

Flagstone City Context Area 3 South

Traffic & Transport Assessment

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL



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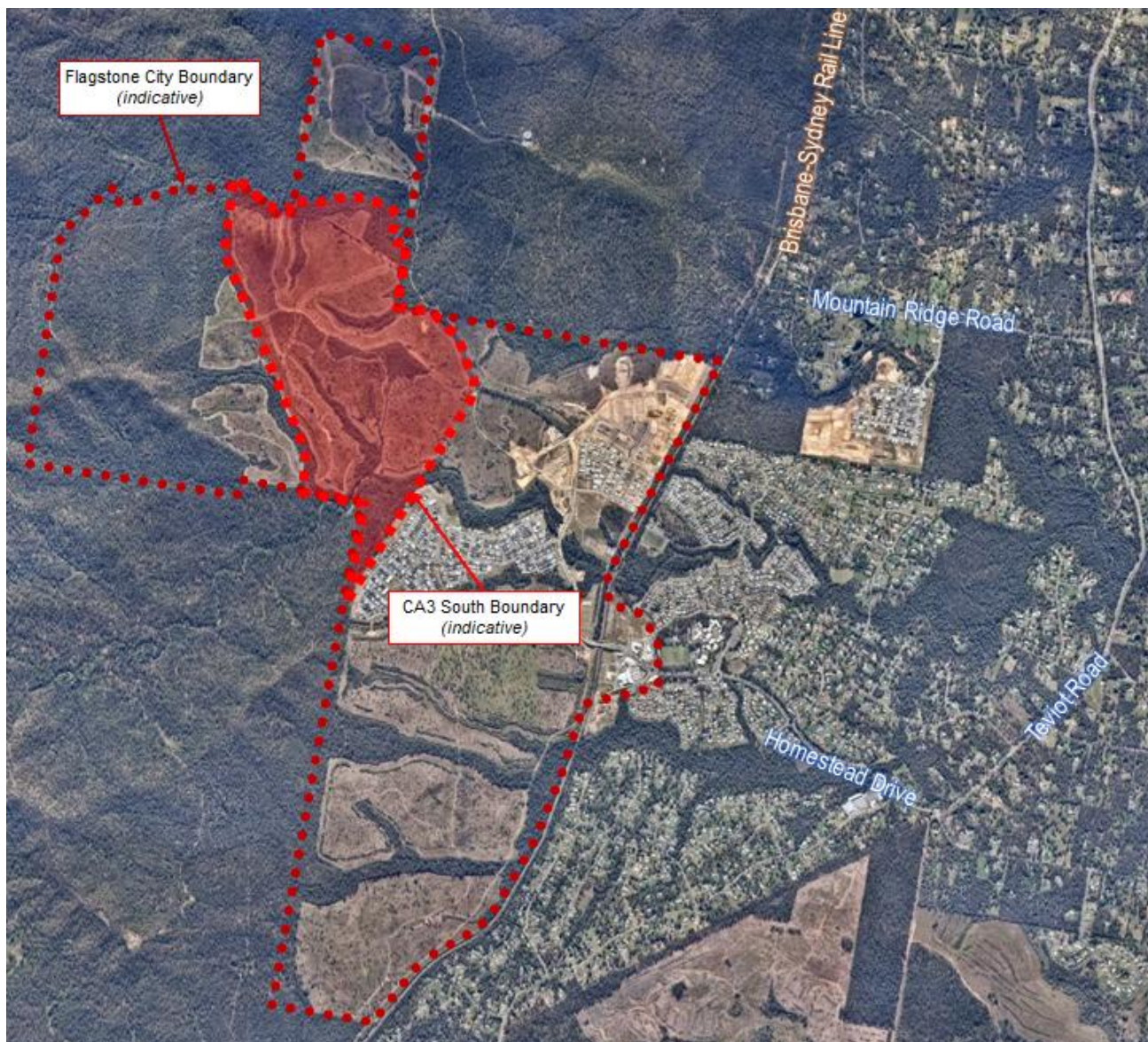
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1. INTRODUCTION

1.1 Background

Bitzios Consulting has been engaged by PEET Flagstone City Pty Ltd (PEET) to undertake a traffic assessment for the proposed Context Area 3 South (CA3 South) within Flagstone City. The location of the subject site with respect to the Flagstone City boundary is illustrated in Figure 1.1.



Source: Nearmap (edited by Bitzios)

Figure 1.1: Site Location

This report documents the proposed transport network and its integration with the surrounding network and future planning in the region. It includes an assessment of key intersections and identifies the necessary alternative transport provisions to suitably service the development, aligning with existing Context Area Plans and the endorsed Movement Network Infrastructure Master Plan (Movement IMP).

1.2 Scope of Assessment

The purpose of this assessment is to provide an overview and analysis of traffic and transport related elements of the subject site with the following scope of assessment:

- A review of the development's context with relation to transport planning within Flagstone City, the Greater Flagstone PDA and overarching transport planning in the South Logan area
- A review of the proposed development against relevant planning to date
- Detailing previous strategic modelling and current microsimulation modelling undertaken used to identify and evaluate appropriate road layout and road cross-sections within the subject site
- Source traffic volumes from the microsimulation modelling to assess key road links and intersections within the subject site
- Review alternate transport provisions throughout the site, including consideration of public and active transport facilities and connections.

1.3 Reference Material

The following planning documents have been considered as a part of this assessment including (but not limited to):

- The Flagstone City Movement Infrastructure Master Plan (IMP) (2024)
- The Greater Flagstone PDA Development Scheme
- The *Development Charges and Offset Plan* (DCOP) and mapping
- The approved Context Area Plans
- Relevant Economic Development Queensland (EDQ) Guidelines and Practice Notes.

2. SITE LOCATION & PLANNING CONTEXT

2.1 Context Plan Area

Flagstone City consists of five (5) overarching Context Plan areas. The subject site forms a large portion of the developable land within CA3, with the CA3 Plan endorsed 31 May 2023. The location of the subject site with respect to the endorsed CA3 plan is illustrated in Figure 2.1.

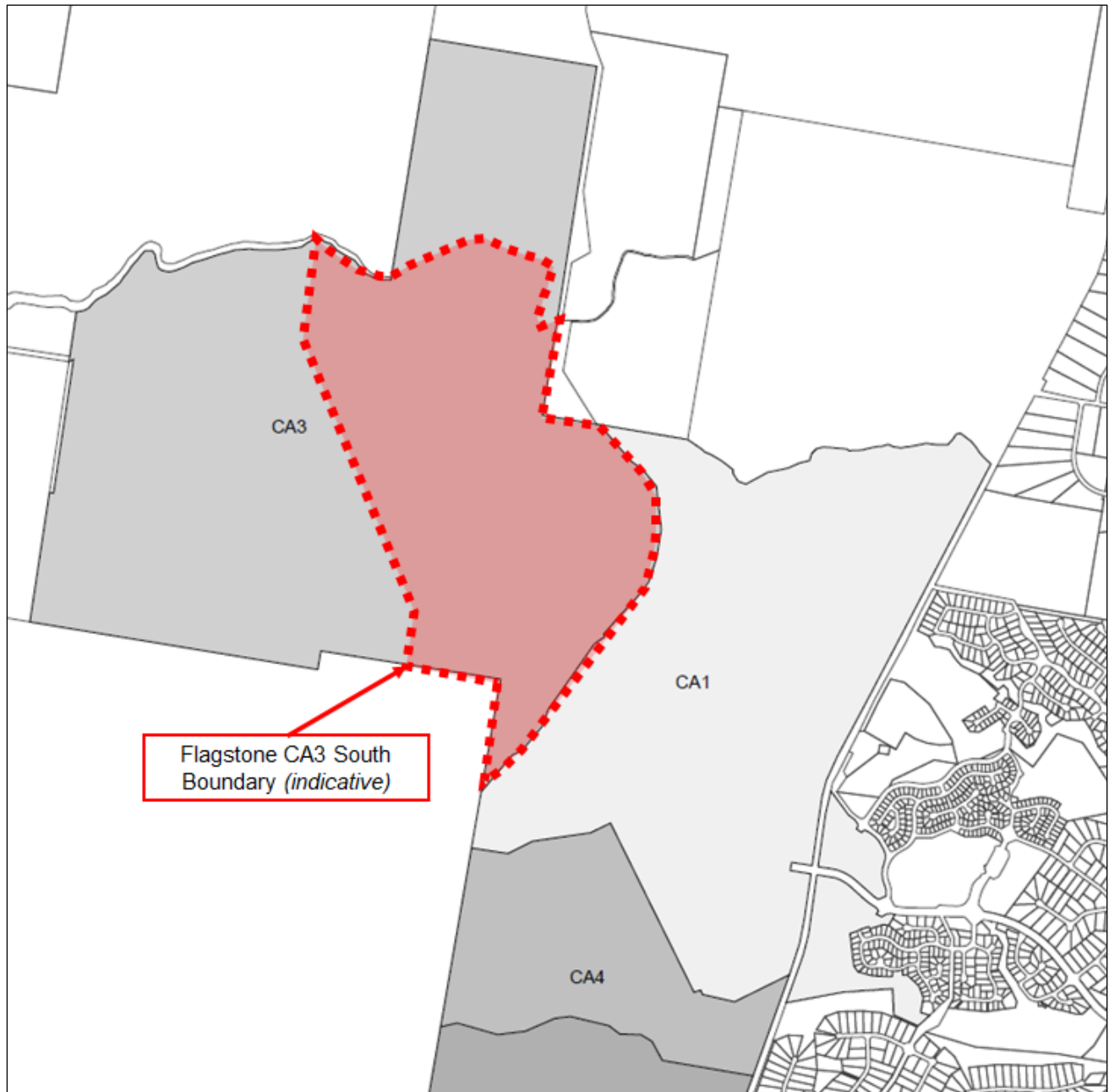


Figure 2.1: Subject Site and Surrounding Context Areas

2.2 Greater Flagstone Priority Development Area (PDA)

2.2.1 Overview

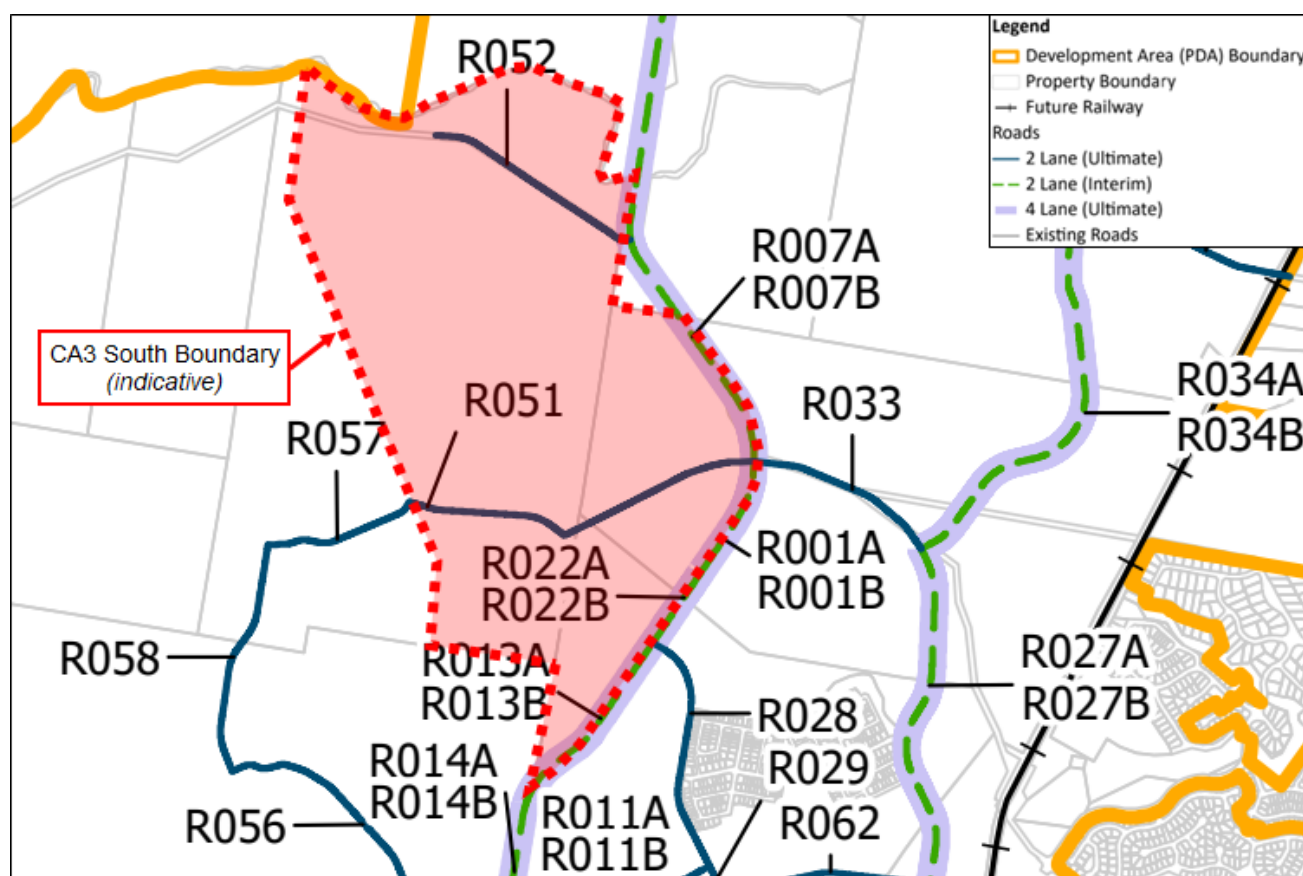
The Greater Flagstone PDA was declared on the 8th October 2010 and is located west of Jimboomba within the southern part of Council's LGA. Key PDA information is as follows:

- The PDA is made up of three (3) separate land areas totalling 7,188ha
- It is projected to experience significant growth in employment and industry
- It is estimated to accommodate approximately 51,500 dwellings & 138,000 residents.

The larger PDA land area is bordered by the Brisbane-Sydney rail line (which is predominately a freight line at present) located east of the subject site, while the Mount Lindesay Highway is located further to the east. The proposed Town Centre Masterplan forms a key portion of the PDA employment area.

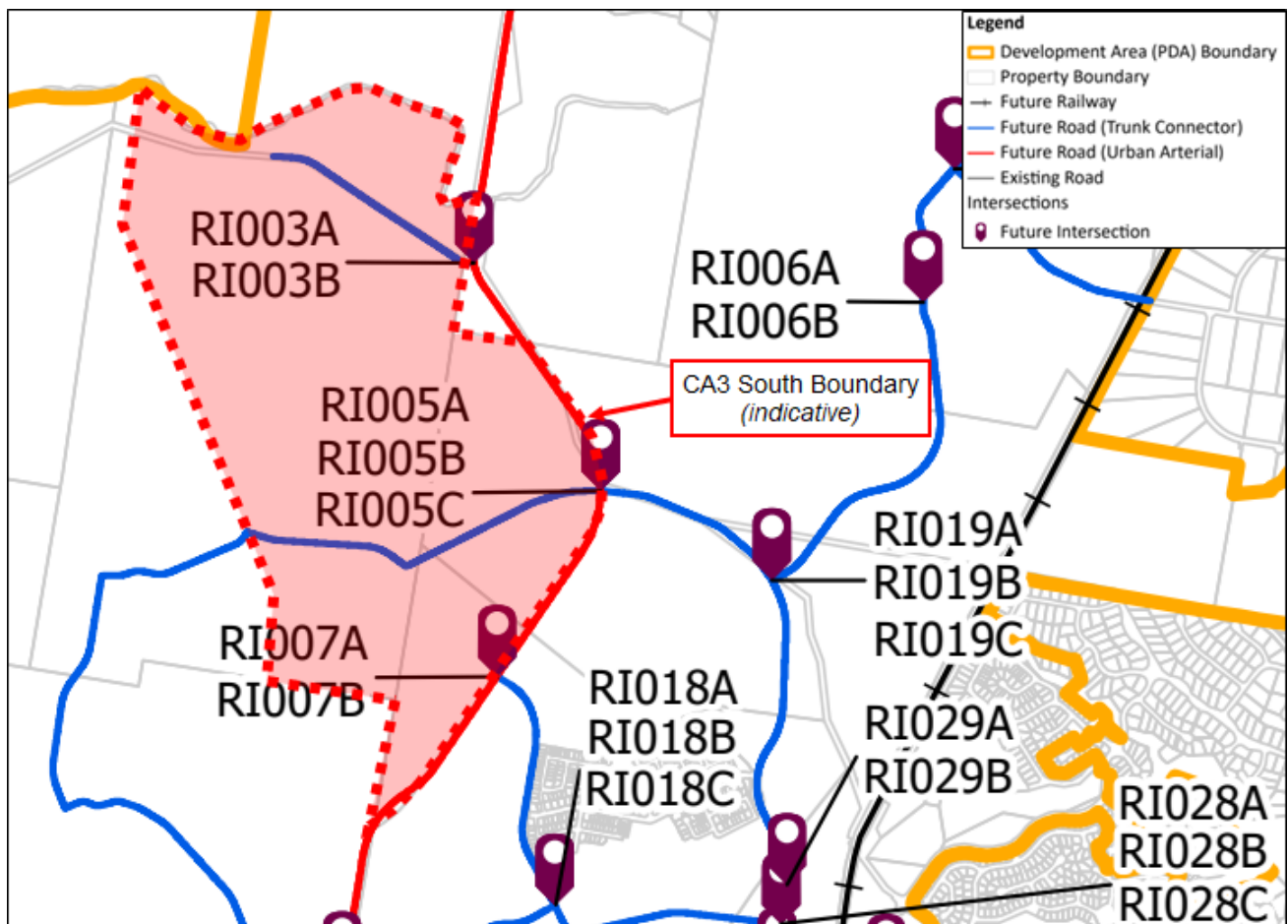
2.2.2 Greater Flagstone Development Charges and Offset Plan (DCOP)

To ensure infrastructure delivery and funding is suitably allocated, EDQ developed the Greater Flagstone PDA Development Charges and Offset Plan (DCOP) effective July 2022. This document provides guidance to trunk infrastructure planning through the PDA. Planned trunk transport infrastructure in the vicinity of the subject site is illustrated in Figure 2.2 and Figure 2.3 for the trunk roads (Map 3) and trunk intersections (Map 4).



Source: EDQ DCOP Map 3 (edited by Bitzios)

Figure 2.2: DCOP Transport (Roads) Trunk Infrastructure



Source: EDQ DCOP Map 4 (edited by Bitzios)

Figure 2.3: DCOP Transport (Intersections) Trunk Infrastructure

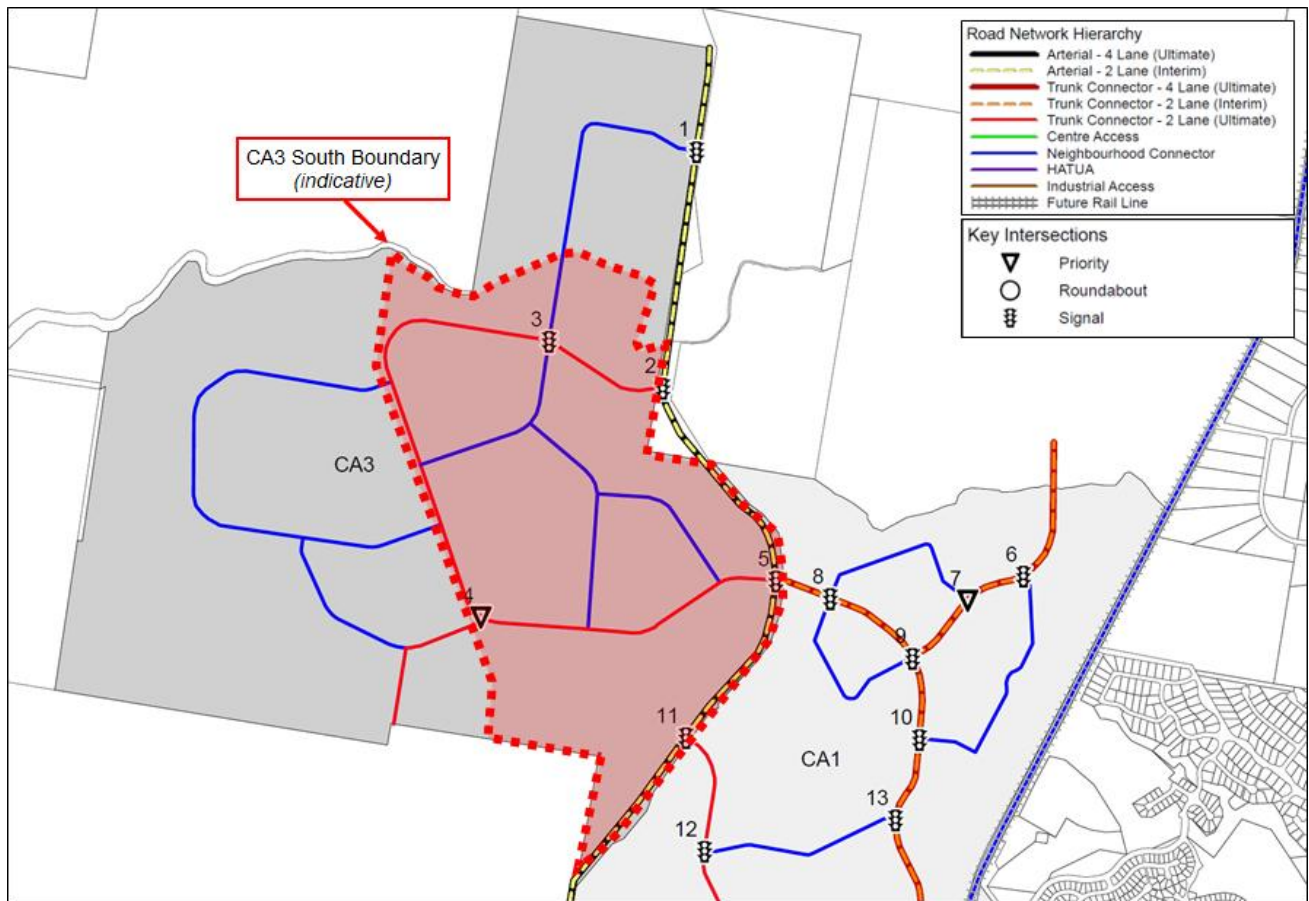
2.2.3 Movement Infrastructure Master Plan (IMP)

The Flagstone City endorsed Movement IMP (circa. 2024) was considered when developing the transport infrastructure requirements of the subject site

For context, the endorsed Movement IMP identifies:

- The ultimate four-lane configuration of New Beith Road adjacent CA3
- A two-lane trunk connector encircling the majority of the CA3 South area
- Key signalised intersections at the CA3 connections to New Beith Road.

The road network from the endorsed Movement IMP, relative to the CA3 South site area is illustrated in Figure 2.4.



Source: Flagstone City Movement Network Infrastructure Master Plan (2024) (edited by Bitzios)

Figure 2.4: Endorsed Movement IMP

As shown above (and in **Attachment A**), the proposed CA3 South road network generally aligns with the endorsed Movement IMP road network.

3. DEVELOPMENT DETAILS

3.1 Proposed Development

The proposed CA3 South development area is comprised of a variety of land uses, including:

- Low-Density Residential (1,637 dwellings)
- Medium-Density Residential (~150 dwellings)
- A District Centre
- Neighbourhood / Local Centres
- A State Primary School
- Child Care Centres
- A Community Centre
- Local, District and Regional Parklands
- An Ambulance Station.

The CA3 South plan prepared by RPS is provided at **Appendix A** and includes the relevant lot / dwelling estimates.

3.2 Road Hierarchy Overview

The proposed road hierarchy within the CA3 South area generally aligns with approvals and planning to date, and EDQ's Guideline No. 6 – Street and Movement Network.

Typical cross-section parameters for each of the proposed hierarchies are detailed in Table 3.1.

Table 3.1: Typical Road Cross-Section Parameters

Road Hierarchy	Reserve	Pavement	Lanes	Parking	Bus	Footpath	Dedicated Cycle	Trunk
Arterial (4-Lane)	32m	14m	4	No	Yes	1.5m (both sides)	2.4m two-way (both sides)	Yes
Trunk Connector (4-Lane)	32m	14m	4	No	Yes	3m shared path (one side) + 1.5m (one side)	3.0m two-way (one side)	Yes
Trunk Connector (2-Lane)	23.7m	11.8m	2	Yes	Yes	3m shared path (one side) + 1.5m (one side)	3.0m two-way (one side)	Yes
Neighbourhood Connector	20.2m	11.2m	2	On-Street	Yes	1.5m (both sides)	3m shared path (one side)	No
Neighbourhood Access	16.5m	7.5m	2	On-Street	No	1.5m (one side)	On-road	No
Neighbourhood Lane	6.5m	5.5m	2	No	No	No	No	No
Esplanade Road	14.5m	8.3m	2	Yes (one-side)	No	1.5m (one side)	On-road	No

The proposed road network hierarchies are illustrated in Figure 3.1 for key roads i.e. connector and trunk roads, with illustrations of the proposed cross-sections provided at **Appendix B**.

