SARGEANT PLANNING

Attachment 5 – Traffic Impact Assessment, prepared by Rytenskild Traffic Engineering dated 13 November 2025.

November 2025

rytenskild
Traffic Engineering

TRAFFIC IMPACT ASSESSMENT

PROPOSED COMMERCIAL / RETAIL DEVELOPMENT

CORNER OF BAGOT ROAD AND FITZER DRIVE, LUDMILLA

Prepared for

CITILAND CORPORATION PTY LTD

13 NOVEMBER 2025

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TABLE OF CONTENTS

1.0 INTRODUCTION

Rytenskild Traffic Engineering (RTE) has been engaged by Citiland Corporation Pty Ltd to prepare a Traffic Impact Assessment its proposed retail centre project, at Ludmilla.

This report is intended to support ongoing consultation with the Northern Territory Government (NTG), including the Department of Infrastructure, Planning and Logistics (DIPL), and forms part of the planning and approvals process for the proposed redevelopment.

The assessment considers both the overall Masterplan for the site and the Stage 1 development, which comprises the initial phase of the broader mixed-use commercial precinct. The Masterplan identifies the ultimate development intent for the site, including provision for light industrial and commercial uses, while Stage 1 is located in the north-eastern corner of the site and involves construction of the supermarket-based retail centre and associated uses.

The site is located along Bagot Road, a significant arterial road within the NT road network. This report assesses the traffic impacts associated with the Masterplan and Stage 1 development on the surrounding road network, including key intersections at Bagot Road, Fitzer Drive, Dick Ward Drive and Totem Road. It also addresses on-site matters such as car parking design, access arrangements and service vehicle operations, in accordance with the requirements of the Northern Territory Planning Scheme (2007).

2.0 SUBJECT SITE

The subject site is located approximately ten kilometres north east of the Darwin city centre, and directly west of the Darwin International Airport.

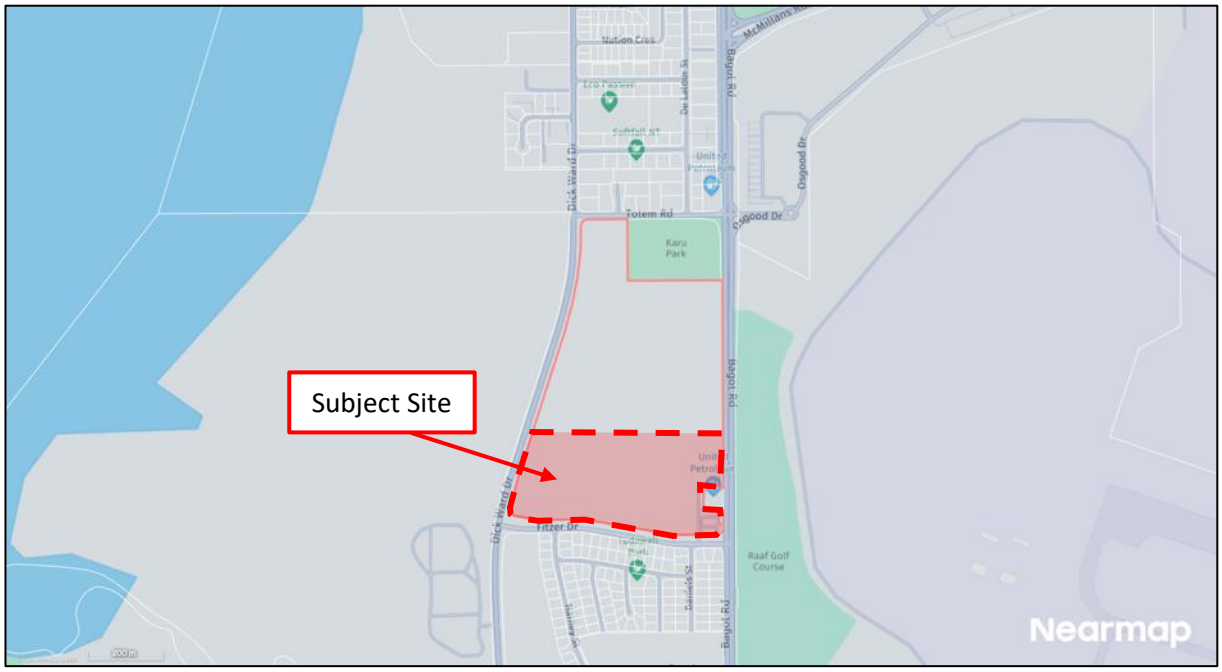
As shown in Figure 2.1, the subject site comprises the southern portion of an overall vacant property, which has frontage to Totem Road. It has frontage to Bagot Road, Fitzer Drive and Dick Ward Drive.

To the south of Fitzer Drive is an existing residential neighbourhood.

There is a light industrial area located to the north of Totem Road. The land located west of the subject site is generally undeveloped, with the exception of a residential community which is located at the southern end of the subject site and on the western side of Dick Ward Drive.

A historical site is located adjacent to the north eastern corner of the site.

On the eastern side of Bagot Road are the Darwin International Airport and a number of other commercial uses including a golf course. A service station and McDonald's restaurant are located adjacent to the south east corner of the site.



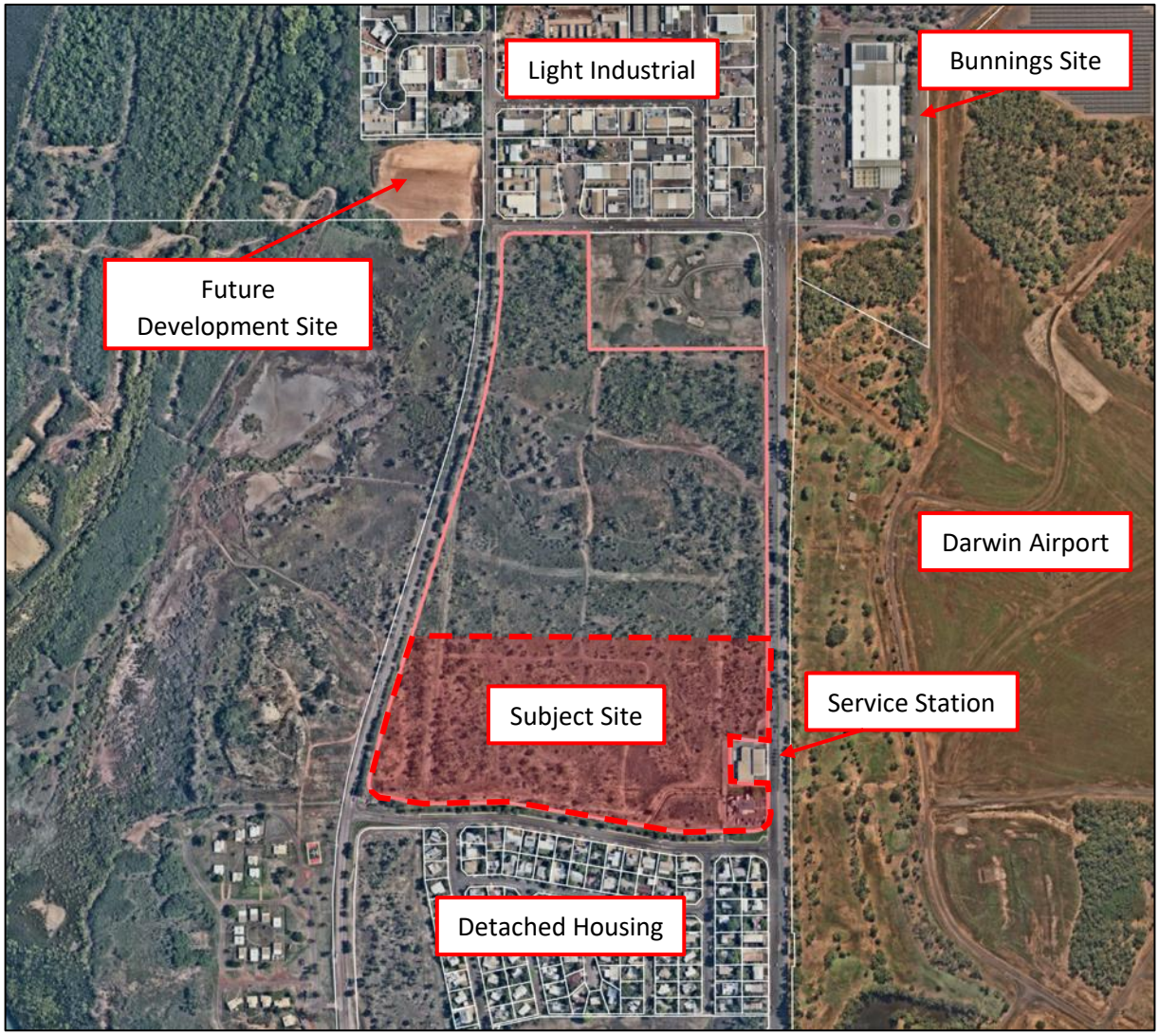


FIGURE 2.1 – LOCATION OF SUBJECT SITE

3.0 SURROUNDING ROAD NETWORK

3.1 Local Road Network

As shown in Figure 3.1, the subject site is bounded by the following roads:

- Bagot Road;
- Dick Ward Drive;
- Totem Road;
- Fitzer Drive.

Bagot Road is a major arterial road providing for through travel between the Stuart Highway to the south and the northern suburbs of Darwin, including the Darwin Airport.

Bagot Road is generally a six lane divided road with major intersections controlled by traffic signals or grade separated ramps, however, there are some priority-controlled intersections located in the vicinity of the site including the Fitzer Drive intersection.

Dick Ward Drive functions as a two lane Sub-Arterial road and provides for north-south travel between Coconut Grove and Fannie Bay. It is a two lane undivided road with a 70km/h speed limit. Intersections are generally priority controlled with Austroads Type C style turning treatments.

Fitzer Drive is located at the southern end of the subject site. It extends between Bagot Road and Dick Ward drive and functions as a Residential Collector Road. All movements are permitted at the Bagot Road / Fitzer Drive intersection. The Bagot Road / Fitzer Drive intersection does not exhibit any significant congestion levels. However, concern is raised regarding the operation of this intersection (under priority control) considering the function of and volume of traffic on Bagot Road.

To the north of the site, Totem Road extends between Bagot Road and Dick Ward Drive, and functions as an Industrial Collector Road. Its intersection with Dick Ward Drive is a priority T junction, with a dedicated right turning lane provided for traffic turning right into Totem Road. The Bagot Road / Totem Road intersection is controlled by traffic signals, with a 'seagull' style treatment provided for southbound traffic.

Public bus services currently use Dick Ward Drive and Bagot Road. Bus stops in Dick Ward Drive are located in the vicinity of the residential neighbourhood at the southern end of the subject site.

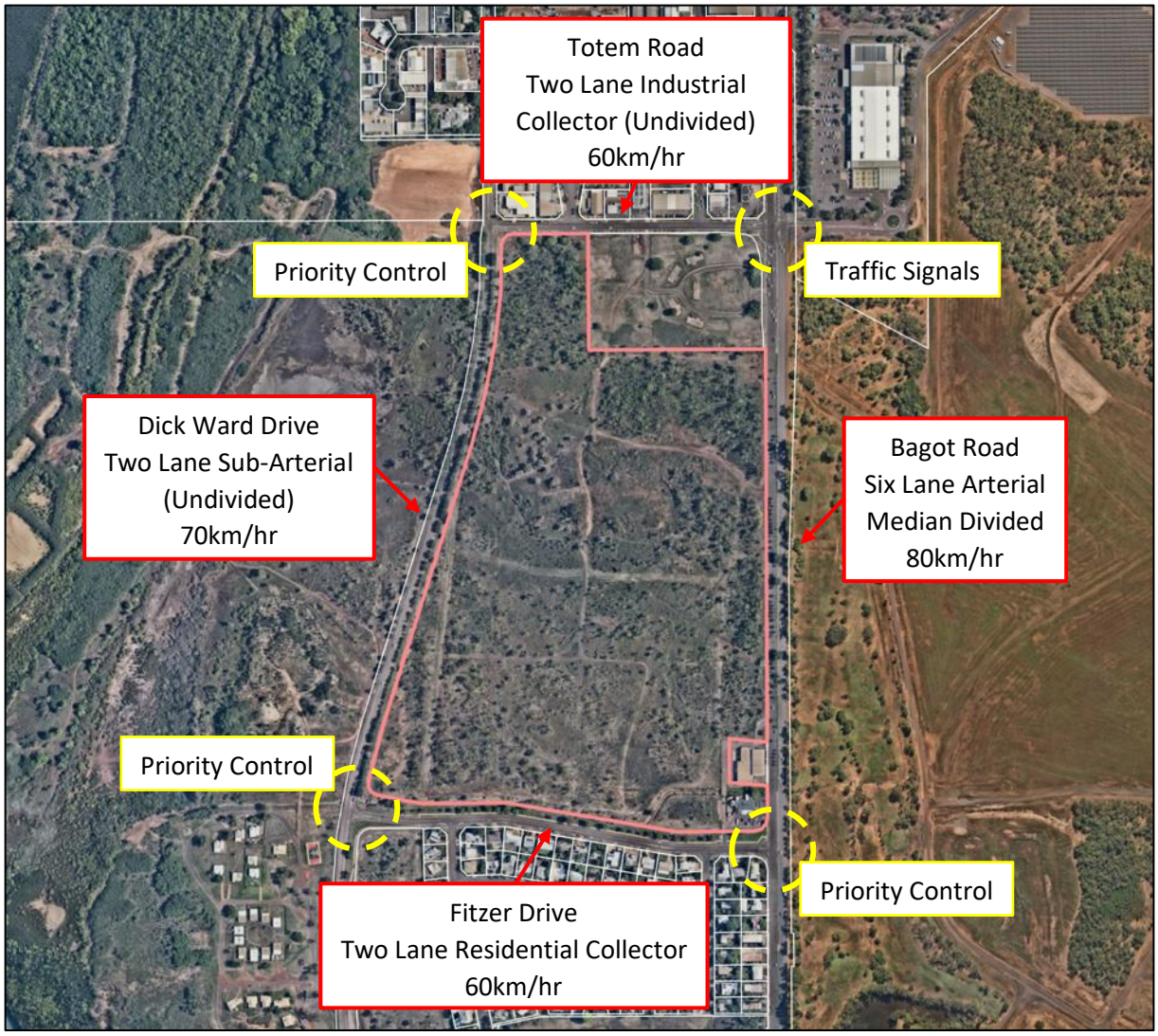


FIGURE 3.1 – EXISTING ROAD NETWORK CHARACTERISTICS

3.2 Surveyed Traffic Volumes

RTE carried out traffic surveys at the following intersections over a typical weekday (Thursday 17th April 2025) and Saturday (19th April 2025).

- Bagot Road / Totem Road;
- Dick Ward Drive / Totem Road;
- Dick Ward Drive / Fitzer Drive;
- Bagot Road / Fitzer Drive.

Traffic count data for the above intersections is shown in Appendix A, and summarised in Figures 3.2 and 3.3.

3.3 Projected Future Traffic Volumes

Based on review of historic and current traffic data within the adjoining network, negligible growth has been observed over time. Accordingly, the assessment has adopted the surveyed 2025 traffic volumes as representative of the design year (2027).

It is noted that a future 10 year background assessment has not been carried out, as historical traffic count data indicates that background traffic growth has been stable with little to no discernible increase. Refer to Section 5.1 for further details.

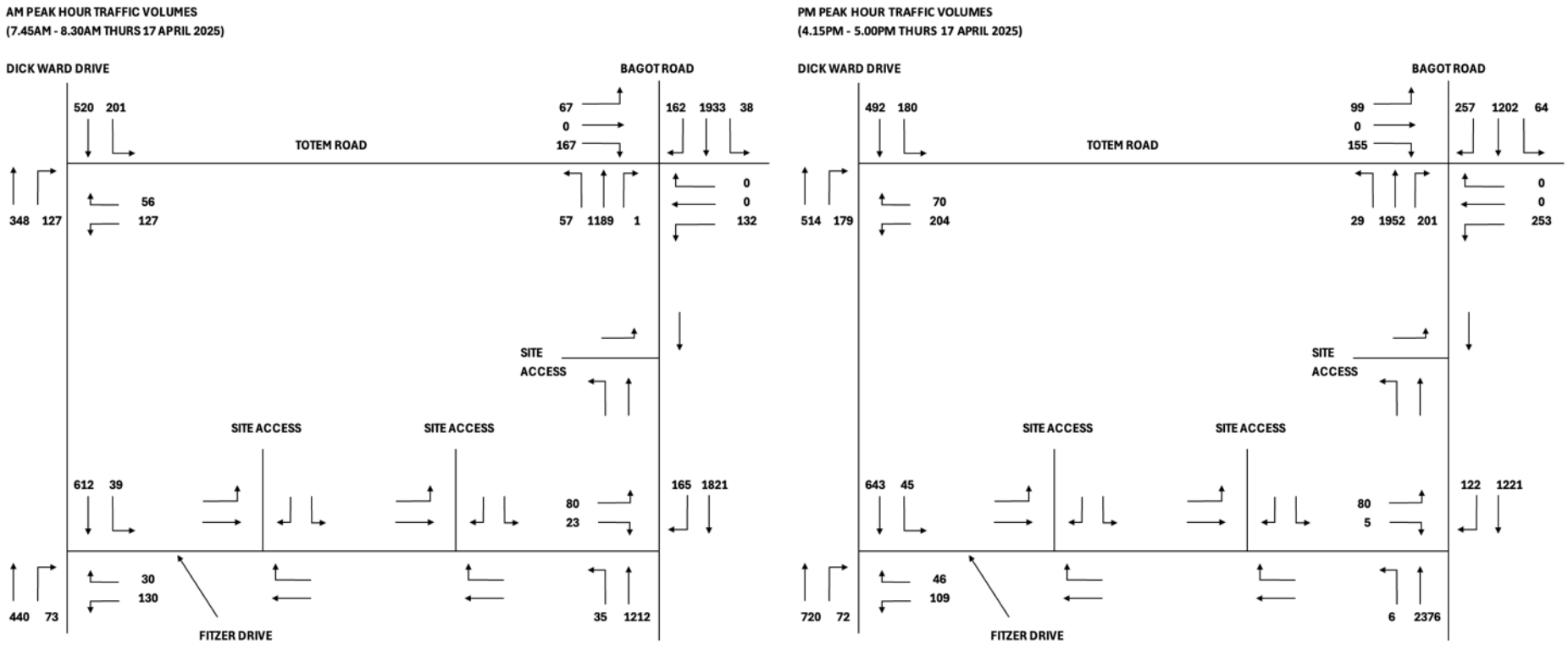


FIGURE 3.2 – SURVEYED PEAK HOUR TRAFFIC VOLUMES (WEEKDAY)

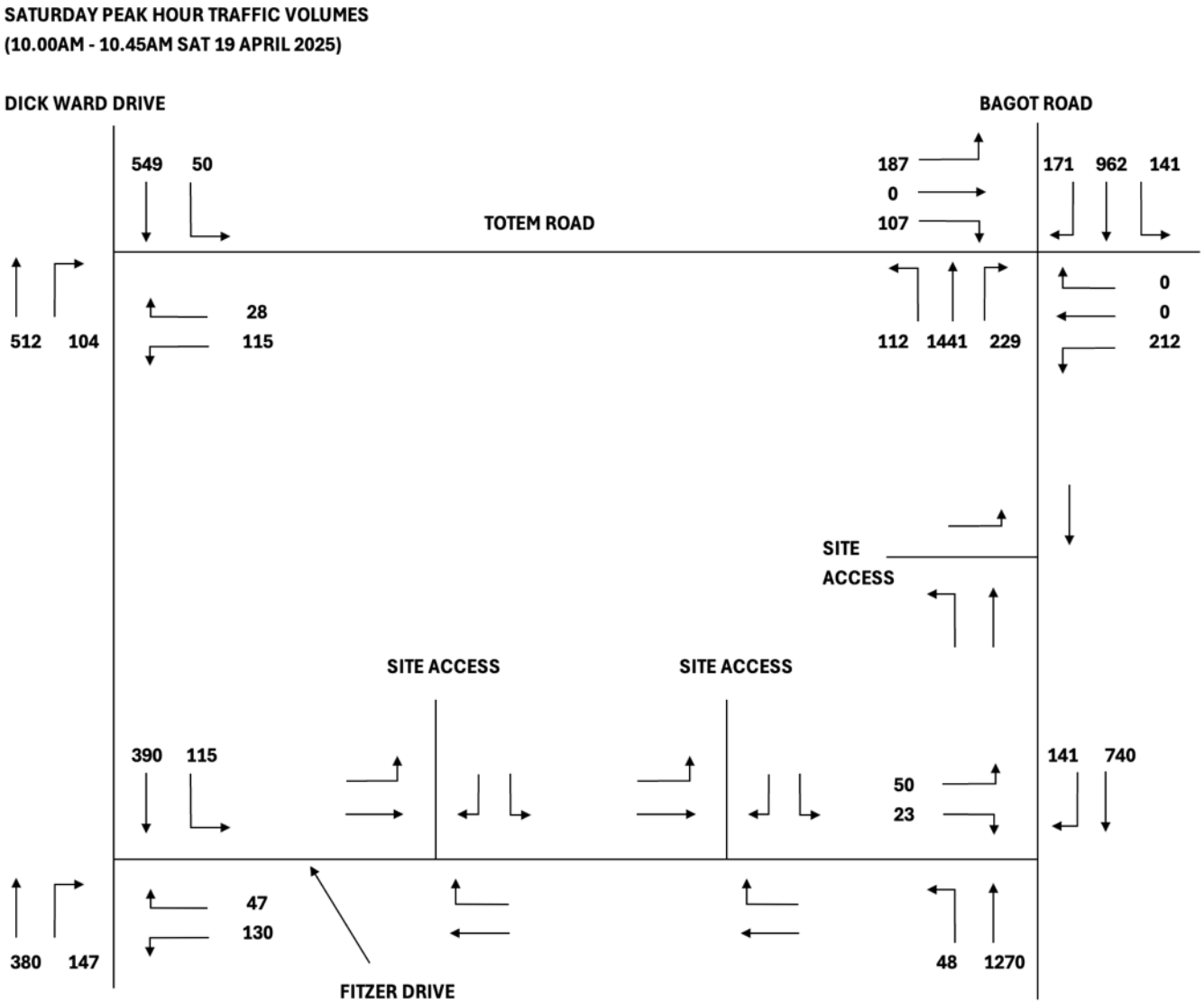


FIGURE 3.3 – SURVEYED PEAK HOUR TRAFFIC VOLUMES (SATURDAY)

4.0 DEVELOPMENT PROPOSAL

The proposed development forms Stage 1 of a broader Masterplan for the site and comprises a mixed-use commercial precinct incorporating a large-format supermarket, specialty retail tenancies, food and drink outlets, and a service station.

The Masterplan establishes the ultimate development intent for the site, providing for a coordinated mix of commercial and light industrial uses supported by shared access, parking, and servicing arrangements. The proposed land use areas for the Masterplan and Stage 1 are summarised in Tables 4.1 and 4.2.

Table 4.1 – Proposed Land Use Areas (Masterplan)

Tenancy / Land Use	Gross Floor Area (m^2)
Shopping Centre	66,573m^2

Table 4.2 – Proposed Land Use Areas (Stage 1)

Tenancy / Land Use	Gross Floor Area (m^2)
Supermarket	4,130m^2
Retail	1,764m^2
Food and Drink	590m^2
Service Station	130m^2
Total:	**6,614m^2**

The Stage 1 layout, located in the north-eastern corner of the site, includes extensive on-site car parking, shaded bays, pedestrian walkways, loading bays, and dedicated service areas. A total of 510 car parking spaces are provided, including 6 accessible bays and 5 motorcycle spaces.

Vehicular access to the site is proposed via an internal access road connecting to both Bagot Road and Dick Ward Drive, with future provision for connection to subsequent stages of the Masterplan.

The proposed Masterplan and Stage 1 site, ground floor, and circulation plans are shown in Figures 4.1 – 4.4.

