MID Traffic Report

Proposed North Lakes Anglican College

On behalf of JH Northlakes Pty Ltd



Revision Record

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1 Introduction

1.1 Background

Colliers Engineering and Design has been engaged by JH Northlakes Pty Ltd to prepare a Traffic Impact Assessment (TIA) and preliminary design review for a proposed P-12 independent school in North Lakes, referred to as the 'North Lakes Anglican College' (NLAC).

It is understood that this assessment will be submitted to the Department of State Development, Infrastructure and Planning to support a Ministerial Infrastructure Designation.

1.2 Scope

This report investigates the impact of development generated traffic on the local road network. The scope of the transport aspects investigated includes:

- Surveying local intersections to establish the existing traffic volumes
- Estimating future year base case traffic flows
- Estimating development traffic generation
- Estimating distribution of development generated traffic
- Modelling the relevant local intersections using SIDRA analysis software to understand the intersection performance in scenarios relevant to the proposed development
- Assessing the impact of the development generated traffic and proposing (high-level) measures to mitigate these impacts
- Providing a preliminary assessment of the vehicular access arrangements
- Providing an assessment of car parking supply
- Providing an assessment of carpark operation and geometric design
- Providing commentary on bus operations
- Assessing pedestrian and cyclist demand and associated facilities

1.3 Site Location

The main school campus is located in the southern part of North Lakes, predominantly south of Diamond Jubilee Way and north of Endeavour Boulevard, extending east towards Lake Eden, as shown in Figure 1-1. A separate maintenance and field store area is also proposed north of Diamond Jubilee Way.

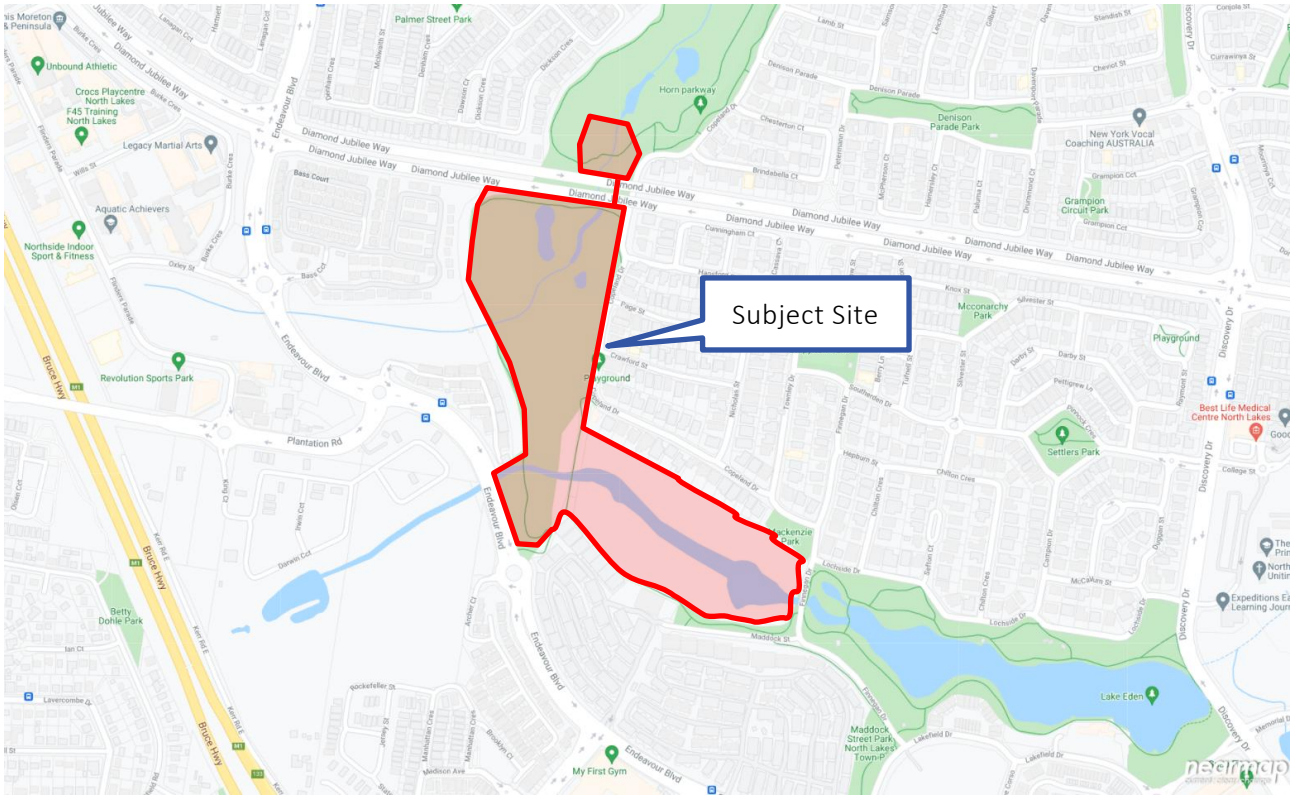


Figure 1-1: Site Location

The land proposed to be included within the designation comprises the main school campuses, the maintenance and field store area north of Diamond Jubilee Way, and the parts of adjoining land required to accommodate associated external transport works. The designation land includes:

- Lot 2 on SP291250
- Lot 1 on SP148201
- Part of Lot 3 on SP148201
- Volumetric Lots 12, 13 and 14 on SP150148
- Part of Lot 605 on SP166932
- Part of Lot 1770 on SP224076
- Parts of Lots 605 and 1770 are included within the designation area to accommodate the external transport works associated with the proposal.

1.4 Key Development Characteristics

The key characteristics of the proposed development relevant to the traffic assessment are summarised in Table 1-1.

Table 1-1: Key Characteristics

Characteristics	Proposed / Assumed
STUDENTS (PROPOSED)	
Prep / Pre-Prep Students	150 (i.e. 75 each)
Primary School Students	500
Secondary School Students	900
TOTAL	1550
STAFF (ASSUMED)	
Prep / Pre-Prep Staff	22
Primary School Staff	71
Secondary School Staff	129
TOTAL STAFF	222
VEHICULAR ACCESS	
Secondary School Vehicular Access	All movements driveway on Endeavour Boulevard, configured as a new 4th (eastern) leg of the Archer Close / Endeavour Boulevard Roundabout, which is proposed to be relocated approximately 50m to the north of the current alignment.
Primary School Vehicular Access	All movements driveway on Maddock Street (although effectively limited to right-in/left-out movements due to the dead-end nature of Maddock Street) with access via a reconfigured intersection with Finnegan Drive (changing from priority-controlled T-intersection to a roundabout).

The broad development plan is included in **Appendix A**.

2 Road Infrastructure

2.1 The Road Network

The roads in the immediate vicinity of the site are administered by the City of Moreton Bay ('CMB'). The hierarchy and characteristics of roads in the immediate vicinity of the site are shown below in Table 2-1.

Table 2-1: Local Road Hierarchy

Road	Speed Limit (kph)	Lanes	Classification
Diamond Jubilee Way	80	4 (divided)	Arterial
Endeavour Boulevard	60	4 (divided)	Sub-Arterial
Plantation Road	60	4 (divided)	Sub-Arterial
Archer Close	50	2 (undivided)	Local Road
Mason Street	50	2-4 (divided)	District Collector
Discovery Drive	60	4 (divided)	Sub-Arterial
Copeland Drive	40	2 (undivided)	Local Collector
Finnegan Drive	40	2 (undivided)	Local Collector
Maddock Street	40	2 (undivided)	Local Road

The intersections in the vicinity of the site (on the roads tabulated above) are generally signalised on Diamond Jubilee Way and Discovery Drive, or roundabout controlled on Endeavour Boulevard (apart from Mason Street which is signalised).

2.2 Proposed Site Access Driveways

The proposed vehicular access arrangements consist of separate dedicated driveways for each of the two campuses. Whilst a vehicular connection will be provided between the two campuses, this will not form part of the routine school access arrangement and will principally accommodate emergency, service and contingency movements as required.

- The senior campus access is proposed as an all-movements driveway on Endeavour Boulevard, configured as a new 4th (eastern) leg of the Archer Close / Endeavour Boulevard Roundabout, which is proposed to be relocated approximately 50m to the north of the current alignment. This puts the new roundabout 300m south of the Endeavour Boulevard / Plantation Road intersection and 300m north of the Endeavour Boulevard / Mason Street intersection.
- The junior campus access is proposed as an all-movements driveway on Maddock Street, with access to the broader road network via a reconfigured Finnegan Drive / Maddock Street intersection. While the driveway itself will accommodate all movements, the access arrangement will be managed (via parking restrictions) so that school-related traffic is directed to and from Finnegan Drive and does not travel further east along Maddock Street through the adjoining residential area. The Finnegan Drive / Maddock Street intersection is proposed to be upgraded from a priority-controlled T-intersection to a roundabout.

The separate dedicated main access driveways provide the following benefits:

- Giving each campus a distinct identity and address.
- Spreading the traffic impact across a broader area and minimising the localised impact at any given intersection.
- Ensuring senior campus traffic does not travel through the Finnegan Drive catchment.
- Providing improved control of the interaction between the junior and senior school populations.
- Minimising traffic flows through the junior campus where the younger students are at higher risk.

3 Traffic Impact Assessment

3.1 Existing / Surveyed Traffic Volumes

Colliers conducted traffic movement surveys on Wednesday the 10th of September 2025, from 7:30am to 9:00am and from 2:30pm to 6:30pm, at the following intersections, as shown in Figure 3-1:

- Endeavour Boulevard & Diamond Jubilee Way (peak hours = 7:45-8:45am & 4:00-5:00pm)
- Endeavour Boulevard & Plantation Road (peak hours = 8:00-9:00am & 4:00-5:00 pm)
- Endeavour Boulevard & Mason Street (peak hours = 7:45-8:45am & 4:15-5:15 pm)
- Endeavour Boulevard & Lakefield Drive (peak hours = 7:45-8:45am & 4:00-5:00 pm)
- Finnegan Drive & Maddock Street (peak hours = 7:45-8:45am & 4:45-5:45pm)

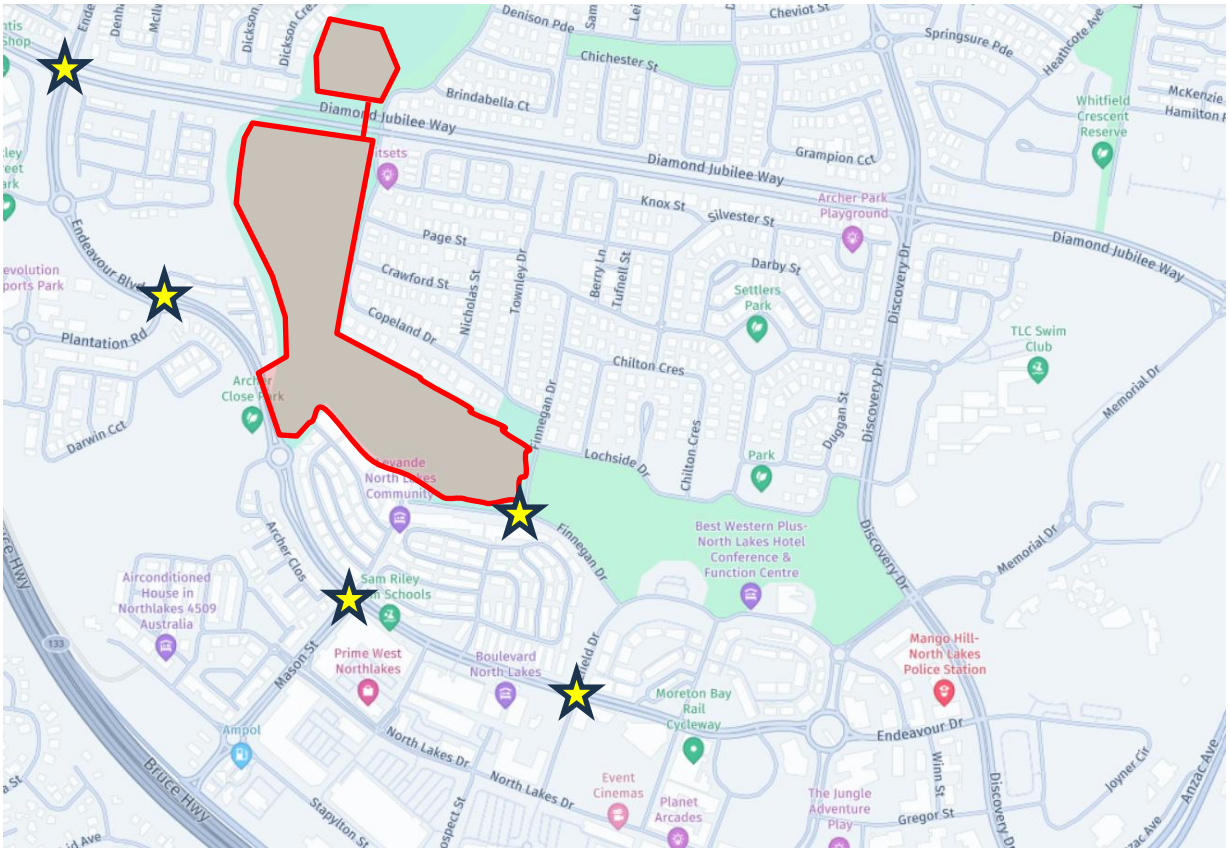


Figure 3-1: Intersection Survey Locations

The intersection of Endeavour Boulevard and Archer Close was not surveyed, however through movements at the roundabout were sourced from the adjacent intersection surveys, whilst turn movements to/from Archer Close were estimated based on the small residential catchment it serves (i.e. 75 townhouse dwellings generating at a very conservative 0.85vph per dwelling).

The morning peak hour was consistently found to be 7:45am to 8:45am at all intersections, whereas the afternoon peaks varied within the broader peak of 2:45pm to 5:00pm. Given the nature of the proposed development, the relevant afternoon school peak period adopted for assessment is 2:45pm to 3:45pm. This period captures the expected peak associated with afternoon school dismissal and pick-up activity.

3.2 Future Base Traffic Volumes

The school is assumed to open in 2030 and reach its full student and staff population by 2037. Accordingly, 2030 and 2037 have been adopted as the principal future assessment years.

Population forecasts available through the CMB Planning Scheme online datahub identify the site within the combined Mango Hill / North Lakes service catchment. Between 2026 and 2036, forecast population growth across this broader catchment equates to an annual compound growth rate of approximately 1.5%.

However, the majority of developable land within North Lakes has already been developed, with remaining population growth expected to occur predominantly within the Mango Hill portion of the broader service catchment. As the intersections assessed in this report are located within the established North Lakes area, a compounded background traffic growth rate of 1% per annum has been adopted for the future-year assessment.

The population forecasts also indicate that the majority of remaining growth within the broader service catchment is expected to occur earlier in the forecast period, with approximately 6,000 additional persons forecast between 2026 and 2031 and fewer than 1,000 additional persons between 2031 and 2036. This demonstrates a substantial slowing in forecast population growth as the catchment approaches build-out.

On this basis, while it is acknowledged that a typical assessment horizon may extend 10 years beyond full development, a separate 2047 assessment has not been undertaken. Given the established nature of North Lakes, the limited remaining development potential and the forecast slowing in population growth, further background traffic growth beyond 2037 is expected to be modest and is not expected to materially alter the conclusions of the 2037 assessment or the identified development mitigation requirements.

The results of the surveys of existing traffic are included in Appendix B. Estimated future year (2037) base traffic volumes, reflecting the application of the 1% annual background growth rate over 12 years, are included as part of Appendix C.

3.3 Estimated Development Traffic Generation

The traffic generation rates have been sourced from the TfNSW *Guide to Transport Impact Assessment (2024)*, whilst the directional splits adopted have been sourced from a study prepared by GTA Consultants, for the former NSW RMS, entitled '*Roads and Maritime Services, Trip Generation Surveys, Schools, Analysis Report Issue A 25/08/14*'.

The adopted traffic generation rates and resulting traffic generation estimates are shown in Table 3-1 to Table 3-4.

School peak-hour traffic is expected to be predominantly associated with parent and carer movements during student arrival and departure periods. Staff generally arrive before the AM student peak and depart after the PM student peak and are therefore expected to make a relatively small contribution during the assessed school peak periods.

Active transport trip generation is discussed in Sections 3.4 and 6.2 of this report.

Table 3-1: Development Traffic Generation

User	Yield	Generation Rate			
		AM Rate	AM Movements	PM Rate	PM Movements
Pre-Prep	75	0.83	62	0.51	38
Prep	75	0.90	68	0.70	53
Primary School	500	0.90	450	0.70	350
Secondary School	900	0.50	450	0.30	270
TOTAL	**1550**		**1030**		**711**

Table 3-2: Development Traffic Directional Split – AM Peak

User	AM Peak				
	Movements	Inbound (%)	Outbound (%)	Inbound (vph)	Outbound (vph)
Pre-Prep	62	51%	49%	32	31
Prep	68	51%	49%	34	33
Primary School	450	51%	49%	230	221
Secondary School	450	59%	41%	266	185
TOTAL	**1030**			**561**	**469**

Table 3-3: Development Traffic Directional Split – PM Peak

User	PM Peak				
	Movements	Inbound (%)	Outbound (%)	Inbound (vph)	Outbound (vph)
Pre-Prep	38	49%	51%	19	20
Prep	53	49%	51%	26	27
Primary School	350	49%	51%	172	179
Secondary School	270	39%	61%	105	165
TOTAL	**711**			**321**	**389**

Table 3-4: Total Development Traffic Generation Summary

User	AM Peak		PM Peak	
	Inbound (vph)	Outbound (vph)	Inbound (vph)	Outbound (vph)
Pre-Prep	32	31	19	20
Prep	34	33	26	27
Primary School	230	221	172	179
Secondary School	266	185	105	165
TOTAL	**562**	**470**	**322**	**391**

3.4 Alternative Calculation of Development Traffic Generation

CMB has queried the validity of the generation estimates in the previous section, and consequently Colliers have provided a first-principles assessment to validate the initial estimates. This first-principles assessment takes into account attendance levels, peak spreading, mode share and average vehicle occupancy based on the number of school-aged children per family etc.

Table 3-5: First-Principles Traffic Generation Assessment, & Bus/Active Transport Estimates, AM Peak Hour

		Avg Attendance	% Arriving in AM Peak	Students Arriving in AM Peak	% Mode Split to Car	Arriving in AM Peak By Car	Students per car	Cars	Car Trips	Arriving in AM Peak By Other Modes	% Mode Split by Bus	% Mode Split by Active	Students Arriving in AM Peak by Bus	Students Arriving in AM Peak by Active
Junior	650	91%	85%	503	75%	377	1.33	284	567	126	15%	10%	75	50
Senior	900	91%	80%	655	50%	328	1.33	246	493	328	40%	10%	262	66
Total	1550			1158		705		530	1060	453			337	116
		Note 1	*Note 2*		*Note 3*		*Note 4*							

	Students	Short Term Parking Spaces	Short Term Space Turnover per Hour	Cars Accomodated by Short Term Parking	PUDO spaces	PUDO Turnover per Hour	Cars Accomodated by PUDO	Total Cars Accomodated
Junior	650	56	5	280	10	15	150	430
Senior	900	66	5	330	12	15	180	510
Total	1550			610			330	940
			Note 5			*Note 6*		

Note 1	91% for independant schools (y1-10) in Qld in 2025 (AUSTRANLIAN CURRICULUM ASSESSEMENT AND REPORTING AUTHORITY)
Note 2	This takes into account:
	- the 70% of students who participate in extra curricula activities, with an average across all students of 1.6 activies per week, who arrive early
	- 5% of secondary school population arrive late, 15% have EC activities and arrive early
	- 5% of primary school population in OSHC and arrive early, 5% arrive late, 5% have EC activities and arrive early
	Not unreasonable given distribution of Education trips in AM is over a full 2-hour period (ie 7-9)
Note 3	Junior School figures range between 88% and 69%. Senior School figures range between 60% and 53%
	First figure of each pair sourced from TRAVEL BEHAVIOUR DIFFERENCES BETWEEN PRIVATE AND PUBLIC-SCHOOL STUDENTS IN SOUTH EAST QUEENSLAND
	Second figure of each pair sourced from THE AUSTRALIAN SCHOOL TRAVEL SURVEY 2025
	The adopted lower car mode-share assumptions reflect the proposed provision of direct school bus services
Note 4	reflective of 39% of school families having 2 or more children of school age (THE AUSTRALIAN SCHOOL TRAVEL SURVEY 2025)
Note 5	Reflective of average time within a P15 limited parking zone during peak times
Note 6	Reflective of average time within a P5 limited parking zone during peak times

A comparison of the original versus alternative estimates is summarised below (format is 'junior + senior = total').

- Original assessment = 580+450 = 1030vph (2-way)
- First-principles assessment = 567+ 493 = 1060 vph (2-way)

Given the alternative first-principles assessment essentially validated the original estimate, Colliers see no reason to modify the original estimates which have been retained as the basis for the TIA.

Table 3-6: First-Principles Traffic Generation Assessment, & Bus/Active Transport Estimates, PM Peak Hour

		Avg Attendance	% Departing in PM Peak	Students Departing in PM Peak	% Mode Split to Car	Departing in PM Peak By Car	Students per car	Cars	Car Trips	Departing in PM Peak By Other Modes	% Mode Split by Bus	% Mode Split by Active	Students Departing in PM Peak by Bus	Students Departing in PM Peak by Active
Junior	650	91%	75%	444	68%	302	1.50	201	402	142	22%	10%	98	44
Senior	900	91%	70%	573	42%	241	1.50	161	321	333	48%	10%	275	57
Total	1550			1017		542		362	723	474			373	102
		Note 1	*Note 2*		*Note 3*		*Note 4*							

	Students	Short Term Parking Spaces	Short Term Space Turnover per Hour	Cars Accomodated by Short Term Parking	PUDO spaces	PUDO Turnover per Hour	Cars Accomodated by PUDO	Total Cars Accomodated
Junior	650	56	3.5	196	10	10	100	296
Senior	900	66	3.5	231	12	10	120	351
Total	1550			427			220	647
			Note 5			*Note 6*		

Note 1	91% for independant schools (y1-10) in Qld in 2025 (AUSTRANLIAN CURRICULUM ASSESSEMENT AND REPORTING AUTHORITY)
Note 2	This takes into account:
	- the 70% of students who participate in extra curricula activities, with an average across all students of 1.6 activies per week, who arrive early
	- 20% of secondary school population have EC activities and depart late
	- 5% of primary school population in OSHC and depart late, 5% have EC activities and depart late, most pre-pep depart early / late
	Not unreasonable given distribution of Education trips in PM is over a full 2-hour period (ie 3-5)
Note 3	Junior School figures range between 88% and 69%. Senior School figures range between 60% and 53%
	First figure of each pair sourced from TRAVEL BEHAVIOUR DIFFERENCES BETWEEN PRIVATE AND PUBLIC-SCHOOL STUDENTS IN SOUTH EAST QUEENSLAND
	Second figure of each pair sourced from THE AUSTRALIAN SCHOOL TRAVEL SURVEY 2025
	The adopted lower car mode-share assumptions reflect the proposed provision of direct school bus services
Note 4	reflective of 39% of school families having 2 or more children of school age (THE AUSTRALIAN SCHOOL TRAVEL SURVEY 2025)
	A higher occupancy has been adopted in the PM peak to reflect the greater potential for different families to share pickup duties in the afternoon
Note 5	Reflective of average time within a P15 limited parking zone during peak times
Note 6	Reflective of average time within a P5 limited parking zone during peak times

A comparison of the original versus alternative estimates is summarised below (format is 'junior + senior = total').

- Original assessment = 441+270 = 711vph (2-way)
- First-principles assessment = 402+ 321 = 723vph (2-way)

Given the alternative first-principles assessment essentially validated the original estimate, Colliers see no reason to modify the original estimates which have been retained as the basis for the TIA.

3.4.1 Demand for On Site Bus Facility

The estimated that approximately 340 / 380 students arriving / depart by bus in the AM / PM peaks respectively. This is assumed to include up to 300 / 330 students in dedicated school buses using the onsite bus facilities, and up to 40 / 50 using public bus routes / stops external to the site. Based on typical school coaches having 65 seats, and assuming a conservative 75% occupancy (i.e. average of 49 students per bus), 6-7 buses would be sufficient to service the site both before and after school. This level of bus activity will have minimal impact on the operation of the external road network.

The preliminary design provides sufficient space for 4-5 buses, depending on vehicle size, whilst the modifications proposed in Section 5.3.1 (5) would allow for five standard (i.e. 65 seat) buses to be accommodated in the passenger loading bays, with up to four additional buses stacking in the transverse aisle clear of circulating car traffic.

Consequently, the anticipated bus parking demand can be accommodated in the proposed bus facilities, with just 1-2 buses using each bay in each of the AM and PM peak hours.

3.5 Estimated Development Traffic Distribution

The assumed development traffic distribution has been developed having regard to the surrounding residential catchment, the location of existing alternative schools and the proposed separate access arrangements for the junior and senior campuses, as shown in Figure 3-2 and Figure 3-3. In the absence of confirmed future enrolment catchment data for the school, this is considered a reasonable basis for distributing development-generated traffic across the surrounding road network. Detailed traffic distribution diagrams, including turn movements at individual intersections, are provided in Appendix C.

The adopted distribution has also had regard to the alternative access routes identified by CMB through its pre-lodgement review. In particular, development traffic has been distributed to the Mason Street route providing access to and from the Bruce Highway, as well as via Lakefield Drive and Memorial Drive for traffic associated with the northern and eastern catchments. These routes are reflected in the broad distributions shown in Figures 3-2 and 3-3 and in the detailed intersection turning movements provided in Appendix C.

