Transport Engineering Report

Proposed Mixed-Use Development – Preliminary Approval

203 Ashmore Road Benowa

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T: (07) 3327 9500
F: (07) 3327 9501
E: ttmbris@ttmgroup.com.au

Revision Record

No.	Author	Reviewed/Approved	Description	Date
1.	B. Vanetti/ M. Grierson	M. Grierson	Preliminary Approval Report	05/02/2025
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3.				
4.				

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1. Introduction

1.1. Purpose

Colliers International Engineering and Design (TTMC) Pty Ltd has been engaged by Neylan Architecture to prepare a Transport Engineering Report investigating a proposed Mixed-Use Development located at 203 Ashmore Road Benowa. It is understood this report will accompany a Development Application for a Preliminary Approval for a Mixed Use development to be lodged with the Gold Coast City Council (GCC).

1.2. Scope

The scope of the preliminary transport aspects investigated includes:

- Reviewing the prevailing traffic and transport conditions surrounding the site.
- Identifying at a high level the likely parking supply required to cater for development demands.
- Assessing the access configuration to provide efficient and safe manoeuvring between the site and the public road network for cars, service vehicles, cyclists and pedestrians.
- Identifying the preliminary service vehicle needs for the site.
- Reviewing access to a suitable level of public and active transport provisions.
- Identification of likely traffic volumes and traffic distribution from the development.
- Identification of likely traffic impacts of development on the surrounding road network.

The development plans have been assessed against the following guidelines and planning documents:

- Gold Coast City Council Planning Scheme (City Plan 2014), specifically:
  - *9.4.13 Transport Code (Transport Code)*
- Australian Standards for Parking Facilities, specifically:
  - *Part 1: Off-street car parking (AS2890.1:2004)*
  - *Part 2: Off-street commercial vehicle facilities (AS2890.2:2019)*
  - *Part 3: Bicycle parking (AS2890.3:2015)*
  - *Part 6: Off-street parking for people with disabilities (AS2890.6:2009).*
- Austroads "Guide to Traffic Management" (GTM)

2. Site Context and Travel Environment

2.1. Site Location

The site is located between the intersections of Benowa Road/Carrara Street and Ashmore Road/Benowa Road, Benowa. The property description is Lot 822 on RP 839746 and has a total site area of 17,660m^2. The site is currently occupied by a Shopping Centre, with approximately 17 different business and with vehicle access to Carrara Street and Ashmore Road.

The subject site is currently zoned as Neighbourhood Centre under the City Plan. The surrounding area of the site is zoned as Innovation and Community Facilities.

Figure 2.1 shows the subject site and the surroundings. Figure 2.2 is shown an immediate context of the site location.

Figure 2.1: Site location (Surrounding Context) Map Source: Google Maps

Figure 2.2: Site Location (Immediate Context) Map Source: Nearmap

2.2. The Road Network

The hierarchy and characteristics of roads in the immediate vicinity of the site are shown in Table 2.1.

Table 2.1: Local Road Hierarchy

Road	Speed Limit	Road Configuration			Classification under the City Plan
		Reserve Width	Carriageway Width	Lane Configuration	
Carrara St	40km/h	20m	12m	• 2 Traffic lanes. • Undivided. • Parking permitted on both sides. • Shared cycle lane.	Local Access Road
Ashmore Rd	60km/h	33m	24m	• 4 Traffic lanes. • Median divided. • Parking permitted on both sides. • Cycle lane on both sides.	Arterial Road
Benowa Rd	60km/h	20m	10m – 27m	• 2 Traffic lanes. • Median divided/undivided • Parking permitted on both sides/ no parking. • Cycle lane on both sides.	Distributor Road

Ashmore Road / Benowa Road and Ashmore Road / Carrara Street intersections are both signal-controlled.

2.3. Existing Traffic Volumes

TTM conducted traffic surveys at the Benowa Road / Carrara Street, Ashmore Road / Benowa Road, Ashmore Road / Carrara Street, Shopping Centre Northern Access / Carrara Street and Shopping Centre Southern Access / Ashmore Road intersections. The surveys were conducted on Thursday, June 20th and Saturday, June 15th. From the surveys, peak hour movements were derived. In general, the afternoon week peak hour was found to be between 4:15pm – 5:15 pm. Whilst the Saturday peak hour was to be between 11:15am – 12:15am.

The peak hours volumes for each intersection are shown in the network diagrams in Appendix B.

Initial review of the intersection operations notes the following:

- Existing Ashmore Road / Benowa Road has a higher Degree of Saturation (0.80) and Level of Service (LoS E) in the Thu PM Peak.
    - Weekday PM likely to be the critical assessment period for the roads, (depending on the proposed uses)
    - Ashmore Road is generally busy across the weekday afternoon, with a late school/early commuter peak being highest.
- School peak period (2:30pm – 3:30pm) is the main road peak for the northern side of the site along Benowa Road and Carrara Street.
    - This peak would not reflect the typical peak for the traffic generation associated with the subject site.

2.4. Public and Active Transport Facilities

2.4.1. Public Transport

Bus Services

There are several bus stops on the surrounding roads within a 400m walk of the site. An indicative map of the bus stops within the vicinity of the site is shown in Figure 2.3.

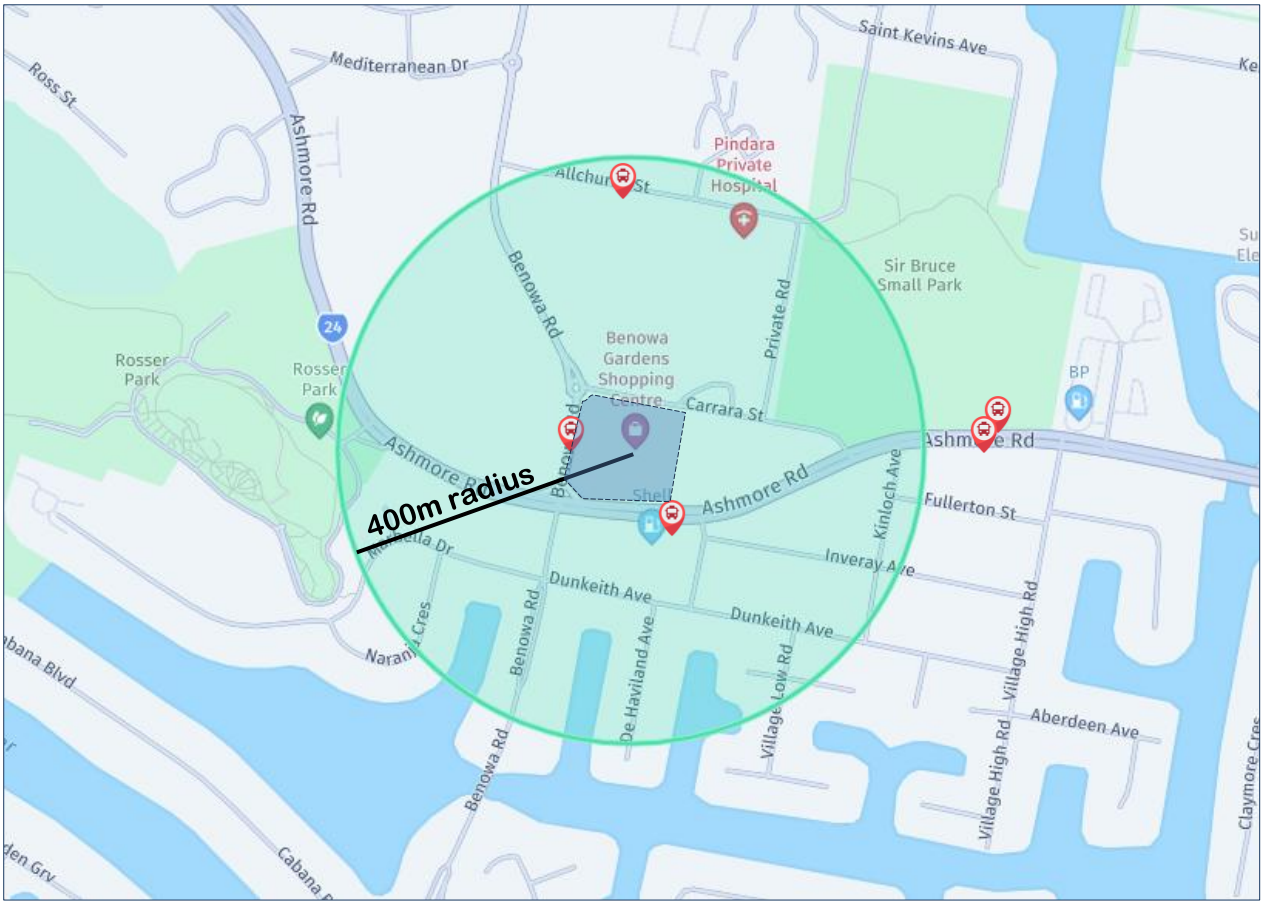


Figure 2.3 Bus Stops at the vicinity of the proposed development Map Source: Nearmap

The following is a summary of the surrounding bus routes and its itinerary:

- **737:** This route connects Ashmore to Southport, with services running seven days a week. On weekdays, weekends and public holidays the service runs from 9.10am to 4.30pm with a frequency of generally 60 minutes.
- **741:** This route connects Broadbeach South station to Southport, with services running seven days a week. On weekdays the service runs from 6.15am to 9.15pm with a frequency of 60 minutes. On weekends and public holidays, the service runs from 7.10am to 5.10 pm with a frequency of 60 minutes.

Train Services

Train services are not available in the nearby area.

2.4.2. Active Transport

Bicycle

The site offers a convenient location for cyclists, with a range of cycling routes available in the surrounding area. These routes are mapped out by the Google Maps Cycling Overlay, an extract of this overlay is shown in Figure 2.4.

In general, the surrounding roads offers a dedicated cycling lane, connecting to a wider cycling network to the East, West and North. Overall, the development offers excellent access to a cycling structure, making it an ideal location for cyclists looking for convenient and safe commuting options.

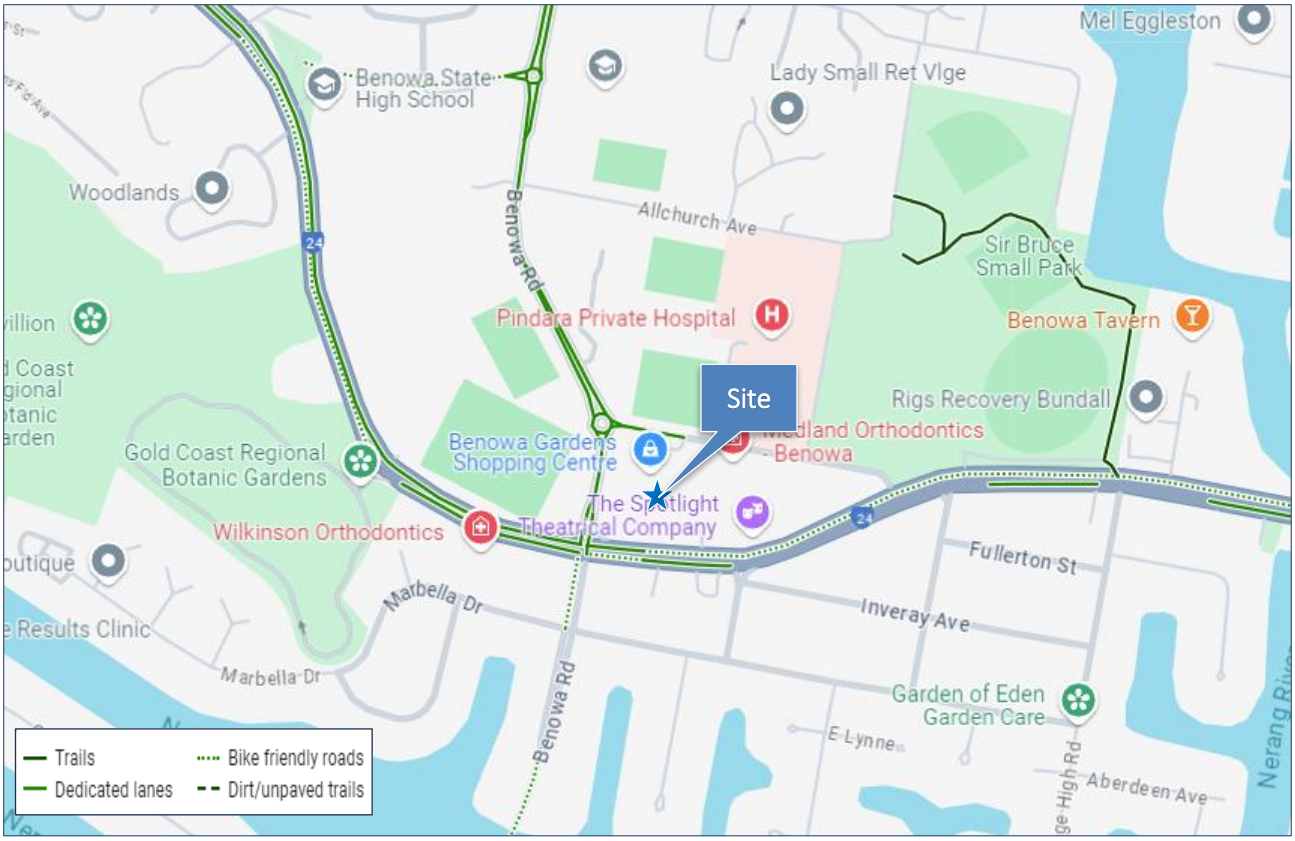


Figure 2.4: Overall bicycle provisions around the proposed development. Source: Google Maps.

Pedestrians

Formal pedestrian footpaths are located on both sides of the roads in the immediate vicinity, with kerb ramps provided at all intersections. Pedestrian crossing facilities are provided at the majority of the surrounding intersections. These are provided in the form of signalised crossings, zebra-crossing or crossing points. Figure 2.5 illustrates the pedestrian crossing facilities within the proximity of the site.

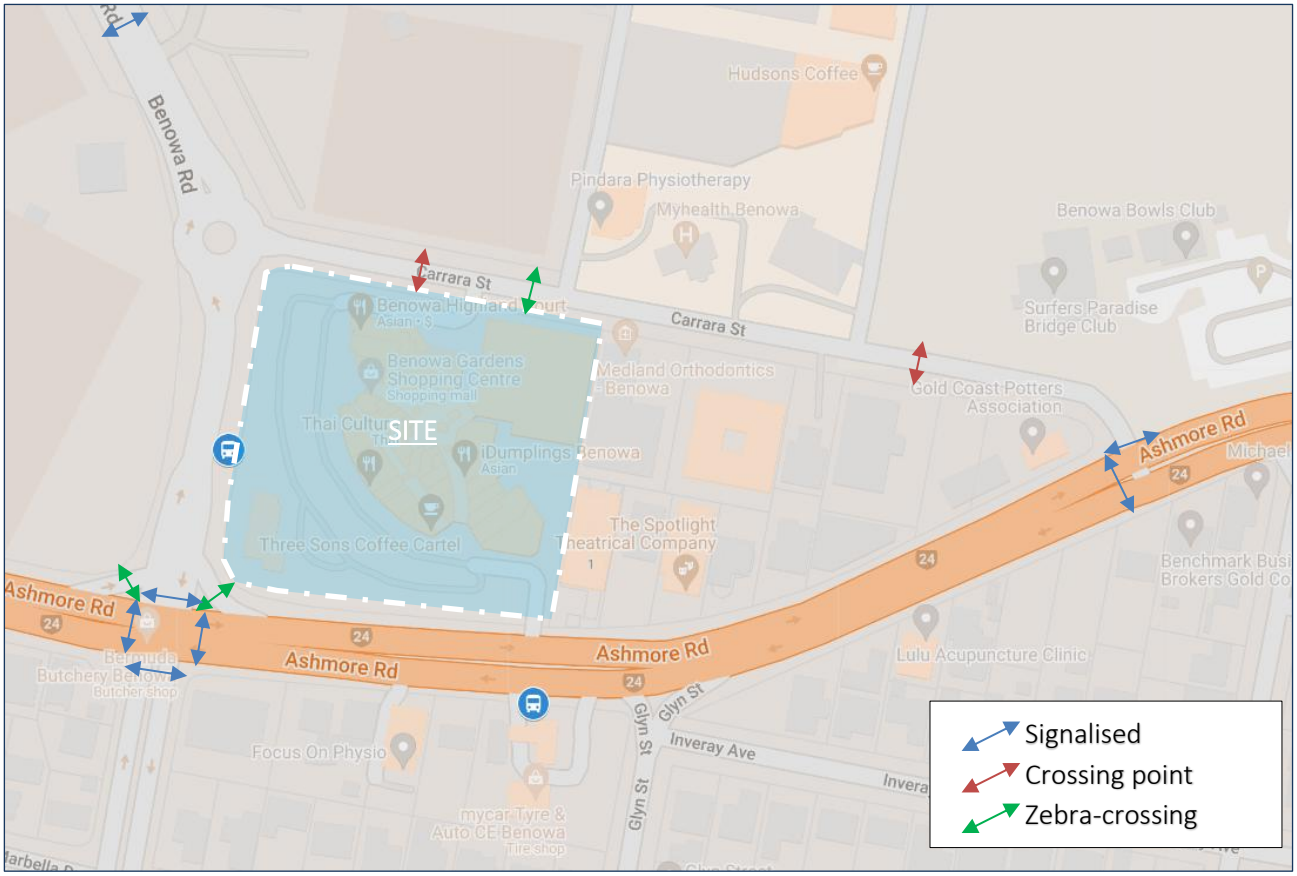


Figure 2.5: Pedestrian provisions around the development. Map Source: Google Maps

2.5. Transport Planning

A review of the City Plan LGIP indicates that the intersection of Ashmore Road/Benowa Road is expected to be upgraded by 2031.

3. The Proposed Development

3.1. Existing Development

The existing development includes:

A mix of retail and service tenancies

- Approximately 370 formalized on site car parking spaces.
- Two vehicle crossovers
  - 16m wide crossover on Carrara Street
    - All turning movements permitted.
  - 16m wide crossover on Ashmore Road
    - Left In / Left Out movements permitted.
    - Deceleration lane for left entry movements.
- Four dedicated pedestrian crossing
  - Ashmore Road, adjacent to the vehicle access.
  - Two on Benowa Road, one near the bus stop and one near the roundabout.
  - Carrara Street, adjacent to the vehicle access.

3.2. Proposed Development Profile

The proposed development includes planning for a mix of uses, the project team has been testing two (2) options for the development.

A copy of the architectural plans, prepared by Neylan Architecture, is included in Appendix A.

A summary of the two options under consideration are outlined in Table 3.1.

Table 3.1: Preliminary Development Yields – Subject to Ongoing Review

Use	Indicative Yield	Notes
Option 1		
Shopping Centre (Shop / Supermarket / Specialities)	10,000m^2 GFA	Mix of Supermarket, Shop and Food and Drink outlets.
Commercial Level	3,000m^2 GFA	Mix of Office and Gym uses.
Perimeter Use (Health Care)	8,800m^2 GFA	
Multiple Dwelling (Apartment)	397 Units	306 x 2 bedroom units 91 x 3 bedroom units
Option 2		

Shopping Centre (Shop / Supermarket / Specialities)	10,000m² GFA	Mix of Supermarket, Shop and Food and Drink outlets.
Commercial Level	3,000m² GFA	Mix of Child Care Centre, Office and Gym uses.
Perimeter Use (Short Term Accommodation / Hote / Multiple Dwelling)	85 units/rooms (approximately 8,800m² GFA)	41 Short term accommodation. 44 Multiple Dwellings (1 bedroom).
Multiple Dwelling (Apartment)	397 Units	306 x 2 bedroom units 91 x 3 bedroom units

A summary of some of the other traffic design elements is provided below:

- Approximately 1,460 on-site car parking spaces on site.
  - Including provision for a hotel drop off area.
  - Final proposed supply subject to further carpark design review.
- Three vehicle crossovers
  - Left in / Left out movements proposed to Ashmore Road.
  - All movements crossover to Carrara Street, at the eastern end of the site.
  - All movements crossover to Carrara Street, located in the middle of the site frontage.
- Current planning includes 300 bicycle parking spaces
  - 100 staff and 200 visitor spaces.
- Dedicated pedestrian accesses to be provide to all street frontages.
- Current planning for servicing is aiming to accommodate vehicles up to a 19m Articulated Vehicle (AV).

TTM has undertaken a preliminary review of the potential development. The findings of the initial review are outlined below. Please note that the following review findings are subject to ongoing review and may change as the preliminary designs and the project understanding progresses.

3.3. Parking

Current development planning includes a total of 1,460 parking spaces across 5 levels. Car parking provisions are summarised in Table 3.2:

Table 3.2: Preliminary Parking Provisions

Level	Number of Spaces	Intended User
Basement 3	460 spaces	270 Perimeter Use 190 Retail Parking

Basement 2	260 spaces	Retail
Basement 1	250 spaces	Retail
Ground Floor	-	
Level 1	-	
Level 2	220 spaces	Residential
Level 3	270 spaces	Residential
Total	**440 spaces***	**30 spaces**

A total of 300 bike parking is currently proposed for the site:

- Basement 2 – 100 bicycle spaces for staff, 86 bicycle spaces for visitors
- Basement 1 – 114 bicycle spaces for visitors

Further details regarding the proposed car and bicycle parking provisions are included in Section 4.

3.4. Access

The preliminary development plan includes the following access arrangements:

Ashmore Road

The proposal includes a 8.5m wide crossover on Ashmore Road, which will accommodate passenger and service vehicles, with only Left in – Left Out movements permitted.

Carrara Street West

The proposal includes a 7m wide crossover on Carrara Street, which will accommodate passenger vehicles, with all movements permitted.

Carrara Street East

The proposal includes a 8.5m wide crossover on Carrara Street, which will accommodate passenger vehicles, with all movements permitted.

Pedestrians will have access to the development from the Ashmore Road, Benowa Road and Carrara Street frontages.

Further details regarding the proposed access arrangements are included in Section 5.

3.5. Servicing

The development plans allow for vehicles up to the size of a 19m Articulated Vehicle (AV) to access the site. Located next to the bin store collection, the following service bays are to be provided.

- 19m Articulated Vehicle (AV)
- Refuse Collection Vehicle (RCV)

The design of the servicing bays should not conflict with vehicles entering/departing from the loading area.

Further details regarding the proposed servicing arrangements are included in Section 6

4. Parking Arrangements

4.1. Parking Supply

4.1.1. Car parking

The currently proposed development configuration includes approximately 1,460 carparking spaces on site. The alignment and specific configuration of the parking areas on site are subject to ongoing design and will be progressed as the design continues.

Table 4.1 provides a summary of the parking supply recommendations for the two current development scheme options being tested.

Table 4.1: Preliminary Recommended Car Parking Supply.

Use	Indicative Yield	GCCC Parking Rate	Recommended Parking Supply
Option 1			
Shopping Centre (Shop / Supermarket / Specialities)	10,000m² GFA	Shopping Centre • 5 spaces / 100m² GFA	500 spaces
Commercial Level	3,000m² GFA Office 2,500m² GFA Gym 500m² GFA	Office 3 spaces / 100m² GFA or Shop/Gym 5 spaces / 100m² GFA	75 spaces 25 spaces
Perimeter Use (Health Care)	8,800m² GFA	Health 5 spaces / 100m² GFA or 2 spaces / consulting room + 1 per staff	440 spaces
Multiple Dwelling (Apartment)	394 Units 301 x 2 bedroom units 93 x 3 bedroom units	Resident spaces • 1 space / 1 bedroom • 1.25 spaces / 2 bedroom • 1.5 spaces / 3 bedroom • 2 spaces / 4 bedroom Visitor 3 spaces + 1 spaces / 10 units (50% of visitor spaces to be in a single consolidated location)	519 residential spaces • 382.5 residential spaces • 136.5 residential spaces 43 visitor spaces
Option 1 Total			**1,602 spaces**
Option 2			
Shopping Centre (Shop / Supermarket / Specialities)	10,000m² GFA	Shopping Centre 5 spaces / 100m² GFA	500 spaces
Commercial Level	3,000m² GFA 100 place Child Care Office 500m² GFA Gym 500m² GFA	Shopping Centre/Gym 5 spaces / 100m² GFA Office 3 spaces / 100m² GFA Child Care 1 space / 4 children	25 spaces 15 spaces 25 spaces

Perimeter Use (Short Term Accommodation / Hote / Multiple Dwelling)	85 units/rooms (approximately 8,800m^2 GFA)	Hotel/ Short Term Accom 1 space / short term / serviced apartment plus queuing capacity for 10 vehicles Health 5 spaces / 100m^2 GFA or 2 spaces / consulting room + 1 per staff	85 spaces
Multiple Dwelling (Apartment)	397 Units 306 x 2 bedroom units 91 x 3 bedroom units	Resident spaces • 1 space / 1 bedroom • 1.25 spaces / 2 bedroom • 1.5 spaces / 3 bedroom • 2 spaces / 4 bedroom Visitor 3 spaces + 1 spaces / 10 units (50% of visitor spaces to be in a single consolidated location)	519 residential spaces • 382.5 residential spaces • 136.5 residential spaces 43 visitor spaces
Option 2 Total			**1,212 spaces**

TTM notes that the preliminary design parking supply recommendation has a significant range of supply rates (1,212 to 1,600 spaces), depending on the specific uses proposed. With a variation of GCCC compliant parking space provisions depending on the development option.

Given the range of uses on site, the specific peak parking demand will vary for each specific uses. This variation in parking demand timings, may allow for the time-based sharing of communal parking on site potentially reducing the overall supply requirements (e.g. a shop uses typically peak on a weekend or weekday evening, when an office / health use would be closed).

Additionally, there is potential for linked trips, internalisation of trips and shared parking to occur, with a patron visiting multiple tenancies on site or residents visiting on site retail, reducing the potential parking demands.

TTM are also aware of mixed use retail precinct car parking studies which indicate that generally shopping centre peak parking demands could be lower than the 5 spaces / 100m^2 that is typically nominated by planning schemes. Depending on the scale of the development a retail parking provision of 4.5 spaces / 100m^2 could be appropriate to accommodate retail parking demands. PWD parking spaces are recommended to be provided at a rate of 1 PWD space per 50 general parking spaces, with PWD parking spread throughout the site, located close to accessible access points (i.e. lift core and DDA ramps).

The carparking supply will evolve as the development progresses through the design and approval process, with more detailed car parking supply and layout review documentation to be provided later.

4.2. Parking Layout

The GCC City Plan refers to the Australian Standards for the parking layout. Therefore, Table 4.2 identifies the characteristics of the proposed parking layouts for the development with respect to the AS2890 design provisions.

Table 4.2: AS2890 Parking Design Parameters

Design Aspect	Min SCC Standard (AS2890.1)	Recommended Provision
Parking space length – Standard bay – Motorbike	 5.4m 2.5m	 5.4m 2.5m
Parking space width: – Residential (Class 1A) – Visitor (Class 3A) – Motorbike	 2.4m 2.7m 1.2m	 2.6m 2.7m 1.2m
Aisle Width: – Parking aisle – Circulation aisle (passenger vehicles)	 6.2 – 6.6m 5.5m + 0.6m clearances	 6.2m 6.2m (with localised widening)
Parking envelope clearance – space adjacent to wall	Space 0.3m clear of wall	Space 0.3m clear of wall
Parking envelope clearance - Column adjacent to bay	Located between 0.75m and 1.75m of aisle	Located between 0.75m and 1.75m of aisle
Maximum Gradient: – PWD parking bay – Parking bay – Parking aisle	 1:40 (2.5%) 1:20 (5.0%) 1:16 (6.25%)	 1:40 (2.5%) 1:20 (5.0%) 1:16 (6.25%)
Height Clearance – General Min. – PWD – Service Vehicles	 2.2m (2.2m PWD) 2.5m above parking space and shared 4.5m	 2.2m min 2.5m above parking space and shared 4.5m (Potentially higher depending on refuse collections)
Parking Aisle Extension	1m beyond last bay	1m beyond last bay

The development parking layouts are expected to achieve consistent with the provisions of the AS2890.1. Further details in relation to deemed compliance of required provisions or justification for design aspects resolved with performance solutions would be reviewed and provided as part of future development applications.

5. Access Arrangements

5.1. Vehicular Access

The development plan involves three designated car parking areas. The primary car park, located underneath the main building, will be accessible via Ashmore Road and Carrara Street (via a total of 3 accesses). The second car park, located in Basement 2, will have access through Carrara Street. The third parking area is to be accessed via the internal roadway on the western side of the site, connecting to Ashmore Road and Carrara Street. The design provisions of the access and their recommended provisions of the AS2890.1 are detailed in Table 5.1., respectively. Given the preliminary nature of the application, finer details of the access arrangements are to be resolved as part of subsequent development applications.

Table 5.1: Design and provisions of Carrara Street access

Design Aspect	AS2890 Provision	Recommended Provision
Width / Crossover Type to accommodate: • Cars[12] • Service vehicles[13]	6-9m	 7.0m min 7.0m min
Sight Distance[12]	55m (desirable) 35m (minimum)	>70m to the east[4] >70m to the west[4]
Driveway Sight Splays	2.0m wide x 2.5m deep (on exit side)	2.0m wide x 2.5m deep (on each side)
Minimum Queuing Provisions [1]	5 vehicles for the first 200 plus 1% of capacity over 200 **Total 17 vehicles across the entire site**	6 vehicles / 36m at each access
Maximum Driveway grade	1:20 (5%) maximum within first 6m	1:20 (5%) maximum within first 6m

[1] Based on Carrara St being classed as a 'minor road' and speed limit of 40km/h.

[2] Based on the access servicing >500 medium turnover car parking spaces.

[3] Based on the access servicing service vehicles up to the size of an SRV.

[4] Assuming visibility around/past vehicles parked within the existing marked on-street parking spaces.

Table 5.2: Design and provisions of Ashmore Road access.

Design Aspect	AS2890 Provision	Proposed Provision
Width / Crossover Type to accommodate: • Cars[12] • Service vehicles[13]	 6-8m with separated entry/exit 6-8m with separated entry/exit	 10m 10m
Sight Distance[12]	83m (desirable) 65m (minimum)	>140m to the west
Driveway Sight Splays	2.0m wide x 2.5m deep (on exit side)	2.0m wide x 5.0m deep (on each side)
Minimum Queuing Provisions [1]	5 vehicles for the first 200 plus 1% of capacity over 200 **Total 17 vehicles across the entire site**	6 vehicles / 36m at each access
Maximum Driveway grade	1:20 (5%) maximum within first 6m	1:20 (5%) maximum within first 6m

[1] Based on Ashmore being classed as a 'major road' and speed limit of 60km/h.

[2] Based on the access servicing >500 medium turnover car parking spaces.

[3] Based on the access servicing service vehicles up to the size of an AV.

Vehicle movements internally will be signed and managed to direct users to Ashmore Road as the primary access to/from the site. With Carrara Street providing supplemental access and connectivity to the surrounding road network.

5.2. Active Transport Access

Pedestrian accesses are provided to all three road frontages, Ashmore Road, Benowa Road and Carrara Street. Allowing for access to the existing pedestrian network.

Cyclists access the site via the driveway located the sites frontages, or via the pedestrian access locations, before circulating to the respective parking areas for bikes.

6. Service Vehicle Arrangements

6.1. GCCC Servicing Recommendations

Table 9.4.13-9 of the Transport Code recommends the following service vehicles:

- Shop / Supermarket
  - 400m^2 – 1,500m^2 – Heavy Rigid Vehicle (HRV)
  - >1,500m^2 – 19m Articulated Vehicle (AV)
- Food and Drink Outlet
  - Heavy Rigid Vehicle (HRV)
- Indoor Sport and Recreation
  - Small Rigid Vehicle (SRV)
- Multiple Dwelling
  - Standing area for Medium Rigid Vehicle (MRV)
- Office
  - Van

6.2. Proposed Loading Provisions

The proposed development is expected to accommodate on site servicing and refuse collection within a dedicated loading area. The main shared loading area is to be located in the northeastern corner of the site, adjacent to the internal circulation roadway.

Service vehicles are proposed to access the site via the revised southeastern Left In-Left Out vehicle access on Ashmore Road. Vehicles accessing the site are expected to enter and exit the site in a forward gear travelling along the internal roadway to access the dedicated loading area located in the northeastern corner of the site.

The design vehicle is expected to be an 19m Articulated Vehicle (AV), 12.5m Heavy Rigid Vehicle (HRV) and 10.5m Refuse Collection Vehicle (RCV). This is generally consistent with the current on-site operations of the Shopping Centre use.

The specific loading requirements will be refined as the specific uses on site are confirmed and the site design progresses.

7. Development Transport Demands

7.1. Existing Site Traffic Demands

To establish the traffic generation of the existing site uses, TTM conducted AM and PM peak hour traffic surveys for the existing site, which has access to Ashmore Road and Carrara Street. The surveyed existing traffic generation for the subject site is summarised in Table 7.1.

Table 7.1: Existing Site Traffic Generation (Surveyed)

Generation	Weekend AM Peak Hour (11:15am-12:15pm) vph			Thursday PM Peak Hour (4:15pm-5:15pm) vph		
	In	Out	Total	In	Out	Total
Existing Site	291	301	592	277	298	575

Volumes associated with the existing site operations have been removed from the base background volumes as part of the completed traffic assessment.

7.2. Development Traffic Demands

7.2.1. Traffic Generation

To assess the impact of the proposed development on the adjacent road network, it is necessary to predict the likely volume of vehicles that will be generated by the proposed land uses. The traffic generation rates adopted for the respective land uses, and also the respective inbound/outbound splits, have been assumed as follows.

Colliers notes that this assessment will be refined further as the project and the proposed uses and use areas are more refined as the development layout is progressed into DA stage.