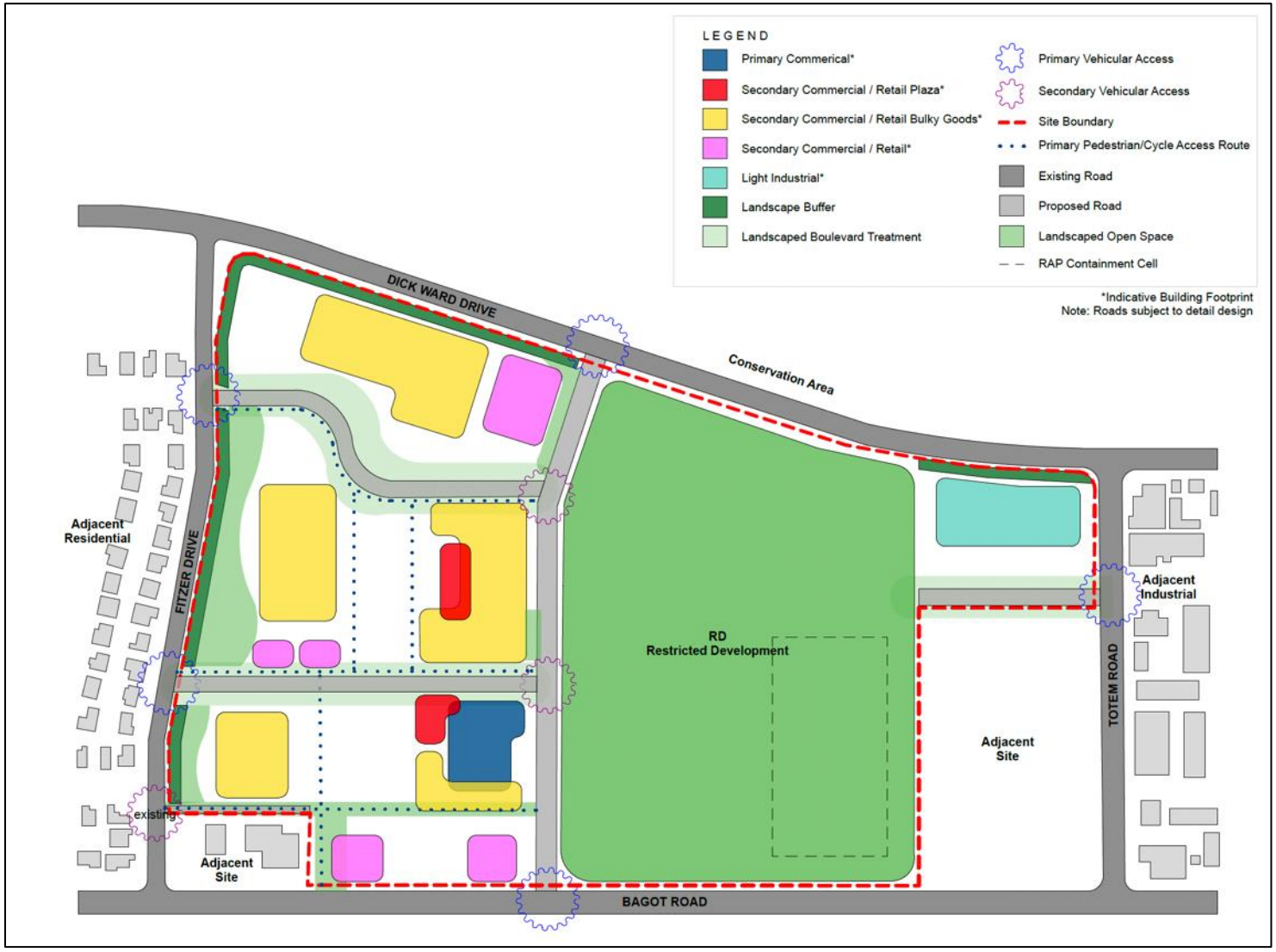


FIGURE 4.1 – PROPOSED MASTER PLAN

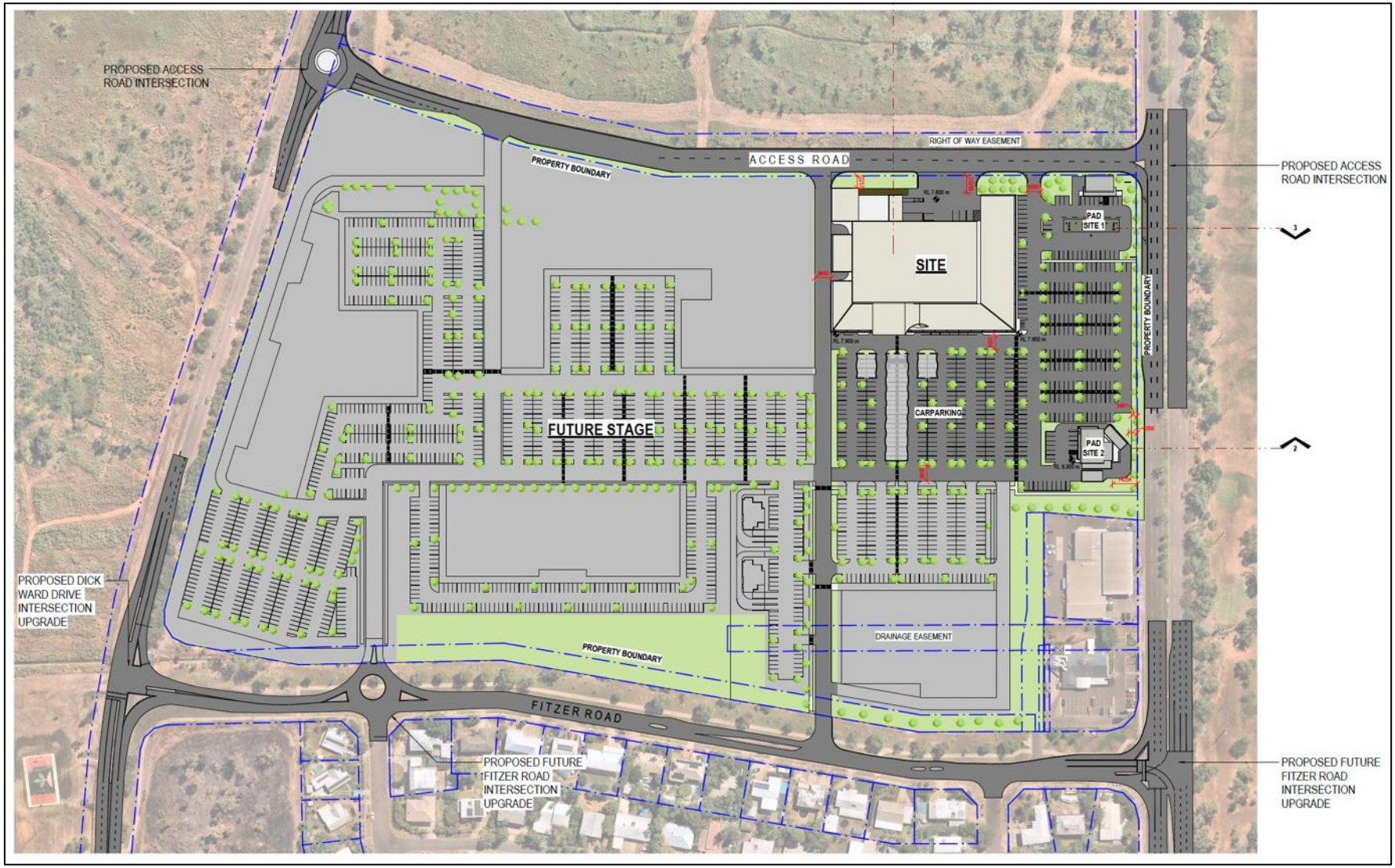


FIGURE 4.2 – PROPOSED SITE PLAN

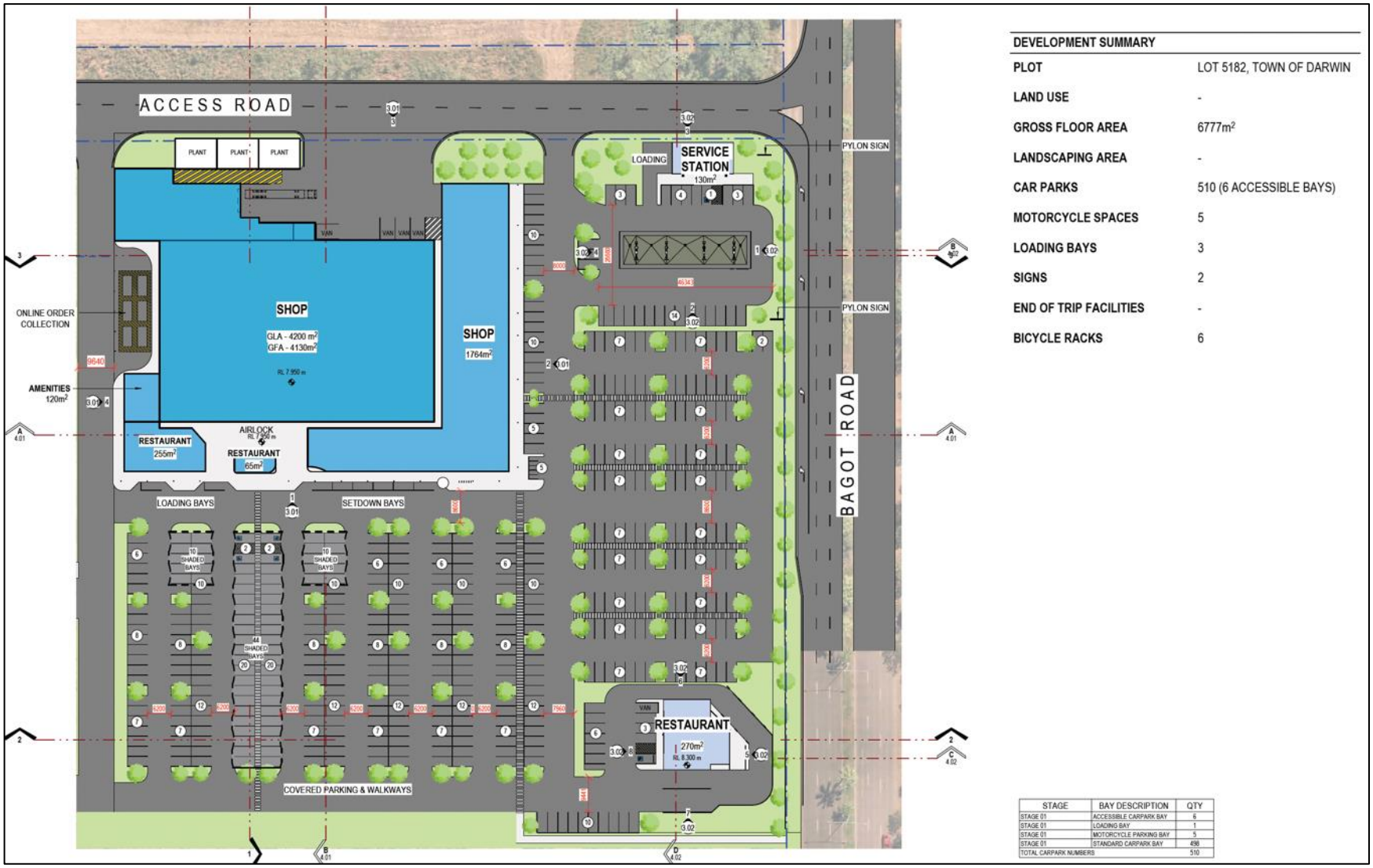


FIGURE 4.3 – PROPOSED GROUND FLOOR PLAN

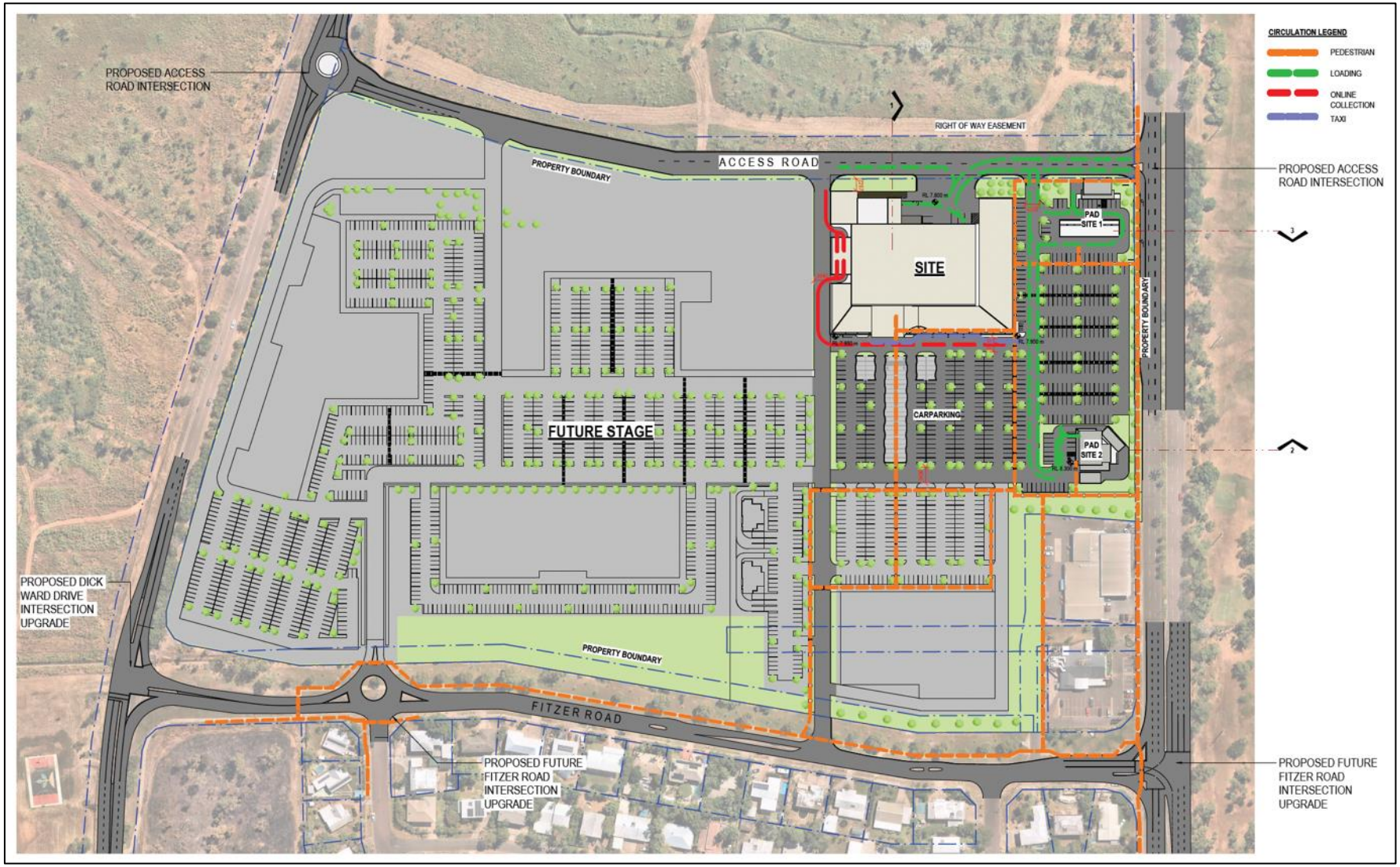


FIGURE 4.4 – PROPOSED CIRCULATION PLAN

5.0 ROAD NETWORK IMPACT

5.1 Required Scope of Assessment

This assessment has been prepared with reference to Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development, which outlines common triggers for requiring traffic impact assessment based on the expected level of additional traffic generated by a development.

According to Austroads, a Traffic Impact Assessment (TIA) may be warranted where a development is expected to generate additional traffic volumes in the order of 5% to 10% of existing traffic, or where a similar increase is expected in the proportion of heavy vehicle traffic.

Given the scale of the proposed development and its access to the arterial road network, a detailed assessment of both Stage 1 and the ultimate Masterplan has been carried out.

The analysis has been based on 2027 design year conditions, representing the expected year of opening. This approach is considered appropriate given the negligible historic traffic growth in the surrounding network and the conservative nature of the modelling, which adds all development traffic to existing volumes without any reduction for linked or diverted trips.

5.2 Development Traffic Estimates

In accordance with Table 5.26 of the Guide to Transport Impact Assessment (Transport for NSW, 2022), the below peak hour traffic generation is applicable to the development:

Shopping Centre:
AM peak hour: 3.34 trips per 100m^2 GFA
PM peak hour: 4.67 trips per 100m^2 GFA

Service Station:
66 trips per 100m^2 GFA

Fast Food Restaurant:
5 trips per 100m^2 GFA

Application of the above rates to the proposed development results in the traffic generation estimates shown in Tables 5.1 and 5.2.

It is noted that the AM peak period of the development is not expected to coincide with the broader commuter traffic peak, as the main trip activity for retail and service uses generally occurs later in the morning. Accordingly, for assessment purposes it has been assumed that only 50% of the estimated morning peak hour traffic generation will overlap with the commuter peak period on the adjacent road network.

Masterplan Development Traffic

For the ultimate masterplan scenario, traffic generation has been estimated using the shopping centre trip rates. These rates are considered appropriate given the scale and mix of uses proposed, including the supermarket, specialty retail, and food and drink outlets. It is noted that the traffic estimates are based on preliminary Gross Floor Area (GFA) measurements derived from the masterplan concept. As such, the figures represent an indicative assessment rather than finalised values, and they are subject to refinement once detailed design and final tenancy layouts are confirmed.

Table 5.1 - Estimated Development Traffic Generation (Masterplan)

Component	Morning Peak Hour			Afternoon Peak Hour		
	In	Out	Total	In	Out	Total
Shopping Centre: 66,573m^2	667	445	1,112	1,244	1,865	3,109

Peak Hour Distribution: AM – 60 / 40, PM – 40 / 60

Stage 1 Development Traffic

For Stage 1, the supermarket and adjacent specialty tenancies are considered part of the Shopping Centre component, while the Service Station (Pad 1) and Fast-Food Restaurant (Pad 2) are treated as separate land uses. It is assumed that 90% of service station traffic represents linked trips associated with the shopping centre, reflecting vehicles already present on-site for other purposes. The estimates for Stage 1 are summarised in Table 5.1.

Table 5.2 - Estimated Development Traffic Generation (Stage 1)

Component	Morning Peak Hour			Afternoon Peak Hour		
	In	Out	Total	In	Out	Total
Shopping Centre: 4,626m^2	62	42	104	116	174	290
Service Station: 285m^2	10	7	17	7	10	17
Fast Food Restaurant: 270m^2	8	5	14	5	8	14
Total:	**81**	**54**	**134**	**128**	**193**	**321**

Peak Hour Distribution: AM – 60 / 40, PM – 40 / 60

5.3 Development Distribution

Based on the surrounding road network and the surveyed traffic volumes, the following trip distribution is considered to be reasonable for the proposal:

To / from the north via Bagot Road	35%
To / from the north via Dick Ward Drive	15%
To / from the south via Bagot Road	25%
To / from the south via Dick Ward Drive	25%

Peak hour development traffic estimates and design volumes for the year 2027, representing both the Stage 1 and Masterplan scenarios, are shown in Figures 5.1 – 5.4.

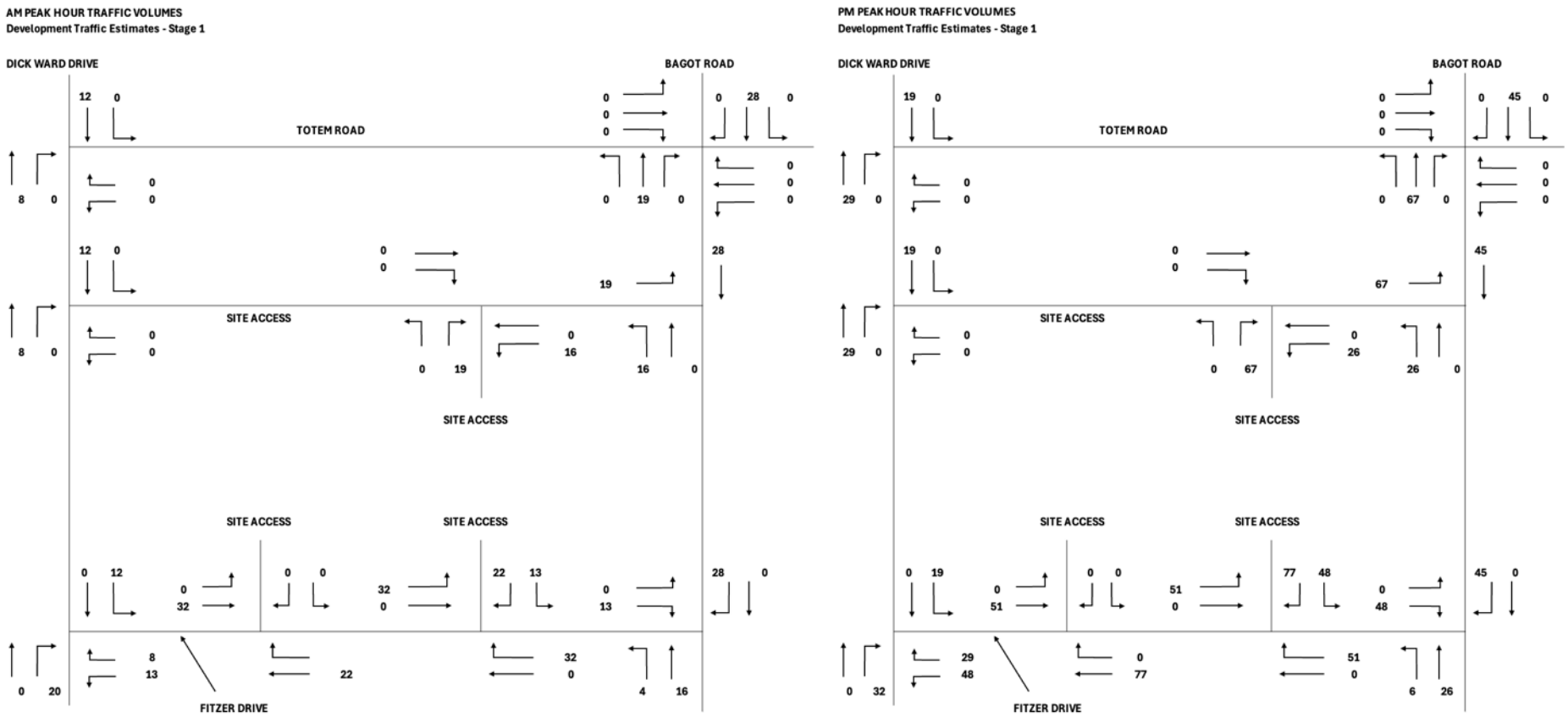


FIGURE 5.1 – DEVELOPMENT PEAK HOUR TRAFFIC ESTIMATES – STAGE 1

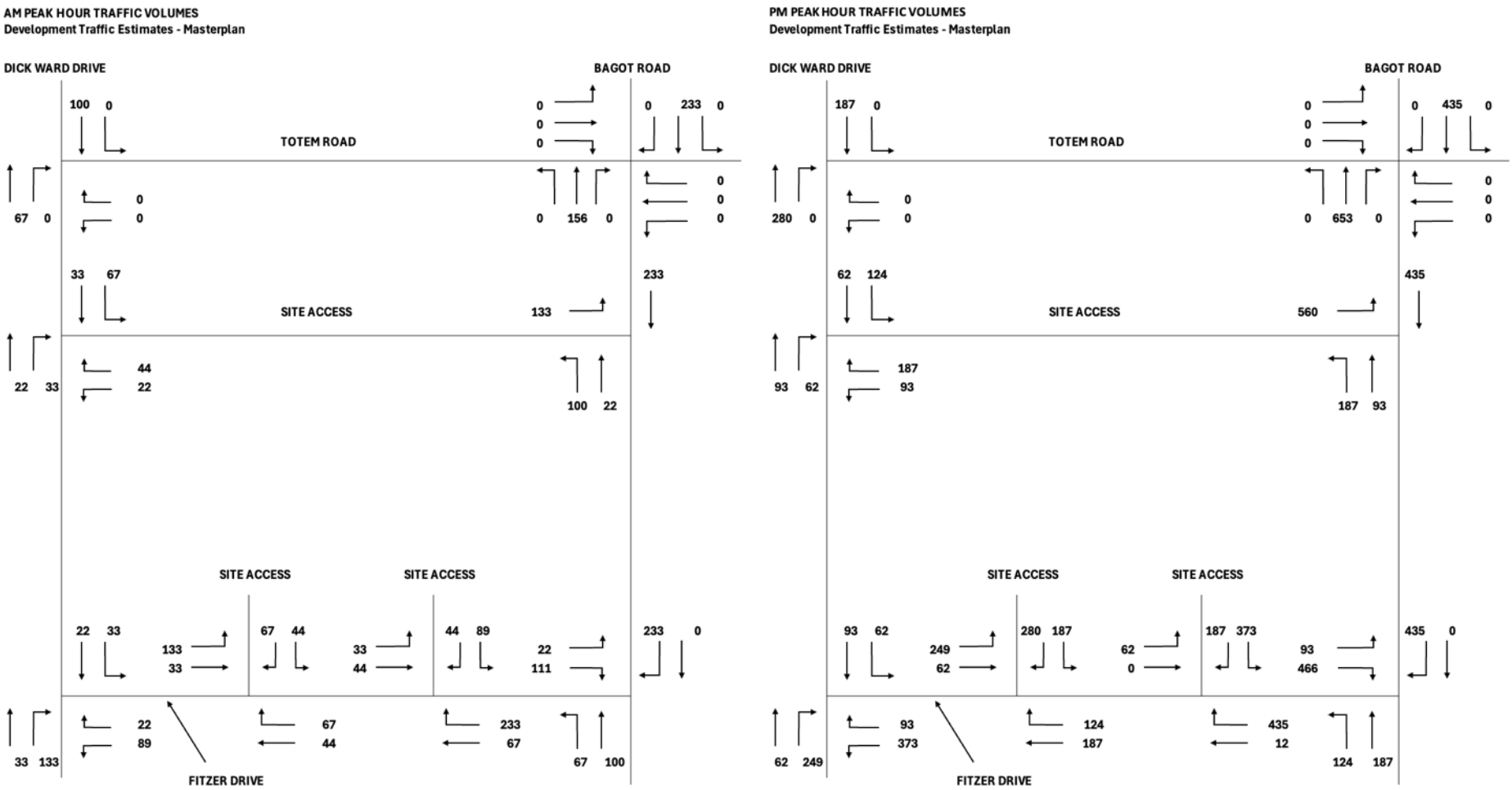


FIGURE 5.2 – DEVELOPMENT PEAK HOUR TRAFFIC ESTIMATES – MASTERPLAN

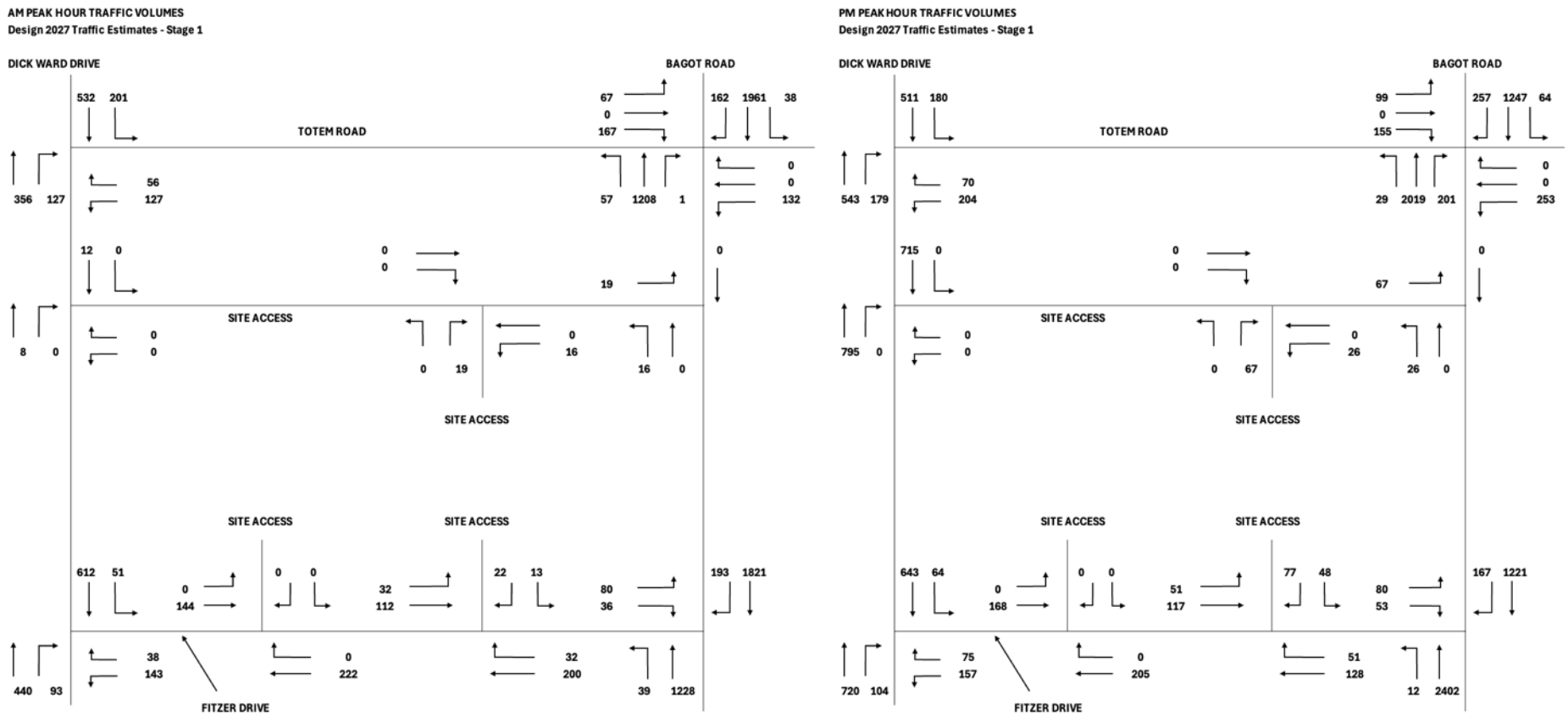
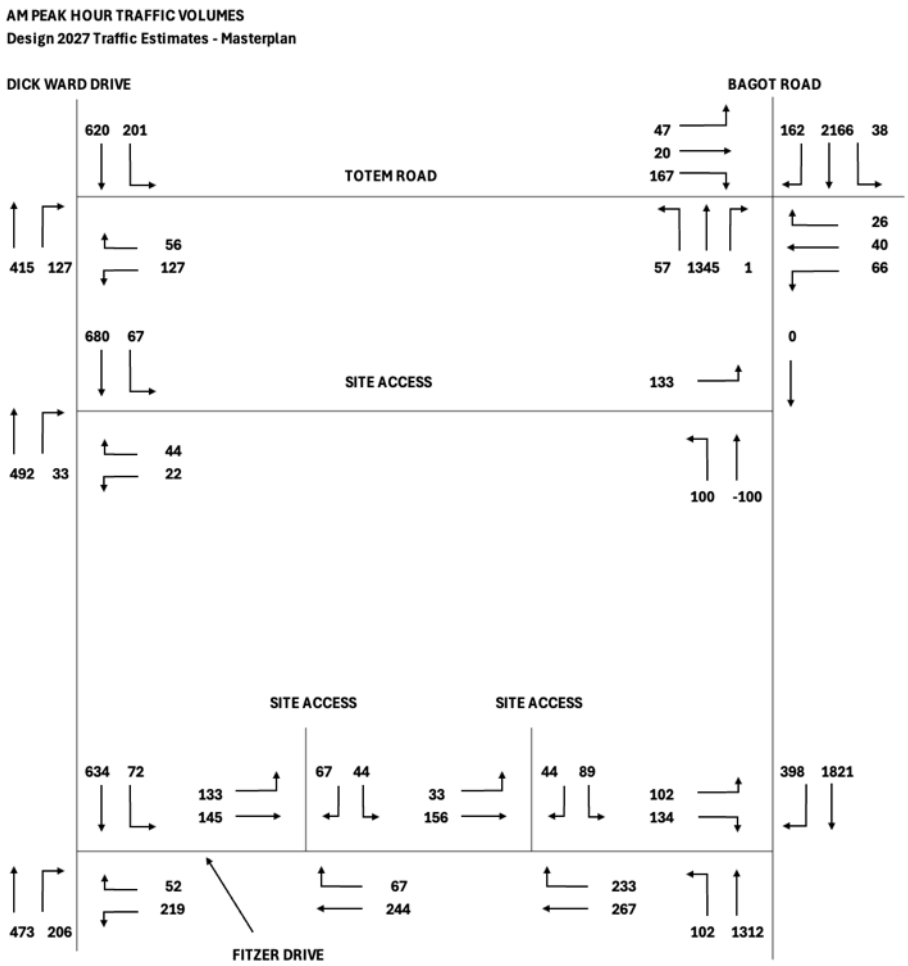


FIGURE 5.3 – DESIGN PEAK HOUR TRAFFIC FOR THE YEAR 2027 (BACKGROUND TRAFFIC + DEVELOPMENT ESTIMATES) – STAGE 1



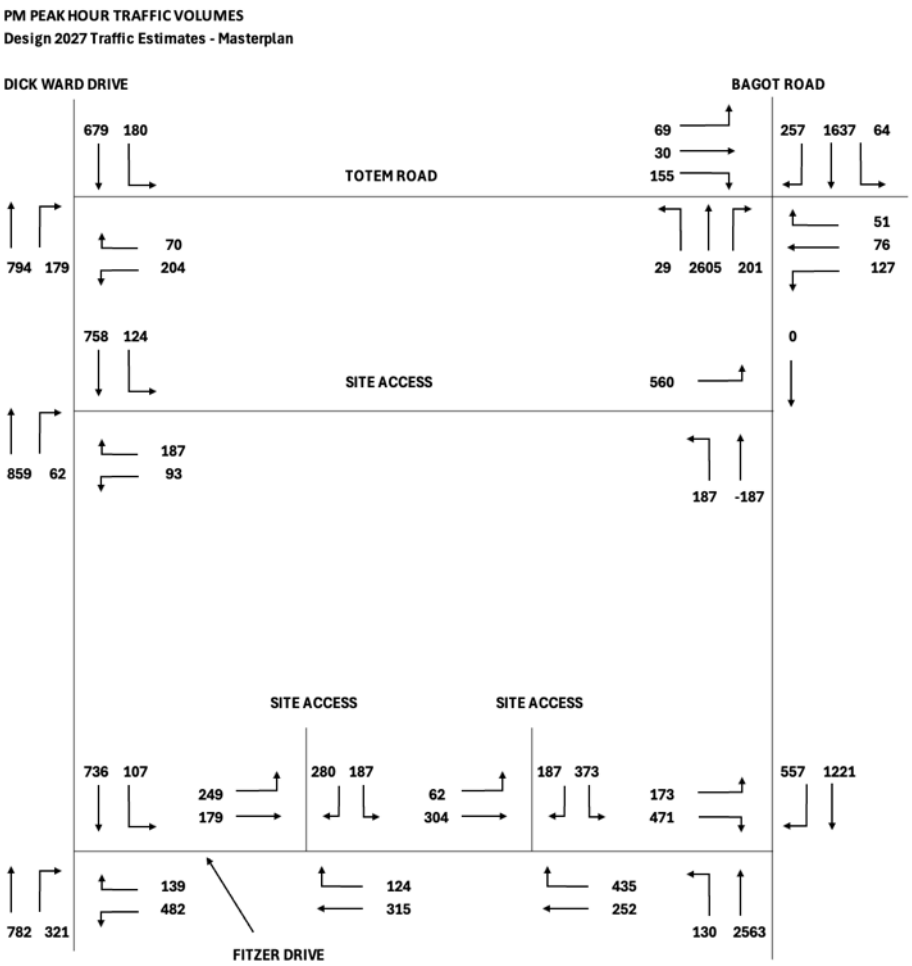


FIGURE 5.4 – DESIGN PEAK HOUR TRAFFIC FOR THE YEAR 2027 (BACKGROUND TRAFFIC + DEVELOPMENT ESTIMATES) – MASTERPLAN

5.4 Traffic Impacts

SIDRA modelling

Based on the expected development staging and negligible observed traffic growth along Bagot Road and Dick Ward Drive, a SIDRA analysis of the following intersections has been carried out under the design year (2027) conditions for both future background and development (design) traffic scenarios:

- Bagot Road / Totem Road;
- Dick Ward Drive / Totem Road;
- Dick Ward Drive / Fitzer Drive;
- Bagot Road / Fitzer Drive;
- Fitzer Drive / Site Access;
- Bagot Road / Site Access.