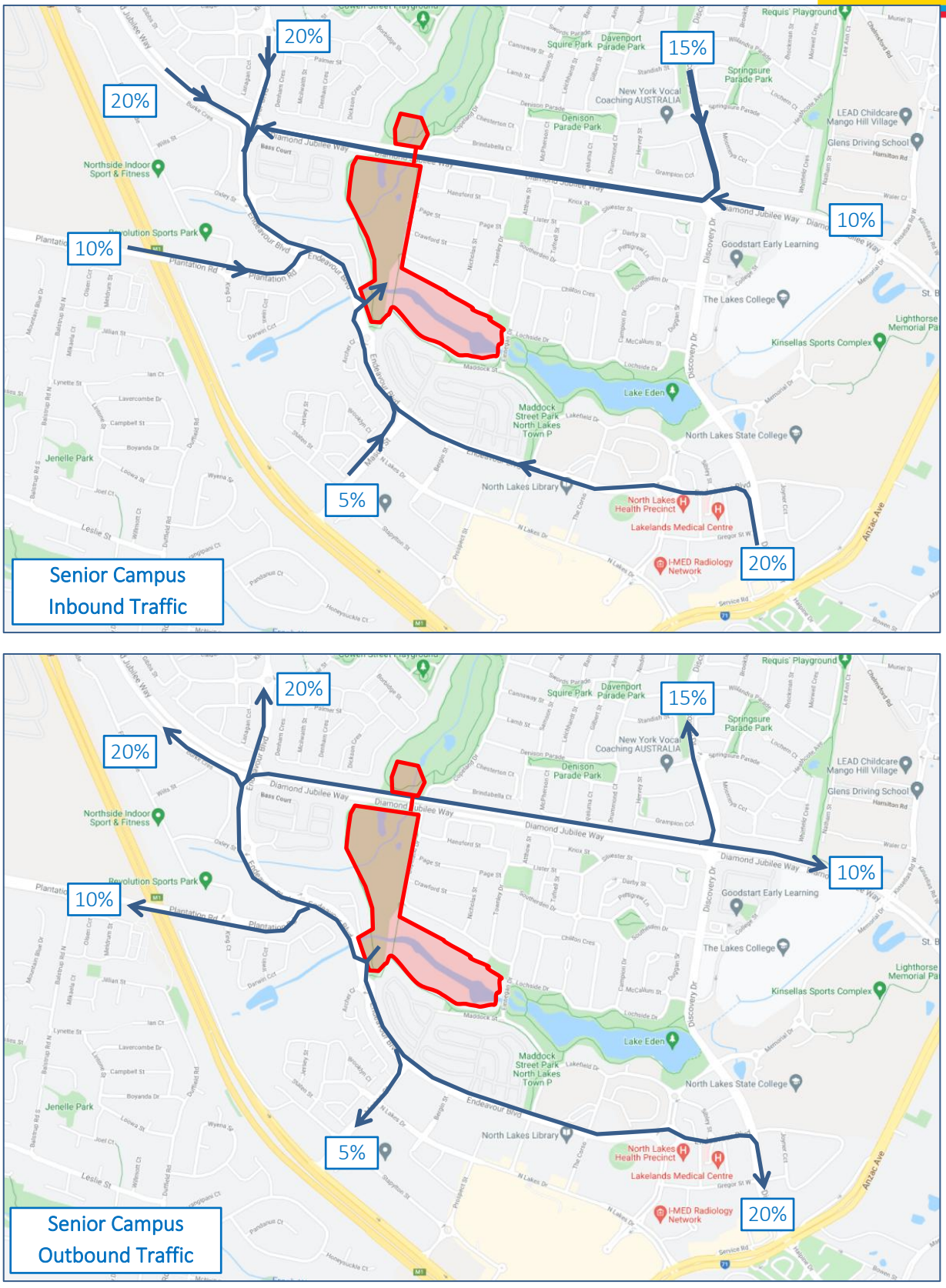


Figure 3-2: Assumed Broad Distribution of Senior Campus Development Generated Traffic

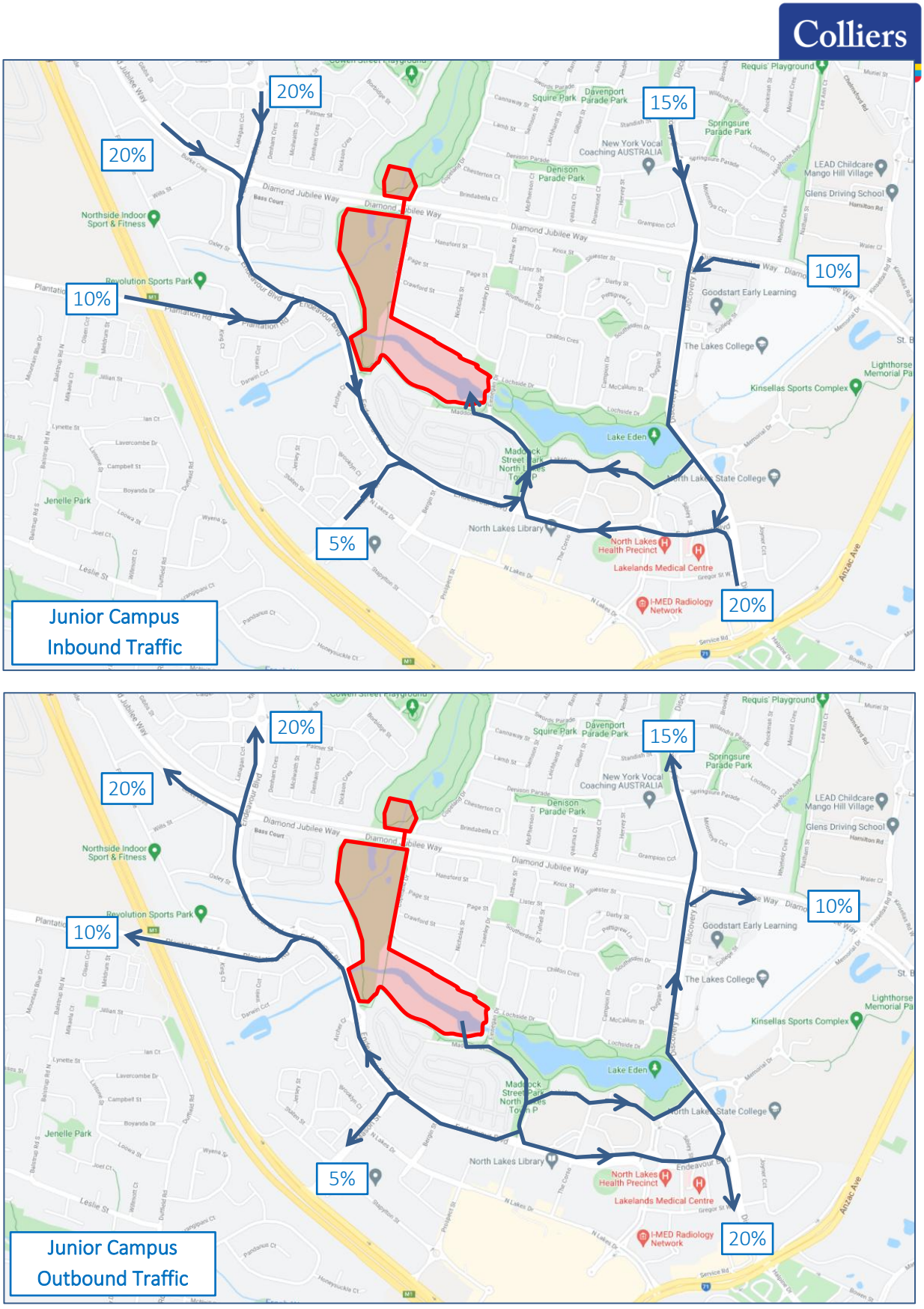


Figure 3-3: Assumed Broad Distribution of Junior Campus Development Generated Traffic

3.6 Overview of SIDRA Intersection Analysis

The intersection analysis includes the five surveyed intersections (i.e. with background growth), together with the Endeavour Boulevard / Archer Close intersection. SIDRA 9.1 was used to assess the intersections during both the AM and PM peak hour periods, for the following scenarios:

- 2025 Existing (i.e. as surveyed)
- 2030 Base case (i.e. with background growth & partial school population)
- 2030 Development case (i.e. with background growth + 44% junior school opening percentage)
- 2037 Base case (i.e. with background growth)
- 2037 Development case (i.e. with background growth + full school population)
- 2037 Upgrade case (i.e. with background growth + full school population + any upgrades if proposed)

The summarised results of this analysis for each intersection are included in Sections 3.6.1 to 3.6.6 for the AM peak and Sections 3.6.7 to 3.6.12 for the PM peak. Full Sidra results are included in Appendix D.

It should be noted that microsimulation modelling (e.g. VISSIM) was not considered appropriate for this project. Microsimulation modelling is typically warranted when assessing the following:

- Road networks where there is an element of multiple route choices between key origin-destination zones.
- Closely spaced complex signalised intersections running in coordination and/or actuation.
- Road networks with unprotected pedestrian crossings.
- Road networks where key output statistics such as vehicle kilometres travelled (VKT), vehicle hours travelled (VHT), route travel times, latent demand (in the case of congested networks), and/or queue spillback issues.

In the case of the project network, there is a limited degree of route choice for trips accessing the proposed junior and senior schools, the signalised intersections are mostly separated by large roundabouts, and development pedestrian traffic is proposed to be signal protected. Based on these factors, and the limited base year data we have to calibrate against, there would be minimal additional benefit to incorporating a dynamic microsimulation model at this stage as the output degree of saturation and delay statistics for the impacted local network intersections are already captured as a 'worst case scenario' in the static SIDRA model.

3.6.1 Diamond Jubilee Way / Endeavour Boulevard – AM Peak

Intersection	Year	Scenario	School Status	Intersection Layout	Signals	Intersection			Worst Movement (delay)			Worst Movement (queue)	
						DOS	Avg Delay (s)	LOS	Mov.	Delay (s)	LOS	Mov.	95th %ile Queue (m)
Diamond Jubilee Way / Endeavour Boulevard	2025	Existing	No School	Existing	SCATS	0.817	55.1	E	N-RT	81.3	F	W-RT	181.3
	2030	Base Case	No School		SCATS + optimised timing	0.817	42.9	D	N-T	67.5	E	W-RT	160
	2030	Dev Case	+School			0.869	45	D	N-T	73.2	E	W-RT	181.7
	2037	Base Case	No School			0.871	46	D	N-T	74.7	E	W-RT	180.7
	2037	Dev Case	+School			1.247	84.1	F	S-T	258.7	F	W-RT	373.5
	2037	Dev Case + Upgrade 1	+School	Added west leg right turn lane		0.874	50.2	D	N-T	73.3	E	N-T	182
	2037	Dev Case + Upgrade 2	+School	As above + converted full stage crossing		0.877	50	D	N-T	75.1	E	N-T	186.6

With the addition of development generated traffic, performance in the AM peak is significantly impacted, with performance measures being beyond typically acceptable limits.

The proposed upgrade comprises the introduction of a second right-turn lane from Diamond Jubilee Way (west) into Endeavour Boulevard (south). The operational performance of this arrangement has been assessed in SIDRA, with a preliminary geometric and swept-path assessment also undertaken as discussed in Section 4. The preliminary assessment indicates that simultaneous turning of a car and an articulated vehicle is likely to be achievable. The final arrangement will remain subject to detailed geometric, swept-path, pedestrian, safety and signal design.

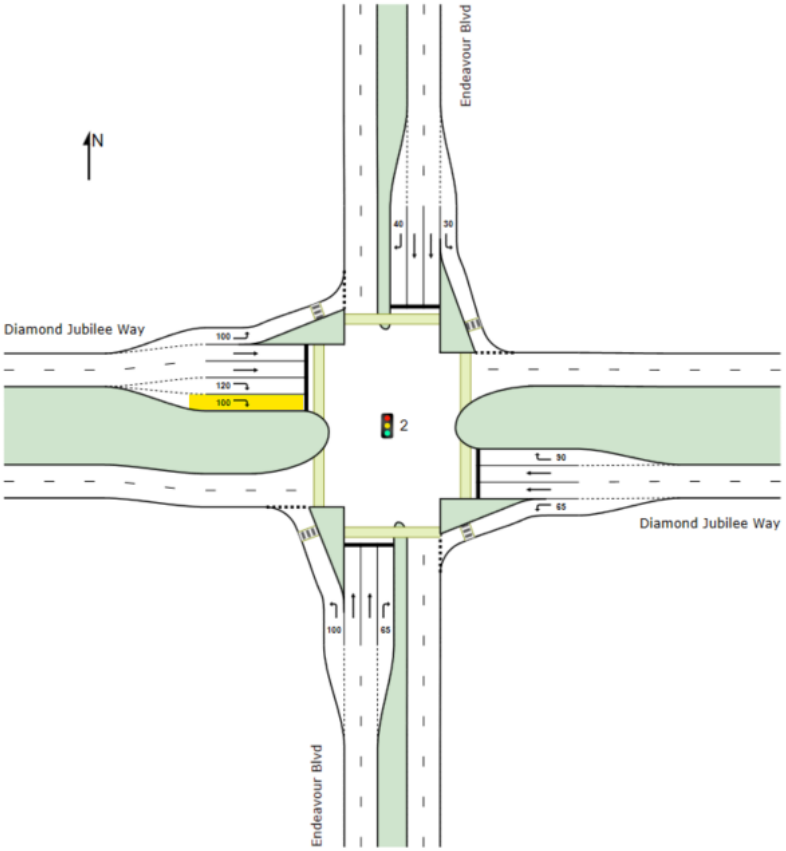
This change involves construction of a new right turn lane within the existing median on the Diamond Jubilee Way western approach to increase capacity for this movement, and allow reallocation of green time to other movements as necessary. The works associated with this possible change will be significant, including civil, lighting and signals works. The location of the potential additional right turn provision is highlighted in Figure 3-4.

The benefits of this potential change are significant (by all measures) compared to the 2037 development case without the proposed upgrade. When compared to the 2037 base case, all performance measures return to levels comparable to (or better than the 2037 base case.

The proposed works therefore are considered to mitigate the impacts of development generated traffic.

Diamond phasing has been retained for the right turn movements along Endeavour Boulevard. Split phasing has been adopted for Diamond Jubilee Way as diamond phasing would not be suitable for the proposed dual right turns from the western approach.

Figure 3-4: Potential Additional Right Turn from Diamond Jubilee Way



As per CMB's request, this modified intersection configuration was also tested with a full (1-stage) signalised pedestrian crossing on the western leg of the intersection to make up for the reduced pedestrian storage capacity in the median with the additional right turn lane configuration. As shown in the above table (upgrade 2), the intersection has similar performance in comparison to the staged crossing (upgrade 1), with acceptable LOS, DOS and 95th percentile back of queue statistics.

It should be noted that:

- The analysis assumes that the pedestrian green phase is running at a 100% call frequency, when currently in 2025 only 4 pedestrians were observed to use the western crossing in the AM peak hour.
- The predicted development pedestrian traffic (if any) is far more likely to use the eastern pedestrian crossing for north/south movements due to the closer proximity to both Junior and Senior Schools.

3.6.2 Plantation Road / Endeavour Boulevard – AM Peak

Intersection	Year	Scenario	School Status	Intersection Layout	Intersection			Worst Movement (delay)			Worst Movement (queue)	
					DOS	Avg Delay (s)	LOS	Mov.	Delay (s)	LOS	Mov.	95th %ile Queue (m)
Plantation Road / Endeavour Boulevard	2025	Existing	No School	Existing	0.759	11.5	B	N-RT	22.4	C	N-LT	62.3
	2030	Base Case	No School		0.847	14.1	B	N-RT	28.9	C	N-LT	87.7
	2030	Dev Case	+School		0.925	18.6	B	N-RT	40.1	D	N-LT	129.8
	2037	Base Case	No School		0.996	28.6	C	N-RT	65.2	E	N-LT	211.7
	2037	Dev Case	+School		1.522	204.5	F	N-RT	492.3	F	N-LT	1370.4
	2037	Dev Case + Upgrade 1	+School	Modified lane discipline on west leg	1.06	37.6	D	N-RT	86.1	F	N-LT	330.2
	2037	Dev Case + Upgrade 2	+School	As above + left slip lane on west leg	1.025	27.6	C	N-RT	63.8	E	N-LT	246.2
	2037	Dev Case + Upgrade 3	+School	As above + redistribution of traffic due to direct school access off relocated Archer Close roundabout (i.e. reduced U-turn volumes on south leg)	0.981	18.4	B	N-RT	41	D	N-LT	156.5

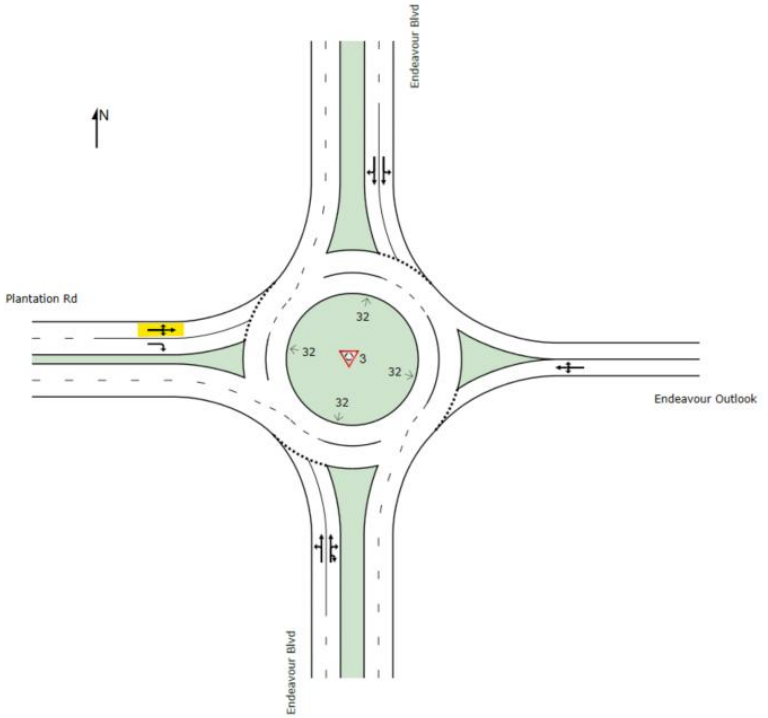
With the addition of development traffic, performance in the AM peak is significantly impacted, and consequently changes to the roundabout configuration / operation are proposed.

Upgrade 1

A change to lane discipline on the western approach of Plantation Road is proposed, with the introduction of a right turn arrow to the kerbside lane, which is currently limited to left and through movements. The adjacent lane is, and will remain, for right turns only. The location of the additional right turn provision is highlighted in Figure 3-5.

Although the 2037 Upgrade 3 scenario remains above the desirable degree of saturation threshold of 0.85, it is noted that the 2037 Base Case, without the school, is also above this threshold with a DoS of 0.996. With the full school development and proposed mitigation measures in place, the intersection DoS reduces to 0.981, average delay reduces from 28.6 seconds to 18.4 seconds and the maximum 95th percentile queue reduces from 211.7m to 156.5m. Accordingly, while the intersection is expected to remain constrained under 2037 background traffic conditions, the proposed development and associated mitigation result in performance superior to the 2037 Base Case.

Figure 3-5: Proposed Additional Right Turn from Plantation Road (West)



Upgrade 2

A further modification of this includes a separate left turn auxiliary lane from the western approach of Plantation Road to Endeavour Boulevard (north), as shown in Figure 3-6.

The detailed design of the proposed left-turn slip lane will also need to appropriately accommodate pedestrian and cyclist movements. This will include consideration of the location and form of the crossing treatment, pedestrian and cyclist desire lines, vehicle approach speeds and available sight distance to ensure a safe and legible outcome for all users. A crossing location further west along Plantation Road, closer to the existing commercial development, may provide a preferable outcome and will be investigated as part of the detailed design. The final arrangement will be designed to ensure appropriate sight lines are maintained and that pedestrian and cyclist movements are safely accommodated across the proposed slip lane.

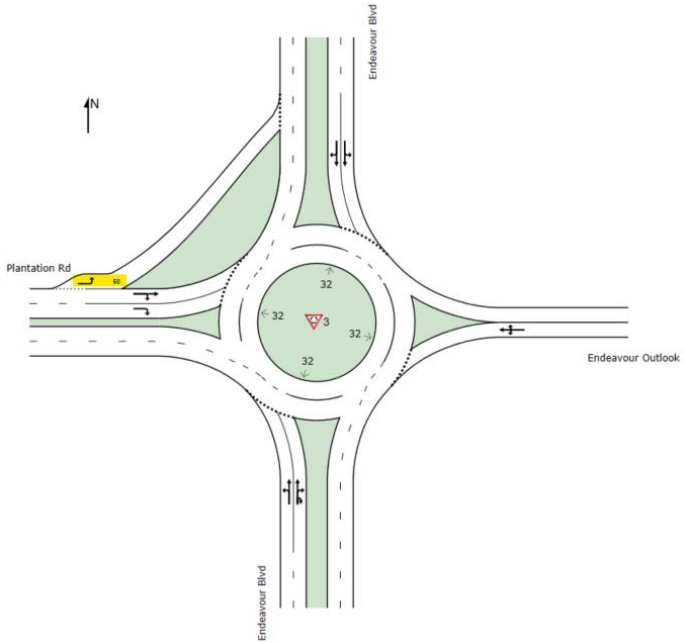
In combination with the previously discussed upgrade, the impacts of development generated traffic are largely mitigated, with LOS and delay reduced to levels relatively close to the 2037 base case scenario.

Upgrade 3

The intersection was also assessed assuming a local change in development traffic distribution due to the proposed changes at the adjacent Archer Close / Endeavour Boulevard intersection to the south. These proposed changes relocate the Archer Close roundabout slightly further north, thus facilitating direct access into the school site, without the need to perform a U-turn at adjacent intersections. This option has the following implications for the Plantation Road / Endeavour Boulevard intersection:

- The projected inbound trips from the south that would otherwise need to make a U-turn at the Plantation Road intersection to access the school would now be able to turn right to enter the school directly, bypassing Plantation Road / Endeavour Boulevard entirely.

Figure 3-6: Proposed Additional Right Turn Line Marking from Plantation Road (West) + Left Slip Lane



- The southern leg queue storage length (Endeavour Boulevard) of the Plantation Road / Endeavour Boulevard intersection is shortened from 350m to 300m.

Whilst the DOS does not improve to the extent that is below the desirable 0.85 threshold, all performance measures in this scenario improve to levels superior to the 2037 base case, thus fully mitigating all impacts at this intersection.

3.6.3 Archer Close / Endeavour Boulevard – AM Peak

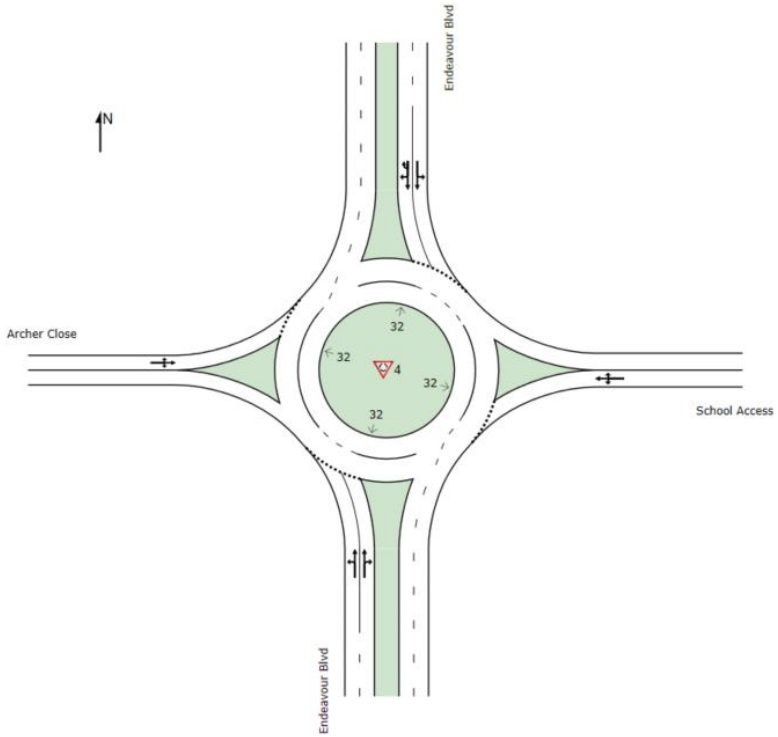
Intersection	Year	Scenario	School Status	Intersection Layout	Intersection			Worst Movement (delay)			Worst Movement (queue)	
					DOS	Avg Delay (s)	LOS	Mov.	Delay (s)	LOS	Mov.	95th %ile Queue (m)
Archer Close / Endeavour Boulevard	2025	Existing	No School	Existing	0.536	3.8	A	N-RT	9.5	A	N-T	34.2
	2030	Base Case	No School		0.564	3.8	A	N-RT	9.5	A	N-RT	37.8
	2030	Dev Case	+School		0.587	3.8	A	N-UT	12	B	N-T	41.5
	2037	Base Case	No School		0.602	3.8	A	N-RT	9.6	A	N-RT	43.4
	2037	Dev Case	+School		0.715	4.5	A	N-UT	12.1	B	N-T	70.5
Archer Close / Endeavour Boulevard / Senior School Access	2037	Dev Case + Upgrade 1	+School	Relocated Archer Close roundabout with new school access on east leg	0.781	5.7	A	E-RT	19.7	B	N-LT	76.6

The results indicate that the existing Archer Close / Endeavour Boulevard roundabout would continue to operate within acceptable performance limits with the addition of development-generated traffic in 2037.

