Flagstone City Context Area 3 South

Traffic & Transport Assessment

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2024/1491

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Queensland Government

PEET Limited

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ADDENDUM: EDQ FURTHER ISSUES RESPONSE

This cover letter is prepared in response to the Further Issues Letter issued by Economic Development Queensland (EDQ) for the proposed Context Area 3 South (CA3 South) within the Flagstone City Masterplan issued on 20th May 2024.

Amended design plans prepared by RPS are provided in **Appendix A**. The Traffic Impact Assessment (TIA) following this cover letter has also been revised to reflect the changes to the proposed masterplan and to address EDQ comments below.

Item 1a

Amend the plans to: iv. increase the number of Lots addressing the trunk collector in Stage 14 and adjacent to Stage 12, and overlooking the DSP in Stage 14

Response:

Plans have been amended such that Stage 14 residential Lots are accessed via the trunk connector road where possible in order to overlook the parklands on the opposite side of the road. Lots 4494, 4501-4504, 4517, 4518, 4635 are proposed to be accessed via a local access road within Stage 14 overlooking the neighbourhood recreation park on the north-west corner of the site. These Lots were unable to be safely accessed directly off the trunk connector road owing to sight line limitations around the curved section of the trunk connector road.

Stage 12 Lots adjacent the trunk connector road, opposite the District Sports Park (DSP), are unable to be accessed via the trunk connector road, noting the high traffic volumes forecast on this length of road. The ultimate (2066) forecast traffic daily volumes sourced from the SLSTM exceed 10,000 vehicles per day. As such, in accordance with the EDQ Street and Movement Network Guideline, property accesses should not be provided off this length of road.

Amend the plans to: v. Provide a second access to Stage 11

Response:

The ability to provide a secondary access intersection to Stage 11 is limited by a number of constraints including:

- Environmental constraints on the eastern, southern and western sides of Stage 11
- Intersection spacing requirements on the trunk connector road on the northern side of Stage 11
- The proximity of the R051/R057 trunk connector intersection to the north-west corner of Stage 11.

As a result, there is not a practical location to provide a second intersection access to Stage 11.

Furthermore, the revised report includes SIDRA Intersection analysis of the Stage 11 access intersection. This analysis demonstrates that, from an intersection capacity perspective, a single access to Stage 11 is sufficient to cater for Stage 11 traffic demands.

While shown to not be required for general traffic, it is acknowledged that a secondary access location is beneficial for emergency access purposes. As such, it proposed that an emergency access be provided connecting the north-west corner of Stage 11 to the future R057 trunk connector. The location of this intersection is illustrated in Figure 0.1.

In the event that Stage 11 is completed prior to full construction of R057, a stub of road on the south-west side of the R051 / R057 intersection shall be constructed in the interim so that the secondary emergency connection is always available for access to/from Stage 11.

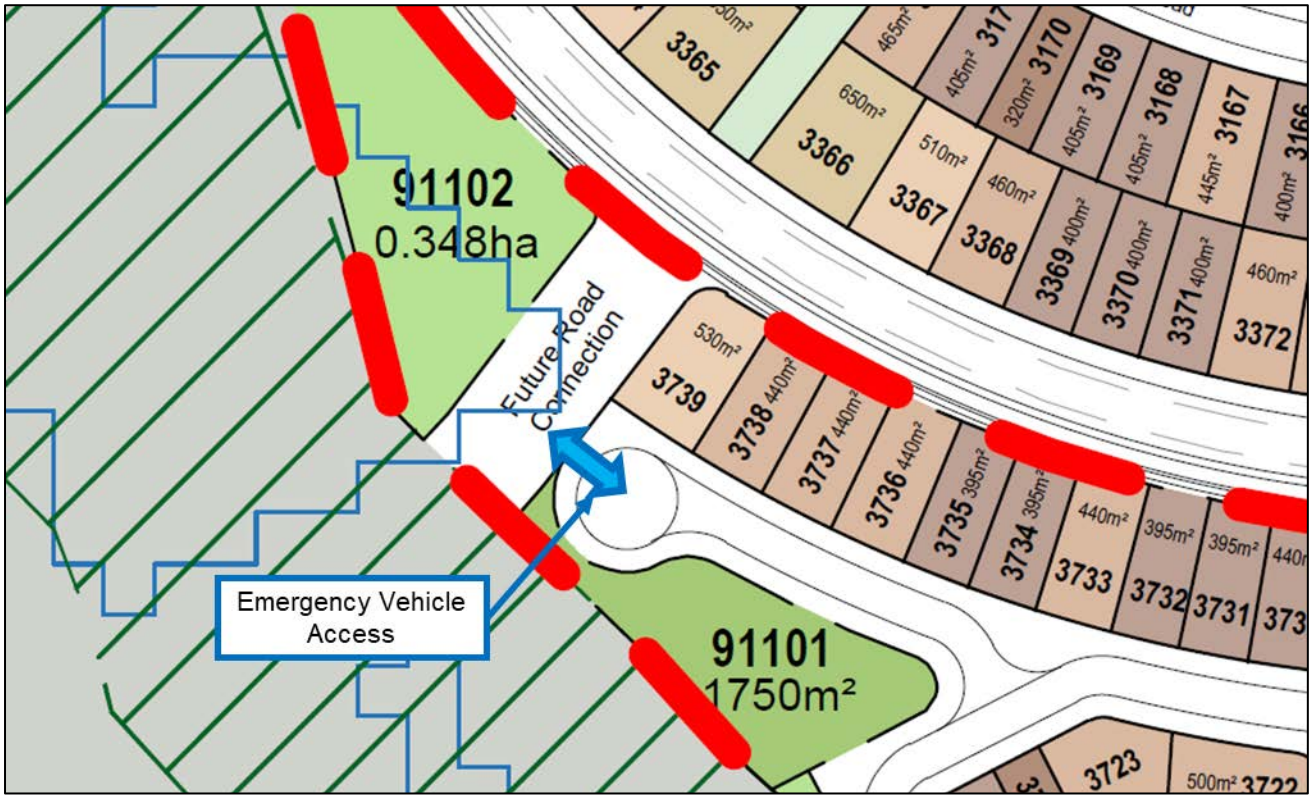


Figure 0.1: Stage 11 Secondary Emergency Access Location

Item 1b

Demonstrate: ii. connection/interface to future development of the land adjacent to Stage 12 (road reserve to the east outside of Peet land)

Response:

It is understood that access to the small portion of land adjacent Stage 12 is not feasibly developable noting the constraints imposed by the adjacent New Beith Road alignment as specified in the DCOP. Regardless, should future development be planned in this area, vehicle access may be gained via the adjacent Stage 10 road on the southern boundary of this land.

Item 3a

Demonstrate appropriate access is available for the proposed district centre (eg it is noted one entry from a four way intersection is proposed which appears to be for both public and servicing).

Response:

Linework has been added to the revised plans provided at **Appendix A**, demonstrating a secondary signalised T-intersection access at the north-western corner of the district centre allow secondary access to the centre while also servicing the ambulance lot and the newly proposed residential lots. Details of this proposed secondary access intersection are outlined in the revised TIA below, including SIDRA Intersection assessment demonstrating that the proposed intersection can appropriately cater for forecast traffic volumes. The secondary access intersection proposed will also provide a key signalised pedestrian connection between the future school in Stage 8 and the district centre.

Item 6a

b. Provide B99 swept path movements for laneway/private driveways servicing multiple properties.

Response:

All laneways are proposed in accordance with the Neighbourhood Lane outlined in the EDQ Street and Movement Network Guideline with a 5.5m wide sealed road width within a 6.5m road reserve.

Additional short driveways are proposed at various locations throughout CA3 South servicing no more than four residential dwellings. The width / design of these driveways is consistent with existing approved driveways in CA1 of Flagstone City serving the same purpose. As such, swept paths are not deemed warranted for each of the driveway locations throughout CA3. Regardless, example B99 swept paths are illustrated in Figure 0.2 and Figure 0.3 demonstrating appropriate manoeuvring.

Figure 0.2: Example Laneway B99 Swept Path

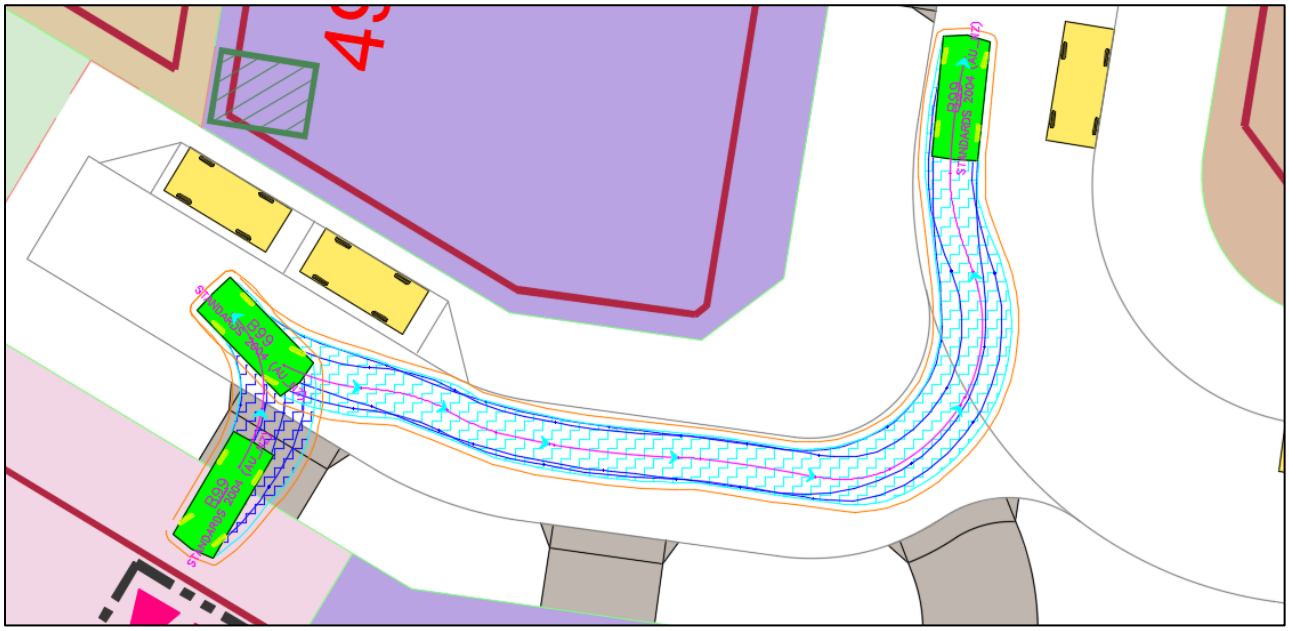


Figure 0.3: Example Driveway B99 Swept Path

Item 11

a.	Confirm that 90% of lots are within 400m catchment of public transport.
b.	Submit amended plans/reports to address multiple inconsistencies between proposed cross sections in the Engineering services report/drawings, Traffic Impact Assessment and Endorsed IMP 2015/Revised 2023 IMP.
c.	Submit amended plans/TIA address non-compliance with EDQ Guideline 6, Street and Movement Network - Table 2, with respect to intersection spacings of less than 300m. It is noted that Section 2.4 of TIA states, "Intersection spacings shall generally comply with those specified in EDQ's Guideline No. 6 for the relevant hierarchy". However Figure 4.8 intersection layout has multiple examples of signalised intersections spaced less than 300m.

Response:

a. The 400m catchment of bus stop locations servicing CA3 is illustrated in Figure 5.1 of the following TIA. Based on these bus stop locations, only 23 residential lots are outside the 400m catchment of a public transport stop/service. As such, 98.6% of residential Lots are located within 400m of a public transport stop, compliant with the requirements of the Flagstone Development Scheme.

b. The revised reporting below and road cross-sections provided at **Appendix B**, have been updated for consistency with the now endorsed Movement Network IMP (2024).

c. It is acknowledged that intersection spacing proposed is less than the 300m specified in the EDQ Guideline for a Trunk Connector in locations between intersections illustrated in Figure 0.4.

Figure 0.4: Trunk Connector Intersection Spacing

Between **Intersections 6 and 7** the approximate spacing of 260m is considered appropriate noting that, at this location, ultimate forecast traffic daily volumes are significantly lower than typical for a trunk road (<7,500vpd), with the road proposed as a Trunk Connector to maintain a consistent cross-section for the length of the esplanade road. As the road at this location isn't considered "trunk" and the proposed intersection spacing exceeds the recommended minimums for a Neighbourhood Connector, the spacing is deemed sufficient. In addition, SIDRA Intersection analysis demonstrates appropriate operation between the two intersections without queuing or operations impacting the adjacent intersection.

Intersection 10 is required to provide access to Stage 11 of CA3. To maximise intersection spacing, this intersection is located at mid-point between Intersection 4 and Intersection 5. Intersection analysis in the following revised TIA demonstrates low vehicle queues and delays at these intersections. Considering the above, the proposed intersection spacing is maximised given access and environmental constraints, with the proposed access spacing not expected to result in any adverse safety or amenity impacts to road users. Furthermore, this intersection services a closed residential catchment and hence the intersection Level of Service (LoS) is expected to remain generally consistent across its design life (unlikely to change to unfavourable conditions over time).

The spacing of **Intersections 1-3** are proposed at less than 300m to facilitate the following:

- To provide multiple vehicle accesses to the district centre and ambulance site, without reliance on access off New Beith Road (a major arterial road)
- To provide safe, signalised pedestrian crossing locations catering for critical pedestrian connections to/from the district centre, adjacent parklands and future Stage 8 school.

Where traffic analysis determines that peak intersection queuing does not impact adjacent intersections, the closer spacing of signalised intersections is considered appropriate to achieve the above access and pedestrian connectivity outcomes, in the vicinity of an environment similar to a town centre (*noting that EDQ's Guideline No. 6, Street and Movement Network specifies minimum intersections spacing of 100m for the Centre Network road typologies, which is achieved in CA3 in this location*). SIDRA analysis undertaken in the following revised TIA demonstrates that ultimate (2066) forecast peak traffic volumes do not result in intersection queue lengths that would adversely impact adjacent intersections proposed.

Item 13

Identify the school bus routes required to service the school (DEV2023/1414), including the northern, southern and western frontages, demonstrating they are designed in accordance with the following standards for a single unit rigid bus of 14.5m in length:

i. Department of Transport and Main Roads Road Planning and Design Manual, 2nd Edition, Volume 3 – Guide to Road Design (Parts 3, 4-4C and 6);
ii. Austroads Guide to Road Design (Parts 3, 4-4C and 6);
iii. Austroads Design Vehicles and Turning Path Templates;
iv. Queensland Manual of Uniform Traffic Control Devices, Part 13: Local Area Traffic
v. Management.
vi. Chapter 2 - Planning and Design, Section 2.3.2 Bus Route Infrastructure of the Department of Transport and Main Roads Public Transport Infrastructure Manual 2015.

Response:

School bus routes will ultimately be determined by the Department of Education and/or TransLink as required by commencement of the school use. Importantly, the proposed school site is fronted by Neighbourhood Connector roads on the northern and western frontages and a Trunk Connector road type on the school's southern frontage. As per the EDQ Street and Movement Network Guideline, the road types can facilitate bus routes as required. A bus stop facility is also proposed on the site's southern frontage able to cater for six school buses in a nose-to-tail arrangement.

Based on the above, the proposed road network does not preclude the future provision of school bus routes along any of the site's frontages facilitating school bus access from any direction to the proposed bus zone on the site's southern boundary.

Item 14

a.	Undertake a road safety assessment to determine the location and arrangement for the school crossing(s) to meet pedestrian desire lines to the northern, western and south-western frontages of the State Primary School Lot 30015. Consideration of the school entry / exit points will be required.
b.	Demonstrate that the crossing facility/facilities and supporting active transport network are in accordance with Table 1: Active Transport and Schedule 1 of the Department of Transport and Main Road's Planning for Safe Transport Infrastructure at Schools and Queensland Manual Uniform Traffic Control Devices.

Response:

Signalised intersections shall be provided at the south-east and south-west corners of the future school site. These signalised crossings will provide safe pedestrian crossing points for key pedestrian desire lines east and west along the Trunk Connector to/from expected school access locations and school bus stop facilities.

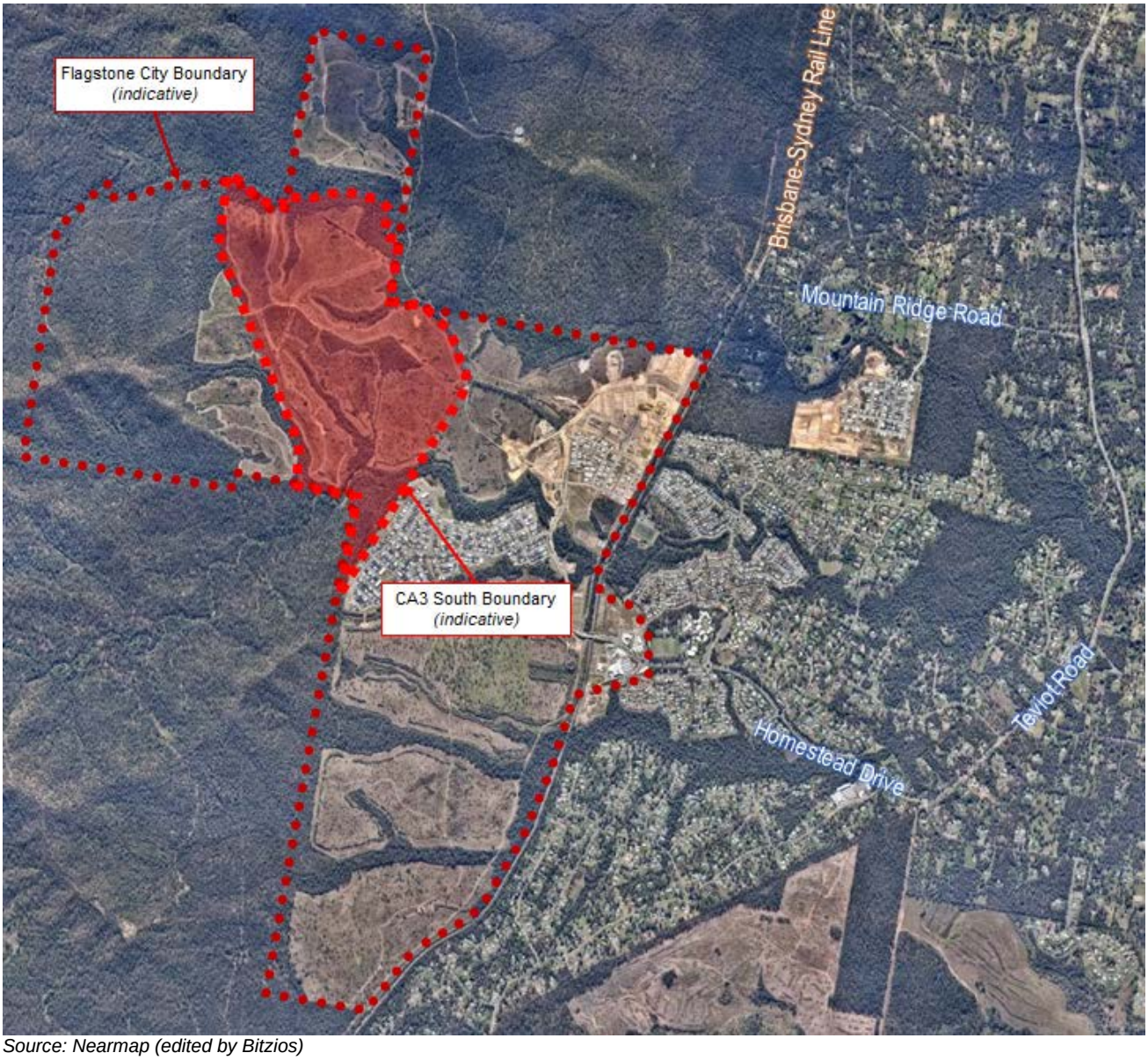
Should a school entry / access point be provided on the site's western or northern frontages, a school crossing may also be provided across the relevant frontage road in the vicinity of entry / exit point. The proposed road network facilitates the provision of school crossings in accordance with the relevant requirements of AS1742.10, for pedestrian crossing demands to/from potential school entry / exit points, subject to the location of the school's accesses.

Given the layout of the school is unknown, a road safety assessment is not considered warranted as entry points and accurate desire lines are also unknown. Furthermore, the updated CA3 plans demonstrate active transport provisions generally in accordance with TMR's *Planning for Safe Transport Infrastructure at Schools* and Queensland Manual Uniform Traffic Control Devices (MUTCD).

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 superseded *Infrastructure Charging Offset Plan* (ICOP) and mapping
- 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.

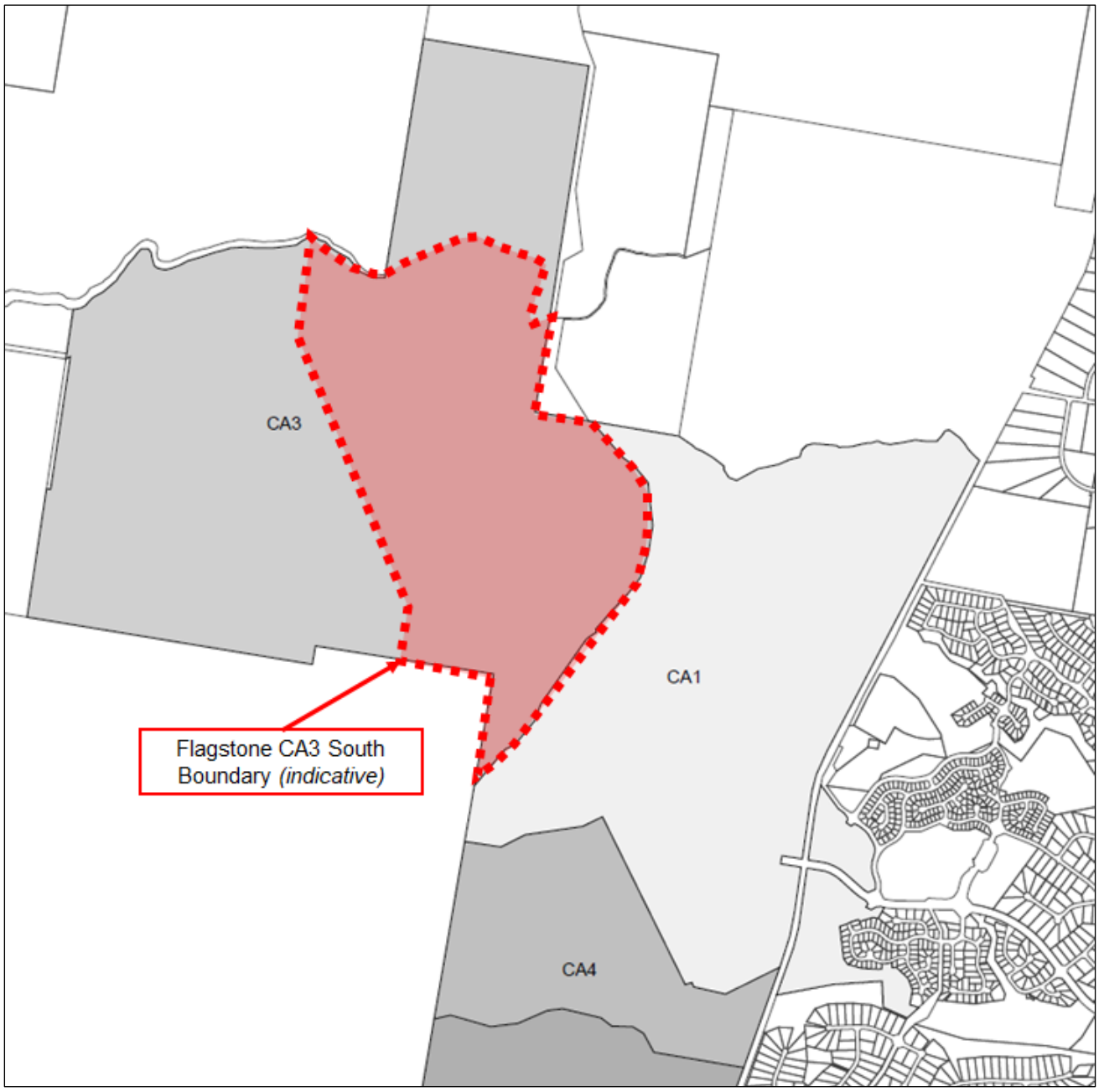


Figure 2.1: Subject Site and Surrounding Context Areas

2.2 Greater Flagstone Priority Development Area (PDA)

2.2.1 Overview

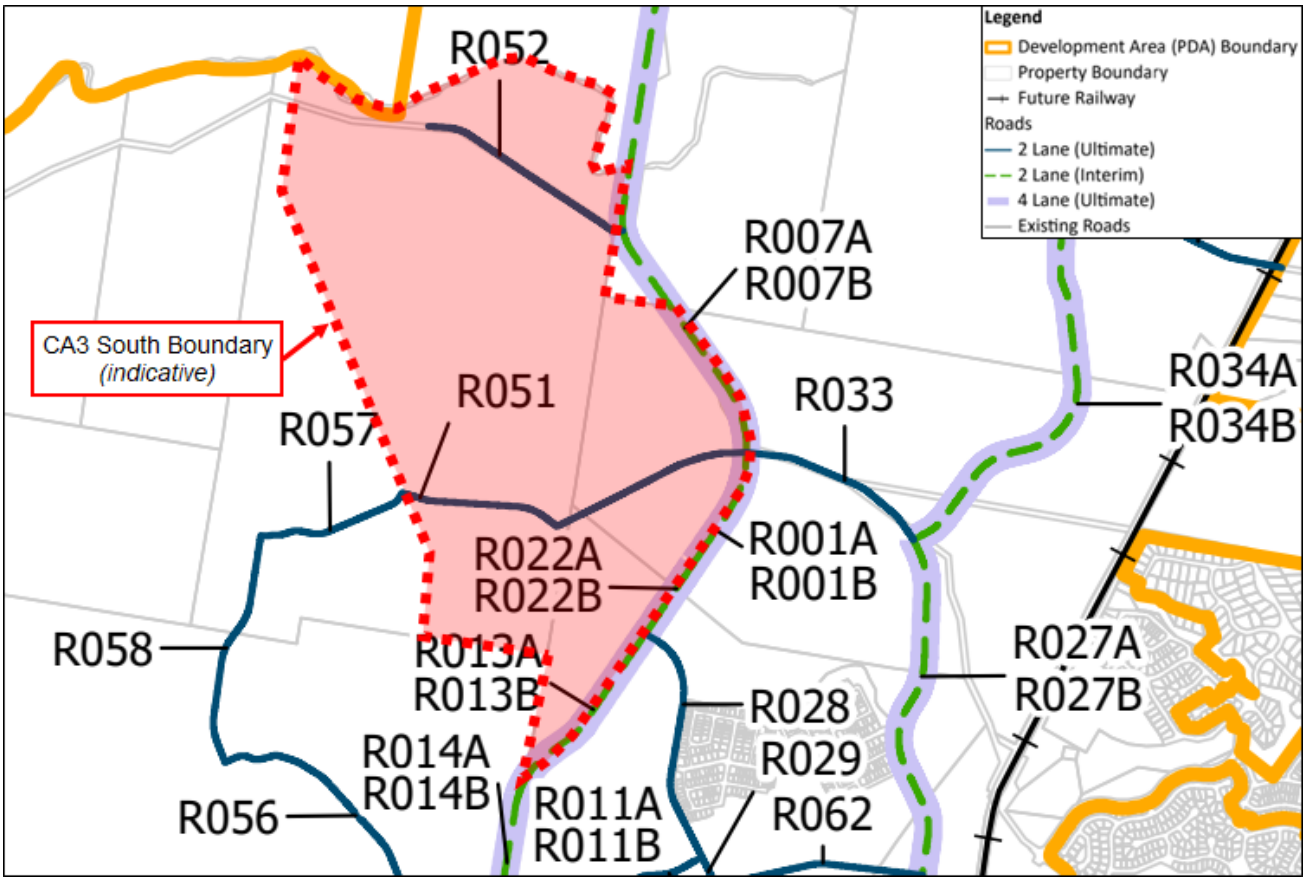
The Greater Flagstone PDA was declared on the 8th October 2010 and is located west of Jimboomba within the southern part of Council's LGA. Key PDA information is as follows:

- 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.

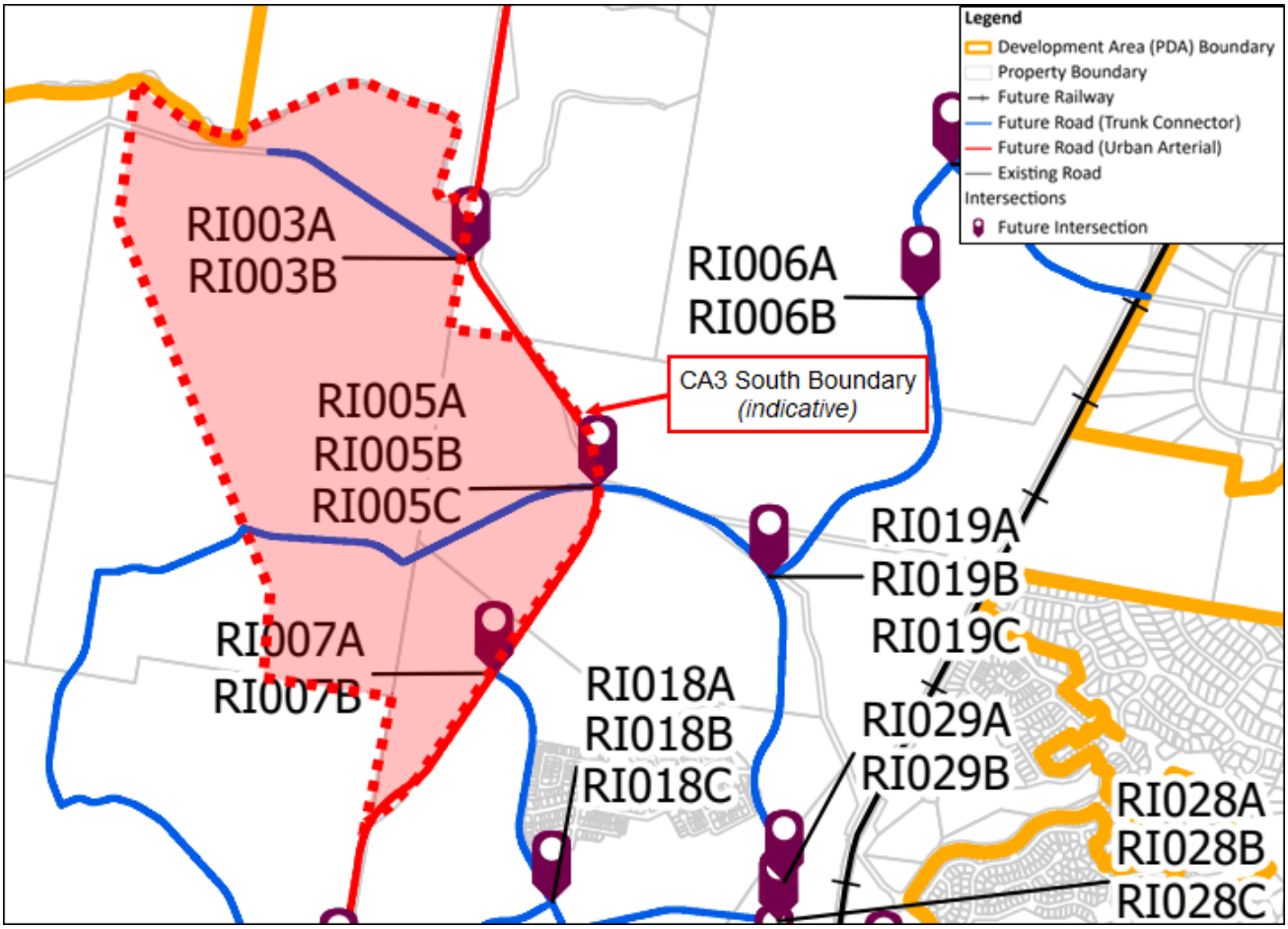
2.2.2 Greater Flagstone Development Charges and Offset Plan (DCOP)

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

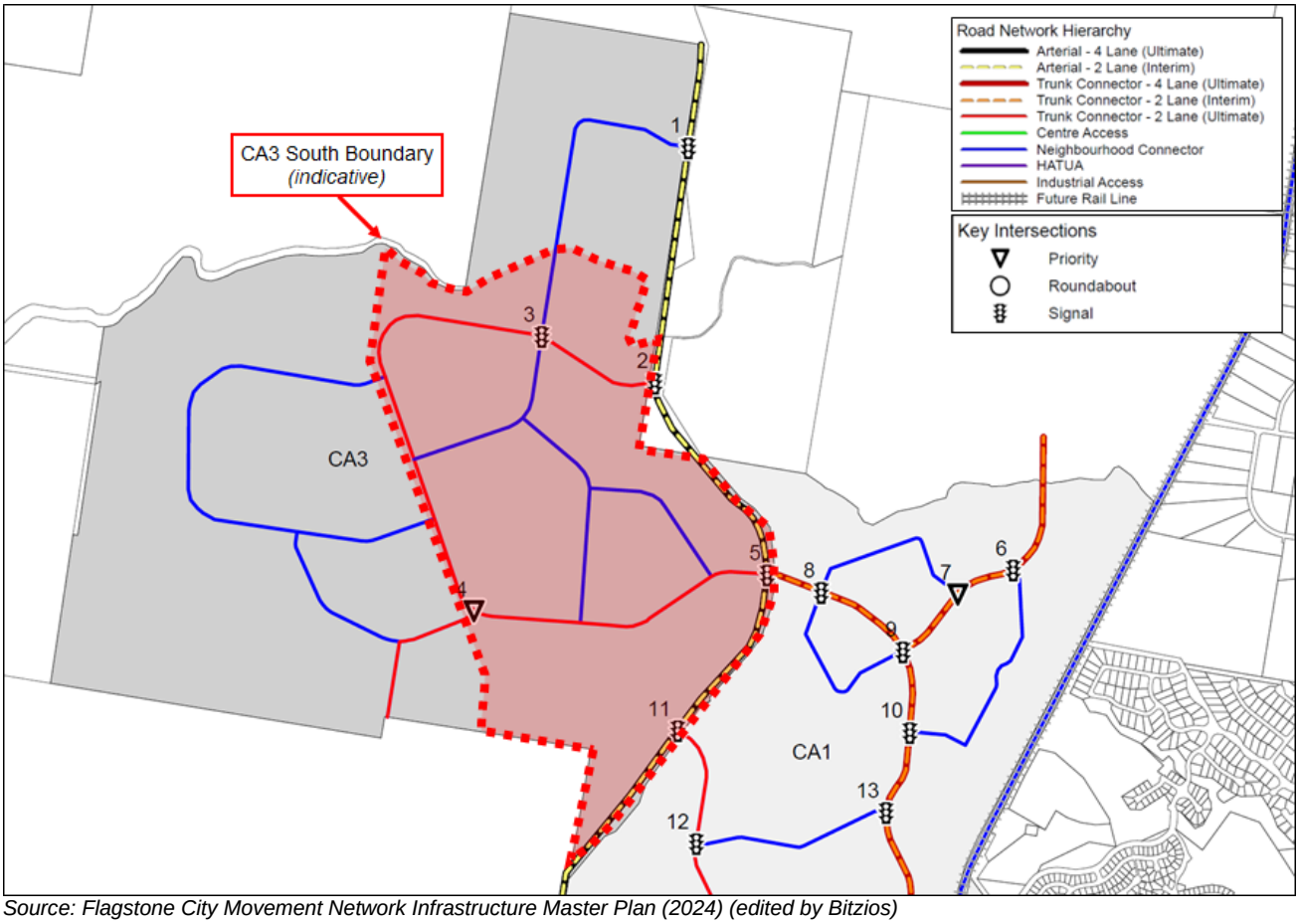
2.2.3 Movement Infrastructure Master Plan (IMP)

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 (1,635 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**.