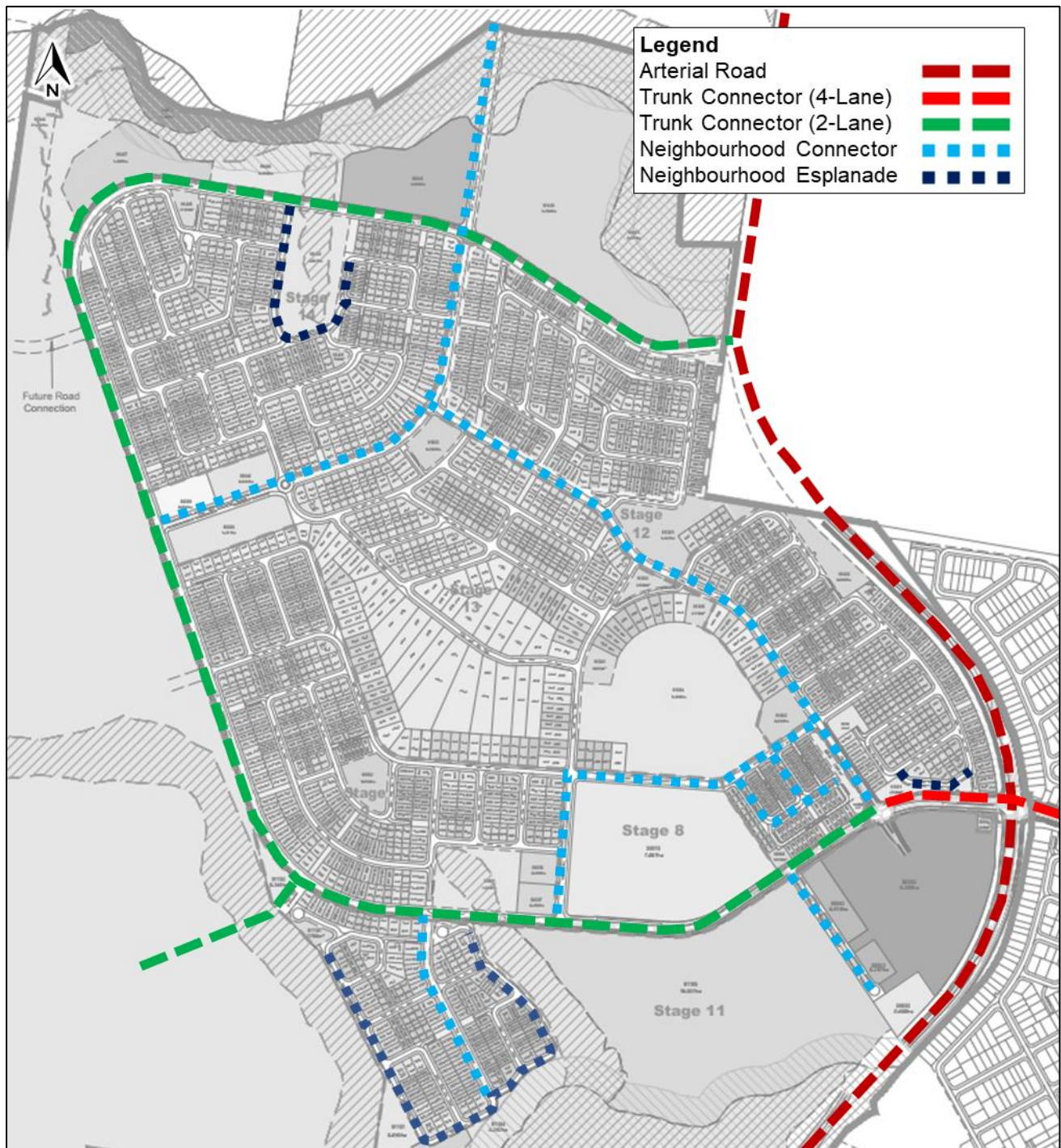


Figure 3.1: Proposed Road Network Hierarchies

As detailed above, the road cross-sections are consistent with the endorsed Movement IMP, with the exception of the Esplanade Road which is shown in Figure 3.2.

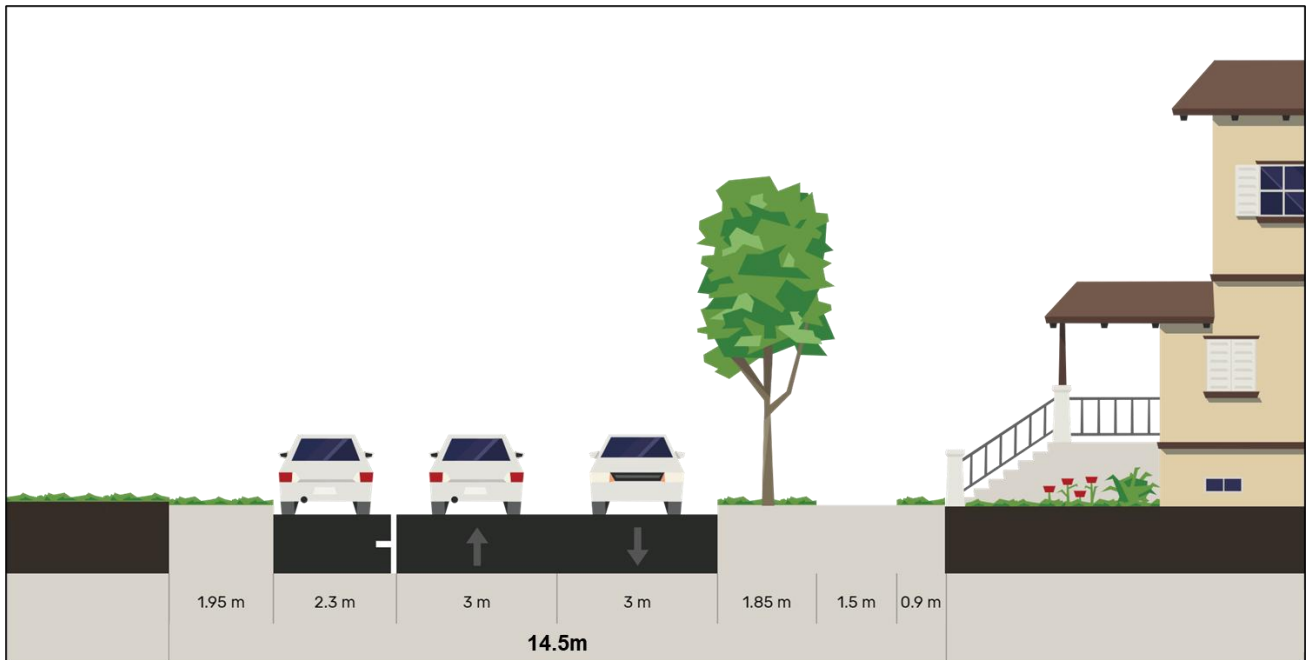


Figure 3.2: Esplanade Road Cross-Section

As shown, the proposed esplanade road is generally in accordance with the EDQ Guideline No. 6, Neighbourhood Access Street (6m). The only difference from the standard cross-section is the proposed verge width on the side of the road fronting adjacent parkland. As this verge is proposed only adjacent parkland and is not required to cater for pathways, this reduced verge width is not considered to result in any adverse impacts to amenity or active transport connectivity.

3.3 Cross Section with Bus Stops

Provision of public bus facilities is detailed in Section 5.1, with bus stops proposed on Neighbourhood Connector and 2-lane Trunk Connector roads within the site area.

Typical Trunk Connector and Neighbourhood Connector cross-sections at bus stop locations are shown in Figure 3.3 and Figure 3.4.

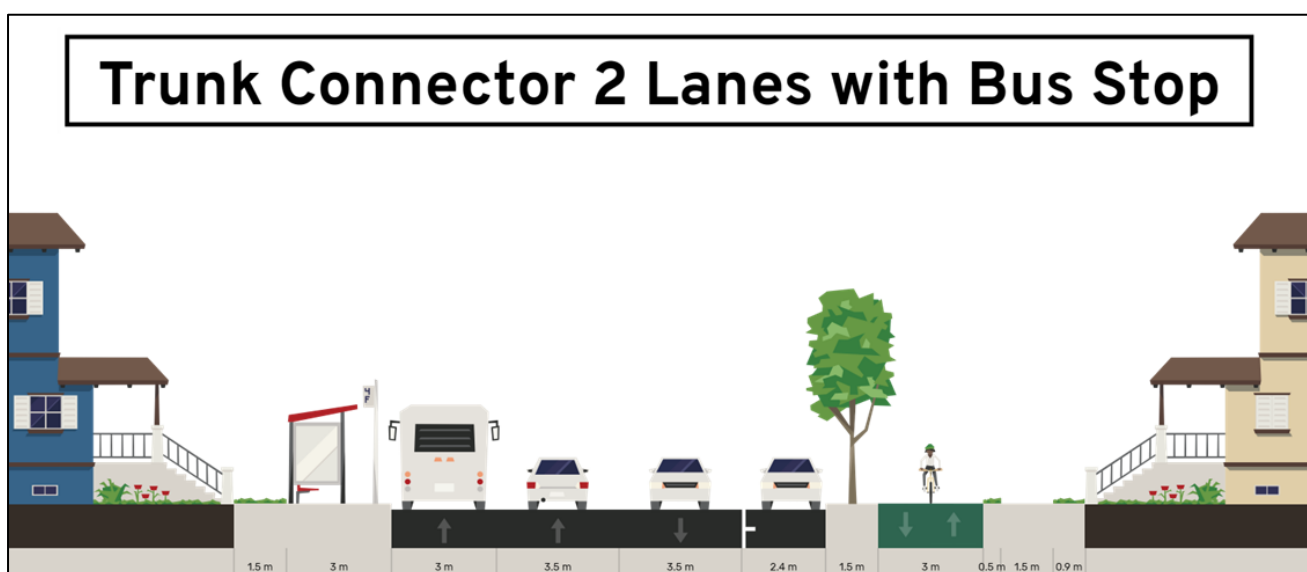


Figure 3.3: Trunk Connector with Bus Stop Cross-Section

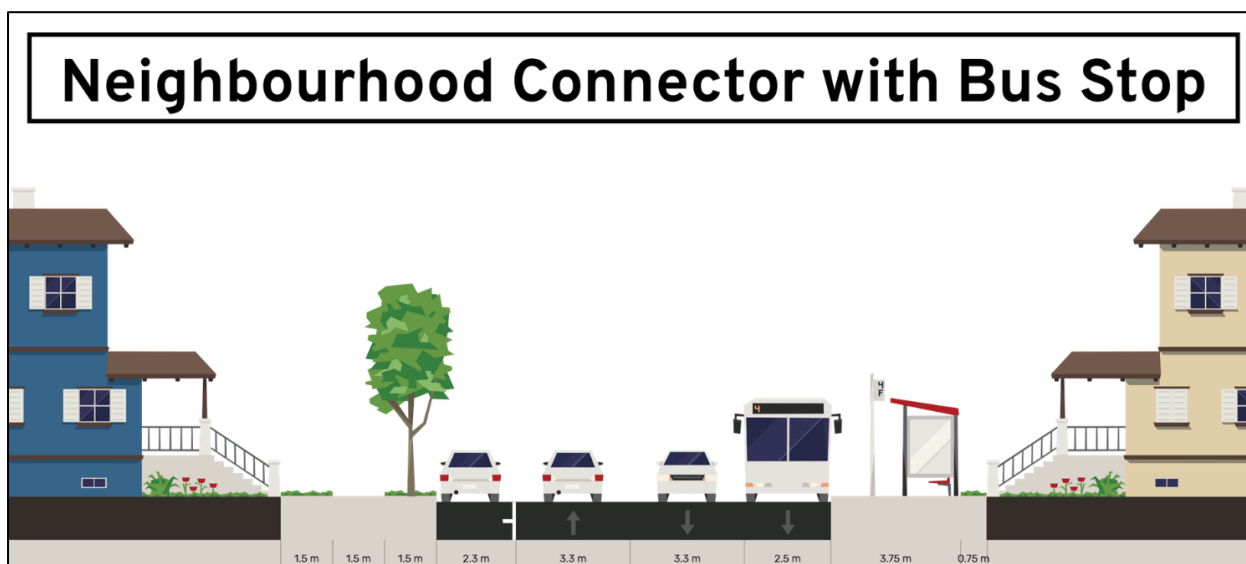


Figure 3.4: Neighbourhood Connector with Public Bus Stop Cross-Section

A bus stop facility is also proposed on the southern frontage of the future state school within Stage 8, sufficient to cater for up to six school buses. In accordance with TransLink's *Public Transport Infrastructure Manual* (PTIM) and the TMR *Planning for Safe Transport Infrastructure at Schools* (PSTIS), a 4.2m wide bus station is proposed for the school bus facility with an adjacent 3m shared path. The trunk connector cross-section at the bus facility location fronting the school is illustrated in Figure 3.5.

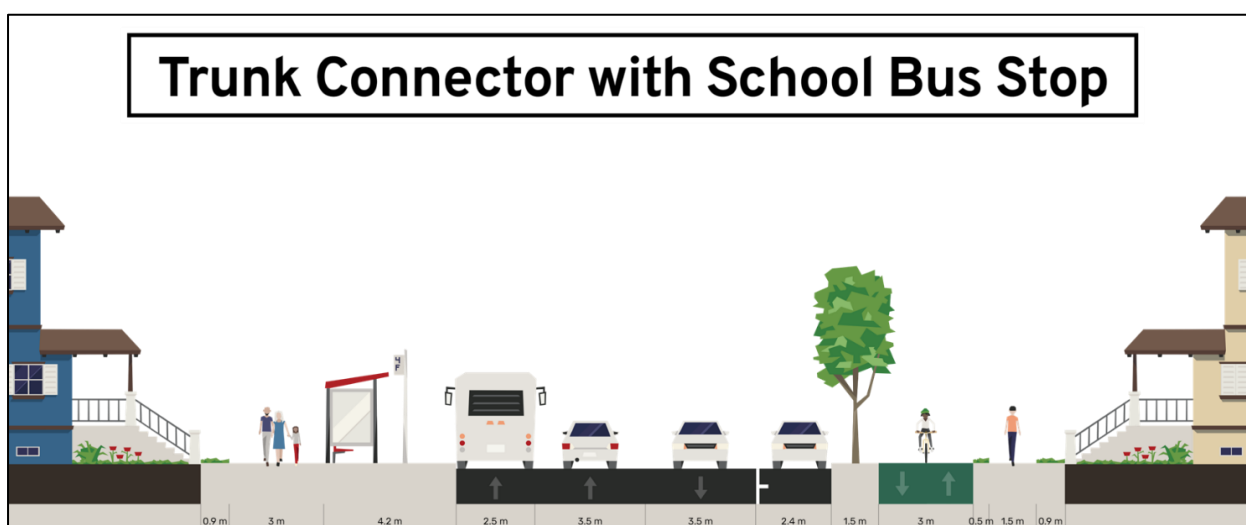


Figure 3.5: Trunk Connector with School Bus Stop

3.4 Intersections

Key principles for the proposed intersection forms and their locations were as follows:

- Intersections with four-lane roads shall be signalised or otherwise restricted to left-in / left-out
- Roundabouts shall be minimised however are considered appropriate at four-way intersections, where servicing a primary component of residential land uses
- Intersection spacings shall generally comply with those specified in EDQ's Guideline No. 6 for the relevant hierarchy.

Where reduced intersection spacing is proposed, lower than the limits outlined in EDQ Guideline No. 6, appropriate intersection performance was demonstrated as a part of the traffic report for the existing CA3 South approval (*P2300.005R Flagstone City_CA3 South TIA*).

Since this approval, changes to development plans have introduced some additional intersections on the neighbourhood connector road, located on the eastern portion of the site, spaced approximately 70m apart. While this does not align with EDQ Guideline No. 6, this intersection spacing is not anticipated to result in any adverse impacts to road safety or efficiency, noting:

- Roads intersecting with the neighbourhood connector are local streets servicing a small number of dwelling and turning volumes at the closely spaced intersections are low
- Closely spaced intersections are mostly T-intersections, not 4-way intersections, and therefore have a comparatively lower number of conflicting vehicle movements
- Side roads generally intersect on the same side of the neighbourhood connector or in a way that does not result in back-to-back right turn movements at this intersection
- The proposed spacing ensures a reasonable time interval between driver decisions.

Considering the above, there is not anticipated to be any occurrence of vehicle queues at one intersection on the neighbourhood connector road impacting an adjacent intersection, despite the reduced intersection spacing in comparison to the specification of EDQ Guideline No 6. Furthermore, reduced intersection spacing on neighbourhood connector roads, where side roads are low volume local streets, is common within existing / approved residential developments throughout the Flagstone PDA.

3.5 Access Considerations

Determination of access locations has not yet been undertaken throughout the subject site and should be the subject of further applications for specific developments. That said, the proposed road network and land use arrangements have considered future access locations at a high level such as, loading / servicing requirements, car parking access, direct lot access etc.

As such, a base set of principles shall be adhered to when determining access locations through future applications and shall be provided in accordance with the following general requirements:

- Property accesses shall be provided on a property's lower order frontage road where practical
- Direct property access should be minimised on Trunk Connector roads where traffic volumes >10,000 veh/d or posted speeds >60km/h
- Property accesses shall be clear of prohibited access locations, in particular:
 - Be located clear of nearby intersections as per AS2890.1
 - Be located outside of the functional area of an intersection to avoid queuing impacts
 - Be provided perpendicular to the road unless designed as a one-way access for ease of manoeuvring
- Vehicle crossover design and separation of vehicle crossovers shall be as per the relevant requirements of IPWEAQ Standard Drawings RS-049, RS-050 and RS-051 and Logan City Council requirements.

As mentioned, detailed access design shall be undertaken with each future development application and apply the above general principles to ensure there is no adverse impact to the surrounding road network and that safety is not compromised.

4. TRAFFIC ASSESSMENT

4.1 Strategic Modelling

4.1.1 Overview

Veitch Lister Consulting Pty Ltd (VLC) were previously engaged to produce strategic models of the Flagstone PDA including PEET's development area. Strategic models were developed within VLC's Zenith model of Southeast Queensland with a cordon of the study area taken from the Greater Flagstone Strategic Traffic Model (GFSTM) to provide data relevant to PEET land to inform microsimulation (Aimsun) modelling.

A review of this model cordon was undertaken in comparison to the more recently developed South Logan Strategic Traffic Model (SLSTM) with similar strategic modelling outputs noted within the Flagstone PDA between the GFSTM and SLSTM models. As such, despite updated planning within the South Logan region, key Flagstone City strategic model outcomes remain relevant for the purpose of Aimsun modelling, detailed further below.

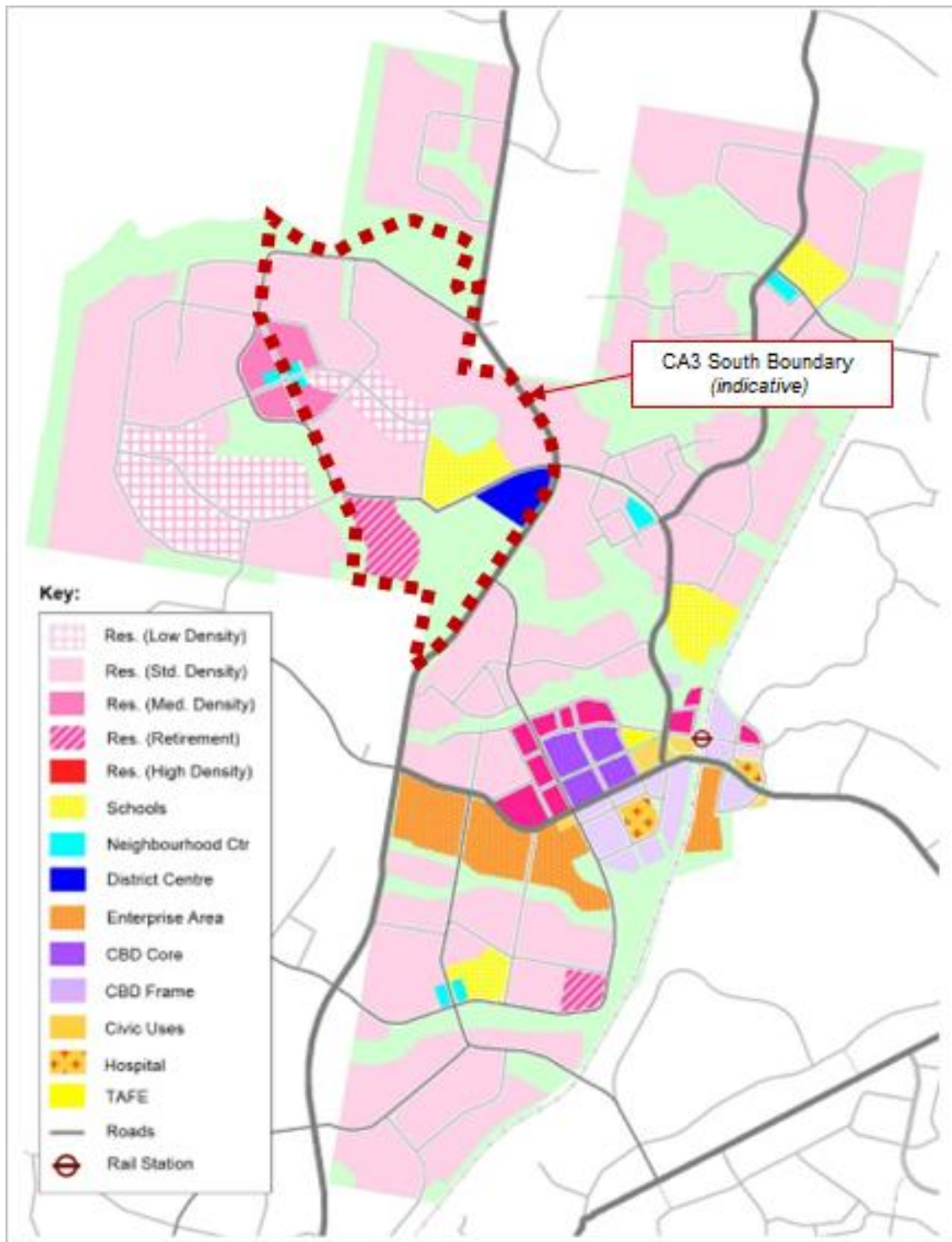
The details of the strategic modelling methodology and outcomes is documented in VLC's Cordon Modelling report for PEET (May 2019).

4.1.2 Land Use Plan

The land use patterns assumed in VLC's Flagstone City strategic model for the Ultimate (2066) development scenario are shown overleaf in Figure 4.1.

The development of this land use plan within the VLC model was done in such a way using single use zones such that land parcels are capable of being relocated throughout the development area (and within the model's origin-destination (OD) demand matrix) to account for changes in planning and land use proposals.

Regardless, Figure 4.1 is representative of the VLC modelling completed on behalf of PEET.



Source: VLC Cordon Modelling of PEET's Flagstone City – Final Report

Figure 4.1: 2066 Flagstone City Land Use Plan

4.2 Microsimulation Modelling

4.2.1 Overview

A 2066 microsimulation model of the Flagstone City area was prepared by Bitzios using Aimsun Next 22.0.1 traffic modelling software. This model was prepared to evaluate route choice and provide detailed insight into vehicle trip movements within Flagstone City. This facilitates analysis of road link and intersection performance at a higher level of detail than possible with strategic modelling undertaken. This model was developed as a part of the development of the now endorsed Movement Network IMP and further refined for subsequent applications within Flagstone City.

The Flagstone City road network as modelled in Aimsun is illustrated in Figure 4.2.



Figure 4.2: Flagstone City Microsimulation (Aimsun) Model Network

4.2.2 Model Time Periods & Profiling

The strategic model cordon provided 2-hour AM and PM peak traffic volumes. In the ultimate (2066) model year, these volumes are multiplied by a factor of 0.53 to determine peak hour traffic volumes, as per the average of VLC's SEQ strategic model.

Given the study area of the model is predominantly greenfield, network peak hours are unknown. As such, AM and PM peak hours are arbitrarily assumed as follows:

- AM Peak: 07:30 – 08:30
- PM Peak: 16:30 – 17:30

The model also includes a 30-minute 'warm-up' and 'cool-down' period for each peak.

4.2.3 Zone System & Traffic Generation

The zone system for the microsimulation model was generally adopted as per the VLC strategic modelling with OD matrices of the study area taken from the cordon of the strategic model. This approach was taken to ensure as close to zone equivalence as possible with the VLC modelling. In the ultimate scenario (2066), 115 centroids are present within the cordon model, including 14 connections to external road links and neighbouring development areas, as per the cordon 'cut' from the strategic modelling.

With further development progression, significant changes in areas of the Flagstone City Structure Plan have occurred since the VLC cordon matrices were developed. To account for modified land uses and the updated scale of development expected in some stages, OD matrices for input into the microsimulation model have been updated accordingly as detailed in the endorsed movement IMP.

With the development of the proposed CA3, model zones within CA3 have been further refined to reflect the additional detail reflected in the plan. Subsequent scaling of OD demands for zones are outlined in Table 4.1, based on dwelling numbers for residential zones and developable area for non-residential zones.

Table 4.1: Aimsun Model 2066 OD Demand Updates

Zone ID	Land Use	VLC Cordon Model		CA3 South Plan		Zone Scaling
		Model Area (ha)	Dwellings	Zone Area (ha)	Dwellings	
3942	Local Centre	1.66	-	2.50	-	150.4%
3946	Low Density Residential	12.75	765	-	165	21.6%
3947	School	7	-	7.00	-	100%
3948	Low Density Residential	4.8	29	-	240	827.6%
3949	Low Density Residential	5.67	33	-	24	72.7%
3952	Medium Density Residential	3.38	85	0.905	54 ¹	63.5%
3953	Low Density Residential	3.07	77	-	66	85.7%
3954	Medium Density Residential	5.35	134	-	100	74.6%
3955	Low Density Residential	23.17	280	-	401	143.2%
3956	Low Density Residential	21.64	259	-	312	120.5%
3957	Low Density Residential	40	573	-	457	79.8%
3958	District Centre	7.6	-	6.94	-	91.3%

¹Dwellings has been estimated as a rate of 60 dwellings per hectare

The relevant zones are shown graphically in Figure 4.3.

