

Transport Impact Assessment;

Illoura Place 28 Elizabeth Street, Liverpool

Altis Bulky Retail Pty Ltd as trustee for Altis ARET Sub Trust 20 (Altis)

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Document Control

Illoura Place 28 Elizabeth Street, Liverpool

Transport Impact Assessment

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1 Introduction

1.1 Project Summary

ptc. has been engaged by Altis to prepare a Transport Impact Assessment (TIA) to accompany a Development Application (DA) to Liverpool City Council for the construction of a mixed-use development located at 28 Elizabeth Street, Liverpool.

The location of the site is shown in Figure 1.



Figure 1: Site location

2 Background Information

2.1 Site Location

The proposed development is located in Liverpool, which is approximately 27km west of the Sydney CBD. The site has a listed street address of 28 Elizabeth Street, Liverpool and relates to the following lot:

• Lot No. 1, DP 1261270



Figure 2: Aerial View of the Subject Site & Surrounds (Source: Nearmap)

2.2 Surrounding Land Use

The site lies within a Mixed Use (B4) zone and is surrounded by the following key features:

- Commercial Core zone (B3)
- Public Recreation zone (RE1
- Private Recreation zone (RE2)
- Low Density Residential zone (R2)
- Infrastructure zone (SP2)



Figure 3: Local Land Use Map (Source: NSW Planning Viewer)

3 Development Proposal

The proposal involves the construction of a 34 level building comprising commercial, residential and retail spaces. The development will also provide a 6 level basement car park. The development proposal consists of the following:

Table	1:	Yield	Schedule

Component	GFA (m²) / No. Units
Commercial	8,000m ²
Retail	750m ²
Residential	
1 bedroom	136 units
2 bedroom	128 units
3 bedroom	48 units



Figure 4: Proposed Development

4 Existing Transport Facilities

4.1 Road Hierarchy

The NSW administrative road hierarchy comprises the following road classifications:

- State Roads: Under the care and maintenance of Roads and Maritime Services
- Regional Roads: Under the care and maintenance of Council partially funded by the State
- Local Roads: Under the care and maintenance of Council

Figure 5 shows the location of the site in relation to the classified road network.



Figure 5: Road Hierarchy (Source: TfNSW)

4.1.1 Existing Road Network

Table 2: Existing Road Network – Moore Street

Moore Street	
Road Classification	State Road
Alignment	East - West
Number of Lanes	1 lane in each direction with parking lanes on both sides of the carriageway
Carriageway Type	Undivided
Carriageway Width	12.5m
Speed Limit	40 km/h within immediate vicinity of site (high pedestrian activity)
School Zone	Yes, between George Street & Bigge Street
Parking Controls	Varies
Forms Site Frontage	Νο



Figure 6: Moore Street Eastbound

Table 3: Existing Road Network - Copeland Street

Copeland Street	
Road Classification	State Road
Alignment	North - South
Number of Lanes	3 lanes in each direction
Carriageway Type	Divided
Carriageway Width	23m
Speed Limit	60 km/h
School Zone	No
Parking Controls	No Stopping, No Parking and Clearway zones
Forms Site Frontage	No



Figure 7: Copeland Street Northbound

Table 4: Existing Road Network - George Street

George Street	
Road Classification	Local Road
Alignment	North – South
Number of Lanes	2 lanes southbound only with parking lanes on either side
Carriageway Type	Undivided
Carriageway Width	12.5m
Speed Limit	30km/h
School Zone	Yes, between Campbell Street & Elizabeth Street
Parking Controls	Varies - 1P ticket, unrestricted, No Parking zones
Forms Site Frontage	No



Figure 8: George Street Southbound

Table 5: Existing Road Network - Elizabeth Street

Elizabeth Street	
Road Classification	Local Road
Alignment	East - West
Number of Lanes	Typically, 1 lane in each direction with parking lanes on either side of the carriageway
Carriageway Type	Undivided
Carriageway Width	12.5m
Speed Limit	30km/h
School Zone	Yes, between George Street and Bigge Street
Parking Controls	Varies – 1P ticket, Loading Zones, Bus Zones, No Parking and No Stopping Zones
Forms Site Frontage	Yes



Figure 9: Elizabeth Street Westbound

Table 6: Existing Road Network

Bigge Street	
Road Classification	Local Road
Alignment	North – South
Number of Lanes	Typically, 1 lane in each direction with parking lanes on either side of the carriageway
Carriageway Type	Undivided
Carriageway Width	12.5m
Speed Limit	30km/h
School Zone	Yes, between Elizabeth Street & Campbell Street
Parking Controls	Varies – 1P ticket, No Parking and No Stopping Zones
Forms Site Frontage	No



Figure 10: Bigge Street Southbound

4.2 Public Transport

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



Figure 11: Public transport accessibility (bus stops: pink, train stations: yellow)

4.2.1 Bus Services

The site is well serviced by multiple bus stops within a comfortable walking distance. A summary of the available bus routes is presented in Table 7 which services the site.

Table 7: Bus Service Summary

Bus Route	Coverage (to and from)	Service Frequency
823	Liverpool to Warwick Farm (Loop Service)	Every 20-30 minutes during peak hours on weekdays, every 60 minutes off-peak
		Every 60 minutes on weekends
851	Carnes Hill Marketplace to Liverpool via Cowpasture Rd	Every 30 minutes during peak hours on weekdays, every 60 minutes off-peak
		Every 60 minutes on weekends
852	Carnes Hill Marketplace to Liverpool via Greenway Dr & Cowpasture Rd	Every 30-45 minutes during peak hours on weekdays, every 60 minutes off-peak
		Every 60 minutes on weekends
853	Carnes Hill to Liverpool via Hoxton Park Rd	Every 20-30 minutes during peak hours on weekdays, every 60 minutes off-peak
		Every 60 minutes on weekends
854	Carnes Hill to Liverpool via Greenway Dr & Hoxton Park Rd	Every 15-30 minutes during peak hours on weekdays, every 60 minutes off-peak
		Every 60 minutes on weekends
855	Rutleigh Park to Liverpool via Austral & Leppington Station	Limited services every 3 hours during weekdays and weekends
856	Bringelly to Liverpool	Limited services every 3 hours during weekdays and weekends
857	Narellan to Liverpool	Every 30-45 minutes during peak hours on weekdays, every 60 minutes off-peak
		Limited services every 3 hours on weekends
865	Casula to Liverpool via Lurnea Shops	Every 30 minutes during weekdays
		Every 60 minutes on weekends
866	Casula to Liverpool	Every 30 minutes during weekdays
		Every 60 minutes on weekends
901	Holsworthy to Liverpool via Wattle Grove	Every 30 minutes during peak hours on weekdays, every 60 minutes off-peak
		Every 60 minutes on weekends
902	Holsworthy to Liverpool via Moorebank	Every 30 minutes during peak hours on weekdays, every 60 minutes off-peak
		Every 60 minutes on weekends
903	Liverpool to Chipping Norton (Loop Service)	Every 30 minutes during peak hours on weekdays, every 60 minutes off-peak
		Every 60 minutes on weekends
904	Fairfield to Liverpool	Every 30 minutes during peak hours on weekdays, every 60 minutes off-peak
		Every 60 minutes on weekends
M90	Burwood to Liverpool	Every 10 minutes during peak hours on weekdays, every 15 minutes off-peak
		Every 20 minutes on weekends

4.2.2 Train Services

Liverpool Railway Station is located within comfortable walking distance to the proposed development, located on the T2 Inner West & Leppington Line, T3 Bankstown Line and T5 Cumberland Line, operated by Sydney Trains.



Figure 12: Walking Distance from Liverpool Train Station



Figure 13: 400m and 800m Walking Catchment

Train Line	From	То	Frequency
Inner West & Leppington	Leppington	City	Every 10-20 minutes More frequent during the peak hours
Inner West & Leppington	City	Leppington	Every 20-30 minutes More frequent during the peak hours
Bankstown	Liverpool	City	Every 10-15 minutes in the peak hours
Bankstown	City	Liverpool	Every 15-20 minutes in the peak hours
Cumberland	Leppington	Richmond	Every 30 minutes
Cumberland	Richmond	Leppington	Every 30 minutes

Table 8: Train Services Summary

4.3 Active Transport

In addition to public transport, the site has been assessed for its active transport potential. It is noted that the site is adjacent to the Liverpool City Centre which will likely lead to higher rates of walking and cycling trips.

In terms of active transport infrastructure, the local road network offers a high level of amenity and safety for pedestrians, providing footpaths on either side of most roadways, signalised crossing, supporting signage and appropriate lighting throughout the locality.

The site is located within a bicycle network comprising of off-road paths as well as on-road cycle paths (see Figure 14). It is noted however, that there are no dedicated cycleways along the immediate frontage of the site, and the cycling network within the vicinity of the site is disconnected between Liverpool Hospital and the western side of the Liverpool City Centre. Notwithstanding, the existing cycling infrastructure provides connection to Warwick Farm to the north, and the cycle route along the railway line, towards the south, provides linkage to Casula and Glenfield.

This will encourage and promote cycling as an alternative mode of transport to private car use for prospective residents/occupants.



Figure 14: Surrounding Cycle Paths (Source: Liverpool Bike Plan 2018-2023)

5 Parking Assessment

5.1 Planning Policy

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

- Liverpool Development Control Plan (DCP) 2008 Part 1 Controls for all Developments
- Liverpool Development Control Plan (DCP) 2008 Part 4 Development in Liverpool City Centre
- Liverpool Local Environmental Plan (LEP) 2008

5.1.1 Liverpool DCP

The Liverpool DCP Part 1 refers to Clause 7.3 of the LEP and Section 4.4.2 of the DCP when calculating the minimum off-street parking requirements for developments within the Liverpool City Centre. The development site is within the city centre as defined in the LEP therefore the rates stipulated in the LEP is applicable.

5.1.2 Liverpool LEP 2008 Clause 7.3 – Car Parking in Liverpool City Centre

The development site is within the Liverpool City Centre and lies within the Mixed Use (B4) zone. Therefore, reference is made to the relevant planning controls for different land uses proposed within the development in order to ascertain the parking requirements.

5.2 Proposed Parking Provision

5.2.1 Car Parking Provision

The car parking requirement for the proposed development has been calculated with reference to the parking rate stipulated in the LEP. It is noted that the site lies within the Liverpool City Centre and is currently classified as a Mixed Use (B4) zone therefore the rates stipulated in the LEP is applicable for the proposed development. The following are the parking rates extracted from the LEP.

Clause 7.3 (2)(a)

At least one car parking space is provided for every 200 square metres of any new gross floor area that is on the ground floor level of the building.

Clause 7.3 (2)(b)(ii)

At least one car parking space is provided for every 150 square metres of any new gross floor area that is to be used for any other purpose.

The proposed car parking provision and the requirement are summarised in Table 9.

Component	Parking Rate	GFA (m²)	Parking Provision Requirement	Proposed Parking Provision
Ground Floor Clause 7.3 (2)(a)	1 space per 200m² GFA	1,344m²	7 (6.72)	
Other parts of building Clause 7.3 (2)(b)(ii)	Other parts of building Clause 7.3 (2)(b)(ii)		231 (230.87)	542
		TOTAL	238	542

Table 9: Car Parking Provision

5.2.2 Accessible Parking Provision

The accessible parking requirement has been calculated based on the parking rates stipulated in the DCP Part 4. The requirements and proposed parking provision are summarised in Table 10.

Table 10: Accessible Parking Provision

Component	Car Parking Provision	Parking Rate	Parking Provision Requirement	Proposed Parking Provision
Commercial				
Residential	542	2% of total capacity	10.84 (11)	50
Retail				

Note: The accessible parking provision is included within the total car parking provision

5.2.3 Bicycle Parking Provision

The development must also provide bicycle parking spaces in accordance with the minimum requirements stipulated in the DCP Part 4 (May 2020 amendment which makes reference to DCP Part 1 for bicycle parking requirements). The following are the requirements for the relevant components of the proposed development:

Table 11: Bicycle Parking Provision

Component	GFA (m²) / No. Beds & Units	Parking Rate	Parking Provision Requirement	Proposed Parking Provision
Commercial				
Staff	8.000m ²	1 space per 200m ² GFA	40	
Visitors	0,000111	1 space per 750m ² GFA	11 (10.67)	Proposed 60 EOT facilities inside for
Retail				commercial and retail
Staff	750m ²	1 space per 200m ² GFA	4 (3.75)	
	8 staff	1 space per 10 staff	1	5 in public domain
Visitor	750m ²	2 spaces plus 1 space per 100m ²	10 (9.5)	
Residential				
Residents	783 bedrooms	1 space per 4 bedrooms	195.75 (196)	312 storage cages
Visitors	301 units	1 space per 10 units	31 (30.1)	

5.2.4 Motorcycle Parking

The motorcycle parking requirement has also been calculated based on the rate extracted from the DCP Part 4. The minimum requirement and proposed motorcycle parking provision are summarised in Table 12.

Table 12: Motorcycle Parking Provision

Component	Car Parking Parking Rate Provision		Parking Provision Requirement	Proposed Parking Provision
Commercial	542	1 space per 20 car	28 (27 1)	29
Residential	342	spaces	20 (27.1)	27

5.2.5 Service Vehicle Parking Provision

Table 13: Service Vehicle Parking Provision

Component	No. Units	Parking Rate	Parking Provision Requirement	Proposed Parking Provision
Commercial	210	1 space per 40	4	1
Residential	512	apartments up to maximum 4 spaces	4	

6 Traffic Impact Assessment

The potential traffic generation of the proposed development has been estimated with reference to the following:

- RMS Guide to Traffic Generating Developments 2002 (RMS Guide)
- RMS Technical Direction: Guide to Traffic Generating Developments Updated Traffic Surveys (TDT2013/04a)

The technical direction contains the most recent RMS survey data for high-density residential developments.

6.1 Existing Traffic Volumes

Intersection surveys were undertaken on Wednesday, 25th July 2018 between the periods 7:00am-9:00am and 3:00pm-6:00pm at the following intersections:

- Bigge Street / Elizabeth Street
- Bigge Street / Moore Street
- Elizabeth Street / George Street
- George Street / Moore Street

The locations of the intersections are shown in Figure 15.



Figure 15: Locations of Intersection Survey

The morning and evening peak hours for the local road network have been determined as follows:

- Morning Peak Period 8:00am-9:00am
- Evening Peak Period 4:30pm-5:30pm

It is noted that consideration has been given to the likelihood that the current intersection survey results may not provide a true representation of the likely utilisation of the intersections due to the current global pandemic. Therefore, the analysis has adopted the intersection survey that was undertaken in 2018 and an exponential growth factor of 2% has been applied to the traffic counts to account for the increase in population and vehicular volumes.

6.2 Existing Traffic Generation

The site was previously occupied by Bayan Brothers Fresh Fruit World. However, the site is currently vacated and does not generate traffic.

6.3 Development Traffic Generation

The rates from the RMS Guide and TDT were adopted to estimate the potential traffic generated by the proposed development. The extracted rates have been summarised below:

•	High Density Residential	0.19 trips per unit in AM Peak
		0.15 trips per unit in PM Peak
•	Commercial	2 trips per 100m ² GFA in PM Peak

It is noted that the RMS Guide does not provide a morning peak trip generation rate for a typical commercial development. However, to provide a more robust assessment of the potential impact of the proposed development on the local road network, the evening trip generation rate was applied to the morning peak. The above rates were used to calculate the potential traffic activity associated with the development and summarised in Table 14.

Table	14:	Development	Trip	Generation	Summarv
Tuble		Development	ΠP	Generation	Summary

Component	Period	Vehicle Trip Rate	Dwellings/ GFA	Trips
	AM Peak	0.19 trips per unit	312	60 (59.28)
Residential	PM Peak	0.15 trips per unit	312	47 (46.8)
Commercial	AM Peak	2 trips per 100m ² GFA	8,000m ²	160
Commercial	PM Peak	2 trips per 100m ² GFA	8,000m ²	160

The above calculations indicate that the proposed development will likely generate 220 and 207 vehicular trips in the morning and evening peak periods, respectively.

6.4 Development Traffic Distribution

The Australian Bureau of Statistics (ABS) 2016 Census – Method of Travel to Work data was used to determine the directional split of the development traffic generation. The direction split was established by assessing the quickest the quickest routes to/from all Sydney regions which have significant vehicular trips (greater than 10 trips) to/from the Liverpool region. The inbound and outbound direction split for the traffic generated by the residential and commercial component of the development is shown in Figure 16 and Figure 17 respectively.



Figure 16: Development Inbound Directional Split



Figure 17: Development Outbound Directional Split

6.5 Surrounding Developments

It is noted that there are multiple developments in the vicinity of the site that are currently in the planning stages or in construction. Therefore, to conduct a more robust traffic assessment of the potential performance of the local road network caused by the proposed and neighbouring developments, a cumulative traffic assessment has been undertaken.

The following developments have been considered in the SIDRA model for the purpose of the cumulative traffic assessment.

6.5.1 Westfield Shopping Centre

Colston Budd Rogers & Kafes Pty Ltd have prepared a Traffic Report for the proposed Entertainment and Lifestyle Precinct and office tower on the roof of the existing Westfield Shopping Centre. The precinct will increase the shopping centre floor area by approximately 5,417m² whilst the office tower will provide an additional 11,174m² floor space.

It is noted that the peak period for Westfield Shopping Centre, which the traffic report has modelled, is Thursday afternoon and Saturday middays. As such, the potential traffic generated by the expansion of the shopping centre has only been added to the weekday PM peaks.

6.5.2 Liverpool Hospital

Potential traffic generation from the Liverpool Hospital redevelopment have also been included in the SIDRA model. The traffic volumes are based on the model provided by GTA consultants.

6.5.3 26 Elizabeth Street, Liverpool

ptc. have previously prepared a Traffic Report for the proposed mixed-use development comprising residential, hotel and commercial components located at 26 Elizabeth Street, Liverpool. The proposed development comprises 179 residential apartments, 113 hotel rooms and 5,764m² GFA of commercial premises.

The potential traffic generation from the proposed development has been included in the SIDRA model.