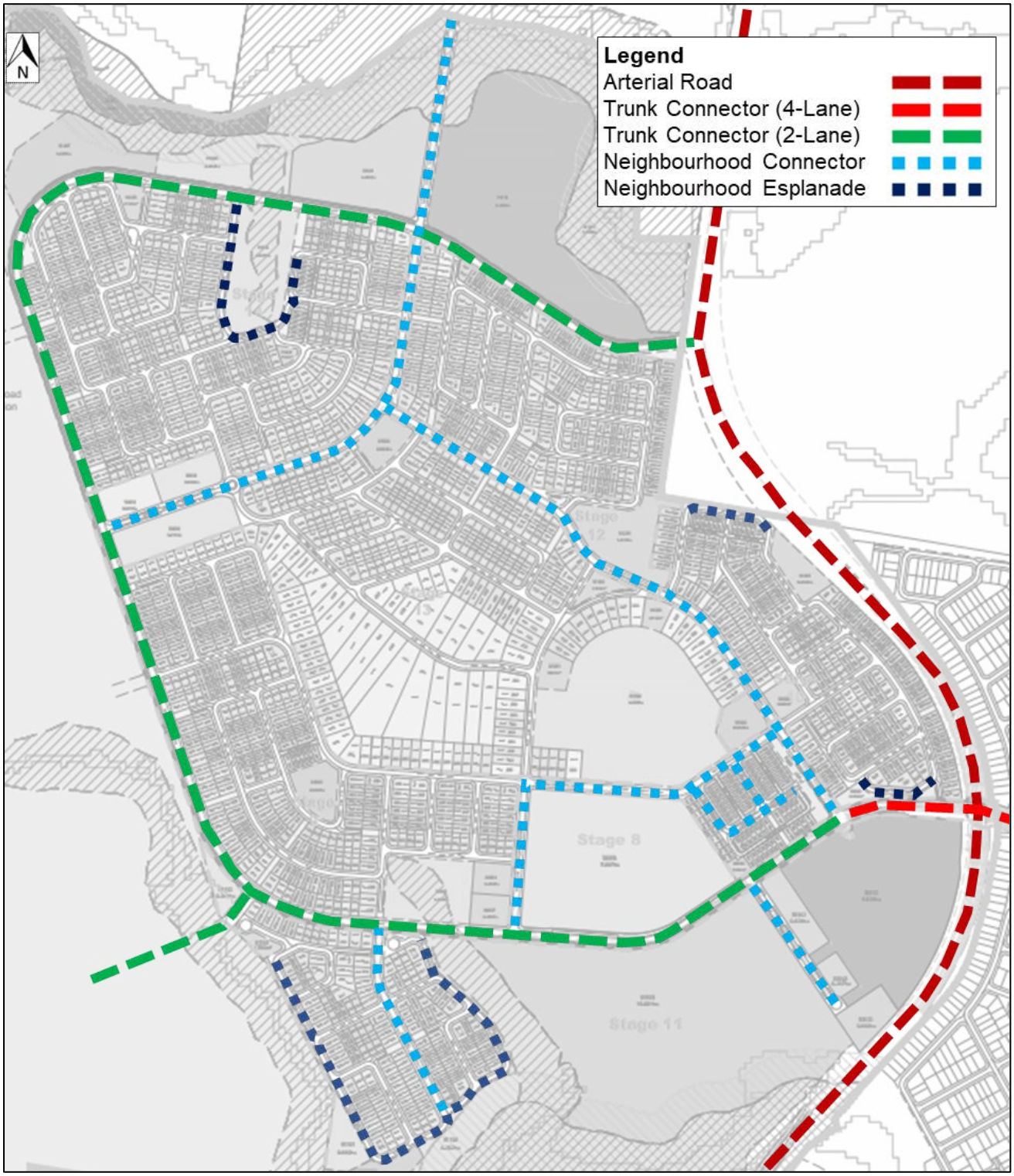


Figure 3.1: Proposed Road Network Hierarchies

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.

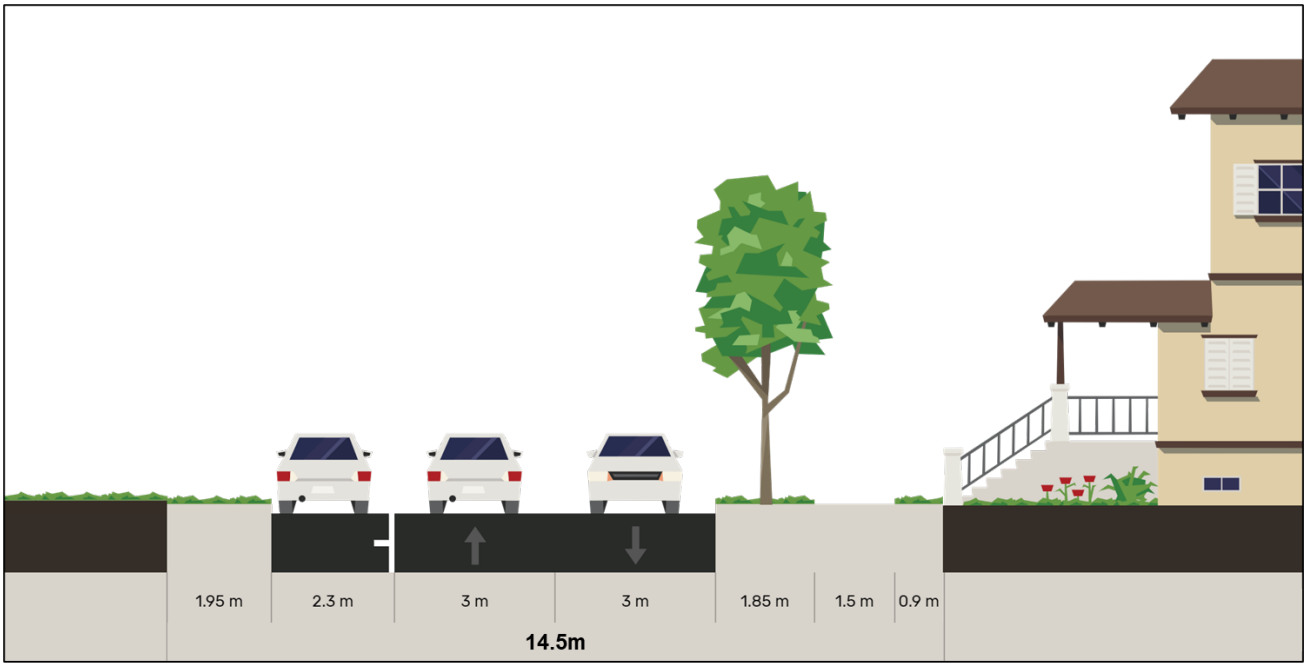


Figure 3.2: Esplanade Road Cross-Section

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.

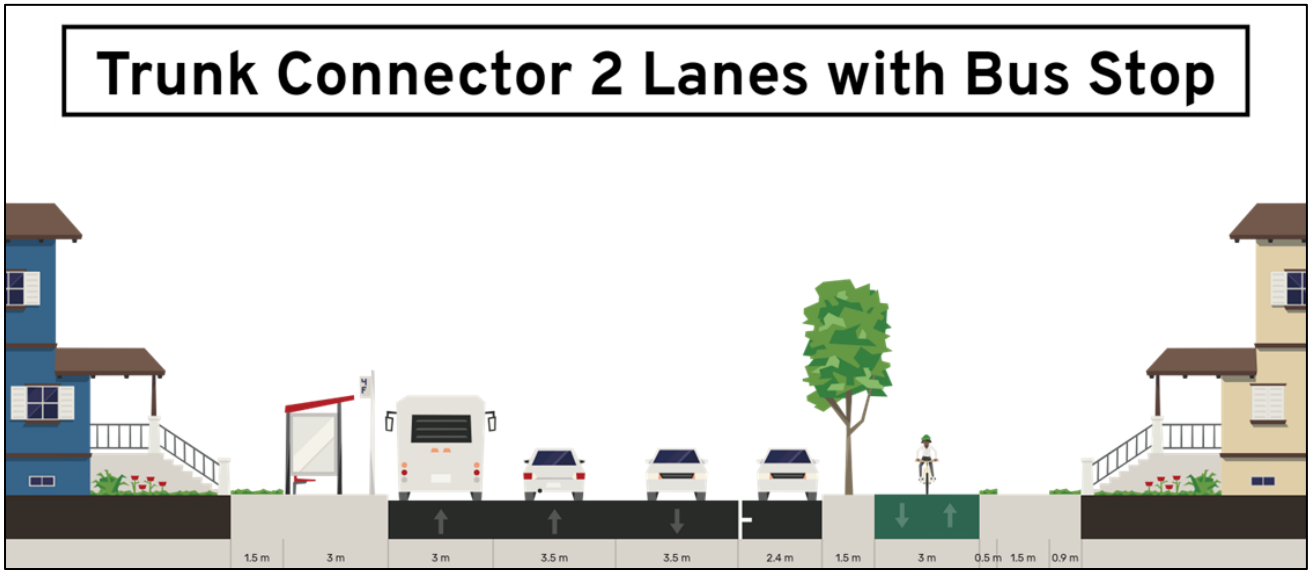


Figure 3.3: Trunk Connector with Bus Stop Cross-Section

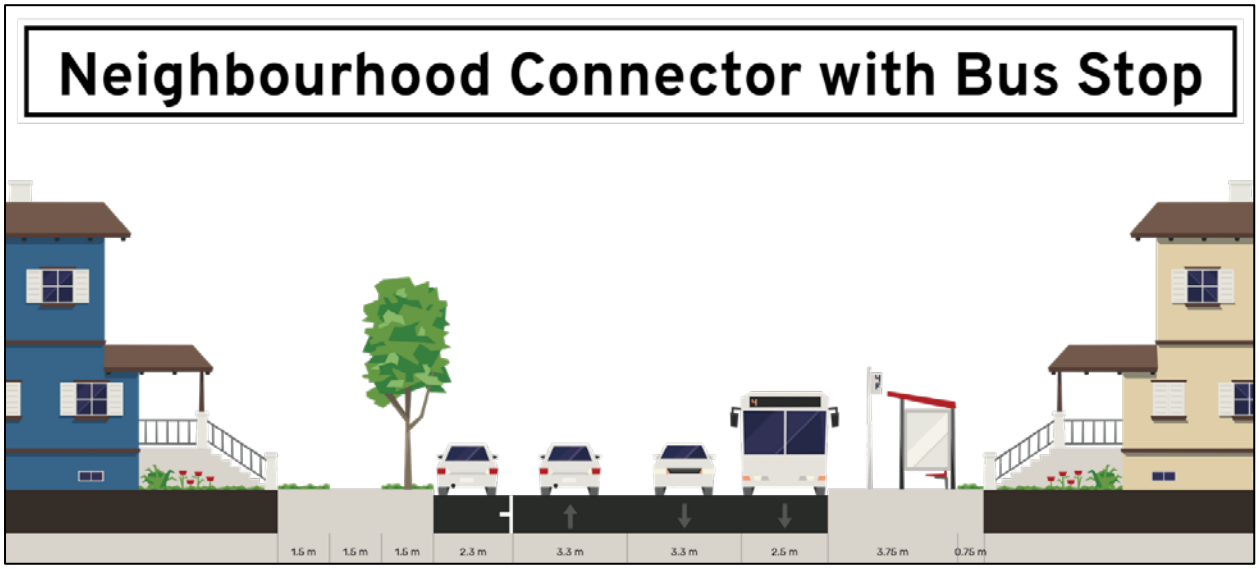


Figure 3.4: Neighbourhood Connector with Public Bus Stop Cross-Section

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.

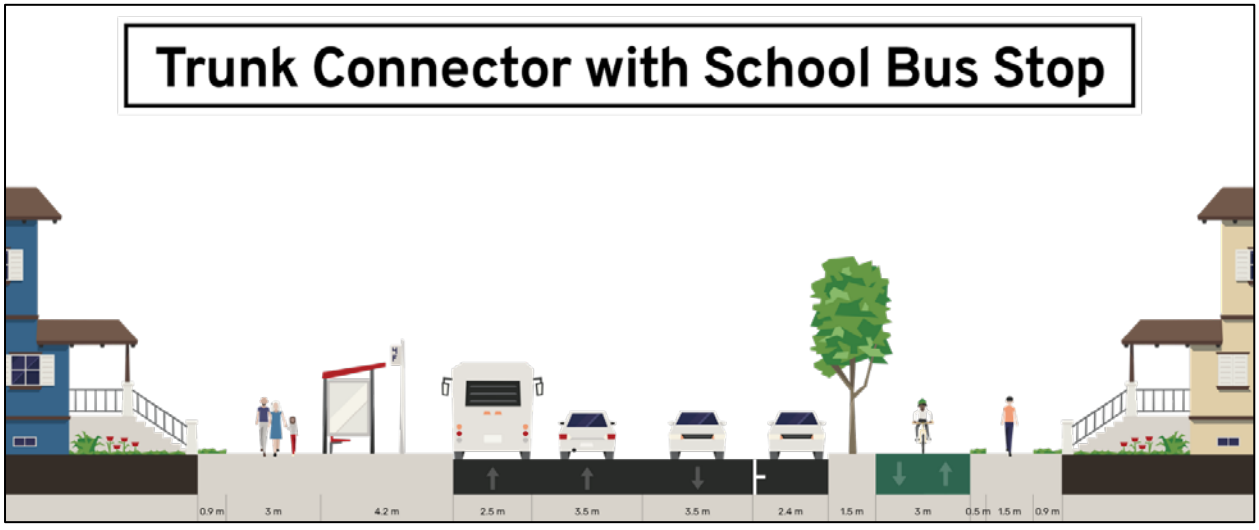


Figure 3.5: Trunk Connector with School Bus Stop

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 a reduced spacing is proposed, appropriate intersection performance shall be demonstrated.

Forecast performance of key intersections is assessed in Section 4.3.

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.

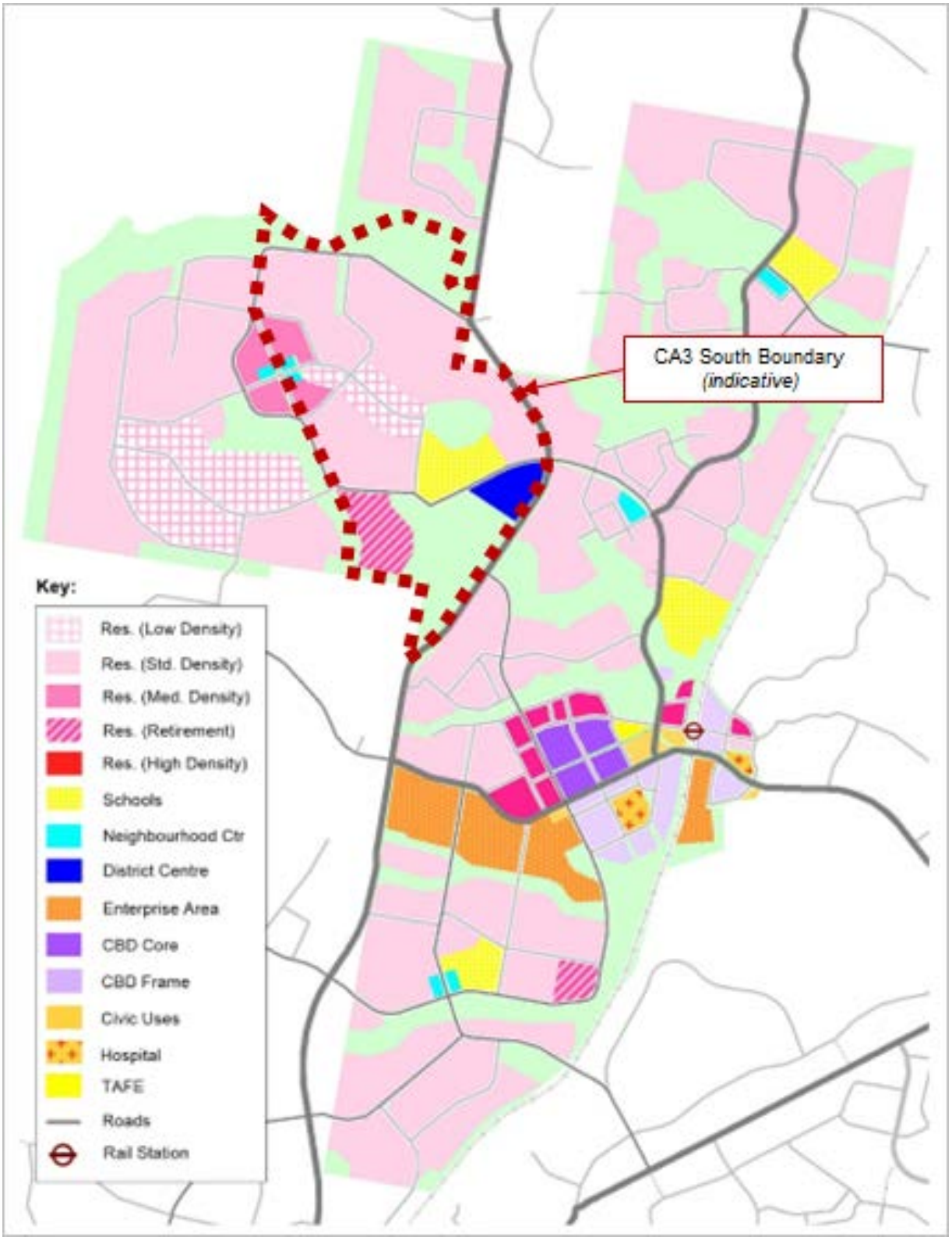
The details of the strategic modelling methodology and outcomes is documented in VLC's Cordon Modelling report for PEET (May 2019).

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.

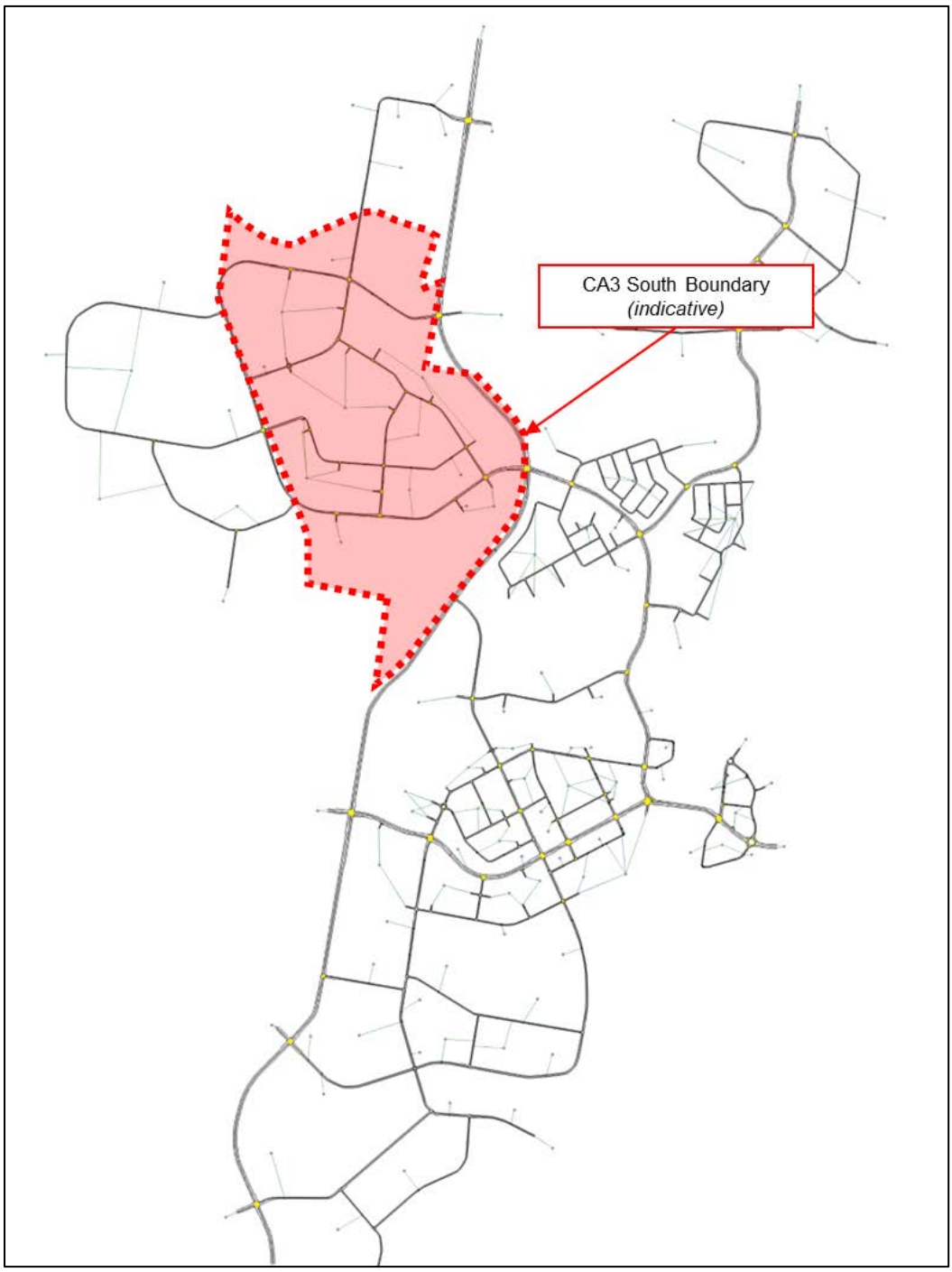


Figure 4.2: Flagstone City Microsimulation (Aimsun) Model Network

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	-	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	0.92	55[1]	64.7%
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	-	396	141.4%
3956	Low Density Residential	21.64	259	-	312	120.5%
3957	Low Density Residential	40	573	-	448	78.2%
3958	District Centre	7.6	-	7.14	-	93.9%

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

The relevant zones are shown graphically in Figure 4.3.

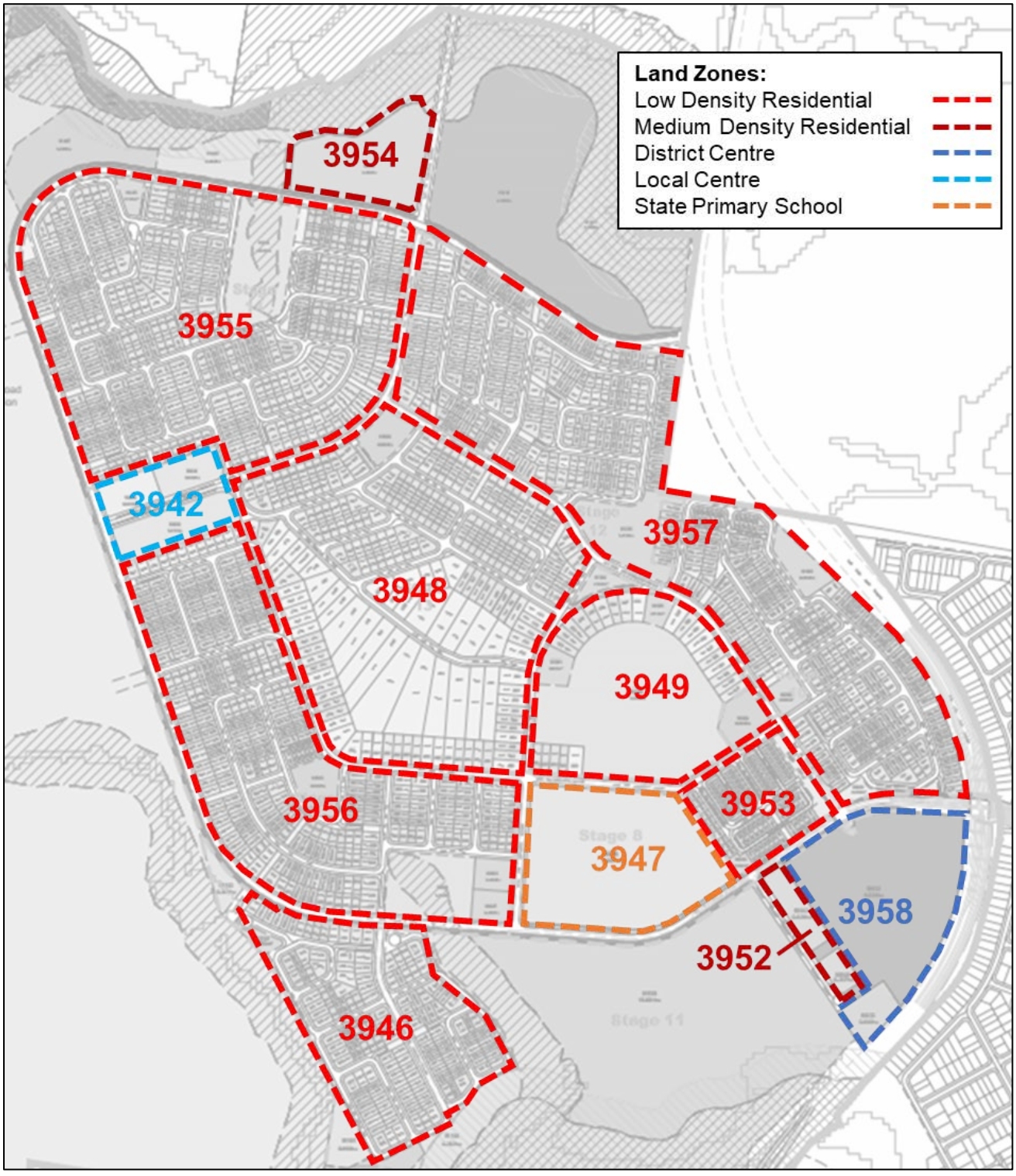


Figure 4.3: Town Centre Zone ID's & Uses

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.

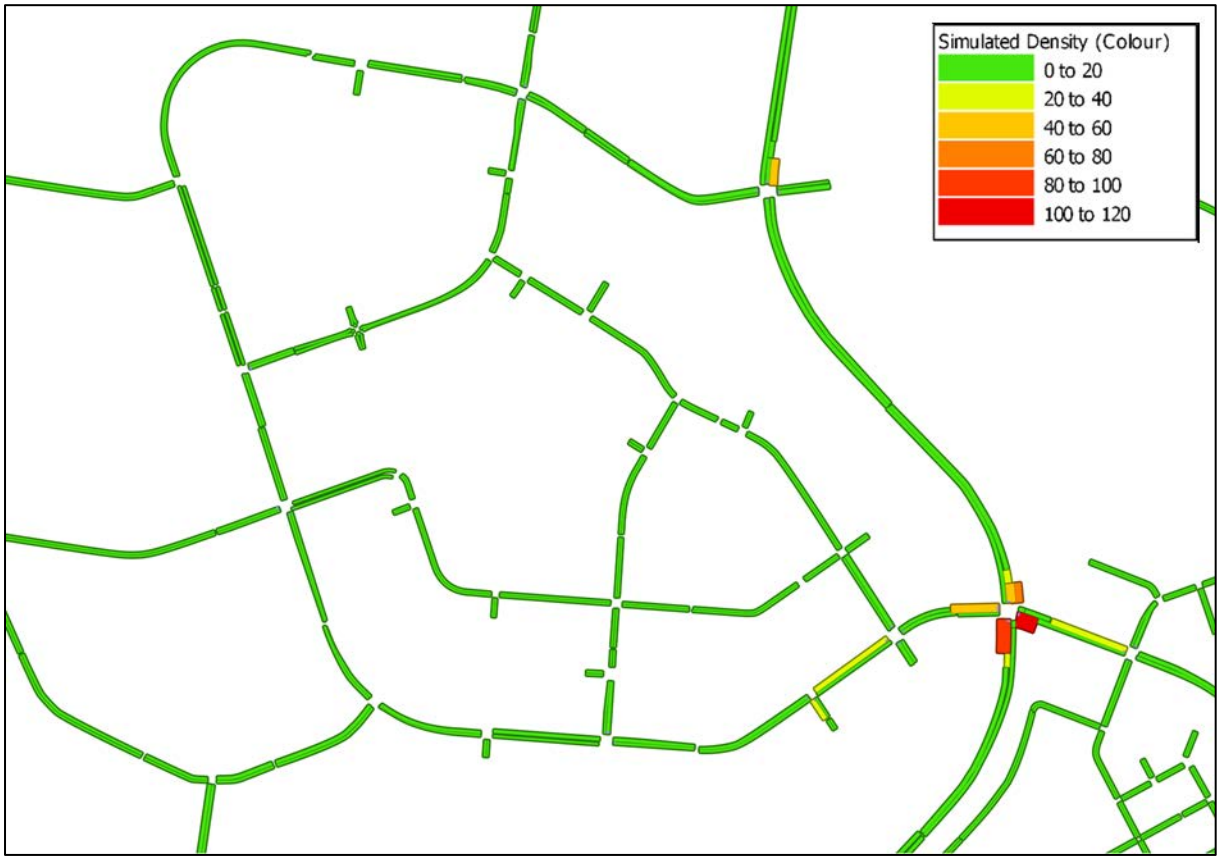


Figure 4.4: AM Peak Link Density

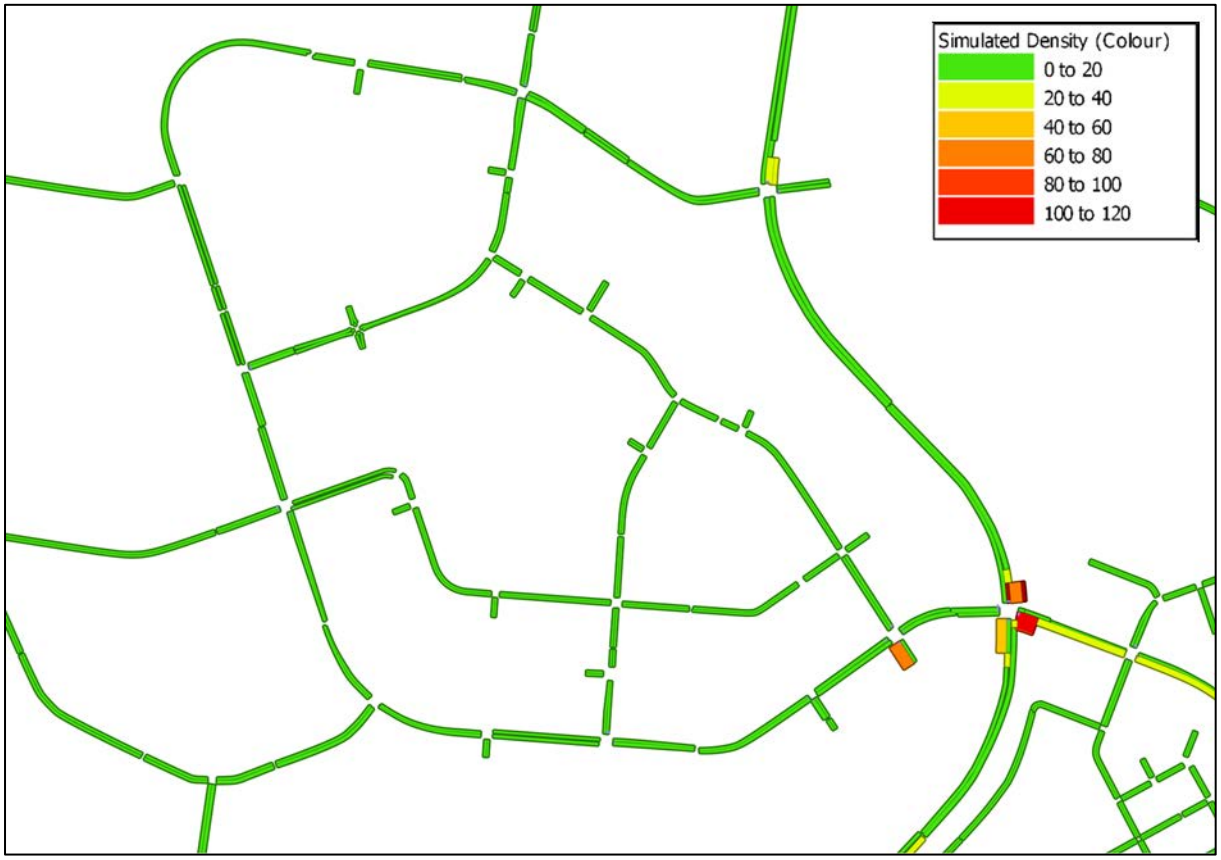


Figure 4.5: PM Peak Link Density

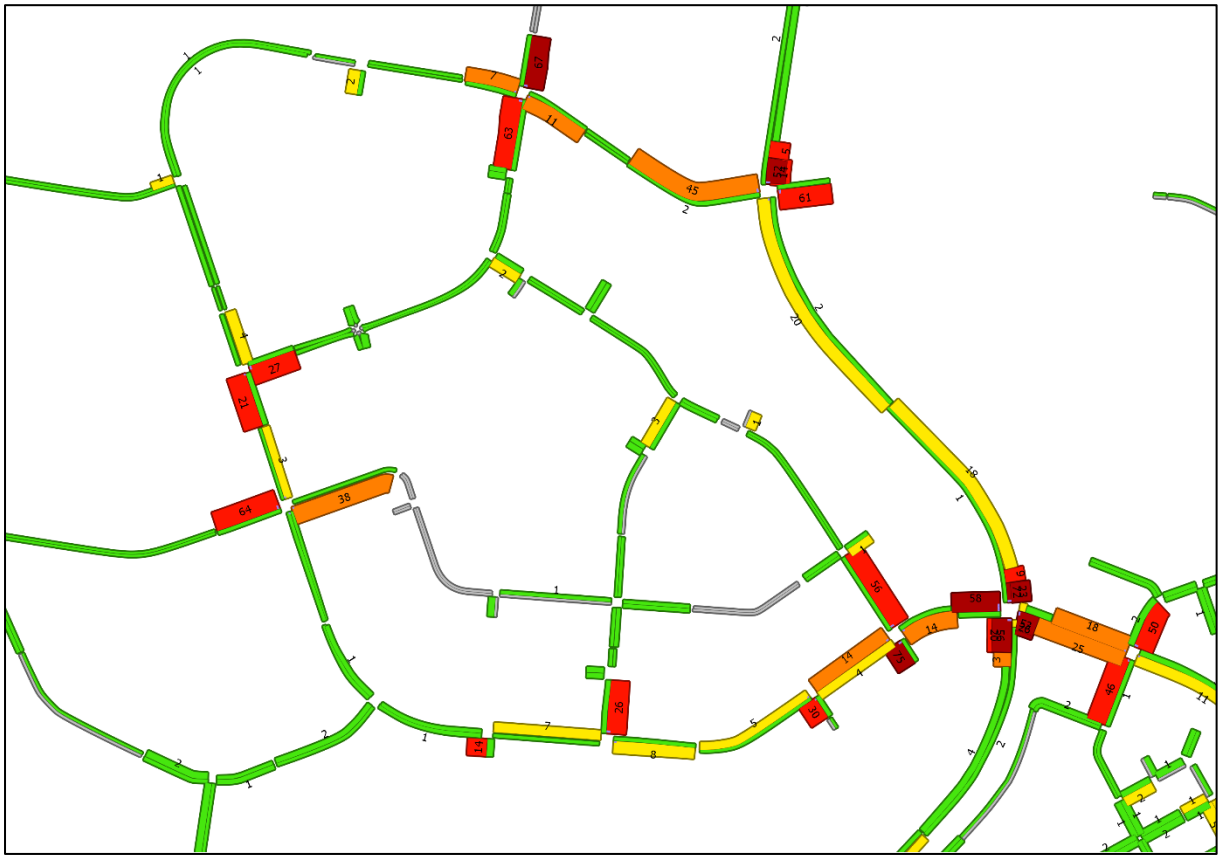


Figure 4.6: Microsimulation Link Delays - AM Peak

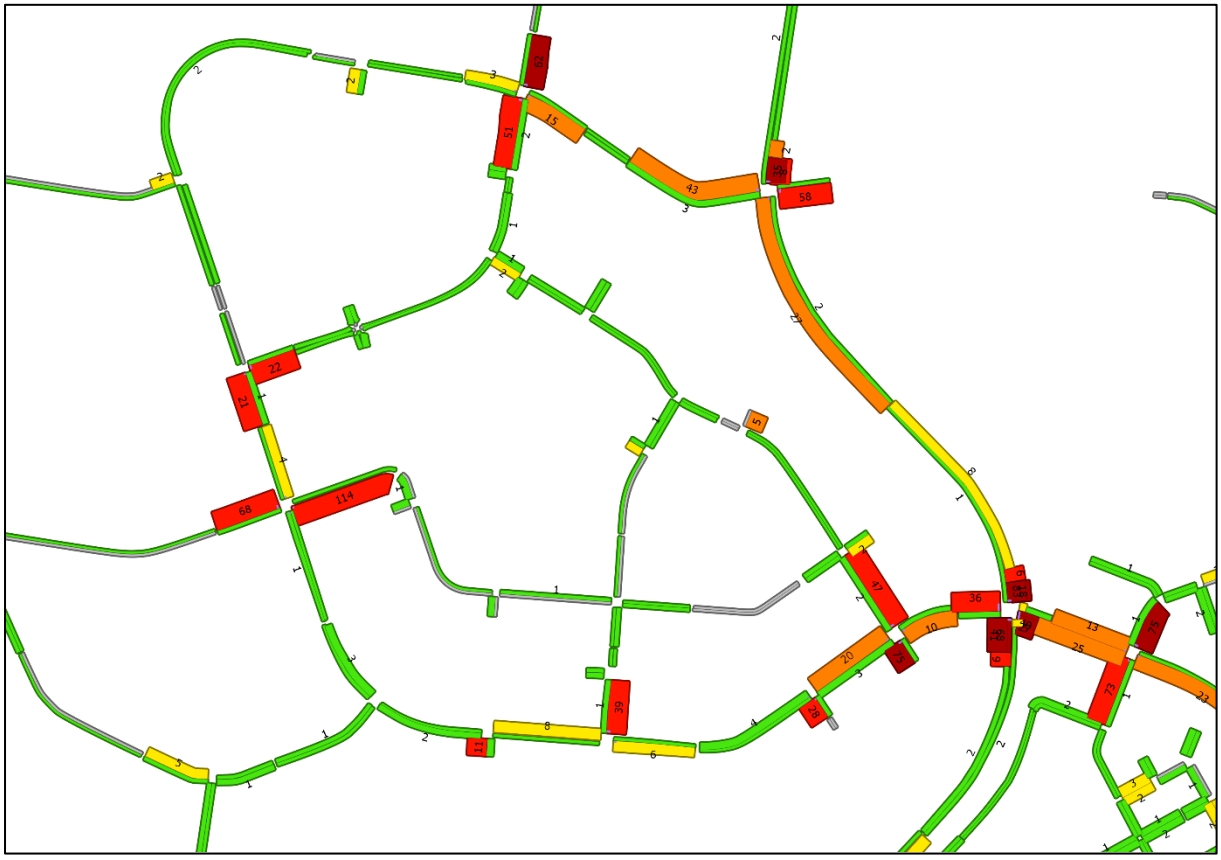


Figure 4.7: Microsimulation Link Delays - PM Peak

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.