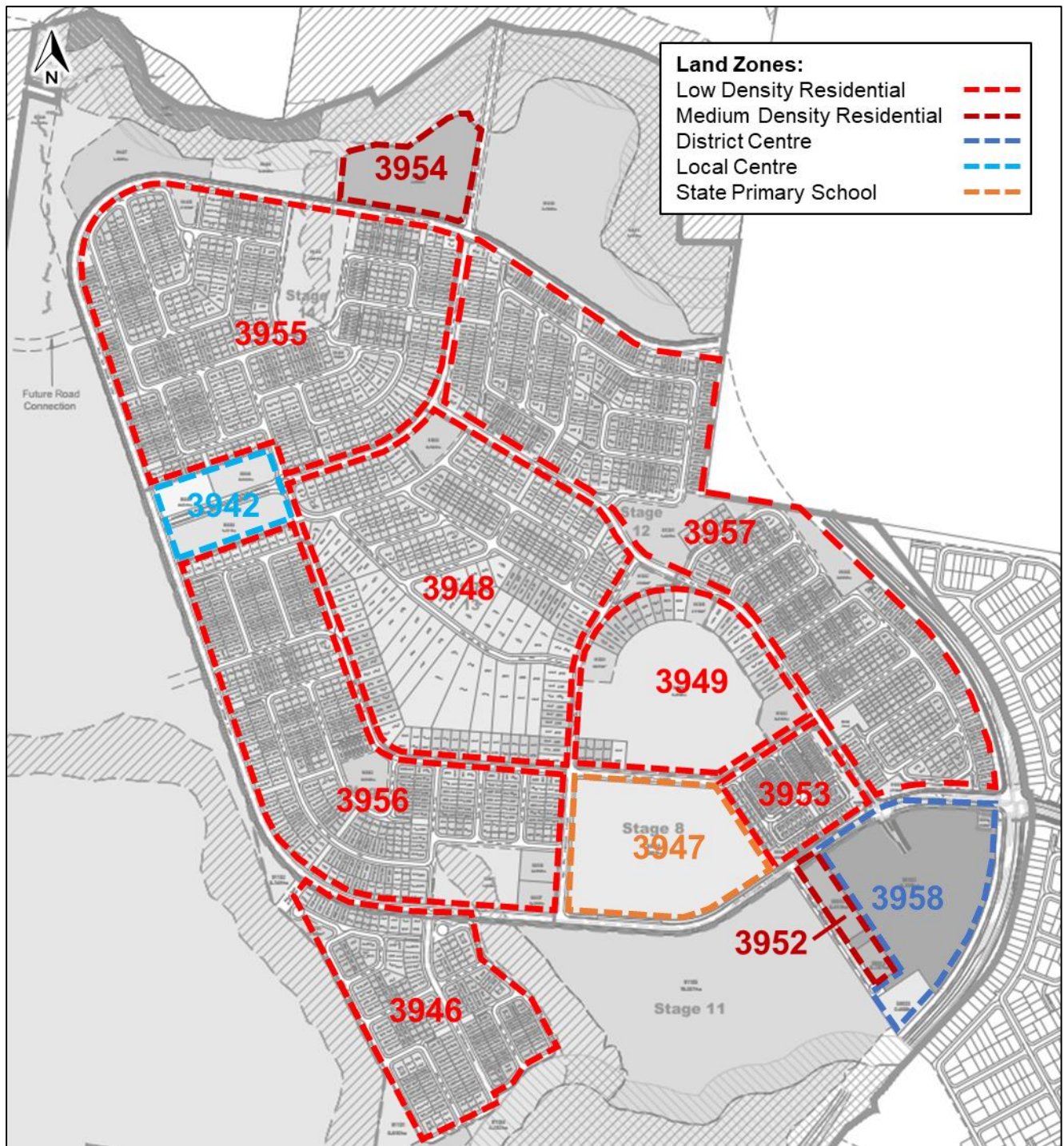


Figure 4.3: Town Centre Zone ID's & Uses

4.2.4 Microsimulation Model Output Overview

Link densities and link delays during the peak hours within the modelled CA3 South area are illustrated in Figure 4.4 to Figure 4.7.



Figure 4.4: AM Peak Link Density



Figure 4.5: PM Peak Link Density



Figure 4.6: Microsimulation Link Delays - AM Peak

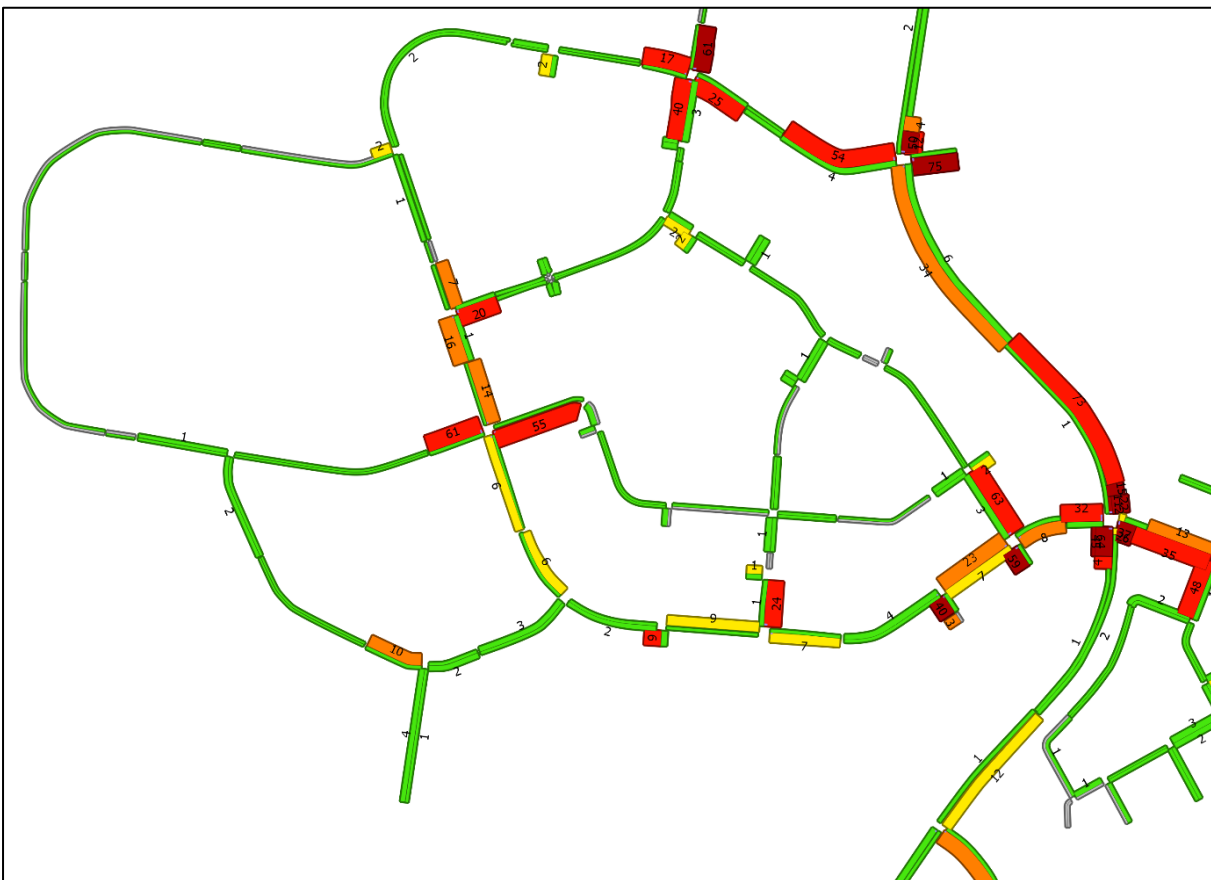


Figure 4.7: Microsimulation Link Delays - PM Peak

As shown, link delays largely occur through key signalised intersections as delays are inherent with a signalised intersection given all vehicles are required to stop at some point. That said, based on the delay results, links are typically expected to be within acceptable performance limits. These signalised intersection delays are typical in an urban environment and considering the forecast growth to the ultimate 2066 design year. Regardless, further assessment of these intersections is detailed further below.

4.3 Intersection Assessment

4.3.1 Overview

The key intersections assessed comprise of future trunk intersections identified in the endorsed Movement IMP as well as additional signalised intersections within the CA3 South area itself. The intersections assessed and their relevant ID are shown in Figure 4.8.

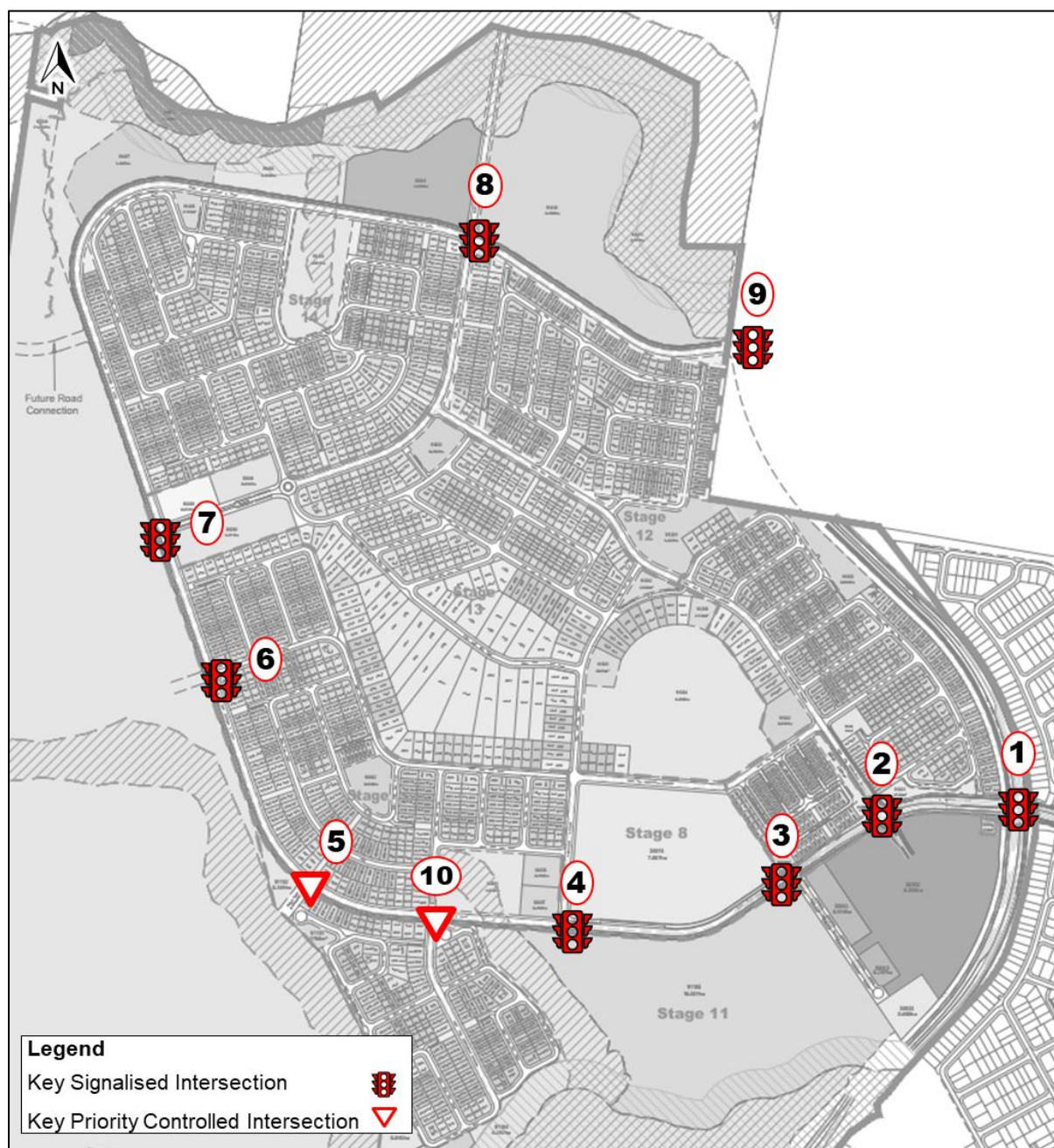


Figure 4.8: Key Intersections

4.3.2 Intersection Forms and Footprints

Key intersection layouts were transferred into SIDRA Intersection (v9.1) based on the Aimsun model layouts and assessed using peak flows extracted from the Aimsun models. This was to gain an indication of critical peak performance at the intersection level.

The resultant intersection forms and layouts are indicative only and subject to change based on further detailed assessment associated with future stages of development. Importantly, ultimate intersection forms are based on 2066 planning (41 years into the future) which may be subject to change over time.

NOTE: turn pocket lengths indicated on SIDRA layouts are indicative only and subject to design to accommodate queuing, deceleration and operational factors.

4.3.3 Intersection Assessment Summary

A summary of the SIDRA intersection results for the key intersections identified is outlined in Table 4.2. Detailed SIDRA outputs are provided in **Appendix C**.

Table 4.2: SIDRA Intersection Results Summary

Intersection ID	DOS (v/c)		Avg. Delay (s)		LOS	
	AM	PM	AM	PM	AM	PM
1	0.87	1.10	46	122	D	F
2	0.86	0.81	36	31	D	C
3	0.78	0.80	10	15	B	B
4	0.57	0.44	9	6	A	A
5	0.50	0.22	7	6	A	A
6	0.28	0.36	9	15	A	B
7	0.15	0.23	8	8	A	A
8	0.64	0.63	21	23	C	C
9	0.88	0.89	54	43	D	D
10	0.23	0.26	1	1	A	A

As shown, with forecast ultimate (2066) traffic volumes, intersections are expected to generally operate within acceptable performance limits in the AM and PM peak hours. The New Beith Road / Flagstonian Drive intersection is forecast to exceed typical performance thresholds in the PM peak only. However, due to the aspirational nature and long-term uncertainty associated with forecasting vehicle and pedestrian volumes for such a long design horizon (i.e. 41-years into the future), it is unclear if these forecasts will ever be met.

Further to this, a key component of the New Beith Road / Flagstonian Drive intersection performance is the impact of fully protected pedestrian movements on the efficiency of the signals noting the long pedestrian crossing distances. Above results adopt SIDRA default pedestrian crossing volumes of 50 pedestrians per hour on each crossing. As such, a sensitivity test was undertaken to test the comparative performance of the intersection if pedestrian volumes were reduced, thereby reducing green time for the pedestrian phase and improving signal efficiency. The east-west pedestrian crossing on the southern approach of the New Beith Road / Flagstonian Drive intersection was determined as critical to intersection performance. Table 4.3 below demonstrates that the intersection would operate within acceptable performance limits if these east-west pedestrian volumes were reduced to 20 per hour.

Table 4.3: Intersection 1 Sensitivity Test SIDRA Results Summary

Intersection ID	DOS (v/c)		Avg. Delay (s)		LOS	
	AM	PM	AM	PM	AM	PM
1	0.90	1.03	41	95	D	F

Based on the above, and the aspirational and somewhat uncertain nature of the 41-year design horizon, the intersection configuration and performance is considered acceptable.

5. ALTERNATIVE TRANSPORT PROVISIONS

5.1 Public Transport

Regional and local bus routes are proposed throughout Context Area 3 generally in accordance with the endorsed Movement IMP and the Context Area plan. Exact bus stop locations through the masterplan area are subject to consultation with TMR / TransLink and may be determined as a part of further applications for specific stages of the CA3 South. Regardless, indicative locations of bus stop pairs within the CA3 site area are shown in Figure 5.1 demonstrating a high level of expected public transport coverage within the town centre.

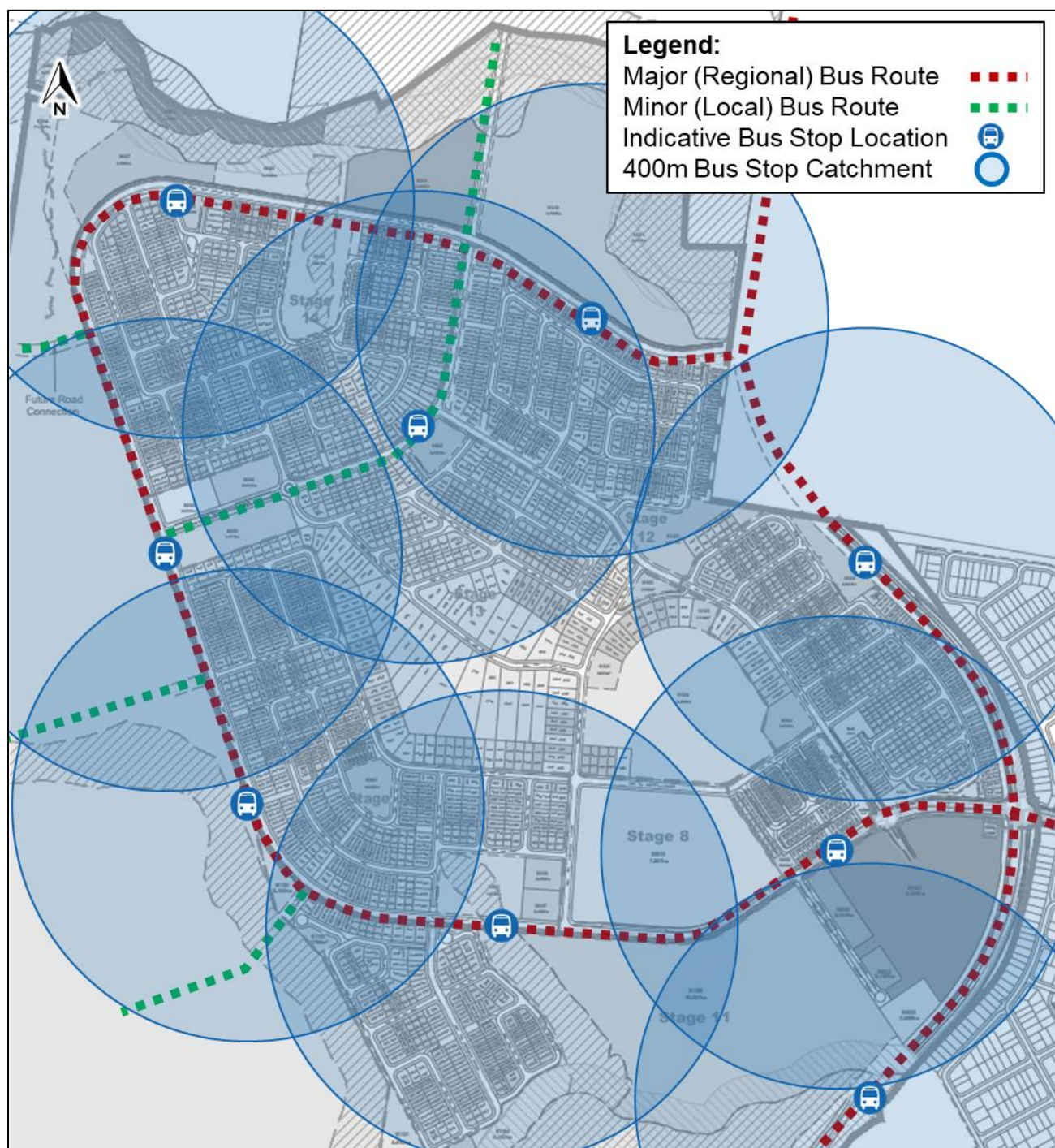


Figure 5.1: Indicative Public Transport Coverage

Where possible, bus stops are located close to signalised intersections to allow road crossings to take place via the signalised crossing(s). Where midblock stops are proposed, these are generally co-located with green space / 'pedestrian linkages' to the nearby residential catchment. This affords residents / passengers with more direct connection points from the stop infrastructure / bus service.

As shown, the majority of the proposed development area is located within reasonable walking distance of a future public transport route / stop, with only a small portion of the lowest density, slope-affected Lots outside of the 400m walking radius. Consistent with public transport requirements of the Flagstone Development Scheme, the indicative bus stop locations identified will result in approximately 98.6% of residential dwellings to be located within walking distance of a bus stop.

Note that bus stop types shall be subject to future applications and detailed design and be in accordance with the PTIM.

5.2 Active Transport Provisions

5.2.1 Overview

Pedestrian and cycle infrastructure will be provided throughout the masterplan area both within the road reserve and outside the road reserve through park linkages and private / shared pedestrian zones.

Major active transport links with separated cycle tracks and pedestrian paths within the road reserve are proposed within:

- New Beith Road (North-south adjacent the CA3 South area)
- 2-lane trunk roads (encircling the majority of the CA3 South area)
- The Regional Sport Park (through the parklands).

Shared paths shall also be provided on the frontage of the state primary school site. Parks, open space and pedestrian linkages are also proposed throughout the site area, with a large number of linkages between residential lots to provide direct pedestrian access between local neighbourhoods and the wider active (and public) transport network.

5.2.2 Active Transport Strategy Development

An active transport strategy was developed for the site area to deliver a hierarchy of active transport provisions. The strategy is based on:

- Key active transport attractors
- Relevant user types
- Key active transport desire line routes.

Key active transport attractors consist of the major land uses including retail/commercial centres, schools, and various types of parklands. These land uses are expected to attract a substantial active transport demand from the residential lots throughout the site area

The key attractors and key pedestrian desire line routes through the site area are depicted in Figure 5.2 and provided in **Appendix D**.



Figure 5.2: Key Attractors and Active Transport Desire Line Routes

Based on the above attractors and desire line routes, an active transport route hierarchy was developed to specify a set of criteria and relevant infrastructure based on route classification.

The overarching hierarchy classification considers three levels, being:

- Major
- Medium
- Low.

The hierarchy does not suggest any lower level of importance or quality of infrastructure, rather defines the type of trip attractors/generators and user types that are most likely to use the prevailing facility, and therefore assist in the determination of an appropriate facility/infrastructure type.

For example:

a Major classification applies to routes / infrastructure that service multiple trip attractors such as connections between schools, parklands and major retail centres. This hierarchy may warrant a wider treatment due to a higher volume of active transport users.

a Low classification applies to routes / infrastructure that primarily service the immediate catchment, are not expected to service a large number of user types and warrant pathway treatments within the road reserve e.g. 1.5m footpath(s).

The route hierarchy criteria are summarised in Table 5.1.

Table 5.1: Criteria to Determine Route Hierarchy

Classification	Criteria	Infrastructure
Major	Provides connections: ▪ Within or between key centres ▪ To schools, shopping centres, transit hubs/stops ▪ Along major, higher volume transport routes	Includes: ▪ Separated cycleways ▪ Shared paths outside road reserve ▪ Shared paths ≥3m inside road reserve both sides of road
Medium	Provides connections: ▪ Within and between residential areas ▪ To major active transport routes ▪ To open space / parks ▪ To public transport stops	Includes: ▪ Shared path inside road reserve one side ▪ Shared paths ≤3m inside road reserve both sides of road ▪ Pathways outside road reserve (open space)
Low	Provides connections: ▪ Within immediate catchment (400m) ▪ On lower order, lower volume transport routes	Includes: ▪ Pathways inside road reserve one side (e.g. 1.5m footpath)

The key active transport linkages throughout the site area were therefore developed adopting the strategy of key attractors, key desire line routes and the criteria outlined in the route hierarchy classification. The key active transport linkages and route hierarchy is shown in Figure 5.3 and provided in **Appendix D**.

As shown, the proposed key active transport linkages are considered to provide a high-level of service and accessibility for the CA3 South site and provide connectivity to surrounding services and properties. The proposed connections also generally align with the active transport components of the endorsed Movement IMP.

Further, the DCOP identifies an off-road shared path through the Regional Sport Park and along the southern extent of the CA3 area. While not specifically identified on the plan included at **Appendix A**,

the proposal does not preclude part provision of this path, and this off-road shared path is recommended to form part of any future approvals relating to the sports park.

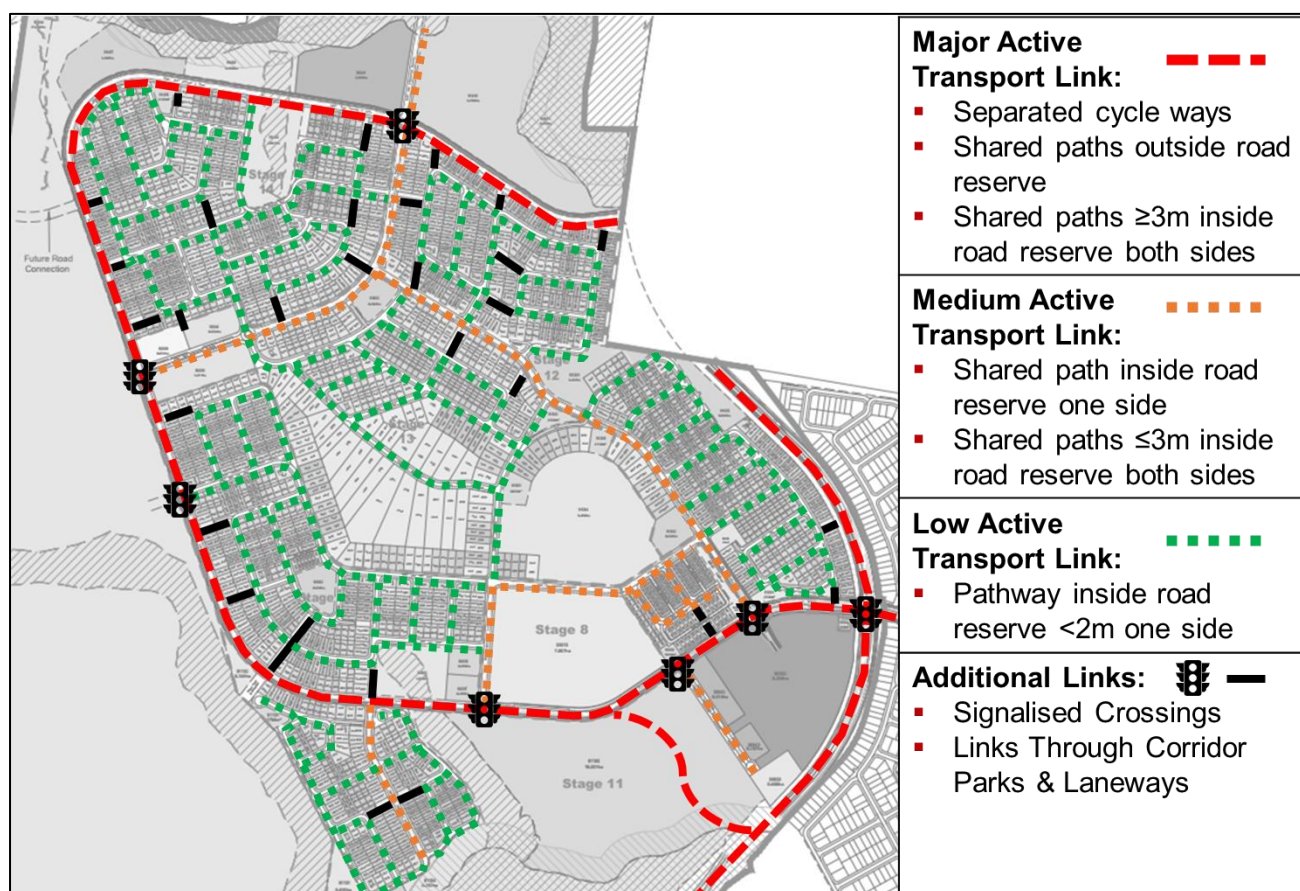


Figure 5.3: Active Transport Linkages

5.2.3 School Frontages

A neighbourhood connector road type is proposed on the northern and western frontages of the proposed Stage 8 school site, including a 3m shared path to be provided on one-side of the road. For compliance with the *TMR Planning for Safe Transport Infrastructure at Schools (PSTIS)* guideline, this shared path shall be provided on the side of the road fronting the proposed school site.