6.6 Modelling Scenarios

The following scenarios have been assessed in this report:

- Scenario 1: Existing (2021)
- Scenario 2: Future Base (Existing + Traffic Generated by Westfield Shopping Centre + Liverpool Hospital + 26 Elizabeth Street, Liverpool)
- Scenario 3: Future Base + Development Traffic Generation

6.7 SIDRA Analysis

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

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

Level of Service	Average Delay (secs/vehicle)	Traffic Signals, Roundabout	Give Way & Stop Signs
Α	<14	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 would cause excessive delays. Roundabouts require other control mode	At capacity, requires other control mode
F	>70	Extra capacity required	Extreme delay, major treatment required

Table 15: Intersection Performance - Levels of Service

The existing and various post development performance of the local road network is summarised in Table 16. A detailed breakdown of the SIDRA movement summarises is provided in Appendix A.

Intersection	Time	Period	Level of Service	Degree of Saturation (v/c)	Average Delay (s)	95% Queue Length (m)
		Scenario 1 Existing (2021)	В	0.642	25.8	180.5
	AM Peak	Scenario 2 Future Base	F	1.226	98.3	261.1
Bigge Street /		Future Base + Development	F	1.226	108.3	261.1
Elizabeth Street		Scenario 1 Existing (2021)	В	0.508	17.9	121.0
	PM Peak	Scenario 2 Future Base	В	0.520	17.6	81.6
		Future Base + Development	В	0.529	17.7	81.6
		Scenario 1 Existing (2021)	В	0.488	15.8	63.5
	AM Peak	Scenario 2 Future Base	В	0.668	19.2	117.1
Bigge Street /		Future Base + Development	В	0.708	15.6	104.8
Moore Street	PM Peak	Scenario 1 Existing (2021)	В	0.531	17.6	111.0
		Scenario 2 Future Base	В	0.531	17.7	122.2
		Future Base + Development	В	0.531	17.5	122.2
	AM Peak	Scenario 1 Existing (2021)	В	0.648	25.1	95.6
		Scenario 2 Future Base	В	0.685	25.5	103.8
Elizabeth Street /		Future Base + Development	В	0.695	25.4	106.8
George Street		Scenario 1 Existing (2021)	В	0.681	27.4	128.4
	PM Peak	Scenario 2 Future Base	С	0.749	29.3	147.3
		Future Base + Development	С	0.760	29.6	153.3
		Scenario 1 Existing (2021)	В	0.340	26.2	45.0
George Street / Moore Street	AM Peak	Scenario 2 Future Base	В	0.361	26.3	51.0
		Future Base + Development	В	0.373	26.3	56.6

Table 16: Summary of Intersection Performance

Intersection	Time	Period	Level of Service	Degree of Saturation (v/c)	Average Delay (s)	95% Queue Length (m)
	PM Peak	Scenario 1 Existing (2021)	В	0.401	23.5	80.1
		Scenario 2 Future Base	В	0.413	23.5	83.0
		Future Base + Development	В	0.446	22.4	89.5
	AM Peak	Scenario 2 Future Base	А	0.142	6.4	1.0
George Street /		Future Base + Development	А	0.153	6.3	2.2
New Laneway	PM Peak	Scenario 2 Future Base	А	0.229	6.7	0.3
		Future Base + Development	А	0.233	6.8	2.9
	AM Peak	Scenario 2 Future Base	D	0.348	44.0	293.8
Bigge Street / New		Future Base + Development	D	0.375	51.7	293.8
Laneway	PM Peak	Scenario 2 Future Base	В	0.285	23.4	30.4
		Future Base + Development	В	0.325	26.4	37.0

6.7.1 Bigge Street / Elizabeth Street

Bigge Street / Elizabeth Street is a signalised intersection that currently operates at LoS B in the AM and PM peaks respectively. The SIDRA results indicate that the intersection will require additional capacity throughout the morning peak period due to the cumulative impact of the neighbouring developments with extensive delays expected at the intersection. The poor performance of the intersection is attributed to the traffic associated with the western leg of Elizabeth Street and it is anticipated that the development traffic associated with the proposal will not utilise this leg throughout the morning peak period. Therefore, the performance of the signalised intersection cannot be directly related to the proposed development as it is anticipated that minimal development traffic will utilise Elizabeth Street to turn into Bigge Street throughout the morning peak period.

6.7.2 Bigge Street / Moore Street

Bigge Street / Moore Street is a signalised intersection that currently operates at LoS A and B in the AM and PM peaks respectively. The analysis indicates that the cumulative impact of the neighbouring and proposed development will not have a significant impact on the performance of the intersection as the LoS remains as A and B in the AM and PM peaks respectively and all performance indicators increase marginally.

6.7.3 Elizabeth Street / George Street

Elizabeth Street / George Street is a signalised intersection that currently operates at LoS B in both the AM and PM peak periods respectively. The SIDRA analysis indicates that throughout the PM peak, the

neighbouring developments decreases the performance of the intersection throughout the PM peak period as the LoS decreases to LoS C. The traffic generated by the proposed development will only increase the performance indicators marginally and the LoS remains at C.

6.7.4 George Street / Moore Street

George Street / Moore Street is a signalised intersection that currently operates at LoS B in both the AM and PM peak periods. The inclusion of the traffic generation from the proposed development does not significantly impact the intersection performance in both the AM and PM peak periods.

6.7.5 George Street / New Laneway

George Street / New Laneway is a priority intersection that is anticipated to operate at LoS A in both the AM and PM peak periods. The inclusion of the traffic generation from the development proposal does not significantly impact the intersection performance in both peak periods.

6.7.6 Bigge Street / New Laneway

Bigge Street / New Laneway is a priority intersection that is anticipated to operate at LoS D and B in the AM and PM peak periods respectively. it is noted that the LoS D in the morning peak represents the right turn movement from the New Laneway to Bigge Street southbound. It is envisaged that residents and employees that are familiar with the daily traffic volumes within the local road network will likely utilise the George Street / New Laneway intersection to travel southbound as typically performing a right turn onto a major roadway such as Bigge Street throughout the peak periods generates a significant delay. Therefore, the intersection is envisaged to perform at an acceptable level noting that the all other movements throughout the AM and PM peak periods are indicated to perform at LoS B or higher.

7 Access and Car Park Assessment

The following section presents an assessment of the proposed development with reference to the requirements of AS2890.1:2004 (Off-street Car Parking), AS2890.2:2018 (Off-street Commercial Vehicle Facilities), AS2890.3:2015 (Bicycle Parking) and AS2890.6:2009 (Off-street Parking for People with Disabilities). This section is to be read in conjunction with the following architectural plans provided by Turner Studio (see Appendix B) and the car park assessment undertaken by **ptc.** (see Appendix C):

- GA Plans Ground Level (Drawing No. DA-110-009, Revision S1, Dated 20 October 2021)
- GA Plans Basement 01 (Drawing No. DA-110-005, Revision S1, Dated 20 October 2021)
- GA Plans Basement 02 (Drawing No. DA-110-004, Revision S1, Dated 20 October 2021)
- GA Plans Basement 03 (Drawing No. DA-110-003, Revision S1, Dated 20 October 2021)
- GA Plans Basement 04-05 (Drawing No. DA-110-002, Revision S1, Dated 20 October 2021)
- GA Plans Basement 06 (Drawing No. DA-110-001, Revision S1, Dated 20 October 2021)
- GA Sections Carpark Entry & Loading Dock Section (Drawing No. DA-310-201, Revision S1, Dated 20 October 2021)
- GA Sections Basement Ramp Section (Drawing No. DA-310-203, Revision S1, Dated 20 October 2021)

7.1 Vehicular Access

Vehicular access to the site is proposed via a new, two-way laneway on the southern boundary which will be left in/left out from Bigge Street and left in/left out from George Street. Future traffic using this laneway will be only for users three buildings in the precinct.

The proposed access ramp has been assessed in relation to its width and relevant grades. The maximum grade for the proposed ramp is to be 1 in 5 with a 1 in 8 grade transition provided on the sag and summit grade changes. The proposed access ramp will maintain a minimum 2.2m height clearance (additional clearance may be required at sag/summit along the ramp subject to further assessment in the detailed design stage). The internal ramps have been measured to provide min. 5.5m with 300mm kerb extensions provided on either side. The maximum grade does not exceed 1 in 5 for the ramps to be used by the general public whilst the maximum for private use does not exceed 1 in 4. These internal ramps have also been provided with 1 in 8 grade transitions for 2.0m in length.

The proposed access ramps within the proposed car park has been assessed in accordance with AS2890.1. The inner radius of the curved ramp has been measured to be 4.0m which meets the minimum requirement stipulated in AS2890.1. The ramp widths have been measured to be min. 5.5m throughout the entirety of the access ramp (additional width may be required due to turning manoeuvres of the vehicles subject to further assessment in the detailed design stage).

7.2 Sight Distance

The sight distance requirements are outlined in Section 3.2 of AS2890.1 and are prescribed on the basis of the posted speed limit or 85th percentile vehicle speeds along the frontage road.

The proposed new laneway is anticipated to have a speed limit of 30km/h which aligns with the speed limit posted on Bigge Street and George Street. The Standard provides the requirements for speed limits of

40km/h and greater. Therefore, the requirements stipulated for 40km/h has been adopted for the proposed development to provide a more robust design. The speed limit of 40km/h requires a desirable visibility distance of 44 metres and a minimum stopping sight distance of 35 metres. The proposed driveway is to be located on a straight/flat section of the road where sufficient sight distance is provided.

The proposed car park also allows for all vehicles to enter and exit in a forward direction, therefore minimising potential conflict points and maintaining the overall safety of the road network.

7.3 Car Park Arrangement

7.3.1 Typical Requirements

The car parking requirements have been assessed against the requirements of AS2890.1:2004, with reference to Class 1A (residential/employees), Class 2 (medium term parking) and Class 3 (short term parking) facilities:

Class 1A (residential/employee) facilities:

•	Car Space Dimensions:	2.4m x 5.4m
•	Aisle Width:	5.8m (double-sided aisles)

Class 2 (medium term parking) facilities:

•	Car Space Dimensions:	2.5m x 5.4m
•	Aisle Width:	5.8m (double-sided aisles)

Class 3 (short term parking) facilities:

•	Car Space Dimensions:	2.6m x 5.4m
•	Aisle Width:	5.8m (double-sided aisles)

7.3.2 Accessible Parking

All accessible parking spaces have been individually assessed against the requirements of AS2890.6. The parking spaces have been designed based on the following minimum requirements:

•	Accessible Space Dimensions:	2.4m x 5.4m
---	------------------------------	-------------

- Adjacent Shared Bay: 2.4m x 5.4m
- All accessible spaces and shared bays have been individually assessed and found to be compliant with the minimum requirements of AS2890.6, with relevant pavement markings and bollards. A minimum height clearance of 2.5m is to be maintained above all accessible and shared bays.

7.3.3 Headroom Clearance

The following are the requirements stipulated in the Australian Standards:

• Minimum 2.2m above all general spaces;

- Minimum 2.5m above all accessible spaces and adjacent shared bays;
- Minimum 4.5m above the loading dock area and path of travel of heavy vehicle.

The proposed car park is to provide the minimum height clearance as per the requirements stipulated in the Australian Standards.

7.3.4 Bicycle Parking

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

Horizontal Bicycle Parking

•	Space Dimensions:	1800mm x 500mm
•	Access Aisle:	1500mm
Ve	rtical Bicycle Parking	
•	Space Dimensions:	1200mm x 500mm
•	Access Aisle:	1500mm

The bicycle parking spaces are to be provided with a minimum height clearance of 2.2m as per the requirements stipulated in AS2890.3.

7.3.5 Motorcycle Parking

The motorcycle parking requirements have been assessed against the requirements of AS2890.1:2004:

Motorcycle Parking

•	Space Width:	1.2m
•	Space Length:	2.5m

7.3.6 Loading Dock

The loading dock is proposed on the Ground Level of the proposed development directly adjacent to the proposed access ramp for the proposed car park. A swept path assessment has been undertaken using an 8.8m long Medium Rigid Vehicle (MRV) which is anticipated to be the largest vehicle accessing the proposed development. The assessment indicates that the vehicle is able to enter the site in a forward direction, stand down in the provided bay whereby loading/unloading of materials can safely occur and exit in a forward direction.

8 Conclusion

ptc. has been engaged by Altis to prepare a TIA to accompany a DA to Liverpool City Council for the proposed construction of a mixed-use development located at 28 Elizabeth Street, Liverpool.

The findings of this report can be summarised as follow:

- The proposal involves the construction of a 34 level building which provides a mixture of commercial, residential and retail spaces along with a 6 level basement car park.
- The development is located in Liverpool and is within the Liverpool City Centre catchment as noted in the Liverpool DCP Part 4. The site is well serviced with relation to public transport availabilities with numerous bus stops servicing various bus routes and the Liverpool Train Station all being within a comfortable walking catchment.
- Vehicular access to the site is proposed via a new, two-way laneway on the southern boundary which will be left in/left out from Bigge Street and left in/left out from George Street. Future traffic using this laneway will be only for users three buildings in the precinct.
- The development proposed to provide 542 car parking spaces which adequately accommodates the likely parking demand to be generated by the site.
- The development is anticipated to generate 226 and 216 vehicular trips in the morning and afternoon peak periods, respectively.
- All intersections within the study area with the exception of Elizabeth Street / Bigge Street will continue to perform at satisfactory levels of service with the development in the future scenario.
- The SIDRA results indicate that the traffic generated by the neighbouring developments will affect the performance of Elizabeth Street / Bigge Street significantly—without the proposed development—with the Level of Service decreasing from a LoS B to LoS F. It is anticipated that the proposed development traffic will likely not utilise this particular intersection throughout the peak periods. Therefore, the reduction in LoS is caused by background traffic a not the proposed development.

In light of the above, the proposed development is endorsed in the context of parking and traffic.

Appendix A SIDRA Results
Site: 104 [4. Moore St / George St - Existing AM Peak (Site Folder: Existing (2021))]

■ Network: N101 [Existing 2021 AM Peak (Network Folder: General)]

Existing AM Peak Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Site User-Given Cycle Time)

Vehio	cle Mo	vement	Perfo	rman	ce									
Mov ID	Turn	DEM/ FLO [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	BACK OF JEUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
East:	Moore	Street (E	E)											
4	L2	54	29.4	54	29.4	0.332	44.3	LOS D	3.9	34.4	0.92	0.75	0.92	16.0
5	T1	125	30.3	125	30.3	*0.332	40.5	LOS C	4.0	35.2	0.92	0.73	0.92	14.4
Appro	ach	179	30.0	179	30.0	0.332	41.6	LOS C	4.0	35.2	0.92	0.74	0.92	14.9
North: George Street (N)														
7	L2	95	13.3	95	13.3	0.264	37.2	LOS C	3.8	29.4	0.85	0.74	0.85	15.4
8	T1	278	3.0	278	3.0	*0.340	33.9	LOS C	6.3	45.0	0.87	0.70	0.87	20.5
9	R2	57	5.6	57	5.6	0.133	35.8	LOS C	2.2	16.1	0.82	0.72	0.82	18.0
Appro	ach	429	5.6	429	5.6	0.340	34.9	LOS C	6.3	45.0	0.86	0.71	0.86	19.2
West:	Moore	Street (W)											
11	T1	254	12.4	254	12.4	0.265	5.9	LOS A	4.3	32.3	0.30	0.32	0.30	22.3
12	R2	88	2.4	88	2.4	*0.265	10.6	LOS A	4.3	32.3	0.36	0.40	0.36	28.5
Appro	bach	342	9.8	342	9.8	0.265	7.1	LOS A	4.3	32.3	0.31	0.34	0.31	24.8
All Ve	hicles	951	11.7	951	11.7	0.340	26.2	LOS B	6.3	45.0	0.67	0.58	0.67	18.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab). Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

* Critical Movement (Signal Timing)

Pedestrian Mov	vement	Perform	nance							
Mov ID Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE QUE [Ped	BACK OF EUE Dist 1	Prop. Et Que	ffective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
	ped/h	sec		ped	m			sec	m	m/sec
South: George St	reet (S)									
P1 Full	53	44.3	LOS E	0.1	0.1	0.94	0.94	70.4	34.0	0.48
East: Moore Stree	et (E)									
P2 Full	53	44.3	LOS E	0.1	0.1	0.94	0.94	70.9	34.6	0.49
North: George St	reet (N)									
P3 Full	53	44.3	LOS E	0.1	0.1	0.94	0.94	70.7	34.3	0.49
West: Moore Stre	et (W)									
P4 Full	53	44.3	LOS E	0.1	0.1	0.94	0.94	70.7	34.3	0.49
All Pedestrians	211	44.3	LOS E	0.1	0.1	0.94	0.94	70.7	34.3	0.49

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay) Pedestrian movement LOS values are based on average delay per pedestrian movement. Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements. SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com Organisation: PARKING AND TRAFFIC CONSULTANTS | Licence: NETWORK / 1PC | Processed: Wednesday, 3 November 2021 12:21:26 PM

Site: 101 [1. Elizabeth St / George St - Existing AM Peak (Site Folder: Existing (2021))]

■ Network: N101 [Existing 2021 AM Peak (Network Folder: General)]

Existing AM Peak Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Site User-Given Cycle Time)