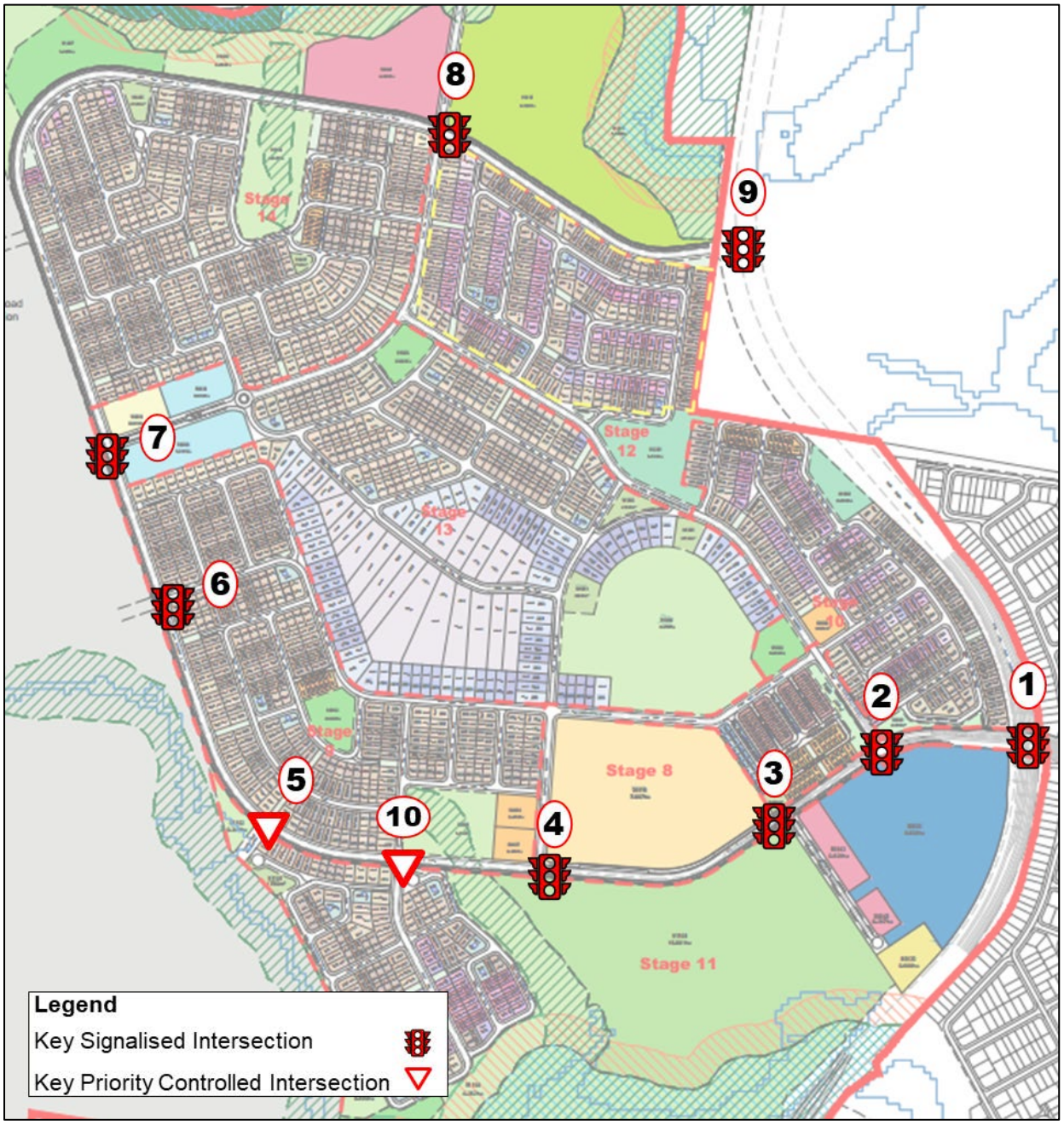


Figure 4.8: Key Intersections

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 (42 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	1.09	46	120	D	F
2	0.87	0.83	34	32	C	C
3	0.76	0.73	10	11	A	B
4	0.55	0.45	9	6	A	A
5	0.48	0.22	7	5	A	A
6	0.32	0.45	9	16	A	B
7	0.15	0.23	9	8	A	A
8	0.60	0.63	20	23	B	C
9	0.88	0.87	50	44	D	D
10	0.22	0.27	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. 42-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	0.87	0.99	39	84	D	F

Based on the above, and the aspirational and somewhat uncertain nature of the 42-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.

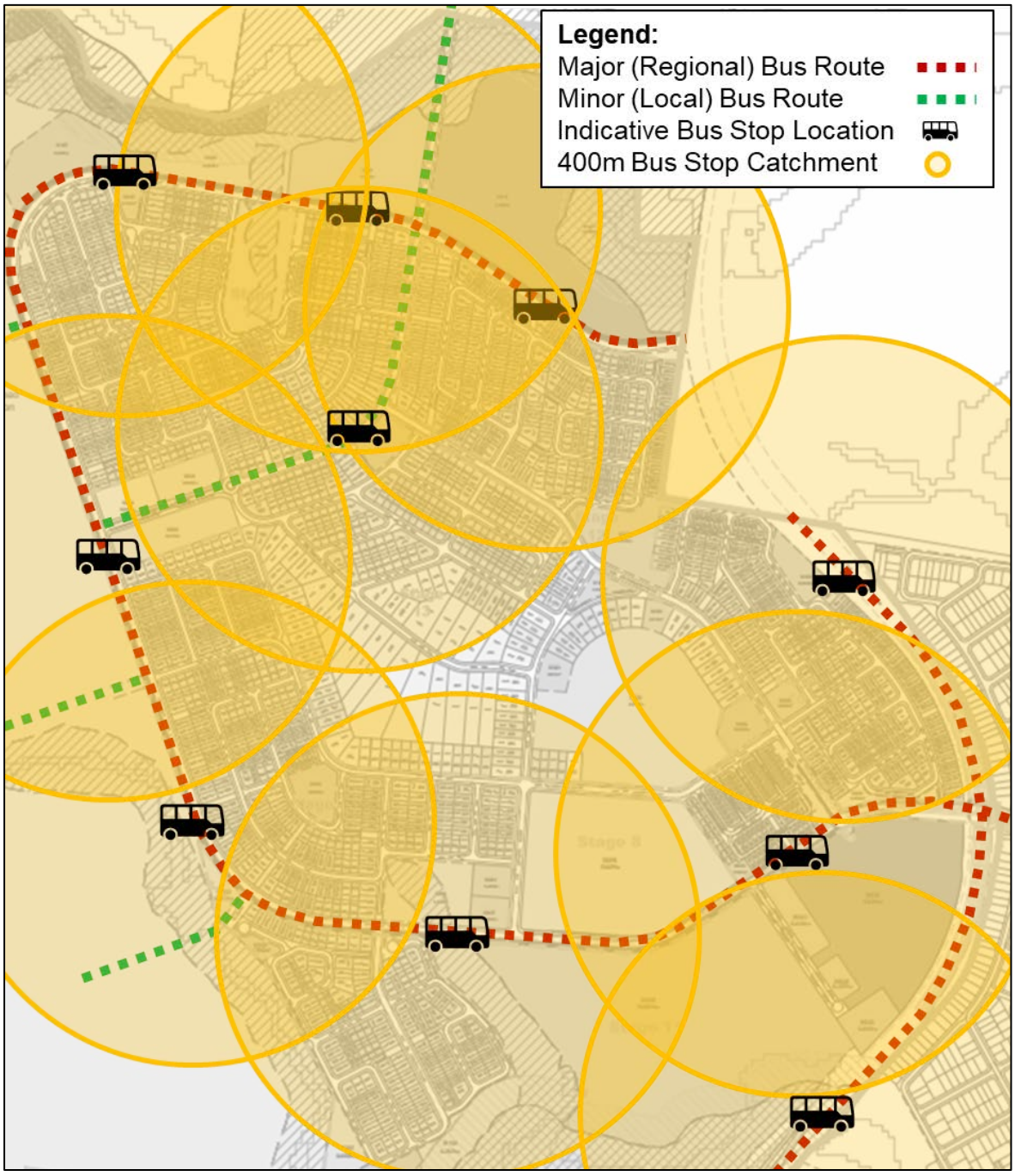


Figure 5.1: Indicative Public Transport Coverage

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.

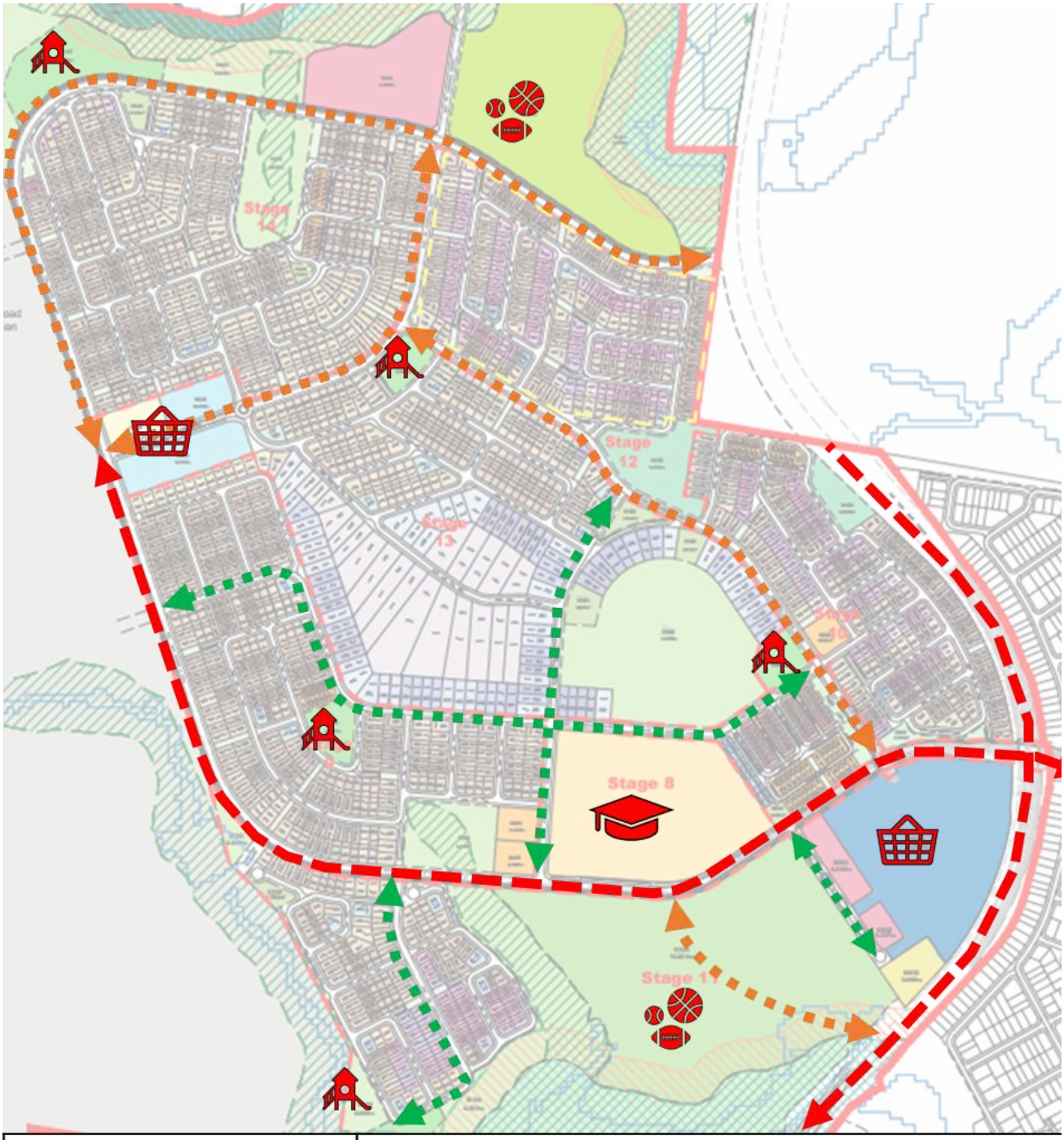
5.2.2 Active Transport Strategy Development

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**.



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

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.

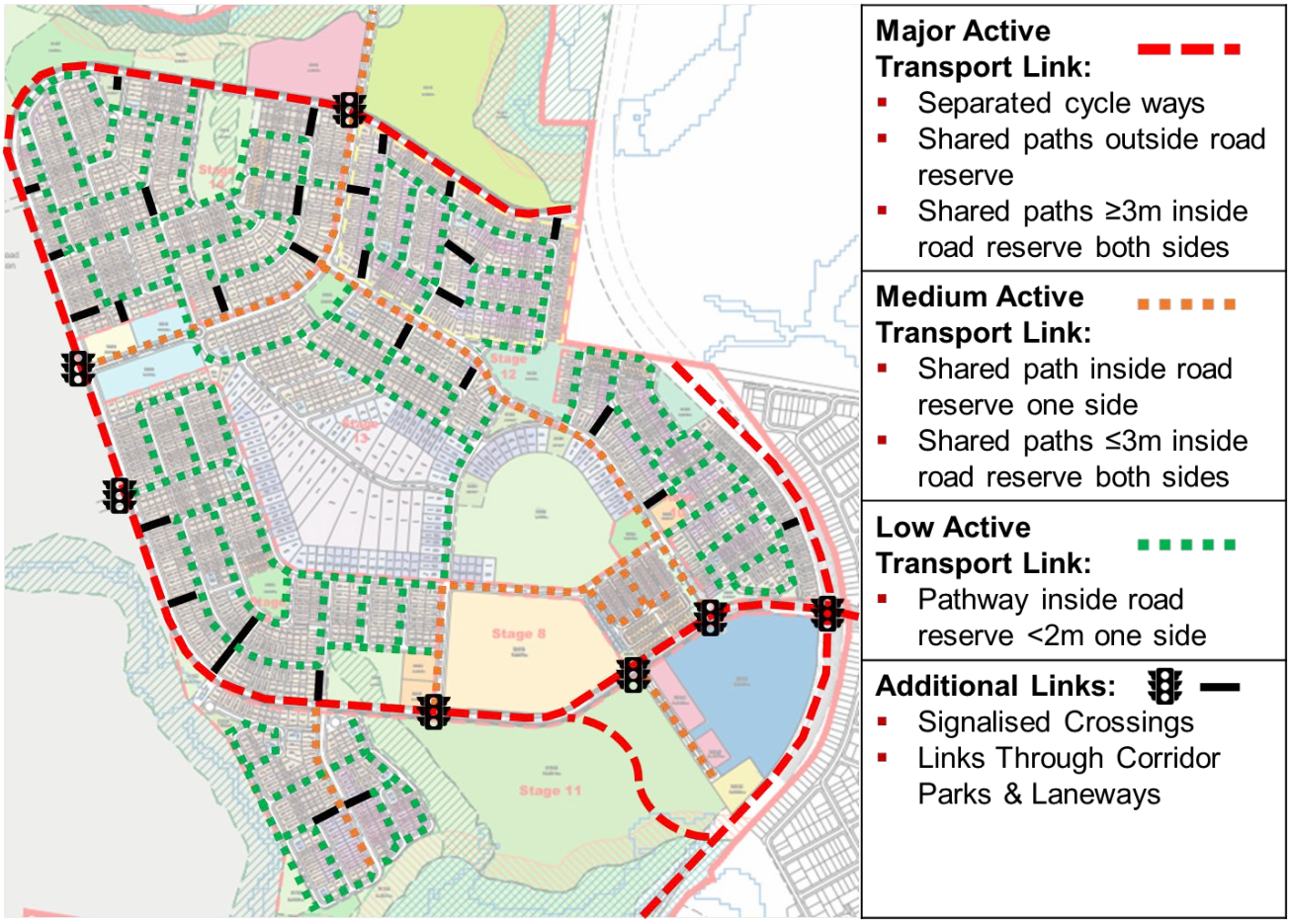


Figure 5.3: Active Transport Linkages

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.

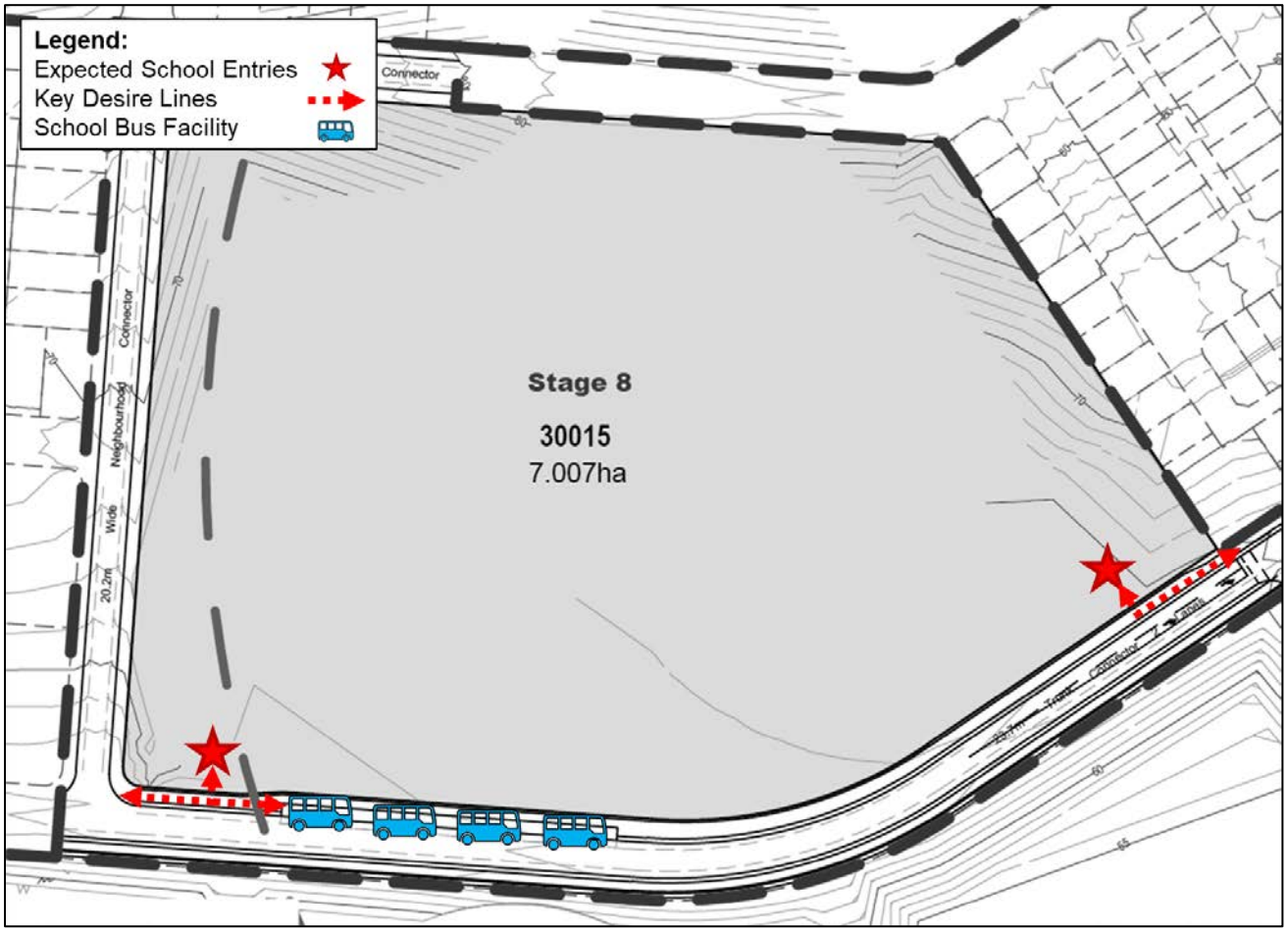


Figure 5.4: Stage 8 School Southern Frontage Pedestrian Connections

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.

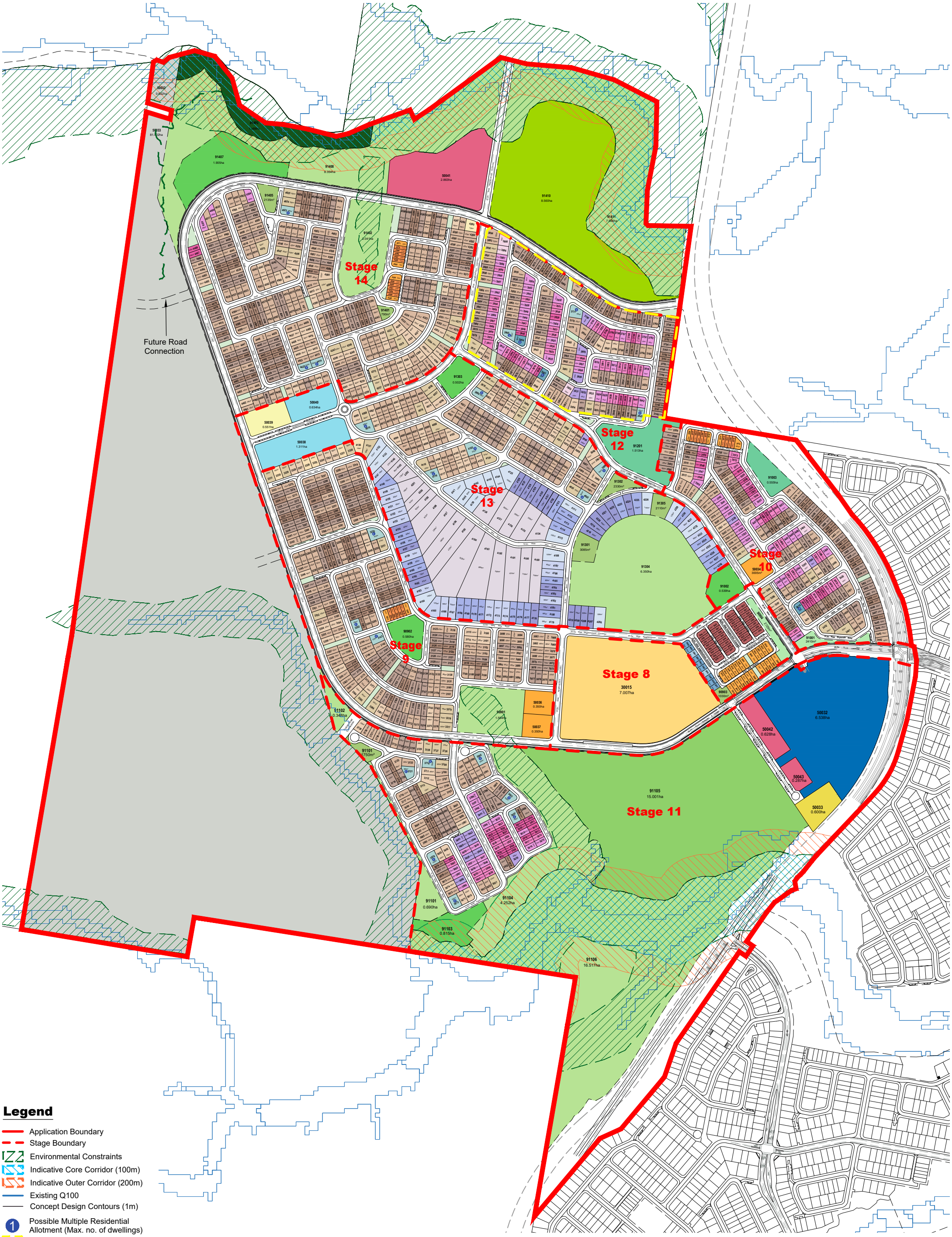
6. SUMMARY & CONCLUSIONS

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

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

PLAN REF:	**110056 – 639**
Rev No:	**B**
DATE:	12 DECEMBER 2024
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

PEET

URBAN DESIGN
Level 8
31 Duncan Street
PO Box 1559
Fortitude Valley QLD 4006
T +61 7 3539 9500
W rpsgroup.com

A TETRA TECH COMPANY

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	%
25m 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 10m Allotment	—	—	13	16	11	—	—	40	**2%**
Premium Villa 12.5m Allotment	—	—	23	13	38	—	2	76	**5%**
Courtyard 14m Allotment	—	—	22	17	30	—	3	72	**4%**
Premium Courtyard 16m Allotment	—	—	2	9	5	1	—	17	**1%**
Premium Traditional 20m Allotment	—	—	4	—	4	—	—	8	**0%**
Possible Multiple Residential Allotment	—	—	1	—	2	—	—	3	**0%**
Subtotal	**—**	**—**	**65**	**55**	**90**	**1**	**5**	**216**	**13%**
28m Deep Terrace Product									
Terrace 7.5m Allotment	—	5	9	—	—	—	10	24	**1%**
Terrace 9.5m Allotment	—	26	4	—	—	—	4	34	**2%**
Subtotal	**—**	**31**	**13**	**—**	**—**	**—**	**14**	**58**	**4%**
30m Deep Product									
Villa 10m Allotment	—	58	30	13	27	—	50	178	**11%**
Premium Villa 12.5m Allotment	—	88	51	29	66	23	110	367	**23%**
Courtyard 14m Allotment	—	117	39	33	40	63	153	445	**27%**
Premium Courtyard 16m Allotment	—	25	6	10	8	35	45	129	**8%**
Traditional 18m Allotment	—	4	—	—	—	1	—	5	**0%**
Premium Traditional 20m Allotment	—	10	6	6	4	15	16	57	**4%**
Possible Multiple Residential Allotment	—	3	—	7	3	6	3	22	**1%**
Subtotal	**—**	**305**	**132**	**98**	**148**	**143**	**377**	**1203**	**74%**
50m+ Deep Product									
Courtyard 14m Allotment	—	—	—	—	—	25	—	25	**2%**
Premium Courtyard 16m Allotment	—	—	—	—	—	25	—	25	**2%**
Traditional 18m Allotment	—	—	—	—	—	20	—	20	**1%**
Premium Traditional 20m Allotment	—	—	—	—	—	18	—	18	**1%**
Ridgetop Allotment	—	—	—	—	—	21	—	21	**1%**
Subtotal	**—**	**—**	**—**	**—**	**—**	**109**	**—**	**109**	**7%**
Total Residential Allotments	**—**	**378**	**210**	**153**	**238**	**253**	**396**	**1628**	**100%**
Residential Net Density	**—**	**16.3 dw/ha**	**15.5 dw/ha**	**13.1 dw/ha**	**14.8 dw/ha**	**8.9 dw/ha**	**15.1 dw/ha**	**13.6 dw/ha**	
Super Lots									
Local Centre	—	—	—	—	—	2	—	2	
District Centre	—	—	—	1	—	—	—	1	
Ambulance	—	—	—	1	—	—	—	1	
Child Care	—	2	1	—	—	—	—	3	
Community Centre	—	—	—	—	—	1	—	1	
State Primary School	1	—	—	—	—	—	—	1	
Medium Density Allotment	—	—	—	2	—	—	1	3	
Balance Allotment	—	—	—	—	—	—	2	2	
Subtotal	**1**	**2**	**1**	**4**	**—**	**3**	**3**	**14**	
Total Allotments	**1**	**380**	**211**	**157**	**238**	**256**	**399**	**1642**	
Maximum Potential Residential Dwellings (Includes Multiple Residential Allotments)	**—**	**381**	**211**	**165**	**246**	**264**	**401**	**1668**	
Maximum Potential Net Residential Density	**—**	**16.4 dw/ha**	**15.5 dw/ha**	**14.1 dw/ha**	**15.3 dw/ha**	**9.3 dw/ha**	**15.3 dw/ha**	**13.9 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	%
	10.176 ha	28.014 ha	16.967 ha	66.285 ha	16.056 ha	37.553 ha	144.025 ha	319.076 ha	100.0%
Saleable Area									
Residential Allotments	—	14.554 ha	7.934 ha	6.274 ha	9.374 ha	21.607 ha	16.542 ha	76.285 ha	23.9%
Medium Density	—	—	—	0.915 ha	—	—	2.863 ha	3.778 ha	1.2%
Local Centre	—	—	—	—	—	1.945 ha	—	1.945 ha	0.6%
District Centre	—	—	—	6.538 ha	—	—	—	6.538 ha	2.0%
Ambulance	—	—	—	0.600 ha	—	—	—	0.600 ha	0.2%
Child Care	—	0.700 ha	0.301 ha	—	—	—	—	1.001 ha	0.3%
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**	**8.235 ha**	**14.327 ha**	**9.374 ha**	**24.103 ha**	**19.405 ha**	**97.705 ha**	30.6%
Road									
North South Arterial Dedication (incl. batters)	0.266 ha	—	3.079 ha	9.561 ha	—	—	0.132 ha	13.038 ha	4.1%
Trunk Connector 2 Lanes (23.7m)	2.195 ha	2.521 ha	—	0.144 ha	0.028 ha	0.327 ha	4.135 ha	9.350 ha	2.9%
Neighbourhood Connector (20.2m)	0.708 ha	1.746 ha	0.598 ha	1.224 ha	1.753 ha	1.016 ha	0.687 ha	7.732 ha	2.4%
Neighbourhood Access Street (16.5m)	—	5.229 ha	3.513 ha	3.143 ha	3.133 ha	4.373 ha	6.101 ha	25.492 ha	8.0%
Laneway (6.5m)	—	0.380 ha	0.075 ha	—	—	—	0.082 ha	0.537 ha	0.2%
Pedestrian Linkages	—	0.365 ha	0.132 ha	0.088 ha	0.255 ha	0.129 ha	0.642 ha	1.611 ha	0.5%
Total Area of New Road	**3.169 ha**	**10.241 ha**	**7.397 ha**	**14.160 ha**	**5.169 ha**	**5.845 ha**	**11.779 ha**	**57.760 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	18.061 ha	47.782 ha	15.0%
Stormwater Management	—	—	0.555 ha	—	1.513 ha	—	—	2.068 ha	0.6%
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	0.815 ha	—	0.502 ha	1.905 ha	4.341 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	—	0.272 ha	0.241 ha	—	—	—	—	0.513 ha	0.2%
Total Open Space	**—**	**2.519 ha**	**1.335 ha**	**37.798 ha**	**1.513 ha**	**7.605 ha**	**30.807 ha**	**81.577 ha**	25.6%
Balance Allotments									
Balance Allotment	—	—	—	—	—	—	82.034 ha	82.034 ha	25.7%
Total Balance Allotments	**—**	**—**	**—**	**—**	**—**	**—**	**82.034 ha**	**82.034 ha**	25.7%

PLAN REF: **110056 – 640**
Rev No: **B**
DATE: 12 DECEMBER 2024
CLIENT: PEET
DRAWN BY: JC / MM
CHECKED BY: MD

Not to Scale @ A3

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

PEET

URBAN DESIGN
Level 8
31 Duncan Street
PO Box 1559
Fortitude Valley QLD 4006
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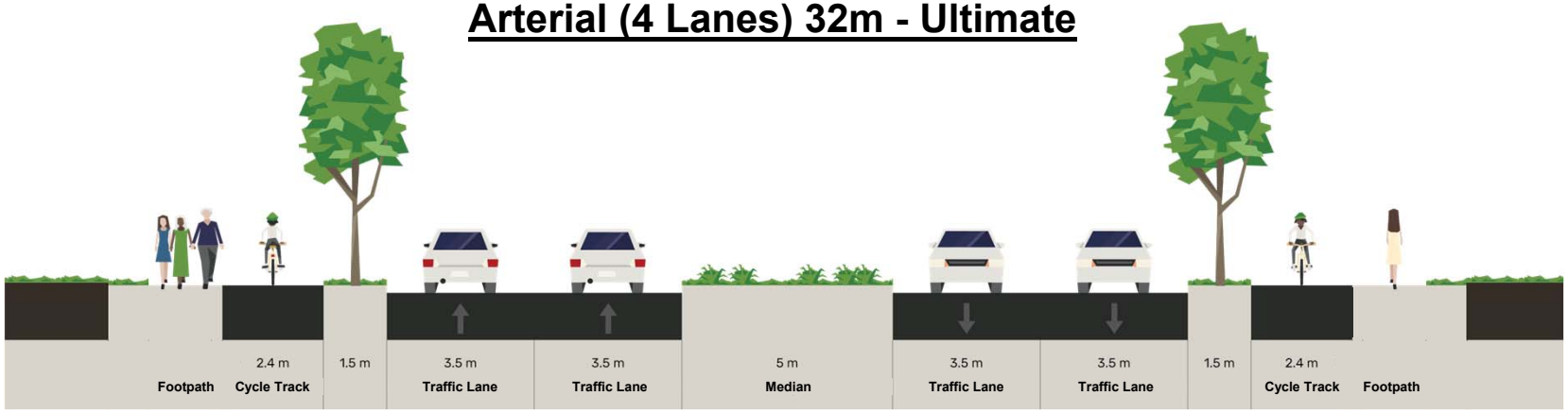
W rpsgroup.com

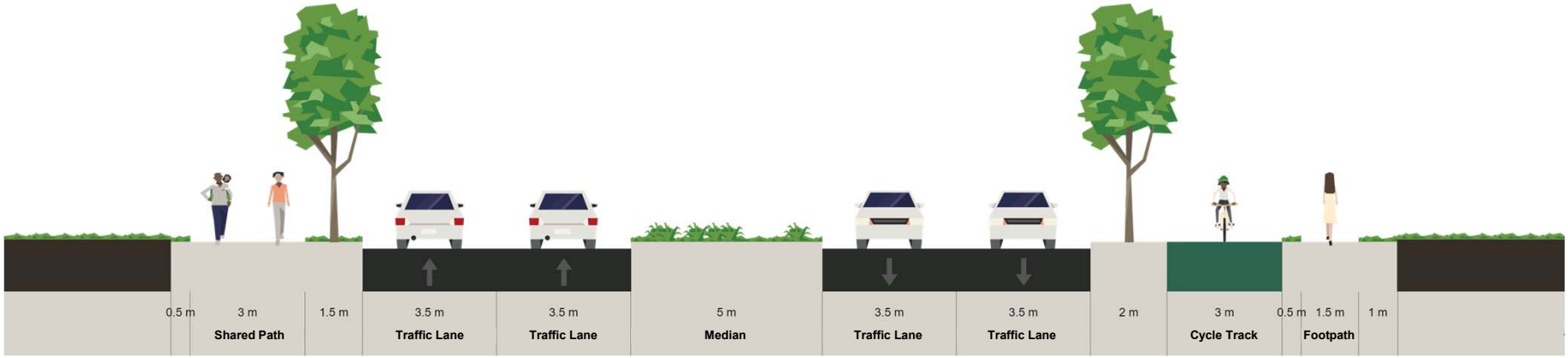
A TETRA TECH COMPANY

Appendix B: Typical Road Cross-Sections

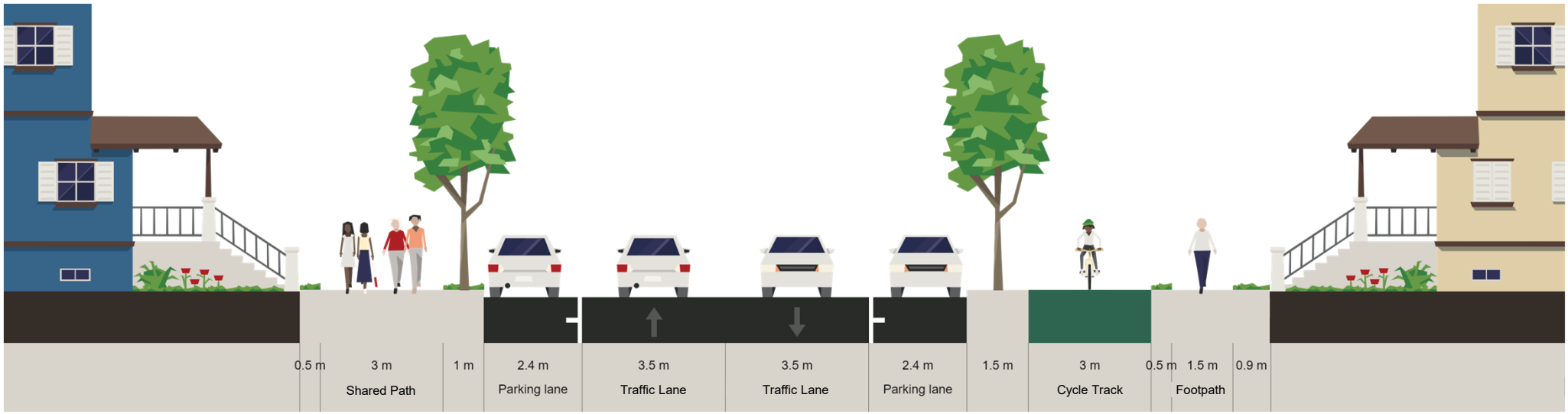
Arterial (4 Lanes) 32m - Ultimate



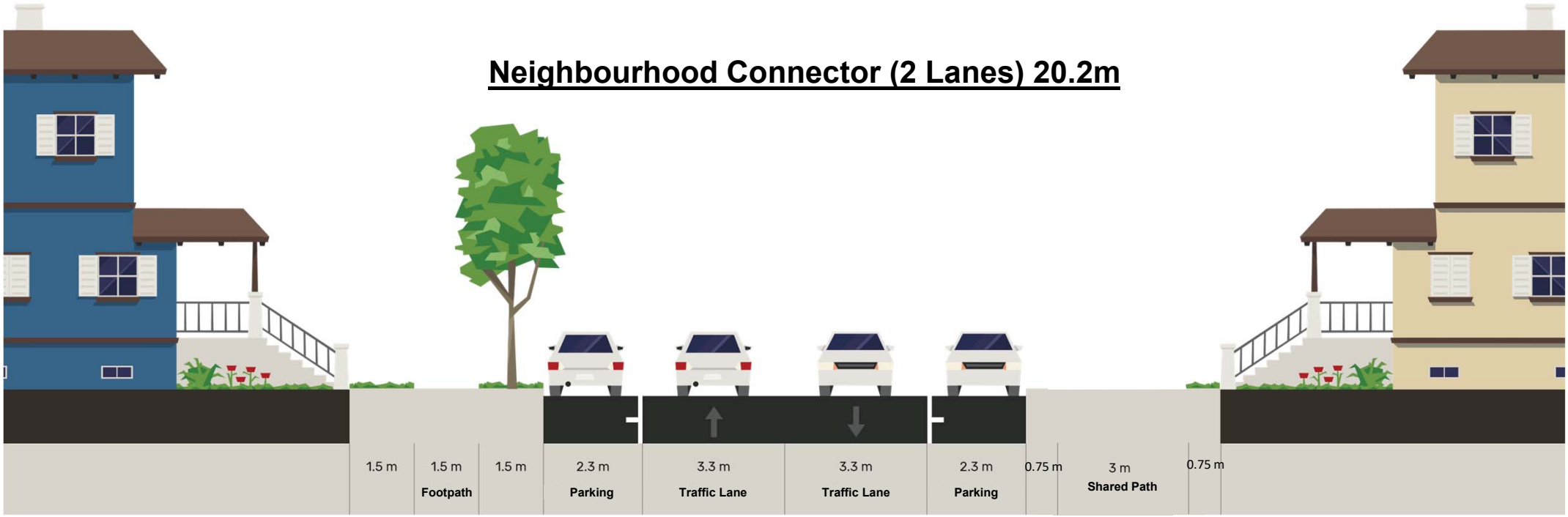
Trunk Collector (4 Lanes) 32m - Ultimate



