions.

In November 2020, the NSW Government announced \$44 million to plan for an upgrade of Picton Road between the Wilton Growth Area and the M1 Princes Motorway, including the interchange with the M31 Hume Motorway. The Australian Government has committed \$95.6 million to the planning of the upgrade of Picton Road and Picton bypass projects.

The latest project update (February 2023) recognises concerns for the existing and future operation of Picton Road and Hume Motorway interchange following community feedback and identifies the need for an upgrade. In this regard, a Diverging Diamond Interchange (DDI) is proposed as the preferred option, as it provides "the least impact to the surrounding area while improving safety, reliability and efficient travel when compared to other options".

Artist impression of the DDI at Picton Road and Hume Motorway intersection, published by TfNSW, is shown below.



Figure 10: DDI at Picton Road and M31 Hume Motorway



Source: Picton Road and M31 Hume Motorway – Picton Road upgrade – Feb 2023¹

The upgrade will be divided into three projects areas to ensure prioritised upgrade of the critical section, whilst concurrently planning for the remaining sections. The three sections are:

- Western section: Nepean River to Almond Street, Wilton, including the Picton Road and M31 Hume Motorway interchange.
- Central section: Almond Street, Wilton to Mount Keira Road
- Eastern section: Mount Keira Road to M1 Princes Motorway interchange.

The project is currently seeking feedback on the preferred option which will help refine the design and form part of the Review of Environmental Factors (REF) process. A concept design will be developed, and further environmental studies will be carried out, with the REF expected to be displayed in 2023.

The timing and funding for construction of the DDI are yet to be confirmed.

It is important to note that the purpose of the traffic impact assessment, provided in **Section 5.4**, is to identify infrastructure upgrades required to support the associated traffic of the proposed development. The traffic impact assessment does not intend to provide an assessment on whether the proposed DDI will be able to accommodate the cumulative traffic associated with planned population growth of the Greater Macarthur Growth area.

Further, the TfNSW Agency submission in relation to the Wilton Town Centre (discussed further below) identified potential areas of additional land to be rezoned for the purposes of SP2 Special Infrastructure as shown in **Figure 11**.

The WGA Infrastructure Phasing Plan proposed the following items in relation to Picton Road upgrade:

- Northwest approach:
 - Picton Road between Hume Motorway and realigned Wilton Park Road:
 - Widening to 4 lanes (by 2030)
 - Widening to 6 lanes (by 2040)
- Southeast approach:
 - Immediately east of Hume Motorway: Widening to 6 lanes (by 2035)
 - From Pembroke Parade to Almond Street: Widening to 4 lanes (by 2035)



¹ Picton Road and M31 Hume Motorway - Picton Road upgrade https://www.transport.psw.gov.au/projects/current-projects/picton-road-and-m33

https://www.transport.nsw.gov.au/projects/current-projects/picton-road-and-m31-hume-motorway-pictonroad-upgrade



Figure 11: Potential SP2 Land Requirements

4.5 Wilton Town Centre Precinct Rezoning

As mentioned in the previous section, Wilton TC Precinct has been rezoned (30 September 2022) with an expectation to become a major retail and commercial centre.

It should be noted that a Rezoning Proposal (2017) is included in the Wilton TC Precinct Rezoning packages and it proposed a draft concept master plan for the Wilton Strategic Centre. In the draft concept master plan, a new roundabout with an approach directly connecting to Hume Motorway is proposed and the connection from Hume Motorway is crossing the Site, as shown in **Figure 12**. This road network configuration was also modelled by Parson Brinckerhoff as part of the Wilton Junction Development TMAP in 2014.





Figure 12: Draft Concept Master Plan for the Governor's Hill land incorporating the Wilton Strategic Centre

Noting that this Rezoning Proposal is dated in 2017 and the proposed new roundabout is not documented in either the Wilton TC Precinct Rezoning Finalisation Report or the WGA Infrastructure Phasing Plan, the Wilton 2040 – Infrastructure Delivery Map (Appendix B) supersedes this network configuration.

Further, noting the proposed preferred option of the DDI at Picton Road and Hume Motorway interchange, it is unlikely that the above design will progress further.

4.6 Future Transport Network

4.6.1 Public Bus Connectivity

Wilton – 20 Year Of Growth outlines the following critical infrastructure deliveries within proximity to the Site.

- Public transport interchange/bus depot within Wilton Town Centre, located north to the Site; and
- Transport infrastructure upgrade along Picton Road.

The location of the above, relative to the site, is demonstrated in the figure below.







Figure 13: Wilton – 20 years of growth, future bus planning

Further, reference is made to Wilton Junction Development TMAP which outlines detailed bus network analysis and staged introduction of future services to match the demand of the development of Wilton Junction. **Figure 14** to **Figure 17** demonstrates the proposed bus network for year 2021, 2024, 2031 and full development bus networks (assumed to correspond to the development demand at 2500 dwellings, 4000 dwellings, 7800 dwellings and 11,900 dwellings respectively).

However, it should be noted that the planning and implementation of bus services will ultimately be undertaken by TfNSW.





Figure 14: Wilton Junction Development TMAP - Initial bus network - 2021 (2,500 dwellings)



Figure 15: Wilton Junction Development TMAP - Proposed bus network - 2024 (4,000 dwellings)





Figure 16: Wilton Junction Development TMAP - Proposed bus network - 2031 (7,800 dwellings)



Figure 17: Wilton Junction Development TMAP - Proposed bus network - Full development (11,900 dwellings)



4.6.2 Active Transport Connectivity

Reference has been made to Wollondilly DCP – Volume 7 – Section 5.4.5, which outlines the following controls for infrastructure supporting active transport:

• A shared pathway shall be provided for each development along Picton Road in accordance with the Wollondilly Bike Plan prior to release of the Occupation Certificate.

Having regard for future provision, a review of the *Wilton Town Centre Precinct Rezoning package – Industry and Agency Submissions*, indicates that an access bridge over Hume Motorway is proposed to provide a key pedestrian and cycling access route from Bingara Gorge & South Wilton to the town centre and new K-12 school. This infrastructure provision is identified as the *critical top priorities for this new growth area to be funded via VPA to ensure delivery* by TfNSW.

The proposed Wilton Town Centre access bridge over the Hume Motorway outlines the following configurations:

- Two traffic lanes of 3.5m each, and
- One side active transport link of 5m (2.5m wide path for pedestrians and 1.5m cycle path with 0.5m for separation between the two modes).

The location of the proposed access bridge (R13 &- RL1) is demonstrated in the figure below.



Figure 18: Draft Wilton Town Centre Precinct Package - Infrastructure requirements (TfNSW submission)



Further, the figure below demonstrates proposed bicycle network in the vicinity of the Site outlined within the *Wollondilly Bike Plan Update*².



Figure 19: Wollondilly Bike Plan update 2019, Wilton Local Routes



² Wollondilly Bike Plan Update - <u>https://www.wollondilly.nsw.gov.au/assets/Uploads/Wollondilly-Bike-Plan-DRAFT-2020.pdf</u>

5 Traffic Assessment

5.1 Traffic Generation Rates

For the purpose of this traffic impact assessment, standard analysis and sensitivity analysis of the network have been prepared to assess the anticipated and worst-case network performance for the project case.

5.1.1 Standard Analysis

Ason Group conducted a number of surveys of industrial warehouses in the Western Sydney Employment Area (WSEA) for the purposes of the Mamre Road Precinct (MRP) modelling assessment, including:

- Mirvac Calibre;
- Huntingwood Drive;
- Eastern Creek Drive;
- Roussell Road;
- First Estate; and
- Sarah Andrews Close

The average trip generation rates for general warehousing developments found by the surveys are outlined below, and is hereafter referred to as the 'Standard Analysis' rates:

- AM Peak: 0.17 trips per 100m²
- PM Peak: 0.15 trips per 100m²
- Daily: 2.31 trips per 100m²

The Proposal seeks rezoning to support future general warehouses and logistics uses. Therefore, adoption of the above rates - aligned with the actual use of the Site - is considered appropriate.

5.1.2 Sensitivity Analysis

Notwithstanding the above, for the purpose of the sensitivity analysis, consideration has also been given to MRP trip generation rates endorsed by TfNSW for strategic assessment purposes, as follows:

- AM Peak: 0.23 trips per 100m²
- PM Peak: 0.78 trips per 100m²
- Daily: 2.91 trips per 100m²


It is noted that the above rates are endorsed MRP precinct-wide trip generation rates are conservatively high and were developed to take account of the uses that may be permitted under the IN1 zoning. Developments with a solely warehouse / industrial use would generate lesser volumes. Nevertheless, application of the above rates to the subject development is summarised in section below.

5.2 Development Traffic Generation

Development traffic generation with reference to the standard and sensitivity analysis trip generation rates, for the proposed GFA of 215,235m², are demonstrated in below.

TABLE 9 DEVELOPMENT TRIP GENERATION						
	GFA	AM Peak	PM Peak	Daily		
Standard Analysis	215,235	366	323	4,972		
Sensitivity Analysis		495	517	6,263		

It should be noted that a higher volume of AM and PM trips are adopted for SIDRA modelling based on total GFA of 237,600m² for conservativeness. The respective traffic volume generation during the AM and PM peak are presented in table below.

TABLE 10 TRIP GENERATION ADOPTED FOR SIDRA MODELLING						
	GFA	AM Peak	PM Peak	Daily		
Standard Analysis	237,600	404	356	5,489		
Sensitivity Analysis		546	570	6,914		

5.3 Development Trip Distribution and Assignment

The directional distribution and assignment of traffic generated by the Proposal has been assessed based on a number of factors, including:

- Configuration of the external road network in the immediate vicinity of the Site.
- Configuration of access route to the Site.
- Journey to Work Data.
- Existing traffic survey data.
- Strategic context, including consideration of upgrade to Picton Road.

Figure 20 and **Figure 21** detail the forecast distribution of traffic from the Site during the AM and PM peak periods in Project Opening year 2026, respectively.





Figure 20: Development Traffic Generation - Project Opening Year - AM Peak





Figure 21: Development Traffic Generation - Project Opening Year - PM Peak



5.4 Network Performance Assessment

5.4.1 Scenarios

Review of the wider strategic modelling assessments and consultation with TfNSW have been conducted in the process of developing the traffic modelling scenarios. A modelling methodology was issued to TfNSW on 19 August 2022. A response from TfNSW was issued on 8 February 2023 (TfNSW reference: SYD22/01343) in relation to the scoping report, of which the relevant comments have been considered in this TA.

It was noted that the strategic modelling – in relation to the Wollondilly Employment Lands Strategy – informing the Picton Road Upgrade design and Wilton Town Centre have considered development of the subject site(s) within that strategic modelling. Therefore, the longer-term impacts as a result of the Proposal are expected to be largely consistent with the strategic modelling provided the land use assumptions are consistent.

The remaining consideration is then in relation to staged delivery of infrastructure to support this development. This assessment has undertaken assessment of 'interim' conditions to ensure that reasonable upgrades can be provided to support the development should it precede that of the regional infrastructure being planned separately by others.

As a result of the above, an assessment of the following scenarios has been undertaken to inform the traffic impacts of the Masterplan development:

- Base Case 2022 Existing Baseline (see Section 3.6.6)
- Base Case 2026 Opening Year Baseline
- Project Case 2026 Baseline + Development
- Project Case with Upgrades 2026 Baseline + Wilton Park Rd / Picton Rd intersection upgrade + Development
- Project Case with Upgrades (Sensitivity Analysis) 2026 Baseline + Wilton Park Rd / Picton Rd intersection upgrade + Development (Sensitivity Analysis trip generation rates)

 Table 11 outlines detailed modelling input in relation to network geometry and traffic volume input for each scenario.



TABLE 11 ASSESSMENT SCENARIOS

Scenario			Inputs				
			Ge	ometry		Dovelopment	
#	Description	Year	Site Access	Wilton Park Rd / Picton Rd	Background Traffic	Traffic	
1	Existing Base Case	2022	Existing	Existing	As per traffic survey	n/a	
					Per Scenario 1		
2	Opening Year Base Case	2026	Existing	Existing	Additional background traffic growth of 1.5% p.a. for local and regional roads.	n/a	
3	Project Case	2026	Priority controlled (Give-Way)	Existing	Per Scenario 2	Full Masterplan Development ¹	
4	Project Case with Upgrades	2026	Priority controlled (Give-Way)	Roundabout	Per Scenario 2	Full Masterplan Development ¹	
5	Project Case with Upgrades (Sensitivity)	2026	Priority controlled (Give-Way)	Roundabout	Per Scenario 2	Full Masterplan Development	

Notes: 1) Based on 'standard analysis' rates outlined above

5.4.2 2026 Opening Year - Base Case Intersection Performance

The traffic flows on the surrounding network for 2026 base case scenarios are presented in the figures below. A review of the Wilton Junction Development TMAP³ was undertaken to establish the future forecast baseline volumes. On this basis, a linear growth rate of 1.5% per annum on major and local roads has been adopted.

³ Wilton Junction Development TMAP - <u>https://www.planning.nsw.gov.au/Plans-for-your-area/Priority-</u> <u>Growth-Areas-and-Precincts/Wilton/~/media/D068A10CF65F45D0A3C85E362CD50AEF.ashx</u>





Figure 22: 2026 Baseline Traffic Volumes - AM Peak



Figure 23: 2026 Baseline Traffic Volumes - PM Peak



Performance of the key intersections for the 2026 baseline is presented below. SIDRA outputs are provided in **Appendix C**.

TABLE 12 2026 BASELINE INTERSECTION PERFORMANCE						
Intersection	Control	Period	DoS	AVD	LOS	
Picton Rd /	Driority	AM	0.117	25.7	D	
Wilton Park Rd	Phonty	PM ¹	0.173	40.8	Е	
Hume Motorway /	Signalised	AM	0.798	26.6	С	
Picton Rd (W)		PM ¹	0.825	35.8	D	
Hume Motorway /	Signalised	AM	0.808	22.5	С	
Picton Rd (E)		PM ¹	0.945	43.7	D	

Note: 1) PM network calibrated with optimum cycle time of 120 second to ensure acceptable DoS and LOS

With reference to table above, the signalised intersections in the study network are expected to continue to operate with spare capacity and acceptable delays. The Picton Road / Wilton Park Road intersection is expected to operate at a LOS E (worst movement, SW RT) during the PM Peak of the future base case (without the development) due to the increase in background traffic volumes.

Project case performance of the project opening year with the existing study network geometry are modelled and summarized in the section below.

5.4.3 2026 Opening Year - Project Case Intersection Performance

Traffic flows on the surrounding network for 2026 project case scenario with existing network configurations are presented in the following figures below.





Figure 24: 2026 Baseline + Development Traffic Volumes - AM Peak





Figure 25: 2026 Baseline + Development Traffic Volumes - PM Peak



Table below summarises the performance of the 2026 Project Case scenario. Detailed SIDRA outputs are provided in Appendix C.

TABLE 13 2026 PROJECT CASE INTERSECTION PERFORMANCE						
Intersection	Control	Period	DoS	AVD	LOS	
Picton Rd /	Driority	AM	1.726	725.0	F	
Wilton Park Rd	Phonty	PM ¹	3.361	2164.3	F	
Hume Motorway /	Signalised	AM	0.813	25.3	С	
Picton Rd (W)		PM ¹	0.828	34.8	С	
Hume Motorway /	Signalised	AM	0.912	35.0	D	
Picton Rd (E)		PM ¹	1.148	118.1	F	
Wilton Park Rd /	Driority ²	AM	0.150	6.7	A	
Site Access	F HOIIty-	PM ¹	0.416	6.0	А	

Note: 1) PM network calibrated with optimum cycle time of 120 second to ensure acceptable DoS and LOS
2) The proposal provides for a roundabout to align with future road upgrades, however the modelling assessment has demonstrated that a minimum of a priority-controlled intersection is required.

With the additional development trips, the existing network geometry of Picton Road / Wilton Park Road intersection is expected to operate at LOS F (worst movement, SW RT) in the project case scenario during both AM and PM peak. The eastern intersection at Hume Motorway / Picton Road interchange is also expected to operate at LOS F during the PM peak.

5.4.4 Proposed Intersection Upgrade

As evident in Section 5.4.2 and 5.4.3, the existing network geometry at Picton Road / Wilton Park Road intersection will not be able to support the demand of background traffic volume and development traffic for the expected project opening year of 2026.

It is noted that the Infrastructure Plan envisages a realignment of Wilton Park Road to form a new signalised intersection with Picton Road. However, that realignment relies upon land to the north of the site to deliver. As such, it is not within the scope of works that can be delivered by this Proponent in isolation.