Multi-Unit Dwelling

This has been based on the Roads and Traffic Authority (RTA) *Guide to Traffic Generating Developments,* which recommends a weekday peak hour traffic generation rate of 0.29vph per unit for high-density residential developments. With respect to the Saturday peak hour period, it is recognised that there is little guidance in the RTA guide. Therefore, it is also proposed to adopt a similar rate of 0.29vph per unit.

Generation for Short-Term Accommodation

For Short-Term Accommodation, Colliers has adopted the following rates, which recognise the constrained parking associated with this component of the development:

- Car park generation of up to 0.17vph per parking space in peak hour periods.
- Set-down movement generation of up to 0.2vph per unit in the peak hour periods.

In terms of inbound/outbound movement splits for Multi-Dwelling Units and Short-Term Accommodation, it is proposed to adopt the following:

- 65% in/35% out in the PM peak hour
- 50% in/50% out in the Saturday peak hour

These splits are consistent with generally accepted practice and reflect the predominantly 'tidal' flow behaviour of traffic movements from residential developments in weekday peak hours and the expectation of balanced flows on weekends (which peak around lunchtime when residents are equally likely to be coming and going).

Non-Residential (Shop/Retail/Food & Drinks) Uses

The non-residential uses provide a reduced parking supply. Therefore, adopting traffic generation rates of comparable land uses as detailed in the various guideline documents (such as the RTA guide), which is generally based on the 'unconstrained' parking supply/generation, would overestimate the traffic generation potential of the land uses in this instance. As such, it is instead proposed to estimate the traffic generation demands on a 'per parking space' basis based on the quantity of parking to be provided on-site. Colliers has conducted numerous surveys of similar kinds of retail developments (with constrained parking) within the inner-city area of Brisbane, including:

- Gasworks, Newstead
- The Barracks, Petrie Terrace
- The Markets, West End

Surveys were conducted on a typical peak weekday (i.e., Thursday) and Saturday, and generation related back to the parking supply provided on-site to give a reasonable estimate on a 'per parking space' basis. From a detailed review of this previous survey data, Colliers believes the traffic generation rates, as detailed in Table 7.2, are appropriate to adopt for the proposed development. Of note, these rates generally were the worst case for any of the sites surveyed and have been rounded up where applicable to provide an added level of conservativeness.

Table 7.2: Traffic Generation Assumptions for the Non-Residential Parking Supply

Peak Period	Traffic Generation	Inbound Split	Outbound Split
PM Peak Hour	1.75 vph/space	50%	50%
Saturday Peak Hour	2.0 vph/space	50%	50%

Office

It is recognised that the car parking provided for non-residential uses will typically be for staff/employee parking only. As per the generation rate of the existing employee parking on-site (which is also consistent with RMS), it is proposed to adopt a generation rate of 0.5vph per space.

In terms of inbound/outbound movement splits it is proposed to adopt the following:

- 10% in/90% out in the PM peak hour
- 50% in/50% out in the Saturday peak hour

Based on the above traffic generation rates for the various land uses, a summary of the potential traffic generation of the proposed development is provided in Table 7.3.

Table 7.3: Development Traffic Generation

Use	Indicative Yield	Adopted Generation Rate	Estimated Traffic Generation
Option 1			
Shopping Centre (Shop / Supermarket / Specialities)	10,000m^2 GFA 500 carparking spaces	PM 1.75 trips per parking space Sat 2.0 trips per parking space	875 trips 1,000 trips
Commercial Level	3,000m^2 GFA 85 carparking spaces	PM 0.5 trips per parking space Sat 0.1 trips per parking space	43 trips 9 trips
Perimeter Use (Health Care)	8,800m^2 GFA	PM 5.7 trips / 100m^2 GFA Sat 1.5 trips / 100m^2 GFA *(Sourced from DTMR Traffic Generation Surveys)*	502 trips 132 trips
Multiple Dwelling (Apartment)	397 Units	PM 0.29 trips / dwelling Sat 0.29 trips / dwelling (RMS 2013 Generation Rates)	115 trips 115 trips
Option 1 Total			**PM 1,535 trips** **Sat 1,256 trips**
Option 2			
Shopping Centre (Shop / Supermarket / Specialities)	10,000m^2 GFA 500 carparking spaces	PM 1.75 trips per parking space Sat 2.0 trips per parking space	875 trips 1,000 trips
Commercial Level	3,000m^2 GFA 100 place Child Care	Commercial PM 0.5 trips per parking space Sat 0.1 trips per parking space Child Care PM 0.7 trips per child Sat 0 trips per child	Commercial 43 trips 9 trips Child Care 70 trips 0 trips
Perimeter Use (Short Term Accommodation / Hote / Multiple Dwelling)	85 units/rooms (approximately 8,800m^2 GFA)	PM 0.2 trips / unit Sat 0.2 trips / unit *(RMS 2013 Generation Rates)*	17 trips 17 trips
Multiple Dwelling (Apartment)	397 Units	PM 0.29 trips / dwelling Sat 0.29 trips / dwelling *(RMS 2013 Generation Rates)*	115 trips 115 trips
Option 2 Total			**PM 1,050 trips** **Sat 1,141 trips**

Given the potential variation of the uses proposed, Colliers has considered the worst-case traffic generation associated with two options being considered above (i.e. Option 1).

7.2.2. Traffic Distribution

Based on a review of the surrounding land uses and road network configuration, Colliers has adopted a traffic distribution reflective of the surveyed existing site travel paths. As the proposed site has comparable uses to a significant portion of the existing site this was seen to be a good base for the proposed development.

8. Base Traffic Demands

8.1. Assessment Years and Traffic Growth

It is expected that the development will be completed by 2028. On this basis, the following assessment years have been considered for the TIA:

- Opening Year: 2028
- Design Horizon (Opening + 10 years): 2038

To assess future traffic demands in 2028 and 2038, a base traffic growth assumption of 1.5% p.a. has been adopted. This growth rate is consistent with the LGIP planning estimates.

Background traffic has been determined for the 2028 and 2038 design horizon base volumes. Removed the existing site traffic volumes from the 2024 survey volumes. Applied the 1.5%p.a. growth rate to the corrected volumes, to scale to the 2038 10 year design scenario (consistent with LGIP planning).

8.2. Future Year Scenarios

The following future year scenarios have been derived for the purposes of the TIA:

- 2024 Survey Scenario
- 2028/2038 Base Case Scenario
- 2028/2038 Base + Development Case Scenario
  - This is a net difference between the existing on site operations and the proposed new development.

Based on the surveyed traffic demands (Section 2.3), base traffic growth assumption (Section 8.1) and development transport demand estimates (Section 7), future traffic movement demands at the intersections next to the development have been derived. These are presented in **Appendix C.**

9. Traffic Impact Assessment

This TIA has been limited to an assessment of the following intersections:

- Ashmore Road/Benowa Road.
- Benowa Road/Carrara Street.
- Ashmore Road / Carrara Street.
- Ashmore Road / Site Access South.
- Carrara Street / Site Access North.

To evaluate the performance of the surrounding intersections, modelling was conducted using the SIDRA Intersection 9.0 software package. The primary intersection operational outputs used to assess intersection operations were considered to be intersection Degree of Saturation (DOS), overall intersection and worst movement delays, Level of Service (LOS) and queuing.

The cycle/phasing timing for assessed intersections was derived from analysis of survey volume video footage.

9.1. Ashmore Road/Benowa Road

The SIDRA Intersection 9.0 software package has been used to assess the future traffic operations of Ashmore Road / Benowa Road signalised intersection. Default SIDRA inputs were used for the analysis.

Figure 9.2 shows the existing configuration of the Ashmore Road/Benowa Road intersection adopted in the SIDRA analysis for all scenarios. Table 9.1 summarises the SIDRA analysis results.

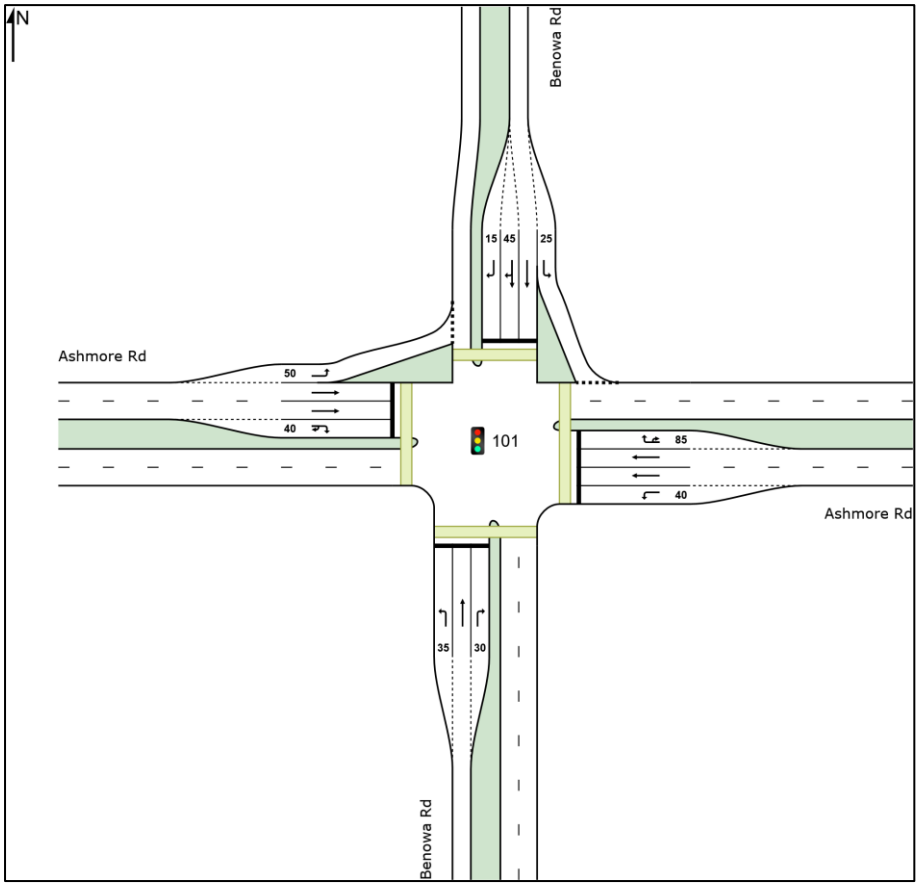


Figure 9.1: Ashmore Road / Benowa Road Intersection (Existing Configuration) – SIDRA Layout

Table 9.1 summarises the analysis outputs. Detailed analysis output summaries are included in **Appendix D**.

Table 9.1: Ashmore Road / Benowa Road Intersection – SIDRA Summary.

Scenario	DOS	Average Delay		LOS	95th Percentile Critical Queue (m)			
		Overall	Worst Movement		North	South	East	West
Weekend AM Peak Hour								
2024 Survey	**56.3%**	34.8 sec	73.7 sec	C	38.0m	54.2m	111.3m	135.0m
2028 Base	59.9%	35 sec	74.2 sec	D	41.3m	57.7m	118.8m	144.7m
2028 Base + Development	61.3%	35.7 sec	74.2 sec	D	55.6m	57.7m	119.1m	150.5m
2038 Base	68.9%	36.1 sec	75.6 sec	D	49.2m	69.0m	145.4m	173.5m
2038 Base + Development	71.0%	36.6 sec	75.6 sec	D	59.6m	69.0m	145.4m	178.2m
Weekday PM Peak Hour								
2024 Survey	80.5%	42.7 sec	74.9 sec	D	71.1m	46.4m	196.4m	122.7m
2028 Base	87.7%	46.8 sec	75.2 sec	D	80.4m	49.3m	233.8m	132.5m
2028 Base + Development	90.6%	49.1 sec	77.5 sec	D	120.9m	66.3m	250.1m	151.4m
2038 Base	100.3%	64.3 sec	118.8 sec	E	159.2m	58.0m	343.3m	158.8m
2038 Base + Development	105.2%	76.2 sec	147.5 sec	E	184.6m	76.6m	406.6m	180.9m

The analysis indicates that the intersection is expected to operate beyond suitable levels up to the 2038 design horizon, with and without development traffic included. With the assessed worst-case DOS 105.2% and LOS E. The analysis indicates that the proposed development expansion may have some impacts on vehicle queuing and intersection delays.

There appears to be scope to provide lane extensions on the Ashmore Road approaches that could improve the overall intersection operations. This could also be supplemented with the extension of the dual right turn lanes for the northern approach.

Colliers have tested an initial mitigation option where the Ashmore Road and Benowa Road turn lanes are extended to increase storage capacity and provide additional throughput. The tested upgrades were:

- Increase the western approach right tun lane to 100m (+60m).
- Increase the eastern approach right tun lane to 125m (+40m).
- Increase the northern approach right turn lanes to 40m (+25m) and 60m (+15m) lanes.

This upgraded configuration is shown in Figure 9.2.

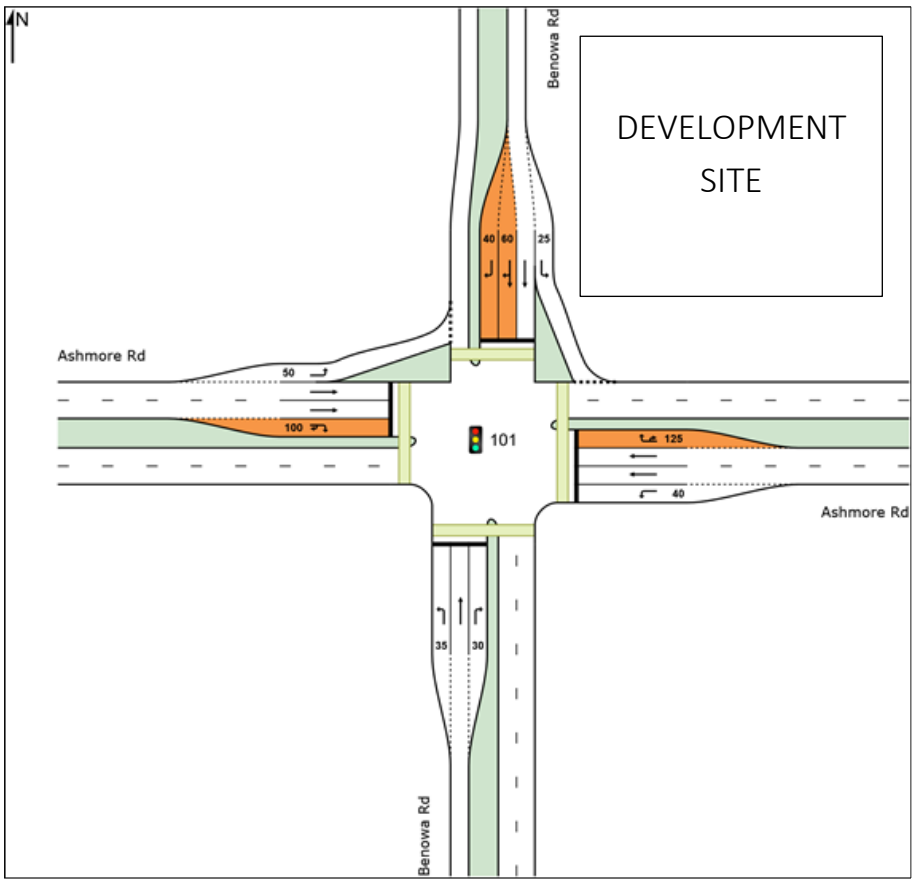


Figure 9.2: Ashmore Road / Benowa Road Intersection (Upgraded Configuration) – SIDRA Layout

Table 9.2 summarises the analysis outputs. Detailed analysis output summaries are included in **Appendix D** and a preliminary concept for the upgrade works are provided in **Appendix B**.

Table 9.2: Ashmore Road / Benowa Road Upgraded Intersection – SIDRA Summary.

Scenario	DOS	Average Delay		LOS	95th Percentile Critical Queue (m)			
		Overall	Worst Movement		North	South	East	West
Weekend AM Peak Hour								
2028 Base + Development Upgraded	56.4%	35.9 sec	72.3 sec	D	48.4m	57.7m	119.1m	162.2m
2038 Base + Development Upgraded	68.9%	36.6 sec	75.6 sec	D	53.7m	69.0m	145.4m	180.9m
Weekday PM Peak Hour								
2028 Base + Development Upgraded	74.6%	41.1 sec	75.2 sec	D	87.2m	66.3m	200.4m	156.6m
2038 Base + Development Upgraded	88.3%	46.4 sec	76.4 sec	D	105.6m	76.6m	265.0m	176.1m

The analysis confirms that the upgraded intersection should function appropriately at the opening-year and 10 year design horizon of the proposed development. Based on this assessment, the proposed intersection configuration and the proposed upgrade works area considered suitable from a traffic operations perspective.

9.2. Benowa Road / Carrara Street

Figure 9.3: shows the existing configuration of the Benowa Street / Carrara Street roundabout intersection adopted in the SIDRA analysis.

Figure 9.3: Benowa Road / Carrara Street Intersection (Existing Configuration) – SIDRA Layout

The results of the SIDRA analysis for the survey and the full development scenarios tested are summarised in Table 9.3.

Table 9.3: Benowa Road / Carrara Street Intersection – SIDRA Summary.

Scenario	DOS	Average Delay	LOS	95th Percentile Critical Queue (m)		
		Worst Movement		North	South	East
Weekend AM Peak Hour						
2024 Survey	31.0%	11.0 sec	A	12.7m	8.3m	12.7m
2028 Base	33.3%	11.1 sec	A	13.8m	1.3m	13.9m
2028 Base + Development	51.4%	11.7 sec	A	23.1m	12.0m	26.9m
2038 Base	39.8%	11.5 sec	A	17.4m	11.4m	17.7m
2038 Base + Development	55.1%	11.9 sec	A	26.7m	14.2m	29.7m
Weekday PM Peak Hour						
2024 Survey	53.8%	11.8 sec	A	14.4m	7.9m	28.7m
2028 Base	57.5%	12.0 sec	A	14.6m	7.0m	32.0m
2028 Base + Development	77.0%	14.6 sec	A	29.7m	13.6m	74..1m
2038 Base	69.6%	14.1 sec	A	20.0m	11.1m	53.7m
2038 Base + Development	86.4%	19.2 sec	B	35.1m	16.3m	117.9m

The analysis indicates that the intersection is expected to operate at suitable levels up to the 2038 design horizon, with an overall LOS B in the assessed peak hours.

The above results are within the generally acceptable limits for roundabout intersections, that being a DOS of <85% and LOS D limit. While the DOS exceeds the 85% threshold for roundabouts, the delays are noted to be limited. Based on this assessment, the proposed development is considered to have limited adverse impact on the operations of this intersection. Based on this assessment, the proposed intersection configuration is considered suitable from a traffic operations perspective.

9.3. Ashmore Road / Carrara Street

Figure 9.4 shows the existing configuration of the Ashmore Road / Carrara Street T-intersection adopted in the SIDRA analysis.

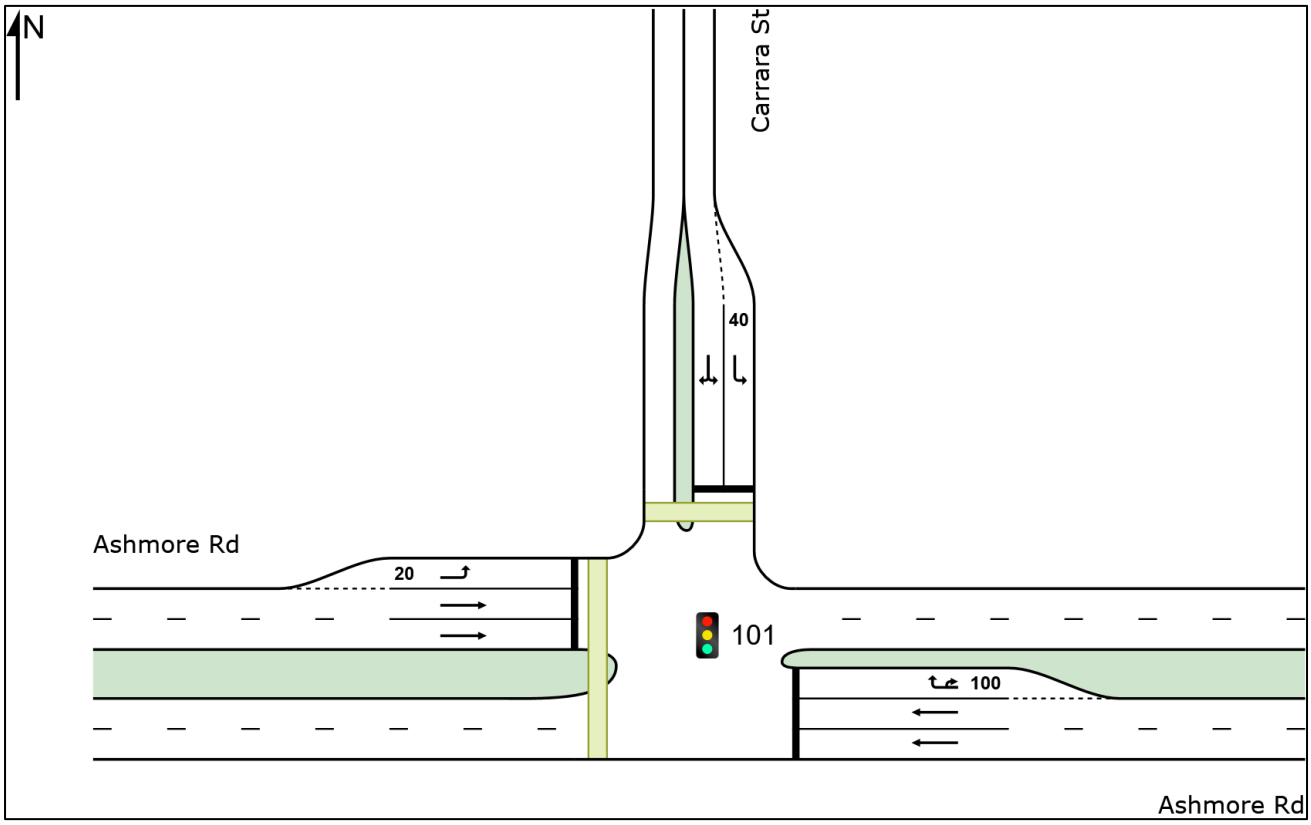


Figure 9.4: SIDRA intersection layout of Station Rd/Westminster Road.

The results of the SIDRA analysis for the existing scenario and full development scenarios tested are summarised in Table 9.4.

Table 9.4: Ashmore Road / Carrara Street Intersection – SIDRA Summary.

Scenario	DOS	Average Delay		LOS	95th Percentile Critical Queue (m)		
		Overall	Worst Movement		North	West	East
Weekend AM Peak Hour							
2024 Survey	72.3%	20.4 sec	47.5 sec	C	20.5m	152.0m	53.6m
2028 Base	76.7%	21.4 sec	47.6 sec	C	21.7m	170.2m	57.6m
2028 Base + Development	82.3%	24.6 sec	48.2 sec	C	27.9m	199.0m	72.3m
2038 Base	89.0%	27.6 sec	48.0 sec	C	25.5m	247.5m	70.5m
2038 Base + Development	94.2%	34.7 sec	52.7 sec	C	30.7m	303.0m	79.6m
Weekday PM Peak Hour							
2024 Survey	70.1%	20.9 sec	49.4 sec	C	41.7m	145.8m	72.7m
2028 Base	70.0%	21.0 sec	49.7 sec	C	44.6m	145.5m	78.9m
2028 Base + Development	88.6%	28.1 sec	52.8 sec	C	59.7m	198.1m	135.5m
2038 Base	86.5%	25.9 sec	51.3 sec	C	53.5m	226.5m	97.8m
2038 Base + Development	94.3%	37.6 sec	56.4 sec	D	69.8m	294.8m	177.4m

The analysis indicates that the intersection may exceed recommended design thresholds in the assessed 2038 with development peak hour period. The assessed scenario indicates that the 2038 with development might reach a DOS of 94.2% – 94.3%. Exceeding the typically adopted threshold of 90% for signalised intersections.

The results are slightly above the generally acceptable limits for signalised intersections, that being a DOS of <90% and LOS D limit.

Colliers had investigated some turn lane treatments to improve storage capacity of the possible queues indicated by the analysis. Based on prelodgement feedback from Council, the preference is to maintain the existing kerbside parking in proximity to this intersection. Based on this feedback, no improvement works are proposed for this intersection.

9.4. Site Accesses

Colliers has undertaken preliminary assessments of the proposed Ashmore Road Left in/Left out (LILO) site access. The results of the SIDRA analysis for the development scenarios tested are summarised in Table 9.5.

Table 9.5: Ashmore Road / Site Access – SIDRA Summary.

Scenario	DOS	Average Delay		LOS	95th Percentile Critical Queue (m)			
		Overall	Worst Movement		North	South	East	West
Weekend AM Peak Hour								
2028 Base + Development	27.0%	1.3 sec	7.0 sec	A	3.8m	-	-	0.0m
2038 Base + Development	31.3%	1.2 sec	7.6 sec	A	4.2m	-	-	0.0m
Weekday PM Peak Hour								
2028 Base + Development	24.7%	1.9 sec	6.9 sec	A	5.4m	-	-	0.0m
2038 Base + Development	28.7%	1.7 sec	7.4 sec	A	5.8m	-	-	0.0m

Based on this assessment, the proposed site access configuration is considered suitable from a traffic operations perspective.

Colliers has undertaken preliminary assessments of the proposed Carrara Street site access. This assessment is a preliminary assessment of a combined demand focused on a single crossover on the Carrara Street frontage. The analysis may therefore be showing impacts which will be diffused across the two crossovers. The finer details and demand splits of which are expected to be reviewed and resolved as part of subsequent development applications. The results of the SIDRA analysis for the development scenarios tested are summarised in Table 9.6

Table 9.6: Carrara Street / Site Access – SIDRA Summary.

Scenario	DOS	Average Delay		LOS	95th Percentile Critical Queue (m)			
		Overall	Worst Movement		North	South	East	West
Weekend AM Peak Hour								
2028 Base + Development	43.4%	5.0 sec	9.9 sec	A	-	17.6m	0.0m	12.8m
2038 Base + Development	44.7%	5.0 sec	10.6 sec	A	-	19.6m	0.0m	13.7m
Weekday PM Peak Hour								
2028 Base + Development	63.7%	7.1 sec	17.7 sec	A	-	38.7m	0.0m	29.5m
2038 Base + Development	69.9%	7.8 sec	21.0 sec	A	-	45.2m	0.0m	35.1m

Based on this assessment, the assessed vehicle demands for the Carrara Street frontage should operate appropriately and future accesses should therefore be suitable from a traffic operations perspective.

10. Summary and Conclusions

10.1. Parking Arrangements

The total site is anticipated to provide approximately 1,470 car parking spaces.

Colliers notes that the parking supply recommendation has a significant range of supply rates (1,210 to 1,580 spaces), depending on the specific uses proposed. With a variation of compliant parking space provisions depending on the development option.

The range of uses on site, the specific peak parking demand will vary for each specific uses. This variation in parking demand timings, may allow for the time-based sharing of communal parking on site potentially reducing the overall supply requirements (e.g. a shop uses typically peak on a weekend or weekday evening, when an office / health use would be closed).

The carparking supply will evolve as the development progresses through the design and approval process, with more detailed car parking supply and layout review documentation to be provided as part of subsequent approvals.

Overall, Colliers considers the preliminary car parking arrangements for the development to be appropriate.

10.2. Access Arrangements

The proposed access arrangements for the development are considered acceptable to support the development. Overall, Colliers considers the access arrangements for the development to be acceptable.

10.3. Service Vehicle Arrangements

Service vehicles are proposed to access the site via the revised southeastern vehicle access on Ashmore Road. Vehicles accessing the site are expected to enter and exit the site in a forward gear accessing the dedicated loading area located in the northeastern corner of the site.

The specific loading requirements will be refined as the specific uses on site are confirmed and the site design progresses.

10.4. Traffic Impact Assessment

Based on the traffic analysis, the recommended traffic impact mitigation relates to the Ashmore Road/Benowa Road intersection. At this intersection, it is recommended that the east/west turn lanes are extended to increase storage and operational capacity.

The analysis also indicates that the development traffic should not create significant adverse impacts on the Benowa Road /Carrara Street or Ashmore Road/Carrara Street intersections.

10.5. Conclusion

Based on the assessment contained within this report, Colliers sees no traffic engineering reason why the relevant preliminary approvals should not be granted.

Appendix A Development Plans

BENOWA GARDENS MASTER PLAN

SITE INFORMATION

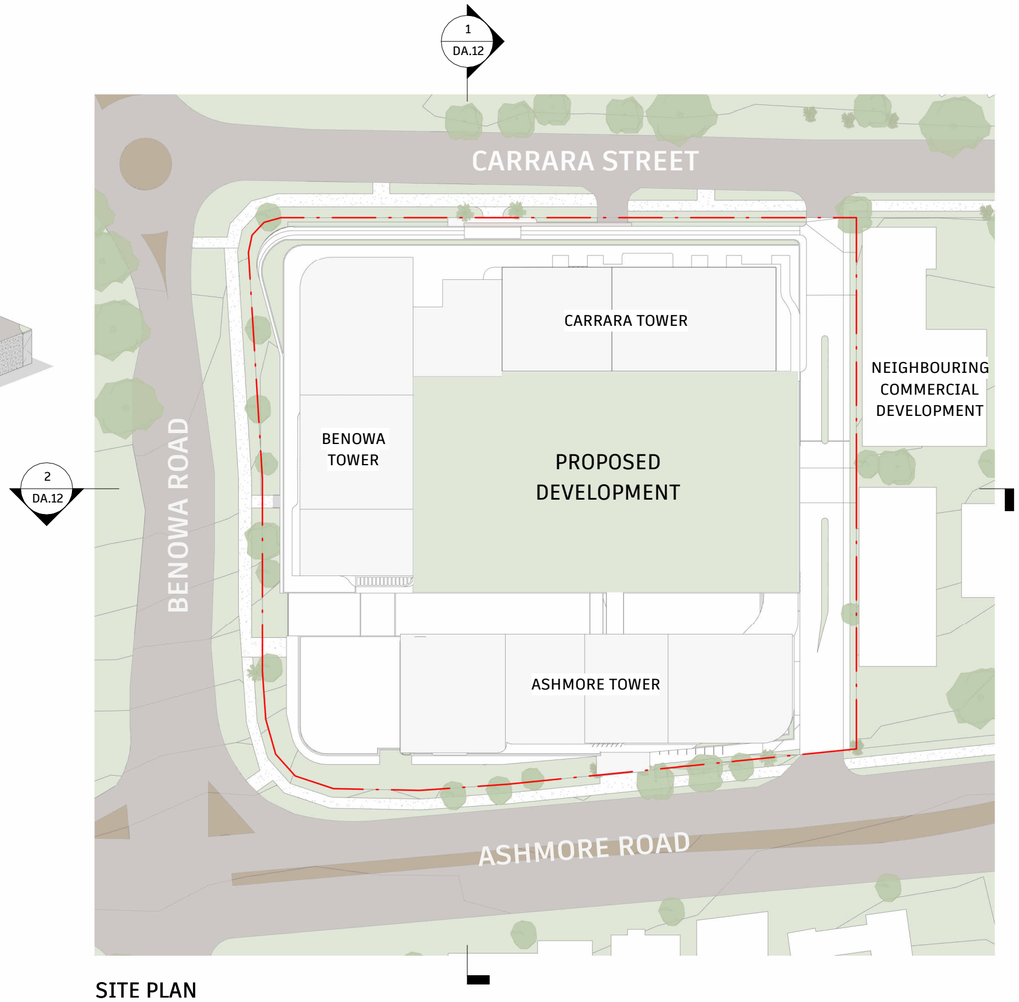
ADDRESS 203 ASHMORE ROAD
BENOWA QLD 4217

RPD LOT/DP: RP839746

SITE AREA 17,658m^2

LEGEND

- RETAIL
- STAFF BICYCLE PARKING
- COMMERCIAL
- RESIDENTIAL
- VISITOR BICYCLE PARKING
- COMMUNITY OUTDOOR
- REFUSE
- PERIMETER USE



SITE PLAN

1 : 1000

APARTMENT TYPES

	LEVELS	2 x BED	3 x BED	TOTAL
CARRARA TOWER	PER LEVEL (x 9)	12	3	15
	TOTAL PER TOWER	108	27	135
BENOWA TOWER	PER LEVEL (x 8)	12	4	16
	TOTAL PER TOWER	96	32	128
ASHMORE TOWER	PER LEVEL (x 7)	14	4	18
	PER HALF LEVEL (x 1)	4	4	8
	TOTAL PER TOWER	102	32	134
TOTAL APARTMENTS		**306**	**91**	**397**

PERIMETER USE: 8,400m^2

	SHORT STAY ACCOMMODATION	RESIDENTIAL 1 BED		HEALTH CARE
BASEMENT 2	130m^2 TUA (LOBBY)	-		-
BASEMENT 1	11	-		1,200m^2 TUA
GROUND (SHOPPING CENTRE)	15	-		1,200m^2 TUA
CARRARA LEVEL 1	15	-	**OR**	1,200m^2 TUA
CARRARA LEVEL 2	-	22		2,400m^2 TUA
CARRARA LEVEL 3	-	22		2,400m^2 TUA
TOTAL	**41**	**44**		**8,400m^2**