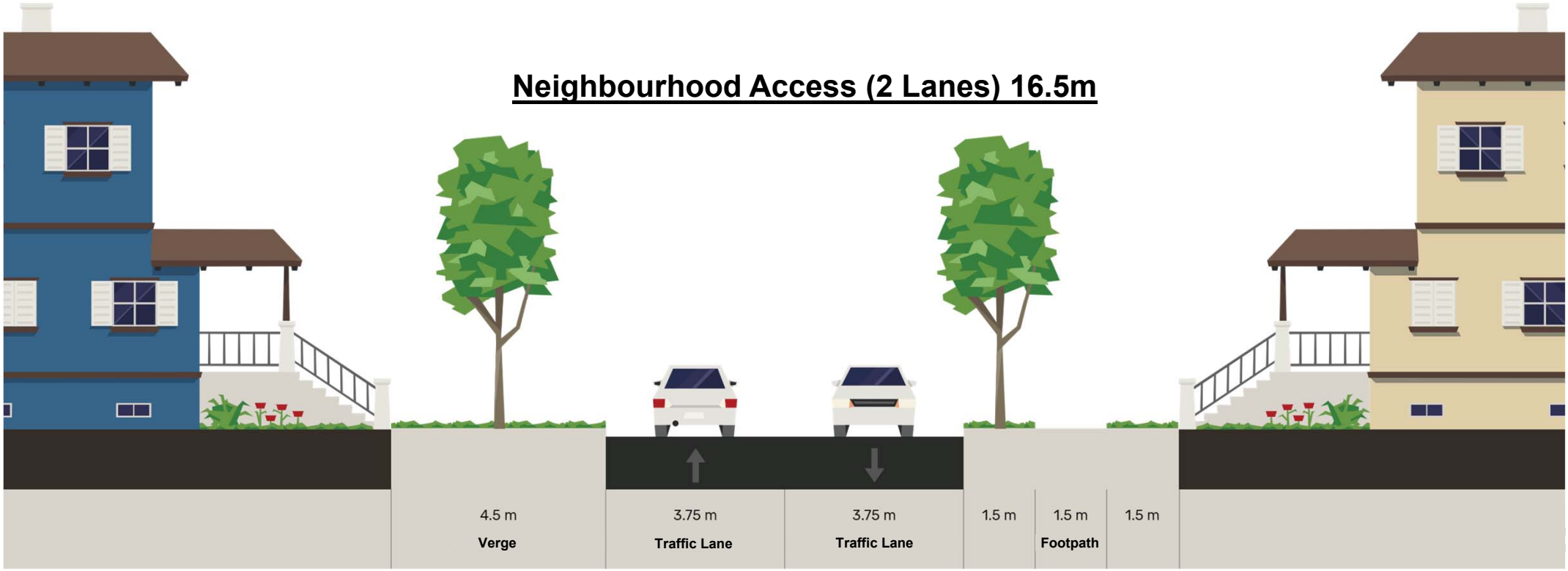
Trunk Connector (2 Lanes) 23.7m – With Parking



Neighbourhood Connector (2 Lanes) 20.2m

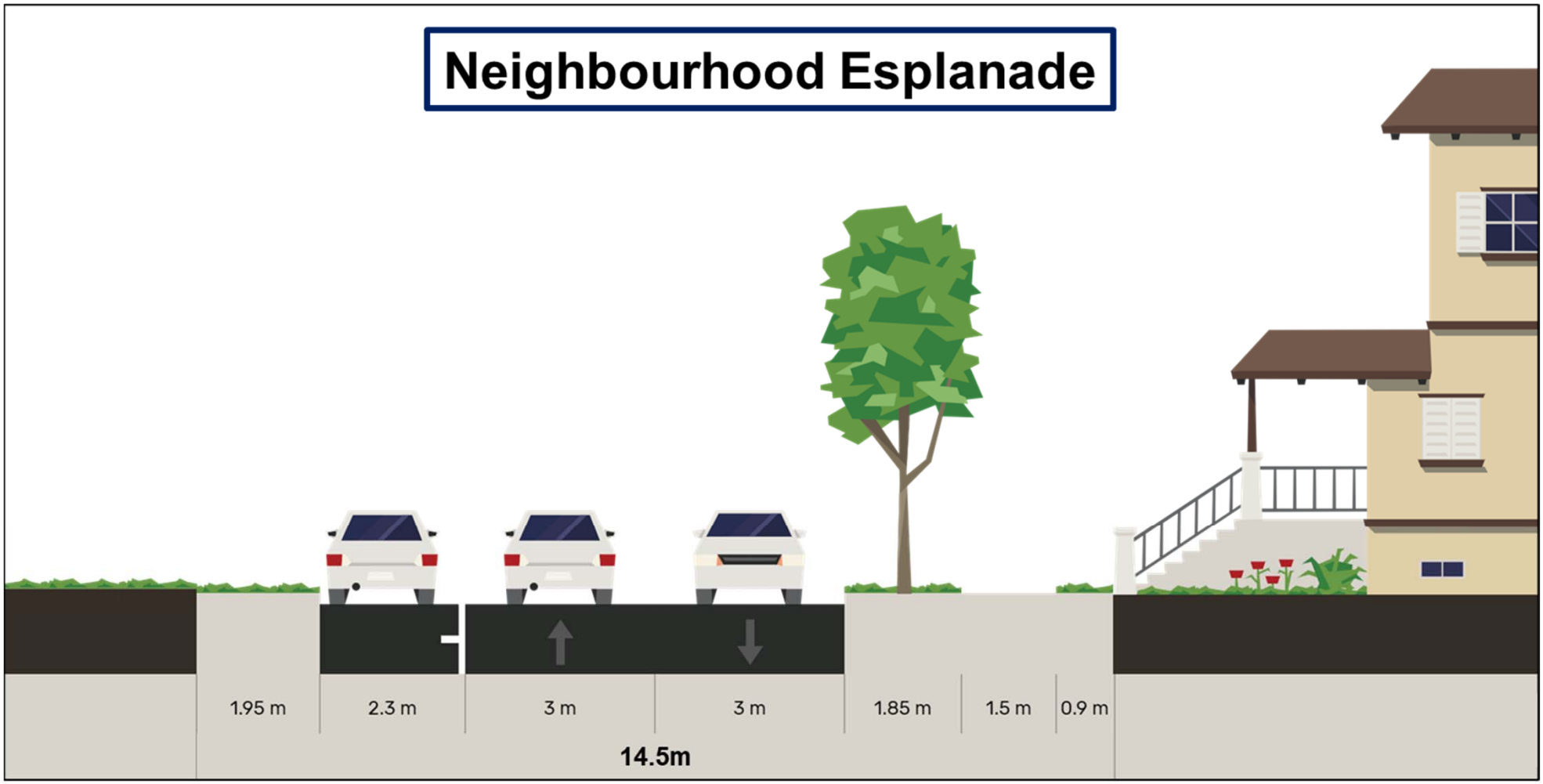


Neighbourhood Access (2 Lanes) 16.5m



Neighbourhood Lane 6.5m

Neighbourhood Esplanade



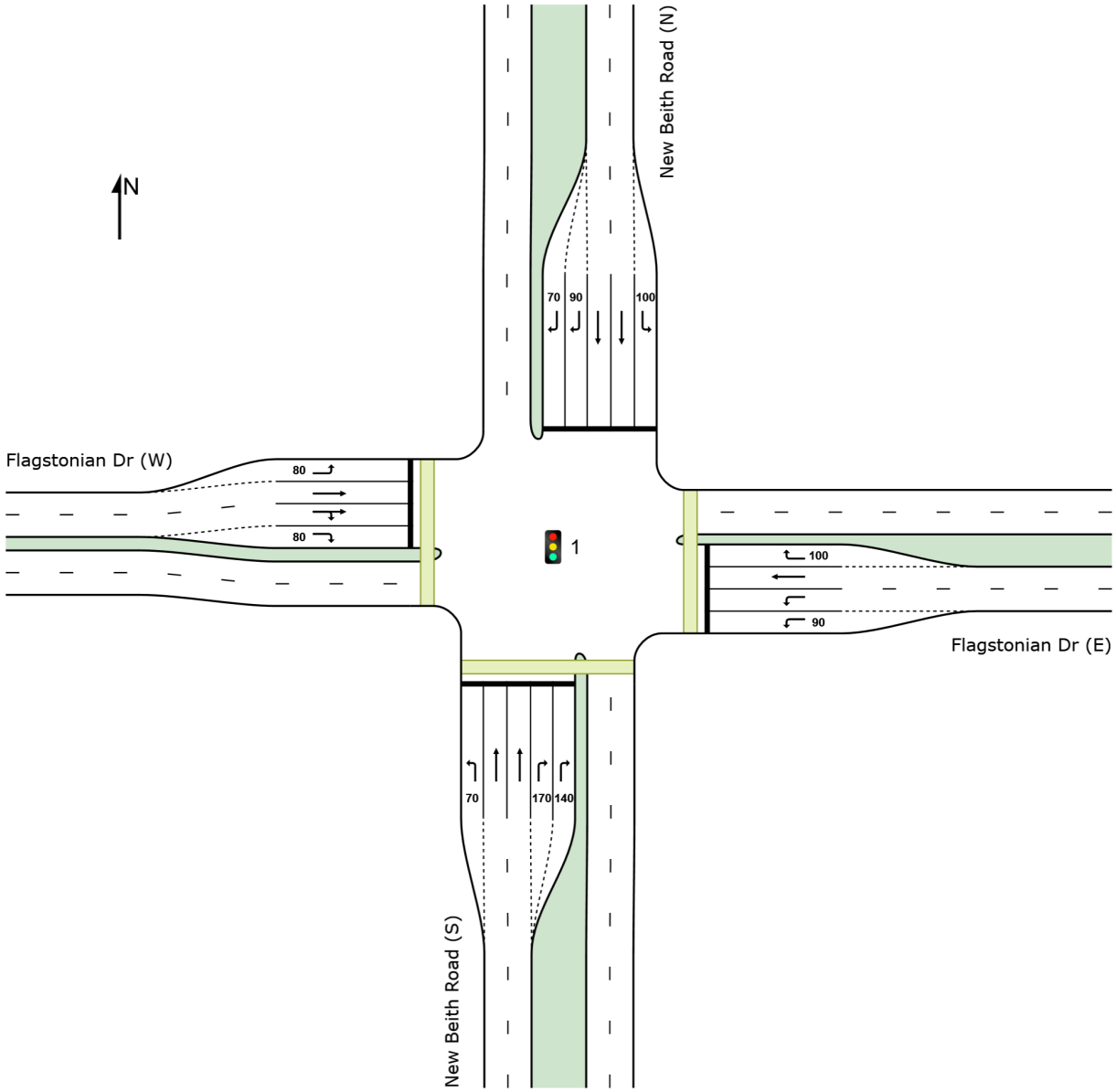
Appendix C: Key Intersection SIDRA Summaries

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.



MOVEMENT SUMMARY

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

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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 [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: New Beith Road (S)															
1	L2	All MCs	127	0.0	127	0.0	0.124	21.5	LOS C	2.4	16.5	0.51	0.70	0.51	46.5
2	T1	All MCs	1291	2.4	1291	2.4	0.778	25.6	LOS C	29.4	209.9	0.81	0.73	0.81	55.4
3	R2	All MCs	748	1.6	748	1.6	*0.873	64.1	LOS E	23.9	169.4	1.00	0.97	1.20	30.1
Approach			2166	2.0	2166	2.0	0.873	38.6	LOS D	29.4	209.9	0.86	0.81	0.93	44.2
East: Flagstonian Dr (E)															
4	L2	All MCs	260	1.9	260	1.9	0.304	47.4	LOS D	6.3	44.9	0.87	0.78	0.87	34.7
5	T1	All MCs	239	0.8	239	0.8	0.616	47.7	LOS D	12.9	91.2	0.97	0.81	0.97	21.6
6	R2	All MCs	277	1.1	277	1.1	*0.752	58.0	LOS E	16.0	112.9	1.00	0.87	1.07	34.0
Approach			776	1.3	776	1.3	0.752	51.3	LOS D	16.0	112.9	0.95	0.82	0.97	31.4
North: New Beith Road (N)															
7	L2	All MCs	371	2.4	371	2.4	0.488	21.6	LOS C	10.4	74.2	0.78	0.81	0.78	48.4
8	T1	All MCs	805	5.5	805	5.5	0.794	47.5	LOS D	23.1	169.2	0.99	0.91	1.06	44.4
9	R2	All MCs	179	1.7	179	1.7	*0.836	75.0	LOS E	5.8	41.4	1.00	0.93	1.33	27.1
Approach			1355	4.1	1355	4.1	0.836	44.0	LOS D	23.1	169.2	0.94	0.88	1.02	42.4
West: Flagstonian Dr (W)															
10	L2	All MCs	268	0.7	268	0.7	0.670	52.5	LOS D	14.6	102.6	0.97	0.84	0.97	31.9
11	T1	All MCs	334	1.5	334	1.5	*0.845	64.5	LOS E	11.3	80.0	1.00	0.97	1.25	17.6
12	R2	All MCs	189	0.0	189	0.0	0.845	70.4	LOS E	11.2	79.6	1.00	0.96	1.26	26.2
Approach			791	0.9	791	0.9	0.845	61.9	LOS E	14.6	102.6	0.99	0.92	1.16	25.2
All Vehicles			5088	2.3	5088	2.3	0.873	45.6	LOS D	29.4	209.9	0.91	0.85	0.99	39.0

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. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: New Beith Road (S)												
P1	Full	50	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	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	50	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
All Pedestrians	150	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.

LANE SUMMARY

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

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Beith Road / Flagstonian Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site Practical Cycle Time)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: New Beith Road (S)															
Lane 1	127	0.0	127	0.0	1021	0.124	100	21.5	LOS C	2.4	16.5	Short	70	0.0	NA
Lane 2	624	2.4	624	2.4	802[1]	0.778	100	29.9	LOS C	27.1	193.5	Full	720	0.0	0.0
Lane 3	667	2.4	667	2.4	857	0.778	100	21.6	LOS C	29.4	209.9	Full	720	0.0	0.0
Lane 4	374	1.6	374	1.6	428	0.873	100	64.1	LOS E	23.9	169.4	Short	170	0.0	NA
Lane 5	374	1.6	374	1.6	428	0.873	100	64.1	LOS E	23.9	169.4	Short	140	0.0	NA
Approach	2166	2.0	2166	2.0		0.873		38.6	LOS D	29.4	209.9				
East: Flagstonian Dr (E)															
Lane 1	130	1.9	130	1.9	427	0.304	100	47.4	LOS D	6.3	44.9	Short	90	0.0	NA
Lane 2	130	1.9	130	1.9	427	0.304	100	47.4	LOS D	6.3	44.9	Full	240	0.0	0.0
Lane 3	239	0.8	239	0.8	388	0.616	100	47.7	LOS D	12.9	91.2	Full	240	0.0	0.0
Lane 4	277	1.1	277	1.1	369	0.752	100	58.0	LOS E	16.0	112.9	Short	100	0.0	NA
Approach	776	1.3	776	1.3		0.752		51.3	LOS D	16.0	112.9				
North: New Beith Road (N)															
Lane 1	371	2.4	371	2.4	761	0.488	100	21.6	LOS C	10.4	74.2	Short	100	0.0	NA
Lane 2	403	5.5	403	5.5	507	0.794	100	47.2	LOS D	23.1	169.2	Full	850	0.0	0.0
Lane 3	402	5.5	402	5.5	506[1]	0.794	100	47.8	LOS D	23.0	168.7	Full	850	0.0	0.0
Lane 4	90	1.7	90	1.7	107	0.836	100	75.3	LOS E	5.8	41.4	Short	90	0.0	NA
Lane 5	90	1.7	90	1.7	107	0.836	100	74.7	LOS E	5.8	41.4	Short	70	0.0	NA
Approach	1355	4.1	1355	4.1		0.836		44.0	LOS D	23.1	169.2				
West: Flagstonian Dr (W)															
Lane 1	268	0.7	268	0.7	400	0.670	100	52.5	LOS D	14.6	102.6	Short	80	0.0	NA
Lane 2	177	1.5	177	1.5	209	0.845	100	64.5	LOS E	11.3	80.0	Full	180	0.0	0.0
Lane 3	176	1.3	176	1.3	208	0.845	100	65.2	LOS E	11.2	79.6	Full	180	0.0	0.0
Lane 4	170	0.0	170	0.0	201	0.845	100	70.4	LOS E	10.9	76.2	Short	80	0.0	NA
Approach	791	0.9	791	0.9		0.845		61.9	LOS E	14.6	102.6				
All Vehicles	5088	2.3	5088	2.3		0.873		45.6	LOS D	29.4	209.9				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
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.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Delay and stops experienced by drivers upstream of short lane entry have been accounted for.

Approach Lane Flows (veh/h)

South: New Beith Road (S)

Mov.	L2	T1	R2	Total	%HV	Deg.	Lane	Prob.	Ov.

From S To Exit:	W	N	E			Cap. veh/h	Satn v/c	Util. %	SL Ov. %	Lane No.
Lane 1	127	-	-	127	0.0	1021	0.124	100	0.0	2
Lane 2	-	624	-	624	2.4	802[1]	0.778	100	NA	NA
Lane 3	-	667	-	667	2.4	857	0.778	100	NA	NA
Lane 4	-	-	374	374	1.6	428	0.873	100	4.7	3
Lane 5	-	-	374	374	1.6	428	0.873	100	22.3	4
Approach	127	1291	748	2166	2.0		0.873			

East: Flagstonian Dr (E)

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	130	-	-	130	1.9	427	0.304	100	0.0	2
Lane 2	130	-	-	130	1.9	427	0.304	100	NA	NA
Lane 3	-	239	-	239	0.8	388	0.616	100	NA	NA
Lane 4	-	-	277	277	1.1	369	0.752	100	16.0	3
Approach	260	239	277	776	1.3		0.752			

North: New Beith Road (N)

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	371	-	-	371	2.4	761	0.488	100	0.0	2
Lane 2	-	403	-	403	5.5	507	0.794	100	NA	NA
Lane 3	-	402	-	402	5.5	506[1]	0.794	100	NA	NA
Lane 4	-	-	90	90	1.7	107	0.836	100	0.0	3
Lane 5	-	-	90	90	1.7	107	0.836	100	0.0	4
Approach	371	805	179	1355	4.1		0.836			

West: Flagstonian Dr (W)

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	268	-	-	268	0.7	400	0.670	100	27.6	2
Lane 2	-	177	-	177	1.5	209	0.845	100	NA	NA
Lane 3	-	157	19	176	1.3	208	0.845	100	NA	NA
Lane 4	-	-	170	170	0.0	201	0.845	100	0.6	3
Approach	268	334	189	791	0.9		0.845			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	5088	2.3	0.873

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

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Delay and stops experienced by drivers upstream of short lane entry have been accounted for.

Merge Analysis

Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec

There are no Exit Short Lanes for Merge Analysis at this Site.

Variable Demand Analysis

Initial Queued Demand	Residual Queued Demand	Time for Residual Demand to Clear	Duration of Oversatn

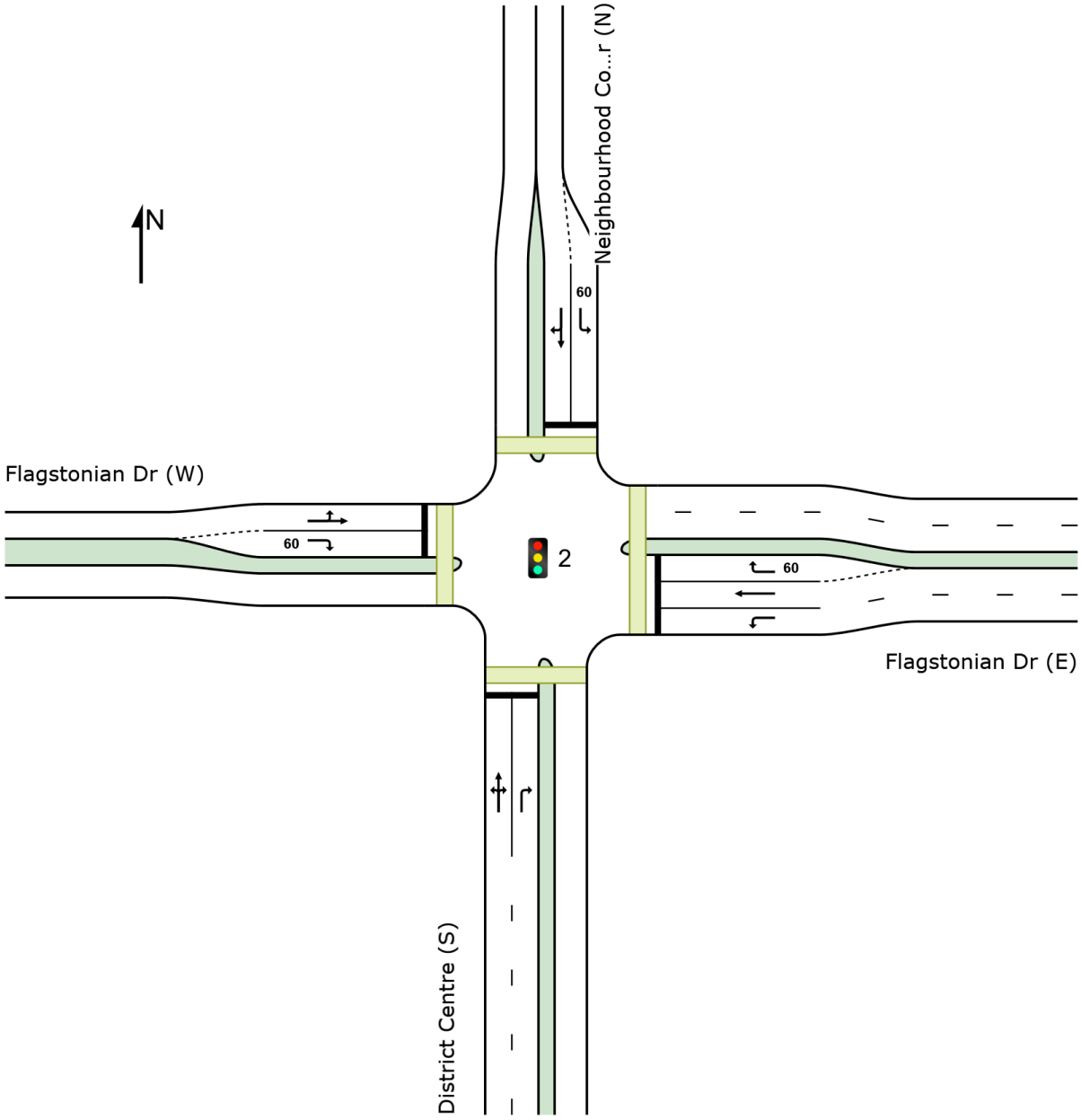
	veh	veh	sec	sec
South: New Beith Road (S)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
Lane 4	0.0	0.0	0.0	0.0
Lane 5	0.0	0.0	0.0	0.0
East: Flagstonian Dr (E)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
Lane 4	0.0	0.0	0.0	0.0
North: New Beith Road (N)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
Lane 4	0.0	0.0	0.0	0.0
Lane 5	0.0	0.0	0.0	0.0
West: Flagstonian Dr (W)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
Lane 4	0.0	0.0	0.0	0.0

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.



MOVEMENT SUMMARY

Site: 2 [2_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 = 80 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: District Centre (S)															
1	L2	All MCs	1	0.0	1	0.0	0.178	41.3	LOS D	1.8	12.9	0.90	0.72	0.90	17.3
2	T1	All MCs	3	0.0	3	0.0	0.178	32.0	LOS C	1.8	12.9	0.90	0.72	0.90	27.2
3	R2	All MCs	100	3.2	100	3.2	0.178	35.3	LOS D	1.8	13.1	0.90	0.72	0.90	18.1
Approach			104	3.0	104	3.0	0.178	35.3	LOS D	1.8	13.1	0.90	0.72	0.90	18.5
East: Flagstonian Dr (E)															
4	L2	All MCs	203	1.0	203	1.0	*0.441	20.7	LOS C	4.4	30.8	0.89	0.79	0.89	25.0
5	T1	All MCs	322	1.0	322	1.0	0.578	26.7	LOS C	10.9	77.2	0.91	0.77	0.91	26.7
6	R2	All MCs	46	0.0	46	0.0	*0.499	49.8	LOS D	2.0	13.7	1.00	0.75	1.03	25.3
Approach			572	0.9	572	0.9	0.578	26.4	LOS C	10.9	77.2	0.91	0.78	0.91	26.0
North: Neighbourhood Connector (N)															
7	L2	All MCs	174	0.0	174	0.0	0.325	29.0	LOS C	5.4	37.8	0.83	0.77	0.83	31.5
8	T1	All MCs	22	0.0	22	0.0	*0.076	30.6	LOS C	0.9	6.3	0.85	0.66	0.85	28.8
9	R2	All MCs	5	0.0	5	0.0	0.076	33.8	LOS C	0.9	6.3	0.85	0.66	0.85	30.3
Approach			201	0.0	201	0.0	0.325	29.3	LOS C	5.4	37.8	0.83	0.76	0.83	31.1
West: Flagstonian Dr (W)															
10	L2	All MCs	15	0.0	15	0.0	0.874	48.1	LOS D	25.3	178.0	1.00	1.05	1.22	28.9
11	T1	All MCs	563	0.7	563	0.7	*0.874	42.6	LOS D	25.3	178.0	1.00	1.05	1.22	22.4
12	R2	All MCs	53	0.0	53	0.0	0.227	47.9	LOS D	1.9	13.5	0.94	0.74	0.94	16.2
Approach			631	0.7	631	0.7	0.874	43.1	LOS D	25.3	178.0	0.99	1.02	1.20	19.7
All Vehicles			1507	0.8	1507	0.8	0.874	34.4	LOS C	25.3	178.0	0.93	0.87	1.02	23.6

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. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: District Centre (S)												
P1	Full	50	50	34.3	LOS D	0.1	0.1	0.93	0.93	188.1	200.0	1.06
East: Flagstonian Dr (E)												
P2	Full	50	50	34.3	LOS D	0.1	0.1	0.93	0.93	188.1	200.0	1.06

North: Neighbourhood Connector (N)												
P3	Full	50	50	34.3	LOS D	0.1	0.1	0.93	0.93	188.1	200.0	1.06
West: Flagstonian Dr (W)												
P4	Full	50	50	34.3	LOS D	0.1	0.1	0.93	0.93	188.1	200.0	1.06
All Pedestrians		200	200	34.3	LOS D	0.1	0.1	0.93	0.93	188.1	200.0	1.06

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.

LANE SUMMARY

Site: 2 [2_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 = 80 seconds (Site Practical Cycle Time)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: District Centre (S)															
Lane 1	52	2.9	52	2.9	291	0.178	100	35.2	LOS D	1.8	12.9	Full	100	0.0	0.0
Lane 2	52	3.2	52	3.2	295	0.178	100	35.3	LOS D	1.8	13.1	Full	100	0.0	0.0
Approach	104	3.0	104	3.0		0.178		35.3	LOS D	1.8	13.1				
East: Flagstonian Dr (E)															
Lane 1	203	1.0	203	1.0	461	0.441	100	20.7	LOS C	4.4	30.8	Full	180	0.0	0.0
Lane 2	322	1.0	322	1.0	557	0.578	100	26.7	LOS C	10.9	77.2	Full	180	0.0	0.0
Lane 3	46	0.0	46	0.0	93	0.499	100	49.8	LOS D	2.0	13.7	Short	60	0.0	NA
Approach	572	0.9	572	0.9		0.578		26.4	LOS C	10.9	77.2				
North: Neighbourhood Connector (N)															
Lane 1	174	0.0	174	0.0	534	0.325	100	29.0	LOS C	5.4	37.8	Short	60	0.0	NA
Lane 2	27	0.0	27	0.0	362	0.076	100	31.2	LOS C	0.9	6.3	Full	500	0.0	0.0
Approach	201	0.0	201	0.0		0.325		29.3	LOS C	5.4	37.8				
West: Flagstonian Dr (W)															
Lane 1	578	0.7	578	0.7	661[1]	0.874	100	42.7	LOS D	25.3	178.0	Full	160	0.0	14.7
Lane 2	53	0.0	53	0.0	232	0.227	100	47.9	LOS D	1.9	13.5	Short	60	0.0	NA
Approach	631	0.7	631	0.7		0.874		43.1	LOS D	25.3	178.0				
All Vehicles	1507	0.8	1507	0.8		0.874		34.4	LOS C	25.3	178.0				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
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.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Delay and stops experienced by drivers upstream of short lane entry have been accounted for.

Approach Lane Flows (veh/h)

South: District Centre (S)

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	3	48	52	2.9	291	0.178	100	NA	NA
Lane 2	-	-	52	52	3.2	295	0.178	100	NA	NA
Approach	1	3	100	104	3.0		0.178			

East: Flagstonian Dr (E)

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.

Lane 1	203	-	-	203	1.0	461	0.441	100	NA	NA
Lane 2	-	322	-	322	1.0	557	0.578	100	NA	NA
Lane 3	-	-	46	46	0.0	93	0.499	100	0.0	2
Approach	203	322	46	572	0.9		0.578			
North: Neighbourhood Connector (N)										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	174	-	-	174	0.0	534	0.325	100	0.0	2
Lane 2	-	22	5	27	0.0	362	0.076	100	NA	NA
Approach	174	22	5	201	0.0		0.325			
West: Flagstonian Dr (W)										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	15	563	-	578	0.7	661[1]	0.874	100	NA	NA
Lane 2	-	-	53	53	0.0	232	0.227	100	0.0	1
Approach	15	563	53	631	0.7		0.874			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	1507	0.8	0.874

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

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Delay and stops experienced by drivers upstream of short lane entry have been accounted for.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.											

Variable Demand Analysis

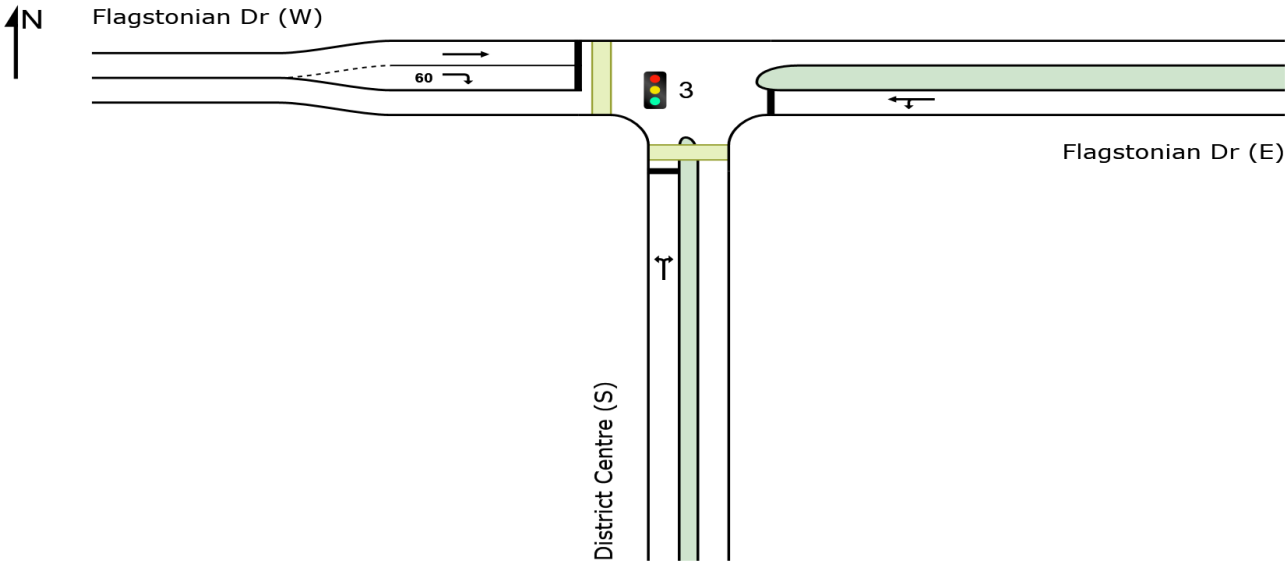
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: District Centre (S)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
East: Flagstonian Dr (E)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
North: Neighbourhood Connector (N)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Flagstonian Dr (W)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

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.



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 [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: District Centre (S)															
1	L2	All MCs	19	0.0	19	0.0	0.326	17.5	LOS B	1.2	8.6	0.92	0.74	0.92	34.5
3	R2	All MCs	64	3.3	64	3.3	0.326	16.5	LOS B	1.2	8.6	0.92	0.74	0.92	25.0
Approach			83	2.5	83	2.5	0.326	16.7	LOS B	1.2	8.6	0.92	0.74	0.92	27.7
East: Flagstonian Dr (E)															
4	L2	All MCs	63	1.7	63	1.7	* 0.759	23.3	LOS C	5.4	38.1	0.97	0.95	1.30	27.4
5	T1	All MCs	264	0.8	264	0.8	0.759	13.5	LOS B	5.4	38.1	0.97	0.95	1.30	41.4
Approach			327	1.0	327	1.0	0.759	15.4	LOS B	5.4	38.1	0.97	0.95	1.30	39.4
West: Flagstonian Dr (W)															
11	T1	All MCs	575	0.4	575	0.4	0.554	5.2	LOS A	5.8	40.7	0.71	0.62	0.71	52.1
12	R2	All MCs	23	0.0	23	0.0	* 0.187	22.1	LOS C	0.4	2.6	0.97	0.69	0.97	32.3
Approach			598	0.4	598	0.4	0.554	5.8	LOS A	5.8	40.7	0.72	0.62	0.72	51.0
All Vehicles			1008	0.7	1008	0.7	0.759	9.8	LOS A	5.8	40.7	0.82	0.74	0.92	44.9

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. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
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.

LANE 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)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: District Centre (S)															
Lane 1	83	2.5	83	2.5	255	0.326	100	16.7	LOS B	1.2	8.6	Full	100	0.0	0.0
Approach	83	2.5	83	2.5		0.326		16.7	LOS B	1.2	8.6				
East: Flagstonian Dr (E)															
Lane 1	327	1.0	327	1.0	431	0.759	100	15.4	LOS B	5.4	38.1	Full	160	0.0	0.0
Approach	327	1.0	327	1.0		0.759		15.4	LOS B	5.4	38.1				
West: Flagstonian Dr (W)															
Lane 1	575	0.4	575	0.4	1038	0.554	100	5.2	LOS A	5.8	40.7	Full	400	0.0	0.0
Lane 2	23	0.0	23	0.0	124	0.187	100	22.1	LOS C	0.4	2.6	Short	60	0.0	NA
Approach	598	0.4	598	0.4		0.554		5.8	LOS A	5.8	40.7				
All Vehicles	1008	0.7	1008	0.7		0.759		9.8	LOS A	5.8	40.7				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
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.

Approach Lane Flows (veh/h)

South: District Centre (S)

Mov. From S To Exit:	L2 W	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	19	64	83	2.5	255	0.326	100	NA	NA
Approach	19	64	83	2.5		0.326			

East: Flagstonian Dr (E)

Mov. From E To Exit:	L2 S	T1 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	63	264	327	1.0	431	0.759	100	NA	NA
Approach	63	264	327	1.0		0.759			

West: Flagstonian Dr (W)

Mov. From W To Exit:	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	575	-	575	0.4	1038	0.554	100	NA	NA
Lane 2	-	23	23	0.0	124	0.187	100	0.0	1
Approach	575	23	598	0.4		0.554			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	1008	0.7	0.759

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

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.											