Therefore, an interim upgrade of the existing Picton Rd / Wilton Park Rd intersection is proposed to accommodate the projected traffic demand. Considerations of the existing network geometry and future network demand are given to form the layout of the proposed upgrade. Interim signals were considered, however the relevant "warrants" for signals are not met in 2026. As such, the indicative network geometry including proposed intersection upgrade – roundabout intersection – is provided in **Figure 26** below.





Figure 26: Proposed Network Geometry with Intersection Upgrade

5.4.5 2026 Project Case Intersection Performance – with Upgrades

Intersection performance of the 2026 Project Case – with Upgrades (roundabout intersection at Picton Road / Wilton Park Road) scenario is shown in **Table 14** below. SIDRA outputs are provided in Appendix C.

TABLE 14 2026 INTERSECTOIN PERFORMANCE PROJECT CASE - WITH UPGRADES						
Intersection	Control	Period	DoS	AVD	LOS	
Picton Rd /	Priority	AM	0.233	16.1	LOS B	
Wilton Park Rd	(Roundabout)	PM	0.499	25.1	LOS C	
Hume Motorway /	Signalised	AM	0.824	26.1	LOS C	
Picton Rd (W)		PM	0.897	38.4	LOS D	
Hume Motorway /	Signalised	AM	0.912	34.9	LOS C	
Picton Rd (E)		PM	1.036	69.9	LOS E	
Wilton Park Rd /	Priority	AM	0.144	6.7	LOS A	
Site Access	Priority	PM	0.237	6	LOS A	

A comparison of Table 13 and Table 14 demonstrates that the upgrade geometry at Picton Road / Wilton Park Road will be able to support the demand of background and development traffic, with the worst movements operating at LOS B and LOS C in the AM and PM peak respectively.



5.4.6 2026 Project Case Intersection Performance – with Upgrades (Sensitivity Analysis)

Further, a sensitivity analysis has been conducted with the higher development trip generation rates for the project opening year. It is important to note that the endorsed MRP precinct-wide trip generation rates are conservatively high, developments with a solely warehouse / industrial use would generate lesser volumes.

TABLE 15 2026 PROJECT CASE - WITH UPGRADES (SENSITIVITY ANALYSIS)					
Intersection	Control	Period	DoS	AVD	LOS
Picton Rd /	Driority	AM	0.308	16.4	В
Wilton Park Rd	Fliolity	PM	0.751	36.5	D
Hume Motorway /	Signalised	AM	0.834	26.1	С
Picton Rd (W)		PM	1.208	135.5	F
Hume Motorway /	Signalised	AM	0.953	45.4	D
Picton Rd (E)		PM	1.202	139.2	F
Wilton Park Rd /	Priority	AM	0.205	7.2	A
Site Access	Priority	PM	0.391	6.3	А

Performance of key intersections under this scenario are summarised in table below.

As shown, the upgraded Picton Road / Wilton Park Road intersection is expected to operate satisfactorily with the sensitivity analysis trip rates. It is noted that the Hume Motorway / Picton Road interchange is expected to operate at LOS F in the PM peak under sensitivity analysis in its existing geometry.

However, a precinct-wide strategic modelling – *Wollondilly Employment Lands Strategy* – which informs the Picton Road Upgrade design and Wilton Town Centre has been undertaken considering the development of the subject site(s). Therefore, it is expected that future upgrade of the interchange can accommodate the background growth and development traffic. Analysis of the future Hume Motorway / Picton Road upgrade will not be included in this report.



6 Parking Requirements

6.1 Car Parking Review

Formal design and assessment of car parking provisions is a detail to be assessed as part of a formal Development Applications (DA), further to the approval of the rezoning. However, consideration has been given to the relevant rates to inform the future design process.

A review of the parking requirements for the Site has been undertaken having regard for the planning controls as part of the Wollondilly DCP, as well as the TfNSW Guide. The relevant parking rates are presented below having regard to the Proposal.

Wollondilly DCP – Volume 7 – Industry and Infrastructure, Section 2.3 – provides the following generic car parking rate for "industrial development":

- Industrial development: 1 space per 70m² of net floor area with a min. of 3 spaces per industrial unit
- Ancillary office space: 1 space per 35m² of net floor area

These rates are relatively high in comparison to the provisions usually required and provided for typical large format warehousing and distribution facilities. Indeed, TfNSW actively promote adoption of lower car parking provisions with the aim to reduce reliance on private vehicles. It is noted that the proposal envisages to facilitate the development of warehouses, therefore, reference has been made to the TfNSW Guide for warehousing development which specifies the following parking rates:

- Warehouse: 1 space per 300m² of GFA
- Office: 1 space per 40m² of GFA

In the event that a site-specific DCP is to be prepared, then it is recommended that additional rates – aligned with that of the TfNSW Guide – be provided for industrial warehouse and distribution land uses to ensure a more sustainable level of car parking is provided as part of future DAs.

Regardless of the rates adopted, given the size and nature of the Site, it expected that a suitable provision of parking can be provided for.

6.2 Bicycle Parking

It is noted that Wollondilly DCP does not provide quantitative bicycle parking requirements for industrial development, however, Volume 7 – Section 5.4.5 of the DCP outlines the following controls for infrastructure supporting active transport:

• A shared pathway shall be provided for each development along Picton Road in accordance with the Wollondilly Bike Plan prior to release of the Occupation Certificate.

However, it is noted that Share Path and works within Picton Road shall be subject to SIC funded Picton Road Upgrade works and therefore expected to be provided by TfNSW, following completion of detailed design and funding commitments.

Of relevance, is the clear intent to improve and encourage cycling infrastructure in the area. The future DA process will consider further the appropriate level of cycle parking to serve the developments on the Site.



7 Preliminary Design Commentary

7.1 Road Design

7.1.1 Ultimate Arrangements

The detailed design of roads is ultimately the responsibility of others noting the varied ownership and responsibility over key roads in the locality. Nevertheless, consideration is given below to the most recently understood information for each of the roads relevant to the Site.

Picton Road

TfNSW are progressing detailed design of the Picton Road Upgrade corridor generally. That work is being progressed with detailed design anticipated to be complete by late 2023.

Wilton Park Road (and other local roads outside of the subject site)

Similarly, it is expected that Council will undertake the relevant design of Wilton Park Road realignment to determine the 'ultimate' road network design. Notwithstanding, MU Group has undertaken a preliminary review of the potential future public road layout, which is consistent with the strategic alignment provided within the Wilton 2040 – Infrastructure Delivery Map (Appendix B), as shown below.



Figure 27: Indicative Ultimate Road Network



Internal Roads

The Wilton Growth Area DCP 2021 outlines cross-sectional requirements for various roads. An extract of the *Typical Employment Area Local Street* is provided below, and it is assumed that any roads within the subject site shall conform to this standard, or provide further justification as part of a future DA if an alternative solution is proposed.



Figure 28: Wilton Growth Area DCP - Typical Employment Area Local Street



7.1.2 Internal Roads

To support this Proposal, MU Group has prepared concept drawings – provided separately – in relation to interim works required to support development. A reduced copy of the concept drawings is provided below for context.



Figure 29: Proposed Interim Upgrades (MU Group Concept Drawing)

7.2 On-site Design

7.2.1 Relevant Design Standards

The site access, car park and loading areas shall be designed to comply with the following relevant Australian Standards:

- AS2890.1:2004 Off-street car parking,
- AS2890.2:2018 Off-street commercial vehicle facilities,
- AS2890.3:2015 Bicycle parking
- AS2890.6:2009 Off-street parking for people with disabilities



It is expected that any detailed construction drawings in relation to the parking area would comply with these Standards. Furthermore, compliance with the above Standards would be expected to form a standard condition of consent to any future DA.

Further, internal road should be designed in line with Council's Street Design Guide⁴ and be consistent with provisions accompanying the planned local road network for the Site. **Figure 29** demonstrates the design requirements of industrial street as outlined in the Council's Street Design Guide.

7.2.2 Design Vehicle

Noting the nature of the proposed development, and the Site's location on strategic freight corridors, it is anticipated that detailed road design shall consider vehicles up to and including National Heavy Vehicle Regulator Performance Based Standards (PBS) Level 2B vehicles – including 30m A-doubles – and 'checked' for 36.5m PBS Level 3 Type A vehicles.

However, the design of each individual warehouse will be dependent on the size of warehouses and therefore subject to detailed assessment as part of future DAs. For example, the recent Mamre Road Precinct DCP (Penrith City Council) outlines the following 'design vehicle' selection as the size of industrial lots changes.

TABLE 16 INDICATIVE 'DESIGN VEHICLE' BY LOT SIZE					
Site Area	Design Vehicle ²				
< 1,500m²	Medium Rigid Vehicle (MRV) ²				
1,500 – 4,000m²	Heavy Rigid Vehicle (HRV) ²				
4,000 – 20,000m ²	Articulated Vehicle (AV) ²				
> 20,000m²	30m PBS Level 2B				

Note: 1) 'Design vehicle' selection shall be subject to future DA assessment 2) Per AS2890.2:2018 classification

⁴ Western Sydney Street Design Guidelines -



https://www.wollondilly.nsw.gov.au/assets/Documents/Planning-and-Development/Engineering-Design-and-Construction/Street-Design-Guides-September-2020.PDF

8 Summary and Conclusions

8.1 Context

The key findings of this Planning Proposal TA are summarised below:

- The Proposal seeks change to the existing planning controls, particularly in relation to land use:
 - Existing: RU2 Rural Landscape zone.
 - Proposed: IN1 General Industrial zone.
- The Proposal relates to proposed industrial development at 10, 20, 30 Berwick Road and 25, 45, 55, 75, 85 and 95 Wilton Park Road. The Proposal is currently in its initial master planning phase, the following assumptions are made in relation to traffic impact assessment:
 - A total Gross Floor Area (GFA) of approximately 237,600m², assuming a floor-space-ratio (FSR) of 0.48:1.
 - Site access at Wilton Park Road as the primary access point
 - At the time of preparation of this report, we anticipate a priority-controlled (Give-Way) intersection as the site access.

8.2 Key Findings

The key findings of this assessment are summarised below:

- Consistent with the rural context of the site currently, there is limited active and public transport in the locality.
- However, the broader Wilton Growth Area is undergoing renewal and additional public transport and active transport services and connections are planned for the area more broadly. This development in isolation is not expected to generate a demand for these changes; however, future staff will benefit from the improved accessibility.
- SIDRA modelling shows the existing intersections around the Site are generally operating with acceptable delays.
- Standard and sensitivity analysis of the Proposal have been conducted. The Proposal is forecasted to generate:
 - Standard analysis rates, adopting recent surveyed rates for similar development
 - AM peak 404 veh/hr
 - PM peak 356 veh/hr
 - Sensitivity analysis rates, adopting recent TfNSW rates for the Mamre Road Precinct
 - AM peak 546 veh/hr
 - PM peak 570 veh/hr
- A linear growth rate of 1.5% per annum on major and local roads have been adopted to establish the background traffic volume for project opening year, based on review of future forecast volumes from Wilton Town Centre transport studies.
- The longer terms impacts of the development and performance of the road network is subject to separate (ongoing) assessment. As such, this does not form part of the scope of this study.



- SIDRA analysis indicates that the signalised intersections in the study network are expected to continue to operate with acceptable delays with the additional background traffic up to 2026, being targeted as a potential 'opening year' for development of the subject site.
 - Picton Road / Wilton Park Road intersection is expected to operate at a LOS E (worst movement, SW RT) during the PM Peak of the future base case (without the development) due to the increase in background traffic volumes.
- Project case scenario at opening year (2026) indicates that:
 - Picton Road / Wilton Park Road intersection is expected to operate at LOS F (worst movement, SW RT) with the existing network geometry during both AM and PM peak.
 - The eastern intersection at Hume Motorway / Picton Road interchange is also expected to operate at LOS F during the PM peak.
- As such, it is considered that the existing network geometry at Picton Road / Wilton Park Road
 intersection will not be able to support the demand of background traffic volume and development traffic
 for the expected project opening year of 2026.
- An upgrade of the Picton Rd / Wilton Park Rd intersection to a new roundabout has been assessed and determined to be able accommodate the projected traffic demand and satisfactorily mitigate the above delays.

SIDRA analysis of the network with this upgrade demonstrates that the upgraded geometry at Picton Road / Wilton Park Road will be able to support the demand of background and development traffic, with the worst movements operating at LOS B and LOS C in the AM and PM peak respectively.

- Further, a sensitivity analysis has been conducted for the project opening year, using conservatively higher traffic generation rates. The upgraded Picton Road / Wilton Park Road intersection will continue to operate satisfactorily even under this conservative scenario.
- It is noted that the Hume Motorway / Picton Road interchange is expected to operate at LOS F in the PM peak under this sensitivity analysis in its existing geometry without further upgrades. However, this is considered acceptable, noting:
 - A precinct-wide strategic modelling for the Picton Road Upgrade and Wilton Town Centre rezoning is
 planning to upgrade this intersection in the future. That infrastructure planning has considered
 development of the subject site(s). Therefore, it is expected that future upgrade of the interchange
 can accommodate the background growth and development traffic.
 - The 'sensitivity' rates are high and therefore unlikely to be realised by future development. If required, future Development Applications can establish relative thresholds for development traffic to monitor development traffic generation to ensure that such volumes are not generated.

A summary of the modelled results for the Standard analysis is provided below.



Intersection	Control	Period	2022	Existing Case ¹	Base	202	26 Base C	ase ¹	2026	Project (Case ¹	2026 P l	roject Ca Jpgrades	se with
			DoS	AVD	LOS	DoS	AVD	LOS	DoS	AVD	LOS	DoS	AVD	LOS
Picton Rd /	Priority ¹	AM	0.100	23.3	С	0.117	25.7	D	1.726	725.0	F	0.233	16.1	В
Wilton Park Rd	(Roundabout ²)	PM	0.136	34.4	D	0.173	40.8	Е	3.361	2164.3	F	0.499	25.1	С
Hume Motorway /	Signalised	AM	0.756	25.9	С	0.798	26.6	С	0.813	25.3	С	0.824	26.1	С
Picton Rd (W)		PM	0.817	38.0	D	0.825	35.8	D	0.828	34.8	С	0.897	38.4	D
Hume Motorway /	Signalised	AM	0.746	21.0	С	0.808	22.5	С	0.912	35.0	D	0.912	34.9	С
Picton Rd (E)		PM	0.864	34.0	С	0.945	43.7	D	1.148	118.1	F	1.036	69.9	Е
Wilton Park Rd / Site Access	Priority	AM	-	-	-	-	-	-	0.150	6.7	А	0.144	6.7	A
	Priority	PM	-	-	-	-	-	-	0.416	6.0	А	0.237	6	A

TABLE 17 INTERSECTION PERFORMANCE SUMMARY – STANDARD ANALYSIS

Note: 1) Existing Picton Road / Wilton Park Road intersection configuration: priority-controlled

2) Upgraded Picton Road / Wilton Park Road intersection configuration: roundabout



8.3 Recommendations

Prior to delivery of the re-aligned Wilton Park Road envisaged by the Wilton 2040 plan, interim upgrades are recommended at the Wilton Park Road / Picton Road intersection to support development of the subject site.

The details of any upgrades shall be subject to further consultation and agreement from TfNSW; however it is our view that viable options

8.4 Conclusions

In summary, the Proposal is supportable on traffic planning grounds. The development has strategic merit in relation to the location of the site on the junction of two main freight corridors. It can also reduce the need for the future residential populations of the Wilton Growth Area to travel for work outside of the local area which has a number of strategic benefits in terms of potential for increased walking, cycling and reduced private vehicle usage.

Details of any upgrades to support the development shall be subject to further consultation and agreement from TfNSW; however it is our view that viable options are available and can be explored in further detail as part of future post-Gateway studies and/or as part of the subsequent Development Application process, at which time further detail regarding TfNSW and Council works and staging may be confirmed.



Appendix A. Concept Plan



WILTON INDUSTRIAL PARK MASTERPLAN (REV-E)





240

320

400m

160

Scale 1:8000 (Γ)

N

0m

80

Appendix B. Strategic Context



Wilton: Building a great new town

How critical infrastructure will be delivered in Wilton over 20 years



November 2020



The Wilton Growth Area is set to play a key part in the planned growth of Western Sydney, with an expected population of 40,000 and 15,000 new local jobs.