CARPARKING

RETAIL

BASEMENT 3	**190 CARS**
BASEMENT 2	**260 CARS**
BASEMENT 1	**250 CARS**
TOTAL RETAIL CARPARKS	**700 CARS**

RESIDENTIAL

LEVEL 2	**220 CARS**
LEVEL 3	**270 CARS**
TOTAL RESIDENTIAL CARPARKS	**490 CARS**

PERIMETER USE

BASEMENT 3	**270 CARS**
TOTAL PERIMETER USE CARPARKS	**270 CARS**

TOTAL CARPARKS	1,460

BICYCLE PARKING

STAFF

BASEMENT 2	**100 SPACES**
TOTAL STAFF SPACES	**100 SPACES**

VISITOR

BASEMENT 2	**86 SPACES**
BASEMENT 1	**114 SPACES**
TOTAL STAFF SPACES	**200 SPACES**

TOTAL BICYCLE SPACES	300

AREA CALCULATIONS

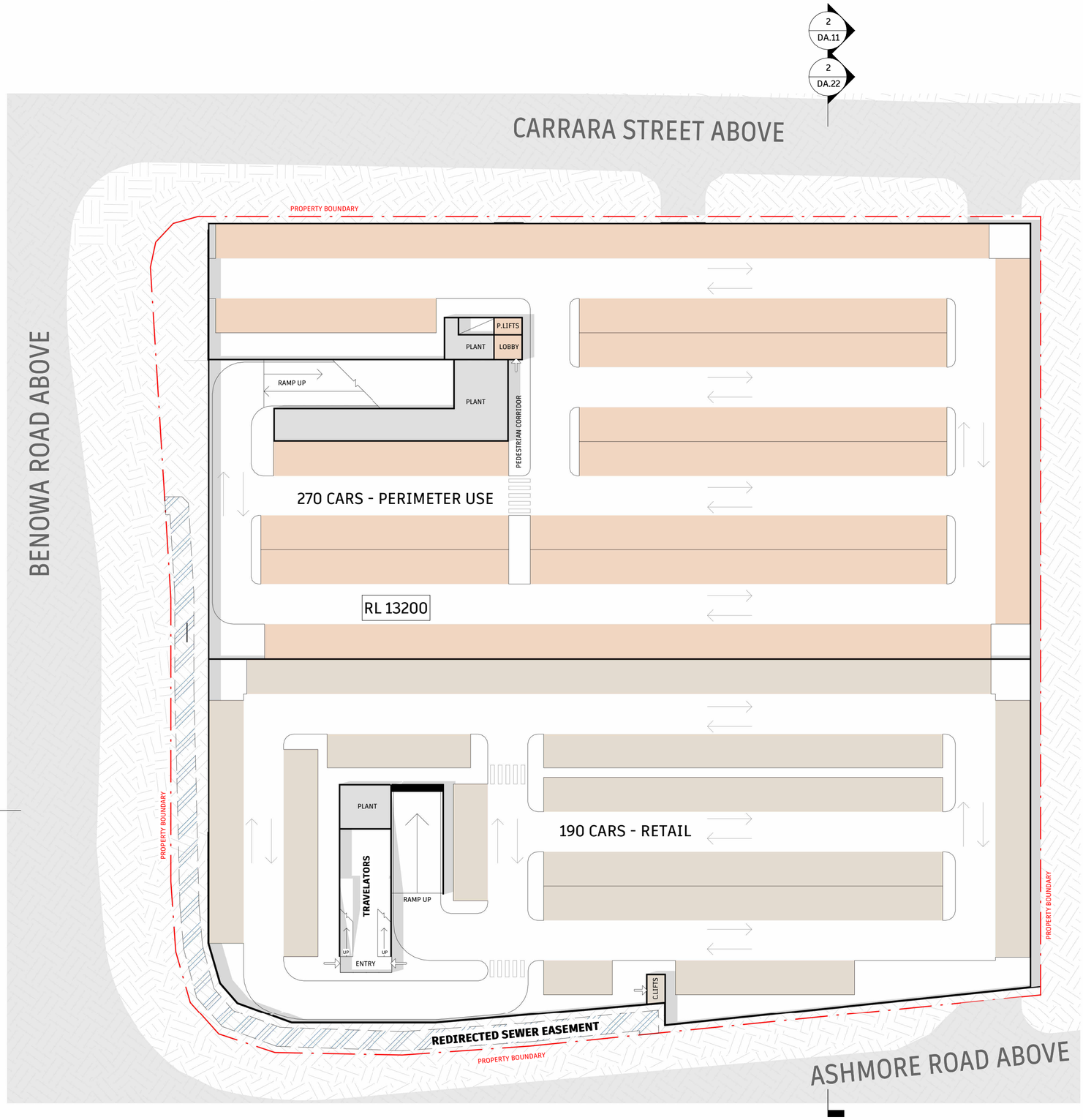
RETAIL AREA

SUPERMARKET	**4,000m^2**
SPECIALTY SHOPS:	**6,000m^2**
RETAIL BASEMENT 2 LEVEL:	**700m^2**
RETAIL BASEMENT 1 LEVEL:	**300m^2**
SHOPPING CENTRE LEVEL:	**5,000m^2**
TOTAL RETAIL	**10,000m^2**

COMMERCIAL AREA

LEVEL 1:	**2,500m^2**
LEVEL 2:	**500m^2**
TOTAL COMMERCIAL	**3,000m^2**

FLOOR PLAN-BASEMENT 3 (RETAIL)



LEGEND

- RETAIL
- STAFF BICYCLE PARKING
- COMMERCIAL
- RESIDENTIAL
- VISITOR BICYCLE PARKING
- COMMUNITY OUTDOOR
- REFUSE
- PERIMETER USE

CARPARKING

RETAIL

BASEMENT 3	**190 CARS**
BASEMENT 2	**260 CARS**
BASEMENT 1	**250 CARS**
TOTAL RETAIL CARPARKS	**700 CARS**

RESIDENTIAL

LEVEL 2	**220 CARS**
LEVEL 3	**270 CARS**
TOTAL RESIDENTIAL CARPARKS	**490 CARS**

PERIMETER USE

BASEMENT 3	**270 CARS**
TOTAL PERIMETER USE CARPARKS	**270 CARS**

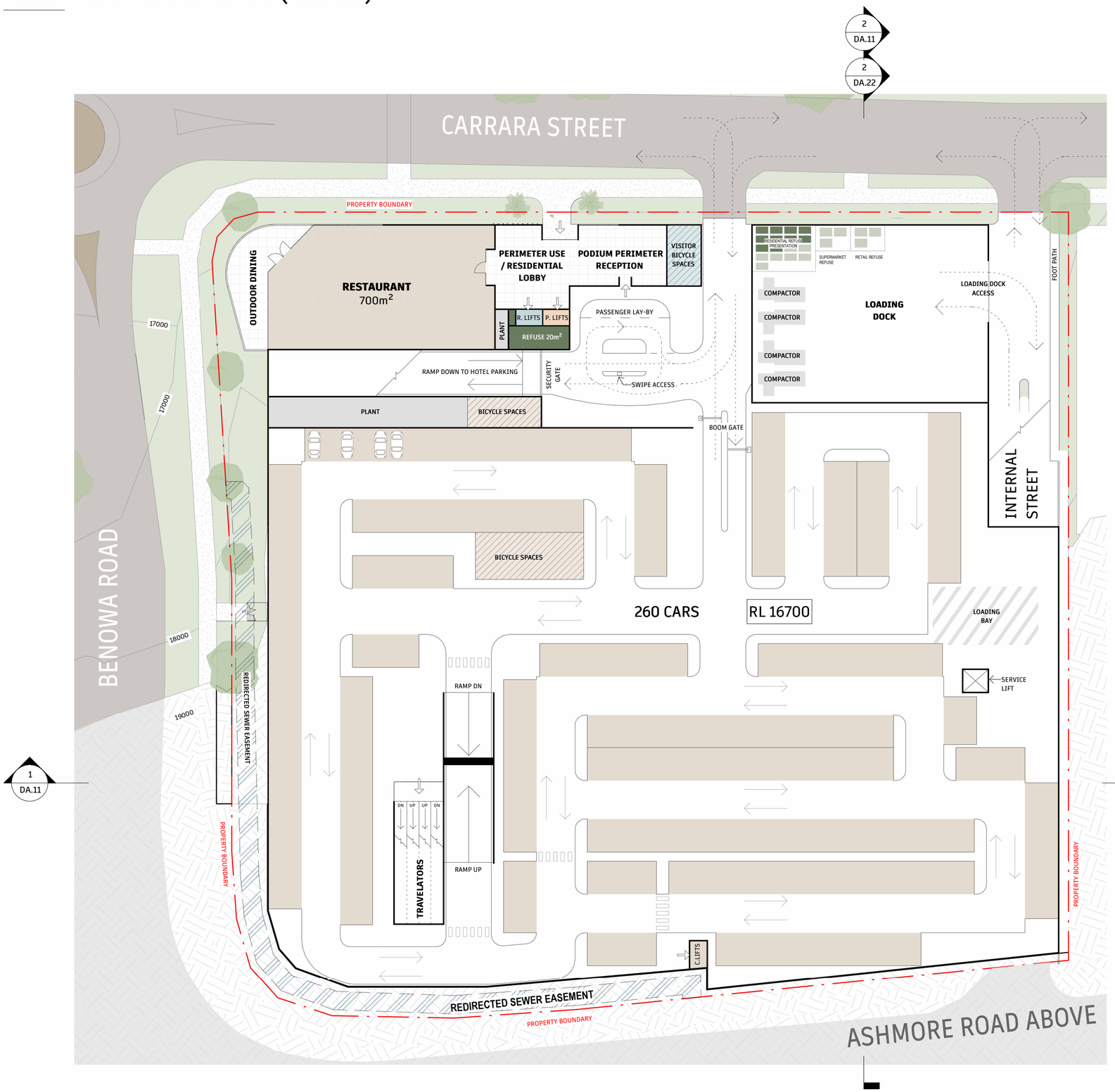
TOTAL CARPARKS	1,460

BASEMENT 3 CARPARK - RETAIL / HOTEL

1 : 500

0 5 10 25 45m

FLOOR PLAN-BASEMENT 2 (RETAIL)



BASEMENT 2 CARPARK - RETAIL

1 : 500

LEGEND

- RETAIL
- STAFF BICYCLE PARKING
- COMMERCIAL
- RESIDENTIAL
- VISITOR BICYCLE PARKING
- COMMUNITY OUTDOOR
- REFUSE
- PERIMETER USE

CARPARKING

RETAIL

BASEMENT 3	**190 CARS**
BASEMENT 2	**260 CARS**
BASEMENT 1	**250 CARS**
TOTAL RETAIL CARPARKS	**700 CARS**

RESIDENTIAL

LEVEL 2	**220 CARS**
LEVEL 3	**270 CARS**
TOTAL RESIDENTIAL CARPARKS	**490 CARS**

PERIMETER USE

BASEMENT 3	**270 CARS**
TOTAL PERIMETER USE CARPARKS	**270 CARS**

TOTAL CARPARKS	1,460

BICYCLE PARKING

STAFF

BASEMENT 2	**100 SPACES**
TOTAL STAFF SPACES	**100 SPACES**

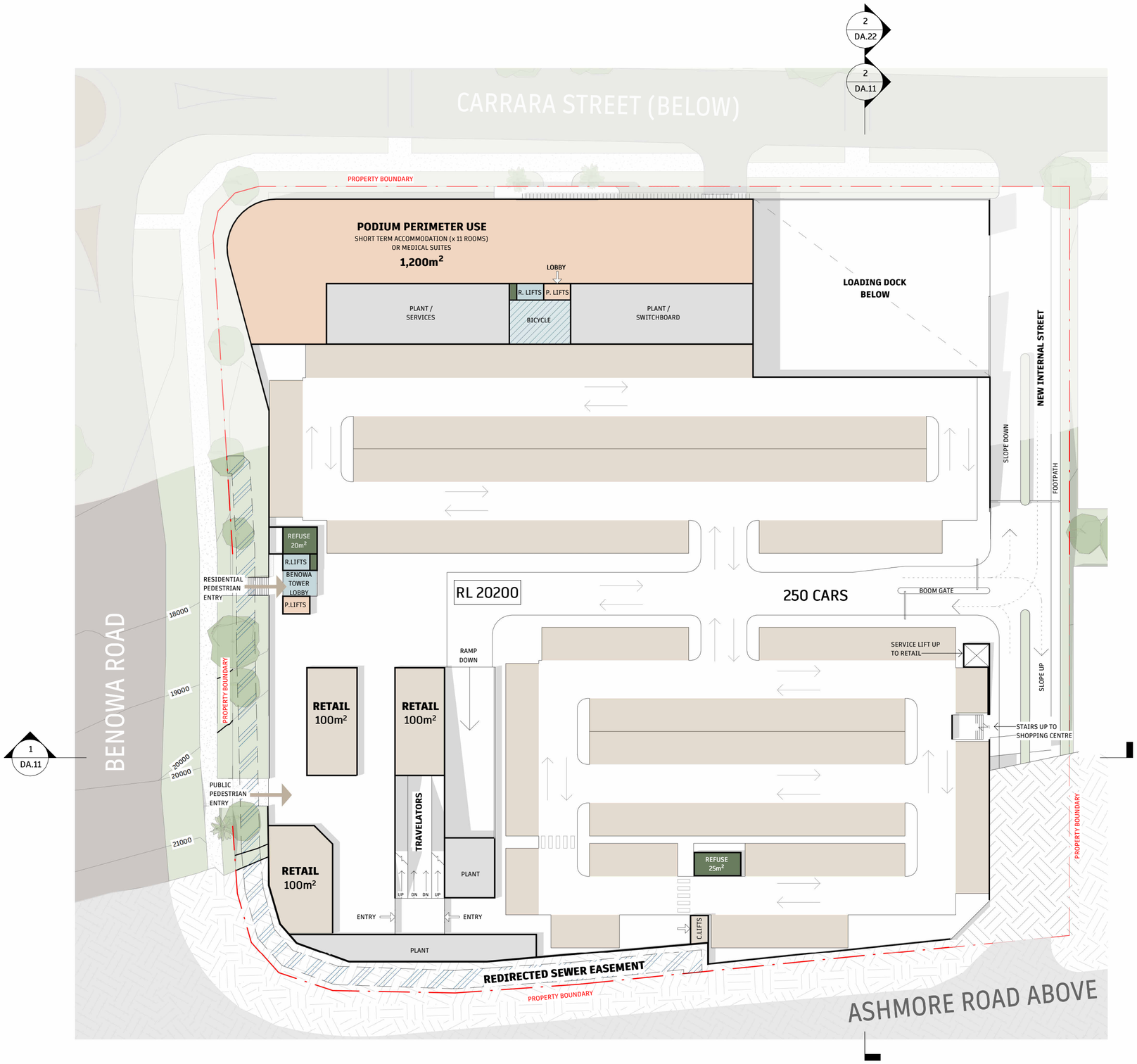
VISITOR

BASEMENT 2	**86 SPACES**
BASEMENT 1	**114 SPACES**
TOTAL STAFF SPACES	**200 SPACES**

TOTAL BICYCLE SPACES	300

0 5 10 25 45m

FLOOR PLAN-BASEMENT 1 (RETAIL)



BASEMENT 1 CARPARK - RETAIL

1 : 500

LEGEND

- RETAIL
- STAFF BICYCLE PARKING
- COMMERCIAL
- RESIDENTIAL
- VISITOR BICYCLE PARKING
- COMMUNITY OUTDOOR
- REFUSE
- PERIMETER USE

CARPARKING

RETAIL

BASEMENT 3	**190 CARS**
BASEMENT 2	**260 CARS**
BASEMENT 1	**250 CARS**
TOTAL RETAIL CARPARKS	**700 CARS**

RESIDENTIAL

LEVEL 2	**220 CARS**
LEVEL 3	**270 CARS**
TOTAL RESIDENTIAL CARPARKS	**490 CARS**

PERIMETER USE

BASEMENT 3	**270 CARS**
TOTAL PERIMETER USE CARPARKS	**270 CARS**

TOTAL CARPARKS	1,460

BICYCLE PARKING

STAFF

BASEMENT 2	**100 SPACES**
TOTAL STAFF SPACES	**100 SPACES**

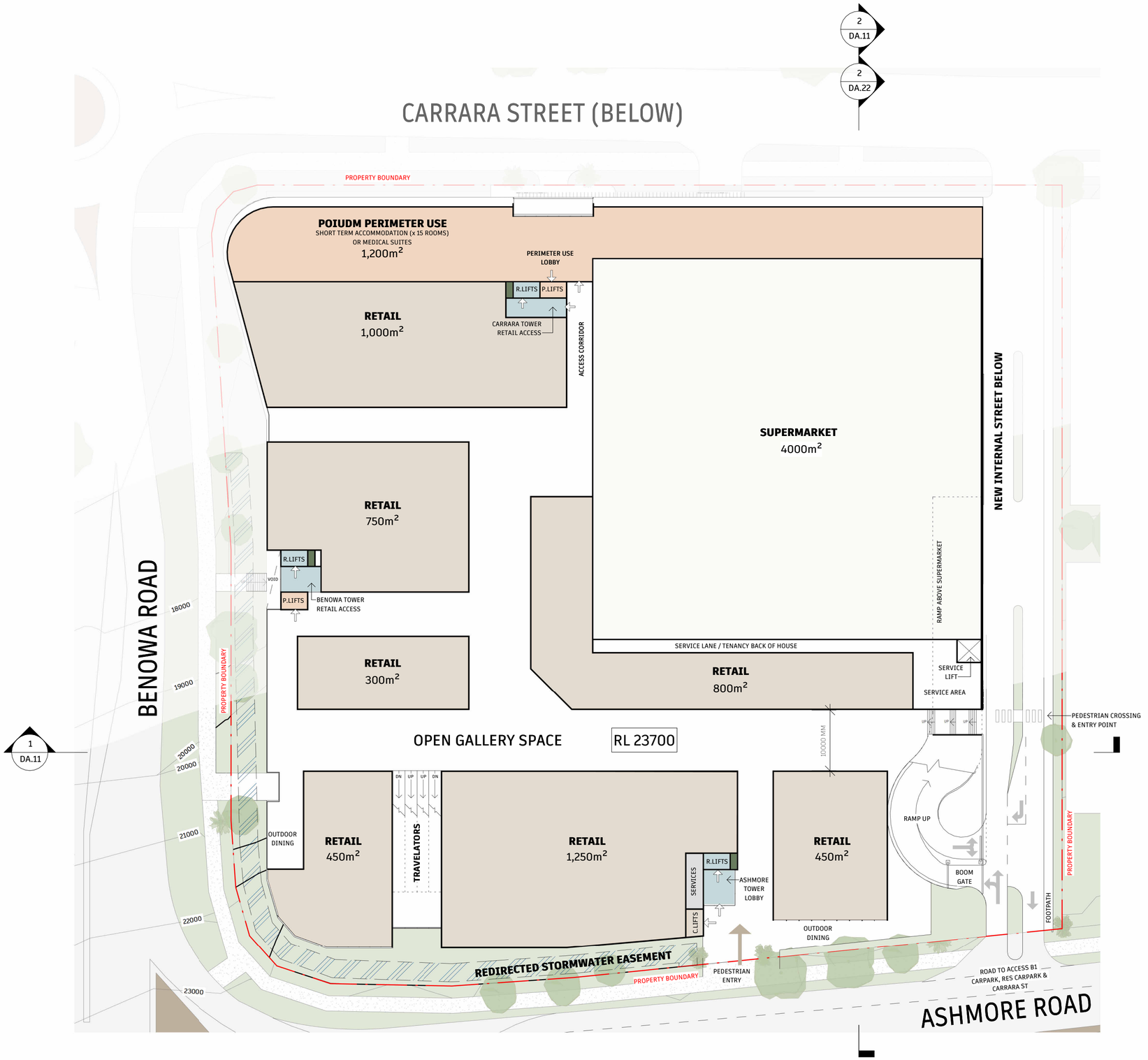
VISITOR

BASEMENT 2	**86 SPACES**
BASEMENT 1	**114 SPACES**
TOTAL STAFF SPACES	**200 SPACES**

TOTAL BICYCLE SPACES	300

0 5 10 25 45m

FLOOR PLAN-SHOPPING CENTRE



LEGEND

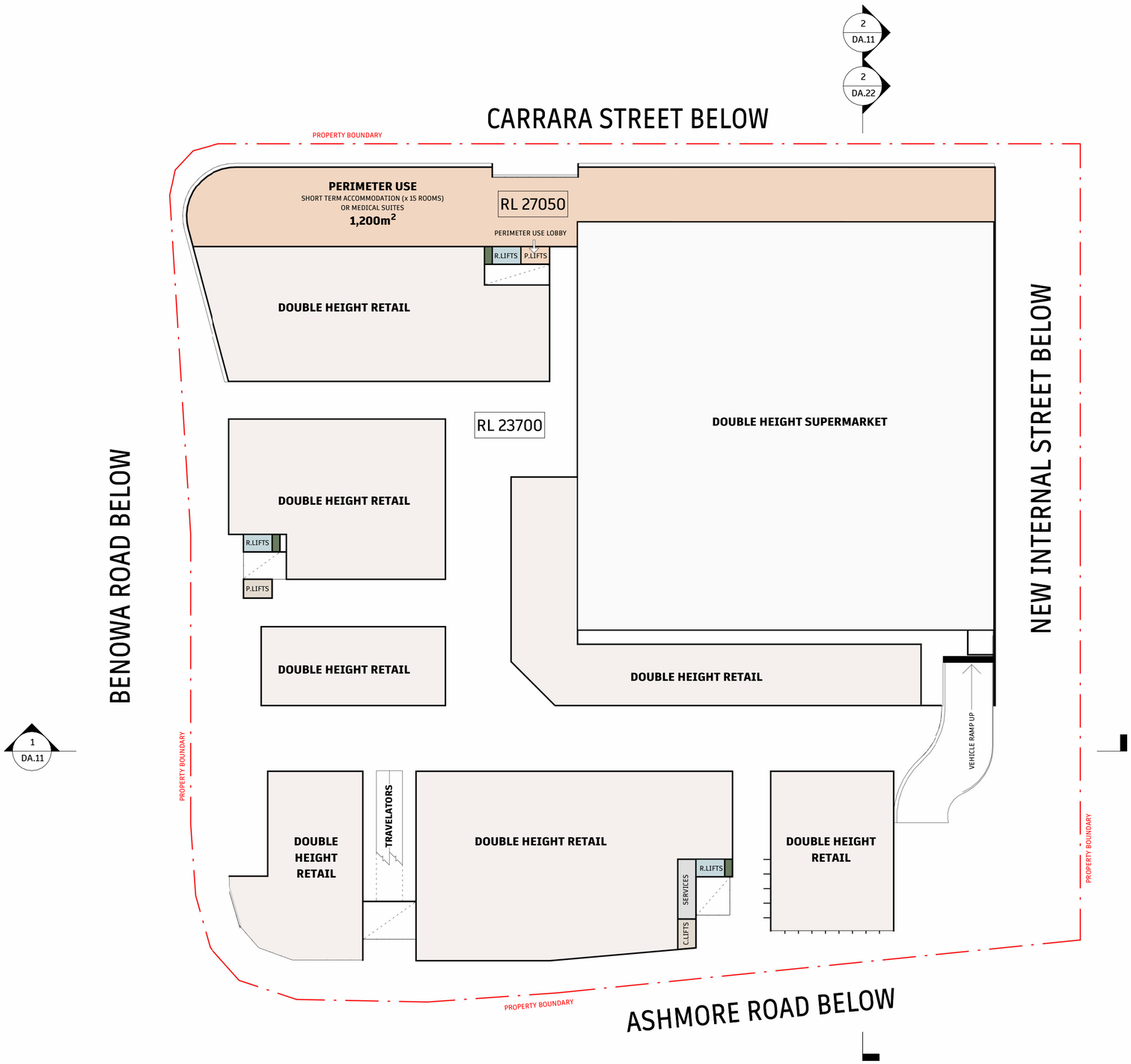
- RETAIL
- STAFF BICYCLE PARKING
- COMMERCIAL
- RESIDENTIAL
- VISITOR BICYCLE PARKING
- COMMUNITY OUTDOOR
- REFUSE
- PERIMETER USE

SHOPPING CENTRE

1 : 500

0 5 10 25 45m

FLOOR PLAN LEVEL 1 - PERIMETER USE MEZZANINE



LEGEND

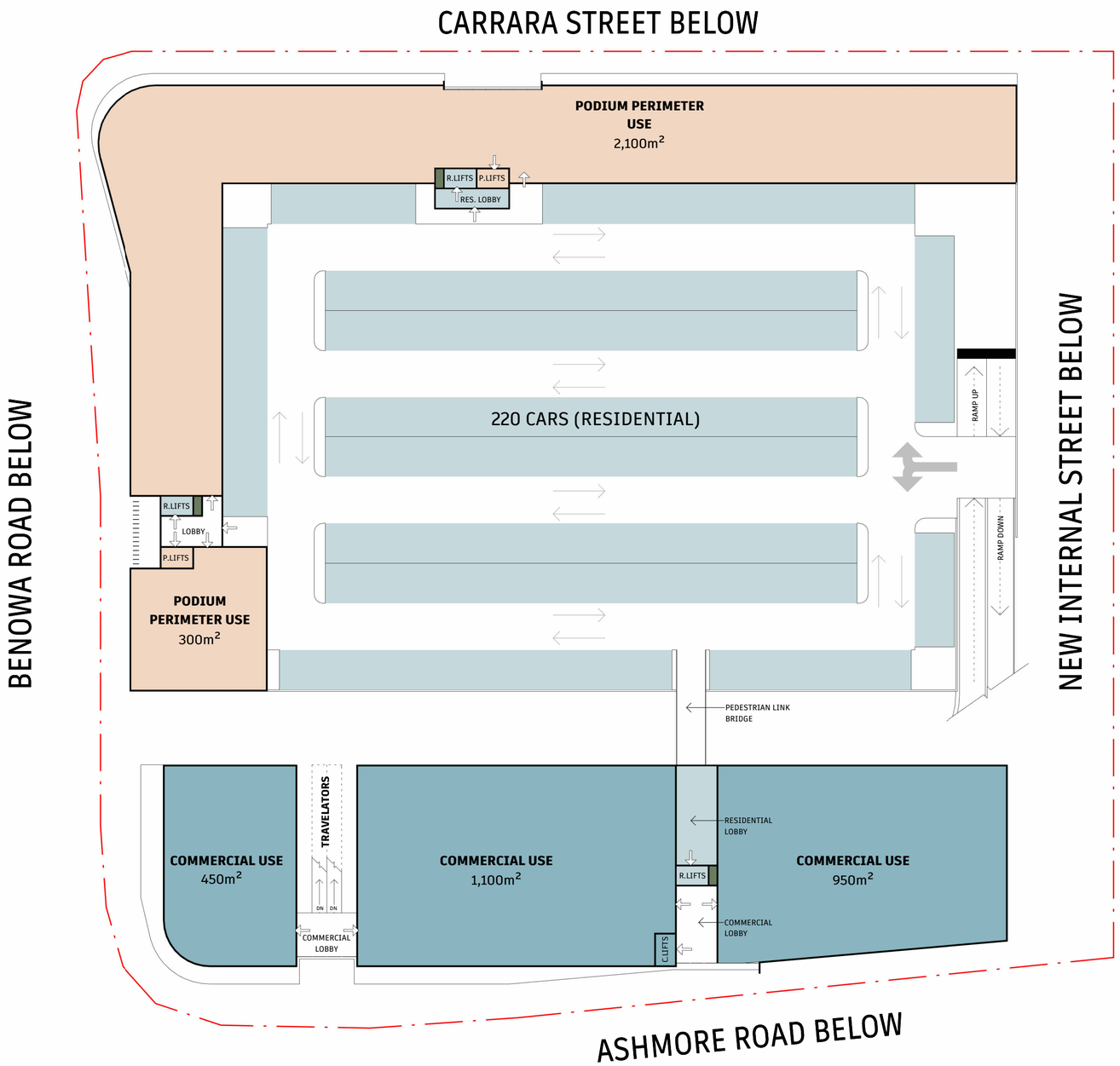
- RETAIL
- STAFF BICYCLE PARKING
- COMMERCIAL
- RESIDENTIAL
- VISITOR BICYCLE PARKING
- COMMUNITY OUTDOOR
- REFUSE
- PERIMETER USE

LEVEL 1 - MEZZANINE

1 : 500

0 5 10 25 45m

FLOOR PLAN-LEVEL 2 (RESIDENTIAL CARPARK)



LEGEND

- RETAIL
- STAFF BICYCLE PARKING
- COMMERCIAL
- RESIDENTIAL
- VISITOR BICYCLE PARKING
- COMMUNITY OUTDOOR
- REFUSE
- PERIMETER USE

CARPARKING

RETAIL

BASEMENT 3	**190 CARS**
BASEMENT 2	**260 CARS**
BASEMENT 1	**250 CARS**
TOTAL RETAIL CARPARKS	**700 CARS**

RESIDENTIAL

LEVEL 2	**220 CARS**
LEVEL 3	**270 CARS**
TOTAL RESIDENTIAL CARPARKS	**490 CARS**

PERIMETER USE

BASEMENT 3	**270 CARS**
TOTAL PERIMETER USE CARPARKS	**270 CARS**

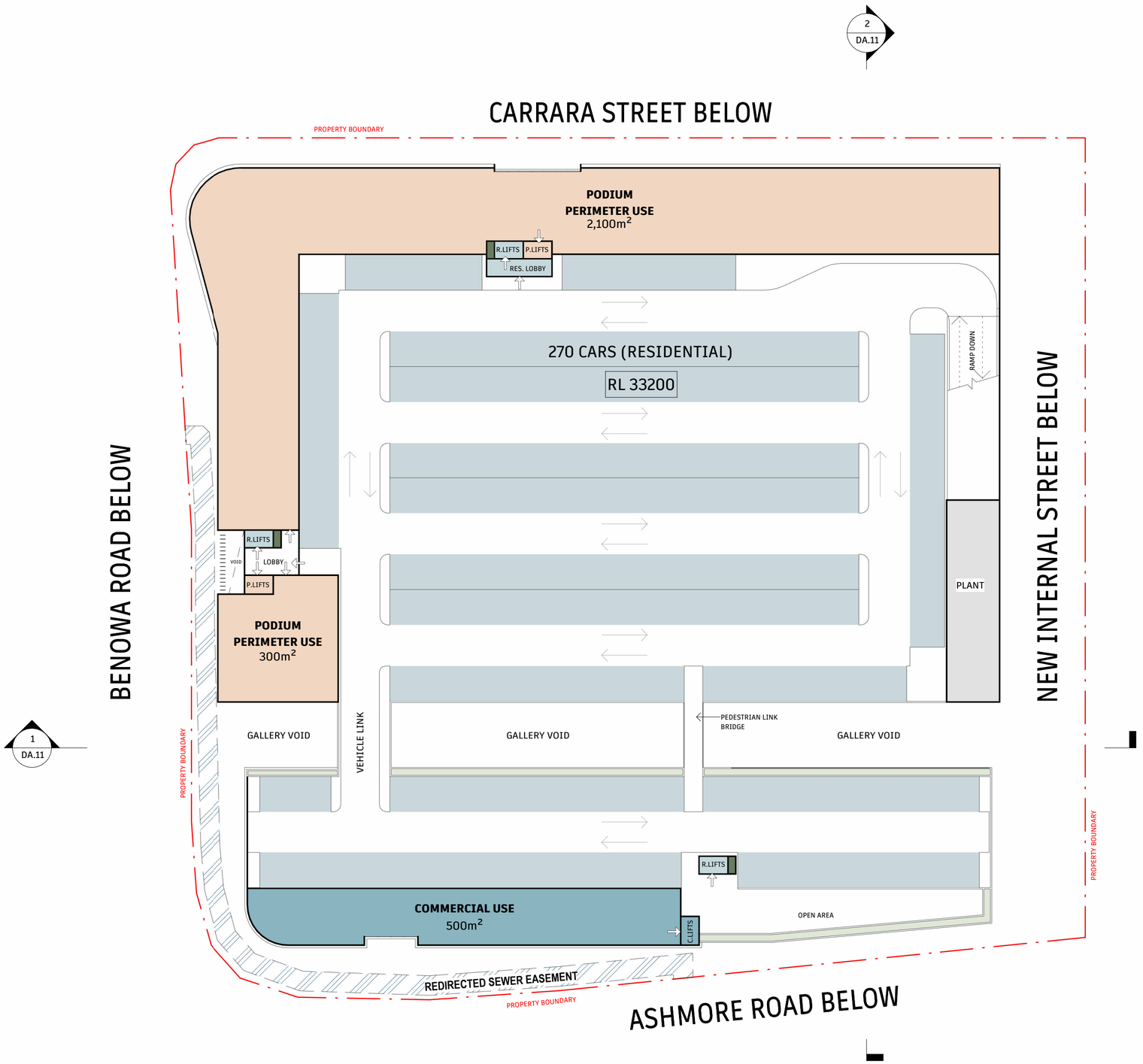
TOTAL CARPARKS	1,460

L2_CARARRA

1 : 500

0 5 10 25 45m

FLOOR PLAN-LEVEL 3 (RESIDENTIAL CARPARK)



LEGEND

- RETAIL
- STAFF BICYCLE PARKING
- COMMERCIAL
- RESIDENTIAL
- VISITOR BICYCLE PARKING
- COMMUNITY OUTDOOR
- REFUSE
- PERIMETER USE

CARPARKING

RETAIL

BASEMENT 3	**190 CARS**
BASEMENT 2	**260 CARS**
BASEMENT 1	**250 CARS**
TOTAL RETAIL CARPARKS	**700 CARS**

RESIDENTIAL

LEVEL 2	**220 CARS**
LEVEL 3	**270 CARS**
TOTAL RESIDENTIAL CARPARKS	**490 CARS**

PERIMETER USE

BASEMENT 3	**270 CARS**
TOTAL PERIMETER USE CARPARKS	**270 CARS**

TOTAL CARPARKS	1,460

L3_RESIDENTIAL CAR PARK

1 : 500

0 5 10 25 45m

Appendix B TTM Swept Path Drawings

NOTES:

1. MAPPING UNDERLAY PROVIDED BY NEARMAP. MAY BE SUBJECT TO DETAILED DESIGN & SITE SURVEY.
2. ALL UNITS SHOWN ARE IN METERS (m) UNLESS OTHERWISE NOTED