The preferred access arrangement has also been assessed, comprising relocation of the Archer Close / Endeavour Boulevard roundabout approximately 50m north and provision of the senior school access as a new fourth eastern leg. This places the relocated roundabout approximately 300m south of the Plantation Road / Endeavour Boulevard intersection and 300m north of the Mason Street / Endeavour Boulevard intersection. The SIDRA layout of the proposed relocated roundabout is shown in Figure 3-7

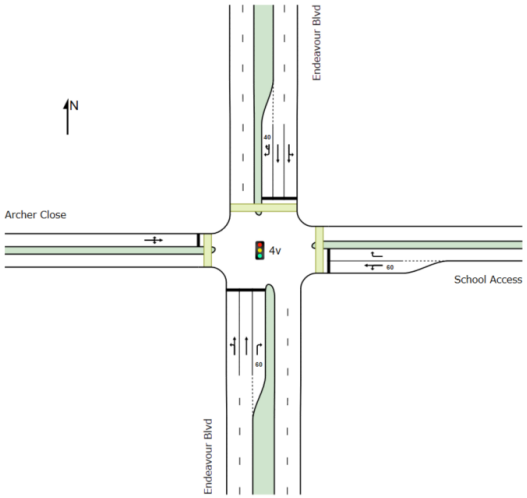
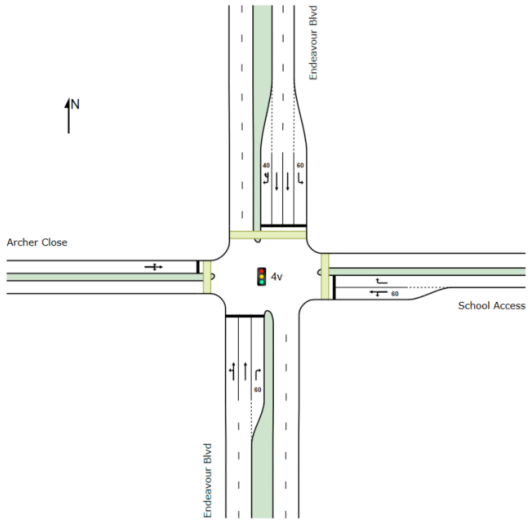
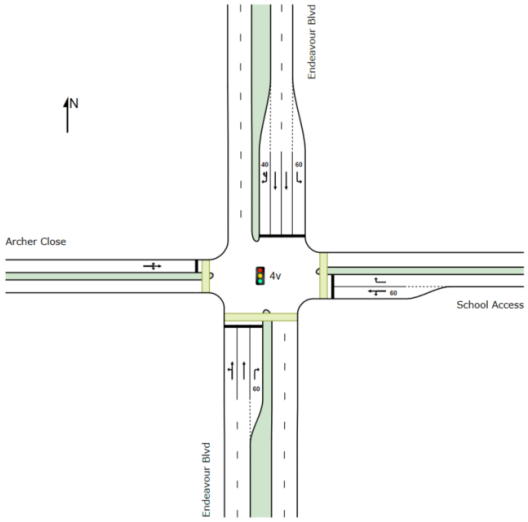
The relocated four-leg roundabout is also expected to operate comfortably within acceptable performance limits, with a DoS of 0.781, average delay of 5.7 seconds and LOS A in the 2037 development scenario. Importantly, the direct school access removes the need for inbound school traffic from the south to continue north to Plantation Road / Endeavour Boulevard to undertake a U-turn before returning south to the school. This improves the operation of the broader Endeavour Boulevard corridor, including the Plantation Road intersection, as discussed in Section 3.6.2.

Figure 3-7: Proposed Archer Close / Endeavour Boulevard / School Access Roundabout Configuration



In response to CMB's concerns regarding the use of a roundabout at a school access and the interaction with pedestrian and cyclist movements, conversion of the relocated Archer Close / Endeavour Boulevard / school access intersection to signals was also assessed. The signalised options were principally investigated to provide protected pedestrian crossing movements across Endeavour Boulevard in the vicinity of the existing public bus stops.

Intersection	Year	Scenario	School Status	Intersection			Worst Movement (delay)			Worst Movement (queue)	
				DOS	Avg Delay (s)	LOS	Mov.	Delay (s)	LOS	Mov.	95th %ile Queue (m)
Archer Close / Endeavour Boulevard / Senior School Access	2037	Option 1: 2 approach lanes at school access, pedestrian crossings on north, east and west legs	+School	1.042	82.4	F	N-T	105.3	F	N-T	719.3
		Option 2: as above + dedicated left turn lane on north leg	+School	0.981	65.8	E	W-LT	88.7	F	N-T	600
		Option 3: as above + pedestrian crossing on south leg instead of north leg	+School	0.894	38.8	D	W-LT	85.3	F	N-T	426.6

Option 1	Option 2	Option 3
		

All three options were tested with varying cycle times between 124 seconds and 131 seconds to coordinate with the closest signalised intersections to the north/south of the proposed intersection. Delayed start phasing has been adopted for adjacent left turn/pedestrian crossings. All options have single stage pedestrian crossings.

As shown in the 2 tables above, none of the three signalised intersection options that were tested yielded southbound 95th percentile back of queue lengths that did not spill back out onto the upstream intersection (southbound storage capacity is 300m). The best performing signalised option 3, with a left turn short lane on the north approach and pedestrian crossing on the southern approach, still records 95th percentile back of queue lengths 126m beyond the storage capacity of the southbound leg spilling out onto the Plantation Boulevard roundabout in the 2037 AM peak.

As an alternative to address pedestrian safety, an option was tested where a midblock staged (signalised) pedestrian crossing is placed between the Plantation Road / Endeavour Boulevard intersection and the proposed 4-leg relocated roundabout of Archer Close / Endeavour Boulevard / School Access. This option was tested as a network to compare 95th percentile queuing, along with intersection DOS and LOS statistics. The staged pedestrian crossing was assessed with a 60 second cycle time.

CMB have suggested that the Diamond Jubilee Way intersection should be included in this network assessment to understand the effects of vehicle platoons released from the signals. This was not considered necessary given:

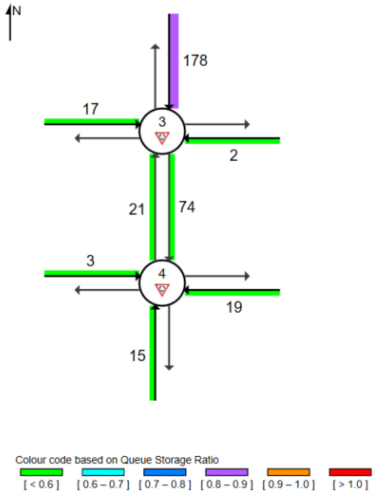
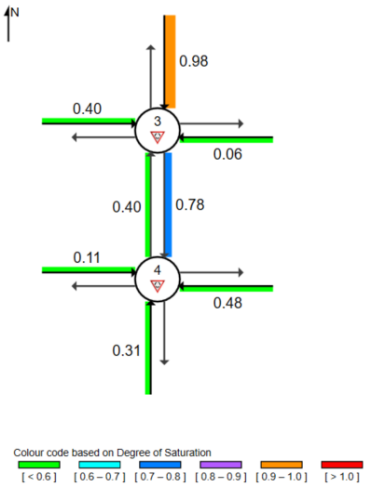
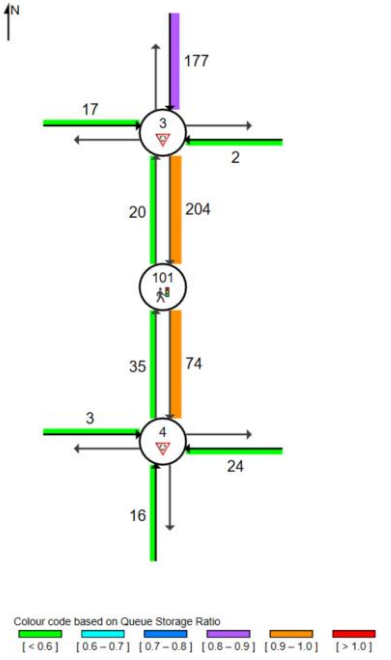
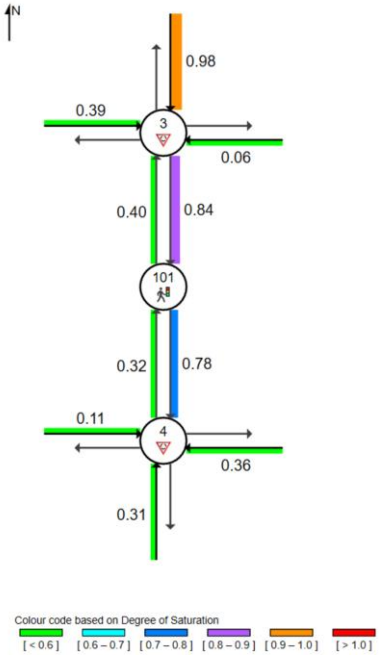
- Its distance from the proposed signalised pedestrian crossing (~700m), and;
- The fact that there are two roundabouts (those at Oxley Street and Plantation Road) located between the Diamond Jubilee Way intersection and the proposed signalised pedestrian crossing.

The impact of these factors is that vehicle platoons released from the upstream signalised intersection are likely to undergo substantial dispersion over the 700m corridor due to speed variability and the presence of the two intermediate roundabouts. The roundabouts introduce yielding behaviour and variable delays that progressively fragment the platoon, resulting in a more randomised arrival profile downstream and reducing the influence of signal-coordinated vehicle arrivals.

It is acknowledged that CMB would prefer single stage pedestrian crossings, however it should be noted that there are numerous staged crossings within North Lakes already, primarily on Diamond Jubilee Way. The proposal for a signalised crossing represents a vast improvement on the crossing facilities currently provided, however, to minimise impact on the operation of Endeavour Boulevard, a staged configuration is essential and balances the conflicting requirements of pedestrians and vehicular traffic. The existing central median is at least 5.5m wide, providing the potential for ample storage capacity for pedestrians and cyclists.



Figure 3-8: Proposed Midblock Pedestrian Crossing (Staged & Signalised) Option Layout

Without Staged Midblock Pedestrian Crossing		With Staged Midblock Pedestrian Crossing	
95th Percentile Queue Length (m)	DOS	95th Percentile Queue Length (m)	DOS
			

Intersection	Year	Midblock Crossing	School Status	Scenario	Intersection			Worst Movement (delay)			Worst Movement (queue)	
					DOS	Avg Delay (s)	LOS	Mov.	Delay (s)	LOS	Mov.	95th %ile Queue (m)
Plantation Road / Endeavour Boulevard	2037	No	+School	Plantation Road roundabout with left slip lane + changed lane discipline	0.981	20	B	N-RT	45.1	D	N-LT	178
		Yes	+School		0.98	19.8	B	N-RT	44.7	D	N-LT	176.6
Archer Close / Endeavour Boulevard / School Access		No	+School	Relocated Archer Close roundabout with direct school access leg	0.783	5.7	A	E-RT	19.7	B	N-LT	74.1
		Yes	+School		0.783	5.4	A	E-RT	20.8	C	N-LT	74.3
Midblock Crossing		Yes	+School	Staged signalised crossing, 75m north of Archer Close	0.844	10.1	B	N-T	12.5	B	N-T	204.2

The linked-network assessment demonstrates that the staged midblock crossing can be accommodated without materially affecting the operation of either adjacent intersection. The maximum 95th percentile queue at the midblock crossing is approximately 204m. With the crossing located approximately 75m north of the relocated Archer Close roundabout, approximately 225m of road length remains between the crossing and the Plantation Road intersection. Accordingly, the modelled 95th percentile queue is contained between the two intersections without spilling back into the Plantation Road roundabout.

The pedestrian crossing has been modelled as a two-stage signalised crossing operating on a 60-second cycle, with pedestrian phases called in every cycle. The SIDRA assessment adopts a pedestrian demand of 105 persons per hour across each stage and results in an average pedestrian delay of approximately 24.4 seconds per stage, corresponding to pedestrian LOS C. This represents a substantial improvement in pedestrian amenity compared with the longer-cycle crossing previously assessed, while maintaining acceptable vehicle operation. The proposed staging therefore provides a balance between pedestrian/cyclist crossing amenity and the operational requirements of Endeavour Boulevard.

On this basis, signalisation of the school access is not preferred due to the resulting queue spillback to the Plantation Road / Endeavour Boulevard intersection, and the relocated roundabout with a separate staged signalised midblock pedestrian crossing is therefore the preferred arrangement.

3.6.4 Mason Street / Endeavour Boulevard – AM Peak

Intersection	Year	Scenario	School Status	Intersection Layout	Signals	Intersection			Worst Movement (delay)			Worst Movement (queue)	
						DOS	Avg Delay (s)	LOS	Mov.	Delay (s)	LOS	Mov.	95th %ile Queue (m)
Mason Street / Endeavour Boulevard	2025	Existing	No School	Existing	SCATS	0.716	15.9	B	E-RT	75.7	E	W-RT	152.2
	2030	Base Case	No School		SCATS + optimised timing	0.817	12.5	B	E-RT	75.7	E	W-RT	167
	2030	Dev Case	+School			0.817	12.6	B	E-RT	75.7	E	W-RT	167
	2037	Base Case	No School			0.868	15.8	B	E-RT	76.3	E	W-RT	204.3
	2037	Dev Case	+School			0.872	15.4	B	E-RT	79.9	E	W-RT	200.1

The 2037 Base Case is expected to operate within generally acceptable performance limits, with a DoS of 0.868, average delay of 15.8 seconds and LOS B. With the addition of development-generated traffic, intersection performance remains broadly consistent, with a DoS of 0.872, average delay of 15.4 seconds and LOS B.

The 95th percentile queue associated with the western approach right-turn movement exceeds the existing approximately 90m turn-lane storage under both the 2037 Base and Development Cases, with modelled queues of approximately 204m and 200m respectively. However, this condition is not attributable to the proposed development, with the same movement already exceeding the available storage under existing 2025 traffic conditions, where a 95th percentile queue of approximately 152m is modelled. Furthermore, it should be noted that upon the proposed relocation of the Archer Street roundabout, there is approximately 290m separation between Mason Street and the roundabout, comfortably accommodation the 95th percentile queue.

Given the very low anticipated additional pedestrian demands from the school at this intersection, the minimum green times and call frequency can accommodate the additional demands with no material impact on intersection performance

Accordingly, the addition of development-generated traffic does not materially worsen the operation of the intersection relative to the 2037 Base Case. On this basis, no additional mitigation is considered necessary at this intersection as a consequence of the proposed development.

3.6.5 Lakefield Drive / Endeavour Boulevard – AM Peak

Intersection	Year	Scenario	School Status	Intersection Layout	Signals	Intersection			Worst Movement (delay)			Worst Movement (queue)	
						DOS	Avg Delay (s)	LOS	Mov.	Delay (s)	LOS	Mov.	95th %ile Queue (m)
Lakefield Drive / Endeavour Boulevard	2025	Existing	No School	Existing	SCATS	0.697	41.2	D	E-RT	78.9	E	W-T	188.9
	2030	Base Case	No School		SCATS + optimised timing	0.759	33.3	C	E-RT	71.8	E	W-T	170.7
	2030	Dev Case	+School			0.807	37.3	D	E-RT	77.2	E	W-T	184.4
	2037	Base Case	No School			0.82	36.4	D	E-RT	73.2	E	W-T	204
	2037	Dev Case	+School			0.899	46.2	D	E-RT	85.3	F	W-T	257.1
	2037	Dev Case + Upgrade	+School	Extended short lane on north leg		0.899	43.7	D	E-RT	85.3	F	W-T	257.1

The tabulated results indicate a deterioration in intersection performance with the addition of development-generated traffic. The DoS increases from 0.820 in the 2037 Base Case to 0.899 in the 2037 Development Case, while average delay increases from 36.4 seconds to 46.2 seconds. Notwithstanding this deterioration, the overall intersection remains within the typically adopted operational threshold for a signalised intersection in the 2037 Development Case, with an overall LOS D.

The assessment identifies two short-lane queues that exceed the available storage as a result of the additional development-generated traffic:

- the north approach (Lakefield Drive) shared through/right-turn lane, where the 95th percentile queue increases from approximately 47.8m in the 2037 Base Case to 140.5m in the Development Case; and
- the east approach (Endeavour Boulevard) right-turn lane, where the 95th percentile queue increases from approximately 1.7m to 49.1m.

The proposed mitigation comprises extending the shared through/right-turn short lane on the north approach from approximately 48m to 60m. This reduces the predicted 95th percentile queue on the north approach from 140.5m to approximately 130.3m and reduces the overall intersection average delay from 46.2 seconds to 43.7 seconds. 150 metres is available between the intersection and Finnegan Drive, such that the modelled queue remains clear of the adjacent intersection.

The east approach right-turn queue is predicted to reach approximately 49m at the 95th percentile, compared with approximately 32m of dedicated turn-lane storage. While this represents some intermittent queueing beyond the dedicated storage, the SIDRA results indicate that the east approach continues to operate within acceptable overall performance limits and the exceedance is not expected to result in a material operational impact.

3.6.6 Finnegan Drive / Maddock Street – AM Peak

Intersection	Year	Scenario	School Status	Intersection Layout	Intersection			Worst Movement (delay)			Worst Movement (queue)	
					DOS	Avg Delay (s)	LOS	Mov.	Delay (s)	LOS	Mov.	95th %ile Queue (m)
Finnegan Drive / Maddock Street	2037	Dev Case	No School	Reconfigured as a single lane roundabout	0.238	3.1	A	N-RT	7.3	A	E-RT	10

Existing traffic volumes on Maddock Street are very low given its current dead-end configuration. Accordingly, detailed SIDRA assessment of the existing priority-controlled intersection was not considered necessary. The intersection has been assessed in SIDRA under 2037 development case demands for its proposed upgrade to a single-lane roundabout to provide access to the junior campus.

The results indicate that the proposed roundabout will operate within acceptable performance limits with the addition of development generated traffic in 2037.

Given the very low anticipated demands for the proposed ‘wombat’ pedestrian crossings on the western and northern legs, they are not expected to have any material impact on the operational performance of this roundabout.

Note: A review of the surveyed traffic data and estimation of development traffic generation indicates that the AM peak period represents the critical operating conditions for intersections in the surrounding road network to the proposed development. Assessment of the traffic impacts during the PM peak period has been undertaken for completeness. It is expected that the intersection upgrades proposed in the preceding AM peak section of this analysis will provide sufficient capacity to cater to PM peak demands. The following section specifically highlights areas where mitigations may be required for additional development traffic generated during the PM peak for the 2037 development case scenario.

3.6.7 Diamond Jubilee Way / Endeavour Boulevard – PM Peak

Intersection	Year	Scenario	School Status	Intersection Layout	Signals	Intersection			Worst Movement (delay)			Worst Movement (queue)	
						DOS	Avg Delay (s)	LOS	Mov.	Delay (s)	LOS	Mov.	95th %ile Queue (m)
Diamond Jubilee Way / Endeavour Boulevard	2025	Existing	No School	Existing	SCATS	0.812	36.9	D	W-RT	65.6	E	E-RT	115.7
	2030	Base Case	No School		SCATS + optimised timing	0.766	37.3	D	W-RT	65.2	E	E-RT	121.5
	2030	Dev Case	+School			0.807	37.9	D	W-RT	68.4	E	E-RT	121.5
	2037	Base Case	No School			0.818	38.4	D	W-RT	66.8	E	E-RT	134.8
	2037	Dev Case	+School			0.871	45.7	D	S-RT	72.1	E	S-LT	162
	2037	Dev Case + Upgrade 1	+School	Added west leg right turn lane		0.871	43.4	D	S-RT	72.1	E	S-RT	153.6
	2037	Dev Case + Upgrade 2	+School	As above + converted full stage crossing		0.871	43.4	D	S-RT	72.1	E	S-RT	153.6

The tabulated results indicate that the intersection is expected to operate within acceptable performance limits across all 2037 scenarios. Although there is a minor increase in the performance statistics from the base case to the development case (including the upgrade options), there is no significant worsening and additional mitigations measures for the PM peak are not required.

3.6.8 Plantation Road / Endeavour Boulevard – PM Peak

Intersection	Year	Scenario	School Status	Intersection Layout	Intersection			Worst Movement (delay)			Worst Movement (queue)	
					DOS	Avg Delay (s)	LOS	Mov.	Delay (s)	LOS	Mov.	95th %ile Queue (m)
Plantation Road / Endeavour Boulevard	2025	Existing	No School	Existing	0.396	6.7	A	S-RT	14.8	B	S-LT	19
	2030	Base Case	No School		0.422	6.9	A	S-RT	15	B	S-LT	20.8
	2030	Dev Case	+School		0.443	6.9	A	S-RT	15	B	S-LT	22.5
	2037	Base Case	No School		0.458	7.1	A	S-RT	15.2	B	S-LT	23.6
	2037	Dev Case	+School		0.577	7.5	A	S-RT	15.5	B	S-LT	34.5
	2037	Dev Case + Upgrade 1	+School	Modified lane discipline on west leg	0.576	7.4	A	S-RT	15.5	B	S-LT	34.4
	2037	Dev Case + Upgrade 2	+School	As above + left slip lane on west leg	0.575	7.1	A	S-RT	15.5	B	S-LT	34.4
	2037	Dev Case + Upgrade 3	+School	As above + redistribution of traffic due to direct school access off relocated Archer Close roundabout (i.e. reduced U-turn volumes on south leg)	0.563	7	A	S-RT	15.5	B	S-LT	33.2

The tabulated results indicate that the intersection is expected to operate within acceptable performance limits across all 2037 scenarios. Although there is a minor increase in the performance statistics from the base case to the development case (including the upgrade options), there is no significant worsening and additional mitigations measures for the PM peak are not required.

3.6.9 Archer Close / Endeavour Boulevard – PM Peak

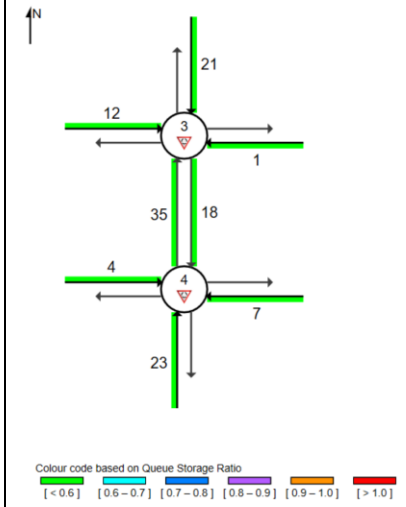
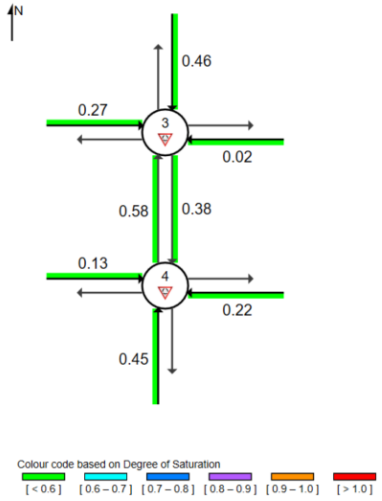
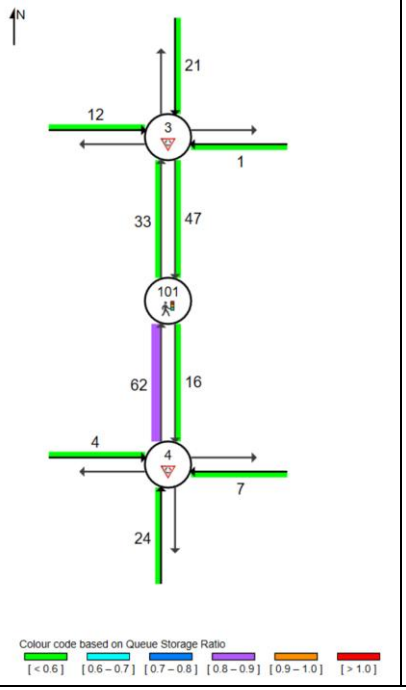
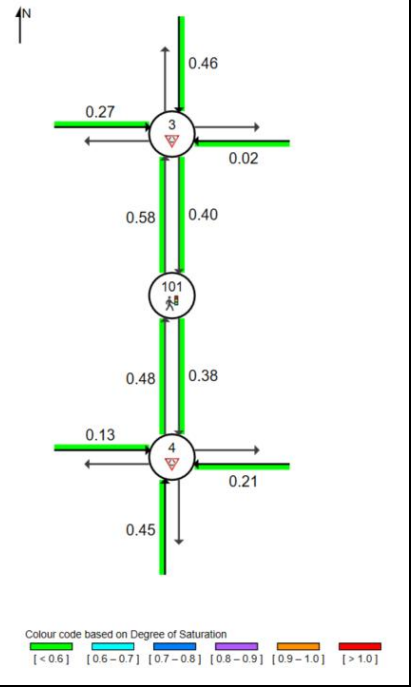
Intersection	Year	Scenario	School Status	Intersection Layout	Intersection			Worst Movement (delay)			Worst Movement (queue)	
					DOS	Avg Delay (s)	LOS	Mov.	Delay (s)	LOS	Mov.	95th %ile Queue (m)
Archer Close / Endeavour Boulevard	2025	Existing	No School	Existing	0.305	3.8	A	W-RT	10	B	N-T	12.8
	2030	Base Case	No School		0.321	3.8	A	W-RT	10.2	B	N-T	13.8
	2030	Dev Case	+School		0.339	3.8	A	W-RT	10.3	B	N-T	14.9
	2037	Base Case	No School		0.343	3.8	A	W-RT	10.4	B	N-T	15.1
	2037	Dev Case	+School		0.453	4.7	A	N-UT	11.9	B	N-T	22.8
Archer Close / Endeavour Boulevard / Senior School Access	2037	Dev Case + Upgrade 1	+School	Relocated Archer Close roundabout with new school access on east leg	0.446	5.3	A	W-RT	13.4	B	S-LT	20.9

A conversion of the relocated Archer Close / Endeavour Boulevard roundabout to signals was also tested for the PM peak, primarily to enable protected pedestrian crossing movements between the existing bus stop on Endeavor Boulevard south of Plantation Road.

Intersection	Year	Scenario	School Status	Intersection			Worst Movement (delay)			Worst Movement (queue)	
				DOS	Avg Delay (s)	LOS	Mov.	Delay (s)	LOS	Mov.	95th %ile Queue (m)
Archer Close / Endeavour Boulevard / Senior School Access	2037	Option 1: 2 approach lanes at school access, pedestrian crossings on north, east and west legs	+School	0.818	35.6	D	S-RT	77.4	E	S-LT	172.9
		Option 2: as above + dedicated left turn lane on north leg	+School	0.811	33.7	C	S-RT	75.9	E	S-LT	167.1
		Option 3: as above + pedestrian crossing on south leg instead of north leg	+School	0.792	24.6	C	W-RT	74.7	E	S-LT	112.1

The tabulated results indicate that the proposed signalised intersection is expected to operate within acceptable performance limits for all options. Unlike the AM peak, there is no queue spillback onto the upstream intersection.

As with the AM peak analysis, an option was tested where a midblock staged (signalised) pedestrian crossing is placed between the Plantation Road / Endeavour Boulevard intersection and the proposed 4-leg relocated roundabout of Archer Close / Endeavour Boulevard / School Access.