The Wilton 2040 plan outlines how Wilton will develop into a resilient, sustainable community with a diverse range of housing surrounded by green open spaces and protected bushland.

After 20 years of growth, Wilton will be centred around a thriving, liveable town centre providing jobs and services to the wider community. Travelling to and around Wilton will be easier than ever with improved transport links and a network of walking and cycle paths.

Delivery of key infrastructure is a crucial part of the planning for Wilton's growth. The Department of Planning, Industry and Environment is working closely with developers, state government agencies and Wollondilly Shire Council to ensure Wilton gets the infrastructure it needs, when it needs it.

Wilton 2040 - the story so far

In September 2018, the Department released the Wilton 2040 plan, which outlines the vision for the Wilton Growth Area. Since then, the South East Wilton and North Wilton precincts have been rezoned for urban development.

Planning for the Wilton Town Centre Precinct is underway. The proposal to rezone this precinct for urban development will be exhibited in November 2020.

The major town centre at Wilton will include regional facilities, providing services to Wilton and the wider Wollondilly area.

Transport for NSW is investigating new, rapid public transport options to connect communities in Wollondilly and the Southern Highlands with Sydney's electrified rail network. New routes to be explored will include Bargo, Picton and Wilton to Campbelltown.

Sydney Water Corporation (SWC) is developing a 30-year strategy for the whole Macarthur Region that will inform long-term servicing for Wilton, providing a holistic, integrated water management strategy.

What will be delivered

Key infrastructure identified in Wilton 2040 includes:

- upgrades to the Wilton Interchange and Picton Road, and new on- and off-ramps connecting to the Hume Motorway at North Wilton
- pedestrian and cycling networks connecting across Wilton
- a new kindergarten to Year 12 public school at Wilton Town Centre
- Land in South East Wilton and North Wilton for future education purposes
- playing fields adjoining new schools connected to a network of local parks
- public transport interchange in the Wilton Town Centre
- community and health care facilities in the Wilton Town Centre
- community facilities in local town centres in South East Wilton, North Wilton and West Wilton
- protection of conservation areas through preservation of land and a contribution to biodiversity measures (SIC)

Sydney Water Corporation is undertaking planning and design for water, wastewater and recycled water infrastructure needed to support growth in Wilton. The pace of planning, design and delivery work is guided by developers, and all interim infrastructure is at the developers' expense. Infrastructure to service the Wilton Growth Area will be planned, designed and delivered over three stages.

PAYING FOR INFRASTRUCTURE

Special Infrastructure Contributions Plan

Special Infrastructure Contribution plans (SICs) are a mechanism used by the NSW Government to ensure developers contribute to the cost of delivering the infrastructure required to support growing communities, coordinated in time with demand.

SIC contributions are either payable as a monetary contribution (developer pays the SIC rate) or by delivering works-in-kind (developer undertakes works based on the SIC infrastructure schedule).

The Department exhibited a draft SIC plan for the Wilton Growth Area in September 2018. Developers at Wilton have also either entered into or are negotiating Voluntary Planning Agreements (VPAs) with the Department to fund infrastructure in accordance with the draft Wilton SIC.

SICs ensure infrastructure funding and delivery are coordinated with development. The Wilton SIC will bring the Wilton 2040 plan to fruition.



Wollondilly Shire Council's Local Contributions Plan

Complementing the SIC Plan developed by the Department, Wollondilly Shire Council has adopted the Wollondilly Contributions Plan (Council CP), which was adopted by Council in May 2020.

The plan's proposed infrastructure schedule identified \$346 million in new local infrastructure to support Wilton's future growth. This includes:



for transport infrastructure, including 10km of new collector roads, road upgrades and intersection upgrades

for social infrastructure, including a leisure centre, community hub and three neighbourhood centres

\$212m

for open space development, including 17 local parks, 16 neighbourhood parks and \$4 million for plan administration and management.

Developers are required to contribute funds to Council under the Council CP to deliver local infrastructure items as development occurs. The exhibited Wilton SIC is levied on residential development and provides for developer contributions of \$771 million towards the cost of delivering required infrastructure to support the growing community of Wilton, including:

\$655m

Roads, intersections, bridges and cycleway improvements

\$65m Biodiversity conservation and regional open space

\$31.2m Education

\$5m Bus infrastructure

\$750,000 Health facilities

\$625,000 Emergency services

\$14m Planning and delivery



Timing of infrastructure

The Department has been working with Wollondilly Shire Council, state agencies and major landowners in Wilton to determine the staging and prioritisation of critical transport and social infrastructure in Wilton.

This assessment consists of four components: a background review of existing studies; review of landowner VPAs and staging plans; SIC infrastructure analysis; and SIC cashflow analysis. The key infrastructure items and timing of their delivery are shown in the maps and tables below.

Wilton 20 years of growth

т

DOUGLAS PARK

HUNENCORNE

Infrastructure delivered by 5 years

WILTON PARK ROAD

PICTONROAD

5

2, 3

7

1

Dwellings built: 5,425

Map ref.	Description	Contribution method
1	Pembroke/Picton Road Intersection upgrade	VPA
2	K-12 School site - land in Wilton Town Centre	VPA
3	Land in Wilton Town Centre for community facilities and open space/playing fields	Council CP
4	Hume Motorway northern on- and off-ramps	VPA
5	Local road and cycling access to Wilton Town Centre	Council CP
6	North Wilton to Wilton Town Centre Precinct boundary four-lane sub-arterial road with cycleway	SIC
7	Wilton Town Centre local road, pedestrian and cycling access across Hume Motorway (location indicative)	SIC
-	Biodiversity conservation - contributions and offsets as development occurs	SIC
-	Local parks, open space network and community centre - integrated into development	Council CP
-	Water reservoirs – 12ML potable water and 8ML recycled water, transfer and distribution mains, Transfer Water Pump Station and pressure reduction valves. Packaged Treatment Plants (if requested by developers)	Forward funded by developer; Reimbursed by SWC



20 years of growth

Infrastructure delivered by 10 years Estimated dwellings built: 9,784



20 years of growth

Infrastructure delivered by 15 years Estimated dwellings built: 12,702



- contributions and offsets as development occurs
- Local parks, open space network and community centre - integrated into development
- Water reservoirs 6ML potable water and 4ML recycled water, transfer and distribution mains, Sewer Pump Station, pressure and gravity mains, Pressure Catchment

Council CP Forward funded by developer; Reimbursed by SWC

in previous stages

Infrastructure items

Precinct Boundary

Core Area

Railway

Transport infrastructure

Wilton Major Town Centre

Wilton 20 years of growth

Π

DOUGLAS PARK

HUNENOTORNA

(24)

(25

Infrastructure delivered by 20 years Estimated dwellings built: 15,000

WILTON PARK ROAD

(27)

PICTON ROAD

23)

26

Map ref.	Description	Contribution method
23	West Wilton four-lane sub-arterial road with potential future Tahmoor Link (subject to Picton Road by-pass route)	SIC
24	Wilton North four-lane sub-arterial road (stage 3)	SIC
25	Land for future education purposes in Wilton North Precinct	VPA
26	Picton Road west of interchange widening to six lanes	SIC
27	West Wilton sub-arterial road river crossing (subject to Picton Road by-pass route)	SIC
28	Sub-arterial road Maldon-Dombarton rail line bridge crossing	SIC
-	Biodiversity conservation - contributions and offsets as development occurs	SIC
-	Local parks, open space network and community centre - integrated into development (including playing fields for Wilton North future educational purposes)	Council CP
-	Local parks and open space network - integrated into development	Council CP
-	SWC ultimate solution including local wastewater treatment plant and maximisation of recycled water	Forward funded by developer; Reimbursed by SWC

0	1 2 km N
	Dwellings built in this stage Dwellings built in previous stages
	Infrastructure items Transport infrastructure
	Wilton Major Town Centre Core Area
	Precinct Boundary

💻 Railway



Living and working in Wilton

Wilton will become a fully developed new town, with a diversity of dwellings and local job opportunities, set in a green and inviting place.

Well-situated local public schools in new residential neighbourhoods will encourage kids to ride or walk to school. Open space networks will add to the liveability of Wilton.

Retailing, community and commercial areas will deliver services at a scale ranging from neighbourhood and local centres to the major Wilton Town Centre, which will also draw people from wider Wollondilly, Greater Macarthur and the Illawarra.

State and local infrastructure will combine to be the glue that binds this new community together.





Call 1300 305 695

Visit planning.nsw.gov.au/wilton

Email planning@planning.nsw.gov.au



Department of Planning, Industry and Environment

Locked Bag 5022 Parramatta NSW 2124



Appendix C. SIDRA Modelling Results



MOVEMENT SUMMARY

V Site: 101 [IS01 - Wilton Park Rd / Picton Rd - AM - calibrated (Site Folder: 2022 Base - Signal Offset)]

■ Network: N101 [AM calibrated: Signal offset - User, Green Start (Network Folder: 2022 Base - Signal offset, PFP 60min)]

IS01 - Wilton Park Rd / Picton Rd Site Category: (None) Give-Way (Two-Way)

Vehicle Movement Performance														
Mov	Turn DEMAND		AND	ARR	IVAL	Deg.	Aver.	Level of	95% I	BACK OF	Prop.	Effective A	ver. No.	Aver.
ID	D FLOWS		FLOWS		Satn	Delay	Service	Q		Que	Stop	Cycles	Speed	
		l Iotai veh/h	HVJ %	veh/h	1 H V J 1 %	v/c	sec		Į ven. veh	Dist j m		Rate		km/h
SouthEast: Picton Rd (SE)														
21	L2	8	0.0	8	0.0	0.260	9.7	LOS A	0.2	1.4	0.04	0.02	0.04	70.0
22	T1	436	15.1	436	15.1	0.260	0.1	LOSA	0.2	1.4	0.04	0.02	0.04	78.9
23	R2	8	0.0	8	0.0	0.260	10.8	LOSB	0.2	1.4	0.04	0.02	0.04	72.4
Appr	oach	452	14.6	452	14.6	0.260	0.5	NA	0.2	1.4	0.04	0.02	0.04	78.6
North	nEast: A	erodrom	e Dr											
24	L2	1	0.0	1	0.0	0.009	7.8	LOS A	0.0	0.2	0.64	0.72	0.64	47.1
25	T1	1	0.0	1	0.0	0.009	18.2	LOS C	0.0	0.2	0.64	0.72	0.64	51.3
26	R2	1	0.0	1	0.0	0.009	22.4	LOS C	0.0	0.2	0.64	0.72	0.64	56.0
Appr	oach	3	0.0	3	0.0	0.009	16.2	LOS C	0.0	0.2	0.64	0.72	0.64	52.2
NorthWest: Picton Rd (NW)														
27	L2	3	0.0	3	0.0	0.155	7.0	LOS A	0.0	0.0	0.00	0.01	0.00	74.4
28	T1	552	10.5	552	10.5	0.155	0.1	LOS A	0.1	0.5	0.01	0.01	0.01	79.4
29	R2	5	20.0	5	20.0	0.155	9.7	LOS A	0.1	0.5	0.03	0.01	0.03	66.4
Appr	oach	560	10.5	560	10.5	0.155	0.2	NA	0.1	0.5	0.01	0.01	0.01	79.1
Sout	nWest: \	Wilton Pa	ark Rd ((SW)										
30	L2	5	0.0	5	0.0	0.100	8.7	LOS A	0.3	2.3	0.77	0.89	0.77	47.5
31	T1	1	0.0	1	0.0	0.100	19.0	LOS C	0.3	2.3	0.77	0.89	0.77	47.7
32	R2	19	0.0	19	0.0	0.100	23.3	LOS C	0.3	2.3	0.77	0.89	0.77	29.5
Appr	oach	25	0.0	25	0.0	0.100	20.2	LOS C	0.3	2.3	0.77	0.89	0.77	36.0
All Ve	ehicles	1040	12.0	1040	12.0	0.260	0.8	NA	0.3	2.3	0.05	0.04	0.05	77.4

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.

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MOVEMENT SUMMARY

Site: 101 [IS02a - Picton Rd / Hume Motorway (W) - AM - calibrated (Site Folder: 2022 Base - Signal Offset)]

■ Network: N101 [AM calibrated: Signal offset - User, Green Start (Network Folder: 2022 Base - Signal offset, PFP 60min)]

IS02 - Picton Rd / Hume Motorway (NB) Site Category: (None) Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEM/ FLO [Total veh/h	AND WS HV] %	ARRI FLO [Total veh/h	VAL WS HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Q [Veh. veh	BACK OF UEUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
South	nEast: F	Picton Ro	ad (SE)										
22 23	T1 R2	398 717	15.8 14.1	398 717	15.8 14.1	0.315 * 0.746	3.9 21.5	LOS A LOS C	4.6 26.0	36.8 204.1	0.20 0.63	0.18 0.81	0.20 0.63	49.2 39.8
Appro	bach	1115	14.7	1115	14.7	0.746	15.2	LOS B	26.0	204.1	0.48	0.59	0.48	40.6
NorthWest: Picton Road (NW)														
27	L2	343	7.9	343	7.9	0.195	10.4	LOS B	0.0	0.0	0.00	0.60	0.00	61.4
28	T1	246	16.3	246	16.3	*0.756	67.3	LOS E	8.2	65.4	1.00	0.86	1.16	14.9
Appro	bach	589	11.4	589	11.4	0.756	34.1	LOS C	8.2	65.4	0.42	0.71	0.49	36.3
SouthWest: Hume Motorwary (SW)														
30	L2	57	5.3	57	5.3	0.032	8.4	LOS A	0.0	0.0	0.00	0.60	0.00	60.8
32	R2	197	10.2	197	10.2	*0.747	67.1	LOS E	12.6	96.1	1.00	0.85	1.10	20.5
Appro	bach	254	9.1	254	9.1	0.747	53.9	LOS D	12.6	96.1	0.78	0.80	0.85	24.2
All Ve	hicles	1958	13.0	1958	13.0	0.756	25.9	LOS C	26.0	204.1	0.50	0.65	0.53	35.9

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 (Akcelik M3D).

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

* Critical Movement (Signal Timing)

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MOVEMENT SUMMARY

Site: 102 [IS02b - Picton Rd / Hume Motoway (E) - AM - calibrated (Site Folder: 2022 Base - Signal Offset)]

■ Network: N101 [AM calibrated: Signal offset - User, Green Start (Network Folder: 2022 Base - Signal offset, PFP 60min)]

IS02b - Picton Rd / Hume Motoway (SB) Site Category: (None) Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEM/ FLO [Total veh/h	AND WS HV] %	ARRI FLO [Total veh/h	IVAL WS I HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% E Ql [Veh. veh	BACK OF JEUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
South	nEast: F	victon Ro	ad (SE)										
21	L2	295	12.2	295	12.2	0.746	23.0	LOS C	35.8	278.9	0.72	0.73	0.72	55.3
22	T1	949	13.7	949	13.7	*0.746	20.2	LOS C	35.8	278.9	0.77	0.75	0.78	41.3
Appro	bach	1244	13.3	1244	13.3	0.746	20.8	LOS C	35.8	278.9	0.76	0.74	0.76	45.7
NorthEast: Hume Motorway (North Approach)						ach)								
24	L2	445	26.5	445	26.5	0.288	7.9	LOS A	0.0	0.0	0.00	0.59	0.00	58.6
26	R2	181	21.5	181	21.5	*0.738	67.3	LOS E	11.6	96.3	1.00	0.85	1.10	20.5
Appro	bach	626	25.1	626	25.1	0.738	25.1	LOS C	11.6	96.3	0.29	0.66	0.32	44.6
NorthWest: Picton Road (NW)														
28	T1	364	13.7	364	13.7	0.290	0.6	LOS A	0.6	4.9	0.03	0.03	0.03	78.4
29	R2	90	11.1	90	11.1	*0.680	77.1	LOS E	6.0	46.2	1.00	0.79	1.05	20.9
Appro	bach	454	13.2	454	13.2	0.680	15.8	LOS B	6.0	46.2	0.22	0.18	0.23	50.7
All Ve	hicles	2324	16.5	2324	16.5	0.746	21.0	LOS C	35.8	278.9	0.53	0.61	0.54	46.1

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)

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V Site: 101 [IS01 - Wilton Park Rd / Picton Rd - PM - calibrated (Site Folder: 2022 Base - Signal Offset)]

■ Network: N101 [PM calibrated: Signal offset - User, Green Start (Network Folder: 2022 Base - Signal offset, PFP 60min)]

IS01 - Wilton Park Rd / Picton Rd Site Category: (None) Give-Way (Two-Way)