REV.	DATE	AMENDMENT DESCRIPTION	DRAWN	CHECKED	APPROVED
A	05-02-25	PRELIMINARY INTERSECTION CONCEPT	MGr	MGr	

SCALE: SCALE 1:800 @ A3

NORTH

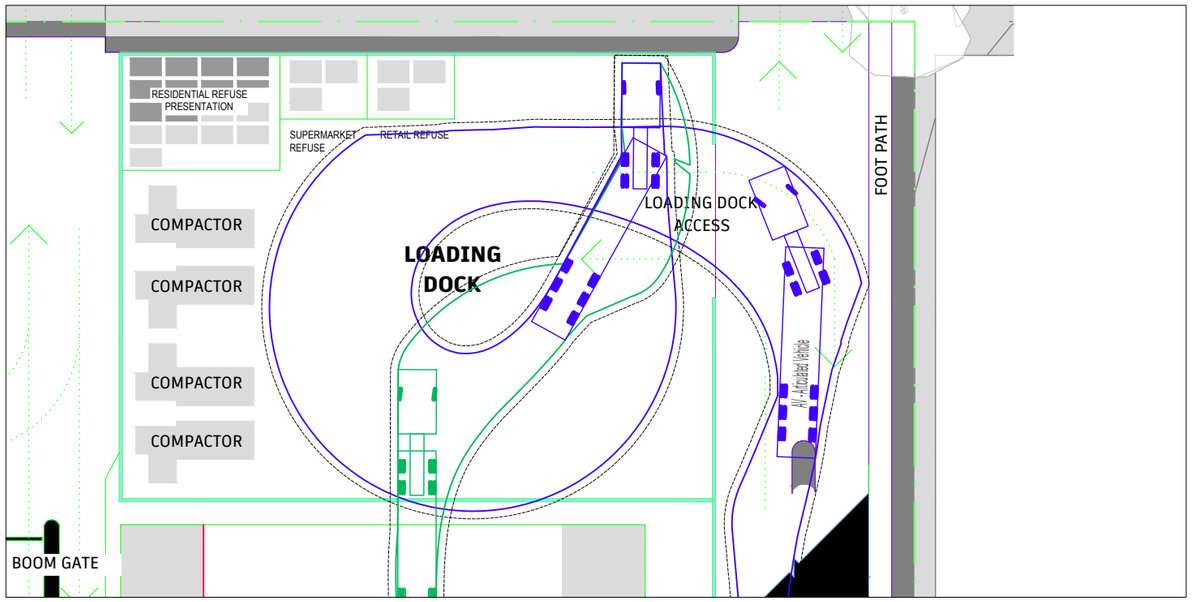
CLIENT: NEYLAN ARCHITECTURE

TTM CONSULTING PTY LTD
ABN 65 010 868 621
LEVEL 8, 369 Ann Street, BRISBANE QLD 4000
P.O. BOX 12015, BRISBANE QLD 4003
T: (07) 3327 9500 F: (07) 3327 9501
E: ttmbris@ttmgroup.com.au W: www.ttmgroup.com.au

PROJECT: **BENOWA GARDENS - PRELIMINARY APPROVAL**

DRAWING TITLE: **ASHMORE ROAD / BENOWA ROAD INTERSECTION**
HIGH LEVEL INTERSECTION CONCEPT SKETCH

PROJECT NUMBER	ORIGINAL SIZE
24BRT0224	A3
DRAWING NUMBER	REVISION
24BRT0224-01	A
DATE	SHEET
5 Feb 2025	1 OF 1



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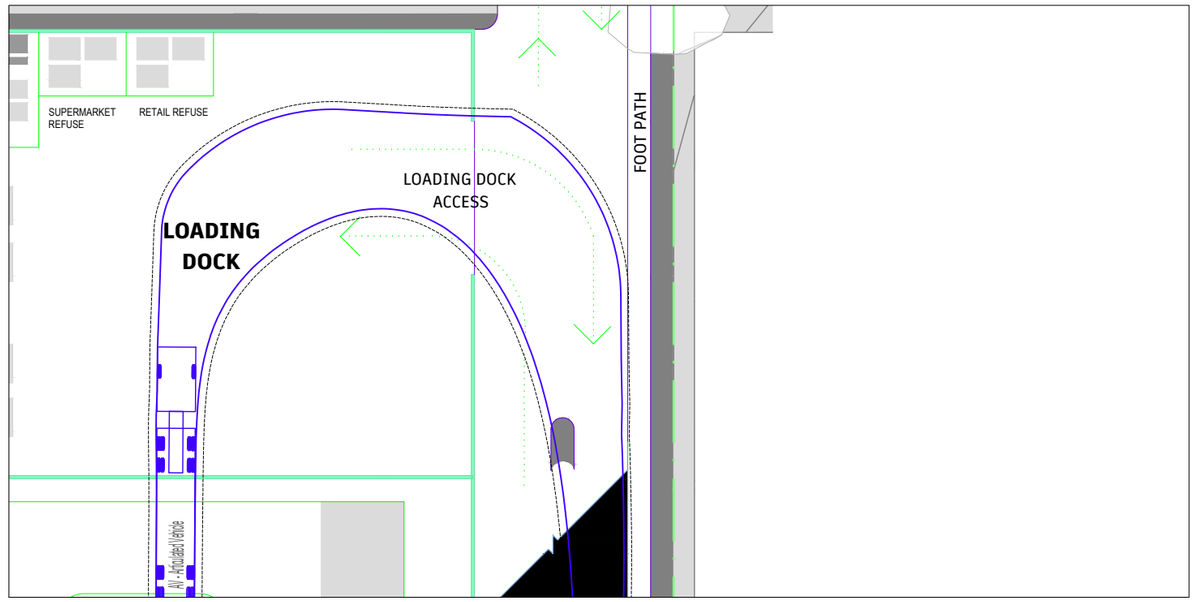

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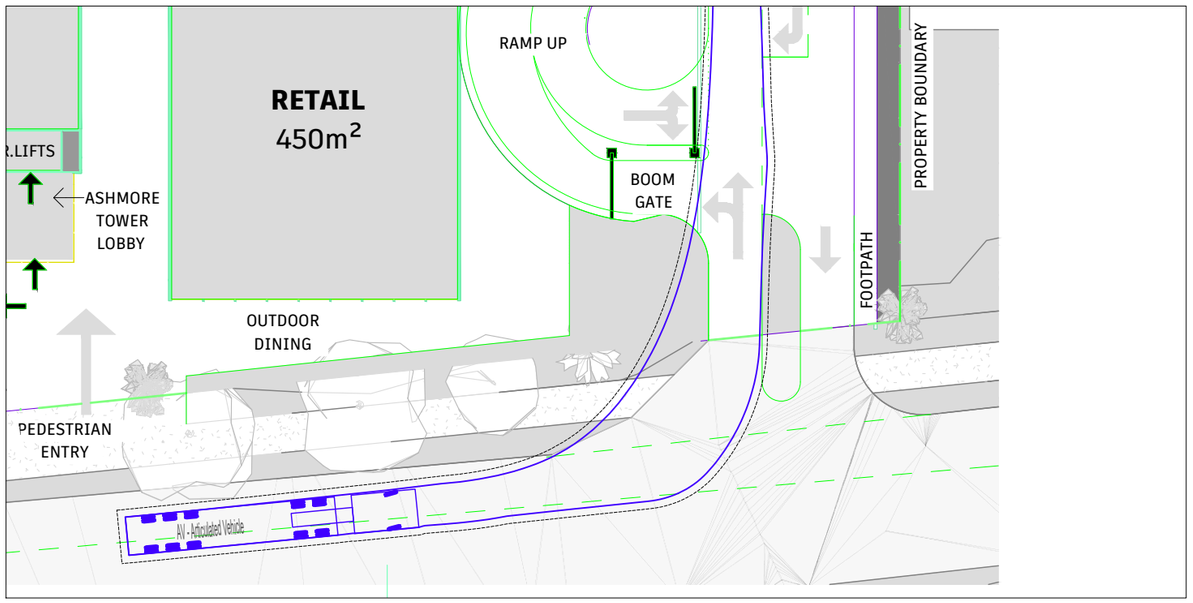
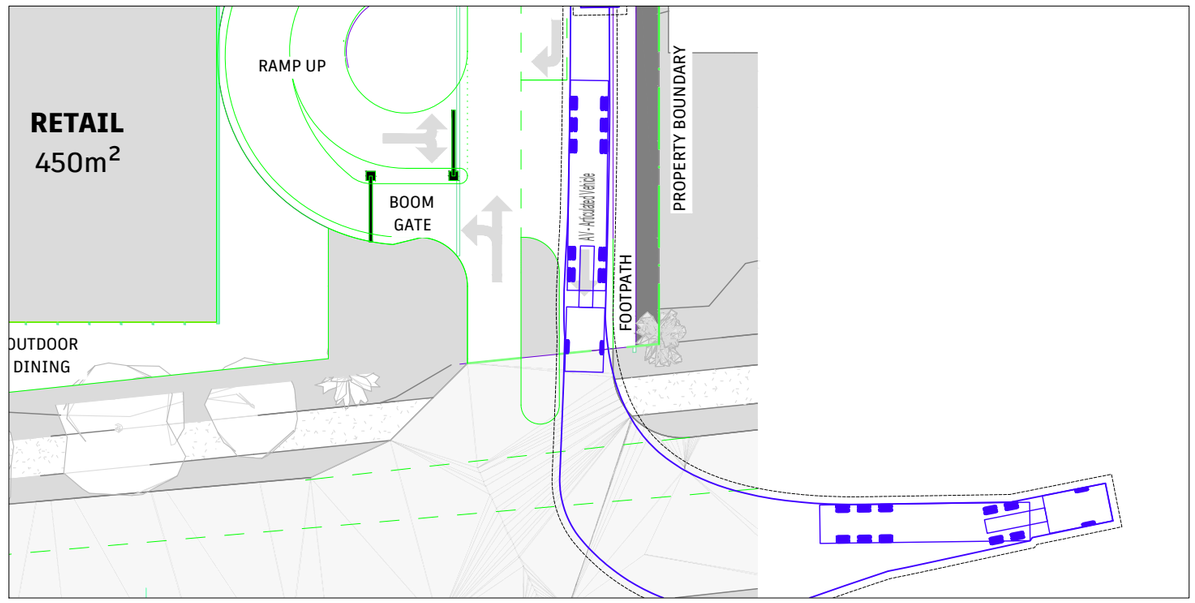
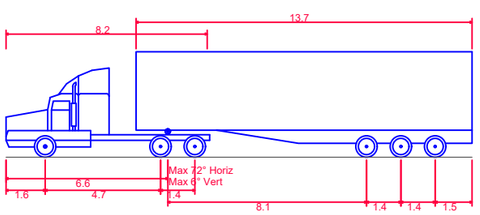


AV INGRESS (ASHMORE ROAD)



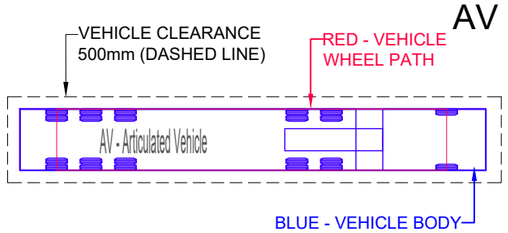
AV EGRESS (ASHMORE ROAD)

VEHICLE PROFILES



AV - Articulated Vehicle

Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m
Design Speed Forward	5.0km/h
Clearance Envelope	0.500m



NOTES:
1. MAPPING UNDERLAY PROVIDED BY NEARMAP. MAY BE SUBJECT TO DETAILED DESIGN & SITE SURVEY.
2. ALL UNITS SHOWN ARE IN METERS (m) UNLESS OTHERWISE NOTED

PRELIMINARY ADVICE ONLY
7 February 2025

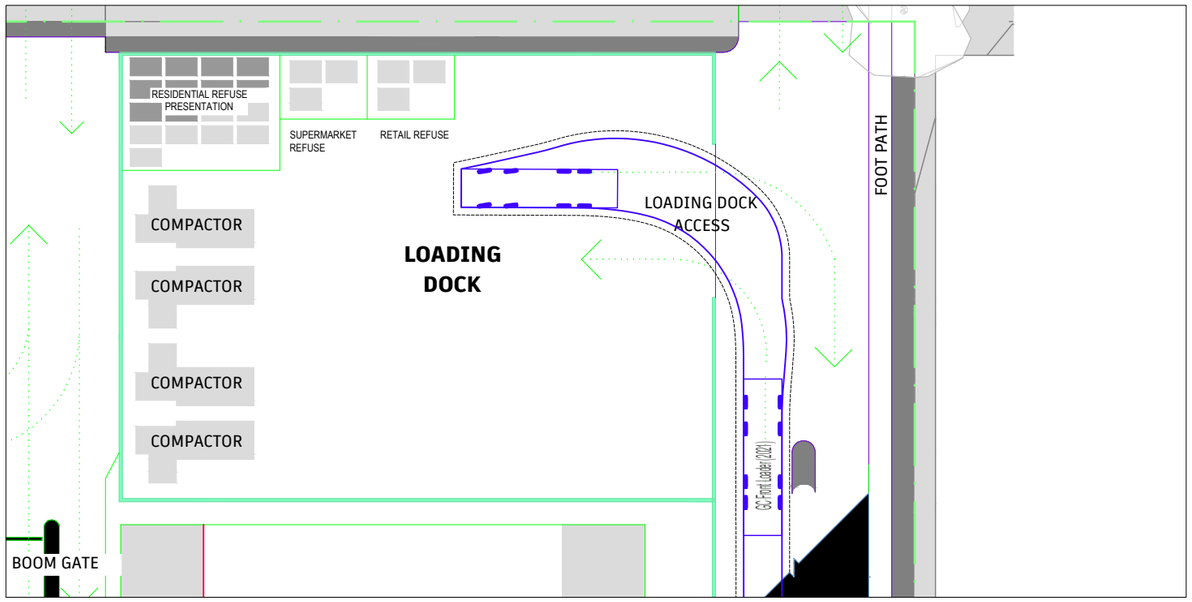
REV.	DATE	AMENDMENT DESCRIPTION	DRAWN	CHECKED	APPROVED
A	07-02-25	SERVICE VEHICLE SWEPT PATHS (ORIGINAL ISSUE)	MGr	MGr	MGr

SCALE: SCALE 1:400 @ A3
NORTH
CLIENT: NEYLAN ARCHITECTURE

TTM CONSULTING PTY LTD
ABN 65 010 868 621
LEVEL 8, 369 Ann Street, BRISBANE QLD 4000
P.O. BOX 12015, BRISBANE QLD 4003
T: (07) 3327 9500 F: (07) 3327 9501
E: ttmbris@ttmgroup.com.au W: www.ttmgroup.com.au

PROJECT: **BENOWA GARDENS - PRELIMINARY APPROVAL**
DRAWING TITLE: **SERVICE VEHICLE SWEPT PATH ANALYSIS**
19m ARTICULATED VEHICLE (AV)

PROJECT NUMBER	24BRT0224
ORIGINAL SIZE	A3
DRAWING NUMBER	24BRT0224-02
REVISION	A
DATE	5 Feb 2025
SHEET	1 OF 1



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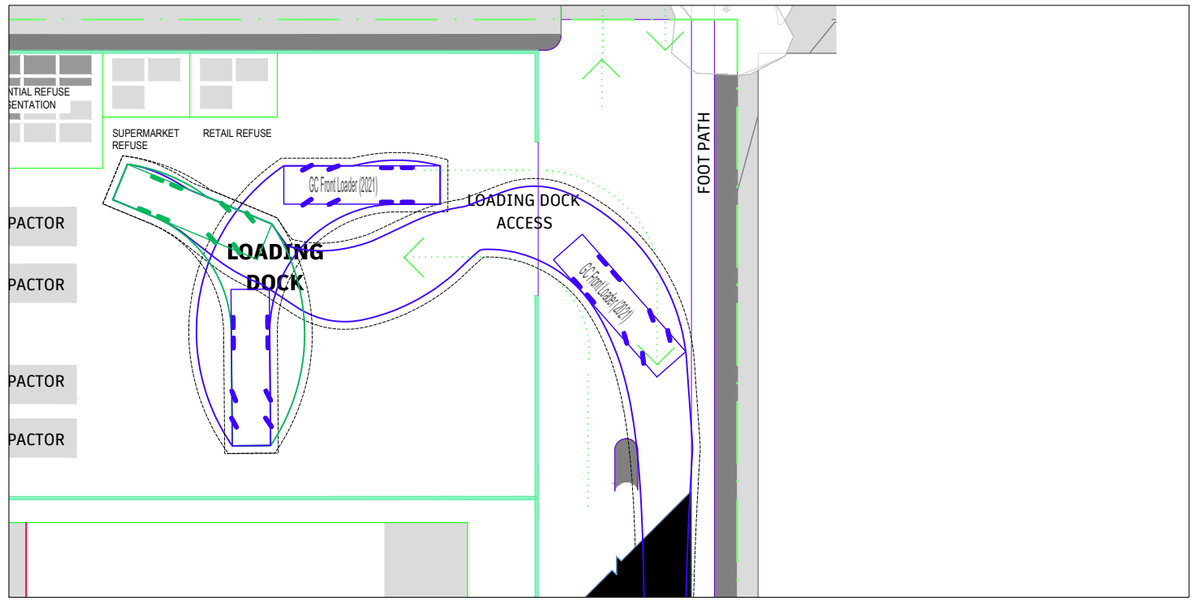

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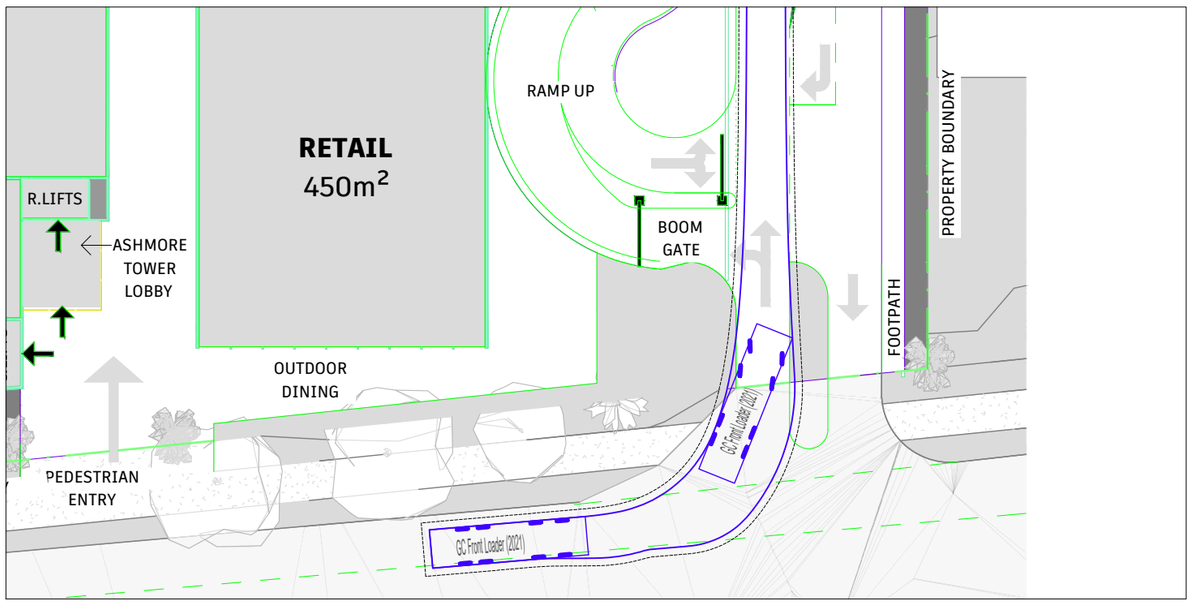

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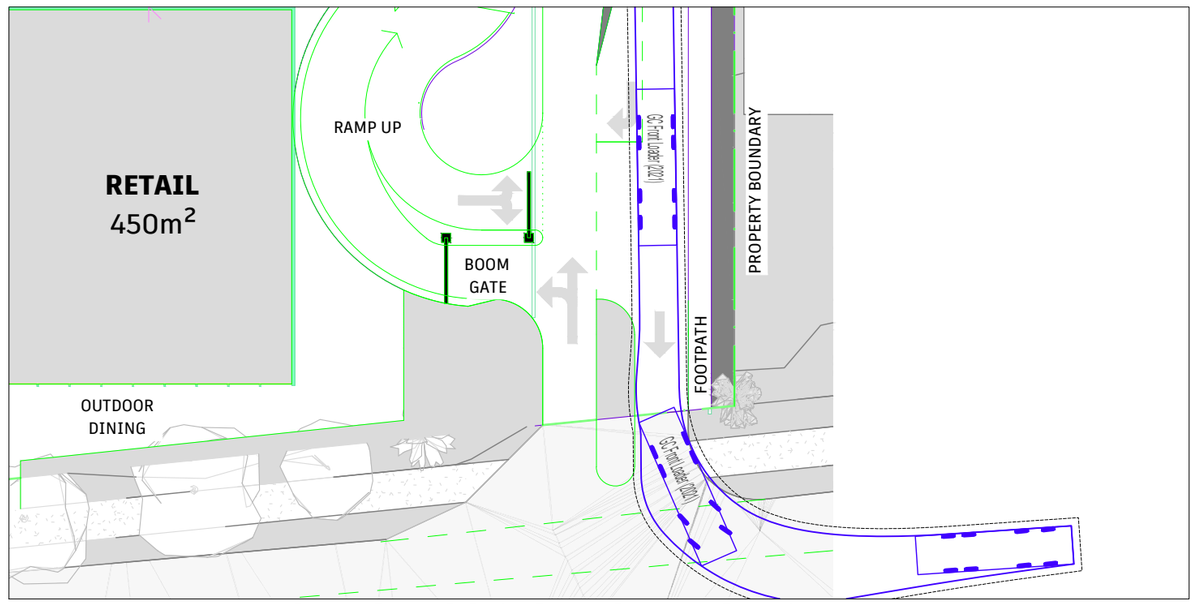
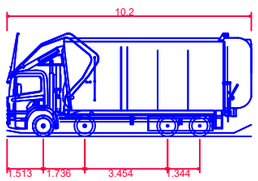


RCV EGRESS (ASHMORE ROAD)



GC Front Loader (2021)

Overall Length	10.200m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.150m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.300m

NOTES:
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2. ALL UNITS SHOWN ARE IN METERS (m) UNLESS OTHERWISE NOTED

PRELIMINARY ADVICE ONLY
7 February 2025

REV.	DATE	AMENDMENT DESCRIPTION	DRAWN	CHECKED	APPROVED
A	07-02-25	SERVICE VEHICLE SWEPT PATHS (ORIGINAL ISSUE)	MGr	MGr	MGr

SCALE: SCALE 1:400 @ A3
NORTH
CLIENT: NEYLAN ARCHITECTURE

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LEVEL 8, 369 Ann Street, BRISBANE QLD 4000
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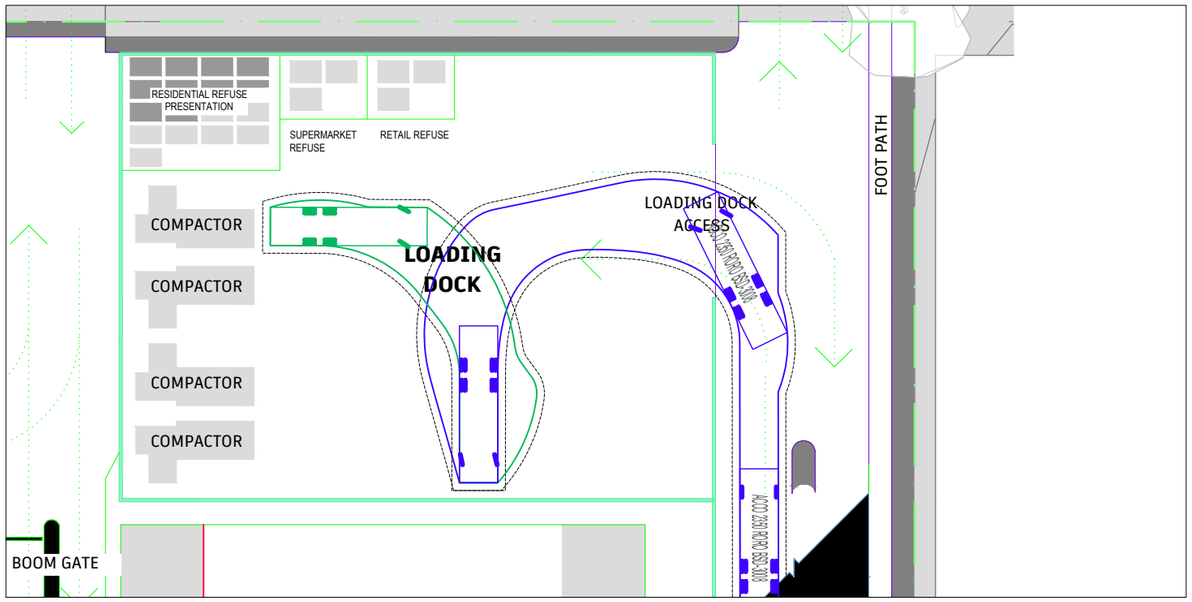
PROJECT: **BENOWA GARDENS - PRELIMINARY APPROVAL**
DRAWING TITLE: **SERVICE VEHICLE SWEPT PATH ANALYSIS**
10.2m FRONT LIFT REFUSE COLLECTION VEHICLE (RCV)

PROJECT NUMBER	24BRT0224
ORIGINAL SIZE	A3
DRAWING NUMBER	24BRT0224-03
REVISION	A
DATE	5 Feb 2025
SHEET	1 OF 1



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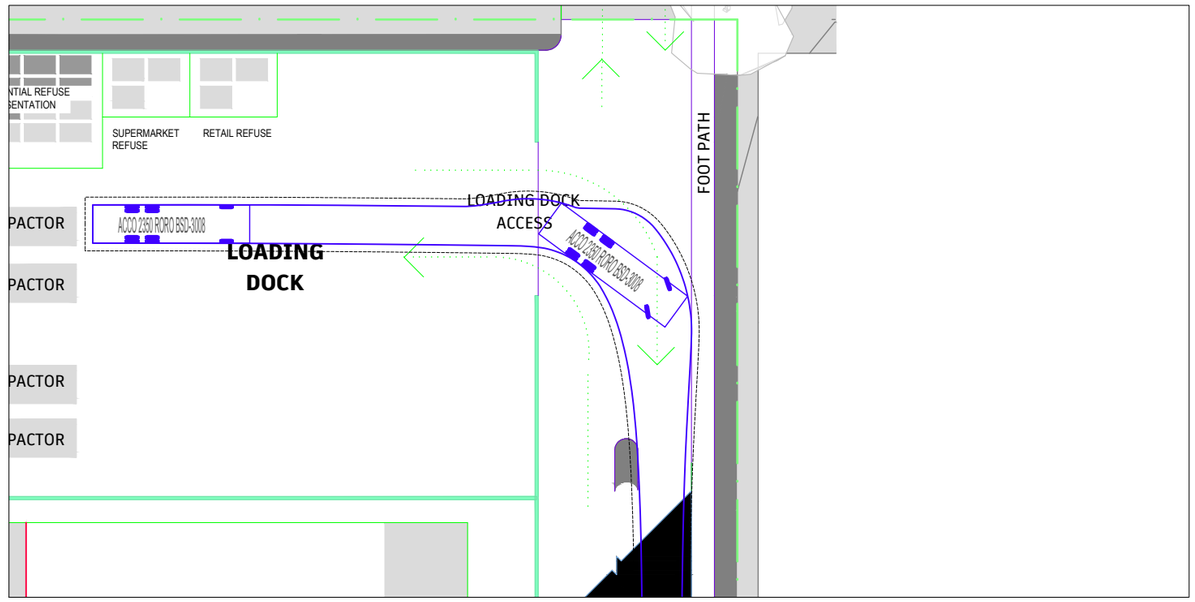

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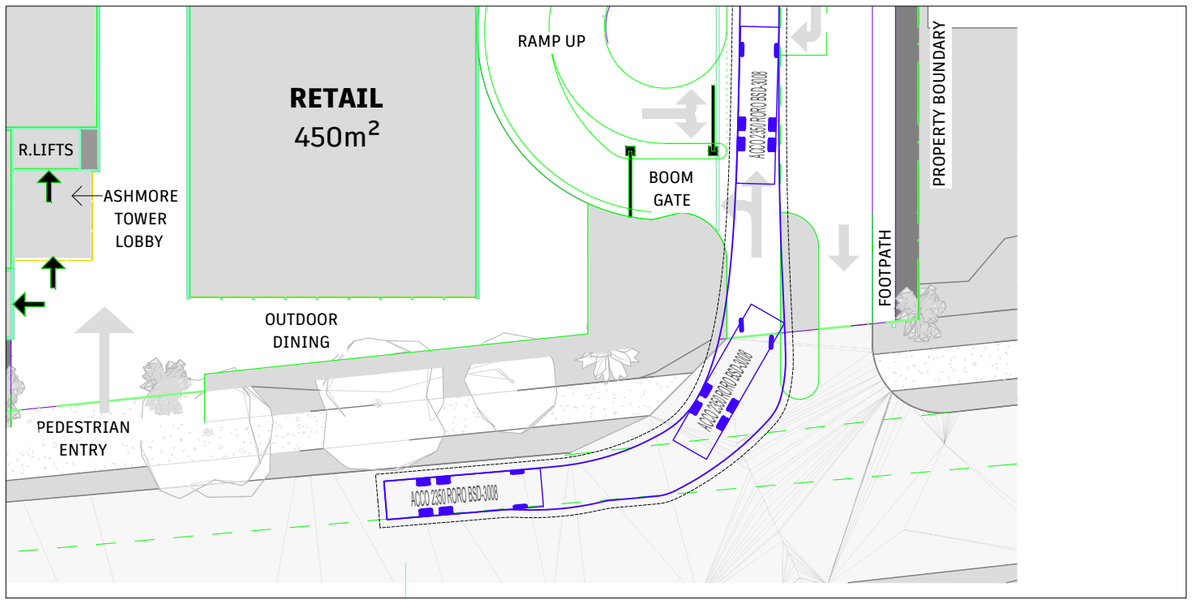
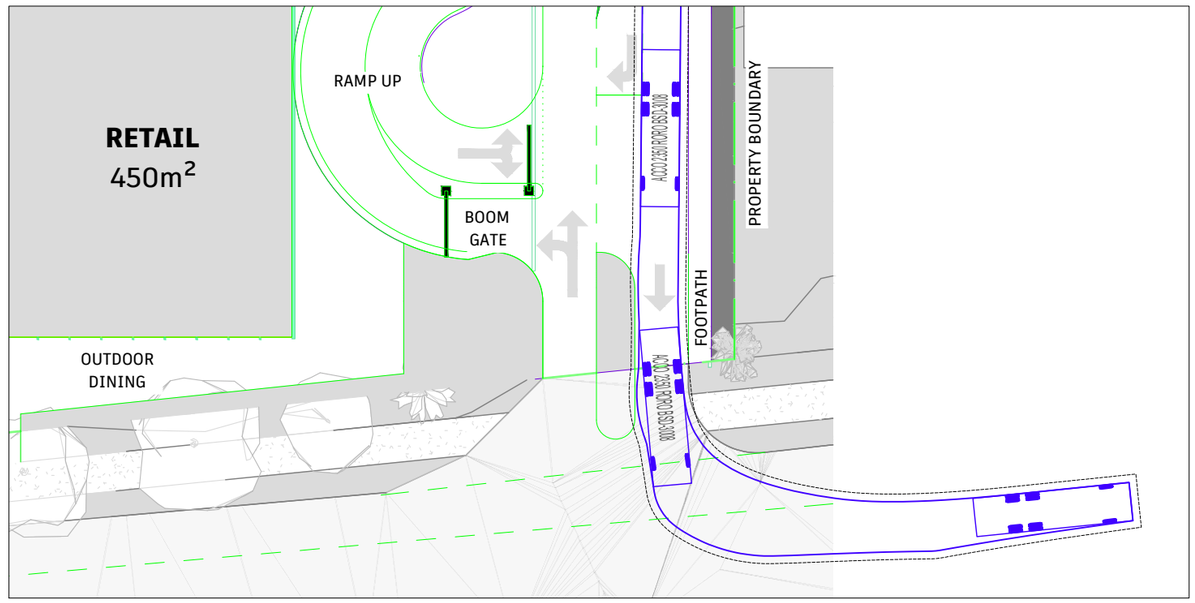
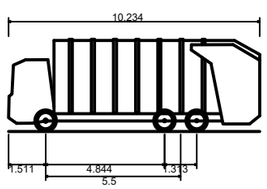


RCV INGRESS (ASHMORE ROAD)



RCV EGRESS (ASHMORE ROAD)

ACCO 2350 RORO BSD-3008



ACCO 2350 RORO BSD-3008	
Overall Length	10.234m
Overall Width	2.500m
Overall Body Height	3.751m
Min Body Ground Clearance	0.304m
Track Width	2.500m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	9.757m

NOTES:
1. MAPPING UNDERLAY PROVIDED BY NEARMAP. MAY BE SUBJECT TO DETAILED DESIGN & SITE SURVEY.
2. ALL UNITS SHOWN ARE IN METERS (m) UNLESS OTHERWISE NOTED

PRELIMINARY ADVICE ONLY
7 February 2025

REV.	DATE	AMENDMENT DESCRIPTION	DRAWN	CHECKED	APPROVED
A	07-02-25	SERVICE VEHICLE SWEPT PATHS (ORIGINAL ISSUE)	MGr	MGr	MGr