Variable Demand Analysis

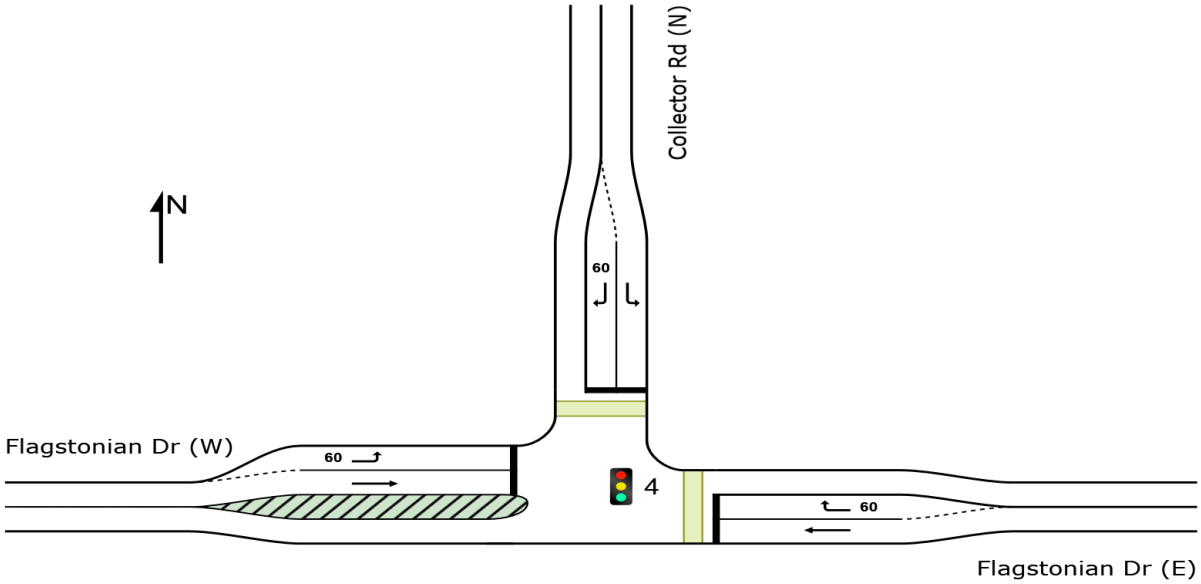
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: District Centre (S)				
Lane 1	0.0	0.0	0.0	0.0
East: Flagstonian Dr (E)				
Lane 1	0.0	0.0	0.0	0.0
West: Flagstonian Dr (W)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

SITE LAYOUT

Site: 4 [4_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:\P2300 Flagstone City Stages 2-5\Technical\Models\SIDRA\2024_02_16 CA3 Masterplan SIDRAs\P2300.001M 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 [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Flagstonian Dr (E)															
5	T1	All MCs	173	1.2	173	1.2	0.178	4.6	LOS A	1.4	10.1	0.58	0.47	0.58	55.4
6	R2	All MCs	26	0.0	26	0.0	* 0.425	24.9	LOS C	0.5	3.4	1.00	0.71	1.10	37.5
Approach			199	1.1	199	1.1	0.425	7.3	LOS A	1.4	10.1	0.63	0.50	0.65	52.1
North: Collector Rd (N)															
7	L2	All MCs	114	0.0	114	0.0	0.459	19.1	LOS B	1.7	12.1	0.96	0.76	0.96	39.8
9	R2	All MCs	34	0.0	34	0.0	* 0.091	15.8	LOS B	0.4	3.0	0.84	0.69	0.84	42.7
Approach			147	0.0	147	0.0	0.459	18.3	LOS B	1.7	12.1	0.94	0.75	0.94	40.5
West: Flagstonian Dr (W)															
10	L2	All MCs	23	4.5	23	4.5	0.020	7.8	LOS A	0.1	0.9	0.39	0.63	0.39	47.7
11	T1	All MCs	463	0.5	463	0.5	* 0.550	7.1	LOS A	5.3	37.2	0.79	0.68	0.79	53.1
Approach			486	0.6	486	0.6	0.550	7.2	LOS A	5.3	37.2	0.77	0.68	0.77	52.8
All Vehicles			833	0.6	833	0.6	0.550	9.2	LOS A	5.3	37.2	0.77	0.65	0.77	49.9

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. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
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.

LANE 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)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
East: Flagstonian Dr (E)															
Lane 1	173	1.2	173	1.2	967	0.178	100	4.6	LOS A	1.4	10.1	Full	400	0.0	0.0
Lane 2	26	0.0	26	0.0	62	0.425	100	24.9	LOS C	0.5	3.4	Short	60	0.0	NA
Approach	199	1.1	199	1.1		0.425		7.3	LOS A	1.4	10.1				
North: Collector Rd (N)															
Lane 1	114	0.0	114	0.0	248	0.459	100	19.1	LOS B	1.7	12.1	Full	500	0.0	0.0
Lane 2	34	0.0	34	0.0	371	0.091	100	15.8	LOS B	0.4	3.0	Short	60	0.0	NA
Approach	147	0.0	147	0.0		0.459		18.3	LOS B	1.7	12.1				
West: Flagstonian Dr (W)															
Lane 1	23	4.5	23	4.5	1139	0.020	100	7.8	LOS A	0.1	0.9	Short	60	0.0	NA
Lane 2	463	0.5	463	0.5	843	0.550	100	7.1	LOS A	5.3	37.2	Full	500	0.0	0.0
Approach	486	0.6	486	0.6		0.550		7.2	LOS A	5.3	37.2				
All Vehicles	833	0.6	833	0.6		0.550		9.2	LOS A	5.3	37.2				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
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.

Approach Lane Flows (veh/h)

East: Flagstonian Dr (E)

Mov. From E To Exit:	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	173	-	173	1.2	967	0.178	100	NA	NA
Lane 2	-	26	26	0.0	62	0.425	100	0.0	1
Approach	173	26	199	1.1		0.425			

North: Collector Rd (N)

Mov. From N To Exit:	L2 E	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	114	-	114	0.0	248	0.459	100	NA	NA
Lane 2	-	34	34	0.0	371	0.091	100	0.0	1
Approach	114	34	147	0.0		0.459			

West: Flagstonian Dr (W)

Mov. From W To Exit:	L2 N	T1 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.

Lane 1	23	-	23	4.5	1139	0.020	100	0.0	2
Lane 2	-	463	463	0.5	843	0.550	100	NA	NA
Approach	23	463	486	0.6		0.550			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	833	0.6	0.550

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

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.											

Variable Demand Analysis

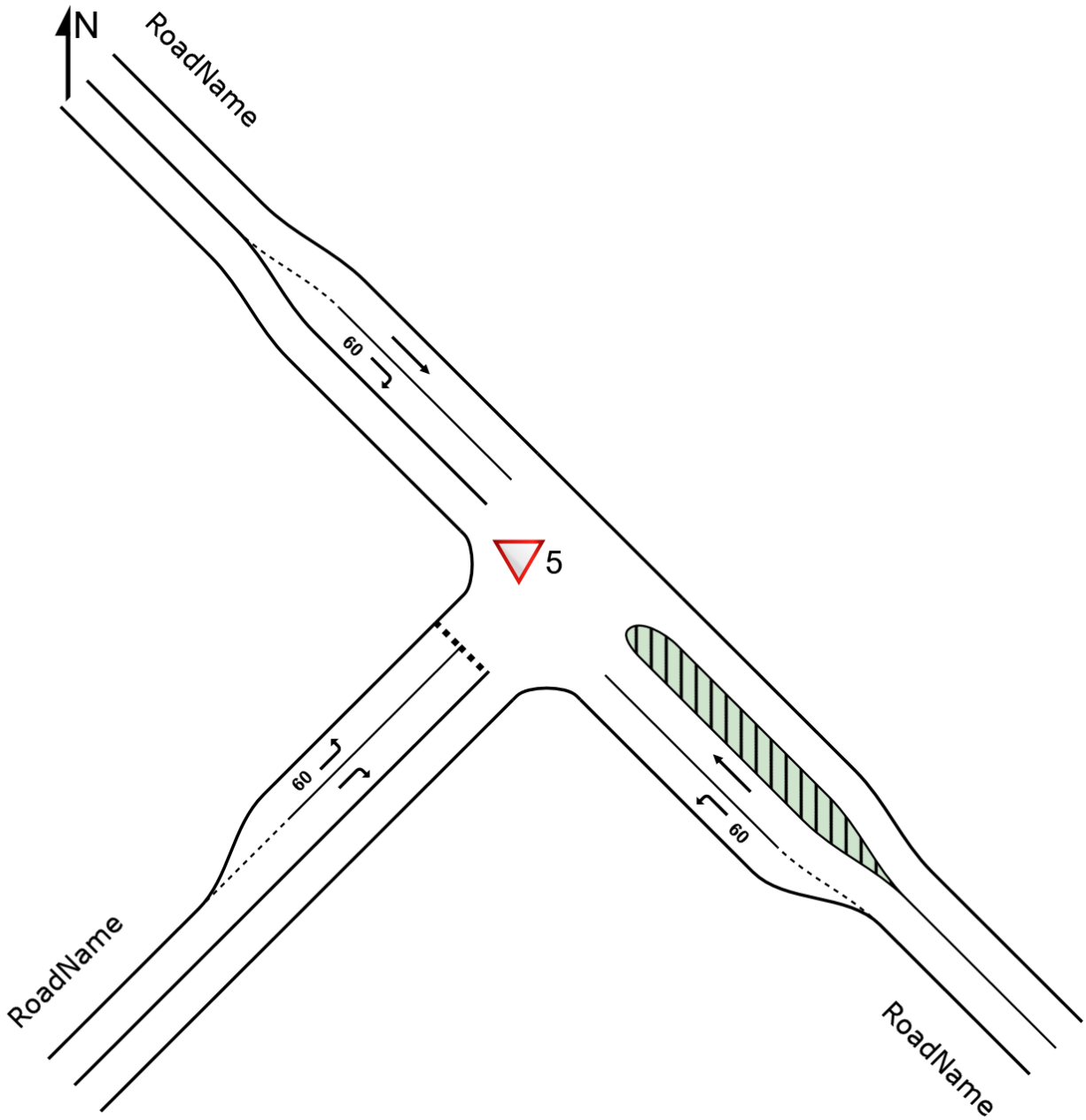
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
East: Flagstonian Dr (E)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: Collector Rd (N)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Flagstonian Dr (W)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

SITE LAYOUT

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

CA3 Collector / Ulladulla N Connection
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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Project: P:\P2300 Flagstone City Stages 2-5\Technical\Models\SIDRA\2024_02_16 CA3 Masterplan SIDRAs\P2300.001M 2066 CA3 South Masterplan SIDRA Models.sip9

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 [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: RoadName															
4	L2	All MCs	119	0.8	119	0.8	0.064	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	52.8
5	T1	All MCs	52	0.0	52	0.0	0.026	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			171	0.6	171	0.6	0.064	3.9	NA	0.0	0.0	0.00	0.40	0.00	54.8
NorthWest: RoadName															
11	T1	All MCs	54	0.0	54	0.0	0.027	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
12	R2	All MCs	68	0.0	68	0.0	0.056	6.2	LOS A	0.2	1.6	0.28	0.57	0.28	52.0
Approach			122	0.0	122	0.0	0.056	3.4	NA	0.2	1.6	0.15	0.32	0.15	55.3
SouthWest: RoadName															
1	L2	All MCs	174	1.7	174	1.7	0.138	5.8	LOS A	0.5	3.9	0.14	0.55	0.14	52.4
3	R2	All MCs	395	0.8	395	0.8	0.483	8.9	LOS A	3.6	25.3	0.53	0.71	0.65	50.5
Approach			569	1.1	569	1.1	0.483	8.0	LOS A	3.6	25.3	0.41	0.66	0.50	51.0
All Vehicles			862	0.8	862	0.8	0.483	6.5	NA	3.6	25.3	0.29	0.56	0.35	52.3

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.

LANE 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)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
SouthEast: RoadName															
Lane 1	119	0.8	119	0.8	1846	0.064	100	5.6	LOS A	0.0	0.0	Short	60	0.0	NA
Lane 2	52	0.0	52	0.0	1970	0.026	100	0.0	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	171	0.6	171	0.6		0.064		3.9	NA	0.0	0.0				
NorthWest: RoadName															
Lane 1	54	0.0	54	0.0	1970	0.027	100	0.0	LOS A	0.0	0.0	Full	500	0.0	0.0
Lane 2	68	0.0	68	0.0	1224	0.056	100	6.2	LOS A	0.2	1.6	Short	60	0.0	NA
Approach	122	0.0	122	0.0		0.056		3.4	NA	0.2	1.6				
SouthWest: RoadName															
Lane 1	174	1.7	174	1.7	1261	0.138	100	5.8	LOS A	0.5	3.9	Short	60	0.0	NA
Lane 2	395	0.8	395	0.8	817	0.483	100	8.9	LOS A	3.6	25.3	Full	500	0.0	0.0
Approach	569	1.1	569	1.1		0.483		8.0	LOS A	3.6	25.3				
All Vehicles	862	0.8	862	0.8		0.483		6.5	NA	3.6	25.3				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
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.

Approach Lane Flows (veh/h)

SouthEast: RoadName

Mov. From SE To Exit:	L2 SW	T1 NW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	119	-	119	0.8	1846	0.064	100	0.0	2
Lane 2	-	52	52	0.0	1970	0.026	100	NA	NA
Approach	119	52	171	0.6		0.064			

NorthWest: RoadName

Mov. From NW To Exit:	T1 SE	R2 SW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	54	-	54	0.0	1970	0.027	100	NA	NA
Lane 2	-	68	68	0.0	1224	0.056	100	0.0	1
Approach	54	68	122	0.0		0.056			

SouthWest: RoadName

Mov. From SW To Exit:	L2 NW	R2 SE	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	174	-	174	1.7	1261	0.138	100	0.0	2
Lane 2	-	395	395	0.8	817	0.483	100	NA	NA
Approach	174	395	569	1.1		0.483			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	862	0.8	0.483

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

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.											

Variable Demand Analysis

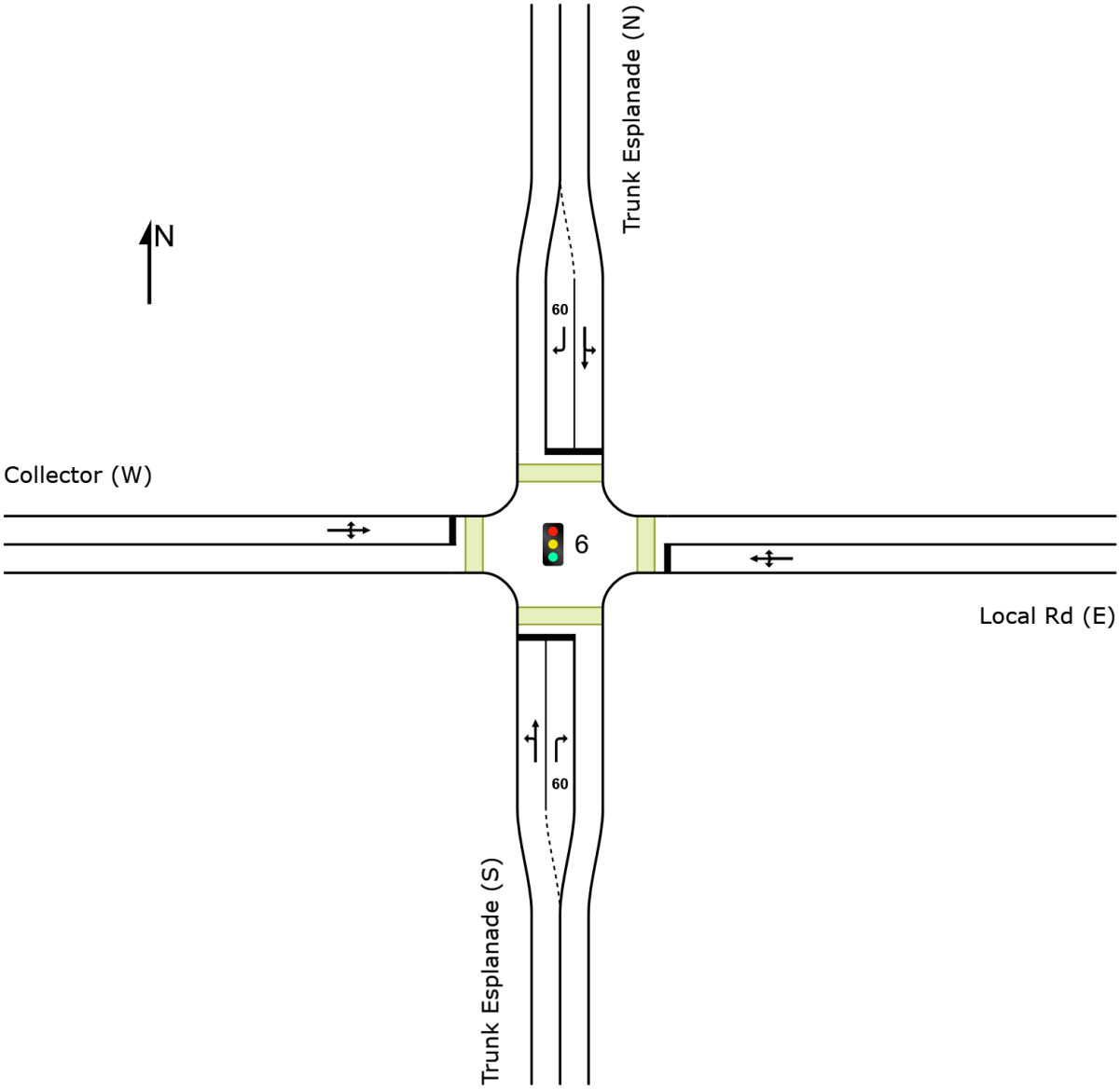
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
SouthEast: RoadName				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
NorthWest: RoadName				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
SouthWest: RoadName				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

SITE LAYOUT

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

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

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



MOVEMENT SUMMARY

Site: 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 [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Trunk Esplanade (S)															
1	L2	All MCs	29	0.0	29	0.0	*0.319	27.7	LOS C	3.2	23.0	0.73	0.62	0.73	46.4
2	T1	All MCs	204	1.5	204	1.5	0.319	7.3	LOS A	3.2	23.0	0.73	0.62	0.73	51.6
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			236	1.3	236	1.3	0.319	10.1	LOS B	3.2	23.0	0.73	0.62	0.73	50.7
East: Local Rd (E)															
4	L2	All MCs	1	0.0	1	0.0	*0.024	24.8	LOS C	0.1	0.4	0.95	0.61	0.95	39.3
5	T1	All MCs	1	0.0	1	0.0	0.024	20.2	LOS C	0.1	0.4	0.95	0.61	0.95	37.9
6	R2	All MCs	1	0.0	1	0.0	0.024	24.8	LOS C	0.1	0.4	0.95	0.61	0.95	39.2
Approach			3	0.0	3	0.0	0.024	23.2	LOS C	0.1	0.4	0.95	0.61	0.95	38.8
North: Trunk Esplanade (N)															
7	L2	All MCs	11	20.0	11	20.0	0.137	14.5	LOS B	1.3	9.6	0.54	0.46	0.54	48.7
8	T1	All MCs	122	0.0	122	0.0	0.137	5.0	LOS A	1.3	9.6	0.54	0.46	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			135	1.6	135	1.6	0.137	6.2	LOS A	1.3	9.6	0.55	0.46	0.55	53.9
West: Collector (W)															
10	L2	All MCs	7	0.0	7	0.0	*0.097	25.7	LOS C	0.3	2.3	0.94	0.68	0.94	39.1
11	T1	All MCs	1	0.0	1	0.0	0.097	17.9	LOS B	0.3	2.3	0.94	0.68	0.94	37.8
12	R2	All MCs	8	0.0	8	0.0	0.097	22.4	LOS C	0.3	2.3	0.94	0.68	0.94	39.1
Approach			17	0.0	17	0.0	0.097	23.6	LOS C	0.3	2.3	0.94	0.68	0.94	39.0
All Vehicles			391	1.3	391	1.3	0.319	9.4	LOS A	3.2	23.0	0.68	0.57	0.68	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. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
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

North: Trunk Esplanade (N)											
P3	Full	20	20	14.5	LOS B	0.0	0.0	0.85	0.85	168.3	200.0	1.19
West: Collector (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		110	110	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.

LANE 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)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Trunk Esplanade (S)															
Lane 1	234	1.4	234	1.4	733	0.319	100	9.9	LOS A	3.2	23.0	Full	500	0.0	0.0
Lane 2	2	0.0	2	0.0	46	0.045	100	29.9	LOS C	0.0	0.3	Short	60	0.0	NA
Approach	236	1.3	236	1.3		0.319		10.1	LOS B	3.2	23.0				
East: Local Rd (E)															
Lane 1	3	0.0	3	0.0	129	0.024	100	23.2	LOS C	0.1	0.4	Full	500	0.0	0.0
Approach	3	0.0	3	0.0		0.024		23.2	LOS C	0.1	0.4				
North: Trunk Esplanade (N)															
Lane 1	133	1.6	133	1.6	966	0.137	100	5.8	LOS A	1.3	9.6	Full	500	0.0	0.0
Lane 2	2	0.0	2	0.0	46	0.045	100	29.9	LOS C	0.0	0.3	Short	60	0.0	NA
Approach	135	1.6	135	1.6		0.137		6.2	LOS A	1.3	9.6				
West: Collector (W)															
Lane 1	17	0.0	17	0.0	174	0.097	100	23.6	LOS C	0.3	2.3	Full	500	0.0	0.0
Approach	17	0.0	17	0.0		0.097		23.6	LOS C	0.3	2.3				
All Vehicles	391	1.3	391	1.3		0.319		9.4	LOS A	3.2	23.0				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
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.

Approach Lane Flows (veh/h)

South: Trunk Esplanade (S)

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	29	204	-	234	1.4	733	0.319	100	NA	NA
Lane 2	-	-	2	2	0.0	46	0.045	100	0.0	1
Approach	29	204	2	236	1.3		0.319			

East: Local Rd (E)

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	1	1	3	0.0	129	0.024	100	NA	NA
Approach	1	1	1	3	0.0		0.024			

North: Trunk Esplanade (N)

Mov.	L2	T1	R2	Total	%HV	Deg.	Lane	Prob.	Ov.

From N To Exit:	E	S	W			Cap. veh/h	Satn v/c	Util. %	SL Ov. %	Lane No.
Lane 1	11	122	-	133	1.6	966	0.137	100	NA	NA
Lane 2	-	-	2	2	0.0	46	0.045	100	0.0	1
Approach	11	122	2	135	1.6		0.137			
West: Collector (W)										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	7	1	8	17	0.0	174	0.097	100	NA	NA
Approach	7	1	8	17	0.0		0.097			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	391	1.3	0.319

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

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.											

Variable Demand Analysis

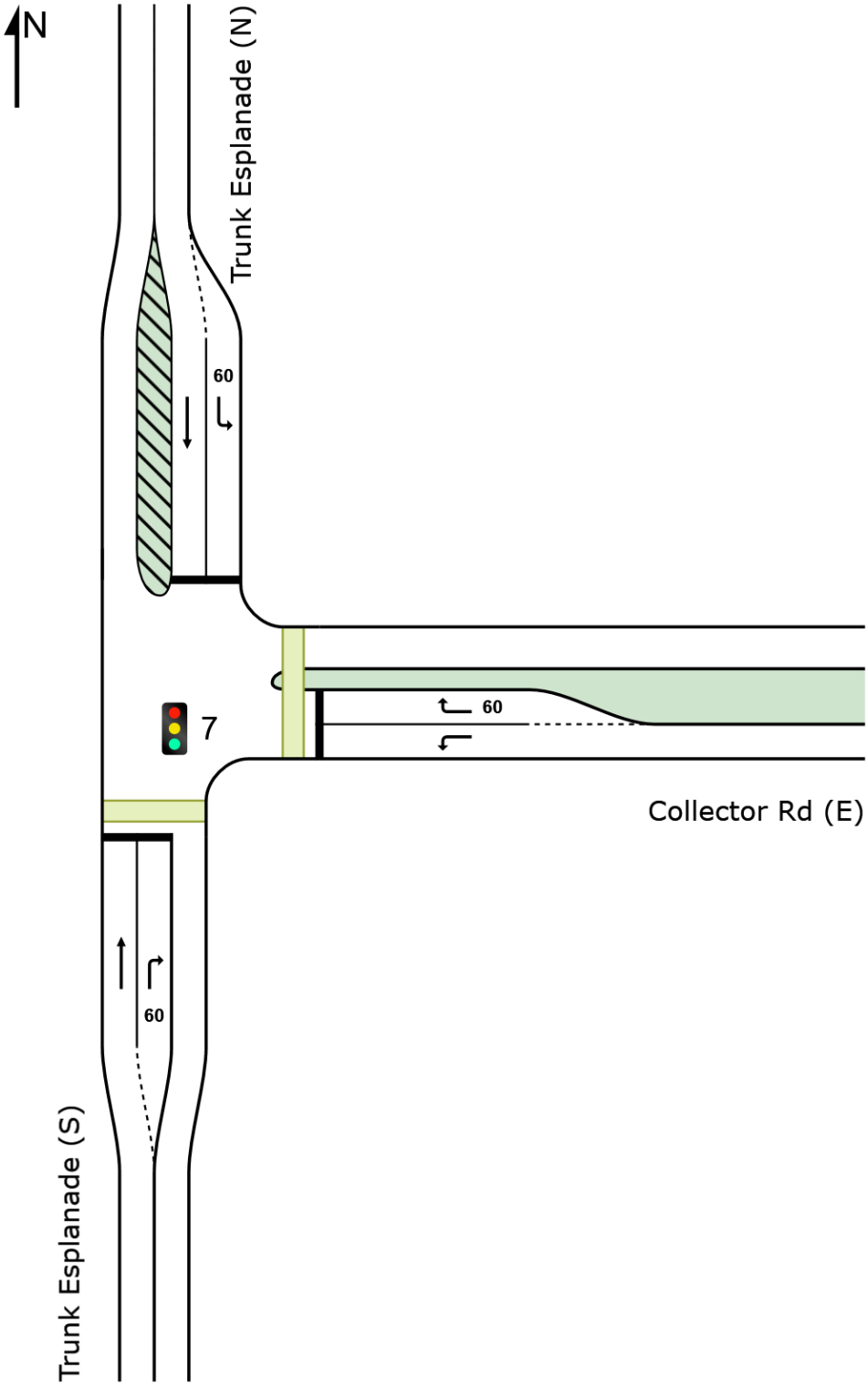
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Trunk Esplanade (S)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
East: Local Rd (E)				
Lane 1	0.0	0.0	0.0	0.0
North: Trunk Esplanade (N)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Collector (W)				
Lane 1	0.0	0.0	0.0	0.0

SITE LAYOUT

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

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

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



MOVEMENT SUMMARY

Site: 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 = 25 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Trunk Esplanade (S)															
2	T1	All MCs	123	1.7	123	1.7	0.100	1.9	LOS A	0.6	4.2	0.40	0.32	0.40	58.2
3	R2	All MCs	89	1.2	89	1.2	* 0.152	12.5	LOS B	0.8	5.9	0.75	0.72	0.75	45.0
Approach			213	1.5	213	1.5	0.152	6.4	LOS A	0.8	5.9	0.55	0.49	0.55	51.8
East: Collector Rd (E)															
4	L2	All MCs	78	0.0	78	0.0	0.131	11.5	LOS B	0.7	5.0	0.74	0.70	0.74	45.0
6	R2	All MCs	17	6.3	17	6.3	* 0.059	15.1	LOS B	0.2	1.4	0.87	0.67	0.87	43.0
Approach			95	1.1	95	1.1	0.131	12.1	LOS B	0.7	5.0	0.76	0.70	0.76	44.6
North: Trunk Esplanade (N)															
7	L2	All MCs	29	0.0	29	0.0	0.057	13.0	LOS B	0.3	1.9	0.76	0.69	0.76	44.7
8	T1	All MCs	57	3.7	57	3.7	* 0.124	8.6	LOS A	0.6	4.2	0.81	0.61	0.81	52.6
Approach			86	2.4	86	2.4	0.124	10.1	LOS B	0.6	4.2	0.79	0.63	0.79	49.6
All Vehicles			394	1.6	394	1.6	0.152	8.6	LOS A	0.8	5.9	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. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Trunk Esplanade (S)												
P1	Full	50	50	7.2	LOS A	0.0	0.0	0.76	0.76	161.1	200.0	1.24
East: Collector Rd (E)												
P2	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.

LANE 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 = 25 seconds (Site Practical Cycle Time)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Trunk Esplanade (S)															
Lane 1	123	1.7	123	1.7	1234	0.100	100	1.9	LOS A	0.6	4.2	Full	500	0.0	0.0
Lane 2	89	1.2	89	1.2	589	0.152	100	12.5	LOS B	0.8	5.9	Short	60	0.0	NA
Approach	213	1.5	213	1.5		0.152		6.4	LOS A	0.8	5.9				
East: Collector Rd (E)															
Lane 1	78	0.0	78	0.0	594	0.131	100	11.5	LOS B	0.7	5.0	Full	500	0.0	0.0
Lane 2	17	6.3	17	6.3	284	0.059	100	15.1	LOS B	0.2	1.4	Short	60	0.0	NA
Approach	95	1.1	95	1.1		0.131		12.1	LOS B	0.7	5.0				
North: Trunk Esplanade (N)															
Lane 1	29	0.0	29	0.0	520	0.057	100	13.0	LOS B	0.3	1.9	Short	60	0.0	NA
Lane 2	57	3.7	57	3.7	457	0.124	100	8.6	LOS A	0.6	4.2	Full	500	0.0	0.0
Approach	86	2.4	86	2.4		0.124		10.1	LOS B	0.6	4.2				
All Vehicles	394	1.6	394	1.6		0.152		8.6	LOS A	0.8	5.9				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
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.

Approach Lane Flows (veh/h)

South: Trunk Esplanade (S)

Mov. From S To Exit:	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	123	-	123	1.7	1234	0.100	100	NA	NA
Lane 2	-	89	89	1.2	589	0.152	100	0.0	1
Approach	123	89	213	1.5		0.152			

East: Collector Rd (E)

Mov. From E To Exit:	L2 S	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	78	-	78	0.0	594	0.131	100	NA	NA
Lane 2	-	17	17	6.3	284	0.059	100	0.0	1
Approach	78	17	95	1.1		0.131			

North: Trunk Esplanade (N)

Mov. From N To Exit:	L2 E	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.

Lane 1	29	-	29	0.0	520	0.057	100	0.0	2
Lane 2	-	57	57	3.7	457	0.124	100	NA	NA
Approach	29	57	86	2.4		0.124			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	394	1.6	0.152

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

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec

There are no Exit Short Lanes for Merge Analysis at this Site.

Variable Demand Analysis

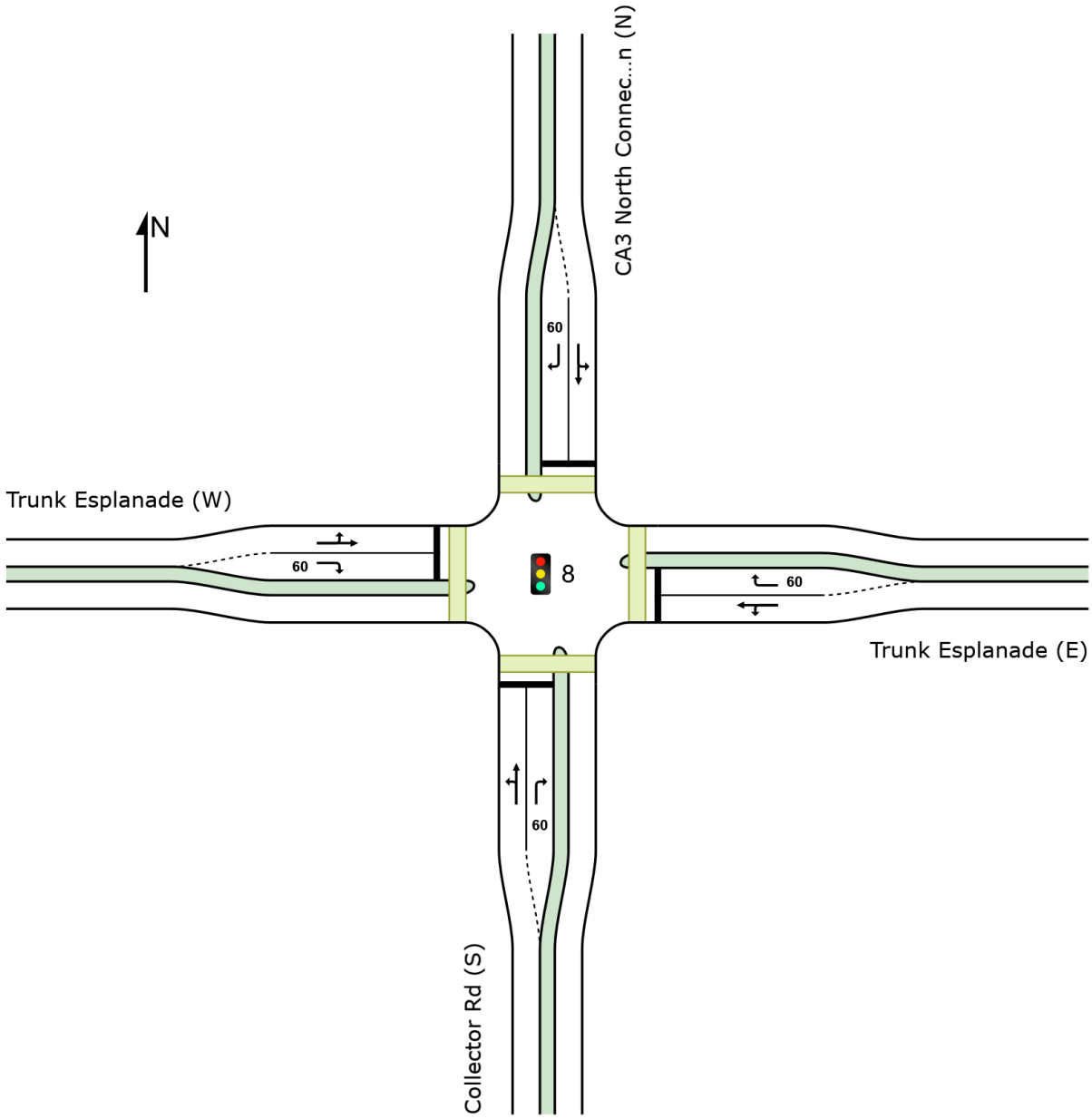
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Trunk Esplanade (S)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
East: Collector Rd (E)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: Trunk Esplanade (N)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

SITE LAYOUT

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

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

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



MOVEMENT SUMMARY

Site: 8 [8_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 = 65 seconds (Site Optimum Cycle Time - Minimum Delay)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Collector Rd (S)															
1	L2	All MCs	1	0.0	1	0.0	0.056	38.4	LOS D	0.4	2.8	0.89	0.62	0.89	40.0
2	T1	All MCs	12	8.3	12	8.3	0.056	26.8	LOS C	0.4	2.8	0.89	0.62	0.89	41.2
3	R2	All MCs	61	1.6	61	1.6	*0.540	41.2	LOS D	2.1	14.9	1.00	0.77	1.07	34.9
Approach			74	2.7	74	2.7	0.540	38.9	LOS D	2.1	14.9	0.98	0.75	1.04	35.8
East: Trunk Esplanade (E)															
4	L2	All MCs	140	2.9	140	2.9	0.242	18.3	LOS B	4.0	28.5	0.64	0.68	0.64	46.3
5	T1	All MCs	65	4.6	65	4.6	0.242	8.8	LOS A	4.0	28.5	0.64	0.68	0.64	48.0
6	R2	All MCs	6	16.7	6	16.7	*0.235	48.0	LOS D	0.2	1.9	1.00	0.64	1.00	32.6
Approach			211	3.8	211	3.8	0.242	16.2	LOS B	4.0	28.5	0.65	0.68	0.65	46.2
North: CA3 North Connection (N)															
7	L2	All MCs	13	7.7	13	7.7	0.210	41.3	LOS D	1.0	7.3	0.96	0.70	0.96	37.3
8	T1	All MCs	19	0.0	19	0.0	*0.210	29.1	LOS C	1.0	7.3	0.96	0.70	0.96	38.6
9	R2	All MCs	13	0.0	13	0.0	0.114	39.3	LOS D	0.4	3.0	0.97	0.68	0.97	35.6
Approach			45	2.2	45	2.2	0.210	35.5	LOS D	1.0	7.3	0.96	0.70	0.96	37.3
West: Trunk Esplanade (W)															
10	L2	All MCs	74	0.0	74	0.0	*0.595	36.8	LOS D	11.8	83.0	0.83	0.74	0.83	45.4
11	T1	All MCs	397	1.0	397	1.0	0.595	13.3	LOS B	11.8	83.0	0.83	0.74	0.83	46.9
12	R2	All MCs	1	0.0	1	0.0	0.035	45.3	LOS D	0.0	0.3	1.00	0.57	1.00	33.6
Approach			472	0.8	472	0.8	0.595	17.0	LOS B	11.8	83.0	0.83	0.74	0.83	46.6
All Vehicles			802	1.9	802	1.9	0.595	19.9	LOS B	11.8	83.0	0.80	0.72	0.81	44.7

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. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Collector Rd (S)												
P1	Full	20	20	25.9	LOS C	0.0	0.0	0.89	0.89	179.7	200.0	1.11
East: Trunk Esplanade (E)												

P2	Full	20	20	25.9	LOS C	0.0	0.0	0.89	0.89	179.7	200.0	1.11
North: CA3 North Connection (N)												
P3	Full	20	20	25.9	LOS C	0.0	0.0	0.89	0.89	179.7	200.0	1.11
West: Trunk Esplanade (W)												
P4	Full	20	20	25.9	LOS C	0.0	0.0	0.89	0.89	179.7	200.0	1.11
All Pedestrians		80	80	25.9	LOS C	0.0	0.0	0.89	0.89	179.7	200.0	1.11

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.

LANE SUMMARY

Site: 8 [8_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 = 65 seconds (Site Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Collector Rd (S)															
Lane 1	13	7.7	13	7.7	231	0.056	100	27.7	LOS C	0.4	2.8	Full	500	0.0	0.0
Lane 2	61	1.6	61	1.6	113	0.540	100	41.2	LOS D	2.1	14.9	Short	60	0.0	NA
Approach	74	2.7	74	2.7		0.540		38.9	LOS D	2.1	14.9				
East: Trunk Esplanade (E)															
Lane 1	205	3.4	205	3.4	847	0.242	100	15.3	LOS B	4.0	28.5	Full	500	0.0	0.0
Lane 2	6	16.7	6	16.7	26	0.235	100	48.0	LOS D	0.2	1.9	Short	60	0.0	NA
Approach	211	3.8	211	3.8		0.242		16.2	LOS B	4.0	28.5				
North: CA3 North Connection (N)															
Lane 1	32	3.1	32	3.1	152	0.210	100	34.0	LOS C	1.0	7.3	Full	500	0.0	0.0
Lane 2	13	0.0	13	0.0	114	0.114	100	39.3	LOS D	0.4	3.0	Short	60	0.0	NA
Approach	45	2.2	45	2.2		0.210		35.5	LOS D	1.0	7.3				
West: Trunk Esplanade (W)															
Lane 1	471	0.8	471	0.8	791	0.595	100	17.0	LOS B	11.8	83.0	Full	500	0.0	0.0
Lane 2	1	0.0	1	0.0	29	0.035	100	45.3	LOS D	0.0	0.3	Short	60	0.0	NA
Approach	472	0.8	472	0.8		0.595		17.0	LOS B	11.8	83.0				
All Vehicles	802	1.9	802	1.9		0.595		19.9	LOS B	11.8	83.0				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
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.