Vehi	cle Mo	vement	t Perfo	rman	ce									
Mov	Turn	DEM	AND	ARR	IVAL	Deg.	Aver.	Level of	95% E	BACK OF	Prop.	Effective A	ver. No.	Aver.
ID		FLO	WS	FLC	WS	Satn	Delay	Service	Q	JEUE	Que	Stop	Cycles	Speed
		l Iotai veh/h	HVJ %	l Iota veh/h	IHVJ 1 %	v/c	sec		ر ven. veh	DIST J m		Rate		km/h
South	nEast: F	Picton Ro	l (SE)											
21	L2	21	0.0	21	0.0	0.446	7.2	LOS A	0.0	0.2	0.00	0.02	0.00	70.8
22	T1	803	8.3	803	8.3	0.446	0.0	LOS A	0.0	0.2	0.00	0.02	0.00	79.5
23	R2	1	0.0	1	0.0	0.446	10.3	LOS B	0.0	0.2	0.00	0.02	0.00	72.9
Appro	oach	825	8.1	825	8.1	0.446	0.2	NA	0.0	0.2	0.00	0.02	0.00	79.4
North	East: A	erodrom	e Dr											
24	L2	6	0.0	6	0.0	0.018	7.6	LOS A	0.1	0.4	0.49	0.63	0.49	51.1
25	T1	1	0.0	1	0.0	0.018	26.3	LOS D	0.1	0.4	0.49	0.63	0.49	54.5
26	R2	1	0.0	1	0.0	0.018	33.0	LOS D	0.1	0.4	0.49	0.63	0.49	58.7
Appro	oach	8	0.0	8	0.0	0.018	13.1	LOS B	0.1	0.4	0.49	0.63	0.49	53.1
North	West: F	Picton Ro	d (NW)											
27	L2	1	100.0	1	100. 0	0.118	8.8	LOS A	0.0	0.0	0.00	0.00	0.00	46.2
28	T1	399	10.0	399	10.0	0.118	0.4	LOS A	0.2	1.7	0.06	0.02	0.06	77.7
29	R2	10	10.0	10	10.0	0.118	12.9	LOS B	0.2	1.7	0.12	0.04	0.12	67.1
Appro	oach	410	10.2	410	10.2	0.118	0.7	NA	0.2	1.7	0.06	0.02	0.06	77.1
South	nWest: \	Wilton P	ark Rd (SW)										
30	L2	10	0.0	10	0.0	0.136	11.4	LOS B	0.4	3.0	0.85	0.94	0.85	43.7
31	T1	1	0.0	1	0.0	0.136	26.7	LOS D	0.4	3.0	0.85	0.94	0.85	43.8
32	R2	15	0.0	15	0.0	0.136	34.4	LOS D	0.4	3.0	0.85	0.94	0.85	25.5
Appro	bach	26	0.0	26	0.0	0.136	25.3	LOS D	0.4	3.0	0.85	0.94	0.85	35.6
All Ve	ehicles	1269	8.6	1269	8.6	0.446	1.0	NA	0.4	3.0	0.04	0.04	0.04	77.3

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.

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.

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Site: 101 [IS02a - Picton Rd / Hume Motorway (W) - PM - calibrated (Site Folder: 2022 Base - Signal Offset)]

■ Network: N101 [PM calibrated: Signal offset - User, Green Start (Network Folder: 2022 Base - Signal offset, PFP 60min)]

IS02 - Picton Rd / Hume Motorway (NB) Site Category: (None) Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehi	cle Mo	vement	Perfo	rmanc	e									
Mov ID	Turn	DEM/ FLO [Total veh/h	AND WS HV] %	ARRI FLO [Total veh/h	VAL WS HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% [Ql [Veh. veh	BACK OF JEUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
South	East: F	Picton Ro	ad (SE)										
22	T1	615	6.0	615	6.0	0.576	19.0	LOS B	23.4	172.1	0.66	0.60	0.66	19.9
23	R2	400	21.5	400	21.5	*0.807	55.1	LOS E	24.5	203.2	0.97	0.89	1.05	24.6
Appro	bach	1015	12.1	1015	12.1	0.807	33.2	LOS C	24.5	203.2	0.78	0.71	0.81	23.3
North	West: F	Picton Ro	oad (NV	V)										
27	L2	137	13.1	137	13.1	0.081	8.7	LOS A	0.0	0.0	0.00	0.60	0.00	59.7
28	T1	326	7.1	326	7.1	*0.790	55.1	LOS E	17.1	126.6	0.97	0.86	1.07	17.5
Appro	bach	463	8.9	463	8.9	0.790	41.4	LOS D	17.1	126.6	0.69	0.78	0.75	27.5
South	West:	Hume Mo	otorwar	y (SW)										
30	L2	142	7.0	142	7.0	0.081	9.1	LOS A	0.0	0.0	0.00	0.60	0.00	60.7
32	R2	361	11.4	361	11.4	*0.817	58.3	LOS E	23.1	177.6	0.99	0.91	1.10	22.7
Appro	bach	503	10.1	503	10.1	0.817	44.4	LOS D	23.1	177.6	0.71	0.82	0.79	27.7
All Ve	hicles	1981	10.9	1981	10.9	0.817	38.0	LOS D	24.5	203.2	0.74	0.76	0.79	25.6

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)

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Site: 101 [IS02b - Picton Rd / Hume Motoway (E) - PM - calibrated (Site Folder: 2022 Base - Signal Offset)]

■ Network: N101 [PM calibrated: Signal offset - User, Green Start (Network Folder: 2022 Base - Signal offset, PFP 60min)]

IS02b - Picton Rd / Hume Motoway (SB) Site Category: (None) Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehi	cle Mo	vement	Perfo	rmano	ce									
Mov ID	Turn	DEMA FLOV [Total veh/h	AND WS HV] %	ARR FLO [Tota veh/h	IVAL WS I HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% E QL [Veh. veh	ACK OF JEUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
South	nEast: F	Picton Ro	ad (SE)										
21	L2	226	11.5	226	11.5	0.864	45.7	LOS D	38.8	303.1	0.94	0.94	1.04	41.0
22	T1	725	14.8	725	14.8	*0.864	46.2	LOS D	38.8	303.1	0.96	0.97	1.12	26.1
Appro	bach	951	14.0	951	14.0	0.864	46.1	LOS D	38.8	303.1	0.96	0.97	1.10	30.3
North	East: H	lume Mot	torway	(North	Appro	ach)								
24	L2	586	15.4	586	15.4	0.354	7.8	LOS A	0.0	0.0	0.00	0.59	0.00	61.5
26	R2	352	7.1	352	7.1	*0.856	61.9	LOS E	24.2	179.5	1.00	0.94	1.19	21.7
Appro	bach	938	12.3	938	12.3	0.856	28.1	LOS C	24.2	179.5	0.37	0.72	0.45	43.3
North	West: F	Picton Ro	ad (NV	V)										
28	T1	557	10.1	557	10.1	0.590	18.1	LOS B	18.9	144.1	0.59	0.53	0.59	49.1
29	R2	60	8.3	60	8.3	*0.742	80.4	LOS F	4.1	31.1	1.00	0.79	1.12	20.4
Appro	bach	617	9.9	617	9.9	0.742	24.2	LOS C	18.9	144.1	0.63	0.55	0.64	43.2
All Ve	hicles	2506	12.3	2506	12.3	0.864	34.0	LOS C	38.8	303.1	0.66	0.77	0.74	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.

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)

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V Site: 101 [IS01 - Wilton Park Rd / Picton Rd - AM (Site Folder: 2026 Project Opening Base - calibrated PM (120s cycle time))]

■ Network: N101 [AM (Network Folder: 2026 Project Opening Base - calibrated PM (120s cycle time))]

IS01 - Wilton Park Rd / Picton Rd Site Category: (None) Give-Way (Two-Way)

Vehi	cle Mo	vement	Perfo	rmano	ce									
Mov ID	Turn	DEMA FLOV [Total	AND WS HV]	ARR FLO [Tota	IVAL WS I HV]	Deg. Satn	Aver. Delay	Level of Service	95% Q [Veh.	BACK OF UEUE Dist]	Prop. Que	Effective <i>F</i> Stop Rate	ver. No. Cycles	Aver. Speed
South	nEast: F	Picton Rd	70 (SE)	ven/n	70	V/C	Sec	_	ven	111	_	_	_	KIII/II
21 22 23	L2 T1 R2	8 462 8	0.0 15.2	8 462 8	0.0 15.2	0.275 0.275 0.275	10.1 0.2 11 3	LOS B LOS A	0.2 0.2 0.2	1.5 1.5 1.5	0.04 0.04 0.04	0.02	0.04 0.04	70.0 78.9 72.4
Appro	bach	478	14.6	478	14.6	0.275	0.5	NA	0.2	1.5	0.04	0.02	0.04	78.6
North	East: A	erodrom	e Dr											
24	L2	1	0.0	1	0.0	0.010	7.9	LOS A	0.0	0.2	0.68	0.74	0.68	45.6
25	11 R2	1 1	0.0	1 1	0.0	0.010	19.9 24.7		0.0	0.2	0.68	0.74	0.68	50.1 54.8
Appro	bach	3	0.0	3	0.0	0.010	17.5	LOS C	0.0	0.2	0.68	0.74	0.68	50.9
North	West: F	Picton Rd	I (NW)											
27	L2	3	0.0	3	0.0	0.164	7.0	LOS A	0.0	0.0	0.00	0.01	0.00	74.4
28	T1	585	10.4	585	10.4	0.164	0.1	LOS A	0.1	0.5	0.01	0.01	0.01	79.4
29 Appr	R2	5	20.0	5	20.0	0.164	10.0	LOS A	0.1	0.5	0.03	0.01	0.03	66.4 70.2
Аррі	Jach	555	10.5	555	10.5	0.104	0.2	INA.	0.1	0.5	0.01	0.01	0.01	13.2
South	West: \	Wilton Pa	ark Rd ((SW)										
30	L2	5	0.0	5	0.0	0.117	8.8	LOS A	0.4	2.7	0.80	0.90	0.80	45.8
31	T1	1	0.0	1	0.0	0.117	20.7	LOS C	0.4	2.7	0.80	0.90	0.80	46.0
32	R2	20	0.0	20	0.0	0.117	25.7	LOS D	0.4	2.7	0.80	0.90	0.80	27.7
Appro	bach	26	0.0	26	0.0	0.117	22.3	LOS C	0.4	2.7	0.80	0.90	0.80	33.9
All Ve	hicles	1100	12.0	1100	12.0	0.275	0.9	NA	0.4	2.7	0.05	0.04	0.05	77.3

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.

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.

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Project: C:\Users\AngelaJi\Ason Group\Ason Group Team Site - 2027\Projects\Modelling\P2027m01_2022 Base AM and PM Peak.sip9

Site: 101 [IS02a - Picton Rd / Hume Motorway (W) - AM (Site Folder: 2026 Project Opening Base - calibrated PM (120s cycle time))]

■ Network: N101 [AM (Network Folder: 2026 Project Opening Base - calibrated PM (120s cycle time))]

IS02 - Picton Rd / Hume Motorway (NB) Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehi	cle Mo	vement	Perfo	rmanc	e									
Mov ID	Turn	DEM/ FLO [Total veh/h	AND WS HV] %	ARRI FLO\ [Total veh/h	VAL NS HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Q [Veh. veh	BACK OF UEUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
South	East: F	Picton Ro	ad (SE)										
22 23	T1 R2	422 760	15.9 14.1	422 760	15.9 14.1	0.334 * 0.791	3.9 21.9	LOS A LOS C	4.9 27.0	39.1 212.2	0.20 0.67	0.18 0.83	0.20 0.67	49.3 39.5
Appro	bach	1182	14.7	1182	14.7	0.791	15.5	LOS B	27.0	212.2	0.51	0.60	0.51	40.4
North	West: F	Picton Ro	oad (NV	V)										
27 28	L2 T1	364 260	8.0 16.2	364 260	8.0 16.2	0.207 * 0.798	10.8 68.9	LOS B LOS E	0.0 8.8	0.0 70.3	0.00 1.00	0.60 0.89	0.00 1.22	61.3 14.6
Appro	bach	624	11.4	624	11.4	0.798	35.0	LOS D	8.8	70.3	0.42	0.72	0.51	36.0
South	West:	Hume M	otorwar	y (SW)										
30	L2	60	5.0	60	5.0	0.034	8.5	LOS A	0.0	0.0	0.00	0.60	0.00	60.8
32	R2	209	10.0	209	10.0	*0.792	69.2	LOS E	13.8	104.6	1.00	0.87	1.15	20.0
Appro	bach	269	8.9	269	8.9	0.792	55.7	LOS E	13.8	104.6	0.78	0.81	0.89	23.6
All Ve	hicles	2075	13.0	2075	13.0	0.798	26.6	LOS C	27.0	212.2	0.51	0.66	0.56	35.6

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)

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Site: 102 [IS02b - Picton Rd / Hume Motoway (E) - AM (Site Folder: 2026 Project Opening Base - calibrated PM (120s cycle time))]

■ Network: N101 [AM (Network Folder: 2026 Project Opening Base - calibrated PM (120s cycle time))]

IS02b - Picton Rd / Hume Motoway (SB) Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehio	cle Mo	vement	Perfo	rmance									
Mov ID	Turn	DEM/ FLO [Total veh/h	AND WS HV] %	ARRIVAL FLOWS [Total HV veh/h %	Deg. Satn] v/c	Aver. Delay sec	Level of Service	95% B QU [Veh. veh	ACK OF EUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
South	East: F	Picton Ro	ad (SE)									
21	L2	313	12.1	313 12.1	0.801	24.2	LOS C	41.7	324.9	0.78	0.77	0.78	54.3
22	T1	1006	13.7	1006 13.7	* 0.801	22.9	LOS C	41.7	324.9	0.82	0.80	0.85	38.9
Appro	bach	1319	13.3	1319 13.3	8 0.801	23.2	LOS C	41.7	324.9	0.81	0.80	0.83	43.6
North	East: H	lume Mo	torway	(North App	oach)								
24	L2	472	26.5	472 26.5	0.305	7.9	LOS A	0.0	0.0	0.00	0.59	0.00	58.6
26	R2	192	21.4	192 21.4	* 0.782	69.3	LOS E	12.6	104.6	1.00	0.87	1.15	20.0
Appro	bach	664	25.0	664 25.0	0.782	25.7	LOS C	12.6	104.6	0.29	0.67	0.33	44.3
North	West: F	Picton Ro	oad (NV	V)									
28	T1	386	13.7	386 13.7	0.308	0.6	LOS A	0.7	5.4	0.03	0.03	0.03	78.4
29	R2	96	11.5	96 11.5	* 0.808	79.9	LOS E	6.6	50.6	1.00	0.82	1.15	20.4
Appro	bach	482	13.3	482 13.3	8 0.808	16.4	LOS B	6.6	50.6	0.22	0.19	0.25	50.0
All Ve	hicles	2465	16.5	2465 16.5	5 0.808	22.5	LOS C	41.7	324.9	0.55	0.64	0.58	44.8

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)

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V Site: 101 [IS01 - Wilton Park Rd / Picton Rd - PM (Site Folder: 2026 Project Opening Base - calibrated PM (120s cycle time))]

Network: N101 [PM - 120 optimum cycle time (Network Folder: 2026 Project Opening Base - calibrated PM (120s cycle time))]

IS01 - Wilton Park Rd / Picton Rd Site Category: (None) Give-Way (Two-Way)

Vehi	cle Mo	vement	t Perfo	rman	ce									
Mov ID	Turn	DEM FLO [Total	AND WS HV]	ARR FLO [Tota	IVAL WS I HV]	Deg. Satn	Aver. Delay	Level of Service	95% E Ql [Veh.	BACK OF JEUE Dist]	Prop. Que	EffectiveA Stop Rate	ver. No. Cycles	Aver. Speed
South	East: E	veh/h Picton Pc	% 4 (SE)	veh/h	1 %	V/C	sec		veh	m				km/h
Sout	IEASI. F		I (SE)											
21	L2	22	0.0	22	0.0	0.473	7.2	LOS A	0.0	0.2	0.00	0.02	0.00	70.8
22	T1	851	8.3	851	8.3	0.473	0.0	LOS A	0.0	0.2	0.00	0.02	0.00	79.5
23	R2	1	0.0	1	0.0	0.473	10.8	LOS B	0.0	0.2	0.00	0.02	0.00	72.9
Appro	bach	874	8.1	874	8.1	0.473	0.2	NA	0.0	0.2	0.00	0.02	0.00	79.4
North	East: A	erodrom	e Dr											
24	L2	6	0.0	6	0.0	0.020	7.6	LOS A	0.1	0.5	0.53	0.63	0.53	49.4
25	T1	1	0.0	1	0.0	0.020	30.3	LOS D	0.1	0.5	0.53	0.63	0.53	53.2
26	R2	1	0.0	1	0.0	0.020	38.6	LOS E	0.1	0.5	0.53	0.63	0.53	57.6
Appro	bach	8	0.0	8	0.0	0.020	14.4	LOS B	0.1	0.5	0.53	0.63	0.53	51.5
North	West: F	Picton Ro	d (NW)											
27	L2	1	100.0	1	100. 0	0.126	8.8	LOS A	0.0	0.0	0.00	0.00	0.00	46.2
28	T1	423	9.9	423	9.9	0.126	0.4	LOS A	0.3	2.1	0.06	0.02	0.06	77.4
29	R2	11	9.1	11	9.1	0.126	13.7	LOS B	0.3	2.1	0.14	0.04	0.14	66.9
Appro	bach	435	10.1	435	10.1	0.126	0.8	NA	0.3	2.1	0.07	0.02	0.07	76.7
South	nWest: \	Wilton Pa	ark Rd (SW)										
30	L2	11	0.0	11	0.0	0.173	12.3	LOS B	0.5	3.8	0.87	0.96	0.89	41.1
31	T1	1	0.0	1	0.0	0.173	31.2	LOS D	0.5	3.8	0.87	0.96	0.89	41.2
32	R2	16	0.0	16	0.0	0.173	40.8	LOS E	0.5	3.8	0.87	0.96	0.89	23.0
Appro	bach	28	0.0	28	0.0	0.173	29.2	LOS D	0.5	3.8	0.87	0.96	0.89	33.0
All Ve	hicles	1345	8.6	1345	8.6	0.473	1.1	NA	0.5	3.8	0.04	0.04	0.05	77.0

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.