Vehi	cle Mo	vement	Perfo	rmanc	:e									
Mov ID	Turn	DEMA FLOV [Total veh/h	.ND VS HV] %	ARRI FLO [Total veh/h	VAL WS HV] %	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
East:	Elizabe	eth St (E)												
4	L2	107	7.8	107	7.8	*0.628	40.7	LOS C	12.0	87.5	0.95	0.81	0.95	11.6
5	T1	163	2.6	163	2.6	0.628	37.3	LOS C	12.0	87.5	0.95	0.81	0.95	15.1
6	R2	80	6.6	80	6.6	0.648	54.3	LOS D	4.1	30.5	1.00	0.86	1.13	16.3
Appro	bach	351	5.1	351	5.1	0.648	42.2	LOS C	12.0	87.5	0.96	0.82	0.99	14.6
North: George St (N)														
7	L2	64	8.2	64	8.2	0.131	32.5	LOS C	2.3	17.6	0.78	0.71	0.78	16.6
8	T1	246	5.6	246	5.6	0.608	31.4	LOS C	13.1	95.6	0.85	0.75	0.85	16.6
9	R2	86	2.4	86	2.4	*0.608	34.8	LOS C	13.1	95.6	0.85	0.75	0.85	19.5
Appro	bach	397	5.3	397	5.3	0.608	32.3	LOS C	13.1	95.6	0.84	0.74	0.84	17.3
West	Elizab	eth St (W)											
10	L2	215	2.5	215	2.5	0.469	14.9	LOS B	11.2	81.6	0.52	0.56	0.52	28.3
11	T1	424	7.2	424	7.2	0.469	12.2	LOS A	11.2	81.6	0.60	0.61	0.60	15.7
12	R2	162	2.6	162	2.6	*0.469	17.2	LOS B	7.7	55.8	0.73	0.69	0.73	14.5
Appro	bach	801	5.0	801	5.0	0.469	14.0	LOS A	11.2	81.6	0.60	0.61	0.60	20.6
All Ve	hicles	1548	5.1	1548	5.1	0.648	25.1	LOS B	13.1	95.6	0.74	0.69	0.75	17.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab). Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

* Critical Movement (Signal Timing)

Pedestrian Mov	/ement	Perforr	nance							
Mov ID Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE QUE	BACK OF	Prop. Et Que	ffective Stop	Travel Time	Travel Dist.	Aver. Speed
	ped/h	sec		[Ped ped	Dist] m		Rate	sec	m	m/sec
South: George St	(S)									
P1 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	71.1	34.7	0.49
East: Elizabeth St	: (E)									
P2 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.5	34.0	0.48
North: George St	(N)									
P3 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.7	34.2	0.48
West: Elizabeth S	t (W)									
P4 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.6	34.1	0.48
All Pedestrians	421	44.4	LOS E	0.3	0.3	0.94	0.94	70.7	34.3	0.48

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

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Site: 102 [2. Elizabeth St / Bigge St - Existing AM Peak (Site Folder: Existing (2021))]

■ Network: N101 [Existing 2021 AM Peak (Network Folder: General)]

Existing AM Peak Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehi	cle Mo	vement	Perfo	rmano	ce									
Mov	Turn	DEMA	AND	ARR	IVAL	Deg.	Aver.	Level of	95% BA	ACK OF	Prop.	EffectiveA	ver. No.	Aver.
UD		FLO\ [Total	NS HV 1	FLO Tota	WS I HV 1	Satn	Delay	Service	QUE [Veh	=UE Dist 1	Que	Stop Rate	Cycles	Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m		1 (010		km/h
South	: Bigge	e St (S)												
1	L2	231	5.0	231	5.0	*0.642	21.9	LOS B	24.9	180.5	0.72	0.70	0.72	21.6
2	T1	713	3.7	713	3.7	0.642	21.2	LOS B	24.9	180.5	0.75	0.71	0.75	26.9
3	R2	92	2.3	92	2.3	0.529	27.1	LOS B	16.5	119.2	0.78	0.71	0.78	23.1
Appro	bach	1035	3.9	1035	3.9	0.642	21.9	LOS B	24.9	180.5	0.74	0.71	0.74	25.8
East:	Elizabe	eth St (E)												
4	L2	54	5.9	54	5.9	0.190	36.1	LOS C	4.5	33.7	0.77	0.67	0.77	9.5
5	T1	103	9.2	103	9.2	0.190	33.9	LOS C	4.5	33.7	0.78	0.67	0.78	9.1
6	R2	25	29.2	25	29.2	0.190	39.6	LOS C	3.4	26.9	0.80	0.67	0.80	18.6
Appro	bach	182	11.0	182	11.0	0.190	35.3	LOS C	4.5	33.7	0.78	0.67	0.78	11.1
North	: Bigge	St (N)												
7	L2	25	0.0	25	0.0	0.116	13.6	LOS A	2.3	16.0	0.34	0.34	0.34	30.5
8	T1	361	1.7	361	1.7	0.356	15.4	LOS B	7.9	56.3	0.47	0.43	0.47	23.9
9	R2	20	0.0	20	0.0	0.356	20.8	LOS B	7.9	56.3	0.52	0.46	0.52	22.7
Appro	bach	406	1.6	406	1.6	0.356	15.6	LOS B	7.9	56.3	0.46	0.43	0.46	24.2
West	Elizab	eth St (W	/)											
10	L2	155	4.1	155	4.1	0.290	39.0	LOS C	6.9	50.2	0.81	0.75	0.81	19.9
11	T1	192	15.4	192	15.4	*0.641	39.5	LOS C	15.3	116.8	0.92	0.81	0.92	6.4
12	R2	106	3.0	106	3.0	0.641	43.0	LOS D	15.3	116.8	0.92	0.81	0.92	4.4
Appro	bach	453	8.6	453	8.6	0.641	40.2	LOS C	15.3	116.8	0.89	0.79	0.89	8.6
All Ve	hicles	2076	5.1	2076	5.1	0.642	25.8	LOS B	24.9	180.5	0.72	0.67	0.72	17.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

* Critical Movement (Signal Timing)

Peo	destrian Mov	ement	Perforn	nance							
Mo		Dem.	Aver.	Level of	AVERAGE B	ACK OF	Prop. Eff	ective	Travel	Travel	Aver.
ĪĎ	Crossing	Flow	Delay	Service	e QUEUE [Ped Dist]		Que	Stop Rate	Time	Dist.	Speed
		ped/h	sec		ped	m			sec	m	m/sec
Sou	ith: Bigge St (S	S)									
P1	Full	105	54.4	LOS E	0.3	0.3	0.95	0.95	80.5	34.0	0.42
Eas	t: Elizabeth St	(E)									
P2	Full	105	54.4	LOS E	0.3	0.3	0.95	0.95	81.5	35.2	0.43
Nor	th: Bigge St (N)									
P3	Full	105	54.4	LOS E	0.3	0.3	0.95	0.95	80.8	34.3	0.42

West: Elizabeth St	(W)									
P4 Full	105	54.4	LOS E	0.3	0.3	0.95	0.95	80.8	34.3	0.42
All Pedestrians	421	54.4	LOS E	0.3	0.3	0.95	0.95	80.9	34.5	0.43

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Site: 103 [3. Moore St / Bigge St - Existing AM Peak (Site Folder: Existing (2021))]

■ Network: N101 [Existing 2021 AM Peak (Network Folder: General)]

Existing AM Peak Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehio	cle Mo	vement	Perfo	rmano	ce									
Mov ID	Turn	DEMA FLO [Total	AND WS HV]	ARRI FLO [Total	IVAL WS I HV]	Deg. Satn	Aver. Delay	Level of Service	95% B QU [Veh.	ACK OF IEUE Dist]	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed
South	· Bigge	ven/n	%	ven/n	%	V/C	sec	_	ven	m	_	_	_	Km/n
1	i. Digge	111	10	111	1.0	*0 492	10.1	1.05.4	0 0	62.4	0.27	0.22	0.27	21.0
ו ס	LZ T1	1121	1.9	1121	1.9	* 0.403 0.402	10.1		0.0	62.4	0.27	0.32	0.27	24.0
2	 ₽2	278	2.2	278	2.2	0.403	4.2 18.4		0.0 8 0	63.5	0.23	0.24	0.23	20 /
Appro	hach	1519	2.5	1519	2.5	0.404	7.3	LOSA	8.9	63.5	0.30	0.74	0.30	32.4
7.0010	Juon	1010		1010		0.100	1.0	2007	0.0	00.0	0.00	0.01	0.00	02.1
East:	Moore	St (E)												
4	L2	80	5.3	80	5.3	0.233	48.0	LOS D	4.0	29.3	0.89	0.75	0.89	19.5
5	T1	96	56.0	96	56.0	0.450	47.5	LOS D	6.2	62.7	0.93	0.76	0.93	16.2
6	R2	20	36.8	20	36.8	0.450	51.1	LOS D	6.2	62.7	0.93	0.76	0.93	16.2
Appro	bach	196	33.3	196	33.3	0.450	48.1	LOS D	6.2	62.7	0.91	0.76	0.91	17.7
North	: Bigge	St (N)												
7	L2	11	0.0	11	0.0	0.286	12.4	LOS A	8.0	57.7	0.41	0.37	0.41	37.9
8	T1	356	3.6	356	3.6	0.286	7.8	LOS A	8.0	57.7	0.41	0.37	0.41	38.9
9	R2	73	0.0	73	0.0	0.322	18.0	LOS B	1.9	13.5	0.46	0.68	0.46	25.2
Appro	bach	439	2.9	439	2.9	0.322	9.6	LOS A	8.0	57.7	0.42	0.42	0.42	36.6
West:	Moore	e St (W)												
10	L2	169	1.2	169	1.2	*0.488	50.6	LOS D	9.0	63.4	0.94	0.80	0.94	9.5
11	T1	93	42.0	93	42.0	0.374	44.7	LOS D	5.9	53.1	0.90	0.74	0.90	20.4
12	R2	22	0.0	22	0.0	0.374	48.1	LOS D	5.9	53.1	0.90	0.74	0.90	15.5
Appro	bach	284	14.4	284	14.4	0.488	48.5	LOS D	9.0	63.4	0.93	0.77	0.93	14.3
All Ve	hicles	2438	6.3	2438	6.3	0.488	15.8	LOS B	9.0	63.5	0.44	0.44	0.44	26.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

* Critical Movement (Signal Timing)

Peo	destrian Mov	rement	Perform	nance							
Mov		Dem.	Aver.	Level of	AVERAGE B	ACK OF	Prop. Ef	fective	Travel	Travel	Aver.
ID	Crossing	Flow	Delay	Service	QUEUE [Ped Dist]		Que	Stop Rate	Time	Dist.	Speed
		ped/h	sec		ped	m			sec	m	m/sec
Sou	ith: Bigge St (S	5)									
P1	Full	105	54.4	LOS E	0.3	0.3	0.95	0.95	81.2	34.9	0.43
Eas	t: Moore St (E)									
P2	Full	105	54.4	LOS E	0.3	0.3	0.95	0.95	81.5	35.2	0.43
Nor	th: Bigge St (N	I)									
P3	Full	105	54.4	LOS E	0.3	0.3	0.95	0.95	80.9	34.5	0.43

West: Moore St (W	/)									
P4 Full	105	54.4	LOS E	0.3	0.3	0.95	0.95	81.5	35.2	0.43
All Pedestrians	421	54.4	LOS E	0.3	0.3	0.95	0.95	81.3	35.0	0.43

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Site: 104 [4. Moore St / George St - Existing PM Peak (Site Folder: Existing (2021))]

■ Network: N101 [Existing 2021 PM Peak (Network Folder: General)]

Existing PM Peak Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Site User-Given Cycle Time)

Vehio	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] 1 %	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
East:	Moore	Street (E)											
4	L2	60	10.5	60	10.5	0.397	44.0	LOS D	5.2	43.8	0.93	0.76	0.93	16.2
5	T1	169	35.4	169	35.4	*0.397	40.1	LOS C	5.2	43.8	0.93	0.75	0.93	14.4
Appro	bach	229	28.9	229	28.9	0.397	41.2	LOS C	5.2	45.2	0.93	0.75	0.93	14.9
North: George Street (N)														
7	L2	100	13.7	100	13.7	0.131	20.2	LOS B	2.8	21.7	0.61	0.67	0.61	21.4
8	T1	626	3.4	626	3.4	*0.401	18.7	LOS B	11.1	80.1	0.69	0.60	0.69	26.2
9	R2	175	1.2	175	1.2	0.206	20.7	LOS B	5.0	35.6	0.63	0.71	0.63	23.4
Appro	bach	901	4.1	901	4.1	0.401	19.3	LOS B	11.1	80.1	0.67	0.63	0.67	25.2
West:	Moore	Street (N)											
11	T1	128	25.4	128	25.4	0.250	20.3	LOS B	4.4	34.9	0.61	0.52	0.61	11.3
12	R2	55	0.0	55	0.0	*0.250	26.6	LOS B	4.4	34.9	0.67	0.60	0.67	18.5
Appro	ach	183	17.8	183	17.8	0.250	22.2	LOS B	4.4	34.9	0.63	0.55	0.63	14.2
All Ve	hicles	1314	10.3	1314	10.3	0.401	23.5	LOS B	11.1	80.1	0.71	0.64	0.71	22.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab). Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

* Critical Movement (Signal Timing)

Pedestrian Mov	vement	Perform	nance							
Mov ID Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE QUE [Ped	BACK OF EUE Dist 1	Prop. Et Que	ffective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
	ped/h	sec		ped	m			sec	m	m/sec
South: George St	reet (S)									
P1 Full	53	44.3	LOS E	0.1	0.1	0.94	0.94	70.4	34.0	0.48
East: Moore Stree	et (E)									
P2 Full	53	44.3	LOS E	0.1	0.1	0.94	0.94	70.9	34.6	0.49
North: George St	reet (N)									
P3 Full	53	44.3	LOS E	0.1	0.1	0.94	0.94	70.7	34.3	0.49
West: Moore Stre	et (W)									
P4 Full	53	44.3	LOS E	0.1	0.1	0.94	0.94	70.7	34.3	0.49
All Pedestrians	211	44.3	LOS E	0.1	0.1	0.94	0.94	70.7	34.3	0.49

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay) Pedestrian movement LOS values are based on average delay per pedestrian movement. Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements. SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com Organisation: PARKING AND TRAFFIC CONSULTANTS | Licence: NETWORK / 1PC | Processed: Wednesday, 3 November 2021 12:21:33 PM

Site: 101 [1. Elizabeth St / George St - Existing PM Peak (Site Folder: Existing (2021))]

■ Network: N101 [Existing 2021 PM Peak (Network Folder: General)]

Existing PM Peak Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Site User-Given Cycle Time)

Vehi	cle Mo	vement	Perfo	rmano	ce									
Mov ID	Turn	DEMA FLOV [Total veh/h	ND VS HV] %	ARR FLO [Total veh/h	IVAL WS I HV] %	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
East:	Elizabe	eth St (E)												
4	L2	151	5.6	151	5.6	* 0.677	39.1	LOS C	14.6	105.1	0.95	0.83	0.95	11.9
5	T1	386	1.1	386	1.1	0.677	35.6	LOS C	14.6	105.1	0.95	0.83	0.96	15.6
6	R2	69	7.6	69	7.6	0.677	39.0	LOS C	12.3	88.1	0.94	0.83	0.96	20.3
Appro	bach	606	3.0	606	3.0	0.677	36.8	LOS C	14.6	105.1	0.95	0.83	0.96	15.5
North	: Georg	je St (N)												
7	L2	31	10.3	31	10.3	0.137	23.9	LOS B	2.6	19.4	0.60	0.54	0.60	20.7
8	T1	435	4.1	435	4.1	0.681	24.8	LOS B	17.9	128.4	0.79	0.71	0.79	19.0
9	R2	108	0.0	108	0.0	*0.681	28.8	LOS C	17.9	128.4	0.82	0.74	0.82	21.6
Appro	bach	574	3.7	574	3.7	0.681	25.5	LOS B	17.9	128.4	0.78	0.71	0.78	19.6
West	Elizab	eth St (W	')											
10	L2	185	1.7	185	1.7	0.475	20.2	LOS B	11.7	87.2	0.63	0.63	0.63	25.2
11	T1	225	12.6	225	12.6	0.475	16.7	LOS B	11.7	87.2	0.63	0.63	0.63	13.2
12	R2	191	1.7	191	1.7	*0.475	23.1	LOS B	5.5	39.2	0.88	0.78	0.88	10.9
Appro	bach	601	5.8	601	5.8	0.475	19.8	LOS B	11.7	87.2	0.71	0.68	0.71	17.7
All Ve	hicles	1781	4.1	1781	4.1	0.681	27.4	LOS B	17.9	128.4	0.81	0.74	0.82	17.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab). Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

* Critical Movement (Signal Timing)

Pedestrian Mov	/ement	Perforr	nance							
Mov ID Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE QUE	BACK OF	Prop. Et Que	ffective Stop	Travel Time	Travel Dist.	Aver. Speed
	ped/h	sec		[Ped ped	Dist] m		Rate	sec	m	m/sec
South: George St	(S)									
P1 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	71.1	34.7	0.49
East: Elizabeth St	: (E)									
P2 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.5	34.0	0.48
North: George St	(N)									
P3 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.7	34.2	0.48
West: Elizabeth S	t (W)									
P4 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.6	34.1	0.48
All Pedestrians	421	44.4	LOS E	0.3	0.3	0.94	0.94	70.7	34.3	0.48

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

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Site: 103 [3. Moore St / Bigge St - Existing PM Peak (Site Folder: Existing (2021))]

■ Network: N101 [Existing 2021 PM Peak (Network Folder: General)]

Existing PM Peak Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Network User-Given Cycle Time)