Approach Lane Flows (veh/h)

South: Collector Rd (S)

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	12	-	13	7.7	231	0.056	100	NA	NA
Lane 2	-	-	61	61	1.6	113	0.540	100	0.0	1
Approach	1	12	61	74	2.7		0.540			

East: Trunk Esplanade (E)

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	140	65	-	205	3.4	847	0.242	100	NA	NA

Lane 2	-	-	6	6	16.7	26	0.235	100	0.0	1
Approach	140	65	6	211	3.8		0.242			
North: CA3 North Connection (N)										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	13	19	-	32	3.1	152	0.210	100	NA	NA
Lane 2	-	-	13	13	0.0	114	0.114	100	0.0	1
Approach	13	19	13	45	2.2		0.210			
West: Trunk Esplanade (W)										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	74	397	-	471	0.8	791	0.595	100	NA	NA
Lane 2	-	-	1	1	0.0	29	0.035	100	0.0	1
Approach	74	397	1	472	0.8		0.595			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	802	1.9	0.595

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

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.											

Variable Demand Analysis

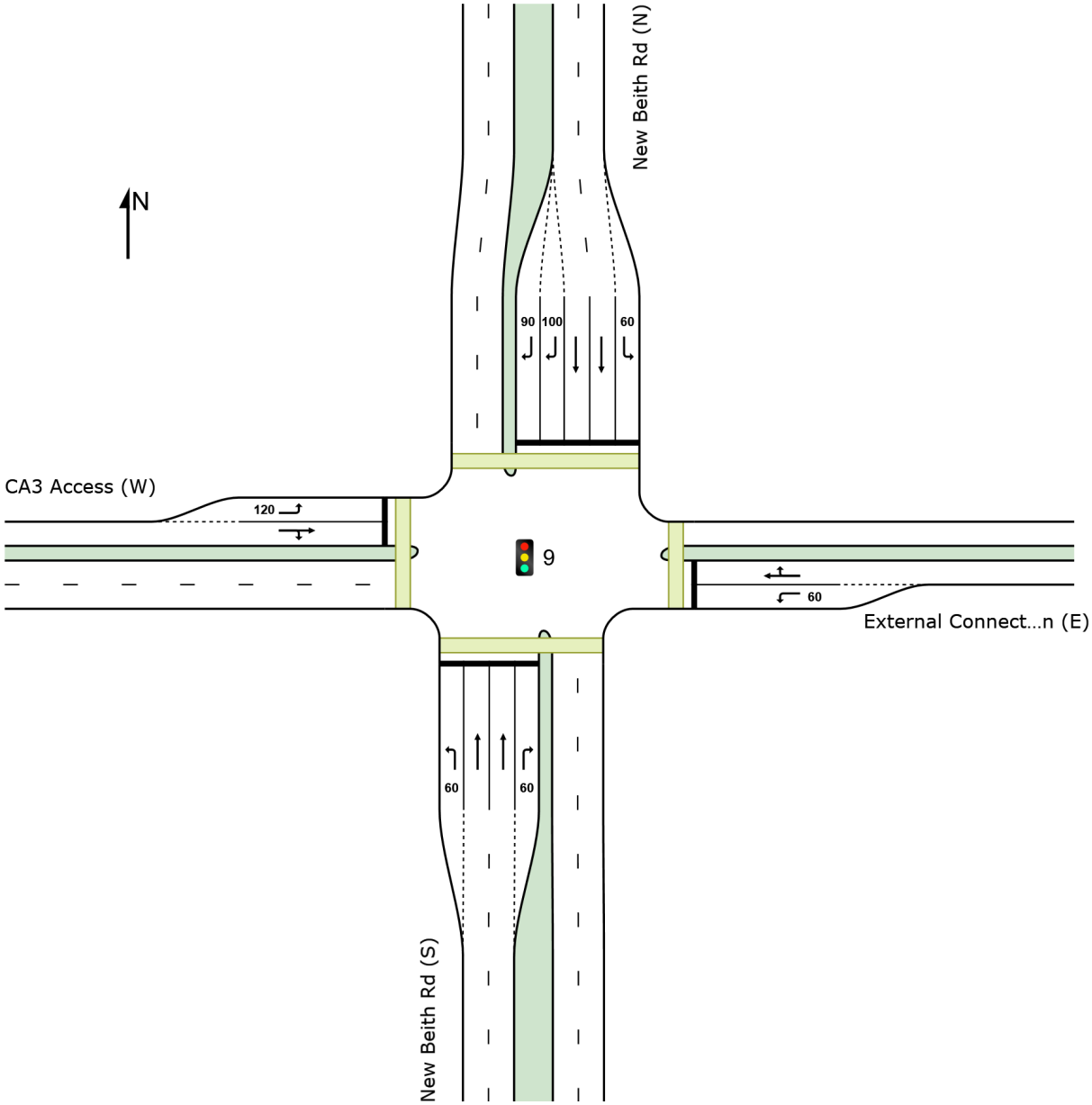
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Collector Rd (S)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
East: Trunk Esplanade (E)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: CA3 North Connection (N)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Trunk Esplanade (W)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

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

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



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 = 110 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: New Beith Rd (S)															
1	L2	All MCs	73	1.4	73	1.4	0.075	34.5	LOS C	1.9	13.4	0.52	0.71	0.52	53.4
2	T1	All MCs	1732	1.9	1732	1.9	* 0.876	45.7	LOS D	45.9	326.7	0.95	0.94	1.04	57.8
3	R2	All MCs	26	0.0	26	0.0	0.062	57.4	LOS E	1.1	7.6	0.81	0.71	0.81	43.1
Approach			1831	1.9	1831	1.9	0.876	45.4	LOS D	45.9	326.7	0.93	0.93	1.01	51.0
East: External Connection (E)															
4	L2	All MCs	53	0.0	53	0.0	0.098	36.0	LOS D	2.1	14.4	0.76	0.72	0.76	45.1
5	T1	All MCs	7	0.0	7	0.0	* 0.538	56.2	LOS E	4.0	28.1	1.00	0.77	1.00	30.1
6	R2	All MCs	66	0.0	66	0.0	0.538	61.8	LOS E	4.0	28.1	1.00	0.77	1.00	38.2
Approach			126	0.0	126	0.0	0.538	50.7	LOS D	4.0	28.1	0.90	0.75	0.90	40.2
North: New Beith Rd (N)															
7	L2	All MCs	18	11.1	18	11.1	0.027	35.3	LOS D	0.3	2.6	0.64	0.68	0.64	55.5
8	T1	All MCs	1216	4.9	1216	4.9	0.871	54.2	LOS D	34.2	249.6	1.00	0.98	1.13	52.6
9	R2	All MCs	130	5.4	130	5.4	* 0.666	70.7	LOS E	3.8	27.5	1.00	0.81	1.14	36.8
Approach			1364	5.1	1364	5.1	0.871	55.5	LOS E	34.2	249.6	0.99	0.96	1.13	46.9
West: CA3 Access (W)															
10	L2	All MCs	346	1.4	346	1.4	0.739	47.9	LOS D	17.7	125.2	0.98	0.87	1.02	42.0
11	T1	All MCs	3	0.0	3	0.0	* 0.432	47.4	LOS D	5.8	41.1	0.96	0.78	0.96	32.3
12	R2	All MCs	113	0.9	113	0.9	0.432	53.0	LOS D	5.8	41.1	0.96	0.78	0.96	39.1
Approach			462	1.3	462	1.3	0.739	49.1	LOS D	17.7	125.2	0.97	0.85	1.00	41.2
All Vehicles			3783	2.9	3783	2.9	0.876	49.7	LOS D	45.9	326.7	0.96	0.92	1.05	47.9

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. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: New Beith Rd (S)												
P1	Full	5	5	48.2	LOS E	0.0	0.0	0.94	0.94	202.1	200.0	0.99
East: External Connection (E)												
P2	Full	30	30	48.3	LOS E	0.1	0.1	0.94	0.94	202.1	200.0	0.99

North: New Beith Rd (N)												
P3	Full	20	20	48.3	LOS E	0.1	0.1	0.94	0.94	202.1	200.0	0.99
West: CA3 Access (W)												
P4	Full	50	50	48.3	LOS E	0.1	0.1	0.94	0.94	202.2	200.0	0.99
All Pedestrians		105	105	48.3	LOS E	0.1	0.1	0.94	0.94	202.1	200.0	0.99

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.

LANE 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 = 110 seconds (Site Practical Cycle Time)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: New Beith Rd (S)															
Lane 1	73	1.4	73	1.4	970	0.075	100	34.5	LOS C	1.9	13.4	Short	60	0.0	NA
Lane 2	850	1.9	850	1.9	971[1]	0.876	100	45.6	LOS D	44.6	317.2	Full	850	0.0	0.0
Lane 3	882	1.9	882	1.9	1006[1]	0.876	100	45.7	LOS D	45.9	326.7	Full	850	0.0	0.0
Lane 4	26	0.0	26	0.0	422	0.062	100	57.4	LOS E	1.1	7.6	Short	60	0.0	NA
Approach	1831	1.9	1831	1.9		0.876		45.4	LOS D	45.9	326.7				
East: External Connection (E)															
Lane 1	53	0.0	53	0.0	540	0.098	100	36.0	LOS D	2.1	14.4	Short	60	0.0	NA
Lane 2	73	0.0	73	0.0	136	0.538	100	61.3	LOS E	4.0	28.1	Full	500	0.0	0.0
Approach	126	0.0	126	0.0		0.538		50.7	LOS D	4.0	28.1				
North: New Beith Rd (N)															
Lane 1	18	11.1	18	11.1	673	0.027	100	35.3	LOS D	0.3	2.6	Short	60	0.0	NA
Lane 2	609	4.9	609	4.9	700[1]	0.871	100	59.3	LOS E	34.2	249.6	Full	950	0.0	0.0
Lane 3	607	4.9	607	4.9	697[1]	0.871	100	49.0	LOS D	34.1	248.7	Full	950	0.0	0.0
Lane 4	65	5.4	65	5.4	98	0.666	100	73.8	LOS E	3.8	27.5	Short	100	0.0	NA
Lane 5	65	5.4	65	5.4	98	0.666	100	67.5	LOS E	3.8	27.5	Short	90	0.0	NA
Approach	1364	5.1	1364	5.1		0.871		55.5	LOS E	34.2	249.6				
West: CA3 Access (W)															
Lane 1	346	1.4	346	1.4	468	0.739	100	47.9	LOS D	17.7	125.2	Short	120	0.0	NA
Lane 2	116	0.9	116	0.9	269	0.432	100	52.9	LOS D	5.8	41.1	Full	500	0.0	0.0
Approach	462	1.3	462	1.3		0.739		49.1	LOS D	17.7	125.2				
All Vehicles	3783	2.9	3783	2.9		0.876		49.7	LOS D	45.9	326.7				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
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.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Delay and stops experienced by drivers upstream of short lane entry have been accounted for.

Approach Lane Flows (veh/h)

South: New Beith Rd (S)

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	73	-	-	73	1.4	970	0.075	100	0.0	2
Lane 2	-	850	-	850	1.9	971[1]	0.876	100	NA	NA
Lane 3	-	882	-	882	1.9	1006[1]	0.876	100	NA	NA

Lane 4	-	-	26	26	0.0	422	0.062	100	0.0	3
Approach	73	1732	26	1831	1.9		0.876			
East: External Connection (E)										
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	53	-	-	53	0.0	540	0.098	100	0.0	2
Lane 2	-	7	66	73	0.0	136	0.538	100	NA	NA
Approach	53	7	66	126	0.0		0.538			
North: New Beith Rd (N)										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	18	-	-	18	11.1	673	0.027	100	0.0	2
Lane 2	-	609	-	609	4.9	700[1]	0.871	100	NA	NA
Lane 3	-	607	-	607	4.9	697[1]	0.871	100	NA	NA
Lane 4	-	-	65	65	5.4	98	0.666	100	0.0	3
Lane 5	-	-	65	65	5.4	98	0.666	100	0.0	4
Approach	18	1216	130	1364	5.1		0.871			
West: CA3 Access (W)										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	346	-	-	346	1.4	468	0.739	100	8.8	2
Lane 2	-	3	113	116	0.9	269	0.432	100	NA	NA
Approach	346	3	113	462	1.3		0.739			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	3783	2.9	0.876

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

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Delay and stops experienced by drivers upstream of short lane entry have been accounted for.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.											

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: New Beith Rd (S)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
Lane 4	0.0	0.0	0.0	0.0
East: External Connection (E)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: New Beith Rd (N)				

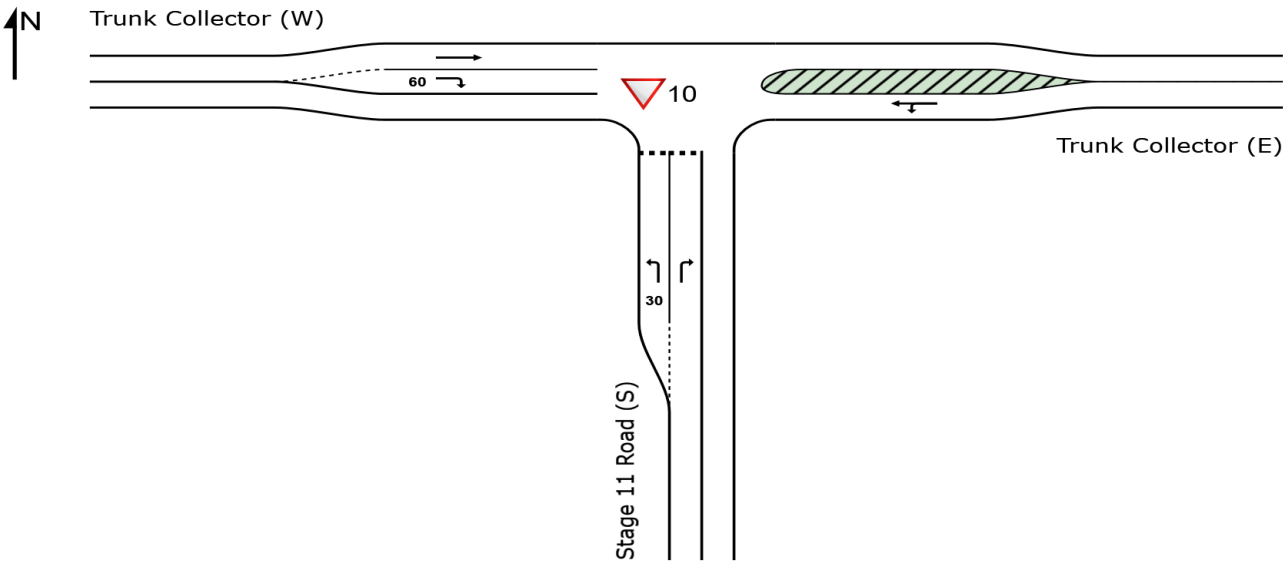
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
Lane 4	0.0	0.0	0.0	0.0
Lane 5	0.0	0.0	0.0	0.0
West: CA3 Access (W)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

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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Project: P:\P2300 Flagstone City Stages 2-5\Technical\Models\SIDRA\2024_02_16 CA3 Masterplan SIDRAs\P2300.001M 2066 CA3 South Masterplan SIDRA Models.sip9

MOVEMENT SUMMARY

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

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Trunk Collector / Stage 11
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed 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	0.055	10.3	LOS B	0.2	1.4	0.57	0.77	0.57	49.4
Approach			40	0.0	40	0.0	0.055	9.2	LOS A	0.2	1.4	0.49	0.71	0.49	50.0
East: Trunk Collector (E)															
4	L2	All MCs	35	2.9	35	2.9	0.101	5.6	LOS A	0.0	0.0	0.00	0.11	0.00	56.5
5	T1	All MCs	161	0.6	161	0.6	0.101	0.0	LOS A	0.0	0.0	0.00	0.11	0.00	59.0
Approach			196	1.0	196	1.0	0.101	1.0	NA	0.0	0.0	0.00	0.11	0.00	58.5
West: Trunk Collector (W)															
11	T1	All MCs	432	0.7	432	0.7	0.220	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			447	0.7	447	0.7	0.220	0.3	NA	0.0	0.3	0.01	0.02	0.01	59.6
All Vehicles			683	0.7	683	0.7	0.220	1.0	NA	0.2	1.4	0.04	0.08	0.04	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.

LANE SUMMARY

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

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Trunk Collector / Stage 11
Site Category: (None)
Give-Way (Two-Way)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Stage 11 Road (S)															
Lane 1	10	0.0	10	0.0	1425	0.007	100	6.0	LOS A	0.0	0.2	Short	30	0.0	NA
Lane 2	30	0.0	30	0.0	541	0.055	100	10.3	LOS B	0.2	1.4	Full	500	0.0	0.0
Approach	40	0.0	40	0.0		0.055		9.2	LOS A	0.2	1.4				
East: Trunk Collector (E)															
Lane 1	196	1.0	196	1.0	1939	0.101	100	1.0	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	196	1.0	196	1.0		0.101		1.0	NA	0.0	0.0				
West: Trunk Collector (W)															
Lane 1	432	0.7	432	0.7	1961	0.220	100	0.1	LOS A	0.0	0.0	Full	500	0.0	0.0
Lane 2	15	0.0	15	0.0	1508	0.010	100	6.1	LOS A	0.0	0.3	Short	60	0.0	NA
Approach	447	0.7	447	0.7		0.220		0.3	NA	0.0	0.3				
All Vehicles	683	0.7	683	0.7		0.220		1.0	NA	0.2	1.4				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
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.

Approach Lane Flows (veh/h)

South: Stage 11 Road (S)

Mov. From S To Exit:	L2 W	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	10	-	10	0.0	1425	0.007	100	0.0	2
Lane 2	-	30	30	0.0	541	0.055	100	NA	NA
Approach	10	30	40	0.0		0.055			

East: Trunk Collector (E)

Mov. From E To Exit:	L2 S	T1 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	35	161	196	1.0	1939	0.101	100	NA	NA
Approach	35	161	196	1.0		0.101			

West: Trunk Collector (W)

Mov. From W	T1	R2	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL Ov.	Ov. Lane

To Exit:	E	S			veh/h	v/c	%	%	No.
Lane 1	432	-	432	0.7	1961	0.220	100	NA	NA
Lane 2	-	15	15	0.0	1508	0.010	100	0.0	1
Approach	432	15	447	0.7		0.220			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	683	0.7	0.220

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

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.												

Variable Demand Analysis

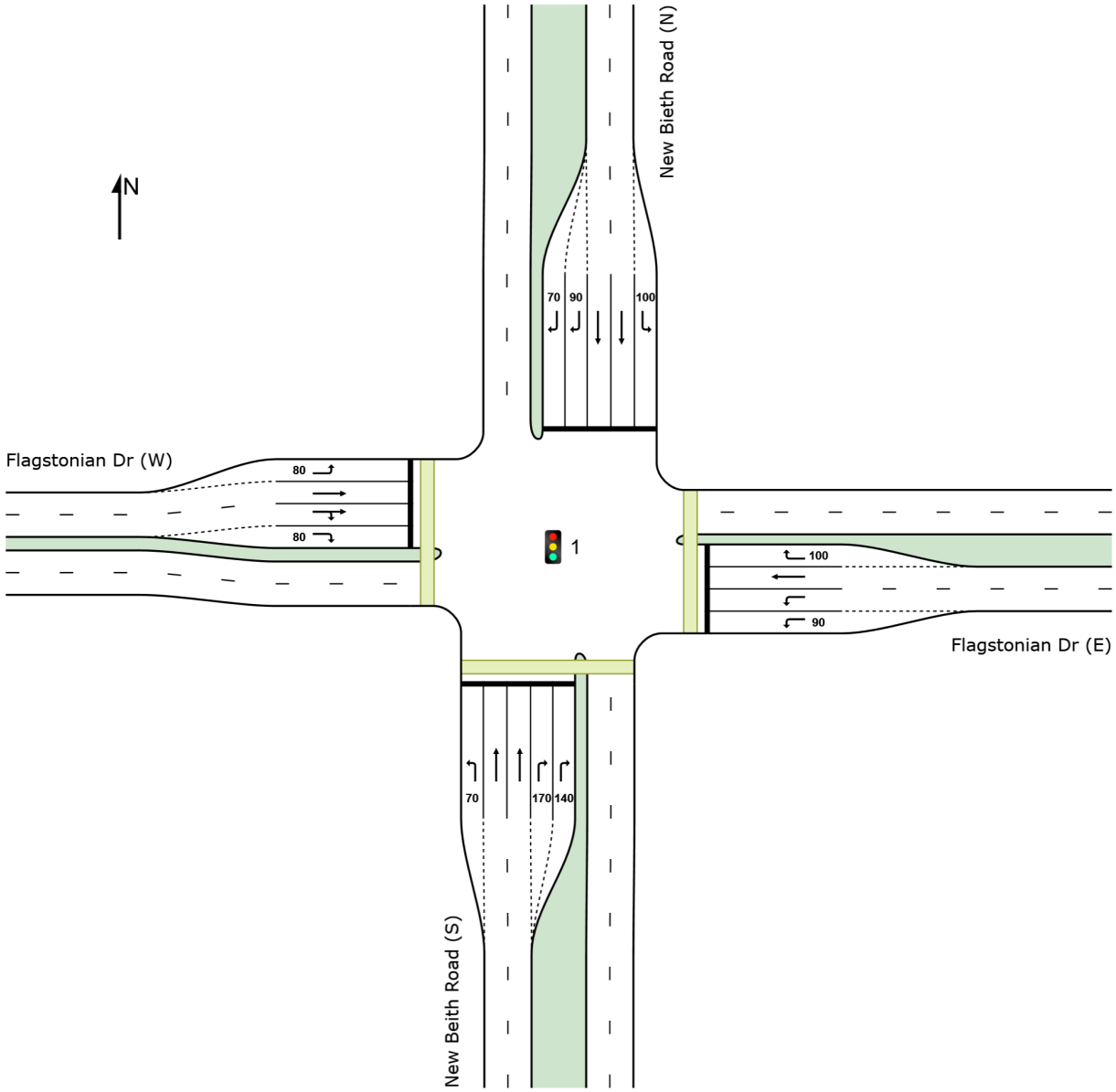
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Stage 11 Road (S)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
East: Trunk Collector (E)				
Lane 1	0.0	0.0	0.0	0.0
West: Trunk Collector (W)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

SITE LAYOUT

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

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:\P2300 Flagstone City Stages 2-5\Technical\Models\SIDRA\2024_02_16 CA3 Masterplan SIDRAs\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

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 [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: New Beith Road (S)															
1	L2	All MCs	149	0.0	149	0.0	0.233	42.0	LOS D	5.2	36.7	0.75	0.76	0.75	38.8
2	T1	All MCs	729	3.2	729	3.2	0.725	63.1	LOS E	27.1	194.5	0.97	0.84	0.97	41.5
3	R2	All MCs	176	1.7	176	1.7	0.548	84.3	LOS F	6.8	48.3	1.00	0.78	1.00	25.7
Approach			1054	2.5	1054	2.5	0.725	63.7	LOS E	27.1	194.5	0.94	0.82	0.94	36.6
East: Flagstonian Dr (E)															
4	L2	All MCs	874	1.6	874	1.6	* 1.090	194.7	LOS F	52.8	374.4	1.00	1.21	1.71	15.2
5	T1	All MCs	354	0.8	354	0.8	0.531	44.8	LOS D	21.9	154.3	0.86	0.75	0.86	22.5
6	R2	All MCs	348	1.4	348	1.4	0.551	51.9	LOS D	21.7	154.0	0.87	0.83	0.87	35.8
Approach			1576	1.4	1576	1.4	1.090	129.5	LOS F	52.8	374.4	0.94	1.02	1.33	17.9
North: New Bieth Road (N)															
7	L2	All MCs	182	3.8	182	3.8	0.153	37.3	LOS D	3.1	22.6	0.41	0.70	0.41	54.6
8	T1	All MCs	1288	1.5	1288	1.5	* 1.076	162.7	LOS F	72.6	514.4	1.00	1.41	1.57	26.4
9	R2	All MCs	324	0.9	324	0.9	0.540	86.8	LOS F	11.7	82.7	0.97	0.81	0.97	27.5
Approach			1794	1.6	1794	1.6	1.076	136.3	LOS F	72.6	514.4	0.93	1.23	1.34	24.4
West: Flagstonian Dr (W)															
10	L2	All MCs	156	2.6	156	2.6	0.318	55.5	LOS E	9.7	69.1	0.85	0.79	0.85	31.1
11	T1	All MCs	246	1.6	246	1.6	* 1.078	171.4	LOS F	16.3	116.0	1.00	1.22	1.79	8.1
12	R2	All MCs	176	0.0	176	0.0	1.078	177.4	LOS F	16.2	114.4	1.00	1.21	1.79	14.3
Approach			578	1.4	578	1.4	1.078	142.0	LOS F	16.3	116.0	0.96	1.10	1.54	14.4
All Vehicles			5002	1.7	5002	1.7	1.090	119.5	LOS F	72.6	514.4	0.94	1.06	1.28	23.2

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. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: New Beith Road (S)												
P1	Full	50	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	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	50	74.3	LOS F	0.2	0.2	0.96	0.96	228.1	200.0	0.88
All Pedestrians	150	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.

LANE SUMMARY

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

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Beith Road / Flagstonian Drive
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 160 seconds (Site Practical Cycle Time)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: New Beith Road (S)															
Lane 1	149	0.0	149	0.0	638	0.233	100	42.0	LOS D	5.2	36.7	Short	70	0.0	NA
Lane 2	344	3.2	344	3.2	474[1]	0.725	100	70.8	LOS E	24.2	173.7	Full	720	0.0	0.0
Lane 3	385	3.2	385	3.2	531	0.725	100	56.2	LOS E	27.1	194.5	Full	720	0.0	0.0
Lane 4	88	1.7	88	1.7	161	0.548	100	84.3	LOS F	6.8	48.3	Short	170	0.0	NA
Lane 5	88	1.7	88	1.7	161	0.548	100	84.3	LOS F	6.8	48.3	Short	140	0.0	NA
Approach	1054	2.5	1054	2.5		0.725		63.7	LOS E	27.1	194.5				
East: Flagstonian Dr (E)															
Lane 1	437	1.6	437	1.6	401[1]	1.090	100	194.7	LOS F	52.8	374.4	Short	90	0.0	NA
Lane 2	437	1.6	437	1.6	401[1]	1.090	100	194.7	LOS F	52.8	374.4	Full	240	0.0	45.8[8]
Lane 3	354	0.8	354	0.8	667	0.531	100	44.8	LOS D	21.9	154.3	Full	240	0.0	0.0
Lane 4	348	1.4	348	1.4	632	0.551	100	51.9	LOS D	21.7	154.0	Short	100	0.0	NA
Approach	1576	1.4	1576	1.4		1.090		129.5	LOS F	52.8	374.4				
North: New Bieth Road (N)															
Lane 1	182	3.8	182	3.8	1186	0.153	100	37.3	LOS D	3.1	22.6	Short	100	0.0	NA
Lane 2	643	1.5	643	1.5	597[1]	1.076	100	160.9	LOS F	72.3	512.3	Full	850	0.0	0.0
Lane 3	645	1.5	645	1.5	600[1]	1.076	100	164.5	LOS F	72.6	514.4	Full	850	0.0	0.0
Lane 4	162	0.9	162	0.9	300	0.540	100	101.3	LOS F	11.7	82.7	Short	90	0.0	NA
Lane 5	162	0.9	162	0.9	300	0.540	100	72.4	LOS E	11.7	82.7	Short	70	0.0	NA
Approach	1794	1.6	1794	1.6		1.076		136.3	LOS F	72.6	514.4				
West: Flagstonian Dr (W)															
Lane 1	156	2.6	156	2.6	490	0.318	100	55.5	LOS E	9.7	69.1	Short	80	0.0	NA
Lane 2	143	1.6	143	1.6	133	1.078	100	171.4	LOS F	16.3	116.0	Full	180	0.0	0.0
Lane 3	141	1.2	141	1.2	131	1.078	100	173.0	LOS F	16.2	114.4	Full	180	0.0	0.0
Lane 4	138	0.0	138	0.0	128	1.078	100	177.5	LOS F	15.8	110.4	Short	80	0.0	NA
Approach	578	1.4	578	1.4		1.078		142.0	LOS F	16.3	116.0				
All Vehicles	5002	1.7	5002	1.7		1.090		119.5	LOS F	72.6	514.4				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
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.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Delay and stops experienced by drivers upstream of short lane entry have been accounted for.
8 Probability of Blockage has been set on the basis of a queue that overflows from a short lane.

Approach Lane Flows (veh/h)

South: New Beith Road (S)

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	149	-	-	149	0.0	638	0.233	100	0.0	2
Lane 2	-	344	-	344	3.2	474[1]	0.725	100	NA	NA
Lane 3	-	385	-	385	3.2	531	0.725	100	NA	NA
Lane 4	-	-	88	88	1.7	161	0.548	100	0.0	3
Lane 5	-	-	88	88	1.7	161	0.548	100	0.0	4
Approach	149	729	176	1054	2.5		0.725			

East: Flagstonian Dr (E)

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	437	-	-	437	1.6	401[1]	1.090	100	100.0	2
Lane 2	437	-	-	437	1.6	401[1]	1.090	100	NA	NA
Lane 3	-	354	-	354	0.8	667	0.531	100	NA	NA
Lane 4	-	-	348	348	1.4	632	0.551	100	44.6	3
Approach	874	354	348	1576	1.4		1.090			

North: New Bieth Road (N)

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	182	-	-	182	3.8	1186	0.153	100	0.0	2
Lane 2	-	643	-	643	1.5	597[1]	1.076	100	NA	NA
Lane 3	-	645	-	645	1.5	600[1]	1.076	100	NA	NA
Lane 4	-	-	162	162	0.9	300	0.540	100	0.0	3
Lane 5	-	-	162	162	0.9	300	0.540	100	20.1	4
Approach	182	1288	324	1794	1.6		1.076			

West: Flagstonian Dr (W)

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	156	-	-	156	2.6	490	0.318	100	0.0	2
Lane 2	-	143	-	143	1.6	133	1.078	100	NA	NA
Lane 3	-	103	38	141	1.2	131	1.078	100	NA	NA
Lane 4	-	-	138	138	0.0	128	1.078	100	34.3	3
Approach	156	246	176	578	1.4		1.078			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	5002	1.7	1.090

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

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Delay and stops experienced by drivers upstream of short lane entry have been accounted for.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.											

Variable Demand Analysis

	Initial Queued Demand	Residual Queued Demand	Time for Residual Demand to Clear	Duration of Oversatn

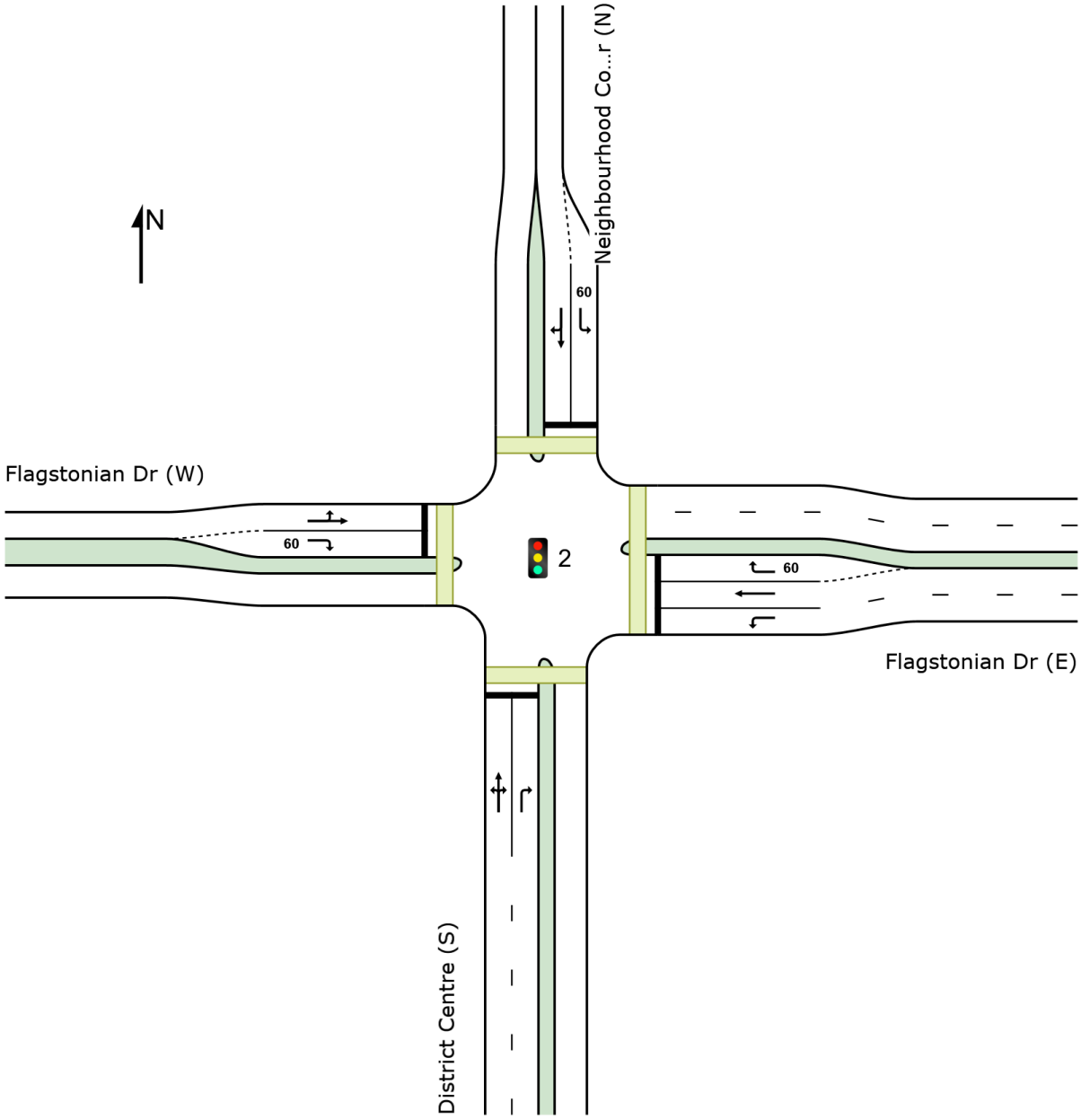
	veh	veh	sec	sec
South: New Beith Road (S)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
Lane 4	0.0	0.0	0.0	0.0
Lane 5	0.0	0.0	0.0	0.0
East: Flagstonian Dr (E)				
Lane 1	0.0	18.1	162.1	NA
Lane 2	0.0	18.1	162.1	NA
Lane 3	0.0	0.0	0.0	0.0
Lane 4	0.0	0.0	0.0	0.0
North: New Bieth Road (N)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	22.7	136.7	NA
Lane 3	0.0	22.8	136.7	NA
Lane 4	0.0	0.0	0.0	0.0
Lane 5	0.0	0.0	0.0	0.0
West: Flagstonian Dr (W)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	5.1	139.7	NA
Lane 3	0.0	5.1	139.7	NA
Lane 4	0.0	5.0	139.7	NA

SITE LAYOUT

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

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

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



MOVEMENT SUMMARY

Site: 2 [2_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 = 75 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: District Centre (S)															
1	L2	All MCs	43	0.0	43	0.0	0.589	42.2	LOS D	5.3	37.8	0.98	0.81	1.01	16.8
2	T1	All MCs	31	3.4	31	3.4	* 0.589	32.3	LOS C	5.3	37.8	0.98	0.81	1.01	26.6
3	R2	All MCs	260	2.0	260	2.0	0.589	35.4	LOS D	6.6	46.9	0.97	0.81	0.98	18.0
Approach			334	1.9	334	1.9	0.589	36.0	LOS D	6.6	46.9	0.97	0.81	0.99	18.9
East: Flagstonian Dr (E)															
4	L2	All MCs	134	0.8	134	0.8	0.209	15.2	LOS B	1.8	12.9	0.74	0.74	0.74	28.8
5	T1	All MCs	593	0.9	593	0.9	* 0.829	32.4	LOS C	22.3	157.2	0.97	0.96	1.11	26.0
6	R2	All MCs	138	0.0	138	0.0	0.619	46.4	LOS D	5.1	36.0	1.00	0.82	1.06	27.5
Approach			864	0.7	864	0.7	0.829	32.0	LOS C	22.3	157.2	0.94	0.90	1.05	24.9
North: Neighbourhood Connector (N)															
7	L2	All MCs	79	1.3	79	1.3	0.111	20.4	LOS C	1.9	13.1	0.67	0.70	0.67	35.2
8	T1	All MCs	11	0.0	11	0.0	* 0.050	28.7	LOS C	0.5	3.8	0.85	0.65	0.85	29.2
9	R2	All MCs	7	0.0	7	0.0	0.050	31.9	LOS C	0.5	3.8	0.85	0.65	0.85	30.8
Approach			97	1.1	97	1.1	0.111	22.2	LOS C	1.9	13.1	0.70	0.69	0.70	34.1
West: Flagstonian Dr (W)															
10	L2	All MCs	3	33.3	3	33.3	0.574	33.7	LOS C	8.8	62.4	0.93	0.78	0.93	31.6
11	T1	All MCs	263	0.8	263	0.8	0.574	27.8	LOS C	8.8	62.4	0.93	0.78	0.93	26.1
12	R2	All MCs	14	0.0	14	0.0	* 0.276	50.0	LOS D	0.6	4.0	1.00	0.67	1.00	14.2
Approach			280	1.1	280	1.1	0.574	28.9	LOS C	8.8	62.4	0.94	0.78	0.94	25.3
All Vehicles			1575	1.1	1575	1.1	0.829	31.7	LOS C	22.3	157.2	0.93	0.85	0.99	24.3

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. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: District Centre (S)												
P1	Full	50	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	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	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	50	31.8	LOS D	0.1	0.1	0.92	0.92	185.7	200.0	1.08
All Pedestrians		200	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.