The results of the SIDRA analysis are presented in Appendix C – H, and summarised below in Tables 5.2 – 5.7

Table 5.2: SIDRA Modelling Results (Background 2027 Peak Traffic)

Scenario	Degree of Saturation	Total Average Delay (seconds)	Level of Service	Queue Length (metres)
Background 2027 Peak Traffic AM – Bagot Road / Fitzer Drive	1.109	9.6	NA	46.7
Background 2027 Peak Traffic PM – Bagot Road / Fitzer Drive	11.927	329.1	NA	213.4
Background 2027 Peak Traffic AM – Bagot Road / Totem Drive	0.664	11.5	LOS B	42.8
Background 2027 Peak Traffic AM - Bagot Road / Totem Drive	0.660	11.4	LOS B	42.4
Background 2027 Peak Traffic AM – Dick Ward Drive / Totem Drive	0.387	4.1	NA	3.2
Background 2027 Peak Traffic PM – Dick Ward Drive / Totem Drive	0.646	5.4	NA	5.9

Table 5.3: SIDRA Modelling Results (Design 2027 Peak Traffic – Stage 1)

Scenario	Degree of Saturation	Total Average Delay (seconds)	Level of Service	Queue Length (metres)
Design 2027 Peak Traffic AM – Bagot Road / Fitzer Drive [Stage 1]	1.393	26.3	NA	115.2
Design 2027 Peak Traffic PM – Bagot Road / Fitzer Drive [Stage 1]	18.364	973.2	NA	303.8
Design 2027 Peak Traffic AM – Bagot Road / Totem Drive [Stage 1]	0.670	11.5	LOS B	43.6
Design 2027 Peak Traffic PM – Bagot Road / Totem Drive [Stage 1]	0.873	21.9	LOS C	105.9
Design 2027 Peak Traffic AM – Dick Ward Drive / Totem Drive [Stage 1]	0.421	4.2	NA	3.5

Design 2027 Peak Traffic PM - Dick Ward Drive / Totem Drive [Stage 1]	0.728	5.8	NA	6.7
Design 2027 Peak Traffic AM - Dick Ward Drive / Fitzer Drive [Stage 1]	0.335	3.0	NA	2.7
Design 2027 Peak Traffic PM - Dick Ward Drive / Fitzer Drive [Stage 1]	0.724	4.3	NA	6.9
Design 2027 Peak Traffic AM - Fitzer Drive / Site Access [Stage 1]	0.084	1.8	NA	0.5
Design 2027 Peak Traffic PM - Fitzer Drive / Site Access [Stage 1]	0.130	3.6	NA	1.5

Table 5.4: SIDRA Modelling Results (Design 2027 Peak Traffic – Masterplan)

Scenario	Degree of Saturation	Total Average Delay (seconds)	Level of Service	Queue Length (metres)
Design 2027 Peak Traffic PM - Bagot Road / Totem Drive [COUNCIL UPGRADE]	0.952	47.0	LOS D	194.2
Design 2027 Peak Traffic AM - Bagot Road / Totem Drive [COUNCIL UPGRADE]	0.894	28.4	LOS C	148.5
Design 2027 Peak Traffic AM - Dick Ward Drive / Totem Drive [Masterplan]	0.596	4.9	NA	5.0
Design 2027 Peak Traffic PM - Dick Ward Drive / Totem Drive [Masterplan]	2.686	57.1	NA	89.1
Design 2027 Peak Traffic AM - Dick Ward Drive / Fitzer Drive [Masterplan]	0.511	10.3	LOS B	82.2
Design 2027 Peak Traffic PM - Dick Ward Drive / Fitzer Drive [Masterplan]	0.712	21.0	LOS C	160.9
Design 2027 Peak Traffic AM - Fitzer Drive / Site Access [Masterplan]	0.426	5.1	NA	8.3
Design 2027 Peak Traffic PM - Fitzer Drive / Site Access [Masterplan]	0.758	8.6	NA	34.5
Design 2027 Peak Traffic AM - Signalised - Bagot Road / Fitzer Drive [Masterplan]	0.621	17.3	LOS B	100.3
Design 2027 Peak Traffic PM - Signalised - Bagot Road / Fitzer Drive [Masterplan]	1.147	148.1	LOS F	520.7

Table 5.5: SIDRA Modelling Results (Design 2027 Peak Traffic – Masterplan [SENSITIVITY])

Scenario	Degree of Saturation	Total Average Delay (seconds)	Level of Service	Queue Length (metres)
Design 2027 Peak Traffic AM - BAGOT / TOTEM [COUNCIL UPGRADE]	0.894	28.0	LOS C	148.5
Design 2027 Peak Traffic PM - BAGOT / TOTEM [COUNCIL UPGRADE]	0.952	45.6	LOS D	193.2
Design 2027 Peak Traffic PM - BAGOT / TOTEM [COUNCIL UPGRADE] - SENS	1.031	69.6	LOS E	282.6
Design 2027 Peak Traffic AM - DW / TOTEM [Masterplan]	0.597	4.9	NA	5.0

Design 2027 Peak Traffic PM - DW / TOTEM [Masterplan]	2.686	57.1	NA	89.1
Design 2027 Peak Traffic PM - DW / TOTEM [Masterplan] - SENS	2.661	55.4	NA	87.1
Design 2027 Peak Traffic AM - DW / FITZER [Masterplan]	0.511	10.4	LOS B	82.2
Design 2027 Peak Traffic PM - DW / FITZER [Masterplan]	0.712	20.9	LOS C	160.9
Design 2027 Peak Traffic PM - DW / FITZER [Masterplan] - SENS	0.714	21.2	LOS C	162.9
Design 2027 Peak Traffic AM - FITZER / SITE ACCESS [Masterplan]	0.442	5.3	NA	9.0
Design 2027 Peak Traffic PM - FITZER / SITE ACCESS [Masterplan]	0.813	9.3	NA	39.4
Design 2027 Peak Traffic PM - FITZER / SITE ACCESS [Masterplan] - SENS	0.893	13.0	NA	60.3
Design 2027 Peak Traffic AM - Signalised - BAGOT / FITZER [Masterplan]	0.621	15.7	LOS B	100.3
Design 2027 Peak Traffic PM - Signalised - BAGOT / FITZER [Masterplan]	1.147	145.9	LOS F	520.7
Design 2027 Peak Traffic PM - Signalised - BAGOT / FITZER [Masterplan] - SENS	0.861	31.2	LOS C	254.1

As shown in Tables 5.2 – 5.5, the SIDRA modelling indicates:

- Bagot Road / Totem Road – The intersection operates within acceptable capacity under background conditions, achieving LOS B – C across all 2027 scenarios. Under design year conditions, performance remains satisfactory. The intersection is planned to be signalised by Council, which will improve overall operation and accommodate future traffic demand.

- Dick Ward Drive / Totem Road – The intersection performs satisfactorily under background and design conditions. The critical movement is the right-turn from Totem Road, which is unrelated to the proposed development. Accordingly, no upgrades are required as part of this application.

- Dick Ward Drive / Fitzer Drive – The intersection operates satisfactorily under background conditions but experiences reduced performance under design traffic due to the additional turning movements generated by the development. The proposed signalised configuration delivers substantial improvement, achieving LOS B – C and acceptable queue lengths. Signalisation of this intersection is therefore required as part of the Stage 1 upgrades.

- Bagot Road / Fitzer Drive – Signalisation is required to accommodate all movements at this location. Under the signalised arrangement, performance improves considerably and remains within acceptable limits under 2027 design conditions. This upgrade is recommended for implementation in Stage 1 to maintain satisfactory operation.

- Fitzer Drive / Site Access (Eastern access) – The eastern access is proposed to operate under a priority-controlled layout with a Channelised Right-Turn (CHR) treatment. SIDRA confirms satisfactory operation under design conditions, with minimal queues and delays. This intersection is proposed to be constructed as part of Stage 1 development.

- Fitzer Drive / Site Access (Western access) – The western access is proposed as a single-lane roundabout. SIDRA modelling confirms satisfactory operation under design conditions, with minimal queuing and delay. This intersection is planned to be constructed as part of the future masterplanned stages of the development.

Summary of Network Impacts

The SIDRA analysis indicates the following key points:

- Bagot Road / Totem Road - Operates satisfactorily under background and design conditions. Planned signalisation by Council accommodates future traffic demand.
- Dick Ward Drive / Totem Road - Performance remains acceptable under all scenarios. No upgrades are required for Stage 1.
- Dick Ward Drive / Fitzer Drive - Stage 1 and Masterplan conditions demonstrate increased turning movements; signalisation is warranted.
- Bagot Road / Fitzer Drive - Signalisation is required under Stage 1 and Masterplan scenarios to maintain satisfactory operation.
- Fitzer Drive / Site Access - Eastern and western accesses operate satisfactorily under Stage 1 and Masterplan conditions, with minimal delay and queue lengths.

Overall, the network operates satisfactorily under background and design conditions with Stage 1 and Masterplan development traffic, provided the proposed signalised upgrades at Bagot Road / Fitzer Drive and Dick Ward Drive / Fitzer Drive are implemented.

Sensitivity Analysis

As shown in Table 5.5, the modelling indicates that a right turn movement from Bagot Road to the new east-west road to the north of the site would allow the Bagot Road / Fitzer Drive intersection to operate satisfactorily in the long term.

6.0 TURN WARRANTS ASSESSMENT

6.1 Fitzer Drive / Site Access Intersection

In accordance with Austroads Part 6, the following turn treatments are warranted for the Fitzer Drive / Site Access intersection under year 2037 design traffic conditions:

Design –
Left turn treatment - Type AUL(s)
Right turn treatment - Type CHR

As shown in Figure 6.3, Type AUL(s) and CHR turn treatments are warranted at the Fitzer Drive / Site Access intersection under Austroads guidelines. While both treatments are warranted, only the CHR(s) right-turn treatment has been provided, as the SIDRA analysis indicates that the combined left-turn and through movements on Fitzer Drive would continue to operate satisfactorily without the need for a separate left-turn lane. Furthermore, the SIDRA analysis confirmed that a short channelised (CHR[s]) right-turn lane would provide adequate capacity to accommodate projected right-turn volumes and achieve acceptable levels of service.

The proposed layout of the site access intersections with Fitzer Drive are shown in Figure 6.2.

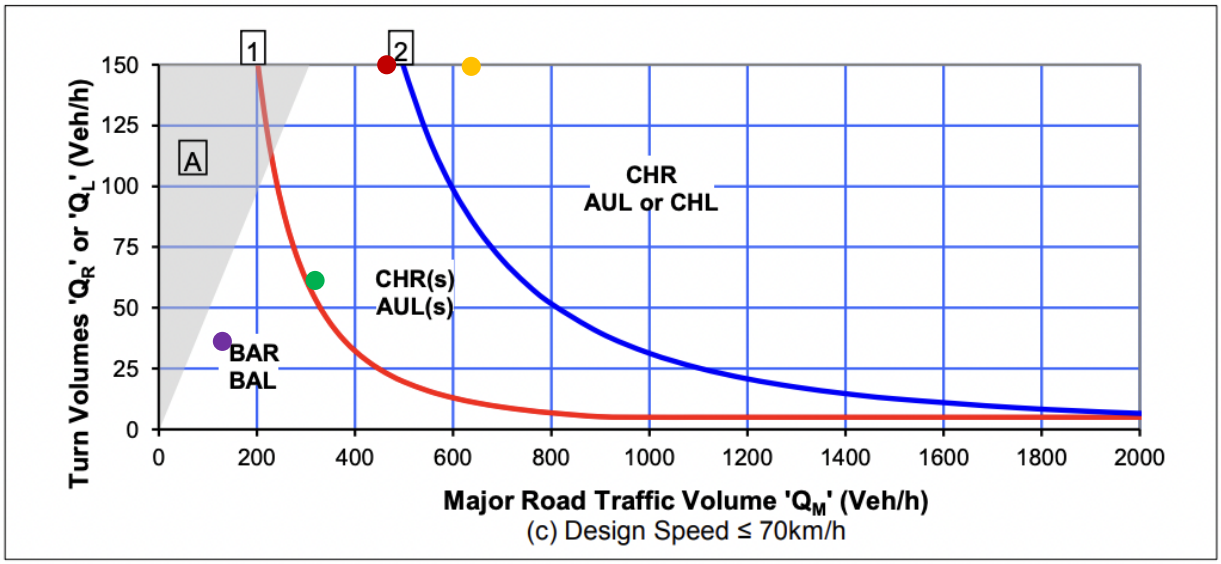
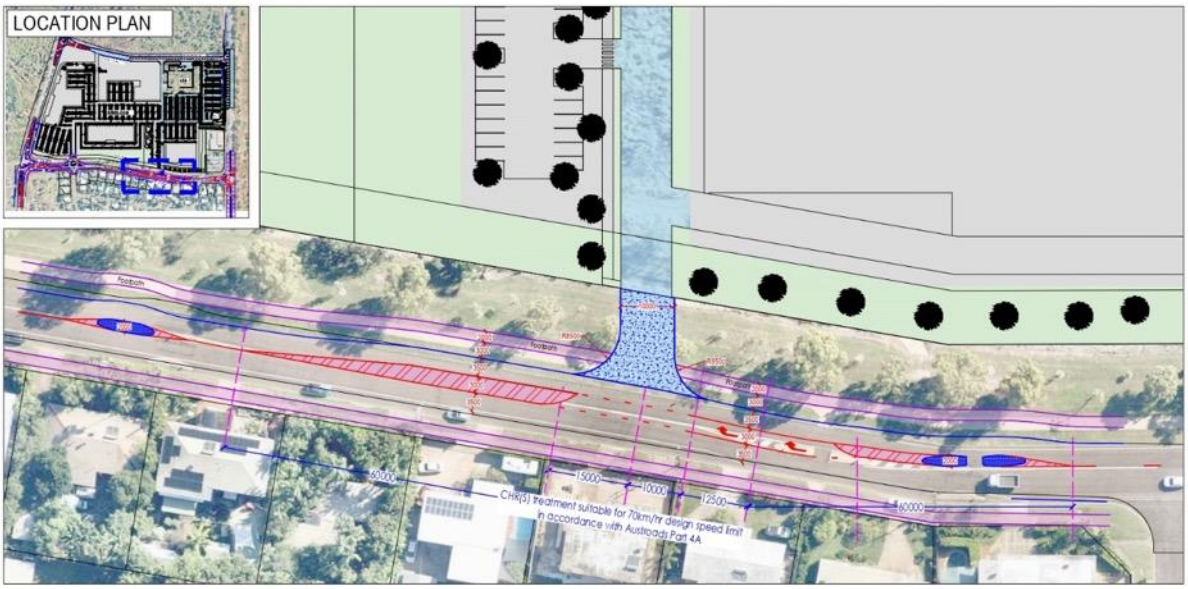


FIGURE 6.1 – TURN WARRANTS ASSESSMENT FOR THE FITZER DRIVE / SITE ACCESS INTERSECTION

EASTERN SITE ACCESS INTERSECTION



WESTERN SITE ACCESS INTERSECTION

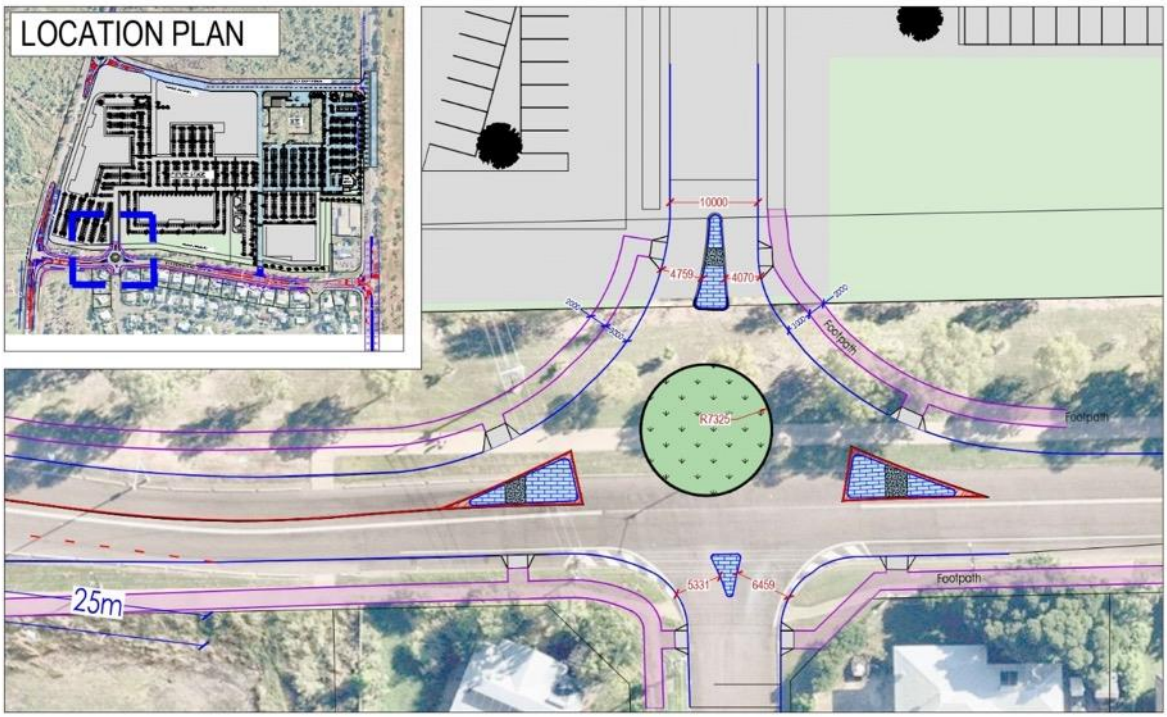


FIGURE 6.2 – PROPOSED INTERSECTION ARRANGEMENTS AT FITZER DRIVE ACCESS INTERSECTIONS

6.2 Fitzer Drive / Dick Ward Drive Intersection

In accordance with Austroads Part 6, the following turn treatments are warranted for the Fitzer Drive / Dick Ward Drive intersection under year 2037 design traffic conditions:

Design –
Left turn treatment - Type CHL
Right turn treatment - Type CHR

As shown in Figure 6.3, channelised left (CHL) and right (CHR) turn treatments are warranted at the Fitzer Drive / Dick Ward Drive intersection under Austroads guidelines. The existing layout of Fitzer Drive / Dick Ward Drive intersection currently provides channelised left (CHL) and right (CHR) turn treatments, and as such, no upgrades are warranted.

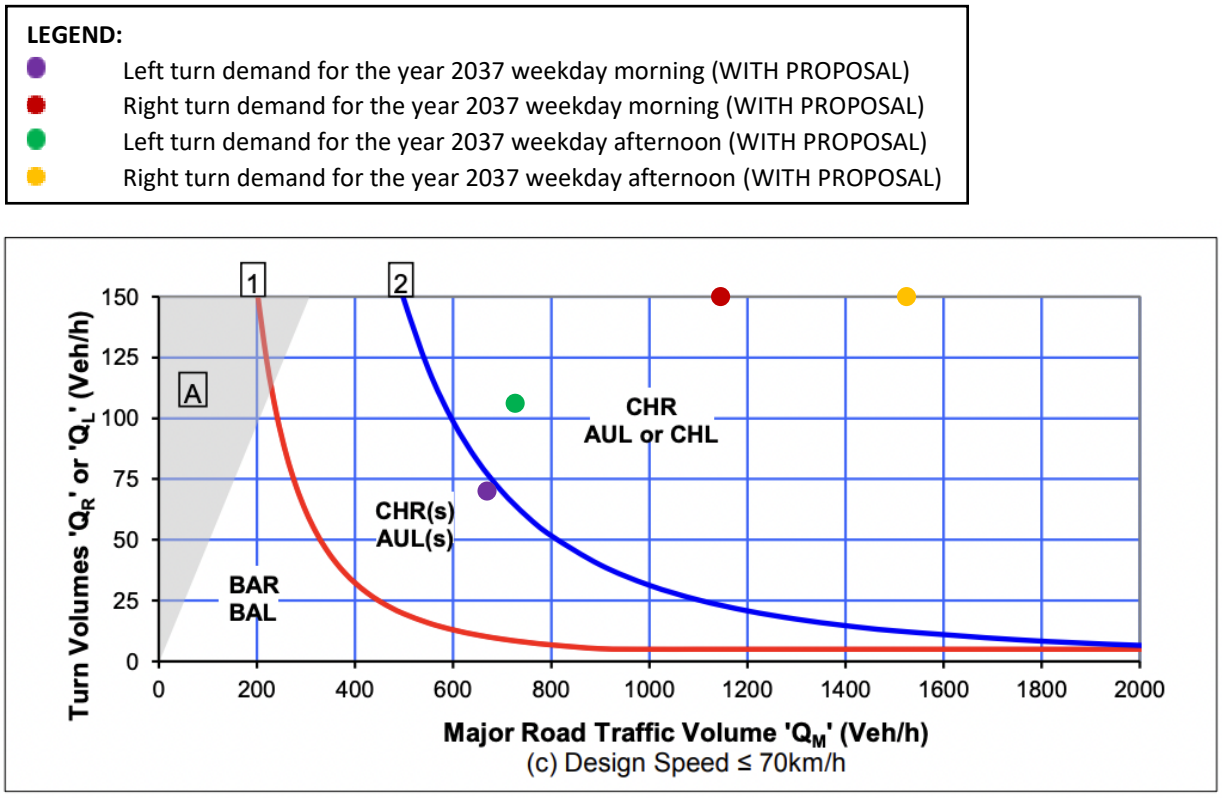


FIGURE 6.3 – TURN WARRANTS ASSESSMENT FOR THE FITZER DRIVE / DICK WARD DRIVE INTERSECTION

6.3 Dick Ward Drive / Totem Road Intersection

In accordance with Austroads Part 6, the following turn treatments are warranted for the Dick Ward Drive / Totem Road intersection under year 2037 design traffic conditions:

Design –
Left turn treatment - Type CHL
Right turn treatment - Type CHR

As shown in Figure 6.5, channelised left (CHL) and right (CHR) turn treatments are warranted at the Dick Ward Drive / Totem Road Access intersection under Austroads guidelines. The proposed layout of the intersection is shown in Figure 6.6. The existing layout of Dick Ward Drive / Totem Road intersection currently provides channelised left (CHL) and right (CHR) turn treatments, and as such, no upgrades are warranted.

LEGEND:
- Left turn demand for the year 2037 weekday morning (WITH PROPOSAL)
- Right turn demand for the year 2037 weekday morning (WITH PROPOSAL)
- Left turn demand for the year 2037 weekday afternoon (WITH PROPOSAL)
- Right turn demand for the year 2037 weekday afternoon (WITH PROPOSAL)

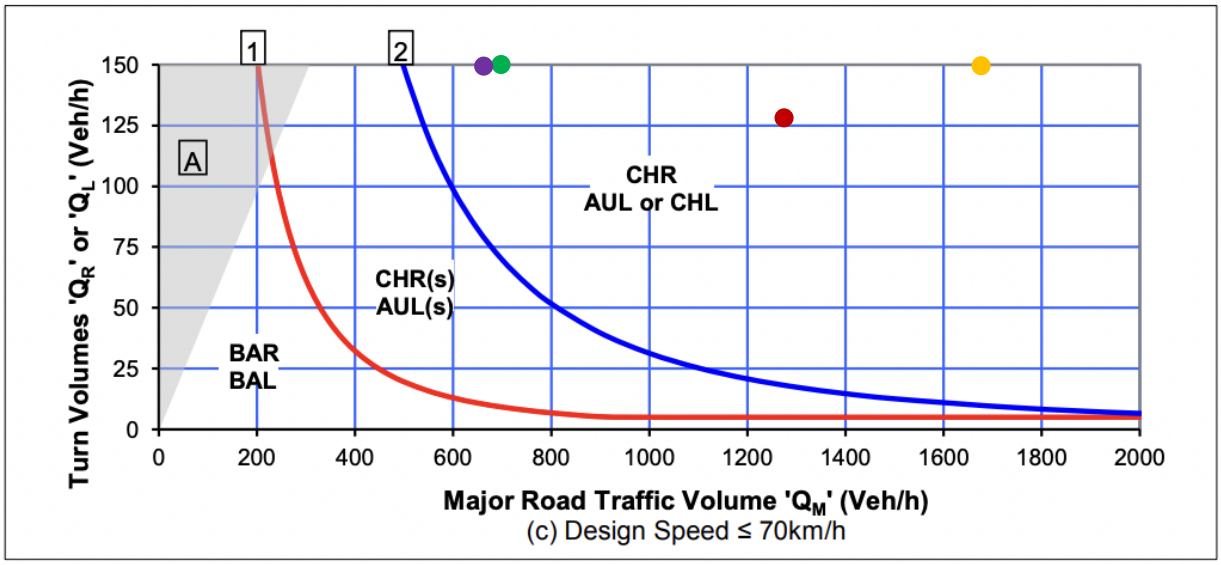


FIGURE 6.3 – TURN WARRANTS ASSESSMENT FOR THE DICK WARD DRIVE / TOTEM ROAD INTERSECTION

7.0 PROPOSED UPGRADE WORKS BY APPLICANT

7.1 Bagot Road / Fitzer Drive Intersection

The Applicant proposes to upgrade the Bagot Road / Fitzer Drive intersection to traffic signal control in accordance with the layout shown in Figure 7.1.

As shown, it is proposed that the layout of Bagot Road remain generally consistent with existing conditions; however, the implementation of two dedicated right-turn lanes and a left slip lane is proposed on Fitzer Drive. As stated in Section 5.4, the SIDRA modelling indicates that the proposed intersection layout will require additional capacity or design refinements to adequately accommodate projected traffic volumes, particularly during the PM peak period. Further detailed investigation, including potential signal phasing optimisation and geometric modifications, will be necessary during future design stages to achieve acceptable operational performance.

7.2 Fitzer Drive / Dick Ward Drive Intersection

SIDRA modelling undertaken for the Dick Ward Drive / Fitzer Drive intersection under post-development traffic conditions indicates that the existing configuration would operate with high delays and unsatisfactory levels of service during peak periods. To address these operational deficiencies and accommodate the forecast traffic volumes, the Applicant proposes to upgrade the intersection to traffic signals, as shown in Figure 7.2.

The proposed signalised layout includes dedicated right-turn lanes on all approaches and a left slip lanes, providing improved capacity and movement separation. Auxiliary lane lengths have been designed to accommodate queue storage based on modelled peak demands, with right-turn bays extending approximately 60 metres and 40 metres on Dick Ward Drive and Fitzer Drive, respectively. Pedestrian crossings are proposed on the eastern and southern legs of the intersection.

7.3 Appropriateness of Proposed Upgrade Works

The proposed upgrades to the Dick Ward Drive / Fitzer Drive and Bagot Road / Fitzer Drive intersections will contribute to the future capacity and operational efficiency of the local road network. These upgrades would be required irrespective of the proposed development, given existing network pressures and anticipated background traffic growth. It is therefore appropriate for the Applicant to deliver these intersection upgrades as part of the development.

Since the proposal does not directly impact the Dick Ward Drive / Totem Road intersection, as it contributes to through traffic volumes only, it is not considered reasonable for the Applicant to carry out works at this intersection. Instead, it is more appropriate for the works to be carried out at the Fitzer Drive intersections, which are directly affected by the proposal. It is noted that later stages of the development may result in more direct impacts to the Dick Ward Drive / Totem Road intersection, and as such, future upgrades at that location may be considered as part of subsequent development approvals.

7.4 Bagot Road / Totem Road Intersection

For the purpose of this assessment, the Bagot Road / Totem Road intersection has been modelled in accordance with the signalised layout proposed by Council. This layout replaces the existing seagull configuration and provides a direct east–west connection from Totem Road to Osgood Drive, improving access and circulation within the airport precinct.

SIDRA modelling confirms that the Council layout will operate satisfactorily under projected future traffic conditions. The proposal does not compromise intersection performance, and the layout ensures improved operations for future traffic demands.

7.5 Triggering of Proposed Upgrade Works

The intersection upgrades at Bagot Road / Fitzer Drive and Fitzer Drive / Dick Ward Drive are triggered by the additional traffic generated by the Stage 1 development. SIDRA modelling indicates that, without these upgrades, the intersections would experience increased congestion and reduced levels of service during peak periods. Accordingly, the proposed signalised layouts and lane modifications are required to maintain acceptable operational performance.