SCALE: SCALE 1:400 @ A3
NORTH
CLIENT: NEYLAN ARCHITECTURE

TTM CONSULTING PTY LTD
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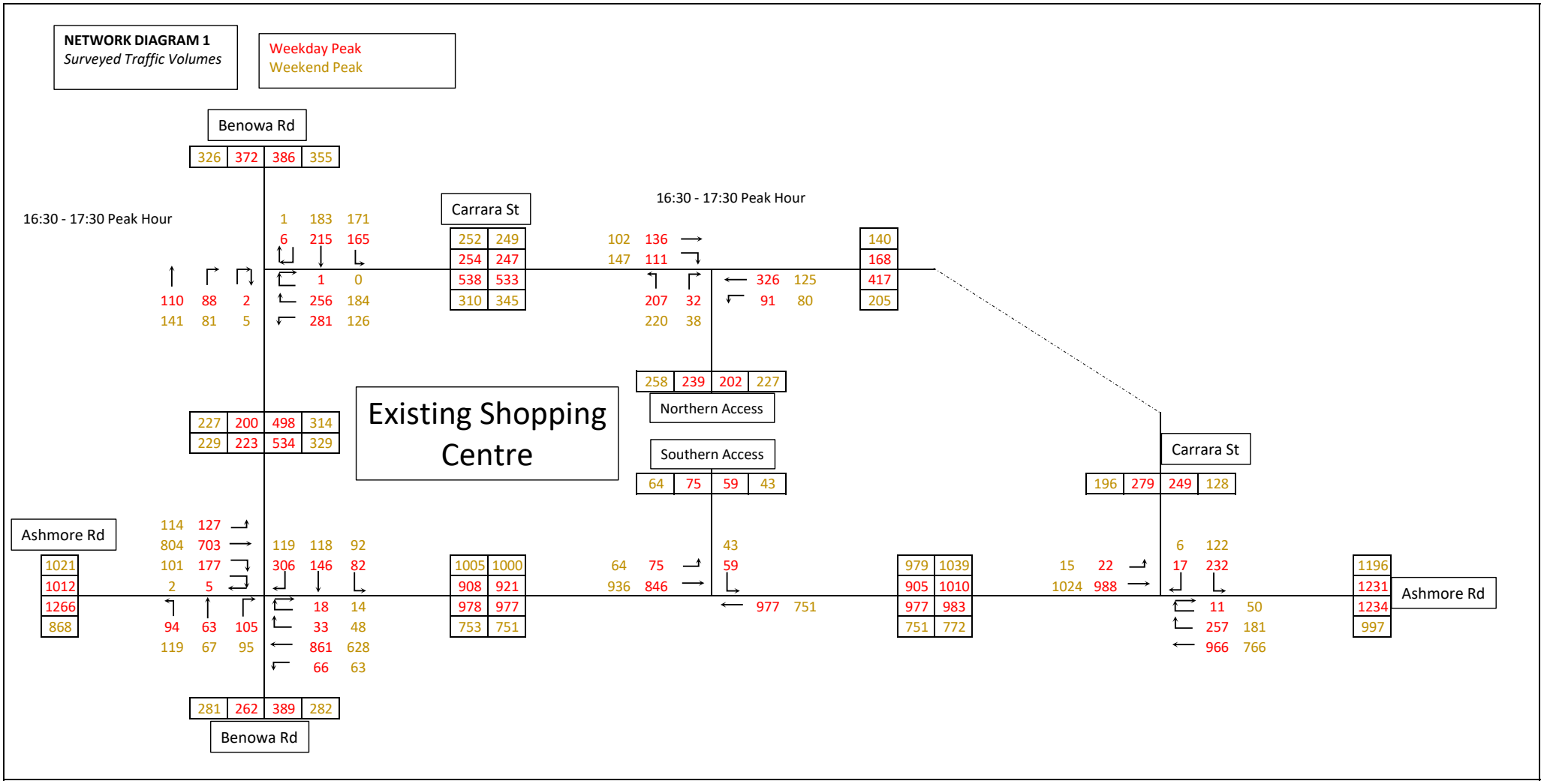
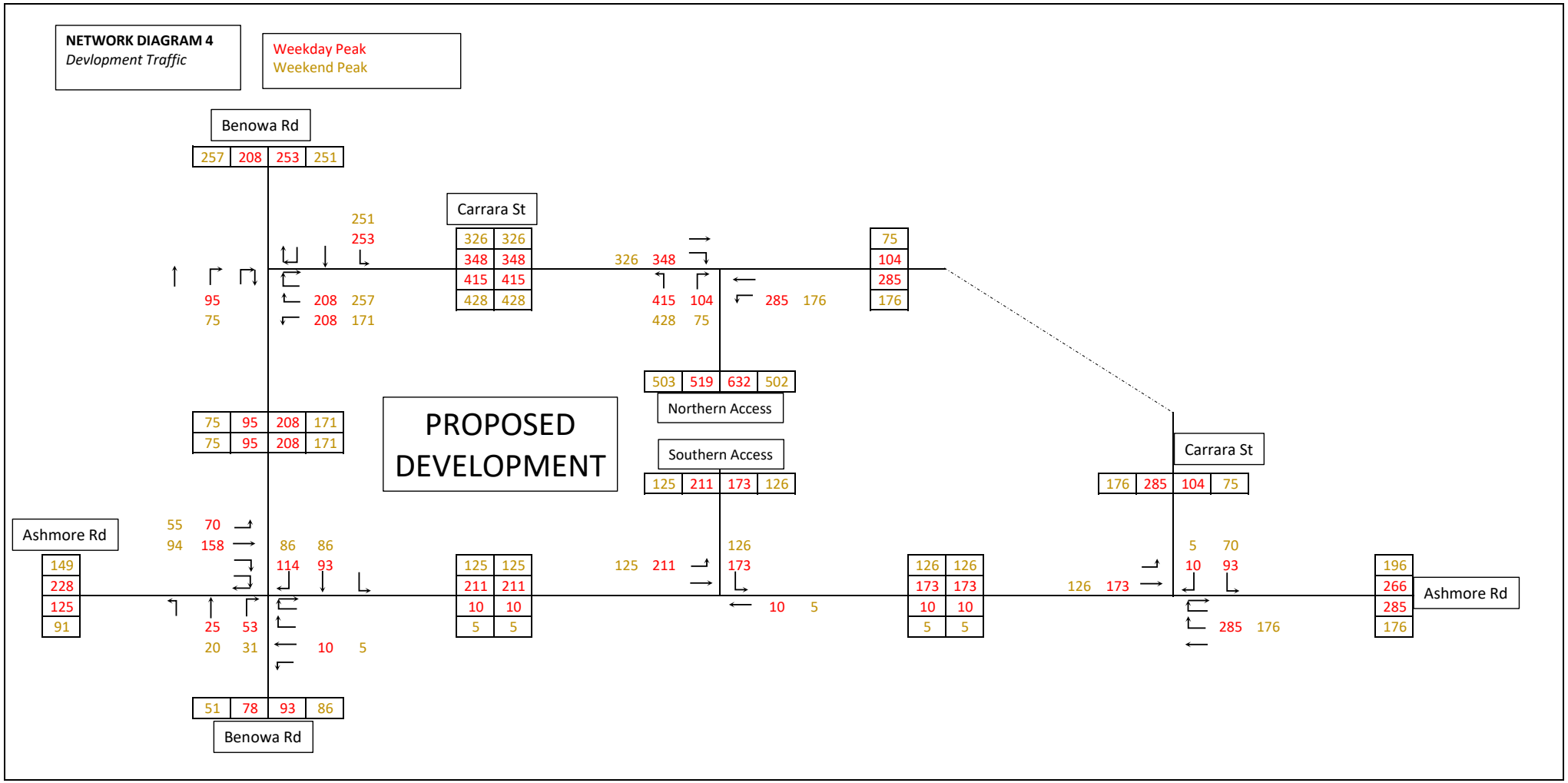
E: ttmbris@ttmgroup.com.au W: www.ttmgroup.com.au

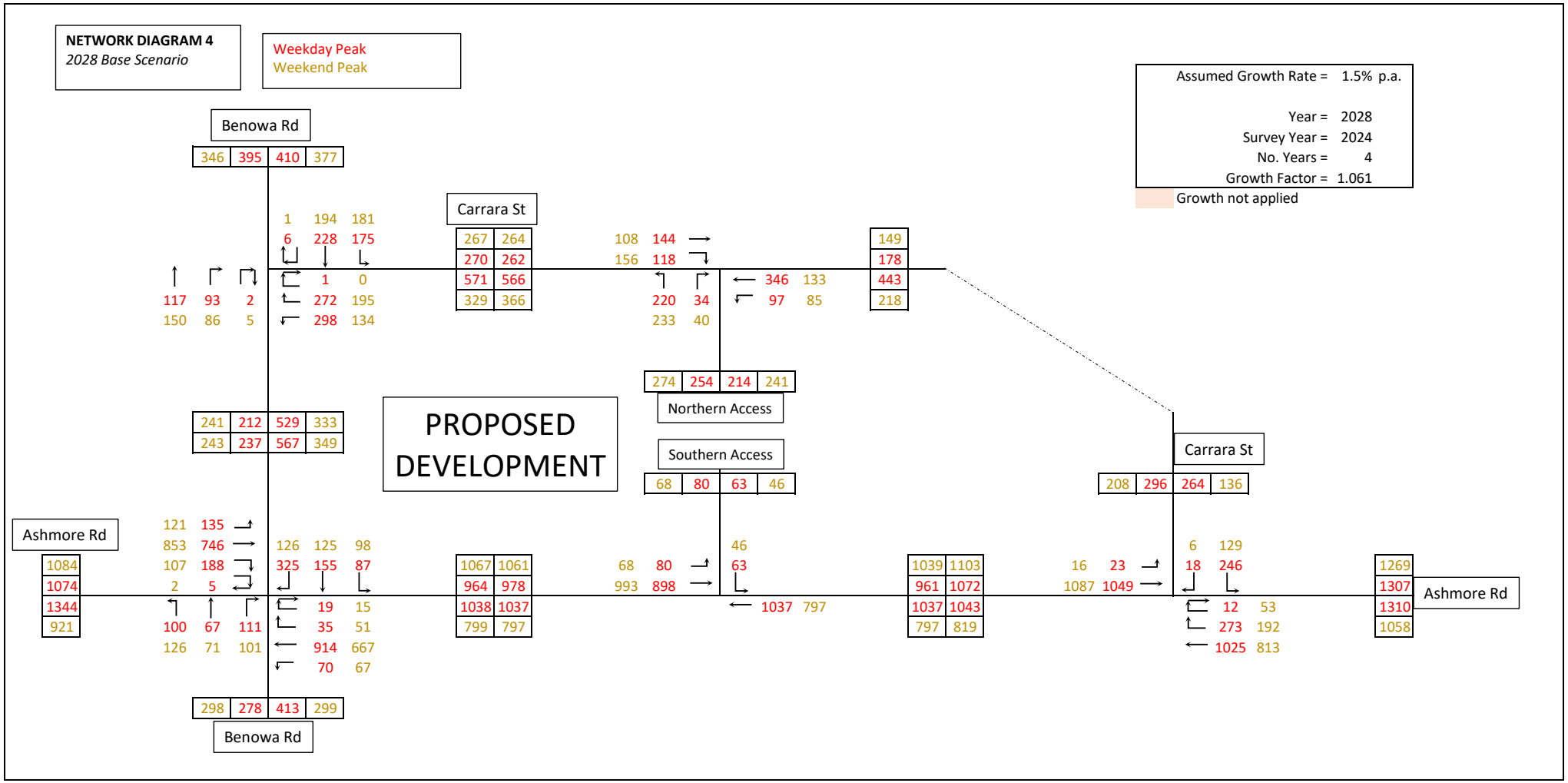
PROJECT: **BENOWA GARDENS - PRELIMINARY APPROVAL**
DRAWING TITLE: **SERVICE VEHICLE SWEPT PATH ANALYSIS**
10.2m REAR LIFT REFUSE COLLECTION VEHICLE (RCV)

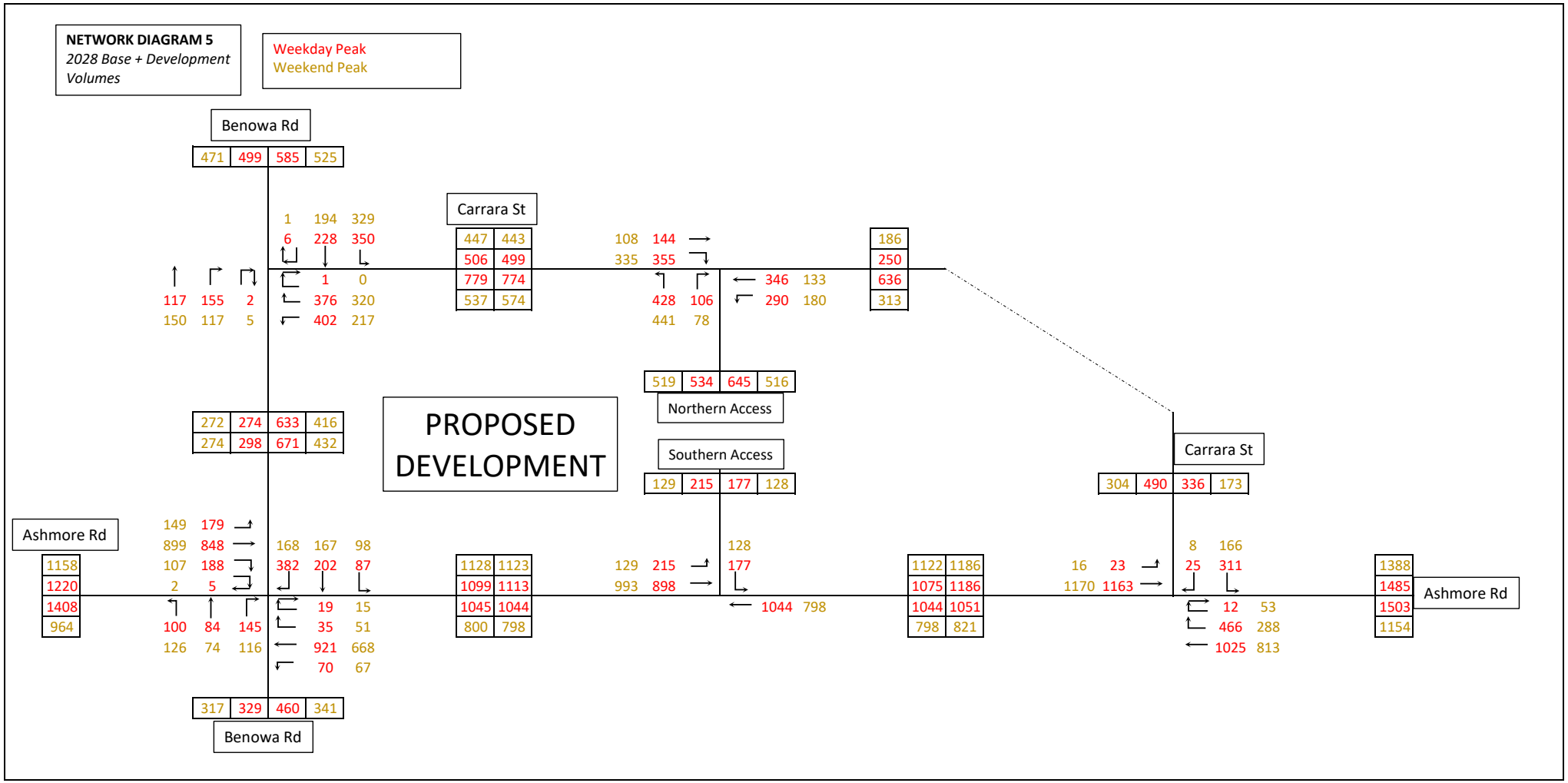
PROJECT NUMBER	ORIGINAL SIZE
24BRT0224	A3
DRAWING NUMBER	REVISION
24BRT0224-04	A
DATE	SHEET
5 Feb 2025	1 OF 1

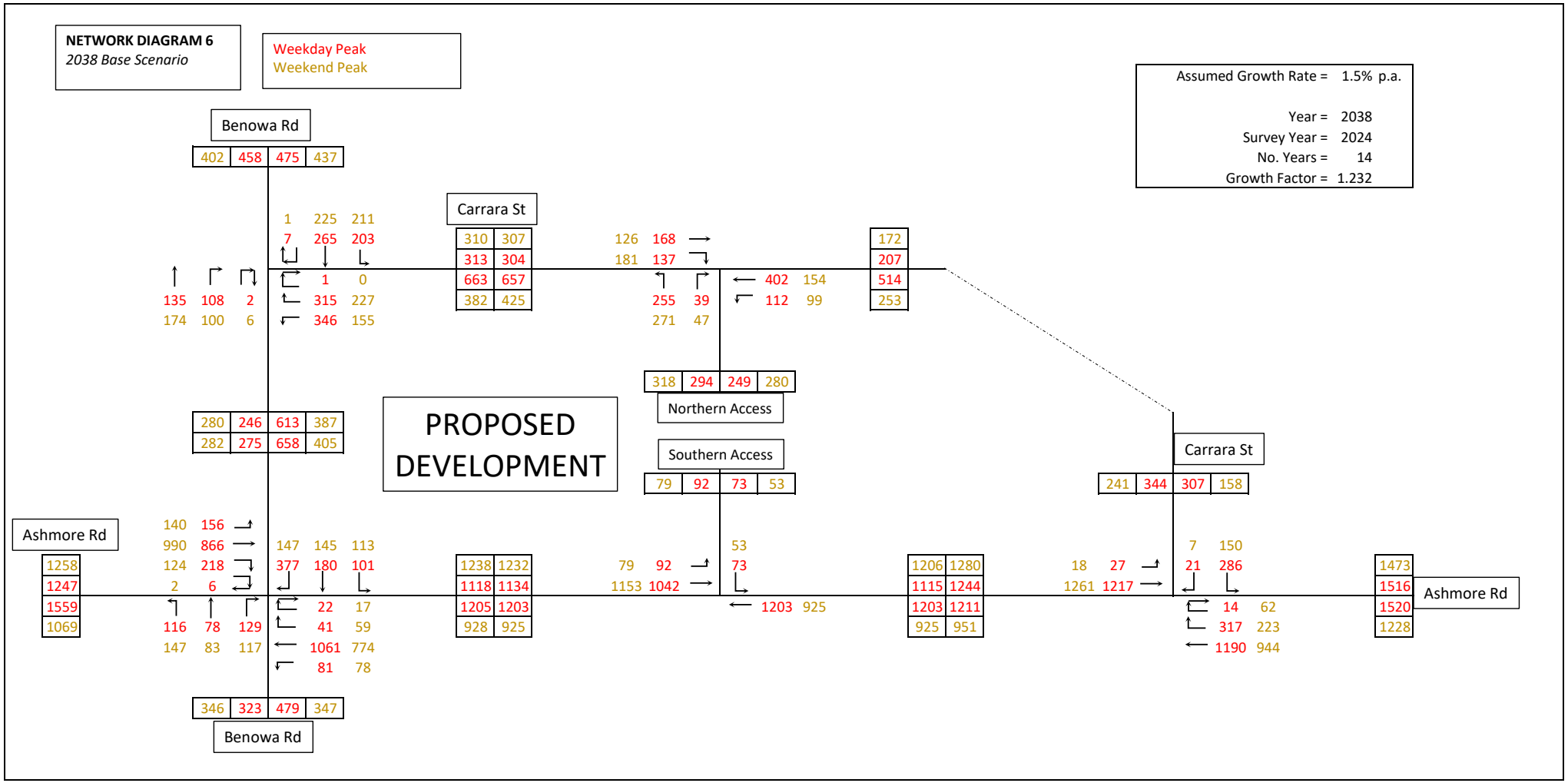
Appendix C Traffic Network Diagrams

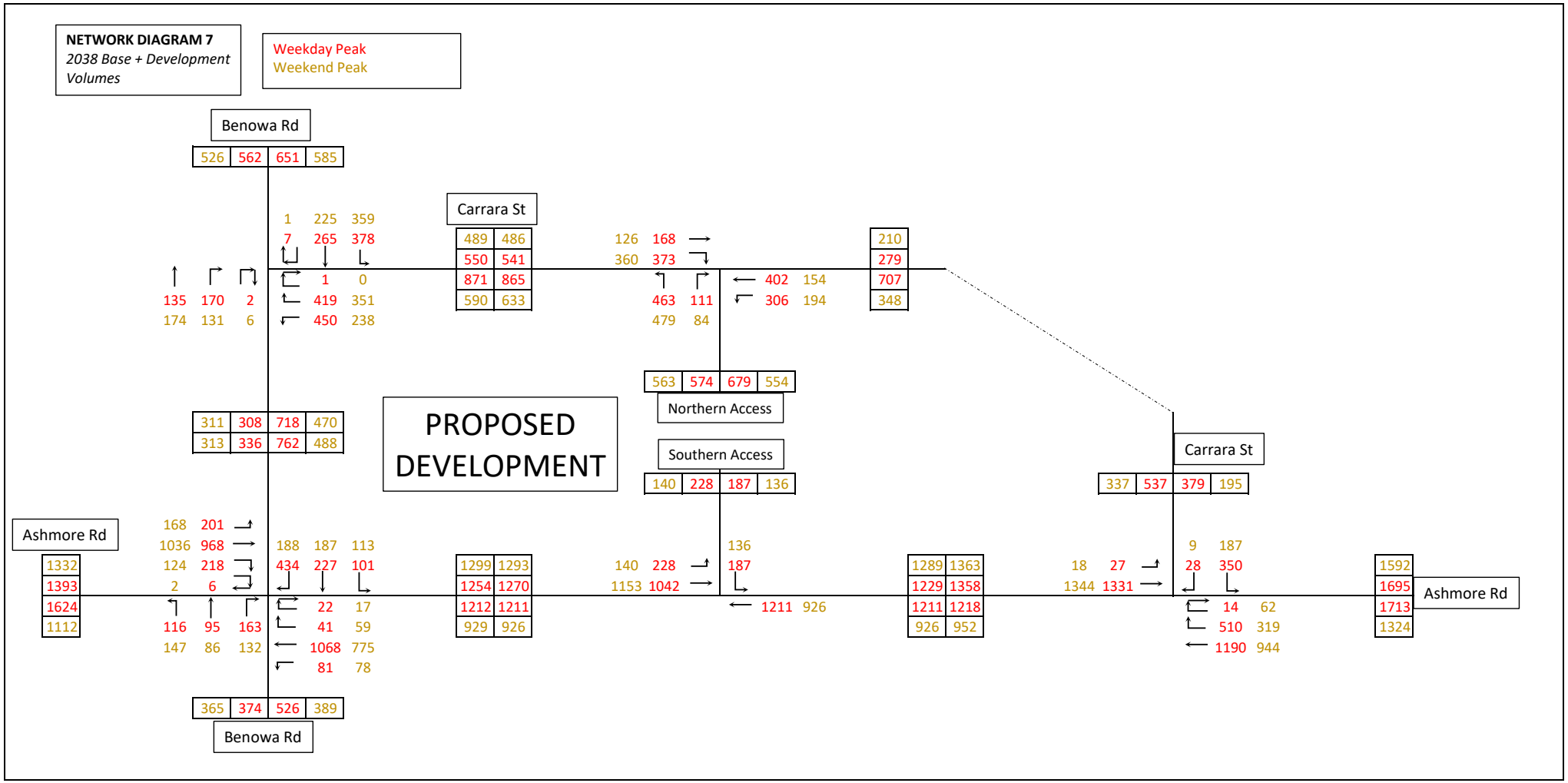

NETWORK DIAGRAM 1
Surveyed Traffic Volumes
Weekday Peak
Weekend Peak
Benowa Rd
326 372 386 355
16:30 - 17:30 Peak Hour
Carrara St
252 249
254 247
538 533
310 345
1 183 171
6 215 165
1 0
256 184
281 126
110 88 2
141 81 5
16:30 - 17:30 Peak Hour
102 136
147 111
207 32
220 38
326 125
91 80
140
168
417
205
258 239 202 227
Northern Access
Southern Access
64 75 59 43
Existing Shopping Centre
227 200 498 314
229 223 534 329
Carrara St
196 279 249 128
Ashmore Rd
1021
1012
1266
868
114 127
804 703
101 177
2 5
94 63 105
119 67 95
119 118 92
306 146 82
18 14
33 48
861 628
66 63
1005 1000
908 921
978 977
753 751
64 75
936 846
43
59
977 751
979 1039
905 1010
977 983
751 772
15 22
1024 988
6 122
17 232
11 50
257 181
966 766
1196
1231
1234
997
Ashmore Rd
281 262 389 282
Benowa Rd


NETWORK DIAGRAM 4
Devlopment Traffic
Weekday Peak
Weekend Peak
Benowa Rd
257 208 253 251
Carrara St
326 326
348 348
415 415
428 428
75
104
285
176
503 519 632 502
Northern Access
Southern Access
125 211 173 126
176 285 104 75
PROPOSED DEVELOPMENT
Ashmore Rd
149
228
125
91
125 125
211 211
10 10
5 5
126 126
173 173
10 10
5 5
196
266
285
176
Ashmore Rd
75 95 208 171
75 95 208 171
51 78 93 86
Benowa Rd


NETWORK DIAGRAM 4
2028 Base Scenario
Weekday Peak
Weekend Peak
Assumed Growth Rate = 1.5% p.a.
Year = 2028
Survey Year = 2024
No. Years = 4
Growth Factor = 1.061
Growth not applied
Benowa Rd
346 395 410 377
Carrara St
267 264
270 262
571 566
329 366
149
178
443
218
Northern Access
274 254 214 241
Southern Access
68 80 63 46
Carrara St
208 296 264 136
PROPOSED DEVELOPMENT
241 212 529 333
243 237 567 349
Ashmore Rd
1084
1074
1344
921
1067 1061
964 978
1038 1037
799 797
1039 1103
961 1072
1037 1043
797 819
1269
1307
1310
1058
Ashmore Rd
298 278 413 299
Benowa Rd


NETWORK DIAGRAM 5
2028 Base + Development Volumes
Weekday Peak
Weekend Peak
Benowa Rd
471 499 585 525
Carrara St
PROPOSED DEVELOPMENT
Northern Access
Southern Access
Ashmore Rd
Benowa Rd
Carrara St
Ashmore Rd


NETWORK DIAGRAM 6
2038 Base Scenario
Weekday Peak
Weekend Peak
Assumed Growth Rate = 1.5% p.a.
Year = 2038
Survey Year = 2024
No. Years = 14
Growth Factor = 1.232
Benowa Rd
Carrara St
Northern Access
Southern Access
Carrara St
Ashmore Rd
Ashmore Rd
Benowa Rd
PROPOSED DEVELOPMENT


NETWORK DIAGRAM 7
2038 Base + Development Volumes
Weekday Peak
Weekend Peak
Benowa Rd
526 562 651 585
Carrara St
489 486
550 541
871 865
590 633
210
279
707
348
1 225 359
7 265 378
1 0
419 351
450 238
135 170 2
174 131 6
126 168
360 373
463 111
479 84
402 154
306 194
563 574 679 554
Northern Access
311 308 718 470
313 336 762 488
PROPOSED DEVELOPMENT
Southern Access
140 228 187 136
Carrara St
337 537 379 195
Ashmore Rd
1332
1393
1624
1112
168 201
1036 968
124 218
2 6
116 95 163
147 86 132
188 187 113
434 227 101
22 17
41 59
1068 775
81 78
1299 1293
1254 1270
1212 1211
929 926
140 228
1153 1042
136
187
1211 926
1289 1363
1229 1358
1211 1218
926 952
18 27
1344 1331
9 187
28 350
14 62
510 319
1190 944
1592
1695
1713
1324
Ashmore Rd
365 374 526 389
Benowa Rd

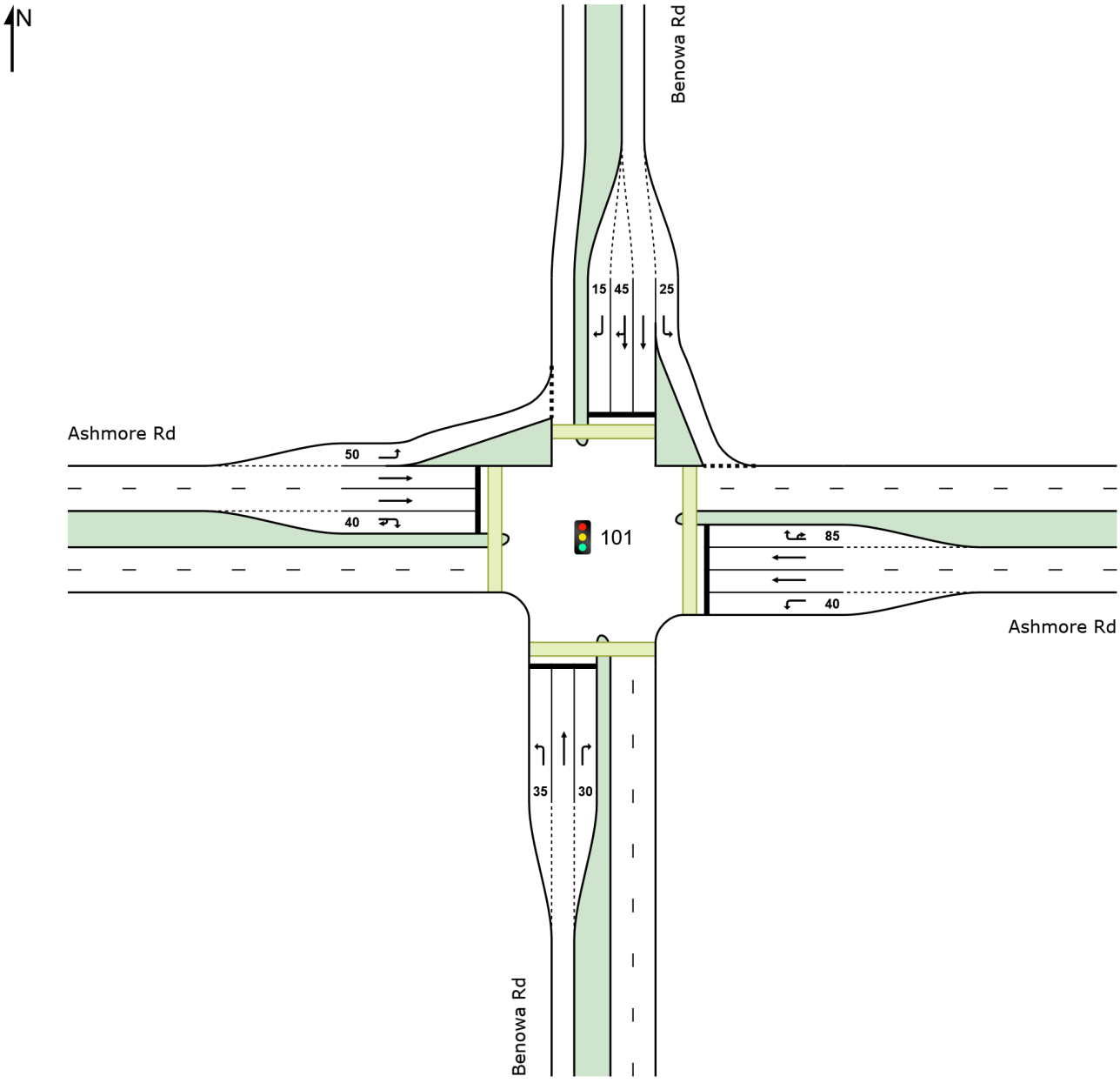
Appendix D SIDRA Output Reports

SITE LAYOUT

Site: 101 [2024_Survey_THU_PM (Site Folder: Ashmore Road - Benowa Road)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 101 [2024_Survey_THU_PM (Site Folder: Ashmore Road - Benowa Road)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Benowa Rd														
1	L2	94	2.1	99	2.1	0.414	62.1	LOS E	5.9	42.1	0.96	0.78	0.96	21.4
2	T1	63	0.0	66	0.0	0.260	55.6	LOS E	3.8	26.9	0.94	0.72	0.94	11.8
3	R2	105	0.0	111	0.0	* 0.455	62.5	LOS E	6.6	46.4	0.97	0.79	0.97	19.1
Approach		262	0.8	276	0.8	0.455	60.7	LOS E	6.6	46.4	0.96	0.77	0.96	18.7
East: Ashmore Rd														
4	L2	66	0.0	69	0.0	0.084	16.7	LOS B	1.3	9.0	0.60	0.70	0.60	36.2
5	T1	861	2.0	906	2.0	* 0.805	46.0	LOS D	27.6	196.4	0.96	0.89	1.02	32.7
6	R2	33	6.1	35	6.1	0.538	73.8	LOS E	3.5	25.6	1.00	0.76	1.02	18.2
6u	U	18	0.0	19	0.0	0.538	74.9	LOS E	3.5	25.6	1.00	0.76	1.02	23.5
Approach		978	1.9	1029	1.9	0.805	45.5	LOS D	27.6	196.4	0.94	0.87	0.99	32.1
North: Benowa Rd														
7	L2	82	1.2	86	1.2	0.091	10.6	LOS B	1.5	10.5	0.34	0.64	0.34	44.5
8	T1	146	0.0	154	0.0	0.522	52.0	LOS D	8.8	61.6	0.94	0.76	0.94	12.5
9	R2	306	1.0	322	1.0	* 0.799	64.3	LOS E	10.1	71.1	0.95	0.89	1.16	22.4
Approach		534	0.7	562	0.7	0.799	52.7	LOS D	10.1	71.1	0.85	0.82	0.97	22.1
West: Ashmore Rd														
10	L2	127	0.0	134	0.0	0.085	6.4	LOS A	0.9	6.0	0.16	0.59	0.16	50.5
11	T1	703	1.1	740	1.1	0.515	26.2	LOS C	17.4	122.7	0.73	0.64	0.73	40.7
12	R2	177	1.1	186	1.1	* 0.785	62.0	LOS E	11.8	83.5	0.95	0.88	1.11	21.3
12u	U	5	0.0	5	0.0	0.785	63.1	LOS E	11.8	83.5	0.95	0.88	1.11	29.2
Approach		1012	1.0	1065	1.0	0.785	30.1	LOS C	17.4	122.7	0.70	0.68	0.73	37.1
All Vehicles		2786	1.3	2933	1.3	0.805	42.7	LOS D	27.6	196.4	0.84	0.78	0.89	30.6