LANE SUMMARY

Site: 2 [2_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 = 75 seconds (Site Practical Cycle Time)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: District Centre (S)															
Lane 1	147	1.7	147	1.7	249	0.589	100	36.8	LOS D	5.3	37.8	Full	100	0.0	0.0
Lane 2	187	2.0	187	2.0	317	0.589	100	35.4	LOS D	6.6	46.9	Full	100	0.0	0.0
Approach	334	1.9	334	1.9		0.589		36.0	LOS D	6.6	46.9				
East: Flagstonian Dr (E)															
Lane 1	134	0.8	134	0.8	640	0.209	100	15.2	LOS B	1.8	12.9	Full	180	0.0	0.0
Lane 2	593	0.9	593	0.9	714[1]	0.829	100	32.4	LOS C	22.3	157.2	Full	180	0.0	0.0
Lane 3	138	0.0	138	0.0	223	0.619	100	46.4	LOS D	5.1	36.0	Short	60	0.0	NA
Approach	864	0.7	864	0.7		0.829		32.0	LOS C	22.3	157.2				
North: Neighbourhood Connector (N)															
Lane 1	79	1.3	79	1.3	711	0.111	100	20.4	LOS C	1.9	13.1	Short	60	0.0	NA
Lane 2	18	0.0	18	0.0	357	0.050	100	30.0	LOS C	0.5	3.8	Full	500	0.0	0.0
Approach	97	1.1	97	1.1		0.111		22.2	LOS C	1.9	13.1				
West: Flagstonian Dr (W)															
Lane 1	266	1.2	266	1.2	464	0.574	100	27.8	LOS C	8.8	62.4	Full	160	0.0	0.0
Lane 2	14	0.0	14	0.0	50	0.276	100	50.0	LOS D	0.6	4.0	Short	60	0.0	NA
Approach	280	1.1	280	1.1		0.574		28.9	LOS C	8.8	62.4				
All Vehicles	1575	1.1	1575	1.1		0.829		31.7	LOS C	22.3	157.2				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
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.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Delay and stops experienced by drivers upstream of short lane entry have been accounted for.

Approach Lane Flows (veh/h)

South: District Centre (S)

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	43	31	73	147	1.7	249	0.589	100	NA	NA
Lane 2	-	-	187	187	2.0	317	0.589	100	NA	NA
Approach	43	31	260	334	1.9		0.589			

East: Flagstonian Dr (E)

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.

Lane 1	134	-	-	134	0.8	640	0.209	100	NA	NA
Lane 2	-	593	-	593	0.9	714[1]	0.829	100	NA	NA
Lane 3	-	-	138	138	0.0	223	0.619	100	0.0	2
Approach	134	593	138	864	0.7		0.829			
North: Neighbourhood Connector (N)										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	79	-	-	79	1.3	711	0.111	100	0.0	2
Lane 2	-	11	7	18	0.0	357	0.050	100	NA	NA
Approach	79	11	7	97	1.1		0.111			
West: Flagstonian Dr (W)										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	3	263	-	266	1.2	464	0.574	100	NA	NA
Lane 2	-	-	14	14	0.0	50	0.276	100	0.0	1
Approach	3	263	14	280	1.1		0.574			
	Total	%HV	Deg.Satn (v/c)							
All Vehicles	1575	1.1	0.829							

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

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Delay and stops experienced by drivers upstream of short lane entry have been accounted for.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.											

Variable Demand Analysis

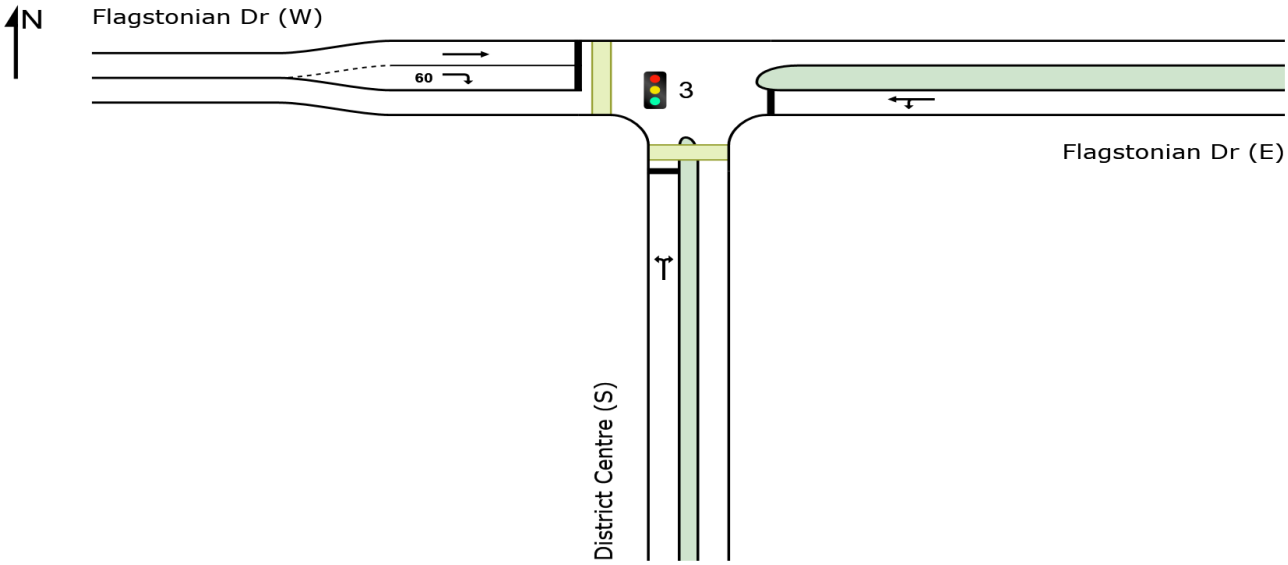
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: District Centre (S)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
East: Flagstonian Dr (E)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
North: Neighbourhood Connector (N)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Flagstonian Dr (W)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

SITE LAYOUT

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

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

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



MOVEMENT SUMMARY

Site: 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 [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: District Centre (S)															
1	L2	All MCs	33	0.0	33	0.0	0.434	23.5	LOS C	1.9	13.1	0.96	0.76	0.96	31.0
3	R2	All MCs	60	1.8	60	1.8	0.434	22.4	LOS C	1.9	13.1	0.96	0.76	0.96	21.7
Approach			93	1.1	93	1.1	0.434	22.8	LOS C	1.9	13.1	0.96	0.76	0.96	25.6
East: Flagstonian Dr (E)															
4	L2	All MCs	52	0.0	52	0.0	* 0.733	17.6	LOS B	11.4	80.2	0.86	0.83	0.96	30.7
5	T1	All MCs	592	0.9	592	0.9	0.733	11.0	LOS B	11.4	80.2	0.86	0.83	0.96	44.9
Approach			643	0.8	643	0.8	0.733	11.5	LOS B	11.4	80.2	0.86	0.83	0.96	44.1
West: Flagstonian Dr (W)															
11	T1	All MCs	220	1.0	220	1.0	0.197	4.4	LOS A	2.1	14.7	0.51	0.42	0.51	53.1
12	R2	All MCs	7	0.0	7	0.0	* 0.159	30.7	LOS C	0.2	1.2	1.00	0.64	1.00	28.1
Approach			227	0.9	227	0.9	0.197	5.3	LOS A	2.1	14.7	0.52	0.43	0.52	51.8
All Vehicles			963	0.9	963	0.9	0.733	11.1	LOS B	11.4	80.2	0.79	0.73	0.86	43.7

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. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
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.

LANE 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)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: District Centre (S)															
Lane 1	93	1.1	93	1.1	213	0.434	100	22.8	LOS C	1.9	13.1	Full	100	0.0	0.0
Approach	93	1.1	93	1.1		0.434		22.8	LOS C	1.9	13.1				
East: Flagstonian Dr (E)															
Lane 1	643	0.8	643	0.8	877	0.733	100	11.5	LOS B	11.4	80.2	Full	160	0.0	0.0
Approach	643	0.8	643	0.8		0.733		11.5	LOS B	11.4	80.2				
West: Flagstonian Dr (W)															
Lane 1	220	1.0	220	1.0	1114	0.197	100	4.4	LOS A	2.1	14.7	Full	400	0.0	0.0
Lane 2	7	0.0	7	0.0	46	0.159	100	30.7	LOS C	0.2	1.2	Short	60	0.0	NA
Approach	227	0.9	227	0.9		0.197		5.3	LOS A	2.1	14.7				
All Vehicles	963	0.9	963	0.9		0.733		11.1	LOS B	11.4	80.2				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
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.

Approach Lane Flows (veh/h)

South: District Centre (S)

Mov. From S To Exit:	L2 W	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	33	60	93	1.1	213	0.434	100	NA	NA
Approach	33	60	93	1.1		0.434			

East: Flagstonian Dr (E)

Mov. From E To Exit:	L2 S	T1 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	52	592	643	0.8	877	0.733	100	NA	NA
Approach	52	592	643	0.8		0.733			

West: Flagstonian Dr (W)

Mov. From W To Exit:	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	220	-	220	1.0	1114	0.197	100	NA	NA
Lane 2	-	7	7	0.0	46	0.159	100	0.0	1
Approach	220	7	227	0.9		0.197			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	963	0.9	0.733

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

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.											

Variable Demand Analysis

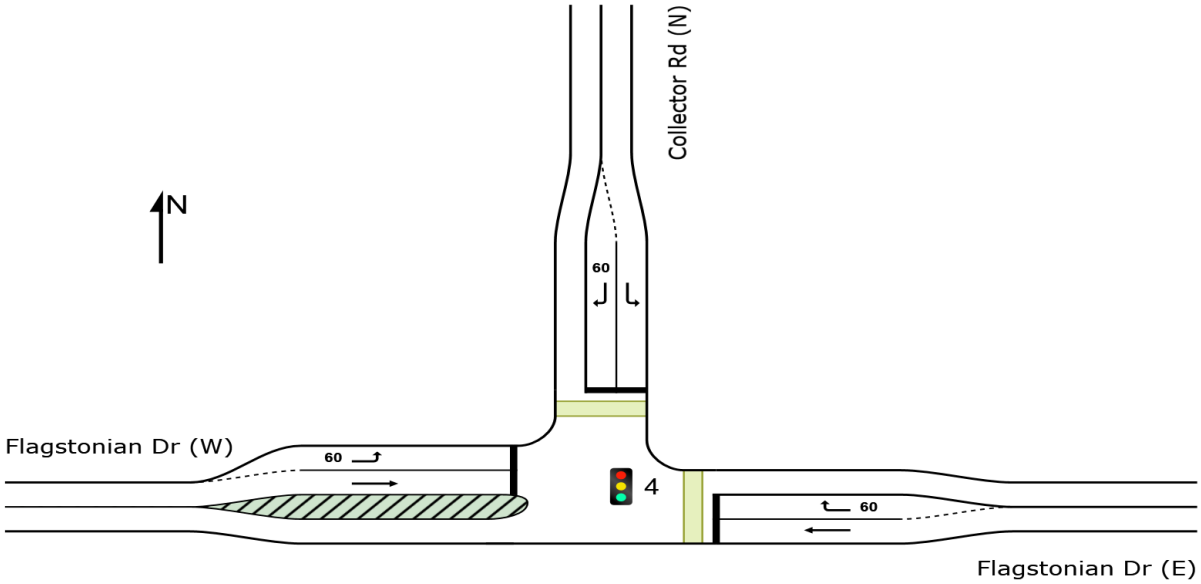
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: District Centre (S)				
Lane 1	0.0	0.0	0.0	0.0
East: Flagstonian Dr (E)				
Lane 1	0.0	0.0	0.0	0.0
West: Flagstonian Dr (W)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

SITE LAYOUT

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

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:\P2300 Flagstone City Stages 2-5\Technical\Models\SIDRA\2024_02_16 CA3 Masterplan SIDRAs\P2300.001M 2066 CA3 South Masterplan SIDRA Models.sip9

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 [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Flagstonian Dr (E)															
5	T1	All MCs	528	0.0	528	0.0	0.452	3.1	LOS A	3.7	25.8	0.59	0.51	0.59	56.8
6	R2	All MCs	76	0.0	76	0.0	* 0.255	16.6	LOS B	0.9	6.3	0.91	0.74	0.91	41.4
Approach			604	0.0	604	0.0	0.452	4.8	LOS A	3.7	25.8	0.63	0.54	0.63	54.3
North: Collector Rd (N)															
7	L2	All MCs	36	0.0	36	0.0	0.120	15.2	LOS B	0.4	2.9	0.89	0.70	0.89	41.7
9	R2	All MCs	23	0.0	23	0.0	* 0.078	15.1	LOS B	0.3	1.8	0.88	0.68	0.88	43.1
Approach			59	0.0	59	0.0	0.120	15.2	LOS B	0.4	2.9	0.88	0.69	0.88	42.3
West: Flagstonian Dr (W)															
10	L2	All MCs	25	0.0	25	0.0	0.031	10.0	LOS A	0.2	1.3	0.59	0.66	0.59	46.4
11	T1	All MCs	153	1.4	153	1.4	* 0.219	6.3	LOS A	1.4	9.7	0.73	0.58	0.73	53.8
Approach			178	1.2	178	1.2	0.219	6.9	LOS A	1.4	9.7	0.71	0.59	0.71	52.5
All Vehicles			841	0.3	841	0.3	0.452	5.9	LOS A	3.7	25.8	0.66	0.56	0.66	52.8

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. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
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.

LANE 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)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
East: Flagstonian Dr (E)															
Lane 1	528	0.0	528	0.0	1170	0.452	100	3.1	LOS A	3.7	25.8	Full	400	0.0	0.0
Lane 2	76	0.0	76	0.0	297	0.255	100	16.6	LOS B	0.9	6.3	Short	60	0.0	NA
Approach	604	0.0	604	0.0		0.452		4.8	LOS A	3.7	25.8				
North: Collector Rd (N)															
Lane 1	36	0.0	36	0.0	297	0.120	100	15.2	LOS B	0.4	2.9	Full	500	0.0	0.0
Lane 2	23	0.0	23	0.0	297	0.078	100	15.1	LOS B	0.3	1.8	Short	60	0.0	NA
Approach	59	0.0	59	0.0		0.120		15.2	LOS B	0.4	2.9				
West: Flagstonian Dr (W)															
Lane 1	25	0.0	25	0.0	817	0.031	100	10.0	LOS A	0.2	1.3	Short	60	0.0	NA
Lane 2	153	1.4	153	1.4	696	0.219	100	6.3	LOS A	1.4	9.7	Full	500	0.0	0.0
Approach	178	1.2	178	1.2		0.219		6.9	LOS A	1.4	9.7				
All Vehicles	841	0.3	841	0.3		0.452		5.9	LOS A	3.7	25.8				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
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.

Approach Lane Flows (veh/h)

East: Flagstonian Dr (E)

Mov. From E To Exit:	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	528	-	528	0.0	1170	0.452	100	NA	NA
Lane 2	-	76	76	0.0	297	0.255	100	0.0	1
Approach	528	76	604	0.0		0.452			

North: Collector Rd (N)

Mov. From N To Exit:	L2 E	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	36	-	36	0.0	297	0.120	100	NA	NA
Lane 2	-	23	23	0.0	297	0.078	100	0.0	1
Approach	36	23	59	0.0		0.120			

West: Flagstonian Dr (W)

Mov. From W To Exit:	L2 N	T1 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.

Lane 1	25	-	25	0.0	817	0.031	100	0.0	2
Lane 2	-	153	153	1.4	696	0.219	100	NA	NA
Approach	25	153	178	1.2		0.219			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	841	0.3	0.452

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

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.											

Variable Demand Analysis

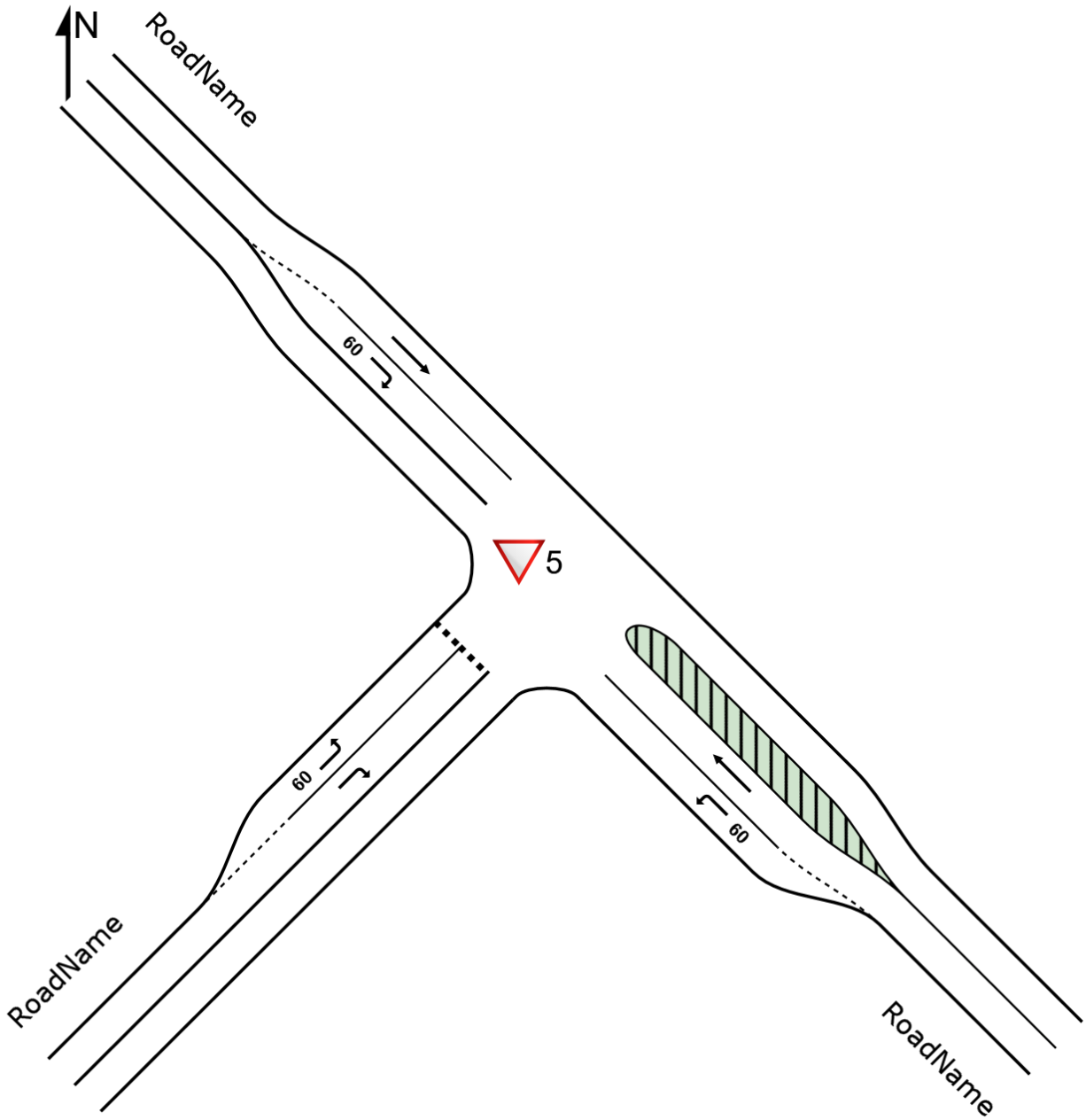
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
East: Flagstonian Dr (E)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: Collector Rd (N)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Flagstonian Dr (W)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

SITE LAYOUT

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

CA3 Collector / Ulladulla N Connection
Site Category: (None)
Give-Way (Two-Way)

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



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 [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: RoadName															
4	L2	All MCs	406	0.7	406	0.7	0.220	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	52.8
5	T1	All MCs	96	2.1	96	2.1	0.049	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			502	1.0	502	1.0	0.220	4.5	NA	0.0	0.0	0.00	0.47	0.00	54.0
NorthWest: RoadName															
11	T1	All MCs	52	1.9	52	1.9	0.027	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
12	R2	All MCs	98	0.0	98	0.0	0.117	8.1	LOS A	0.5	3.2	0.51	0.73	0.51	50.9
Approach			150	0.7	150	0.7	0.117	5.3	NA	0.5	3.2	0.33	0.48	0.33	53.7
SouthWest: RoadName															
1	L2	All MCs	83	0.0	83	0.0	0.068	5.9	LOS A	0.2	1.7	0.19	0.55	0.19	52.3
3	R2	All MCs	103	1.9	103	1.9	0.172	9.6	LOS A	0.7	4.8	0.54	0.75	0.54	50.0
Approach			186	1.1	186	1.1	0.172	8.0	LOS A	0.7	4.8	0.39	0.66	0.39	51.0
All Vehicles			838	1.0	838	1.0	0.220	5.4	NA	0.7	4.8	0.15	0.51	0.15	53.3

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.

LANE 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)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
SouthEast: RoadName															
Lane 1	406	0.7	406	0.7	1847	0.220	100	5.6	LOS A	0.0	0.0	Short	60	0.0	NA
Lane 2	96	2.1	96	2.1	1944	0.049	100	0.0	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	502	1.0	502	1.0		0.220		4.5	NA	0.0	0.0				
NorthWest: RoadName															
Lane 1	52	1.9	52	1.9	1946	0.027	100	0.0	LOS A	0.0	0.0	Full	500	0.0	0.0
Lane 2	98	0.0	98	0.0	840	0.117	100	8.1	LOS A	0.5	3.2	Short	60	0.0	NA
Approach	150	0.7	150	0.7		0.117		5.3	NA	0.5	3.2				
SouthWest: RoadName															
Lane 1	83	0.0	83	0.0	1221	0.068	100	5.9	LOS A	0.2	1.7	Short	60	0.0	NA
Lane 2	103	1.9	103	1.9	599	0.172	100	9.6	LOS A	0.7	4.8	Full	500	0.0	0.0
Approach	186	1.1	186	1.1		0.172		8.0	LOS A	0.7	4.8				
All Vehicles	838	1.0	838	1.0		0.220		5.4	NA	0.7	4.8				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
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.

Approach Lane Flows (veh/h)

SouthEast: RoadName

Mov. From SE To Exit:	L2 SW	T1 NW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	406	-	406	0.7	1847	0.220	100	0.0	2
Lane 2	-	96	96	2.1	1944	0.049	100	NA	NA
Approach	406	96	502	1.0		0.220			

NorthWest: RoadName

Mov. From NW To Exit:	T1 SE	R2 SW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	52	-	52	1.9	1946	0.027	100	NA	NA
Lane 2	-	98	98	0.0	840	0.117	100	0.0	1
Approach	52	98	150	0.7		0.117			

SouthWest: RoadName

Mov. From SW To Exit:	L2 NW	R2 SE	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	83	-	83	0.0	1221	0.068	100	0.0	2
Lane 2	-	103	103	1.9	599	0.172	100	NA	NA
Approach	83	103	186	1.1		0.172			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	838	1.0	0.220

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

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.											

Variable Demand Analysis

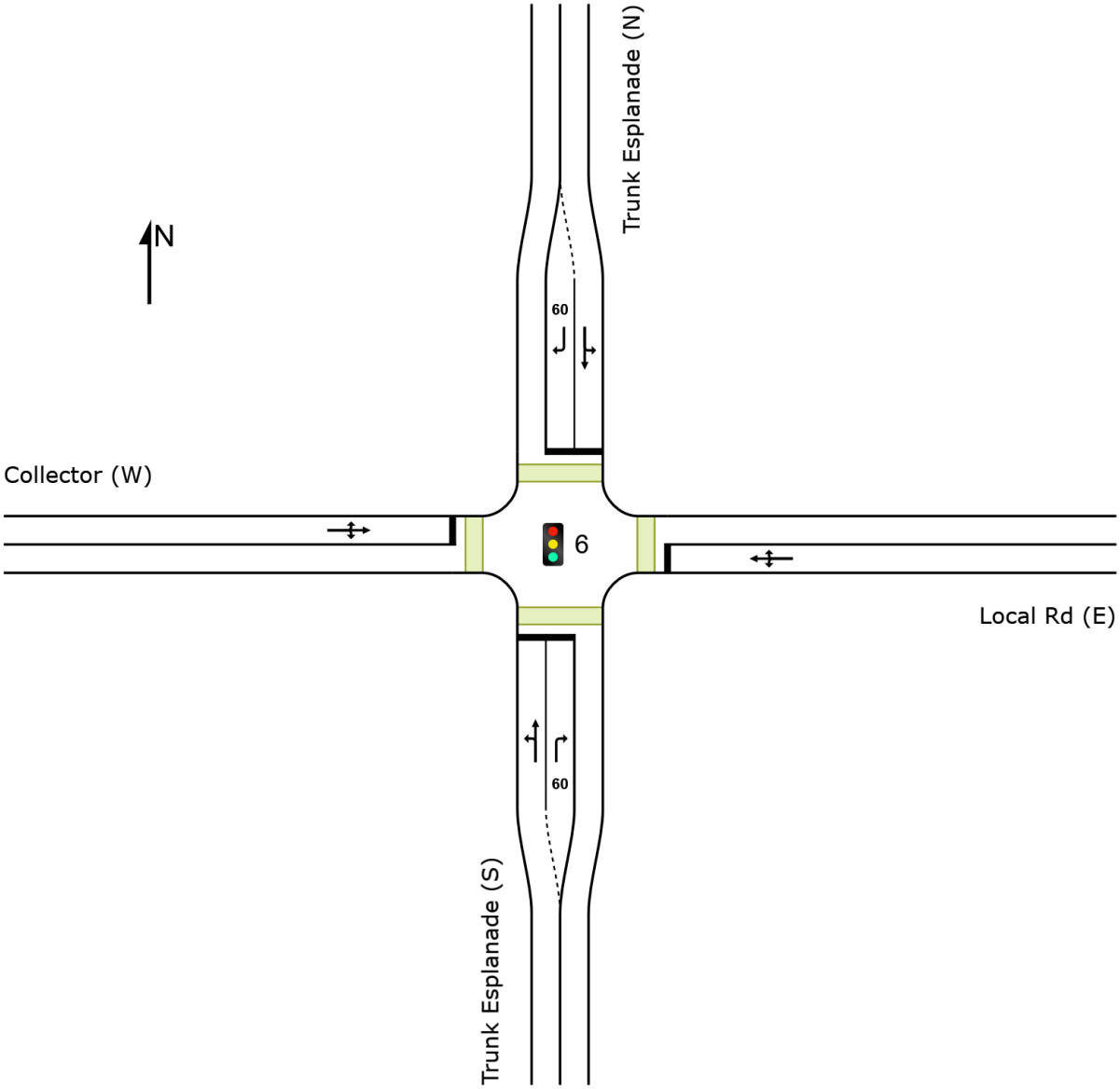
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
SouthEast: RoadName				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
NorthWest: RoadName				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
SouthWest: RoadName				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

SITE LAYOUT

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

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

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



MOVEMENT SUMMARY

Site: 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 [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Trunk Esplanade (S)															
1	L2	All MCs	66	0.0	66	0.0	*0.447	32.3	LOS C	3.7	28.1	0.89	0.75	0.89	41.8
2	T1	All MCs	119	17.7	119	17.7	0.447	10.7	LOS B	3.7	28.1	0.89	0.75	0.89	45.9
3	R2	All MCs	2	0.0	2	0.0	0.026	30.1	LOS C	0.0	0.3	0.97	0.60	0.97	36.8
Approach			187	11.2	187	11.2	0.447	18.6	LOS B	3.7	28.1	0.89	0.75	0.89	44.2
East: Local Rd (E)															
4	L2	All MCs	2	0.0	2	0.0	*0.080	26.7	LOS C	0.3	1.9	0.94	0.65	0.94	39.3
5	T1	All MCs	9	0.0	9	0.0	0.080	22.1	LOS C	0.3	1.9	0.94	0.65	0.94	37.9
6	R2	All MCs	1	0.0	1	0.0	0.080	26.7	LOS C	0.3	1.9	0.94	0.65	0.94	39.2
Approach			13	0.0	13	0.0	0.080	23.2	LOS C	0.3	1.9	0.94	0.65	0.94	38.3
North: Trunk Esplanade (N)															
7	L2	All MCs	20	0.0	20	0.0	0.199	17.8	LOS B	2.3	16.1	0.64	0.55	0.64	46.9
8	T1	All MCs	147	0.7	147	0.7	0.199	7.8	LOS A	2.3	16.1	0.64	0.55	0.64	52.2
9	R2	All MCs	13	0.0	13	0.0	*0.153	31.1	LOS C	0.3	2.2	0.99	0.67	0.99	36.4
Approach			180	0.6	180	0.6	0.199	10.6	LOS B	2.3	16.1	0.67	0.56	0.67	50.1
West: Collector (W)															
10	L2	All MCs	13	0.0	13	0.0	*0.230	32.6	LOS C	0.6	4.7	0.98	0.70	0.98	37.2
11	T1	All MCs	2	0.0	2	0.0	0.230	20.9	LOS C	0.6	4.7	0.98	0.70	0.98	36.0
12	R2	All MCs	13	8.3	13	8.3	0.230	25.6	LOS C	0.6	4.7	0.98	0.70	0.98	37.0
Approach			27	3.8	27	3.8	0.230	28.5	LOS C	0.6	4.7	0.98	0.70	0.98	37.0
All Vehicles			407	5.7	407	5.7	0.447	15.8	LOS B	3.7	28.1	0.80	0.66	0.80	45.8

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. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed 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

North: Trunk Esplanade (N)											
P3	Full	20	20	16.9	LOS B	0.0	0.0	0.87	0.87	170.8	200.0	1.17
West: Collector (W)											
P4	Full	50	50	16.9	LOS B	0.1	0.1	0.87	0.87	170.8	200.0	1.17
All Pedestrians		110	110	16.9	LOS B	0.1	0.1	0.87	0.87	170.8	200.0	1.17

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.

LANE 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)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Trunk Esplanade (S)															
Lane 1	185	11.4	185	11.4	414	0.447	100	18.4	LOS B	3.7	28.1	Full	500	0.0	0.0
Lane 2	2	0.0	2	0.0	83	0.026	100	30.1	LOS C	0.0	0.3	Short	60	0.0	NA
Approach	187	11.2	187	11.2		0.447		18.6	LOS B	3.7	28.1				
East: Local Rd (E)															
Lane 1	13	0.0	13	0.0	157	0.080	100	23.2	LOS C	0.3	1.9	Full	500	0.0	0.0
Approach	13	0.0	13	0.0		0.080		23.2	LOS C	0.3	1.9				
North: Trunk Esplanade (N)															
Lane 1	167	0.6	167	0.6	842	0.199	100	9.0	LOS A	2.3	16.1	Full	500	0.0	0.0
Lane 2	13	0.0	13	0.0	83	0.153	100	31.1	LOS C	0.3	2.2	Short	60	0.0	NA
Approach	180	0.6	180	0.6		0.199		10.6	LOS B	2.3	16.1				
West: Collector (W)															
Lane 1	27	3.8	27	3.8	119	0.230	100	28.5	LOS C	0.6	4.7	Full	500	0.0	0.0
Approach	27	3.8	27	3.8		0.230		28.5	LOS C	0.6	4.7				
All Vehicles	407	5.7	407	5.7		0.447		15.8	LOS B	3.7	28.1				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
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.

Approach Lane Flows (veh/h)

South: Trunk Esplanade (S)

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	66	119	-	185	11.4	414	0.447	100	NA	NA
Lane 2	-	-	2	2	0.0	83	0.026	100	0.0	1
Approach	66	119	2	187	11.2		0.447			

East: Local Rd (E)

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	2	9	1	13	0.0	157	0.080	100	NA	NA
Approach	2	9	1	13	0.0		0.080			

North: Trunk Esplanade (N)

Mov.	L2	T1	R2	Total	%HV		Deg.	Lane	Prob.	Ov.

From N To Exit:	E	S	W			Cap. veh/h	Satn v/c	Util. %	SL %	Ov. %	Lane No.
Lane 1	20	147	-	167	0.6	842	0.199	100	NA		NA
Lane 2	-	-	13	13	0.0	83	0.153	100	0.0		1
Approach	20	147	13	180	0.6		0.199				
West: Collector (W)											
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL %	Ov. Ov. %	Lane No.
Lane 1	13	2	13	27	3.8	119	0.230	100	NA		NA
Approach	13	2	13	27	3.8		0.230				

	Total	%HV	Deg.Satn (v/c)
All Vehicles	407	5.7	0.447

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

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.											

Variable Demand Analysis

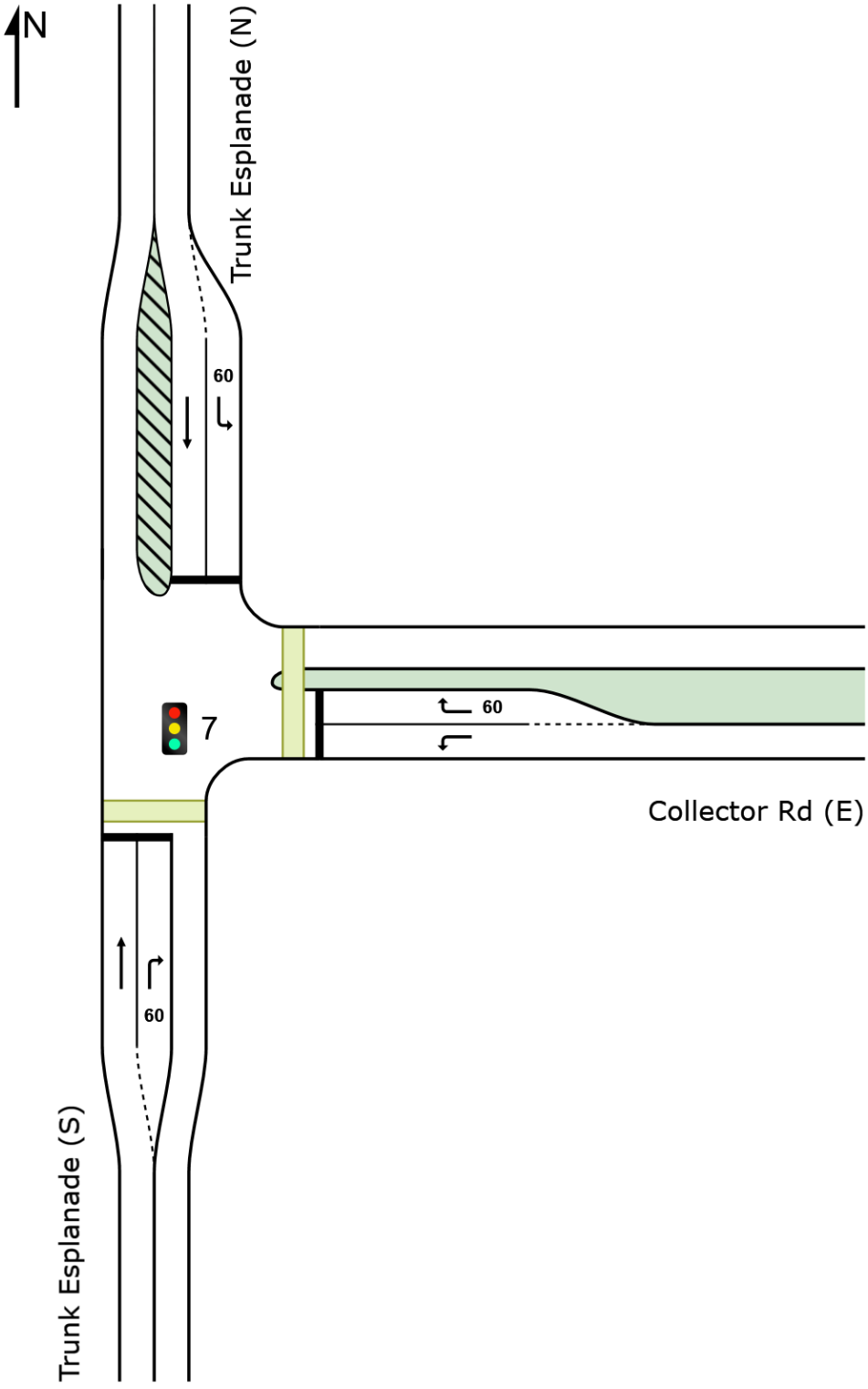
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Trunk Esplanade (S)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
East: Local Rd (E)				
Lane 1	0.0	0.0	0.0	0.0
North: Trunk Esplanade (N)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Collector (W)				
Lane 1	0.0	0.0	0.0	0.0

SITE LAYOUT

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

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

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



MOVEMENT SUMMARY

Site: 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 [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Trunk Esplanade (S)															
2	T1	All MCs	67	1.6	67	1.6	0.054	1.4	LOS A	0.2	1.7	0.38	0.29	0.38	58.3
3	R2	All MCs	65	3.2	65	3.2	0.090	9.8	LOS A	0.4	3.0	0.65	0.69	0.65	46.5
Approach			133	2.4	133	2.4	0.090	5.6	LOS A	0.4	3.0	0.51	0.49	0.51	51.8
East: Collector Rd (E)															
4	L2	All MCs	151	0.0	151	0.0	* 0.232	9.9	LOS A	1.1	7.9	0.74	0.73	0.74	45.9
6	R2	All MCs	27	0.0	27	0.0	0.098	13.4	LOS B	0.3	1.8	0.89	0.68	0.89	44.0
Approach			178	0.0	178	0.0	0.232	10.5	LOS B	1.1	7.9	0.76	0.72	0.76	45.6
North: Trunk Esplanade (N)															
7	L2	All MCs	8	0.0	8	0.0	0.030	14.2	LOS B	0.1	0.5	0.88	0.65	0.88	44.1
8	T1	All MCs	27	3.8	27	3.8	* 0.072	7.7	LOS A	0.2	1.7	0.84	0.59	0.84	53.3
Approach			36	2.9	36	2.9	0.072	9.2	LOS A	0.2	1.7	0.85	0.61	0.85	50.8
All Vehicles			346	1.2	346	1.2	0.232	8.4	LOS A	1.1	7.9	0.68	0.62	0.68	48.3

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. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed 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.