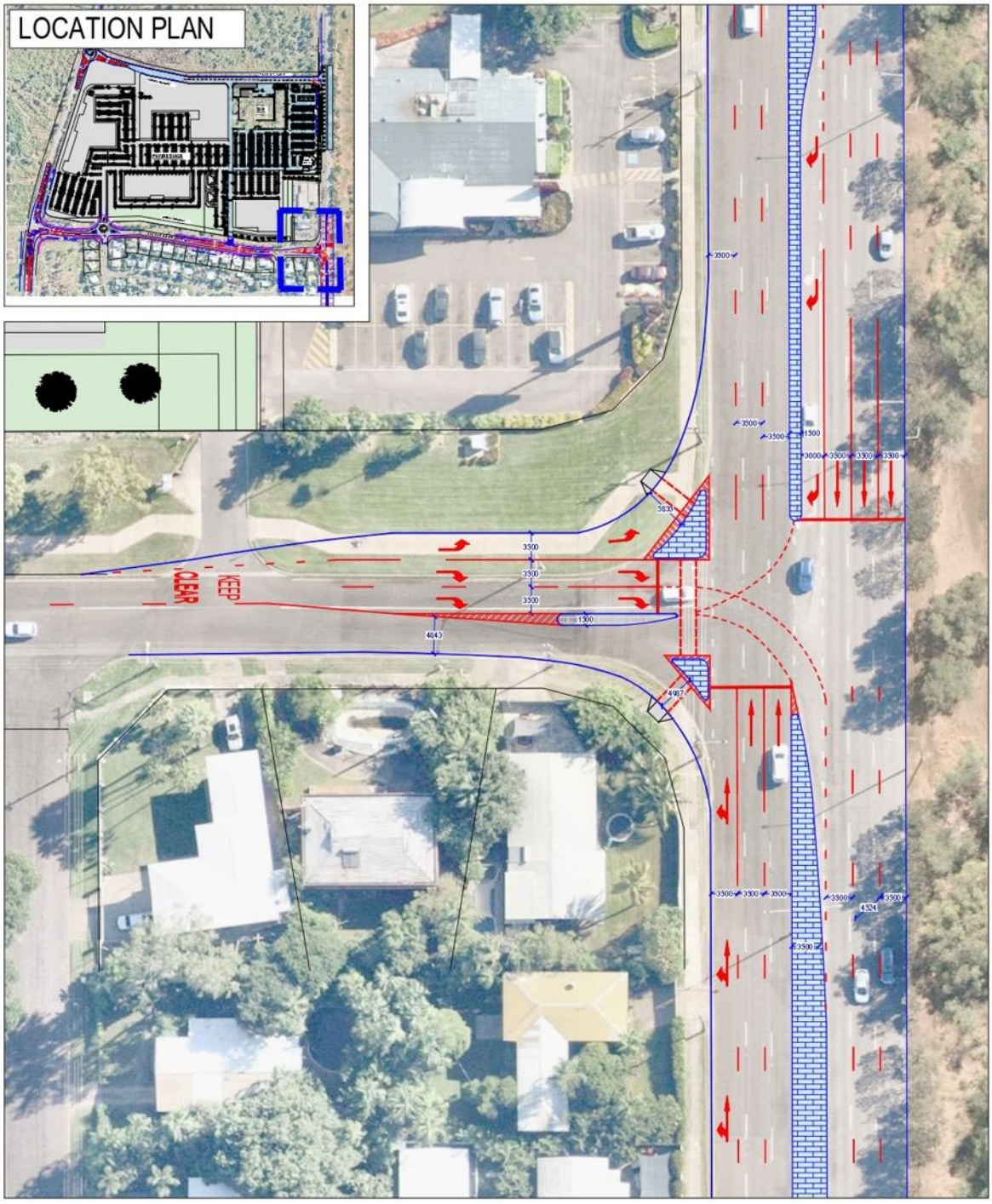


FIGURE 7.1 – PROPOSED LAYOUT OF THE BAGOT ROAD / FITZER DRIVE INTERSECTION (TRAFFIC SIGNALS)

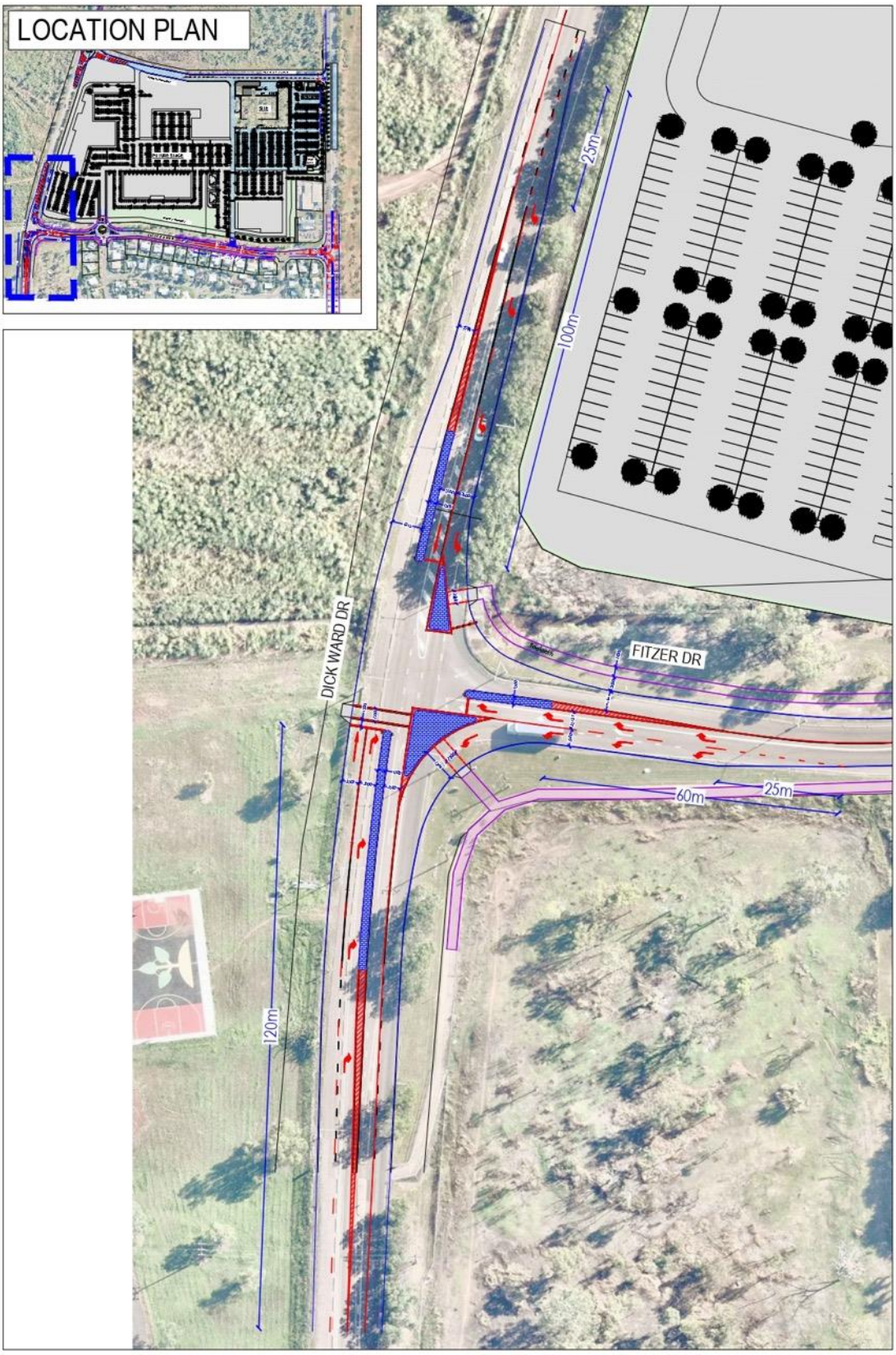


FIGURE 7.2 – PROPOSED LAYOUT OF THE DICK WARD DRIVE / FITZER DRIVE INTERSECTION (TRAFFIC SIGNALS)

8.0 ON-SITE ARRANGEMENTS

8.1 Car Parking Supply

In accordance with the Part 4 of the Northern Territory Planning Scheme (2007), 6.5: Vehicle Parking, the following rate applies to the development:

Shop:
6 for every 100m^2 of net floor area

Food and Drink:
6 for every 100m^2 of net floor area and any alfresco dining areas
plus
10 for drive-through (if any) for cars being served or awaiting service

Service Station:
2 for every 100m^2 of net floor area or 5 whichever is the greater (not including parking serving bowsers)

Application of the above rates to the proposal results in the following Acceptable Outcome:

Table 8.1: Acceptable Outcome for Parking – Stage 1

Component	Acceptable Outcome	Proposed Provision
Shop: 5,894m^2	354 spaces	**510 spaces**
Food and Drink: 590m^2	36 spaces	
Service Station: 285m^2	6 spaces	
TOTAL:	**396 spaces**	

As shown in Table 8.1, the proposal provides a total of 510 spaces and therefore meets the minimum requirement of 396 spaces under the Planning Scheme.

8.2 Car Parking Design

The geometric layout of the proposed parking facilities has generally been designed to comply with the relevant requirements specified by AS2890.1.

The proposed car park layout has the following design characteristics:

Table 8.2 – Car Parking Design Characteristics

Design Aspect	Minimum AS2890.1 Standard	Proposed Provision	Compliance
Parking space length: - Staff - Visitor	 5.4 metres 5.4 metres	 5.4 metres 5.4 metres	 Compliant Compliant
Parking space width: - Staff - Visitor	 2.4 metres 2.5 metres	 2.4 metres 2.7 metres	 Compliant Compliant
Aisle Width: - Parking aisle - Circulation Aisle (two-way)	 5.8 metres 6.1 metres (wall to wall)	 6.2 metres (min) 6.1 metres (min)	 Compliant Compliant
Maximum Gradient - Parking Bay - Parking Aisle	 1:20 (5.0%) 1:16 (6.25%)	 <1:20 (5.0%) <1:20 (5.0%)	 Compliant
Height Clearance - General Min. - Absolute Min.	 2.2 metres N/A	 >2.2 metres	 Compliant
Parking Aisle Extension	1 metre beyond last bay	1 metre beyond last bay	Compliant

The car parking layout has been designed in accordance with the requirements of AS2890.1:2020, with typical dimensions as shown in Figure 8.1.

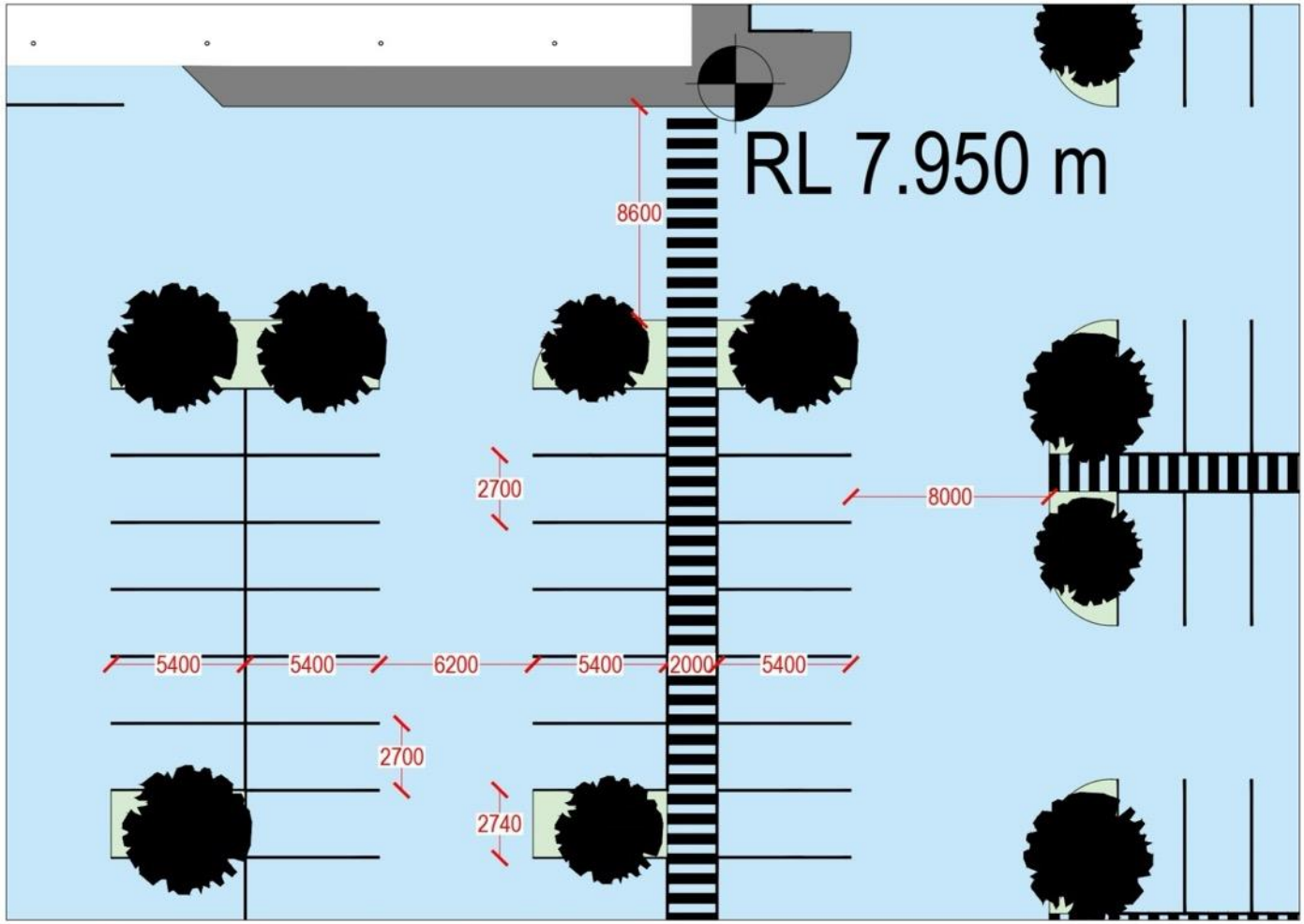


FIGURE 8.1 – TYPICAL CAR PARKING DIMENSIONS

8.3 Provision for Service Vehicle Access

In accordance with the NT Planning Scheme 2007, Clause 6.6 – Loading Bays, the development provides the following:

- Loading Bay Dimensions: Each loading bay is designed to meet the minimum requirements of 7.5m by 3.5m, with a vertical clearance of at least 4m.
- Access: Driveways and internal circulation areas provide adequate access to each loading bay for safe and efficient vehicle movements.

The proposal accommodates service vehicles up to the size of an Articulated Vehicle (AV), consistent with the Austroads Guide to Traffic Management – Part 12: Traffic Impacts of Developments. Swept path analysis demonstrates that an AV can satisfactorily access, manoeuvre, and exit the site without impacting other on-site operations.

Swept paths for an Articulated Vehicle (AV) are shown in Figures 8.2-8.3 below, confirming that manoeuvring requirements are met.

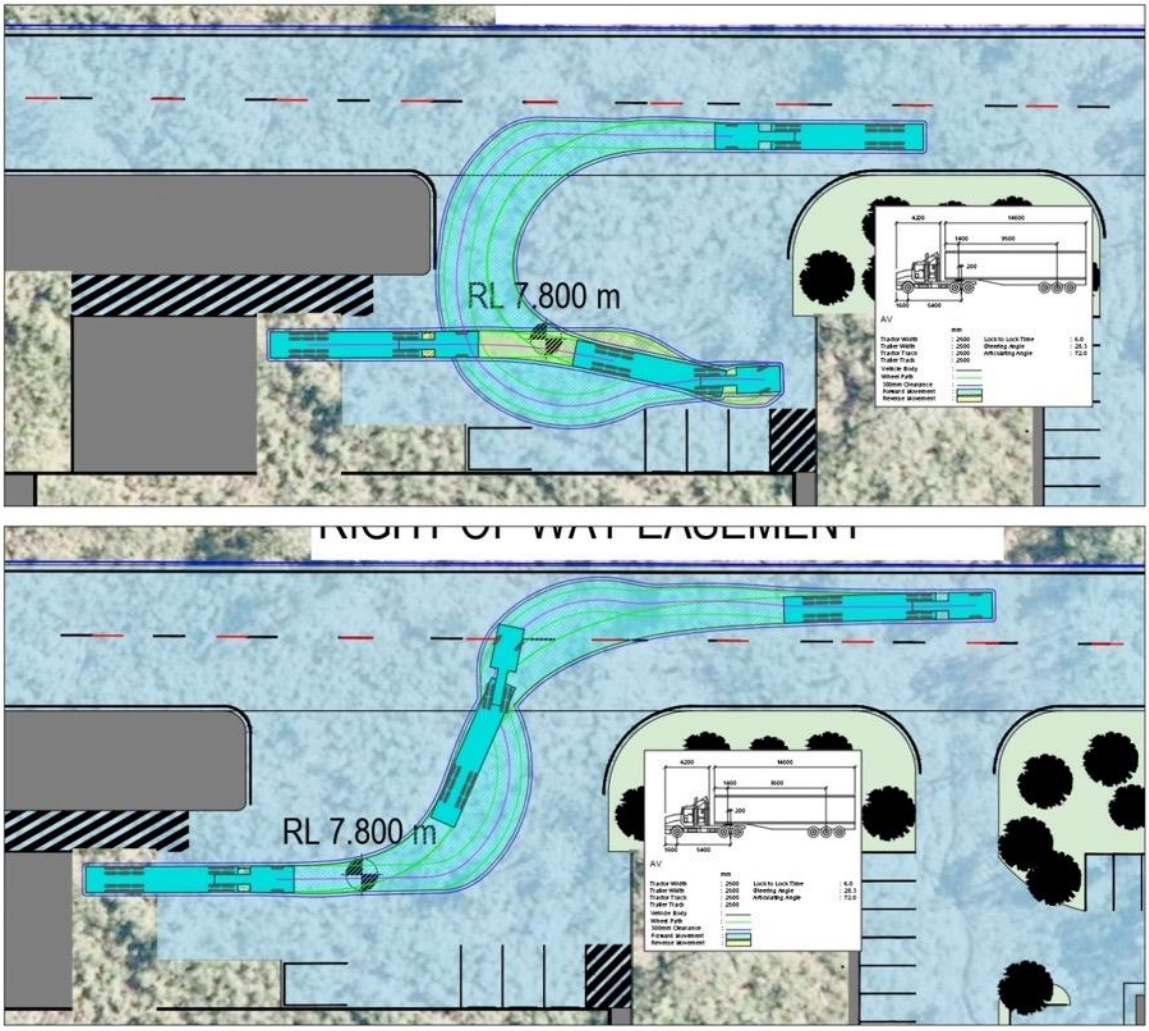


FIGURE 8.2 – SWEPT PATH OF ARTICULATED VEHICLE (AV)

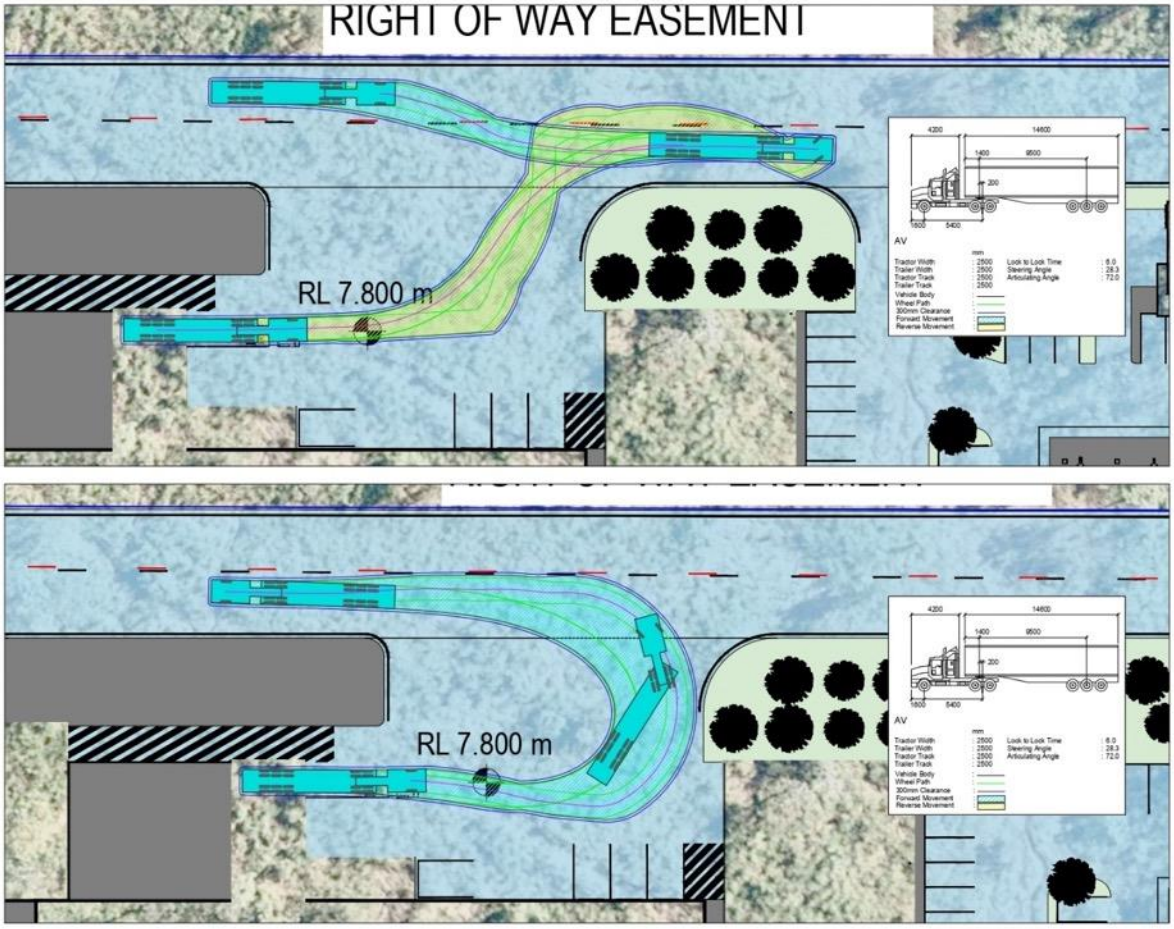


FIGURE 8.3 – SWEPT PATH OF ARTICULATED VEHICLE (AV)

9.0 SUMMARY OF CONCLUSIONS & RECOMMENDATIONS

- The proposed development comprises a mixed-use commercial and light industry precinct with a Gross Leasable Floor Area (GLFA) of approximately 49,914m². Based on standard trip generation rates, the development is expected to generate approximately 1,667 vehicle trips during the AM peak hour and 2,331 trips during the PM peak hour.

- Vehicular access to the site will be provided via three connections, comprising of two intersections with Fitzer Drive and a left-in / left-out intersection with Bagot Road.

- SIDRA modelling indicates that the Dick Ward Drive / Fitzer Drive and Bagot Road / Fitzer Drive intersections are expected to experience significant operational constraints, including delays and queuing, under future design traffic volumes, irrespective of the proposed development.

- To address these operational constraints, the Applicant proposes to upgrade the Dick Ward Drive / Fitzer Drive and Bagot Road / Fitzer Drive intersections to signalised configurations. These upgrades will improve traffic efficiency and intersection performance and are considered appropriate for delivery as part of the development.

- The proposal includes a dedicated external service road along the northern boundary of the site, accessed via Bagot Road. This design ensures separation between customer and service vehicle movements. On-site circulation is suitable for service vehicles up to the size of an Articulated Vehicle (AV), with swept path analysis demonstrating appropriate access and manoeuvrability.

APPENDICES

APPENDIX A – TRAFFIC COUNT DATA
APPENDIX B – CRITERIA FOR INTERPRETING SIDRA RESULTS
APPENDIX C – DETAILED SIDRA OUTPUT (NETWORK ANALYSIS)

APPENDIX A – TRAFFIC COUNT DATA

MANUAL TRAFFIC SURVEY RESULTS

Unit Type: Camera
RTE ID:
Location: Bagot & Fitzer
Date: Thursday
Comments: Fine weather
Class **Light**

Time	N-Thru	N-Right	N-Left	S-Thru	S-Right	S-Left	E-Thru	E-Right	E-Left	W-Thru	W-Right	W-Left	Total	Cumul Tot
6:30	32	6		118		15					17	0	188	
6:45	96	22		146		10					7	2	283	471
7:00	212	58		126		15					0	0	411	882
7:15	302	36		171		20					0	0	529	1411
7:30	444	55		242		21					13	0	775	1998
7:45	524	36		311		6					8	0	885	2600
8:00	499	43		298		13					2	0	855	3044
8:15	444	40		291		8					8	0	791	3306
8:30	354	46		312		8					5	0	725	3256
8:45	312	36		277		4					6	0	635	3006
9:00	258	34		288		7					6	0	593	2744
9:15	240	22		252		6					5	0	525	2478
9:30	228	23		309		4					5	0	569	2322
9:45	235	21		294		5					5	0	560	2247
10:00	223	28		298		2					3	0	554	554
10:15	236	23		339		4					6	0	608	1162
14:00	260	36		370		6					4	0	676	1284
14:15	299	35		409		6					5	0	754	1430
14:30	287	40		419		7					3	1	757	2187
14:45	261	34		459		4					7	1	766	2953
15:00	298	53		395		5					6	0	757	3034
15:15	316	33		371		4					5	0	729	3009
15:30	322	30		437		3					4	0	796	3048
15:45	249	33		448		0					7	0	737	3019
16:00	271	39		498		3					7	0	818	3080
16:15	299	31		566		0					3	0	899	3250
16:30	323	26		614		3					0	0	966	3420
16:45	273	29		601		3					0	0	906	3589
17:00	326	36		595		0					2	0	959	3730
17:15	277	36		473		2					1	0	789	3620
17:30	330	33		484		2					1	0	850	3504
17:45	271	36		434		0					4	1	746	3344
AM PEAK HR	**1821**	**165**	**0**	**1212**	**0**	**35**	**0**	**0**	**0**	**0**	**23**	**0**	**3256**	
PM PEAK HR	**1221**	**122**	**0**	**2376**	**0**	**6**	**0**	**0**	**0**	**0**	**5**	**0**	**3730**	

MANUAL TRAFFIC SURVEY RESULTS

Unit Type: Camera
RTE ID:
Location: Bagot & Fitzer
Date: Saturday
Comments: Fine weather
Class **Light**

Time	N-Thru	N-Right	N-Left	S-Thru	S-Right	S-Left	E-Thru	E-Right	E-Left	W-Thru	W-Right	W-Left	Total	Cumul Tot
7:00	88	9		59		6					2	0	164	
7:15	92	15		66		3					3	0	179	
7:30	94	12		101		7					3	1	218	
7:45	121	20		115		16					5	0	277	838
8:00	112	23		137		8					4	0	284	958
8:15	135	23		142		14					4	1	319	1098
8:30	135	32		155		9					6	0	337	1217
8:45	164	29		226		9					9	0	437	1377
9:00	169	21		227		11					4	0	432	1525
9:15	159	30		212		13					13	1	428	1634
9:30	177	27		244		15					4	0	467	1764
9:45	181	30		286		13					11	0	521	1848
10:00	189	30		349		11					4	0	583	1999
10:15	179	35		316		15					8	0	553	2124
10:30	189	37		312		11					5	0	554	2211
10:45	183	39		293		11					6	0	532	2222
11:00	164	45		308		24					1	0	542	542
11:15	179	27		339		12					3	0	560	1102
11:30	173	40		299		17					4	0	533	1635
11:45	174	43		299		7					5	0	528	2163
12:00	199	48		310		6					3	0	566	2187
12:15	185	55		296		20					2	0	558	2185
12:30	180	34		289		16					7	1	527	2179
12:45	186	49		256		11					3	0	505	2156
PEAK HR	**740**	**141**	**0**	**1270**	**0**	**48**	**0**	**0**	**0**	**0**	**23**	**0**	**2222**	

MANUAL TRAFFIC SURVEY RESULTS

Unit Type: Camera
RTE ID:
Location: Bagot & Totum
Date: Thursday
Comments: Fine weather
Class **Light**

Time	N-Thru	N-Right	N-Left	S-Thru	S-Right	S-Left	E-Thru	E-Right	E-Left	W-Thru	W-Right	W-Left	Total	Cumul Tot
6:30	161	9	3	118	16	17	0	0	21	0	25	8	378	
6:45	259	17	2	121	22	12	0	0	23	0	20	6	482	860
7:00	295	24	2	170	1	5	0	0	20	0	27	12	556	1416
7:15	398	30	6	202	1	6	0	0	21	0	24	23	711	2127
7:30	534	50	4	273	0	17	0	0	29	0	41	10	958	2707
7:45	611	41	9	326	0	21	0	0	22	0	44	9	1083	3308
8:00	500	42	10	259	0	13	0	0	42	0	38	25	929	3681
8:15	480	43	8	305	0	12	0	0	35	0	41	11	935	3905
8:30	342	36	11	299	1	11	0	0	33	0	44	22	799	3746
8:45	270	36	14	314	0	15	0	0	38	0	43	19	749	3412
9:00	212	28	12	232	20	21	0	0	41	0	35	22	623	3106
9:15	223	24	6	181	20	20	0	0	27	0	27	14	542	2713
9:30	210	34	21	210	42	17	0	0	48	0	23	17	622	2536
9:45	193	46	14	233	44	14	0	0	34	0	34	16	628	2415
10:00	193	40	13	220	40	15	0	0	49	0	33	8	611	611
10:15	162	34	18	242	49	11	0	0	47	0	29	17	609	1220
14:00	229	23	9	319	16	24	0	0	62	0	35	28	745	1354
14:15	219	31	10	313	38	27	0	0	66	0	37	21	762	1507
14:30	267	25	10	305	45	29	0	0	79	0	36	13	809	2316
14:45	228	38	20	381	58	4	0	0	50	0	23	18	820	3136
15:00	256	37	11	333	30	9	0	0	64	0	28	15	783	3174
15:15	224	42	10	338	51	21	0	0	40	0	47	24	797	3209
15:30	265	32	8	324	31	11	0	0	52	0	42	20	785	3185
15:45	244	45	15	342	38	13	0	0	50	0	30	10	787	3152
16:00	275	51	14	354	39	19	0	0	58	0	44	10	864	3233
16:15	294	55	15	461	59	8	0	0	67	0	44	26	1029	3465
16:30	325	62	18	453	39	4	0	0	72	0	39	25	1037	3717
16:45	308	81	10	539	59	12	0	0	49	0	29	13	1100	4030
17:00	275	59	21	499	44	5	0	0	65	0	43	35	1046	4212
17:15	258	52	15	468	47	10	0	0	45	0	33	19	947	4130
17:30	336	43	19	412	47	7	0	0	57	0	40	28	989	4082
17:45	321	45	21	372	28	5	0	0	37	0	16	12	857	3839
AM PEAK HR	**1933**	**162**	**38**	**1189**	**1**	**57**	**0**	**0**	**132**	**0**	**167**	**67**	**3746**	
PM PEAK HR	**1202**	**257**	**64**	**1952**	**201**	**29**	**0**	**0**	**253**	**0**	**155**	**99**	**4212**	

MANUAL TRAFFIC SURVEY RESULTS

Unit Type: Camera
RTE ID:
Location: Bagot & Totum
Date: Saturday
Comments: Fine weather
Class Light