A 4m shared path is proposed on the southern frontage of the school site. As per the PSTIS, this is in line with the required path width for a minor external shared path frontage a large school site. While pedestrian demands to / from the school site along the trunk connector are expected to be high, it would be expected that school pedestrian entry / exit points would be located toward the south-west and south-east corners of the site. As such, active transport movements will flow out from the school at these points without creating a significant pedestrian demand along the length of the path fronting the school, as illustrated in Figure 5.4.

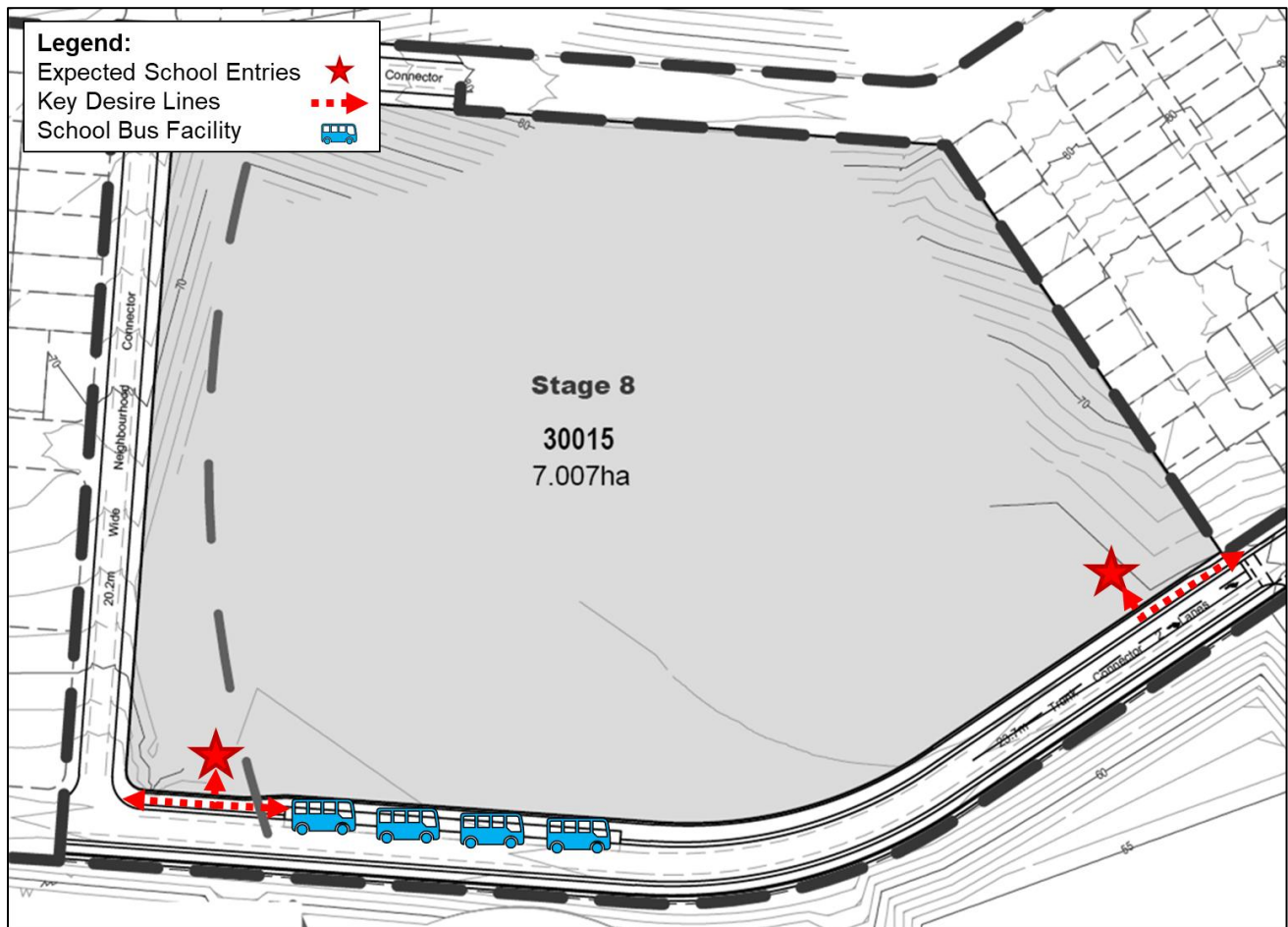


Figure 5.4: Stage 8 School Southern Frontage Pedestrian Connections

Considering this and also noting the proposed two-way cycle path and footpath on the opposing side of the road, a minor shared path classification is considered appropriate for the shared path on the site's southern frontage.

The shared path width narrows to 3m behind the proposed school bus facility. While it is noted that this width is below minimums specified in the PSTIS for a shared path fronting a school, the following should be noted:

- A total sealed width of 7.2m will be available for pedestrians adjacent the bus facility including the bus hardstand width
- The 3m width maintained behind the bus hardstand area maintains the shared path width provided for active transport users on typical a trunk connector cross-section as outlined in Section 3.2.

Based on the above, the proposed shared paths widths fronting the school site are considered ample to cater for expected pedestrian demands generated by the proposed school site and the proposed infrastructure achieves compliance with S1 of the PSTIS.

6. SUMMARY & CONCLUSIONS

The traffic and transport findings for the Flagstone Town Centre Masterplan are summarised below:

- The proposed development is located within the southern portion of Context Area 3 (CA3 South) of Flagstone City and incorporates a range of land uses generally consistent with relevant planning
- CA3 South includes in the order of 1,750 low-medium density dwellings, local and district centres, a primary school and child care, community centre, ambulance station and parks and open spaces
- Proposed road hierarchies are generally in accordance with the Movement IMP and/or the EDQ *Street and Movement Network PDA Guideline*, with exception only to the “Neighbourhood Esplanade” which reflects EDQ’s Neighbourhood Access (16.5m) with a marginal reduction in verge width on one side. Road hierarchies are therefore considered to meet the relevant requirements
- Strategic traffic modelling was undertaken by VLC for which cordon matrices were extracted for the development of microsimulation (Aimsun) traffic models of Flagstone City, this process has been used throughout all previous application material and as such, presents a consistent approach to determining road network / intersection requirements
- Microsimulation modelling indicates that CA3 links are typically expected to be within acceptable performance limits with some delays noted on approaches to signalised intersections on trunk roads. This is typical of signalised intersections in an urban environment, noting the 2066 design year adopted for the ultimate assessment
- Overall findings of intersection modelling of key intersections demonstrate that, based on current estimates of future traffic volumes, key intersections as detailed can generally cater for peak traffic demands within CA3 south
- Approximately 98% of the proposed site is located within 400m of a future bus route / stop / service achieving the public transport requirements of the Development Scheme. Stops are generally located close to signalised intersections (crossings) or midblock adjacent green pedestrian links
- The CA3 South site is considered to provide a highly accessible active transport network, with a range of route options both within and outside the road reserve. The proposed connections also generally align with the active transport components of the Movement IMP and do not preclude the off-road shared path provisions identified in the DCOP.

Based on the above assessment, it is concluded that the proposed road network, intersection arrangements and alternate transport provisions are expected to accommodate transport demands associated with the proposed CA3 South development.

Appendix A: CA3 South Layout





- Legend**
- Application Boundary
 - Stage Boundary
 - Lease Area (Signage)
 - Environmental Constraints
 - Indicative Core Corridor (100m)
 - Indicative Outer Corridor (200m)
 - Existing Q100
 - Concept Design Contours (1m)
 - Possible Multiple Residential Allotment (Max. no. of dwellings)
 - Potential School Site for Acquisition (12ha)

TO BE READ IN CONJUNCTION WITH 110056-640E STAGES 8-14 OVERALL STATISTICS

PLAN REF: **110056 – 639**
Rev No: **E**
DATE: 30 JULY 2025
CLIENT: PEET
DRAWN BY: JC / MM
CHECKED BY: MD

0 100 200 300 400 500 1 : 7,500 @ A3

FLAGSTONE CA3 SOUTH
STAGES 8 - 14
OVERALL PLAN OF SUBDIVISION

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CA3 SOUTH - Stage 8 - 14 Yield Breakdown									
Lot Type	Stage 8	Stage 9	Stage 10	Stage 11	Stage 12	Stage 13	Stage 14	Overall	
	Yield	Yield	Yield	Yield	Yield	Yield	Yield	Yield	%
20.5m Deep Product									
Premium Villa 12.5m Allotment	—	8	—	—	—	—	—	8	0%
Courtyard 14m Allotment	—	2	—	—	—	—	—	2	0%
Subtotal	—	10	—	—	—	—	—	10	1%
25m Deep Terrace Product									
Terrace 9.5m Allotment	—	32	—	—	—	—	—	32	2%
Subtotal	—	32	—	—	—	—	—	32	2%
25m Deep Product									
Villa 10.5m Allotment	—	—	25	17	11	—	—	53	3%
Premium Villa 12.5m Allotment	—	—	26	17	38	—	2	83	5%
Courtyard 14m Allotment	—	—	12	12	30	—	3	57	3%
Premium Courtyard 16m Allotment	—	—	4	11	5	1	—	21	1%
Premium Traditional 20m Allotment	—	—	—	—	4	—	—	4	0%
Possible Multiple Residential Allotment	—	—	3	1	2	—	—	6	0%
Subtotal	—	—	70	58	90	1	5	224	13%
28m Deep Terrace Product									
Terrace 7.5m Allotment	—	5	—	—	—	—	10	15	1%
Terrace 9.5m Allotment	—	26	—	—	—	—	4	30	2%
Subtotal	—	31	—	—	—	—	14	45	3%
30m Deep Product									
Villa 10.5m Allotment	—	60	39	12	29	—	52	192	12%
Premium Villa 12.5m Allotment	—	95	66	28	67	23	111	390	24%
Courtyard 14m Allotment	—	108	34	33	43	63	152	433	26%
Premium Courtyard 16m Allotment	—	26	3	10	8	35	43	125	8%
Traditional 18m Allotment	—	4	—	—	—	1	—	5	0%
Premium Traditional 20m Allotment	—	9	1	6	4	15	16	51	3%
Possible Multiple Residential Allotment	—	3	—	6	3	6	3	21	1%
Subtotal	—	305	143	95	154	143	377	1217	74%
50m+ Deep Product									
Courtyard 14m Allotment	—	—	—	—	—	25	—	25	2%
Premium Courtyard 16m Allotment	—	—	5	—	—	20	—	25	2%
Traditional 18m Allotment	—	—	3	—	—	17	—	20	1%
Premium Traditional 20m Allotment	—	—	2	—	—	16	—	18	1%
Ridgetop Allotment	—	—	—	—	—	21	—	21	1%
Subtotal	—	—	10	—	—	99	—	109	7%
Total Residential Allotments	—	378	223	153	244	243	396	1637	100%
Residential Net Density	—	16.8 dw/ha	15.0 dw/ha	13.1 dw/ha	16.5 dw/ha	8.8 dw/ha	15.0 dw/ha	13.6 dw/ha	
Super Lots									
Local Centre	—	—	—	—	—	2	—	2	
District Centre	—	—	—	1	—	—	—	1	
Ambulance	—	—	—	1	—	—	—	1	
Child Care	—	2	—	—	—	—	—	2	
Community Centre	—	—	—	—	—	1	—	1	
State Primary School	1	—	—	—	—	—	—	1	
Medium Density Allotment	—	—	—	2	—	—	1	3	
Balance Allotment	—	—	2	—	—	—	2	4	
Subtotal	1	2	2	4	—	3	3	15	
Utilities									
Water Booster Pump Station	—	—	1	—	—	—	—	1	
Total Area of Utilities	—	—	1	—	—	—	—	1	
Total Allotments	1	380	226	157	244	246	399	1653	
Maximum Potential Residential Dwellings (Includes Multiple Residential Allotments)	—	381	226	165	252	254	401	1679	
Maximum Potential Net Residential Density	—	16.9 dw/ha	15.2 dw/ha	14.1 dw/ha	17.1 dw/ha	9.2 dw/ha	15.2 dw/ha	14.0 dw/ha	

CA3 SOUTH - Stage 8 - 14 Land Budget									
Land Use	Stage 8	Stage 9	Stage 10	Stage 11	Stage 12	Stage 13	Stage 14	Overall	
	Area	Area	Area	Area	Area	Area	Area	Area	%
	9.607 ha	27.225 ha	19.337 ha	66.007 ha	16.220 ha	36.655 ha	144.021 ha	319.072 ha	100.0%
Saleable Area									
Residential Allotments	—	14.554 ha	8.763 ha	6.286 ha	9.627 ha	20.708 ha	16.547 ha	76.485 ha	24.0%
Medium Density	—	—	—	0.905 ha	—	—	2.863 ha	3.768 ha	1.2%
Local Centre	—	—	—	—	—	1.945 ha	—	1.945 ha	0.6%
District Centre	—	—	—	6.335 ha	—	—	—	6.335 ha	2.0%
Ambulance	—	—	—	0.600 ha	—	—	—	0.600 ha	0.2%
Child Care	—	0.700 ha	—	—	—	—	—	0.700 ha	0.2%
Community Centre	—	—	—	—	—	0.551 ha	—	0.551 ha	0.2%
State Primary School	7.007 ha	—	—	—	—	—	—	7.007 ha	2.2%
Total Area of Allotments	7.007 ha	15.254 ha	8.763 ha	14.126 ha	9.627 ha	23.204 ha	19.410 ha	97.391 ha	30.5%
Utilities									
Water Booster Pump Station	—	—	0.068 ha	—	—	—	—	0.068 ha	0.0%
Area of Utilities	—	—	0.068 ha	—	—	—	—	0.068 ha	0.0%
Road									
North South Arterial Dedication (incl. batters)	—	—	3.050 ha	9.501 ha	—	—	0.126 ha	12.677 ha	4.0%
Trunk Connector 2 Lanes (23.7m)	1.578 ha	2.474 ha	1.121 ha	0.144 ha	0.028 ha	0.327 ha	4.052 ha	9.724 ha	3.0%
Neighbourhood Connector (20.2m)	1.022 ha	1.026 ha	1.094 ha	1.225 ha	1.642 ha	1.016 ha	0.688 ha	7.713 ha	2.4%
Neighbourhood Access Street (16.5m)	—	5.229 ha	3.446 ha	3.124 ha	3.246 ha	4.373 ha	6.177 ha	25.595 ha	8.0%
Laneway (6.5m)	—	0.363 ha	—	—	—	—	0.083 ha	0.446 ha	0.1%
Pedestrian Linkages	—	0.365 ha	0.042 ha	0.088 ha	0.255 ha	0.130 ha	0.638 ha	1.518 ha	0.5%
Total Area of New Road	2.600 ha	9.457 ha	8.753 ha	14.082 ha	5.171 ha	5.846 ha	11.764 ha	57.673 ha	18.1%
Open Space									
Conservation Buffer	—	—	—	—	—	—	1.988 ha	1.988 ha	0.6%
Corridor Park / Conservation	—	1.564 ha	—	21.807 ha	—	6.350 ha	18.067 ha	47.788 ha	15.0%
Stormwater Management	—	—	0.699 ha	—	1.422 ha	—	—	2.121 ha	0.7%
Regional Sports	—	—	—	15.001 ha	—	—	—	15.001 ha	4.7%
District Sports	—	—	—	—	—	—	8.560 ha	8.560 ha	2.7%
Neighbourhood Recreation Park	—	0.580 ha	0.539 ha	0.816 ha	—	0.502 ha	1.905 ha	4.342 ha	1.4%
Local Recreation Park	—	0.103 ha	—	0.175 ha	—	0.753 ha	0.293 ha	1.324 ha	0.4%
Local Linear Recreation Park	—	0.267 ha	0.273 ha	—	—	—	—	0.540 ha	0.2%
Total Open Space	—	2.514 ha	1.511 ha	37.799 ha	1.422 ha	7.605 ha	30.813 ha	81.664 ha	25.6%
Balance Allotments									
Balance Allotment	—	—	0.242 ha	—	—	—	82.034 ha	82.276 ha	25.8%
Total Balance Allotments	—	—	0.242 ha	—	—	—	82.034 ha	82.276 ha	25.8%

PLAN REF: 110056 – 640

Rev No: E
DATE: 30 JULY 2025
CLIENT: PEET
DRAWN BY: JC / MM
CHECKED BY: MD



Not to Scale @ A3

FLAGSTONE CA3 SOUTH
STAGES 8 - 14
OVERALL PLAN OF SUBDIVISION STATISTICS

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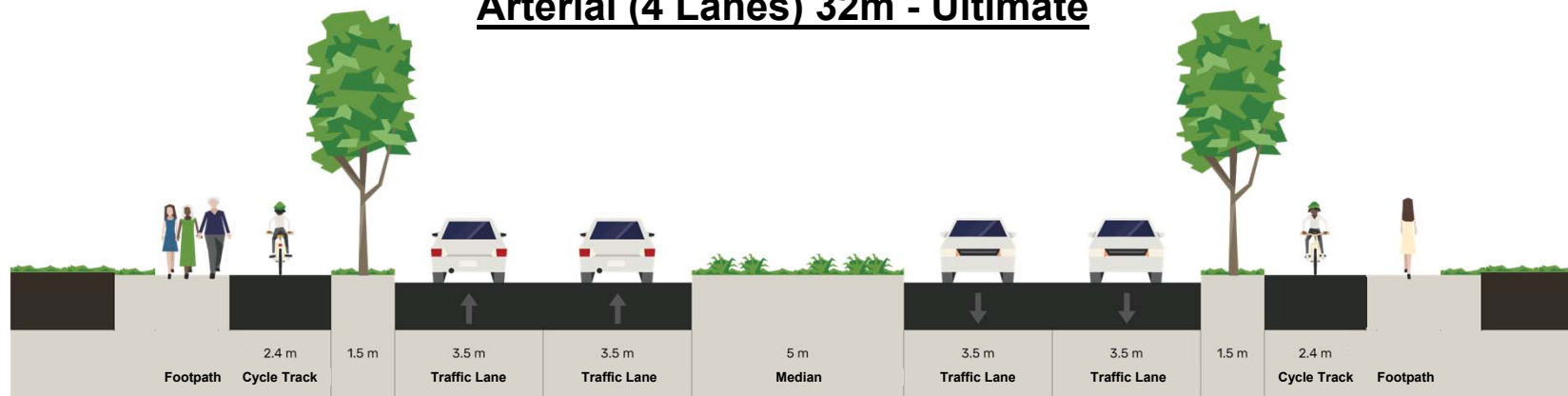
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Appendix B: Typical Road Cross-Sections



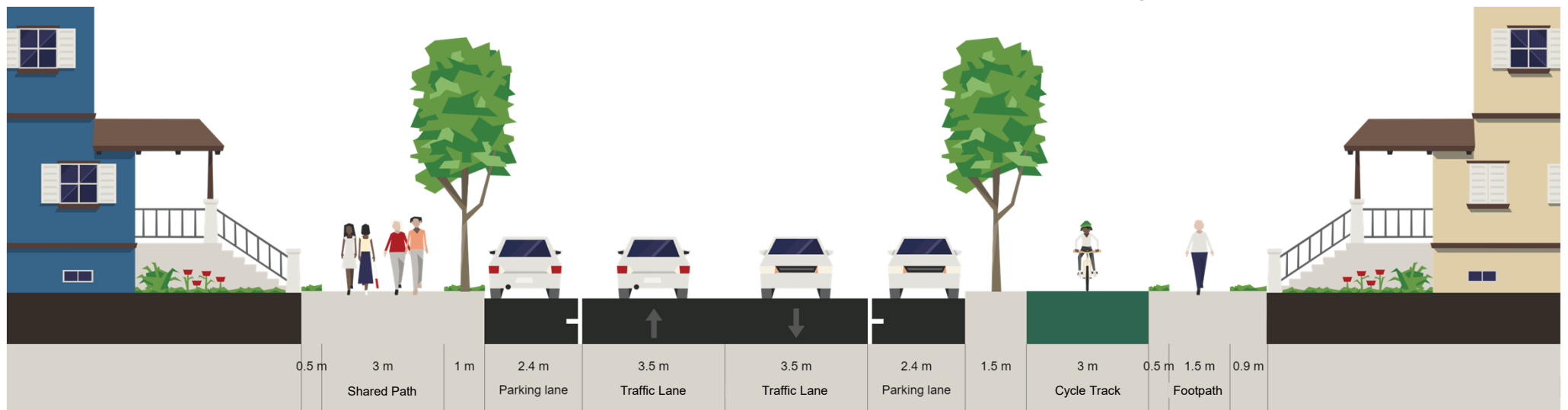
Arterial (4 Lanes) 32m - Ultimate



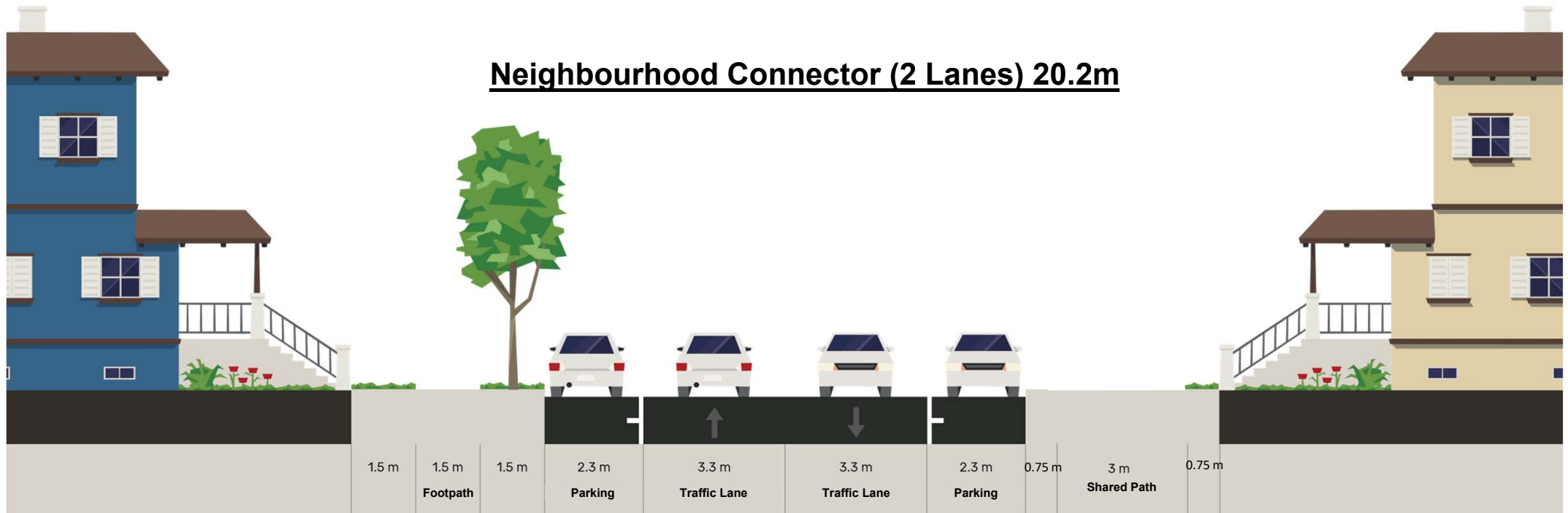
Trunk Collector (4 Lanes) 32m - Ultimate



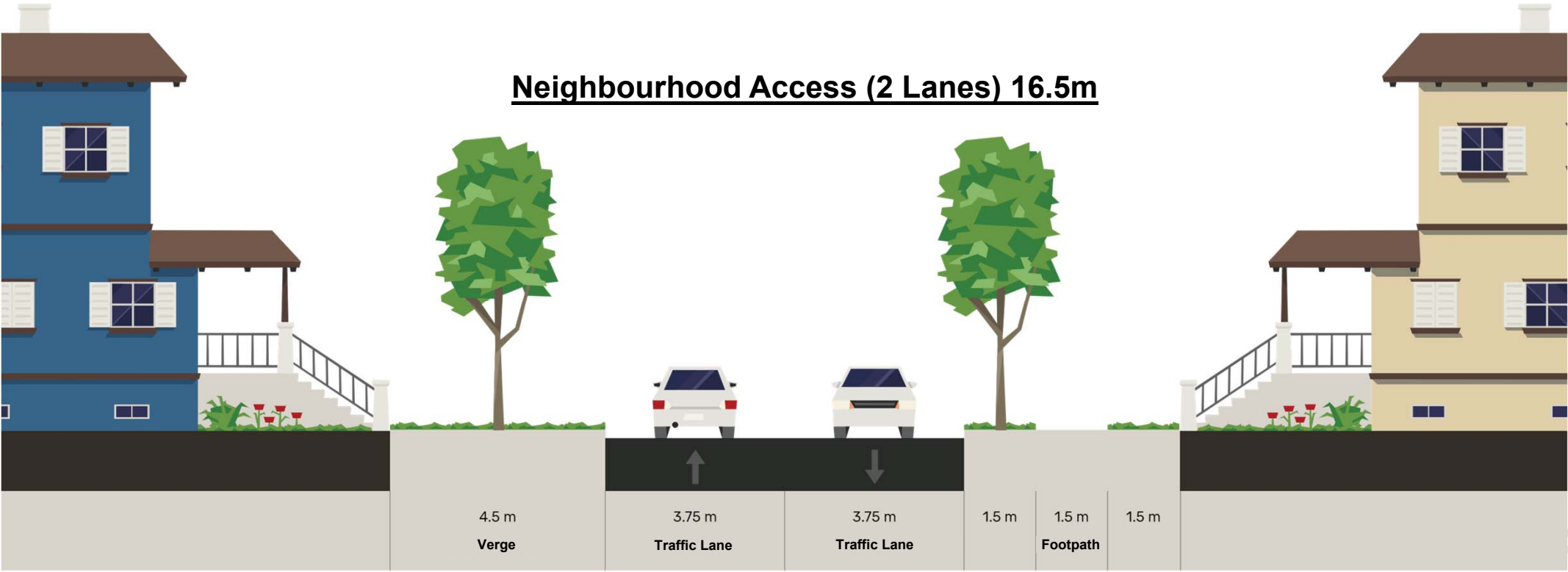
Trunk Connector (2 Lanes) 23.7m – With Parking



