Mornington Peninsula Specialist Hospital

Transport Impact Assessment

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28 September 2023

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CONTENTS

TABLES

FIGURES

APPENDICES

1 INTRODUCTION

onemile**grid** has been requested by Clarke Hopkins Clarke Architects to undertake a Transport Impact Assessment of the proposed specialist hospital development at 9-13 Cranbourne Road & 69 Playne Street, Frankston.

This report has been updated in response to Frankston City Council's Request for Further Information, with a response to each comment provided at the back of this report.

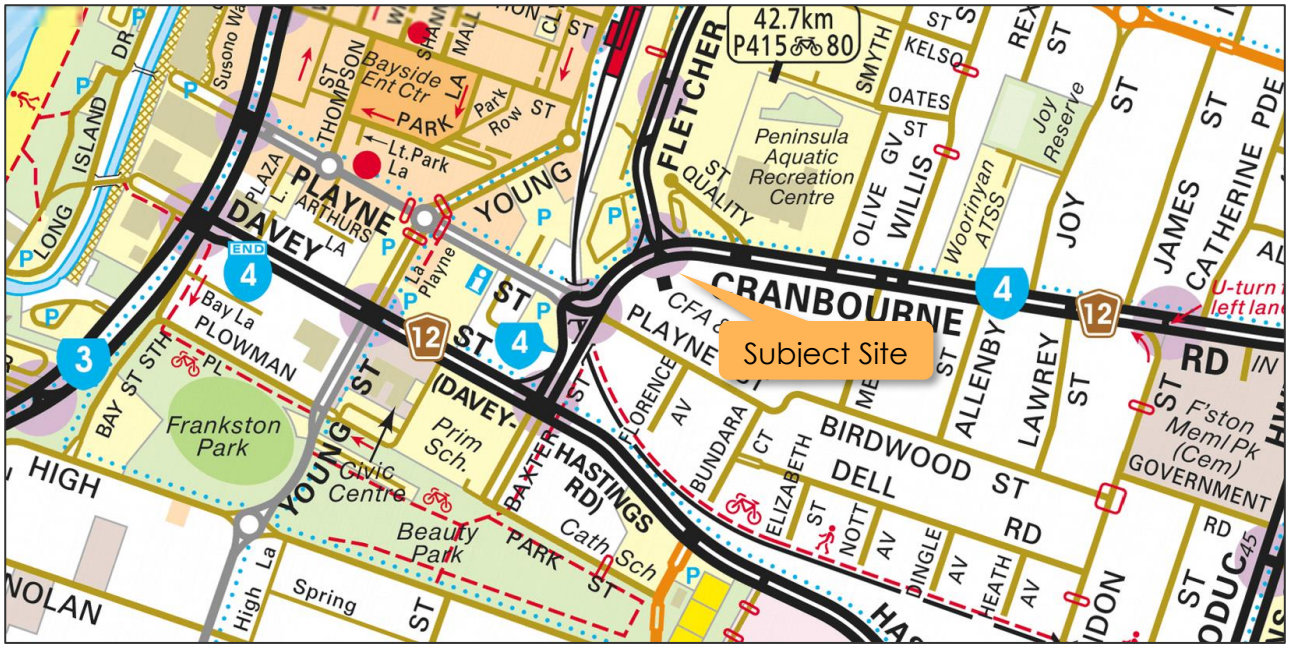
As part of this assessment the subject site has been inspected with due consideration of the development proposal, traffic and parking data has been sourced and relevant background reports have been reviewed.

2 EXISTING CONDITIONS

2.1 Site Location

The subject site is located on the southern side of Cranbourne Road, to the immediate east of Fletcher Road, as shown in Figure 1.

Figure 1 Site Location



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The site is irregular in shape and has a frontage to Cranbourne Road for approximately 100.6 metres, a rear abuttal to Playne Street for approximately 20 metres, with a total site area of 6,000 m^2.

The site is currently vacant.

The site is provided with vehicular access from both Cranbourne Road and Playne Street, as summarised below:

- 2 x single crossovers to Cranbourne Road;
- 1 x double crossover to Cranbourne Road; and
- 2 x single crossovers to Playne Street.

The site is located within the Frankston Metropolitan Activity Centre (MAC).

Land use in the immediate vicinity of the site includes commercial uses to the immediate west of the site and residential uses elsewhere. Of note, the Frankston Fire Brigade is located along the site's western boundary.

An aerial view of the subject site is provided in Figure 2.

Figure 2 Site Context (18 October 2022)

Copyright Nearmap

2.2 Planning Zones and Overlays

It is shown in Figure 3 that the site is located within a Commercial 1 Zone (C1Z). In addition, the site is subject to the following overlays:

- Design and Development Overlay – Schedule 13;
- Parking Overlay – Precinct 1; and
- Special Building Overlay (northeast portion of site only).

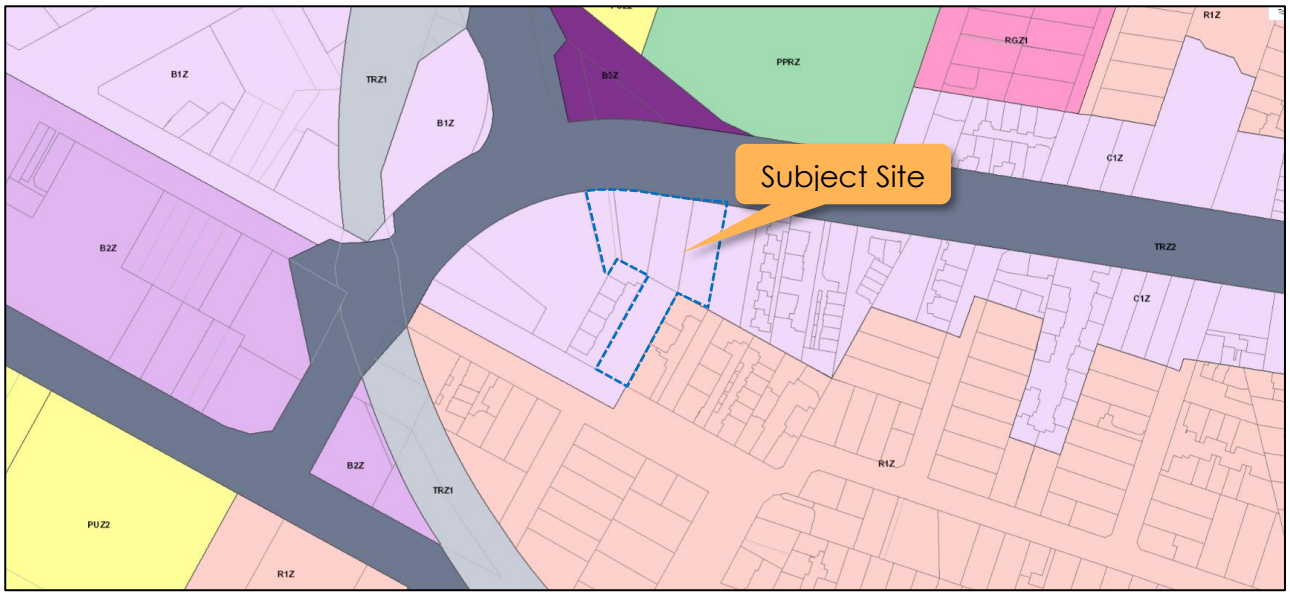
Of note the Design and Development Overlay includes the following guidelines in regard to car parking and access:

- Encourage screening of basement or semi-basement parking from the street;
- At grade car parking areas should be located away from street interfaces and not within front setbacks. Appropriate landscaping should be incorporated within at grade car parking areas;
- The layout and appearance of areas set aside for car parking, ingress and egress, loading and unloading, and that the layout provides for the separation of vehicle and pedestrian movement.
- The layout and appearance of areas set aside for car parking, ingress and egress, loading and unloading, and that the layout provides for the separation of vehicle and pedestrian movement.
- Whether the layout provides for the safe ingress/egress to and from the site and that the layout provides for the separation of vehicle and pedestrian movement.

In addition the car parking overlay specifies the minimum car parking requirements for several uses, however, hospitals are not one of the uses listed.

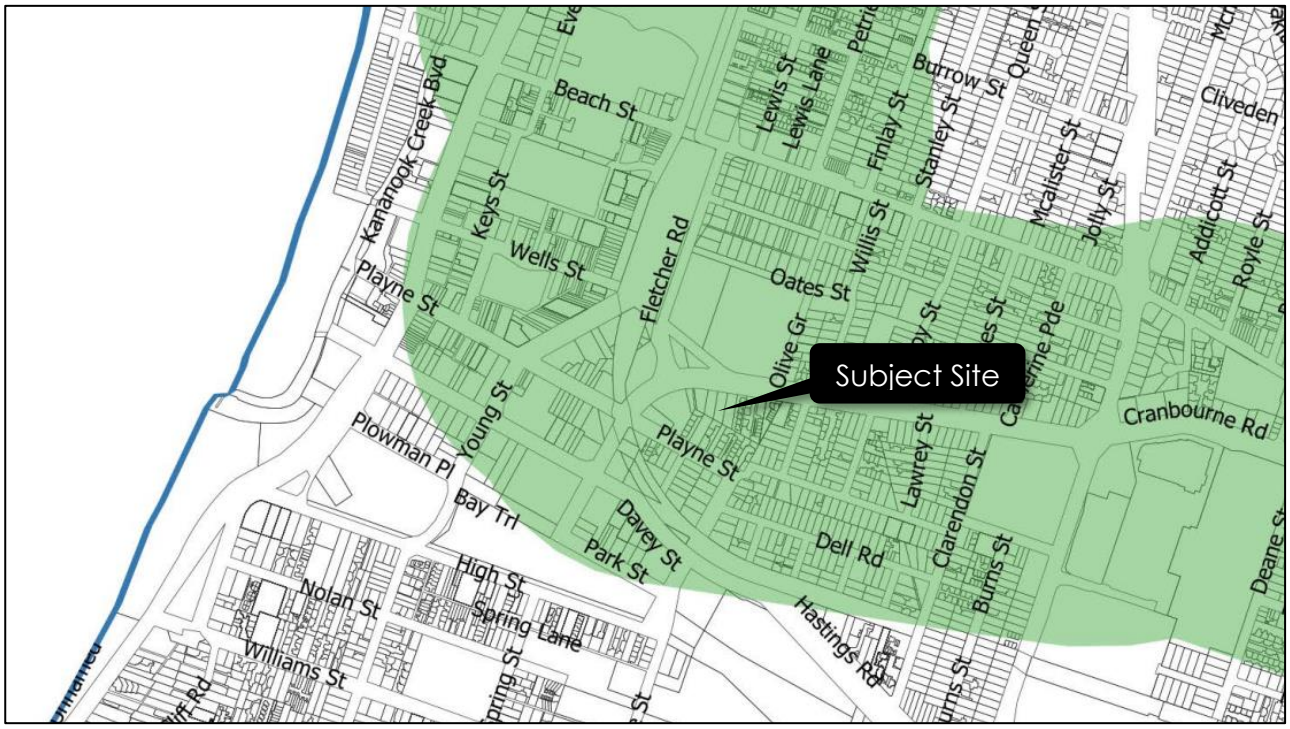
Additionally, the site abuts Cranbourne Road, which is within a Transport Zone (TRZ2); Principal Road Network.

Figure 3 Planning Scheme Zones



The site falls within the Principal Public Transport Network Area, as shown in Figure 4.

Figure 4 Principal Public Transport Network Area Map



2.3 Road Network

2.3.1 Cranbourne Road

Cranbourne Road is an arterial road generally aligned east-west, running from Playne Street and continuing west of the Peninsula Link as Cranbourne-Frankston Road. In the vicinity of the site, Cranbourne Road generally provides two traffic lanes, a kerbside parking lane and a bicycle lane in each direction separated by a central median. It is noted that no kerbside car parking is provided along the western side of the site's frontage and a channelised right turn lane is provided to facilitate access to Fletcher Road.

A signed 60km/h speed limit applies to Hastings Road in the vicinity of the site.

The cross-section of Hastings Road at the frontage of the site is shown in Figure 5.

Figure 5 Cranbourne Road, looking east from adjacent to the subject site

2.3.2 Playne Street

Playne Street is a local road generally aligned east-west, running between Cranbourne Road and Birdwood Street. Playne Street has a carriageway width of approximately 11.6 metres which accommodates traffic and kerbside parking in both directions. The parking on the northern side of Playne Street is unrestricted and the southern side of Playne Street is restricted to 1P between 9:00am and 6:00pm, Monday to Friday.

The default 50km/h speed limit applies to Playne Street in the vicinity of the site.

The cross-section of Playne Street at the frontage of the site is shown in Figure 6.

Figure 6 Playne Street, looking west from adjacent to the subject site

2.4 Traffic Volumes

Traffic volume surveys were undertaken by Trans Traffic Survey on behalf of **one**mile**grid** in Thursday 15th September 2022, between 6:30am and 9:30am, and between 2:30pm and 7:00pm, at the following intersections:

- Cranbourne Road / Allenby Street;
- Cranbourne Road / Fletcher Street;
- Cranbourne Road / Playne Street; and
- Davey Street / Baxter Street.

The peak hour results of the surveys are shown in Figure 7 and Figure 8.

Figure 7 Existing Traffic Volumes – AM Peak – September 2022

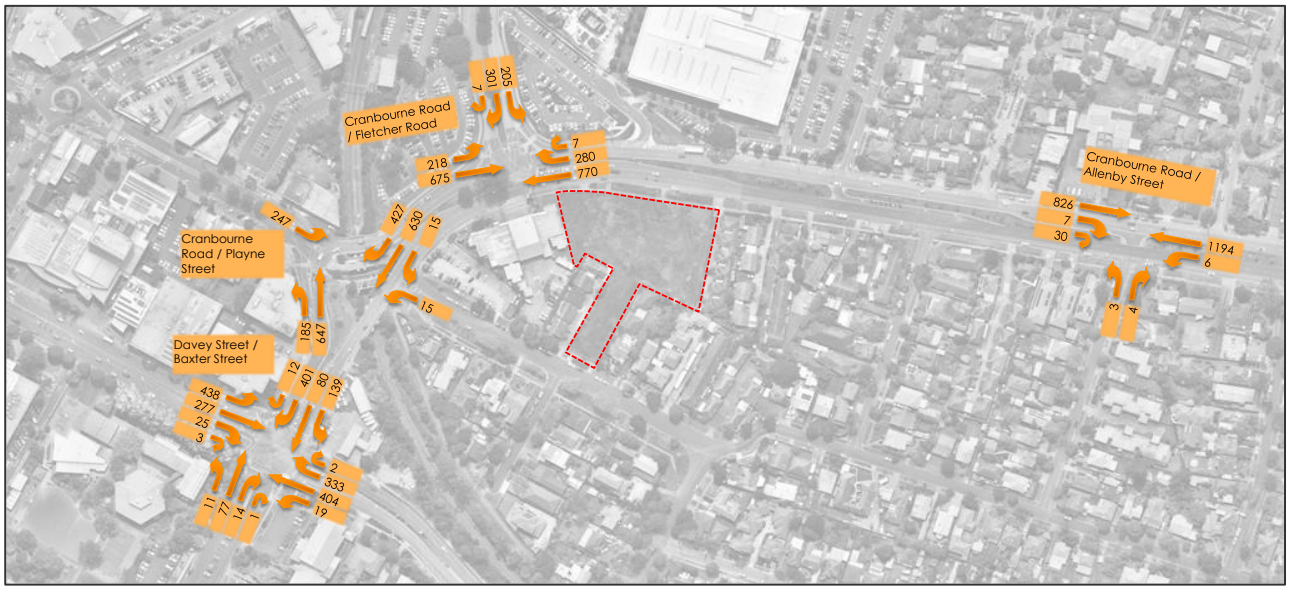
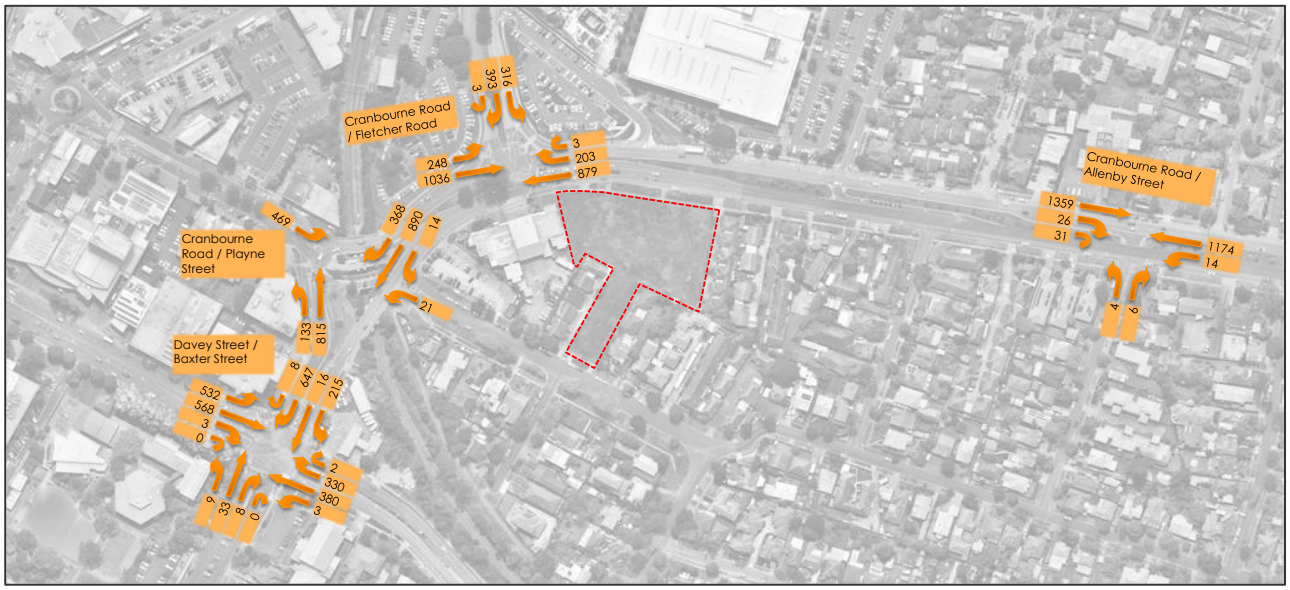


Figure 8 Existing Traffic Volumes – PM Peak – September 2022

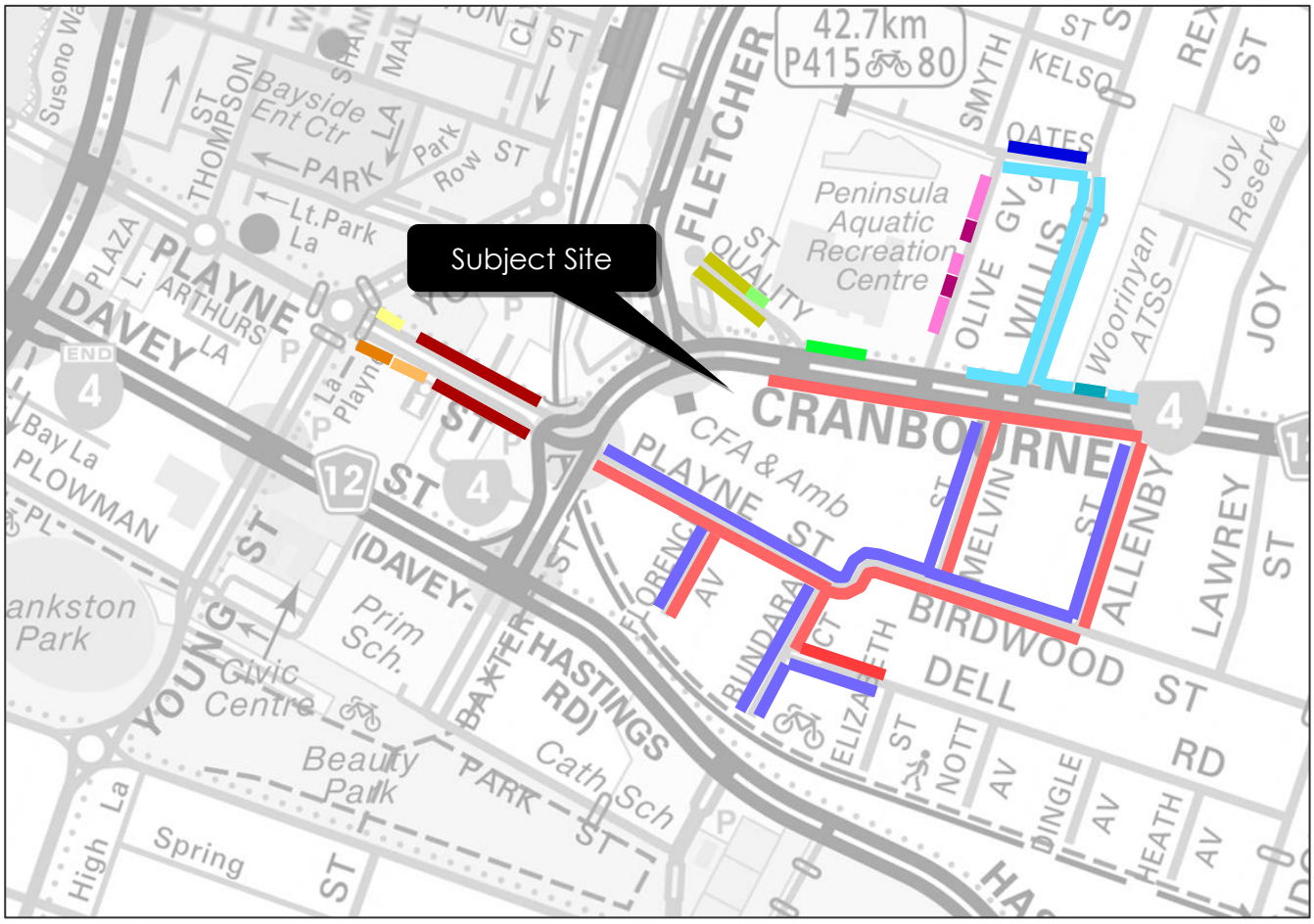


2.5 Car Parking

onemile**grid** commissioned Trans Traffic Survey to collect an inventory of on-street parking surrounding the site.

Figure 9 below shows the areas captured by the surveys with the various parking restrictions. A total of 339 car parking spaces were recorded in the vicinity of the site, with only 98 car parking space being unrestricted at all times. In addition, 66 car parking spaces had 3P restrictions during business hours and 104 car parking spaces had 1P restrictions during business hours. The remainder of the parking spaces were subject to various time (1/2P or under) or special use (Permit Zone, Authorised Vehicles, Loading Zone etc.) restrictions which are not considered appropriate for visitor use.

Figure 9 Car Parking Inventory



1P	9am-6pm Mon-Fri	Resident Permit Excepted	87 spaces
3P	9am-6pm Mon-Fri	Resident Permit Excepted	6 spaces
1P	9am-6pm Mon-Sat		15 spaces
1/4P	9am-6pm		2 spaces
1P	Disabled		2 spaces
Loading Zone	9am-6pm Mon-Sat		2 spaces
Permit Zone	6am-8pm		40 spaces
1/2P	6am-8pm		3 spaces
Bus Zone	9am-5:30pm Mon-Fri, 9am-12:30pm Sat		6 spaces
3P	8am-8pm	Resident Permit Excepted	37 spaces
P 5mins	8:30am-9:30am, 2:30pm-3:30pm Mon-Fri	Resident Permit Excepted	3 spaces
Unrestricted			98 spaces
Permit Zone			5 spaces
3P	Authorised Permit Excepted		23 spaces
No Stopping	Authorised Permit Excepted		10 spaces

2.6 Crash History

Crash history information was obtained through the Department of Transport and Planning CrashStats (the Victorian accident statistics and mapping program) along Cranbourne Road to understand the safety impacts of the above queuing on motorists and pedestrians. The data was obtained for the latest 5-year period (June 2015 – June 2020 inclusive), noting that no current data is able to be sourced from the Department of Transport and Planning.

The crash locations and the respective severity of each are illustrated in Figure 10 and summarised in Table 1.

Figure 10 Crash History Map

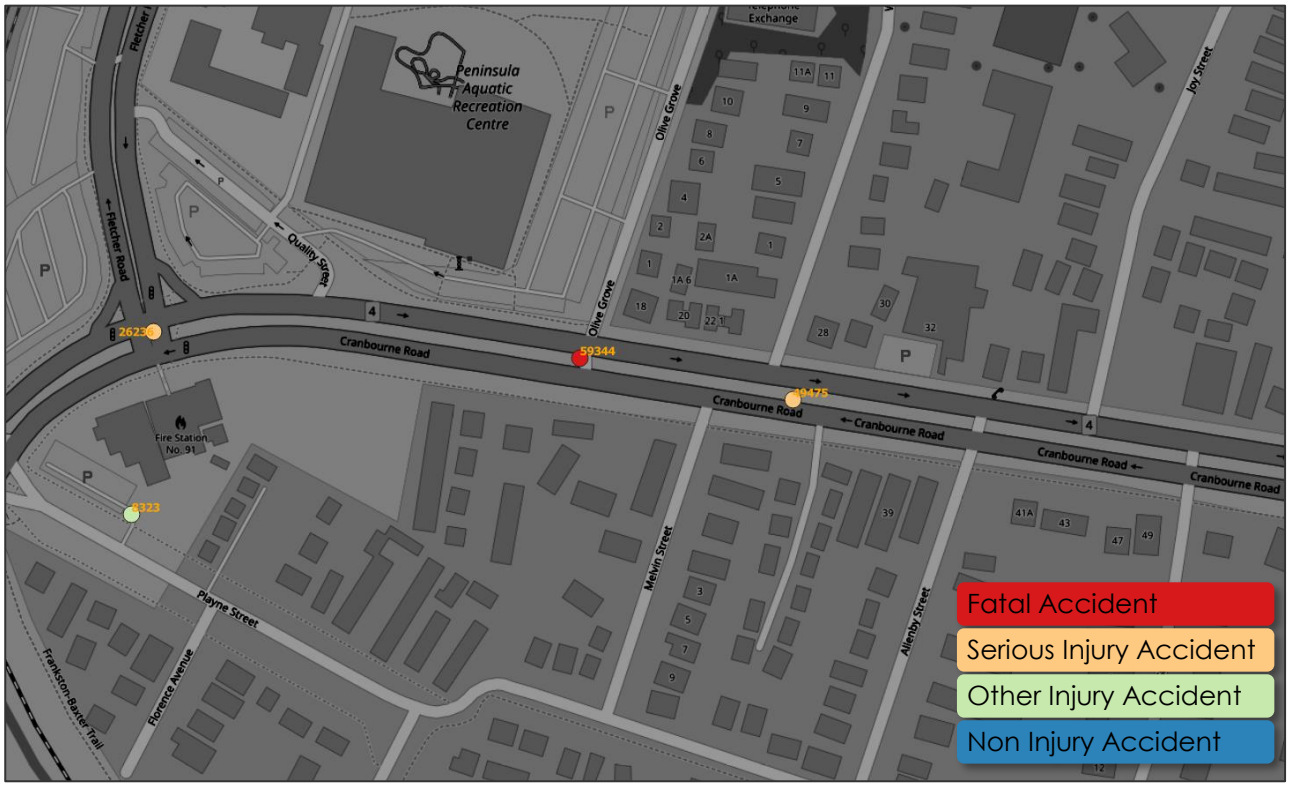


Table 1 Crash History Summary

Object ID	Date	Accident Type	Road Geometry	Light Condition	Injuries
26236	10/05/2017	Collision with a fixed object	T-intersection	Dusk/Dawn	1 x Serious Injury
59344	13/01/2020	Collision with vehicle	T-intersection	Day	1 x Fatality 1 x Serious Injury
49475	22/03/2019	Collision with vehicle	Not at intersection	Day	1 x Serious Injury 3 x Other Injury 4 x Non Injury

As shown above, there have been several accidents in the last five years in the vicinity of the site including a fatal accident at the intersection of Cranbourne Road / Olive Grove.

Nevertheless, it must be noted that no trends can be established between the intersections as they all occurred at different locations and at different treatments (unsignalised T-intersection, signalised T-intersection and not at an intersection).

It is important to note that the CrashStats data only includes reported accidents and therefore minor accidents may have occurred within the study area.