Time	N-Thru	N-Right	N-Left	S-Thru	S-Right	S-Left	E-Thru	E-Right	E-Left	W-Thru	W-Right	W-Left	Total	Cumul Tot
7:00	85	12	2	60	11	2	0	0	11	0	6	4	193	
7:15	93	13	3	51	12	11	0	0	12	0	6	6	207	
7:30	119	9	6	97	16	5	0	0	14	0	7	11	284	
7:45	137	14	8	104	27	5	0	0	23	0	6	3	327	1011
8:00	121	8	17	133	14	13	0	0	15	0	7	13	341	1159
8:15	145	14	12	137	30	5	0	0	20	0	13	12	388	1340
8:30	165	17	17	153	28	13	0	0	30	0	14	18	455	1511
8:45	197	26	22	265	28	25	0	0	34	0	10	32	639	1823
9:00	209	25	18	262	32	18	0	0	29	0	19	38	650	2132
9:15	179	37	23	266	34	14	0	0	33	0	27	43	656	2400
9:30	222	28	25	292	38	22	0	0	30	0	24	36	717	2662
9:45	247	44	32	355	40	19	0	0	44	0	25	31	837	2860
10:00	228	35	28	373	59	28	0	0	47	0	31	52	881	3091
10:15	232	41	27	362	56	32	0	0	55	0	28	48	881	3316
10:30	255	49	49	356	62	25	0	0	46	0	26	42	910	3509
10:45	247	46	37	350	52	27	0	0	64	0	22	45	890	3562
11:00	232	48	42	344	50	19	0	0	68	0	21	55	879	879
11:15	228	54	48	365	74	17	0	0	51	0	23	44	904	1783
11:30	221	52	46	320	71	21	0	0	70	0	27	45	873	2656
11:45	215	34	42	370	51	20	0	0	75	0	30	25	862	3518
12:00	201	34	28	353	58	16	0	0	67	0	27	30	814	3453
12:15	213	35	44	330	53	19	0	0	73	0	25	26	818	3367
12:30	203	36	27	296	48	17	0	0	58	0	18	32	735	3229
12:45	207	23	36	254	42	22	0	0	69	0	20	39	712	3079
PEAK HR	**962**	**171**	**141**	**1441**	**229**	**112**	**0**	**0**	**212**	**0**	**107**	**187**	**3562**	

MANUAL TRAFFIC SURVEY RESULTS

Unit Type: Camera
RTE ID:
Location: Dick Ward & Fitzer
Date: Thursday
Comments: Fine weather
Class **Light**

Time	N-Thru	N-Right	N-Left	S-Thru	S-Right	S-Left	E-Thru	E-Right	E-Left	W-Thru	W-Right	W-Left	Total	Cumul Tot
6:30	29		8	44	12			2	14				109	
6:45	53		8	46	12			2	24				145	254
7:00	67		8	43	8			2	29				157	411
7:15	131		9	68	12			5	27				252	663
7:30	170		16	105	17			8	32				348	902
7:45	164		7	135	11			4	41				362	1119
8:00	173		11	120	27			9	28				368	1330
8:15	155		12	98	16			8	32				321	1399
8:30	120		9	87	19			9	29				273	1324
8:45	105		12	82	18			3	30				250	1212
9:00	97		9	77	12			9	29				233	1077
9:15	94		8	76	17			2	24				221	977
9:30	95		18	95	12			10	21				251	955
9:45	95		8	96	19			6	19				243	948
10:00	115		14	88	15			3	23				258	258
10:15	125		10	101	19			12	26				293	551
14:00	111		10	117	20			10	34				302	595
14:15	107		8	138	11			6	25				295	597
14:30	116		5	135	19			6	22				303	900
14:45	130		15	168	25			7	30				375	1275
15:00	112		8	140	21			3	28				312	1285
15:15	111		16	140	26			11	29				333	1323
15:30	133		10	114	14			10	29				310	1330
15:45	122		17	146	21			7	28				341	1296
16:00	159		10	157	9			6	23				364	1348
16:15	144		7	159	13			10	22				355	1370
16:30	173		8	169	16			12	30				408	1468
16:45	159		14	214	26			7	27				447	1574
17:00	167		16	178	17			17	30				425	1635
17:15	173		16	172	9			11	43				424	1704
17:30	156		15	149	20			10	23				373	1669
17:45	159		13	160	14			10	35				391	1613
AM PEAK HR	**612**	**0**	**39**	**440**	**73**	**0**	**0**	**30**	**130**	**0**	**0**	**0**	**1324**	
PM PEAK HR	**643**	**0**	**45**	**720**	**72**	**0**	**0**	**46**	**109**	**0**	**0**	**0**	**1635**	

MANUAL TRAFFIC SURVEY RESULTS

Unit Type: Camera
RTE ID:
Location: Dick Ward & Fitzer
Date: Saturday
Comments: Fine weather
Class **Light**

Time	N-Thru	N-Right	N-Left	S-Thru	S-Right	S-Left	E-Thru	E-Right	E-Left	W-Thru	W-Right	W-Left	Total	Cumul Tot
7:00	43		5	17	1			0	3				69	
7:15	41		2	28	4			4	9				88	
7:30	54		4	47	6			1	15				127	
7:45	67		8	43	5			6	20				149	433
8:00	56		10	56	9			4	15				150	514
8:15	73		5	73	13			5	16				185	611
8:30	85		13	54	17			2	21				192	676
8:45	108		9	96	21			8	17				259	786
9:00	100		12	106	27			4	23				272	908
9:15	98		13	109	22			1	19				262	985
9:30	97		12	111	18			2	26				266	1059
9:45	123		13	106	23			5	25				295	1095
10:00	116		10	125	29			8	27				315	1138
10:15	125		11	134	30			6	24				330	1206
10:30	165		21	120	22			7	36				371	1311
10:45	143		8	133	23			7	28				342	1358
11:00	127		10	120	13			7	13				290	290
11:15	126		13	148	20			3	23				333	623
11:30	133		16	113	19			16	38				335	958
11:45	125		13	128	28			7	40				341	1299
12:00	123		17	118	22			9	30				319	1328
12:15	127		16	129	16			7	33				328	1323
12:30	116		15	127	24			8	30				320	1308
12:45	108		8	124	22			5	39				306	1273
PEAK HR	**549**	**0**	**50**	**512**	**104**	**0**	**0**	**28**	**115**	**0**	**0**	**0**	**1358**	

MANUAL TRAFFIC SURVEY RESULTS

Unit Type: Camera
RTE ID:
Location: Dick Ward & Totum
Date: Thursday
Comments: Fine weather
Class **Light**

Time	N-Thru	N-Right	N-Left	S-Thru	S-Right	S-Left	E-Thru	E-Right	E-Left	W-Thru	W-Right	W-Left	Total	Cumul Tot
6:30	35		29	19	14			8	6				111	
6:45	44		17	24	12			4	13				114	225
7:00	34		25	25	11			6	16				117	342
7:15	64		25	32	28			7	17				173	515
7:30	120		60	69	34			13	42				338	742
7:45	146		53	91	39			9	34				372	1000
8:00	154		43	102	28			18	25				370	1253
8:15	119		53	76	29			12	38				327	1407
8:30	101		52	79	31			7	30				300	1369
8:45	87		33	95	22			12	22				271	1268
9:00	72		34	67	21			24	23				241	1139
9:15	79		35	64	17			11	17				223	1035
9:30	69		30	75	25			21	33				253	988
9:45	79		36	85	23			15	20				258	975
10:00	97		37	59	23			10	28				254	254
10:15	84		33	76	29			23	39				284	538
14:00	81		40	85	31			14	25				276	560
14:15	92		34	108	32			7	31				304	580
14:30	93		30	110	38			15	28				314	894
14:45	107		26	118	49			15	35				350	1244
15:00	98		41	109	35			13	34				330	1298
15:15	96		46	92	41			18	40				333	1327
15:30	103		44	101	25			20	42				335	1348
15:45	115		42	101	30			13	39				340	1338
16:00	136		57	98	35			24	30				380	1388
16:15	104		47	111	51			25	51				389	1444
16:30	119		44	132	36			13	49				393	1502
16:45	123		42	163	48			16	55				447	1609
17:00	146		47	108	44			16	49				410	1639
17:15	128		40	132	41			18	48				407	1657
17:30	129		37	108	27			12	49				362	1626
17:45	150		26	129	32			13	35				385	1564
AM PEAK HR	**520**	**0**	**201**	**348**	**127**	**0**	**0**	**46**	**127**	**0**	**0**	**0**	**1369**	
PM PEAK HR	**492**	**0**	**180**	**514**	**179**	**0**	**0**	**70**	**204**	**0**	**0**	**0**	**1639**	

MANUAL TRAFFIC SURVEY RESULTS

Unit Type: Camera
RTE ID:
Location: Dick Ward & Totum
Date: Saturday
Comments: Fine weather
Class **Light**

Time	N-Thru	N-Right	N-Left	S-Thru	S-Right	S-Left	E-Thru	E-Right	E-Left	W-Thru	W-Right	W-Left	Total	Cumul Tot
7:00	36		7	15	2			1	11				72	
7:15	36		7	24	4			7	9				87	
7:30	54		6	37	13			4	6				120	
7:45	54		7	41	8			2	14				126	405
8:00	51		11	46	13			5	14				140	473
8:15	67		11	59	13			2	11				163	549
8:30	74		22	56	11			10	15				188	617
8:45	86		15	67	31			15	21				235	726
9:00	80		18	84	23			8	25				238	824
9:15	87		25	83	34			10	26				265	926
9:30	87		27	81	32			12	23				262	1000
9:45	96		27	76	25			15	26				265	1030
10:00	97		33	79	42			6	22				279	1071
10:15	80		24	104	33			18	30				289	1095
10:30	109		28	95	29			11	52				324	1157
10:45	104		30	102	43			12	26				317	1209
11:00	78		22	104	39			22	37				302	302
11:15	93		30	98	38			14	30				303	605
11:30	101		38	106	28			13	37				323	928
11:45	99		30	101	31			13	32				306	1234
12:00	96		27	96	32			12	26				289	1221
12:15	101		32	101	36			13	31				314	1232
12:30	103		24	102	33			19	30				311	1220
12:45	76		25	89	24			15	29				258	1172
PEAK HR	**390**	**0**	**115**	**380**	**147**	**0**	**0**	**47**	**130**	**0**	**0**	**0**	**1209**	

APPENDIX B – CRITERIA FOR EVALUATING SIDRA RESULTS

1. Level of Service (LOS)

LOS	Traffic Signals and Roundabouts	Give Way and Stop Signs
'A'		Good operation.
'B'	Good operation. Good with acceptable delays and spare capacity.	Acceptable delays and spare capacity.
'C'	Satisfactory.	Satisfactory but accident study required.
'D'	Operating near capacity.	Near capacity and accident study required.
'E'	At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode.	At capacity and requires other control mode.
'F'	Unsatisfactory and requires additional capacity.	Unsatisfactory and requires other control mode.

2. Average Vehicle Delay (AVD)

The AVD provides a measure of the operational performance of an intersection as indicated on the table below which relates AVD to LOS. The AVD's listed in the table should be taken as a guide only as longer delays could be tolerated in some locations (i.e. inner city conditions) and on some roads (i.e. minor side street intersecting with a major arterial route).

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way and Stop Signs
A	less than 14	Good operation.	Good operation.
B	15 to 28	Good with acceptable delays and spare capacity.	Acceptable delays and spare capacity.
C	29 to 42	Satisfactory.	Satisfactory but accident study required.
D	43 to 56	Operating near capacity.	Near capacity and accident study required.
E	57 to 70	At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode.	At capacity and requires other control mode.

3. Degree of Saturation (DS)

The DS is another measure of the operational performance of individual intersections.

For intersections controlled by **traffic signals**[1] both queue length and delay increase rapidly as DS approaches 1, and it is usual to attempt to keep DS to less than 0.9. Values of DS in the order of 0.7 generally represent satisfactory intersection operation. When DS exceeds 0.9 queues can be anticipated.

For intersections controlled by a **roundabout or GIVE WAY or STOP signs**, satisfactory intersection operation is indicated by a DS of 0.8 or less

[1] *The values of DS for intersections under traffic signal control are only valid for cycle length of 120 secs.*

APPENDIX C – DETAILED SIDRA OUTPUT (NETWORK ANALYSIS)

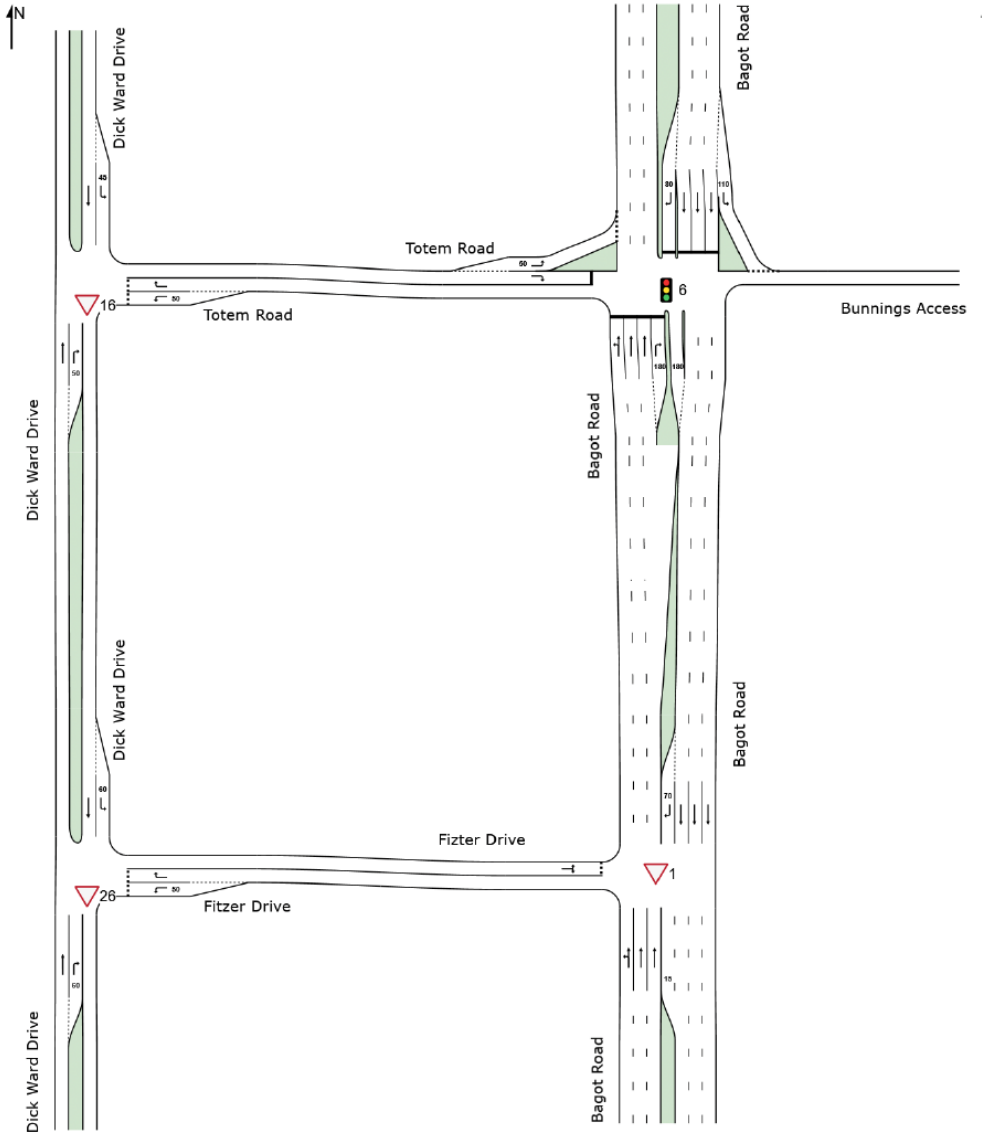
BACKGROUND 2027 PEAK TRAFFIC AM

NETWORK LAYOUT

Network: [3] BACKGROUND 2027 PEAK TRAFFIC AM
(Folder1)

New Network
Network Category: (None)
Network Scenario: 1 | Local Volumes

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
▽1	NA	Background 2027 Peak Traffic AM - BAGOT / FITZER
6	NA	Background 2027 Peak Traffic AM - BAGOT / TOTEM
▽16	NA	Background 2027 Peak Traffic AM - DW / TOTEM
▽26	NA	Background 2027 Peak Traffic AM - DW / FITZER

DEGREE OF SATURATION

Ratio of Arrival Flow to Capacity, v/c ratio per lane

Network: [3] BACKGROUND 2027 PEAK TRAFFIC AM
(Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Network
Network Category: (None)
Network Scenario: 1 | Local Volumes

MOVEMENT SUMMARY

Site: [1] Background 2027 Peak Traffic AM - BAGOT / FITZER
(NETWORK - Background)
Network: [3] BACKGROUND 2027 PEAK TRAFFIC AM
(Folder1)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Bagot Road / Fitzer Drive Intersection
Site Category: Existing Design
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Bagot Road															
3	L2	All MCs	37	1.0	37	1.0	0.232	5.6	LOS A	0.0	0.0	0.00	0.05	0.00	58.9
4	T1	All MCs	1276	5.0	1276	5.0	0.232	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.6
Approach			1313	4.9	1313	4.9	0.232	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.6
North: Bagot Road															
5	T1	All MCs	1917	5.0	1917	5.0	0.446	1.4	LOS A	1.7	12.7	0.11	0.10	0.12	58.5
6	R2	All MCs	174	1.0	174	1.0	1.109	165.5	LOS F	6.6	46.7	1.00	2.19	5.92	10.3
Approach			2091	4.7	**2090**	4.7	1.109	15.0	NA	6.6	46.7	0.18	0.28	0.61	48.5
West: Fizter Drive															
1	L2	All MCs	84	1.0	84	1.0	0.340	9.1	LOS A	0.5	3.8	0.74	0.90	0.95	38.2
2	R2	All MCs	24	1.0	24	1.0	0.340	47.4	LOS E	0.5	3.8	0.74	0.90	0.95	45.0
Approach			108	1.0	108	1.0	0.340	17.7	LOS C	0.5	3.8	0.74	0.90	0.95	40.4
All Vehicles			3512	4.6	**3511**	4.6	1.109	9.6	NA	6.6	46.7	0.13	0.20	0.39	50.5

MOVEMENT SUMMARY

Site: [6] Background 2027 Peak Traffic AM - BAGOT / TOTEM
(NETWORK - Background)
Network: [3] BACKGROUND 2027 PEAK TRAFFIC AM
(Folder1)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Bagot Road / Totem Road Intersection
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 50.0 seconds (Site Practical Cycle Time)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Bagot Road															
3	L2	All MCs	60	5.0	60	5.0	0.664	21.4	LOS C	5.8	42.5	0.90	0.81	0.94	39.0
4	T1	All MCs	1252	5.0	1252	5.0	*0.664	15.8	LOS B	5.9	42.8	0.90	0.80	0.94	47.5
3	R2	All MCs	1	5.0	1	5.0	0.005	27.1	LOS C	0.0	0.1	0.90	0.59	0.90	40.4
Approach			1313	5.0	1313	5.0	0.664	16.1	LOS B	5.9	42.8	0.90	0.80	0.94	47.2
North: Bagot Road															
7	L2	All MCs	40	5.0	40	5.0	0.026	5.7	LOS A	0.0	0.0	0.00	0.55	0.00	53.0
5	T1	All MCs	2035	5.0	2035	5.0	0.561	5.5	LOS A	5.8	42.0	0.60	0.54	0.60	50.9
6	R2	All MCs	171	5.0	171	5.0	*0.664	30.1	LOS C	2.7	19.6	0.99	0.86	1.14	30.5
Approach			2245	5.0	2245	5.0	0.664	7.4	LOS A	5.8	42.0	0.62	0.57	0.63	48.5
West: Totem Road															
1	L2	All MCs	71	5.0	**70**	5.0	0.284	7.1	LOS A	0.3	2.2	0.27	0.86	0.27	44.2
2	R2	All MCs	176	5.0	**175**	5.0	*0.664	31.9	LOS C	2.8	20.1	0.99	0.86	1.13	30.7
Approach			246	5.0	246	5.0	0.664	24.8	LOS C	2.8	20.1	0.79	0.86	0.88	35.4
All Vehicles			3804	5.0	3804	5.0	0.664	11.5	LOS B	5.9	42.8	0.73	0.67	0.75	46.8

MOVEMENT SUMMARY

Site: [16] Background 2027 Peak Traffic AM - DW / TOTEM
(NETWORK - Background)
Network: [3] BACKGROUND 2027 PEAK TRAFFIC AM
(Folder1)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Dick Ward Drive / Totem Road
Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Dick Ward Drive															
5	T1	All MCs	366	2.0	**364**	2.0	0.189	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
6	R2	All MCs	134	2.0	**133**	2.0	0.235	11.3	LOS B	0.4	2.7	0.66	0.87	0.71	43.9
Approach			500	2.0	**497**	2.0	0.235	3.1	NA	0.4	2.7	0.18	0.23	0.19	56.7
East: Totem Road															
1	L2	All MCs	134	5.0	134	5.0	0.199	9.3	LOS A	0.2	1.8	0.53	0.80	0.53	42.2
2	R2	All MCs	59	5.0	59	5.0	0.387	34.0	LOS D	0.4	3.2	0.90	1.00	1.07	35.1
Approach			193	5.0	193	5.0	0.387	16.9	LOS C	0.4	3.2	0.65	0.86	0.70	38.2
North: Dick Ward Drive															
3	L2	All MCs	212	5.0	212	5.0	0.118	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	50.9
4	T1	All MCs	547	5.0	547	5.0	0.290	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			759	5.0	759	5.0	0.290	1.6	NA	0.0	0.0	0.00	0.16	0.00	57.0
All Vehicles			1452	4.0	**1449**	4.0	0.387	4.1	NA	0.4	3.2	0.15	0.28	0.16	54.0

MOVEMENT SUMMARY

Site: [26] Background 2027 Peak Traffic AM - DW / FITZER

(NETWORK - Background)

Network: [3] BACKGROUND 2027 PEAK TRAFFIC AM

(Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Dick Ward Drive / Fitzer Drive
Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Queued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Dick Ward Drive															
5	T1	All MCs	463	2.0	463	2.0	0.241	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
6	R2	All MCs	77	2.0	77	2.0	0.124	10.1	LOS B	0.2	1.3	0.59	0.83	0.59	45.3
Approach			540	2.0	540	2.0	0.241	1.5	NA	0.2	1.3	0.08	0.12	0.08	57.2
East: Fitzer Drive															
1	L2	All MCs	137	2.0	**126**	2.1	0.209	10.1	LOS B	0.3	2.1	0.60	0.83	0.60	49.6
2	R2	All MCs	32	2.0	**29**	2.1	0.198	31.3	LOS D	0.2	1.8	0.88	0.96	0.93	29.9
Approach			168	2.0	**155**	2.1	0.209	14.1	LOS B	0.3	2.1	0.65	0.86	0.66	46.3
North: Dick Ward Drive															
3	L2	All MCs	41	2.0	41	2.0	0.022	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	50.9
4	T1	All MCs	644	2.0	644	2.0	0.335	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			685	2.0	685	2.0	0.335	0.4	NA	0.0	0.0	0.00	0.03	0.00	59.5
All Vehicles			1394	2.0	**1380**	2.0	0.335	2.4	NA	0.3	2.1	0.11	0.16	0.11	56.8

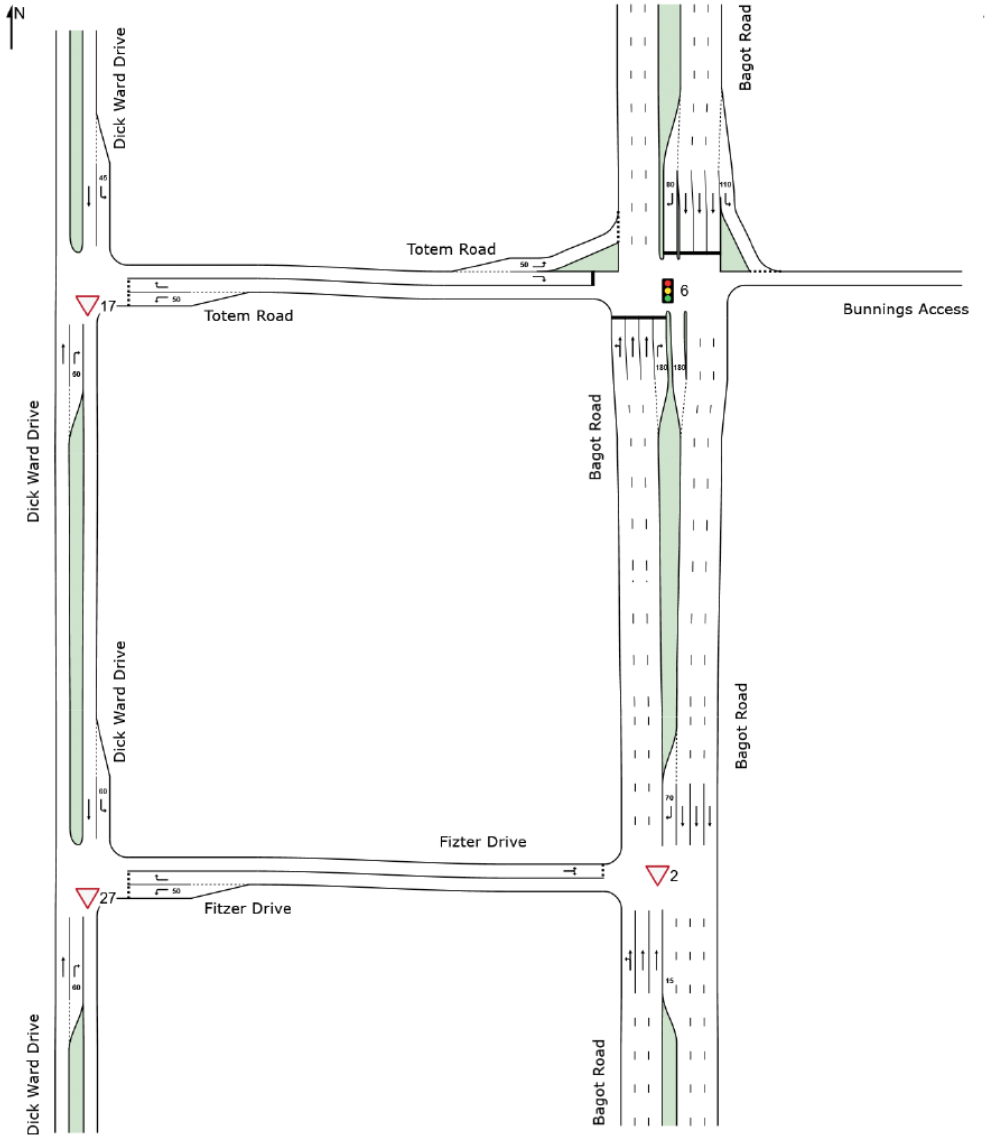
BACKGROUND 2027 PEAK TRAFFIC PM

NETWORK LAYOUT

Network: [4] BACKGROUND 2027 PEAK TRAFFIC PM
(Folder1)

New Network
Network Category: (None)
Network Scenario: 1 | Local Volumes

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
▽2	NA	Background 2027 Peak Traffic PM - BAGOT / FITZER
6	NA	Background 2027 Peak Traffic AM - BAGOT / TOTEM
▽17	NA	Background 2027 Peak Traffic PM - DW / TOTEM
▽27	NA	Background 2027 Peak Traffic PM - DW / FITZER

DEGREE OF SATURATION

Ratio of Arrival Flow to Capacity, v/c ratio per lane

Network: [4] BACKGROUND 2027 PEAK TRAFFIC PM
(Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Network
Network Category: (None)
Network Scenario: 1 | Local Volumes

MOVEMENT SUMMARY

Site: [2] Background 2027 Peak Traffic PM - BAGOT / FITZER

(NETWORK - Background)

Network: [4] BACKGROUND 2027 PEAK TRAFFIC PM

(Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Bagot Road / Fitzer Drive Intersection
Site Category: Existing Design
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Bagot Road															
3	L2	All MCs	6	1.0	6	1.0	0.443	5.7	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
4	T1	All MCs	2501	5.0	2501	5.0	0.443	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
Approach			2507	5.0	2507	5.0	0.443	0.2	NA	0.0	0.0	0.00	0.00	0.00	59.6
North: Bagot Road															
5	T1	All MCs	1285	5.0	**1283**	5.0	0.335	4.5	LOS A	1.5	11.3	0.01	0.01	0.01	55.8
6	R2	All MCs	128	1.0	128	1.0	11.927	10128.8	LOS F	30.2	213.4	1.00	1.65	4.16	1.7
Approach			1414	4.6	**1411**	4.6	11.927	924.2	NA	30.2	213.4	0.10	0.16	0.39	21.7
West: Fizter Drive															
1	L2	All MCs	84	1.0	84	1.0	1.123	150.7	LOS F	3.8	27.1	1.00	1.82	3.97	10.7
2	R2	All MCs	5	1.0	5	1.0	1.123	340.4	LOS F	3.8	27.1	1.00	1.82	3.97	17.7
Approach			89	1.0	89	1.0	1.123	161.9	LOS F	3.8	27.1	1.00	1.82	3.97	11.2
All Vehicles			4011	4.8	**4008**	4.8	11.927	329.1	NA	30.2	213.4	0.06	0.10	0.23	30.3

MOVEMENT SUMMARY

Site: [6] Background 2027 Peak Traffic AM - BAGOT / TOTEM
(NETWORK - Background)
Network: [4] BACKGROUND 2027 PEAK TRAFFIC PM
(Folder1)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Bagot Road / Totem Road Intersection
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 50.0 seconds (Site Practical Cycle Time)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Bagot Road															
3	L2	All MCs	60	5.0	60	5.0	0.660	21.3	LOS C	5.8	42.1	0.90	0.80	0.93	39.1
4	T1	All MCs	1252	5.0	**1247**	5.0	*0.660	15.7	LOS B	5.8	42.4	0.90	0.80	0.93	47.6
3	R2	All MCs	1	5.0	1	5.0	0.005	27.1	LOS C	0.0	0.1	0.90	0.59	0.90	40.4
Approach			1313	5.0	**1308**	5.0	0.660	15.9	LOS B	5.8	42.4	0.90	0.80	0.93	47.3
North: Bagot Road															
7	L2	All MCs	40	5.0	40	5.0	0.026	5.7	LOS A	0.0	0.0	0.00	0.55	0.00	53.0
5	T1	All MCs	2035	5.0	2035	5.0	0.561	5.5	LOS A	5.8	42.0	0.60	0.54	0.60	50.9
6	R2	All MCs	171	5.0	171	5.0	*0.660	30.0	LOS C	2.7	19.6	0.99	0.85	1.13	30.6
Approach			2245	5.0	2245	5.0	0.660	7.4	LOS A	5.8	42.0	0.62	0.57	0.63	48.5
West: Totem Road															
1	L2	All MCs	71	5.0	**69**	5.1	0.276	7.1	LOS A	0.3	2.1	0.27	0.86	0.27	44.3
2	R2	All MCs	176	5.0	**172**	5.1	*0.660	31.9	LOS C	2.7	19.8	0.99	0.86	1.13	30.6
Approach			246	5.0	**241**	5.1	0.660	24.8	LOS C	2.7	19.8	0.78	0.86	0.88	35.5
All Vehicles			3804	5.0	**3794**	5.0	0.660	11.4	LOS B	5.8	42.4	0.73	0.66	0.75	46.9