Neighbourhood Connector (2 Lanes) 20.2m



Neighbourhood Access (2 Lanes) 16.5m



Neighbourhood Lane 6.5m



Neighbourhood Esplanade



Appendix C: Key Intersection SIDRA Summaries



SITE LAYOUT

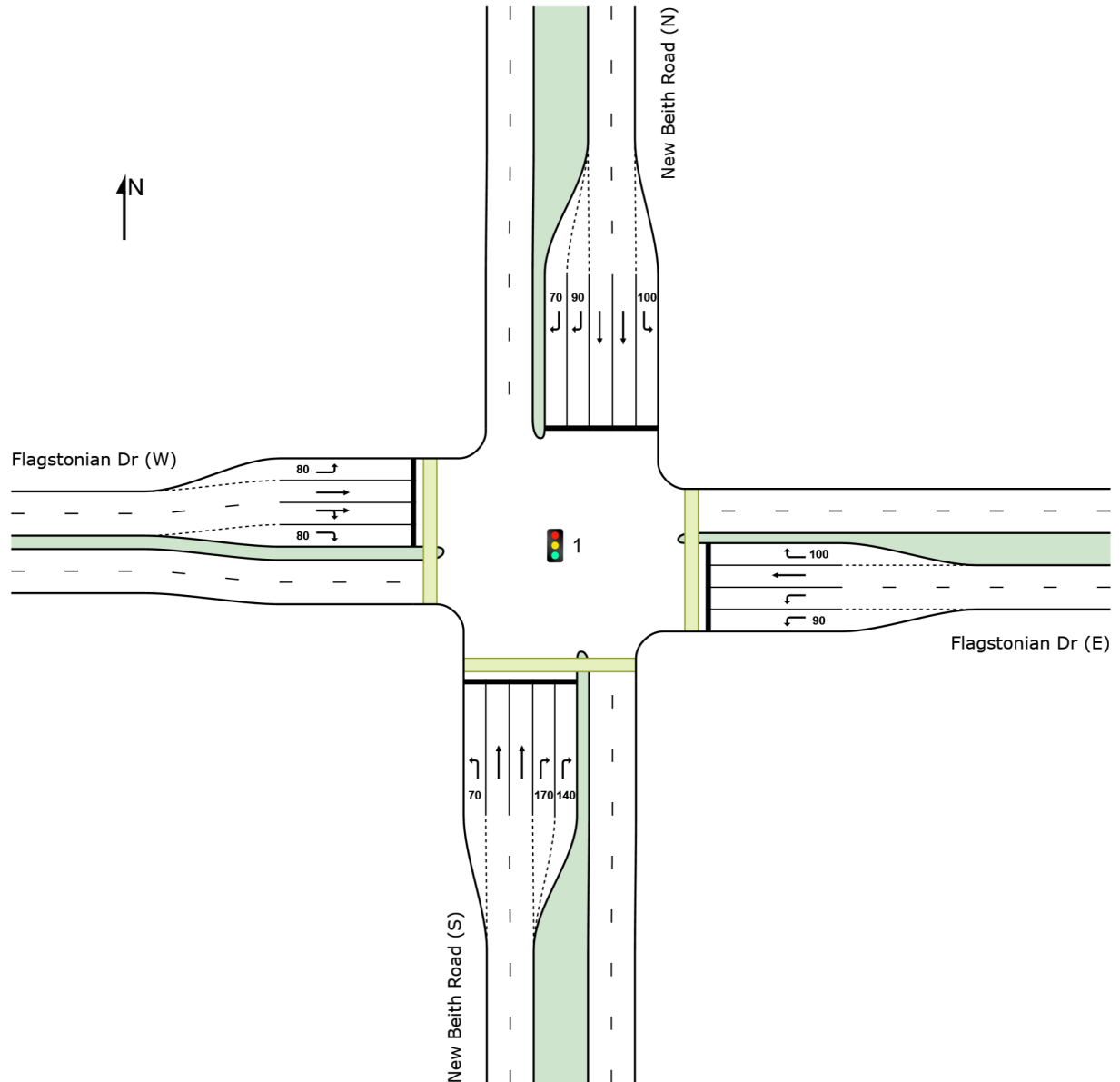
 **Site: 1 [1_2066 AM (Site Folder: 2066 AM)]**

New Beith Road / Flagstonian Drive

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated

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



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Project: P:\P6887 Flagstone City Traffic and Transport Services\Technical\Models\SIDRA\P2300.001M 2066 CA3 South Masterplan SIDRA Models.sip9

MOVEMENT SUMMARY

 Site: 1 [1_2066 AM (Site Folder: 2066 AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

 Network: N101 [2066 District Centre AM (Network Folder: General)]

New Beith Road / Flagstonian Drive

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site Practical Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]		[Total HV]					[Veh. veh	Dist]			km/h
			veh/h	%	veh/h	%	v/c	sec			m			
South: New Beith Road (S)														
1	L2	All MCs	135	0.0	135	0.0	0.132	22.4	LOS C	1.5	10.8	0.51	0.70	46.1
2	T1	All MCs	1326	2.2	1326	2.2	0.801	27.1	LOS C	19.3	137.6	0.83	0.76	54.8
3	R2	All MCs	722	1.5	722	1.5	*0.842	60.7	LOS E	13.6	96.3	1.00	0.94	30.9
Approach			2183	1.8	2183	1.8	0.842	37.9	LOS D	19.3	137.6	0.87	0.81	44.5
East: Flagstonian Dr (E)														
4	L2	All MCs	268	2.6	268	2.6	0.315	47.6	LOS D	4.0	28.6	0.87	0.79	34.6
5	T1	All MCs	224	0.9	224	0.9	0.578	47.3	LOS D	7.4	51.9	0.96	0.80	15.3
6	R2	All MCs	271	1.8	271	1.8	*0.739	57.5	LOS E	9.5	67.6	1.00	0.87	34.1
Approach			763	1.8	763	1.8	0.739	51.0	LOS D	9.5	67.6	0.94	0.82	30.6
North: New Beith Road (N)														
7	L2	All MCs	376	1.9	376	1.9	0.492	21.6	LOS C	6.5	46.0	0.78	0.81	48.5
8	T1	All MCs	814	5.7	814	5.7	0.805	48.5	LOS D	14.5	106.3	1.00	0.92	44.2
9	R2	All MCs	186	2.2	186	2.2	*0.872	77.4	LOS E	3.8	27.0	1.00	0.96	24.4
Approach			1376	4.1	1376	4.1	0.872	45.1	LOS D	14.5	106.3	0.94	0.89	41.9
West: Flagstonian Dr (W)														
10	L2	All MCs	294	0.7	294	0.7	0.734	54.6	LOS D	10.2	71.6	0.99	0.86	31.4
11	T1	All MCs	333	1.5	333	1.5	*0.839	64.1	LOS E	6.8	48.4	1.00	0.96	17.7
12	R2	All MCs	186	0.0	186	0.0	0.839	69.9	LOS E	6.8	48.2	1.00	0.96	26.3
Approach			813	0.9	813	0.9	0.839	62.0	LOS E	10.2	71.6	1.00	0.93	25.4
All Vehicles			5135	2.3	5135	2.3	0.872	45.6	LOS D	19.3	137.6	0.92	0.85	38.9

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

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

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

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist]			sec	m	m/sec
South: New Beith Road (S)											
P1	Full	50	53.3	LOS E	0.2	0.2	0.94	0.94	68.7	20.0	0.29

East: Flagstonian Dr (E)											
P2	Full	50	53.3	LOS E	0.2	0.2	0.94	0.94	68.7	20.0	0.29
West: Flagstonian Dr (W)											
P4	Full	50	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
All Pedestrians		150	53.6	LOS E	0.2	0.2	0.95	0.95	115.2	80.0	0.69

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

MOVEMENT SUMMARY

 Site: 1 [1_2066 AM_Sensitivity (Site Folder: 2066 AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

 Network: N101 [2066 District Centre AM_Sensitivity (Network Folder: General)]

New Beith Road / Flagstonian Drive

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 105 seconds (Site Practical Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]		[Total HV]					[Veh. veh	Dist]			km/h
			veh/h	%	veh/h	%	v/c	sec			m			
South: New Beith Road (S)														
1	L2	All MCs	135	0.0	135	0.0	0.132	17.6	LOS B	1.3	9.0	0.51	0.70	47.1
2	T1	All MCs	1326	2.2	1326	2.2	0.783	21.9	LOS C	16.3	116.5	0.81	0.74	56.7
3	R2	All MCs	722	1.5	722	1.5	*0.897	62.5	LOS E	13.1	92.8	1.00	1.01	30.5
Approach			2183	1.8	2183	1.8	0.897	35.0	LOS D	16.3	116.5	0.85	0.82	45.8
East: Flagstonian Dr (E)														
4	L2	All MCs	268	2.6	268	2.6	0.241	35.9	LOS D	3.2	22.6	0.79	0.77	39.1
5	T1	All MCs	224	0.9	224	0.9	0.674	45.5	LOS D	6.8	48.1	0.99	0.84	15.7
6	R2	All MCs	271	1.8	271	1.8	*0.862	61.3	LOS E	9.4	67.1	1.00	0.98	33.0
Approach			763	1.8	763	1.8	0.862	47.7	LOS D	9.4	67.1	0.92	0.86	31.7
North: New Beith Road (N)														
7	L2	All MCs	376	1.9	376	1.9	0.525	21.0	LOS C	5.9	42.1	0.82	0.81	48.8
8	T1	All MCs	814	5.7	814	5.7	0.775	40.3	LOS D	12.4	90.9	0.98	0.89	46.9
9	R2	All MCs	186	2.2	186	2.2	*0.890	70.3	LOS E	3.4	24.2	1.00	0.98	25.6
Approach			1376	4.1	1376	4.1	0.890	39.1	LOS D	12.4	90.9	0.94	0.88	44.1
West: Flagstonian Dr (W)														
10	L2	All MCs	294	0.7	294	0.7	0.726	48.6	LOS D	8.9	62.9	0.99	0.86	33.0
11	T1	All MCs	333	1.5	333	1.5	*0.867	59.2	LOS E	6.2	43.9	1.00	1.00	18.7
12	R2	All MCs	186	0.0	186	0.0	0.867	65.1	LOS E	6.2	43.7	1.00	1.00	27.3
Approach			813	0.9	813	0.9	0.867	56.7	LOS E	8.9	62.9	1.00	0.95	26.6
All Vehicles			5135	2.3	5135	2.3	0.897	41.4	LOS D	16.3	116.5	0.91	0.87	40.4

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

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

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

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist]			sec	m	m/sec
South: New Beith Road (S)											
P1	Full	20	45.8	LOS E	0.1	0.1	0.93	0.93	61.2	20.0	0.33

East: Flagstonian Dr (E)											
P2	Full	50	45.8	LOS E	0.1	0.1	0.94	0.94	61.2	20.0	0.33
West: Flagstonian Dr (W)											
P4	Full	50	46.8	LOS E	0.1	0.1	0.94	0.94	200.6	200.0	1.00
All Pedestrians		120	46.2	LOS E	0.1	0.1	0.94	0.94	119.3	95.0	0.80

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

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

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Project: P:\P6887 Flagstone City Traffic and Transport Services\Technical\Models\SIDRA\P2300.001M 2066 CA3 South Masterplan SIDRA Models.sip9

MOVEMENT SUMMARY

 Site: 1 [1_2066 PM (Site Folder: 2066 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

 Network: N101 [2066 District Centre PM (Network Folder: General)]

New Beith Road / Flagstonian Drive

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 160 seconds (Site Practical Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]		[Total HV]					[Veh. veh	Dist]			km/h
			veh/h	%	veh/h	%	v/c	sec			m			
South: New Beith Road (S)														
1	L2	All MCs	151	0.0	151	0.0	0.237	42.4	LOS D	3.3	23.2	0.75	0.76	36.9
2	T1	All MCs	732	3.3	732	3.3	0.730	63.3	LOS E	16.7	120.2	0.97	0.84	41.5
3	R2	All MCs	172	1.2	172	1.2	0.534	84.2	LOS F	4.1	28.7	1.00	0.78	25.7
Approach			1055	2.5	1055	2.5	0.730	63.7	LOS E	16.7	120.2	0.94	0.82	36.4
East: Flagstonian Dr (E)														
4	L2	All MCs	885	1.9	885	1.9	* 1.091	195.2	LOS F	32.8	233.4	1.00	1.21	15.2
5	T1	All MCs	353	0.6	353	0.6	0.519	43.8	LOS D	13.2	93.0	0.85	0.74	16.1
6	R2	All MCs	356	1.4	356	1.4	0.553	51.2	LOS D	13.6	96.1	0.86	0.83	36.0
Approach			1594	1.5	1594	1.5	1.091	129.5	LOS F	32.8	233.4	0.94	1.02	17.4
North: New Bieth Road (N)														
7	L2	All MCs	193	4.1	193	4.1	0.163	38.1	LOS D	2.0	14.8	0.41	0.70	54.5
8	T1	All MCs	1291	1.4	1291	1.4	* 1.097	180.9	LOS F	46.7	331.2	1.00	1.48	24.4
9	R2	All MCs	316	0.9	316	0.9	0.548	88.4	LOS F	7.0	49.7	0.97	0.81	25.0
Approach			1800	1.6	1800	1.6	1.097	149.4	LOS F	46.7	331.2	0.93	1.28	22.8
West: Flagstonian Dr (W)														
10	L2	All MCs	144	2.1	144	2.1	0.300	56.0	LOS E	5.5	39.0	0.85	0.78	31.0
11	T1	All MCs	234	1.7	234	1.7	* 1.040	144.2	LOS F	9.0	64.1	1.00	1.16	9.4
12	R2	All MCs	173	0.0	173	0.0	1.040	150.2	LOS F	8.9	63.2	1.00	1.16	16.1
Approach			551	1.3	551	1.3	1.040	123.0	LOS F	9.0	64.1	0.96	1.06	16.0
All Vehicles			5000	1.7	5000	1.7	1.097	122.1	LOS F	46.7	331.2	0.94	1.08	22.6

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

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

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

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist]			sec	m	m/sec
						m					
South: New Beith Road (S)											
P1	Full	50	73.3	LOS F	0.2	0.2	0.96	0.96	88.7	20.0	0.23

East: Flagstonian Dr (E)											
P2	Full	50	73.3	LOS F	0.2	0.2	0.96	0.96	88.7	20.0	0.23
West: Flagstonian Dr (W)											
P4	Full	50	74.3	LOS F	0.2	0.2	0.96	0.96	228.1	200.0	0.88
All Pedestrians		150	73.6	LOS F	0.2	0.2	0.96	0.96	135.2	80.0	0.59

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

MOVEMENT SUMMARY

 Site: 1 [1_2066 PM_Sensitivity (Site Folder: 2066 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

 Network: N101 [2066 District Centre PM_Sensitivity (Network Folder: General)]

New Beith Road / Flagstonian Drive

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 160 seconds (Site Practical Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]		[Total HV]					[Veh. veh	Dist]			km/h
			veh/h	%	veh/h	%	v/c	sec			m			
South: New Beith Road (S)														
1	L2	All MCs	151	0.0	151	0.0	0.237	42.2	LOS D	3.1	21.8	0.75	0.76	37.3
2	T1	All MCs	732	3.3	732	3.3	0.747	64.8	LOS E	16.9	121.5	0.98	0.85	41.1
3	R2	All MCs	172	1.2	172	1.2	0.575	85.5	LOS F	4.1	29.0	1.00	0.78	25.4
Approach			1055	2.5	1055	2.5	0.747	64.9	LOS E	16.9	121.5	0.95	0.83	36.1
East: Flagstonian Dr (E)														
4	L2	All MCs	885	1.9	885	1.9	* 1.019	142.0	LOS F	29.4	209.5	1.00	1.13	19.5
5	T1	All MCs	353	0.6	353	0.6	0.559	47.4	LOS D	13.8	96.8	0.88	0.77	15.2
6	R2	All MCs	356	1.4	356	1.4	0.596	54.8	LOS D	14.1	100.0	0.90	0.84	34.9
Approach			1594	1.5	1594	1.5	1.019	101.6	LOS F	29.4	209.5	0.95	0.99	20.6
North: New Bieth Road (N)														
7	L2	All MCs	193	4.1	193	4.1	0.163	34.1	LOS C	2.0	14.3	0.41	0.70	54.5
8	T1	All MCs	1291	1.4	1291	1.4	* 1.027	123.8	LOS F	40.7	288.3	1.00	1.26	31.6
9	R2	All MCs	316	0.9	316	0.9	0.473	82.3	LOS F	6.8	48.0	0.95	0.80	25.9
Approach			1800	1.6	1800	1.6	1.027	106.9	LOS F	40.7	288.3	0.93	1.12	28.1
West: Flagstonian Dr (W)														
10	L2	All MCs	144	2.1	144	2.1	0.268	51.6	LOS D	5.2	37.2	0.81	0.78	32.1
11	T1	All MCs	234	1.7	234	1.7	* 0.953	102.8	LOS F	7.8	55.6	1.00	1.06	12.4
12	R2	All MCs	173	0.0	173	0.0	0.953	108.7	LOS F	7.7	54.8	1.00	1.05	20.2
Approach			551	1.3	551	1.3	0.953	91.3	LOS F	7.8	55.6	0.95	0.98	19.7
All Vehicles			5000	1.7	5000	1.7	1.027	94.6	LOS F	40.7	288.3	0.94	1.00	26.5

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

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

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

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist]			sec	m	m/sec
South: New Beith Road (S)											
P1	Full	20	73.2	LOS F	0.1	0.1	0.96	0.96	88.6	20.0	0.23

East: Flagstonian Dr (E)											
P2	Full	50	73.3	LOS F	0.2	0.2	0.96	0.96	88.7	20.0	0.23
West: Flagstonian Dr (W)											
P4	Full	50	74.3	LOS F	0.2	0.2	0.96	0.96	228.1	200.0	0.88
All Pedestrians		120	73.7	LOS F	0.2	0.2	0.96	0.96	146.8	95.0	0.65

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

SITE LAYOUT

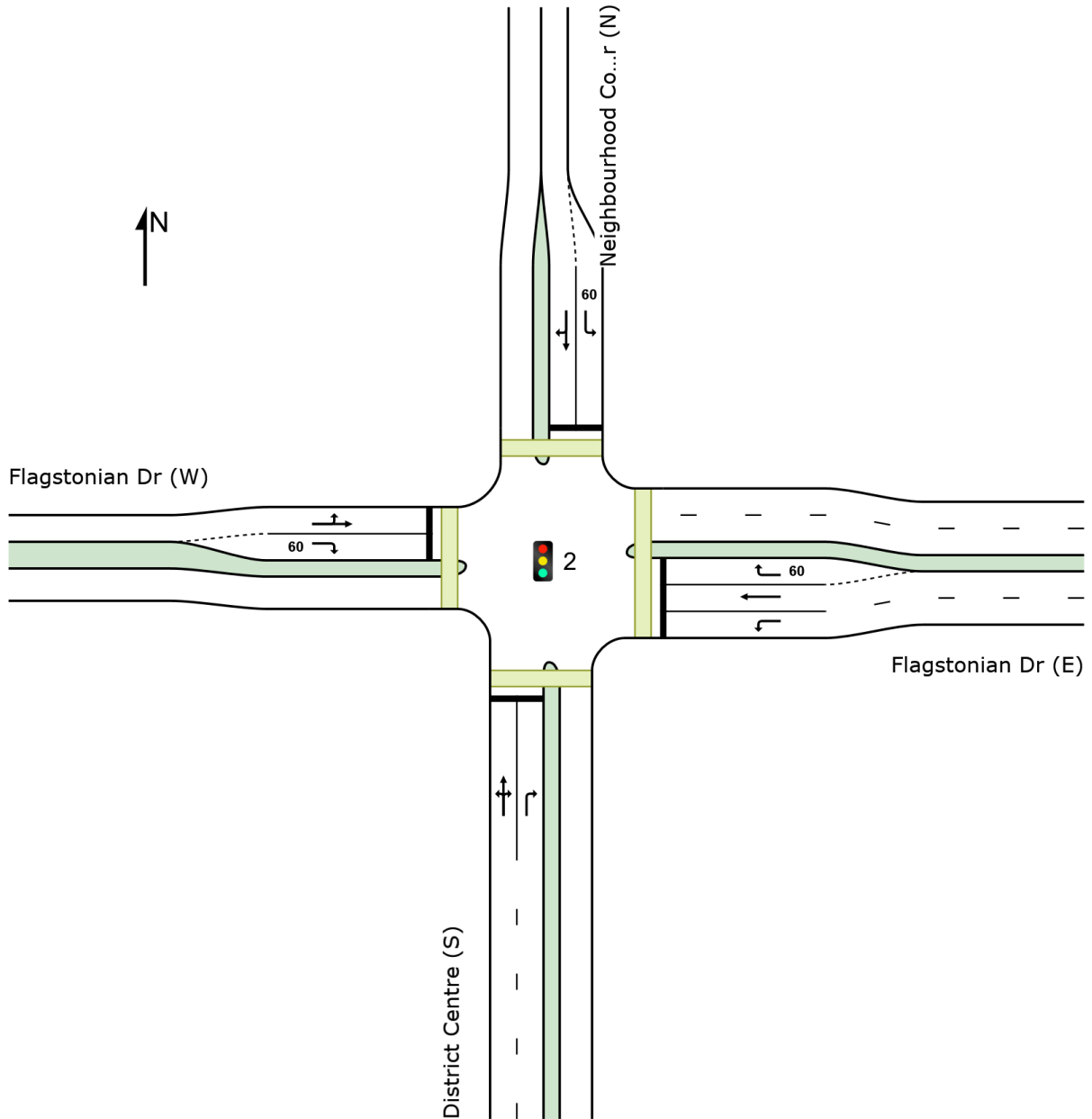
 Site: 2 [2_2066 AM (Site Folder: 2066 AM)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



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Project: P:\P6887 Flagstone City Traffic and Transport Services\Technical\Models\SIDRA\IP2300.001M 2066 CA3 South Masterplan SIDRA Models.sip9

MOVEMENT SUMMARY

 Site: 2 [2_2066 AM (Site Folder: 2066 AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

 Network: N101 [2066 District Centre AM (Network Folder: General)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 85 seconds (Site Practical Cycle Time)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[Total HV]		[Total HV]					[Veh. veh	Dist]				
			veh/h	%	veh/h	%	v/c	sec			m			km/h	
South: District Centre (S)															
1	L2	All MCs	1	0.0	1	0.0	0.167	44.0	LOS D	1.0	7.4	0.90	0.72	0.90	16.6
2	T1	All MCs	2	0.0	2	0.0	0.167	34.6	LOS C	1.0	7.4	0.90	0.72	0.90	26.3
3	R2	All MCs	89	2.4	89	2.4	0.167	37.9	LOS D	1.1	7.6	0.90	0.72	0.90	8.9
Approach			93	2.3	93	2.3	0.167	37.9	LOS D	1.1	7.6	0.90	0.72	0.90	9.7
East: Flagstonian Dr (E)															
4	L2	All MCs	201	1.0	201	1.0	* 0.421	21.4	LOS C	2.8	19.8	0.88	0.79	0.88	24.7
5	T1	All MCs	324	1.0	324	1.0	0.569	27.8	LOS C	7.1	50.0	0.90	0.77	0.90	26.1
6	R2	All MCs	46	0.0	46	0.0	* 0.424	50.8	LOS D	1.2	8.7	1.00	0.74	1.00	25.1
Approach			572	0.9	572	0.9	0.569	27.4	LOS C	7.1	50.0	0.90	0.77	0.90	25.5
North: Neighbourhood Connector (N)															
7	L2	All MCs	172	0.0	172	0.0	0.327	30.8	LOS C	3.5	24.4	0.83	0.77	0.83	27.3
8	T1	All MCs	19	0.0	19	0.0	* 0.084	33.3	LOS C	0.6	4.3	0.87	0.67	0.87	27.6
9	R2	All MCs	9	0.0	9	0.0	0.084	36.5	LOS D	0.6	4.3	0.87	0.67	0.87	29.2
Approach			200	0.0	200	0.0	0.327	31.3	LOS C	3.5	24.4	0.84	0.76	0.84	27.5
West: Flagstonian Dr (W)															
10	L2	All MCs	14	0.0	14	0.0	0.864	48.7	LOS D	16.7	118.1	0.99	1.01	1.17	29.3
11	T1	All MCs	598	0.9	598	0.9	* 0.864	43.2	LOS D	16.7	118.1	0.99	1.01	1.17	14.0
12	R2	All MCs	51	0.0	51	0.0	0.178	48.9	LOS D	1.2	8.1	0.91	0.74	0.91	16.4
Approach			662	0.8	662	0.8	0.864	43.7	LOS D	16.7	118.1	0.99	0.99	1.15	12.5
All Vehicles			1526	0.8	1526	0.8	0.864	35.6	LOS D	16.7	118.1	0.93	0.86	1.00	19.3

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

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

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

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance										
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Aver. Speed
		ped/h	sec		[Ped ped]	Dist]			sec	m/sec
						m				
South: District Centre (S)										
P1	Full	50	36.8	LOS D	0.1	0.1	0.93	0.93	190.6	1.05

East: Flagstonian Dr (E)											
P2	Full	50	36.8	LOS D	0.1	0.1	0.93	0.93	190.6	200.0	1.05
North: Neighbourhood Connector (N)											
P3	Full	50	36.8	LOS D	0.1	0.1	0.93	0.93	190.6	200.0	1.05
West: Flagstonian Dr (W)											
P4	Full	50	36.8	LOS D	0.1	0.1	0.93	0.93	190.6	200.0	1.05
All Pedestrians		200	36.8	LOS D	0.1	0.1	0.93	0.93	190.6	200.0	1.05