LANE 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)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Trunk Esplanade (S)															
Lane 1	67	1.6	67	1.6	1255	0.054	100	1.4	LOS A	0.2	1.7	Full	500	0.0	0.0
Lane 2	65	3.2	65	3.2	726	0.090	100	9.8	LOS A	0.4	3.0	Short	60	0.0	NA
Approach	133	2.4	133	2.4		0.090		5.6	LOS A	0.4	3.0				
East: Collector Rd (E)															
Lane 1	151	0.0	151	0.0	650	0.232	100	9.9	LOS A	1.1	7.9	Full	500	0.0	0.0
Lane 2	27	0.0	27	0.0	279	0.098	100	13.4	LOS B	0.3	1.8	Short	60	0.0	NA
Approach	178	0.0	178	0.0		0.232		10.5	LOS B	1.1	7.9				
North: Trunk Esplanade (N)															
Lane 1	8	0.0	8	0.0	279	0.030	100	14.2	LOS B	0.1	0.5	Short	60	0.0	NA
Lane 2	27	3.8	27	3.8	380	0.072	100	7.7	LOS A	0.2	1.7	Full	500	0.0	0.0
Approach	36	2.9	36	2.9		0.072		9.2	LOS A	0.2	1.7				
All Vehicles	346	1.2	346	1.2		0.232		8.4	LOS A	1.1	7.9				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
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.

Approach Lane Flows (veh/h)

South: Trunk Esplanade (S)

Mov. From S To Exit:	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	67	-	67	1.6	1255	0.054	100	NA	NA
Lane 2	-	65	65	3.2	726	0.090	100	0.0	1
Approach	67	65	133	2.4		0.090			

East: Collector Rd (E)

Mov. From E To Exit:	L2 S	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	151	-	151	0.0	650	0.232	100	NA	NA
Lane 2	-	27	27	0.0	279	0.098	100	0.0	1
Approach	151	27	178	0.0		0.232			

North: Trunk Esplanade (N)

Mov. From N To Exit:	L2 E	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.

Lane 1	8	-	8	0.0	279	0.030	100	0.0	2
Lane 2	-	27	27	3.8	380	0.072	100	NA	NA
Approach	8	27	36	2.9		0.072			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	346	1.2	0.232

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

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.											

Variable Demand Analysis

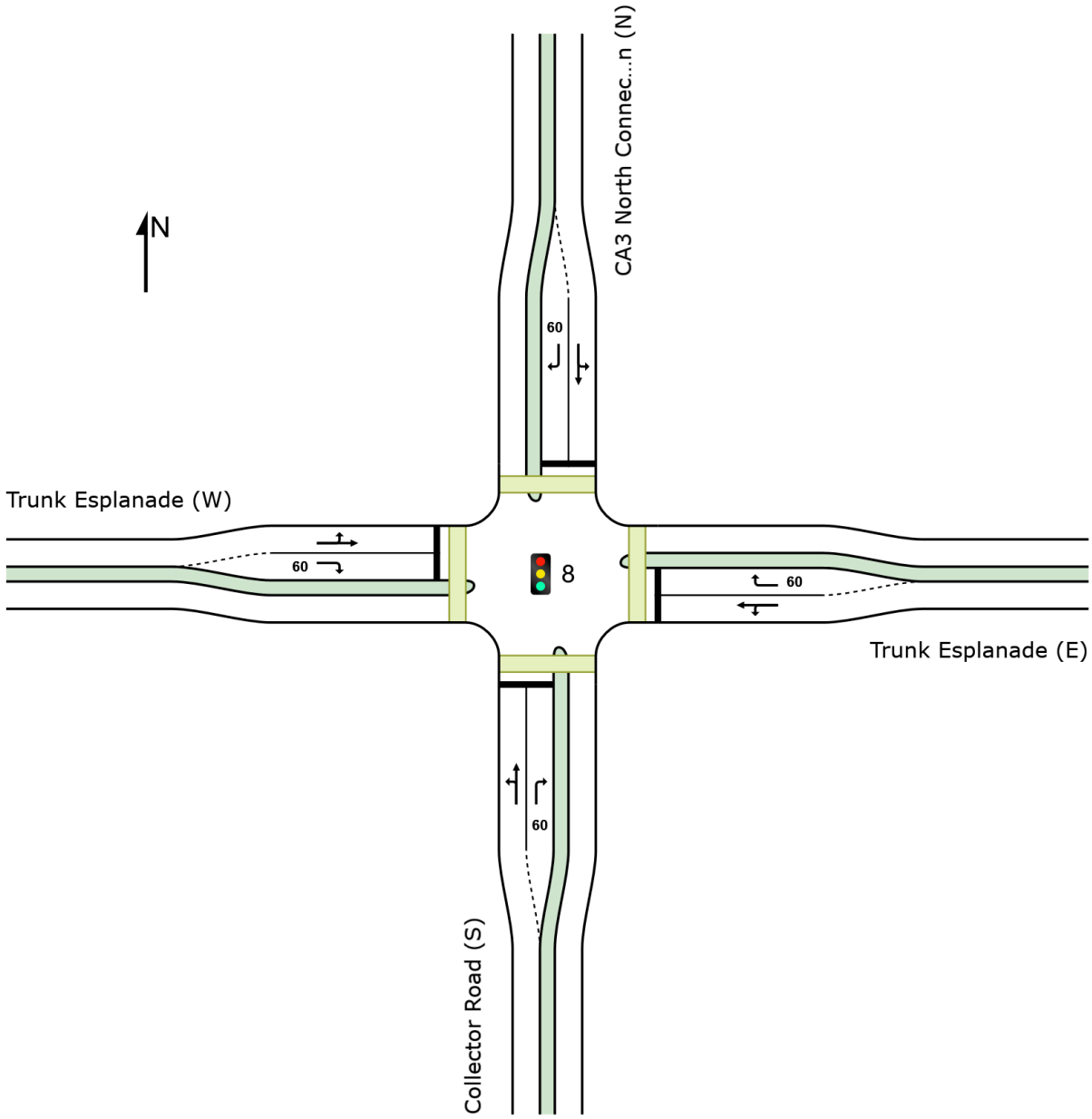
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Trunk Esplanade (S)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
East: Collector Rd (E)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: Trunk Esplanade (N)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

SITE LAYOUT

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

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

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



MOVEMENT SUMMARY

Site: 8 [8_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 = 60 seconds (Site Optimum Cycle Time - Minimum Delay)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Collector Road (S)															
1	L2	All MCs	1	0.0	1	0.0	0.091	36.0	LOS D	0.7	4.6	0.89	0.64	0.89	41.3
2	T1	All MCs	24	0.0	24	0.0	0.091	24.4	LOS C	0.7	4.6	0.89	0.64	0.89	42.6
3	R2	All MCs	78	3.8	78	3.8	*0.432	35.3	LOS D	2.3	16.9	0.98	0.76	0.98	36.9
Approach			103	2.9	103	2.9	0.432	32.7	LOS C	2.3	16.9	0.96	0.73	0.96	38.2
East: Trunk Esplanade (E)															
4	L2	All MCs	234	1.7	234	1.7	*0.629	25.3	LOS C	10.4	73.9	0.88	0.80	0.88	43.5
5	T1	All MCs	188	1.1	188	1.1	0.629	14.2	LOS B	10.4	73.9	0.88	0.80	0.88	45.0
6	R2	All MCs	19	5.3	19	5.3	*0.318	41.2	LOS D	0.6	4.6	1.00	0.69	1.00	34.8
Approach			441	1.6	441	1.6	0.629	21.2	LOS C	10.4	73.9	0.88	0.79	0.88	43.7
North: CA3 North Connection (N)															
7	L2	All MCs	12	0.0	12	0.0	0.159	38.5	LOS D	0.7	4.7	0.96	0.69	0.96	38.0
8	T1	All MCs	11	0.0	11	0.0	*0.159	26.4	LOS C	0.7	4.7	0.96	0.69	0.96	39.0
9	R2	All MCs	30	0.0	30	0.0	0.162	34.0	LOS C	0.9	6.0	0.95	0.71	0.95	37.5
Approach			53	0.0	53	0.0	0.162	33.4	LOS C	0.9	6.0	0.95	0.70	0.95	37.9
West: Trunk Esplanade (W)															
10	L2	All MCs	12	0.0	12	0.0	0.198	34.6	LOS C	2.7	19.1	0.73	0.61	0.73	46.3
11	T1	All MCs	116	3.4	116	3.4	0.198	13.4	LOS B	2.7	19.1	0.73	0.61	0.73	47.9
12	R2	All MCs	1	0.0	1	0.0	0.016	38.8	LOS D	0.0	0.2	0.98	0.57	0.98	35.7
Approach			129	3.1	129	3.1	0.198	15.6	LOS B	2.7	19.1	0.74	0.61	0.74	47.6
All Vehicles			726	1.9	726	1.9	0.629	22.8	LOS C	10.4	73.9	0.87	0.74	0.87	42.9

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. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed 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)												

P2	Full	20	20	23.4	LOS C	0.0	0.0	0.88	0.88	177.3	200.0	1.13
North: CA3 North Connection (N)												
P3	Full	20	20	23.4	LOS C	0.0	0.0	0.88	0.88	177.3	200.0	1.13
West: Trunk Esplanade (W)												
P4	Full	20	20	23.4	LOS C	0.0	0.0	0.88	0.88	177.3	200.0	1.13
All Pedestrians		80	80	23.4	LOS C	0.0	0.0	0.88	0.88	177.3	200.0	1.13

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.

LANE SUMMARY

Site: 8 [8_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 = 60 seconds (Site Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Collector Road (S)															
Lane 1	25	0.0	25	0.0	276	0.091	100	24.9	LOS C	0.7	4.6	Full	500	0.0	0.0
Lane 2	78	3.8	78	3.8	181	0.432	100	35.3	LOS D	2.3	16.9	Short	60	0.0	NA
Approach	103	2.9	103	2.9		0.432		32.7	LOS C	2.3	16.9				
East: Trunk Esplanade (E)															
Lane 1	422	1.4	422	1.4	671	0.629	100	20.3	LOS C	10.4	73.9	Full	500	0.0	0.0
Lane 2	19	5.3	19	5.3	60	0.318	100	41.2	LOS D	0.6	4.6	Short	60	0.0	NA
Approach	441	1.6	441	1.6		0.629		21.2	LOS C	10.4	73.9				
North: CA3 North Connection (N)															
Lane 1	23	0.0	23	0.0	145	0.159	100	32.7	LOS C	0.7	4.7	Full	500	0.0	0.0
Lane 2	30	0.0	30	0.0	186	0.162	100	34.0	LOS C	0.9	6.0	Short	60	0.0	NA
Approach	53	0.0	53	0.0		0.162		33.4	LOS C	0.9	6.0				
West: Trunk Esplanade (W)															
Lane 1	128	3.1	128	3.1	645	0.198	100	15.4	LOS B	2.7	19.1	Full	500	0.0	0.0
Lane 2	1	0.0	1	0.0	62	0.016	100	38.8	LOS D	0.0	0.2	Short	60	0.0	NA
Approach	129	3.1	129	3.1		0.198		15.6	LOS B	2.7	19.1				
All Vehicles	726	1.9	726	1.9		0.629		22.8	LOS C	10.4	73.9				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
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.

Approach Lane Flows (veh/h)

South: Collector Road (S)

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	24	-	25	0.0	276	0.091	100	NA	NA
Lane 2	-	-	78	78	3.8	181	0.432	100	0.0	1
Approach	1	24	78	103	2.9		0.432			

East: Trunk Esplanade (E)

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	234	188	-	422	1.4	671	0.629	100	NA	NA

Lane 2	-	-	19	19	5.3	60	0.318	100	0.0	1
Approach	234	188	19	441	1.6		0.629			
North: CA3 North Connection (N)										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	12	11	-	23	0.0	145	0.159	100	NA	NA
Lane 2	-	-	30	30	0.0	186	0.162	100	0.0	1
Approach	12	11	30	53	0.0		0.162			
West: Trunk Esplanade (W)										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	12	116	-	128	3.1	645	0.198	100	NA	NA
Lane 2	-	-	1	1	0.0	62	0.016	100	0.0	1
Approach	12	116	1	129	3.1		0.198			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	726	1.9	0.629

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

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.												

Variable Demand Analysis

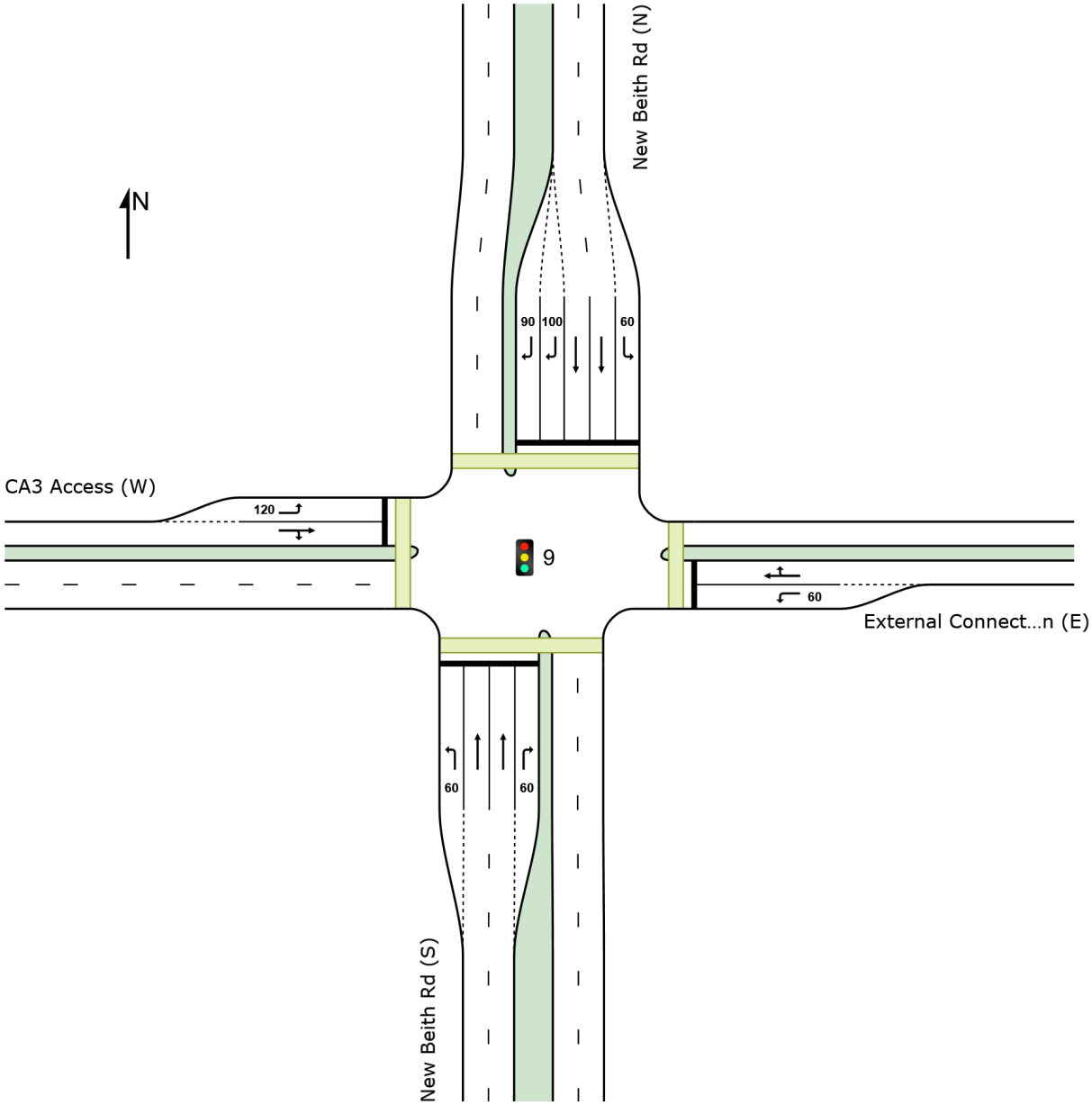
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Collector Road (S)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
East: Trunk Esplanade (E)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: CA3 North Connection (N)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Trunk Esplanade (W)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

SITE LAYOUT

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

New Beith Road / CA3 Central Access
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:\P2300 Flagstone City Stages 2-5\Technical\Models\SIDRA\2024_02_16 CA3 Masterplan SIDRAs\P2300.001M 2066 CA3 South Masterplan SIDRA Models.sip9

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 = 110 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: New Beith Rd (S)															
1	L2	All MCs	105	2.9	105	2.9	0.167	47.6	LOS D	3.9	27.9	0.73	0.76	0.73	46.6
2	T1	All MCs	1073	2.6	1073	2.6	0.854	57.5	LOS E	30.3	217.1	1.00	0.96	1.12	52.5
3	R2	All MCs	46	0.0	46	0.0	*0.545	82.7	LOS F	2.6	18.5	1.00	0.76	1.05	35.4
Approach			1224	2.5	1224	2.5	0.854	57.6	LOS E	30.3	217.1	0.97	0.94	1.09	45.9
East: External Connection (E)															
4	L2	All MCs	32	9.4	32	9.4	0.202	57.6	LOS E	1.7	12.5	0.96	0.72	0.96	37.3
5	T1	All MCs	2	0.0	2	0.0	0.138	55.3	LOS E	0.8	6.3	0.97	0.69	0.97	30.4
6	R2	All MCs	13	15.4	13	15.4	0.138	61.1	LOS E	0.8	6.3	0.97	0.69	0.97	38.0
Approach			47	10.6	47	10.6	0.202	58.5	LOS E	1.7	12.5	0.96	0.71	0.96	37.2
North: New Beith Rd (N)															
7	L2	All MCs	53	3.8	53	3.8	*0.050	25.1	LOS C	0.7	5.3	0.44	0.69	0.44	59.5
8	T1	All MCs	1878	1.5	1878	1.5	*0.874	36.9	LOS D	47.6	337.3	0.92	0.91	0.99	60.2
9	R2	All MCs	347	1.2	347	1.2	0.345	45.5	LOS D	7.5	53.1	0.85	0.79	0.85	44.8
Approach			2278	1.5	2278	1.5	0.874	37.9	LOS D	47.6	337.3	0.90	0.88	0.96	53.3
West: CA3 Access (W)															
10	L2	All MCs	148	2.7	148	2.7	0.175	23.8	LOS C	4.6	32.7	0.62	0.73	0.62	51.8
11	T1	All MCs	14	0.0	14	0.0	*0.199	46.4	LOS D	2.5	17.4	0.92	0.73	0.92	33.0
12	R2	All MCs	37	0.0	37	0.0	0.199	52.0	LOS D	2.5	17.4	0.92	0.73	0.92	40.0
Approach			199	2.0	199	2.0	0.199	30.7	LOS C	4.6	32.7	0.70	0.73	0.70	47.9
All Vehicles			3748	2.0	3748	2.0	0.874	44.2	LOS D	47.6	337.3	0.92	0.89	0.99	50.1

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. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: New Beith Rd (S)												
P1	Full	5	5	48.2	LOS E	0.0	0.0	0.94	0.94	202.1	200.0	0.99
East: External Connection (E)												
P2	Full	30	30	48.3	LOS E	0.1	0.1	0.94	0.94	202.1	200.0	0.99

North: New Beith Rd (N)												
P3	Full	20	20	48.3	LOS E	0.1	0.1	0.94	0.94	202.1	200.0	0.99
West: CA3 Access (W)												
P4	Full	50	50	48.3	LOS E	0.1	0.1	0.94	0.94	202.2	200.0	0.99
All Pedestrians		105	105	48.3	LOS E	0.1	0.1	0.94	0.94	202.1	200.0	0.99

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.

LANE 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 = 110 seconds (Site Practical Cycle Time)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: New Beith Rd (S)															
Lane 1	105	2.9	105	2.9	629	0.167	100	47.6	LOS D	3.9	27.9	Short	60	0.0	NA
Lane 2	523	2.6	523	2.6	612[1]	0.854	100	57.0	LOS E	29.0	207.6	Full	850	0.0	0.0
Lane 3	550	2.6	550	2.6	644[1]	0.854	100	57.9	LOS E	30.3	217.1	Full	850	0.0	0.0
Lane 4	46	0.0	46	0.0	84	0.545	100	82.7	LOS F	2.6	18.5	Short	60	0.0	NA
Approach	1224	2.5	1224	2.5		0.854		57.6	LOS E	30.3	217.1				
East: External Connection (E)															
Lane 1	32	9.4	32	9.4	158	0.202	100	57.6	LOS E	1.7	12.5	Short	60	0.0	NA
Lane 2	15	13.3	15	13.3	109	0.138	100	60.3	LOS E	0.8	6.3	Full	500	0.0	0.0
Approach	47	10.6	47	10.6		0.202		58.5	LOS E	1.7	12.5				
North: New Beith Rd (N)															
Lane 1	53	3.8	53	3.8	1069	0.050	100	25.1	LOS C	0.7	5.3	Short	60	0.0	NA
Lane 2	954	1.5	954	1.5	1092[1]	0.874	100	39.3	LOS D	47.6	337.3	Full	950	0.0	0.0
Lane 3	924	1.5	924	1.5	1057[1]	0.874	100	34.4	LOS C	46.4	328.8	Full	950	0.0	0.0
Lane 4	174	1.2	174	1.2	502	0.345	100	49.1	LOS D	7.5	53.1	Short	100	0.0	NA
Lane 5	174	1.2	174	1.2	502	0.345	100	41.8	LOS D	7.5	53.1	Short	90	0.0	NA
Approach	2278	1.5	2278	1.5		0.874		37.9	LOS D	47.6	337.3				
West: CA3 Access (W)															
Lane 1	148	2.7	148	2.7	845	0.175	100	23.8	LOS C	4.6	32.7	Short	120	0.0	NA
Lane 2	51	0.0	51	0.0	257	0.199	100	50.4	LOS D	2.5	17.4	Full	500	0.0	0.0
Approach	199	2.0	199	2.0		0.199		30.7	LOS C	4.6	32.7				
All Vehicles	3748	2.0	3748	2.0		0.874		44.2	LOS D	47.6	337.3				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
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.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Delay and stops experienced by drivers upstream of short lane entry have been accounted for.

Approach Lane Flows (veh/h)

South: New Beith Rd (S)

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	105	-	-	105	2.9	629	0.167	100	0.0	2
Lane 2	-	523	-	523	2.6	612[1]	0.854	100	NA	NA
Lane 3	-	550	-	550	2.6	644[1]	0.854	100	NA	NA

Lane 4	-	-	46	46	0.0	84	0.545	100	0.0	3
Approach	105	1073	46	1224	2.5		0.854			
East: External Connection (E)										
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	32	-	-	32	9.4	158	0.202	100	0.0	2
Lane 2	-	2	13	15	13.3	109	0.138	100	NA	NA
Approach	32	2	13	47	10.6		0.202			
North: New Beith Rd (N)										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	53	-	-	53	3.8	1069	0.050	100	0.0	2
Lane 2	-	954	-	954	1.5	1092[1]	0.874	100	NA	NA
Lane 3	-	924	-	924	1.5	1057[1]	0.874	100	NA	NA
Lane 4	-	-	174	174	1.2	502	0.345	100	0.0	3
Lane 5	-	-	174	174	1.2	502	0.345	100	0.0	4
Approach	53	1878	347	2278	1.5		0.874			
West: CA3 Access (W)										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	148	-	-	148	2.7	845	0.175	100	0.0	2
Lane 2	-	14	37	51	0.0	257	0.199	100	NA	NA
Approach	148	14	37	199	2.0		0.199			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	3748	2.0	0.874

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

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Delay and stops experienced by drivers upstream of short lane entry have been accounted for.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.												

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: New Beith Rd (S)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
Lane 4	0.0	0.0	0.0	0.0
East: External Connection (E)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: New Beith Rd (N)				

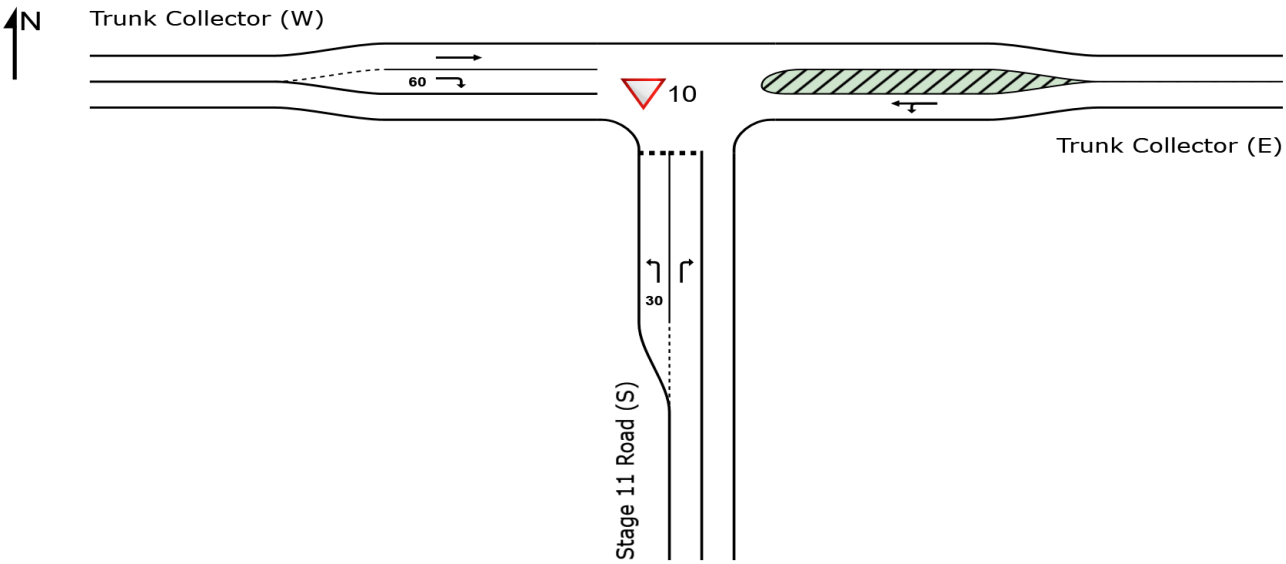
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
Lane 4	0.0	0.0	0.0	0.0
Lane 5	0.0	0.0	0.0	0.0
West: CA3 Access (W)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

SITE LAYOUT

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

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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Project: P:\P2300 Flagstone City Stages 2-5\Technical\Models\SIDRA\2024_02_16 CA3 Masterplan SIDRAs\P2300.001M 2066 CA3 South Masterplan SIDRA Models.sip9

MOVEMENT SUMMARY

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

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Trunk Collector / Stage 11
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Stage 11 Road (S)															
1	L2	All MCs	11	0.0	11	0.0	0.011	7.3	LOS A	0.0	0.3	0.46	0.62	0.46	51.5
3	R2	All MCs	25	0.0	25	0.0	0.050	10.9	LOS B	0.2	1.2	0.59	0.78	0.59	49.0
Approach			36	0.0	36	0.0	0.050	9.8	LOS A	0.2	1.2	0.55	0.73	0.55	49.8
East: Trunk Collector (E)															
4	L2	All MCs	32	0.0	32	0.0	0.268	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	57.1
5	T1	All MCs	492	1.0	492	1.0	0.268	0.1	LOS A	0.0	0.0	0.00	0.04	0.00	59.5
Approach			524	1.0	524	1.0	0.268	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.4
West: Trunk Collector (W)															
11	T1	All MCs	145	1.4	145	1.4	0.074	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	0.010	8.0	LOS A	0.0	0.3	0.52	0.62	0.52	50.7
Approach			154	1.9	154	1.9	0.074	0.5	NA	0.0	0.3	0.03	0.04	0.03	59.3
All Vehicles			714	1.1	714	1.1	0.268	0.9	NA	0.2	1.2	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.

LANE SUMMARY

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

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Trunk Collector / Stage 11
Site Category: (None)
Give-Way (Two-Way)

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Stage 11 Road (S)															
Lane 1	11	0.0	11	0.0	1004	0.011	100	7.3	LOS A	0.0	0.3	Short	30	0.0	NA
Lane 2	25	0.0	25	0.0	504	0.050	100	10.9	LOS B	0.2	1.2	Full	500	0.0	0.0
Approach	36	0.0	36	0.0		0.050		9.8	LOS A	0.2	1.2				
East: Trunk Collector (E)															
Lane 1	524	1.0	524	1.0	1952	0.268	100	0.4	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	524	1.0	524	1.0		0.268		0.4	NA	0.0	0.0				
West: Trunk Collector (W)															
Lane 1	145	1.4	145	1.4	1953	0.074	100	0.0	LOS A	0.0	0.0	Full	500	0.0	0.0
Lane 2	9	11.1	9	11.1	940	0.010	100	8.0	LOS A	0.0	0.3	Short	60	0.0	NA
Approach	154	1.9	154	1.9		0.074		0.5	NA	0.0	0.3				
All Vehicles	714	1.1	714	1.1		0.268		0.9	NA	0.2	1.2				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
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.

Approach Lane Flows (veh/h)

South: Stage 11 Road (S)

Mov. From S To Exit:	L2 W	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	11	-	11	0.0	1004	0.011	100	0.0	2
Lane 2	-	25	25	0.0	504	0.050	100	NA	NA
Approach	11	25	36	0.0		0.050			

East: Trunk Collector (E)

Mov. From E To Exit:	L2 S	T1 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	32	492	524	1.0	1952	0.268	100	NA	NA
Approach	32	492	524	1.0		0.268			

West: Trunk Collector (W)

Mov. From W	T1	R2	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL Ov.	Ov. Lane

To Exit:	E	S			veh/h	v/c	%	%	No.
Lane 1	145	-	145	1.4	1953	0.074	100	NA	NA
Lane 2	-	9	9	11.1	940	0.010	100	0.0	1
Approach	145	9	154	1.9		0.074			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	714	1.1	0.268

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

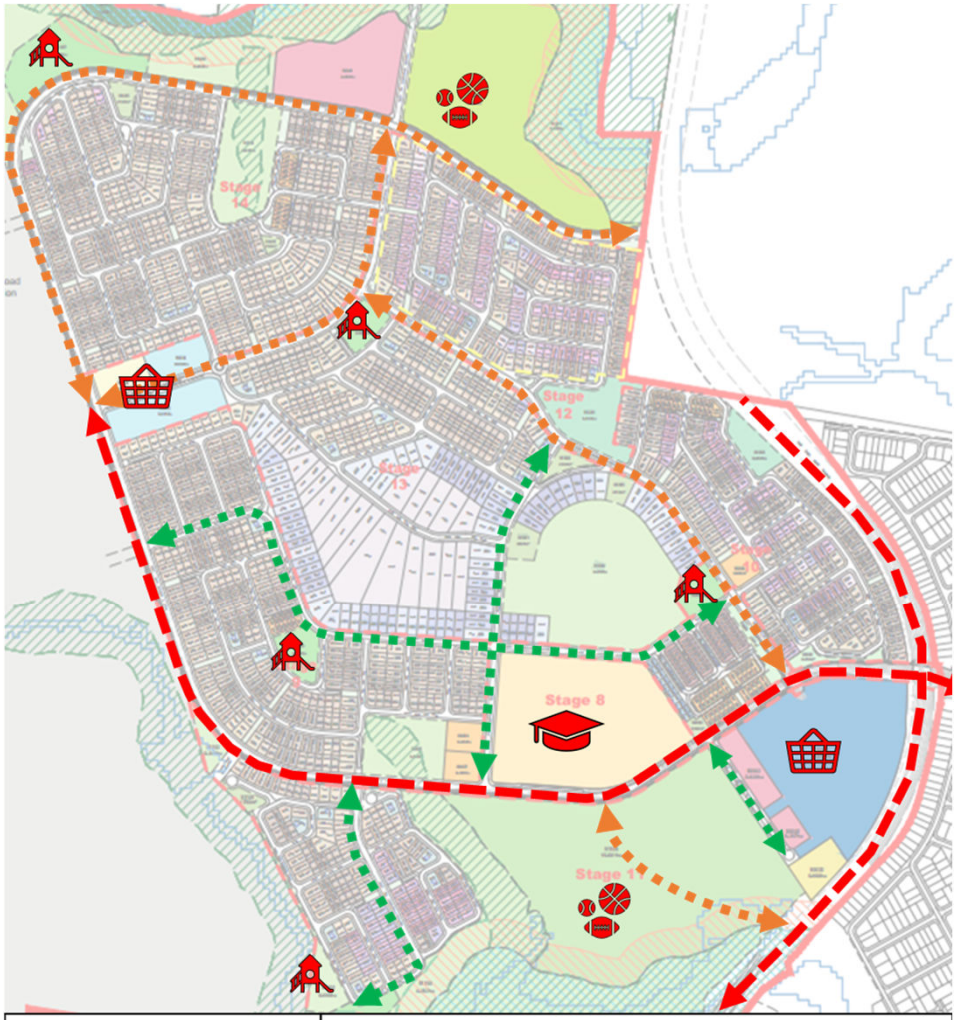
Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.												

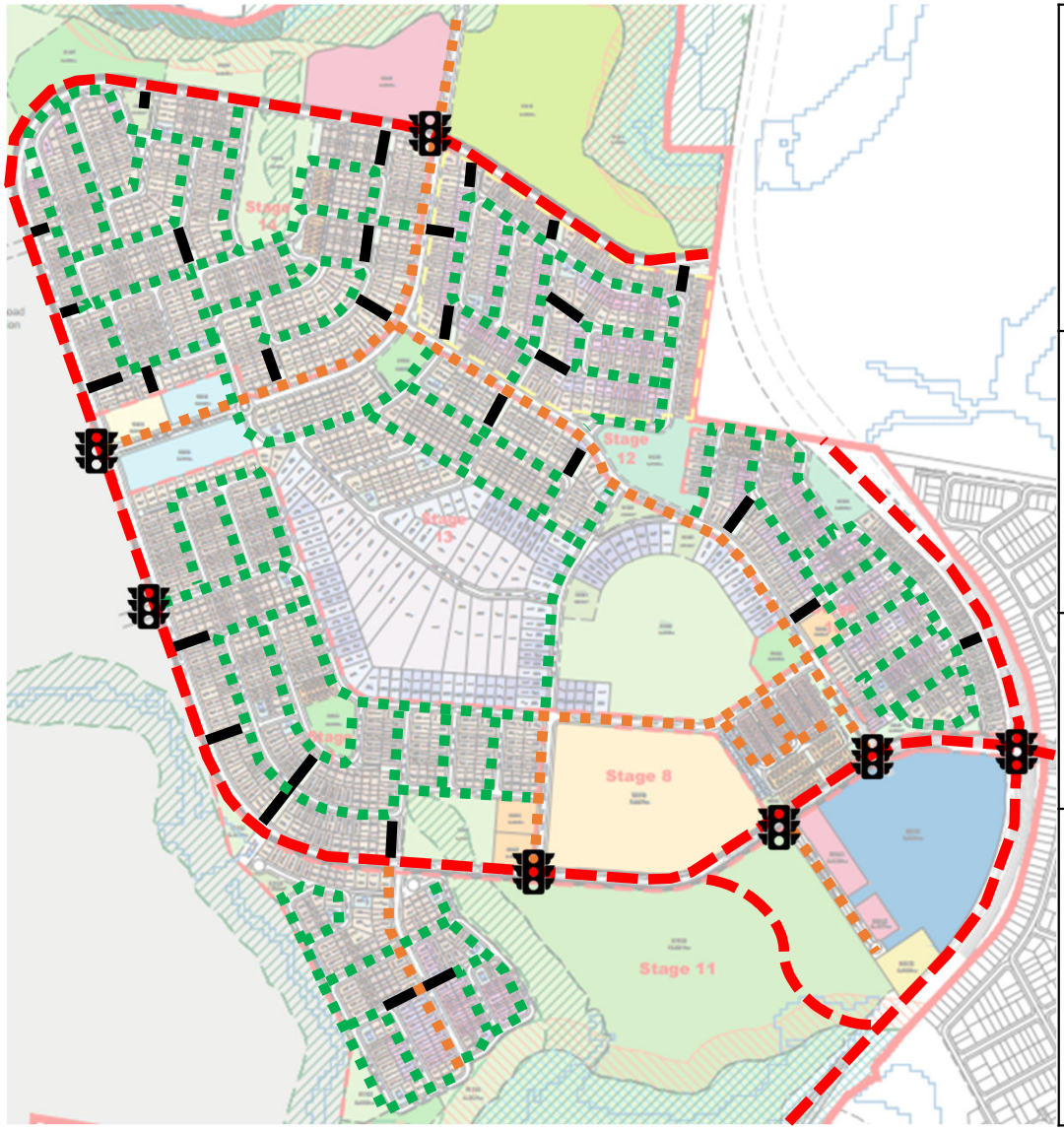
Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Stage 11 Road (S)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
East: Trunk Collector (E)				
Lane 1	0.0	0.0	0.0	0.0
West: Trunk Collector (W)				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

Appendix D: Active Transport Provisions



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



Major Active Transport Link:

- Separated cycle ways
- Shared paths outside road reserve
- Shared paths ≥3m inside road reserve both sides

Medium Active Transport Link:

- Shared path inside road reserve one side
- Shared paths ≤3m inside road reserve both sides

Low Active Transport Link:

- Pathway inside road reserve <2m one side

Additional Links:

- Signalised Crossings
- Links Through Corridor Parks & Laneways