MOVEMENT SUMMARY

Site: [17] Background 2027 Peak Traffic PM - DW / TOTEM

(NETWORK - Background)

Network: [4] BACKGROUND 2027 PEAK TRAFFIC PM

(Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Dick Ward Drive / Totem Road
Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Dick Ward Drive															
5	T1	All MCs	541	2.0	**518**	2.0	0.269	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
6	R2	All MCs	188	2.0	**180**	2.0	0.295	11.2	LOS B	0.5	3.7	0.65	0.89	0.76	44.1
Approach			729	2.0	**698**	2.0	0.295	2.9	NA	0.5	3.7	0.17	0.23	0.20	56.8
East: Totem Road															
1	L2	All MCs	215	5.0	215	5.0	0.306	9.6	LOS A	0.4	3.2	0.54	0.83	0.61	41.8
2	R2	All MCs	74	5.0	74	5.0	0.646	54.4	LOS F	0.8	5.9	0.96	1.09	1.39	28.6
Approach			288	5.0	288	5.0	0.646	21.0	LOS C	0.8	5.9	0.65	0.90	0.81	34.6
North: Dick Ward Drive															
3	L2	All MCs	189	5.0	189	5.0	0.106	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	50.9
4	T1	All MCs	518	5.0	518	5.0	0.274	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			707	5.0	707	5.0	0.274	1.6	NA	0.0	0.0	0.00	0.15	0.00	57.1
All Vehicles			1725	3.7	**1693**	3.8	0.646	5.4	NA	0.8	5.9	0.18	0.31	0.22	52.6

MOVEMENT SUMMARY

Site: [27] Background 2027 Peak Traffic PM - DW / FITZER

(NETWORK - Background)

Network: [4] BACKGROUND 2027 PEAK TRAFFIC PM

(Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Dick Ward Drive / Fitzer Drive
Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Dick Ward Drive															
5	T1	All MCs	758	2.0	758	2.0	0.394	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
6	R2	All MCs	76	2.0	76	2.0	0.130	10.5	LOS B	0.2	1.3	0.62	0.84	0.62	44.8
Approach			834	2.0	834	2.0	0.394	1.1	NA	0.2	1.3	0.06	0.08	0.06	58.0
East: Fitzer Drive															
1	L2	All MCs	115	2.0	**32**	4.6	0.058	10.2	LOS B	0.1	0.5	0.58	0.80	0.58	49.4
2	R2	All MCs	48	2.0	**13**	4.6	0.225	68.3	LOS F	0.2	1.7	0.95	0.99	1.01	18.7
Approach			163	2.0	**45**	4.6	0.225	27.5	LOS D	0.2	1.7	0.69	0.86	0.71	38.3
North: Dick Ward Drive															
3	L2	All MCs	47	2.0	47	2.0	0.026	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	50.9
4	T1	All MCs	677	2.0	677	2.0	0.352	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			724	2.0	724	2.0	0.352	0.5	NA	0.0	0.0	0.00	0.04	0.00	59.4
All Vehicles			1721	2.0	**1603**	2.1	0.394	1.6	NA	0.2	1.7	0.05	0.08	0.05	57.8

DESIGN 2027 PEAK TRAFFIC AM – STAGE 1

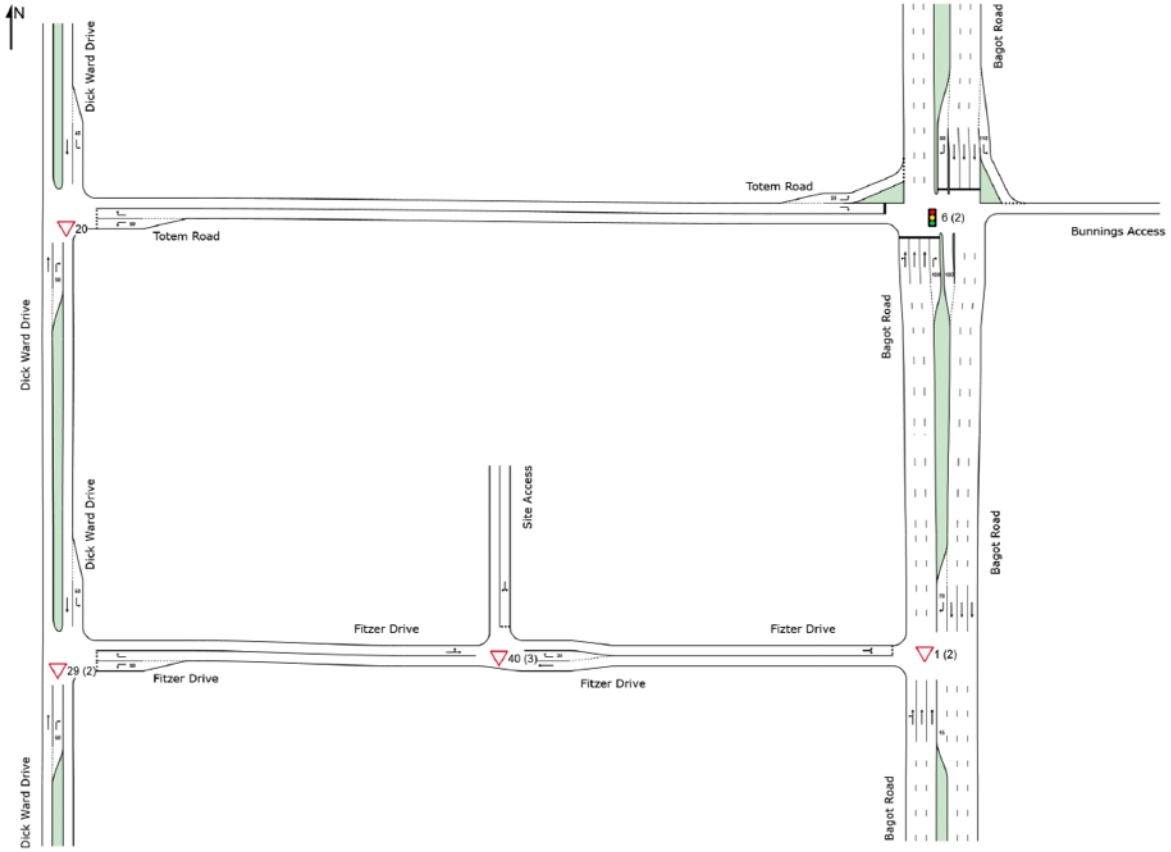
NETWORK LAYOUT

Network: [5] DESIGN 2027 PEAK TRAFFIC AM [Stage 1]

(Folder1)

New Network
Network Category: (None)
Network Scenario: 1 | Local Volumes

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
▽20	NA	Design 2027 Peak Traffic AM - DW / TOTEM [Stage 1]
▽29 (2)	NA	Design 2027 Peak Traffic AM - DW / FITZER [Stage 1]
▽1 (2)	NA	Design 2027 Peak Traffic AM - BAGOT / FITZER [Stage 1]
6 (2)	NA	Design 2027 Peak Traffic AM - BAGOT / TOTEM [Stage 1]
▽40 (3)	NA	Design 2027 Peak Traffic AM - FITZER / SITE ACCESS [Stage 1]

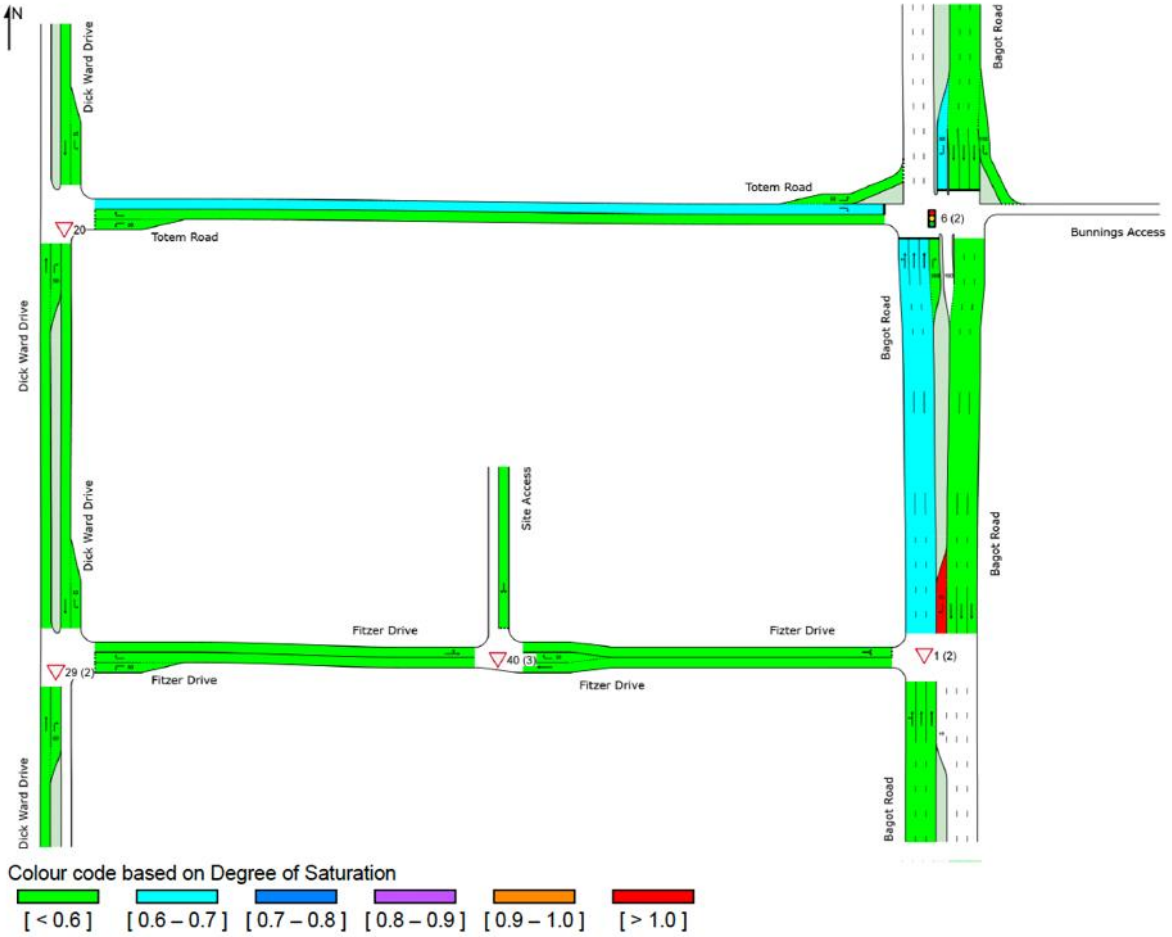
DEGREE OF SATURATION

Ratio of Arrival Flow to Capacity, v/c ratio per lane

Network: [5] DESIGN 2027 PEAK TRAFFIC AM [Stage 1]
(Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Network
Network Category: (None)
Network Scenario: 1 | Local Volumes



Colour code based on Degree of Saturation

[< 0.6] [0.6 – 0.7] [0.7 – 0.8] [0.8 – 0.9] [0.9 – 1.0] [> 1.0]

MOVEMENT SUMMARY

Site: [20] Design 2027 Peak Traffic AM - DW / TOTEM [Stage 1] (NETWORK - Design [Stage 1])

Network: [5] DESIGN 2027 PEAK TRAFFIC AM [Stage 1] (Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Dick Ward Drive / Totem Road
Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Queued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Dick Ward Drive															
5	T1	All MCs	383	2.0	**376**	2.0	0.195	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
6	R2	All MCs	134	2.0	**131**	2.0	0.241	11.7	LOS B	0.4	2.7	0.68	0.88	0.73	43.5
Approach			517	2.0	**507**	2.0	0.241	3.1	NA	0.4	2.7	0.18	0.23	0.19	56.7
East: Totem Road															
1	L2	All MCs	134	5.0	134	5.0	0.207	9.6	LOS A	0.2	1.8	0.55	0.81	0.55	41.8
2	R2	All MCs	59	5.0	59	5.0	0.421	37.3	LOS E	0.5	3.5	0.91	1.01	1.10	33.9
Approach			193	5.0	193	5.0	0.421	18.1	LOS C	0.5	3.5	0.66	0.87	0.72	37.3
North: Dick Ward Drive															
3	L2	All MCs	212	5.0	212	5.0	0.118	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	50.9
4	T1	All MCs	572	5.0	572	5.0	0.303	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			783	5.0	783	5.0	0.303	1.6	NA	0.0	0.0	0.00	0.16	0.00	57.1
All Vehicles			1493	4.0	**1483**	4.0	0.421	4.2	NA	0.5	3.5	0.15	0.27	0.16	53.9

MOVEMENT SUMMARY

Site: [29 (2)] Design 2027 Peak Traffic AM - DW / FITZER [Stage 1] (NETWORK - Design [Stage 1])

Network: [5] DESIGN 2027 PEAK TRAFFIC AM [Stage 1] (Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Dick Ward Drive / Fitzer Drive
Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Queued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Dick Ward Drive															
5	T1	All MCs	463	2.0	463	2.0	0.241	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
6	R2	All MCs	118	2.0	118	2.0	0.197	10.5	LOS B	0.3	2.1	0.63	0.85	0.63	44.8
Approach			581	2.0	581	2.0	0.241	2.2	NA	0.3	2.1	0.13	0.17	0.13	56.0
East: Fitzer Drive															
1	L2	All MCs	164	2.0	**130**	2.2	0.217	10.2	LOS B	0.3	2.2	0.60	0.84	0.62	49.5
2	R2	All MCs	48	2.0	**38**	2.2	0.292	37.0	LOS E	0.4	2.7	0.91	0.99	1.03	27.3
Approach			213	2.0	**169**	2.2	0.292	16.3	LOS C	0.4	2.7	0.67	0.87	0.71	44.8
North: Dick Ward Drive															
3	L2	All MCs	65	2.0	65	2.0	0.036	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	50.9
4	T1	All MCs	644	2.0	644	2.0	0.335	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			709	2.0	709	2.0	0.335	0.6	NA	0.0	0.0	0.00	0.05	0.00	59.3
All Vehicles			1503	2.0	**1459**	2.1	0.335	3.0	NA	0.4	2.7	0.13	0.19	0.13	56.0

MOVEMENT SUMMARY

Site: [1 (2)] Design 2027 Peak Traffic AM - BAGOT / FITZER [Stage 1] (NETWORK - Design [Stage 1])

Network: [5] DESIGN 2027 PEAK TRAFFIC AM [Stage 1] (Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Bagot Road / Fitzer Drive Intersection
Site Category: Existing Design
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Queued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Bagot Road															
3	L2	All MCs	42	1.0	42	1.0	0.236	5.6	LOS A	0.0	0.0	0.00	0.06	0.00	58.8
4	T1	All MCs	1296	5.0	1296	5.0	0.236	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.5
Approach			1338	4.9	1338	4.9	0.236	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.5
North: Bagot Road															
5	T1	All MCs	1917	5.0	**1916**	5.0	0.453	3.8	LOS A	2.3	16.5	0.09	0.09	0.15	56.3
6	R2	All MCs	208	1.0	208	1.0	1.393	399.5	LOS F	16.3	115.2	1.00	3.41	11.03	5.9
Approach			2125	4.6	**2124**	4.6	1.393	42.6	NA	16.3	115.2	0.18	0.42	1.22	38.8
West: Fizter Drive															
1	L2	All MCs	84	1.0	84	1.0	0.546	13.0	LOS B	1.0	6.9	0.86	1.07	1.37	31.7
2	R2	All MCs	40	1.0	40	1.0	0.546	58.3	LOS F	1.0	6.9	0.86	1.07	1.37	40.1
Approach			124	1.0	124	1.0	0.546	27.6	LOS D	1.0	6.9	0.86	1.07	1.37	35.3
All Vehicles			3587	4.6	**3586**	4.6	1.393	26.3	NA	16.3	115.2	0.14	0.29	0.77	42.2

MOVEMENT SUMMARY

Site: [6 (2)] Design 2027 Peak Traffic AM - BAGOT / TOTEM [Stage 1] (NETWORK - Design [Stage 1])

Network: [5] DESIGN 2027 PEAK TRAFFIC AM [Stage 1] (Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Bagot Road / Totem Road Intersection
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 50.0 seconds (Site Practical Cycle Time)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Queued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Bagot Road															
3	L2	All MCs	60	5.0	60	5.0	0.670	21.4	LOS C	5.9	43.4	0.90	0.81	0.94	39.0
4	T1	All MCs	1275	5.0	1275	5.0	*0.670	15.8	LOS B	6.0	43.6	0.90	0.80	0.94	47.5
3	R2	All MCs	1	5.0	1	5.0	0.005	27.1	LOS C	0.0	0.1	0.90	0.59	0.90	40.4
Approach			1336	5.0	1336	5.0	0.670	16.0	LOS B	6.0	43.6	0.90	0.80	0.94	47.2
North: Bagot Road															
7	L2	All MCs	40	5.0	40	5.0	0.026	5.7	LOS A	0.0	0.0	0.00	0.55	0.00	53.0
5	T1	All MCs	2069	5.0	2069	5.0	0.571	5.6	LOS A	5.9	43.2	0.61	0.55	0.61	50.8
6	R2	All MCs	171	5.0	171	5.0	*0.670	30.3	LOS C	2.7	19.7	1.00	0.86	1.15	30.5
Approach			2280	5.0	2280	5.0	0.670	7.4	LOS A	5.9	43.2	0.63	0.57	0.64	48.5
West: Totem Road															
1	L2	All MCs	71	5.0	**70**	5.0	0.288	7.2	LOS A	0.3	2.2	0.28	0.87	0.28	44.1
2	R2	All MCs	176	5.0	**174**	5.0	*0.670	32.1	LOS C	2.8	20.1	0.99	0.86	1.14	30.6
Approach			246	5.0	**244**	5.0	0.670	25.0	LOS C	2.8	20.1	0.79	0.86	0.89	35.4

MOVEMENT SUMMARY

Site: [40 (3)] Design 2027 Peak Traffic AM - FITZER / SITE ACCESS [Stage 1] (NETWORK - Design [Stage 1])
Network: [5] DESIGN 2027 PEAK TRAFFIC AM [Stage 1]
(Folder1)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
East: Fitzer Drive															
5	T1	All MCs	211	2.0	**161**	2.3	0.084	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
6	R2	All MCs	39	1.0	**30**	1.1	0.019	5.9	LOS A	0.0	0.2	0.26	0.56	0.26	49.1
Approach			249	1.8	**191**	2.1	0.084	0.9	NA	0.0	0.2	0.04	0.09	0.04	55.3
North: Site Access															
7	L2	All MCs	16	1.0	16	1.0	0.043	5.9	LOS A	0.1	0.5	0.33	0.58	0.33	49.1
9	R2	All MCs	26	1.0	26	1.0	0.043	7.4	LOS A	0.1	0.5	0.33	0.58	0.33	49.1
Approach			42	1.0	42	1.0	0.043	6.9	LOS A	0.1	0.5	0.33	0.58	0.33	49.1
West: Fitzer Drive															
10	L2	All MCs	39	1.0	39	1.0	0.082	5.6	LOS A	0.0	0.0	0.00	0.15	0.00	56.2
11	T1	All MCs	118	2.0	118	2.0	0.082	0.0	LOS A	0.0	0.0	0.00	0.15	0.00	57.4
Approach			157	1.8	157	1.8	0.082	1.4	NA	0.0	0.0	0.00	0.15	0.00	56.9
All Vehicles			448	1.7	**390**	2.0	0.084	1.8	NA	0.1	0.5	0.06	0.16	0.06	55.3

DESIGN 2027 PEAK TRAFFIC PM – STAGE 1

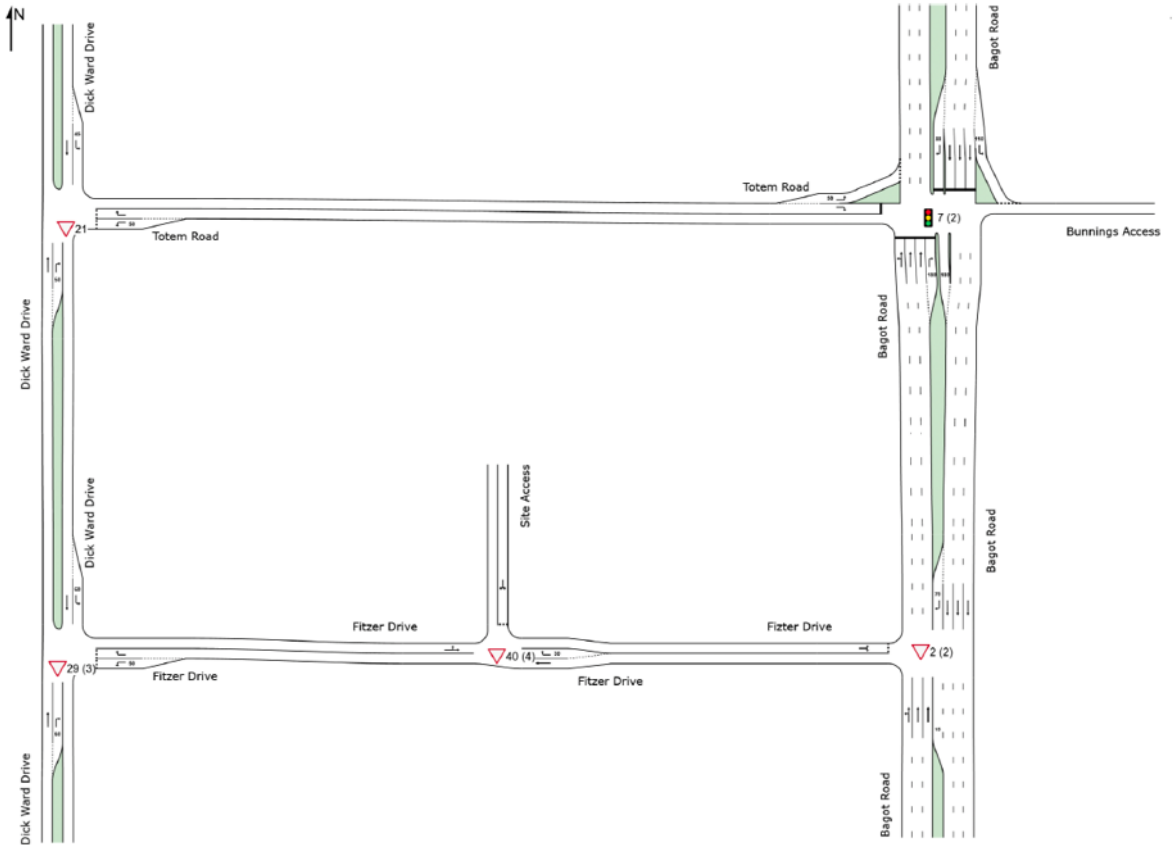
NETWORK LAYOUT

Network: [6] DESIGN 2027 PEAK TRAFFIC PM [Stage 1]

(Folder1)

New Network
Network Category: (None)
Network Scenario: 1 | Local Volumes

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
▽21	NA	Design 2027 Peak Traffic PM - DW / TOTEM [Stage 1]
▽29 (3)	NA	Design 2027 Peak Traffic PM - DW / FITZER [Stage 1]
▽2 (2)	NA	Design 2027 Peak Traffic PM - BAGOT / FITZER [Stage 1]
7 (2)	NA	Design 2027 Peak Traffic PM - BAGOT / TOTEM [Stage 1]
▽40 (4)	NA	Design 2027 Peak Traffic PM - FITZER / SITE ACCESS [Stage 1]

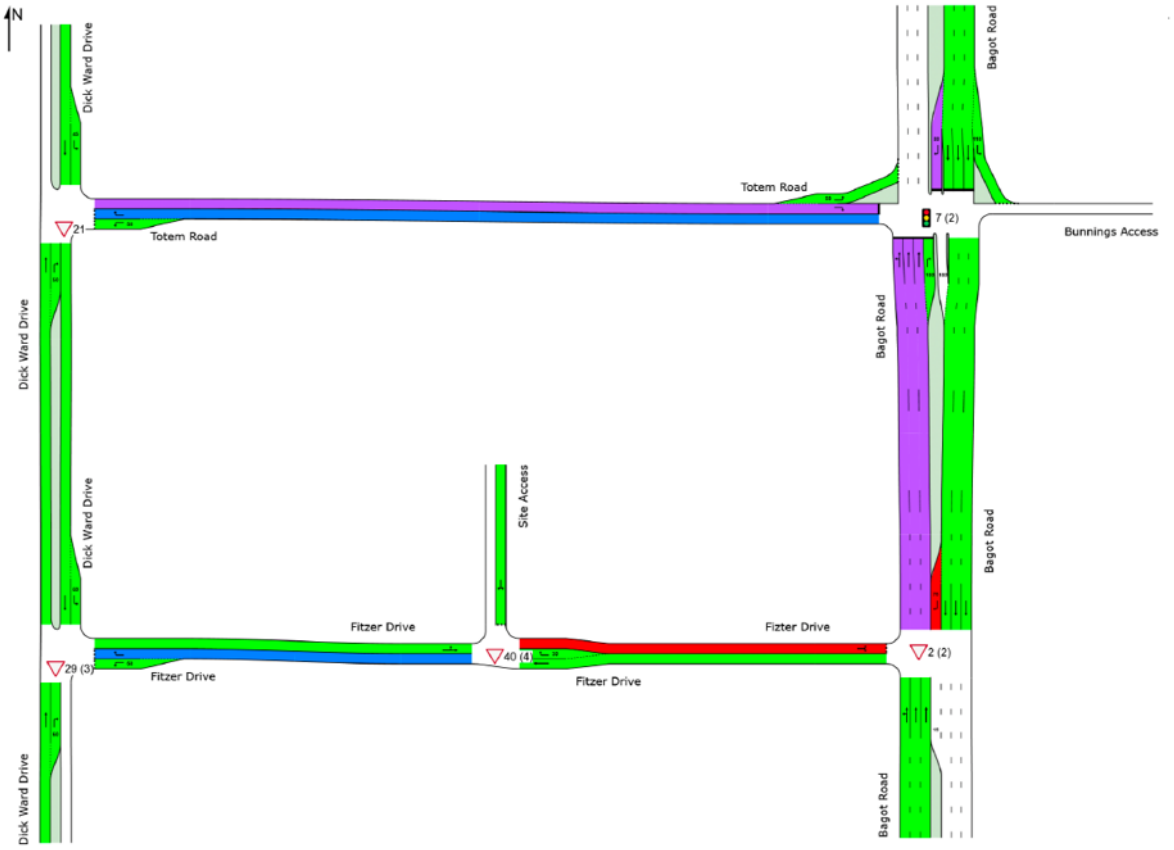
DEGREE OF SATURATION

Ratio of Arrival Flow to Capacity, v/c ratio per lane

Network: [6] DESIGN 2027 PEAK TRAFFIC PM [Stage 1]
(Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Network
Network Category: (None)
Network Scenario: 1 | Local Volumes



MOVEMENT SUMMARY

Site: [21] Design 2027 Peak Traffic PM - DW / TOTEM [Stage 1] (NETWORK - Design [Stage 1])

Network: [6] DESIGN 2027 PEAK TRAFFIC PM [Stage 1] (Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Dick Ward Drive / Totem Road
Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Queued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Dick Ward Drive															
5	T1	All MCs	574	2.0	**548**	2.0	0.285	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
6	R2	All MCs	188	2.0	**180**	2.0	0.304	11.5	LOS B	0.5	3.8	0.67	0.90	0.79	43.7
Approach			762	2.0	**727**	2.0	0.304	2.9	NA	0.5	3.8	0.16	0.22	0.20	56.8
East: Totem Road															
1	L2	All MCs	215	5.0	**214**	5.0	0.315	9.9	LOS A	0.5	3.3	0.56	0.84	0.64	41.5
2	R2	All MCs	74	5.0	**73**	5.0	0.728	65.1	LOS F	0.9	6.7	0.97	1.11	1.49	26.0
Approach			288	5.0	288	5.0	0.728	24.0	LOS C	0.9	6.7	0.67	0.91	0.86	32.7
North: Dick Ward Drive															
3	L2	All MCs	189	5.0	189	5.0	0.106	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	50.9
4	T1	All MCs	539	5.0	539	5.0	0.285	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			728	5.0	728	5.0	0.285	1.5	NA	0.0	0.0	0.00	0.15	0.00	57.2
All Vehicles			1779	3.7	**1743**	3.8	0.728	5.8	NA	0.9	6.7	0.18	0.31	0.22	52.3

MOVEMENT SUMMARY

Site: [29 (3)] Design 2027 Peak Traffic PM - DW / FITZER [Stage 1] (NETWORK - Design [Stage 1])

Network: [6] DESIGN 2027 PEAK TRAFFIC PM [Stage 1] (Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Dick Ward Drive / Fitzer Drive
Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Dick Ward Drive															
5	T1	All MCs	758	2.0	758	2.0	0.394	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
6	R2	All MCs	112	2.0	112	2.0	0.197	10.9	LOS B	0.3	2.1	0.65	0.86	0.65	44.3
Approach			869	2.0	869	2.0	0.394	1.5	NA	0.3	2.1	0.08	0.11	0.08	57.2
East: Fitzer Drive															
1	L2	All MCs	168	2.0	**89**	2.7	0.158	10.4	LOS B	0.2	1.5	0.61	0.83	0.61	49.3
2	R2	All MCs	81	2.0	**43**	2.7	0.724	112.9	LOS F	1.0	6.9	0.98	1.11	1.49	12.9
Approach			249	2.0	**132**	2.7	0.724	43.7	LOS E	1.0	6.9	0.73	0.92	0.89	31.8
North: Dick Ward Drive															
3	L2	All MCs	68	2.0	68	2.0	0.037	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	50.9
4	T1	All MCs	677	2.0	**676**	2.0	0.351	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			745	2.0	745	2.0	0.351	0.6	NA	0.0	0.0	0.00	0.05	0.00	59.3
All Vehicles			1864	2.0	**1746**	2.1	0.724	4.3	NA	1.0	6.9	0.10	0.15	0.11	54.4