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

MOVEMENT SUMMARY

 Site: 2 [2_2066 AM_Sensitivity (Site Folder: 2066 AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

 Network: N101 [2066 District Centre AM_Sensitivity (Network Folder: General)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 85 seconds (Site Practical Cycle Time)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh. veh	Dist]				
			veh/h	%	veh/h	%	v/c	sec			m			km/h	
South: District Centre (S)															
1	L2	All MCs	1	0.0	1	0.0	0.167	44.0	LOS D	1.0	7.4	0.90	0.72	0.90	16.6
2	T1	All MCs	2	0.0	2	0.0	0.167	34.6	LOS C	1.0	7.4	0.90	0.72	0.90	26.3
3	R2	All MCs	89	2.4	89	2.4	0.167	37.9	LOS D	1.1	7.6	0.90	0.72	0.90	8.9
Approach			93	2.3	93	2.3	0.167	37.9	LOS D	1.1	7.6	0.90	0.72	0.90	9.7
East: Flagstonian Dr (E)															
4	L2	All MCs	201	1.0	201	1.0	* 0.421	21.4	LOS C	2.8	19.8	0.88	0.79	0.88	24.7
5	T1	All MCs	324	1.0	324	1.0	0.569	27.8	LOS C	7.1	50.0	0.90	0.77	0.90	26.1
6	R2	All MCs	46	0.0	46	0.0	* 0.424	50.8	LOS D	1.2	8.7	1.00	0.74	1.00	25.1
Approach			572	0.9	572	0.9	0.569	27.4	LOS C	7.1	50.0	0.90	0.77	0.90	25.5
North: Neighbourhood Connector (N)															
7	L2	All MCs	172	0.0	172	0.0	0.327	30.8	LOS C	3.5	24.4	0.83	0.77	0.83	27.3
8	T1	All MCs	19	0.0	19	0.0	* 0.084	33.3	LOS C	0.6	4.3	0.87	0.67	0.87	27.6
9	R2	All MCs	9	0.0	9	0.0	0.084	36.5	LOS D	0.6	4.3	0.87	0.67	0.87	29.2
Approach			200	0.0	200	0.0	0.327	31.3	LOS C	3.5	24.4	0.84	0.76	0.84	27.5
West: Flagstonian Dr (W)															
10	L2	All MCs	14	0.0	14	0.0	0.864	48.7	LOS D	16.7	118.1	0.99	1.01	1.17	29.3
11	T1	All MCs	598	0.9	598	0.9	* 0.864	43.2	LOS D	16.7	118.1	0.99	1.01	1.17	14.0
12	R2	All MCs	51	0.0	51	0.0	0.178	48.9	LOS D	1.2	8.1	0.91	0.74	0.91	16.4
Approach			662	0.8	662	0.8	0.864	43.7	LOS D	16.7	118.1	0.99	0.99	1.15	12.5
All Vehicles			1526	0.8	1526	0.8	0.864	35.6	LOS D	16.7	118.1	0.93	0.86	1.00	19.3

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

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

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

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance										
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Aver. Speed
		ped/h	sec		[Ped ped	Dist]			sec	m/sec
						m				
South: District Centre (S)										
P1	Full	50	36.8	LOS D	0.1	0.1	0.93	0.93	190.6	1.05

East: Flagstonian Dr (E)											
P2	Full	50	36.8	LOS D	0.1	0.1	0.93	0.93	190.6	200.0	1.05
North: Neighbourhood Connector (N)											
P3	Full	50	36.8	LOS D	0.1	0.1	0.93	0.93	190.6	200.0	1.05
West: Flagstonian Dr (W)											
P4	Full	50	36.8	LOS D	0.1	0.1	0.93	0.93	190.6	200.0	1.05
All Pedestrians		200	36.8	LOS D	0.1	0.1	0.93	0.93	190.6	200.0	1.05

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

MOVEMENT SUMMARY

 Site: 2 [2_2066 PM (Site Folder: 2066 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

 Network: N101 [2066 District Centre PM (Network Folder: General)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 75 seconds (Site Practical Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m			km/h
South: District Centre (S)														
1	L2	All MCs	25	0.0	25	0.0	0.445	41.5	LOS D	2.5	18.0	0.96	0.77	17.1
2	T1	All MCs	22	4.8	22	4.8	*0.445	31.6	LOS C	2.5	18.0	0.96	0.77	27.0
3	R2	All MCs	213	1.5	213	1.5	0.445	34.6	LOS C	3.0	21.0	0.95	0.78	9.5
Approach			260	1.6	260	1.6	0.445	35.0	LOS C	3.0	21.0	0.95	0.78	12.8
East: Flagstonian Dr (E)														
4	L2	All MCs	135	0.8	135	0.8	0.210	15.2	LOS B	1.1	8.0	0.74	0.74	28.7
5	T1	All MCs	581	0.7	581	0.7	0.810	30.4	LOS C	12.9	91.1	0.96	0.93	26.9
6	R2	All MCs	141	0.0	141	0.0	*0.633	46.1	LOS D	3.2	22.7	1.00	0.83	27.5
Approach			857	0.6	857	0.6	0.810	30.6	LOS C	12.9	91.1	0.93	0.88	25.6
North: Neighbourhood Connector (N)														
7	L2	All MCs	76	1.4	76	1.4	0.107	20.4	LOS C	1.1	7.7	0.67	0.70	32.3
8	T1	All MCs	9	0.0	9	0.0	*0.032	28.5	LOS C	0.2	1.5	0.84	0.62	29.6
9	R2	All MCs	2	0.0	2	0.0	0.032	31.7	LOS C	0.2	1.5	0.84	0.62	31.1
Approach			87	1.2	87	1.2	0.107	21.6	LOS C	1.1	7.7	0.69	0.69	31.9
West: Flagstonian Dr (W)														
10	L2	All MCs	8	12.5	8	12.5	0.637	34.1	LOS C	6.1	43.3	0.95	0.80	31.5
11	T1	All MCs	286	1.1	286	1.1	0.637	28.4	LOS C	6.1	43.3	0.95	0.80	16.2
12	R2	All MCs	13	0.0	13	0.0	*0.255	49.9	LOS D	0.3	2.2	1.00	0.67	14.2
Approach			307	1.4	307	1.4	0.637	29.4	LOS C	6.1	43.3	0.95	0.80	16.9
All Vehicles			1512	1.0	1512	1.0	0.810	30.6	LOS C	12.9	91.1	0.92	0.84	22.5

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

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

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

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: District Centre (S)											
P1	Full	50	31.8	LOS D	0.1	0.1	0.92	0.92	185.7	200.0	1.08

East: Flagstonian Dr (E)											
P2	Full	50	31.8	LOS D	0.1	0.1	0.92	0.92	185.7	200.0	1.08
North: Neighbourhood Connector (N)											
P3	Full	50	31.8	LOS D	0.1	0.1	0.92	0.92	185.7	200.0	1.08
West: Flagstonian Dr (W)											
P4	Full	50	31.8	LOS D	0.1	0.1	0.92	0.92	185.7	200.0	1.08
All Pedestrians		200	31.8	LOS D	0.1	0.1	0.92	0.92	185.7	200.0	1.08

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

MOVEMENT SUMMARY

 Site: 2 [2_2066 PM_Sensitivity (Site Folder: 2066 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

 Network: N101 [2066 District Centre PM_Sensitivity (Network Folder: General)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 75 seconds (Site Practical Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]		[Total HV]					[Veh. veh	Dist]			km/h
			veh/h	%	veh/h	%	v/c	sec			m			
South: District Centre (S)														
1	L2	All MCs	25	0.0	25	0.0	0.445	41.5	LOS D	2.5	18.0	0.96	0.77	17.1
2	T1	All MCs	22	4.8	22	4.8	*0.445	31.6	LOS C	2.5	18.0	0.96	0.77	27.0
3	R2	All MCs	213	1.5	213	1.5	0.445	34.6	LOS C	3.0	21.0	0.95	0.78	9.5
Approach			260	1.6	260	1.6	0.445	35.0	LOS C	3.0	21.0	0.95	0.78	12.8
East: Flagstonian Dr (E)														
4	L2	All MCs	135	0.8	135	0.8	0.210	15.2	LOS B	1.1	8.0	0.74	0.74	28.7
5	T1	All MCs	581	0.7	581	0.7	0.810	30.4	LOS C	12.9	91.1	0.96	0.93	26.9
6	R2	All MCs	141	0.0	141	0.0	*0.633	46.1	LOS D	3.2	22.7	1.00	0.83	27.5
Approach			857	0.6	857	0.6	0.810	30.6	LOS C	12.9	91.1	0.93	0.88	25.6
North: Neighbourhood Connector (N)														
7	L2	All MCs	76	1.4	76	1.4	0.107	20.4	LOS C	1.1	7.7	0.67	0.70	32.3
8	T1	All MCs	9	0.0	9	0.0	*0.032	28.5	LOS C	0.2	1.5	0.84	0.62	29.6
9	R2	All MCs	2	0.0	2	0.0	0.032	31.7	LOS C	0.2	1.5	0.84	0.62	31.1
Approach			87	1.2	87	1.2	0.107	21.6	LOS C	1.1	7.7	0.69	0.69	31.9
West: Flagstonian Dr (W)														
10	L2	All MCs	8	12.5	8	12.5	0.637	34.1	LOS C	6.1	43.3	0.95	0.80	31.5
11	T1	All MCs	286	1.1	286	1.1	0.637	28.4	LOS C	6.1	43.3	0.95	0.80	16.2
12	R2	All MCs	13	0.0	13	0.0	*0.255	49.9	LOS D	0.3	2.2	1.00	0.67	14.2
Approach			307	1.4	307	1.4	0.637	29.4	LOS C	6.1	43.3	0.95	0.80	16.9
All Vehicles			1512	1.0	1512	1.0	0.810	30.6	LOS C	12.9	91.1	0.92	0.84	22.5

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

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

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

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist]			sec	m	m/sec
South: District Centre (S)											
P1	Full	50	31.8	LOS D	0.1	0.1	0.92	0.92	185.7	200.0	1.08

East: Flagstonian Dr (E)											
P2	Full	50	31.8	LOS D	0.1	0.1	0.92	0.92	185.7	200.0	1.08
North: Neighbourhood Connector (N)											
P3	Full	50	31.8	LOS D	0.1	0.1	0.92	0.92	185.7	200.0	1.08
West: Flagstonian Dr (W)											
P4	Full	50	31.8	LOS D	0.1	0.1	0.92	0.92	185.7	200.0	1.08
All Pedestrians		200	31.8	LOS D	0.1	0.1	0.92	0.92	185.7	200.0	1.08

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

SITE LAYOUT

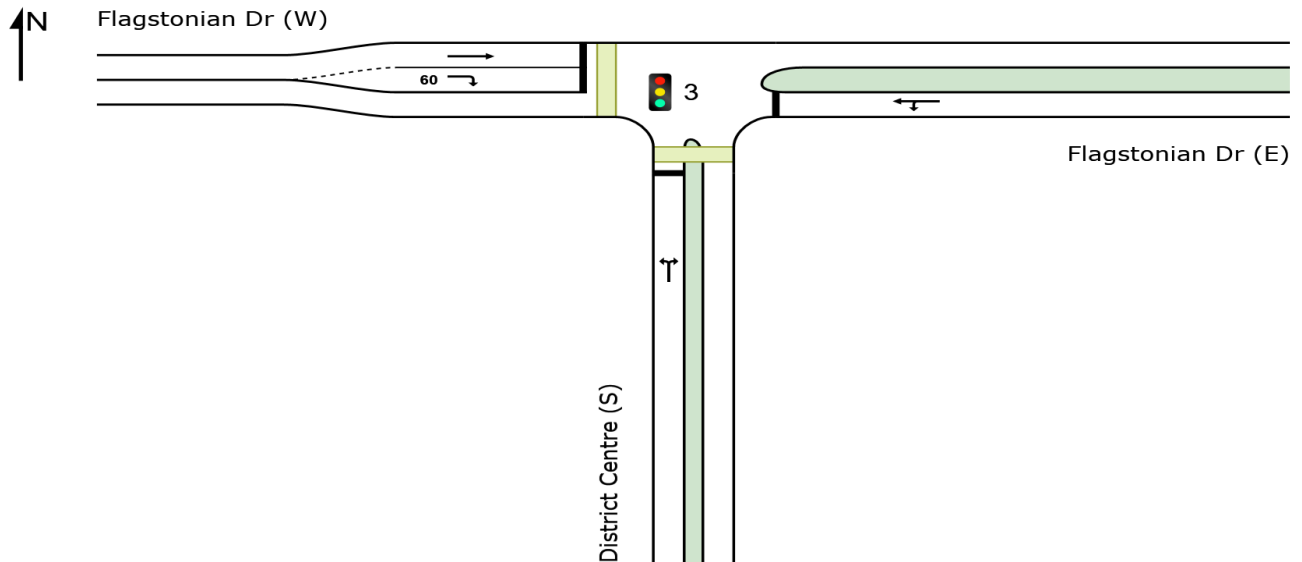
 **Site: 3 [3_2066 AM (Site Folder: 2066 AM)]**

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



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Project: P:\P6887 Flagstone City Traffic and Transport Services\Technical\Models\SIDRA\P2300.001M 2066 CA3 South Masterplan SIDRA Models.sip9

MOVEMENT SUMMARY

 Site: 3 [3_2066 AM (Site Folder: 2066 AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh	Dist] m				
			veh/h	%	veh/h	%	v/c	sec							km/h
South: District Centre (S)															
1	L2	All MCs	19	0.0	19	0.0	0.348	17.6	LOS B	1.3	9.5	0.92	0.75	0.92	34.5
3	R2	All MCs	73	2.9	73	2.9	0.348	16.5	LOS B	1.3	9.5	0.92	0.75	0.92	25.0
Approach			92	2.3	92	2.3	0.348	16.8	LOS B	1.3	9.5	0.92	0.75	0.92	27.4
East: Flagstonian Dr (E)															
4	L2	All MCs	65	1.6	65	1.6	* 0.782	24.0	LOS C	5.7	40.1	0.98	0.98	1.36	26.9
5	T1	All MCs	269	0.8	269	0.8	0.782	14.2	LOS B	5.7	40.1	0.98	0.98	1.36	40.9
Approach			335	0.9	335	0.9	0.782	16.1	LOS B	5.7	40.1	0.98	0.98	1.36	38.8
West: Flagstonian Dr (W)															
11	T1	All MCs	596	0.4	596	0.4	0.574	5.3	LOS A	6.1	42.9	0.72	0.63	0.72	52.0
12	R2	All MCs	20	0.0	20	0.0	* 0.162	22.0	LOS C	0.3	2.2	0.97	0.68	0.97	32.3
Approach			616	0.3	616	0.3	0.574	5.8	LOS A	6.1	42.9	0.73	0.63	0.73	51.1
All Vehicles			1042	0.7	1042	0.7	0.782	10.1	LOS B	6.1	42.9	0.83	0.75	0.95	44.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m					
South: District Centre (S)												
P1	Full	50	50	9.6	LOS A	0.0	0.0	0.80	0.80	163.5	200.0	1.22
West: Flagstonian Dr (W)												
P4	Full	50	50	9.6	LOS A	0.0	0.0	0.80	0.80	163.5	200.0	1.22
All Pedestrians		100	100	9.6	LOS A	0.0	0.0	0.80	0.80	163.5	200.0	1.22

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

MOVEMENT SUMMARY

 Site: 3 [3_2066 PM (Site Folder: 2066 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh	Dist] m				
			veh/h	%	veh/h	%	v/c	sec							km/h
South: District Centre (S)															
1	L2	All MCs	49	0.0	49	0.0	0.572	22.4	LOS C	3.0	21.7	0.97	0.82	1.05	31.2
3	R2	All MCs	101	3.1	101	3.1	* 0.572	22.4	LOS C	3.0	21.7	0.97	0.82	1.05	21.8
Approach			151	2.1	151	2.1	0.572	22.4	LOS C	3.0	21.7	0.97	0.82	1.05	25.5
East: Flagstonian Dr (E)															
4	L2	All MCs	54	0.0	54	0.0	0.797	20.5	LOS C	12.6	88.6	0.93	0.94	1.14	27.3
5	T1	All MCs	557	0.8	557	0.8	* 0.797	15.0	LOS B	12.6	88.6	0.93	0.94	1.14	41.3
Approach			611	0.7	611	0.7	0.797	15.5	LOS B	12.6	88.6	0.93	0.94	1.14	40.4
West: Flagstonian Dr (W)															
11	T1	All MCs	205	0.5	205	0.5	0.201	5.5	LOS A	2.2	15.2	0.56	0.46	0.56	51.7
12	R2	All MCs	6	0.0	6	0.0	* 0.136	30.6	LOS C	0.1	1.0	1.00	0.63	1.00	28.1
Approach			212	0.5	212	0.5	0.201	6.3	LOS A	2.2	15.2	0.57	0.47	0.57	50.5
All Vehicles			973	0.9	973	0.9	0.797	14.6	LOS B	12.6	88.6	0.86	0.82	1.01	39.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m					
South: District Centre (S)												
P1	Full	50	50	14.5	LOS B	0.0	0.0	0.85	0.85	168.3	200.0	1.19
West: Flagstonian Dr (W)												
P4	Full	50	50	14.5	LOS B	0.0	0.0	0.85	0.85	168.3	200.0	1.19
All Pedestrians		100	100	14.5	LOS B	0.0	0.0	0.85	0.85	168.3	200.0	1.19

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

SITE LAYOUT

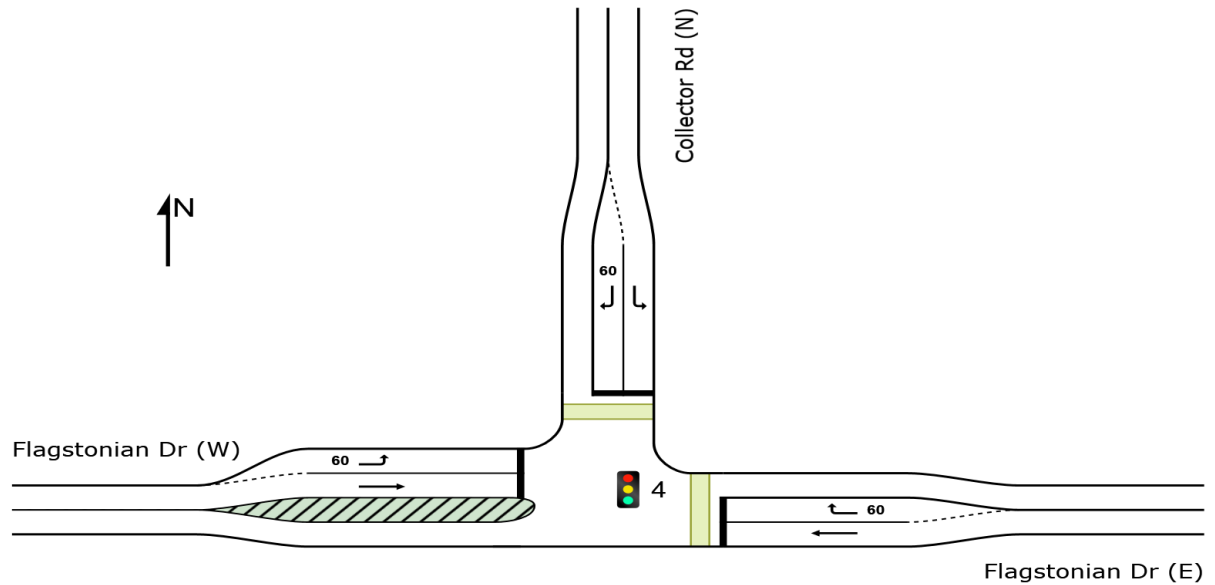
 Site: 4 [4_2066 AM (Site Folder: 2066 AM)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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Project: P:\P6887 Flagstone City Traffic and Transport Services\Technical\Models\SIDRA\IP2300.001M 2066 CA3 South Masterplan SIDRA Models.sip9

MOVEMENT SUMMARY

 Site: 4 [4_2066 AM (Site Folder: 2066 AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh	Dist] m				
			veh/h	%	veh/h	%	v/c	sec							km/h
East: Flagstonian Dr (E)															
5	T1	All MCs	177	1.2	177	1.2	0.171	4.0	LOS A	1.4	9.7	0.54	0.44	0.54	55.9
6	R2	All MCs	26	0.0	26	0.0	* 0.213	22.2	LOS C	0.4	3.0	0.98	0.69	0.98	38.7
Approach			203	1.0	203	1.0	0.213	6.3	LOS A	1.4	9.7	0.60	0.47	0.60	52.9
North: Collector Rd (N)															
7	L2	All MCs	111	0.0	111	0.0	0.446	19.1	LOS B	1.7	11.7	0.96	0.76	0.96	39.8
9	R2	All MCs	28	0.0	28	0.0	* 0.077	15.8	LOS B	0.4	2.5	0.84	0.69	0.84	42.8
Approach			139	0.0	139	0.0	0.446	18.4	LOS B	1.7	11.7	0.94	0.75	0.94	40.4
West: Flagstonian Dr (W)															
10	L2	All MCs	26	4.0	26	4.0	0.023	7.8	LOS A	0.1	1.0	0.39	0.64	0.39	47.7
11	T1	All MCs	480	0.4	480	0.4	* 0.570	7.2	LOS A	5.6	39.0	0.80	0.69	0.80	53.0
Approach			506	0.6	506	0.6	0.570	7.3	LOS A	5.6	39.0	0.78	0.69	0.78	52.7
All Vehicles			848	0.6	848	0.6	0.570	8.9	LOS A	5.6	39.0	0.76	0.65	0.76	50.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m					
East: Flagstonian Dr (E)												
P2	Full	50	50	9.6	LOS A	0.0	0.0	0.80	0.80	163.5	200.0	1.22
North: Collector Rd (N)												
P3	Full	50	50	9.6	LOS A	0.0	0.0	0.80	0.80	163.5	200.0	1.22
All Pedestrians		100	100	9.6	LOS A	0.0	0.0	0.80	0.80	163.5	200.0	1.22

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

MOVEMENT SUMMARY

 Site: 4 [4_2066 PM (Site Folder: 2066 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 25 seconds (Site Practical Cycle Time)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh	Dist] m				
			veh/h		veh/h		v/c	sec							km/h
East: Flagstonian Dr (E)															
5	T1	All MCs	515	0.8	515	0.8	0.442	3.1	LOS A	3.6	25.1	0.58	0.50	0.58	56.8
6	R2	All MCs	76	0.0	76	0.0	* 0.204	15.4	LOS B	0.8	5.9	0.87	0.73	0.87	42.1
Approach			591	0.7	591	0.7	0.442	4.6	LOS A	3.6	25.1	0.62	0.53	0.62	54.4
North: Collector Rd (N)															
7	L2	All MCs	38	0.0	38	0.0	0.102	14.1	LOS B	0.4	2.9	0.85	0.70	0.85	42.3
9	R2	All MCs	27	0.0	27	0.0	* 0.092	15.1	LOS B	0.3	2.2	0.88	0.69	0.88	43.1
Approach			65	0.0	65	0.0	0.102	14.5	LOS B	0.4	2.9	0.86	0.69	0.86	42.7
West: Flagstonian Dr (W)															
10	L2	All MCs	23	0.0	23	0.0	0.031	10.6	LOS B	0.2	1.2	0.63	0.66	0.63	46.0
11	T1	All MCs	139	0.8	139	0.8	* 0.224	7.1	LOS A	1.3	9.3	0.77	0.61	0.77	53.1
Approach			162	0.6	162	0.6	0.224	7.6	LOS A	1.3	9.3	0.75	0.62	0.75	51.8
All Vehicles			818	0.6	818	0.6	0.442	6.0	LOS A	3.6	25.1	0.66	0.56	0.66	52.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m					
East: Flagstonian Dr (E)												
P2	Full	50	50	7.2	LOS A	0.0	0.0	0.76	0.76	161.1	200.0	1.24
North: Collector Rd (N)												
P3	Full	50	50	7.2	LOS A	0.0	0.0	0.76	0.76	161.1	200.0	1.24
All Pedestrians		100	100	7.2	LOS A	0.0	0.0	0.76	0.76	161.1	200.0	1.24