Vehio	cle Mo	vement	Perfo	rmano	ce									
Mov ID	Turn	DEMA 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% E Ql [Veh. veh	BACK OF JEUE Dist] m	Prop. Que	Effective <i>F</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
South	: Bigge	e St (S)												
1	L2	125	2.5	125	2.5	0.395	13.2	LOS A	7.9	56.7	0.40	0.45	0.40	26.2
2	T1	767	2.9	767	2.9	0.395	7.2	LOS A	7.9	56.7	0.35	0.35	0.35	28.9
3	R2	146	7.9	146	7.9	0.442	26.3	LOS B	5.1	38.3	0.74	0.77	0.74	26.0
Appro	bach	1039	3.5	1039	3.5	0.442	10.6	LOS A	7.9	56.7	0.41	0.42	0.41	27.5
East:	Moore	St (E)												
4	L2	245	0.9	245	0.9	*0.531	38.8	LOS C	10.5	74.0	0.92	0.81	0.92	21.8
5	T1	94	64.0	94	64.0	0.263	30.7	LOS C	3.8	40.4	0.82	0.66	0.82	20.6
6	R2	4	0.0	4	0.0	0.263	34.1	LOS C	3.8	40.4	0.82	0.66	0.82	20.6
Appro	ach	343	18.1	343	18.1	0.531	36.5	LOS C	10.5	74.0	0.89	0.77	0.89	21.5
North	: Bigge	St (N)												
7	L2	8	25.0	8	25.0	*0.524	17.2	LOS B	15.6	111.0	0.58	0.52	0.58	35.1
8	T1	598	1.2	598	1.2	0.524	12.4	LOS A	15.6	111.0	0.58	0.52	0.58	34.5
9	R2	46	4.5	46	4.5	0.154	18.5	LOS B	1.0	7.6	0.47	0.66	0.47	25.0
Appro	ach	653	1.8	653	1.8	0.524	12.9	LOS A	15.6	111.0	0.57	0.53	0.57	33.9
West:	Moore	St (W)												
10	L2	115	0.0	115	0.0	0.293	35.6	LOS C	5.2	38.9	0.84	0.75	0.84	12.3
11	T1	65	61.3	65	61.3	0.293	37.0	LOS C	5.2	38.9	0.88	0.73	0.88	21.9
12	R2	23	0.0	23	0.0	0.293	42.1	LOS C	3.1	29.4	0.90	0.72	0.90	16.7
Appro	bach	203	19.7	203	19.7	0.293	36.8	LOS C	5.2	38.9	0.86	0.74	0.86	17.0
All Ve	hicles	2238	6.7	2238	6.7	0.531	17.6	LOS B	15.6	111.0	0.57	0.53	0.57	26.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

* Critical Movement (Signal Timing)

Peo	destrian Mov	vement	Perform	nance							
Mov		Dem.	Aver.	Level of	AVERAGE E	ACK OF	Prop. Ef	fective	Travel	Travel	Aver.
ID	Crossing	ossing Flow Delay Serv ped/h sec			QUEL [Ped	JE Dist]	Que	Stop Rate	Time	Dist.	Speed
		ped/h	sec		ped	m			sec	m	m/sec
Sou	th: Bigge St (S	S)									
P1	Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	71.2	34.9	0.49
Eas	t: Moore St (E)									
P2	Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	71.5	35.2	0.49
Nor	th: Bigge St (N	1)									
P3	Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.9	34.5	0.49

West: Moore St (W	/)									
P4 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	71.5	35.2	0.49
All Pedestrians	421	44.4	LOS E	0.3	0.3	0.94	0.94	71.3	35.0	0.49

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Site: 102 [2. Elizabeth St / Bigge St - Existing PM Peak (Site Folder: Existing (2021))]

■ Network: N101 [Existing 2021 PM Peak (Network Folder: General)]

Existing PM Peak Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Network User-Given Cycle Time)

Vehio	cle Mo	vement	Perfo	rman	ce									
Mov ID	Turn	DEMA 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 EUE Dist]	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed
.		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South	: Bigge	e St (S)												
1	L2	386	2.5	386	2.5	0.350	13.2	LOS A	8.0	57.4	0.46	0.65	0.46	25.4
2	T1	609	2.2	609	2.2	*0.498	10.4	LOS A	17.0	121.0	0.62	0.56	0.62	32.5
3	R2	1	0.0	1	0.0	0.498	13.8	LOS A	17.0	121.0	0.62	0.56	0.62	31.0
Appro	ach	997	2.3	997	2.3	0.498	11.5	LOS A	17.0	121.0	0.56	0.60	0.56	30.4
East:	Elizabe	eth St (E)												
4	L2	95	2.2	95	2.2	0.383	41.2	LOS C	6.3	45.3	0.91	0.76	0.91	8.4
5	T1	164	4.5	164	4.5	0.383	37.3	LOS C	6.3	45.3	0.90	0.75	0.90	8.6
6	R2	22	52.4	22	52.4	0.383	41.0	LOS C	5.7	44.2	0.90	0.74	0.90	18.3
Appro	ach	281	7.5	281	7.5	0.383	38.9	LOS C	6.3	45.3	0.90	0.75	0.90	9.6
North	: Bigge	St (N)												
7	L2	33	0.0	33	0.0	0.129	7.6	LOS A	1.5	10.6	0.21	0.25	0.21	35.3
8	T1	412	2.6	412	2.6	0.394	7.5	LOS A	5.9	41.8	0.34	0.34	0.34	29.9
9	R2	40	0.0	40	0.0	0.394	12.2	LOS A	5.9	41.8	0.40	0.38	0.40	28.6
Appro	ach	484	2.2	484	2.2	0.394	7.9	LOS A	5.9	41.8	0.34	0.34	0.34	30.2
West:	Elizab	eth St (W	/)											
10	L2	79	0.0	79	0.0	0.216	41.4	LOS C	3.3	22.9	0.88	0.74	0.88	19.4
11	T1	137	23.1	137	23.1	* 0.508	37.9	LOS C	7.5	60.6	0.93	0.77	0.93	15.6
12	R2	33	0.0	33	0.0	0.508	41.3	LOS C	7.5	60.6	0.93	0.77	0.93	11.6
Appro	ach	248	12.7	248	12.7	0.508	39.4	LOS C	7.5	60.6	0.91	0.76	0.91	16.6
All Ve	hicles	2011	4.3	2011	4.3	0.508	17.9	LOS B	17.0	121.0	0.60	0.58	0.60	24.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

* Critical Movement (Signal Timing)

Pec	lestrian Mov	ement	Perform	nance							
Mo	/	Dem.	Aver.	Level of	AVERAGE B	ACK OF	Prop. Eff	ective	Travel	Travel	Aver.
ID	Crossing	Flow Delay Service QUEUE [Ped Dist]				JE Dist]	Que	Stop Rate	Time	Dist.	Speed
	ped/h se h: Bigge St (S)				ped	m			sec	m	m/sec
Sou	th: Bigge St (S	S)									
P1	Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.5	34.0	0.48
Eas	t: Elizabeth St	(E)									
P2	Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	71.5	35.2	0.49
Nor	th: Bigge St (N)									
P3	Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.8	34.3	0.48

West: Elizabeth St	(W)									
P4 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.8	34.3	0.48
All Pedestrians	421	44.4	LOS E	0.3	0.3	0.94	0.94	70.9	34.5	0.49

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V Site: 106 [6. Bigge Street / New Lane - Future Base AM Peak (Site Folder: Existing + Neighbouring Development)]

■■ Network: N101 [Existing + **Neighbouring Development AM** Peak (Network Folder: General)]

New Site Site Category: (None) Give-Way (Two-Way)

Vehi	cle Mo	vement	Perfo	rmanc	e									
Mov ID	Turn	DEMA FLOV [Total veh/h	ND NS 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	n: Bigge	Street S	outh											
1	L2	6	0.0	6	0.0	0.348	5.6	LOS A	10.0	71.6	0.00	0.01	0.00	59.5
2	T1	1328	2.6	1328	2.6	0.348	0.0	LOS A	41.0	293.8	0.00	0.00	0.00	59.6
Appro	bach	1335	2.6	1335	2.6	0.348	0.1	NA	41.0	293.8	0.00	0.00	0.00	59.6
North	: Bigge	Street N	orth											
8	T1	522	2.4	503	2.4	0.265	0.2	LOS A	0.1	0.6	0.01	0.00	0.01	56.7
9	R2	1	0.0	1	0.0	0.265	22.3	LOS B	0.1	0.6	0.01	0.00	0.01	56.7
Appro	bach	523	2.4	<mark>504</mark> ^{N1}	2.4	0.265	0.2	NA	0.1	0.6	0.01	0.00	0.01	56.7
West	: New L	ane												
10	L2	41	0.0	41	0.0	0.119	8.5	LOS A	0.4	2.9	0.58	0.78	0.58	31.7
12	R2	1	0.0	1	0.0	0.119	44.0	LOS D	0.4	2.9	0.58	0.78	0.58	31.7
Appro	bach	42	0.0	42	0.0	0.119	9.4	LOS A	0.4	2.9	0.58	0.78	0.58	31.7
All Ve	hicles	1900	2.5	1880 ^N	2.5	0.348	0.3	NA	41.0	293.8	0.02	0.02	0.02	58.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab). Vehicle movement LOS values are based on average delay per movement.

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 (Akcelik 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 [1. Elizabeth St / George St - Future Base AM Peak (Site Folder: Existing + Neighbouring Development)]

■ Network: N101 [Existing + Neighbouring Development AM Peak (Network Folder: General)]

Existing AM Peak

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Site User-Given Cycle Time)

Vehi	cle Mo	vement	Perfo	rmanc	e:									
Mov ID	Turn	DEMA FLOV [Total veh/h	ND NS HV] %	ARRI FLO [Total veh/h	VAL WS HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BA QUI [Veh. veh	ACK OF EUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
East:	Elizabe	eth St (E)												
4	L2	107	7.8	107	7.8	*0.671	41.8	LOS C	13.2	95.7	0.96	0.83	0.97	11.5
5	T1	184	2.3	184	2.3	0.671	37.9	LOS C	13.2	95.7	0.96	0.83	0.97	15.0
6	R2	80	6.6	80	6.6	0.685	55.9	LOS D	4.2	31.0	1.00	0.88	1.17	16.0
Appro	bach	372	4.8	372	4.8	0.685	42.9	LOS D	13.2	95.7	0.97	0.84	1.02	14.5
North	: Georg	je St (N)												
7	L2	66	7.9	66	7.9	0.145	34.2	LOS C	2.5	18.7	0.81	0.71	0.81	16.1
8	T1	257	5.3	257	5.3	0.671	33.9	LOS C	14.3	103.8	0.90	0.78	0.90	15.9
9	R2	86	2.4	86	2.4	*0.671	37.4	LOS C	14.3	103.8	0.90	0.78	0.90	18.8
Appro	bach	409	5.1	409	5.1	0.671	34.7	LOS C	14.3	103.8	0.88	0.77	0.88	16.6
West	Elizab	eth St (W	')											
10	L2	215	2.5	215	2.5	0.523	13.9	LOS A	12.6	92.0	0.50	0.54	0.50	29.2
11	T1	437	7.0	437	7.0	0.523	11.1	LOS A	12.6	92.0	0.56	0.58	0.56	16.7
12	R2	173	2.4	173	2.4	*0.523	17.2	LOS B	11.1	80.3	0.76	0.73	0.76	14.2
Appro	bach	824	4.9	824	4.9	0.523	13.1	LOS A	12.6	92.0	0.59	0.60	0.59	21.2
All Ve	hicles	1605	4.9	1605	4.9	0.685	25.5	LOS B	14.3	103.8	0.75	0.70	0.76	17.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab). Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

* Critical Movement (Signal Timing)

Pedestrian Mov	vement	Perform	nance							
Mov ID Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE QUE	BACK OF	Prop. Ef Que	fective Stop	Travel Time	Travel Dist.	Aver. Speed
	ped/h	sec		[Ped ped	Dist] m		Rate	sec	m	m/sec
South: George St	(S)									
P1 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	71.1	34.7	0.49
East: Elizabeth St	:(E)									
P2 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.5	34.0	0.48
North: George St	(N)									
P3 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.7	34.2	0.48
West: Elizabeth S	t (W)									
P4 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.6	34.1	0.48
All Pedestrians	421	44.4	LOS E	0.3	0.3	0.94	0.94	70.7	34.3	0.48

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

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Site: 102 [2. Elizabeth St / Bigge St - Future Base AM Peak (Site Folder: Existing + Neighbouring Development)]

■ Network: N101 [Existing + Neighbouring Development AM Peak (Network Folder: General)]

Existing AM Peak

Site Category: (None) Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehi	cle Mo	vement	Perfo	rmano	ce									
Mov ID	Turn	DEMA FLO\ [Total veh/h	AND NS HV] %	ARRI FLO [Tota veh/h	IVAL WS I HV] %	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	: Bigge	e St (S)												
1	L2	231	5.0	231	5.0	0.540	17.9	LOS B	11.3	81.6	0.57	0.60	0.57	10.9
2	T1	753	3.5	753	3.5	* 1.142	103.6	LOS F	11.3	81.6	0.79	1.18	1.38	8.2
3	R2	100	2.1	100	2.1	1.142	189.5	LOS F	11.3	81.6	1.00	1.73	2.14	2.9
Appro	bach	1083	3.7	1083	3.7	1.142	93.3	LOS F	11.3	81.6	0.77	1.11	1.28	7.4
East:	Elizabe	eth St (E)												
4	L2	54	5.9	54	5.9	0.284	42.4	LOS C	6.2	46.5	0.84	0.72	0.84	8.3
5	T1	104	9.1	104	9.1	0.284	42.2	LOS C	6.2	46.5	0.87	0.72	0.87	7.7
6	R2	25	29.2	25	29.2	0.284	57.7	LOS E	2.8	22.8	0.95	0.73	0.95	14.6
Appro	bach	183	10.9	183	10.9	0.284	44.4	LOS D	6.2	46.5	0.87	0.72	0.87	9.3
North	: Bigge	St (N)												
7	L2	25	0.0	25	0.0	0.157	9.5	LOS A	2.4	16.7	0.24	0.25	0.24	33.9
8	T1	362	1.7	362	1.7	0.492	25.0	LOS B	10.2	72.2	0.57	0.50	0.57	19.1
9	R2	20	0.0	20	0.0	0.492	43.4	LOS D	10.2	72.2	0.83	0.70	0.83	14.6
Appro	bach	407	1.6	407	1.6	0.492	25.0	LOS B	10.2	72.2	0.56	0.49	0.56	19.6
West:	Elizab	eth St (W	/)											
10	L2	155	4.1	155	4.1	0.360	45.4	LOS D	7.6	54.9	0.88	0.77	0.88	18.4
11	T1	206	14.3	206	14.3	* 1.226	267.7	LOS F	34.2	261.1	1.00	2.06	2.71	3.3
12	R2	106	3.0	106	3.0	1.226	271.2	LOS F	34.2	261.1	1.00	2.06	2.71	2.1
Appro	bach	467	8.3	467	8.3	1.226	194.9	LOS F	34.2	261.1	0.96	1.64	2.10	4.7
All Ve	hicles	2141	4.9	2141	4.9	1.226	98.3	LOS F	34.2	261.1	0.78	1.07	1.29	7.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

* Critical Movement (Signal Timing)

Peo	destrian Mov	rement	Perforn	nance							
Mo	0	Dem.	Aver.	Level of	AVERAGE B	ACK OF	Prop. Ef	fective	Travel	Travel	Aver.
ID	Crossing	Flow	Delay	Service	QUEUE [Ped Dist]		Que	Stop Rate	Time	Dist.	Speed
		ped/h	sec		ped	m			sec	m	m/sec
Sou	th: Bigge St (S	5)									
P1	Full	105	54.4	LOS E	0.3	0.3	0.95	0.95	80.5	34.0	0.42
Eas	t: Elizabeth St	(E)									
P2	Full	105	54.4	LOS E	0.3	0.3	0.95	0.95	81.5	35.2	0.43
Nor	th: Bigge St (N	I)									
P3	Full	105	54.4	LOS E	0.3	0.3	0.95	0.95	80.8	34.3	0.42

West: Elizabeth St	(W)									
P4 Full	105	54.4	LOS E	0.3	0.3	0.95	0.95	80.8	34.3	0.42
All Pedestrians	421	54.4	LOS E	0.3	0.3	0.95	0.95	80.9	34.5	0.43

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Site: 103 [3. Moore St / Bigge St - Future Base AM Peak (Site Folder: Existing + Neighbouring Development)]

■ Network: N101 [Existing + Neighbouring Development AM Peak (Network Folder: General)]

Existing AM Peak Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehi	/ehicle Movement Performance													
Mov ID	Turn	DEMA FLOV [Total veb/b	AND WS HV] %	ARR FLO [Tota	IVAL WS I HV] %	Deg. Satn	Aver. Delay	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	n: Bigge	e St (S)	/0	VOH/H	70	110	000		Von					KIT/TT
1	L2	111	1.9	111	1.9	*0.668	8.7	LOS A	10.7	76.2	0.25	0.29	0.25	35.1
2	T1	1144	2.2	1144	2.2	0.668	3.4	LOS A	10.7	76.2	0.23	0.24	0.23	36.7
3	R2	278	2.3	278	2.3	0.359	14.8	LOS B	5.8	41.2	0.65	0.75	0.65	31.3
Appro	bach	1533	2.2	1533	2.2	0.668	5.9	LOS A	10.7	76.2	0.31	0.34	0.31	34.1
East:	Moore	St (E)												
4	L2	80	5.3	80	5.3	0.127	30.4	LOS C	3.3	24.7	0.70	0.69	0.70	24.2
5	T1	96	56.0	96	56.0	0.589	52.0	LOS D	6.4	64.7	0.97	0.80	0.98	15.3
6	R2	20	36.8	20	36.8	0.589	57.1	LOS E	6.4	64.7	0.98	0.81	0.99	15.1
Appro	bach	196	33.3	196	33.3	0.589	43.7	LOS D	6.4	64.7	0.86	0.76	0.87	18.6
North	: Bigge	St (N)												
7	L2	11	0.0	10	0.0	0.520	37.1	LOS C	16.2	117.1	0.84	0.73	0.84	25.2
8	T1	357	3.5	343	3.5	0.520	32.5	LOS C	16.2	117.1	0.84	0.73	0.84	20.9
9	R2	73	0.0	70	0.0	0.468	38.7	LOS C	3.4	23.6	0.82	0.78	0.82	13.3
Appro	bach	440	2.9	<mark>424</mark> N1	2.8	0.520	33.6	LOS C	16.2	117.1	0.84	0.74	0.84	19.9
West	Moore	St (W)												
10	L2	169	1.2	169	1.2	*0.645	55.0	LOS D	9.5	67.3	0.98	0.82	1.00	8.9
11	T1	93	42.0	93	42.0	0.452	49.0	LOS D	6.2	55.9	0.94	0.76	0.94	19.5
12	R2	22	0.0	22	0.0	0.452	52.4	LOS D	6.2	55.9	0.94	0.76	0.94	14.6
Appro	bach	284	14.4	284	14.4	0.645	52.9	LOS D	9.5	67.3	0.96	0.80	0.98	13.5
All Ve	hicles	2453	6.2	2436 ^N	6.3	0.668	19.2	LOS B	16.2	117.1	0.52	0.50	0.52	23.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab). Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