Without Staged Midblock Pedestrian Crossing		With Staged Midblock Pedestrian Crossing	
95th Percentile Queue Length (m)	DOS	95th Percentile Queue Length (m)	DOS
			

Intersection	Year	Midblock Crossing	School Status	Scenario	Intersection			Worst Movement (delay)			Worst Movement (queue)	
					DOS	Avg Delay (s)	LOS	Mov.	Delay (s)	LOS	Mov.	95th %ile Queue (m)
Plantation Road / Endeavour Boulevard	2037	No	+School	Plantation Road roundabout with left slip lane + changed lane discipline	0.576	6.9	A	S-RT	15.7	B	S-RT	35.5
		Yes	+School		0.576	6.9	A	S-RT	15.7	B	S-RT	32.7
Archer Close / Endeavour Boulevard / School Access		No	+School	Relocated Archer Close roundabout with direct school access leg	0.446	5.3	A	W-RT	13.6	B	S-LT	23.3
		Yes	+School		0.445	5.1	A	W-RT	13.6	B	S-LT	23.7
Midblock Crossing		Yes	+School	Staged signalised crossing, 75m north of Archer Close	0.482	4.2	A	S-T	4.4	A	S-T	62

The tabulated results indicate that all intersections for the proposed midblock crossing option are expected to operate within acceptable performance limits with the addition of development generated traffic in 2037.

3.6.10 Mason Street / Endeavour Boulevard – PM Peak

Intersection	Year	Scenario	School Status	Intersection Layout	Signals	Intersection			Worst Movement (delay)			Worst Movement (queue)	
						DOS	Avg Delay (s)	LOS	Mov.	Delay (s)	LOS	Mov.	95th %ile Queue (m)
Mason Street / Endeavour Boulevard	2025	Existing	No School	Existing	SCATS	0.519	12.5	B	E-RT	75.8	E	E-T	61.1
	2030	Base Case	No School		SCATS + optimised timing	0.548	12.6	B	E-RT	75.8	E	E-T	65.2
	2030	Dev Case	+School			0.578	12.8	B	E-RT	75.8	E	E-T	72.5
	2037	Base Case	No School			0.578	12.8	B	E-RT	75.8	E	E-T	71.2
	2037	Dev Case	+School			0.659	13.3	B	E-RT	75.8	E	E-T	91.9

The tabulated results indicate that the intersection is expected to operate within acceptable performance limits with the addition of development generated traffic in 2037.

3.6.11 Lakefield Drive / Endeavour Boulevard – PM Peak

Intersection	Year	Scenario	School Status	Intersection Layout	Signals	Intersection			Worst Movement (delay)			Worst Movement (queue)	
						DOS	Avg Delay (s)	LOS	Mov.	Delay (s)	LOS	Mov.	95th %ile Queue (m)
Lakefield Drive / Endeavour Boulevard	2025	Existing	No School	Existing	SCATS	0.635	30.6	C	E-RT	74.7	E	E-T	86.6
	2030	Base Case	No School		SCATS + optimised timing	0.666	31.2	C	E-RT	75.7	E	E-T	92.9
	2030	Dev Case	+School			0.73	33.7	C	E-RT	78.3	E	E-T	92.9
	2037	Base Case	No School			0.713	32	C	E-RT	77	E	E-T	102.3
	2037	Dev Case	+School			0.73	48.8	D	E-RT	79.9	E	E-T	156.7
	2037	Dev Case + Upgrade	+School	Extended right turn lane on north leg		0.713	46.2	D	E-RT	78.9	E	E-T	153.1

The tabulated results indicate that the intersection is expected to operate within acceptable performance limits with the addition of development generated traffic in 2037.

3.6.12 Finnegan Drive / Maddock Street – PM Peak

Intersection	Year	Scenario	School Status	Intersection Layout	Intersection			Worst Movement (delay)			Worst Movement (queue)	
					DOS	Avg Delay (s)	LOS	Mov.	Delay (s)	LOS	Mov.	95th %ile Queue (m)
Finnegan Drive / Maddock Street	2037	Dev Case	No School	Reconfigured as a single lane roundabout	0.211	3.2	A	N-RT	6.8	A	E-RT	9.1

The tabulated results indicate that the intersection is expected to operate within acceptable performance limits with the addition of development generated traffic in 2037.

3.7 Impact on Environmental Capacity of Local Streets Near Junior Campus

Existing surveyed traffic and estimated development generated traffic flows on the local streets near the Junior School access driveway are tabulated below.

A number of assumptions are included in this assessment, including the conversion factor for existing peak hour traffic to daily traffic, the conversion factor for AM peak school traffic to daily traffic, and the environmental capacity limit for different types of roads. Given the lack of information in this regard within the current MBC planning scheme, the adopted environmental capacity limits are based on Brisbane City Council limits, which are considered an appropriate alternative source given the geographic proximity and currency of these standards.

Table 3-7: Environmental Capacity Assessment

Road Section	Surveyed (2025) AM / PM Peak Hour Traffic	Estimated 2025 Daily Traffic (≈5 x combined peaks)	Estimated Daily Traffic in 2037 (1% pa growth except Maddock St which has zero growth potential)	Estimated Development Generated Traffic (≈2.5 x AM peak)	Estimated Total Daily Traffic	Assumed Environmental Capacity
Maddock St (west of driveway)	12 / 24 vph	180 vpd	180 vpd	0vpd	180 vpd	1000vpd
Maddock St (east of driveway)	12 / 24 vph	180 vpd	180 vpd	1450 vpd	1630 vpd	1000vpd
Finnegan Dve (south of Maddock St)	264 / 219 vph	2415 vpd	2720vpd	1450 vpd	4170 vpd	3000vpd
Lakefield Dve (east of Finnegan Dr)	Unknown	Assumed < 3035vpd, say 2400vpd	2460	185 vpd	2645 vpd	3000vpd
Lakefield Dve (north of Endeavour Boulevard)	288 / 319 vph	3035 vpd	3420	1265 vpd	4685 vpd	6000vpd

The tabulated data above indicates that in general these local roads will operate within the desirable environmental capacity applicable to the relevant type of road.

The exceptions to this are the short section of Maddock Street between the access driveway, and Finnegan Drive south of Maddock Street, discussed further below.

Maddock Street: the affected section of this street is between the proposed access driveway, and the proposed roundabout at the intersection of Maddock Street and Finnegan Drive, however given the very short length of road affected, the low vehicle speeds and the general lack of adjacent development, it is not considered a significant issue, assuming appropriate design of the new roundabout. The width of this section of Maddock Street is currently limited to 6m, and the appropriateness of this cross section has been queried by MBC. Given in change to the carriageway width would essentially be retrofitting an existing street, *SC6.13 Planning Scheme Policy - Integrated Design* nominates an appropriate carriageway width of 6.6m with an adjacent verge width of 3.5m. A carriageway widening of 0.6m is possible. The resultant width of the northern verge would be 3.12m, and whilst less than the 3.5m nominated in the PSP, is considered

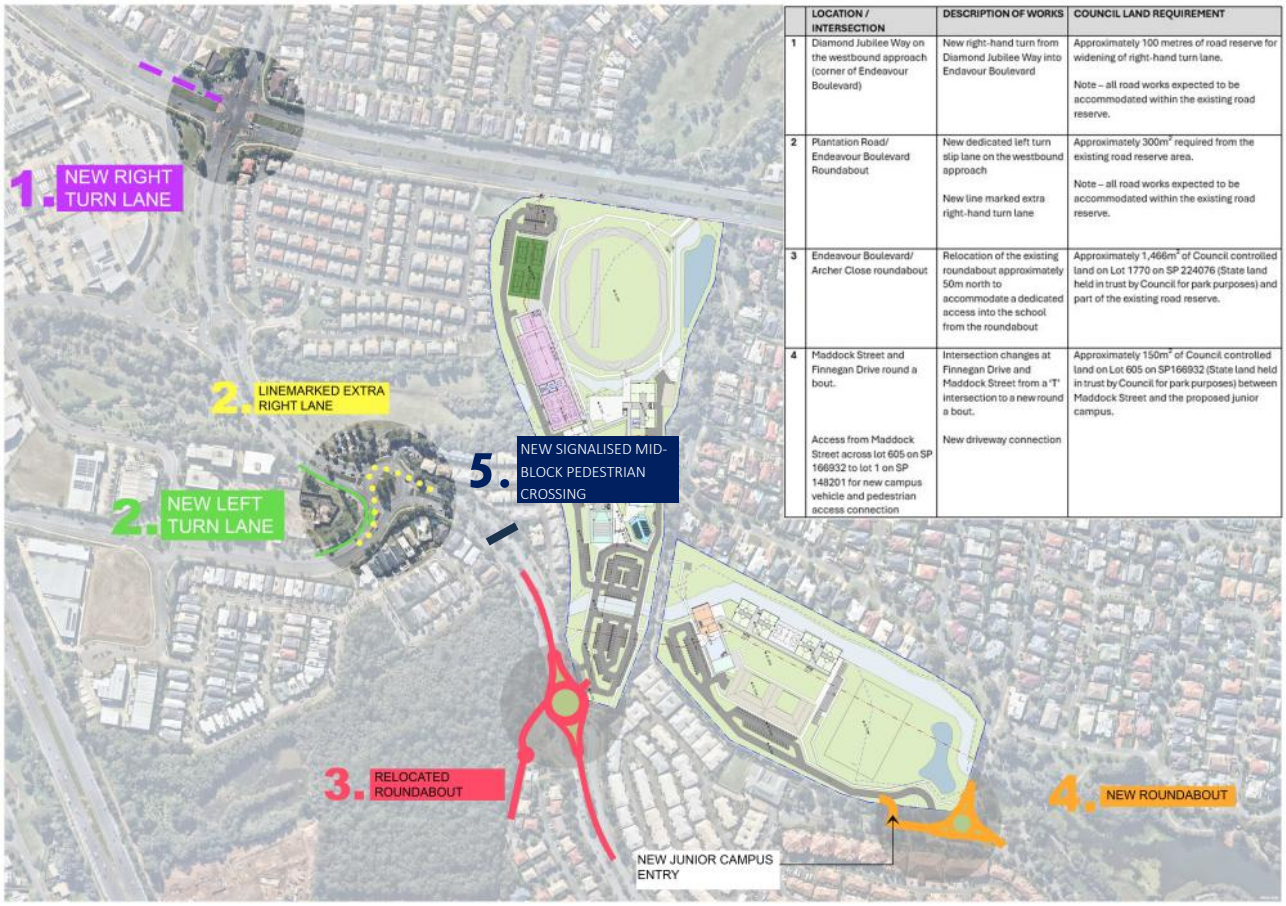
viable given that the adjacent pedestrian / cycle path is not located within the verge, but within the adjacent linear park.

Finnegan Drive: The width of the carriageway on this section of road is 7.5m, which is sufficient for this class of road. However, kerbside parking is currently unrestricted on both sides of the road, which, if utilised to any great degree, limits the effective road capacity. Consequently, it is recommended that parking restrictions on both sides of the road be considered during both morning and afternoon school peak hours on school days.

It should be noted, however, that review of *Nearmap* aerial imagery spanning the last 10 years indicates only very limited kerbside parking demand on this road section, primarily limited to intermittent use of the southern side of the eastern end of the road, and consequently, these proposed restrictions should have minimal impact on local amenity.

4 External Road Network Enhancements

As a result of the analysis presented in the previous section, there are numerous network upgrades As a result of the assessment presented in Section 3, a number of external road network upgrades and associated management measures are proposed to mitigate the operational and safety impacts of development-generated traffic.



	LOCATION / INTERSECTION	DESCRIPTION OF WORKS	COUNCIL LAND REQUIREMENT
1	Diamond Jubilee Way on the westbound approach (corner of Endeavour Boulevard)	New right-hand turn from Diamond Jubilee Way into Endavour Boulevard	Approximately 100 metres of road reserve for widening of right-hand turn lane. Note – all road works expected to be accommodated within the existing road reserve.
2	Plantation Road/ Endeavour Boulevard Roundabout	New dedicated left turn slip lane on the westbound approach New line marked extra right-hand turn lane	Approximately 300m^2 required from the existing road reserve area. Note – all road works expected to be accommodated within the existing road reserve.
3	Endeavour Boulevard/ Archer Close roundabout	Relocation of the existing roundabout approximately 50m north to accommodate a dedicated access into the school from the roundabout	Approximately 1,466m^2 of Council controlled land on Lot 1770 on SP 224076 (State land held in trust by Council for park purposes) and part of the existing road reserve.
4	Maddock Street and Finnegan Drive round a bout. Access from Maddock Street across lot 605 on SP 166932 to lot 1 on SP 148201 for new campus vehicle and pedestrian access connection	Intersection changes at Finnegan Drive and Maddock Street from a "T" intersection to a new round a bout. New driveway connection	Approximately 150m^2 of Council controlled land on Lot 605 on SP166932 (State land held in trust by Council for park purposes) between Maddock Street and the proposed junior campus.

Figure 4-1: Proposed Transport Network Enhancements

1) An additional (second) right-turn lane is proposed from Diamond Jubilee Way (west) into Endeavour Boulevard (south). The additional lane appears capable of being accommodated within the existing central median. A preliminary swept-path assessment, shown in Figure 4-2, indicates that simultaneous turning of a passenger vehicle and an articulated vehicle is likely to be achievable. The final arrangement will be subject to confirmation through detailed geometric, swept-path, pedestrian, signal and signal-phasing design.

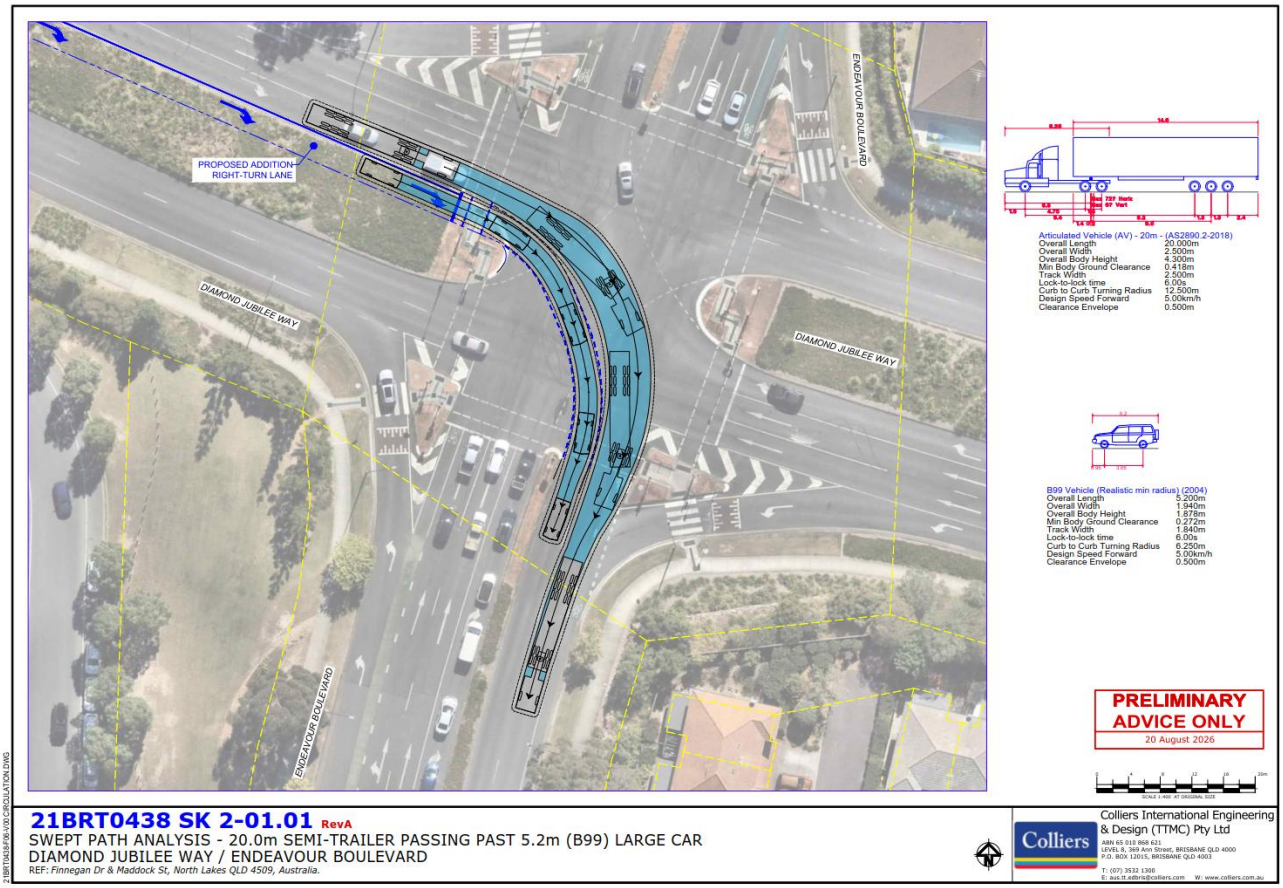


Figure 4-2: Preliminary Swept Path Assessment of Dual Right Turn Lanes

2) The lane discipline on the Plantation Road approach to the Plantation Road / Endeavour Boulevard roundabout is proposed to be modified such that the left-hand approach lane accommodates all movements, including right-turn movements. A separate left-turn slip lane is also proposed from Plantation Road into Endeavour Boulevard (north). The detailed design of the slip lane will appropriately accommodate pedestrian and cyclist movements, including consideration of crossing location and form, pedestrian and cyclist desire lines, vehicle approach speeds and available sight distance. A crossing location further west along Plantation Road, closer to the existing commercial development, may provide a preferable outcome and will be investigated as part of detailed design. The final arrangement will ensure appropriate sight lines are maintained and pedestrian and cyclist movements are safely accommodated.
3) In order to facilitate all-movements access into the senior campus from Endeavour Boulevard, it is proposed that the roundabout at Archer Close be relocated approximately 50 metres further north. A new eastern approach will provide two-way access to the senior campus. Modifications will also be required to the Archer Close approach on the western side of the roundabout.
4) To facilitate efficient access to the junior campus, a new single-lane roundabout is proposed at the Finnegan Drive / Maddock Street intersection. As part of these works, raised pedestrian crossings

(wombat crossings) are proposed on the northern and western approaches, generally consistent with the locations of the existing informal crossing points.
Whilst not included in the Sidra modelling, their locations (west of the driveway where there is only very minimal car traffic and north of the roundabout, where there is only very limited school traffic) plus the limited pedestrian demand, will ensure minimal impact on roundabout operation.
As discussed in Section 3.7, a minor carriageway widening of Maddock Street (by 0.6m) is proposed, resulting in a 6.6m wide carriageway and a northern verge width of 3.12m. Whilst the latter figure is less than the 3.5m nominated in the PSP, is considered viable given that the adjacent pedestrian / cycle path is not located within the verge, but within the adjacent linear park.

5) To provide a safe pedestrian crossing facility to the north of the Endeavour Boulevard / Archer Close roundabout, a midblock staged (signalised) pedestrian crossing is proposed south of Plantation Road. This will assist in addressing an existing network shortcoming, and also accommodate the modest pedestrian demands expected from the school.
6) At the Lakefield Drive / Endeavour Boulevard intersection, the existing shared through/right-turn short lane on the northern Lakefield Drive approach is proposed to be extended from approximately 48m to 60m by modification to the existing chevroned median. The upgrade is intended to improve the operation and available storage of the north approach under the 2037 development traffic demands and reduce the potential for queueing to extend towards the nearby Finnegan Drive intersection.
7) In addition to the physical works described above, supporting traffic-management measures are proposed as part of the overall transport strategy. These include implementation of school speed zones on Endeavour Boulevard, Maddock Street and Finnegan Drive, together with targeted school-peak parking restrictions on Finnegan Drive and No Stopping restrictions along the relevant section of Maddock Street. These measures are discussed further in Sections 3.7, 5.4.1 and 6.4.

5 Car and Bus Parking Arrangements

5.1 Car Parking Overview

Car parking supply will be provided generally in accordance with the Queensland Governments '*Planning for Safe Transport Infrastructure at Schools*', which also provides guidance on layout. Parking geometry will comply with AS2890.1 and AS2890.6. The numerous different users of on-site parking will be provided with dedicated parking areas with the location and configuration tailored to the differing needs.

- Long term parking for staff.
  A large proportion of the staff parking is likely to be located more remotely from the school buildings to ensure student access is prioritised in terms of reduced travel distance and safe movement. Given the relative areas of the two campuses, the majority of the junior campus staff parking will actually be located on the senior campus, however pedestrian routes will be provided to provide a safe and convenient route for affected staff. These dedicated parking spaces will be no less than 2.4m wide.

- Short term parking for parents and visitors.
  These will be provided in closer proximity to the respective campus buildings. Dedicated pedestrian routes from the parking areas to the campus proper will be provided, inclusive of pedestrian zebra crossings where appropriate. This parking will be arranged on one-way aisles where appropriate, in order to maximise efficiency of circulation and safety, and minimise conflicting vehicle movements. These spaces will be a minimum of 2.6m wide.

- Escorted student parking (prep and pre-prep students).
  Given the need to escort younger students to the front door, the junior campus will include parking essentially at the front door, allowing parents to accompany them into the buildings, whilst crossing no more than one traffic aisle, with spaces being a minimum of 2.6m wide.

- PWD parking
  PWD parking will be provided in close proximity to the relevant building entrances and, where possible, will avoid the need for users to cross traffic aisles.

- Student pick-up / drop-off
  In addition to the car parking facilities, linear student pick-up / drop-off (PUDO) zones will be provided on both senior and junior campuses, of sufficient size to accommodate anticipated demand. The design will ensure efficiency of movement and safety of students by being located immediately adjacent to the pedestrian entry to the campus proper. Loading / unloading will primarily occur on the passenger-side of the car, and the adjacent circulation aisle will have one-way operation. Provision for use by PWDs will be made, however this will not include exclusive use bays.

5.2 Car and Bus Parking Supply Requirement

On site car parking requirements for the school have been calculated largely based on the recommendations of the DTMR *Planning for Safe Transport Infrastructure at Schools*. The exception to this is the pre-prep facility where MBC parking rates applicable to a child-care centre have been applied.

Table 5-1: Car Parking Supply Requirement

User	Students	Staff #1	Car Parking #2			
			Long Term / Staff Parking (= 70% x Staff)	Short Term / Visitor Parking (= 1per 15 students)	PUDO Spaces (= 20% of Short Term Spaces)	Total
Pre-Prep	75	11	11 #3	15 #3	na	26
Prep	75	11	8	5	8	104
Primary School	500	71	50	33		
Secondary School	900	129	90	60	12	162
Total	**1550**	**222**	**159**	**113**	**20**	**292**

#1 based on *My School* data for total students & FTE staff (both teaching and non-teaching) at 7 major SEQ private schools = 1per 7 students
#2 rates from DTMR Planning for Safe Transport Infrastructure at Schools. This does not differentiate between year levels. Not used for pre-prep - see note 3
#3 parking rates from MBRC planning scheme for Child Care Centre = 1/staff + 1/5 students

It should be noted however, that given the relative space available to accommodate this parking, it has been necessary to locate the vast majority of staff car parking associated with the junior campus (as well as that of the senior campus) on the grounds of the senior campus, with pedestrian connects to facilitate movement of staff as required.

The simplified parking requirements by campus, compared to the proposed parking supply are tabulated below, whilst the location of these various parking is shown in Figure 5-1.

Table 5-2: Parking Requirements vs Proposed Car Parking Supply

User	Car Parking			
	Long Term (Staff) Parking	Short Term (Visitor) Parking	PUDO Spaces	Total
Junior Campus	69 proposed #1 (vs 69 required)	56 proposed (vs 53 required)	10 proposed (vs 8 required)	135 proposed (vs 130 required)
Senior Campus	116 proposed (vs 90 required)	66 proposed (vs 60 required)	12 proposed (vs 12 (required)	194 proposed (vs 162 required)
Total	**185 proposed (vs 159 required)**	**122 proposed (vs 113 required)**	**22 proposed (vs 20 required)**	**329 proposed (vs 292 required)**

#1 = only 10 of these located on the Junior Campus, the balance located on the Senior Campus.

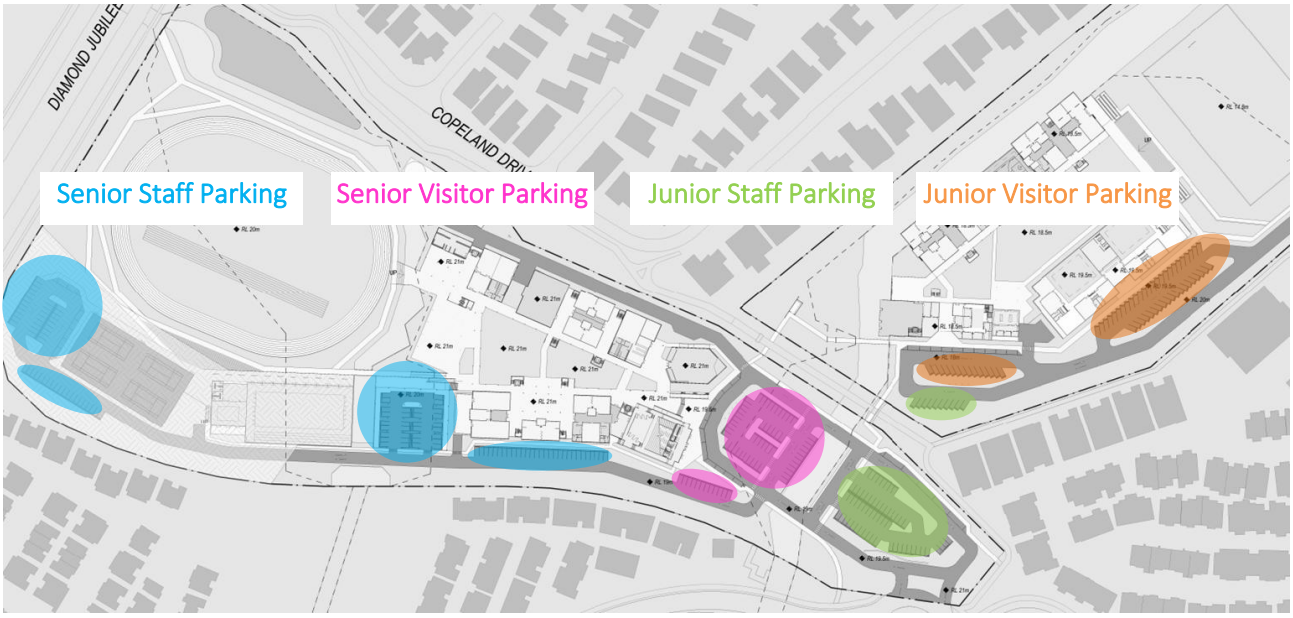


Figure 5-1: Proposed Location of Different Parking Types

With respect to the appropriate number of bus bays, whilst there is no definitive number nominated in the DTMR guideline, it is typical for a school of this size to be provided with between 4 and 6 spaces for private buses.