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

SITE LAYOUT

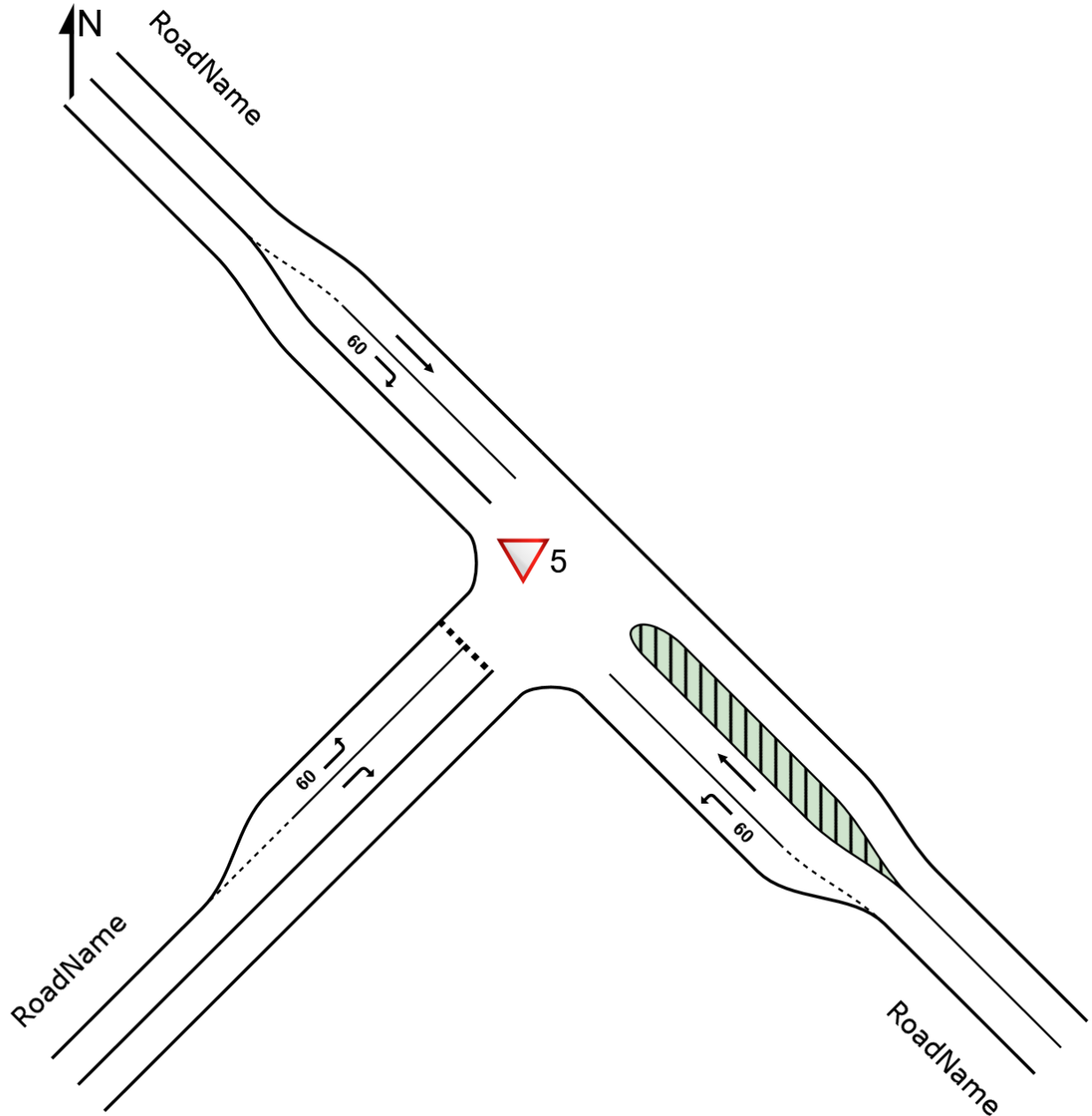
▼ Site: 5 [5_2066 AM (Site Folder: 2066 AM)]

CA3 Collector / Ulladulla N Connection

Site Category: (None)

Give-Way (Two-Way)

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MOVEMENT SUMMARY

▼ Site: 5 [5_2066 AM (Site Folder: 2066 AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

CA3 Collector / Ulladulla N Connection

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh	Dist] m				
			veh/h	%	veh/h	%	v/c	sec							km/h
SouthEast: RoadName															
4	L2	All MCs	123	0.8	123	0.8	0.067	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	52.8
5	T1	All MCs	46	0.0	46	0.0	0.023	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			169	0.6	169	0.6	0.067	4.1	NA	0.0	0.0	0.00	0.42	0.00	54.6
NorthWest: RoadName															
11	T1	All MCs	53	0.0	53	0.0	0.027	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
12	R2	All MCs	64	0.0	64	0.0	0.052	6.2	LOS A	0.2	1.5	0.27	0.57	0.27	52.0
Approach			117	0.0	117	0.0	0.052	3.4	NA	0.2	1.5	0.15	0.31	0.15	55.3
SouthWest: RoadName															
1	L2	All MCs	152	2.0	152	2.0	0.120	5.7	LOS A	0.5	3.3	0.13	0.55	0.13	52.4
3	R2	All MCs	414	0.7	414	0.7	0.500	9.0	LOS A	3.9	27.4	0.53	0.71	0.66	50.4
Approach			566	1.1	566	1.1	0.500	8.1	LOS A	3.9	27.4	0.42	0.66	0.52	51.0
All Vehicles			852	0.8	852	0.8	0.500	6.6	NA	3.9	27.4	0.30	0.57	0.37	52.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

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

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

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Project: P:\P6887 Flagstone City Traffic and Transport Services\Technical\Models\SIDRA\P2300.001M 2066 CA3 South Masterplan SIDRA Models.sip9

MOVEMENT SUMMARY

▼ Site: 5 [5_2066 PM (Site Folder: 2066 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

CA3 Collector / Ulladulla N Connection

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh	Dist] m				
			veh/h		veh/h		v/c	sec							km/h
SouthEast: RoadName															
4	L2	All MCs	405	0.7	405	0.7	0.219	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	52.8
5	T1	All MCs	89	1.1	89	1.1	0.046	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			494	0.8	494	0.8	0.219	4.6	NA	0.0	0.0	0.00	0.47	0.00	54.0
NorthWest: RoadName															
11	T1	All MCs	42	2.4	42	2.4	0.022	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
12	R2	All MCs	96	0.0	96	0.0	0.113	8.1	LOS A	0.4	3.1	0.51	0.72	0.51	50.9
Approach			138	0.7	138	0.7	0.113	5.6	NA	0.4	3.1	0.35	0.50	0.35	53.4
SouthWest: RoadName															
1	L2	All MCs	90	1.1	90	1.1	0.074	5.9	LOS A	0.3	1.9	0.18	0.55	0.18	52.3
3	R2	All MCs	100	1.0	100	1.0	0.161	9.3	LOS A	0.6	4.5	0.53	0.74	0.53	50.2
Approach			190	1.1	190	1.1	0.161	7.7	LOS A	0.6	4.5	0.37	0.65	0.37	51.2
All Vehicles			822	0.9	822	0.9	0.219	5.5	NA	0.6	4.5	0.14	0.52	0.14	53.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

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

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

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Project: P:\P6887 Flagstone City Traffic and Transport Services\Technical\Models\SIDRA\P2300.001M 2066 CA3 South Masterplan SIDRA Models.sip9

SITE LAYOUT

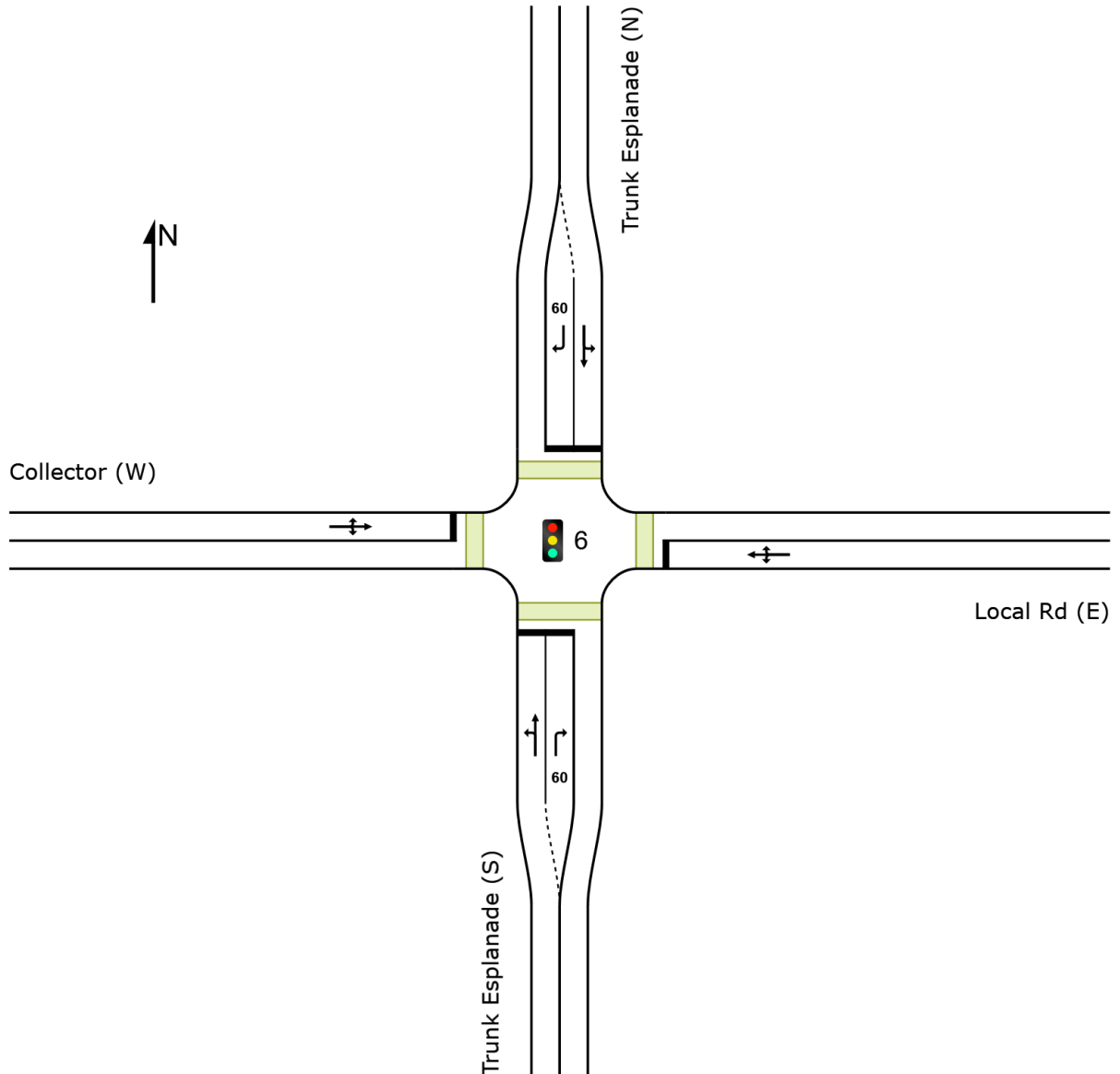
 Site: 6 [6_2066 AM (Site Folder: 2066 AM)]

NA

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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Project: P:\P6887 Flagstone City Traffic and Transport Services\Technical\Models\SIDRA\P2300.001M 2066 CA3 South Masterplan SIDRA Models.sip9

MOVEMENT SUMMARY

 Site: 6 [6_2066 AM (Site Folder: 2066 AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

NA

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[Total HV]		[Total HV]					[Veh.]	[Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Trunk Esplanade (S)															
1	L2	All MCs	26	0.0	26	0.0	* 0.280	27.1	LOS C	2.8	19.6	0.71	0.61	0.71	46.5
2	T1	All MCs	177	1.8	177	1.8	0.280	7.2	LOS A	2.8	19.6	0.71	0.61	0.71	51.7
3	R2	All MCs	2	0.0	2	0.0	0.045	29.9	LOS C	0.0	0.3	0.99	0.59	0.99	36.9
Approach			205	1.5	205	1.5	0.280	9.9	LOS A	2.8	19.6	0.72	0.61	0.72	50.8
East: Local Rd (E)															
4	L2	All MCs	2	0.0	2	0.0	* 0.035	25.0	LOS C	0.1	0.6	0.95	0.62	0.95	39.1
5	T1	All MCs	1	0.0	1	0.0	0.035	20.4	LOS C	0.1	0.6	0.95	0.62	0.95	37.7
6	R2	All MCs	1	0.0	1	0.0	0.035	25.0	LOS C	0.1	0.6	0.95	0.62	0.95	39.0
Approach			4	0.0	4	0.0	0.035	23.8	LOS C	0.1	0.6	0.95	0.62	0.95	38.7
North: Trunk Esplanade (N)															
7	L2	All MCs	11	20.0	11	20.0	0.131	14.4	LOS B	1.3	9.1	0.54	0.45	0.54	48.7
8	T1	All MCs	116	0.0	116	0.0	0.131	5.0	LOS A	1.3	9.1	0.54	0.45	0.54	54.9
9	R2	All MCs	2	0.0	2	0.0	* 0.045	29.9	LOS C	0.0	0.3	0.99	0.59	0.99	36.9
Approach			128	1.6	128	1.6	0.131	6.2	LOS A	1.3	9.1	0.54	0.46	0.54	53.9
West: Collector (W)															
10	L2	All MCs	5	0.0	5	0.0	* 0.074	25.7	LOS C	0.3	1.8	0.93	0.67	0.93	39.3
11	T1	All MCs	1	0.0	1	0.0	0.074	17.8	LOS B	0.3	1.8	0.93	0.67	0.93	37.9
12	R2	All MCs	7	0.0	7	0.0	0.074	22.4	LOS C	0.3	1.8	0.93	0.67	0.93	39.2
Approach			14	0.0	14	0.0	0.074	23.3	LOS C	0.3	1.8	0.93	0.67	0.93	39.1
All Vehicles			352	1.5	352	1.5	0.280	9.3	LOS A	2.8	19.6	0.66	0.56	0.66	51.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

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

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

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped]	[Dist]			sec	m	m/sec
						ped	m					
South: Trunk Esplanade (S)												
P1	Full	20	20	14.5	LOS B	0.0	0.0	0.85	0.85	168.3	200.0	1.19
East: Local Rd (E)												
P2	Full	20	20	14.5	LOS B	0.0	0.0	0.85	0.85	168.3	200.0	1.19

MOVEMENT SUMMARY

 Site: 6 [6_2066 PM (Site Folder: 2066 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

NA

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 45 seconds (Site Practical Cycle Time)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh]	[Dist] m				km/h
South: Trunk Esplanade (S)															
1	L2	All MCs	56	0.0	56	0.0	*0.363	30.6	LOS C	3.4	24.0	0.84	0.71	0.84	43.1
2	T1	All MCs	131	1.6	131	1.6	0.363	9.7	LOS A	3.4	24.0	0.84	0.71	0.84	47.5
3	R2	All MCs	1	0.0	1	0.0	0.013	29.8	LOS C	0.0	0.2	0.97	0.58	0.97	36.9
Approach			187	1.1	187	1.1	0.363	16.0	LOS B	3.4	24.0	0.84	0.71	0.84	46.0
East: Local Rd (E)															
4	L2	All MCs	1	0.0	1	0.0	*0.083	26.6	LOS C	0.3	2.1	0.94	0.65	0.94	39.5
5	T1	All MCs	12	0.0	12	0.0	0.083	22.0	LOS C	0.3	2.1	0.94	0.65	0.94	38.1
6	R2	All MCs	1	0.0	1	0.0	0.083	26.6	LOS C	0.3	2.1	0.94	0.65	0.94	39.4
Approach			14	0.0	14	0.0	0.083	22.7	LOS C	0.3	2.1	0.94	0.65	0.94	38.3
North: Trunk Esplanade (N)															
7	L2	All MCs	21	0.0	21	0.0	0.183	16.8	LOS B	2.1	14.8	0.61	0.53	0.61	47.3
8	T1	All MCs	140	0.8	140	0.8	0.183	7.1	LOS A	2.1	14.8	0.61	0.53	0.61	52.7
9	R2	All MCs	22	0.0	22	0.0	*0.268	31.5	LOS C	0.5	3.8	1.00	0.69	1.00	36.3
Approach			183	0.6	183	0.6	0.268	11.2	LOS B	2.1	14.8	0.66	0.55	0.66	49.4
West: Collector (W)															
10	L2	All MCs	9	0.0	9	0.0	*0.146	29.0	LOS C	0.5	3.6	0.95	0.69	0.95	37.8
11	T1	All MCs	1	0.0	1	0.0	0.146	21.1	LOS C	0.5	3.6	0.95	0.69	0.95	36.6
12	R2	All MCs	12	9.1	12	9.1	0.146	25.7	LOS C	0.5	3.6	0.95	0.69	0.95	37.6
Approach			22	4.8	22	4.8	0.146	26.9	LOS C	0.5	3.6	0.95	0.69	0.95	37.6
All Vehicles			406	1.0	406	1.0	0.363	14.7	LOS B	3.4	24.0	0.77	0.64	0.77	46.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

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

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

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped]	[Dist] m			sec	m	m/sec
South: Trunk Esplanade (S)												
P1	Full	20	20	16.9	LOS B	0.0	0.0	0.87	0.87	170.8	200.0	1.17
East: Local Rd (E)												
P2	Full	20	20	16.9	LOS B	0.0	0.0	0.87	0.87	170.8	200.0	1.17

SITE LAYOUT

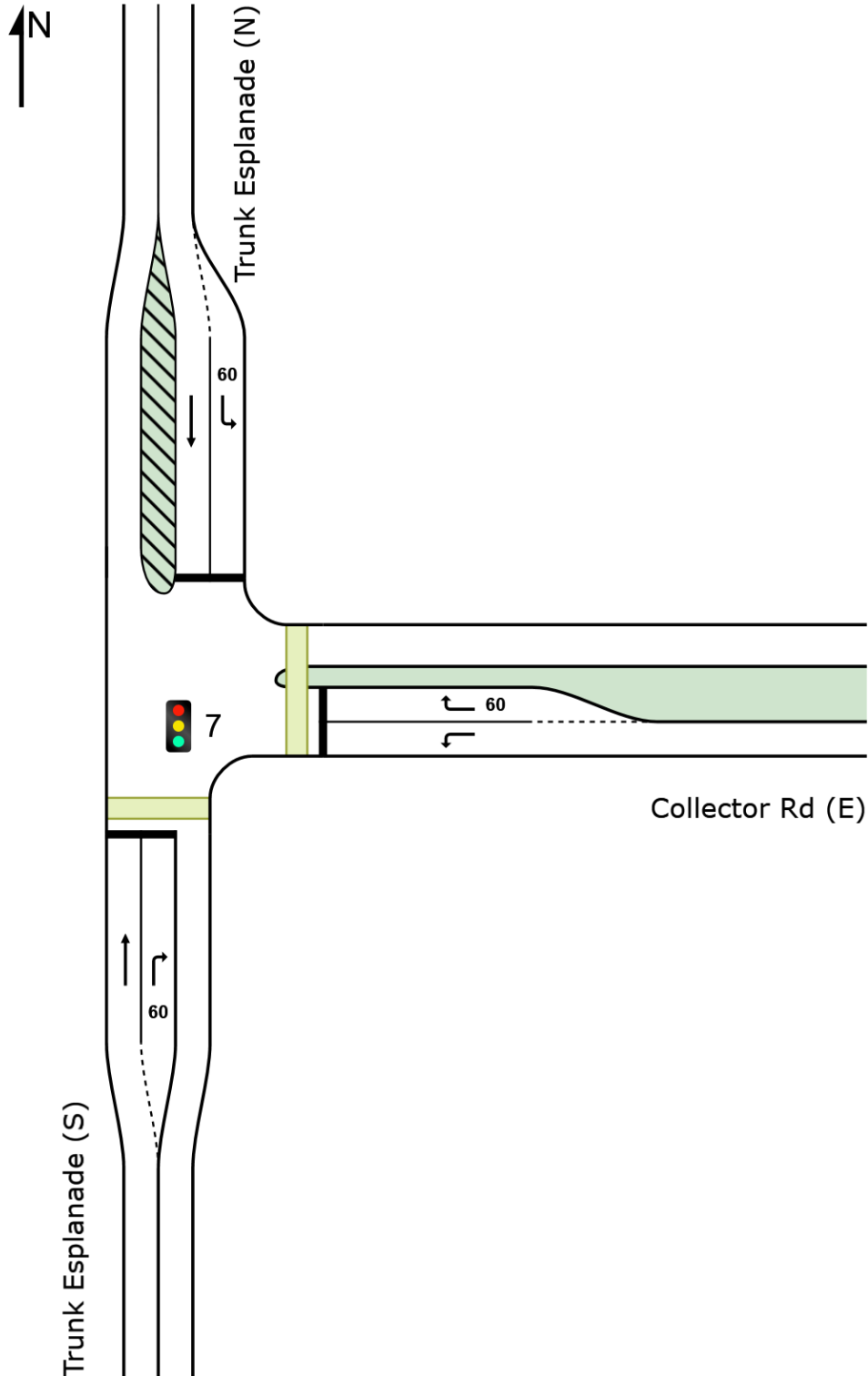
 Site: 7 [7_2066 AM (Site Folder: 2066 AM)]

NA

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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MOVEMENT SUMMARY

 Site: 7 [7_2066 AM (Site Folder: 2066 AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

NA

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 20 seconds (Site Practical Cycle Time)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh.]	[Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Trunk Esplanade (S)															
2	T1	All MCs	91	2.3	91	2.3	0.067	1.0	LOS A	0.3	2.0	0.33	0.22	0.33	58.5
3	R2	All MCs	94	1.1	94	1.1	* 0.127	9.9	LOS A	0.6	4.4	0.66	0.71	0.66	46.5
Approach			184	1.7	184	1.7	0.127	5.6	LOS A	0.6	4.4	0.50	0.47	0.50	51.7
East: Collector Rd (E)															
4	L2	All MCs	78	0.0	78	0.0	0.140	10.5	LOS B	0.6	4.2	0.76	0.71	0.76	45.5
6	R2	All MCs	13	8.3	13	8.3	* 0.048	13.4	LOS B	0.1	0.9	0.88	0.66	0.88	43.9
Approach			91	1.2	91	1.2	0.140	10.9	LOS B	0.6	4.2	0.78	0.70	0.78	45.3
North: Trunk Esplanade (N)															
7	L2	All MCs	31	0.0	31	0.0	0.110	14.5	LOS B	0.3	2.0	0.89	0.70	0.89	43.9
8	T1	All MCs	52	4.1	52	4.1	* 0.136	7.8	LOS A	0.5	3.3	0.85	0.63	0.85	53.2
Approach			82	2.6	82	2.6	0.136	10.3	LOS B	0.5	3.3	0.87	0.65	0.87	49.3
All Vehicles			357	1.8	357	1.8	0.140	8.0	LOS A	0.6	4.4	0.65	0.57	0.65	49.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

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

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

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
						[Ped	Dist]					
		ped/h	ped/h	sec		ped	m			sec	m	m/sec
South: Trunk Esplanade (S)												
P1	Full	50	50	4.9	LOS A	0.0	0.0	0.70	0.70	158.8	200.0	1.26
East: Collector Rd (E)												
P2	Full	50	50	4.9	LOS A	0.0	0.0	0.70	0.70	158.8	200.0	1.26
All Pedestrians		100	100	4.9	LOS A	0.0	0.0	0.70	0.70	158.8	200.0	1.26

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

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

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MOVEMENT SUMMARY

 Site: 7 [7_2066 PM (Site Folder: 2066 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

NA

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 20 seconds (Site Practical Cycle Time)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh	Dist] m				
veh/h % veh/h % v/c sec [Veh. veh Dist] m															
South: Trunk Esplanade (S)															
2	T1	All MCs	82	2.6	82	2.6	0.066	1.4	LOS A	0.3	2.2	0.38	0.30	0.38	58.3
3	R2	All MCs	58	1.8	58	1.8	0.079	9.8	LOS A	0.4	2.6	0.64	0.69	0.64	46.5
Approach			140	2.3	140	2.3	0.079	4.9	LOS A	0.4	2.6	0.49	0.46	0.49	52.8
East: Collector Rd (E)															
4	L2	All MCs	148	0.0	148	0.0	* 0.228	9.9	LOS A	1.1	7.7	0.74	0.72	0.74	45.9
6	R2	All MCs	25	0.0	25	0.0	0.091	13.4	LOS B	0.2	1.7	0.89	0.68	0.89	44.1
Approach			174	0.0	174	0.0	0.228	10.4	LOS B	1.1	7.7	0.76	0.72	0.76	45.6
North: Trunk Esplanade (N)															
7	L2	All MCs	11	0.0	11	0.0	0.038	14.2	LOS B	0.1	0.7	0.88	0.65	0.88	44.1
8	T1	All MCs	33	3.2	33	3.2	* 0.085	7.7	LOS A	0.3	2.0	0.84	0.60	0.84	53.3
Approach			43	2.4	43	2.4	0.085	9.3	LOS A	0.3	2.0	0.85	0.61	0.85	50.7
All Vehicles			357	1.2	357	1.2	0.228	8.1	LOS A	1.1	7.7	0.67	0.60	0.67	48.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

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

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

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m					
South: Trunk Esplanade (S)												
P1	Full	50	50	4.9	LOS A	0.0	0.0	0.70	0.70	158.8	200.0	1.26
East: Collector Rd (E)												
P2	Full	50	50	4.9	LOS A	0.0	0.0	0.70	0.70	158.8	200.0	1.26
All Pedestrians		100	100	4.9	LOS A	0.0	0.0	0.70	0.70	158.8	200.0	1.26

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

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

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Project: P:\P6887 Flagstone City Traffic and Transport Services\Technical\Models\SIDRA\P2300.001M 2066 CA3 South Masterplan SIDRA Models.sip9

SITE LAYOUT

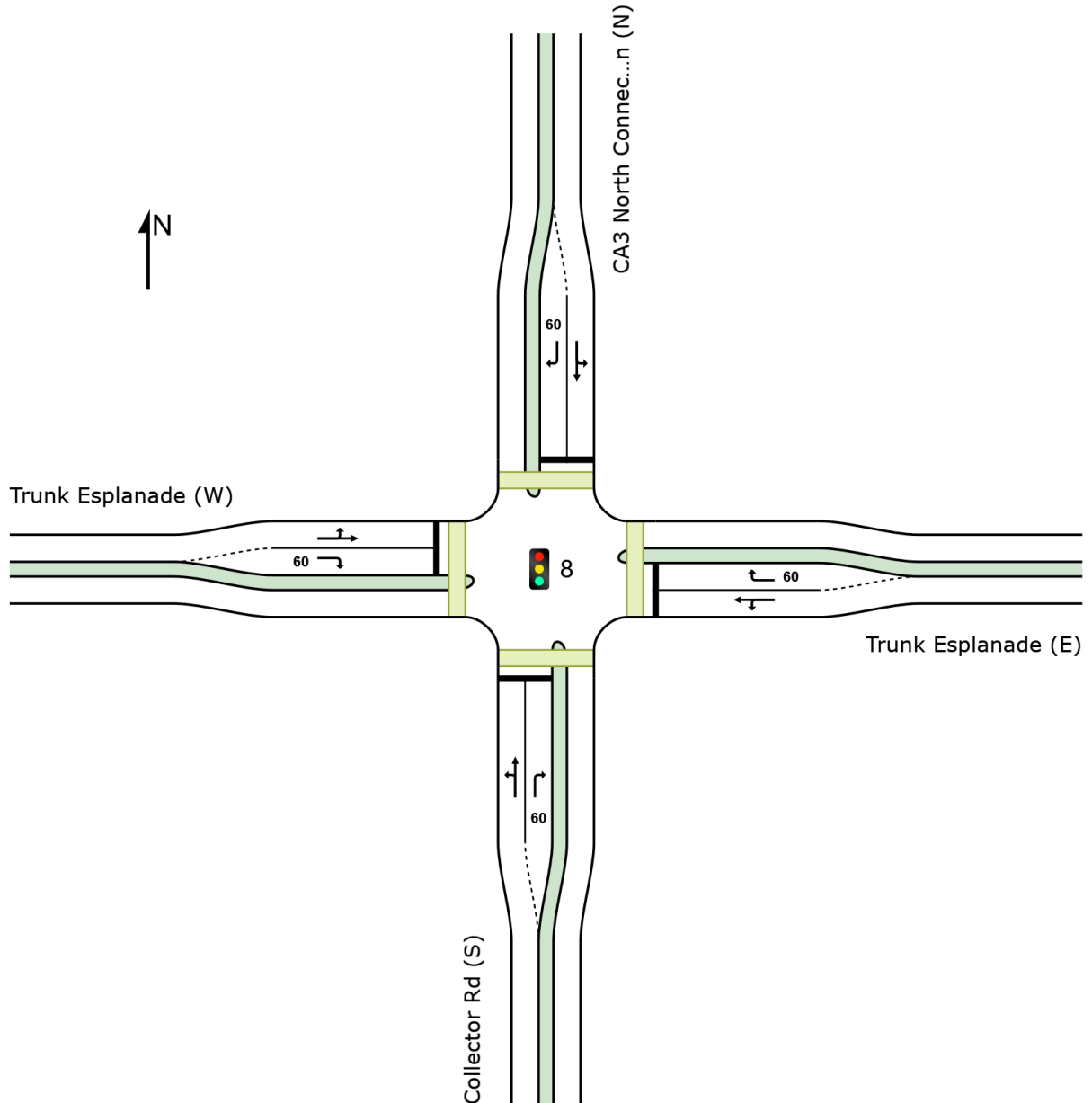
 Site: 8 [8_2066 AM (Site Folder: 2066 AM)]