* Critical Movement (Signal Timing)

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

Pedestrian Movement Performance														
Mov	Dem.	Aver.	Level of	AVERAGE	BACK OF	Prop. E	ffective	Travel	Travel	Aver.				
ID Crossing	Flow	Delay	Service	QUEUE		Que	Stop	Time	Dist.	Speed				
				[Ped Dist]			Rate							
ped/h sec ped m sec														
South: Bigge St (S)														
P1 Full	105	54.4	LOS E	0.3	0.3	0.95	0.95	81.2	34.9	0.43				
East: Moore St (E	E)													
P2 Full	105	54.4	LOS E	0.3	0.3	0.95	0.95	81.5	35.2	0.43				
North: Bigge St (I	N)													

P3 Full	105	54.4	LOS E	0.3	0.3	0.95	0.95	80.9	34.5	0.43
West: Moore St (W	V)									
P4 Full	105	54.4	LOS E	0.3	0.3	0.95	0.95	81.5	35.2	0.43
All Pedestrians	421	54.4	LOS E	0.3	0.3	0.95	0.95	81.3	35.0	0.43

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Site: 104 [4. Moore St / George St - Future Base AM Peak (Site Folder: Existing + Neighbouring Development)]

■ Network: N101 [Existing + Neighbouring Development AM Peak (Network Folder: General)]

Existing AM Peak

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Site User-Given Cycle Time)

Vehio	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% [Ql [Veh. veh	BACK OF JEUE Dist] m	Prop. Que	Effective <i>l</i> Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East:	Moore	Street (E	E)											
4	L2	54	29.4	53	29.6	0.351	45.4	LOS D	4.0	34.8	0.93	0.75	0.93	15.8
5	T1	125	30.3	125	30.4	*0.351	41.6	LOS C	4.0	35.6	0.93	0.74	0.93	14.1
Appro	bach	179	30.0	<mark>178</mark> ^{N1}	30.2	0.351	42.7	LOS D	4.0	35.6	0.93	0.74	0.93	14.7
North	: Georg	ge Street	(N)											
7	L2	95	13.3	95	13.3	0.239	35.4	LOS C	3.7	28.6	0.82	0.73	0.82	13.4
8	T1	318	2.6	318	2.6	*0.361	32.5	LOS C	7.1	51.0	0.85	0.70	0.85	19.3
9	R2	57	5.6	57	5.6	0.122	34.1	LOS C	2.1	15.6	0.80	0.71	0.80	16.6
Appro	bach	469	5.2	469	5.2	0.361	33.3	LOS C	7.1	51.0	0.84	0.71	0.84	17.9
West:	Moore	Street (W)											
11	T1	254	12.4	254	12.4	0.273	6.9	LOS A	4.7	35.5	0.33	0.34	0.33	20.9
12	R2	88	2.4	88	2.4	*0.273	11.7	LOS A	4.7	35.5	0.39	0.42	0.39	27.5
Appro	bach	342	9.8	342	9.8	0.273	8.2	LOS A	4.7	35.5	0.35	0.36	0.35	23.5
All Ve	hicles	991	11.3	<mark>990</mark> N1	11.3	0.361	26.3	LOS B	7.1	51.0	0.69	0.59	0.69	17.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab). Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

* Critical Movement (Signal Timing)

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

Pedestrian Mo	vement	Perform	nance							
Mov ID Crossing	Dem. Flow	Aver. Delay	Level of Service	f AVERAGE BACK OF Pi QUEUE ([Ped Dist]		Prop. Et Que	ffective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
	ped/h	sec		ped	m			sec	m	m/sec
South: George St	treet (S)									
P1 Full	53	44.3	LOS E	0.1	0.1	0.94	0.94	70.4	34.0	0.48
East: Moore Stree	et (E)									
P2 Full	53	44.3	LOS E	0.1	0.1	0.94	0.94	70.9	34.6	0.49
North: George St	reet (N)									
P3 Full	53	44.3	LOS E	0.1	0.1	0.94	0.94	70.7	34.3	0.49
West: Moore Stre	et (W)									
P4 Full	53	44.3	LOS E	0.1	0.1	0.94	0.94	70.7	34.3	0.49
All Pedestrians	211	44.3	LOS E	0.1	0.1	0.94	0.94	70.7	34.3	0.49

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay) Pedestrian movement LOS values are based on average delay per pedestrian movement. Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements. SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com Organisation: PARKING AND TRAFFIC CONSULTANTS | Licence: NETWORK / 1PC | Processed: Wednesday, 3 November 2021 12:21:48 PM

V Site: 105 [5. George Street / New Lane - Future Base AM Peak (Site Folder: Existing + Neighbouring Development)]

k Beighbouring Development AM Peak (Network Folder: General)]

New Site Site Category: (None) Give-Way (Two-Way)

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% B QU [Veh. veh	ACK OF EUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
East: New Laneway														
4	L2	41	0.0	41	0.0	0.031	6.4	LOS A	0.1	1.0	0.33	0.55	0.33	36.3
Appro	bach	41	0.0	41	0.0	0.031	6.4	LOS A	0.1	1.0	0.33	0.55	0.33	36.3
North	: Georg	ge Street	North											
7	L2	21	0.0	21	0.0	0.142	3.9	LOS A	0.0	0.0	0.00	0.05	0.00	55.0
8	T1	516	5.1	516	5.1	0.142	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	57.5
Appro	bach	537	4.9	537	4.9	0.142	0.2	NA	0.0	0.0	0.00	0.02	0.00	57.4
All Ve	hicles	578	4.6	578	4.6	0.142	0.6	NA	0.1	1.0	0.02	0.06	0.02	51.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

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Site: 101 [1. Elizabeth St / George St - Future Base PM Peak (Site Folder: Existing + Neighbouring Development)]

■ Network: N102 [Existing + Neighbouring Development PM Peak (Network Folder: General)]

Existing PM Peak

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Site User-Given Cycle Time)

Vehi	cle Mo	vement	Perfo	rmano	ce									
Mov ID	Turn	DEMA FLOV [Total veh/h	ND VS HV] %	ARRI FLO [Total veh/h	IVAL WS I HV] %	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
East:	Elizabe	eth St (E)												
4	L2	153	5.5	153	5.5	*0.749	44.2	LOS D	16.0	114.9	0.98	0.89	1.05	11.1
5	T1	397	1.1	397	1.1	0.749	39.9	LOS C	16.0	114.9	0.98	0.90	1.06	14.5
6	R2	76	6.9	76	6.9	0.749	43.5	LOS D	13.9	99.4	0.98	0.91	1.07	19.1
Appro	bach	625	2.9	625	2.9	0.749	41.4	LOS C	16.0	114.9	0.98	0.90	1.06	14.5
North: George St (N)														
7	L2	33	9.7	33	9.7	0.148	24.0	LOS B	2.9	21.1	0.60	0.54	0.60	20.7
8	T1	485	3.7	485	3.7	0.740	25.7	LOS B	20.5	147.3	0.82	0.74	0.83	18.6
9	R2	108	0.0	108	0.0	*0.740	29.9	LOS C	20.5	147.3	0.85	0.78	0.86	21.2
Appro	bach	626	3.4	626	3.4	0.740	26.3	LOS B	20.5	147.3	0.81	0.74	0.82	19.2
West	Elizab	eth St (W	')											
10	L2	191	1.7	191	1.7	0.485	20.3	LOS B	12.0	89.7	0.64	0.64	0.64	25.2
11	T1	227	12.5	227	12.5	0.485	16.8	LOS B	12.0	89.7	0.64	0.64	0.64	13.2
12	R2	231	1.4	231	1.4	*0.545	24.2	LOS B	6.8	48.1	0.92	0.80	0.92	10.5
Appro	bach	648	5.4	648	5.4	0.545	20.5	LOS B	12.0	89.7	0.74	0.69	0.74	17.1
All Ve	hicles	1900	3.9	1900	3.9	0.749	29.3	LOS C	20.5	147.3	0.84	0.78	0.87	16.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab). Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

* Critical Movement (Signal Timing)

Pedestrian Mov	vement	Perforr	nance							
Mov ID Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Et Que	fective Stop	Travel Time	Travel Dist.	Aver. Speed
	ped/h	sec		[Ped ped	Dist] m		Rate	sec	m	m/sec
South: George St	(S)									
P1 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	71.1	34.7	0.49
East: Elizabeth S	t (E)									
P2 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.5	34.0	0.48
North: George St	(N)									
P3 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.7	34.2	0.48
West: Elizabeth S	St (W)									
P4 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.6	34.1	0.48
All Pedestrians	421	44.4	LOS E	0.3	0.3	0.94	0.94	70.7	34.3	0.48

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

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Site: 102 [2. Elizabeth St / Bigge St - Future Base PM Peak (Site Folder: Existing + Neighbouring Development)]

■ Network: N102 [Existing + Neighbouring Development PM Peak (Network Folder: General)]

Existing PM Peak

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Network User-Given Cycle Time)

Vehio	cle Mo	vement	Perfo	rmano	ce									
Mov ID	Turn	DEMA FLO	ND NS	ARR FLO	IVAL WS	Deg. Satn	Aver. Delay	Level of Service	95% BA QUE	CK OF	Prop. Que	Effective <i>A</i> Stop	ver. No. Cycles	Aver. Speed
		veh/h	⊓vj %	veh/h	i⊓vj %	v/c	sec		veh.	m m		Rale		km/h
South	: Bigge	e St (S)												
1	L2	389	2.4	389	2.4	0.353	12.6	LOS A	8.6	61.6	0.49	0.66	0.49	12.8
2	T1	621	2.2	621	2.2	*0.509	9.7	LOS A	11.4	81.6	0.56	0.51	0.56	29.6
3	R2	2	0.0	2	0.0	0.509	13.1	LOS A	11.4	81.6	0.56	0.51	0.56	25.3
Appro	ach	1013	2.3	1013	2.3	0.509	10.8	LOS A	11.4	81.6	0.54	0.57	0.54	25.6
East:	Elizabe	eth St (E)												
4	L2	95	2.2	95	2.2	0.393	41.3	LOS C	6.5	46.6	0.91	0.76	0.91	8.4
5	T1	174	4.2	174	4.2	0.393	37.3	LOS C	6.5	46.6	0.91	0.75	0.91	8.6
6	R2	22	52.4	22	52.4	0.393	41.1	LOS C	5.9	45.9	0.91	0.74	0.91	18.3
Appro	ach	291	7.2	291	7.2	0.393	38.9	LOS C	6.5	46.6	0.91	0.75	0.91	9.5
North	: Bigge	St (N)												
7	L2	33	0.0	33	0.0	0.128	7.6	LOS A	1.5	10.5	0.21	0.25	0.21	35.3
8	T1	416	2.5	416	2.5	0.401	7.1	LOS A	5.8	41.1	0.33	0.34	0.33	30.2
9	R2	41	0.0	41	0.0	0.401	11.7	LOS A	5.8	41.1	0.38	0.37	0.38	29.1
Appro	ach	489	2.2	489	2.2	0.401	7.6	LOS A	5.8	41.1	0.33	0.33	0.33	30.5
West:	Elizab	eth St (W	')											
10	L2	79	0.0	79	0.0	0.216	41.4	LOS C	3.3	22.9	0.88	0.74	0.88	19.4
11	T1	139	22.7	139	22.7	*0.520	38.7	LOS C	7.6	61.8	0.94	0.78	0.94	15.4
12	R2	33	0.0	33	0.0	0.520	42.2	LOS C	7.6	61.8	0.94	0.78	0.94	11.4
Appro	ach	251	12.6	251	12.6	0.520	40.0	LOS C	7.6	61.8	0.92	0.77	0.92	16.4
All Ve	hicles	2043	4.2	2043	4.2	0.520	17.6	LOS B	11.4	81.6	0.59	0.56	0.59	21.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

* Critical Movement (Signal Timing)

Peo	destrian Mov	ement	Perforn	nance							
Mo		Dem.	Aver.	Level of	AVERAGE B	ACK OF	Prop. Eff	ective	Travel	Travel	Aver.
ĪĎ	Crossing	Flow	Delay	Service	QUEUE [Ped Dist]		Que	Stop Rate	Time	Dist.	Speed
		ped/h	sec		ped	m			sec	m	m/sec
Sou	ith: Bigge St (S	S)									
P1	Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.5	34.0	0.48
Eas	t: Elizabeth St	(E)									
P2	Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	71.5	35.2	0.49
Nor	th: Bigge St (N)									
P3	Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.8	34.3	0.48

West: Elizabeth St (W)												
P4 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.8	34.3	0.48		
All Pedestrians	421	44.4	LOS E	0.3	0.3	0.94	0.94	70.9	34.5	0.49		

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Site: 103 [3. Moore St / Bigge St - Future Base PM Peak (Site Folder: Existing + Neighbouring Development)]

■ Network: N102 [Existing + Neighbouring Development PM Peak (Network Folder: General)]

Existing PM Peak

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance														
Mov	Turn	DEM	AND	ARR	IVAL	Deg.	Aver.	Level of	95% E	BACK OF	Prop.	EffectiveA	ver. No.	Aver.
ID		FLO Total	WS	FLO	WS	Satn	Delay	Service	Ql [\/ob		Que	Stop	Cycles	Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m		Nate		km/h
South	: Bigge	st (S)												
1	L2	125	2.5	125	2.5	0.404	13.2	LOS A	8.1	58.3	0.40	0.45	0.40	26.2
2	T1	788	2.8	788	2.8	0.404	7.2	LOS A	8.1	58.3	0.35	0.35	0.35	28.8
3	R2	146	7.9	146	7.9	0.460	27.9	LOS B	5.3	39.7	0.76	0.78	0.76	25.5
Appro	bach	1060	3.5	1060	3.5	0.460	10.8	LOS A	8.1	58.3	0.42	0.42	0.42	27.3
East:	Moore	St (E)												
4	L2	245	0.9	245	0.9	*0.531	38.8	LOS C	10.5	74.0	0.92	0.81	0.92	21.8
5	T1	94	64.0	94	64.0	0.263	30.7	LOS C	3.8	40.4	0.82	0.66	0.82	20.6
6	R2	4	0.0	4	0.0	0.263	34.1	LOS C	3.8	40.4	0.82	0.66	0.82	20.6
Appro	bach	343	18.1	343	18.1	0.531	36.5	LOS C	10.5	74.0	0.89	0.77	0.89	21.5
North	: Bigge	St (N)												
7	L2	8	25.0	8	25.0	*0.528	17.2	LOS B	17.2	122.2	0.63	0.57	0.63	33.9
8	T1	602	1.2	602	1.2	0.528	12.4	LOS A	17.2	122.2	0.63	0.57	0.63	32.6
9	R2	46	4.5	46	4.5	0.158	19.1	LOS B	1.2	9.0	0.56	0.69	0.56	21.2
Appro	bach	657	1.8	657	1.8	0.528	13.0	LOS A	17.2	122.2	0.63	0.58	0.63	31.9
West	Moore	St (W)												
10	L2	116	0.0	116	0.0	0.295	35.7	LOS C	5.2	39.1	0.84	0.75	0.84	12.3
11	T1	66	60.3	66	60.3	0.295	37.1	LOS C	5.2	39.1	0.89	0.73	0.89	21.9
12	R2	23	0.0	23	0.0	0.295	42.1	LOS C	3.1	29.8	0.90	0.72	0.90	16.7
Appro	bach	205	19.5	205	19.5	0.295	36.8	LOS C	5.2	39.1	0.86	0.74	0.86	17.0
All Ve	hicles	2265	6.6	2265	6.6	0.531	17.7	LOS B	17.2	122.2	0.59	0.55	0.59	25.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

* Critical Movement (Signal Timing)

Peo	Pedestrian Movement Performance												
Mov	/ Crossing	Dem.	Aver.	Level of	AVERAGE E	BACK OF	Prop. Ef	fective	Travel	Travel	Aver.		
שו	ereeeg	FIOW	Delay	Service	QUEUE [Ped Dist]		Que	Rate	nine	DISI.	Speed		
		ped/h	sec		ped	m			sec	m	m/sec		
Sou	th: Bigge St (S	S)											
P1	Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	71.2	34.9	0.49		
Eas	t: Moore St (E)											
P2	Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	71.5	35.2	0.49		
Nor	th: Bigge St (N	1)											
P3	Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.9	34.5	0.49		

West: Moore St (W)												
P4 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	71.5	35.2	0.49		
All Pedestrians	421	44.4	LOS E	0.3	0.3	0.94	0.94	71.3	35.0	0.49		

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Site: 104 [4. Moore St / George St - Future Base PM Peak (Site Folder: Existing + Neighbouring Development)]

■ Network: N102 [Existing + Neighbouring Development PM Peak (Network Folder: General)]

Existing PM Peak Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance														
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% [Ql [Veh. veh	BACK OF JEUE Dist] m	Prop. Que	Effective <i>F</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
East: Moore Street (E)														
4	L2	60	10.5	60	10.5	0.397	44.0	LOS D	5.2	43.8	0.93	0.76	0.93	16.2
5	T1	169	35.4	169	35.4	*0.397	40.1	LOS C	5.2	43.8	0.93	0.75	0.93	14.4
Appro	bach	229	28.9	229	28.9	0.397	41.2	LOS C	5.2	45.2	0.93	0.75	0.93	14.9
North: George Street (N)														
7	L2	102	13.4	102	13.4	0.133	20.2	LOS B	2.8	22.1	0.61	0.67	0.61	18.8
8	T1	644	3.3	644	3.3	*0.413	18.9	LOS B	11.5	83.0	0.70	0.60	0.70	24.6
9	R2	176	1.2	176	1.2	0.208	20.7	LOS B	5.1	35.8	0.63	0.71	0.63	21.4
Appro	bach	922	4.0	922	4.0	0.413	19.4	LOS B	11.5	83.0	0.68	0.63	0.68	23.5
West:	Moore	Street (W)											
11	T1	128	25.4	128	25.4	0.250	20.3	LOS B	4.4	34.9	0.61	0.52	0.61	11.3
12	R2	55	0.0	55	0.0	*0.250	26.6	LOS B	4.4	34.9	0.67	0.60	0.67	18.5
Appro	bach	183	17.8	183	17.8	0.250	22.2	LOS B	4.4	34.9	0.63	0.55	0.63	14.2
All Ve	hicles	1335	10.2	1335	10.2	0.413	23.5	LOS B	11.5	83.0	0.71	0.64	0.71	20.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab). Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE [Ped Dist]		Prop. Et Que	ffective Stop Rate	Travel Time	Travel Dist.	Aver. Speed		
	ped/h	sec		ped	m			sec	m	m/sec		
South: George St	reet (S)											
P1 Full	53	44.3	LOS E	0.1	0.1	0.94	0.94	70.4	34.0	0.48		
East: Moore Stree	et (E)											
P2 Full	53	44.3	LOS E	0.1	0.1	0.94	0.94	70.9	34.6	0.49		
North: George St	reet (N)											
P3 Full	53	44.3	LOS E	0.1	0.1	0.94	0.94	70.7	34.3	0.49		
West: Moore Stre	et (W)											
P4 Full	53	44.3	LOS E	0.1	0.1	0.94	0.94	70.7	34.3	0.49		
All Pedestrians	211	44.3	LOS E	0.1	0.1	0.94	0.94	70.7	34.3	0.49		