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Benowa Rd												
P1	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
East: Ashmore Rd												

P2	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	231.4	223.8	0.97
North: Benowa Rd												
P3	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	226.3	217.2	0.96
West: Ashmore Rd												
P4	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
All Pedestrians		200	211	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96

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

MOVEMENT SUMMARY

Site: 101 [2024_Survey_SAT_AM (Site Folder: Ashmore Road - Benowa Road)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Benowa Rd														
1	L2	119	2.1	125	2.1	*0.524	63.2	LOS E	7.6	54.2	0.98	0.80	0.98	21.2
2	T1	67	0.0	71	0.0	0.277	55.8	LOS E	4.1	28.7	0.94	0.73	0.94	11.8
3	R2	95	0.0	100	0.0	0.412	62.1	LOS E	6.0	41.7	0.96	0.78	0.96	19.2
Approach		281	0.9	296	0.9	0.524	61.0	LOS E	7.6	54.2	0.97	0.77	0.97	18.8
East: Ashmore Rd														
4	L2	63	0.0	66	0.0	0.067	13.5	LOS B	1.1	7.4	0.51	0.68	0.51	38.7
5	T1	628	2.0	661	2.0	0.444	30.1	LOS C	15.6	111.3	0.77	0.67	0.77	38.8
6	R2	48	6.1	51	6.1	*0.563	72.7	LOS E	4.3	31.0	1.00	0.77	1.02	18.4
6u	U	14	0.0	15	0.0	0.563	73.7	LOS E	4.3	31.0	1.00	0.77	1.02	23.7
Approach		753	2.0	793	2.0	0.563	32.2	LOS C	15.6	111.3	0.77	0.68	0.77	36.8
North: Benowa Rd														
7	L2	92	1.2	97	1.2	0.108	11.0	LOS B	1.7	12.3	0.35	0.64	0.35	44.2
8	T1	118	0.0	124	0.0	*0.330	54.3	LOS D	5.4	38.0	0.94	0.74	0.94	11.9
9	R2	119	1.0	125	1.0	0.330	59.6	LOS E	4.5	31.6	0.93	0.76	0.93	23.6
Approach		329	0.7	346	0.7	0.330	44.1	LOS D	5.4	38.0	0.77	0.72	0.77	23.2
West: Ashmore Rd														
10	L2	114	0.0	120	0.0	0.077	6.5	LOS A	0.8	5.8	0.17	0.59	0.17	50.4
11	T1	804	1.1	846	1.1	*0.542	24.9	LOS C	19.1	135.0	0.73	0.64	0.73	41.4
12	R2	101	1.1	106	1.1	0.428	62.0	LOS E	6.4	45.5	0.96	0.79	0.96	21.3
12u	U	2	0.0	2	0.0	0.428	63.1	LOS E	6.4	45.5	0.96	0.79	0.96	29.2
Approach		1021	1.0	1075	1.0	0.542	26.6	LOS C	19.1	135.0	0.69	0.65	0.69	39.4
All Vehicles		2384	1.3	2509	1.3	0.563	34.8	LOS C	19.1	135.0	0.76	0.68	0.76	33.8

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Benowa Rd												
P1	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
East: Ashmore Rd												

P2	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	231.4	223.8	0.97
North: Benowa Rd												
P3	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	226.3	217.2	0.96
West: Ashmore Rd												
P4	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
All Pedestrians		200	211	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96

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

MOVEMENT SUMMARY

Site: 101 [2028_BG_THU_PM (Site Folder: Ashmore Road - Benowa Road)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Benowa Rd														
1	L2	100	2.1	105	2.1	0.440	62.4	LOS E	6.3	45.0	0.97	0.78	0.97	21.3
2	T1	67	0.0	71	0.0	0.277	55.8	LOS E	4.1	28.7	0.94	0.73	0.94	11.8
3	R2	111	0.0	117	0.0	*0.481	62.8	LOS E	7.0	49.3	0.97	0.79	0.97	19.1
Approach		278	0.8	293	0.8	0.481	60.9	LOS E	7.0	49.3	0.96	0.77	0.96	18.6
East: Ashmore Rd														
4	L2	70	0.0	74	0.0	0.090	17.1	LOS B	1.4	9.8	0.61	0.70	0.61	36.0
5	T1	914	2.0	962	2.0	*0.877	54.9	LOS D	32.8	233.8	0.99	1.00	1.16	30.1
6	R2	35	6.1	37	6.1	0.570	74.2	LOS E	3.8	27.2	1.00	0.77	1.04	18.2
6u	U	19	0.0	20	0.0	0.570	75.2	LOS E	3.8	27.2	1.00	0.77	1.04	23.4
Approach		1038	1.9	1093	1.9	0.877	53.4	LOS D	32.8	233.8	0.96	0.97	1.11	29.7
North: Benowa Rd														
7	L2	87	1.2	92	1.2	0.099	11.2	LOS B	1.7	11.9	0.36	0.65	0.36	43.9
8	T1	155	0.0	163	0.0	0.568	52.3	LOS D	9.4	65.8	0.95	0.77	0.95	12.4
9	R2	325	1.0	342	1.0	*0.863	70.6	LOS E	11.4	80.4	0.96	0.95	1.29	21.1
Approach		567	0.7	597	0.7	0.863	56.5	LOS E	11.4	80.4	0.86	0.85	1.05	21.1
West: Ashmore Rd														
10	L2	135	0.0	142	0.0	0.091	6.4	LOS A	0.9	6.4	0.16	0.59	0.16	50.5
11	T1	746	1.1	785	1.1	0.556	26.6	LOS C	18.7	132.5	0.75	0.65	0.75	40.5
12	R2	188	1.1	198	1.1	*0.864	68.6	LOS E	13.5	95.1	0.95	0.94	1.25	20.0
12u	U	5	0.0	5	0.0	0.864	69.8	LOS E	13.5	95.1	0.95	0.94	1.25	27.8
Approach		1074	1.0	1131	1.0	0.864	31.6	LOS C	18.7	132.5	0.71	0.70	0.76	36.4
All Vehicles		2957	1.3	3113	1.3	0.877	46.8	LOS D	32.8	233.8	0.85	0.83	0.96	29.3

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Benowa Rd												
P1	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
East: Ashmore Rd												

P2	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	231.4	223.8	0.97
North: Benowa Rd												
P3	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	226.3	217.2	0.96
West: Ashmore Rd												
P4	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
All Pedestrians		200	211	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96

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

MOVEMENT SUMMARY

Site: 101 [2028_BG_SAT_AM (Site Folder: Ashmore Road - Benowa Road)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Benowa Rd														
1	L2	126	2.1	133	2.1	*0.554	63.4	LOS E	8.1	57.7	0.99	0.80	0.99	21.1
2	T1	71	0.0	75	0.0	0.293	55.9	LOS E	4.4	30.5	0.95	0.73	0.95	11.8
3	R2	101	0.0	106	0.0	0.438	62.4	LOS E	6.4	44.5	0.97	0.78	0.97	19.2
Approach		298	0.9	314	0.9	0.554	61.3	LOS E	8.1	57.7	0.97	0.78	0.97	18.7
East: Ashmore Rd														
4	L2	67	0.0	71	0.0	0.071	13.3	LOS B	1.1	7.9	0.50	0.68	0.50	38.9
5	T1	667	2.0	702	2.0	0.464	29.7	LOS C	16.7	118.8	0.78	0.67	0.78	39.0
6	R2	51	6.1	54	6.1	*0.599	73.1	LOS E	4.6	33.2	1.00	0.79	1.05	18.4
6u	U	15	0.0	16	0.0	0.599	74.2	LOS E	4.6	33.2	1.00	0.79	1.05	23.7
Approach		800	2.0	842	2.0	0.599	31.9	LOS C	16.7	118.8	0.77	0.68	0.77	36.9
North: Benowa Rd														
7	L2	98	1.2	103	1.2	0.118	11.6	LOS B	2.0	14.0	0.37	0.65	0.37	43.5
8	T1	125	0.0	132	0.0	*0.357	54.5	LOS D	5.9	41.3	0.94	0.75	0.94	11.9
9	R2	126	1.0	133	1.0	0.357	59.8	LOS E	4.7	33.1	0.93	0.76	0.93	23.6
Approach		349	0.7	367	0.7	0.357	44.4	LOS D	5.9	41.3	0.78	0.72	0.78	23.1
West: Ashmore Rd														
10	L2	121	0.0	127	0.0	0.082	6.6	LOS A	1.0	6.7	0.17	0.60	0.17	50.3
11	T1	853	1.1	898	1.1	*0.579	25.3	LOS C	20.5	144.7	0.74	0.65	0.74	41.1
12	R2	107	1.1	113	1.1	0.479	63.4	LOS E	6.9	48.9	0.97	0.79	0.97	21.0
12u	U	2	0.0	2	0.0	0.479	64.5	LOS E	6.9	48.9	0.97	0.79	0.97	28.9
Approach		1083	1.0	1140	1.0	0.579	27.0	LOS C	20.5	144.7	0.70	0.66	0.70	39.2
All Vehicles		2530	1.3	2663	1.3	0.599	35.0	LOS D	20.5	144.7	0.77	0.69	0.77	33.7

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Benowa Rd												
P1	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
East: Ashmore Rd												

P2	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	231.4	223.8	0.97
North: Benowa Rd												
P3	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	226.3	217.2	0.96
West: Ashmore Rd												
P4	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
All Pedestrians		200	211	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96

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

MOVEMENT SUMMARY

Site: 101 [2028_BG+DEV_THU_PM (Site Folder: Ashmore Road - Benowa Road)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Benowa Rd														
1	L2	100	2.1	105	2.1	0.440	62.4	LOS E	6.3	45.0	0.97	0.78	0.97	21.3
2	T1	83	0.0	87	0.0	0.343	56.4	LOS E	5.1	36.0	0.95	0.74	0.95	11.7
3	R2	144	0.0	152	0.0	* 0.686	65.0	LOS E	9.5	66.3	1.00	0.83	1.06	18.6
Approach		327	0.7	344	0.7	0.686	62.0	LOS E	9.5	66.3	0.98	0.80	1.00	18.2
East: Ashmore Rd														
4	L2	70	0.0	74	0.0	0.092	17.4	LOS B	1.4	9.8	0.62	0.70	0.62	35.7
5	T1	921	2.0	969	2.0	* 0.906	61.1	LOS E	35.1	250.1	1.00	1.06	1.23	28.5
6	R2	35	6.1	37	6.1	0.651	76.5	LOS E	3.9	27.9	1.00	0.80	1.12	17.8
6u	U	19	0.0	20	0.0	0.651	77.5	LOS E	3.9	27.9	1.00	0.80	1.12	23.0
Approach		1045	1.9	1100	1.9	0.906	59.0	LOS E	35.1	250.1	0.97	1.02	1.18	28.2
North: Benowa Rd														
7	L2	87	1.2	92	1.2	0.106	13.0	LOS B	1.9	13.7	0.40	0.66	0.40	42.3
8	T1	199	0.0	209	0.0	0.641	52.7	LOS D	12.3	85.9	0.97	0.80	0.97	12.4
9	R2	379	1.0	399	1.0	* 0.882	72.8	LOS E	17.1	120.9	0.98	0.97	1.31	20.7
Approach		665	0.7	700	0.7	0.882	59.0	LOS E	17.1	120.9	0.90	0.88	1.09	20.3
West: Ashmore Rd														
10	L2	178	0.0	187	0.0	0.120	6.6	LOS A	1.4	9.5	0.17	0.60	0.17	50.4
11	T1	844	1.1	888	1.1	0.651	27.5	LOS C	21.4	151.4	0.77	0.68	0.77	40.0
12	R2	188	1.1	198	1.1	* 0.893	73.5	LOS E	14.0	99.1	0.95	0.97	1.33	19.1
12u	U	5	0.0	5	0.0	0.893	74.7	LOS E	14.0	99.1	0.95	0.97	1.33	26.8
Approach		1215	1.0	1279	1.0	0.893	31.8	LOS C	21.4	151.4	0.71	0.71	0.77	36.4
All Vehicles		3252	1.2	3423	1.2	0.906	49.1	LOS D	35.1	250.1	0.86	0.85	0.99	28.4

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Benowa Rd												
P1	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
East: Ashmore Rd												

P2	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	231.4	223.8	0.97
North: Benowa Rd												
P3	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	226.3	217.2	0.96
West: Ashmore Rd												
P4	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
All Pedestrians		200	211	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96

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

MOVEMENT SUMMARY

Site: 101 [2028_BG+DEV_SAT_AM (Site Folder: Ashmore Road - Benowa Road)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Benowa Rd														
1	L2	126	2.1	133	2.1	*0.554	63.4	LOS E	8.1	57.7	0.99	0.80	0.99	21.1
2	T1	73	0.0	77	0.0	0.301	56.0	LOS E	4.5	31.4	0.95	0.73	0.95	11.8
3	R2	115	0.0	121	0.0	0.498	62.9	LOS E	7.3	51.2	0.98	0.79	0.98	19.1
Approach		314	0.9	331	0.9	0.554	61.5	LOS E	8.1	57.7	0.97	0.78	0.97	18.7
East: Ashmore Rd														
4	L2	67	0.0	71	0.0	0.071	13.3	LOS B	1.1	7.9	0.50	0.68	0.50	38.9
5	T1	668	2.0	703	2.0	0.465	29.7	LOS C	16.7	119.1	0.78	0.67	0.78	39.0
6	R2	51	6.1	54	6.1	*0.599	73.1	LOS E	4.6	33.2	1.00	0.79	1.05	18.4
6u	U	15	0.0	16	0.0	0.599	74.2	LOS E	4.6	33.2	1.00	0.79	1.05	23.7
Approach		801	2.0	843	2.0	0.599	31.9	LOS C	16.7	119.1	0.77	0.68	0.78	36.9
North: Benowa Rd														
7	L2	98	1.2	103	1.2	0.122	12.0	LOS B	2.0	14.4	0.38	0.65	0.38	43.2
8	T1	164	0.0	173	0.0	*0.547	55.6	LOS E	7.9	55.6	0.96	0.77	0.96	11.7
9	R2	165	1.0	174	1.0	0.547	60.7	LOS E	6.2	43.9	0.95	0.77	0.95	23.4
Approach		427	0.7	449	0.7	0.547	47.5	LOS D	7.9	55.6	0.82	0.75	0.82	22.0
West: Ashmore Rd														
10	L2	147	0.0	155	0.0	0.100	6.7	LOS A	1.2	8.3	0.18	0.60	0.18	50.3
11	T1	896	1.1	943	1.1	*0.613	25.7	LOS C	21.3	150.5	0.75	0.67	0.75	40.9
12	R2	107	1.1	113	1.1	0.479	63.4	LOS E	6.9	48.9	0.97	0.79	0.97	21.0
12u	U	2	0.0	2	0.0	0.479	64.5	LOS E	6.9	48.9	0.97	0.79	0.97	28.9
Approach		1152	1.0	1213	1.0	0.613	26.8	LOS C	21.3	150.5	0.70	0.67	0.70	39.2
All Vehicles		2694	1.2	2836	1.2	0.613	35.7	LOS D	21.3	150.5	0.77	0.70	0.77	33.3

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Benowa Rd												
P1	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
East: Ashmore Rd												

P2	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	231.4	223.8	0.97
North: Benowa Rd												
P3	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	226.3	217.2	0.96
West: Ashmore Rd												
P4	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
All Pedestrians		200	211	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96

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

MOVEMENT SUMMARY

Site: 101 [2038_BG_THU_PM (Site Folder: Ashmore Road - Benowa Road)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Benowa Rd														
1	L2	116	2.1	122	2.1	0.510	63.0	LOS E	7.4	52.7	0.98	0.79	0.98	21.2
2	T1	78	0.0	82	0.0	0.322	56.2	LOS E	4.8	33.7	0.95	0.74	0.95	11.8
3	R2	129	0.0	136	0.0	* 0.582	63.5	LOS E	8.3	58.0	0.99	0.80	0.99	18.9
Approach		323	0.8	340	0.8	0.582	61.6	LOS E	8.3	58.0	0.97	0.78	0.97	18.5
East: Ashmore Rd														
4	L2	81	0.0	85	0.0	0.101	16.6	LOS B	1.6	11.5	0.60	0.70	0.60	36.3
5	T1	1061	2.0	1117	2.0	* 0.976	83.5	LOS F	48.2	343.3	1.00	1.22	1.42	23.9
6	R2	41	6.1	43	6.1	0.664	75.4	LOS E	4.5	32.3	1.00	0.81	1.12	18.0
6u	U	22	0.0	23	0.0	0.664	76.4	LOS E	4.5	32.3	1.00	0.81	1.12	23.2
Approach		1205	1.9	1268	1.9	0.976	78.6	LOS E	48.2	343.3	0.97	1.17	1.35	24.0
North: Benowa Rd														
7	L2	101	1.2	106	1.2	0.127	13.1	LOS B	2.3	16.1	0.41	0.66	0.41	42.2
8	T1	180	0.0	189	0.0	0.764	58.4	LOS E	11.8	82.7	0.98	0.87	1.10	11.4
9	R2	377	1.0	397	1.0	* 1.003	117.3	LOS F	22.5	159.2	1.00	1.14	1.74	14.8
Approach		658	0.7	693	0.7	1.003	85.2	LOS F	22.5	159.2	0.90	1.00	1.36	15.9
West: Ashmore Rd														
10	L2	156	0.0	164	0.0	0.106	6.7	LOS A	1.3	8.8	0.18	0.60	0.18	50.3
11	T1	866	1.1	912	1.1	0.651	26.2	LOS C	22.5	158.8	0.76	0.67	0.76	40.7
12	R2	218	1.1	229	1.1	* 1.003	117.7	LOS F	22.1	156.0	1.00	1.13	1.71	13.7
12u	U	6	0.0	6	0.0	1.003	118.8	LOS F	22.1	156.0	1.00	1.13	1.71	20.2
Approach		1246	1.0	1312	1.0	1.003	40.2	LOS D	22.5	158.8	0.73	0.74	0.86	33.0
All Vehicles		3432	1.3	3613	1.3	1.003	64.3	LOS E	48.2	343.3	0.87	0.94	1.14	24.6

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Benowa Rd												
P1	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
East: Ashmore Rd												

P2	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	231.4	223.8	0.97
North: Benowa Rd												
P3	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	226.3	217.2	0.96
West: Ashmore Rd												
P4	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
All Pedestrians		200	211	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96

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

MOVEMENT SUMMARY

Site: 101 [2038_BG_SAT_AM (Site Folder: Ashmore Road - Benowa Road)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Benowa Rd														
1	L2	147	2.1	155	2.1	*0.674	65.0	LOS E	9.7	69.0	1.00	0.83	1.04	20.8
2	T1	83	0.0	87	0.0	0.343	56.4	LOS E	5.1	36.0	0.95	0.74	0.95	11.7
3	R2	117	0.0	123	0.0	0.507	63.0	LOS E	7.5	52.2	0.98	0.79	0.98	19.0
Approach		347	0.9	365	0.9	0.674	62.3	LOS E	9.7	69.0	0.98	0.80	1.00	18.5
East: Ashmore Rd														
4	L2	78	0.0	82	0.0	0.082	13.4	LOS B	1.3	9.3	0.51	0.68	0.51	38.9
5	T1	774	2.0	815	2.0	0.545	30.8	LOS C	20.4	145.4	0.81	0.71	0.81	38.5
6	R2	59	6.1	62	6.1	*0.689	74.5	LOS E	5.4	39.0	1.00	0.83	1.13	18.1
6u	U	17	0.0	18	0.0	0.689	75.6	LOS E	5.4	39.0	1.00	0.83	1.13	23.4
Approach		928	2.0	977	2.0	0.689	32.9	LOS C	20.4	145.4	0.80	0.71	0.81	36.4
North: Benowa Rd														
7	L2	113	1.2	119	1.2	0.147	13.6	LOS B	2.7	18.8	0.43	0.67	0.43	41.7
8	T1	145	0.0	153	0.0	*0.455	55.1	LOS E	7.0	49.2	0.95	0.76	0.95	11.8
9	R2	147	1.0	155	1.0	0.455	60.2	LOS E	5.5	38.5	0.94	0.77	0.94	23.5
Approach		405	0.7	426	0.7	0.455	45.4	LOS D	7.0	49.2	0.80	0.74	0.80	22.8
West: Ashmore Rd														
10	L2	140	0.0	147	0.0	0.096	6.8	LOS A	1.2	8.4	0.19	0.60	0.19	50.1
11	T1	990	1.1	1042	1.1	*0.680	26.6	LOS C	24.5	173.5	0.78	0.70	0.78	40.5
12	R2	124	1.1	131	1.1	0.553	64.1	LOS E	8.1	57.2	0.99	0.80	0.99	20.9
12u	U	2	0.0	2	0.0	0.553	65.2	LOS E	8.1	57.2	0.99	0.80	0.99	28.8
Approach		1256	1.0	1322	1.0	0.680	28.2	LOS C	24.5	173.5	0.74	0.70	0.74	38.6
All Vehicles		2936	1.3	3091	1.3	0.689	36.1	LOS D	24.5	173.5	0.79	0.72	0.80	33.3

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Benowa Rd												
P1	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
East: Ashmore Rd												

P2	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	231.4	223.8	0.97
North: Benowa Rd												
P3	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	226.3	217.2	0.96
West: Ashmore Rd												
P4	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
All Pedestrians		200	211	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96

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

MOVEMENT SUMMARY

Site: 101 [2038_BG+DEV_THU_PM (Site Folder: Ashmore Road - Benowa Road)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Benowa Rd														
1	L2	116	2.1	122	2.1	0.510	63.0	LOS E	7.4	52.7	0.98	0.79	0.98	21.2
2	T1	93	0.0	98	0.0	0.384	56.8	LOS E	5.8	40.6	0.96	0.75	0.96	11.7
3	R2	159	0.0	167	0.0	* 0.792	68.7	LOS E	10.9	76.6	1.00	0.89	1.18	17.9
Approach		368	0.7	387	0.7	0.792	63.9	LOS E	10.9	76.6	0.98	0.83	1.06	17.8
East: Ashmore Rd														
4	L2	81	0.0	85	0.0	0.105	17.2	LOS B	1.6	11.2	0.62	0.71	0.62	35.9
5	T1	1067	2.0	1123	2.0	* 1.028	115.1	LOS F	57.1	406.6	1.00	1.39	1.64	19.3
6	R2	41	6.1	43	6.1	0.759	78.6	LOS E	4.6	33.2	1.00	0.86	1.25	17.5
6u	U	22	0.0	23	0.0	0.759	79.6	LOS E	4.6	33.2	1.00	0.86	1.25	22.6
Approach		1211	1.9	1275	1.9	1.028	106.7	LOS F	57.1	406.6	0.97	1.32	1.55	19.6
North: Benowa Rd														
7	L2	101	1.2	106	1.2	0.132	15.5	LOS B	2.6	18.7	0.47	0.68	0.47	40.1
8	T1	216	0.0	227	0.0	0.774	56.5	LOS E	14.1	98.6	0.98	0.88	1.09	11.7
9	R2	421	1.0	443	1.0	* 1.019	125.8	LOS F	26.2	184.6	1.00	1.17	1.78	14.0
Approach		738	0.7	777	0.7	1.019	90.4	LOS F	26.2	184.6	0.92	1.02	1.40	15.1
West: Ashmore Rd														
10	L2	195	0.0	205	0.0	0.133	6.8	LOS A	1.7	12.1	0.19	0.60	0.19	50.1
11	T1	955	1.1	1005	1.1	0.762	29.0	LOS C	25.6	180.9	0.81	0.72	0.81	39.3
12	R2	218	1.1	229	1.1	* 1.052	146.4	LOS F	24.9	175.8	1.00	1.22	1.91	11.4
12u	U	6	0.0	6	0.0	1.052	147.5	LOS F	24.9	175.8	1.00	1.22	1.91	17.2
Approach		1374	1.0	1446	1.0	1.052	45.0	LOS D	25.6	180.9	0.75	0.78	0.90	31.2
All Vehicles		3691	1.2	3885	1.2	1.052	76.2	LOS E	57.1	406.6	0.88	1.01	1.23	22.0

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Benowa Rd												
P1	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
East: Ashmore Rd												

P2	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	231.4	223.8	0.97
North: Benowa Rd												
P3	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	226.3	217.2	0.96
West: Ashmore Rd												
P4	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
All Pedestrians		200	211	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96

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

MOVEMENT SUMMARY

Site: 101 [2038_BG+DEV_SAT_AM (Site Folder: Ashmore Road - Benowa Road)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Benowa Rd														
1	L2	147	2.1	155	2.1	*0.673	65.0	LOS E	9.7	69.0	1.00	0.83	1.04	20.8
2	T1	82	0.0	86	0.0	0.338	56.3	LOS E	5.1	35.5	0.95	0.74	0.95	11.7
3	R2	129	0.0	136	0.0	0.583	63.5	LOS E	8.3	58.0	0.99	0.80	0.99	18.9
Approach		358	0.9	377	0.9	0.673	62.5	LOS E	9.7	69.0	0.98	0.80	1.00	18.5
East: Ashmore Rd														
4	L2	78	0.0	82	0.0	0.082	13.4	LOS B	1.3	9.3	0.51	0.68	0.51	38.9
5	T1	774	2.0	815	2.0	0.545	30.8	LOS C	20.4	145.4	0.81	0.71	0.81	38.5
6	R2	59	6.1	62	6.1	*0.689	74.5	LOS E	5.4	39.0	1.00	0.83	1.13	18.1
6u	U	17	0.0	18	0.0	0.689	75.6	LOS E	5.4	39.0	1.00	0.83	1.13	23.4
Approach		928	2.0	977	2.0	0.689	32.9	LOS C	20.4	145.4	0.80	0.71	0.81	36.4
North: Benowa Rd														
7	L2	113	1.2	119	1.2	0.151	14.4	LOS B	2.8	19.8	0.45	0.67	0.45	41.1
8	T1	177	0.0	186	0.0	*0.617	56.0	LOS E	8.5	59.6	0.97	0.78	0.97	11.6
9	R2	178	1.0	187	1.0	0.617	61.3	LOS E	6.9	48.2	0.96	0.79	0.98	23.2
Approach		468	0.7	493	0.7	0.617	48.0	LOS D	8.5	59.6	0.84	0.76	0.85	21.9
West: Ashmore Rd														
10	L2	162	0.0	171	0.0	0.111	6.8	LOS A	1.4	9.9	0.19	0.60	0.19	50.1
11	T1	1025	1.1	1079	1.1	*0.710	26.9	LOS C	25.2	178.2	0.79	0.71	0.79	40.3
12	R2	124	1.1	131	1.1	0.553	64.1	LOS E	8.1	57.2	0.99	0.80	0.99	20.9
12u	U	2	0.0	2	0.0	0.553	65.2	LOS E	8.1	57.2	0.99	0.80	0.99	28.8
Approach		1313	1.0	1382	1.0	0.710	28.0	LOS C	25.2	178.2	0.74	0.70	0.74	38.6
All Vehicles		3067	1.2	3228	1.2	0.710	36.6	LOS D	25.2	178.2	0.80	0.73	0.81	33.0

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Benowa Rd												
P1	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
East: Ashmore Rd												

P2	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	231.4	223.8	0.97
North: Benowa Rd												
P3	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	226.3	217.2	0.96
West: Ashmore Rd												
P4	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
All Pedestrians		200	211	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96

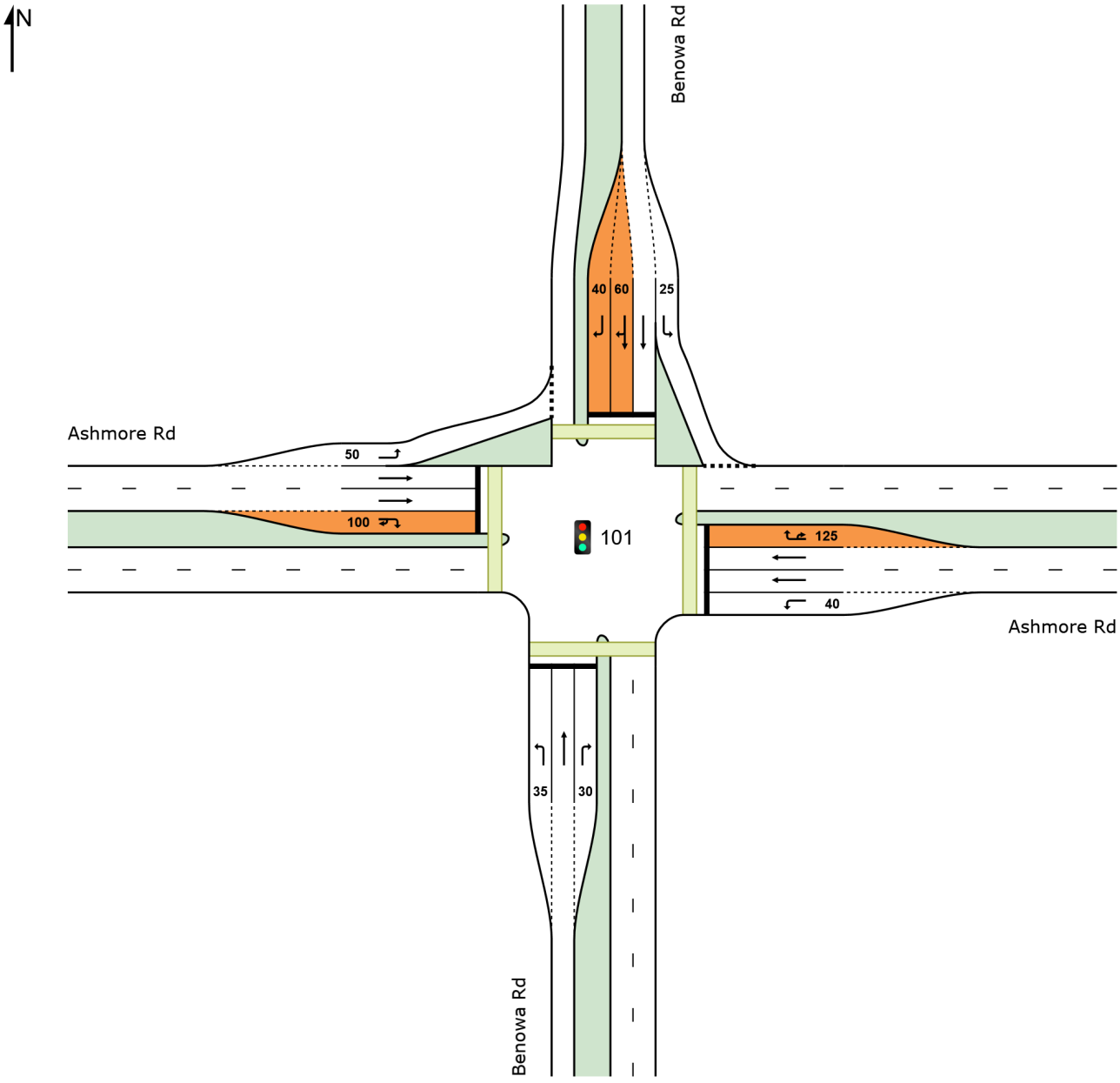
Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 101 [2028_BG+DEV_THU_PM - Upgrade (Site Folder: Ashmore Road - Benowa Road)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 101 [2028_BG+DEV_THU_PM - Upgrade (Site Folder: Ashmore Road - Benowa Road)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Benowa Rd														
1	L2	100	2.1	105	2.1	0.440	62.4	LOS E	6.3	45.0	0.97	0.78	0.97	21.3
2	T1	83	0.0	87	0.0	0.343	56.4	LOS E	5.1	36.0	0.95	0.74	0.95	11.7
3	R2	144	0.0	152	0.0	* 0.686	65.0	LOS E	9.5	66.3	1.00	0.83	1.06	18.6
Approach		327	0.7	344	0.7	0.686	62.0	LOS E	9.5	66.3	0.98	0.80	1.00	18.2
East: Ashmore Rd														
4	L2	70	0.0	74	0.0	0.082	15.3	LOS B	1.3	9.4	0.56	0.69	0.56	37.3
5	T1	921	2.0	969	2.0	* 0.746	38.9	LOS D	28.2	200.4	0.93	0.82	0.93	35.2
6	R2	35	6.1	37	6.1	0.570	74.2	LOS E	3.8	27.2	1.00	0.77	1.04	18.2
6u	U	19	0.0	20	0.0	0.570	75.2	LOS E	3.8	27.2	1.00	0.77	1.04	23.4
Approach		1045	1.9	1100	1.9	0.746	39.1	LOS D	28.2	200.4	0.91	0.81	0.91	34.3
North: Benowa Rd														
7	L2	87	1.2	92	1.2	0.107	13.3	LOS B	2.0	14.0	0.41	0.66	0.41	42.0
8	T1	199	0.0	209	0.0	* 0.729	55.4	LOS E	12.4	86.7	0.97	0.84	1.05	11.9
9	R2	379	1.0	399	1.0	0.729	61.5	LOS E	12.4	87.2	0.98	0.85	1.05	23.0
Approach		665	0.7	700	0.7	0.729	53.4	LOS D	12.4	87.2	0.90	0.82	0.97	21.7
West: Ashmore Rd														
10	L2	178	0.0	187	0.0	0.120	6.6	LOS A	1.4	9.5	0.17	0.60	0.17	50.4
11	T1	844	1.1	888	1.1	0.556	27.5	LOS C	22.2	156.6	0.77	0.68	0.77	40.0
12	R2	188	1.1	198	1.1	* 0.723	64.6	LOS E	12.8	90.4	1.00	0.85	1.06	20.8
12u	U	5	0.0	5	0.0	0.723	65.7	LOS E	12.8	90.4	1.00	0.85	1.06	28.6
Approach		1215	1.0	1279	1.0	0.723	30.4	LOS C	22.2	156.6	0.72	0.70	0.73	37.0
All Vehicles		3252	1.2	3423	1.2	0.746	41.1	LOS D	28.2	200.4	0.84	0.77	0.86	31.0