The proposal includes 4-5 bays for shared use between the two campuses. Refer to Section 5.3.1 (5) for further commentary.

5.3 Senior Campus

5.3.1 Car and Bus Parking Layout and Operation

Car and bus parking within the senior campus can essentially be divided into five areas, both geographically and functionally.

1) The junior campus staff (long term) car park is located at the southern tip of the senior campus, allowing convenient access to staff cars soon after entering the site from the roundabout. Staff vehicle movements will, to a large degree, be prior to the peak student arrival period in the morning, and after the students leave in the afternoon, and consequently when the student arrival / departure peaks occur, there should be only minimal activity associated with this staff car park. This minimises conflicts, and maximises queue storage (prior to the visitor car park and PUDO zone). Staff access to this car park does not require them to circulate through the broader car park, or anywhere near the student PUDO zone.
2) The senior campus staff (long term) car park parking areas are distributed along the 'western service road' in numerous locations adjacent to the western boundary including limited basement parking under the netball / basketball courts. As previously noted, most activity in these parking areas will be outside student arrival / departure peaks. To ensure that car movement to / from these parking spaces is as efficient as possible, it is recommended that these parking spaces be allocated to specific staff members to minimise 'search and circulation'.
3) Visitor / parent (short term) car parking will be located immediately north of the junior staff car parking area, but physically separated from it by the waterway corridor. This parking area is deep within the site, maximising queue storage distance between it and the entry roundabout. Cars using this can both enter and exit from / to the main circulation road without needing to travel through the adjacent PUDO zone. Pedestrian connections will facilitate student movement from this car park into the school without traveling across the PUDO zone, maximising safety whilst minimising operational impacts on the PUDO.
   The likelihood of overspill parking on surrounding streets is considered low, noting that the proposal provides 329 on-site car parking spaces compared with a calculated requirement of 292 spaces, representing a surplus of 37 spaces, together with only limited lawful kerbside parking opportunities in proximity to the senior campus. The previously proposed access from Diamond Jubilee Way has been removed, and suitable fencing etc will be provided along this frontage. Given the existing higher speed / limited access conditions on Diamond Jubilee Way, the potential for student pick up / drop-off here is considered insignificant, and will be actively discouraged.
4) Pick Up-Drop Off (PUDO) zone is located at the northern end of the main staff and visitor carparks, and immediately adjacent to the built-form campus. Students alight from their cars on the passenger side and can enter directly into the school without the need to cross any traffic aisles or interact with vehicles in any way. The 12 uninterrupted spaces located in the PUDO allow it to operate in a free-flowing manner where capacity and efficiency are optimised.
5) The bus zone is located in the south-east corner of the site. This location is essentially at the interface between the senior and junior campuses, permitting use by students attending either. It is

proposed that all large buses servicing either campus will use this facility. The design will ensure safety of students by being located immediately adjacent a dedicated passenger loading / unloading area with pedestrian paths into both campuses being free of any road crossings. The bus route to this facility avoids the short-term parking and student PUDO areas by using a dedicated internal connection through the car park immediately north of the main staff parking area. This location adjacent the junior staff car park minimises interaction with any turning car traffic that might impact on bus operations, and also minimises the transit distance of buses inside the site.

On the current plans, the entire zone is approximately 64m long, providing sufficient space for 4-5 buses, depending on vehicle size, however as per the figure below, with minor a minor extension at the southern end, five standard (ie 65 seat) buses can be accommodated in the passenger loading bays, with up to four additional buses stacking in the transverse aisle clear of circulating car traffic. This transverse aisle will be one-way, and restricted for use by staff and buses. The figure also shows that with minor modifications to the kerb alignments, a standard 12.5m bus can traverse the car park (note that the figure shows a truck, however the manoeuvring characteristics are identical to a bus).

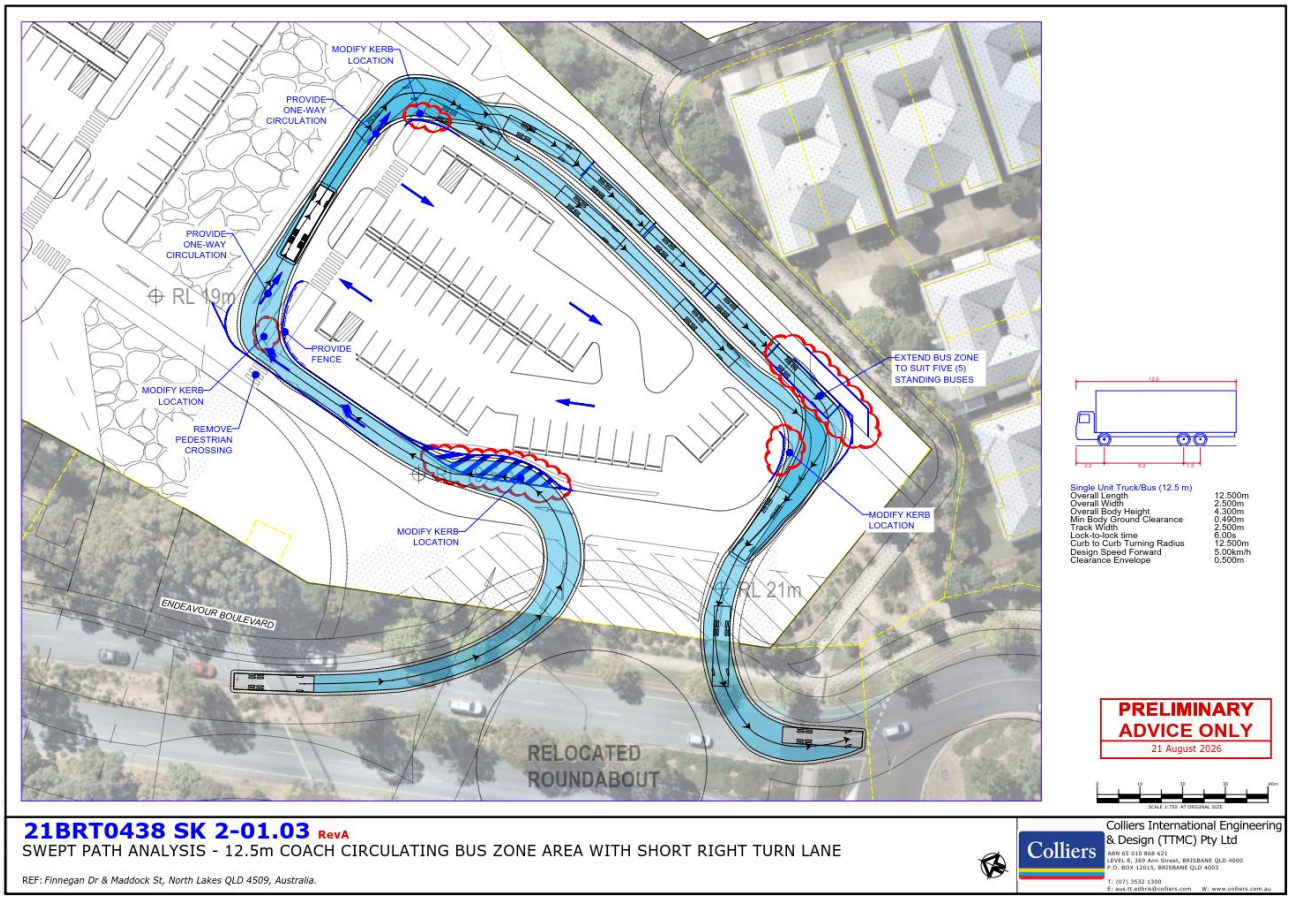


Figure 5-2: Recommended Geometry Modifications and Bus Swept Path

5.3.2 Car Park Queue Assessment

Approximately 96m of internal queue storage is provided within the site between the roundabout and the start of the short-term visitor car park / PUDO, enough to store at least 16 cars. The addition of a dedicated right turn lane into the short-term visitor car park will increase this to 20 cars. This compares to the recommended minimum of 9-10 cars for this sized carpark (DTMR *Planning for Safe Transport Infrastructure at Schools, Figure 8*), and as such is considered adequate to eliminate the risk of queuing extending beyond the site boundary and onto the external road.

An assessment of the potential for queuing from the start of the short-term parking / PUDO has been carried out to understand the potential for this queue to extend back into the roundabout. Two scenarios were assessed 1) with arrival spread consistently over the peak hour, and 2) with 2/3 of the peak hour arrivals concentrated into 30 minutes. This latter scenario represents a much more concentrated peak, which is sometimes experienced at schools.

The adopted service rates were:

a) For the short-term parking: These spaces will be signposted with a 15-minute parking limit, and as such a minimum service rate of 4vph per space is provided, however a more realistic figure of 5vph per space has been adopted for the AM peak, reflective of cars not parking for the full permitted duration.
   A reduced rate of 4vph per space has been adopted for the PM peak reflecting increased dwell times.

b) For the PUDO zone: These spaces will be signposted with a 5-minute parking limit, and as such a minimum service rate of 12vph per space is provided, however a more realistic figure of 15vph per space has been adopted for the AM peak, reflective of cars not parking for the full permitted duration.
   A reduced rate of 10vph per space has been adopted for the PM peak reflecting increased dwell times.

The greatest estimated queuing (95th percentile), based on these inputs, is in the AM compressed peak hour scenario, and equates to 8 cars, well within the capacity of the internal driveway between the property boundary and the entry to the PUDO / short term car park (ie more than 40m of unutilised queue storage remaining).

Table 5-3: Senior Campus Internal Entry Queue Estimate, AM Peak

AM Peak - Arrivals Consistant Over 1 Hour

Inputs:		
Max Site Arrival Rate (r) =	266	vph (in)
Service Rate at entry to PUDO / S.T. parking =	510	per hour
No. of Approach Lanes =	1	lane

Description	Num	Service Rate per Hr	Total Hourly Service Rate
Short Term Parking Spaces	66	5	330
PUDO Spaces	12	15	180
			510

Calculations		
Avg Service time =	0.12	min
Avg Site Service Rate (s) =	510	vph
Utilisation Factor (p) =	0.522	= r/s

Percentile Queue Calculation

The probability of there being more than N units in the system is determined by:

Equation: $p^{(N+1)} < A$

N = Total no. vehicles including those being serviced.

A = Probability factor

Probability Factor	A	$p^{(N+1)}$	N
95th	0.05	0.051	3.6

AM Peak - Sensitivity Test- 66.6% Arrive in 30 mins

Inputs:			
Max Site Arrival Rate (r) =	355	vph (in)	equiv to 67% arriving in 30 mins
Service Rate at entry to PUDO / S.T. parking =	510	per hour	
No. of Approach Lanes =	1	lane	

Description	Num	Service Rate per Hr	Total Hourly Service Rate
Short Term Parking Spaces	66	5	330
PUDO Spaces	12	15	180
			510

Calculations		
Avg Service time =	0.12	min
Avg Site Service Rate (s) =	510	vph
Utilisation Factor (p) =	0.695	= r/s

Percentile Queue Calculation

The probability of there being more than N units in the system is determined by:

Equation: $p^{(N+1)} < A$

N = Total no. vehicles including those being serviced.

A = Probability factor

Probability Factor	A	$p^{(N+1)}$	N
95th	0.05	0.050	7.2

Table 5-4: Senior Campus Internal Entry Queue Estimate, PM Peak

PM Peak - Arrivals Consistant Over 1 Hour

Inputs:		
Max Site Arrival Rate (r) =	105	vph (in)
Service Rate at entry to PUDO / S.T. parking =	384	per hour
No. of Approach Lanes =	1	lane

Description	Num	Service Rate per Hr	Total Hourly Service Rate
Short Term Parking Spaces	66	4	264
PUDO Spaces	12	10	120
			384

Calculations		
Avg Service time =	0.16	min
Avg Site Service Rate (s) =	384	vph
Utilisation Factor (p) =	0.273	= r/s

Percentile Queue Calculation

The probability of there being more than N units in the system is determined by:

Equation: $p^{(N+1)} < A$

N = Total no. vehicles including those being serviced.

A = Probability factor

Probability Factor	A	$p^{(N+1)}$	N
95th	0.05	0.050	1.3

PM Peak - Sensitivity Test- 66.6% Arrive in 30 mins

Inputs:			
Max Site Arrival Rate (r) =	140	vph (in)	equiv to 67% arriving in 30 mins
Service Rate at entry to PUDO / S.T. parking =	384	per hour	
No. of Approach Lanes =	1	lane	

Description	Num	Service Rate per Hr	Total Hourly Service Rate
Short Term Parking Spaces	66	4	264
PUDO Spaces	12	10	120
			384

Calculations		
Avg Service time =	0.16	min
Avg Site Service Rate (s) =	384	vph
Utilisation Factor (p) =	0.365	= r/s

Percentile Queue Calculation

The probability of there being more than N units in the system is determined by:

Equation: $p^{(N+1)} < A$

N = Total no. vehicles including those being serviced.

A = Probability factor

Probability Factor	A	$p^{(N+1)}$	N
95th	0.05	0.049	2.0

5.3.3 Car and Bus Parking Geometry

Table 5-5 identifies the characteristics of the proposed parking layout, with respect to the design provisions of AS2890.1:2004 and AS2890.6:2022.

Table 5-5: AS2890 Parking Design Requirements and Proposed Provisions

Design Aspect	AS2890 Requirement	Proposed Provision	Compliance
Car Parking			
Car Parking space length (min): – Car space – PUDO	 5.4m (min) 6.0m (min)	 5.4m (min) 6.0m (min)	 Compliant Compliant
Car Parking space width (min): – Long term (staff) parking – Short Term (visitor) – PWD spaces – PUDO	 2.4m 2.6m 2.4m (min) + 2.4m 'shared area' 2.5m (min)	 2.5m 2.6m 2.4m + 2.4m 'shared area' 2.5m (min)	 Compliant Compliant Compliant Compliant
Aisle widths: Main circulation aisle (1-way) Parking aisles (2-way)	 6.5m 6.2m (min)	 8m (min) #1 6.5m (min)	 Compliant Compliant

#1 Significant opportunity exists to reduce this width, based on operational considerations, including bus swept paths.

The proposed car park layout generally complies with the requirements of AS2890.1:2004 and AS2890.6:2022 and is therefore considered appropriate from a transport engineering perspective.

Regarding bus parking geometry, the preliminary design includes a linear bus parking zone approximately 64m long and 3.2m wide, providing sufficient space for 4-5 buses, depending on vehicle size. The modifications proposed in Section 5.3.1 (5) would allow for five standard (ie 65 seat) buses to be accommodated in the passenger loading bays, with up to four additional buses stacking in the transverse aisle clear of circulating car traffic.

The closest public bus stops are located on Endeavour Boulevard (<100m south of Plantation Road), with pedestrian access via adjacent footpaths on both sides of the road. To facilitate movement between the school (east of Endeavour Boulevard) and the existing bus stop on the far side of the road, a mid-block pedestrian crossing is proposed, as discussed in Section 4, and modelled in Section 3.

5.4 Junior Campus

5.4.1 Car Parking Layout and Operation

Only 10 long-term staff parking spaces are provided on the junior campus, with the remaining junior campus staff parking provided on the grounds of the senior campus. Accordingly, appropriate parking allocation is made on the senior campus for use by junior campus staff, and dedicated pedestrian connections provide a direct and convenient link between the two campuses

Consequently, the majority of car parking provided on the junior campus is allocated as short term visitor / parent parking, and is arranged in a generally linear arrangement along the southern edge of the campus. One part is located directly in front of the primary school buildings and the other in front of the Prep/Pre-Prep buildings. Both parking areas are configured as one-way loops, and allow simple recirculation and movement between the two components if necessary.

The Pick Up-Drop Off (PUDO) zone is located at the far western end of the car park, directly in front of the main primary school buildings. Students alight from their cars on the passenger side and can enter directly into the school without the need to cross any traffic aisles or interact with vehicles in any way. The 10 uninterrupted spaces located in the PUDO allow it to operate in a free-flowing manner where capacity and efficiency are optimised.

The likelihood of overspill parking on Maddock Street is considered low, noting that the junior campus provides 56 short-term visitor/parent parking spaces compared with a calculated requirement of 53 spaces, together with 10 PUDO spaces compared with a calculated requirement of 8 spaces. This provides a combined surplus of five short-term/PUDO spaces above the calculated requirement. Any demand for drop off on Maddock Street is considered to be minimal, particularly given the significant walking distance for young students into the school proper. As an additional mitigation measure, school-peak period *No Stopping* restrictions are proposed along the relevant Maddock Street frontage, subject to CMB approval.

A review of historical *Nearmap* imagery indicates generally low existing kerbside parking demand along this section of Maddock Street, such that targeted school-peak parking restrictions are unlikely to materially affect existing parking amenity.

5.4.2 Car Park Queue Assessment

Queue storage for the entering traffic, measured between the property boundary and the first relevant intersection (ie the prep / pre-prep carpark entry) is no less than 240m (ie 40 cars), which is ample for the size of the car park. Additional queue storage is provided beyond this intersection, prior to the primary school parking and PUDO. This compares to the recommended minimum of 9-10 cars for this sized carpark (DTMR *Planning for Safe Transport Infrastructure at Schools, Figure 8*), and as such provides sufficient internal storage for the estimated queue without queueing extending beyond the site boundary.

An assessment of the potential for queuing from the start of the short-term parking / PUDO has been carried out to understand the potential for this queue to extend back into the roundabout. Two scenarios were assessed 1) with arrival spread consistently over the peak hour, and 2) with 2/3 of the peak hour arrivals concentrated into 30 minutes.

The adopted service rates were:

a) For the short-term parking: These spaces will be signposted with a 15-minute parking limit, and as such a minimum service rate of 4vph per space is provided, however a more realistic figure of 5vph per space has been adopted for the AM peak, reflective of cars not parking for the full permitted duration.
   A reduced rate of 4vph per space has been adopted for the PM peak reflecting increased dwell times.

b) For the PUDO zone: These spaces will be signposted with a 5-minute parking limit, and as such a minimum service rate of 12vph per space is provided, however a more realistic figure of 15vph per space has been adopted for the AM peak, reflective of cars not parking for the full permitted duration.
   A reduced rate of 10vph per space has been adopted for the PM peak reflecting increased dwell times.

The greatest estimated queuing (95th percentile), based on these inputs, is in the AM compressed peak hour scenario, and equates to 34 cars, well within the capacity of the internal driveway between the property boundary and the entry to the short-term car parking areas (ie more than 30m of unutilised queue storage remaining).

Table 5-6: Junior Campus Internal Entry Queue Estimate, AM Peak

AM Peak - Arrivals Consistant Over 1 Hour

Inputs:			
Max Site Arrival Rate (r) =	296	vph (in)	
Service Rate at entry to PUDO / S.T. parking =	430	per hour	
No. of Approach Lanes =	1	lane	

Description	Num	Service Rate per Hr	Total Hourly Service Rate
Short Term Parking Spaces	56	5	280
PUDO Spaces	10	15	150
			430

Calculations			
Avg Service time =	0.14	min	
Avg Site Service Rate (s) =	430	vph	
Utilisation Factor (p) =	0.688	= r/s	

Percentile Queue Calculation

The probability of there being more than N units in the system is determined by:

Equation: $p^{(N+1)} < A$

N = Total no. vehicles including those being serviced.

A = Probability factor

Probability Factor	A	$p^{(N+1)}$	N
95th	0.05	0.050	7.0

AM Peak - Sensitivity Test- 66.6% Arrive in 30 mins

Inputs:			
Max Site Arrival Rate (r) =	395	vph (in)	equiv to 67% arriving in 30 mins
Service Rate at entry to PUDO / S.T. parking =	430	per hour	
No. of Approach Lanes =	1	lane	

Description	Num	Service Rate per Hr	Total Hourly Service Rate
Short Term Parking Spaces	56	5	280
PUDO Spaces	10	15	150
			430

Calculations			
Avg Service time =	0.14	min	
Avg Site Service Rate (s) =	430	vph	
Utilisation Factor (p) =	0.918	= r/s	

Percentile Queue Calculation

The probability of there being more than N units in the system is determined by:

Equation: $p^{(N+1)} < A$

N = Total no. vehicles including those being serviced.

A = Probability factor

Probability Factor	A	$p^{(N+1)}$	N
95th	0.05	0.050	33.9

Table 5-7: Junior Campus Internal Entry Queue Estimate, PM Peak

PM Peak - Arrivals Consistant Over 1 Hour

Inputs:		
Max Site Arrival Rate (r) =	216	vph (in)
Service Rate at entry to PUDO / S.T. parking =	324	per hour
No. of Approach Lanes =	1	lane

Description	Num	Service Rate per Hr	Total Hourly Service Rate
Short Term Parking Spaces	56	4	224
PUDO Spaces	10	10	100
			324

Calculations		
Avg Service time =	0.19	min
Avg Site Service Rate (s) =	324	vph
Utilisation Factor (p) =	0.667	= r/s

Percentile Queue Calculation

The probability of there being more than N units in the system is determined by:

Equation: $p^{(N+1)} < A$

N = Total no. vehicles including those being serviced.

A = Probability factor

Probability Factor	A	$p^{(N+1)}$	N
95th	0.05	0.050	6.4

PM Peak - Sensitivity Test- 66.6% Arrive in 30 mins

Inputs:			
Max Site Arrival Rate (r) =	288	vph (in)	equiv to 67% arriving in 30 mins
Service Rate at entry to PUDO / S.T. parking =	324	per hour	
No. of Approach Lanes =	1	lane	

Description	Num	Service Rate per Hr	Total Hourly Service Rate
Short Term Parking Spaces	56	4	224
PUDO Spaces	10	10	100
			324

Calculations		
Avg Service time =	0.19	min
Avg Site Service Rate (s) =	324	vph
Utilisation Factor (p) =	0.889	= r/s

Percentile Queue Calculation

The probability of there being more than N units in the system is determined by:

Equation: $p^{(N+1)} < A$

N = Total no. vehicles including those being serviced.

A = Probability factor

Probability Factor	A	$p^{(N+1)}$	N
95th	0.05	0.050	24.4

5.4.3 Car Parking Geometry

Table 5-8 identifies the characteristics of the proposed parking layout, with respect to the design provisions of AS2890.1:2004 and AS2890.6:2022.

Table 5-8: AS2890 Parking Design Requirements and Proposed Provisions

Design Aspect	AS2890 Requirement	Proposed Provision	Compliance
Car Parking			
Car Parking space length (min): – Car space – PUDO	 5.4m (min) 6.0m (min)	 5.4m (min) 6.0m (min)	 Compliant Compliant
Car Parking space width (min): – Long term (staff) parking – Short Term (visitor) – PWD spaces – PUDO	 2.4m 2.6m 2.4m (min) + 2.4m 'shared area' 2.5m (min)	 2.5m 2.6m 2.4m + 2.4m 'shared area' 2.5m (min)	 Compliant Compliant Compliant Compliant
Aisle widths: Main circulation aisle (1-way) Primary school parking aisle (1-way) Prep/pre-prep parking aisle (1-way)	 6.5m 6.2m (min) 5.1m (min)	 7.5m (min) #1 6.5m (min) 5.1m (min)	 Compliant Compliant Compliant

#1 Opportunity exists to reduce this width, based on operational considerations.

The proposed car park layout generally complies with the requirements of AS2890.1:2004 and AS2890.6:2022 and is therefore considered appropriate from a transport engineering perspective

6 Bike and Pedestrian Arrangements

6.1 Bike Parking

On site bike parking requirements for the school have been calculated based on the recommendations of the DTMR *Planning for Safe Transport Infrastructure at Schools.*

Table 6-1: Bike Parking Supply Requirement

User	Students	Staff #1	Bike Parking #2			
			Staff Parking (= 10% x Staff)	Student Parking (= 1 per 3 students in yr 4 or higher)	Visitor Parking (=10% of student parking)	Total
Pre-Prep	75	11	1	na	na	1
Prep	75	11	1	na	na	1
Primary School	500	71	7	84 (assuming 50 % in yr 4-6)	9	100
Secondary School	900	129	13	300	30	343
Total	**1550**	**222**	**22**	**384**	**39**	**445**

#1 based on *My School* data for total students & FTE staff (both teaching and non-teaching) at 7 major SEQ private schools = 1per 7 students
#2 rates from DTMR Planning for Safe Transport Infrastructure at Schools.

Locations for the bike parking facilities have not yet been identified. Parking will generally be provided in accordance with the above calculations, however it is considered that there is potential for a significant reduction in bicycle parking based on a site specific demand assessment.

The bicycle parking requirements nominated in the DTMR guideline are not considered reflective of actual contemporary demand, particularly so for non-government schools which typically have a much wider catchment, which is less suitable for active transport access. Typically, active transport (walk and cycle) accounts for in the order of 20% of student trips, and whilst the exact split between walk and cycle is not well documented, it is apparent that there are considerably fewer cycle trips than pedestrian trips. If it is assumed that in this typical situation 12% of trips are walk and 8% are cycle, then the corresponding figures for a broad catchment non-government school such as NLAC is conservatively estimated as 6% walk trips and 4% cycle trips.

4% cycle trips equates to 62 student bicycle parking spaces across the two campuses. Staff might generate cycle parking demands for 10% of staff, equating to 23 staff spaces across the two campuses. The demand for visitor bark parking is considered minimal, and a nominal supply of 20 spaces across the two campuses is considered more than adequate. This equates to a total provision of 105 spaces across the two campuses.

6.2 Pedestrian / Cycle Demands

Based on the traffic generation rates and mode splits presented in Section 3.4, it is estimated that peak hour active transport demands generated by the school, are up to 120pph in both AM and PM.