2.7 Sustainable Transport

2.7.1 Public Transport

The site has excellent public transport accessibility, with a wide variety of transport modes and services servicing the immediate vicinity of the site. Several bus routes operate along the site's frontages to Cranbourne Road. In addition, Frankston train station is located 300 metres north of the site, which provide access to both Metropolitan Melbourne and Diesel train services.

The full public transport provision in the vicinity of the site is shown in Figure 11 and detailed in Table 2.

Figure 11 Public Transport Provision

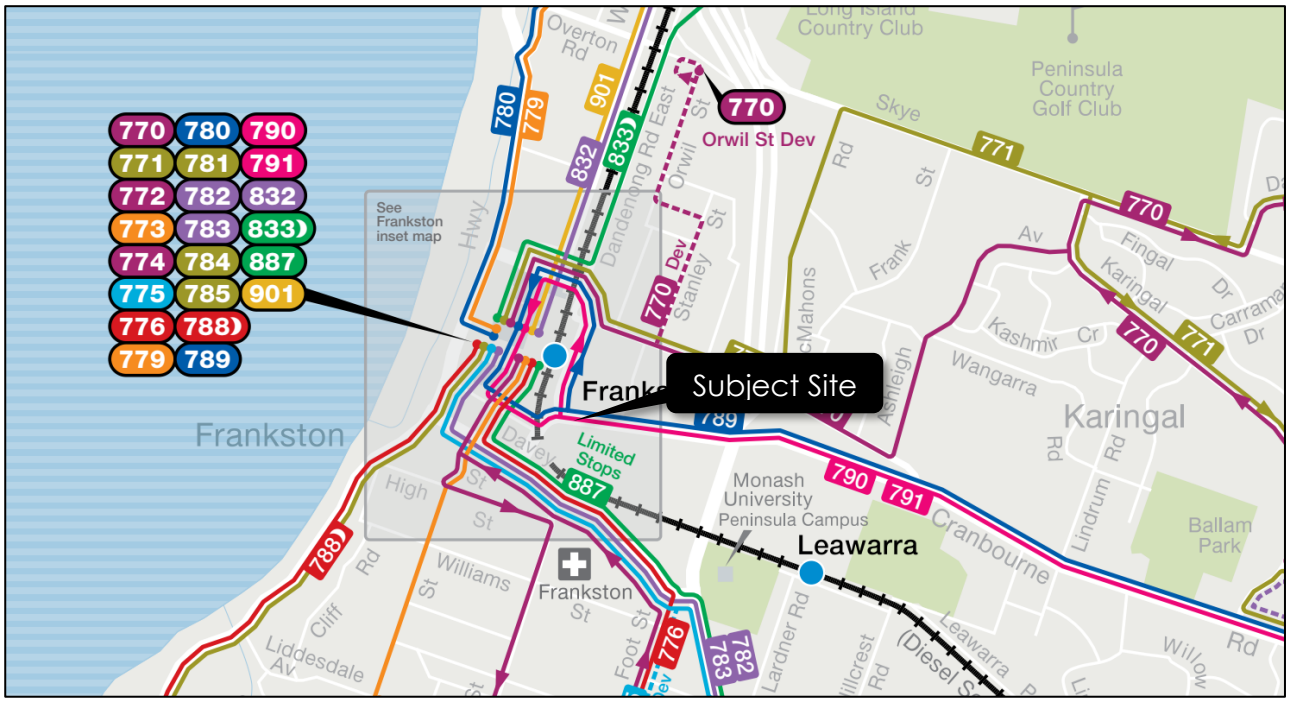


Table 2 Public Transport Provision

Mode	Route No.	Route Description	Nearest Stop/Station
Train		Frankston Line	Frankston Station
		Stony Point Line	
Bus	770	Frankston - Karingal via Ashleigh Avenue	
	771	Frankston - Langwarrin via Karingal	
	772	Frankston - Eliza Heights	
	773	Frankston - Frankston South via Kars Street	
	774	Frankston - Delacombe Park	
	775	Frankston - Lakewood via Heatherhill Road	Frankston Station
	776	Frankston - Pearcedale via Baxter	
	779	Frankston - Belvedere via Kananook	
	780	Frankston Station - Carrum Station via Seaford Station	
	781	Frankston - Mount Martha via Mt Eliza & Mornington	
	782	Frankston - Flinders via Coolart Road & Hastings	
	783	Frankston - Hastings via Coolart Road	

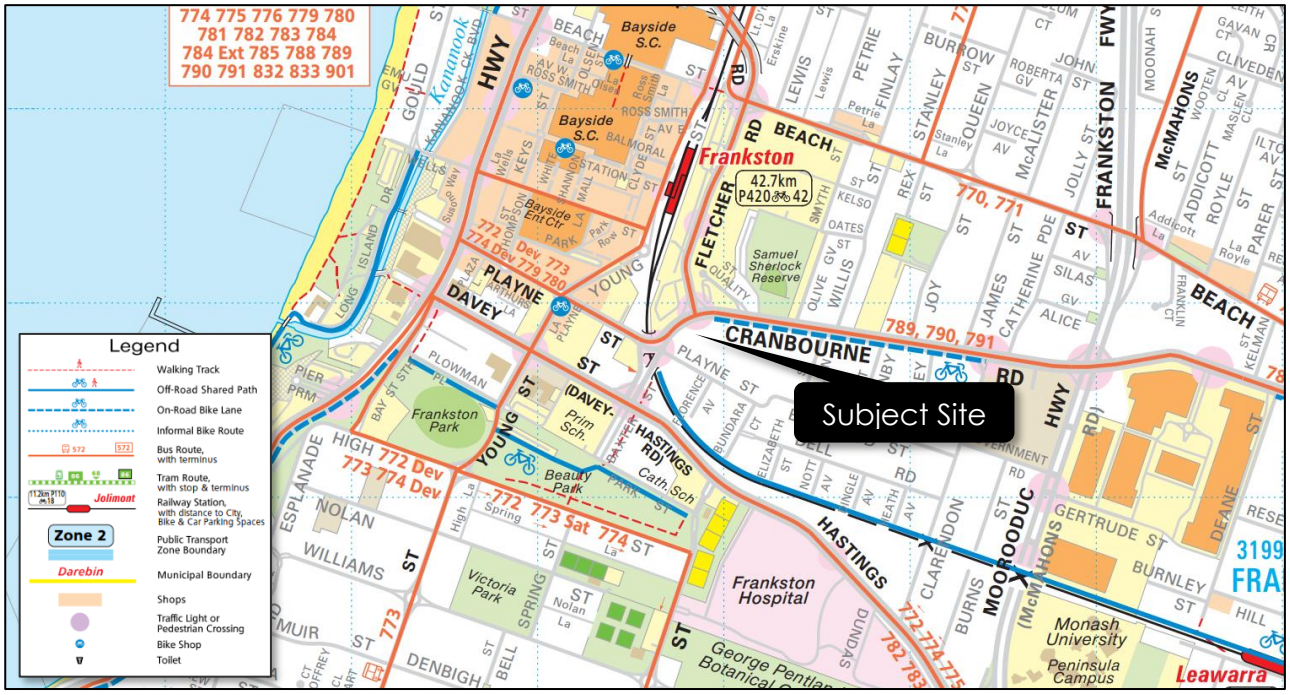
Mode	Route No.	Route Description	Nearest Stop/Station
	784	Frankston - Osborne via Mt Eliza & Mornington	
	785	Frankston - Mornington East via Mt Eliza & Mornington	
	788	Frankston - Portsea via Dromana & Rosebud & Sorrento	
	789	Frankston Station - Langwarrin via Langwarrin North	Cranbourne Road
	790	Frankston Station - Langwarrin via Langwarrin South	
	791	Frankston Station - Cranbourne Station	
	832	Frankston - Carrum Downs via Kananook & McCormicks Road	Frankston Station
	833	Frankston Station - Carrum Station via Carrum Downs	
	837	Berwick Station - Beaconsfield East via Brisbane St & Beaconsfield Plaza SC	
	901	Frankston - Melbourne Airport (SMARTBUS Service)	

2.7.2 Walking and Cycling

Several on and off-road bicycle paths are provided within the vicinity of the site, including an on-road bicycle path along Cranbourne Road which runs between Fletcher Street and Clarendon Street. In addition, an off-road shared path runs along Park Street which provides a direct connection to the Kakanook Creek bike path which runs north-south along the bay, and an off-road shared path is provided along the rail reserve which runs between Frankston and Baxter. These bicycle paths provide further connections to a wider bicycle network, providing excellent bicycle access for the subject site.

An extract of the TravelSmart Map for the City of Frankston is shown in Figure 12, highlighting the bicycle and pedestrian facilities in the area.

Figure 12 TravelSmart Map



The site has a Walk Score rating of 87/100 with most errands able to be accomplished by foot.

3 DEVELOPMENT PROPOSAL

3.1 General

It is proposed to develop the western half of the site for the purposes of a specialist hospital. The specialist hospital will comprise of 33 points of care and consulting suites over three levels which will include various clinical services including operating theatres.

The proposed points of care which are to be provided at the completion of the development is show below.

Table 3 Mornington Peninsular Specialist Hospital – Proposed Services

Point of Care	*Component*	*Proposed Services*
Surgical	Operating Suite	2 theatres
	Endoscopy Unit	1 room
	Pre-Op Patient Bay	7 beds
	Recovery Bays	21 beds
Diagnostic Support Services	Pathology Rooms	2 pathology rooms
Consulting Suites		1,943 m^2
Total		**2 theatres** **1 endoscopy rooms** **28 beds** **2 pathology rooms** **1,943 m^2 consulting suites**

The proposed hospital facility will generally operate between typical business hours (8:00am – 6:00pm) and therefore, there will be no significant staff change over as expected at typical hospitals.

3.2 Car Parking and Vehicular Access

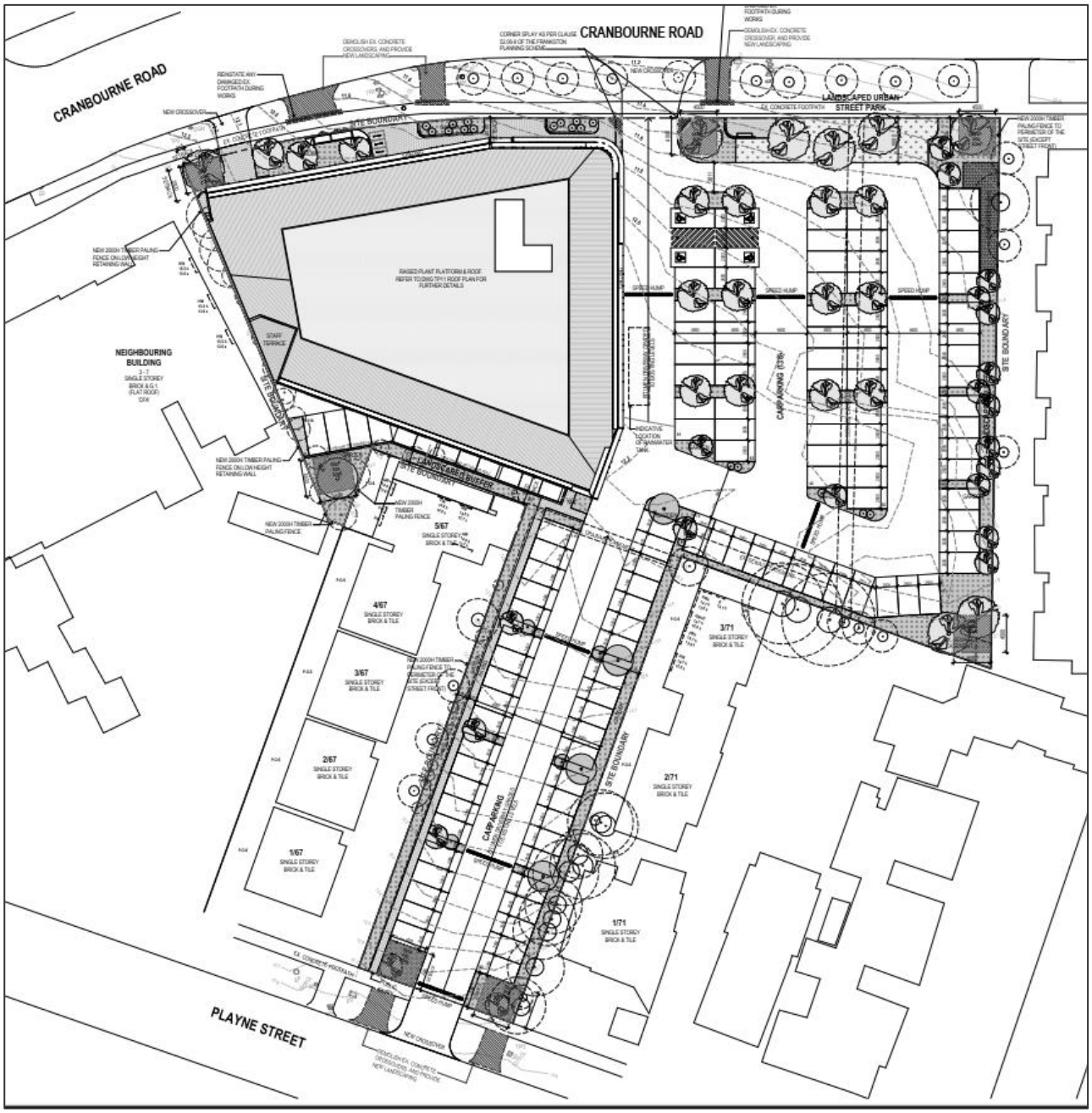
A total of 138 car spaces inclusive two accessible spaces are proposed on-site, located along the site's eastern boundary.

Primary vehicular access to the site is proposed along Cranbourne Road which allows for left-in/left-out movements via a double crossover.

Secondary vehicular access to the site is proposed to Playne Street along the site's southern boundary which will carry minimal traffic due to the left-in/left-out nature of Playne Street at the intersection with Cranbourne Road / Baxter Street.

A view of the proposed car parking and vehicular access arrangements are shown below in Figure 13.

Figure 13 Proposed Car Park and Vehicular Access



3.3 Bicycle Parking

A total of 18 bicycle parking spaces are proposed on-site which comprises of 9 bicycle hoops (four spaces) adjacent to the main entrance and parking area for visitors and staff.

3.4 Pedestrian Facilities

Pedestrian access to the site is proposed via a footpath which will run along the eastern side of the internal accessway running between the Cranbourne Road and Playne Street footpath. The internal footpath will provide access to the main entrance and the car parking area.

3.5 Loading

A dedicated loading area is proposed at the south-eastern corner of the building which is able to accommodate vehicles up to 6.4m in length.

3.6 Staffing Numbers

Based on previous hospital experience it is projected that the proposed facilities will generate the following staffing rates:

- 1 staff per bed;
- 1 staff per pathology room; and
- 10 staff per operation theatre (operating theatres, endoscopy, labour delivery).

Noting the above, the following staff are anticipated at the completion of the development, excluding the consulting suites.

Table 4 Anticipated Staffing Numbers

Patient Treatment Function Area	*Staff Total*
Beds	28
Pathology	2
Theatres	30
Total Staff	**60**

4 DESIGN ASSESSMENT

4.1 Frankston Planning Scheme – Clause 52.06

onemile**grid** has undertaken an assessment of the car parking layout and access for the proposed development with due consideration of the Design Standards detailed within Clause 52.06-9 of the Planning Scheme. A review of those relevant Design Standards is provided in the following sections.

4.1.1 Design Standard 1: Accessways

A summary of the assessment for Design Standard 1 is provided in Table 5.

Table 5 Clause 52.06-9 Design Assessment – Design Standard 1

Requirement	*Comments*
Be at least 3 metres wide.	Satisfied – minimum width of site access is 6.4 m
Have an internal radius of at least 4 metres at changes of direction or intersection or be at least 4.2 metres wide.	Satisfied
Allow vehicles parked in the last space of a dead-end accessway in public car parks to exit in a forward direction with one manoeuvre.	Satisfied
Provide at least 2.1 metres headroom beneath overhead obstructions, calculated for a vehicle with a wheel base of 2.8 metres.	N/A – No overhead obstructions
If the accessway serves four or more car spaces or connects to a road in a Transport Zone 2 or Transport Zone 3, the accessway must be designed so that cars can exit the site in a forward direction.	Satisfied
Provide a passing area at the entrance at least 6.1 metres wide and 7 metres long if the accessway serves ten or more car parking spaces and is either more than 50 metres long or connects to a road in a Transport Zone 2 or Transport Zone 3.	Satisfied
Have a corner splay or area at least 50 per cent clear of visual obstructions extending at least 2 metres along the frontage road from the edge of an exit lane and 2.5 metres along the exit lane from the frontage, to provide a clear view of pedestrians on the footpath of the frontage road. The area clear of visual obstructions may include an adjacent entry or exit lane where more than one lane is provided, or adjacent landscaped areas, provided the landscaping in those areas is less than 900mm in height.	Satisfied
If an accessway to four or more car parking spaces is from land in a Transport Zone 2 or Transport Zone 3, the access to the car spaces must be at least 6 metres from the road carriageway.	Satisfied

4.1.2 Design Standard 2: Car Parking Spaces

All standard car spaces on-site are proposed with a minimum width of 2.6 metres, length of 4.9 metres and are accessed from aisles of no less than 6.4 metres. Spaces adjacent to walls have been suitably widened in accordance with Design Standard 2 of the Planning Scheme.

The accessible bays are provided with a length of 5.4 metres and a width of 2.4 metres, and an adjacent shared area of the same dimensions, in accordance with the Australian/New Zealand Standard for Parking facilities, Part 6: Off-street parking for people with disabilities (AS/NZS 2890.6:2009).

4.2 Waste Collection

A bin storage area is located adjacent to the loading area. Bins will be collected from the loading area by a private contractor.

Refer to the Waste Management Plan for further information.

4.3 Oxygen Delivery

The internal road network has been designed to accommodate loading vehicles up to 10 metres in length which is expected to be sufficient to accommodate bulk oxygen delivery.

Swept paths are attached in Appendix A showing the bulk oxygen delivery vehicle accessing the site from Cranbourne Road and then exiting the site onto Playne Street.

4.4 Bicycle Parking

Bicycle parking is proposed to be provided via on-ground bicycle hoops.

The bicycle hoops have been designed in accordance with the Australian Standards; specifically, they are provided at one metre centres, with an envelope of 1.8 metres provided for bicycles and a 1.5 metre access aisle.

4.5 Clause 52.29 – Land Adjacent to the Principal Road Network

The development proposal is subject to the requirements of Clause 52.29 of the Frankston Planning Scheme which applies to land adjacent to the Principal Road Network (## Road) and aims to ensure appropriate access is provided to identified roads.

Relevant to the proposed development, the Clause states that a permit is required to create or alter access to a road in a Transport Zone 2, and that the proposal is to be referred to the relevant referral authority (in this case the Department of Transport (VicRoads)).

Before deciding on the appropriateness or otherwise of an application to alter access to the Principal Road Network, the responsible authority must consider the following:

- *The Municipal Planning Strategy and the Planning Policy Framework.*
- *The views of the relevant road authority.*
- *The effect of the proposal on the operation of the road and on public safety.*
- *Any policy made by the relevant road authority pursuant to Schedule 2, Clause 3 of the Road Management Act 2004 regarding access between a controlled access road and adjacent land.*

The proposed development proposes to consolidate the site's four crossovers to Cranbourne Road to one double crossover.

The proposal seeks to provide 135 car spaces on-site which will be used by staff and visitors. As such, the peak hour impacts of the proposal on the surrounding road network are expected to be negligible with only 69 vehicle movements generated during both the AM and PM peak hours. Similarly, the proposal will provide adequate sight distance at the property boundary to pedestrian along the frontage. As such, the development is not expected to have any material impact on the operation of the road or any impacts on public safety.

In light of the above, it is considered that the proposed development will satisfy the requirements of Clause 52.29.

5 LOADING

Clause 65 (Decision Guidelines) of the Frankston Planning Scheme identifies that "*Before deciding on an application or approval of a plan, the responsible authority must consider, as appropriate: The adequacy of loading and unloading facilities and any associated amenity, traffic flow and road safety impacts.*"

It is proposed to accommodate all loading (including waste) within the loading zone, located at the south-eastern corner of the building. The loading area has been designed to allow up to a 6.4 m Small Rigid Vehicle to reverse into the loading bay, and then drive out onto Cranbourne Road in a forward direction.

The provision for loading is therefore considered appropriate for the proposed hospital development.

Swept path diagrams have been provided in Appendix A showing a 6.4m SRV accessing the site and the vehicle reversing into the loading bay.

6 BICYCLE PARKING

The requirements for the subject site are identified in Clause 52.34 of the Frankston Planning Scheme, which specifies the following requirements for the proposed development. For the purposes of the following assessment, all points of care are considered a bed and it is assumed there is one practitioner per 50m2 of consulting suites.

Table 6 Clause 52.34 – Bicycle Parking Requirements

Component	*No/Area*	*Requirement*	*Total*
Hospital	33 points of care	1 space per 15 beds for employees 1 space per 30 beds for visitors	2 1
Consulting Suites	38 practitioners	1 space per 8 practitioners for employees 1 space per 4 practitioners for visitors	5 10
Total			**18**

Furthermore, where 5 or more employee bicycle spaces are required, employee facilities are required in accordance with Clause 52.34 of the Frankston Planning Scheme, as identified in Table 7 below.

Table 7 Clause 52.34 – Bicycle Facility Requirements

Facility	*Employee Bicycle Spaces*	*Requirement*	*Total*
Showers	7 spaces	1 shower for the first 5 employee bicycle spaces; plus 1 to each 10 employee bicycle spaces thereafter	1

Showers must have access to a communal change room, or combined shower and change room

It is proposed to provide 18 bicycle parking spaces and one shower on-site which is in accordance with the Planning Scheme requirements identified above.

7 CAR PARKING

7.1 Statutory Car Parking Requirements

7.1.1 Car Parking Requirements – Clause 52.06

Clause 52.06 of the Frankston Planning Scheme sets out the car parking requirements or the various land uses, however hospital is not one of the uses defined in the table for calculating a requirement. In such cases, Clause 52.06-6 states that:

'Where a use of land is not specified in Table 1 or where a car parking requirement is not specified for the use in another provision of the planning scheme or in a schedule to the Parking Overlay, before a new use commences or the floor area or site area of an existing use is increased, car parking spaces must be provided to the satisfaction of the responsible authority.'

Whilst for the consulting suites, the car parking requirements for the subject site are identified in Clause 52.06 of the Frankston Planning Scheme. In this regard, Clause 52.06 also identifies that where any part of the land is identified as being within the Principal Public Transport Network Area, the Column B car parking rates apply to the proposed development, as shown below.

Table 8 Clause 52.06 – Car Parking Requirements (Column B)

Use	*Area*	*Rate*	*Car Parking Measure*	*Total*
Medical centre	1,943 m^2	3.5	to each 100m^2 of leasable floor area	68
Total				**68**

For the purposes of this assessment, it is assumed that the above demand will consist of 50% staff and 50% visitors.

As noted above, the car parking for the proposed points of care are not listed within Clause 52.06 of the Planning Scheme, therefore car parking is to be provided to the satisfaction of the responsible authority.

A review of additional car parking demands likely to be generated as a result of the other uses proposed within the hospital follows.

7.2 Car Parking Demand Assessment

Based on our experience, the empirical assessment is considered to be the most appropriate gauge of the future car parking demands which is shown below.

7.2.1 Staff Parking Demand

As noted above, in our experience with the provision of accurate staffing numbers, the empirical assessment generally provides an accurate estimate of future demands. As mentioned in Section 3.6, it is expected that a maximum of 60 staff will be on-site at any time.

Furthermore, it is considered that the most appropriate way to determine the number of car parking spaces required for staff is to analyse Journey to Work data that is provided during the census which is undertaken by the Australian Bureau of Statistics.

A review of the Journey to Work data from the 2021 ABS Census indicates that 87% of people working within the City of Frankston drove to work.

Therefore, based on 60 staff members, the staff car parking requirement is expected to be 52 spaces for the staff component of the proposal.

7.2.2 Visitor Parking Demand

Visitor car parking rates established at a range of hospitals, suggest that visitor parking demands peak mid-morning at an average rate of 0.55 spaces per bed, with lower rates of around 0.49 spaces per bed during the afternoon.

For the purposes of this assessment, a higher peak visitor rate of 0.55 spaces per bed will be adopted.

Application of this rate to the proposed 33 points of care equates to a requirement for 18 visitor car spaces.

7.2.3 Total Parking Demand

Based on the above analysis, the proposal generates a total car parking demand of 138 spaces at the completion of the hospital, as outlined in Table 9 below.

Table 9 Total Parking Demand

Component	*Statutory Requirements*		*Empirical Assessment*		*Total*
	Visitor	Staff	Visitor	Staff	
Hospital	34	34	18	52	138

7.2.4 Proposed Car Parking Provision

It is proposed to provide a total of 138 car parking spaces on-site which is in accordance with the car parking demand assessment undertaken above, and therefore is considered appropriate for the site.

7.3 Accessible Car Parking

The National Construction Code specifies the minimum requirements for provision of accessible car parking.

The proposed hospital, classified as a Class 9a building, has varying requirements depending on the particular use of each building, as follows:

- Non-outpatient area – one accessible car space for every 100 car parking spaces or part thereof: plus
- Outpatient area - one accessible car space for every 50 car parking spaces or part thereof for the first 1,000 spaces, and then 1 space per 100 car parking spaces or part thereof in excess of 1,000 spaces.

Noting the proposed provision of 138 car spaces on-site, the BCA requires at least three accessible car spaces on-site.

The proposed provision of four spaces in in accordance with the BCA requirements and therefore considered appropriate.

8 TRAFFIC

8.1 Traffic Generation

onemile**grid** commissioned traffic surveys at the existing Frankston Hospital in 2021 to understand the existing traffic generation rates at the hospital. The surveys identified the following peak traffic generation rates:

- 0.39 movements per space during the AM peak hour; and
- 0.44 movements per space during the PM peak hour.

Whilst it is acknowledged that the Frankston Hospital is significantly larger than the subject site, it is expected that traffic generation will be similar due to the proximity of both hospitals.

Therefore, for the purposes of this assessment, a peak traffic generation rate of 0.5 movements per space will be adopted for both the AM and PM peak period.

As mentioned above, a total of 138 car parking spaces are proposed on-site which results in the following traffic generation for the site.

Table 10 Anticipated Traffic Generation

Period	*Rate (Split)*	*Inbound Volume*	*Outbound Volume*	*Two-Way Volume*
AM Peak	0.5 movements/space (75% in / 25% out)	52	17	69
PM Peak	0.5 movements/space (25% in / 75% out)	17	52	69

8.2 Traffic Distribution

It is anticipated that traffic volumes will be distributed approximately to and from the subject site as per the following in accordance with existing conditions in the vicinity of the site:

- 7% East – Davey Street
- 18% West – Davey Street
- 13% West – Playne Street
- 22% North – Fletcher Road
- 40% East – Cranbourne Road

The above traffic distribution has been determined using the average of the inbound/outbound movements during both the AM and PM peak hour with the intersection of Fletcher Road / Cranbourne Road the origin/destination.

For the purposes of a conservative analysis, it will be assumed that all traffic will be distributed to and from the Cranbourne Road access.

8.3 Generated Traffic Volumes

Considering the above traffic generation and distribution, the additional site-generated traffic volumes are shown in the following figures.