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Benowa Rd												
P1	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
East: Ashmore Rd												

P2	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	231.4	223.8	0.97
North: Benowa Rd												
P3	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	226.3	217.2	0.96
West: Ashmore Rd												
P4	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
All Pedestrians		200	211	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96

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

MOVEMENT SUMMARY

Site: 101 [2028_BG+DEV_SAT_AM - Upgrade (Site Folder: Ashmore Road - Benowa Road)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Benowa Rd														
1	L2	126	2.1	133	2.1	*0.554	63.4	LOS E	8.1	57.7	0.99	0.80	0.99	21.1
2	T1	73	0.0	77	0.0	0.301	56.0	LOS E	4.5	31.4	0.95	0.73	0.95	11.8
3	R2	115	0.0	121	0.0	0.498	62.9	LOS E	7.3	51.2	0.98	0.79	0.98	19.1
Approach		314	0.9	331	0.9	0.554	61.5	LOS E	8.1	57.7	0.97	0.78	0.97	18.7
East: Ashmore Rd														
4	L2	67	0.0	71	0.0	0.071	13.3	LOS B	1.1	7.9	0.50	0.68	0.50	38.9
5	T1	668	2.0	703	2.0	0.465	29.7	LOS C	16.7	119.1	0.78	0.67	0.78	39.0
6	R2	51	6.1	54	6.1	*0.539	71.2	LOS E	4.5	32.6	1.00	0.77	1.00	18.7
6u	U	15	0.0	16	0.0	0.539	72.3	LOS E	4.5	32.6	1.00	0.77	1.00	24.0
Approach		801	2.0	843	2.0	0.539	31.8	LOS C	16.7	119.1	0.77	0.68	0.77	37.0
North: Benowa Rd														
7	L2	98	1.2	103	1.2	0.122	12.7	LOS B	2.1	15.2	0.40	0.66	0.40	42.5
8	T1	164	0.0	173	0.0	*0.423	55.2	LOS E	6.9	48.4	0.95	0.76	0.95	11.7
9	R2	165	1.0	174	1.0	0.423	61.0	LOS E	6.9	48.4	0.96	0.78	0.96	23.3
Approach		427	0.7	449	0.7	0.423	47.7	LOS D	6.9	48.4	0.83	0.75	0.83	22.0
West: Ashmore Rd														
10	L2	147	0.0	155	0.0	0.100	6.7	LOS A	1.2	8.2	0.18	0.60	0.18	50.3
11	T1	896	1.1	943	1.1	*0.564	26.5	LOS C	22.9	162.2	0.77	0.68	0.77	40.5
12	R2	107	1.1	113	1.1	0.479	63.4	LOS E	6.9	48.9	0.97	0.79	0.97	21.0
12u	U	2	0.0	2	0.0	0.479	64.5	LOS E	6.9	48.9	0.97	0.79	0.97	28.9
Approach		1152	1.0	1213	1.0	0.564	27.5	LOS C	22.9	162.2	0.71	0.68	0.71	38.9
All Vehicles		2694	1.2	2836	1.2	0.564	35.9	LOS D	22.9	162.2	0.78	0.70	0.78	33.2

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Benowa Rd												
P1	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
East: Ashmore Rd												

P2	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	231.4	223.8	0.97
North: Benowa Rd												
P3	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	226.3	217.2	0.96
West: Ashmore Rd												
P4	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
All Pedestrians		200	211	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96

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

MOVEMENT SUMMARY

Site: 101 [2038_BG+DEV_THU_PM - Upgrade (Site Folder: Ashmore Road - Benowa Road)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Benowa Rd														
1	L2	116	2.1	122	2.1	0.510	63.0	LOS E	7.4	52.7	0.98	0.79	0.98	21.2
2	T1	93	0.0	98	0.0	0.384	56.8	LOS E	5.8	40.6	0.96	0.75	0.96	11.7
3	R2	159	0.0	167	0.0	* 0.792	68.7	LOS E	10.9	76.6	1.00	0.89	1.18	17.9
Approach		368	0.7	387	0.7	0.792	63.9	LOS E	10.9	76.6	0.98	0.83	1.06	17.8
East: Ashmore Rd														
4	L2	81	0.0	85	0.0	0.093	15.1	LOS B	1.6	10.9	0.56	0.69	0.56	37.5
5	T1	1067	2.0	1123	2.0	* 0.866	48.2	LOS D	37.2	265.0	0.97	0.96	1.09	32.0
6	R2	41	6.1	43	6.1	0.664	75.4	LOS E	4.5	32.3	1.00	0.81	1.12	18.0
6u	U	22	0.0	23	0.0	0.664	76.4	LOS E	4.5	32.3	1.00	0.81	1.12	23.2
Approach		1211	1.9	1275	1.9	0.866	47.5	LOS D	37.2	265.0	0.94	0.93	1.06	31.5
North: Benowa Rd														
7	L2	101	1.2	106	1.2	0.132	15.0	LOS B	2.6	18.2	0.46	0.67	0.46	40.5
8	T1	216	0.0	227	0.0	0.839	61.7	LOS E	14.9	104.1	0.99	0.95	1.20	10.9
9	R2	421	1.0	443	1.0	* 0.863	70.4	LOS E	15.0	105.6	0.99	0.95	1.26	21.1
Approach		738	0.7	777	0.7	0.863	60.3	LOS E	15.0	105.6	0.92	0.91	1.14	20.1
West: Ashmore Rd														
10	L2	195	0.0	205	0.0	0.133	6.8	LOS A	1.7	12.1	0.19	0.60	0.19	50.1
11	T1	955	1.1	1005	1.1	0.683	28.6	LOS C	24.9	176.1	0.81	0.71	0.81	39.5
12	R2	218	1.1	229	1.1	* 0.883	76.1	LOS E	16.8	118.4	1.00	0.96	1.30	18.7
12u	U	6	0.0	6	0.0	0.883	77.2	LOS E	16.8	118.4	1.00	0.96	1.30	26.3
Approach		1374	1.0	1446	1.0	0.883	33.3	LOS C	24.9	176.1	0.75	0.74	0.80	35.7
All Vehicles		3691	1.2	3885	1.2	0.883	46.4	LOS D	37.2	265.0	0.87	0.85	0.98	29.3

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Benowa Rd												
P1	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
East: Ashmore Rd												

P2	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	231.4	223.8	0.97
North: Benowa Rd												
P3	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	226.3	217.2	0.96
West: Ashmore Rd												
P4	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
All Pedestrians		200	211	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96

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

MOVEMENT SUMMARY

Site: 101 [2038_BG+DEV_SAT_AM - Upgrade (Site Folder: Ashmore Road - Benowa Road)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Benowa Rd														
1	L2	147	2.1	155	2.1	*0.673	65.0	LOS E	9.7	69.0	1.00	0.83	1.04	20.8
2	T1	82	0.0	86	0.0	0.338	56.3	LOS E	5.1	35.5	0.95	0.74	0.95	11.7
3	R2	129	0.0	136	0.0	0.583	63.5	LOS E	8.3	58.0	0.99	0.80	0.99	18.9
Approach		358	0.9	377	0.9	0.673	62.5	LOS E	9.7	69.0	0.98	0.80	1.00	18.5
East: Ashmore Rd														
4	L2	78	0.0	82	0.0	0.082	13.4	LOS B	1.3	9.3	0.51	0.68	0.51	38.9
5	T1	774	2.0	815	2.0	0.545	30.8	LOS C	20.4	145.4	0.81	0.71	0.81	38.5
6	R2	59	6.1	62	6.1	*0.689	74.5	LOS E	5.4	39.0	1.00	0.83	1.13	18.1
6u	U	17	0.0	18	0.0	0.689	75.6	LOS E	5.4	39.0	1.00	0.83	1.13	23.4
Approach		928	2.0	977	2.0	0.689	32.9	LOS C	20.4	145.4	0.80	0.71	0.81	36.4
North: Benowa Rd														
7	L2	113	1.2	119	1.2	0.151	14.4	LOS B	2.8	19.8	0.45	0.67	0.45	41.1
8	T1	177	0.0	186	0.0	*0.465	55.4	LOS E	7.6	53.7	0.96	0.77	0.96	11.7
9	R2	178	1.0	187	1.0	0.465	61.4	LOS E	7.6	53.7	0.96	0.79	0.96	23.2
Approach		468	0.7	493	0.7	0.465	47.8	LOS D	7.6	53.7	0.84	0.75	0.84	22.0
West: Ashmore Rd														
10	L2	162	0.0	171	0.0	0.111	6.8	LOS A	1.4	9.9	0.19	0.60	0.19	50.1
11	T1	1025	1.1	1079	1.1	*0.686	27.0	LOS C	25.6	180.9	0.79	0.71	0.79	40.3
12	R2	124	1.1	131	1.1	0.553	64.1	LOS E	8.1	57.2	0.99	0.80	0.99	20.9
12u	U	2	0.0	2	0.0	0.553	65.2	LOS E	8.1	57.2	0.99	0.80	0.99	28.8
Approach		1313	1.0	1382	1.0	0.686	28.0	LOS C	25.6	180.9	0.74	0.70	0.74	38.6
All Vehicles		3067	1.2	3228	1.2	0.689	36.6	LOS D	25.6	180.9	0.80	0.72	0.80	33.0

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Benowa Rd												
P1	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
East: Ashmore Rd												

P2	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	231.4	223.8	0.97
North: Benowa Rd												
P3	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	226.3	217.2	0.96
West: Ashmore Rd												
P4	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96
All Pedestrians		200	211	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96

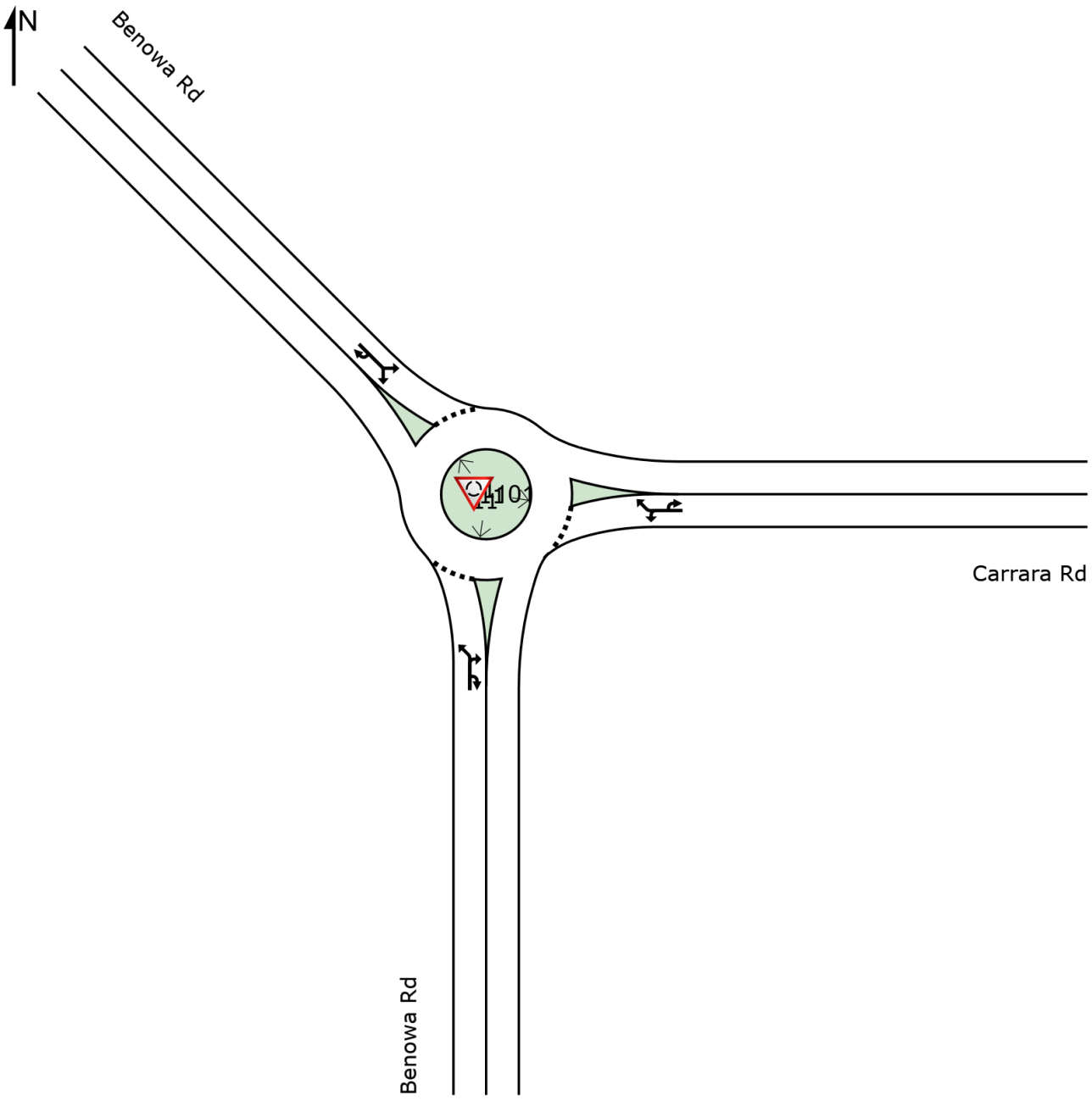
Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 101 [2024_Survey_THU_PM (Site Folder: Benowa Road - Carrara Street)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 101 [2024_Survey_THU_PM (Site Folder: Benowa Road - Carrara Street)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Benowa Rd														
1a	L1	110	2.3	116	2.3	0.209	5.9	LOS A	1.1	7.9	0.40	0.63	0.40	45.4
3	R2	88	1.9	93	1.9	0.209	9.6	LOS A	1.1	7.9	0.40	0.63	0.40	46.4
3u	U	2	0.0	2	0.0	0.209	11.2	LOS B	1.1	7.9	0.40	0.63	0.40	37.3
Approach		200	2.1	211	2.1	0.209	7.6	LOS A	1.1	7.9	0.40	0.63	0.40	45.8
East: Carrara Rd														
4	L2	281	0.9	296	0.9	0.538	6.8	LOS A	4.1	28.7	0.52	0.66	0.52	45.1
6a	R1	256	0.4	269	0.4	0.538	9.3	LOS A	4.1	28.7	0.52	0.66	0.52	48.4
6u	U	1	0.0	1	0.0	0.538	11.8	LOS B	4.1	28.7	0.52	0.66	0.52	50.2
Approach		538	0.7	566	0.7	0.538	8.0	LOS A	4.1	28.7	0.52	0.66	0.52	46.9
NorthWest: Benowa Rd														
27a	L1	165	0.8	174	0.8	0.321	4.8	LOS A	2.0	14.4	0.28	0.57	0.28	50.1
29a	R1	215	0.8	226	0.8	0.321	7.7	LOS A	2.0	14.4	0.28	0.57	0.28	45.7
29u	U	6	0.0	6	0.0	0.321	10.2	LOS B	2.0	14.4	0.28	0.57	0.28	50.1
Approach		386	0.8	406	0.8	0.321	6.5	LOS A	2.0	14.4	0.28	0.57	0.28	48.0
All Vehicles		1124	1.0	1183	1.0	0.538	7.4	LOS A	4.1	28.7	0.42	0.62	0.42	47.1

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

MOVEMENT SUMMARY

Site: 101 [2024_Survey_SAT_AM (Site Folder: Benowa Road - Carrara Street)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Benowa Rd														
1a	L1	141	2.3	148	2.3	0.219	5.4	LOS A	1.2	8.3	0.34	0.59	0.34	46.2
3	R2	81	1.9	85	1.9	0.219	9.1	LOS A	1.2	8.3	0.34	0.59	0.34	47.1
3u	U	5	0.0	5	0.0	0.219	10.7	LOS B	1.2	8.3	0.34	0.59	0.34	38.1
Approach		227	2.1	239	2.1	0.219	6.9	LOS A	1.2	8.3	0.34	0.59	0.34	46.4
East: Carrara Rd														
4	L2	126	0.9	133	0.9	0.310	6.0	LOS A	1.8	12.7	0.39	0.63	0.39	45.6
6a	R1	184	0.4	194	0.4	0.310	8.6	LOS A	1.8	12.7	0.39	0.63	0.39	48.9
6u	U	1	0.0	1	0.0	0.310	11.0	LOS B	1.8	12.7	0.39	0.63	0.39	50.7
Approach		311	0.6	327	0.6	0.310	7.5	LOS A	1.8	12.7	0.39	0.63	0.39	47.8
NorthWest: Benowa Rd														
27a	L1	171	0.8	180	0.8	0.294	4.8	LOS A	1.8	12.7	0.26	0.56	0.26	50.3
29a	R1	183	0.8	193	0.8	0.294	7.7	LOS A	1.8	12.7	0.26	0.56	0.26	46.0
29u	U	1	0.0	1	0.0	0.294	10.1	LOS B	1.8	12.7	0.26	0.56	0.26	50.4
Approach		355	0.8	374	0.8	0.294	6.3	LOS A	1.8	12.7	0.26	0.56	0.26	48.4
All Vehicles		893	1.1	940	1.1	0.310	6.9	LOS A	1.8	12.7	0.32	0.59	0.32	47.7

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

MOVEMENT SUMMARY

Site: 101 [2028_BG_THU_PM (Site Folder: Benowa Road - Carrara Street)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Benowa Rd														
1a	L1	117	2.3	123	2.3	0.188	6.0	LOS A	1.0	7.0	0.41	0.62	0.41	45.8
3	R2	58	1.9	61	1.9	0.188	9.7	LOS A	1.0	7.0	0.41	0.62	0.41	46.8
3u	U	2	0.0	2	0.0	0.188	11.3	LOS B	1.0	7.0	0.41	0.62	0.41	37.7
Approach		177	2.1	186	2.1	0.188	7.3	LOS A	1.0	7.0	0.41	0.62	0.41	46.1
East: Carrara Rd														
4	L2	298	0.9	314	0.9	0.575	7.0	LOS A	4.6	32.0	0.55	0.67	0.55	44.8
6a	R1	272	0.4	286	0.4	0.575	9.6	LOS A	4.6	32.0	0.55	0.67	0.55	48.2
6u	U	1	0.0	1	0.0	0.575	12.0	LOS B	4.6	32.0	0.55	0.67	0.55	49.9
Approach		571	0.7	601	0.7	0.575	8.2	LOS A	4.6	32.0	0.55	0.67	0.55	46.6
NorthWest: Benowa Rd														
27a	L1	175	0.8	184	0.8	0.321	4.6	LOS A	2.1	14.6	0.22	0.56	0.22	50.3
29a	R1	228	0.8	240	0.8	0.321	7.5	LOS A	2.1	14.6	0.22	0.56	0.22	45.9
29u	U	6	0.0	6	0.0	0.321	10.0	LOS A	2.1	14.6	0.22	0.56	0.22	50.3
Approach		409	0.8	431	0.8	0.321	6.3	LOS A	2.1	14.6	0.22	0.56	0.22	48.2
All Vehicles		1157	0.9	1218	0.9	0.575	7.4	LOS A	4.6	32.0	0.41	0.62	0.41	47.1

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

MOVEMENT SUMMARY

Site: 101 [2028_BG_SAT_AM (Site Folder: Benowa Road - Carrara Street)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Benowa Rd														
1a	L1	150	2.3	158	2.3	0.235	5.5	LOS A	1.3	9.0	0.35	0.60	0.35	46.1
3	R2	86	1.9	91	1.9	0.235	9.2	LOS A	1.3	9.0	0.35	0.60	0.35	47.0
3u	U	5	0.0	5	0.0	0.235	10.8	LOS B	1.3	9.0	0.35	0.60	0.35	38.0
Approach		241	2.1	254	2.1	0.235	6.9	LOS A	1.3	9.0	0.35	0.60	0.35	46.3
East: Carrara Rd														
4	L2	134	0.9	141	0.9	0.333	6.1	LOS A	2.0	13.9	0.41	0.63	0.41	45.5
6a	R1	195	0.4	205	0.4	0.333	8.7	LOS A	2.0	13.9	0.41	0.63	0.41	48.8
6u	U	1	0.0	1	0.0	0.333	11.1	LOS B	2.0	13.9	0.41	0.63	0.41	50.5
Approach		330	0.6	347	0.6	0.333	7.7	LOS A	2.0	13.9	0.41	0.63	0.41	47.6
NorthWest: Benowa Rd														
27a	L1	181	0.8	191	0.8	0.313	4.8	LOS A	2.0	13.8	0.27	0.56	0.27	50.3
29a	R1	194	0.8	204	0.8	0.313	7.7	LOS A	2.0	13.8	0.27	0.56	0.27	45.9
29u	U	1	0.0	1	0.0	0.313	10.2	LOS B	2.0	13.8	0.27	0.56	0.27	50.3
Approach		376	0.8	396	0.8	0.313	6.3	LOS A	2.0	13.8	0.27	0.56	0.27	48.4
All Vehicles		947	1.1	997	1.1	0.333	7.0	LOS A	2.0	13.9	0.34	0.60	0.34	47.6

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

MOVEMENT SUMMARY

Site: 101 [2028_BG+DEV_THU_PM (Site Folder: Benowa Road - Carrara Street)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Benowa Rd														
1a	L1	117	2.3	123	2.3	0.323	6.9	LOS A	1.9	13.6	0.53	0.71	0.53	43.7
3	R2	153	1.9	161	1.9	0.323	10.6	LOS B	1.9	13.6	0.53	0.71	0.53	44.8
3u	U	2	0.0	2	0.0	0.323	12.2	LOS B	1.9	13.6	0.53	0.71	0.53	35.5
Approach		272	2.0	286	2.0	0.323	9.1	LOS A	1.9	13.6	0.53	0.71	0.53	44.3
East: Carrara Rd														
4	L2	396	0.9	417	0.9	0.770	9.6	LOS A	10.5	74.1	0.74	0.75	0.84	42.0
6a	R1	369	0.4	388	0.4	0.770	12.2	LOS B	10.5	74.1	0.74	0.75	0.84	45.8
6u	U	1	0.0	1	0.0	0.770	14.6	LOS B	10.5	74.1	0.74	0.75	0.84	47.5
Approach		766	0.7	806	0.7	0.770	10.9	LOS B	10.5	74.1	0.74	0.75	0.84	44.1
NorthWest: Benowa Rd														
27a	L1	346	0.8	364	0.8	0.521	5.6	LOS A	4.2	29.7	0.46	0.59	0.46	49.8
29a	R1	228	0.8	240	0.8	0.521	8.5	LOS A	4.2	29.7	0.46	0.59	0.46	45.4
29u	U	6	0.0	6	0.0	0.521	11.0	LOS B	4.2	29.7	0.46	0.59	0.46	49.8
Approach		580	0.8	611	0.8	0.521	6.8	LOS A	4.2	29.7	0.46	0.59	0.46	48.4
All Vehicles		1618	1.0	1703	1.0	0.770	9.1	LOS A	10.5	74.1	0.60	0.69	0.65	45.6

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

MOVEMENT SUMMARY

Site: 101 [2028_BG+DEV_SAT_AM (Site Folder: Benowa Road - Carrara Street)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Benowa Rd														
1a	L1	150	2.3	158	2.3	0.293	6.4	LOS A	1.7	12.0	0.46	0.66	0.46	44.8
3	R2	114	1.9	120	1.9	0.293	10.2	LOS B	1.7	12.0	0.46	0.66	0.46	45.8
3u	U	5	0.0	5	0.0	0.293	11.7	LOS B	1.7	12.0	0.46	0.66	0.46	36.6
Approach		269	2.1	283	2.1	0.293	8.1	LOS A	1.7	12.0	0.46	0.66	0.46	45.1
East: Carrara Rd														
4	L2	211	0.9	222	0.9	0.514	6.5	LOS A	3.8	26.9	0.49	0.65	0.49	45.1
6a	R1	312	0.4	328	0.4	0.514	9.0	LOS A	3.8	26.9	0.49	0.65	0.49	48.5
6u	U	1	0.0	1	0.0	0.514	11.5	LOS B	3.8	26.9	0.49	0.65	0.49	50.2
Approach		524	0.6	552	0.6	0.514	8.0	LOS A	3.8	26.9	0.49	0.65	0.49	47.3
NorthWest: Benowa Rd														
27a	L1	323	0.8	340	0.8	0.444	5.2	LOS A	3.3	23.1	0.37	0.56	0.37	50.3
29a	R1	194	0.8	204	0.8	0.444	8.1	LOS A	3.3	23.1	0.37	0.56	0.37	45.9
29u	U	1	0.0	1	0.0	0.444	10.5	LOS B	3.3	23.1	0.37	0.56	0.37	50.3
Approach		518	0.8	545	0.8	0.444	6.3	LOS A	3.3	23.1	0.37	0.56	0.37	49.0
All Vehicles		1311	1.0	1380	1.0	0.514	7.3	LOS A	3.8	26.9	0.44	0.62	0.44	47.6

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

MOVEMENT SUMMARY

Site: 101 [2038_BG_THU_PM (Site Folder: Benowa Road - Carrara Street)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Benowa Rd														
1a	L1	135	2.3	142	2.3	0.275	6.4	LOS A	1.6	11.1	0.48	0.67	0.48	44.8
3	R2	108	1.9	114	1.9	0.275	10.2	LOS B	1.6	11.1	0.48	0.67	0.48	45.8
3u	U	2	0.0	2	0.0	0.275	11.7	LOS B	1.6	11.1	0.48	0.67	0.48	36.6
Approach		245	2.1	258	2.1	0.275	8.1	LOS A	1.6	11.1	0.48	0.67	0.48	45.2
East: Carrara Rd														
4	L2	346	0.9	364	0.9	0.696	9.1	LOS A	7.6	53.7	0.68	0.75	0.76	42.6
6a	R1	315	0.4	332	0.4	0.696	11.6	LOS B	7.6	53.7	0.68	0.75	0.76	46.3
6u	U	1	0.0	1	0.0	0.696	14.1	LOS B	7.6	53.7	0.68	0.75	0.76	48.0
Approach		662	0.7	697	0.7	0.696	10.3	LOS B	7.6	53.7	0.68	0.75	0.76	44.5
NorthWest: Benowa Rd														
27a	L1	203	0.8	214	0.8	0.404	5.0	LOS A	2.8	20.0	0.34	0.58	0.34	49.8
29a	R1	265	0.8	279	0.8	0.404	8.0	LOS A	2.8	20.0	0.34	0.58	0.34	45.4
29u	U	7	0.0	7	0.0	0.404	10.4	LOS B	2.8	20.0	0.34	0.58	0.34	49.9
Approach		475	0.8	500	0.8	0.404	6.8	LOS A	2.8	20.0	0.34	0.58	0.34	47.7
All Vehicles		1382	1.0	1455	1.0	0.696	8.7	LOS A	7.6	53.7	0.53	0.68	0.57	45.7

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

MOVEMENT SUMMARY

Site: 101 [2038_BG_SAT_AM (Site Folder: Benowa Road - Carrara Street)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Benowa Rd														
1a	L1	174	2.3	183	2.3	0.282	5.8	LOS A	1.6	11.4	0.40	0.62	0.40	45.8
3	R2	100	1.9	105	1.9	0.282	9.5	LOS A	1.6	11.4	0.40	0.62	0.40	46.7
3u	U	6	0.0	6	0.0	0.282	11.1	LOS B	1.6	11.4	0.40	0.62	0.40	37.7
Approach		280	2.1	295	2.1	0.282	7.2	LOS A	1.6	11.4	0.40	0.62	0.40	46.0
East: Carrara Rd														
4	L2	155	0.9	163	0.9	0.398	6.5	LOS A	2.5	17.7	0.46	0.65	0.46	45.0
6a	R1	227	0.4	239	0.4	0.398	9.1	LOS A	2.5	17.7	0.46	0.65	0.46	48.4
6u	U	1	0.0	1	0.0	0.398	11.5	LOS B	2.5	17.7	0.46	0.65	0.46	50.1
Approach		383	0.6	403	0.6	0.398	8.1	LOS A	2.5	17.7	0.46	0.65	0.46	47.2
NorthWest: Benowa Rd														
27a	L1	211	0.8	222	0.8	0.370	5.0	LOS A	2.5	17.4	0.32	0.57	0.32	50.1
29a	R1	225	0.8	237	0.8	0.370	7.9	LOS A	2.5	17.4	0.32	0.57	0.32	45.7
29u	U	1	0.0	1	0.0	0.370	10.3	LOS B	2.5	17.4	0.32	0.57	0.32	50.1
Approach		437	0.8	460	0.8	0.370	6.5	LOS A	2.5	17.4	0.32	0.57	0.32	48.2
All Vehicles		1100	1.1	1158	1.1	0.398	7.2	LOS A	2.5	17.7	0.39	0.61	0.39	47.3

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

MOVEMENT SUMMARY

Site: 101 [2038_BG+DEV_SAT_AM (Site Folder: Benowa Road - Carrara Street)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Benowa Rd														
1a	L1	174	2.3	183	2.3	0.333	6.6	LOS A	2.0	14.2	0.49	0.67	0.49	44.7
3	R2	121	1.9	127	1.9	0.333	10.3	LOS B	2.0	14.2	0.49	0.67	0.49	45.7
3u	U	6	0.0	6	0.0	0.333	11.9	LOS B	2.0	14.2	0.49	0.67	0.49	36.5
Approach		301	2.1	317	2.1	0.333	8.2	LOS A	2.0	14.2	0.49	0.67	0.49	45.0
East: Carrara Rd														
4	L2	218	0.9	229	0.9	0.551	6.9	LOS A	4.2	29.7	0.55	0.67	0.55	44.7
6a	R1	321	0.4	338	0.4	0.551	9.4	LOS A	4.2	29.7	0.55	0.67	0.55	48.1
6u	U	1	0.0	1	0.0	0.551	11.9	LOS B	4.2	29.7	0.55	0.67	0.55	49.8
Approach		540	0.6	568	0.6	0.551	8.4	LOS A	4.2	29.7	0.55	0.67	0.55	46.9
NorthWest: Benowa Rd														
27a	L1	335	0.8	353	0.8	0.484	5.3	LOS A	3.8	26.7	0.40	0.57	0.40	50.1
29a	R1	225	0.8	237	0.8	0.484	8.2	LOS A	3.8	26.7	0.40	0.57	0.40	45.7
29u	U	1	0.0	1	0.0	0.484	10.7	LOS B	3.8	26.7	0.40	0.57	0.40	50.1
Approach		561	0.8	591	0.8	0.484	6.5	LOS A	3.8	26.7	0.40	0.57	0.40	48.6
All Vehicles		1402	1.0	1476	1.0	0.551	7.6	LOS A	4.2	29.7	0.47	0.63	0.47	47.2

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

MOVEMENT SUMMARY

Site: 101 [2038_BG+DEV_THU_PM (Site Folder: Benowa Road - Carrara Street)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Benowa Rd														
1a	L1	135	2.3	142	2.3	0.372	7.2	LOS A	2.3	16.3	0.57	0.74	0.57	43.5
3	R2	162	1.9	171	1.9	0.372	10.9	LOS B	2.3	16.3	0.57	0.74	0.57	44.5
3u	U	2	0.0	2	0.0	0.372	12.5	LOS B	2.3	16.3	0.57	0.74	0.57	35.2
Approach		299	2.1	315	2.1	0.372	9.3	LOS A	2.3	16.3	0.57	0.74	0.57	44.0
East: Carrara Rd														
4	L2	426	0.9	448	0.9	0.864	14.2	LOS B	16.7	117.9	0.88	0.89	1.19	38.0
6a	R1	395	0.4	416	0.4	0.864	16.7	LOS B	16.7	117.9	0.88	0.89	1.19	42.1
6u	U	1	0.0	1	0.0	0.864	19.2	LOS B	16.7	117.9	0.88	0.89	1.19	43.8
Approach		822	0.7	865	0.7	0.864	15.4	LOS B	16.7	117.9	0.88	0.89	1.19	40.2
NorthWest: Benowa Rd														
27a	L1	360	0.8	379	0.8	0.573	5.8	LOS A	5.0	35.1	0.50	0.61	0.50	49.6
29a	R1	265	0.8	279	0.8	0.573	8.7	LOS A	5.0	35.1	0.50	0.61	0.50	45.1
29u	U	7	0.0	7	0.0	0.573	11.2	LOS B	5.0	35.1	0.50	0.61	0.50	49.6
Approach		632	0.8	665	0.8	0.573	7.1	LOS A	5.0	35.1	0.50	0.61	0.50	48.0
All Vehicles		1753	1.0	1845	1.0	0.864	11.4	LOS B	16.7	117.9	0.69	0.76	0.84	43.3