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay) Pedestrian movement LOS values are based on average delay per pedestrian movement. Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements. SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com Organisation: PARKING AND TRAFFIC CONSULTANTS | Licence: NETWORK / 1PC | Processed: Wednesday, 3 November 2021 12:21:57 PM

V Site: 105 [5. George Street / New Lane - Future Base PM Peak (Site Folder: Existing + Neighbouring Development)]

Network: N102 [Existing + Neighbouring Development PM Peak (Network Folder: General)]

New Site Site Category: (None) Give-Way (Two-Way)

Vehi	Vehicle Movement Performance													
Mov ID	Turn	DEM/ FLO [Total veb/b	AND WS HV]	ARRI FLO [Total veh/h	VAL WS HV]	Deg. Satn	Aver. Delay	Level of Service	95% B QU [Veh. veh	ACK OF EUE Dist]	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
East: New Laneway														
4	L2	12	0.0	12	0.0	0.009	6.7	LOS A	0.0	0.3	0.39	0.54	0.39	35.8
Appro	oach	12	0.0	12	0.0	0.009	6.7	LOS A	0.0	0.3	0.39	0.54	0.39	35.8
North	: Georg	ge Street	North											
7	L2	81	0.0	81	0.0	0.229	3.9	LOS A	0.0	0.0	0.00	0.11	0.00	49.7
8	T1	788	3.7	788	3.7	0.229	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	54.8
Appro	bach	869	3.4	869	3.4	0.229	0.4	NA	0.0	0.0	0.00	0.05	0.00	54.3
All Ve	ehicles	881	3.3	881	3.3	0.229	0.5	NA	0.0	0.3	0.01	0.06	0.01	53.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab). Vehicle movement LOS values are based on average delay per movement.

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: 106 [6. Bigge Street / New Lane - Future Base PM Peak (Site Folder: Existing + Neighbouring Development)]

■■ Network: N102 [Existing + **Neighbouring Development PM** Peak (Network Folder: General)]

New Site Site Category: (None) Give-Way (Two-Way)

Vehi	Vehicle Movement Performance													
Mov ID	Turn	DEMA FLO\ [Total veh/h	AND NS 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	n: Bigge	Street S	outh											
1	L2	21	0.0	21	0.0	0.268	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	58.3
2	T1	888	2.5	888	2.5	0.268	0.0	LOS A	4.2	30.4	0.00	0.01	0.00	59.2
Appro	bach	909	2.4	909	2.4	0.268	0.2	NA	4.2	30.4	0.00	0.01	0.00	59.2
North	: Bigge	Street N	orth											
8	T1	543	2.3	543	2.3	0.285	0.0	LOS A	0.0	0.2	0.01	0.00	0.01	58.9
9	R2	1	0.0	1	0.0	0.285	12.0	LOS A	0.0	0.2	0.01	0.00	0.01	58.9
Appro	bach	544	2.3	544	2.3	0.285	0.1	NA	0.0	0.2	0.01	0.00	0.01	58.9
West	New L	ane												
10	L2	12	0.0	12	0.0	0.020	6.8	LOS A	0.1	0.4	0.46	0.60	0.46	33.8
12	R2	1	0.0	1	0.0	0.020	23.4	LOS B	0.1	0.4	0.46	0.60	0.46	33.8
Appro	bach	13	0.0	13	0.0	0.020	8.2	LOS A	0.1	0.4	0.46	0.60	0.46	33.8
All Ve	hicles	1466	2.4	1466	2.4	0.285	0.2	NA	4.2	30.4	0.01	0.01	0.01	58.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

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V Site: 106 [6. Bigge Street / New Lane - Future Base + Development AM Peak (Site Folder: Existing + Neighbouring **Development + Development)**]

■ Network: N101 [Future Base + Development AM Peak (Network Folder: General)]

New Site Site Category: (None) Give-Way (Two-Way)

Vehi	cle Mo	vement	Perfo	rmanc	e									
Mov ID	Turn	DEMA 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>F</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
South	n: Bigge	Street S	outh											
1	L2	99	0.0	99	0.0	0.373	5.6	LOS A	11.9	84.6	0.00	0.08	0.00	55.9
2	T1	1328	2.6	1328	2.6	0.373	0.0	LOS A	41.0	293.8	0.00	0.04	0.00	57.9
Appro	bach	1427	2.4	1427	2.4	0.373	0.4	NA	41.0	293.8	0.00	0.04	0.00	57.8
North	: Bigge	Street N	orth											
8	T1	522	2.4	503	2.4	0.375	5.4	LOS A	2.5	17.9	0.30	0.04	0.39	21.5
9	R2	26	0.0	26	0.0	0.375	26.9	LOS B	2.5	17.9	0.30	0.04	0.39	21.5
Appro	bach	548	2.3	<mark>529</mark> ^{N1}	2.3	0.375	6.5	NA	2.5	17.9	0.30	0.04	0.39	21.5
West:	New L	ane												
10	L2	83	0.0	83	0.0	0.212	8.3	LOS A	1.1	7.4	0.56	0.78	0.56	32.7
12	R2	1	0.0	1	0.0	0.212	51.7	LOS D	1.1	7.4	0.56	0.78	0.56	32.7
Appro	bach	84	0.0	84	0.0	0.212	8.8	LOS A	1.1	7.4	0.56	0.78	0.56	32.7
All Ve	hicles	2060	2.3	2040 ^N	2.3	0.375	2.3	NA	41.0	293.8	0.10	0.07	0.12	48.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab). Vehicle movement LOS values are based on average delay per movement.

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 (Akcelik 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 [1. Elizabeth St / George St - Future Base + Development AM Peak (Site Folder: Existing + Neighbouring Development + Development)]

Network: N101 [Future Base + Development AM Peak (Network Folder: General)]

Existing AM Peak Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Site User-Given Cycle Time)

Vehi	cle Mo	vement	Perfo	rmanc	e:									
Mov ID	Turn	DEMA FLOV [Total veh/h	ND VS HV] %	ARRI FLO [Total veh/h	VAL WS HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BA QUE [Veh. veh	CK OF UE Dist] m	Prop. Que	EffectiveA Stop Rate	ver. No. Cycles	Aver. Speed km/h
East:	Elizabe	eth St (E)												
4	L2	107	7.8	107	7.8	*0.671	41.8	LOS C	13.2	95.7	0.96	0.83	0.97	11.5
5	T1	184	2.3	184	2.3	0.671	37.9	LOS C	13.2	95.7	0.96	0.83	0.97	15.0
6	R2	80	6.6	80	6.6	0.678	55.7	LOS D	4.2	30.9	1.00	0.87	1.16	16.1
Appro	bach	372	4.8	372	4.8	0.678	42.9	LOS D	13.2	95.7	0.97	0.84	1.01	14.5
North: George St (N)														
7	L2	66	7.9	66	7.9	0.151	35.1	LOS C	2.5	19.0	0.82	0.72	0.82	15.9
8	T1	257	5.3	257	5.3	0.695	35.4	LOS C	14.7	106.8	0.91	0.80	0.93	15.5
9	R2	86	2.4	86	2.4	*0.695	38.9	LOS C	14.7	106.8	0.91	0.80	0.93	18.3
Appro	bach	409	5.1	409	5.1	0.695	36.1	LOS C	14.7	106.8	0.90	0.79	0.91	16.2
West	Elizab	eth St (W	')											
10	L2	215	2.5	215	2.5	0.528	13.3	LOS A	12.5	91.3	0.49	0.53	0.49	29.6
11	T1	437	7.0	437	7.0	0.528	10.4	LOS A	12.5	91.3	0.54	0.57	0.54	17.2
12	R2	211	2.0	211	2.0	*0.528	17.4	LOS B	11.1	79.8	0.77	0.75	0.77	14.2
Appro	bach	862	4.6	862	4.6	0.528	12.8	LOS A	12.5	91.3	0.58	0.60	0.58	21.3
All Ve	hicles	1643	4.8	1643	4.8	0.695	25.4	LOS B	14.7	106.8	0.75	0.70	0.76	17.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab). Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

* Critical Movement (Signal Timing)

Pedestrian Mov	/ement	Perforr	nance							
Mov ID Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE QUE	BACK OF UE	Prop. E [.] Que	ffective Stop	Travel Time	Travel Dist.	Aver. Speed
	ped/h	sec		[Ped ped	Dist] m		Rate	sec	m	m/sec
South: George St										
P1 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	71.1	34.7	0.49
East: Elizabeth St	t (E)									
P2 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.5	34.0	0.48
North: George St	(N)									
P3 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.7	34.2	0.48
West: Elizabeth S	st (W)									
P4 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.6	34.1	0.48
All Pedestrians	421	44.4	LOS E	0.3	0.3	0.94	0.94	70.7	34.3	0.48

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

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Site: 102 [2. Elizabeth St / Bigge St - Future Base + Development AM Peak (Site Folder: Existing + Neighbouring Development + Development)]

Network: N101 [Future Base + Development AM Peak (Network Folder: General)]

Existing AM Peak Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehi	cle Mo	vement	Perfo	rmano	ce									
Mov ID	Turn	DEMA 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% E QL [Veh. veh	BACK OF JEUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South	: Bigge	e St (S)												
1	L2	248	4.7	248	4.7	0.569	18.5	LOS B	11.3	81.6	0.60	0.62	0.60	10.8
2	T1	777	3.4	777	3.4	* 1.203	129.4	LOS F	11.4	81.6	0.81	1.31	1.54	6.8
3	R2	100	2.1	100	2.1	1.203	240.7	LOS F	11.4	81.6	1.00	1.96	2.44	2.3
Appro	bach	1125	3.6	1125	3.6	1.203	114.8	LOS F	11.4	81.6	0.78	1.21	1.42	6.2
East:	Elizabe	eth St (E)												
4	L2	54	5.9	54	5.9	0.284	42.4	LOS C	6.2	46.5	0.84	0.72	0.84	8.3
5	T1	104	9.1	104	9.1	0.284	42.2	LOS C	6.2	46.5	0.87	0.72	0.87	7.7
6	R2	25	29.2	25	29.2	0.284	57.7	LOS E	2.8	22.8	0.95	0.73	0.95	14.6
Appro	bach	183	10.9	183	10.9	0.284	44.4	LOS D	6.2	46.5	0.87	0.72	0.87	9.3
North	: Bigge	St (N)												
7	L2	25	0.0	25	0.0	0.171	9.8	LOS A	2.7	19.4	0.25	0.26	0.25	34.2
8	T1	387	1.6	387	1.6	0.537	24.7	LOS B	10.6	75.3	0.57	0.50	0.57	19.6
9	R2	20	0.0	20	0.0	0.537	43.4	LOS D	10.6	75.3	0.83	0.71	0.83	14.7
Appro	bach	433	1.5	433	1.5	0.537	24.7	LOS B	10.6	75.3	0.56	0.50	0.56	19.9
West	Elizab	eth St (W	/)											
10	L2	155	4.1	155	4.1	0.360	45.4	LOS D	7.6	54.9	0.88	0.77	0.88	18.4
11	T1	206	14.3	206	14.3	* 1.226	267.7	LOS F	34.2	261.1	1.00	2.06	2.71	3.3
12	R2	106	3.0	106	3.0	1.226	271.1	LOS F	34.2	261.1	1.00	2.06	2.71	2.1
Appro	bach	467	8.3	467	8.3	1.226	194.9	LOS F	34.2	261.1	0.96	1.64	2.10	4.7
All Ve	hicles	2208	4.8	2208	4.8	1.226	108.3	LOS F	34.2	261.1	0.78	1.12	1.35	6.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

* Critical Movement (Signal Timing)

Peo	destrian Mov	vement	Perform	nance							
Mo\	/ Crossina	Dem.	Aver.	Level of		ACK OF	Prop. Ef	fective Stop	Travel Time	Travel	Aver.
		11000	Delay	Oervice	e QUEUE [Ped Dist] ned m		Que	Rate	TITLE	Dist.	opeeu
		ped/h	sec		ped	m			sec	m	m/sec
Sou	th: Bigge St (S	S)									
P1	Full	105	54.4	LOS E	0.3	0.3	0.95	0.95	80.5	34.0	0.42
Eas	t: Elizabeth St	(E)									
P2	Full	105	54.4	LOS E	0.3	0.3	0.95	0.95	81.5	35.2	0.43
Nor	th: Bigge St (N	1)									
P3	Full	105	54.4	LOS E	0.3	0.3	0.95	0.95	80.8	34.3	0.42

West: Elizabeth St	(W)									
P4 Full	105	54.4	LOS E	0.3	0.3	0.95	0.95	80.8	34.3	0.42
All Pedestrians	421	54.4	LOS E	0.3	0.3	0.95	0.95	80.9	34.5	0.43

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

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Site: 103 [3. Moore St / Bigge St - Future Base + Development 🛛 💵 Network: N101 [Future Base AM Peak (Site Folder: Existing + Neighbouring Development + **Development)**]

+ Development AM Peak (Network Folder: General)]

Existing AM Peak

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehi	cle Mo	vement	Perfo	rmano	ce									
Mov ID	Turn	DEM/ FLO ^V [Total veh/h	AND WS HV] %	ARR FLO [Tota veh/h	IVAL WS I HV] %	Deg. Satn	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	n: Bigge	e St (S)	/0	VGH/H	70	10			Von					KITI/TT
1	L2	111	1.9	111	1.9	*0.708	8.9	LOS A	12.4	88.2	0.27	0.30	0.27	35.1
2	T1	1237	2.0	1237	2.0	0.708	3.6	LOS A	14.7	104.8	0.25	0.26	0.25	36.6
3	R2	278	2.3	278	2.3	0.431	15.6	LOS B	7.9	56.4	0.52	0.72	0.52	30.9
Appro	bach	1625	2.1	1625	2.1	0.708	6.0	LOS A	14.7	104.8	0.30	0.34	0.30	34.0
East:	Moore	St (E)												
4	L2	80	5.3	80	5.3	0.282	52.2	LOS D	4.2	30.7	0.92	0.76	0.92	18.7
5	T1	96	56.0	96	56.0	0.647	54.5	LOS D	6.8	68.9	0.99	0.85	1.05	14.9
6	R2	20	36.8	20	36.8	0.647	58.1	LOS E	6.8	68.9	0.99	0.85	1.05	14.9
Approach		196	33.3	196	33.3	0.647	53.9	LOS D	6.8	68.9	0.96	0.81	1.00	16.5
North	: Bigge	St (N)												
7	L2	11	0.0	10	0.0	0.263	11.1	LOS A	7.2	52.2	0.38	0.35	0.38	37.8
8	T1	357	3.5	343	3.5	0.263	6.6	LOS A	7.2	52.2	0.38	0.35	0.38	38.9
9	R2	73	0.0	70	0.0	0.385	19.3	LOS B	2.3	16.1	0.56	0.71	0.56	21.0
Appro	bach	440	2.9	<mark>424</mark> N1	2.8	0.385	8.8	LOS A	7.2	52.2	0.41	0.41	0.41	35.7
West	: Moore	St (W)												
10	L2	169	1.2	169	1.2	*0.683	56.8	LOS E	9.7	68.8	0.99	0.85	1.04	8.7
11	T1	93	42.0	93	42.0	0.468	50.1	LOS D	6.3	56.5	0.95	0.77	0.95	19.3
12	R2	22	0.0	22	0.0	0.468	53.4	LOS D	6.3	56.5	0.95	0.77	0.95	14.4
Appro	bach	284	14.4	284	14.4	0.683	54.4	LOS D	9.7	68.8	0.97	0.82	1.01	13.3
All Ve	hicles	2545	6.0	2529 ^N	6.0	0.708	15.6	LOS B	14.7	104.8	0.44	0.44	0.45	25.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab). Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

* Critical Movement (Signal Timing)

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

Pedestrian Mov	vement	Perforr	nance							
Mov	Dem.	Aver.	Level of	AVERAGE	BACK OF	Prop. E	ffective	Travel	Travel	Aver.
ID Crossing	Flow	Delay	Service	QUE	EUE	Que	Stop	Time	Dist.	Speed
				[Ped	Dist]		Rate			
	ped/h	sec		ped	m			sec	m	m/sec
South: Bigge St (
P1 Full	105	54.4	LOS E	0.3	0.3	0.95	0.95	81.2	34.9	0.43
East: Moore St (E)									
P2 Full	105	54.4	LOS E	0.3	0.3	0.95	0.95	81.5	35.2	0.43
North: Bigge St (N	V)									

P3 Full	105	54.4	LOS E	0.3	0.3	0.95	0.95	80.9	34.5	0.43
West: Moore St (W	V)									
P4 Full	105	54.4	LOS E	0.3	0.3	0.95	0.95	81.5	35.2	0.43
All Pedestrians	421	54.4	LOS E	0.3	0.3	0.95	0.95	81.3	35.0	0.43

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

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Site: 104 [4. Moore St / George St - Future Base + Development AM Peak (Site Folder: Existing + Neighbouring Development + Development)]