Figure 14 Generated Traffic Volumes – AM Peak

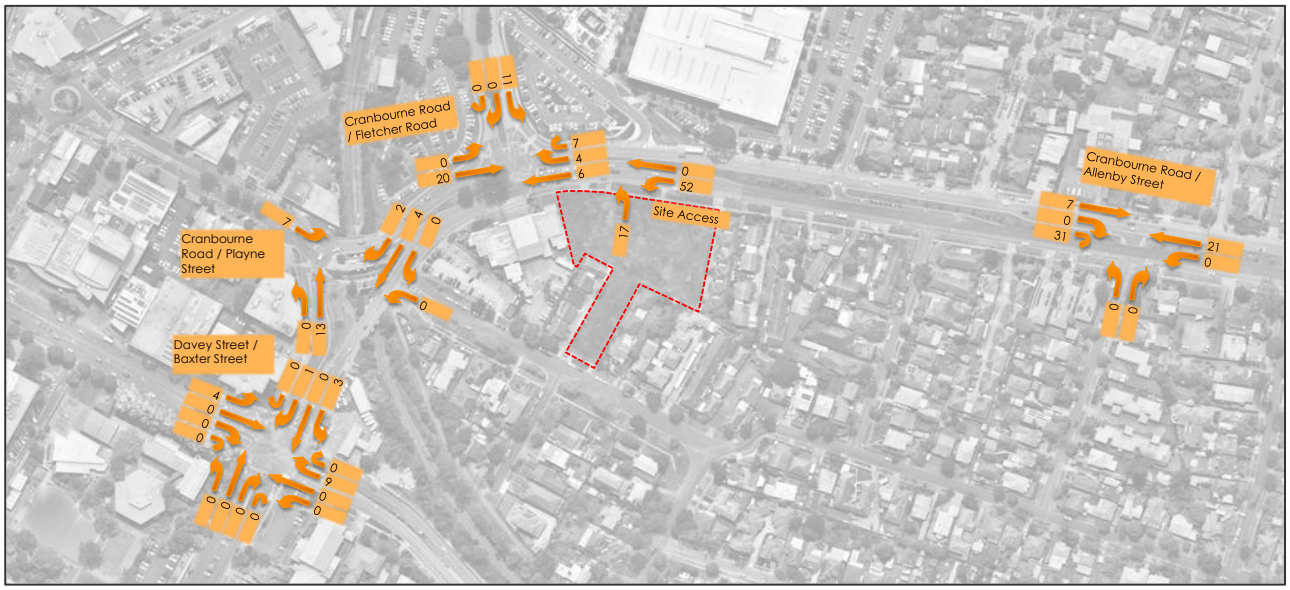
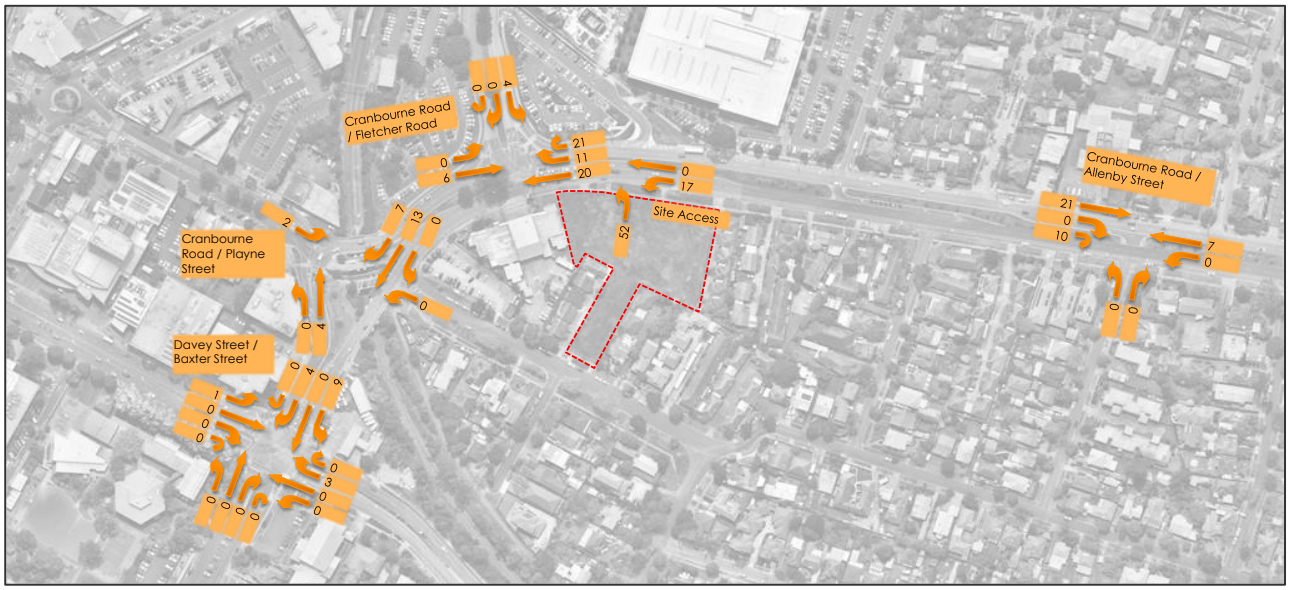


Figure 15 Generated Traffic Volumes – PM Peak



8.4 Traffic Growth

For the purposes of establishing a traffic volume growth rate for the external road network, SCATS counts have been reviewed at the intersection of Cranbourne Road / Fletcher Road on Thursday 18th November 2022. This intersection services a considerable amount of traffic and is considered to be an appropriate indicator of traffic volume trends.

The SCATS data indicates that daily traffic volumes have remained consistent over the 5 year period between 2017 to 2022, and therefore it is not considered necessary to apply traffic growth on the external road network.

Regardless, to provide a conservative analysis and as requested by the DTP, a growth rate of 2.5% per year (compound) have been applied to the existing traffic volumes over a 5-year period, equivalent to a 13.1% increase in traffic volumes

8.5 Resultant Future Traffic Volumes

Based on the above, the future intersection volumes can be calculated by combining the existing volumes with the traffic anticipated to be generated by the proposed development.

The resultant peak hour traffic volumes are shown below.

Figure 16 Resultant Future Traffic Volumes – AM Peak

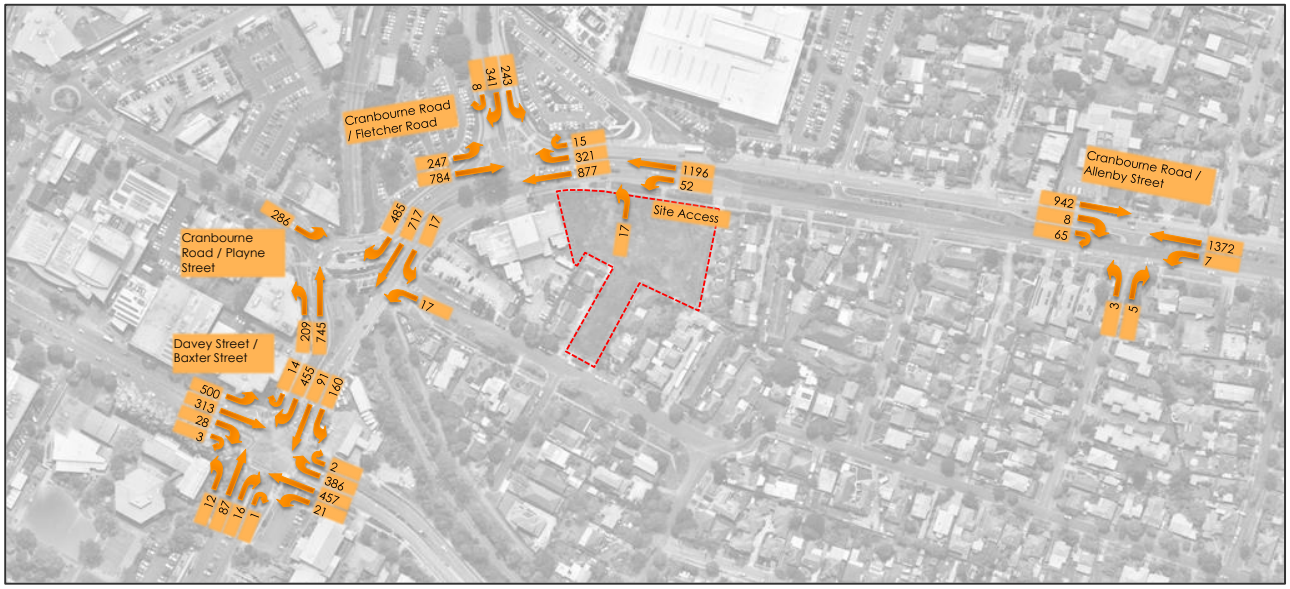
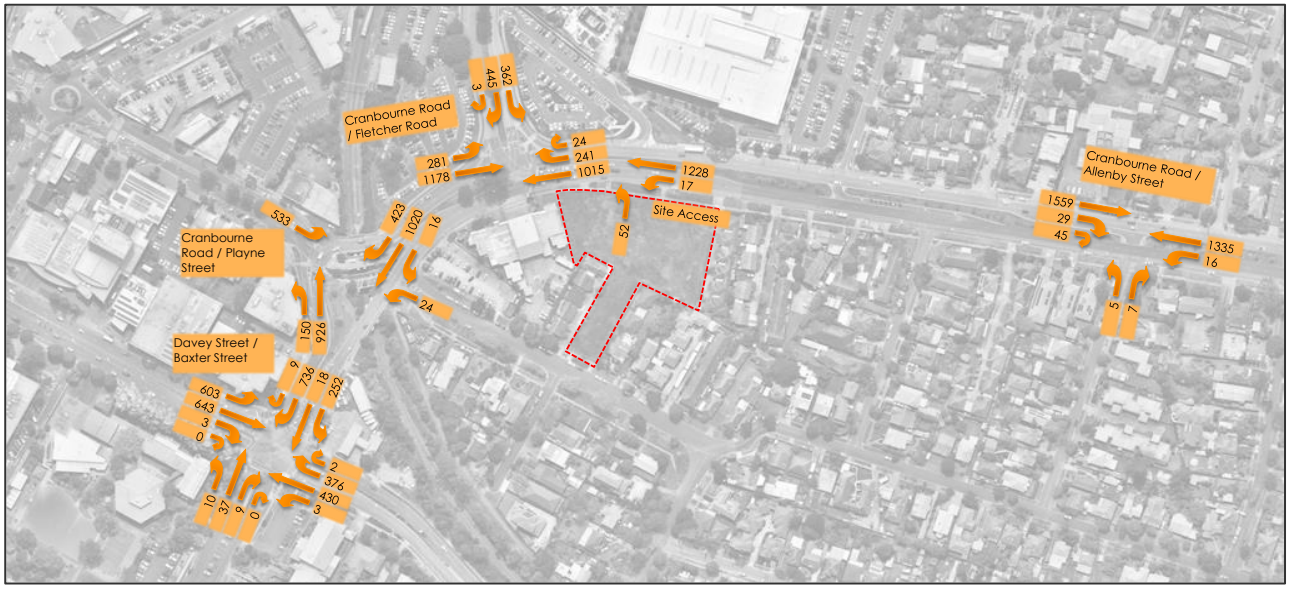


Figure 17 Resultant Traffic Volumes – PM Peak



8.6 Traffic Impact

To assess the existing and future operation of each of the intersections, the traffic volumes have been input into the SIDRA Intersection traffic modelling software package.

In assessing the performance of individual intersections, the parameters considered relevant are, Degree of Saturation (DoS), 95th Percentile Queue, and Average Delay as described below.

- **Degree of Saturation (DoS)** - The DoS represents the ratio of the traffic volume making a particular movement compared to the maximum capacity for that particular movement. The value of the DoS has a corresponding rating depending on the ratio as shown below.

DoS	*Rating*	*Description*
Up to 0.60	Excellent	Minimal delays
0.61 – 0.70	Very Good	Minimal delays
0.71 – 0.80	Good	Delays and queues increasing
0.81 – 0.90	Fair	Delays and queues growing. Any interruption to flow such as minor incidents causes increasing delays
0.91 – 1.00	Poor	Flows starting to break down and queues and delays increase rapidly
Above 1.00	Very Poor	Queues and delays increase rapidly. Once queues develop it takes a significant time for queues to dissipate, resulting in long delays to traffic movements

  It is noted that whilst the range of 0.91 – 1.00 is rated as 'poor', it is acceptable for critical movements at an intersection to be operating within this range during high peak periods, reflecting actual conditions in a significant number of suburban signalised intersections.

- **Average Delay (seconds)** - Average delay is the time delay that can be expected for all vehicles undertaking a particular movement in seconds.
- **95th Percentile (95%ile) Queue** - 95%ile queue represents the maximum queue length in metres that can be expected in 95% of observed queue lengths in the peak hour.

Given the proximity of the three intersections to the west of the site, the intersections have been modelled as a network model under existing and future conditions to accommodate any capacity reductions caused by downstream queueing effects. Furthermore, the signal offsets in the SIDRA network model have been modified since the original Transport Impact Assessment to improve conditions in both the AM and PM peak hour.

The results of the analysis are provided in the tables below with detailed SIDRA results attached in Appendix C.

Table 11 SIDRA Post-Development Conditions – Davey Street / Baxter Street

Approach	Existing Conditions			Future Conditions		
	DoS	Avg Delay (sec)	Queue (m)	DoS	Avg Delay (sec)	Queue (m)
AM Peak						
Baxter Street – South	0.472	75.5	33.7	0.59	81.1	39
Davey Street - East	0.503	47.5	82.8	0.59	50.7	96.4
Baxter Street – North	0.497	38.5	81	0.575	39.5	94.3
Davey Street – West	0.397	22.5	53.3	0.500	26.7	84.5
PM Peak						
Baxter Street – South	0.313	58.8	15	0.351	58.8	16.8
Davey Street - East	0.686	48.9	72.8	0.825	54.5	90.0
Baxter Street – North	0.683	43.4	128.3	0.802	50.2	163.5
Davey Street – West	0.691	38.7	146.8	0.816	46.3	192.7

As shown above, the Davey Street / Baxter Street intersection will operate under 'excellent' conditions during the AM peak hour and 'fair' conditions during the PM peak hour, with manageable queues and delays on all approaches.

Table 12 SIDRA Post-Development Conditions – Baxter Street / Playne Street / Cranbourne Road

Approach	Existing Conditions			Future Conditions		
	DoS	Avg Delay (sec)	Queue (m)	DoS	Avg Delay (sec)	Queue (m)
AM Peak						
Baxter Street – South	0.343	11.1	50.7	0.389	9.2	40.8
Cranbourne Road - East	0.338	23.5	57.6	0.393	25.2	65.3
Playne Street – West	0.195	29	38	0.232	30.1	45.2
PM Peak						
Baxter Street – South	0.512	13.3	85.7	0.749	12.5	121.3
Cranbourne Road - East	0.322	32.7	61.2	0.380	34.5	65.3
Playne Street – West	0.516	36.3	86	0.760	44.4	136.2

As shown above, the Playne Street / Baxter Street / Cranbourne Road intersection will operate under 'excellent' conditions during the AM peak hour and 'good' conditions during the PM peak hour, with manageable queues and delays on all approaches.

Table 13 SIDRA Post-Development Conditions – Fletcher Road / Cranbourne Road

Approach	*Existing Conditions*			*Future Conditions*		
	DoS	Avg Delay (sec)	Queue (m)	DoS	Avg Delay (sec)	Queue (m)
AM Peak						
Cranbourne Road – East	0.421	19.8	67.6	0.496	20.2	77.9
Fletcher Road – North	0.417	32.8	60.2	0.492	33.7	70
Cranbourne Road – West	0.431	13.8	78.1	0.492	15.1	100.7
PM Peak						
Cranbourne Road – East	0.557	18.3	78.2	0.635	19.0	92.4
Fletcher Road – North	0.555	33.9	80.4	0.654	37.1	93.7
Cranbourne Road – West	0.553	15.3	130.6	0.666	19.4	130.6

As shown above, the Fletcher Road / Cranbourne Road intersection will operate under 'excellent' conditions during the AM peak hour and 'very good' conditions during the PM peak hour, with manageable queues and delays on all approaches.

Table 14 SIDRA Post-Development Conditions – Allenby Street / Cranbourne Road

Approach	*Existing Conditions*			*Future Conditions*		
	DoS	Avg Delay (sec)	Queue (m)	DoS	Avg Delay (sec)	Queue (m)
AM Peak						
Allenby Street - South	0.038	40.5	0.3	0.072	58.3	0.5
Cranbourne Road – East	0.332	0.1	0	0.382	0.2	0
Cranbourne Road – West	0.229	26.2	2.3	0.586	48.5	6.2
PM Peak						
Allenby Street - South	0.054	59	0.4	0.094	91.4	0.7
Cranbourne Road – East	0.329	0.2	0	0.374	0.2	0
Cranbourne Road – West	0.376	27.5	2.9	0.570	45.5	5.8

As shown above, the Allenby Street / Cranbourne Road intersection will operate under 'excellent' conditions during the AM and PM peak hour. Nevertheless, on the western approach for vehicles undertaking a right-turn/u-turn, the average delays will exceed 48 seconds. Nevertheless, the queues will be stored within the right-turn lane and won't impact eastbound traffic along Cranbourne Road and therefore is expected to be satisfactory.

It must be acknowledged that the poorer performance at all intersections is a result of the conservative traffic growth adopted for the traffic analysis and not the subject site's development.

Nevertheless, the external road network will continue to operate satisfactorily after the construction of the proposed hospital.

8.7 Queuing Assessment

Concurrent with the above turning movement surveys, queue length surveys were undertaken at the eastern approach of the Cranbourne Road / Fletcher Road intersection and the western approach at the Cranbourne Road / Allenby Street intersection. The queue length surveys are used to validate the queue lengths shown in the SIDRA surveys.

The queue lengths for both intersections are shown Table 15 below.

Table 15 Maximum Queue Length

Intersection	*Approach*	*Turning Movement*	*Maximum Queue Length (Vehicles)*	
			AM Peak	PM Peak
Cranbourne Road / Fletcher Road	East	Right	8	9
Cranbourne Road / Allenby Street	West	Right	2	3

As shown above, the queues at the Cranbourne Road / Fletcher Road intersection do not exceed 9 vehicles during both the AM and PM peak hour which can comfortably be stored within the right-turn lanes (60 metres and 120 metres).

Whilst the queues at the Cranbourne Road / Allenby Street intersection do not exceed 3 vehicles during both the AM and PM peak hour which can comfortably be stored within the right-turn lane (60 metres).

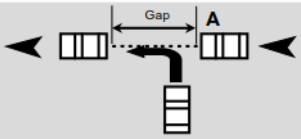
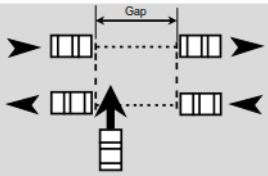
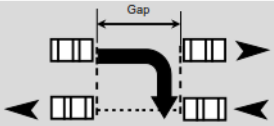
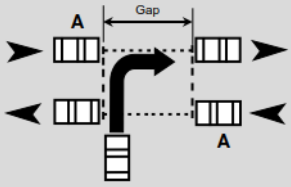
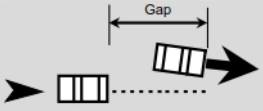
The SIDRA results show the queue at the Cranbourne Road / Fletcher Road intersection will increase by approximately two vehicles and the queue at the Cranbourne Road / Allenby Street intersection will increase by approximately one vehicle. Therefore, the existing turn lanes at both intersections are expected to comfortably accommodate the increase in queue lengths.

8.8 Gap Analysis

A gap analysis was also undertaken for vehicles turning right (south) or undertaken a u-turn (west) from the western approach at the intersection of Cranbourne Road / Allenby Street.

In assessing the capacity for each movement, the critical gap and headway values from the Austroads Guide to Road Design Part 4A have been adopted, reproduced in Figure 18 below.

Figure 18 Critical acceptance gap and follow-up headways

Movement	Diagram	Description	t_a(1) (sec)	t_f(2) (sec)
Left turn		Not interfering with A Requiring A to slow	14–40 5	2–3 2–3
Crossing		Two lane/one way Three lane/one way Four lane/one way Two lane/two way Four lane/two way Six lane/two way	4 6 8 5 8 8	2 3 4 3 5 5
Right turn from major road		Across one lane Across two lanes Across three lanes	4 5 6	2 3 4
Right turn from minor road		Not interfering with A One way Two lane/two way Four lane/two way Six lane/two way	14–40 3 5 8 8	3 3 3 5 5
Merge		Acceleration lane	3	2

1 t_a = *critical acceptance gap (sec).*
2 t_f = *follow-up headway (sec).*

For the purposes of this assessment, and noting that Cranbourne Road provides two traffic lanes in each direction, we have adopted a critical acceptance gap of 5 seconds and a follow up headway of 3 seconds for both the right-turn and u-turn movements.

The gap analysis is summarised in Table 16 below.

Table 16 Gap Analysis

Peak Hour	*Movement*	*No. Gaps*	*Capacity*
AM Peak (8:30am – 9:30am)	Right Turn / U-turn	139	521
PM Peak (4:30pm – 5:30pm)		130	541

During both the AM and PM peak hours, there is considerable capacity for vehicles to turn right into Allenby Street or undertaken a u-turn from the Cranbourne Road western approach, where the existing number of gaps at the intersection are significantly higher than the existing right-turn and u-turn movements.

The significant capacity is largely attributed to the proximity to the Moorooduc Highway / McMahons Road / Cranbourne Road intersection to the east of the intersection, which provides large gaps between the bunching of traffic.

Therefore, it is expected that there will be sufficient gaps to accommodate both the additional traffic generated by the site and any traffic growth, as shown in the SIDRA analysis undertaken above.

9 RESPONSE TO COUNCIL AND DTP RFI

Frankston City Council provided a Request for Further Information in February 2023 which included queries from Department of Transport and Planning. A response to each of the RFI comments is provided below.

Table 17 Council RFI Response

Comments	*Response*
Further Information Requests	
16. Planting is proposed abutting each crossover onto Playne St and Cranbourne Rd. Clarification is required regarding the likely impact of the proposed planting on the required corner visibility splay in accordance with 52.20-6.7 of the Planning Scheme.	The site access is provided with the required pedestrian visibility splay in accordance with the Planning Scheme.
17. It is noted that pedestrian priority crossings are proposed at the crossovers with Playne St and Cranbourne Rd as well as internally within the site. Clarification is required regarding proposed crossing types as the submitted documents show both at-grade and raised crossing types. Pedestrian priority crossings are Major Traffic Control Devices requiring the approval of DoT/VicRoads.	No formal pedestrian crossing is proposed along the site access and instead the existing footpath will be retained.
18. The overall length of the access way aisle is noted to be greater than 100m. It is recommended that traffic control devices such as speed humps be installed to control vehicle speeds in line with car park speed limit as well as to assist towards deterring "rat-run" traffic at peak times who may travel through the car park to avoid delays on Cranbourne Rd.	Speed humps are provided along the accessway to naturally reduce speeds on-site
19. It is noted that the crossover on to Playne St is proposed to be exit only for traffic though is wide enough to accommodate two-way traffic flow. What are the intentions to safely manage this one-way exit?	The crossover will be two-way, however, will predominately accommodate exit movements for the bulk oxygen vehicle with most vehicles entering/exiting via Cranbourne Road.
23. Whilst the proposed access on Cranbourne Road is expected to be restricted to left-in/ left-out movements only, it is noted that the proposed access crossover is located within close proximity to the Cranbourne Road/ Fletcher Road signalised intersection. Given the relatively large percentage of vehicles travelling to and from the east and the north, a significant number of turning movements at this access point will need to cross multiple lanes to get to the right turn/ U-turn lane at Cranbourne Road/ Fletcher Road. This is an unsafe and disruptive movement particularly if vehicles are joining from the middle of an existing queue.	Vehicles requiring to turn right or undertake a U-turn at Fletcher Road will be provided with gaps in traffic due to the proximity to the Moorooduc Highway / McMahons Road / Cranbourne Road intersection. Furthermore, a total of 32 vehicles will be undertaking a right/u-turn during the PM peak hour, which effectively results in one movement every two minutes or every cycle time at the Cranbourne Road / Fletcher Road signalised intersection (assuming 120 second cycle time). Therefore, vehicles exiting the site are unexpected to have issues joining the right/u-turn lanes at the Fletcher Road / Cranbourne Road intersection.

Comments	Response
24. It is noted that there are two existing uncontrolled median openings on Cranbourne Road should vehicles decide to use the Playne Street connection to head back east as an alternative. While the site-generated traffic volume at these points may not be high once redistributed, it is important to understand how these median openings are currently operating to ensure additional movements by the proposal do not cause any adverse safety risks at these locations. It is the Department's preference that site access be designed to be safe and convenient as possible so patron vehicles are not encouraged or forced to rely on these uncontrolled median openings to travel to and from the east.	We consider there will be minimal traffic using Playne Street to travel east, noting that Cranbourne Road has higher operating speeds and the SIDRA shows that the delay for u-turns is manageable at the Cranbourne Road / Fletcher Road intersection (approximately 65 seconds).
25. The submitted architectural drawings indicate that a raised pavement is proposed at the Cranbourne Road access to facilitate the movement of pedestrians. The Department will not support such a treatment within the road reserve due to its close proximity to through traffic lanes and the potential delay it may cause to entering vehicles. As it relates to efficient traffic flow into the site from Cranbourne Road, it is anticipated that some on-street parking may need to be removed on either side of the proposed access to improve the sight distance and visibility of the access point as well as allow for safe vehicle deceleration and acceleration. This matter may need to be taken into consideration as part of the parking shortfall consideration and access design.	No formal pedestrian crossing is proposed along the site access and instead the existing footpath will be retained.
Other Items	
22. Revised traffic report to include: (a) Details of the anticipated staff changeover period and visiting hours	The proposed specialist hospital will operate within typical business hours (8:00am – 6:00pm). Therefore, there will be no significant staff change over as expected at typical hospitals.
(b) Justification on the proposed traffic distribution percentages	The traffic distribution has been determined using the average of the inbound/outbound movements during both the AM and PM peak hour with the intersection of Fletcher Road / Cranbourne Road the origin/destination. Whilst Playne Street and Davey Street provide access to the Frankston activity centre, they also provide connections to Nepean Highway which provide access to bayside suburbs.

Comments	Response
(c) The maximum queue length observed on the right turn/ U-turn lanes into Fletcher Road from Cranbourne Road during peak commuter periods and proposed staff changeover periods.	The existing maximum queue lengths are shown in Table 15 and the future SIDRA results are shown in Table 14, which show the queues will be comfortably accommodated within the turn lanes.
(d) Revised site-generated turning volumes to include the number of turning movements entering and exiting the subject site from Cranbourne Road.	The traffic movements generated at the site access are shown in Figure 14 and Figure 15.
(e) The maximum queue length observed on the right turn/ U-turn lane at Cranbourne Road/ Allenby Street during peak commuter periods and proposed staff changeover periods.	The existing maximum queue lengths are shown in Table 15 and the future SIDRA results are shown in Table 14, which show the queues will be comfortably accommodated within the turn lanes.
(f) Analysis of the availability of gaps in through traffic at Cranbourne Road/ Allenby Street for vehicles intending to turn right into Allenby Street or make a U-turn towards the subject site.	A gap analysis of existing conditions is shown in Section 8.8, which shows there is considerable capacity under existing conditions (and in accordance with the SIDRA) and therefore, is expected to comfortably accommodate the future movements at the intersection.
(g) Crash review of the intersection of Cranbourne Road/ Fletcher Road as well as median openings on Cranbourne Road at Allenby and Lawrey Street.	The crash history along Cranbourne Road is shown in Section 2.6, which show whilst several crashes have occurred within the vicinity in the 5-year period, there are no noticeable trends in regard to crashes.
23. Revised SIDRA analysis within the submitted traffic report to include: (a) The application of a 2.5% growth rate	Whilst the SCAT's data shows there has been no growth in traffic volumes. A conservative growth rate of 2.5% over 5 years (compounding) has been adopted.
(b) Revisions to the distribution model to address Item 1 of this request (if any)	As per the above, no changes are proposed to the existing traffic distribution.