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Project: C:\Users\AngelaJi\Ason Group\Ason Group Team Site - 2027\Projects\Modelling\P2027m01_2022 Base AM and PM Peak.sip9

Site: 101 [IS02a - Picton Rd / Hume Motorway (W) - PM (Site Folder: 2026 Project Opening Base - calibrated PM (120s cycle time))]

Network: N101 [PM - 120 optimum cycle time (Network Folder: 2026 Project Opening Base - calibrated PM (120s cycle time))]

IS02 - Picton Rd / Hume Motorway (NB)

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

Vehi	cle Mo	vement	Perfo	rmanc	e:									
Mov ID	Turn	DEM/ FLOV [Total veh/h	AND WS HV] %	ARRI FLO [Total veh/h	VAL WS HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% [Ql [Veh. veh	BACK OF JEUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
South	nEast: F	Picton Ro	ad (SE)										
22	T1	652	6.0	652	6.0	0.604	17.6	LOS B	22.9	168.4	0.66	0.60	0.66	21.1
23	R2	424	21.5	424	21.5	*0.810	49.6	LOS D	23.6	195.7	0.96	0.89	1.03	26.2
Appro	bach	1076	12.1	1076	12.1	0.810	30.2	LOS C	23.6	195.7	0.78	0.71	0.80	24.7
North	West: I	Picton Ro	oad (NV	V)										
27	L2	145	13.1	145	13.1	0.085	8.8	LOS A	0.0	0.0	0.00	0.60	0.00	59.7
28	T1	345	7.0	345	7.0	*0.825	54.4	LOS D	17.6	130.6	0.98	0.89	1.12	17.7
Appro	bach	490	8.8	490	8.8	0.825	40.9	LOS D	17.6	130.6	0.69	0.80	0.79	27.7
South	West:	Hume Mo	otorwar	y (SW)										
30	L2	151	7.3	151	7.3	0.086	9.3	LOS A	0.0	0.0	0.00	0.60	0.00	60.7
32	R2	382	11.3	382	11.3	*0.818	55.6	LOS E	22.7	174.3	1.00	0.90	1.11	23.5
Appro	bach	533	10.1	533	10.1	0.818	42.5	LOS D	22.7	174.3	0.71	0.82	0.80	28.6
All Ve	hicles	2099	10.8	2099	10.8	0.825	35.8	LOS D	23.6	195.7	0.74	0.76	0.80	26.6

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)

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Site: 101 [IS02b - Picton Rd / Hume Motoway (E) - PM (Site Folder: 2026 Project Opening Base - calibrated PM (120s cycle time))]

Network: N101 [PM - 120 optimum cycle time (Network Folder: 2026 Project Opening Base - calibrated PM (120s cycle time))]

IS02b - Picton Rd / Hume Motoway (SB)

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

Vehi	cle Mo	vement	Perfo	rmano	ce									
Mov ID	Turn	DEMA FLOV [Total veh/h	AND WS HV] %	ARR FLO [Tota veh/h	IVAL WS I HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% E Ql [Veh. veh	BACK OF JEUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
South	nEast: F	Picton Ro	ad (SE)										
21	L2	240	11.7	240	11.7	0.944	67.1	LOS E	52.1	407.1	1.00	1.13	1.31	33.1
22	T1	768	14.7	768	14.7	*0.944	67.1	LOS E	52.1	407.1	1.00	1.13	1.38	20.2
Appro	bach	1008	14.0	1008	14.0	0.944	67.1	LOS E	52.1	407.1	1.00	1.13	1.36	23.7
North	East: H	lume Mot	torway	(North	Appro	ach)								
24	L2	621	15.3	621	15.3	0.375	7.8	LOS A	0.0	0.0	0.00	0.59	0.00	61.5
26	R2	374	7.2	374	7.2	*0.945	82.5	LOS F	29.3	217.5	1.00	1.01	1.44	17.5
Appro	bach	995	12.3	995	12.3	0.945	35.9	LOS D	29.3	217.5	0.38	0.75	0.54	38.9
North	West: F	Picton Ro	ad (NV	V)										
28	T1	590	10.0	590	10.0	0.614	13.7	LOS B	16.5	125.6	0.52	0.47	0.52	54.2
29	R2	63	7.9	63	7.9	*0.717	74.4	LOS E	4.0	30.0	1.00	0.78	1.11	21.5
Appro	bach	653	9.8	653	9.8	0.717	19.5	LOS B	16.5	125.6	0.57	0.50	0.58	47.3
All Ve	hicles	2656	12.3	2656	12.3	0.945	43.7	LOS D	52.1	407.1	0.66	0.83	0.86	33.0

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.

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)

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V Site: 101 [IS01 - Wilton Park Rd / Picton Rd - PM (Site Folder: 2026 Project Case - (Site access - giveway, WPR - existing))]

Network: N101 [PM - 120 optimum cycle time (Network Folder: 2026 Project Case - (Site access - giveway, WPR existing))]

IS01 - Wilton Park Rd / Picton Rd Site Category: (None) Give-Way (Two-Way)

Vehi	cle Mo	vement	t Perfo	rman	ce									
Mov ID	Turn	DEM FLO [Total	AND WS HV]	ARR FLO [Tota	IVAL WS I HV]	Deg. Satn	Aver. Delay	Level of Service	95% B QU [Veh.	ACK OF IEUE Dist]	Prop. Que	EffectiveA Stop Rate	ver. No. Cycles	Aver. Speed
	_	veh/h	%	veh/h	· %	v/c	sec		veh	m				km/h
South	nEast: F	Picton Ro	l (SE)											
21	L2	109	36.7	109	36.7	0.535	7.7	LOS A	0.0	0.3	0.00	0.07	0.00	77.0
22	T1	851	8.3	851	8.3	0.535	0.0	LOS A	0.0	0.3	0.00	0.07	0.00	78.8
23	R2	1	0.0	1	0.0	0.535	11.4	LOS B	0.0	0.3	0.00	0.07	0.00	72.3
Appro	bach	961	11.6	961	11.6	0.535	0.9	NA	0.0	0.3	0.00	0.07	0.00	78.7
North	East: A	erodrom	e Dr											
24	L2	6	0.0	6	0.0	0.025	7.8	LOS A	0.1	0.5	0.60	0.66	0.60	47.0
25	T1	1	0.0	1	0.0	0.025	38.8	LOS E	0.1	0.5	0.60	0.66	0.60	47.0
26	R2	1	0.0	1	0.0	0.025	44.9	LOS E	0.1	0.5	0.60	0.66	0.60	55.9
Appro	bach	8	0.0	8	0.0	0.025	16.3	LOS C	0.1	0.5	0.60	0.66	0.60	48.7
North	West: F	Picton Ro	d (NW)											
27	L2	1	100.0	1	100. 0	0.148	8.8	LOS A	0.0	0.0	0.00	0.00	0.00	46.2
28	T1	423	9.9	423	9.9	0.148	1.4	LOS A	0.8	6.4	0.16	0.05	0.16	73.3
29	R2	31	6.5	31	6.5	0.148	15.3	LOS C	0.8	6.4	0.43	0.14	0.43	64.1
Appro	bach	455	9.9	455	9.9	0.148	2.3	NA	0.8	6.4	0.18	0.06	0.18	72.4
South	West: \	Wilton Pa	ark Rd (SW)										
30	L2	70	1.4	70	1.4	3.361	2151.3	LOS F	131.9	1046.4	1.00	3.92	14.91	1.5
31	T1	1	0.0	1	0.0	3.361	2158.3	LOS F	131.9	1046.4	1.00	3.92	14.91	1.5
32	R2	205	20.5	205	20.5	3.361	2168.7	LOS F	131.9	1046.4	1.00	3.92	14.91	0.7
Appro	bach	276	15.6	276	15.6	3.361	2164.3	LOS F	131.9	1046.4	1.00	3.92	14.91	1.0
All Ve	hicles	1700	11.7	1700	11.7	3.361	352.6	NA	131.9	1046.4	0.21	0.70	2.47	6.3

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.

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.

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V Site: 101 [IS01 - Wilton Park Rd / Picton Rd - AM (Site Folder: 2026 Project Case - (Site access - giveway, WPR - existing))]

■ Network: N101 [AM (Network Folder: 2026 Project Case - (Site access - giveway, WPR - existing))]

IS01 - Wilton Park Rd / Picton Rd Site Category: (None) Give-Way (Two-Way)

Vehi	cle Mo	vement	Perfo	rmano	ce									
Mov ID	Turn	DEMA FLO [Total veh/h	AND WS HV] %	ARR FLO [Total veh/h	IVAL WS I HV]	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Q [Veh. veh	BACK OF UEUE Dist] m	Prop. Que	Effective <i>F</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
South	nEast: F	Picton Rd	(SE)											
21 22 23 Appro	L2 T1 R2 pach	216 462 8 686	23.6 15.2 0.0 17.6	216 462 8 686	23.6 15.2 0.0 17.6	0.407 0.407 0.407 0.407	7.7 0.2 12.5 2.7	LOS A LOS A LOS B NA	0.3 0.3 0.3 0.3	2.5 2.5 2.5 2.5	0.04 0.04 0.04 0.04	0.20 0.20 0.20 0.20	0.05 0.05 0.05 0.05	69.1 75.2 69.3 74.1
North	East: A	erodrom	e Dr											
24 25 26	L2 T1 R2	1 1 1	0.0 0.0 0.0	1 1 1	0.0 0.0 0.0	0.015 0.015 0.015	8.2 33.5 28.7	LOS A LOS D	0.0 0.0 0.0	0.3 0.3 0.3	0.78 0.78 0.78	0.82 0.82 0.82	0.78 0.78 0.78	39.7 39.7 50.3
Appro	bach	3	0.0	3	0.0	0.015	23.4	LOS C	0.0	0.3	0.78	0.82	0.78	44.4
North	West: I	Picton Rd	I (NW)											
27 28 29	L2 T1 R2	3 585 69	0.0 10.4 2.9	3 585 69	0.0 10.4 2.9	0.205 0.205 0.205	7.0 0.8 11.3	LOS A LOS A LOS B	0.0 1.0 1.0	0.0 7.5 7.5	0.00 0.15 0.42	0.01 0.08 0.20	0.00 0.15 0.42	74.4 74.4 66.9
Appro	bacn	657	9.6	657	9.6	0.205	2.0	NA	1.0	7.5	0.18	0.09	0.18	73.6
South	West:	Wilton Pa	ark Rd ((SW)										
30	L2	33	30.3	33	30.3	1.726	694.6	LOS F	48.8	433.3	1.00	3.09	10.31	4.4
31 32	11 R2	1 126	0.0 31.7	1 126	0.0 31.7	1.726 1.726	705.8 725.0	LOS F LOS F	48.8 48.8	433.3 433.3	1.00 1.00	3.09 3.09	10.31 10.31	4.4 2.2
Appro	bach	160	31.3	160	31.3	1.726	718.6	LOS F	48.8	433.3	1.00	3.09	10.31	2.7
All Ve	hicles	1506	15.5	1506	15.5	1.726	78.5	NA	48.8	433.3	0.20	0.46	1.20	20.0

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.

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Project: C:\Users\AngelaJi\Ason Group\Ason Group Team Site - 2027\Projects\Modelling\P2027m01_2022 Base AM and PM Peak.sip9

Site: 101 [IS02a - Picton Rd / Hume Motorway (W) - AM (Site Folder: 2026 Project Case - (Site access - giveway, WPR - existing))]

■ Network: N101 [AM (Network Folder: 2026 Project Case - (Site access - giveway, WPR - existing))]

IS02 - Picton Rd / Hume Motorway (NB) Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehi	cle Mo	vement	Perfo	rmanc	e									
Mov ID	Turn	DEM/ FLO [Total veh/h	AND WS HV] %	ARRI FLO [Total veh/h	VAL WS HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Q [Veh. veh	BACK OF UEUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
South	nEast: F	Picton Ro	ad (SE)										
22 23	T1 R2	582 760	19.8 14.1	582 760	19.8 14.1	0.471 * 0.813	5.2 22.9	LOS A LOS C	9.3 27.0	76.2 212.2	0.28 0.70	0.25 0.84	0.28 0.71	43.7 38.9
Appro	bach	1342	16.5	1342	16.5	0.813	15.2	LOS B	27.0	212.2	0.52	0.58	0.52	39.5
North	West: I	Picton Ro	oad (NV	V)										
27 28	L2 T1	420 310	10.7 21.3	391 286	9.8 19.6	0.225 * 0.767	11.0 66.0	LOS B LOS E	0.0 9.5	0.0 77.5	0.00 1.00	0.60 0.88	0.00 1.16	60.8 15.2
Appro	bach	730	15.2	677 ^{N1}	13.9	0.767	34.2	LOS C	9.5	77.5	0.42	0.71	0.49	36.3
South	West:	Hume Mo	otorwar	y (SW)										
30	L2	107	4.7	107	4.7	0.060	9.1	LOS A	0.0	0.0	0.00	0.60	0.00	60.8
32	R2	209	10.0	209	10.0	*0.792	69.2	LOS E	13.8	104.6	1.00	0.87	1.15	20.0
Appro	bach	316	8.2	316	8.2	0.792	48.9	LOS D	13.8	104.6	0.66	0.78	0.76	26.1
All Ve	hicles	2388	15.0	2335 ^N	15.4	0.813	25.3	LOS C	27.0	212.2	0.51	0.65	0.54	35.7

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.

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.

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Site: 102 [IS02b - Picton Rd / Hume Motoway (E) - AM (Site Folder: 2026 Project Case - (Site access - giveway, WPR - existing))]

■ Network: N101 [AM (Network Folder: 2026 Project Case - (Site access - giveway, WPR - existing))]

IS02b - Picton Rd / Hume Motoway (SB) Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehi	cle Mo	vement	t Perfo	rmanc	e:									
Mov ID	Turn	DEM/ FLO [Total veh/h	AND WS HV] %	ARRI FLO [Total veh/h	VAL WS HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Q [Veh. veh	BACK OF UEUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
South	nEast: F	Picton Ro	oad (SE)										
21 22	L2 T1	313 1112	12.1 15.7	313 1112	12.1 15.7	0.909 * 0.909	40.8 42.8	LOS D LOS D	63.7 63.7	501.6 501.6	0.94 0.96	0.96 1.00	1.03 1.13	43.6 27.4
Appro	bach	1425	14.9	1425	14.9	0.909	42.4	LOS D	63.7	501.6	0.95	0.99	1.11	31.6
North	East: H	lume Mo	torway	(North	Appro	ach)								
24 26	L2 R2	472 246	26.5 21 5	472 246	26.5 21.5	0.305 * 0.912	7.9 82.2	LOS A	0.0 18.4	0.0 153.0	0.00	0.59 0.95	0.00 1.37	58.6 17 5
Appro	bach	718	24.8	718	24.8	0.912	33.4	LOS C	18.4	153.0	0.34	0.71	0.47	39.6
North	West: F	Picton Ro	oad (NV	V)										
28	T1	427	17.1	407	15.9	0.337	0.6	LOS A	0.8	6.0	0.03	0.03	0.03	78.2
29	R2	105	14.3	100	13.2	* 0.854	81.5	LOS F	7.0	54.3	1.00	0.84	1.21	20.1
Appro	bach	532	16.5	508 ^{N1}	15.4	0.854	16.6	LOS B	7.0	54.3	0.22	0.19	0.26	49.7
All Ve	hicles	2675	17.9	2651 ^N	18.1	0.912	35.0	LOS D	63.7	501.6	0.65	0.76	0.77	36.4

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.