NA

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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Project: P:\P6887 Flagstone City Traffic and Transport Services\Technical\Models\SIDRA\P2300.001M 2066 CA3 South Masterplan SIDRA Models.sip9

 Site: 8 [8 2066 AM (Site Folder: 2066 AM)]

NA

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60 seconds (Site Optimum Cycle Time - Minimum Delay)

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Vehicle movement LOS values are based on average delay per movement.
 Intersection and Approach LOS values are based on average delay for all vehicle movements.
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Collector Rd (S)												
P1	Full	20	20	23.4	LOS C	0.0	0.0	0.88	0.88	177.3	200.0	1.13
East: Trunk Esplanade (E)												

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Collector Road (S)												
P1	Full	20	20	23.4	LOS C	0.0	0.0	0.88	0.88	177.3	200.0	1.13
East: Trunk Esplanade (E)												

SITE LAYOUT

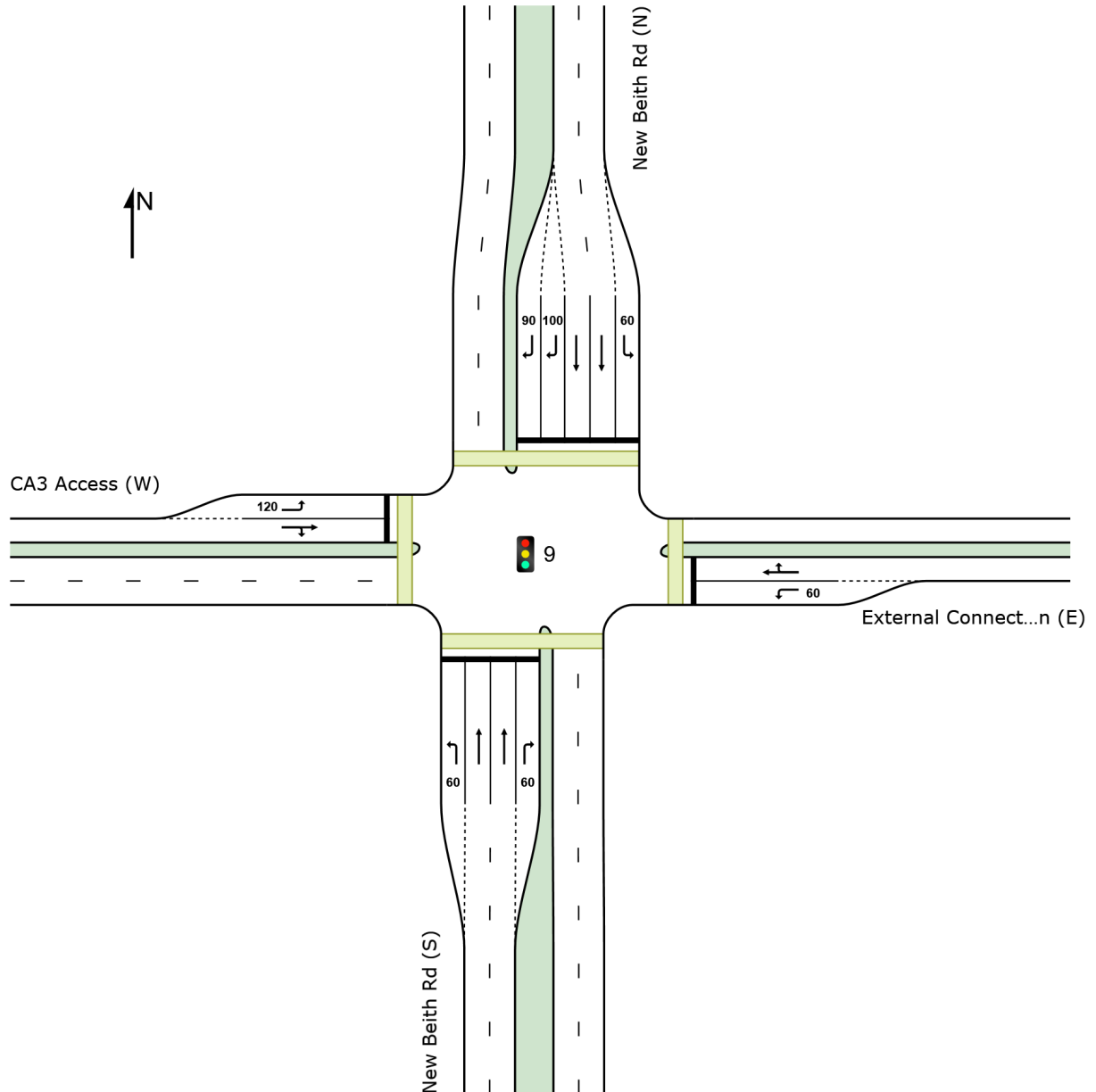
 **Site: 9 [9_2066 AM (Site Folder: 2066 AM)]**

New Beith Road / CA3 Central Access

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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Project: P:\P6887 Flagstone City Traffic and Transport Services\Technical\Models\SIDRA\P2300.001M 2066 CA3 South Masterplan SIDRA Models.sip9

MOVEMENT SUMMARY

 Site: 9 [9_2066 AM (Site Folder: 2066 AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Beith Road / CA3 Central Access

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site Practical Cycle Time)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]		[Total HV]					[Veh. veh	Dist]				km/h
			veh/h	%	veh/h	%	v/c	sec			m				
South: New Beith Rd (S)															
1	L2	All MCs	79	1.3	79	1.3	0.079	36.6	LOS D	2.2	15.3	0.50	0.72	0.50	53.2
2	T1	All MCs	1788	1.9	1788	1.9	* 0.883	48.8	LOS D	51.2	364.2	0.95	0.94	1.03	57.2
3	R2	All MCs	25	0.0	25	0.0	0.058	61.7	LOS E	1.1	7.9	0.81	0.71	0.81	42.2
Approach			1892	1.8	1892	1.8	0.883	48.4	LOS D	51.2	364.2	0.93	0.93	1.00	49.8
East: External Connection (E)															
4	L2	All MCs	53	0.0	53	0.0	0.093	37.0	LOS D	2.2	15.3	0.74	0.72	0.74	44.6
5	T1	All MCs	7	0.0	7	0.0	* 0.522	60.6	LOS E	4.3	30.3	1.00	0.77	1.00	29.0
6	R2	All MCs	66	0.0	66	0.0	0.522	66.2	LOS E	4.3	30.3	1.00	0.77	1.00	37.0
Approach			126	0.0	126	0.0	0.522	53.6	LOS D	4.3	30.3	0.89	0.75	0.89	39.3
North: New Beith Rd (N)															
7	L2	All MCs	18	11.1	18	11.1	0.026	39.1	LOS D	0.4	2.9	0.63	0.68	0.63	55.0
8	T1	All MCs	1225	4.9	1225	4.9	0.874	60.3	LOS E	37.3	272.2	1.00	0.98	1.12	51.3
9	R2	All MCs	119	5.0	119	5.0	* 0.664	77.9	LOS E	3.7	27.3	1.00	0.80	1.13	35.4
Approach			1362	5.0	1362	5.0	0.874	61.5	LOS E	37.3	272.2	1.00	0.96	1.12	45.0
West: CA3 Access (W)															
10	L2	All MCs	338	1.5	338	1.5	0.761	53.4	LOS D	19.1	135.7	0.99	0.88	1.04	40.2
11	T1	All MCs	4	0.0	4	0.0	* 0.469	52.2	LOS D	6.8	47.8	0.97	0.79	0.97	31.0
12	R2	All MCs	119	0.8	119	0.8	0.469	57.9	LOS E	6.8	47.8	0.97	0.79	0.97	37.7
Approach			461	1.3	461	1.3	0.761	54.6	LOS D	19.1	135.7	0.98	0.85	1.02	39.5
All Vehicles			3841	2.8	3841	2.8	0.883	54.0	LOS D	51.2	364.2	0.96	0.92	1.04	46.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

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

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

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped]	[Dist] m			sec	m	m/sec
South: New Beith Rd (S)												
P1	Full	5	5	53.2	LOS E	0.0	0.0	0.94	0.94	207.1	200.0	0.97
East: External Connection (E)												
P2	Full	30	30	53.3	LOS E	0.1	0.1	0.94	0.94	207.1	200.0	0.97

MOVEMENT SUMMARY

 Site: 9 [9_2066 PM (Site Folder: 2066 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Beith Road / CA3 Central Access

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100 seconds (Site Practical Cycle Time)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh]	[Dist] m				km/h
South: New Beith Rd (S)															
1	L2	All MCs	105	3.8	105	3.8	0.171	43.1	LOS D	3.6	25.9	0.74	0.76	0.74	47.5
2	T1	All MCs	1073	2.6	1073	2.6	0.862	53.1	LOS D	28.4	202.9	1.00	0.98	1.16	53.2
3	R2	All MCs	48	0.0	48	0.0	* 0.646	76.5	LOS E	2.6	18.1	1.00	0.79	1.16	36.3
Approach			1226	2.6	1226	2.6	0.862	53.1	LOS D	28.4	202.9	0.98	0.96	1.12	47.4
East: External Connection (E)															
4	L2	All MCs	31	9.7	31	9.7	0.223	54.6	LOS D	1.5	11.3	0.97	0.72	0.97	38.1
5	T1	All MCs	3	0.0	3	0.0	0.155	51.2	LOS D	0.8	6.1	0.98	0.69	0.98	31.5
6	R2	All MCs	13	15.4	13	15.4	0.155	57.0	LOS E	0.8	6.1	0.98	0.69	0.98	39.2
Approach			47	10.6	47	10.6	0.223	55.0	LOS E	1.5	11.3	0.97	0.71	0.97	38.1
North: New Beith Rd (N)															
7	L2	All MCs	53	3.8	53	3.8	* 0.051	24.1	LOS C	0.7	5.2	0.46	0.69	0.46	59.5
8	T1	All MCs	1877	1.5	1877	1.5	* 0.888	37.8	LOS D	46.4	329.4	0.94	0.95	1.06	59.1
9	R2	All MCs	348	1.1	348	1.1	0.363	43.1	LOS D	7.0	49.5	0.86	0.80	0.86	45.6
Approach			2278	1.5	2278	1.5	0.888	38.3	LOS D	46.4	329.4	0.92	0.92	1.01	53.1
West: CA3 Access (W)															
10	L2	All MCs	155	2.6	155	2.6	0.185	22.5	LOS C	4.4	31.6	0.62	0.73	0.62	52.5
11	T1	All MCs	3	0.0	3	0.0	* 0.184	41.9	LOS D	2.1	14.8	0.92	0.73	0.92	34.0
12	R2	All MCs	45	0.0	45	0.0	0.184	47.5	LOS D	2.1	14.8	0.92	0.73	0.92	41.0
Approach			203	2.0	203	2.0	0.185	28.4	LOS C	4.4	31.6	0.69	0.73	0.69	49.3
All Vehicles			3754	2.0	3754	2.0	0.888	42.8	LOS D	46.4	329.4	0.93	0.92	1.03	50.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

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

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

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped]	[Dist] m			sec	m	m/sec
South: New Beith Rd (S)												
P1	Full	5	5	43.3	LOS E	0.0	0.0	0.93	0.93	197.1	200.0	1.01
East: External Connection (E)												
P2	Full	30	30	43.3	LOS E	0.1	0.1	0.93	0.93	197.1	200.0	1.01

SITE LAYOUT

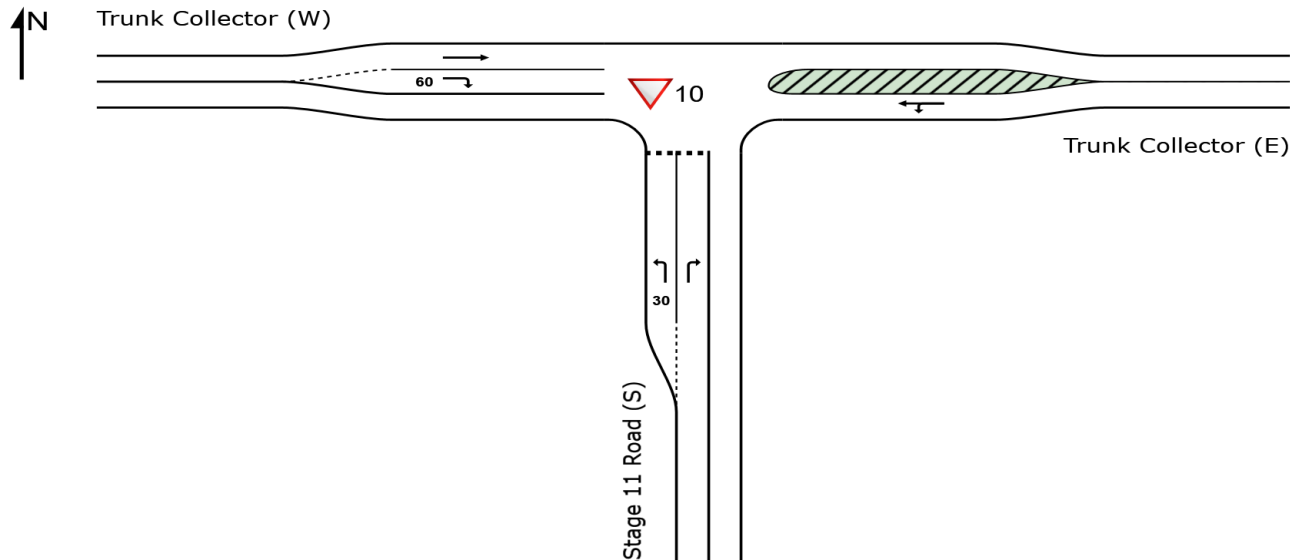
▽ Site: 10 [10_2066 AM (Site Folder: 2066 AM)]

Trunk Collector / Stage 11

Site Category: (None)

Give-Way (Two-Way)

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



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MOVEMENT SUMMARY

▼ Site: 10 [10_2066 AM (Site Folder: 2066 AM)]

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Trunk Collector / Stage 11

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh	Dist] m				
			veh/h	%	veh/h	%	v/c	sec							km/h
South: Stage 11 Road (S)															
1	L2	All MCs	10	0.0	10	0.0	0.007	6.0	LOS A	0.0	0.2	0.24	0.53	0.24	52.1
3	R2	All MCs	30	0.0	30	0.0	0.057	10.6	LOS B	0.2	1.4	0.58	0.78	0.58	49.2
Approach			40	0.0	40	0.0	0.057	9.4	LOS A	0.2	1.4	0.49	0.72	0.49	49.9
East: Trunk Collector (E)															
4	L2	All MCs	35	2.9	35	2.9	0.100	5.6	LOS A	0.0	0.0	0.00	0.11	0.00	56.5
5	T1	All MCs	159	0.6	159	0.6	0.100	0.0	LOS A	0.0	0.0	0.00	0.11	0.00	59.0
Approach			194	1.0	194	1.0	0.100	1.0	NA	0.0	0.0	0.00	0.11	0.00	58.5
West: Trunk Collector (W)															
11	T1	All MCs	451	0.7	451	0.7	0.230	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
12	R2	All MCs	15	0.0	15	0.0	0.010	6.1	LOS A	0.0	0.3	0.29	0.54	0.29	52.0
Approach			466	0.6	466	0.6	0.230	0.3	NA	0.0	0.3	0.01	0.02	0.01	59.6
All Vehicles			700	0.7	700	0.7	0.230	1.0	NA	0.2	1.4	0.03	0.08	0.03	58.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

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

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

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

▼ Site: 10 [10_2066 PM (Site Folder: 2066 PM)]

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Trunk Collector / Stage 11

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh	Dist] m				
			veh/h		veh/h		v/c	sec							km/h
South: Stage 11 Road (S)															
1	L2	All MCs	12	0.0	12	0.0	0.012	7.3	LOS A	0.0	0.3	0.46	0.62	0.46	51.5
3	R2	All MCs	22	0.0	22	0.0	0.042	10.5	LOS B	0.2	1.1	0.58	0.76	0.58	49.2
Approach			34	0.0	34	0.0	0.042	9.4	LOS A	0.2	1.1	0.53	0.71	0.53	50.0
East: Trunk Collector (E)															
4	L2	All MCs	32	0.0	32	0.0	0.264	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	57.1
5	T1	All MCs	483	0.8	483	0.8	0.264	0.1	LOS A	0.0	0.0	0.00	0.04	0.00	59.5
Approach			515	0.8	515	0.8	0.264	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.4
West: Trunk Collector (W)															
11	T1	All MCs	132	0.8	132	0.8	0.067	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
12	R2	All MCs	9	11.1	9	11.1	0.009	7.9	LOS A	0.0	0.3	0.51	0.62	0.51	50.7
Approach			141	1.4	141	1.4	0.067	0.5	NA	0.0	0.3	0.03	0.04	0.03	59.3
All Vehicles			690	0.9	690	0.9	0.264	0.9	NA	0.2	1.1	0.03	0.07	0.03	58.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

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

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

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

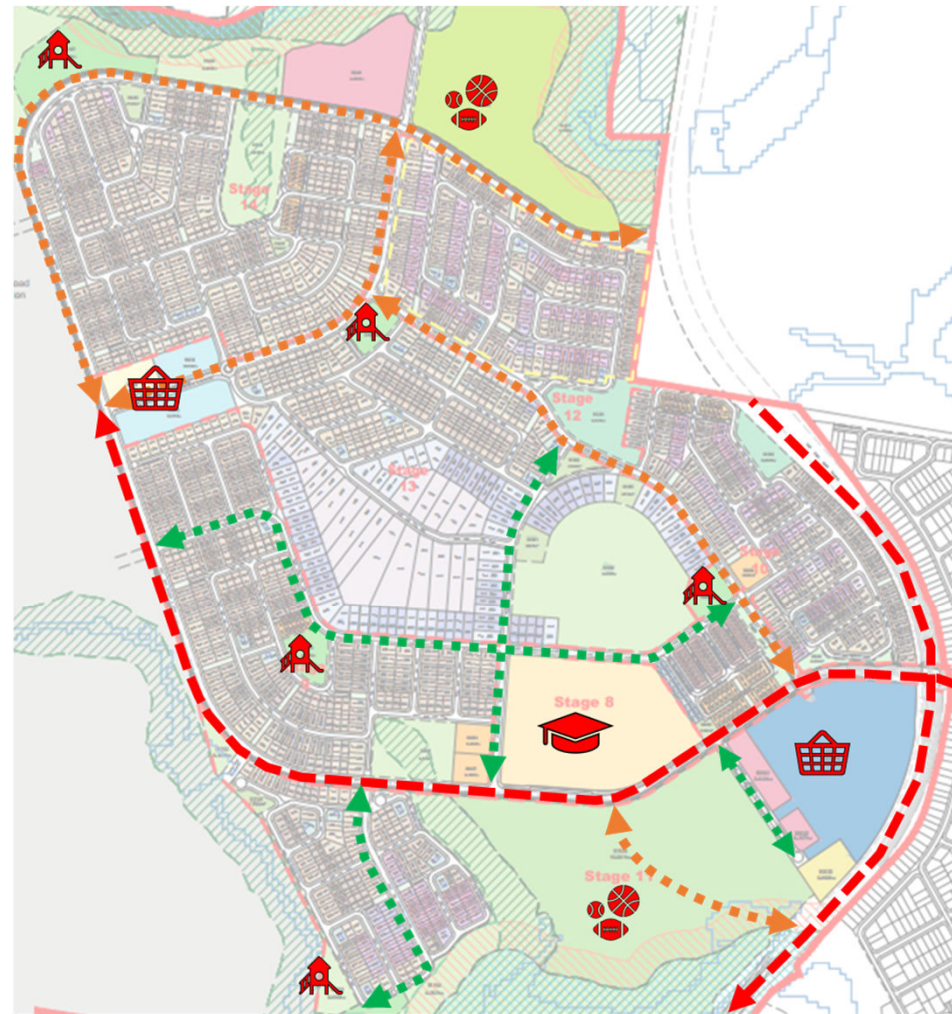
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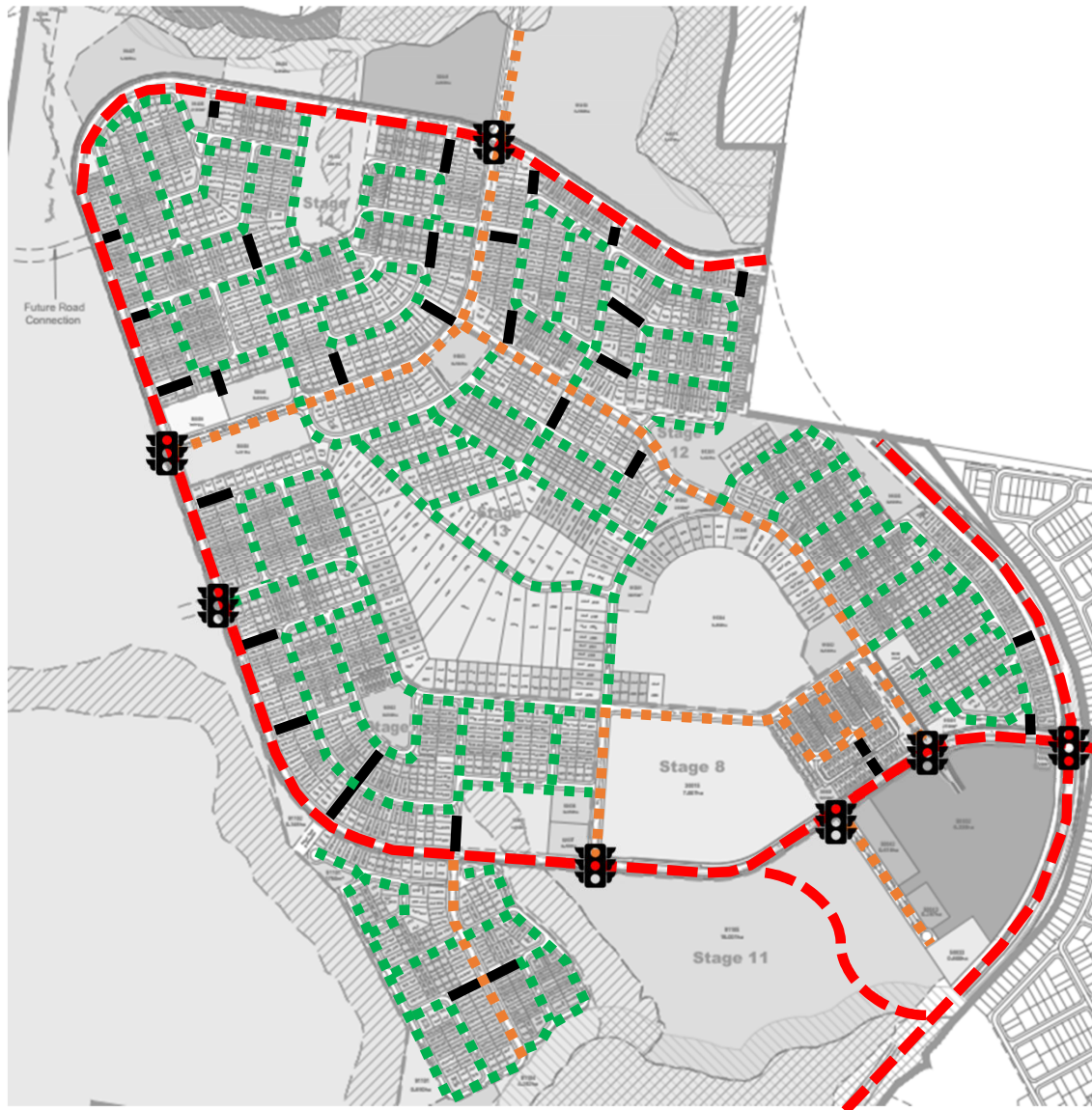
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Appendix D: Active Transport Provisions





Desire Line Routes		Key Attractors	
Major	← - - - - - →	Retail / Dining	
Medium	← - - - - - →	State School	
Low	← - - - - - →	Sports Parks	
		Local Parks	



Major Active Transport Link: - - -

- Separated cycle ways
- Shared paths outside road reserve
- Shared paths $\geq 3\text{m}$ inside road reserve both sides

Medium Active Transport Link: - - -

- Shared path inside road reserve one side
- Shared paths $\leq 3\text{m}$ inside road reserve both sides

Low Active Transport Link: - - -

- Pathway inside road reserve $< 2\text{m}$ one side

Additional Links: - - - —

- Signalised Crossings
- Links Through Corridor Parks & Laneways