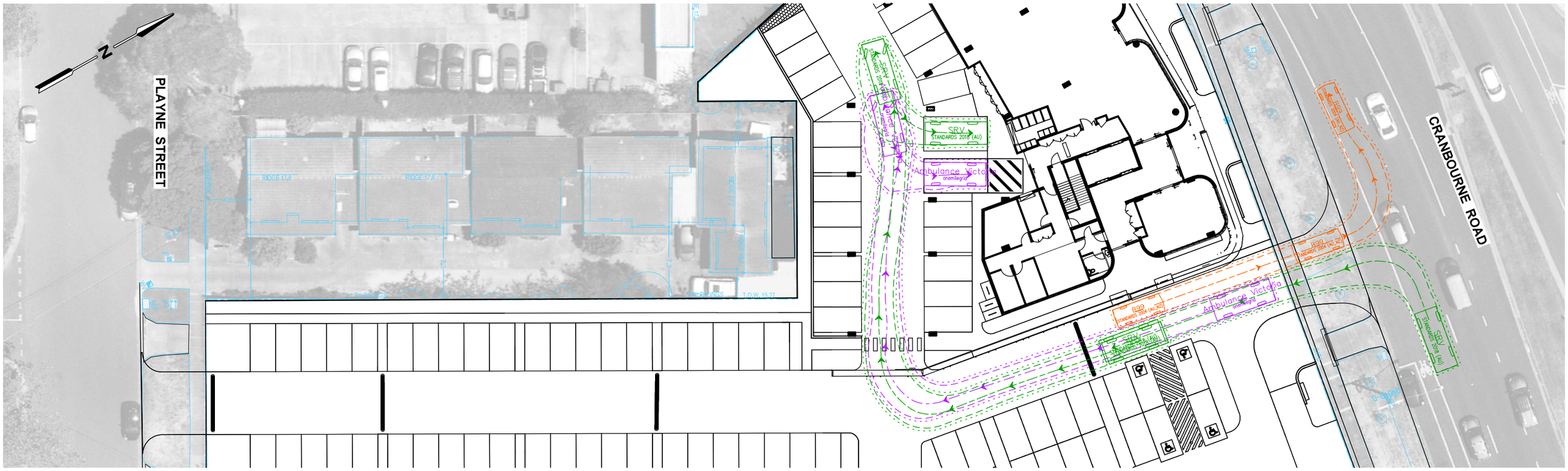
10 CONCLUSION

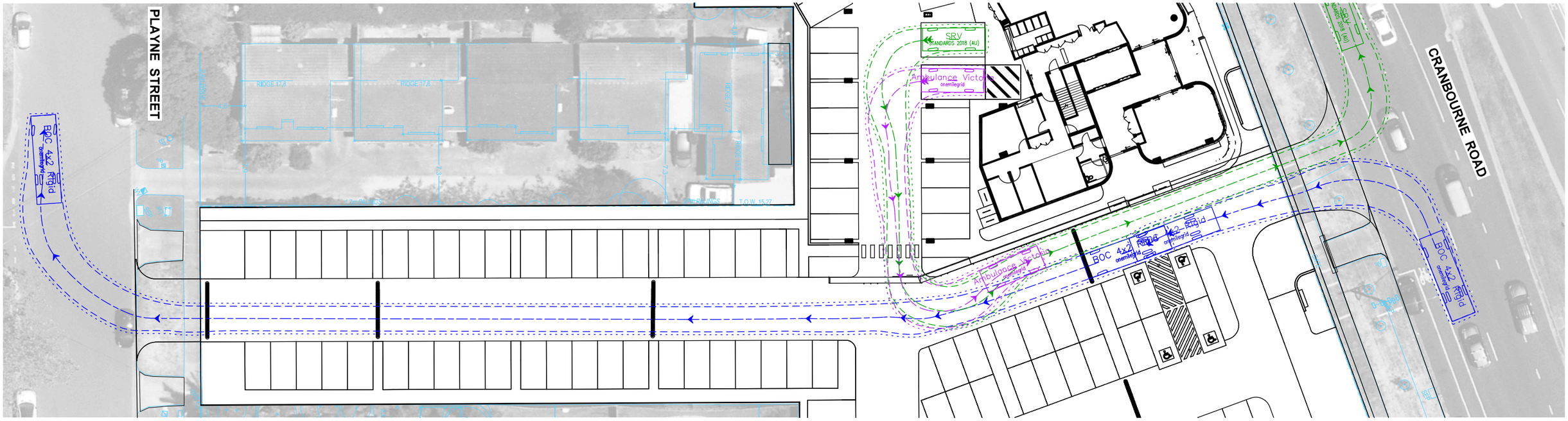
It is proposed to develop the site for the purposes of a specialist hospital which will comprise of 33 points of care and 1,943 m^2 of consulting suites. A total of 138 car parking spaces will be provided on-site.

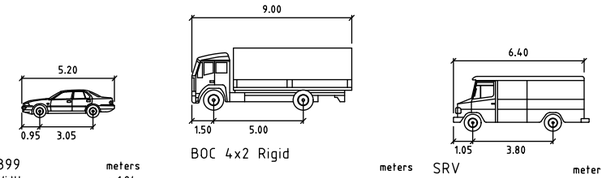
Considering the analysis presented above, it is concluded that:

- The proposed car parking and access design is considered appropriate;
- The proposed loading arrangements are considered appropriate for the site;
- The proposed provision of bicycle parking is in accordance with the Planning Scheme requirements;
- The proposed provision of car parking is in accordance with the Car Parking Demand assessment; and
- The anticipated traffic volumes generated by the development is expected to have a minimal impact on the operation of the surrounding road network.

Appendix A Swept Path Diagrams







B99	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

BOC 4x2 Rigid

Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 29.5

SRV	meters
Width	: 2.30
Track	: 2.30
Lock to Lock Time	: 6.0
Steering Angle	: 38.0

SWEPT PATH LEGEND

- — — — DESIGN VEHICLE SWEPT PATHS SHOWN DASHED
- - - - - - - - 300mm CLEARANCE ENVELOPE SHOWN DOTTED

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Scale 1:400 @ A3 (0 2 4 8)

Drawing Title
MORNINGTON PENINSULA
SPECIALIST HOSPITAL
SWEPT PATH ANALYSIS

Designed	Approved	Melway Ref
TCW	MK	102 D3

Project Number	Drawing Number	Revision
22034	SPA100	E

CAD File: N:\Projects\2022\220634\Drawings\220634SPA100.dgn

Date Plotted: 27-09-2023 13:19:25

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We acknowledge and extend our appreciation to the Wurundjeri People, the Traditional Owners of the land. We pay our respects to leaders and Elders past, present and emerging for they hold the memories, the traditions, the culture, and the hopes of all Wurundjeri Peoples.

Aerial Photography
Aerial photography provided by Nearmap

Appendix B Car Parking Inventory

Area	Street	Section	Side	Restriction 1		Restriction 2		Restriction 3		Supply
				Type	Times	Type	Times	Type	Times	
	Allenby St	From Cranbourne Rd To Birdwood St	E	1P	9am-6pm Mon-Fri	Resident Permit Excepted				16
			W	Unrestricted						18
	Birdwood St	From Allenby St To Melvin St	E	1P	9am-6pm Mon-Fri	Resident Permit Excepted				11
			W	Unrestricted						11
	Melvin St	From Cranbourne Rd To Birdwood St	E	1P	9am-6pm Mon-Fri	Resident Permit Excepted				10
			W	Unrestricted						12
	Cranbourne Rd	From Melvin St To Olive Grove	S	1P	9am-6pm Mon-Fri	Resident Permit Excepted				2
				Bus Zone						1
		From Olive Grove To Fletcher Rd	S	1P	9am-6pm Mon-Fri	Resident Permit Excepted				13
	Playne St	From Cranbourne Rd To Young St	S	1P	9am-6pm Mon-Sat					10
				1/4P	9am-6pm					2
				1P Disabled						2
			N	Loading Zone	9am-6pm Mon-Sat					2
				Bus Zone						1
				1P	9am-6pm Mon-Sat					5
	Quality St	From Cranbourne Rd To Fletcher Rd	E	Permit Zone	6am-8pm					16
				1/2P	6am-8pm					3
			W	Permit Zone	6am-8pm					24
	Cranbourne Rd	From Fletcher Rd To Olive Gr	N	Bus Zone	9am-5:30pm Mon-Fri, 9am-12:30pm Sat					6
				Bus Zone						1
	Olive Gr	From Cranbourne Rd To Oates St	W	3P Authorised Permit Excepted						23
				No Stopping Authorised Permit Excepted						10
			E	No Stopping						0
	Oates St	From Olive Gr To Willis St	N	Permit Zone						5
			S	3P	8am-8pm	Resident Permit Excepted				5
	Willis St	From Oates St To Cranbourne Rd	E	3P	8am-8pm	Resident Permit Excepted				11
			W	3P	8am-8pm	Resident Permit Excepted				13
	Cranbourne Rd	From Olive Gr To Willis St	N	Bus Zone						1
				3P	8am-8pm	Resident Permit Excepted				3
		From Willis St To Allenby St	N	3P	8am-8pm	Resident Permit Excepted				5
				P 5mins	8:30am-9:30am, 2:30pm-3:30pm Mon-Fri					3
		From Allenby St To Melvin St	S	1P	9am-6pm Mon-Fri	Resident Permit Excepted				9
	Birdwood St	From Melvin St To Bundara Ct	S	1P	9am-6pm Mon-Fri	Resident Permit Excepted				2
			N	Unrestricted						6
	Bundara Ct	From Birdwood St To End	E	1P	9am-6pm Mon-Fri	Resident Permit Excepted				3
				Unrestricted						4
			W	Unrestricted						11
	Dell Rd	From Bundara Ct To Elizabeth St	N	3P	9am-6pm Mon-Fri	Resident Permit Excepted				6
			S	Unrestricted						6
	Playne St	From Bundara Ct To Florence Ave	S	1P	9am-6pm Mon-Fri	Resident Permit Excepted				7
			N	Unrestricted						10
		From Florence Ave To Baxter St	S	1P	9am-6pm Mon-Fri	Resident Permit Excepted				7
			N	Unrestricted						10
	Florence Ave	From Playne St To End	E	1P	9am-6pm Mon-Fri	Resident Permit Excepted				7
			W	Unrestricted						10
	Baxter St	From Playne St To Davey St	W	No Stopping						0
			E	No Stopping						0
	Cranbourne Rd	From Fletcher Rd To Baxter St	N	No Stopping						0
			S	No Stopping						0

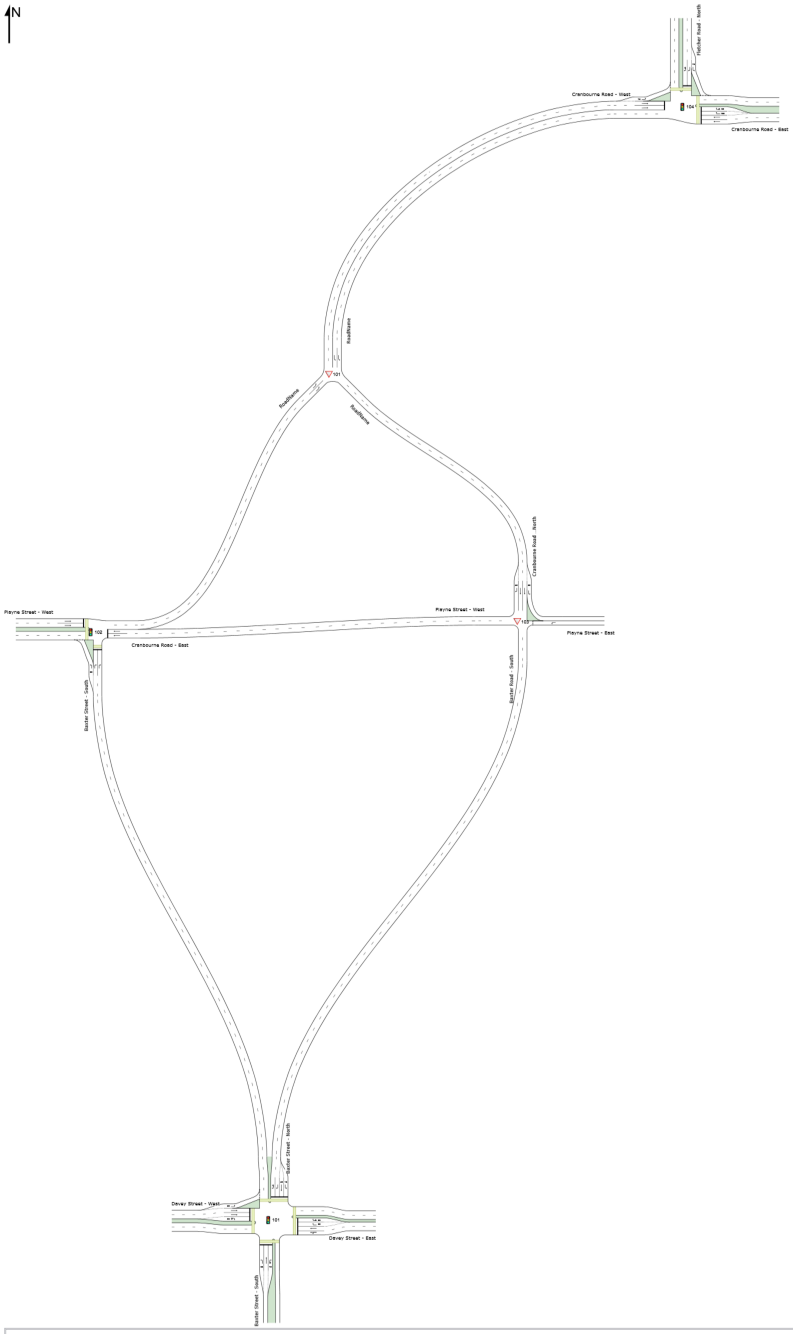
Appendix C SIDRA Results

NETWORK LAYOUT

Network: N101 [AM Peak (Network Folder: Existing - Network)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	DaveBaxtAMExEx
102	NA	PlayCranBaxtAMExEx
103	NA	PlayCranBaxtAMExEx - Tint
104	NA	FletCranAMExEx
101	NA	T-Int

LANE SUMMARY

Site: 101 [DaveBaxtAMExEx (Site Folder: Existing Network - AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [AM Peak (Network Folder: Existing - Network)]

Davey Street / Baxter Street
AM Peak, Exisitng Geometry, Existing Volumes
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given 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: Baxter Street - South															
Lane 1	12	4.0	12	4.0	647	0.018	100	31.7	LOS A	0.4	3.1	Short	65	0.0	NA
Lane 2	81	4.0	81	4.0	172[1]	0.472	100	80.2	LOS A	4.6	33.7	Full	500	0.0	0.0
Lane 3	16	3.7	16	3.7	158	0.100	100	83.5	LOS A	0.9	6.3	Short	10	0.0	NA
Approach	108	4.0	108	4.0		0.472		75.5	LOS A	4.6	33.7				
East: Davey Street - East															
Lane 1	222	4.0	222	4.0	441	0.503	100	43.8	LOS A	11.4	82.4	Full	500	0.0	0.0
Lane 2	223	4.0	223	4.0	443	0.503	100	43.3	LOS A	11.4	82.8	Full	500	0.0	0.0
Lane 3	176	4.0	176	4.0	369[1]	0.478	100	52.5	LOS A	9.1	66.1	Short	60	0.0	NA
Lane 4	176	4.0	176	4.0	369[1]	0.478	100	52.5	LOS A	9.1	65.9	Short	35	0.0	NA
Approach	798	4.0	798	4.0		0.503		47.5	LOS A	11.4	82.8				
North: Baxter Street - North															
Lane 1	146	4.0	146	4.0	1189	0.123	100	13.6	LOS A	3.1	22.6	Short	15	0.0	NA
Lane 2	84	4.0	84	4.0	760	0.111	100	24.0	LOS A	2.6	19.0	Short	40	0.0	NA
Lane 3	214	4.0	214	4.0	431[1]	0.497	100	51.4	LOS A	10.9	78.6	Full	130	0.0	0.0
Lane 4	221	3.8	221	3.8	444	0.497	100	47.9	LOS A	11.2	81.0	Full	130	0.0	0.0
Approach	665	3.9	665	3.9		0.497		38.5	LOS A	11.2	81.0				
West: Davey Street - West															
Lane 1	461	4.0	461	4.0	1160[1]	0.397	100	9.2	LOS A	7.4	53.3	Short	30	0.0	NA
Lane 2	146	4.0	146	4.0	443	0.329	100	41.3	LOS A	7.1	51.5	Full	500	0.0	0.0
Lane 3	146	4.0	146	4.0	443	0.329	100	41.3	LOS A	7.1	51.5	Full	500	0.0	0.0
Lane 4	29	3.6	29	3.6	379	0.078	100	46.0	LOS A	1.4	9.9	Short	35	0.0	NA
Approach	782	4.0	782	4.0		0.397		22.5	LOS A	7.4	53.3				
All Vehicles	2354	4.0	2354	4.0		0.503		37.9	LOS A	11.4	82.8				

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Lane LOS values are based on degree of saturation per lane.
Intersection and Approach LOS values are based on worst degree of saturation for any lane.
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: Baxter Street - South

Mov. From S To Exit:	L2 W	T1 N	R2 E	U S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	12	-	-	-	12	4.0	647	0.018	100	0.0	2
Lane 2	-	81	-	-	81	4.0	172[1]	0.472	100	NA	NA
Lane 3	-	-	15	1	16	3.7	158	0.100	100	0.0	2
Approach	12	81	15	1	108	4.0		0.472			

East: Davey Street - East

Mov. From E To Exit:	L2 S	T1 W	R2 N	U E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	20	202	-	-	222	4.0	441	0.503	100	NA	NA
Lane 2	-	223	-	-	223	4.0	443	0.503	100	NA	NA
Lane 3	-	-	176	-	176	4.0	369[1]	0.478	100	13.7	2
Lane 4	-	-	174	2	176	4.0	369[1]	0.478	100	63.6	3
Approach	20	425	351	2	798	4.0		0.503			

North: Baxter Street - North

Mov. From N To Exit:	L2 E	T1 S	R2 W	U N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	146	-	-	-	146	4.0	1189	0.123	100	42.7	2
Lane 2	-	84	-	-	84	4.0	760	0.111	100	0.0	3
Lane 3	-	-	214	-	214	4.0	431[1]	0.497	100	NA	NA
Lane 4	-	-	208	13	221	3.8	444	0.497	100	NA	NA
Approach	146	84	422	13	665	3.9		0.497			

West: Davey Street - West

Mov. From W To Exit:	L2 N	T1 E	R2 S	U W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	461	-	-	-	461	4.0	1160[1]	0.397	100	58.1	2
Lane 2	-	146	-	-	146	4.0	443	0.329	100	NA	NA
Lane 3	-	146	-	-	146	4.0	443	0.329	100	NA	NA
Lane 4	-	-	26	3	29	3.6	379	0.078	100	0.0	3
Approach	461	292	26	3	782	4.0		0.397			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	2354	4.0	0.503

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 sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec	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: Baxter Street - South				

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
East: Davey Street - East				
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: Baxter Street - North				
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
West: Davey Street - West				
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

PHASING SUMMARY

Site: 101 [DaveBaxtAMExEx (Site Folder: Existing Network - AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [AM Peak (Network Folder: Existing - Network)]

Davey Street / Baxter Street
AM Peak, Exisitng Geometry, Existing Volumes
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

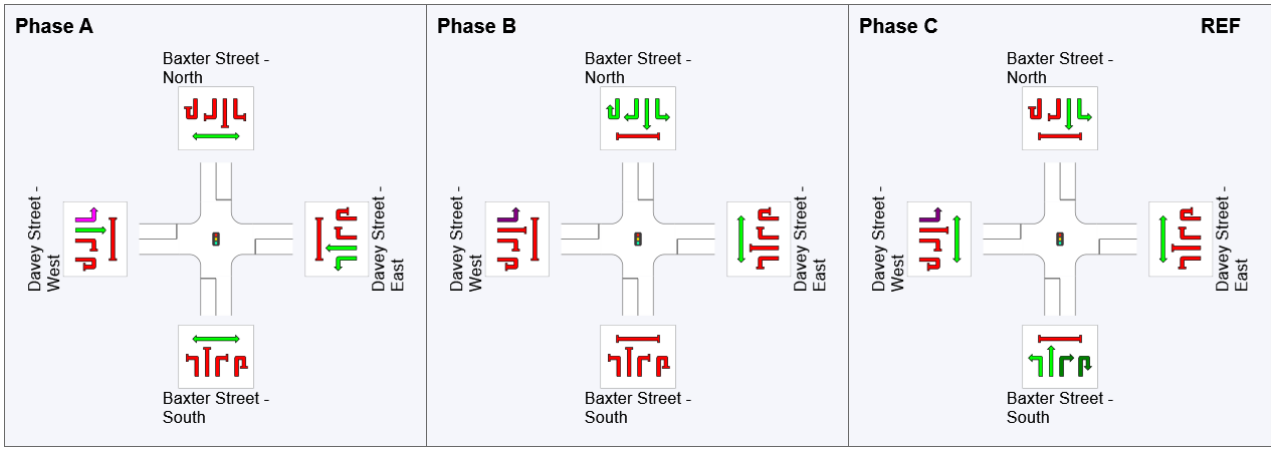
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Leading Right Turn
Input Phase Sequence: A, B, C, D1*, D2*, D3*
Output Phase Sequence: A, B, C, D1*
Reference Phase: Phase C
Offset: 0 seconds (User)
(* Variable Phase)

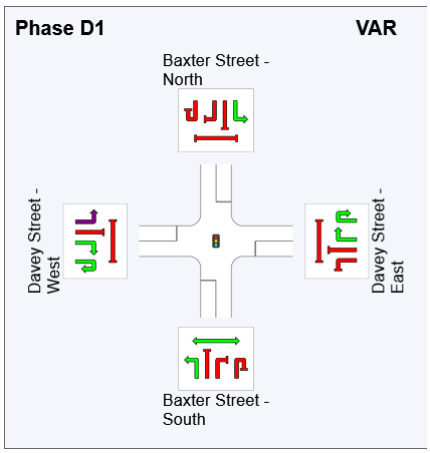
Phase Timing Summary

Phase	A	B	C	D1
Phase Change Time (sec)	50	84	0	18
Green Time (sec)	28	30	12	26
Phase Time (sec)	34	36	18	32
Phase Split	28%	30%	15%	27%
Phase Frequency (%)	100.0	100.0	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence





REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

LANE SUMMARY

Site: 102 [PlayCranBaxtAMExEx (Site Folder: Existing Network - AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [AM Peak (Network Folder: Existing - Network)]

Baxter Street / Playne Street / Cranbourne Road
AM Peak, Exisitng Geometry, Existing Volumes
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given 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: Baxter Street - South															
Lane 1	195	4.0	195	4.0	1314	0.148	100	6.9	LOS A	1.7	12.2	Short	50	0.0	NA
Lane 2	341	4.0	341	4.0	993	0.343	100	14.3	LOS A	7.0	50.7	Full	105	0.0	0.0
Lane 3	341	4.0	341	4.0	993	0.343	100	10.4	LOS A	4.3	31.3	Full	105	0.0	0.0
Approach	876	4.0	876	4.0		0.343		11.1	LOS A	7.0	50.7				
East: Cranbourne Road - East															
Lane 1	225	4.0	225	4.0	665	0.338	100	23.5	LOS A	8.0	57.6	Full	40	0.0	38.3
Lane 2	225	4.0	225	4.0	665	0.338	100	23.5	LOS A	8.0	57.6	Full	40	0.0	38.3
Approach	449	4.0	449	4.0		0.338		23.5	LOS A	8.0	57.6				
West: Playne Street - West															
Lane 1	130	4.0	130	4.0	665	0.195	100	29.0	LOS A	5.3	38.0	Full	500	0.0	0.0
Lane 2	130	4.0	130	4.0	665	0.195	100	29.0	LOS A	5.3	38.0	Full	500	0.0	0.0
Approach	260	4.0	260	4.0		0.195		29.0	LOS A	5.3	38.0				
All Vehicles	1585	4.0	1585	4.0		0.343		17.6	LOS A	8.0	57.6				

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Lane LOS values are based on degree of saturation per lane.
Intersection and Approach LOS values are based on worst degree of saturation for any lane.
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: Baxter Street - South

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	195	-	195	4.0	1314	0.148	100	0.0	2
Lane 2	-	341	341	4.0	993	0.343	100	NA	NA
Lane 3	-	341	341	4.0	993	0.343	100	NA	NA
Approach	195	681	876	4.0		0.343			

East: Cranbourne Road - East

Mov. From E To Exit:	T1 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	225	225	4.0	665	0.338	100	NA	NA

Lane 2	225	225	4.0	665	0.338	100	NA	NA
Approach	449	449	4.0		0.338			
West: Playne Street - West								
Mov. From W To Exit:	T1 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	130	130	4.0	665	0.195	100	NA	NA
Lane 2	130	130	4.0	665	0.195	100	NA	NA
Approach	260	260	4.0		0.195			
	Total	%HV	Deg.Satn (v/c)					
All Vehicles	1585	4.0	0.343					

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: Baxter Street - South				
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
East: Cranbourne Road - East				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Playne Street - West				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

PHASING SUMMARY

Site: 102 [PlayCranBaxtAMExEx (Site Folder: Existing Network - AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [AM Peak (Network Folder: Existing - Network)]

Baxter Street / Playne Street / Cranbourne Road
AM Peak, Exisitng Geometry, Existing Volumes
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

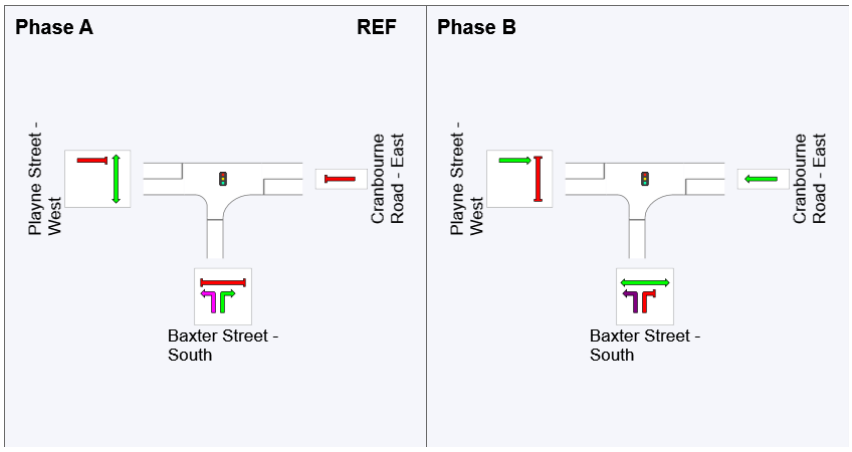
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Leading Right Turn
Input Phase Sequence: A, B
Output Phase Sequence: A, B
Reference Phase: Phase A
Offset: 0 seconds (User)

Phase Timing Summary

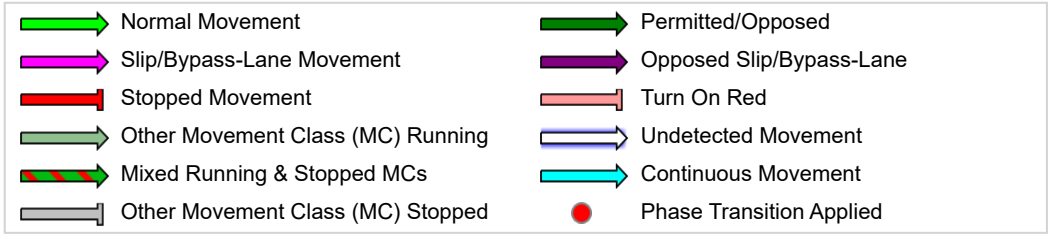
Phase	A	B
Phase Change Time (sec)	0	72
Green Time (sec)	66	42
Phase Time (sec)	72	48
Phase Split	60%	40%
Phase Frequency (%)	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



LANE SUMMARY

Site: 104 [FletCranAMExEx (Site Folder: Existing Network - AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [AM Peak (Network Folder: Existing - Network)]

Fletcher Road / Cranbourne Road
AM Peak, Exisitng Volumes, Existing Geometry
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given 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: Cranbourne Road - East															
Lane 1	405	4.0	405	4.0	1299	0.312	100	8.0	LOS A	9.3	67.6	Full	500	0.0	0.0
Lane 2	405	4.0	405	4.0	1299	0.312	100	8.0	LOS A	9.3	67.6	Full	500	0.0	0.0
Lane 3	152	4.0	152	4.0	361	0.421	100	51.4	LOS A	7.9	57.1	Short	120	0.0	NA
Lane 4	150	3.8	150	3.8	356	0.421	100	51.4	LOS A	7.8	56.2	Short	60	0.0	NA
Approach	1113	4.0	1113	4.0		0.421		19.8	LOS A	9.3	67.6				
North: Fletcher Road - North															
Lane 1	216	4.0	216	4.0	1070	0.202	100	7.4	LOS A	2.2	15.9	Short	70	0.0	NA
Lane 2	163	4.0	163	4.0	391	0.417	100	49.6	LOS A	8.3	60.2	Full	500	0.0	0.0
Lane 3	161	3.8	161	3.8	386	0.417	100	49.7	LOS A	8.2	59.3	Full	500	0.0	0.0
Approach	540	3.9	540	3.9		0.417		32.8	LOS A	8.3	60.2				
West: Cranbourne Road - West															
Lane 1	229	4.0	229	4.0	1334	0.172	100	5.9	LOS A	1.1	8.2	Short	70	0.0	NA
Lane 2	355	4.0	355	4.0	824	0.431	100	16.3	LOS A	10.8	78.1	Full	80	0.0	2.8
Lane 3	355	4.0	355	4.0	824	0.431	100	16.3	LOS A	10.8	77.9	Full	80	0.0	2.6
Approach	940	4.0	940	4.0		0.431		13.8	LOS A	10.8	78.1				
All Vehicles	2593	4.0	2593	4.0		0.431		20.3	LOS A	10.8	78.1				