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V Site: 101 [IS03 - Site access as Givey-Way - AM (Site Folder: 2026 Project Case - (Site access - giveway, WPR - existing))]

■ Network: N101 [AM (Network Folder: 2026 Project Case - (Site access - giveway, WPR - existing))]

IS03 - Site access as Givey-Way - AM Site Category: (None) Give-Way (Two-Way)

Vehi	cle Mo	vement	Perfo	rman	се									
Mov ID	Turn	DEM/ FLOV [Total veh/h	AND WS HV] %	ARR FLO [Tota veh/h	IVAL WS I HV] 1 %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% E QL [Veh. veh	ACK OF JEUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
South	: Site A	Access												
1 3	L2 R2	1 133	0.0 37.6	1 133	0.0 37.6	0.150 0.150	5.5 6.7	LOS A LOS A	0.5 0.5	4.7 4.7	0.14 0.14	0.61 0.61	0.14 0.14	50.5 40.1
Appro	bach	134	37.3	134	37.3	0.150	6.7	LOS A	0.5	4.7	0.14	0.61	0.14	40.3
East:	Wilton	Park Roa	ad (E)											
4	L2	271	19.2	271	19.2	0.166	5.8	LOS A	0.0	0.0	0.00	0.57	0.00	48.4
5	T1	1	0.0	1	0.0	0.166	0.0	LOS A	0.0	0.0	0.00	0.57	0.00	54.7
Appro	bach	272	19.1	272	19.1	0.166	5.8	NA	0.0	0.0	0.00	0.57	0.00	48.4
West:	Wilton	Park Ro	ad (W)											
11	T1	1	0.0	1	0.0	0.001	0.7	LOS A	0.0	0.0	0.33	0.27	0.33	53.0
12	R2	1	0.0	1	0.0	0.001	6.3	LOS A	0.0	0.0	0.33	0.27	0.33	52.2
Appro	bach	2	0.0	2	0.0	0.001	3.5	NA	0.0	0.0	0.33	0.27	0.33	52.5
All Ve	hicles	408	25.0	408	25.0	0.166	6.1	NA	0.5	4.7	0.05	0.58	0.05	47.2

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.

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Site: 101 [IS02a - Picton Rd / Hume Motorway (W) - PM (Site Folder: 2026 Project Case - (Site access - giveway, WPR - existing))]

Network: N101 [PM - 120 optimum cycle time (Network Folder: 2026 Project Case - (Site access - giveway, WPR existing))]

IS02 - Picton Rd / Hume Motorway (NB)

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

Vehi	cle Mo	vement	Perfo	rmance	e									
Mov ID	Turn	DEM/ FLO [Total veh/h	AND WS HV] %	ARRIN FLOV [Total I veh/h	/AL VS HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% [Ql [Veh. veh	BACK OF JEUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
South	nEast: F	Picton Ro	ad (SE)										
22 23	T1 R2	686 424	10.3 21.5	683 ⁻ 422 2	10.4 21.5	0.641 * 0.828	17.3 48.6	LOS B LOS D	25.9 23.4	197.6 193.9	0.71 0.94	0.65 0.89	0.71 1.03	21.4 26.5
Appro	bach	1110	14.6	1106 ^N	14.6	0.828	29.2	LOS C	25.9	197.6	0.80	0.74	0.83	24.9
North	West: F	Picton Ro	oad (NV	V)										
27	L2	204	18.6	159 <i>^</i>	15.7	0.095	8.8	LOS A	0.0	0.0	0.00	0.59	0.00	59.0
28	T1	476	10.1	376	8.3	*0.814	52.1	LOS D	18.9	142.0	0.98	0.88	1.09	18.3
Appro	bach	680	12.6	535 ^{N1}	10.5	0.814	39.2	LOS D	18.9	142.0	0.69	0.80	0.77	28.4
South	nWest:	Hume Mo	otorwar	y (SW)										
30	L2	168	11.3	168 ⁻	11.3	0.099	9.6	LOS A	0.0	0.0	0.00	0.60	0.00	60.7
32	R2	382	11.3	382 ⁻	11.3	*0.817	55.9	LOS E	22.7	174.0	1.00	0.90	1.11	23.4
Appro	bach	550	11.3	550 ⁻	11.3	0.817	41.8	LOS D	22.7	174.0	0.69	0.81	0.77	29.0
All Ve	hicles	2340	13.2	2191 ^N	14.2	0.828	34.8	LOS C	25.9	197.6	0.74	0.77	0.80	27.0

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.

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.

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Site: 101 [IS02b - Picton Rd / Hume Motoway (E) - PM (Site Folder: 2026 Project Case - (Site access - giveway, WPR - existing))]

Network: N101 [PM - 120 optimum cycle time (Network Folder: 2026 Project Case - (Site access - giveway, WPR existing))]

IS02b - Picton Rd / Hume Motoway (SB) Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

Vehi	cle Mo	vement	Perfo	rmanc	e:									
Mov ID	Turn	DEMA FLOV [Total veh/h	AND WS HV] %	ARRI FLO [Total veh/h	VAL WS HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Q [Veh. veh	BACK OF UEUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
South	nEast: F	Picton Ro	ad (SE)										
21	L2	240	11.7	240	11.7	1.148	209.6	LOS F	89.3	706.0	1.00	1.77	2.28	14.2
22	T1	819	17.0	819	17.0	* 1.148	204.9	LOS F	89.3	706.0	1.00	1.70	2.32	7.9
Appro	bach	1059	15.8	1059	15.8	1.148	205.9	LOS F	89.3	706.0	1.00	1.72	2.31	9.4
North	East: ⊦	lume Mot	torway	(North	Appro	ach)								
24	L2	621	15.3	621	15.3	0.375	7.8	LOS A	0.0	0.0	0.00	0.59	0.00	61.5
26	R2	393	8.4	393	8.4	* 1.143	211.0	LOS F	51.6	387.3	1.00	1.28	2.33	7.7
Appro	bach	1014	12.6	1014	12.6	1.143	86.6	LOS F	51.6	387.3	0.39	0.86	0.90	23.0
North	West: F	Picton Ro	ad (NV	V)										
28	T1	677	12.0	597	11.1	0.668	12.0	LOS B	17.3	132.4	0.54	0.48	0.54	56.4
29	R2	107	6.5	95	6.0	* 1.065	141.6	LOS F	9.1	66.8	1.00	1.08	2.04	12.9
Appro	bach	784	11.2	<mark>692</mark> ^{N1}	10.4	1.065	29.8	LOS C	17.3	132.4	0.60	0.57	0.74	38.6
All Ve	hicles	2857	13.4	2765 ^N	13.9	1.148	118.1	LOS F	89.3	706.0	0.68	1.12	1.40	16.5

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.

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V Site: 101 [IS03 - Site access as Givey-Way - PM (Site Folder: 2026 Project Case - (Site access - giveway, WPR - existing))]

Network: N101 [PM - 120 optimum cycle time (Network Folder: 2026 Project Case - (Site access - giveway, WPR existing))]

IS03 - Site access as Givey-Way - AM Site Category: (None) Give-Way (Two-Way)

Vehi	cle Mc	vement	Perfo	rman	ce									
Mov ID	Turn	DEMA FLOV [Total veh/h	AND WS HV] %	ARR FLO [Tota veh/h	IVAL WS I HV]	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Q [Veh. veh	BACK OF UEUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
South	n: Site A	Access												
1	L2	1	0.0	1	0.0	0.416	5.5	LOS A	0.9	7.4	0.14	0.59	0.14	50.9
3	R2	262	17.3	262	17.3	0.416	6.0	LOS A	0.9	7.4	0.14	0.59	0.14	40.8
Appro	bach	263	17.2	263	17.2	0.416	6.0	LOS A	0.9	7.4	0.14	0.59	0.14	40.9
East:	Wilton	Park Roa	ad (E)											
4	L2	113	38.3	113	38.3	0.078	6.0	LOS A	0.0	0.0	0.00	0.56	0.00	46.3
5	T1	1	0.0	1	0.0	0.078	0.0	LOS A	0.0	0.0	0.00	0.56	0.00	54.8
Appro	bach	114	38.0	114	38.0	0.078	5.9	NA	0.0	0.0	0.00	0.56	0.00	46.4
West	: Wiltor	n Park Ro	ad (W)											
11	T1	1	0.0	1	0.0	0.002	0.3	LOS A	0.0	0.0	0.20	0.28	0.20	53.8
12	R2	1	0.0	1	0.0	0.002	5.8	LOS A	0.0	0.0	0.20	0.28	0.20	52.7
Appro	bach	2	0.0	2	0.0	0.002	3.0	NA	0.0	0.0	0.20	0.28	0.20	53.1
All Ve	hicles	379	23.3	379	23.3	0.416	6.0	NA	0.9	7.4	0.10	0.58	0.10	44.0

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.

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Site: 101v [IS01 - Wilton Park Rd / Picton Rd - AM -Conversion (Site Folder: 2026 Project Case - (Site access giveway, WPR - Roundabout))]

■ Network: N101 [AM (Network Folder: 2026 Project Case - (Site access - giveway, WPR - Roundabout))]

IS01 - Wilton Park Rd / Picton Rd Site Category: (None) Roundabout

Vehi	cle Mo	vement	t Perfo	rman	ce									
Mov	Turn	DEM	AND	ARR	IVAL	Deg.	Aver.	Level of	95% E	BACK OF	Prop.	Effective A	ver. No.	Aver.
ID		FLO Total	WS	FLO Toto	WS	Satn	Delay	Service		JEUE Dict 1	Que	Stop	Cycles	Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m		Tale		km/h
South	nEast: F	Picton Ro	l (SE)											
21	L2	216	23.6	216	23.6	0.527	6.7	LOS A	5.3	42.7	0.41	0.51	0.41	53.3
22	T1	462	15.2	462	15.2	0.527	7.0	LOS A	5.3	42.7	0.41	0.51	0.41	59.8
23	R2	8	0.0	8	0.0	0.527	11.7	LOS B	5.3	42.7	0.41	0.51	0.41	64.5
Appro	oach	686	17.6	686	17.6	0.527	6.9	LOS A	5.3	42.7	0.41	0.51	0.41	58.7
North	East: A	erodrom	e Dr											
24	L2	1	0.0	1	0.0	0.005	9.0	LOS A	0.0	0.1	0.61	0.66	0.61	54.9
25	T1	1	0.0	1	0.0	0.005	9.5	LOS A	0.0	0.1	0.61	0.66	0.61	54.9
26	R2	1	0.0	1	0.0	0.005	14.0	LOS B	0.0	0.1	0.61	0.66	0.61	63.0
Appro	oach	3	0.0	3	0.0	0.005	10.8	LOS B	0.0	0.1	0.61	0.66	0.61	58.6
North	West: F	Picton Ro	d (NW)											
27	L2	3	0.0	3	0.0	0.251	6.1	LOS A	1.9	14.3	0.43	0.52	0.43	65.1
28	T1	585	10.4	585	10.4	0.251	7.0	LOS A	1.9	14.3	0.43	0.54	0.43	58.4
29	R2	69	2.9	69	2.9	0.251	12.0	LOS B	1.8	13.7	0.45	0.57	0.45	57.5
Appro	bach	657	9.6	657	9.6	0.251	7.5	LOS A	1.9	14.3	0.44	0.54	0.44	58.4
South	nWest: \	Wilton Pa	ark Rd ((SW)										
30	L2	33	30.3	33	30.3	0.233	10.4	LOS B	1.4	12.8	0.71	0.81	0.71	51.6
31	T1	1	0.0	1	0.0	0.233	9.3	LOS A	1.4	12.8	0.71	0.81	0.71	59.9
32	R2	126	31.7	126	31.7	0.233	16.1	LOS B	1.4	12.8	0.71	0.81	0.71	48.8
Appro	bach	160	31.3	160	31.3	0.233	14.9	LOS B	1.4	12.8	0.71	0.81	0.71	49.8
All Ve	ehicles	1506	15.5	1506	15.5	0.527	8.0	LOS A	5.3	42.7	0.45	0.56	0.45	57.5

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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Site: 101 [IS02a - Picton Rd / Hume Motorway (W) - AM (Site Folder: 2026 Project Case - (Site access - giveway, WPR - Roundabout))]

■ Network: N101 [AM (Network Folder: 2026 Project Case - (Site access - giveway, WPR - Roundabout))]

IS02 - Picton Rd / Hume Motorway (NB) Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehi	cle Mo	vement	t Perfo	rmanc	e									
Mov ID	Turn	DEM/ FLO [Total veh/h	AND WS HV] %	ARRI FLO\ [Total veh/h	VAL NS HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% [Ql [Veh. veh	BACK OF JEUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
South	nEast: F	Picton Ro	oad (SE)										
22 23	T1 R2	582 760	19.8 14.1	582 760	19.8 14.1	0.471 * 0.824	4.7 25.1	LOS A LOS C	8.5 27.0	69.5 212.2	0.25 0.74	0.23 0.85	0.25 0.75	45.7 37.5
Appro	bach	1342	16.5	1342	16.5	0.824	16.3	LOS B	27.0	212.2	0.53	0.58	0.54	38.4
North	West: I	Picton Ro	oad (NV	V)										
27 28	L2 T1	420 310	10.7 21.3	420 310	10.7 21.3	0.243 * 0.784	11.1 66.0	LOS B	0.0 10.3	0.0 85.6	0.00 1.00	0.60 0.89	0.00 1 18	60.4 15.2
Appro	bach	730	15.2	730	15.2	0.784	34.4	LOS C	10.3	85.6	0.42	0.72	0.50	36.1
South	West:	Hume M	otorwar	y (SW)										
30	L2	107	4.7	107	4.7	0.060	9.1	LOS A	0.0	0.0	0.00	0.60	0.00	60.8
32	R2	209	10.0	209	10.0	*0.792	69.2	LOS E	13.8	104.6	1.00	0.87	1.15	20.0
Appro	bach	316	8.2	316	8.2	0.792	48.9	LOS D	13.8	104.6	0.66	0.78	0.76	26.1
All Ve	hicles	2388	15.0	2388	15.0	0.824	26.1	LOS C	27.0	212.2	0.52	0.65	0.55	35.3

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)

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Site: 102 [IS02b - Picton Rd / Hume Motoway (E) - AM (Site Folder: 2026 Project Case - (Site access - giveway, WPR - Roundabout))]

■ Network: N101 [AM (Network Folder: 2026 Project Case - (Site access - giveway, WPR - Roundabout))]

IS02b - Picton Rd / Hume Motoway (SB) Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehi	cle Mo	vement	Perfo	rmance									
Mov ID	Turn	DEM/ FLO [Total veh/h	AND WS HV] %	ARRIVAL FLOWS [Total HV] veh/h %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% B, QU [Veh. veh	ACK OF EUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
South	nEast: F	Picton Ro	ad (SE)									
21	L2	313	12.1	313 12.1	0.909	40.8	LOS D	63.7	501.6	0.94	0.96	1.03	43.6
Appro	bach	1425	15.7	1112 15.7	* 0.909	42.8	LOS D	63.7	501.6	0.96	0.99	1.13	31.6
North	East: H	lume Mo	torway	(North Appro	oach)								
24	L2	472	26.5	472 26.5	0.305	7.9	LOS A	0.0	0.0	0.00	0.59	0.00	58.6
26	R2	246	21.5	246 21.5	*0.912	82.2	LOS F	18.4	153.0	1.00	0.95	1.37	17.5
Appro	bach	718	24.8	718 24.8	0.912	33.4	LOS C	18.4	153.0	0.34	0.71	0.47	39.6
North	West: F	Picton Ro	oad (NV	V)									
28	T1	427	17.1	427 17.1	0.355	0.7	LOS A	0.8	6.5	0.03	0.03	0.03	78.2
29	R2	105	14.3	105 14.3	*0.900	84.0	LOS F	7.4	58.4	1.00	0.87	1.29	19.6
Appro	bach	532	16.5	532 16.5	0.900	17.1	LOS B	7.4	58.4	0.22	0.20	0.28	49.2
All Ve	hicles	2675	17.9	2675 17.9	0.912	34.9	LOS C	63.7	501.6	0.64	0.76	0.77	36.5