Network: N101 [Future Base + Development AM Peak (Network Folder: General)]

Existing AM Peak Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Site User-Given Cycle Time)

Vehio	cle Mo	vement	t Perfo	rman	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% B QL [Veh. veh	ACK OF JEUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
East:	Moore	Street (E	E)											
4	L2	54	29.4	53	29.7	0.373	46.6	LOS D	4.0	35.2	0.94	0.76	0.94	15.5
5	T1	125	30.3	124	30.5	*0.373	42.7	LOS D	4.1	36.1	0.94	0.75	0.94	13.9
Appro	ach	179	30.0	<mark>177</mark> N1	30.3	0.373	43.9	LOS D	4.1	36.1	0.94	0.75	0.94	14.4
North	: Georg	je Street	(N)											
7	L2	95	13.3	95	13.3	0.205	32.7	LOS C	3.5	27.3	0.79	0.73	0.79	14.1
8	T1	363	2.3	363	2.3	*0.371	30.2	LOS C	7.9	56.6	0.83	0.69	0.83	20.6
9	R2	57	5.6	57	5.6	0.110	31.5	LOS C	2.0	14.9	0.77	0.71	0.77	17.3
Appro	ach	515	4.7	515	4.7	0.371	30.8	LOS C	7.9	56.6	0.82	0.70	0.82	19.2
West:	Moore	Street (W)											
11	T1	254	12.4	254	12.4	0.289	8.9	LOS A	5.5	41.5	0.39	0.38	0.39	18.6
12	R2	88	2.4	88	2.4	*0.289	14.1	LOS A	5.5	41.5	0.45	0.46	0.45	25.6
Appro	ach	342	9.8	342	9.8	0.289	10.3	LOS A	5.5	41.5	0.40	0.40	0.40	21.3
All Ve	hicles	1036	10.8	1034 ¹	10.8	0.373	26.3	LOS B	7.9	56.6	0.70	0.61	0.70	18.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab). Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

* Critical Movement (Signal Timing)

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

Pedestrian Mov	vement	Perform	nance							
Mov ID Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE QUE	BACK OF UE Dist 1	Prop. Ef Que	fective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
	ped/h	sec		ped	m		Tate	sec	m	m/sec
South: George St	reet (S)									
P1 Full	53	44.3	LOS E	0.1	0.1	0.94	0.94	70.4	34.0	0.48
East: Moore Stree	et (E)									
P2 Full	53	44.3	LOS E	0.1	0.1	0.94	0.94	70.9	34.6	0.49
North: George Str	reet (N)									
P3 Full	53	44.3	LOS E	0.1	0.1	0.94	0.94	70.7	34.3	0.49
West: Moore Stre	et (W)									
P4 Full	53	44.3	LOS E	0.1	0.1	0.94	0.94	70.7	34.3	0.49
All Pedestrians	211	44.3	LOS E	0.1	0.1	0.94	0.94	70.7	34.3	0.49

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay) Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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V Site: 105 [5. George Street / New Lane - Future Base + Development AM Peak (Site Folder: Existing + Neighbouring Development + Development)]

Network: N101 [Future Base + Development AM Peak (Network Folder: General)]

New Site Site Category: (None) Give-Way (Two-Way)

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% B QU [Veh. veh	ACK OF EUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
East: New Laneway														
4	L2	86	0.0	86	0.0	0.063	6.3	LOS A	0.3	2.2	0.32	0.55	0.32	36.4
Appro	bach	86	0.0	86	0.0	0.063	6.3	LOS A	0.3	2.2	0.32	0.55	0.32	36.4
North	: Georg	ge Street	North											
7	L2	59	0.0	59	0.0	0.153	3.9	LOS A	0.0	0.0	0.00	0.12	0.00	48.8
8	T1	516	5.1	516	5.1	0.153	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	54.4
Appro	bach	575	4.6	575	4.6	0.153	0.4	NA	0.0	0.0	0.00	0.06	0.00	53.7
All Ve	hicles	661	4.0	661	4.0	0.153	1.2	NA	0.3	2.2	0.04	0.12	0.04	46.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

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V Site: 106 [6. Bigge Street / New Lane - Future Base + Development PM Peak (Site Folder: Existing + Neighbouring Development + Development)]

Network: N101 [Future Base + Development PM Peak (Network Folder: General)]

New Site Site Category: (None) Give-Way (Two-Way)

Vehi	cle Mo	vement	Perfo	rmanc	e									
Mov ID	Turn	DEMA FLO\ [Total veh/h	AND NS 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	n: Bigge	Street S	outh											
1	L2	61	0.0	61	0.0	0.294	5.6	LOS A	0.0	0.0	0.00	0.09	0.00	55.4
2	T1	888	2.5	888	2.5	0.294	0.0	LOS A	5.2	37.0	0.00	0.03	0.00	58.1
Appro	bach	949	2.3	949	2.3	0.294	0.4	NA	5.2	37.0	0.00	0.04	0.00	58.0
North	: Bigge	Street N	orth											
8	T1	543	2.3	543	2.3	0.325	1.0	LOS A	0.7	5.2	0.13	0.02	0.15	42.8
9	R2	21	0.0	21	0.0	0.325	13.1	LOS A	0.7	5.2	0.13	0.02	0.15	42.8
Appro	bach	564	2.2	564	2.2	0.325	1.4	NA	0.7	5.2	0.13	0.02	0.15	42.8
West	New L	ane												
10	L2	74	0.0	74	0.0	0.101	6.7	LOS A	0.3	1.9	0.39	0.61	0.39	35.8
12	R2	1	0.0	1	0.0	0.101	26.4	LOS B	0.3	1.9	0.39	0.61	0.39	35.8
Appro	bach	75	0.0	75	0.0	0.101	6.9	LOS A	0.3	1.9	0.39	0.61	0.39	35.8
All Ve	hicles	1588	2.2	1588	2.2	0.325	1.1	NA	5.2	37.0	0.06	0.06	0.07	53.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab). Vehicle movement LOS values are based on average delay per movement.

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 [1. Elizabeth St / George St - Future Base + Development PM Peak (Site Folder: Existing + Neighbouring Development + Development)]

Network: N101 [Future Base + Development PM Peak (Network Folder: General)]

Existing PM Peak Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Site User-Given Cycle Time)

Vehi	cle Mo	vement	Perfo	rmano	e:									
Mov ID	Turn	DEMA FLO\ [Total veh/h	ND NS HV] %	ARRI FLO [Total veh/h	VAL WS HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BA QUE [Veh. veh	ACK OF EUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
East:	Elizabe	eth St (E)												
4	L2	153	5.5	153	5.5	*0.749	44.2	LOS D	16.0	114.9	0.98	0.89	1.05	11.1
5	T1	397	1.1	397	1.1	0.749	39.9	LOS C	16.0	114.9	0.98	0.90	1.06	14.5
6	R2	76	6.9	76	6.9	0.749	43.5	LOS D	13.9	99.4	0.98	0.91	1.07	19.1
Appro	bach	625	2.9	625	2.9	0.749	41.4	LOS C	16.0	114.9	0.98	0.90	1.06	14.5
North	: Georg	e St (N)												
7	L2	33	9.7	33	9.7	0.152	24.8	LOS B	3.0	21.6	0.62	0.55	0.62	20.3
8	T1	485	3.7	485	3.7	0.760	27.3	LOS B	21.4	153.3	0.84	0.77	0.86	18.0
9	R2	108	0.0	108	0.0	*0.760	31.7	LOS C	21.4	153.3	0.88	0.81	0.90	20.6
Appro	bach	626	3.4	626	3.4	0.760	28.0	LOS B	21.4	153.3	0.83	0.76	0.85	18.6
West	Elizab	eth St (W	()											
10	L2	191	1.7	191	1.7	0.475	19.5	LOS B	11.7	87.1	0.62	0.62	0.62	25.6
11	T1	227	12.5	227	12.5	0.475	16.0	LOS B	11.7	87.1	0.62	0.62	0.62	13.6
12	R2	246	1.3	246	1.3	*0.559	23.9	LOS B	7.2	50.7	0.92	0.81	0.92	10.7
Appro	bach	664	5.2	664	5.2	0.559	19.9	LOS B	11.7	87.1	0.73	0.69	0.73	17.3
All Ve	hicles	1916	3.8	1916	3.8	0.760	29.6	LOS C	21.4	153.3	0.85	0.78	0.88	16.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab). Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

* Critical Movement (Signal Timing)

Pedestrian Mov	vement	Perform	nance							
Mov ID Crossing	Dem. Flow	Aver. Delay	Level of Service		BACK OF	Prop. Ef Que	ffective Stop	Travel Time	Travel Dist.	Aver. Speed
	ped/h	sec		[Ped ped	Dist J m		Rate	sec	m	m/sec
South: George St	(S)									
P1 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	71.1	34.7	0.49
East: Elizabeth St	:(E)									
P2 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.5	34.0	0.48
North: George St	(N)									
P3 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.7	34.2	0.48
West: Elizabeth S	t (W)									
P4 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.6	34.1	0.48
All Pedestrians	421	44.4	LOS E	0.3	0.3	0.94	0.94	70.7	34.3	0.48

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

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Site: 102 [2. Elizabeth St / Bigge St - Future Base + Development PM Peak (Site Folder: Existing + Neighbouring Development + Development)]

Network: N101 [Future Base + Development PM Peak (Network Folder: General)]

Existing PM Peak Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Network User-Given Cycle Time)

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% B/ QU [Veh.	ACK OF EUE Dist]	Prop. Que	EffectiveA Stop Rate	ver. No. Cycles	Aver. Speed
South	: Bigge	e St (S)	70	ven/n	70	V/C	sec	_	ven	111	_	_	_	K[1]/11
1	L2	427	2.2	427	2.2	0.387	13.1	LOS A	9.8	69.8	0.51	0.68	0.51	12.6
2	T1	645	2.1	645	2.1	*0.529	9.9	LOS A	11.4	81.6	0.58	0.52	0.58	29.8
3	R2	2	0.0	2	0.0	0.529	13.3	LOS A	11.4	81.6	0.58	0.52	0.58	25.2
Appro	bach	1075	2.2	1075	2.2	0.529	11.2	LOS A	11.4	81.6	0.55	0.59	0.55	25.5
East:	Elizabe	eth St (E)												
4	L2	95	2.2	95	2.2	0.393	41.4	LOS C	6.5	46.6	0.91	0.76	0.91	8.4
5	T1	174	4.2	174	4.2	0.393	37.3	LOS C	6.5	46.6	0.91	0.75	0.91	8.6
6	R2	22	52.4	22	52.4	0.393	41.1	LOS C	5.9	45.9	0.91	0.74	0.91	18.3
Appro	bach	291	7.2	291	7.2	0.393	38.9	LOS C	6.5	46.6	0.91	0.75	0.91	9.5
North	: Bigge	St (N)												
7	L2	33	0.0	33	0.0	0.134	7.7	LOS A	1.6	11.5	0.22	0.25	0.22	35.6
8	T1	436	2.4	436	2.4	0.423	7.8	LOS A	6.5	46.3	0.36	0.36	0.36	30.0
9	R2	41	0.0	41	0.0	0.423	12.6	LOS A	6.5	46.3	0.42	0.40	0.42	28.7
Appro	bach	509	2.1	509	2.1	0.423	8.2	LOS A	6.5	46.3	0.35	0.35	0.35	30.3
West	Elizab	eth St (W	/)											
10	L2	79	0.0	79	0.0	0.216	41.5	LOS C	3.3	22.9	0.88	0.74	0.88	19.4
11	T1	139	22.7	139	22.7	*0.520	38.7	LOS C	7.6	61.8	0.94	0.78	0.94	15.4
12	R2	33	0.0	33	0.0	0.520	42.2	LOS C	7.6	61.8	0.94	0.78	0.94	11.4
Appro	bach	251	12.6	251	12.6	0.520	40.1	LOS C	7.6	61.8	0.92	0.77	0.92	16.4
All Ve	hicles	2125	4.1	2125	4.1	0.529	17.7	LOS B	11.4	81.6	0.59	0.57	0.59	21.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

* Critical Movement (Signal Timing)

Pec	lestrian Mov	ement	Perform	nance							
Mo	/	Dem.	Aver.	Level of	AVERAGE B	ACK OF	Prop. Eff	ective	Travel	Travel	Aver.
ID	Crossing	Flow	Delay	Service	e QUEUE [Ped Dist]		Que	Stop Rate	Time	Dist.	Speed
		ped/h	sec		ped	m			sec	m	m/sec
Sou	th: Bigge St (S	S)									
P1	Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.5	34.0	0.48
Eas	t: Elizabeth St	(E)									
P2	Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	71.5	35.2	0.49
Nor	th: Bigge St (N)									
P3	Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.8	34.3	0.48

West: Elizabeth St	(W)									
P4 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.8	34.3	0.48
All Pedestrians	421	44.4	LOS E	0.3	0.3	0.94	0.94	70.9	34.5	0.49

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

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Site: 103 [3. Moore St / Bigge St - Future Base + Development 🛛 💵 Network: N101 [Future Base PM Peak (Site Folder: Existing + Neighbouring Development + **Development)**]

+ Development PM Peak (Network Folder: General)]

Existing PM Peak

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Network User-Given Cycle Time)

Vehi	cle Mo	vement	Perfo	rmano	ce									
Mov	Turn	DEM	AND	ARR	IVAL	Deg.	Aver.	Level of	95%	BACK OF	Prop.	Effective A	ver. No.	Aver.
ID		'UJ-I Total	WS H\/1	FLO Tota	WS I HV/1	Satn	Delay	Service	Q [\/eh	UEUE Dist 1	Que	Stop Rate	Cycles	Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m		Tate		km/h
South	: Bigge	e St (S)												
1	L2	125	2.5	125	2.5	0.421	12.9	LOS A	8.4	60.3	0.40	0.44	0.40	26.8
2	T1	828	2.7	828	2.7	0.421	7.3	LOS A	8.4	60.3	0.36	0.36	0.36	28.9
3	R2	146	7.9	146	7.9	0.460	27.9	LOS B	5.3	39.7	0.76	0.78	0.76	25.5
Appro	bach	1100	3.3	1100	3.3	0.460	10.7	LOS A	8.4	60.3	0.42	0.42	0.42	27.4
East:	Moore	St (E)												
4	L2	245	0.9	245	0.9	*0.531	38.8	LOS C	10.5	74.0	0.92	0.81	0.92	21.8
5	T1	94	64.0	94	64.0	0.263	30.7	LOS C	3.8	40.4	0.82	0.66	0.82	20.6
6	R2	4	0.0	4	0.0	0.263	34.1	LOS C	3.8	40.4	0.82	0.66	0.82	20.6
Appro	bach	343	18.1	343	18.1	0.531	36.5	LOS C	10.5	74.0	0.89	0.77	0.89	21.5
North	: Bigge	St (N)												
7	L2	8	25.0	8	25.0	*0.528	17.2	LOS B	17.2	122.2	0.63	0.57	0.63	33.9
8	T1	602	1.2	602	1.2	0.528	12.4	LOS A	17.2	122.2	0.63	0.57	0.63	32.6
9	R2	46	4.5	46	4.5	0.164	19.2	LOS B	1.2	9.1	0.56	0.69	0.56	21.2
Appro	bach	657	1.8	657	1.8	0.528	13.0	LOS A	17.2	122.2	0.63	0.58	0.63	31.9
West	Moore	St (W)												
10	L2	116	0.0	116	0.0	0.295	35.7	LOS C	5.2	39.1	0.84	0.75	0.84	12.3
11	T1	66	60.3	66	60.3	0.295	37.1	LOS C	5.2	39.1	0.89	0.73	0.89	21.9
12	R2	23	0.0	23	0.0	0.295	42.1	LOS C	3.1	29.8	0.90	0.72	0.90	16.7
Appro	bach	205	19.5	205	19.5	0.295	36.8	LOS C	5.2	39.1	0.86	0.74	0.86	17.0
All Ve	hicles	2305	6.5	2305	6.5	0.531	17.5	LOS B	17.2	122.2	0.59	0.55	0.59	25.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

* Critical Movement (Signal Timing)

Peo	destrian Mov	vement	Perform	nance							
Mov	/ Crossing	Dem.	Aver.	Level of	AVERAGE B		Prop. Eff	ective	Travel	Travel	Aver.
שר		FIOW	Delay	Service	Q0E0 [Ped	Dist]	Que	Rate	mille	Dist.	Speed
		ped/h	sec		ped	m			sec	m	m/sec
Sou	ith: Bigge St (S	S)									
P1	Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	71.2	34.9	0.49
Eas	st: Moore St (E)									
P2	Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	71.5	35.2	0.49
Nor	th: Bigge St (N	1)									
P3	Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	70.9	34.5	0.49

West: Moore St (W	/)									
P4 Full	105	44.4	LOS E	0.3	0.3	0.94	0.94	71.5	35.2	0.49
All Pedestrians	421	44.4	LOS E	0.3	0.3	0.94	0.94	71.3	35.0	0.49

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

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Site: 104 [4. Moore St / George St - Future Base + Development PM Peak (Site Folder: Existing + Neighbouring Development + Development)]

Network: N101 [Future Base + Development PM Peak (Network Folder: General)]

Existing PM Peak Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Site User-Given Cycle Time)

Vehio	cle Mo	vement	Perfo	rmano	ce									
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% B QL [Veh. veh	ACK OF IEUE Dist] m	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed km/h
East:	Moore	Street (E)											
4	L2	60	10.5	60	10.5	0.446	46.4	LOS D	5.4	45.1	0.95	0.77	0.95	15.7
5	T1	169	35.4	169	35.4	*0.446	42.4	LOS C	5.4	45.1	0.95	0.76	0.95	13.9
Appro	ach	229	28.9	229	28.9	0.446	43.4	LOS D	5.4	46.5	0.95	0.77	0.95	14.4
North	North: George Street (N)													
7	L2	102	13.4	102	13.4	0.122	17.8	LOS B	2.6	20.4	0.56	0.65	0.56	20.0
8	T1	736	2.9	736	2.9	*0.430	16.6	LOS B	12.5	89.5	0.67	0.58	0.67	26.8
9	R2	176	1.2	176	1.2	0.191	18.2	LOS B	4.7	33.1	0.59	0.69	0.59	22.7
Appro	ach	1014	3.6	1014	3.6	0.430	17.0	LOS B	12.5	89.5	0.64	0.61	0.64	25.6
West:	Moore	Street (N)											
11	T1	128	25.4	128	25.4	0.280	23.9	LOS B	4.8	38.1	0.66	0.56	0.66	10.1
12	R2	55	0.0	55	0.0	*0.280	30.5	LOS C	4.8	38.1	0.73	0.63	0.73	17.1
Appro	bach	183	17.8	183	17.8	0.280	25.9	LOS B	4.8	38.1	0.68	0.58	0.68	12.8
All Ve	hicles	1426	9.5	1426	9.5	0.446	22.4	LOS B	12.5	89.5	0.70	0.63	0.70	21.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab). Vehicle movement LOS values are based on average delay per movement.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