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Lane LOS values are based on degree of saturation per lane.
Intersection and Approach LOS values are based on worst degree of saturation for any lane.
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: Cranbourne Road - East

Mov. From E To Exit:	T1 W	R2 N	U E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	405	-	-	405	4.0	1299	0.312	100	NA	NA
Lane 2	405	-	-	405	4.0	1299	0.312	100	NA	NA
Lane 3	-	152	-	152	4.0	361	0.421	100	0.0	2
Lane 4	-	143	7	150	3.8	356	0.421	100	0.0	3
Approach	811	295	7	1113	4.0		0.421			

North: Fletcher Road - North

Mov. From N To Exit:	L2 E	R2 W	U N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	216	-	-	216	4.0	1070	0.202	100	0.0	2
Lane 2	-	163	-	163	4.0	391	0.417	100	NA	NA
Lane 3	-	154	7	161	3.8	386	0.417	100	NA	NA
Approach	216	317	7	540	3.9		0.417			

West: Cranbourne Road - West

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	229	-	229	4.0	1334	0.172	100	0.0	2
Lane 2	-	355	355	4.0	824	0.431	100	NA	NA
Lane 3	-	355	355	4.0	824	0.431	100	NA	NA
Approach	229	711	940	4.0		0.431			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	2593	4.0	0.431

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
East: Cranbourne Road - East				
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: Fletcher Road - North				
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
West: Cranbourne Road - West				
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

PHASING SUMMARY

Site: 104 [FletCranAMExEx (Site Folder: Existing Network - AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [AM Peak (Network Folder: Existing - Network)]

Fletcher Road / Cranbourne Road
AM Peak, Exisitng Volumes, Existing Geometry
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

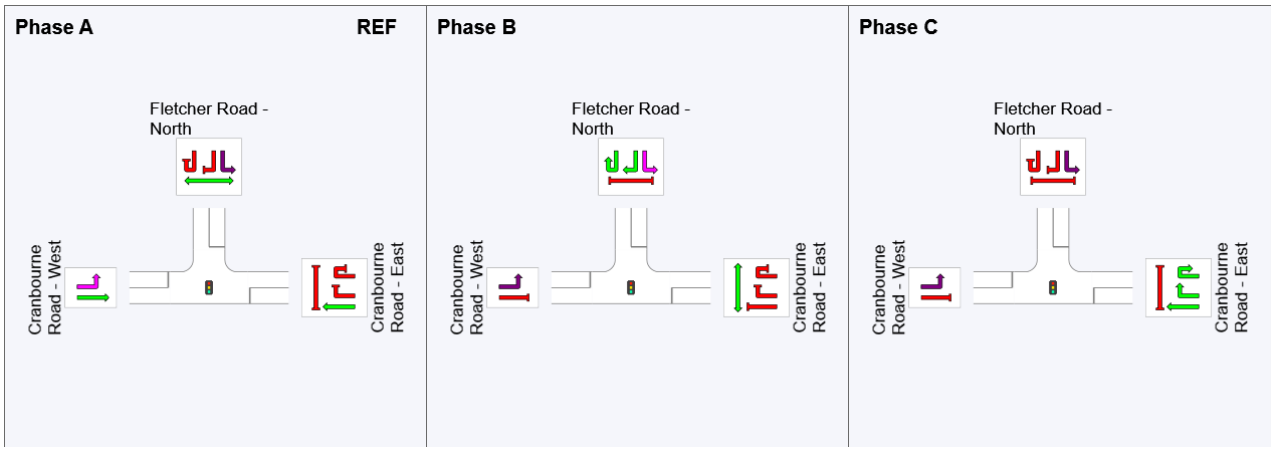
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Leading Right Turn
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C
Reference Phase: Phase A
Offset: 0 seconds (User)

Phase Timing Summary

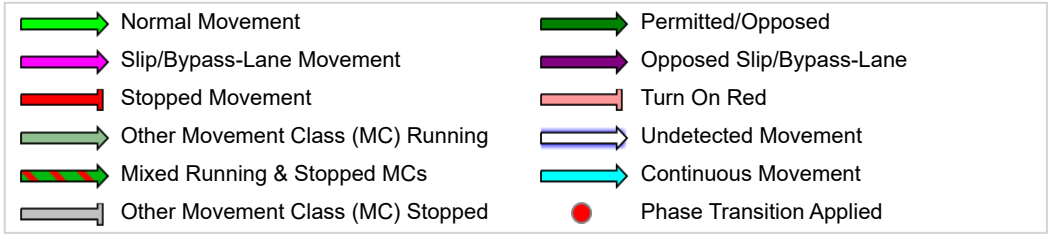
Phase	A	B	C
Phase Change Time (sec)	0	58	90
Green Time (sec)	52	26	24
Phase Time (sec)	58	32	30
Phase Split	48%	27%	25%
Phase Frequency (%)	100.0	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

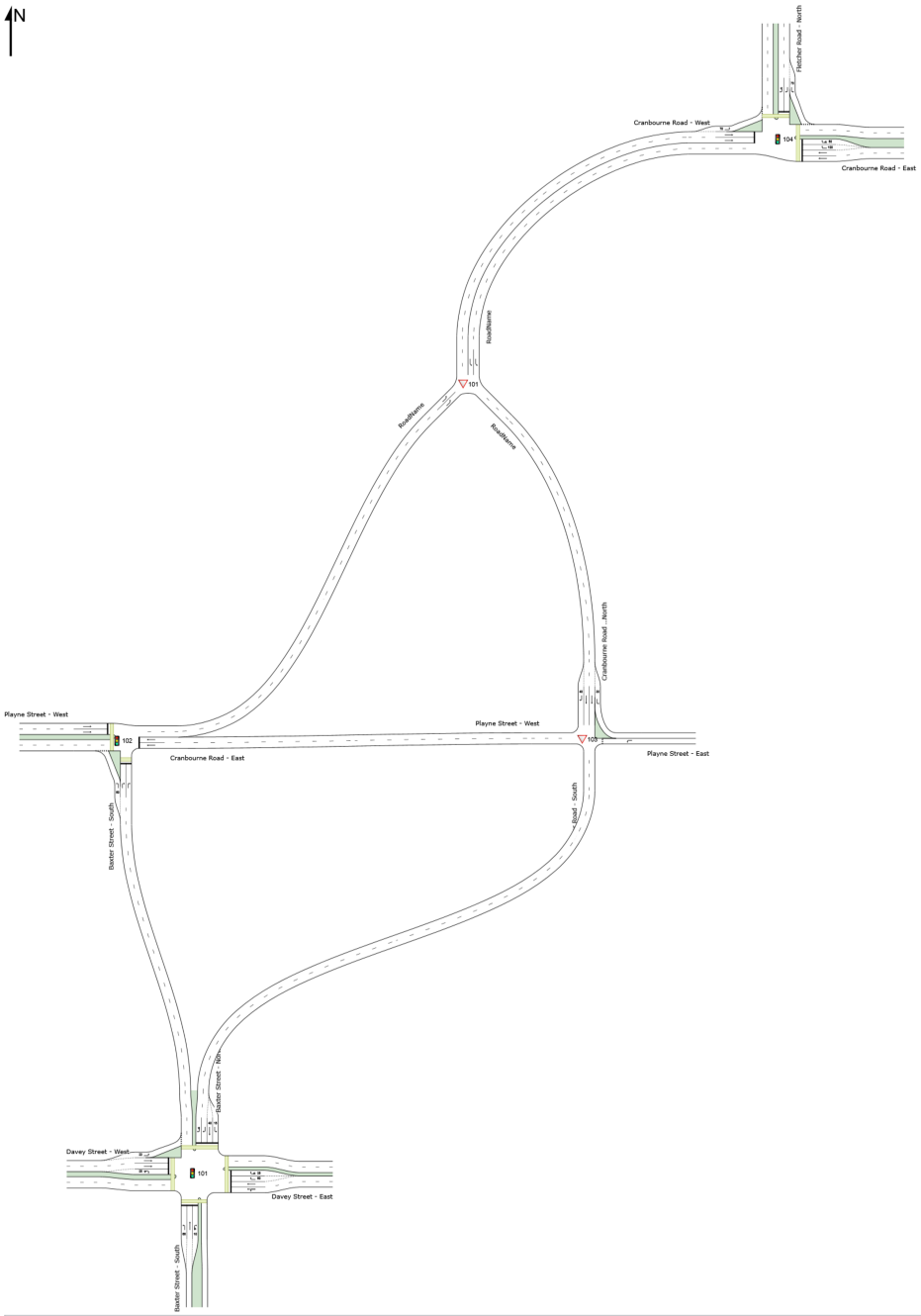


NETWORK LAYOUT

Network: N101 [PM Peak (Network Folder: Existing - Network)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	DaveBaxtPMExEx
102	NA	PlayCranBaxtPMExEx
103	NA	PlayCranBaxtPMExEx - Tint
104	NA	FletCranPMExEx
101	NA	T-Int

LANE SUMMARY

Site: 101 [DaveBaxtPMExEx (Site Folder: Existing Network - PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [PM Peak (Network Folder: Existing - Network)]

Davey Street / Baxter Street
AM Peak, Exisitng Geometry, Existing Volumes
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given 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: Baxter Street - South															
Lane 1	9	4.0	9	4.0	466	0.020	100	40.8	LOS A	0.4	2.9	Short	65	0.0	NA
Lane 2	35	4.0	35	4.0	111	0.313	100	61.8	LOS A	2.1	15.0	Full	500	0.0	0.0
Lane 3	9	3.6	9	3.6	109	0.087	100	65.9	LOS A	0.5	4.0	Short	10	0.0	NA
Approach	54	3.9	54	3.9		0.313		58.8	LOS A	2.1	15.0				
East: Davey Street - East															
Lane 1	201	4.0	201	4.0	570	0.354	100	35.4	LOS A	9.2	66.7	Full	500	0.0	0.0
Lane 2	202	4.0	202	4.0	570	0.354	100	35.3	LOS A	9.2	66.8	Full	500	0.0	0.0
Lane 3	175	4.0	175	4.0	255[1]	0.686	100	64.4	LOS B	10.1	72.8	Short	60	0.0	NA
Lane 4	175	4.0	175	4.0	254[1]	0.686	100	64.5	LOS B	10.0	72.7	Short	35	0.0	NA
Approach	753	4.0	753	4.0		0.686		48.9	LOS B	10.1	72.8				
North: Baxter Street - North															
Lane 1	226	4.0	226	4.0	1054[1]	0.215	100	15.3	LOS A	4.4	31.8	Short	15	0.0	NA
Lane 2	17	4.0	17	4.0	744	0.023	100	36.5	LOS A	0.5	3.6	Short	40	0.0	NA
Lane 3	342	4.0	342	4.0	501[1]	0.683	100	61.1	LOS B	17.5	126.4	Full	130	0.0	2.5
Lane 4	347	3.9	347	3.9	508	0.683	100	44.5	LOS B	17.7	128.3	Full	130	0.0	3.8
Approach	933	4.0	933	4.0		0.683		43.4	LOS B	17.7	128.3				
West: Davey Street - West															
Lane 1	560	4.0	560	4.0	1200[1]	0.467	100	18.1	LOS A	9.3	67.1	Short	30	0.0	NA
Lane 2	207	4.0	207	4.0	299[1]	0.691	100	50.4	LOS B	10.9	79.1	Full	500	0.0	0.0
Lane 3	391	4.0	391	4.0	566[1]	0.691	100	61.5	LOS B	20.3	146.8	Full	500	0.0	0.0
Lane 4	4	3.0	4	3.0	266	0.016	100	73.2	LOS A	0.2	1.5	Short	35	0.0	NA
Approach	1162	4.0	1162	4.0		0.691		38.7	LOS B	20.3	146.8				
All Vehicles	2901	4.0	2901	4.0		0.691		43.2	LOS B	20.3	146.8				

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Lane LOS values are based on degree of saturation per lane.
Intersection and Approach LOS values are based on worst degree of saturation for any lane.
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: Baxter Street - South

Mov. From S To Exit:	L2 W	T1 N	R2 E	U S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	9	-	-	-	9	4.0	466	0.020	100	0.0	2
Lane 2	-	35	-	-	35	4.0	111	0.313	100	NA	NA
Lane 3	-	-	8	1	9	3.6	109	0.087	100	0.0	2
Approach	9	35	8	1	54	3.9		0.313			

East: Davey Street - East

Mov. From E To Exit:	L2 S	T1 W	R2 N	U E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	3	198	-	-	201	4.0	570	0.354	100	NA	NA
Lane 2	-	202	-	-	202	4.0	570	0.354	100	NA	NA
Lane 3	-	-	175	-	175	4.0	255[1]	0.686	100	22.5	2
Lane 4	-	-	172	2	175	4.0	254[1]	0.686	100	73.0	3
Approach	3	400	347	2	753	4.0		0.686			

North: Baxter Street - North

Mov. From N To Exit:	L2 E	T1 S	R2 W	U N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	226	-	-	-	226	4.0	1054[1]	0.215	100	74.8	2
Lane 2	-	17	-	-	17	4.0	744	0.023	100	0.0	3
Lane 3	-	-	342	-	342	4.0	501[1]	0.683	100	NA	NA
Lane 4	-	-	339	8	347	3.9	508	0.683	100	NA	NA
Approach	226	17	681	8	933	4.0		0.683			

West: Davey Street - West

Mov. From W To Exit:	L2 N	T1 E	R2 S	U W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	560	-	-	-	560	4.0	1200[1]	0.467	100	80.2	2
Lane 2	-	207	-	-	207	4.0	299[1]	0.691	100	NA	NA
Lane 3	-	391	-	-	391	4.0	566[1]	0.691	100	NA	NA
Lane 4	-	-	3	1	4	3.0	266	0.016	100	0.0	3
Approach	560	598	3	1	1162	4.0		0.691			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	2901	4.0	0.691

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 sec 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: Baxter Street - South				

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
East: Davey Street - East				
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: Baxter Street - North				
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
West: Davey Street - West				
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

PHASING SUMMARY

Site: 101 [DaveBaxtPMExEx (Site Folder: Existing Network - PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [PM Peak (Network Folder: Existing - Network)]

Davey Street / Baxter Street
AM Peak, Exisitng Geometry, Existing Volumes
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

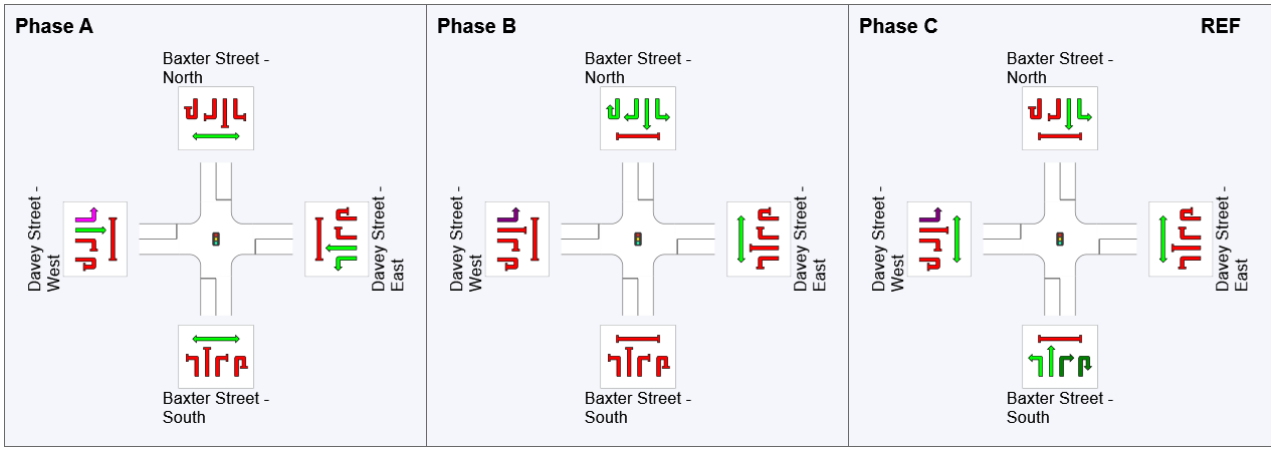
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Leading Right Turn
Input Phase Sequence: A, B, C, D1*, D2*, D3*
Output Phase Sequence: A, B, C, D1*
Reference Phase: Phase C
Offset: 0 seconds (User)
(* Variable Phase)

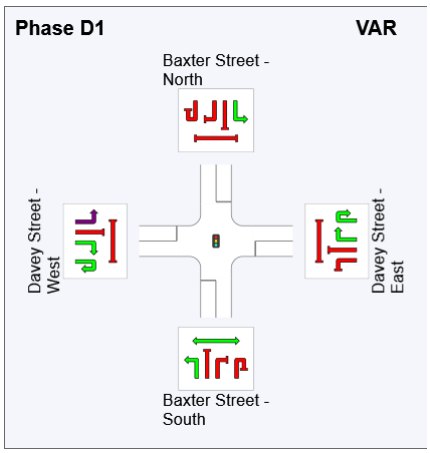
Phase Timing Summary

Phase	A	B	C	D1
Phase Change Time (sec)	38	80	0	13
Green Time (sec)	36	34	7	19
Phase Time (sec)	42	40	13	25
Phase Split	35%	33%	11%	21%
Phase Frequency (%)	100.0	100.0	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence





REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

LANE SUMMARY

Site: 102 [PlayCranBaxtPMExEx (Site Folder: Existing Network - PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [PM Peak (Network Folder: Existing - Network)]

Baxter Street / Playne Street / Cranbourne Road
AM Peak, Exisitng Geometry, Existing Volumes
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given 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: Baxter Street - South															
Lane 1	140	4.0	140	4.0	1351	0.104	100	6.9	LOS A	1.2	8.4	Short	50	0.0	NA
Lane 2	429	4.0	429	4.0	837	0.512	100	16.5	LOS A	11.8	85.7	Full	105	-20.5 N7	0.0
Lane 3	429	4.0	429	4.0	837	0.512	100	12.2	LOS A	8.5	61.8	Full	105	-20.5 N7	0.0
Approach	998	4.0	998	4.0		0.512		13.3	LOS A	11.8	85.7				
East: Cranbourne Road - East															
Lane 1	194	4.0	194	4.0	602	0.322	100	32.7	LOS A	8.5	61.2	Full	40	0.0	43.9
Lane 2	194	4.0	194	4.0	602	0.322	100	32.7	LOS A	8.5	61.2	Full	40	0.0	43.9
Approach	387	4.0	387	4.0		0.322		32.7	LOS A	8.5	61.2				
West: Playne Street - West															
Lane 1	247	4.0	247	4.0	478	0.516	100	36.3	LOS A	11.9	86.0	Full	500	-20.5 N7	0.0
Lane 2	247	4.0	247	4.0	478	0.516	100	36.3	LOS A	11.9	86.0	Full	500	-20.5 N7	0.0
Approach	494	4.0	494	4.0		0.516		36.3	LOS A	11.9	86.0				
All Vehicles	1879	4.0	1879	4.0		0.516		23.3	LOS A	11.9	86.0				

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Lane LOS values are based on degree of saturation per lane.
Intersection and Approach LOS values are based on worst degree of saturation for any lane.
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.

N7 The capacity reduction has been determined from the queue blockage probability based on the Back of Queue value of a Site further downstream.

Approach Lane Flows (veh/h)

South: Baxter Street - South

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	140	-	140	4.0	1351	0.104	100	0.0	2
Lane 2	-	429	429	4.0	837	0.512	100	NA	NA
Lane 3	-	429	429	4.0	837	0.512	100	NA	NA
Approach	140	858	998	4.0		0.512			

East: Cranbourne Road - East

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

Lane 1	194	194	4.0	602	0.322	100	NA	NA
Lane 2	194	194	4.0	602	0.322	100	NA	NA
Approach	387	387	4.0		0.322			
West: Playne Street - West								
Mov. From W To Exit:	T1 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	247	247	4.0	478	0.516	100	NA	NA
Lane 2	247	247	4.0	478	0.516	100	NA	NA
Approach	494	494	4.0		0.516			
	Total	%HV	Deg.Satn (v/c)					
All Vehicles	1879	4.0	0.516					

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: Baxter Street - South				
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
East: Cranbourne Road - East				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Playne Street - West				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

PHASING SUMMARY

Site: 102 [PlayCranBaxtPMExEx (Site Folder: Existing Network - PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [PM Peak (Network Folder: Existing - Network)]

Baxter Street / Playne Street / Cranbourne Road
AM Peak, Exisitng Geometry, Existing Volumes
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

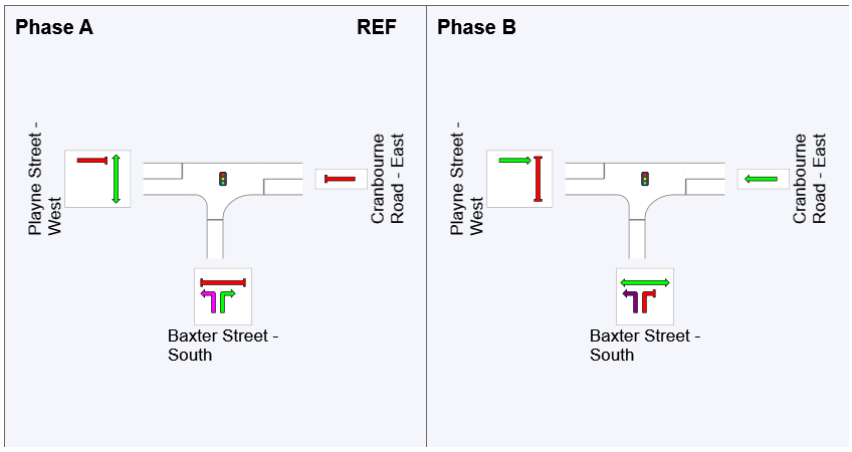
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Leading Right Turn
Input Phase Sequence: A, B
Output Phase Sequence: A, B
Reference Phase: Phase A
Offset: 0 seconds (User)

Phase Timing Summary

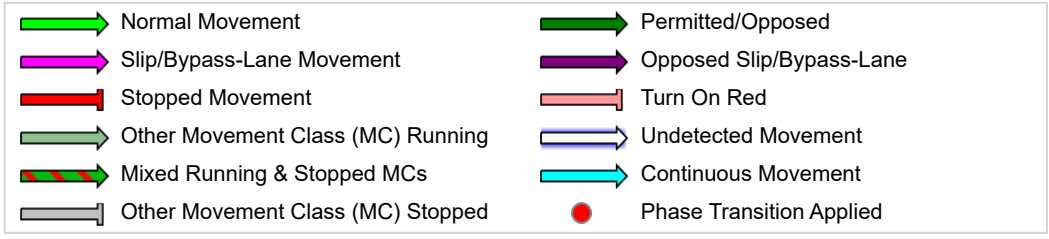
Phase	A	B
Phase Change Time (sec)	0	76
Green Time (sec)	70	38
Phase Time (sec)	76	44
Phase Split	63%	37%
Phase Frequency (%)	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



LANE SUMMARY

Site: 104 [FletCranPMExEx (Site Folder: Existing Network - PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [PM Peak (Network Folder: Existing - Network)]

Fletcher Road / Cranbourne Road
AM Peak, Exisitng Volumes, Existing Geometry
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given 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: Cranbourne Road - East															
Lane 1	463	4.0	463	4.0	1315	0.352	100	7.9	LOS A	10.8	78.2	Full	500	0.0	0.0
Lane 2	463	4.0	463	4.0	1315	0.352	100	7.9	LOS A	10.8	78.2	Full	500	0.0	0.0
Lane 3	109	4.0	109	4.0	196	0.557	100	62.4	LOS A	6.3	45.5	Short	120	0.0	NA
Lane 4	108	3.9	108	3.9	194	0.557	100	62.5	LOS A	6.2	45.1	Short	60	0.0	NA
Approach	1142	4.0	1142	4.0		0.557		18.3	LOS A	10.8	78.2				
North: Fletcher Road - North															
Lane 1	333	4.0	333	4.0	837	0.397	100	11.1	LOS A	7.1	51.3	Short	70	0.0	NA
Lane 2	209	4.0	209	4.0	376	0.555	100	52.0	LOS A	11.1	80.4	Full	500	0.0	0.0
Lane 3	208	3.9	208	3.9	374	0.555	100	52.1	LOS A	11.1	80.0	Full	500	0.0	0.0
Approach	749	4.0	749	4.0		0.555		33.9	LOS A	11.1	80.4				
West: Cranbourne Road - West															
Lane 1	261	4.0	261	4.0	1433	0.182	100	7.0	LOS A	0.9	6.3	Short	70	0.0	NA
Lane 2	530	4.0	530	4.0	960[1]	0.553	100	18.4	LOS A	18.0[N4]	130.6[N4]	Full	80	0.0	50.0
Lane 3	560	4.0	560	4.0	1014	0.553	100	16.2	LOS A	18.0[N4]	130.6[N4]	Full	80	0.0	50.0
Approach	1352	4.0	1352	4.0		0.553		15.3	LOS A	18.0	130.6				
All Vehicles	3243	4.0	3243	4.0		0.557		20.6	LOS A	18.0	130.6				

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Lane LOS values are based on degree of saturation per lane.
Intersection and Approach LOS values are based on worst degree of saturation for any lane.
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.
N4 Average back of queue has been restricted to the available queue storage space.