MOVEMENT SUMMARY

Site: [2 (2)] Design 2027 Peak Traffic PM - BAGOT / FITZER [Stage 1] (NETWORK - Design [Stage 1])

Network: [6] DESIGN 2027 PEAK TRAFFIC PM [Stage 1] (Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Bagot Road / Fitzer Drive Intersection
Site Category: Existing Design
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Bagot Road															
3	L2	All MCs	14	1.0	14	1.0	0.449	5.7	LOS A	0.0	0.0	0.00	0.01	0.00	59.5
4	T1	All MCs	2529	5.0	2529	5.0	0.449	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
Approach			2543	5.0	2543	5.0	0.449	0.2	NA	0.0	0.0	0.00	0.00	0.00	59.6
North: Bagot Road															
5	T1	All MCs	1285	5.0	**1282**	5.0	0.335	4.4	LOS A	1.5	11.2	0.01	0.01	0.01	55.9
6	R2	All MCs	179	1.0	**178**	1.0	18.364	15990.2	LOS F	43.0	303.8	1.00	1.60	3.97	1.6
Approach			1464	4.5	**1461**	4.5	18.364	1958.6	NA	43.0	303.8	0.13	0.21	0.50	16.6
West: Fizter Drive															
1	L2	All MCs	84	1.0	84	1.0	10.015	8129.9	LOS F	33.1	233.8	1.00	2.05	5.27	2.0
2	R2	All MCs	59	1.0	59	1.0	10.015	8331.4	LOS F	33.1	233.8	1.00	2.05	5.27	3.9
Approach			143	1.0	143	1.0	10.015	8212.9	LOS F	33.1	233.8	1.00	2.05	5.27	2.8
All Vehicles			4151	4.7	**4147**	4.7	18.364	973.2	NA	43.0	303.8	0.08	0.15	0.36	19.7

MOVEMENT SUMMARY

Site: [7 (2)] Design 2027 Peak Traffic PM - BAGOT / TOTEM [Stage 1] (NETWORK - Design [Stage 1])

Network: [6] DESIGN 2027 PEAK TRAFFIC PM [Stage 1] (Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Bagot Road / Totem Road Intersection
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60.0 seconds (Site Practical Cycle Time)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Bagot Road															
3	L2	All MCs	31	5.0	**30**	5.1	0.873	31.8	LOS C	14.5	105.8	0.98	1.06	1.24	32.3
4	T1	All MCs	2131	5.0	**2069**	5.1	*0.873	26.2	LOS C	14.5	105.9	0.98	1.06	1.24	41.9
3	R2	All MCs	212	5.0	**205**	5.1	0.434	26.1	LOS C	3.2	23.2	0.88	0.79	0.88	40.8
Approach			2373	5.0	**2304**	5.1	0.873	26.3	LOS C	14.5	105.9	0.97	1.03	1.21	41.7
North: Bagot Road															
7	L2	All MCs	67	5.0	67	5.0	0.051	5.8	LOS A	0.1	0.6	0.07	0.58	0.07	51.7
5	T1	All MCs	1316	5.0	1316	5.0	0.434	9.1	LOS A	4.8	35.0	0.65	0.56	0.65	46.3
6	R2	All MCs	271	5.0	271	5.0	*0.873	40.8	LOS D	5.8	42.6	1.00	1.05	1.46	26.0
Approach			1654	5.0	1654	5.0	0.873	14.2	LOS B	5.8	42.6	0.68	0.65	0.76	41.5
West: Totem Road															
1	L2	All MCs	104	5.0	**102**	5.1	0.222	14.2	LOS B	1.5	10.7	0.81	1.00	0.81	43.4
2	R2	All MCs	163	5.0	**159**	5.1	*0.873	44.1	LOS D	3.5	25.2	1.00	1.04	1.57	25.3
Approach			267	5.0	**261**	5.1	0.873	32.4	LOS C	3.5	25.2	0.93	1.02	1.28	32.9
All Vehicles			4294	5.0	**4219**	5.1	0.873	21.9	LOS C	14.5	105.9	0.86	0.88	1.04	41.0

MOVEMENT SUMMARY

Site: [40 (4)] Design 2027 Peak Traffic PM - FITZER / SITE ACCESS [Stage 1] (NETWORK - Design [Stage 1])
Network: [6] DESIGN 2027 PEAK TRAFFIC PM [Stage 1] (Folder1)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
East: Fitzer Drive															
5	T1	All MCs	135	2.0	**17**	7.5	0.009	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
6	R2	All MCs	58	1.0	**7**	3.9	0.005	6.0	LOS A	0.0	0.1	0.28	0.54	0.28	48.9
Approach			193	1.7	**25**	6.4	0.009	1.8	NA	0.0	0.1	0.08	0.16	0.08	52.9
North: Site Access															
7	L2	All MCs	54	1.0	54	1.0	0.130	6.0	LOS A	0.2	1.5	0.29	0.58	0.29	49.4
9	R2	All MCs	86	1.0	86	1.0	0.130	6.5	LOS A	0.2	1.5	0.29	0.58	0.29	49.4
Approach			140	1.0	140	1.0	0.130	6.3	LOS A	0.2	1.5	0.29	0.58	0.29	49.4
West: Fitzer Drive															
10	L2	All MCs	58	1.0	58	1.0	0.102	5.6	LOS A	0.0	0.0	0.00	0.19	0.00	55.8
11	T1	All MCs	123	2.0	123	2.0	0.102	0.0	LOS A	0.0	0.0	0.00	0.19	0.00	56.7
Approach			181	1.7	181	1.7	0.102	1.8	NA	0.0	0.0	0.00	0.19	0.00	56.3
All Vehicles			514	1.5	**346**	2.2	0.130	3.6	NA	0.2	1.5	0.12	0.35	0.12	53.5

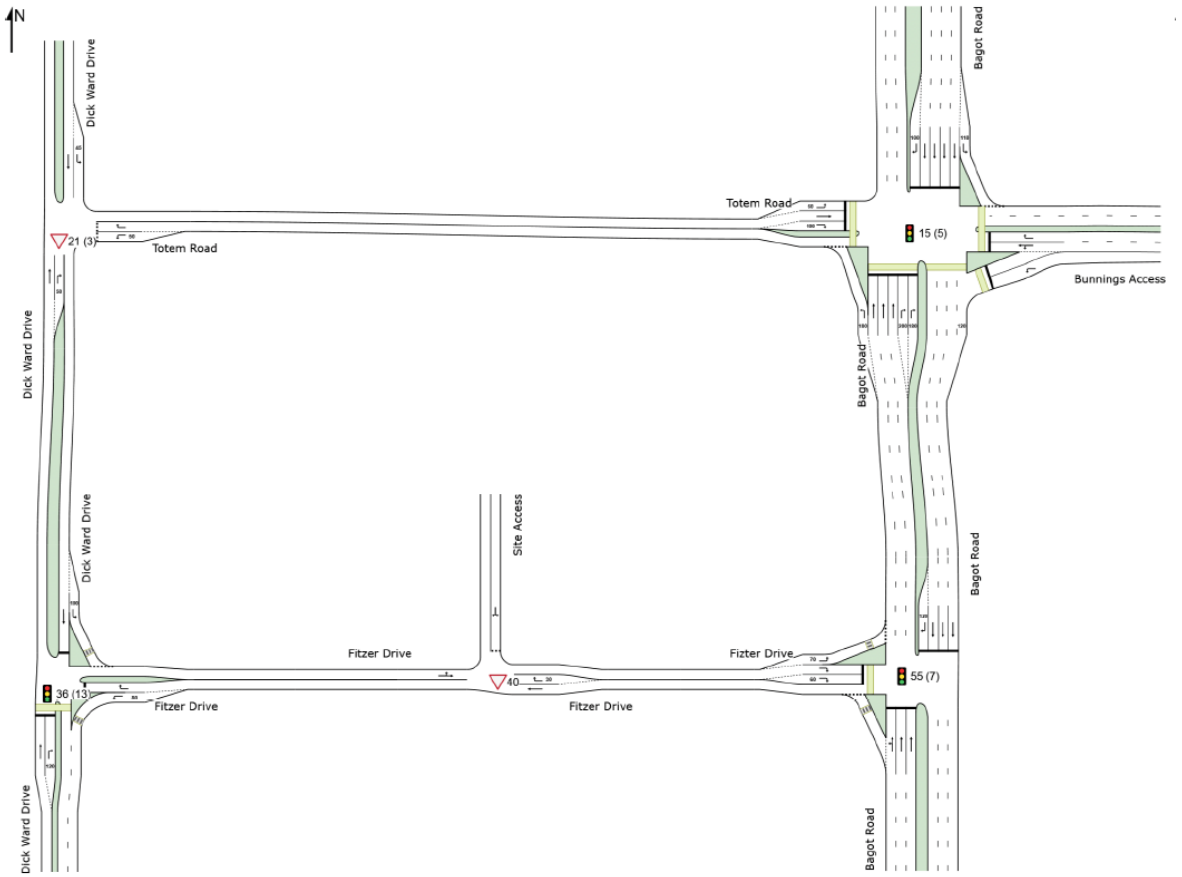
DESIGN 2027 PEAK TRAFFIC AM – MASTERPLAN

NETWORK LAYOUT

Network: [1] DESIGN 2027 PEAK TRAFFIC AM [Masterplan] (Folder1)

New Network
Network Category: (None)
Network Scenario: 1 | Local Volumes

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
55 (7)	NA	Design 2027 Peak Traffic AM - Signalised - BAGOT / FITZER [Masterplan]
15 (5)	NA	Design 2027 Peak Traffic AM - BAGOT / TOTEM [COUNCIL UPGRADE]
▽21 (3)	NA	Design 2027 Peak Traffic AM - DW / TOTEM [Masterplan]
36 (13)	NA	Design 2027 Peak Traffic AM - DW / FITZER [Masterplan]
▽40	NA	Design 2027 Peak Traffic AM - FITZER / SITE ACCESS [Masterplan]

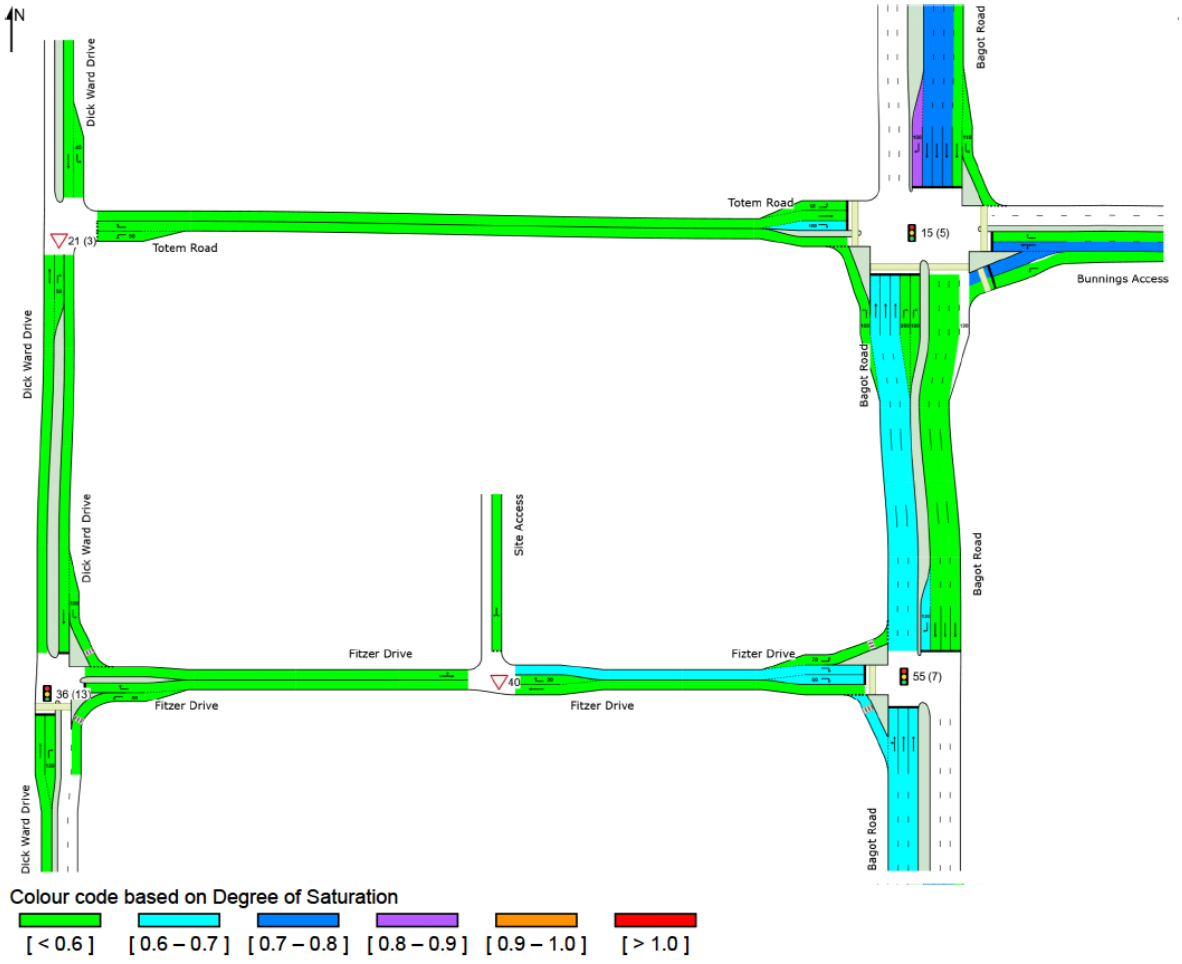
DEGREE OF SATURATION

Ratio of Arrival Flow to Capacity, v/c ratio per lane

Network: [1] DESIGN 2027 PEAK TRAFFIC AM [Masterplan]
(Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Network
Network Category: (None)
Network Cycle Time = 120.0 seconds (Network Practical Cycle Time)
Critical Site / Common Control Group that determines the Network Cycle Time (for Coordinated Sites): 15 (5) [Design 2027 Peak Traffic AM - BAGOT / TOTEM [COUNCIL UPGRADE]]
Network Scenario: 1 | Local Volumes



MOVEMENT SUMMARY

Site: [55 (7)] Design 2027 Peak Traffic AM - Signalised - BAGOT / FITZER [Masterplan] (NETWORK - Design [Masterplan])
Network: [1] DESIGN 2027 PEAK TRAFFIC AM [Masterplan]
(Folder1)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Bagot Road / Fitzer Drive Intersection
Site Category: Proposed Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120.0 seconds (Network Practical Cycle Time)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Bagot Road															
3	L2	All MCs	107	1.0	107	1.0	0.619	11.1	LOS B	13.5	98.2	0.83	1.08	0.83	21.6
4	T1	All MCs	1381	5.0	1381	5.0	*0.619	30.5	LOS C	13.7	100.3	0.84	0.84	0.84	27.6
Approach			1488	4.7	1488	4.7	0.619	29.1	LOS C	13.7	100.3	0.84	0.86	0.84	27.0
North: Bagot Road															
5	T1	All MCs	1917	5.0	1917	5.0	0.404	0.2	LOS A	0.8	6.1	0.04	0.03	0.04	59.8
6	R2	All MCs	419	1.0	419	1.0	*0.621	36.7	LOS D	11.9	83.9	0.85	0.83	0.85	27.6
Approach			2336	4.3	2336	4.3	0.621	6.8	LOS A	11.9	83.9	0.18	0.18	0.18	53.5
West: Fizter Drive															
1	L2	All MCs	107	1.0	107	1.0	0.115	21.9	LOS C	2.8	19.4	0.77	1.13	0.77	30.5
2	R2	All MCs	141	1.0	141	1.0	*0.621	64.6	LOS E	2.6	18.1	0.99	0.77	1.01	28.6
Approach			248	1.0	248	1.0	0.621	46.1	LOS D	2.8	19.4	0.90	0.93	0.91	29.1
All Vehicles			4073	4.2	4073	4.2	0.621	17.3	LOS B	13.7	100.3	0.47	0.47	0.47	41.4

MOVEMENT SUMMARY

Site: [15 (5)] Design 2027 Peak Traffic AM - BAGOT / TOTEM [COUNCIL UPGRADE] (NETWORK - Design [Masterplan])
Network: [1] DESIGN 2027 PEAK TRAFFIC AM [Masterplan] (Folder1)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Bagot Road / Totem Road
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120.0 seconds (Network Practical Cycle Time)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Bagot Road															
3	L2	All MCs	60	5.0	60	5.0	0.041	6.8	LOS A	0.4	2.7	0.23	0.88	0.23	29.3
4	T1	All MCs	1579	5.0	1579	5.0	*0.623	17.0	LOS B	9.9	72.1	0.90	1.00	0.90	34.0
3	R2	All MCs	1	5.0	1	5.0	0.002	54.7	LOS D	0.0	0.1	0.89	0.57	0.89	31.2
Approach			1640	5.0	1640	5.0	0.623	16.7	LOS B	9.9	72.1	0.87	1.00	0.87	33.9
East: Bunnings Access															
4	L2	All MCs	69	5.0	69	5.0	0.721	71.5	LOS E	2.6	18.9	1.00	0.78	1.07	18.7
5	T1	All MCs	42	5.0	42	5.0	*0.721	66.7	LOS E	2.6	18.9	1.00	0.84	1.19	19.0
6	R2	All MCs	27	5.0	27	5.0	0.305	69.0	LOS E	1.0	7.4	1.00	0.72	1.00	27.9
Approach			139	5.0	139	5.0	0.721	69.5	LOS E	2.6	18.9	1.00	0.79	1.09	21.1
North: Bagot Road															
7	L2	All MCs	40	5.0	40	5.0	0.025	5.8	LOS A	0.1	0.5	0.05	0.67	0.05	47.3
5	T1	All MCs	2526	5.0	2526	5.0	*0.767	28.3	LOS C	20.3	148.5	0.86	0.78	0.86	32.4
6	R2	All MCs	171	5.0	171	5.0	0.894	81.1	LOS F	7.0	51.1	1.00	1.01	1.36	17.6
Approach			2737	5.0	2737	5.0	0.894	31.2	LOS C	20.3	148.5	0.86	0.79	0.88	30.3
West: Totem Road															
1	L2	All MCs	49	5.0	49	5.0	0.109	26.9	LOS C	0.9	6.9	0.80	1.12	0.80	30.6
11	T1	All MCs	21	5.0	21	5.0	0.076	47.7	LOS D	0.7	4.8	0.89	0.64	0.89	31.7
2	R2	All MCs	176	5.0	176	5.0	*0.669	59.5	LOS E	6.2	45.1	1.00	0.83	1.02	16.6
Approach			246	5.0	246	5.0	0.669	52.0	LOS D	6.2	45.1	0.95	0.87	0.97	21.4
All Vehicles			4762	5.0	4762	5.0	0.894	28.4	LOS C	20.3	148.5	0.87	0.87	0.89	31.1

MOVEMENT SUMMARY

Site: [21 (3)] Design 2027 Peak Traffic AM - DW / TOTEM [Masterplan] (NETWORK - Design [Masterplan])
Network: [1] DESIGN 2027 PEAK TRAFFIC AM [Masterplan] (Folder1)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Dick Ward Drive / Totem Road
Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Dick Ward Drive															
5	T1	All MCs	437	2.0	437	2.0	0.227	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
6	R2	All MCs	134	2.0	134	2.0	0.283	13.4	LOS B	0.5	3.2	0.73	0.92	0.85	41.8
Approach			571	2.0	571	2.0	0.283	3.2	NA	0.5	3.2	0.17	0.22	0.20	56.6
East: Totem Road															
1	L2	All MCs	134	5.0	134	5.0	0.238	10.8	LOS B	0.3	2.1	0.62	0.85	0.66	40.2
2	R2	All MCs	59	5.0	59	5.0	0.596	57.9	LOS F	0.7	5.0	0.96	1.06	1.29	27.7
Approach			193	5.0	193	5.0	0.596	25.2	LOS D	0.7	5.0	0.73	0.92	0.86	32.7
North: Dick Ward Drive															
3	L2	All MCs	212	5.0	212	5.0	0.118	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	50.9
4	T1	All MCs	653	5.0	653	5.0	0.346	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			864	5.0	864	5.0	0.346	1.5	NA	0.0	0.0	0.00	0.14	0.00	57.3
All Vehicles			1627	3.9	1627	3.9	0.596	4.9	NA	0.7	5.0	0.15	0.26	0.17	53.2

MOVEMENT SUMMARY

Site: [36 (13)] Design 2027 Peak Traffic AM - DW / FITZER [Masterplan] (NETWORK - Design [Masterplan])
Network: [1] DESIGN 2027 PEAK TRAFFIC AM [Masterplan] (Folder1)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Dick Ward Drive / Fitzer Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120.0 seconds (Network Practical Cycle Time)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Dick Ward Drive															
5	T1	All MCs	498	2.0	498	2.0	0.332	4.2	LOS A	5.2	37.1	0.32	0.29	0.32	52.9
6	R2	All MCs	217	1.0	217	1.0	*0.481	20.3	LOS C	4.5	31.5	0.67	1.14	0.67	24.5
Approach			715	1.7	715	1.7	0.481	9.1	LOS A	5.2	37.1	0.43	0.55	0.43	39.1
East: Fitzer Drive															
1	L2	All MCs	231	1.0	231	1.0	0.129	5.7	LOS A	0.2	1.4	0.00	0.53	0.00	53.4
2	R2	All MCs	55	1.0	55	1.0	*0.244	51.4	LOS D	1.6	11.6	0.85	0.73	0.85	22.6
Approach			285	1.0	285	1.0	0.244	14.5	LOS B	1.6	11.6	0.16	0.57	0.16	46.6
North: Dick Ward Drive															
3	L2	All MCs	76	1.0	76	1.0	0.078	9.2	LOS A	0.7	4.6	0.26	0.65	0.26	44.9
4	T1	All MCs	667	2.0	667	2.0	*0.511	10.0	LOS B	11.5	82.2	0.53	0.49	0.53	51.5
Approach			743	1.9	743	1.9	0.511	9.9	LOS A	11.5	82.2	0.51	0.50	0.51	51.1
All Vehicles			1743	1.7	1743	1.7	0.511	10.3	LOS B	11.5	82.2	0.42	0.53	0.42	46.3

MOVEMENT SUMMARY

Site: [40] Design 2027 Peak Traffic AM - FITZER / SITE ACCESS [Masterplan] (NETWORK - Design [Masterplan])
Network: [1] DESIGN 2027 PEAK TRAFFIC AM [Masterplan] (Folder1)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
East: Fitzer Drive															
5	T1	All MCs	351	2.0	351	2.0	0.182	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
6	R2	All MCs	492	1.0	492	1.0	0.355	6.8	LOS A	0.7	5.1	0.39	0.64	0.39	48.7
Approach			842	1.4	842	1.4	0.355	4.0	NA	0.7	5.1	0.23	0.37	0.23	50.3
North: Site Access															
7	L2	All MCs	187	1.0	187	1.0	0.426	7.8	LOS A	1.2	8.3	0.66	0.74	0.87	42.8
9	R2	All MCs	94	1.0	94	1.0	0.426	21.6	LOS C	1.2	8.3	0.66	0.74	0.87	42.8
Approach			281	1.0	281	1.0	0.426	12.4	LOS B	1.2	8.3	0.66	0.74	0.87	42.8
West: Fitzer Drive															
10	L2	All MCs	71	1.0	71	1.0	0.148	5.6	LOS A	0.0	0.0	0.00	0.15	0.00	56.2
11	T1	All MCs	212	2.0	212	2.0	0.148	0.0	LOS A	0.0	0.0	0.00	0.15	0.00	57.3
Approach			282	1.8	282	1.7	0.148	1.4	NA	0.0	0.0	0.00	0.15	0.00	56.9
All Vehicles			1405	1.4	1405	1.4	0.426	5.1	NA	1.2	8.3	0.27	0.40	0.31	50.0

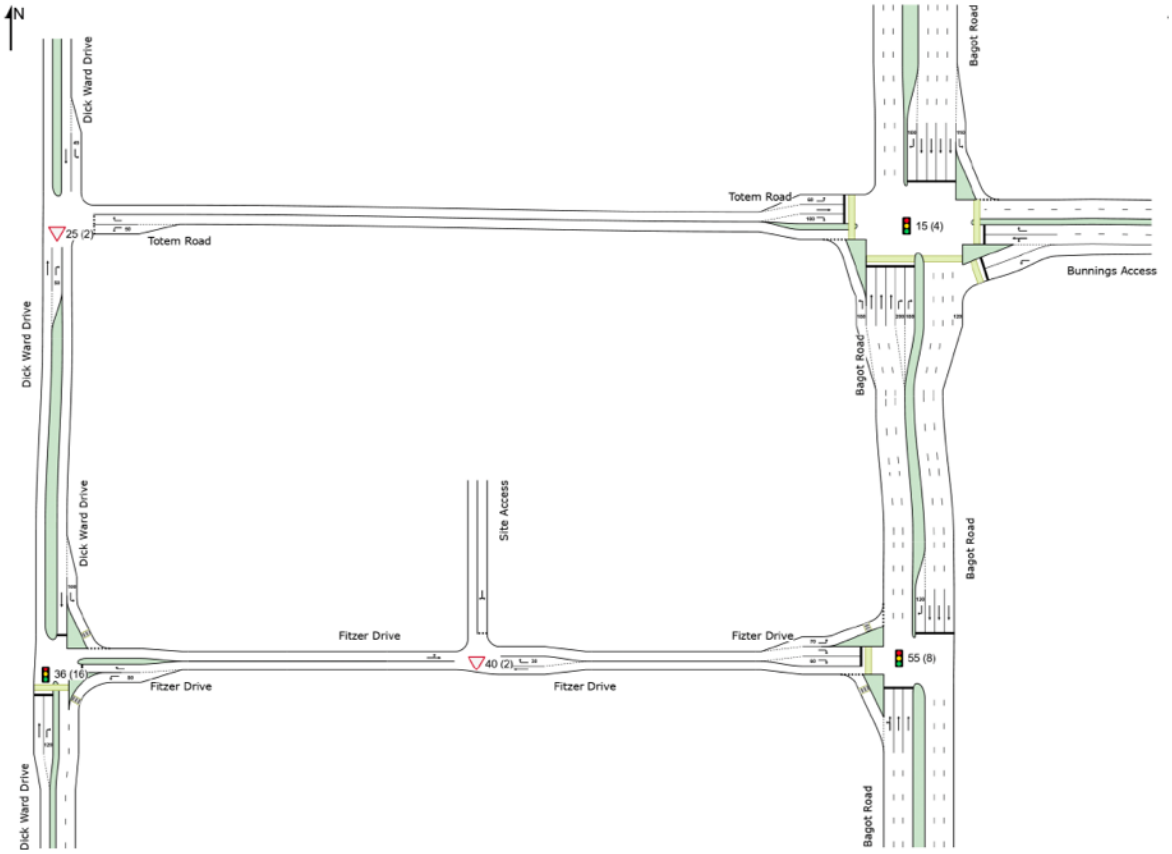
DESIGN 2027 PEAK TRAFFIC PM – MASTERPLAN

NETWORK LAYOUT

Network: [2] DESIGN 2027 PEAK TRAFFIC PM [Masterplan]
(Folder1)

New Network
Network Category: (None)
Network Scenario: 1 | Local Volumes

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
55 (8)	NA	Design 2027 Peak Traffic PM - Signalised - BAGOT / FITZER [Masterplan]
15 (4)	NA	Design 2027 Peak Traffic PM - BAGOT / TOTEM [COUNCIL UPGRADE]
25 (2)	NA	Design 2027 Peak Traffic PM - DW / TOTEM [Masterplan]
36 (16)	NA	Design 2027 Peak Traffic PM - DW / FITZER [Masterplan]
40 (2)	NA	Design 2027 Peak Traffic PM - FITZER / SITE ACCESS [Masterplan]