* Critical Movement (Signal Timing)

Pedestrian Mov	vement	Perform	nance							
Mov ID Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE QUE [Ped	BACK OF EUE Dist 1	Prop. Et Que	ffective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
	ped/h	sec		ped	m			sec	m	m/sec
South: George St	reet (S)									
P1 Full	53	44.3	LOS E	0.1	0.1	0.94	0.94	70.4	34.0	0.48
East: Moore Stree	et (E)									
P2 Full	53	44.3	LOS E	0.1	0.1	0.94	0.94	70.9	34.6	0.49
North: George St	reet (N)									
P3 Full	53	44.3	LOS E	0.1	0.1	0.94	0.94	70.7	34.3	0.49
West: Moore Stre	et (W)									
P4 Full	53	44.3	LOS E	0.1	0.1	0.94	0.94	70.7	34.3	0.49
All Pedestrians	211	44.3	LOS E	0.1	0.1	0.94	0.94	70.7	34.3	0.49

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay) Pedestrian movement LOS values are based on average delay per pedestrian movement. Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements. SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com Organisation: PARKING AND TRAFFIC CONSULTANTS | Licence: NETWORK / 1PC | Processed: Wednesday, 3 November 2021 12:22:24 PM

V Site: 105 [5. George Street / New Lane - Future Base + Development PM Peak (Site Folder: Existing + Neighbouring Development + Development)]

Network: N101 [Future Base + Development PM Peak (Network Folder: General)]

New Site Site Category: (None) Give-Way (Two-Way)

Vehio	cle Mo	vement	Perfo	rmanc	e:									
Mov ID	Turn	DEMA FLO	AND WS	ARRI FLO	VAL WS HV 1	Deg. Satn	Aver. Delay	Level of Service	95% E Ql	BACK OF JEUE	Prop. Que	Effective A Stop	Aver. No. Cycles	Aver. Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m		Tate		km/h
East:	New La	aneway												
4	L2	103	0.0	103	0.0	0.083	6.8	LOS A	0.4	2.9	0.41	0.59	0.41	35.6
Appro	bach	103	0.0	103	0.0	0.083	6.8	LOS A	0.4	2.9	0.41	0.59	0.41	35.6
North	: Georg	ge Street	North											
7	L2	97	0.0	97	0.0	0.233	3.9	LOS A	0.0	0.0	0.00	0.13	0.00	48.3
8	T1	788	3.7	788	3.7	0.233	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	54.1
Appro	bach	885	3.3	885	3.3	0.233	0.4	NA	0.0	0.0	0.00	0.06	0.00	53.4
All Ve	hicles	988	3.0	988	3.0	0.233	1.1	NA	0.4	2.9	0.04	0.12	0.04	47.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

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Appendix B Architectural Plans





TURNER

Level 7 **ONE** Oxford Street Darlinghurst NSW 2010 AUSTRALIA



Altis Bulky Retail Pty Ltd as trustee for Altis ARET Sub Trust 20 14/60 Castlereagh Street, Sydney, NSW, 2000





GENERAL ARRANGEMENT BASEMENT PLANS LEGEND

NOTE: WHERE NOMINATED ON DRAWINGS OR SCHEDULES A NUMERICAL SUFFIX INDICATES MULTIPLE TYPES I.E. BAL1=BALUSTRADE TYPE 1, ETC.



Carpark Supply Air Fire Stair Generator Grated Drain

Hydraulic Services Relative Level to AHD Storage

Residential Visitors

E Disable Carpark Spaces

MBK Motorbike Park Spaces BKR Bicycle Park Spaces

Project Title Illoura Place 28 Elizabeth Street, Liverpool, NSW 2170, Australia Drawing Title

Scale Project No. Drawn by North 20089 JC Rev 1:150 @A1, 50%@A3 Dwg No. Status DA-110-005 S1 **Development Application**

GA Plans Basement 01

TURNER

Level 7 **ONE** Oxford Street Darlinghurst NSW 2010 AUSTRALIA





DLCS Quality Endorsed Company ISO 9001:2015, Registration Number 20476 Nominated Architect: Nicholas Turner 6695, ABN 86 064 084 911

ELIZABETH STREET

GENERAL ARRANGEMENT BASEMENT PLANS LEGEND

NOTE: WHERE NOMINATED ON DRAWINGS OR SCHEDULES A NUMERICAL SUFFIX INDICATES MULTIPLE TYPES I.E. BAL1=BALUSTRADE TYPE 1, ETC.



MBK

Carpark Supply Air Fire Stair Generator Grated Drain

Hydraulic Services Relative Level to AHD Storage

Residential Visitors

E Disable Carpark Spaces

Motorbike Park Spaces BKR Bicycle Park Spaces

Project Title Illoura Place 28 Elizabeth Street, Liverpool, NSW 2170, Australia Drawing Title

Scale Project No. Drawn by North 20089 JC Rev <u>1:150 @A1, 50%@A3</u> Dwg No. Status DA-110-004 S1 **Development Application**

GA Plans Basement 02

Level 7 **ONE** Oxford Street Darlinghurst NSW 2010 AUSTRALIA TURNER







ILLOURA PLACE

 Rev
 Date
 Approved by
 Revision Notes

 S1
 20.10.21
 JMC
 Issued for Development Application

GENERAL ARRANGEMENT BASEMENT PLANS LEGEND

NOTE: WHERE NOMINATED ON DRAWINGS OR SCHEDULES A NUMERICAL SUFFIX INDICATES MULTIPLE TYPES I.E. BAL1=BALUSTRADE TYPE 1, ETC.



Fire Stair Generator Grated Drain

Hydraulic Services Relative Level to AHD Storage Stair Pressurisation

Residential Visitors

Commercial Visitors

5. Disable Carpark Spaces

MBK Motorbike Park Spaces BKR Bicycle Park Spaces

Project Title Illoura Place 28 Elizabeth Street, Liverpool, NSW 2170, Australia Drawing Title

Scale Project No. Drawn by North 20089 JC Rev <u>1:150 @A1, 50%@A3</u> Dwg No. Status DA-110-003 S1 **Development Application**

GA Plans Basement 03

TURNER

Level 7 **ONE** Oxford Street Darlinghurst NSW 2010 AUSTRALIA







ILLOURA PLACE

 Rev
 Date
 Approved by
 Revision Notes

 S1
 20.10.21
 JMC
 Issued for Development Application

GENERAL ARRANGEMENT BASEMENT PLANS LEGEND

NOTE: WHERE NOMINATED ON DRAWINGS OR SCHEDULES A NUMERICAL SUFFIX INDICATES MULTIPLE TYPES I.E. BAL1=BALUSTRADE TYPE 1, ETC.



BKR Bicycle Park Spaces

Project Title Illoura Place 28 Elizabeth Street, Liverpool, NSW 2170, Australia Drawing Title

Scale	Project No.	Drawn by	North
1:150 @A1, 50%@A3	20089	JC	$\mathbf{\Lambda}$
Status	Dwg No.	Rev	
Development Application	DA-110-002	S1	·

GA Plans Basement 04-05

Level 7 **ONE** Oxford Street Darlinghurst NSW 2010 AUSTRALIA TURNER







 Rev
 Date
 Approved by
 Revision Notes

 S1
 20.10.21
 JMC
 Issued for Development Application

GENERAL ARRANGEMENT BASEMENT PLANS LEGEND

NOTE: WHERE NOMINATED ON DRAWINGS OR SCHEDULES A NUMERICAL SUFFIX INDICATES MULTIPLE TYPES I.E. BAL1=BALUSTRADE TYPE 1, ETC.



Generator Grated Drain Hydraulic Services

Relative Level to AHD Storage Stair Pressurisation

Residential Visitors

Commercial Visitors

E Disable Carpark Spaces

MBK Motorbike Park Spaces BKR Bicycle Park Spaces

Project Title Illoura Place 28 Elizabeth Street, Liverpool, NSW 2170, Australia Drawing Title

Scale Project No. Drawn by North 20089 JC Rev 1:150 @A1, 50%@A3 Dwg No. Status DA-110-001 S1 **Development Application**

GA Plans Basement 06

TURNER

Level 7 **ONE** Oxford Street Darlinghurst NSW 2010 AUSTRALIA



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Altis Bulky Retail Pty Ltd as trustee for Altis ARET Sub Trust 20 14/60 Castlereagh Street, Sydney, NSW, 2000



ILLOURA PLACE



20089 Illoura Place 1:100 @A1, 50%@A3 ____JC/JB Dwg No. 28 Elizabeth Street, Liverpool, NSW 2170, Australia Rev Status DA-310-201 S1 **Development Application** Drawing Title **GA Sections** Level 7 **ONE** Oxford Street Darlinghurst NSW 2010 AUSTRALIA T +61 2 8668 0000 F +61 2 8668 0088 turnerstudio.com.au TURNER Carpark Entry & Loading Dock Section



CLIENT



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NOTES





TURNER

1:100 @A1, 50%@A3

Development Application

Scale

Status

DA-310-203

20089

Project No.

Dwg No.

S1

North

Level 7 ONE Oxford Street Darlinghurst NSW 2010 AUSTRALIA

Drawn by

Appendix C Car Park Review



		-	1					1
		REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED	PPO JECT	
	C 11 502 1 1 Plan	8	03/11/202	1 ISSUED FOR APPROVAL	JJ	DB		
-	North Svdnev NSW 2060	7	27/10/21	FOR REVIEW	IJ	DB	28 FLIZABETH STREET LIVERPOOL	Car Park Review
nte		6	13/09/202	1 SWEPT PATH ASSESSMENT	JJ	DB	20 EEE DETTIGITEET, EVENIOOE	
NLL	t +61 2 8920 0800	5	03/09/202	1 SWEPT PATH ASSESSMENT	JJ	DB		Ground Level
	nteconcultante co	4	26/08/21	FOR INFORMATION	JJ	DB		
	preconsultants.co	3	21/07/21	FOR REVIEW	JJ	DB		
		2	12/07/21	FOR REVIEW	JJ	DB		

		comm	ients	A3
	VE	HICLE SPI	ECIFICATIO	SNC
	\$		CESS	
		EG	RESS	
.500	↓ ↓ ↓	3.05		
	5,600 B99 Over Over Min Trac Curb	Vehicle (Realistic mi all Length all Widtheight Body Ground Clearar k Width -to-lock time to Curb Turning Ra	in radius) (2004) 5,2001 1,940 1,876 1,876 1,870 1,8401 4,005 1,8401 4,005 6,2501	ח ח ח ח
		_		
	3.534			
	RL 13.550			
ī				
	CLIENT	MURDOCH PROJEC	S PRELIMINAR	Ý
	DRAWING #	PTC-001		
	PROJECT #	21-3046	REV 8	3

SCALE

1 : 250 @ A3



		cor	nm	ent	ts	A3
	PARKING TEMPLATE					
	F		Resider Class 2	ntial - V Facility	isitor Car Sj '	pace
			Space \ Space	Width _ength	2.6m 5.4m	
			Retail - Class 3	Visitor Facility	Car Space	
			Space \ Space	Width _ength	2.6m 5.4m	
	^		Comme Class 2	ercial - ` Facility	Visitor Car S	Space
			Space \ Space	Width _ength	2.6m 5.4m	
			Shared	Bay		
			Space \ Space	Width _ength	2.6m 5.4m	
			Motorc	ycle Ba	у	
	<mark>m/c</mark>]	Space \ Space	Width Length	1.2m 2.5m	
CLIENT	I	MURDOCH	PROJECT	ſS	PRELIMINA	RY
DRAWI	NG #	PTC-002		_		-
PROJE	CT #	21-3046		F	κΕV	8

SCALE	1 : 300 @ A3



	comments			A3		
	PAR	KING	5 TEN	1PLA ⁻	ГΕ	
		~	Retail - E Class 1A	mployee Facility	Car Space	
			Space W Space Le	'idth ength	2.6m 5.4m	
		~	Comme Class 1A	rcial - Emp Facility	oloyee Car	Space
			Space W Space Le	'idth ength	2.6m 5.4m	
			Shared E	Bay		
			Space W Space Le	'idth ength	2.6m 5.4m	
			Motorcy	cle Bay		
	m/c		Space W Space Le	'idth ength	1.2m 2.5m	
			PROJECT	S PR	ELIMINARY	
PROJEC	CT # 2	21-3046		RI	EV 8	3

SCALE	1 : 300 @ A3



comments

PARKING	PARKING TEMPLATE				
	Residential - Resic Class 1A Facility	lent Car Space			
	Space Width Space Length	2.4m 5.4m			
P	Residential - Visito Class 2 Facility	or Car Space			
	Space Width Space Length	2.6m 5.4m			
	Car Wash Bay				
	Space Width Space Length	2.4m 5.4m			
	Shared Bay				
	Space Width Space Length	2.6m 5.4m			
	Motorcycle Bay				
m/c	Space Width Space Length	1.2m 2.5m			
CLIENT MURDOCH	PROJECTS PRE	LIMINARY			
DRAWING # PTC-004					
PROJECT # 21-3046	RE	V 8			

SCALE

1 : 300 @ A3

A3



	con	nments	A3	
	PARKING TEMPLATE			
		Residential - Resid Class 1A Facility	ent Car Space	
		Space Width Space Length	2.4m 5.4m	
		Residential - Visito Class 2 Facility	r Car Space	
		Space Width Space Length	2.6m 5.4m	
		Car Wash Bay		
		Space Width Space Length	2.4m 5.4m	
	<i>\</i>	Shared Bay		
		Space Width Space Length	2.6m 5.4m	
		Motorcycle Bay		
	m/c	Space Width Space Length	1.2m 2.5m	
CLIENT	MURDOCH P	ROJECTS PRELI	MINARY	
DRAWIN	NG # PTC-005			
PROJEC	T # 21-3046	KE'	V 8	



comments	
PARKING TEMPLA	TE
Residential - Res Class 1A Facility	sident Car Space
Space Width Space Length	2.4m 5.4m
Residential - Visi Class 2 Facility	itor Car Space
Space Width Space Length	2.6m 5.4m
Car Wash Bay	
Space Width Space Length	2.4m 5.4m
Shared Bay	
Space Width Space Length	2.6m 5.4m
Motorcycle Bay	
Space Width Space Length	1.2m 2.5m
CLIENT MURDOCH PROJECTS PRE	ELIMINARY
DRAWING # PTC-006	
PROJECT # 21-3046	-v 8


JJ DB

JJ DB

ptcconsultants.co

 3
 21/07/21
 FOR REVIEW

 2
 12/07/21
 FOR REVIEW

		comments										
		PARKING TEMPLATE										
			Residential - Resident Car Spac Class 1A Facility									
			Space Leng	gth 5.4m								
			Class 2 Fac	Class 2 Facility								
			Space Leng	gth 5.4m								
			Car Wash E	Зау								
			Space Wid Space Leng	th 2.4m gth 5.4m								
			Shared Bay	Shared Bay								
			Space Wid Space Leng	th 2.6m gth 5.4m								
			Motorcycle	Motorcycle Bay								
		<mark>m/c</mark>	Space Wid Space Leng	th 1.2m gth 2.5m								
	CLIENT	r Murdoch	PROJECTS	PRELIMINARY	,							
	DRAWI	NG # PTC-007										
	PROJE	CT # 21-3046		REV 8	V 8							
	SCALE	1 : 300 @ A	3									



		REV	DATE COMMENT / DESCRIPTION	DRAWN	REVIEWED		DDO IFOT		
	Suite 502, 1 James Place North Sydney NSW 2060	8	03/11/2021 ISSUED FOR APPROVAL	IJ	DB		PROJECT	DRAWING TITLE	
_		7	27/10/21 FOR REVIEW	JJ	DB		28 FUZABETH STREET UVERPOOL	Loading Dock Review	
			North Sydney Now 2000	6 13/0	13/09/2021 SWEPT PATH ASSESSMENT	IJ	DB		
	t +61 2 8920 0800	5	03/09/2021 SWEPT PATH ASSESSMENT	IJ	DB			Ground Level	
	ptcconsultants.co	4	26/08/21 FOR INFORMATION	JJ DB		Liverpool City Council Refuse Vehicle			
		3	21/07/21 FOR REVIEW	IJ	DB				

Level 01 RL 19.200 Mezzanine RL 16.400 Ground Level RL 14.000 Basenent 01 RL 10.000		SUBSTATION CHANMER BASEMENT OL		DAS RODM	COMMERCIAL EDT
ptc.	Suite 502, 1 James Place North Sydney NSW 2060 t +61 2 8920 0800 ptcconsultants.co	REV DATE COMMENT / DESCRIPTION 8 03/11/202 ISSUED FOR APPROVAL 7 27/10/21 FOR REVIEW 6 13/09/2021 SWEPT PATH ASSESSMENT 5 03/09/202 SWEPT PATH ASSESSMENT 4 26/08/21 FOR INFORMATION 3 21/07/21 FOR REVIEW 2 12/07/21 FOR REVIEW	DRAWN REVIEWED JJ DB JJ DB JJ DB JJ DB JJ DB JJ DB JJ DB JJ DB JJ DB JJ DB	PROJECT 28 ELIZABETH STREET, LIVERPOOL	DRAWING TITLE VERTICAL CLEARANCE ASSESSMEN ENTRY RAMP TYPICAL B99 VEHICLE