Pedestrians / cyclists are likely to move in three general directions, as tabulated below. The proportional distribution of this demand is estimated based on the relative locations of residential and commercial) development, and also bus stops. Whilst there may be some potential for variability in this distribution, given the relatively low volumes involved, it is unlikely to make any material difference to the assessment.

General Direction	Far Trip End	Route	Persons per Hour	Average Persons per Cycle (2min) #1
North / East	large residential areas adjacent the school	Copeland Drive and Finnegan Drive	35% = 41pph	3ppc
North / West	Endeavour Boulevard bus stops, Diamond Jubilee Way and Plantation Road	Endeavour Boulevard (north)	25% = 29pph	2ppc Assuming 50 of the 'bus students' use the public bus, this could increase to a total of say 6ppc
South / East	North Lakes Town Centre, its numerous facilities and bus stops	Endeavour Boulevard (south)	40% = 46pph	3ppc
Total	**na**	**na**	**100% = 116pph**	**na**

#1: assumes peak hour volumes occurs over just 30 minutes for conservatism, and then applied to a nominal 2-minute signal cycle

The above estimates of student pedestrian demand in both the AM and PM peaks indicates there is an absolute peak of 8 students in any of these three major directions, in any given 2-minute period (equating to a nominal 2-minute signal cycle time). This level of pedestrian traffic can comfortably be accommodated by the existing / proposed pedestrian infrastructure.

With respect to inclusion of these figures in the *Sidra* modelling, minimum phase times for the pedestrian signals will easily accommodate greater demand than estimated above and consequently the pedestrian volumes modelled in Sidra are considered very conservative.

6.3 Internal Pedestrian / Cycle Movement Network

A comprehensive pedestrian / cycle path network is to be provided throughout, and connecting the two campuses. The primary network for each campus in the vicinity of the carparks are shown below.

Connections to the external pathway network are provided from the senior campus, both north and south of the Archer Close roundabout, and on Maddock Street adjacent to the access driveway.

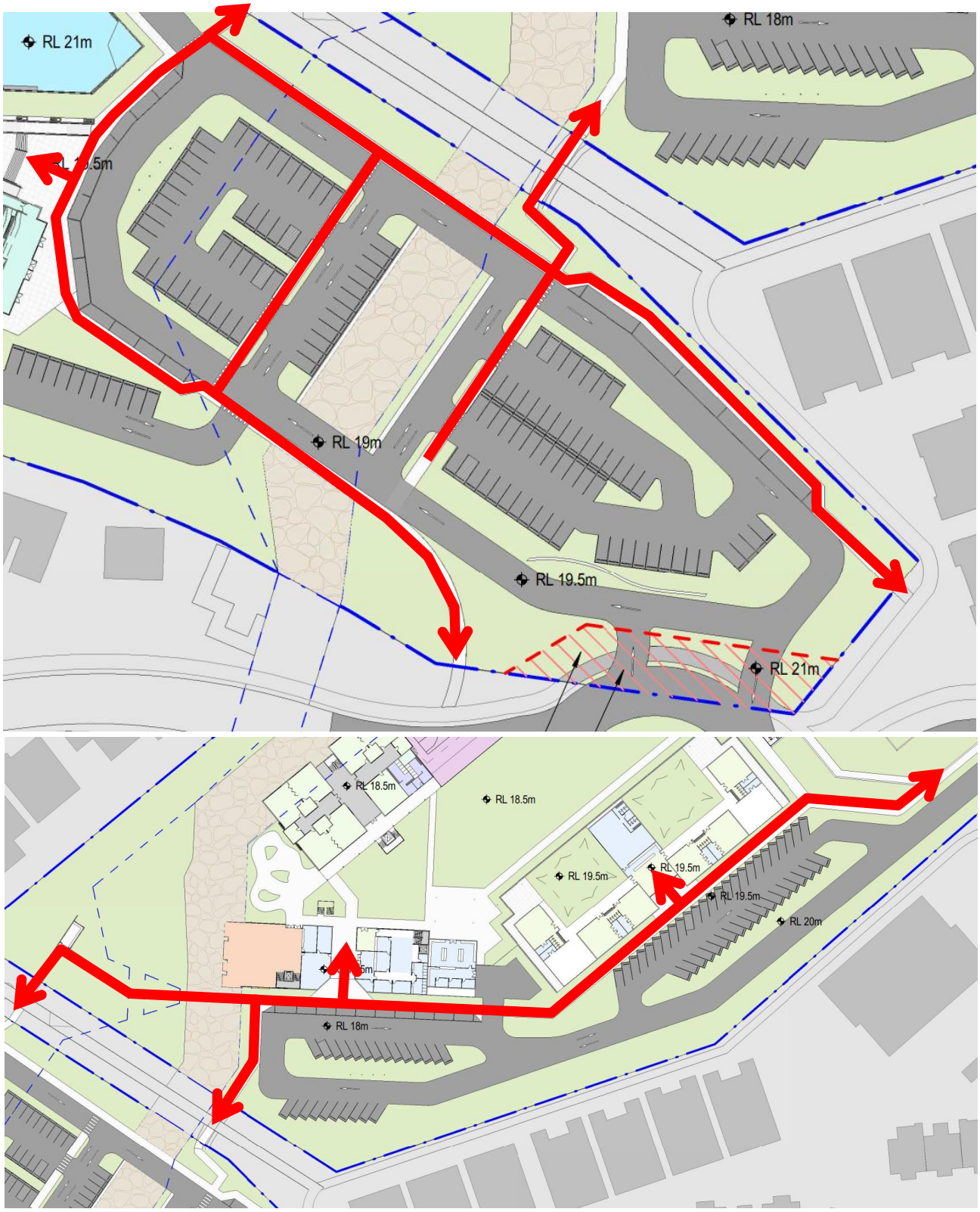


Figure 6-1: Internal Principal Pedestrian Movement Network (Senior and Junior Campuses)

6.4 External Pedestrian Movement Network

Given the master planned nature of the North Lakes road network, pedestrian paths are generally provided on both sides of the surrounding public road network.

Additionally, a public pedestrian pathway (within an easement) joins Endeavour Boulevard (in the vicinity of Archer Close) to Copeland Drive, effectively dividing the subject site into its two proposed campuses. Volumetric easements underneath this public pathway facilitate pedestrian movement between the two campuses.

The provision of pedestrian crossing facilities throughout North Lakes is quite limited, however. The widespread adoption of roundabouts has generally relied on dropped kerbs and simple median cut-throughs on each approach to facilitate pedestrian crossing opportunities.

The exceptions to this general arrangement are a) within the town centre area, and b) along Diamond Jubilee Way, where pedestrian crossings are incorporated into major signalised intersections.

As can be seen in Figure 6-2, whilst there are numerous formal signalised pedestrian crossings to the south and east of the site, there is almost a complete lack of any nearby facilities to the west of the site.

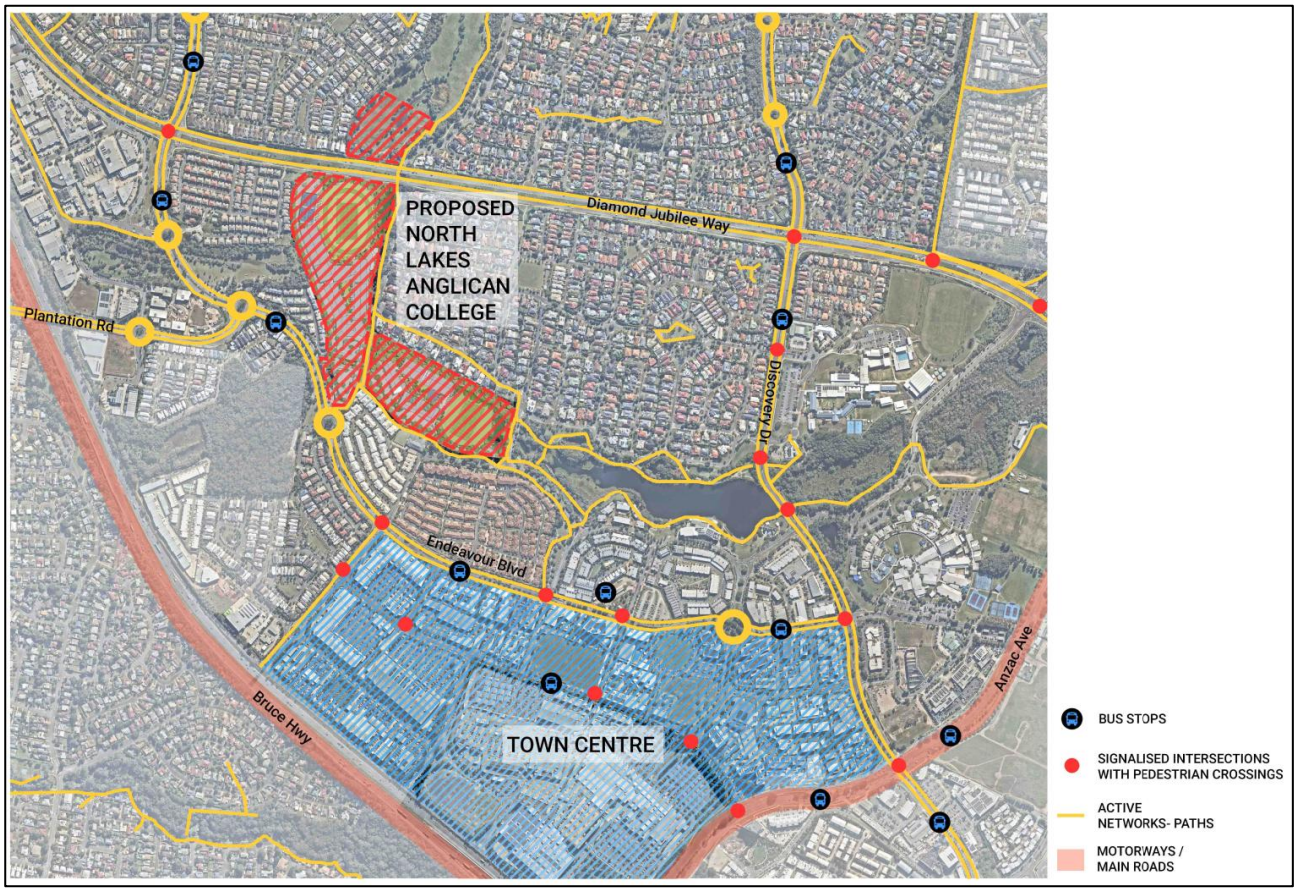


Figure 6-2: External Principal Pedestrian and Public Movement Networks (source TAA dwg A-OA-1.19 revB)

It is acknowledged that roundabouts are not the preferred access arrangements for schools, and numerous other options have been tested for the secondary campus including a fully signalised arrangement, and a separate signalised right turn entry (in addition to the existing roundabout) and found to provide inferior network performance.

Proposed modifications to the pedestrian network beyond the site boundary, to address pedestrian connectivity (whilst also providing an acceptable outcome for road network performance, includes the following:

- A signalised mid-block pedestrian crossing of Endeavour Boulevard, located between the relocated Archer Close roundabout and Plantation Road, noting that no formal design of this proposal has yet been prepared,
- Implementation of 40kph school speed zone on Endeavour Boulevard, between Plantation Road and Mason Street,
- Upgrade of the existing pedestrian crossing point on Finnegan Drive north of Maddock Street to a wombat crossing (ie a zebra crossing atop a speed platform)
- Upgrade of the existing pedestrian crossing point on Maddock Street west of Finnegan Drive to a wombat crossing,
- Implementation of 40kph school speed zones on Maddock Street and Finnegan Drive. The extent of this is yet to be determined, but is likely to extend at least 150-200m along each approach to the intersection of these two roads.

7 Servicing

Apart from buses using the on-site facilities on the senior campus, service vehicles will generally comprise:

- Refuse collection vehicles (LRV)
- General delivery vehicles (SRV / MRV)
- Food delivery vehicles (SRV / MRV)
- Facilities maintenance vehicles (vans / SRV / MRV)
- Trades vehicles (vans / utes)

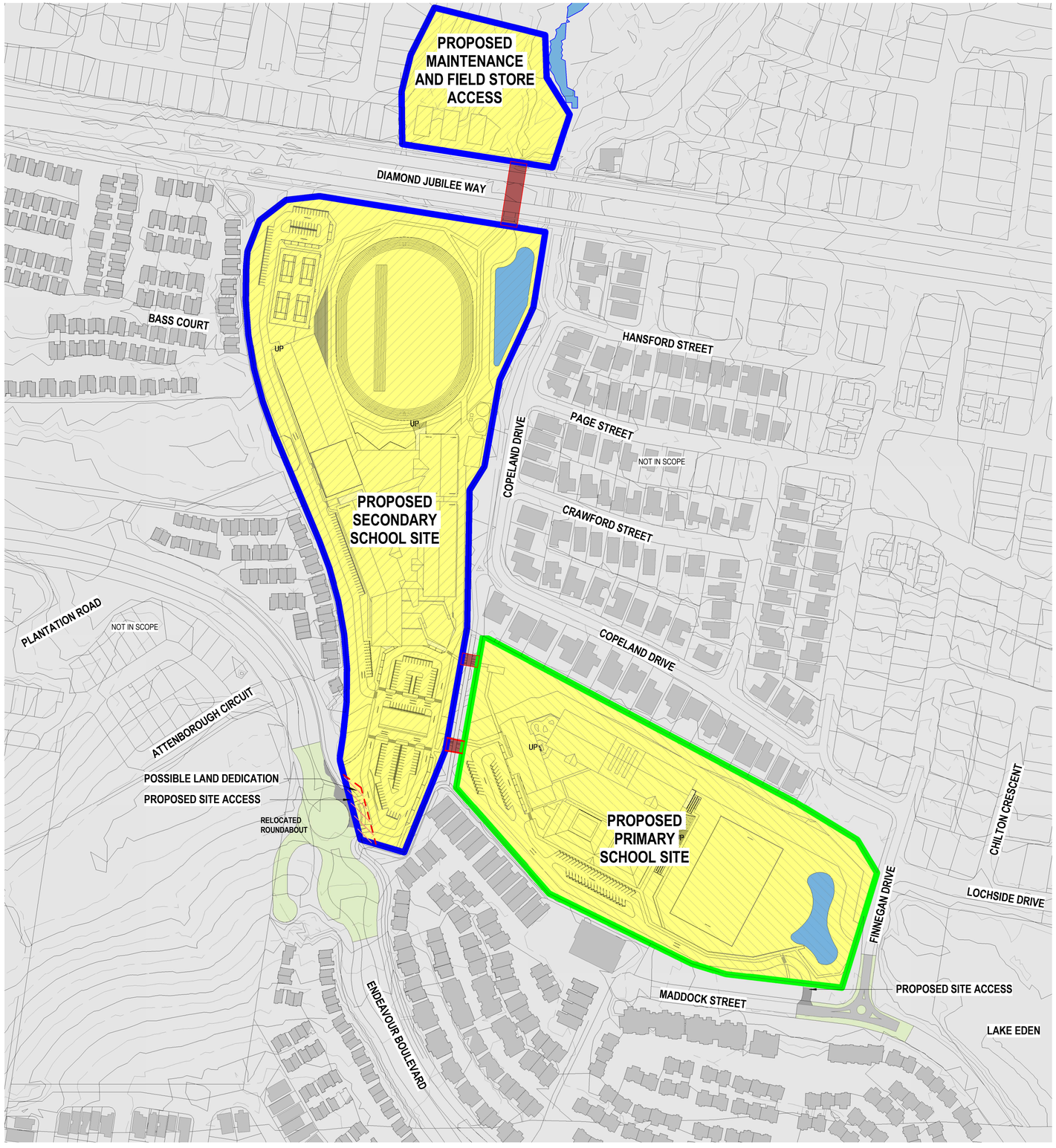
Each campus will include a dedicated loading area, separate from the respective car parking areas. These facilities will be further refined through detailed design and will be sized to accommodate a large service vehicle (MRV / LRV), together with multiple SRVs / vans where required. The passenger PUDO areas may also accommodate small service vehicles (SRVs and vans) during off-peak periods, generally between 9:30 am and 2:15 pm.

Service vehicle movements will be managed to maximise student safety and minimise impacts on peak-period car park operations. Detailed servicing arrangements will be addressed through a future management plan, including appropriate controls on the timing of larger service vehicles accessing the site.

Appendix A Proposed Development Plans

LEGEND: SITE PLAN

- LOT 2 - SP148201 AREA: 85,932m²
- LOT 1 - SP148201 AREA: 60,708m²
- VOLUMETRIC LOTS
- WATER BODY
- CREEK BED



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Nominated Architect:
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Arch. Reg. No. QLD 5863

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North Lakes Anglican College

ENDEAVOUR BOULEVARD
NORTH LAKES 4509

Drawn by:
MR, BG

Architect:
Alex Du Plesis
QLD 5863

SITE PLAN - PROPOSED

1 : 2000 @ A1

2026-07-15

TA # 25.0150.17

A-OA-1.11

rev. E

SECONDARY PRECINCT

PRIMARY PRECINCT

DIAMOND JUBILEE WAY

COPELAND DRIVE

COPELAND DRIVE

NOT IN SCOPE

FINNEGAN DRIVE

MADDOCK STREET

CREEK BED

CREEK BED

PROPOSED SITE ACCESS

RL 20m

RL 20.5m

RL 21m

RL 21m

RL 21m

RL 21m

RL 21m

RL 21m

RL 21m

RL 20m

RL 19.5m

RL 19m

RL 19m

RL 19.5m

RL 21m

RL 18.5m

RL 18.5m

RL 18.5m

RL 19.5m

RL 19.5m

RL 19.5m

RL 20m

RL 18.5m

RL 18m

RL 14.8m

UP

UP

INDOOR SPORTS HALL DASHED ABOVE

RELOCATED ROUNDABOUT

POSSIBLE LAND DEDICATION

PROPOSED SITE ACCESS

ENDEAVOUR BOULEVARD

LEGEND

- EXISTING BUILDING
- PROPERTY BOUNDARY
- SPORTS AREA
- PUBLIC
- LIBRARY
- LEARNING
- STAFF AREA
- AMENITIES
- BACK OF HOUSE
- CANTEEN
- PERFORMING ARTS
- CREEK BED
- RESERVOIR
- DESIGNATED EVENT FLOOD AREA

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Nominated Architect:
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North Lakes Anglican College

ENDEAVOUR BOULEVARD
NORTH LAKES 4509

Drawn by:
MR, BG

Architect:
Alex Du Plesis
QLD 5863

SITE PLAN - GROUND FLOOR - OVERALL

As indicated @ A1

2026-07-15

TA # 25.0150.17

A-OA-1.18

rev. G

Appendix B Intersection Survey Results

Colliers

Colliers

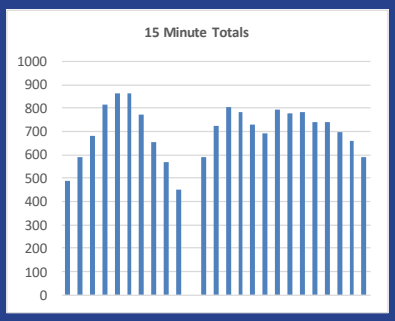
Accelerating success.

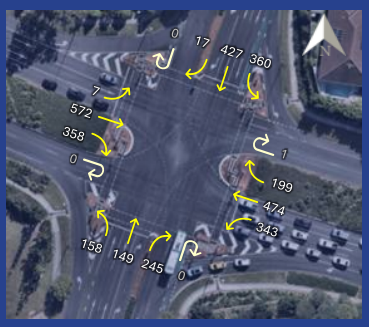
Intersection Count - Project Details

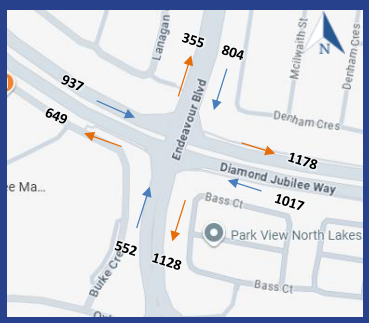
Colliers Reference: **21BRT0438**
Location: **Diamond Jubilee Way & Endeavour Blvd**
Suburb: **North Lakes**
Date: **Wednesday, 10 September 2025**
Duration: **0700-0930 & 1430-1800**
Weather: **Fine**
AM Peak: **07:45-08:45**
PM Peak: **16:00-17:00**
Notes:

Quick display - Summaries

Survey Period: 07:45 to 08:45







Colliers 2025

Colliers

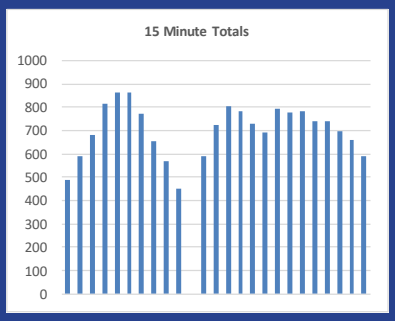
Accelerating success.

Intersection Count - Project Details

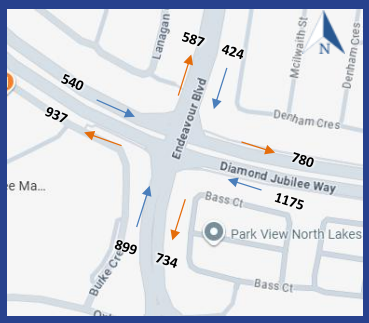
Colliers Reference: **21BRT0438**
Location: **Diamond Jubilee Way & Endeavour Blvd**
Suburb: **North Lakes**
Date: **Wednesday, 10 September 2025**
Duration: **0700-0930 & 1430-1800**
Weather: **Fine**
AM Peak: **07:45-08:45**
PM Peak: **16:00-17:00**
Notes:

Quick display - Summaries

Survey Period: 14:45 to 15:45







Colliers 2025

Colliers

Colliers

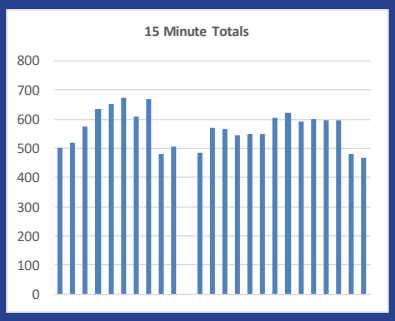
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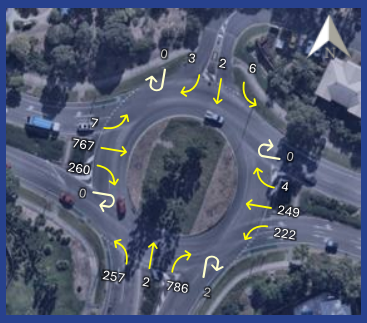
Intersection Count - Project Details

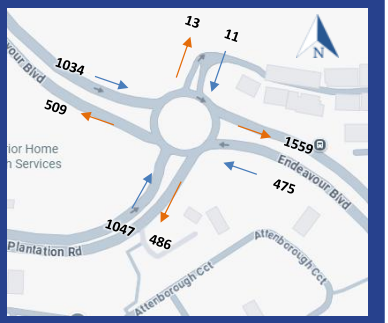
Colliers Reference: **21BRT0438**
Location: **Endeavour Blvd & Plantation Rd**
Suburb: **North Lakes**
Date: **Wednesday, 10 September 2025**
Duration: **0700-0930 & 1430-1800**
Weather: **Fine**
AM Peak: **08:00-09:00**
PM Peak: **16:00-17:00**
Notes:

Quick display - Summaries

Survey Period: 07:45 to 08:45







Colliers 2025

Colliers

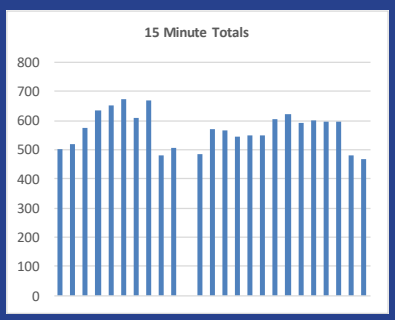
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Intersection Count - Project Details

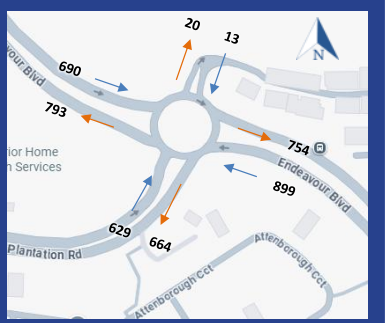
Colliers Reference: **21BRT0438**
Location: **Endeavour Blvd & Plantation Rd**
Suburb: **North Lakes**
Date: **Wednesday, 10 September 2025**
Duration: **0700-0930 & 1430-1800**
Weather: **Fine**
AM Peak: **08:00-09:00**
PM Peak: **16:00-17:00**
Notes:

Quick display - Summaries

Survey Period: 14:45 to 15:45







Colliers 2025

Colliers

Colliers

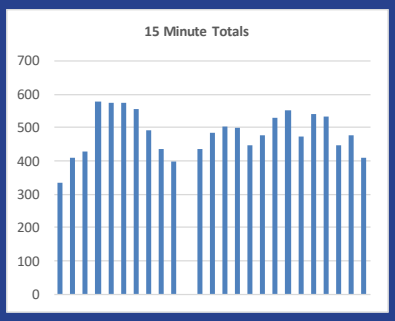
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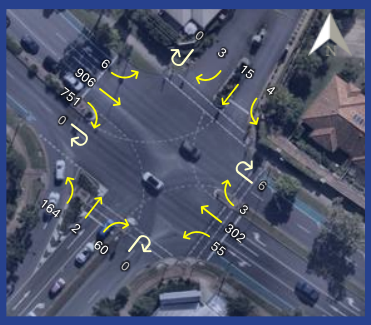
Intersection Count - Project Details

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Location: **Endeavour Blvd & Mason St**
Suburb: **North Lakes**
Date: **Wednesday, 10 September 2025**
Duration: **0700-0930 & 1430-1800**
Weather: **Fine**
AM Peak: **07:45-08:45**
PM Peak: **16:15-17:15**
Notes:

Quick display - Summaries

Survey Period: 07:45 to 08:45







Colliers 2025

Colliers

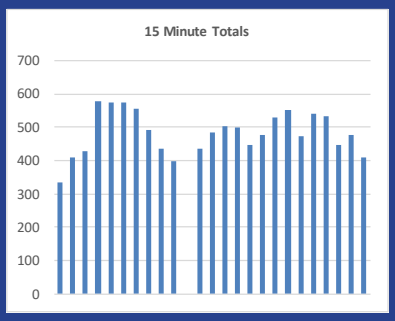
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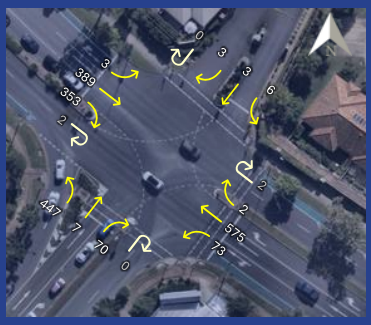
Intersection Count - Project Details

Colliers Reference: **21BRT0438**
Location: **Endeavour Blvd & Mason St**
Suburb: **North Lakes**
Date: **Wednesday, 10 September 2025**
Duration: **0700-0930 & 1430-1800**
Weather: **Fine**
AM Peak: **07:45-08:45**
PM Peak: **16:15-17:15**
Notes:

Quick display - Summaries

Survey Period: 14:45 to 15:45







Colliers 2025

Colliers

Colliers

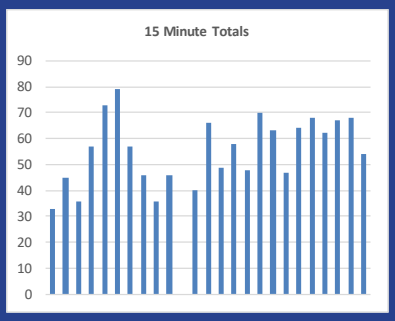
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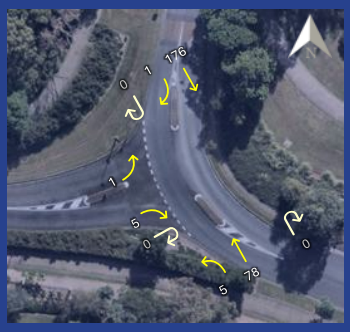
Intersection Count - Project Details

Colliers Reference: **21BRT0438**
Location: **Finnegan Dr & Maddock St**
Suburb: **North Lakes**
Date: **Wednesday, 10 September 2025**
Duration: **0700-0930 & 1430-1800**
Weather: **Fine**
AM Peak: **07:45-08:45**
PM Peak: **16:45-17:45**
Notes:

Quick display - Summaries

Survey Period: 07:45 to 08:45







Colliers 2025

Colliers

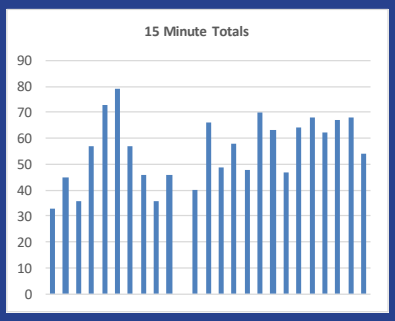
Accelerating success.