Approach Lane Flows (veh/h)

East: Cranbourne Road - East

Mov. From E To Exit:	T1 W	R2 N	U E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	463	-	-	463	4.0	1315	0.352	100	NA	NA
Lane 2	463	-	-	463	4.0	1315	0.352	100	NA	NA
Lane 3	-	109	-	109	4.0	196	0.557	100	0.0	2
Lane 4	-	105	3	108	3.9	194	0.557	100	0.0	3

Approach	925	214	3	1142	4.0		0.557			
North: Fletcher Road - North										
Mov. From N To Exit:	L2 E	R2 W	U N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	333	-	-	333	4.0	837	0.397	100	0.0	2
Lane 2	-	209	-	209	4.0	376	0.555	100	NA	NA
Lane 3	-	205	3	208	3.9	374	0.555	100	NA	NA
Approach	333	414	3	749	4.0		0.555			
West: Cranbourne Road - West										
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	261	-	261	4.0		1433	0.182	100	0.0	2
Lane 2	-	530	530	4.0		960[1]	0.553	100	NA	NA
Lane 3	-	560	560	4.0		1014	0.553	100	NA	NA
Approach	261	1091	1352	4.0			0.553			
	Total	%HV	Deg.Satn (v/c)							
All Vehicles	3243	4.0	0.557							

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
East: Cranbourne Road - East				
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: Fletcher Road - North				
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
West: Cranbourne Road - West				
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

PHASING SUMMARY

Site: 104 [FletCranPMExEx (Site Folder: Existing Network - PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [PM Peak (Network Folder: Existing - Network)]

Fletcher Road / Cranbourne Road
AM Peak, Exisitng Volumes, Existing Geometry
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

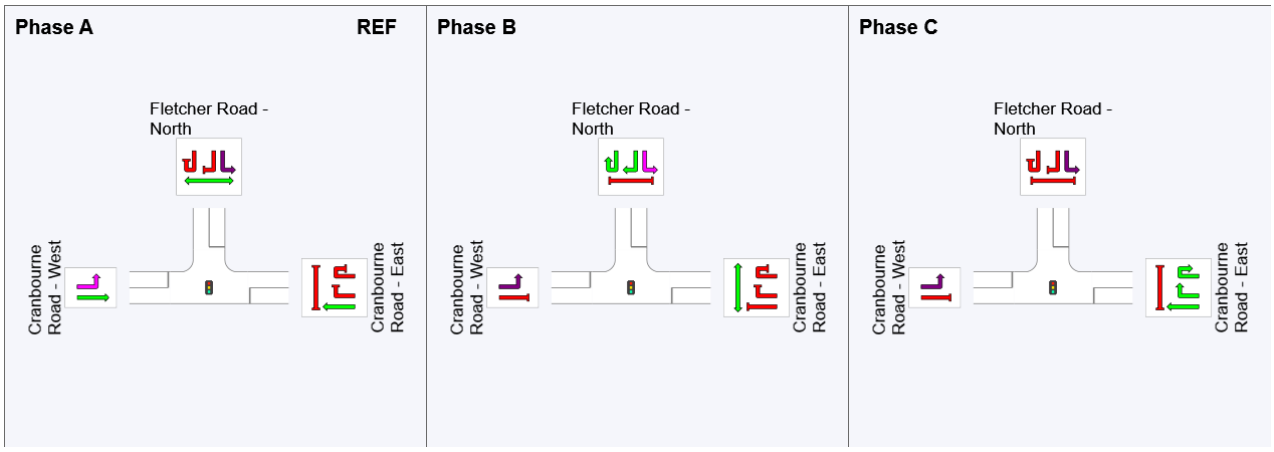
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Leading Right Turn
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C
Reference Phase: Phase A
Offset: 0 seconds (User)

Phase Timing Summary

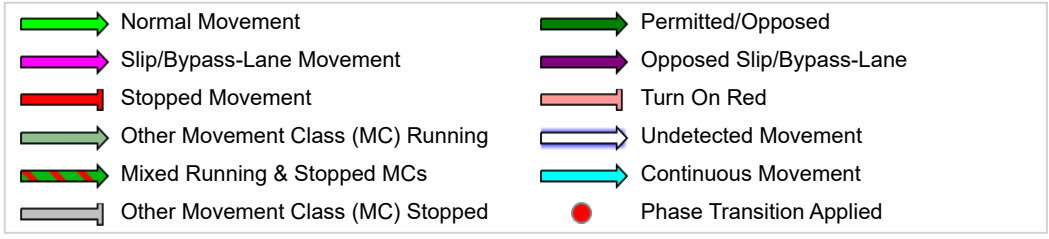
Phase	A	B	C
Phase Change Time (sec)	0	70	101
Green Time (sec)	64	25	13
Phase Time (sec)	70	31	19
Phase Split	58%	26%	16%
Phase Frequency (%)	100.0	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

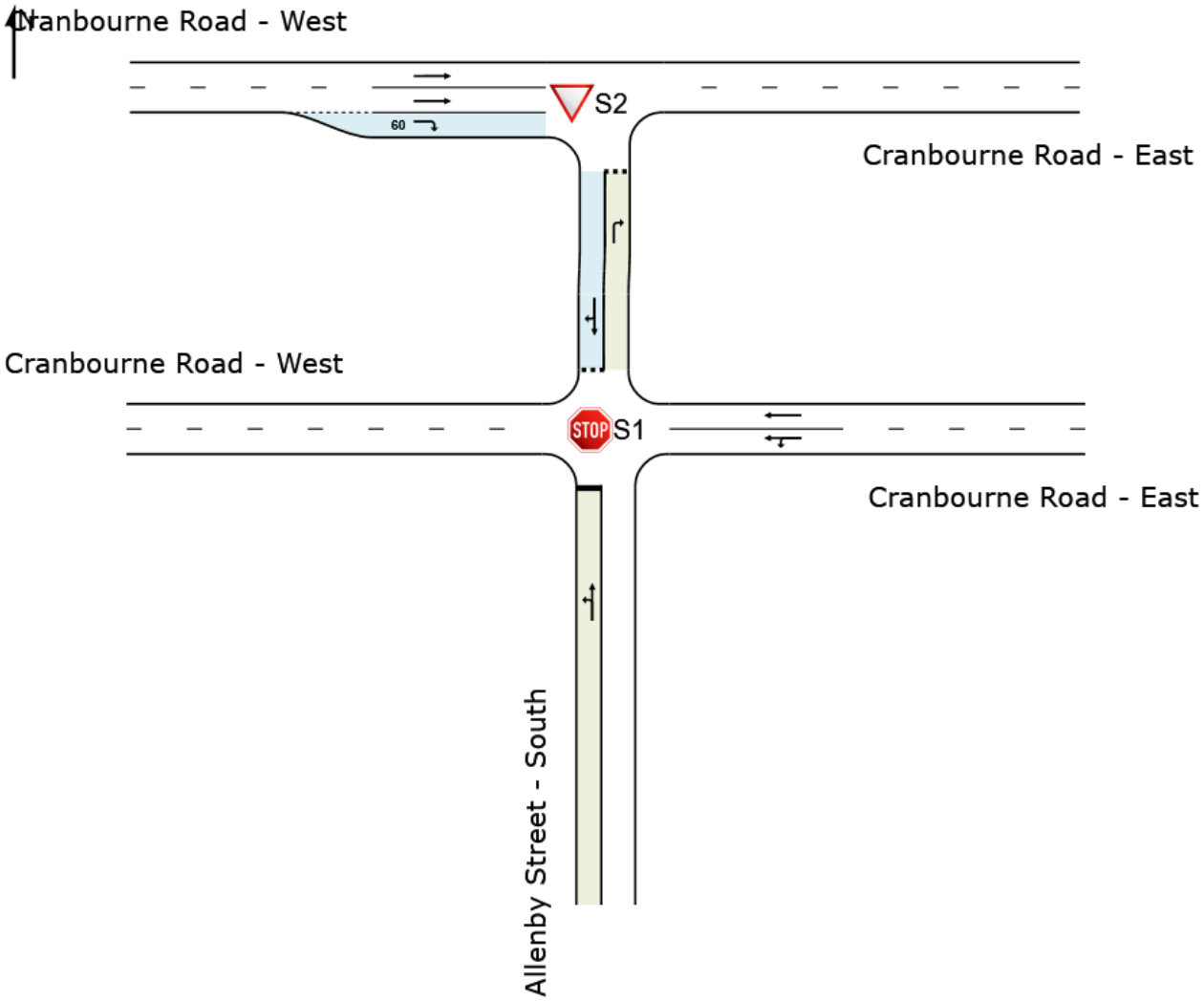


NETWORK LAYOUT

Network: TSTIC [AM Peak (Network Folder: Existing - Staged Crossing)]

Sign controlled T-intersection with Median Storage for two-staged turn movements
Major Road Turn opposes Stage 1 of the Minor Road turn movement (Type B)
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
S1	NA	CranAlleAMExEx - Southern Leg
S2	NA	CranAlleAMExEx - Median

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LANE SUMMARY

Site: S1 [CranAlleAMExEx - Southern Leg (Site Folder: Existing - Staged Crossing)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: TSTIC [AM Peak (Network Folder: Existing - Staged Crossing)]

Cranbourne Road / Allenbry Road
AM Peak, Existing Volumes, Exisitng Geometry
Site Category: (None)
Stop (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	Aver. Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Allenby Street - South															
Lane 1	7	2.0	7	2.0	193	0.038	100	24.0	LOS C	0.0	0.3	Full	500	0.0	0.0
Approach	7	2.0	7	2.0		0.038		24.0	LOS C	0.0	0.3				
East: Cranbourne Road - East															
Lane 1	631	4.0	631	4.0	1900	0.332	100	0.2	LOS A	0.0	0.0	Full	500	0.0	0.0
Lane 2	632	4.0	632	4.0	1901	0.332	100	0.1	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	1263	4.0	1263	4.0		0.332		0.1	NA	0.0	0.0				
North: Median Storage															
Lane 1	39	2.0	39	2.0	194	0.201	100	20.4	LOS C	0.3	1.8	Full	7	0.0	0.0
Approach	39	2.0	39	2.0		0.201		20.4	LOS C	0.3	1.8				
All Vehicles	1309	3.9	1309	3.9		0.332		0.9	NA	0.3	1.8				

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

Mov. From S To Exit:	L2 W	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	3	4	7	2.0	193	0.038	100	NA	NA
Approach	3	4	7	2.0		0.038			

East: Cranbourne Road - East

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	6	625	631	4.0	1900	0.332	100	NA	NA
Lane 2	-	632	632	4.0	1901	0.332	100	NA	NA
Approach	6	1257	1263	4.0		0.332			

North: Median Storage									
Mov. From N To Exit:	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	7	32	39	2.0	194	0.201	100	NA	NA
Approach	7	32	39	2.0		0.201			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	1309	3.9	0.332

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: Allenby Street - South				
Lane 1	0.0	0.0	0.0	0.0
East: Cranbourne Road - East				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: Median Storage				
Lane 1	0.0	0.0	0.0	0.0

LANE SUMMARY

Site: S2 [CranAlleAMExEx - Median (Site Folder: Existing - Staged Crossing)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: TSTIC [AM Peak (Network Folder: Existing - Staged Crossing)]

Cranbourne Road / Allenbry Road
AM Peak, Existing Volumes, Exisitng Geometry
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	Aver. Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Median Storage															
Lane 1	4	2.0	4	2.0	383	0.011	100	8.1	LOS A	0.0	0.1	Full	7	0.0	0.0
Approach	4	2.0	4	2.0		0.011		8.1	LOS A	0.0	0.1				
West: Cranbourne Road - West															
Lane 1	435	4.0	435	4.0	1901	0.229	100	0.1	LOS A	0.0	0.0	Full	500	0.0	0.0
Lane 2	435	4.0	435	4.0	1901	0.229	100	0.1	LOS A	0.0	0.0	Full	500	0.0	0.0
Lane 3	39	2.0	39	2.0	1831	0.021	100	5.8	LOS A	0.0	0.0	Short	60	0.0	NA
Approach	908	3.9	908	3.9		0.229		0.3	NA	0.0	0.0				
All Vehicles	913	3.9	913	3.9		0.229		0.3	NA	0.0	0.1				

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

Mov. From S To Exit:	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	4	4	2.0	383	0.011	100	NA	NA
Approach	4	4	2.0		0.011			

West: Cranbourne Road - West

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	435	-	435	4.0	1901	0.229	100	NA	NA
Lane 2	435	-	435	4.0	1901	0.229	100	NA	NA
Lane 3	-	39	39	2.0	1831	0.021	100	0.0	2
Approach	869	39	908	3.9		0.229			

	Total	%HV	Deg.Satn (v/c)

All Vehicles	913	3.9	0.229

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

Variable Demand Analysis

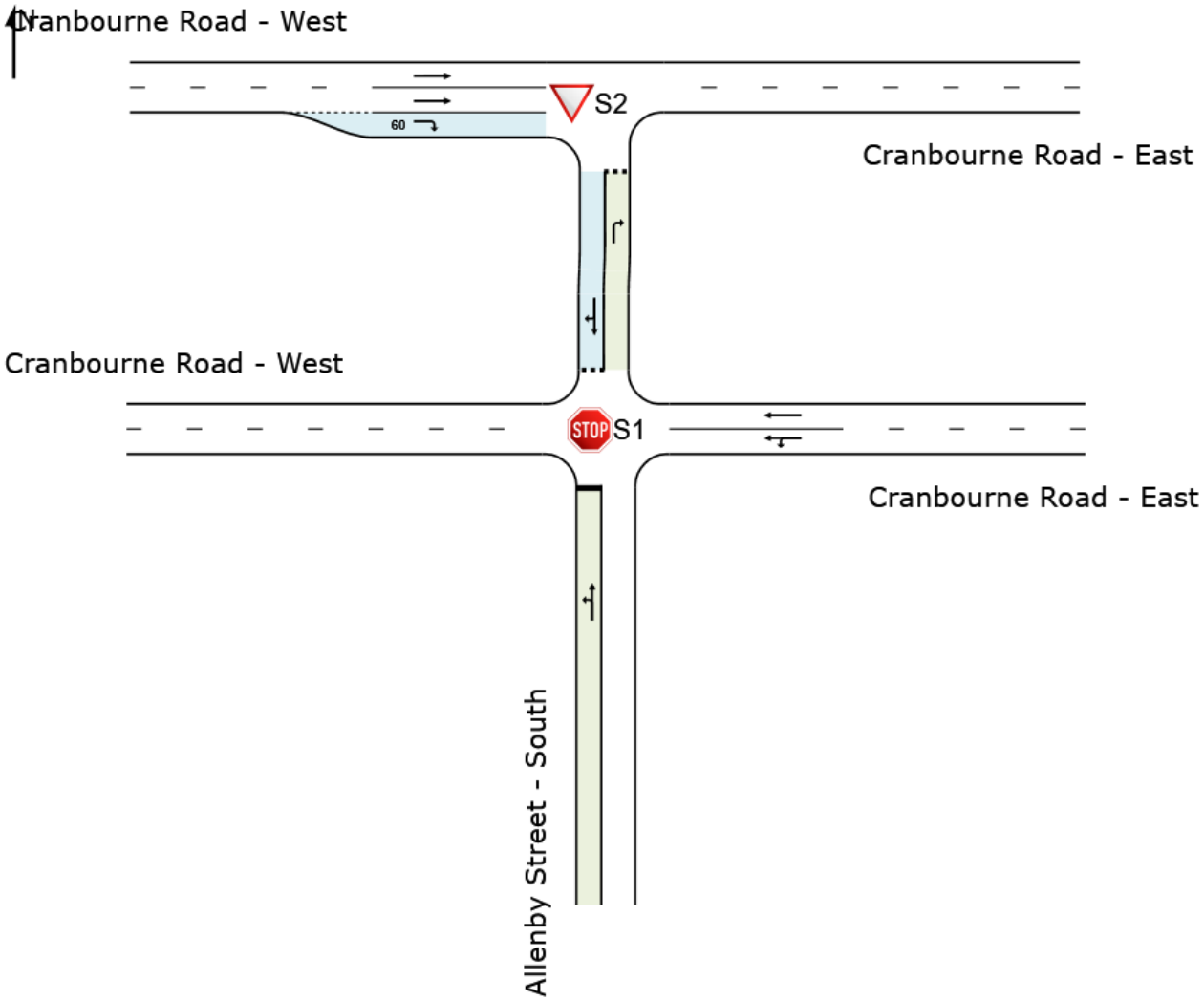
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Median Storage				
Lane 1	0.0	0.0	0.0	0.0
West: Cranbourne Road - West				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0

NETWORK LAYOUT

Network: TSTIC [PM Peak (Network Folder: Existing - Staged Crossing)]

Sign controlled T-intersection with Median Storage for two-staged turn movements
Major Road Turn opposes Stage 1 of the Minor Road turn movement (Type B)
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
S1	NA	CranAllePMExEx - Southern Leg
S2	NA	CranAllePMExEx - Median

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LANE SUMMARY

Site: S1 [CranAllePMExEx - Southern Leg (Site Folder: Existing - Staged Crossing)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: TSTIC [PM Peak (Network Folder: Existing - Staged Crossing)]

Cranbourne Road / Allenbry Road
PM Peak, Existing Volumes, Exisitng Geometry
Site Category: (None)
Stop (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	Aver. Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Allenby Street - South															
Lane 1	11	2.0	11	2.0	194	0.054	100	24.1	LOS C	0.1	0.4	Full	500	0.0	0.0
Approach	11	2.0	11	2.0		0.054		24.1	LOS C	0.1	0.4				
East: Cranbourne Road - East															
Lane 1	625	4.0	625	4.0	1899	0.329	100	0.2	LOS A	0.0	0.0	Full	500	0.0	0.0
Lane 2	626	4.0	626	4.0	1901	0.329	100	0.1	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	1251	4.0	1251	4.0		0.329		0.2	NA	0.0	0.0				
North: Median Storage															
Lane 1	60	2.0	60	2.0	196	0.306	100	21.7	LOS C	0.4	2.9	Full	7	0.0	6.1
Approach	60	2.0	60	2.0		0.306		21.7	LOS C	0.4	2.9				
All Vehicles	1321	3.9	1321	3.9		0.329		1.3	NA	0.4	2.9				

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

Mov. From S To Exit:	L2 W	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	4	6	11	2.0	194	0.054	100	NA	NA
Approach	4	6	11	2.0		0.054			

East: Cranbourne Road - East

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	15	610	625	4.0	1899	0.329	100	NA	NA
Lane 2	-	626	626	4.0	1901	0.329	100	NA	NA
Approach	15	1236	1251	4.0		0.329			

North: Median Storage									
Mov. From N To Exit:	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	27	33	60	2.0	196	0.306	100	NA	NA
Approach	27	33	60	2.0		0.306			
	Total	%HV	Deg.Satn (v/c)						
All Vehicles	1321	3.9		0.329					

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: Allenby Street - South				
Lane 1	0.0	0.0	0.0	0.0
East: Cranbourne Road - East				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: Median Storage				
Lane 1	0.0	0.0	0.0	0.0

LANE SUMMARY

Site: S2 [CranAllePMExEx - Median (Site Folder: Existing - Staged Crossing)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: TSTIC [PM Peak (Network Folder: Existing - Staged Crossing)]

Cranbourne Road / Allenbry Road
PM Peak, Existing Volumes, Exisitng Geometry
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	Aver. Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Median Storage															
Lane 1	6	2.0	6	2.0	125	0.050	100	27.3	LOS D	0.1	0.4	Full	7	0.0	0.0
Approach	6	2.0	6	2.0		0.050		27.3	LOS D	0.1	0.4				
West: Cranbourne Road - West															
Lane 1	715	4.0	715	4.0	1901	0.376	100	0.1	LOS A	0.0	0.0	Full	500	0.0	0.0
Lane 2	715	4.0	715	4.0	1901	0.376	100	0.1	LOS A	0.0	0.0	Full	500	0.0	0.0
Lane 3	60	2.0	60	2.0	1720	0.035	100	5.8	LOS A	0.0	0.0	Short	60	-6.1 N3	NA
Approach	1491	3.9	1491	3.9		0.376		0.4	NA	0.0	0.0				
All Vehicles	1497	3.9	1497	3.9		0.376		0.5	NA	0.1	0.4				

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

N3 Capacity Adjustment due to downstream lane blockage determined by the program.

Approach Lane Flows (veh/h)

South: Median Storage

Mov. From S To Exit:	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	6	6	2.0	125	0.050	100	NA	NA
Approach	6	6	2.0		0.050			

West: Cranbourne Road - West

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	715	-	715	4.0	1901	0.376	100	NA	NA
Lane 2	715	-	715	4.0	1901	0.376	100	NA	NA
Lane 3	-	60	60	2.0	1720	0.035	100	0.0	2
Approach	1431	60	1491	3.9		0.376			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	1497	3.9	0.376

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

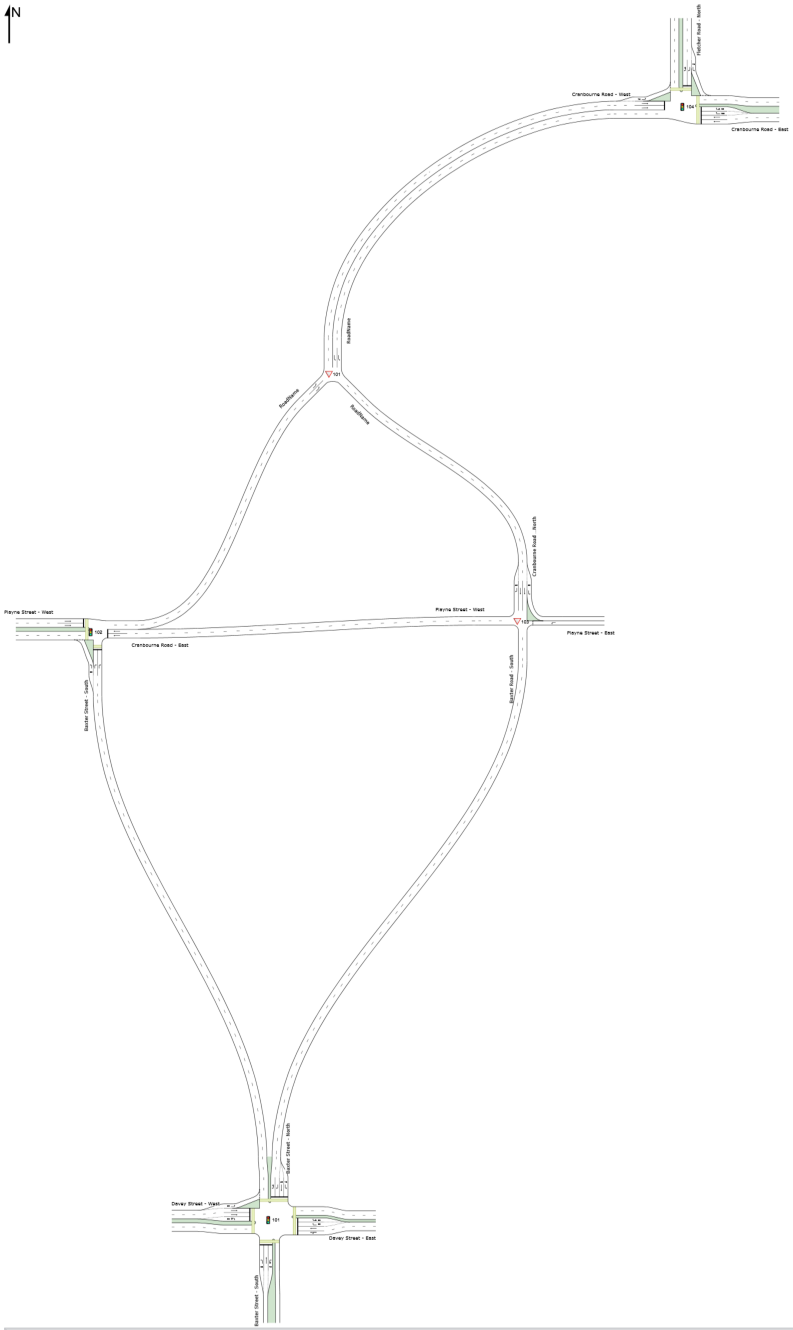
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Median Storage				
Lane 1	0.0	0.0	0.0	0.0
West: Cranbourne Road - West				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0

NETWORK LAYOUT

Network: N101 [AM Peak (Network Folder: Future - Network)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	DaveBaxtAMExFu
102	NA	PlayCranBaxtAMExFu
103	NA	PlayCranBaxtAMExFu - Tint
104	NA	FletCranAMExFu
101	NA	T-Int

LANE SUMMARY

Site: 101 [DaveBaxtAMExFu (Site Folder: Future Network - AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [AM Peak (Network Folder: Future - Network)]

Davey Street / Baxter Street
AM Peak, Exisitng Geometry, Future Volumes
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given 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: Baxter Street - South															
Lane 1	13	4.0	13	4.0	662	0.019	100	31.1	LOS A	0.5	3.3	Short	65	0.0	NA
Lane 2	92	4.0	92	4.0	155[1]	0.590	100	86.5	LOS A	5.4	39.0	Full	500	0.0	0.0
Lane 3	18	3.8	18	3.8	147	0.122	100	89.1	LOS A	1.0	7.2	Short	10	0.0	NA
Approach	122	4.0	122	4.0		0.590		81.1	LOS A	5.4	39.0				
East: Davey Street - East															
Lane 1	251	4.0	251	4.0	426	0.590	100	45.6	LOS A	13.3	96.0	Full	500	0.0	0.0
Lane 2	252	4.0	252	4.0	428	0.590	100	45.1	LOS A	13.3	96.4	Full	500	0.0	0.0
Lane 3	204	4.0	204	4.0	351[1]	0.582	100	57.3	LOS A	10.7	77.5	Short	60	0.0	NA
Lane 4	204	4.0	204	4.0	351[1]	0.582	100	57.3	LOS A	10.7	77.4	Short	35	0.0	NA
Approach	912	4.0	912	4.0		0.590		50.7	LOS A	13.3	96.4				
North: Baxter Street - North															
Lane 1	168	4.0	168	4.0	1204	0.140	100	13.0	LOS A	3.4	24.7	Short	15	0.0	NA
Lane 2	96	4.0	96	4.0	744	0.129	100	27.6	LOS A	3.0	21.5	Short	40	0.0	NA
Lane 3	239	4.0	239	4.0	415[1]	0.575	100	54.5	LOS A	12.2	88.0	Full	130	0.0	0.0
Lane 4	255	3.8	255	3.8	444	0.575	100	47.5	LOS A	13.0	94.3	Full	130	0.0	0.0
Approach	758	3.9	758	3.9		0.575		39.5	LOS A	13.0	94.3				
West: Davey Street - West															
Lane 1	526	4.0	526	4.0	1053[1]	0.500	100	13.9	LOS A	11.7	84.5	Short	30	0.0	NA
Lane 2	153	4.0	153	4.0	369[1]	0.415	100	45.4	LOS A	7.7	55.8	Full	500	0.0	0.0
Lane 3	176	4.0	176	4.0	424[1]	0.415	100	45.0	LOS A	8.9	64.3	Full	500	0.0	0.0
Lane 4	33	3.6	33	3.6	410	0.080	100	46.2	LOS A	1.5	10.7	Short	35	0.0	NA
Approach	888	4.0	888	4.0		0.500		26.7	LOS A	11.7	84.5				
All Vehicles	2680	4.0	2680	4.0		0.590		41.0	LOS A	13.3	96.4				

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Lane LOS values are based on degree of saturation per lane.
Intersection and Approach LOS values are based on worst degree of saturation for any lane.
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: Baxter Street - South

Mov. From S To Exit:	L2 W	T1 N	R2 E	U S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	13	-	-	-	13	4.0	662	0.019	100	0.0	2
Lane 2	-	92	-	-	92	4.0	155[1]	0.590	100	NA	NA
Lane 3	-	-	17	1	18	3.8	147	0.122	100	0.0	2
Approach	13	92	17	1	122	4.0		0.590			

East: Davey Street - East

Mov. From E To Exit:	L2 S	T1 W	R2 N	U E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	22	229	-	-	251	4.0	426	0.590	100	NA	NA
Lane 2	-	252	-	-	252	4.0	428	0.590	100	NA	NA
Lane 3	-	-	204	-	204	4.0	351[1]	0.582	100	28.3	2
Lane 4	-	-	202	2	204	4.0	351[1]	0.582	100	79.1	3
Approach	22	481	406	2	912	4.0		0.590			

North: Baxter Street - North

Mov. From N To Exit:	L2 E	T1 S	R2 W	U N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	168	-	-	-	168	4.0	1204	0.140	100	50.9	2
Lane 2	-	96	-	-	96	4.0	744	0.129	100	0.0	3
Lane 3	-	-	239	-	239	4.0	415[1]	0.575	100	NA	NA
Lane 4	-	-	240	15	255	3.8	444	0.575	100	NA	NA
Approach	168	96	479	15	758	3.9		0.575			

West: Davey Street - West

Mov. From W To Exit:	L2 N	T1 E	R2 S	U W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	526	-	-	-	526	4.0	1053[1]	0.500	100	100.0	2
Lane 2	-	153	-	-	153	4.0	369[1]	0.415	100	NA	NA
Lane 3	-	176	-	-	176	4.0	424[1]	0.415	100	NA	NA
Lane 4	-	-	29	3	33	3.6	410	0.080	100	0.0	3
Approach	526	329	29	3	888	4.0		0.500			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	2680	4.0	0.590

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 sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec	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: Baxter Street - South				

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
East: Davey Street - East				
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: Baxter Street - North				
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
West: Davey Street - West				
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

PHASING SUMMARY

Site: 101 [DaveBaxtAMExFu (Site Folder: Future Network - AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [AM Peak (Network Folder: Future - Network)]

Davey Street / Baxter Street
AM Peak, Exisitng Geometry, Future Volumes
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