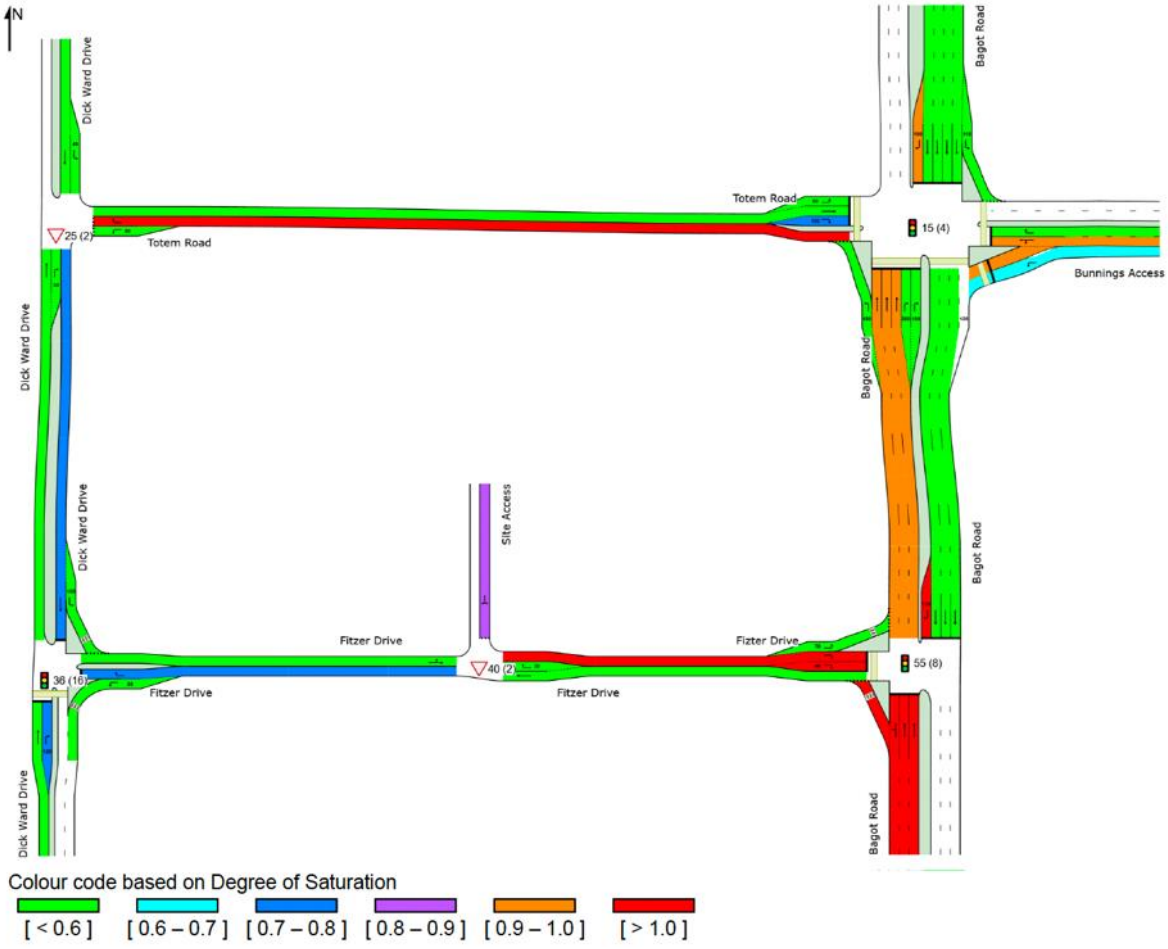
DEGREE OF SATURATION

Ratio of Arrival Flow to Capacity, v/c ratio per lane

Network: [2] DESIGN 2027 PEAK TRAFFIC PM [Masterplan]
(Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Network
Network Category: (None)
Network Cycle Time = 150.0 seconds (Network Practical Cycle Time)
Critical Site / Common Control Group that determines the Network Cycle Time (for Coordinated Sites): 55 (8) [Design 2027 Peak Traffic PM - Signalised - BAGOT / FITZER [Masterplan]]
Network Scenario: 1 | Local Volumes



MOVEMENT SUMMARY

Site: [55 (8)] Design 2027 Peak Traffic PM - Signalised - BAGOT / FITZER [Masterplan] (NETWORK - Design [Masterplan])
Network: [2] DESIGN 2027 PEAK TRAFFIC PM [Masterplan]
(Folder1)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Bagot Road / Fitzer Drive Intersection
Site Category: Proposed Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150.0 seconds (Network Practical Cycle Time)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV %]	Arrival Flows [Total veh/h	HV %]	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist m]	Prop. Queued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Bagot Road															
3	L2	All MCs	137	1.0	137	1.0	1.141	163.3	LOS F	71.6	520.3	1.00	1.37	1.85	8.0
4	T1	All MCs	2698	5.0	2698	5.0	*1.141	185.0	LOS F	71.6	520.7	1.00	1.58	1.85	8.6
Approach			2835	4.8	2835	4.8	1.141	183.9	LOS F	71.6	520.7	1.00	1.57	1.85	8.5
North: Bagot Road															
5	T1	All MCs	1285	5.0	1285	5.0	0.285	5.5	LOS A	0.5	3.8	0.03	0.03	0.03	59.7
6	R2	All MCs	586	1.0	586	1.0	*1.147	224.3	LOS F	45.4	320.4	1.00	1.38	1.93	12.1
Approach			1872	3.7	**1871**	3.7	1.147	74.0	LOS E	45.4	320.4	0.33	0.45	0.63	29.9
West: Fizter Drive															
1	L2	All MCs	182	1.0	182	1.0	0.228	66.7	LOS E	5.1	36.0	0.71	1.21	0.71	14.6
2	R2	All MCs	496	1.0	496	1.0	*1.141	228.4	LOS F	18.3	129.1	1.00	1.27	1.89	10.8
Approach			678	1.0	678	1.0	1.141	185.0	LOS F	18.3	129.1	0.92	1.26	1.57	9.8
All Vehicles			5384	4.0	5384	4.0	1.147	145.9	LOS F	71.6	520.7	0.76	1.14	1.39	14.2

MOVEMENT SUMMARY

Site: [15 (4)] Design 2027 Peak Traffic PM - BAGOT / TOTEM [COUNCIL UPGRADE] (NETWORK - Design [Masterplan])

Network: [2] DESIGN 2027 PEAK TRAFFIC PM [Masterplan] (Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Bagot Road / Totem Road
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150.0 seconds (Network Practical Cycle Time)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Queued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Bagot Road															
3	L2	All MCs	31	5.0	**27**	5.0	0.020	7.7	LOS A	0.2	1.4	0.21	0.74	0.21	42.4
4	T1	All MCs	2742	5.0	**2436**	5.0	*0.952	42.2	LOS D	26.5	193.2	1.00	1.15	1.18	28.0
3	R2	All MCs	212	5.0	**188**	5.0	0.232	37.6	LOS D	2.4	17.2	0.59	0.69	0.59	40.0
Approach			2984	5.0	**2651**	5.0	0.952	41.5	LOS D	26.5	193.2	0.96	1.11	1.13	28.6
East: Bunnings Access															
4	L2	All MCs	134	5.0	134	5.0	0.952	90.3	LOS F	6.9	50.1	1.00	0.91	1.21	15.8
5	T1	All MCs	80	5.0	80	5.0	*0.952	97.7	LOS F	6.9	50.1	1.00	1.06	1.47	14.6
6	R2	All MCs	54	5.0	54	5.0	0.413	80.2	LOS F	2.4	17.5	1.00	0.75	1.00	25.7
Approach			267	5.0	267	5.0	0.952	90.5	LOS F	6.9	50.1	1.00	0.92	1.25	17.6
North: Bagot Road															
7	L2	All MCs	67	5.0	67	5.0	0.047	6.1	LOS A	0.2	1.6	0.08	0.69	0.08	47.4
5	T1	All MCs	1723	5.0	1723	5.0	0.588	35.0	LOS D	16.0	116.6	0.81	0.72	0.81	28.6
6	R2	All MCs	271	5.0	271	5.0	*0.952	100.2	LOS F	14.7	107.2	1.00	1.06	1.36	14.5
Approach			2061	5.0	2061	5.0	0.952	42.6	LOS D	16.0	116.6	0.81	0.76	0.86	25.8
West: Totem Road															
1	L2	All MCs	73	5.0	**72**	5.0	0.146	27.8	LOS C	1.4	10.2	0.79	1.12	0.79	29.9
11	T1	All MCs	32	5.0	**31**	5.0	0.142	64.4	LOS E	1.3	9.3	0.93	0.68	0.93	27.2
2	R2	All MCs	163	5.0	163	5.0	*0.773	78.7	LOS E	7.4	54.4	1.00	0.88	1.09	13.5
Approach			267	5.0	**266**	5.0	0.773	63.2	LOS E	7.4	54.4	0.93	0.92	0.99	19.8
All Vehicles			5580	5.0	**5246**	5.3	0.952	45.6	LOS D	26.5	193.2	0.90	0.95	1.02	27.0

MOVEMENT SUMMARY

Site: [25 (2)] Design 2027 Peak Traffic PM - DW / TOTEM [Masterplan] (NETWORK - Design [Masterplan])

Network: [2] DESIGN 2027 PEAK TRAFFIC PM [Masterplan] (Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Dick Ward Drive / Totem Road
Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Queued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Dick Ward Drive															
5	T1	All MCs	836	2.0	**830**	2.0	0.431	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
6	R2	All MCs	188	2.0	**187**	2.0	0.430	15.9	LOS C	0.8	5.5	0.80	1.00	1.09	39.6
Approach			1024	2.0	**1017**	2.0	0.431	3.1	NA	0.8	5.5	0.15	0.18	0.20	56.7
East: Totem Road															
1	L2	All MCs	215	5.0	**213**	5.0	0.424	13.3	LOS B	0.6	4.6	0.73	0.95	0.94	37.5
2	R2	All MCs	74	5.0	**73**	5.0	2.686	1629.4	LOS F	12.2	89.1	1.00	2.32	6.95	4.4
Approach			288	5.0	**286**	5.0	2.686	426.1	LOS F	12.2	89.1	0.80	1.30	2.48	8.6
North: Dick Ward Drive															
3	L2	All MCs	189	5.0	189	5.0	0.106	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	50.9
4	T1	All MCs	715	5.0	715	5.0	0.378	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach			904	5.0	904	5.0	0.378	1.3	NA	0.0	0.0	0.00	0.12	0.00	57.6
All Vehicles			2217	3.6	**2207**	3.6	2.686	57.1	NA	12.2	89.1	0.17	0.30	0.41	37.6

MOVEMENT SUMMARY

Site: [36 (16)] Design 2027 Peak Traffic PM - DW / FITZER [Masterplan] (NETWORK - Design [Masterplan])

Network: [2] DESIGN 2027 PEAK TRAFFIC PM [Masterplan] (Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Dick Ward Drive / Fitzer Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150.0 seconds (Network Practical Cycle Time)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Queued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Dick Ward Drive															
5	T1	All MCs	823	2.0	823	2.0	0.526	4.8	LOS A	11.7	83.3	0.36	0.33	0.36	52.0
6	R2	All MCs	338	1.0	338	1.0	*0.712	45.1	LOS D	12.4	87.8	0.98	1.10	0.98	19.3
Approach			1161	1.7	1161	1.7	0.712	16.5	LOS B	12.4	87.8	0.54	0.55	0.54	34.7
East: Fitzer Drive															
1	L2	All MCs	507	1.0	**481**	1.0	0.268	5.8	LOS A	0.5	3.4	0.00	0.53	0.00	53.4
2	R2	All MCs	146	1.0	**139**	1.0	*0.705	79.6	LOS E	6.3	44.4	1.00	0.84	1.05	16.9
Approach			654	1.0	**620**	1.0	0.705	22.3	LOS C	6.3	44.4	0.22	0.60	0.23	41.9
North: Dick Ward Drive															
3	L2	All MCs	113	1.0	**112**	1.0	0.200	31.4	LOS C	2.7	19.0	0.57	0.77	0.57	31.5
4	T1	All MCs	775	2.0	**773**	2.0	*0.705	24.9	LOS C	22.6	160.9	0.72	0.67	0.72	45.5
Approach			887	1.9	**886**	1.9	0.705	25.7	LOS C	22.6	160.9	0.70	0.68	0.70	41.2
All Vehicles			2702	1.6	**2667**	1.6	0.712	20.9	LOS C	22.6	160.9	0.52	0.60	0.52	39.2

MOVEMENT SUMMARY

Site: [40 (2)] Design 2027 Peak Traffic PM - FITZER / SITE ACCESS [Masterplan] (NETWORK - Design [Masterplan])
Network: [2] DESIGN 2027 PEAK TRAFFIC PM [Masterplan] (Folder1)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Queued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
East: Fitzer Drive															
5	T1	All MCs	265	2.0	**232**	2.1	0.120	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
6	R2	All MCs	458	1.0	**400**	1.0	0.316	7.3	LOS A	0.6	4.5	0.38	0.66	0.38	48.3
Approach			723	1.4	**631**	1.4	0.316	4.6	NA	0.6	4.5	0.24	0.42	0.24	49.7
North: Site Access															
7	L2	All MCs	393	1.0	393	1.0	0.813	15.6	LOS C	5.6	39.4	0.93	1.26	2.24	36.5
9	R2	All MCs	197	1.0	197	1.0	0.813	28.2	LOS D	5.6	39.4	0.93	1.26	2.24	36.5
Approach			589	1.0	589	1.0	0.813	19.8	LOS C	5.6	39.4	0.93	1.26	2.24	36.5
West: Fitzer Drive															
10	L2	All MCs	65	1.0	65	1.0	0.220	5.6	LOS A	0.0	0.0	0.00	0.10	0.00	56.5
11	T1	All MCs	320	2.0	320	2.0	0.220	0.1	LOS A	0.0	0.0	0.00	0.10	0.00	58.1
Approach			385	1.8	385	1.8	0.220	1.0	NA	0.0	0.0	0.00	0.10	0.00	57.6
All Vehicles			1698	1.3	**1606**	1.4	0.813	9.3	NA	5.6	39.4	0.44	0.65	0.92	45.6

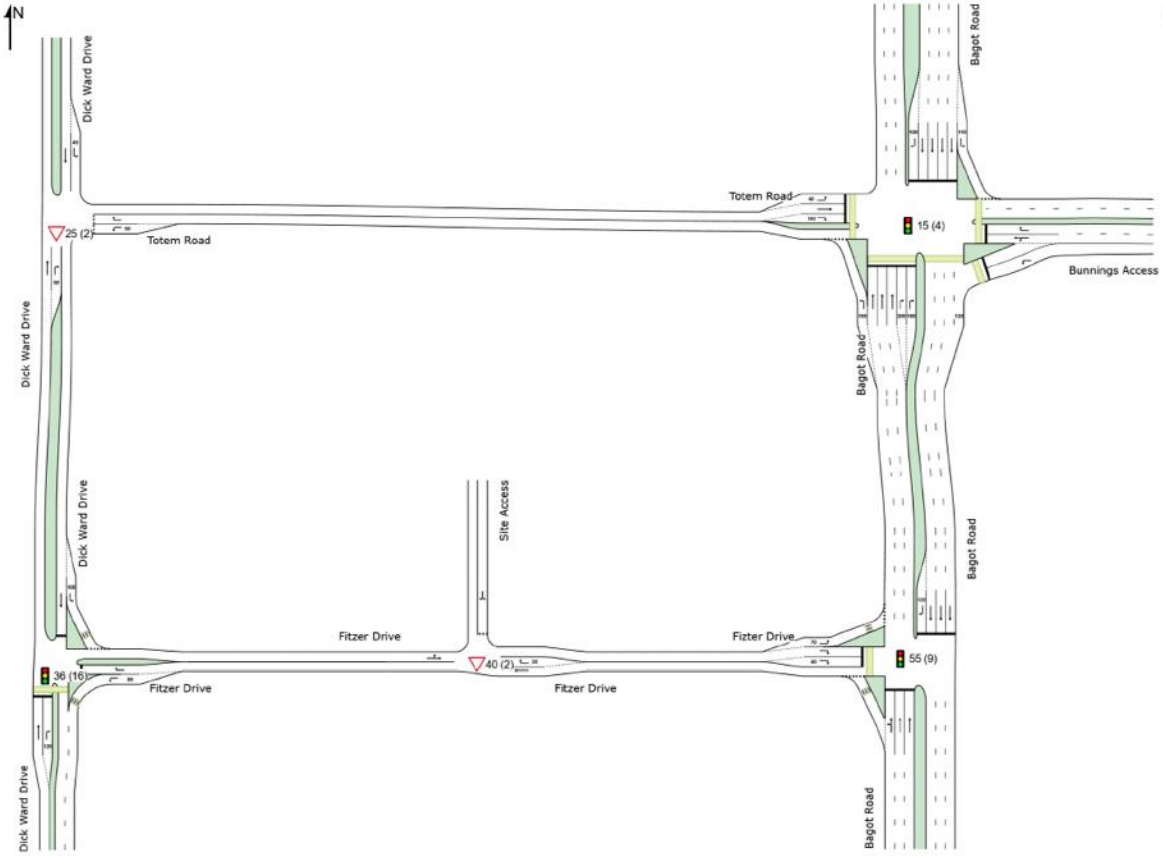
DESIGN 2027 PEAK TRAFFIC PM – MASTERPLAN [SENS]

NETWORK LAYOUT

Network: [2 (2)] DESIGN 2027 PEAK TRAFFIC PM [Masterplan] - SENS (Folder1)

New Network
Network Category: (None)
Network Scenario: 1 | Local Volumes

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
55 (9)	NA	Design 2027 Peak Traffic PM - Signalised - BAGOT / FITZER [Masterplan] - SENS
15 (4)	NA	Design 2027 Peak Traffic PM - BAGOT / TOTEM [COUNCIL UPGRADE]
25 (2)	NA	Design 2027 Peak Traffic PM - DW / TOTEM [Masterplan]
36 (16)	NA	Design 2027 Peak Traffic PM - DW / FITZER [Masterplan]
40 (2)	NA	Design 2027 Peak Traffic PM - FITZER / SITE ACCESS [Masterplan]

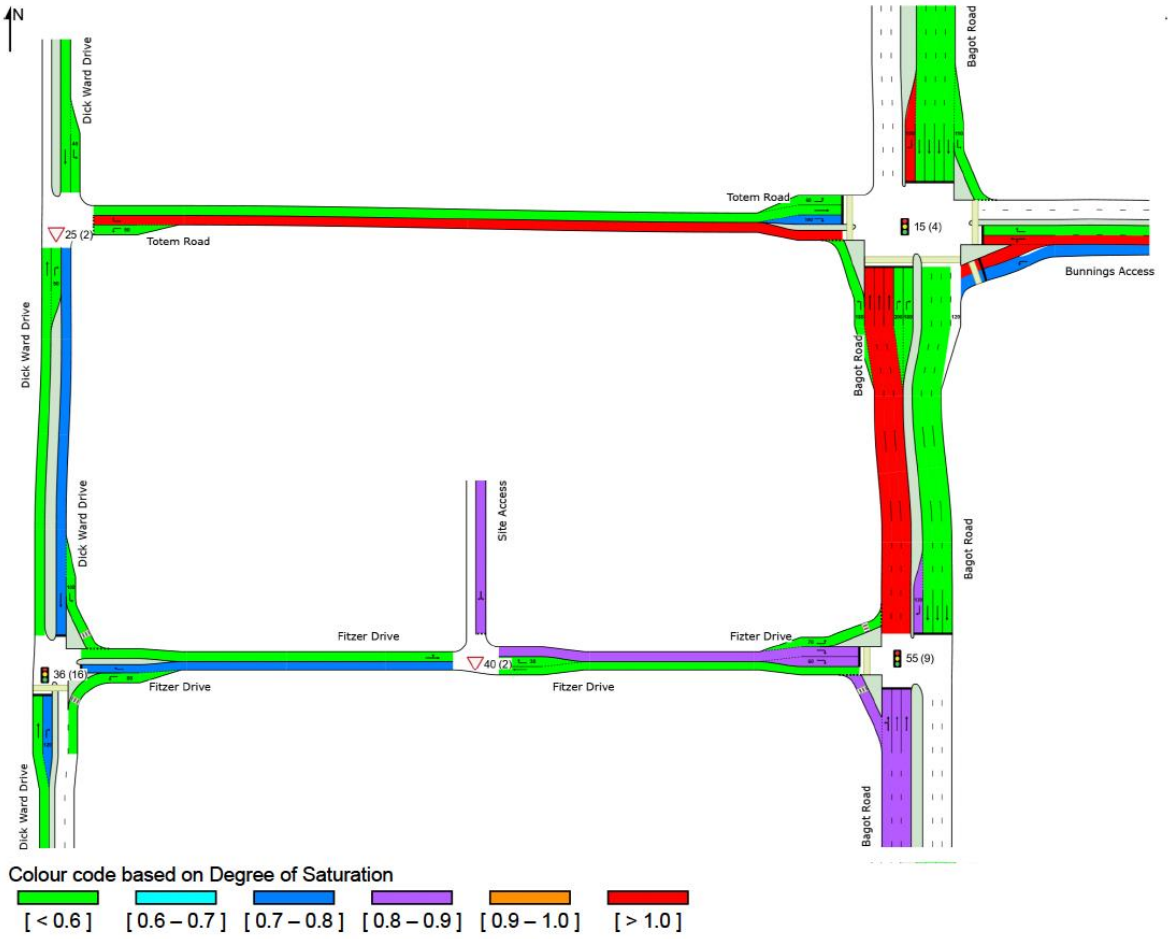
DEGREE OF SATURATION

Ratio of Arrival Flow to Capacity, v/c ratio per lane

Network: [2 (2)] DESIGN 2027 PEAK TRAFFIC PM [Masterplan] - SENS (Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Network
Network Category: (None)
Network Cycle Time = 150.0 seconds (Network Practical Cycle Time)
Critical Site / Common Control Group that determines the Network Cycle Time (for Coordinated Sites): 15 (4) [Design 2027 Peak Traffic PM - BAGOT / TOTEM [COUNCIL UPGRADE]]
Network Scenario: 1 | Local Volumes



MOVEMENT SUMMARY

Site: [55 (9)] Design 2027 Peak Traffic PM - Signalised - BAGOT / FITZER [Masterplan] - SENS (NETWORK - Design [Masterplan])

Network: [2 (2)] DESIGN 2027 PEAK TRAFFIC PM [Masterplan] - SENS (Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Bagot Road / Fitzer Drive Intersection
Site Category: Proposed Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150.0 seconds (Network Practical Cycle Time)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Bagot Road															
3	L2	All MCs	137	1.0	137	1.0	0.860	9.4	LOS A	34.6	251.7	0.91	1.03	0.91	20.3
4	T1	All MCs	2698	5.0	2698	5.0	*0.860	29.0	LOS C	34.8	254.1	0.91	0.89	0.91	27.0
Approach			2835	4.8	2835	4.8	0.860	28.0	LOS C	34.8	254.1	0.91	0.90	0.91	26.6
North: Bagot Road															
5	T1	All MCs	1285	5.0	**1284**	5.0	0.305	0.4	LOS A	0.5	3.9	0.03	0.03	0.03	59.7
6	R2	All MCs	194	1.0	194	1.0	*0.861	84.8	LOS F	9.3	65.5	1.00	0.93	1.17	22.1
Approach			1479	4.5	**1478**	4.5	0.861	11.5	LOS B	9.3	65.5	0.16	0.15	0.18	52.1
West: Fizter Drive															
1	L2	All MCs	182	1.0	182	1.0	0.284	83.7	LOS F	5.8	40.8	0.84	1.19	0.84	12.0
2	R2	All MCs	496	1.0	**495**	1.0	*0.858	88.8	LOS F	11.1	78.3	0.99	0.89	1.10	22.9
Approach			678	1.0	**677**	1.0	0.858	87.5	LOS F	11.1	78.3	0.95	0.97	1.03	16.7
All Vehicles			4992	4.2	**4990**	4.2	0.861	31.2	LOS C	34.8	254.1	0.69	0.69	0.71	32.5

MOVEMENT SUMMARY

Site: [15 (4)] Design 2027 Peak Traffic PM - BAGOT / TOTEM [COUNCIL UPGRADE] (NETWORK - Design [Masterplan])

Network: [2 (2)] DESIGN 2027 PEAK TRAFFIC PM [Masterplan] - SENS (Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Bagot Road / Totem Road
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150.0 seconds (Network Practical Cycle Time)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Bagot Road															
3	L2	All MCs	31	5.0	31	5.0	0.022	8.1	LOS A	0.3	1.9	0.27	0.78	0.27	40.1
4	T1	All MCs	2742	5.0	2742	5.0	*1.031	85.6	LOS F	38.7	282.6	1.00	1.36	1.41	19.9
3	R2	All MCs	212	5.0	212	5.0	0.251	40.8	LOS D	2.9	21.2	0.65	0.71	0.65	38.9
Approach			2984	5.0	2984	5.0	1.031	81.6	LOS F	38.7	282.6	0.97	1.30	1.34	20.7
East: Bunnings Access															
4	L2	All MCs	134	5.0	134	5.0	1.031	104.2	LOS F	7.9	57.3	1.00	0.96	1.33	14.1
5	T1	All MCs	80	5.0	80	5.0	*1.031	132.8	LOS F	7.9	57.3	1.00	1.16	1.70	11.5
6	R2	All MCs	54	5.0	54	5.0	0.447	81.4	LOS F	2.4	17.7	1.00	0.75	1.00	25.5
Approach			267	5.0	267	5.0	1.031	108.2	LOS F	7.9	57.3	1.00	0.98	1.37	15.5
North: Bagot Road															
7	L2	All MCs	67	5.0	67	5.0	0.048	6.1	LOS A	0.2	1.7	0.09	0.70	0.09	47.1
5	T1	All MCs	1723	5.0	1723	5.0	0.593	35.5	LOS D	16.1	117.4	0.81	0.72	0.81	28.4
6	R2	All MCs	271	5.0	271	5.0	*1.031	137.8	LOS F	16.9	123.6	1.00	1.17	1.60	11.3
Approach			2061	5.0	2061	5.0	1.031	48.0	LOS D	16.9	123.6	0.81	0.78	0.89	24.1
West: Totem Road															
1	L2	All MCs	73	5.0	73	5.0	0.154	28.8	LOS C	1.4	10.4	0.81	1.11	0.81	29.5
11	T1	All MCs	32	5.0	32	5.0	0.143	64.9	LOS E	1.3	9.4	0.94	0.69	0.94	27.1
2	R2	All MCs	163	5.0	163	5.0	*0.776	80.1	LOS F	7.6	55.1	1.00	0.89	1.12	13.3
Approach			267	5.0	267	5.0	0.776	64.4	LOS E	7.6	55.1	0.94	0.93	1.01	19.5
All Vehicles			5580	5.0	5580	5.0	1.031	69.6	LOS E	38.7	282.6	0.91	1.08	1.16	21.0

MOVEMENT SUMMARY

Site: [25 (2)] Design 2027 Peak Traffic PM - DW / TOTEM [Masterplan] (NETWORK - Design [Masterplan])

Network: [2 (2)] DESIGN 2027 PEAK TRAFFIC PM [Masterplan] - SENS (Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Dick Ward Drive / Totem Road
Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Queued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Dick Ward Drive															
5	T1	All MCs	836	2.0	836	2.0	0.434	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
6	R2	All MCs	188	2.0	188	2.0	0.433	16.0	LOS C	0.8	5.5	0.80	1.00	1.10	39.5
Approach			1024	2.0	1024	2.0	0.434	3.1	NA	0.8	5.5	0.15	0.18	0.20	56.7
East: Totem Road															
1	L2	All MCs	215	5.0	**209**	5.0	0.416	13.2	LOS B	0.6	4.5	0.72	0.94	0.93	37.5
2	R2	All MCs	74	5.0	**72**	5.0	2.661	1608.4	LOS F	11.9	87.1	1.00	2.30	6.84	4.4
Approach			288	5.0	**280**	5.0	2.661	420.7	LOS F	11.9	87.1	0.80	1.29	2.44	8.6
North: Dick Ward Drive															
3	L2	All MCs	189	5.0	189	5.0	0.106	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	50.9
4	T1	All MCs	715	5.0	715	5.0	0.378	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach			904	5.0	904	5.0	0.378	1.3	NA	0.0	0.0	0.00	0.12	0.00	57.6
All Vehicles			2217	3.6	**2209**	3.6	2.661	55.4	NA	11.9	87.1	0.17	0.30	0.40	37.9

MOVEMENT SUMMARY

Site: [36 (16)] Design 2027 Peak Traffic PM - DW / FITZER [Masterplan] (NETWORK - Design [Masterplan])

Network: [2 (2)] DESIGN 2027 PEAK TRAFFIC PM [Masterplan] - SENS (Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Dick Ward Drive / Fitzer Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150.0 seconds (Network Practical Cycle Time)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Queued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Dick Ward Drive															
5	T1	All MCs	823	2.0	823	2.0	0.529	5.0	LOS A	12.0	85.5	0.36	0.33	0.36	51.6
6	R2	All MCs	338	1.0	338	1.0	*0.714	46.0	LOS D	12.4	87.6	0.98	1.10	0.98	19.0
Approach			1161	1.7	1161	1.7	0.714	16.9	LOS B	12.4	87.6	0.54	0.56	0.54	34.4
East: Fitzer Drive															
1	L2	All MCs	507	1.0	507	1.0	0.283	5.7	LOS A	0.5	3.7	0.00	0.53	0.00	53.4
2	R2	All MCs	146	1.0	146	1.0	*0.710	75.2	LOS E	6.5	46.0	1.00	0.83	1.05	17.5
Approach			654	1.0	654	1.0	0.710	21.3	LOS C	6.5	46.0	0.22	0.60	0.23	42.4
North: Dick Ward Drive															
3	L2	All MCs	113	1.0	**112**	1.0	0.194	31.2	LOS C	2.6	18.7	0.57	0.77	0.57	31.7
4	T1	All MCs	775	2.0	**770**	2.0	*0.711	25.9	LOS C	22.9	162.9	0.73	0.68	0.73	45.1
Approach			887	1.9	**882**	1.9	0.711	26.6	LOS C	22.9	162.9	0.71	0.69	0.71	40.8
All Vehicles			2702	1.6	**2696**	1.6	0.714	21.2	LOS C	22.9	162.9	0.52	0.61	0.52	39.1

MOVEMENT SUMMARY

Site: [40 (2)] Design 2027 Peak Traffic PM - FITZER / SITE ACCESS [Masterplan] (NETWORK - Design [Masterplan])
Network: [2 (2)] DESIGN 2027 PEAK TRAFFIC PM [Masterplan] - SENS (Folder1)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes **Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Queued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
East: Fitzer Drive															
5	T1	All MCs	265	2.0	265	2.0	0.138	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
6	R2	All MCs	458	1.0	458	1.0	0.361	7.4	LOS A	0.8	5.6	0.47	0.68	0.48	48.2
Approach			723	1.4	723	1.4	0.361	4.7	NA	0.8	5.6	0.30	0.43	0.30	49.6
North: Site Access															
7	L2	All MCs	393	1.0	393	1.0	0.893	24.3	LOS C	8.5	60.3	1.00	1.68	3.32	30.0
9	R2	All MCs	197	1.0	197	1.0	0.893	44.1	LOS E	8.5	60.3	1.00	1.68	3.32	30.0
Approach			589	1.0	589	1.0	0.893	30.9	LOS D	8.5	60.3	1.00	1.68	3.32	30.0
West: Fitzer Drive															
10	L2	All MCs	65	1.0	65	1.0	0.201	5.6	LOS A	0.0	0.0	0.00	0.10	0.00	56.5
11	T1	All MCs	320	2.0	**319**	2.0	0.201	0.1	LOS A	0.0	0.0	0.00	0.10	0.00	58.1
Approach			385	1.8	385	1.8	0.201	1.0	NA	0.0	0.0	0.00	0.10	0.00	57.6
All Vehicles			1698	1.3	**1697**	1.3	0.893	13.0	NA	8.5	60.3	0.47	0.79	1.28	41.9