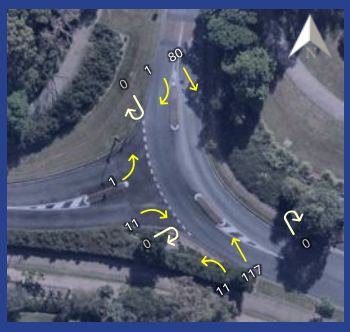
Intersection Count - Project Details

Colliers Reference: **21BRT0438**
Location: **Finnegan Dr & Maddock St**
Suburb: **North Lakes**
Date: **Wednesday, 10 September 2025**
Duration: **0700-0930 & 1430-1800**
Weather: **Fine**
AM Peak: **07:45-08:45**
PM Peak: **16:45-17:45**
Notes:

Quick display - Summaries

Survey Period: 14:45 to 15:45







Colliers 2025

Colliers

Colliers

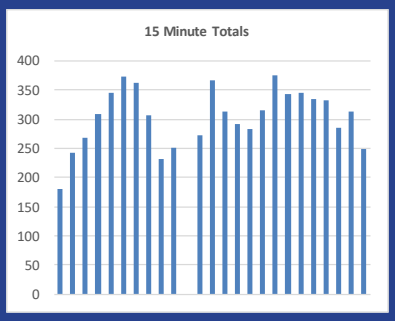
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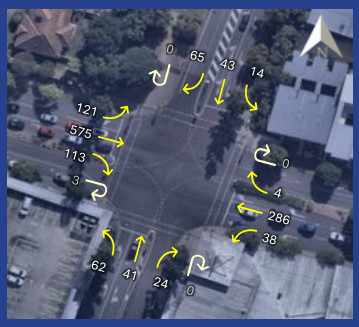
Intersection Count - Project Details

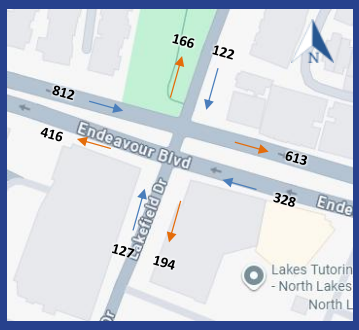
Colliers Reference: **21BRT0438**
Location: **Endeavour Blvd & Lakefield Dr**
Suburb: **North Lakes**
Date: **Wednesday, 10 September 2025**
Duration: **0700-0930 & 1430-1800**
Weather: **Fine**
AM Peak: **07:45-08:45**
PM Peak: **16:00-17:00**
Notes:

Quick display - Summaries

Survey Period: 07:45 to 08:45







Colliers 2025

Colliers

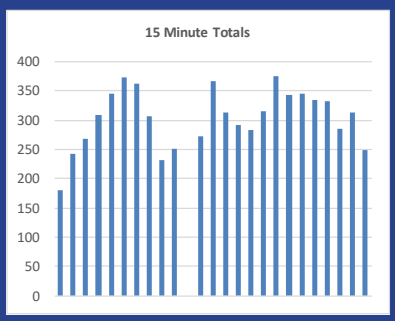
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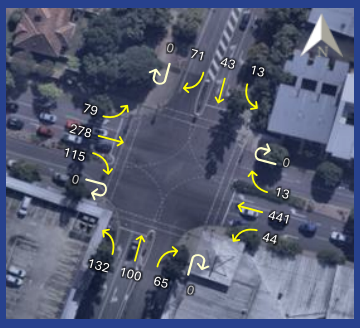
Intersection Count - Project Details

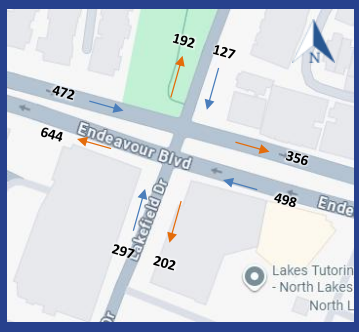
Colliers Reference: **21BRT0438**
Location: **Endeavour Blvd & Lakefield Dr**
Suburb: **North Lakes**
Date: **Wednesday, 10 September 2025**
Duration: **0700-0930 & 1430-1800**
Weather: **Fine**
AM Peak: **07:45-08:45**
PM Peak: **16:00-17:00**
Notes:

Quick display - Summaries

Survey Period: 16:00 to 17:00







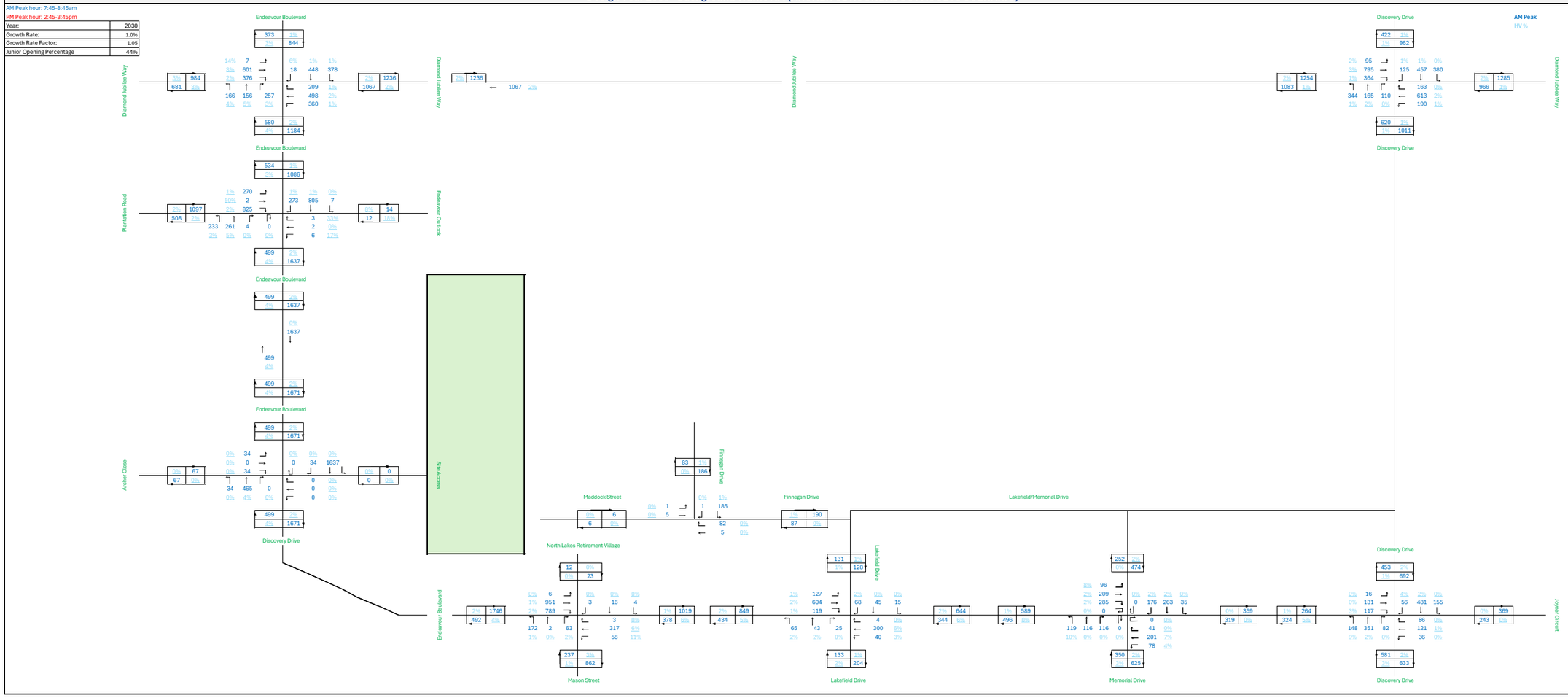
Colliers 2025

Appendix C Network Flow Diagrams

Design Year 2030 - Background Traffic AM (ARCHER CL ROUNDABOUT ACCESS SCENARIO)

AM Peak hour: 7:45-8:45am
PM Peak hour: 2:45-3:45pm

Year:	2030
Growth Rate:	1.0%
Growth Rate Factor:	1.05
Junior Opening Percentage	44%



Design Year 2030 - Background Traffic PM

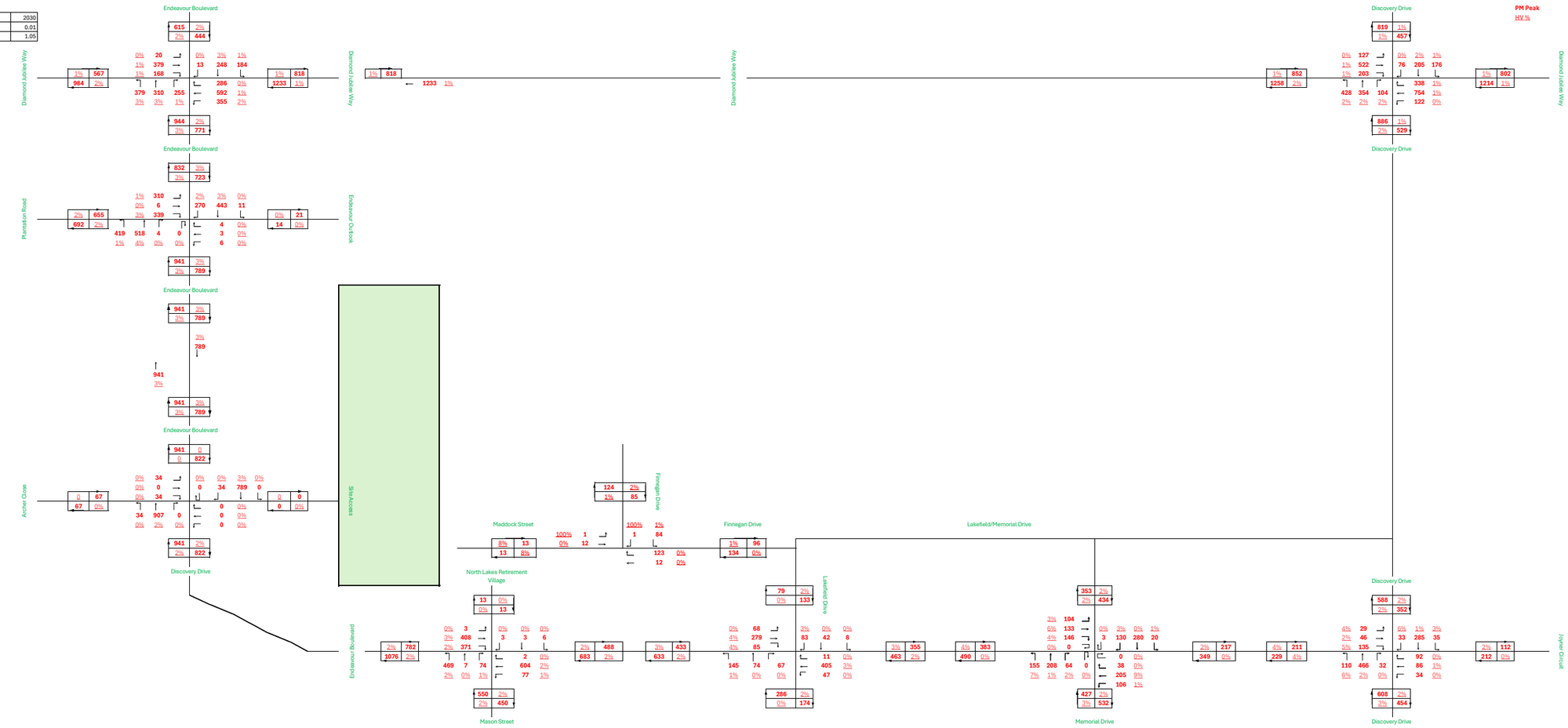
AM Peak hour: 7:45-8:45am

PM Peak hour: 2:45-3:45pm

Year:	2030
Growth Rate:	0.01
Growth Rate Factor:	1.05

PM Peak

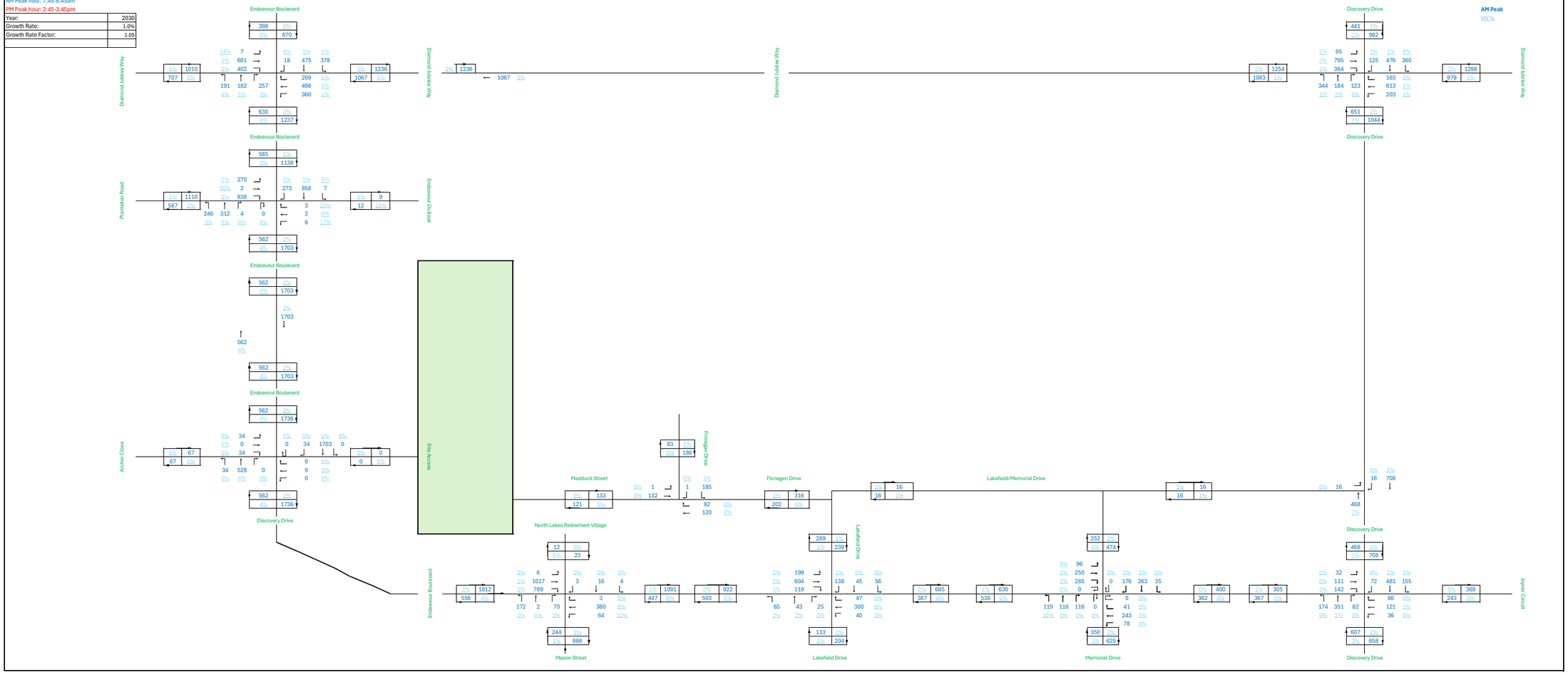
HV %



Design Year 2030 - Total Traffic AM (ARCHER CL ROUNDABOUT ACCESS SCENARIO)

AM Peak hour: 7:45-8:45am
PM Peak hour: 2:45-3:45pm

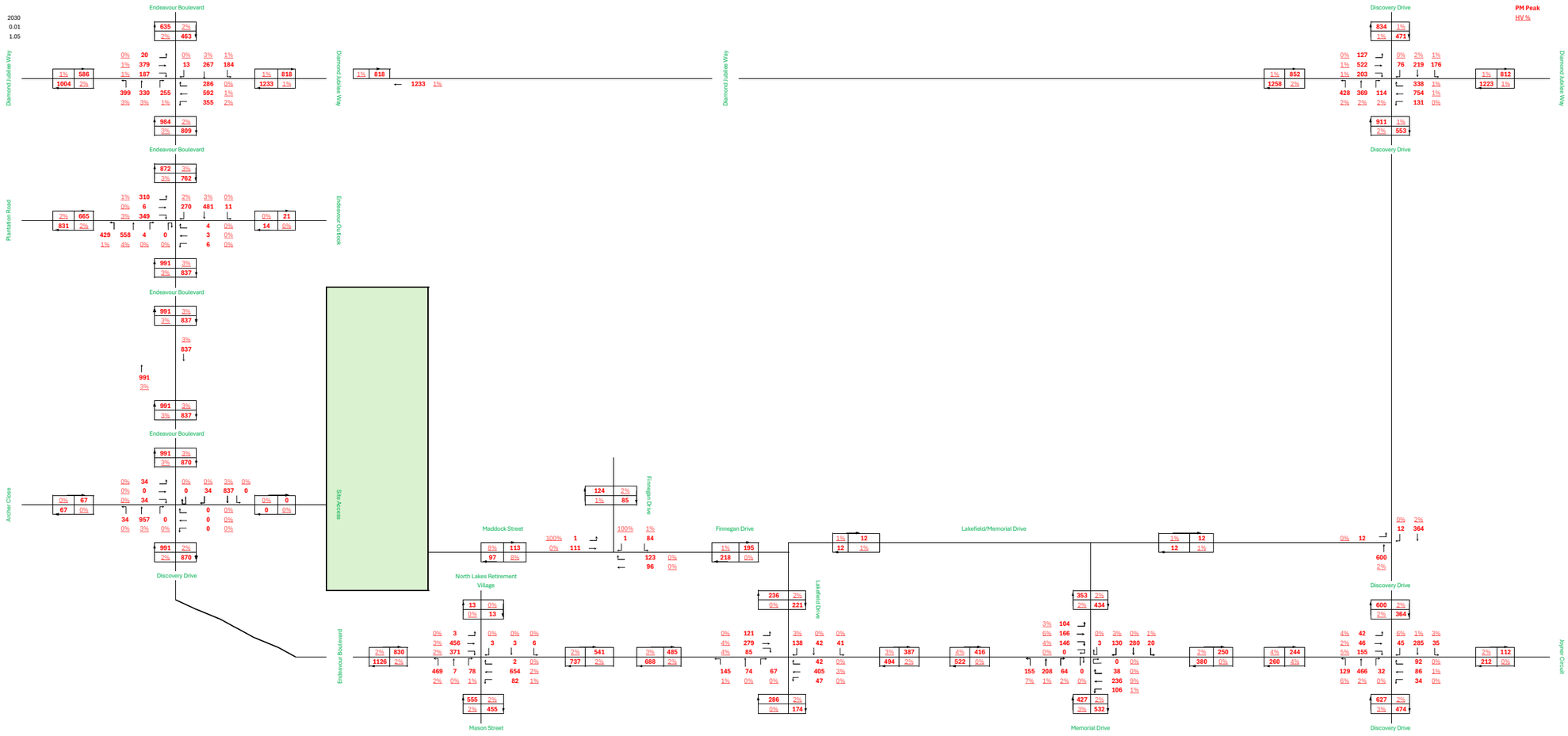
Year:	2030
Growth Rate:	1.0%
Growth Rate Factor:	1.05



Design Year 2030 -Total Traffic PM

AM Peak hour: 7:45-8:45am
PM Peak hour: 2:45-3:45pm
Year: 2030
Growth Rate: 0.01
Growth Rate Factor: 1.05

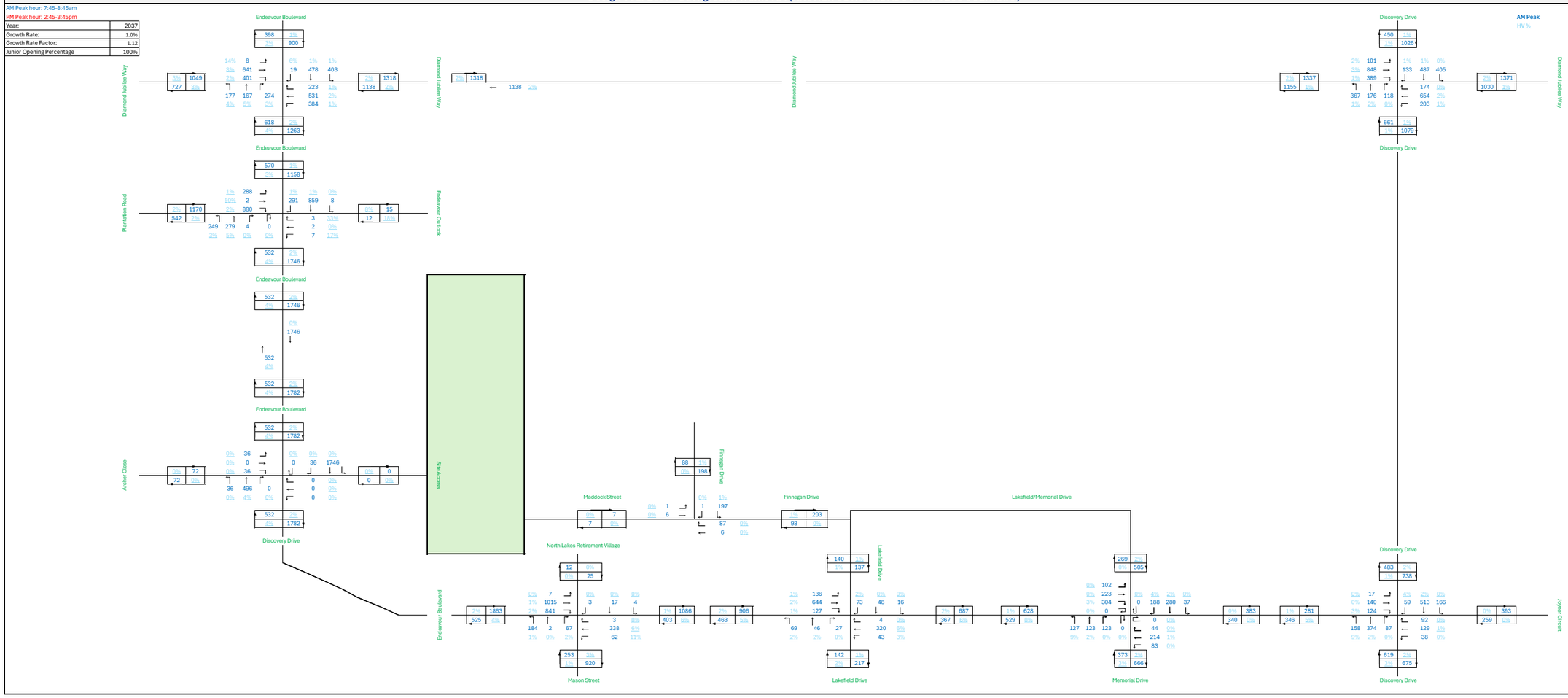
PM Peak
HV %



Design Year 2037 - Background Traffic AM (ARCHER CL ROUNDABOUT ACCESS SCENARIO)

AM Peak hour: 7:45-8:45am
PM Peak hour: 2:45-3:45pm

Year:	2037
Growth Rate:	1.0%
Growth Rate Factor:	1.12
Junior Opening Percentage	100%