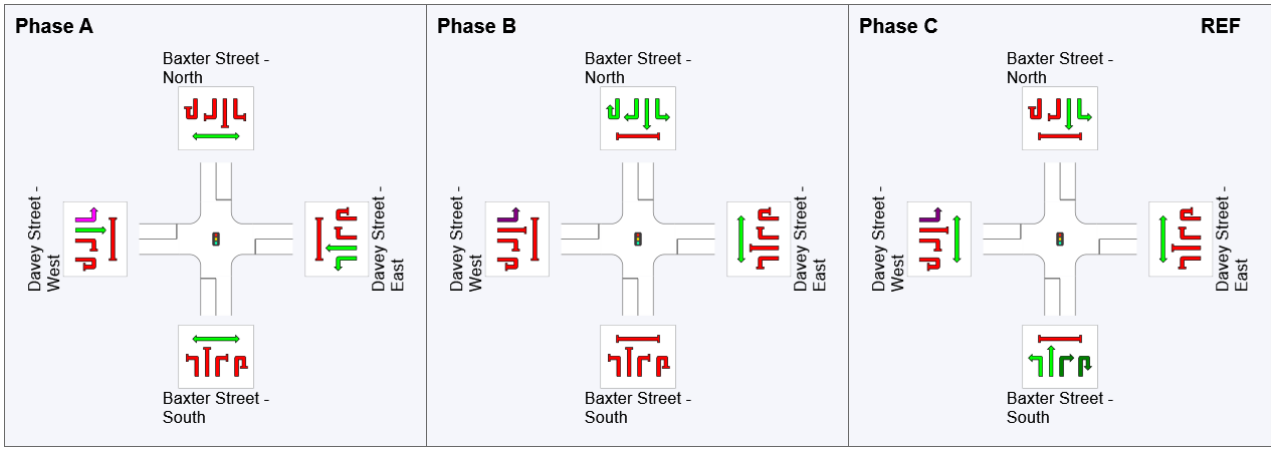
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Leading Right Turn
Input Phase Sequence: A, B, C, D1*, D2*, D3*
Output Phase Sequence: A, B, C, D1*
Reference Phase: Phase C
Offset: 0 seconds (User)
(* Variable Phase)

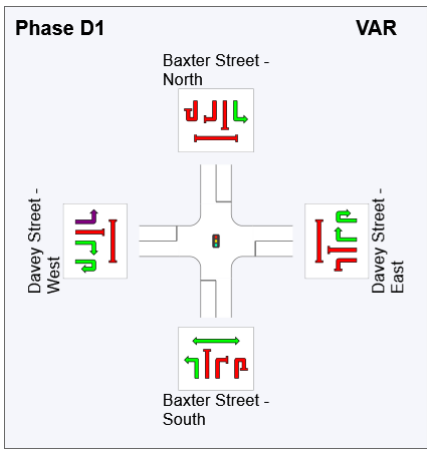
Phase Timing Summary

Phase	A	B	C	D1
Phase Change Time (sec)	51	84	0	17
Green Time (sec)	27	30	11	28
Phase Time (sec)	33	36	17	34
Phase Split	28%	30%	14%	28%
Phase Frequency (%)	100.0	100.0	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence





REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

LANE SUMMARY

Site: 102 [PlayCranBaxtAMExFu (Site Folder: Future Network - AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [AM Peak (Network Folder: Future - Network)]

Baxter Street / Playne Street / Cranbourne Road
AM Peak, Exisitng Geometry, Future Volumes
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given 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: Baxter Street - South															
Lane 1	220	4.0	220	4.0	1293	0.170	100	6.8	LOS A	1.7	12.1	Short	50	0.0	NA
Lane 2	392	4.0	392	4.0	1008	0.389	100	10.8	LOS A	5.6	40.8	Full	105	0.0	0.0
Lane 3	392	4.0	392	4.0	1008	0.389	100	8.8	LOS A	3.8	27.7	Full	105	0.0	0.0
Approach	1004	4.0	1004	4.0		0.389		9.2	LOS A	5.6	40.8				
East: Cranbourne Road - East															
Lane 1	255	4.0	255	4.0	649	0.393	100	25.2	LOS A	9.0 N4	65.3 N4	Full	40	0.0	50.0
Lane 2	255	4.0	255	4.0	649	0.393	100	25.2	LOS A	9.0 N4	65.3 N4	Full	40	0.0	50.0
Approach	511	4.0	511	4.0		0.393		25.2	LOS A	9.0	65.3				
West: Playne Street - West															
Lane 1	151	4.0	151	4.0	649	0.232	100	30.1	LOS A	6.2	45.2	Full	500	0.0	0.0
Lane 2	151	4.0	151	4.0	649	0.232	100	30.1	LOS A	6.2	45.2	Full	500	0.0	0.0
Approach	301	4.0	301	4.0		0.232		30.1	LOS A	6.2	45.2				
All Vehicles	1816	4.0	1816	4.0		0.393		17.1	LOS A	9.0	65.3				

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Lane LOS values are based on degree of saturation per lane.
Intersection and Approach LOS values are based on worst degree of saturation for any lane.
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.

N4 Average back of queue has been restricted to the available queue storage space.

Approach Lane Flows (veh/h)

South: Baxter Street - South

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	220	-	220	4.0	1293	0.170	100	0.0	2
Lane 2	-	392	392	4.0	1008	0.389	100	NA	NA
Lane 3	-	392	392	4.0	1008	0.389	100	NA	NA
Approach	220	784	1004	4.0		0.389			

East: Cranbourne Road - East

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

Lane 1	255	255	4.0	649	0.393	100	NA	NA
Lane 2	255	255	4.0	649	0.393	100	NA	NA
Approach	511	511	4.0		0.393			
West: Playne Street - West								
Mov. From W To Exit:	T1 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	151	151	4.0	649	0.232	100	NA	NA
Lane 2	151	151	4.0	649	0.232	100	NA	NA
Approach	301	301	4.0		0.232			
	Total	%HV	Deg.Satn (v/c)					
All Vehicles	1816	4.0	0.393					

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: Baxter Street - South				
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
East: Cranbourne Road - East				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Playne Street - West				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

PHASING SUMMARY

Site: 102 [PlayCranBaxtAMExFu (Site Folder: Future Network - AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [AM Peak (Network Folder: Future - Network)]

Baxter Street / Playne Street / Cranbourne Road
AM Peak, Exisitng Geometry, Future Volumes
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

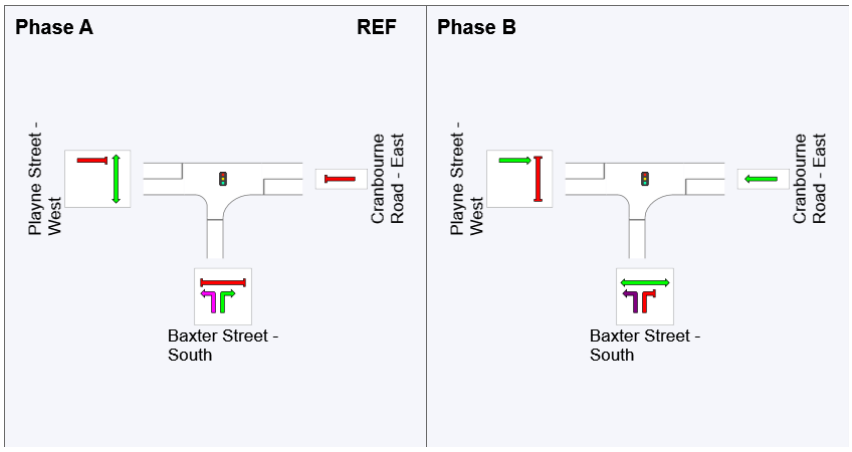
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Leading Right Turn
Input Phase Sequence: A, B
Output Phase Sequence: A, B
Reference Phase: Phase A
Offset: 0 seconds (User)

Phase Timing Summary

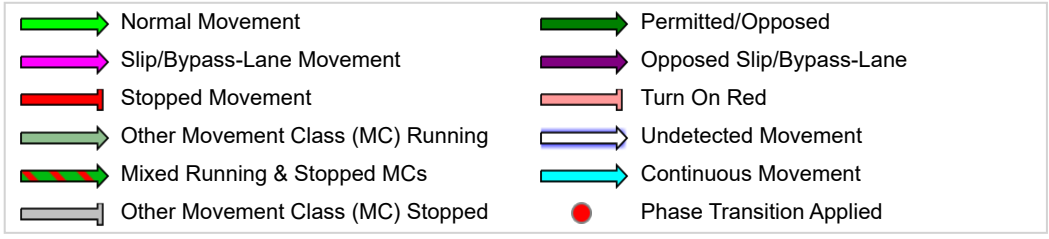
Phase	A	B
Phase Change Time (sec)	0	73
Green Time (sec)	67	41
Phase Time (sec)	73	47
Phase Split	61%	39%
Phase Frequency (%)	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



LANE SUMMARY

Site: 104 [FletCranAMExFu (Site Folder: Future Network - AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [AM Peak (Network Folder: Future - Network)]

Fletcher Road / Cranbourne Road
AM Peak, Future Volumes, Existing Geometry
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given 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: Cranbourne Road - East															
Lane 1	462	4.0	462	4.0	1315	0.351	100	7.9	LOS A	10.8	77.9	Full	500	0.0	0.0
Lane 2	462	4.0	462	4.0	1315	0.351	100	7.9	LOS A	10.8	77.9	Full	500	0.0	0.0
Lane 3	179	4.0	179	4.0	361	0.496	100	52.2	LOS A	9.4	68.4	Short	120	0.0	NA
Lane 4	175	3.6	175	3.6	352	0.496	100	52.3	LOS A	9.2	66.5	Short	60	0.0	NA
Approach	1277	4.0	1277	4.0		0.496		20.2	LOS A	10.8	77.9				
North: Fletcher Road - North															
Lane 1	256	4.0	256	4.0	1011	0.253	100	8.4	LOS A	3.4	24.6	Short	70	0.0	NA
Lane 2	185	4.0	185	4.0	376	0.492	100	51.3	LOS A	9.7	70.0	Full	500	0.0	0.0
Lane 3	182	3.8	182	3.8	371	0.492	100	51.4	LOS A	9.5	69.0	Full	500	0.0	0.0
Approach	623	3.9	623	3.9		0.492		33.7	LOS A	9.7	70.0				
West: Cranbourne Road - West															
Lane 1	260	4.0	260	4.0	1312	0.198	100	6.2	LOS A	1.7	12.1	Short	70	0.0	NA
Lane 2	413	4.0	413	4.0	839	0.492	100	17.7	LOS A	13.7	99.3	Full	80	0.0	24.7
Lane 3	413	4.0	413	4.0	839	0.492	100	18.1	LOS A	13.9	100.7	Full	80	0.0	25.9
Approach	1085	4.0	1085	4.0		0.492		15.1	LOS A	13.9	100.7				
All Vehicles	2985	4.0	2985	4.0		0.496		21.2	LOS A	13.9	100.7				

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Lane LOS values are based on degree of saturation per lane.
Intersection and Approach LOS values are based on worst degree of saturation for any lane.
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: Cranbourne Road - East

Mov. From E To Exit:	T1 W	R2 N	U E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	462	-	-	462	4.0	1315	0.351	100	NA	NA
Lane 2	462	-	-	462	4.0	1315	0.351	100	NA	NA
Lane 3	-	179	-	179	4.0	361	0.496	100	0.0	2
Lane 4	-	159	16	175	3.6	352	0.496	100	14.3	3
Approach	923	338	16	1277	4.0		0.496			
North: Fletcher Road - North										

Mov. From N To Exit:	L2 E	R2 W	U N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	256	-	-	256	4.0	1011	0.253	100	0.0	2
Lane 2	-	185	-	185	4.0	376	0.492	100	NA	NA
Lane 3	-	174	8	182	3.8	371	0.492	100	NA	NA
Approach	256	359	8	623	3.9		0.492			

West: Cranbourne Road - West

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	260	-	260	4.0	1312	0.198	100	0.0	2
Lane 2	-	413	413	4.0	839	0.492	100	NA	NA
Lane 3	-	413	413	4.0	839	0.492	100	NA	NA
Approach	260	825	1085	4.0		0.492			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	2985	4.0	0.496

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
East: Cranbourne Road - East				
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: Fletcher Road - North				
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
West: Cranbourne Road - West				
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

PHASING SUMMARY

Site: 104 [FletCranAMExFu (Site Folder: Future Network - AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [AM Peak (Network Folder: Future - Network)]

Fletcher Road / Cranbourne Road
AM Peak, Future Volumes, Existing Geometry
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

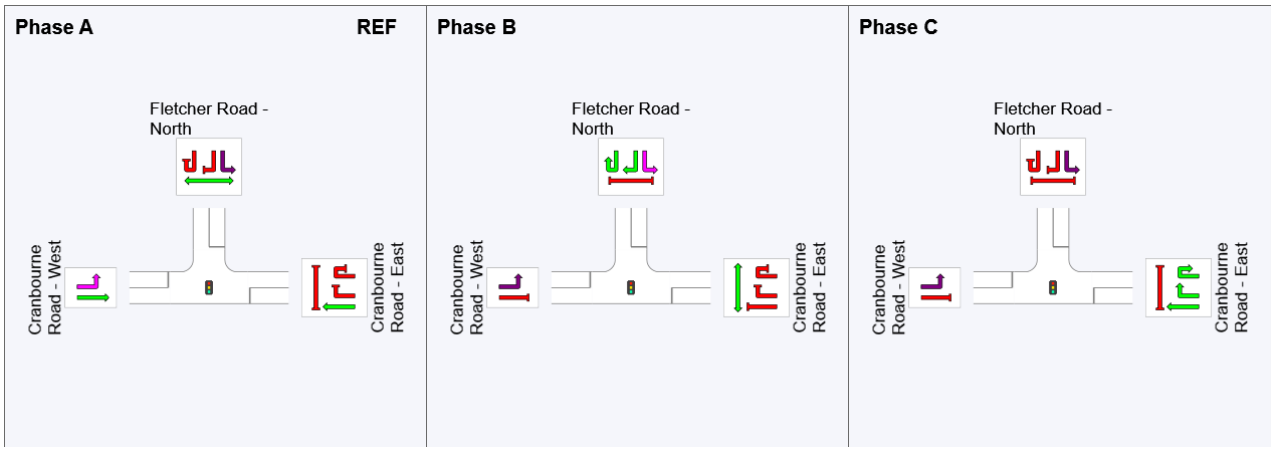
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Leading Right Turn
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C
Reference Phase: Phase A
Offset: 0 seconds (User)

Phase Timing Summary

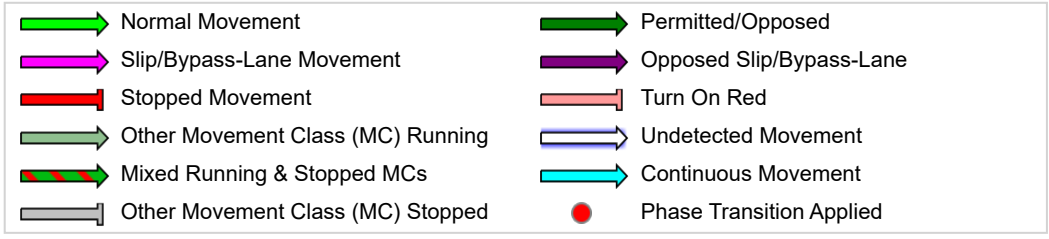
Phase	A	B	C
Phase Change Time (sec)	0	59	90
Green Time (sec)	53	25	24
Phase Time (sec)	59	31	30
Phase Split	49%	26%	25%
Phase Frequency (%)	100.0	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

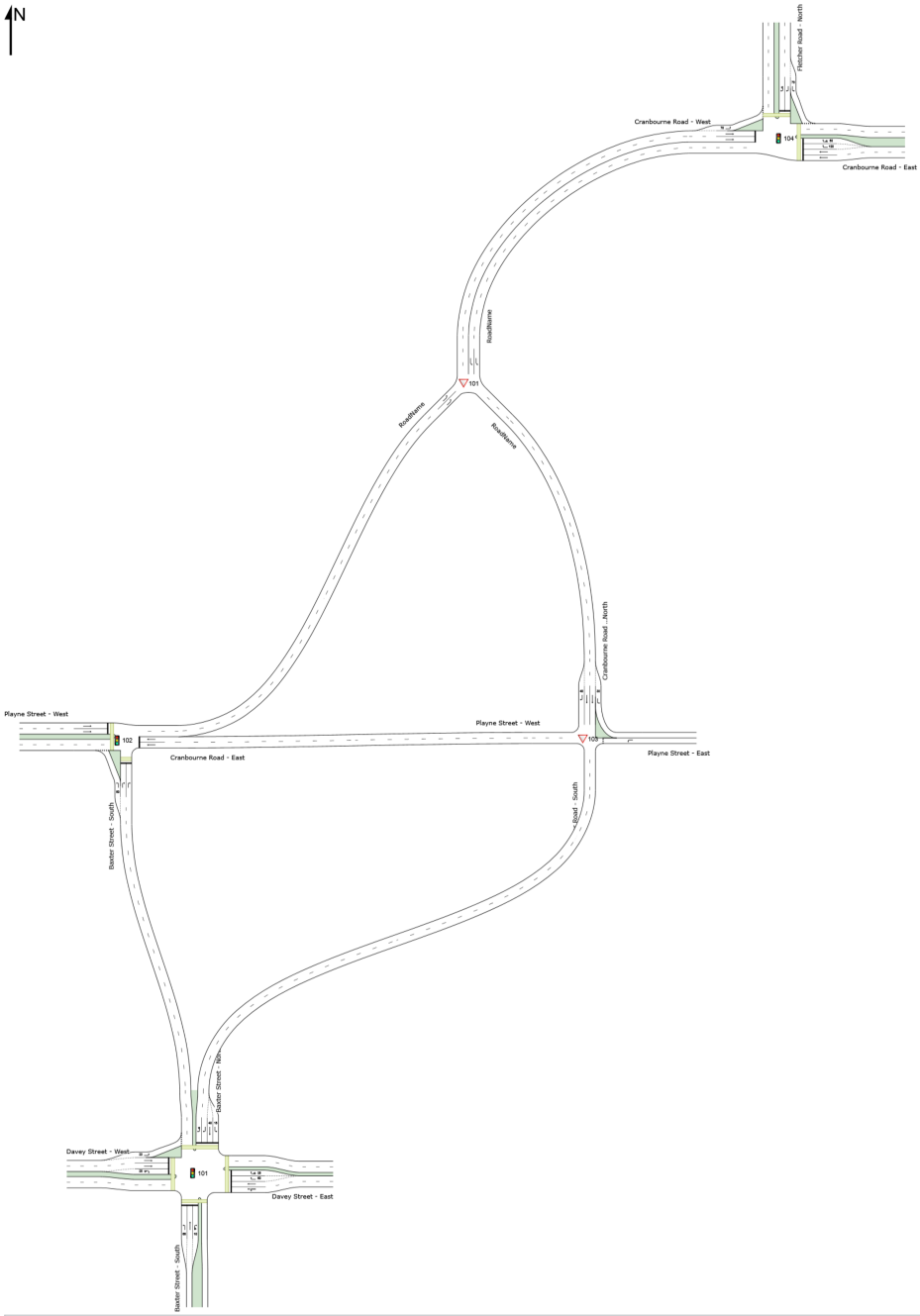


NETWORK LAYOUT

Network: N101 [PM Peak (Network Folder: Future - Network)]

New Network
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	DaveBaxtPMExFu
102	NA	PlayCranBaxtPMExFu
103	NA	PlayCranBaxtPMExFU - Tint
104	NA	FletCranPMExFu
101	NA	T-Int

LANE SUMMARY

Site: 101 [DaveBaxtPMExFu (Site Folder: Future Network - PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [PM Peak (Network Folder: Future - Network)]

Davey Street / Baxter Street
AM Peak, Exisitng Geometry, Future Volumes
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given 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: Baxter Street - South															
Lane 1	11	4.0	11	4.0	482	0.022	100	40.0	LOS A	0.4	3.2	Short	65	0.0	NA
Lane 2	39	4.0	39	4.0	111	0.351	100	62.0	LOS A	2.3	16.8	Full	500	0.0	0.0
Lane 3	11	3.6	11	3.6	109	0.097	100	66.0	LOS A	0.6	4.4	Short	10	0.0	NA
Approach	60	3.9	60	3.9		0.351		58.8	LOS A	2.3	16.8				
East: Davey Street - East															
Lane 1	228	4.0	228	4.0	570	0.400	100	36.0	LOS A	10.6	76.7	Full	500	0.0	0.0
Lane 2	228	4.0	228	4.0	570	0.400	100	35.9	LOS A	10.6	76.7	Full	500	0.0	0.0
Lane 3	199	4.0	199	4.0	241[1]	0.825	100	75.8	LOS C	12.4	90.0	Short	60	0.0	NA
Lane 4	199	4.0	199	4.0	241[1]	0.825	100	75.8	LOS C	12.4	89.9	Short	35	0.0	NA
Approach	854	4.0	854	4.0		0.825		54.5	LOS C	12.4	90.0				
North: Baxter Street - North															
Lane 1	265	4.0	265	4.0	1044[1]	0.254	100	17.0	LOS A	5.3	38.7	Short	15	0.0	NA
Lane 2	19	4.0	19	4.0	729	0.026	100	42.0	LOS A	0.6	4.1	Short	40	0.0	NA
Lane 3	389	4.0	389	4.0	484[1]	0.802	100	72.7	LOS C	22.2	160.7	Full	130	0.0	24.3
Lane 4	396	3.9	396	3.9	493	0.802	100	50.9	LOS C	22.6	163.5	Full	130	0.0	25.8
Approach	1068	4.0	1068	4.0		0.802		50.2	LOS C	22.6	163.5				
West: Davey Street - West															
Lane 1	635	4.0	635	4.0	1118[1]	0.568	100	22.3	LOS A	14.8	107.0	Short	30	0.0	NA
Lane 2	215	4.0	215	4.0	263[1]	0.816	100	62.2	LOS C	13.1	94.8	Full	500	0.0	0.0
Lane 3	462	4.0	462	4.0	566[1]	0.816	100	71.5	LOS C	26.6	192.7	Full	500	0.0	0.0
Lane 4	4	3.0	4	3.0	280	0.015	100	76.4	LOS A	0.2	1.5	Short	35	0.0	NA
Approach	1316	4.0	1316	4.0		0.816		46.3	LOS C	26.6	192.7				
All Vehicles	3298	4.0	3298	4.0		0.825		49.9	LOS C	26.6	192.7				

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Lane LOS values are based on degree of saturation per lane.
Intersection and Approach LOS values are based on worst degree of saturation for any lane.
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: Baxter Street - South

Mov. From S To Exit:	L2 W	T1 N	R2 E	U S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	11	-	-	-	11	4.0	482	0.022	100	0.0	2
Lane 2	-	39	-	-	39	4.0	111	0.351	100	NA	NA
Lane 3	-	-	9	1	11	3.6	109	0.097	100	0.0	2
Approach	11	39	9	1	60	3.9		0.351			
East: Davey Street - East											
Mov. From E To Exit:	L2 S	T1 W	R2 N	U E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	3	225	-	-	228	4.0	570	0.400	100	NA	NA
Lane 2	-	228	-	-	228	4.0	570	0.400	100	NA	NA
Lane 3	-	-	199	-	199	4.0	241[1]	0.825	100	42.1	2
Lane 4	-	-	197	2	199	4.0	241[1]	0.825	100	93.9	3
Approach	3	453	396	2	854	4.0		0.825			
North: Baxter Street - North											
Mov. From N To Exit:	L2 E	T1 S	R2 W	U N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	265	-	-	-	265	4.0	1044[1]	0.254	100	94.4	2
Lane 2	-	19	-	-	19	4.0	729	0.026	100	2.1	3
Lane 3	-	-	389	-	389	4.0	484[1]	0.802	100	NA	NA
Lane 4	-	-	386	9	396	3.9	493	0.802	100	NA	NA
Approach	265	19	775	9	1068	4.0		0.802			
West: Davey Street - West											
Mov. From W To Exit:	L2 N	T1 E	R2 S	U W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	635	-	-	-	635	4.0	1118[1]	0.568	100	100.0	2
Lane 2	-	215	-	-	215	4.0	263[1]	0.816	100	NA	NA
Lane 3	-	462	-	-	462	4.0	566[1]	0.816	100	NA	NA
Lane 4	-	-	3	1	4	3.0	280	0.015	100	0.0	3
Approach	635	677	3	1	1316	4.0		0.816			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	3298	4.0	0.825

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 sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec	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: Baxter Street - South				

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
East: Davey Street - East				
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: Baxter Street - North				
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
West: Davey Street - West				
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

PHASING SUMMARY

Site: 101 [DaveBaxtPMExFu (Site Folder: Future Network - PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [PM Peak (Network Folder: Future - Network)]

Davey Street / Baxter Street
AM Peak, Exisitng Geometry, Future Volumes
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

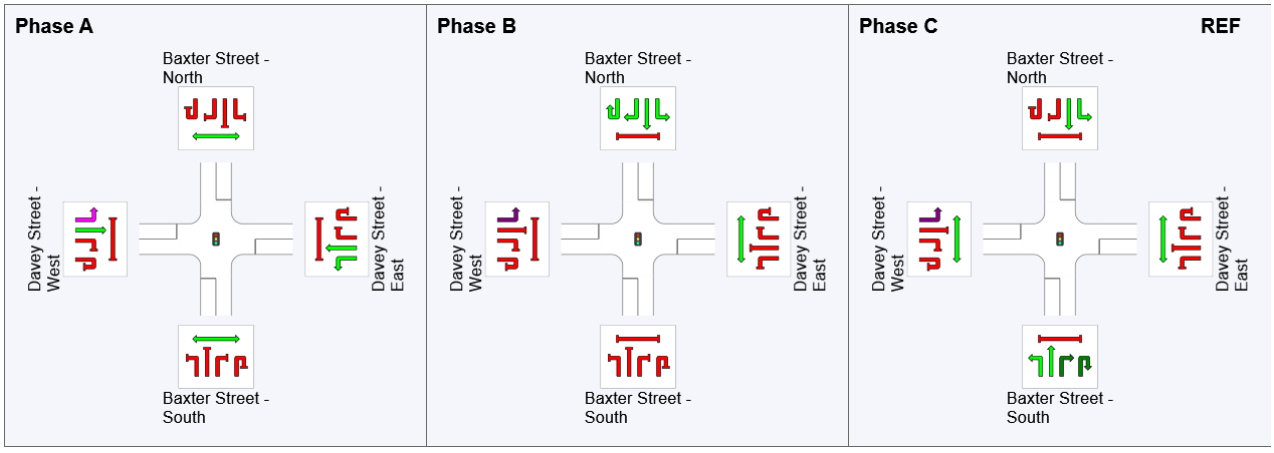
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Leading Right Turn
Input Phase Sequence: A, B, C, D1*, D2*, D3*
Output Phase Sequence: A, B, C, D1*
Reference Phase: Phase C
Offset: 0 seconds (User)
(* Variable Phase)

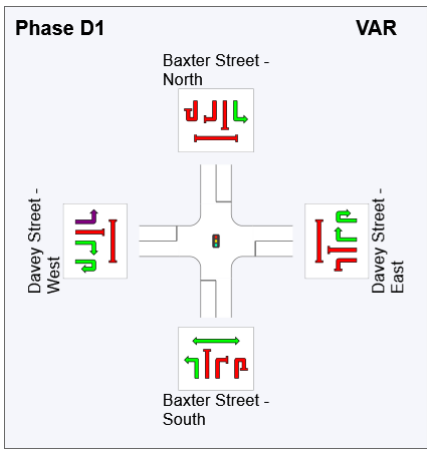
Phase Timing Summary

Phase	A	B	C	D1
Phase Change Time (sec)	39	81	0	13
Green Time (sec)	36	33	7	20
Phase Time (sec)	42	39	13	26
Phase Split	35%	33%	11%	22%
Phase Frequency (%)	100.0	100.0	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence





REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

LANE SUMMARY

Site: 102 [PlayCranBaxtPMExFu (Site Folder: Future Network - PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [PM Peak (Network Folder: Future - Network)]

Baxter Street / Playne Street / Cranbourne Road
AM Peak, Exisitng Geometry, Future Volumes
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given 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: Baxter Street - South															
Lane 1	158	4.0	158	4.0	1331	0.119	100	7.0	LOS A	1.4	9.9	Short	50	0.0	NA
Lane 2	574	4.0	574	4.0	766[1]	0.749	100	14.2	LOS C	16.8	121.3	Full	105	-24.1[N7]	18.1
Lane 3	400	4.0	400	4.0	534	0.749	100	12.3	LOS C	9.9	71.4	Full	105	-50.0[N7]	0.0
Approach	1133	4.0	1133	4.0		0.749		12.5	LOS C	16.8	121.3				
East: Cranbourne Road - East															
Lane 1	223	4.0	223	4.0	586	0.380	100	34.5	LOS A	9.0[N4]	65.3[N4]	Full	40	0.0	50.0
Lane 2	223	4.0	223	4.0	586	0.380	100	34.5	LOS A	9.0[N4]	65.3[N4]	Full	40	0.0	50.0
Approach	445	4.0	445	4.0		0.380		34.5	LOS A	9.0	65.3				
West: Playne Street - West															
Lane 1	338	4.0	338	4.0	445	0.760	100	43.2	LOS C	18.8	136.2	Full	500	-24.1[N7]	0.0
Lane 2	223	4.0	223	4.0	293	0.760	100	46.1	LOS C	13.0	94.0	Full	500	-50.0[N7]	0.0
Approach	561	4.0	561	4.0		0.760		44.4	LOS C	18.8	136.2				
All Vehicles	2139	4.0	2139	4.0		0.760		25.4	LOS C	18.8	136.2				

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Lane LOS values are based on degree of saturation per lane.
Intersection and Approach LOS values are based on worst degree of saturation for any lane.
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.
N4 Average back of queue has been restricted to the available queue storage space.
N7 The capacity reduction has been determined from the queue blockage probability based on the Back of Queue value of a Site further downstream.