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)

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V Site: 101 [IS03 - Site access as Givey-Way - AM (Site Folder: 2026 Project Case - (Site access - giveway, WPR - Roundabout))]

■ Network: N101 [AM (Network Folder: 2026 Project Case - (Site access - giveway, WPR - Roundabout))]

IS03 - Site access as Givey-Way - AM Site Category: (None) Give-Way (Two-Way)

Vehi	cle Mo	vement	Perfo	rmano	ce									
Mov ID	Turn	DEM/ FLO [Total veh/h	AND WS HV] %	ARR FLO [Tota veh/h	IVAL WS I HV]	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Q [Veh. veh	BACK OF UEUE Dist]	Prop. Que	Effective <i>l</i> Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South	n: Site A	ccess												
1	L2	1	0.0	1	0.0	0.144	5.5	LOS A	0.5	4.7	0.14	0.61	0.14	50.5
3	R2	133	37.6	133	37.6	0.144	6.7	LOS A	0.5	4.7	0.14	0.61	0.14	40.1
Appro	bach	134	37.3	134	37.3	0.144	6.7	LOS A	0.5	4.7	0.14	0.61	0.14	40.3
East:	Wilton	Park Roa	ad (E)											
4	L2	271	19.2	271	19.2	0.166	5.8	LOS A	0.0	0.0	0.00	0.57	0.00	48.4
5	T1	1	0.0	1	0.0	0.166	0.0	LOS A	0.0	0.0	0.00	0.57	0.00	54.7
Appro	bach	272	19.1	272	19.1	0.166	5.8	NA	0.0	0.0	0.00	0.57	0.00	48.4
West	: Wilton	Park Ro	ad (W)											
11	T1	1	0.0	1	0.0	0.001	0.7	LOS A	0.0	0.0	0.33	0.27	0.33	53.0
12	R2	1	0.0	1	0.0	0.001	6.3	LOS A	0.0	0.0	0.33	0.27	0.33	52.2
Appro	bach	2	0.0	2	0.0	0.001	3.5	NA	0.0	0.0	0.33	0.27	0.33	52.5
All Ve	hicles	408	25.0	408	25.0	0.166	6.1	NA	0.5	4.7	0.05	0.58	0.05	47.2

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.

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W Site: 101v [IS01 - Wilton Park Rd / Picton Rd - PM -Conversion (Site Folder: 2026 Project Case - (Site access giveway, WPR - Roundabout))]

■ Network: N101 [PM - 120 optimum cycle time - with roundabout (Network Folder: 2026 Project Case - (Site access - giveway, WPR - Roundabout))]

IS01 - Wilton Park Rd / Picton Rd Site Category: (None) Roundabout

Vehi	cle Mo	vement	Perfo	rmano	ce									
Mov	Turn	DEM	AND	ARR	IVAL	Deg.	Aver.	Level of	95% B	ACK OF	Prop.	EffectiveA	ver. No.	Aver.
ID		FLO	WS	FLO	WS	Satn	Delay	Service	QU		Que	Stop	Cycles	Speed
		veh/h	нvј %	veh/h	IHV] 1 %	v/c	sec		ven. veh	m Dist		Rale		km/h
South	nEast: F	Picton Ro	I (SE)											
21	L2	109	36.7	109	36.7	0.649	6.6	LOS A	8.4	64.6	0.31	0.47	0.31	54.4
22	T1	851	8.3	851	8.3	0.649	6.5	LOS A	8.4	64.6	0.31	0.47	0.31	62.3
23	R2	1	0.0	1	0.0	0.649	11.4	LOS B	8.4	64.6	0.31	0.47	0.31	65.0
Appro	bach	961	11.6	961	11.6	0.649	6.5	LOS A	8.4	64.6	0.31	0.47	0.31	61.9
North	East: A	erodrom	e Dr											
24	L2	6	0.0	6	0.0	0.011	8.7	LOS A	0.0	0.3	0.58	0.67	0.58	57.1
25	T1	1	0.0	1	0.0	0.011	9.2	LOS A	0.0	0.3	0.58	0.67	0.58	57.1
26	R2	1	0.0	1	0.0	0.011	13.7	LOS B	0.0	0.3	0.58	0.67	0.58	64.5
Appro	bach	8	0.0	8	0.0	0.011	9.4	LOS A	0.0	0.3	0.58	0.67	0.58	58.5
North	West: F	Picton Ro	d (NW)											
27	L2	1	100.0	1	100. 0	0.193	8.9	LOS A	1.4	10.9	0.52	0.55	0.52	49.7
28	T1	423	9.9	423	9.9	0.193	7.3	LOS A	1.4	10.9	0.52	0.57	0.52	57.7
29	R2	31	6.5	31	6.5	0.193	12.4	LOS B	1.4	10.4	0.53	0.59	0.53	57.1
Appro	bach	455	9.9	455	9.9	0.193	7.7	LOS A	1.4	10.9	0.52	0.57	0.52	57.6
South	West:	Wilton Pa	ark Rd (SW)										
30	L2	70	1.4	70	1.4	0.499	18.2	LOS B	4.9	38.6	0.99	1.02	1.20	50.8
31	T1	1	0.0	1	0.0	0.499	18.4	LOS B	4.9	38.6	0.99	1.02	1.20	52.4
32	R2	205	20.5	205	20.5	0.499	25.1	LOS C	4.9	38.6	0.99	1.02	1.20	39.4
Appro	bach	276	15.6	276	15.6	0.499	23.3	LOS C	4.9	38.6	0.99	1.02	1.20	43.4
All Ve	hicles	1700	11.7	1700	11.7	0.649	9.6	LOS A	8.4	64.6	0.48	0.59	0.51	57.5

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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Site: 101 [IS02a - Picton Rd / Hume Motorway (W) - PM (Site Folder: 2026 Project Case - (Site access - giveway, WPR - Roundabout))]

 Network: N101 [PM - 120 optimum cycle time - with roundabout (Network Folder:
2026 Project Case - (Site access - giveway, WPR - Roundabout))]

IS02 - Picton Rd / Hume Motorway (NB) Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

Vehi	cle Mo	vement	Perfo	rmance									
Mov ID	Turn	DEMA FLOV [Total veh/h	AND WS HV] %	ARRIVAI FLOWS [Total HV veh/h %	. Deg. Satn] v/c	Aver. Delay sec	Level of Service	95% [QI [Veh. veh	BACK OF JEUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
South	nEast: F	Picton Ro	ad (SE)									
22	T1	686	10.3	686 10.	3 0.626	15.1	LOS B	22.1	168.6	0.61	0.55	0.61	23.6
23	R2	424	21.5	424 21.	5 *0.877	58.2	LOS E	25.6	212.2	0.99	0.92	1.16	23.8
Appro	bach	1110	14.6	1110 14.	6 0.877	31.6	LOS C	25.6	212.2	0.75	0.69	0.82	23.8
North	West: F	Picton Ro	ad (NV	V)									
27	L2	204	18.6	204 18.	6 0.124	8.9	LOS A	0.0	0.0	0.00	0.59	0.00	58.1
28	T1	476	10.1	476 10.	1 *0.897	57.4	LOS E	26.5	201.6	0.97	0.96	1.19	17.0
Appro	bach	680	12.6	680 12	6 0.897	42.9	LOS D	26.5	201.6	0.68	0.85	0.83	26.8
South	nWest:	Hume Mo	otorwar	y (SW)									
30	L2	168	11.3	168 11.	3 0.099	9.6	LOS A	0.0	0.0	0.00	0.60	0.00	60.7
32	R2	382	11.3	382 11.	3 *0.869	63.1	LOS E	24.5	188.1	1.00	0.93	1.21	21.4
Appro	bach	550	11.3	550 11.	3 0.869	46.8	LOS D	24.5	188.1	0.69	0.83	0.84	26.9
All Ve	hicles	2340	13.2	2340 13	2 0.897	38.4	LOS D	26.5	212.2	0.72	0.77	0.83	25.6

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)

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Site: 101 [IS02b - Picton Rd / Hume Motoway (E) - PM (Site Folder: 2026 Project Case - (Site access - giveway, WPR - Roundabout))]

 Network: N101 [PM - 120 optimum cycle time - with roundabout (Network Folder:
2026 Project Case - (Site access - giveway, WPR - Roundabout))]

IS02b - Picton Rd / Hume Motoway (SB) Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

Vehi	cle Mo	vement	Perfo	rmano	e:									
Mov ID	Turn	DEM/ FLO [Total veh/h	AND WS HV] %	ARRI FLO [Total veh/h	VAL WS HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% E Ql [Veh. veh	BACK OF JEUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
South	nEast: F	Picton Ro	ad (SE)										
21	L2	240	11.7	240	11.7	1.036	120.8	LOS F	74.0	585.9	1.00	1.39	1.69	22.2
22	T1	819	17.0	819	17.0	* 1.036	119.4	LOS F	74.0	585.9	1.00	1.38	1.77	12.7
Appro	bach	1059	15.8	1059	15.8	1.036	119.7	LOS F	74.0	585.9	1.00	1.38	1.75	15.1
North	East: H	lume Mo	torway	(North	Appro	ach)								
24	L2	621	15.3	621	15.3	0.375	7.8	LOS A	0.0	0.0	0.00	0.59	0.00	61.5
26	R2	393	8.4	393	8.4	* 1.030	126.5	LOS F	38.7	290.4	1.00	1.11	1.79	12.2
Appro	bach	1014	12.6	1014	12.6	1.030	53.8	LOS D	38.7	290.4	0.39	0.79	0.69	31.3
North	West: F	Picton Ro	oad (NV	V)										
28	T1	677	12.0	677	12.0	0.702	8.2	LOS A	16.1	124.5	0.45	0.40	0.45	62.2
29	R2	107	6.5	107	6.5	* 1.034	120.3	LOS F	9.3	68.6	1.00	1.04	1.89	14.9
Appro	bach	784	11.2	784	11.2	1.034	23.5	LOS C	16.1	124.5	0.52	0.49	0.64	43.3
All Ve	hicles	2857	13.4	2857	13.4	1.036	69.9	LOS E	74.0	585.9	0.65	0.93	1.07	24.3

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)

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V Site: 101 [IS03 - Site access as Givey-Way - PM (Site Folder: 2026 Project Case - (Site access - giveway, WPR -Roundabout))]

 Network: N101 [PM - 120 optimum cycle time - with roundabout (Network Folder:
2026 Project Case - (Site access - giveway, WPR - Roundabout))]

IS03 - Site access as Givey-Way - AM Site Category: (None) Give-Way (Two-Way)

Vehi	cle Mo	vement	Perfo	rmano	се									
Mov ID	Turn	DEMA FLOV [Total veh/h	AND WS HV] %	ARR FLO [Tota veh/h	IVAL WS I HV] 1 %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Q [Veh. veh	BACK OF UEUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
South	n: Site A	Access												
1	L2	1	0.0	1	0.0	0.237	5.5	LOS A	0.9	7.4	0.14	0.58	0.14	50.9
3	R2	262	17.3	262	17.3	0.237	6.0	LOS A	0.9	7.4	0.14	0.58	0.14	40.8
Appro	bach	263	17.2	263	17.2	0.237	6.0	LOS A	0.9	7.4	0.14	0.58	0.14	40.9
East:	Wilton	Park Roa	ad (E)											
4	L2	113	38.3	113	38.3	0.078	6.0	LOS A	0.0	0.0	0.00	0.56	0.00	46.3
5	T1	1	0.0	1	0.0	0.078	0.0	LOS A	0.0	0.0	0.00	0.56	0.00	54.8
Appro	bach	114	38.0	114	38.0	0.078	5.9	NA	0.0	0.0	0.00	0.56	0.00	46.4
West	: Wilton	Park Ro	ad (W)											
11	T1	1	0.0	1	0.0	0.001	0.3	LOS A	0.0	0.0	0.20	0.27	0.20	53.8
12	R2	1	0.0	1	0.0	0.001	5.8	LOS A	0.0	0.0	0.20	0.27	0.20	52.7
Appro	bach	2	0.0	2	0.0	0.001	3.0	NA	0.0	0.0	0.20	0.27	0.20	53.1
All Ve	hicles	379	23.3	379	23.3	0.237	6.0	NA	0.9	7.4	0.10	0.58	0.10	44.0

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.

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Site: 101 [IS02a - Picton Rd / Hume Motorway (W) - PM (Site Folder: 2026 Project Case - Sensitivity-(Site access - giveway, WPR - Roundabout))]

Network: N101 [PM - 120 optimum cycle time (Network Folder: 2026 Project Case-Sensitivity - (Site access giveway, WPR - Roundabout))]

IS02 - Picton Rd / Hume Motorway (NB) Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

Vehi	cle Mo	vement	Perfo	rmanc	e									
Mov ID	Turn	DEM/ FLO [Total veh/h	AND WS HV] %	ARRI FLO [Total veh/h	VAL WS HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Q [Veh. veh	BACK OF UEUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
South	nEast: F	Picton Ro	ad (SE)										
22	T1	763	11.8	671	11.8	0.663	19.6	LOS B	27.1	208.7	0.76	0.69	0.76	19.5
23	R2	424	21.5	373	21.4	* 1.207	257.9	LOS F	25.6	212.2	1.00	1.34	2.61	7.6
Appro	bach	1187	15.2	1044 ^N 1	15.2	1.207	104.7	LOS F	27.1	212.2	0.84	0.92	1.42	9.1
North	West: I	Picton Ro	oad (NV	V)										
27	L2	239	20.5	239	20.5	0.148	8.6	LOS A	0.0	0.0	0.00	0.59	0.00	57.5
28	T1	554	11.2	554	11.2	* 1.206	200.2	LOS F	61.0	467.8	0.95	1.48	2.16	5.6
Appro	oach	793	14.0	793	14.0	1.206	142.4	LOS F	61.0	467.8	0.66	1.21	1.51	10.5
South	nWest:	Hume Mo	otorwar	y (SW)										
30	L2	178	13.5	178	13.5	0.106	9.6	LOS A	0.0	0.0	0.00	0.59	0.00	60.7
32	R2	382	11.3	382	11.3	* 1.208	263.7	LOS F	55.9	429.3	1.00	1.36	2.63	6.2
Appro	bach	560	12.0	560	12.0	1.208	182.9	LOS F	55.9	429.3	0.68	1.12	1.80	8.8
All Ve	ehicles	2540	14.1	2397 ^N	15.0	1.208	135.5	LOS F	61.0	467.8	0.75	1.06	1.54	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.