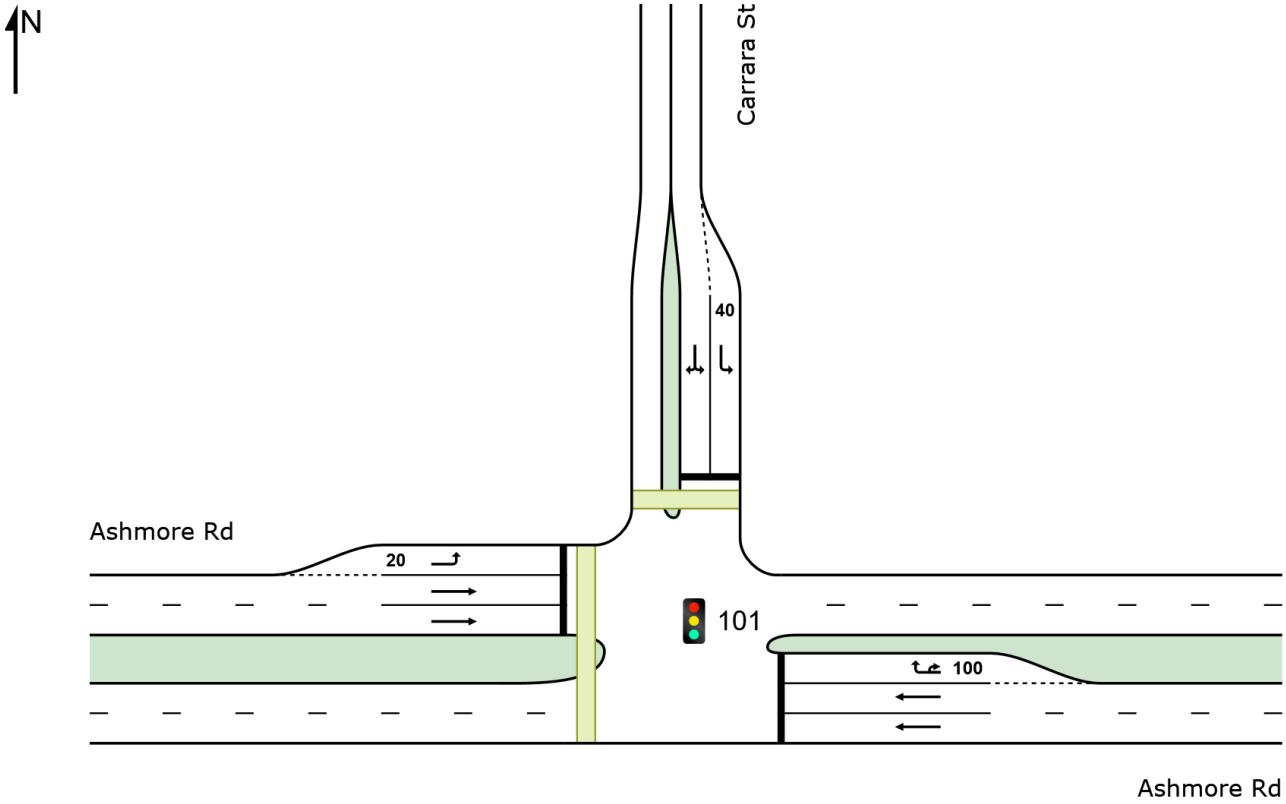
Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay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

SITE LAYOUT

Site: 101 [2024_Survey_THU_PM (Site Folder: Ashmore Road - Carrara Street)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Organisation: TTM CONSULTING PTY LTD | Licence: NETWORK / Enterprise | Created: Wednesday, 5 February 2025 12:24:36 PM
Project: C:\Users\MGrierson\TTM\2024 Synergy Projects - Documents\TotalSynergy\24BRT0224 Benowa Gardens - 203 Ashmore Road Benowa\6 - Analysis\241125 - Update\24BRT0224 SA01 E.sip9

MOVEMENT SUMMARY

Site: 101 [2024_Survey_THU_PM (Site Folder: Ashmore Road - Carrara Street)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 95 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Ashmore Rd														
5	T1	966	1.3	1017	1.3	0.390	7.3	LOS A	10.3	72.7	0.48	0.42	0.48	50.7
6	R2	257	0.0	271	0.0	*0.504	24.8	LOS C	8.2	57.3	0.87	0.81	0.87	34.9
6u	U	11	0.0	12	0.0	0.504	26.0	LOS C	8.2	57.3	0.87	0.81	0.87	32.0
Approach		1234	1.1	1299	1.1	0.504	11.1	LOS B	10.3	72.7	0.56	0.51	0.56	46.4
North: Carrara St														
7	L2	232	0.0	244	0.0	0.559	49.4	LOS D	6.0	41.7	0.99	0.79	0.99	25.2
9	R2	17	0.0	18	0.0	*0.559	49.4	LOS D	6.0	41.7	0.99	0.79	0.99	28.4
Approach		249	0.0	262	0.0	0.559	49.4	LOS D	6.0	41.7	0.99	0.79	0.99	25.4
West: Ashmore Rd														
10	L2	22	0.0	23	0.0	0.024	12.3	LOS B	0.3	2.4	0.51	0.65	0.51	46.0
11	T1	988	1.0	1040	1.0	*0.701	26.1	LOS C	20.6	145.8	0.90	0.79	0.90	36.2
Approach		1010	1.0	1063	1.0	0.701	25.8	LOS C	20.6	145.8	0.89	0.79	0.89	36.4
All Vehicles		2493	0.9	2624	0.9	0.701	20.9	LOS C	20.6	145.8	0.74	0.65	0.74	38.9

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Carrara St												
P3	Full	50	53	41.8	LOS E	0.1	0.1	0.94	0.94	206.3	213.9	1.04
West: Ashmore Rd												
P4	Full	50	53	41.8	LOS E	0.1	0.1	0.94	0.94	213.9	223.8	1.05
All Pedestrians		100	105	41.8	LOS E	0.1	0.1	0.94	0.94	210.1	218.9	1.04

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

MOVEMENT SUMMARY

Site: 101 [2024_Survey_SAT_AM (Site Folder: Ashmore Road - Carrara Street)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 95 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Ashmore Rd														
5	T1	766	1.3	806	1.3	0.310	6.8	LOS A	7.6	53.6	0.44	0.39	0.44	51.3
6	R2	181	0.0	191	0.0	*0.460	23.8	LOS C	7.0	49.3	0.85	0.79	0.85	35.4
6u	U	50	0.0	53	0.0	0.460	24.9	LOS C	7.0	49.3	0.85	0.79	0.85	32.4
Approach		997	1.0	1049	1.0	0.460	10.8	LOS B	7.6	53.6	0.54	0.48	0.54	46.6
North: Carrara St														
7	L2	122	0.0	128	0.0	0.287	47.5	LOS D	2.9	20.5	0.95	0.75	0.95	25.7
9	R2	6	0.0	6	0.0	*0.287	47.5	LOS D	2.9	20.5	0.95	0.75	0.95	29.0
Approach		128	0.0	135	0.0	0.287	47.5	LOS D	2.9	20.5	0.95	0.75	0.95	25.9
West: Ashmore Rd														
10	L2	15	0.0	16	0.0	0.016	12.2	LOS B	0.2	1.7	0.51	0.64	0.51	46.0
11	T1	1024	1.0	1078	1.0	*0.723	26.5	LOS C	21.5	152.0	0.91	0.80	0.91	36.0
Approach		1039	1.0	1094	1.0	0.723	26.3	LOS C	21.5	152.0	0.90	0.80	0.90	36.2
All Vehicles		2164	1.0	2278	1.0	0.723	20.4	LOS C	21.5	152.0	0.74	0.65	0.74	39.3

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Carrara St												
P3	Full	50	53	41.8	LOS E	0.1	0.1	0.94	0.94	206.3	213.9	1.04
West: Ashmore Rd												
P4	Full	50	53	41.8	LOS E	0.1	0.1	0.94	0.94	213.9	223.8	1.05
All Pedestrians		100	105	41.8	LOS E	0.1	0.1	0.94	0.94	210.1	218.9	1.04

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

MOVEMENT SUMMARY

Site: 101 [2028_BG_THU_PM (Site Folder: Ashmore Road - Carrara Street)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 95 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Ashmore Rd														
5	T1	1025	1.3	1079	1.3	0.414	7.4	LOS A	11.1	78.9	0.49	0.44	0.49	50.6
6	R2	273	0.0	287	0.0	*0.537	25.9	LOS C	8.7	61.0	0.88	0.83	0.88	34.3
6u	U	12	0.0	13	0.0	0.537	27.0	LOS C	8.7	61.0	0.88	0.83	0.88	31.4
Approach		1310	1.1	1379	1.1	0.537	11.5	LOS B	11.1	78.9	0.57	0.52	0.57	46.1
North: Carrara St														
7	L2	246	0.0	259	0.0	0.592	49.7	LOS D	6.4	44.6	0.99	0.80	1.00	25.1
9	R2	18	0.0	19	0.0	*0.592	49.7	LOS D	6.4	44.6	0.99	0.80	1.00	28.3
Approach		264	0.0	278	0.0	0.592	49.7	LOS D	6.4	44.6	0.99	0.80	1.00	25.3
West: Ashmore Rd														
10	L2	23	0.0	24	0.0	0.025	12.3	LOS B	0.4	2.6	0.51	0.65	0.51	46.0
11	T1	986	1.0	1038	1.0	*0.700	26.1	LOS C	20.6	145.5	0.89	0.79	0.89	36.2
Approach		1009	1.0	1062	1.0	0.700	25.8	LOS C	20.6	145.5	0.89	0.79	0.89	36.4
All Vehicles		2583	0.9	2719	0.9	0.700	21.0	LOS C	20.6	145.5	0.74	0.65	0.74	38.9

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Carrara St												
P3	Full	50	53	41.8	LOS E	0.1	0.1	0.94	0.94	206.3	213.9	1.04
West: Ashmore Rd												
P4	Full	50	53	41.8	LOS E	0.1	0.1	0.94	0.94	213.9	223.8	1.05
All Pedestrians		100	105	41.8	LOS E	0.1	0.1	0.94	0.94	210.1	218.9	1.04

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

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MOVEMENT SUMMARY

Site: 101 [2028_BG_SAT_AM (Site Folder: Ashmore Road - Carrara Street)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 95 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Ashmore Rd														
5	T1	813	1.3	856	1.3	0.329	6.9	LOS A	8.2	57.9	0.45	0.40	0.45	51.2
6	R2	192	0.0	202	0.0	*0.488	24.3	LOS C	7.5	52.6	0.86	0.80	0.86	35.1
6u	U	53	0.0	56	0.0	0.488	25.5	LOS C	7.5	52.6	0.86	0.80	0.86	32.1
Approach		1058	1.0	1114	1.0	0.488	11.0	LOS B	8.2	57.9	0.55	0.49	0.55	46.4
North: Carrara St														
7	L2	129	0.0	136	0.0	0.303	47.6	LOS D	3.1	21.7	0.95	0.76	0.95	25.7
9	R2	6	0.0	6	0.0	*0.303	47.6	LOS D	3.1	21.7	0.95	0.76	0.95	29.0
Approach		135	0.0	142	0.0	0.303	47.6	LOS D	3.1	21.7	0.95	0.76	0.95	25.9
West: Ashmore Rd														
10	L2	16	0.0	17	0.0	0.018	12.3	LOS B	0.3	1.8	0.51	0.65	0.51	46.0
11	T1	1087	1.0	1144	1.0	*0.767	28.4	LOS C	24.1	170.2	0.93	0.85	0.96	35.0
Approach		1103	1.0	1161	1.0	0.767	28.2	LOS C	24.1	170.2	0.92	0.85	0.96	35.1
All Vehicles		2296	1.0	2417	1.0	0.767	21.4	LOS C	24.1	170.2	0.75	0.68	0.77	38.6

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Carrara St												
P3	Full	50	53	41.8	LOS E	0.1	0.1	0.94	0.94	206.3	213.9	1.04
West: Ashmore Rd												
P4	Full	50	53	41.8	LOS E	0.1	0.1	0.94	0.94	213.9	223.8	1.05
All Pedestrians		100	105	41.8	LOS E	0.1	0.1	0.94	0.94	210.1	218.9	1.04

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.

Organisation: TTM CONSULTING PTY LTD | Licence: NETWORK / Enterprise | Processed: Tuesday, 4 February 2025 6:02:25 PM
Project: C:\Users\MGrierson\TTM\2024 Synergy Projects - Documents\TotalSynergy\24BRT0224 Benowa Gardens - 203 Ashmore Road Benowa\6 - Analysis\241125 - Update\24BRT0224 SA01 E.sip9

MOVEMENT SUMMARY

Site: 101 [2028_BG+DEV_THU_PM (Site Folder: Ashmore Road - Carrara Street)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 95 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Ashmore Rd														
5	T1	1025	1.3	1079	1.3	0.414	7.4	LOS A	11.1	78.9	0.49	0.44	0.49	50.6
6	R2	461	0.0	485	0.0	*0.886	46.1	LOS D	19.4	135.5	1.00	1.08	1.26	26.1
6u	U	12	0.0	13	0.0	0.886	47.2	LOS D	19.4	135.5	1.00	1.08	1.26	23.4
Approach		1498	0.9	1577	0.9	0.886	19.6	LOS B	19.4	135.5	0.65	0.64	0.73	39.5
North: Carrara St														
7	L2	309	0.0	325	0.0	0.749	52.8	LOS D	8.5	59.7	1.00	0.88	1.16	24.2
9	R2	25	0.0	26	0.0	*0.749	52.8	LOS D	8.5	59.7	1.00	0.88	1.16	27.5
Approach		334	0.0	352	0.0	0.749	52.8	LOS D	8.5	59.7	1.00	0.88	1.16	24.5
West: Ashmore Rd														
10	L2	23	0.0	24	0.0	0.025	12.3	LOS B	0.4	2.6	0.51	0.65	0.51	46.0
11	T1	1159	1.0	1220	1.0	*0.822	32.1	LOS C	28.1	198.1	0.96	0.93	1.05	33.2
Approach		1182	1.0	1244	1.0	0.822	31.7	LOS C	28.1	198.1	0.95	0.92	1.04	33.4
All Vehicles		3014	0.8	3173	0.8	0.886	28.1	LOS C	28.1	198.1	0.81	0.78	0.90	34.7

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Carrara St												
P3	Full	50	53	41.8	LOS E	0.1	0.1	0.94	0.94	206.3	213.9	1.04
West: Ashmore Rd												
P4	Full	50	53	41.8	LOS E	0.1	0.1	0.94	0.94	213.9	223.8	1.05
All Pedestrians		100	105	41.8	LOS E	0.1	0.1	0.94	0.94	210.1	218.9	1.04

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

MOVEMENT SUMMARY

Site: 101 [2028_BG+DEV_SAT_AM (Site Folder: Ashmore Road - Carrara Street)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 95 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Ashmore Rd														
5	T1	813	1.3	856	1.3	0.329	6.9	LOS A	8.2	57.9	0.45	0.40	0.45	51.2
6	R2	283	0.0	298	0.0	*0.657	29.4	LOS C	10.3	72.3	0.92	0.89	0.92	32.5
6u	U	53	0.0	56	0.0	0.657	30.5	LOS C	10.3	72.3	0.92	0.89	0.92	29.6
Approach		1149	1.0	1209	1.0	0.657	13.5	LOS B	10.3	72.3	0.59	0.54	0.59	44.0
North: Carrara St														
7	L2	164	0.0	173	0.0	0.384	48.2	LOS D	4.0	27.9	0.96	0.77	0.96	25.5
9	R2	7	0.0	7	0.0	*0.384	48.2	LOS D	4.0	27.9	0.96	0.77	0.96	28.8
Approach		171	0.0	180	0.0	0.384	48.2	LOS D	4.0	27.9	0.96	0.77	0.96	25.7
West: Ashmore Rd														
10	L2	16	0.0	17	0.0	0.018	12.3	LOS B	0.3	1.8	0.51	0.65	0.51	46.0
11	T1	1167	1.0	1228	1.0	*0.823	32.3	LOS C	28.2	199.0	0.96	0.93	1.05	33.1
Approach		1183	1.0	1245	1.0	0.823	32.0	LOS C	28.2	199.0	0.95	0.93	1.05	33.3
All Vehicles		2503	0.9	2635	0.9	0.823	24.6	LOS C	28.2	199.0	0.79	0.74	0.83	36.6

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Carrara St												
P3	Full	50	53	41.8	LOS E	0.1	0.1	0.94	0.94	206.3	213.9	1.04
West: Ashmore Rd												
P4	Full	50	53	41.8	LOS E	0.1	0.1	0.94	0.94	213.9	223.8	1.05
All Pedestrians		100	105	41.8	LOS E	0.1	0.1	0.94	0.94	210.1	218.9	1.04

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

MOVEMENT SUMMARY

Site: 101 [2038_BG_THU_PM (Site Folder: Ashmore Road - Carrara Street)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 95 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Ashmore Rd														
5	T1	1190	1.3	1253	1.3	0.481	7.9	LOS A	13.8	97.8	0.52	0.47	0.52	50.0
6	R2	317	0.0	334	0.0	*0.623	28.4	LOS C	10.1	71.0	0.91	0.88	0.91	33.0
6u	U	14	0.0	15	0.0	0.623	29.6	LOS C	10.1	71.0	0.91	0.88	0.91	30.1
Approach		1521	1.1	1601	1.1	0.623	12.4	LOS B	13.8	97.8	0.61	0.56	0.61	45.2
North: Carrara St														
7	L2	286	0.0	301	0.0	0.689	51.3	LOS D	7.6	53.5	1.00	0.84	1.09	24.6
9	R2	21	0.0	22	0.0	*0.689	51.3	LOS D	7.6	53.5	1.00	0.84	1.09	27.9
Approach		307	0.0	323	0.0	0.689	51.3	LOS D	7.6	53.5	1.00	0.84	1.09	24.9
West: Ashmore Rd														
10	L2	27	0.0	28	0.0	0.030	12.3	LOS B	0.4	3.0	0.51	0.66	0.51	46.0
11	T1	1217	1.0	1281	1.0	*0.865	36.7	LOS D	32.1	226.5	0.98	1.00	1.14	31.2
Approach		1244	1.0	1309	1.0	0.865	36.2	LOS D	32.1	226.5	0.97	1.00	1.13	31.5
All Vehicles		3072	0.9	3234	0.9	0.865	25.9	LOS C	32.1	226.5	0.79	0.76	0.87	35.9

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Carrara St												
P3	Full	50	53	41.8	LOS E	0.1	0.1	0.94	0.94	206.3	213.9	1.04
West: Ashmore Rd												
P4	Full	50	53	41.8	LOS E	0.1	0.1	0.94	0.94	213.9	223.8	1.05
All Pedestrians		100	105	41.8	LOS E	0.1	0.1	0.94	0.94	210.1	218.9	1.04

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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Project: C:\Users\MGrierson\TTM\2024 Synergy Projects - Documents\TotalSynergy\24BRT0224 Benowa Gardens - 203 Ashmore Road Benowa\6 - Analysis\241125 - Update\24BRT0224 SA01 E.sip9

MOVEMENT SUMMARY

Site: 101 [2038_BG_SAT_AM (Site Folder: Ashmore Road - Carrara Street)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 95 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Ashmore Rd														
5	T1	944	1.3	994	1.3	0.382	7.2	LOS A	10.0	70.5	0.47	0.42	0.47	50.8
6	R2	223	0.0	235	0.0	*0.568	26.9	LOS C	8.8	61.3	0.89	0.85	0.89	33.7
6u	U	62	0.0	65	0.0	0.568	28.1	LOS C	8.8	61.3	0.89	0.85	0.89	30.7
Approach		1229	1.0	1294	1.0	0.568	11.8	LOS B	10.0	70.5	0.57	0.52	0.57	45.6
North: Carrara St														
7	L2	150	0.0	158	0.0	0.352	48.0	LOS D	3.6	25.5	0.96	0.77	0.96	25.6
9	R2	7	0.0	7	0.0	*0.352	48.0	LOS D	3.6	25.5	0.96	0.77	0.96	28.9
Approach		157	0.0	165	0.0	0.352	48.0	LOS D	3.6	25.5	0.96	0.77	0.96	25.8
West: Ashmore Rd														
10	L2	18	0.0	19	0.0	0.020	12.3	LOS B	0.3	2.0	0.51	0.65	0.51	46.0
11	T1	1261	1.0	1327	1.0	*0.890	40.7	LOS D	35.0	247.5	1.00	1.06	1.21	29.7
Approach		1279	1.0	1346	1.0	0.890	40.3	LOS D	35.0	247.5	0.99	1.05	1.20	29.8
All Vehicles		2665	1.0	2805	1.0	0.890	27.6	LOS C	35.0	247.5	0.79	0.79	0.89	35.1

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Carrara St												
P3	Full	50	53	41.8	LOS E	0.1	0.1	0.94	0.94	206.3	213.9	1.04
West: Ashmore Rd												
P4	Full	50	53	41.8	LOS E	0.1	0.1	0.94	0.94	213.9	223.8	1.05
All Pedestrians		100	105	41.8	LOS E	0.1	0.1	0.94	0.94	210.1	218.9	1.04

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

MOVEMENT SUMMARY

Site: 101 [2038_BG+DEV_THU_PM (Site Folder: Ashmore Road - Carrara Street)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 95 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Ashmore Rd														
5	T1	1190	1.3	1253	1.3	0.481	7.9	LOS A	13.8	97.8	0.52	0.47	0.52	50.0
6	R2	489	0.0	515	0.0	*0.943	59.6	LOS E	25.3	177.4	1.00	1.16	1.43	22.6
6u	U	14	0.0	15	0.0	0.943	60.7	LOS E	25.3	177.4	1.00	1.16	1.43	20.0
Approach		1693	0.9	1782	0.9	0.943	23.3	LOS C	25.3	177.4	0.66	0.68	0.79	37.2
North: Carrara St														
7	L2	344	0.0	362	0.0	0.832	56.4	LOS E	10.0	69.8	1.00	0.94	1.29	23.3
9	R2	27	0.0	28	0.0	*0.832	56.4	LOS E	10.0	69.8	1.00	0.94	1.29	26.5
Approach		371	0.0	391	0.0	0.832	56.4	LOS E	10.0	69.8	1.00	0.94	1.29	23.6
West: Ashmore Rd														
10	L2	27	0.0	28	0.0	0.030	12.3	LOS B	0.4	3.0	0.51	0.66	0.51	46.0
11	T1	1317	1.0	1386	1.0	*0.935	51.2	LOS D	41.8	294.8	1.00	1.17	1.34	26.2
Approach		1344	1.0	1415	1.0	0.935	50.5	LOS D	41.8	294.8	0.99	1.16	1.32	26.5
All Vehicles		3408	0.9	3587	0.9	0.943	37.6	LOS D	41.8	294.8	0.83	0.89	1.06	30.4

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Carrara St												
P3	Full	50	53	41.8	LOS E	0.1	0.1	0.94	0.94	206.3	213.9	1.04
West: Ashmore Rd												
P4	Full	50	53	41.8	LOS E	0.1	0.1	0.94	0.94	213.9	223.8	1.05
All Pedestrians		100	105	41.8	LOS E	0.1	0.1	0.94	0.94	210.1	218.9	1.04

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

MOVEMENT SUMMARY

Site: 101 [2038_BG+DEV_SAT_AM (Site Folder: Ashmore Road - Carrara Street)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 95 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Ashmore Rd														
5	T1	944	1.3	994	1.3	0.382	7.2	LOS A	10.0	70.5	0.47	0.42	0.47	50.8
6	R2	300	0.0	316	0.0	*0.711	31.4	LOS C	11.4	79.6	0.94	0.92	0.97	31.6
6u	U	62	0.0	65	0.0	0.711	32.5	LOS C	11.4	79.6	0.94	0.92	0.97	28.7
Approach		1306	1.0	1375	1.0	0.711	14.0	LOS B	11.4	79.6	0.60	0.56	0.61	43.7
North: Carrara St														
7	L2	179	0.0	188	0.0	0.420	48.4	LOS D	4.4	30.7	0.97	0.78	0.97	25.5
9	R2	8	0.0	8	0.0	*0.420	48.4	LOS D	4.4	30.7	0.97	0.78	0.97	28.7
Approach		187	0.0	197	0.0	0.420	48.4	LOS D	4.4	30.7	0.97	0.78	0.97	25.6
West: Ashmore Rd														
10	L2	18	0.0	19	0.0	0.020	12.3	LOS B	0.3	2.0	0.51	0.65	0.51	46.0
11	T1	1334	1.0	1404	1.0	*0.942	53.3	LOS D	42.9	303.0	1.00	1.19	1.36	25.6
Approach		1352	1.0	1423	1.0	0.942	52.7	LOS D	42.9	303.0	0.99	1.18	1.35	25.8
All Vehicles		2845	0.9	2995	0.9	0.942	34.7	LOS C	42.9	303.0	0.81	0.87	0.98	31.7

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Carrara St												
P3	Full	50	53	41.8	LOS E	0.1	0.1	0.94	0.94	206.3	213.9	1.04
West: Ashmore Rd												
P4	Full	50	53	41.8	LOS E	0.1	0.1	0.94	0.94	213.9	223.8	1.05
All Pedestrians		100	105	41.8	LOS E	0.1	0.1	0.94	0.94	210.1	218.9	1.04

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

MOVEMENT SUMMARY

Site: 101v [2028_BG+DEV_THU_PM (Site Folder: Ashmore Road - Southern Access)]

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

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
North: South Access														
7	L2	173	3.4	182	3.4	0.182	6.9	LOS A	0.7	5.4	0.50	0.71	0.50	41.0
Approach		173	3.4	182	3.4	0.182	6.9	LOS A	0.7	5.4	0.50	0.71	0.50	41.0
West: Ashmore Rd														
10	L2	211	2.7	222	2.7	0.122	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	36.1
11	T1	898	3.0	945	3.0	0.247	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1109	2.9	1167	2.9	0.247	1.1	NA	0.0	0.0	0.00	0.11	0.00	55.6
All Vehicles		1282	3.0	1349	3.0	0.247	1.9	NA	0.7	5.4	0.07	0.19	0.07	53.1

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

MOVEMENT SUMMARY

Site: 101v [2028_BG+DEV_SAT_AM (Site Folder: Ashmore Road - Southern Access)]

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

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
North: South Access														
7	L2	126	1.0	133	1.0	0.137	7.0	LOS A	0.5	3.8	0.51	0.72	0.51	41.3
Approach		126	1.0	133	1.0	0.137	7.0	LOS A	0.5	3.8	0.51	0.72	0.51	41.3
West: Ashmore Rd														
10	L2	125	1.0	132	1.0	0.071	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	36.1
11	T1	993	1.0	1045	1.0	0.270	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1118	1.0	1177	1.0	0.270	0.6	NA	0.0	0.0	0.00	0.06	0.00	57.4
All Vehicles		1244	1.0	1309	1.0	0.270	1.3	NA	0.5	3.8	0.05	0.13	0.05	55.3

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

MOVEMENT SUMMARY

Site: 101v [2038_BG+DEV_THU_PM (Site Folder: Ashmore Road - Southern Access)]

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

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
North: South Access														
7	L2	173	3.4	182	3.4	0.200	7.4	LOS A	0.8	5.8	0.54	0.76	0.54	40.2
Approach		173	3.4	182	3.4	0.200	7.4	LOS A	0.8	5.8	0.54	0.76	0.54	40.2
West: Ashmore Rd														
10	L2	211	2.7	222	2.7	0.122	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	36.1
11	T1	1042	3.0	1097	3.0	0.287	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		1253	3.0	1319	3.0	0.287	1.0	NA	0.0	0.0	0.00	0.10	0.00	56.1
All Vehicles		1426	3.0	1501	3.0	0.287	1.7	NA	0.8	5.8	0.07	0.18	0.07	53.6

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

MOVEMENT SUMMARY

Site: 101v [2038_BG+DEV_SAT_AM (Site Folder: Ashmore Road - Southern Access)]

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

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
North: South Access														
7	L2	126	1.0	133	1.0	0.153	7.6	LOS A	0.6	4.2	0.55	0.77	0.55	40.5
Approach		126	1.0	133	1.0	0.153	7.6	LOS A	0.6	4.2	0.55	0.77	0.55	40.5
West: Ashmore Rd														
10	L2	125	1.0	132	1.0	0.071	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	36.1
11	T1	1153	1.0	1214	1.0	0.313	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		1278	1.0	1345	1.0	0.313	0.6	NA	0.0	0.0	0.00	0.06	0.00	57.7
All Vehicles		1404	1.0	1478	1.0	0.313	1.2	NA	0.6	4.2	0.05	0.12	0.05	55.7

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

MOVEMENT SUMMARY

Site: 101v [2028_BG+DEV_THU_PM (Site Folder: Carrara Street - Northern Access)]

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

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: North Access														
1	L2	415	0.5	437	0.5	0.637	8.8	LOS A	5.5	38.7	0.62	0.96	1.13	17.4
3	R2	104	0.0	109	0.0	0.637	17.7	LOS C	5.5	38.7	0.62	0.96	1.13	36.5
Approach		519	0.4	546	0.4	0.637	10.6	LOS B	5.5	38.7	0.62	0.96	1.13	21.3
East: Carrara St														
4	L2	285	1.2	300	1.2	0.350	5.6	LOS A	0.0	0.0	0.00	0.27	0.00	47.9
5	T1	346	0.4	364	0.4	0.350	0.1	LOS A	0.0	0.0	0.00	0.27	0.00	53.5
Approach		631	0.7	664	0.7	0.350	2.6	NA	0.0	0.0	0.00	0.27	0.00	50.9
West: Carrara St														
11	T1	144	0.4	152	0.4	0.505	5.6	LOS A	4.2	29.5	0.72	0.73	1.12	41.6
12	R2	348	0.0	366	0.0	0.505	10.9	LOS B	4.2	29.5	0.72	0.73	1.12	25.6
Approach		492	0.1	518	0.1	0.505	9.3	NA	4.2	29.5	0.72	0.73	1.12	31.5
All Vehicles		1642	0.5	1728	0.5	0.637	7.1	NA	5.5	38.7	0.41	0.62	0.69	34.4

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

MOVEMENT SUMMARY

Site: 101v [2028_BG+DEV_SAT_AM (Site Folder: Carrara Street - Northern Access)]

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

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: North Access														
1	L2	428	0.5	451	0.5	0.434	5.1	LOS A	2.5	17.6	0.31	0.59	0.33	20.4
3	R2	75	0.0	79	0.0	0.434	9.9	LOS A	2.5	17.6	0.31	0.59	0.33	42.6
Approach		503	0.4	529	0.4	0.434	5.8	LOS A	2.5	17.6	0.31	0.59	0.33	23.8
East: Carrara St														
4	L2	176	1.0	185	1.0	0.173	5.6	LOS A	0.0	0.0	0.00	0.34	0.00	46.7
5	T1	133	1.0	140	1.0	0.173	0.0	LOS A	0.0	0.0	0.00	0.34	0.00	52.2
Approach		309	1.0	325	1.0	0.173	3.2	NA	0.0	0.0	0.00	0.34	0.00	49.0
West: Carrara St														
11	T1	108	0.4	114	0.4	0.320	1.4	LOS A	1.8	12.8	0.48	0.51	0.48	47.5
12	R2	326	0.0	343	0.0	0.320	6.6	LOS A	1.8	12.8	0.48	0.51	0.48	31.1
Approach		434	0.1	457	0.1	0.320	5.3	NA	1.8	12.8	0.48	0.51	0.48	36.6
All Vehicles		1246	0.5	1312	0.5	0.434	5.0	NA	2.5	17.6	0.30	0.50	0.30	33.9

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

MOVEMENT SUMMARY

Site: 101v [2038_BG+DEV_THU_PM (Site Folder: Carrara Street - Northern Access)]

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

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: North Access														
1	L2	415	0.5	437	0.5	0.699	10.4	LOS B	6.4	45.2	0.67	1.11	1.43	16.4
3	R2	104	0.0	109	0.0	0.699	21.0	LOS C	6.4	45.2	0.67	1.11	1.43	34.4
Approach		519	0.4	546	0.4	0.699	12.5	LOS B	6.4	45.2	0.67	1.11	1.43	20.1
East: Carrara St														
4	L2	285	1.2	300	1.2	0.380	5.6	LOS A	0.0	0.0	0.00	0.25	0.00	48.2
5	T1	402	0.4	423	0.4	0.380	0.1	LOS A	0.0	0.0	0.00	0.25	0.00	54.0
Approach		687	0.7	723	0.7	0.380	2.4	NA	0.0	0.0	0.00	0.25	0.00	51.5
West: Carrara St														
11	T1	168	0.4	177	0.4	0.559	6.8	LOS A	5.0	35.1	0.79	0.74	1.32	40.1
12	R2	348	0.0	366	0.0	0.559	12.2	LOS B	5.0	35.1	0.79	0.74	1.32	24.3
Approach		516	0.1	543	0.1	0.559	10.4	NA	5.0	35.1	0.79	0.74	1.32	30.7
All Vehicles		1722	0.5	1813	0.5	0.699	7.8	NA	6.4	45.2	0.44	0.65	0.83	34.0

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

MOVEMENT SUMMARY

Site: 101v [2038_BG+DEV_SAT_AM (Site Folder: Carrara Street - Northern Access)]

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

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: North Access														
1	L2	428	0.5	451	0.5	0.447	5.4	LOS A	2.8	19.6	0.35	0.61	0.39	20.2
3	R2	75	0.0	79	0.0	0.447	10.6	LOS B	2.8	19.6	0.35	0.61	0.39	42.1
Approach		503	0.4	529	0.4	0.447	6.2	LOS A	2.8	19.6	0.35	0.61	0.39	23.5
East: Carrara St														
4	L2	176	1.0	185	1.0	0.184	5.6	LOS A	0.0	0.0	0.00	0.31	0.00	47.1
5	T1	154	1.0	162	1.0	0.184	0.0	LOS A	0.0	0.0	0.00	0.31	0.00	52.6
Approach		330	1.0	347	1.0	0.184	3.0	NA	0.0	0.0	0.00	0.31	0.00	49.6
West: Carrara St														
11	T1	126	0.4	133	0.4	0.336	1.6	LOS A	2.0	13.7	0.51	0.50	0.51	47.6
12	R2	326	0.0	343	0.0	0.336	6.8	LOS A	2.0	13.7	0.51	0.50	0.51	31.2
Approach		452	0.1	476	0.1	0.336	5.3	NA	2.0	13.7	0.51	0.50	0.51	37.3
All Vehicles		1285	0.5	1353	0.5	0.447	5.0	NA	2.8	19.6	0.31	0.50	0.33	34.3

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