Approach Lane Flows (veh/h)

South: Baxter Street - South

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	158	-	158	4.0	1331	0.119	100	0.0	2
Lane 2	-	574	574	4.0	766[1]	0.749	100	NA	NA
Lane 3	-	400	400	4.0	534	0.749	100	NA	NA
Approach	158	975	1133	4.0		0.749			
East: Cranbourne Road - East									

Mov. From E To Exit:	T1 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	223	223	4.0	586	0.380	100	NA	NA
Lane 2	223	223	4.0	586	0.380	100	NA	NA
Approach	445	445	4.0		0.380			
West: Playne Street - West								
Mov. From W To Exit:	T1 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	338	338	4.0	445	0.760	100	NA	NA
Lane 2	223	223	4.0	293	0.760	100	NA	NA
Approach	561	561	4.0		0.760			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	2139	4.0	0.760

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: Baxter Street - South				
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
East: Cranbourne Road - East				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Playne Street - West				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

PHASING SUMMARY

Site: 102 [PlayCranBaxtPMExFu (Site Folder: Future Network - PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [PM Peak (Network Folder: Future - Network)]

Baxter Street / Playne Street / Cranbourne Road
AM Peak, Exisitng Geometry, Future Volumes
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

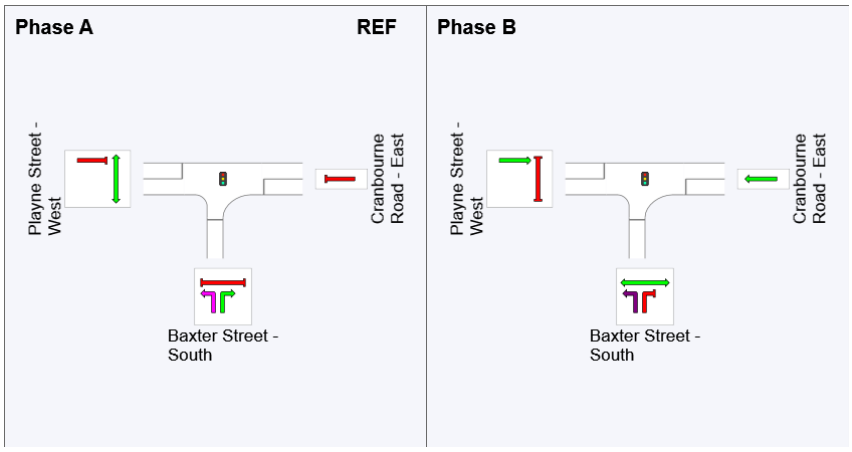
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Leading Right Turn
Input Phase Sequence: A, B
Output Phase Sequence: A, B
Reference Phase: Phase A
Offset: 0 seconds (User)

Phase Timing Summary

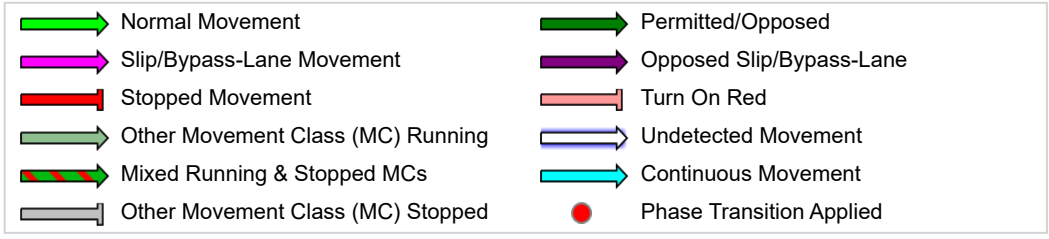
Phase	A	B
Phase Change Time (sec)	0	77
Green Time (sec)	71	37
Phase Time (sec)	77	43
Phase Split	64%	36%
Phase Frequency (%)	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



LANE SUMMARY

Site: 104 [FletCranPMExFu (Site Folder: Future Network - PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [PM Peak (Network Folder: Future - Network)]

Fletcher Road / Cranbourne Road
AM Peak, Future Volumes, Existing Geometry
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given 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: Cranbourne Road - East															
Lane 1	534	4.0	534	4.0	1330	0.402	100	7.9	LOS A	12.8	92.4	Full	500	0.0	0.0
Lane 2	534	4.0	534	4.0	1330	0.402	100	7.9	LOS A	12.8	92.4	Full	500	0.0	0.0
Lane 3	143	4.0	143	4.0	226	0.635	100	61.5	LOS B	8.3	60.0	Short	120	0.0	NA
Lane 4	136	3.3	136	3.3	214	0.635	100	61.9	LOS B	7.9	56.7	Short	60	0.0	NA
Approach	1347	3.9	1347	3.9		0.635		19.0	LOS B	12.8	92.4				
North: Fletcher Road - North															
Lane 1	381	4.0	381	4.0	767	0.497	100	16.1	LOS A	11.8	85.7	Short	70	0.0	NA
Lane 2	236	4.0	236	4.0	361	0.654	100	54.0	LOS B	12.9	93.7	Full	500	0.0	0.0
Lane 3	235	3.9	235	3.9	360	0.654	100	54.0	LOS B	12.9	93.3	Full	500	0.0	0.0
Approach	853	4.0	853	4.0		0.654		37.1	LOS B	12.9	93.7				
West: Cranbourne Road - West															
Lane 1	296	4.0	296	4.0	1402	0.211	100	10.3	LOS A	1.5	11.0	Short	70	0.0	NA
Lane 2	576	4.0	576	4.0	865[1]	0.666	100	24.6	LOS B	18.0[N4]	130.6[N4]	Full	80	0.0	50.0
Lane 3	664	4.0	664	4.0	998	0.666	100	18.9	LOS B	18.0[N4]	130.6[N4]	Full	80	0.0	50.0
Approach	1536	4.0	1536	4.0		0.666		19.4	LOS B	18.0	130.6				
All Vehicles	3736	4.0	3736	4.0		0.666		23.3	LOS B	18.0	130.6				

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Lane LOS values are based on degree of saturation per lane.
Intersection and Approach LOS values are based on worst degree of saturation for any lane.
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.
N4 Average back of queue has been restricted to the available queue storage space.

Approach Lane Flows (veh/h)

East: Cranbourne Road - East

Mov. From E To Exit:	T1 W	R2 N	U E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	534	-	-	534	4.0	1330	0.402	100	NA	NA
Lane 2	534	-	-	534	4.0	1330	0.402	100	NA	NA
Lane 3	-	143	-	143	4.0	226	0.635	100	0.0	2
Lane 4	-	110	25	136	3.3	214	0.635	100	0.0	3

Approach	1068	254	25	1347	3.9		0.635			
North: Fletcher Road - North										
Mov. From N To Exit:	L2 E	R2 W	U N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	381	-	-	381	4.0	767	0.497	100	23.4	2
Lane 2	-	236	-	236	4.0	361	0.654	100	NA	NA
Lane 3	-	232	3	235	3.9	360	0.654	100	NA	NA
Approach	381	468	3	853	4.0		0.654			
West: Cranbourne Road - West										
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	296	-	296	4.0		1402	0.211	100	0.0	2
Lane 2	-	576	576	4.0		865[1]	0.666	100	NA	NA
Lane 3	-	664	664	4.0		998	0.666	100	NA	NA
Approach	296	1240	1536	4.0			0.666			
	Total	%HV	Deg.Satn (v/c)							
All Vehicles	3736	4.0	0.666							

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
East: Cranbourne Road - East				
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: Fletcher Road - North				
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
West: Cranbourne Road - West				
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

PHASING SUMMARY

Site: 104 [FletCranPMExFu (Site Folder: Future Network - PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [PM Peak (Network Folder: Future - Network)]

Fletcher Road / Cranbourne Road
AM Peak, Future Volumes, Existing Geometry
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

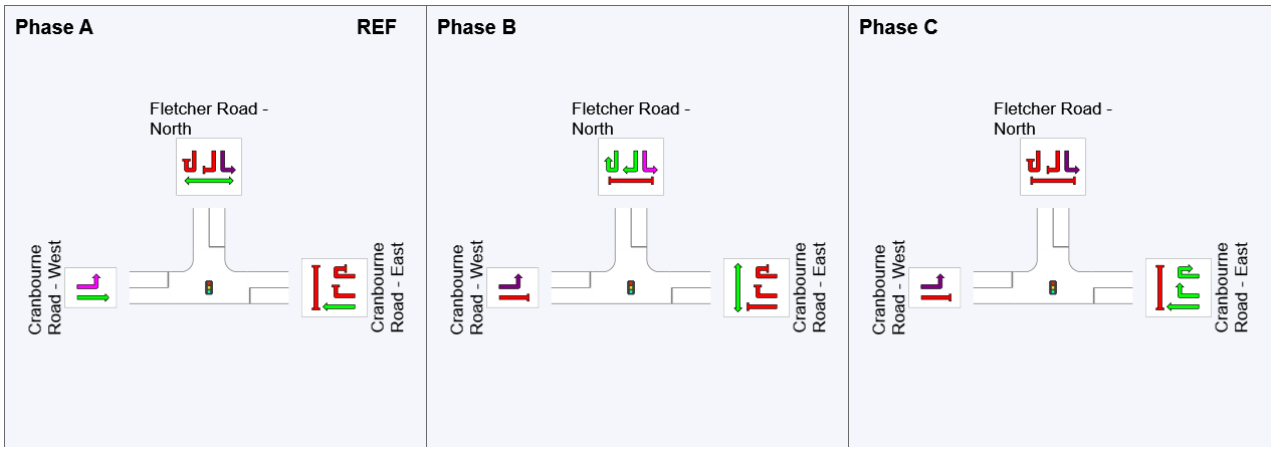
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Leading Right Turn
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C
Reference Phase: Phase A
Offset: 0 seconds (User)

Phase Timing Summary

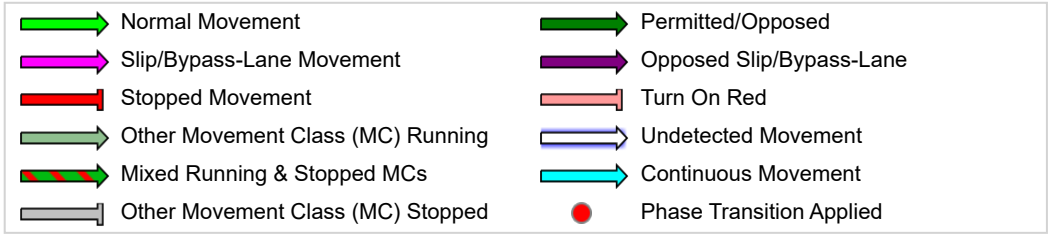
Phase	A	B	C
Phase Change Time (sec)	0	69	99
Green Time (sec)	63	24	15
Phase Time (sec)	69	30	21
Phase Split	58%	25%	18%
Phase Frequency (%)	100.0	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

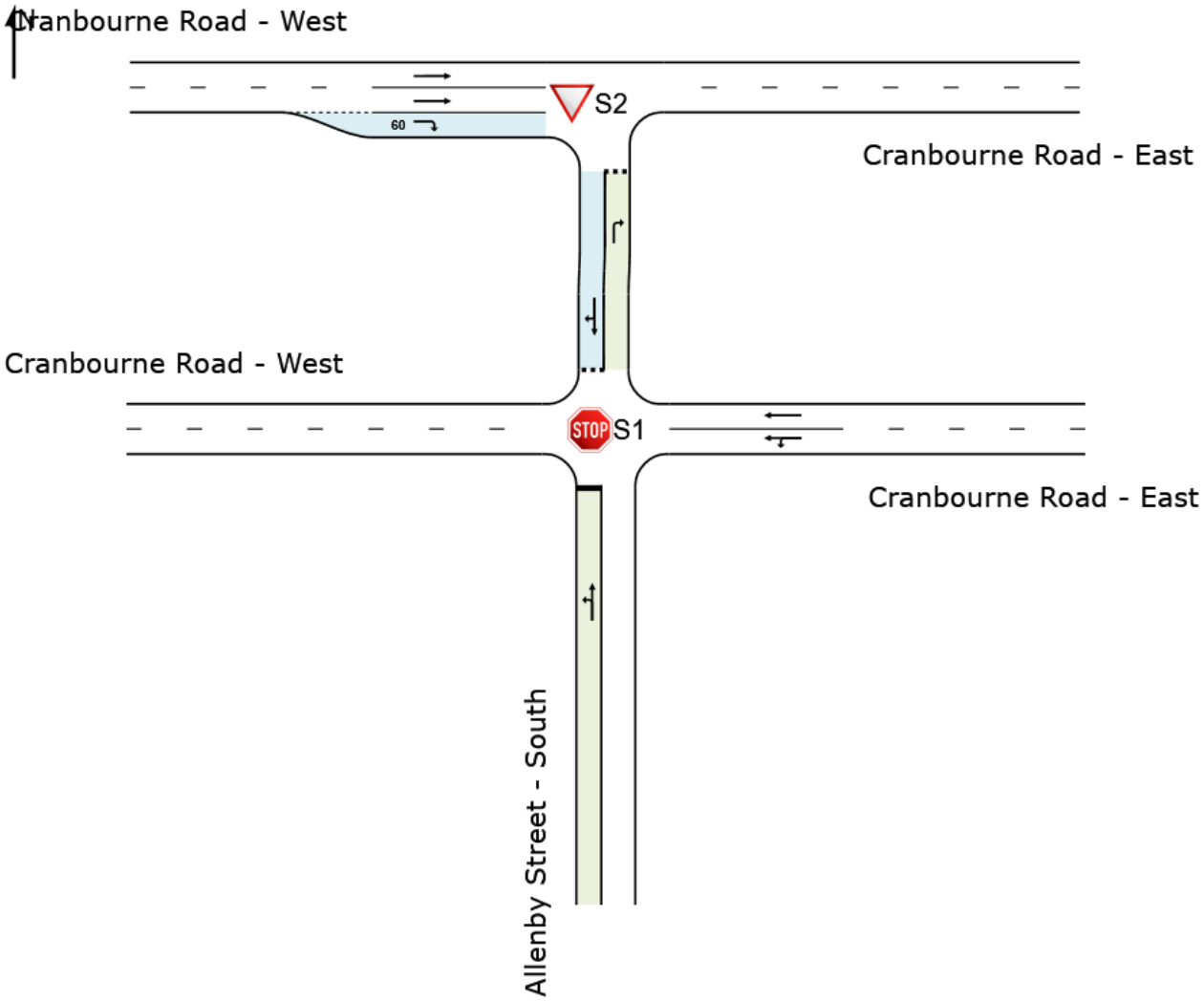


NETWORK LAYOUT

Network: TSTIC [AM Peak (Network Folder: Future - Staged Crossing)]

Sign controlled T-intersection with Median Storage for two-staged turn movements
Major Road Turn opposes Stage 1 of the Minor Road turn movement (Type B)
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
S1	NA	CranAlleAMExFu - Southern Leg
S2	NA	CranAlleAMExFu - Median

LANE SUMMARY

Site: S1 [CranAlleAMExFu - Southern Leg (Site Folder: Future - Staged Crossing)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: TSTIC [AM Peak (Network Folder: Future - Staged Crossing)]

Cranbourne Road / Allenbry Road
AM Peak, Future Volumes, Exisitng Geometry
Site Category: (None)
Stop (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	Aver. Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Allenby Street - South															
Lane 1	8	2.0	8	2.0	117	0.072	100	35.3	LOS E	0.1	0.5	Full	500	0.0	0.0
Approach	8	2.0	8	2.0		0.072		35.3	LOS E	0.1	0.5				
East: Cranbourne Road - East															
Lane 1	726	4.0	726	4.0	1900	0.382	100	0.2	LOS A	0.0	0.0	Full	500	0.0	0.0
Lane 2	726	4.0	726	4.0	1901	0.382	100	0.1	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	1452	4.0	1452	4.0		0.382		0.2	NA	0.0	0.0				
North: Median Storage															
Lane 1	77	2.0	77	2.0	131	0.586	100	42.7	LOS E	0.8	6.0	Full	7	0.0	36.0
Approach	77	2.0	77	2.0		0.586		42.7	LOS E	0.8	6.0				
All Vehicles	1537	3.9	1537	3.9		0.586		2.5	NA	0.8	6.0				

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

Mov. From S To Exit:	L2 W	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	3	5	8	2.0	117	0.072	100	NA	NA
Approach	3	5	8	2.0		0.072			

East: Cranbourne Road - East

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	7	718	726	4.0	1900	0.382	100	NA	NA
Lane 2	-	726	726	4.0	1901	0.382	100	NA	NA
Approach	7	1444	1452	4.0		0.382			

North: Median Storage									
Mov. From N To Exit:	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	8	68	77	2.0	131	0.586	100	NA	NA
Approach	8	68	77	2.0		0.586			
	Total	%HV	Deg.Satn (v/c)						
All Vehicles	1537	3.9		0.586					

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
South: Allenby Street - South				
Lane 1	0.0	0.0	0.0	0.0
East: Cranbourne Road - East				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: Median Storage				
Lane 1	0.0	0.0	0.0	0.0

LANE SUMMARY

Site: S2 [CranAlleAMExFu - Median (Site Folder: Future - Staged Crossing)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: TSTIC [AM Peak (Network Folder: Future - Staged Crossing)]

Cranbourne Road / Allenbry Road
AM Peak, Future Volumes, Exisitng Geometry
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	Aver. Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Median Storage															
Lane 1	5	2.0	5	2.0	310	0.017	100	10.4	LOS B	0.0	0.2	Full	7	0.0	0.0
Approach	5	2.0	5	2.0		0.017		10.4	LOS B	0.0	0.2				
West: Cranbourne Road - West															
Lane 1	496	4.0	496	4.0	1901	0.261	100	0.1	LOS A	0.0	0.0	Full	500	0.0	0.0
Lane 2	496	4.0	496	4.0	1901	0.261	100	0.1	LOS A	0.0	0.0	Full	500	0.0	0.0
Lane 3	77	2.0	77	2.0	1172	0.066	100	5.8	LOS A	0.0	0.0	Short	60	-36.0 N3	NA
Approach	1068	3.9	1068	3.9		0.261		0.5	NA	0.0	0.0				
All Vehicles	1074	3.8	1074	3.8		0.261		0.5	NA	0.0	0.2				

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

N3 Capacity Adjustment due to downstream lane blockage determined by the program.

Approach Lane Flows (veh/h)

South: Median Storage

Mov. From S To Exit:	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	5	5	2.0	310	0.017	100	NA	NA
Approach	5	5	2.0		0.017			

West: Cranbourne Road - West

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	496	-	496	4.0	1901	0.261	100	NA	NA
Lane 2	496	-	496	4.0	1901	0.261	100	NA	NA
Lane 3	-	77	77	2.0	1172	0.066	100	0.0	2
Approach	992	77	1068	3.9		0.261			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	1074	3.8	0.261

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

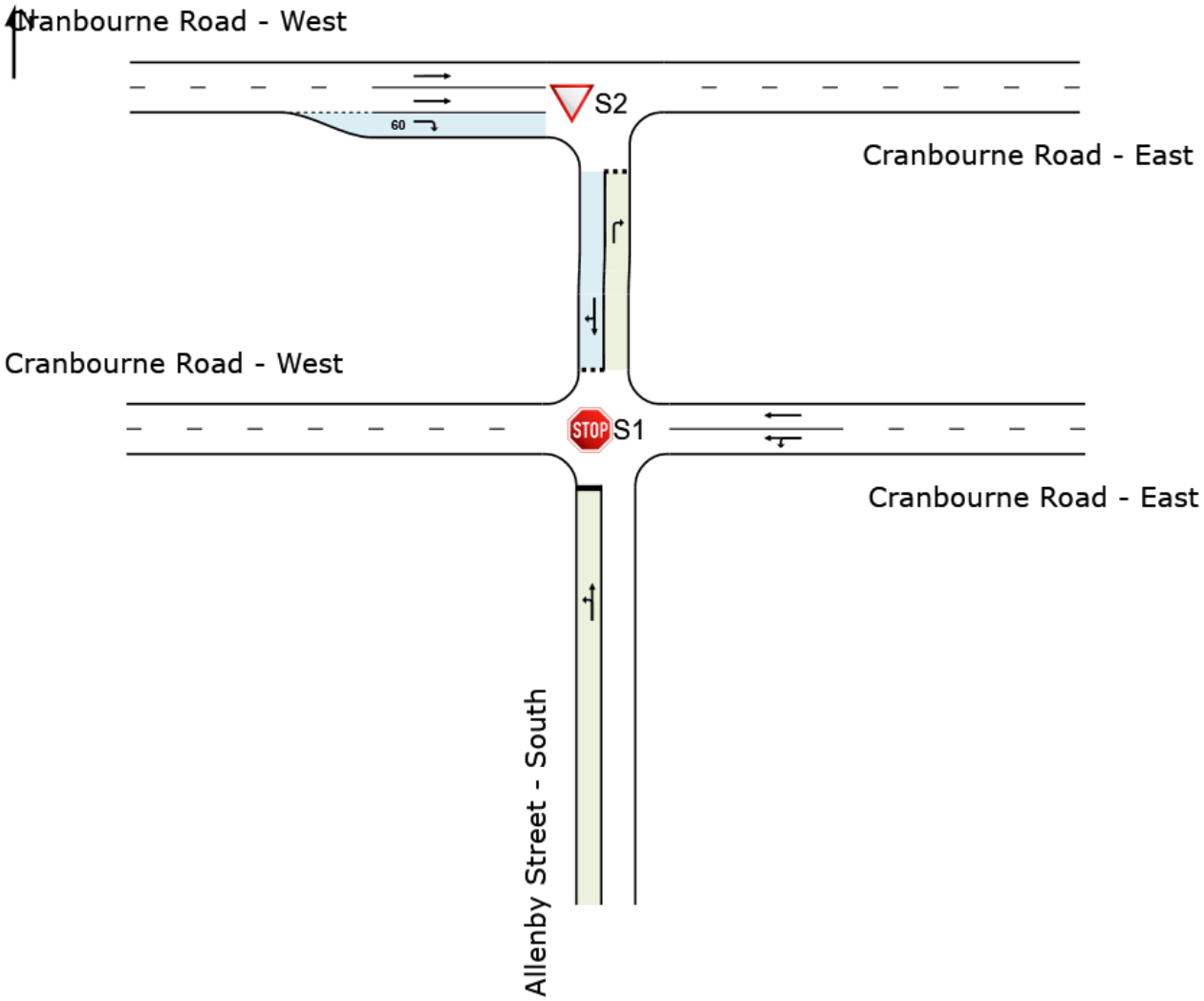
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Median Storage				
Lane 1	0.0	0.0	0.0	0.0
West: Cranbourne Road - West				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0

NETWORK LAYOUT

Network: TSTIC [PM Peak (Network Folder: Future - Staged Crossing)]

Sign controlled T-intersection with Median Storage for two-staged turn movements
Major Road Turn opposes Stage 1 of the Minor Road turn movement (Type B)
Network Category: (None)

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



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
S1	NA	CranAllePMExFu - Southern Leg
S2	NA	CranAllePMExFu - Median

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LANE SUMMARY

Site: S1 [CranAllePMExFu - Southern Leg (Site Folder: Future - Staged Crossing)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: TSTIC [PM Peak (Network Folder: Future - Staged Crossing)]

Cranbourne Road / Allenbry Road
PM Peak, Future Volumes, Exisitng Geometry
Site Category: (None)
Stop (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	Aver. Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Allenby Street - South															
Lane 1	13	2.0	13	2.0	134	0.094	100	32.1	LOS D	0.1	0.7	Full	500	0.0	0.0
Approach	13	2.0	13	2.0		0.094		32.1	LOS D	0.1	0.7				
East: Cranbourne Road - East															
Lane 1	711	4.0	711	4.0	1899	0.374	100	0.3	LOS A	0.0	0.0	Full	500	0.0	0.0
Lane 2	711	4.0	711	4.0	1901	0.374	100	0.1	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	1422	4.0	1422	4.0		0.374		0.2	NA	0.0	0.0				
North: Median Storage															
Lane 1	78	2.0	78	2.0	137	0.570	100	39.7	LOS E	0.8	5.8	Full	7	0.0	34.1
Approach	78	2.0	78	2.0		0.570		39.7	LOS E	0.8	5.8				
All Vehicles	1513	3.9	1513	3.9		0.570		2.5	NA	0.8	5.8				

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

Mov. From S To Exit:	L2 W	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	5	7	13	2.0	134	0.094	100	NA	NA
Approach	5	7	13	2.0		0.094			

East: Cranbourne Road - East

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	17	694	711	4.0	1899	0.374	100	NA	NA
Lane 2	-	711	711	4.0	1901	0.374	100	NA	NA
Approach	17	1405	1422	4.0		0.374			

North: Median Storage									
Mov. From N To Exit:	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	31	47	78	2.0	137	0.570	100	NA	NA
Approach	31	47	78	2.0		0.570			
	Total	%HV	Deg.Satn (v/c)						
All Vehicles	1513	3.9		0.570					

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: Allenby Street - South				
Lane 1	0.0	0.0	0.0	0.0
East: Cranbourne Road - East				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: Median Storage				
Lane 1	0.0	0.0	0.0	0.0

LANE SUMMARY

Site: S2 [CranAllePMExFu - Median (Site Folder: Future - Staged Crossing)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: TSTIC [PM Peak (Network Folder: Future - Staged Crossing)]

Cranbourne Road / Allenbry Road
PM Peak, Future Volumes, Exisitng Geometry
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	Aver. Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Median Storage															
Lane 1	7	2.0	7	2.0	73	0.101	100	46.4	LOS E	0.1	0.7	Full	7	0.0	0.0
Approach	7	2.0	7	2.0		0.101		46.4	LOS E	0.1	0.7				
West: Cranbourne Road - West															
Lane 1	821	4.0	821	4.0	1901	0.432	100	0.2	LOS A	0.0	0.0	Full	500	0.0	0.0
Lane 2	821	4.0	821	4.0	1901	0.432	100	0.2	LOS A	0.0	0.0	Full	500	0.0	0.0
Lane 3	78	2.0	78	2.0	1207	0.065	100	5.8	LOS A	0.0	0.0	Short	60	-34.1 N3	NA
Approach	1719	3.9	1719	3.9		0.432		0.4	NA	0.0	0.0				
All Vehicles	1726	3.9	1726	3.9		0.432		0.6	NA	0.1	0.7				

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

N3 Capacity Adjustment due to downstream lane blockage determined by the program.

Approach Lane Flows (veh/h)

South: Median Storage

Mov. From S To Exit:	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	7	7	2.0	73	0.101	100	NA	NA
Approach	7	7	2.0		0.101			

West: Cranbourne Road - West

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	821	-	821	4.0	1901	0.432	100	NA	NA
Lane 2	821	-	821	4.0	1901	0.432	100	NA	NA
Lane 3	-	78	78	2.0	1207	0.065	100	0.0	2
Approach	1641	78	1719	3.9		0.432			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	1726	3.9	0.432

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: Median Storage				
Lane 1	0.0	0.0	0.0	0.0
West: Cranbourne Road - West				
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