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W Site: 101v [IS01 - Wilton Park Rd / Picton Rd - AM -Conversion (Site Folder: 2026 Project Case - Sensitivity-(Site access - giveway, WPR - Roundabout))]

■■ Network: N101 [AM (Network Folder: 2026 Project Case-Sensitivity - (Site access giveway, WPR - Roundabout))]

IS01 - Wilton Park Rd / Picton Rd Site Category: (None) Roundabout

Vehi	cle Mo	vement	Perfo	rmano	ce									
Mov	Turn	DEM	AND	ARR	IVAL	Deg.	Aver.	Level of	95% I	BACK OF	Prop.	Effective A	ver. No.	Aver.
ID		FLO'	WS	FLO Toto	WS	Satn	Delay	Service	QI [\/ab		Que	Stop	Cycles	Speed
		veh/h	пvј %	veh/h	ı⊓vj ⊨%	v/c	sec		veh	m Dist j		Nale		km/h
South	nEast: F	Picton Rd	I (SE)											
21	L2	289	23.9	289	23.9	0.607	7.1	LOS A	6.8	55.2	0.53	0.54	0.53	52.1
22	T1	462	15.2	462	15.2	0.607	7.3	LOS A	6.8	55.2	0.53	0.54	0.53	59.2
23	R2	8	0.0	8	0.0	0.607	12.0	LOS B	6.8	55.2	0.53	0.54	0.53	63.7
Appro	bach	759	18.3	759	18.3	0.607	7.3	LOS A	6.8	55.2	0.53	0.54	0.53	57.6
North	East: A	erodrom	e Dr											
24	L2	1	0.0	1	0.0	0.005	9.3	LOS A	0.0	0.1	0.63	0.67	0.63	54.6
25	T1	1	0.0	1	0.0	0.005	9.8	LOS A	0.0	0.1	0.63	0.67	0.63	54.6
26	R2	1	0.0	1	0.0	0.005	14.3	LOS B	0.0	0.1	0.63	0.67	0.63	62.8
Appro	bach	3	0.0	3	0.0	0.005	11.1	LOS B	0.0	0.1	0.63	0.67	0.63	58.3
North	West: F	Picton Ro	d (NW)											
27	L2	3	0.0	3	0.0	0.272	6.3	LOS A	2.1	15.8	0.49	0.55	0.49	64.6
28	T1	585	10.4	585	10.4	0.272	7.3	LOS A	2.1	15.8	0.50	0.57	0.50	57.7
29	R2	91	2.2	91	2.2	0.272	12.2	LOS B	2.0	14.9	0.51	0.61	0.51	56.6
Appro	bach	679	9.3	679	9.3	0.272	7.9	LOS A	2.1	15.8	0.50	0.57	0.50	57.6
South	nWest: \	Wilton Pa	ark Rd ((SW)										
30	L2	42	31.0	42	31.0	0.308	10.7	LOS B	2.0	18.1	0.75	0.83	0.75	51.2
31	T1	1	0.0	1	0.0	0.308	9.5	LOS A	2.0	18.1	0.75	0.83	0.75	59.6
32	R2	163	33.1	163	33.1	0.308	16.4	LOS B	2.0	18.1	0.75	0.83	0.75	48.4
Appro	bach	206	32.5	206	32.5	0.308	15.2	LOS B	2.0	18.1	0.75	0.83	0.75	49.4
All Ve	hicles	1647	16.3	1647	16.3	0.607	8.5	LOS A	6.8	55.2	0.55	0.59	0.55	56.4

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 (Akcelik M3D).

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

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Site: 101 [IS02a - Picton Rd / Hume Motorway (W) - AM (Site Folder: 2026 Project Case - Sensitivity-(Site access - giveway, WPR - Roundabout))]

■ Network: N101 [AM (Network Folder: 2026 Project Case-Sensitivity - (Site access giveway, WPR - Roundabout))]

IS02 - Picton Rd / Hume Motorway (NB) Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehi	cle Mo	vement	Perfo	rmance	e									
Mov ID	Turn	DEM/ FLO [Total veh/h	AND WS HV] %	ARRIN FLOV [Total I veh/h	/AL VS HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Q [Veh. veh	BACK OF UEUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
South	nEast: F	Picton Ro	ad (SE)										
22	T1	639	20.8	639 2	20.8	0.515	4.7	LOS A	9.6	79.2	0.26	0.24	0.26	46.0
23	R2	760	14.1	760 ´	14.1	*0.824	25.9	LOS C	27.0	212.2	0.75	0.85	0.77	37.0
Appro	bach	1399	17.2	1399 1	17.2	0.824	16.2	LOS B	27.0	212.2	0.53	0.57	0.54	38.2
North	West: F	Picton Ro	oad (NV	V)										
27	L2	439	11.4	439 <i>`</i>	11.4	0.256	11.2	LOS B	0.0	0.0	0.00	0.60	0.00	60.2
28	T1	328	22.6	328 2	22.6	*0.784	65.2	LOS E	10.9	91.1	1.00	0.89	1.17	15.3
Appro	bach	767	16.2	767 ´	16.2	0.784	34.3	LOS C	10.9	91.1	0.43	0.72	0.50	36.1
South	West:	Hume Mo	otorwar	y (SW)										
30	L2	124	4.8	124	4.8	0.070	9.4	LOS A	0.0	0.0	0.00	0.60	0.00	60.8
32	R2	209	10.0	209 ~	10.0	*0.834	72.8	LOS E	14.2	108.2	1.00	0.89	1.22	19.2
Appro	bach	333	8.1	333	8.1	0.834	49.2	LOS D	14.2	108.2	0.63	0.78	0.76	26.0
All Ve	hicles	2499	15.6	2499 -	15.6	0.834	26.1	LOS C	27.0	212.2	0.51	0.65	0.55	35.1

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)

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Site: 102 [IS02b - Picton Rd / Hume Motoway (E) - AM (Site Folder: 2026 Project Case - Sensitivity-(Site access - giveway, WPR - Roundabout))]

■ Network: N101 [AM (Network Folder: 2026 Project Case-Sensitivity - (Site access giveway, WPR - Roundabout))]

IS02b - Picton Rd / Hume Motoway (SB) Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehi	cle Mo	vement	Perfo	rmance										
Mov ID	Turn	DEM/ FLO [Total veh/h	AND WS HV] %	ARRIV/ FLOW [Total H veh/h	AL S V] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% E Ql [Veh. veh	BACK OF JEUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
South	nEast: F	Picton Ro	ad (SE)										
21	L2	313	12.1	313 1	2.1	0.953	58.1	LOS E	79.2	626.1	1.00	1.08	1.21	36.2
22	T1	1150	16.3	1150 1	6.3	*0.953	60.6	LOS E	79.2	626.1	1.00	1.12	1.29	21.7
Appro	bach	1463	15.4	1463 1	5.4	0.953	60.1	LOS E	79.2	626.1	1.00	1.11	1.27	25.3
North	East: H	lume Mo	torway	(North Ap	oproa	ach)								
24	L2	472	26.5	472 2	6.5	0.305	7.9	LOS A	0.0	0.0	0.00	0.59	0.00	58.6
26	R2	265	21.5	265 2	1.5	*0.940	88.7	LOS F	20.9	173.4	1.00	0.98	1.44	16.5
Appro	bach	737	24.7	737 2	4.7	0.940	37.0	LOS D	20.9	173.4	0.36	0.73	0.52	37.7
North	West: F	Picton Ro	oad (NV	V)										
28	T1	441	18.1	441 1	8.1	0.373	0.7	LOS A	0.9	7.0	0.03	0.03	0.03	78.2
29	R2	108	14.8	108 1	4.8	*0.929	86.8	LOS F	7.8	61.6	1.00	0.89	1.35	19.2
Appro	bach	549	17.5	549 1	7.5	0.929	17.6	LOS B	7.8	61.6	0.22	0.20	0.29	48.7
All Ve	hicles	2749	18.3	2749 1	8.3	0.953	45.4	LOS D	79.2	626.1	0.67	0.82	0.87	31.5

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)

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V Site: 101 [IS03 - Site access as Givey-Way - AM (Site Folder: 2026 Project Case - Sensitivity-(Site access - giveway, WPR - Roundabout))]

■ Network: N101 [AM (Network Folder: 2026 Project Case-Sensitivity - (Site access giveway, WPR - Roundabout))]

IS03 - Site access as Givey-Way - AM Site Category: (None) Give-Way (Two-Way)

Vehi	cle Mo	vement	Perfo	rman	се									
Mov ID	Turn	DEM/ FLO [Total veh/h	AND WS HV] %	ARR FLO [Tota veh/h	IVAL WS I HV]	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Q [Veh. veh	BACK OF UEUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South	n: Site A	Access												
1	L2	1	0.0	1	0.0	0.205	5.5	LOS A	0.7	6.9	0.18	0.62	0.18	50.1
3	R2	179	37.4	179	37.4	0.205	7.2	LOS A	0.7	6.9	0.18	0.62	0.18	39.2
Appro	bach	180	37.2	180	37.2	0.205	7.1	LOS A	0.7	6.9	0.18	0.62	0.18	39.4
East:	Wilton	Park Roa	ad (E)											
4	L2	366	19.1	366	19.1	0.224	5.8	LOS A	0.0	0.0	0.00	0.57	0.00	48.4
5	T1	1	0.0	1	0.0	0.224	0.1	LOS A	0.0	0.0	0.00	0.57	0.00	54.7
Appro	bach	367	19.1	367	19.1	0.224	5.8	NA	0.0	0.0	0.00	0.57	0.00	48.4
West	: Wilton	Park Ro	ad (W)											
11	T1	1	0.0	1	0.0	0.001	1.0	LOS A	0.0	0.0	0.39	0.28	0.39	52.7
12	R2	1	0.0	1	0.0	0.001	6.7	LOS A	0.0	0.0	0.39	0.28	0.39	51.9
Appro	bach	2	0.0	2	0.0	0.001	3.9	NA	0.0	0.0	0.39	0.28	0.39	52.2
All Ve	hicles	549	25.0	549	25.0	0.224	6.2	NA	0.7	6.9	0.06	0.59	0.06	47.0

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.

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V Site: 101v [IS01 - Wilton Park Rd / Picton Rd - PM -Conversion (Site Folder: 2026 Project Case - Sensitivity-(Site access - giveway, WPR - Roundabout))]

Network: N101 [PM - 120 optimum cycle time (Network Folder: 2026 Project Case-Sensitivity - (Site access giveway, WPR - Roundabout))]

IS01 - Wilton Park Rd / Picton Rd Site Category: (None) Roundabout

Vehi	cle Mo	vement	t Perfo	rmane	ce									
Mov	Turn	DEM	AND	ARR	IVAL	Deg.	Aver.	Level of	95% E	ACK OF	Prop.	EffectiveA	ver. No.	Aver.
ID		FLO	WS	FLO	WS	Satn	Delay	Service	QL		Que	Stop	Cycles	Speed
		veh/h	пvј %	veh/h	ı⊓vj ⊨%	v/c	sec		ven.	m Dist j		Nale		km/h
South	nEast: F	Picton Ro	l (SE)											
21	L2	162	40.1	150	40.4	0.657	6.9	LOS A	8.6	67.6	0.37	0.48	0.37	53.6
22	T1	851	8.3	783	8.4	0.657	6.7	LOS A	8.6	67.6	0.37	0.48	0.37	61.9
23	R2	1	0.0	1	0.0	0.657	11.5	LOS B	8.6	67.6	0.37	0.48	0.37	64.6
Appro	bach	1014	13.4	<mark>933</mark> N1	13.5	0.657	6.7	LOS A	8.6	67.6	0.37	0.48	0.37	61.2
North	East: A	erodrom	e Dr											
24	L2	6	0.0	6	0.0	0.013	9.3	LOS A	0.1	0.4	0.64	0.69	0.64	56.0
25	T1	1	0.0	1	0.0	0.013	9.8	LOS A	0.1	0.4	0.64	0.69	0.64	56.0
26	R2	1	0.0	1	0.0	0.013	14.3	LOS B	0.1	0.4	0.64	0.69	0.64	63.8
Appro	bach	8	0.0	8	0.0	0.013	10.0	LOS A	0.1	0.4	0.64	0.69	0.64	57.6
North	West: F	Picton Ro	d (NW)											
27	L2	1	100.0	1	100. 0	0.230	10.2	LOS B	1.8	13.4	0.65	0.63	0.65	49.2
28	T1	423	9.9	423	9.9	0.230	8.1	LOS A	1.8	13.4	0.65	0.65	0.65	56.3
29	R2	43	4.7	43	4.7	0.230	13.3	LOS B	1.6	11.9	0.66	0.68	0.66	55.6
Appro	bach	467	9.6	467	9.6	0.230	8.6	LOS A	1.8	13.4	0.65	0.65	0.65	56.2
South	West: \	Wilton Pa	ark Rd (SW)										
30	L2	106	0.9	106	0.9	0.751	29.4	LOS C	11.7	93.2	1.00	1.24	1.79	43.8
31	T1	1	0.0	1	0.0	0.751	29.6	LOS C	11.7	93.2	1.00	1.24	1.79	44.9
32	R2	318	21.4	318	21.4	0.751	36.5	LOS D	11.7	93.2	1.00	1.24	1.79	31.5
Appro	bach	425	16.2	425	16.2	0.751	34.7	LOS C	11.7	93.2	1.00	1.24	1.79	35.5
All Ve	hicles	1914	13.1	<mark>1833</mark>	13.6	0.751	13.7	LOS B	11.7	93.2	0.59	0.70	0.77	52.3

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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Site: 101 [IS02b - Picton Rd / Hume Motoway (E) - PM (Site Folder: 2026 Project Case - Sensitivity-(Site access - giveway, WPR - Roundabout))]

Network: N101 [PM - 120 optimum cycle time (Network Folder: 2026 Project Case-Sensitivity - (Site access giveway, WPR - Roundabout))]

IS02b - Picton Rd / Hume Motoway (SB) Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

Vehi	cle Mo	vement	Perfo	rmano	ce									
Mov ID	Turn	DEMA FLO [Total veh/h	AND WS HV] %	ARRI FLO [Total veh/h	IVAL WS I HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% E Ql [Veh. veh	BACK OF JEUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
South	nEast: F	Picton Ro	ad (SE)										
21	L2	240	11.7	240	11.7	1.201	252.7	LOS F	106.6	849.1	1.00	1.95	2.52	12.2
22	T1	850	18.2	850	18.2	* 1.201	248.5	LOS F	106.6	849.1	1.00	1.86	2.56	6.6
Appro	bach	1090	16.8	1090	16.8	1.201	249.5	LOS F	106.6	849.1	1.00	1.88	2.55	7.9
North	East: H	lume Mot	torway	(North	Appro	oach)								
24	L2	621	15.3	621	15.3	0.375	7.8	LOS A	0.0	0.0	0.00	0.59	0.00	61.5
26	R2	404	8.9	404	8.9	* 1.202	258.4	LOS F	58.7	442.1	1.00	1.36	2.60	6.4
Appro	bach	1025	12.8	1025	12.8	1.202	106.6	LOS F	58.7	442.1	0.39	0.89	1.02	19.8
North	West: F	Picton Ro	ad (NV	V)										
28	T1	729	12.9	723	12.9	0.765	12.6	LOS B	22.6	176.0	0.59	0.53	0.59	55.6
29	R2	133	6.0	132	6.0	* 1.111	174.7	LOS F	14.2	104.4	1.00	1.11	2.08	10.8
Appro	bach	862	11.8	<mark>855</mark> ^{N1}	11.8	1.111	37.6	LOS D	22.6	176.0	0.65	0.62	0.82	33.8
All Ve	hicles	2977	14.0	2970 ^N	14.0	1.202	139.2	LOS F	106.6	849.1	0.69	1.18	1.53	14.3

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.

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V Site: 101 [IS03 - Site access as Givey-Way - PM (Site Folder: 2026 Project Case - Sensitivity-(Site access - giveway, WPR - Roundabout))]

Network: N101 [PM - 120 optimum cycle time (Network Folder: 2026 Project Case-Sensitivity - (Site access giveway, WPR - Roundabout))]

IS03 - Site access as Givey-Way - AM Site Category: (None) Give-Way (Two-Way)

Vehi	cle Mo	vement	Perfo	rman	се									
Mov ID	Turn	DEMA FLO\ [Total veh/h	AND WS HV] %	ARR FLC [Tota veh/h	IVAL WS I HV]	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Q [Veh. veh	BACK OF UEUE Dist] m	Prop. Que	Effective <i>l</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
South	n: Site A	Access												
1	L2	1	0.0	1	0.0	0.391	5.5	LOS A	1.8	14.4	0.22	0.60	0.22	50.6
3	R2	419	17.3	419	17.3	0.391	6.3	LOS A	1.8	14.4	0.22	0.60	0.22	40.2
Appro	bach	420	17.3	420	17.3	0.391	6.3	LOS A	1.8	14.4	0.22	0.60	0.22	40.2
East:	Wilton	Park Roa	ad (E)											
4	L2	181	38.4	172	38.2	0.118	6.0	LOS A	0.0	0.0	0.00	0.57	0.00	46.3
5	T1	1	0.0	1	0.0	0.118	0.0	LOS A	0.0	0.0	0.00	0.57	0.00	54.8
Appro	bach	182	38.2	173 ^{N²}	38.0	0.118	6.0	NA	0.0	0.0	0.00	0.57	0.00	46.4
West	: Wilton	Park Ro	ad (W)											
11	T1	1	0.0	1	0.0	0.001	0.4	LOS A	0.0	0.0	0.26	0.27	0.26	53.4
12	R2	1	0.0	1	0.0	0.001	6.0	LOS A	0.0	0.0	0.26	0.27	0.26	52.4
Appro	bach	2	0.0	2	0.0	0.001	3.2	NA	0.0	0.0	0.26	0.27	0.26	52.8
All Ve	hicles	604	23.5	<mark>595</mark> ^{N*}	23.9	0.391	6.2	NA	1.8	14.4	0.15	0.59	0.15	43.5

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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