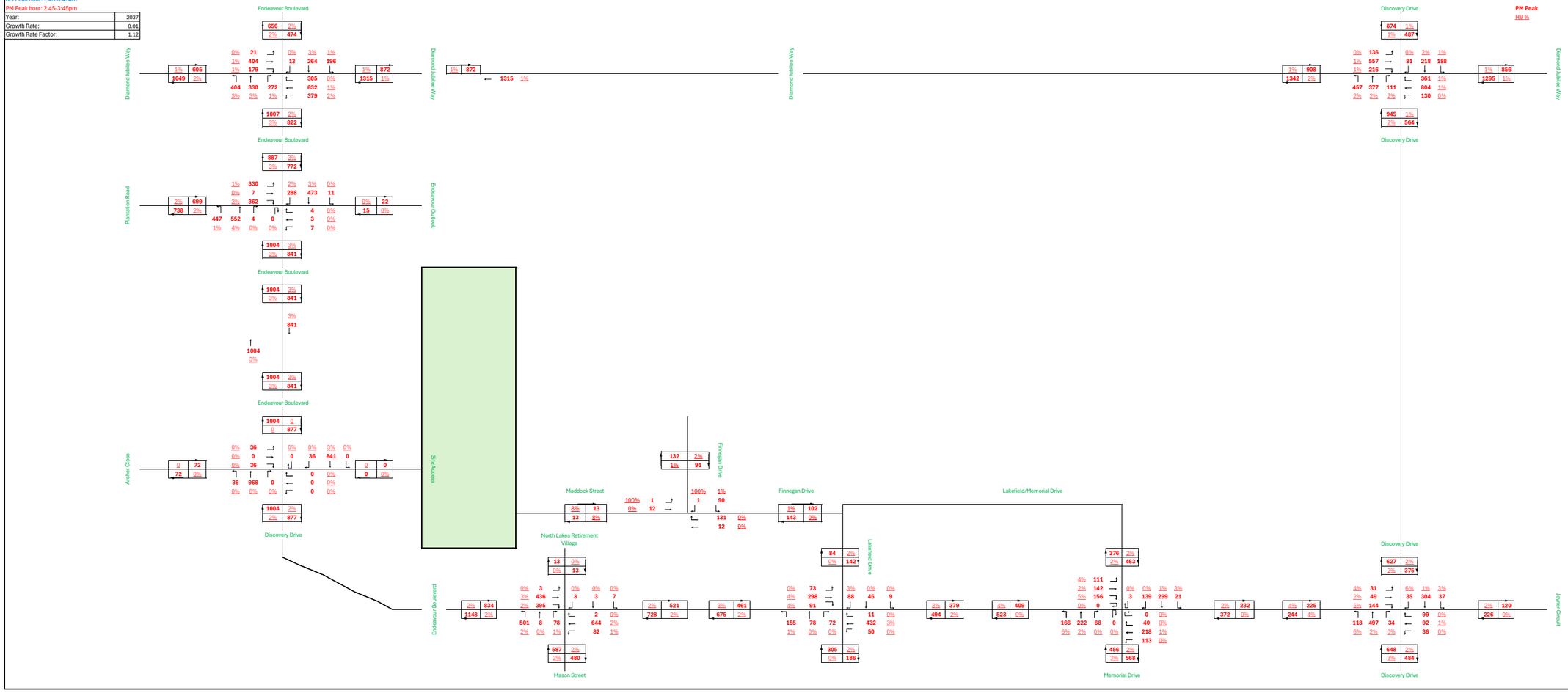


Design Year 2037 - Background Traffic PM

AM Peak hour: 7:45-8:45am

PM Peak hour: 2:45-3:45pm

Year:	2037
Growth Rate:	0.01
Growth Rate Factor:	1.12

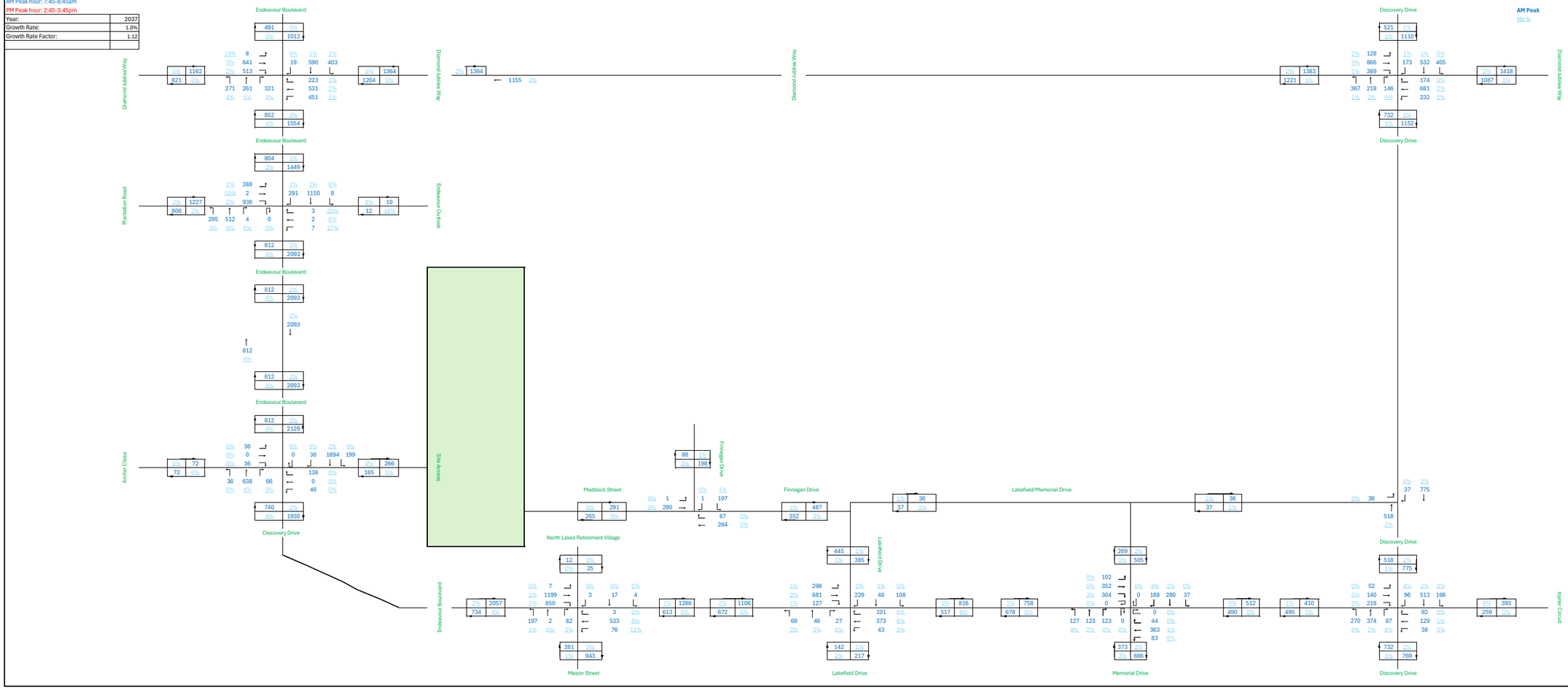


Design Year 2037 - Total Traffic AM (ARCHER CL ROUNDABOUT ACCESS SCENARIO)

AM Peak hour: 7:45-8:45am
PM Peak hour: 2:45-3:45pm

Year:	2037
Growth Rate:	1.0%
Growth Rate Factor:	1.12

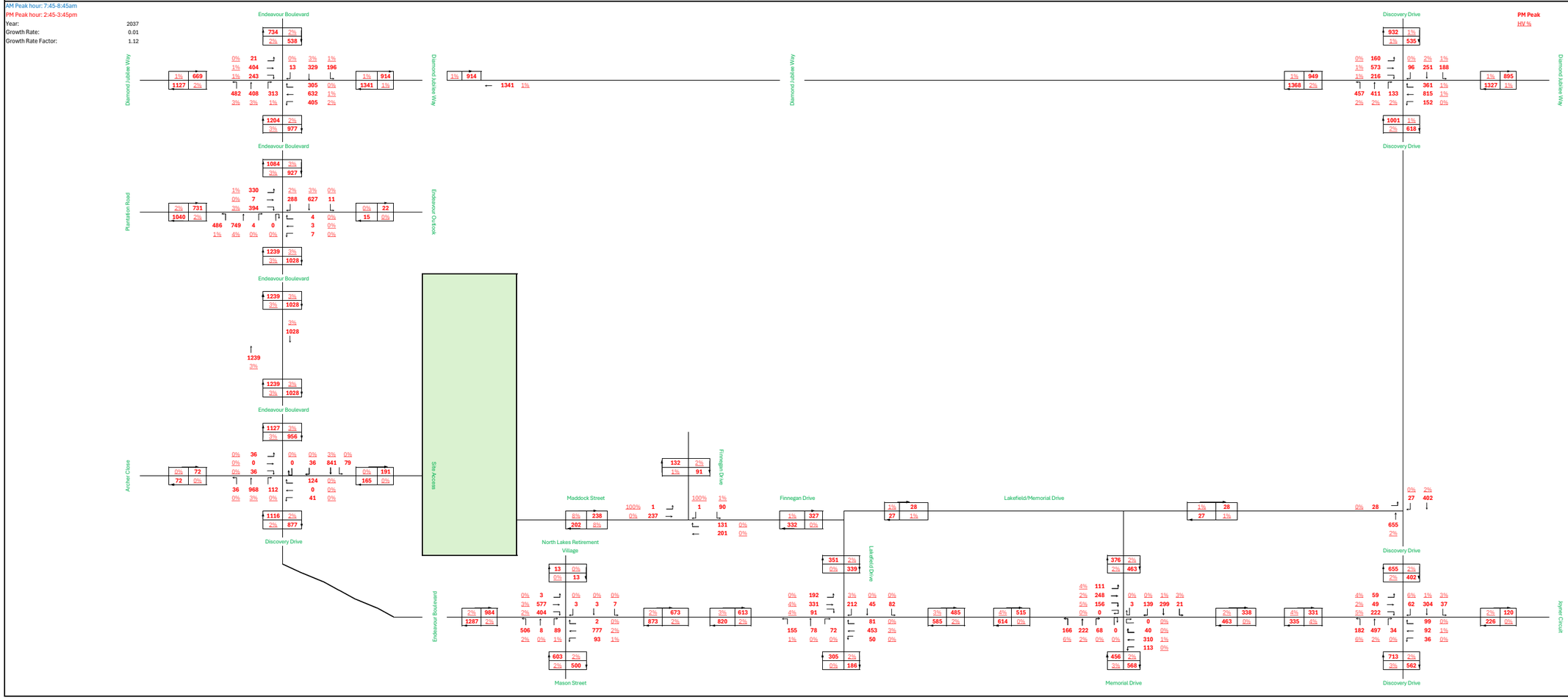
AM Peak
HV %



Design Year 2037 -Total Traffic PM

AM Peak hour: 7:45-8:45am
PM Peak hour: 2:45-3:45pm

Year:	2037
Growth Rate:	0.01
Growth Rate Factor:	1.12



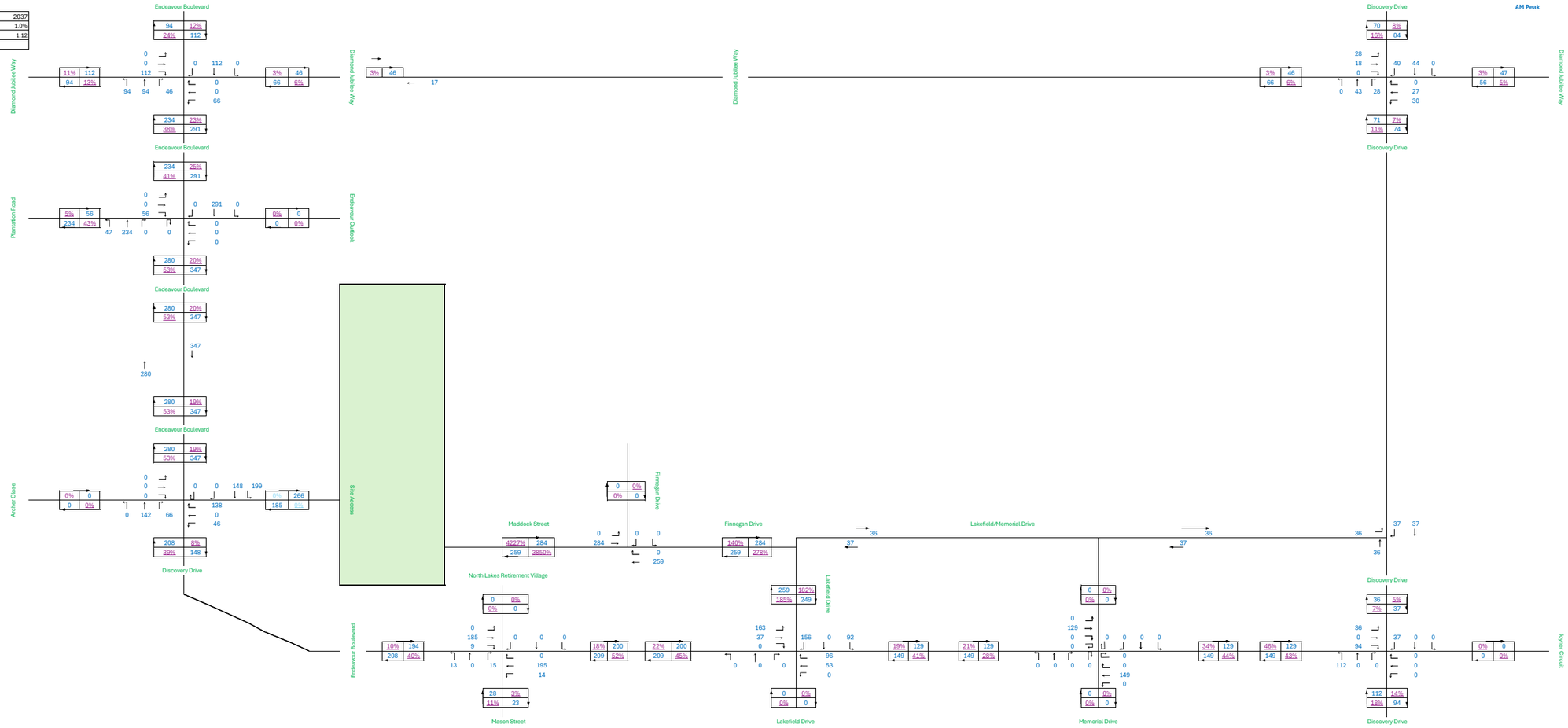
Design Year 2037 - All Development Traffic AM (ARCHER CL ROUNDABOUT ACCESS SCENARIO)

AM Peak hour: 7:45-8:45am
PM Peak hour: 2:45-3:45pm

Year:	2037
Growth Rate:	1.0%
Growth Rate Factor:	1.12

Percentage of Background Traffic

AM Peak



Design Year 2037 - All Development Traffic PM

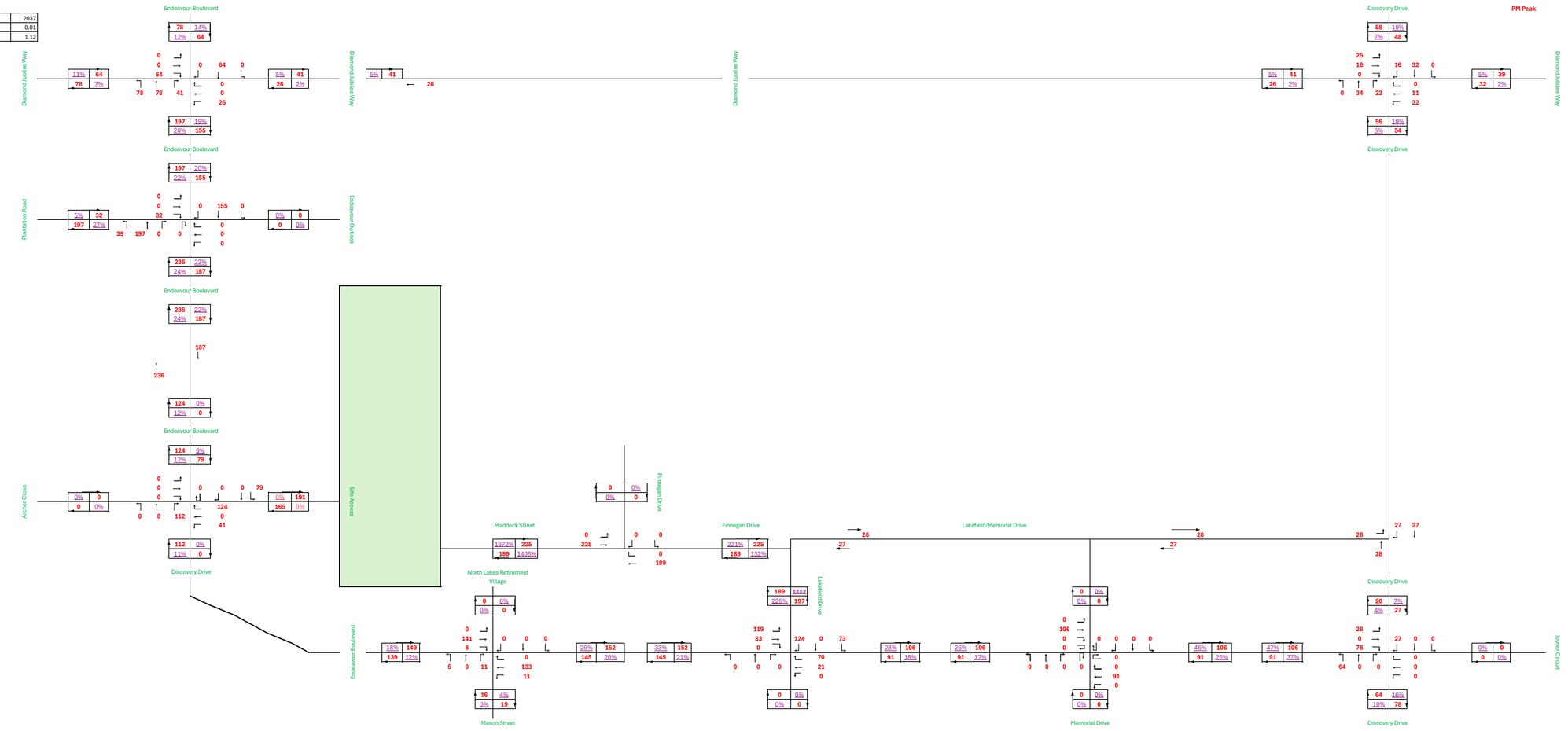
AM Peak hour: 7:45-8:45am

PM Peak hour: 2:45-3:45pm

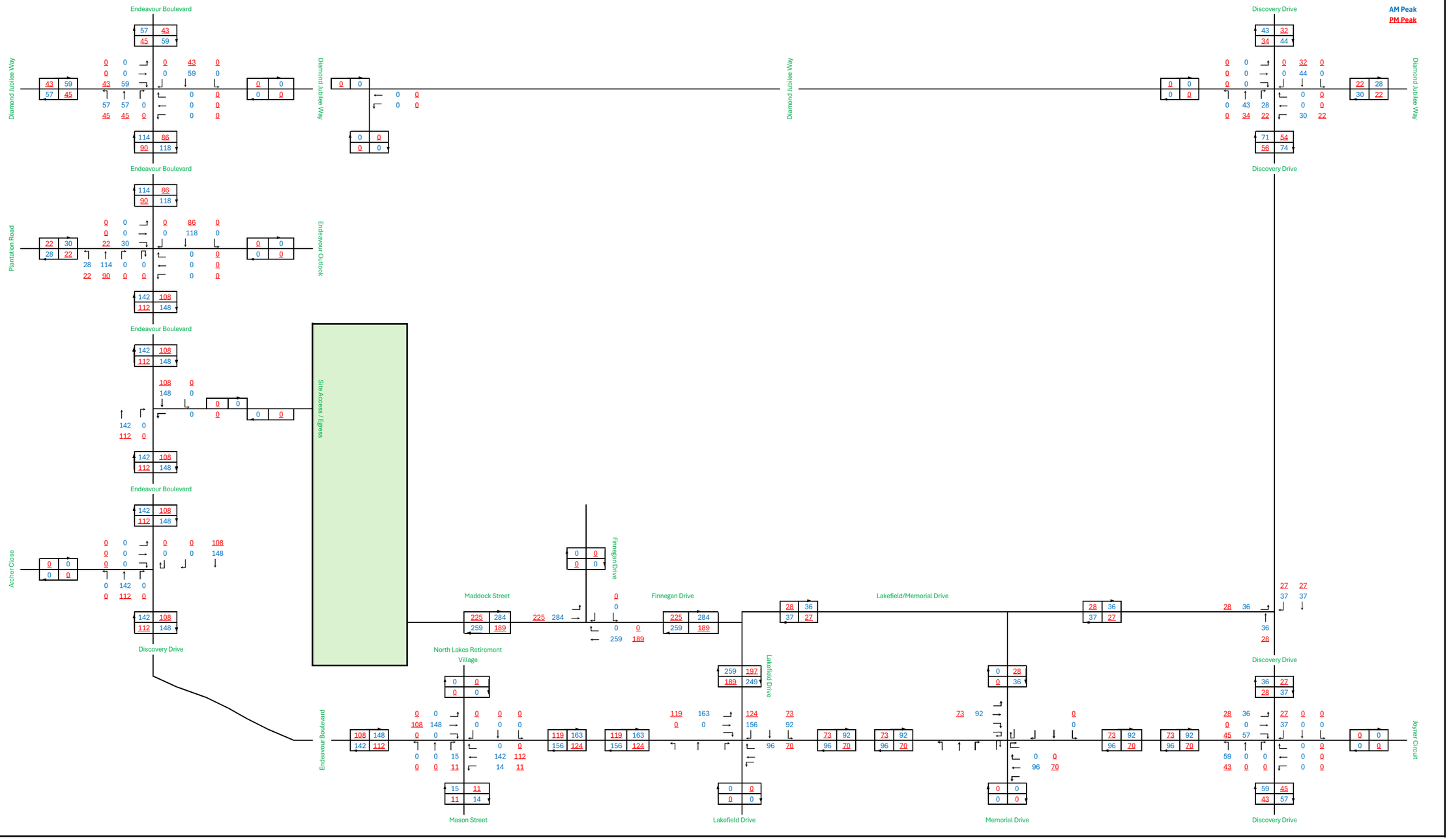
Year:	2037
Growth Rate:	0.01
Growth Rate Factor:	1.12

Percentage of Background Traffic

PM Peak



Junior Development Distribution - Total Movements

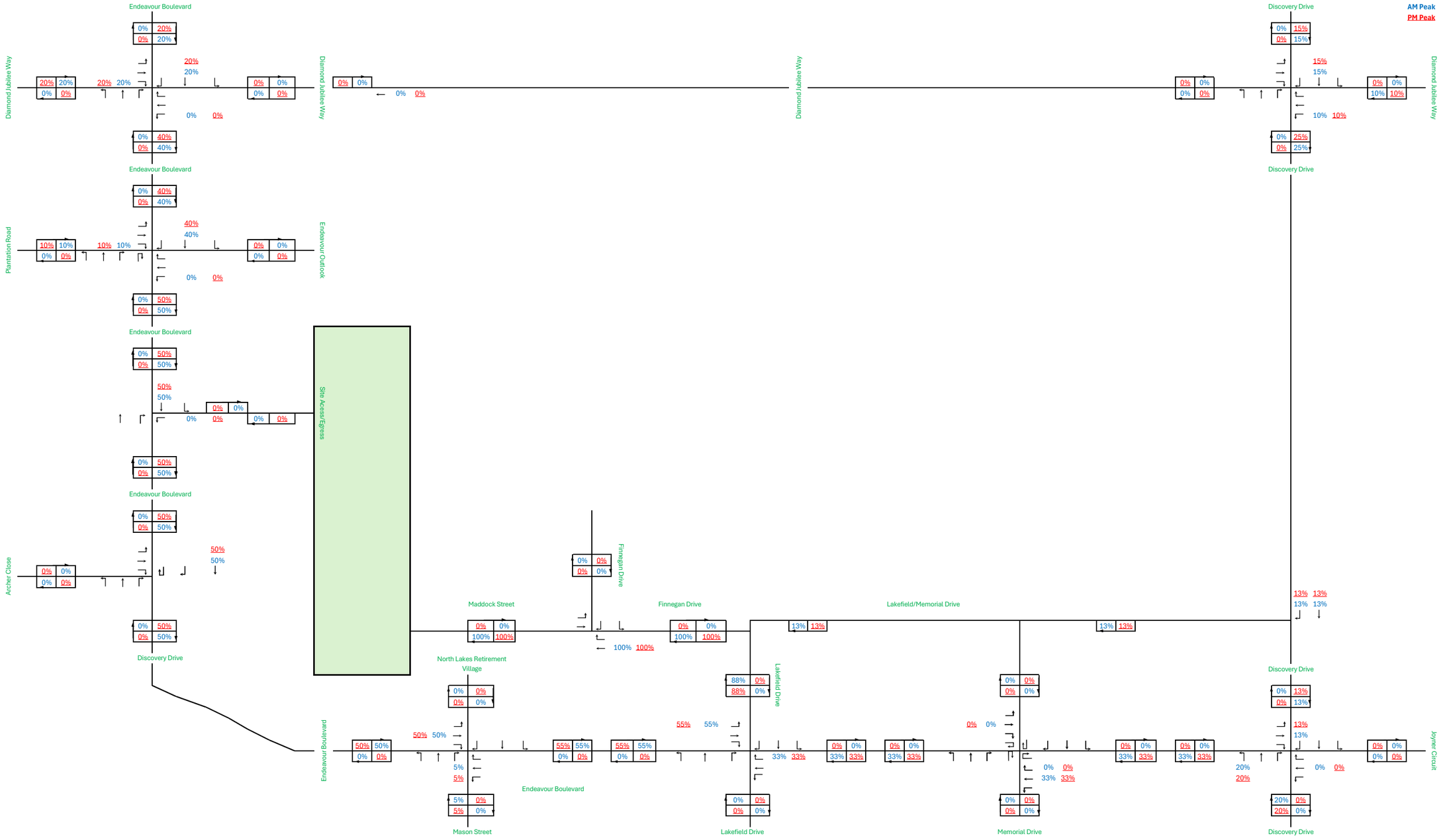


Junior Development Distribution - Total Movements (Opening Year)

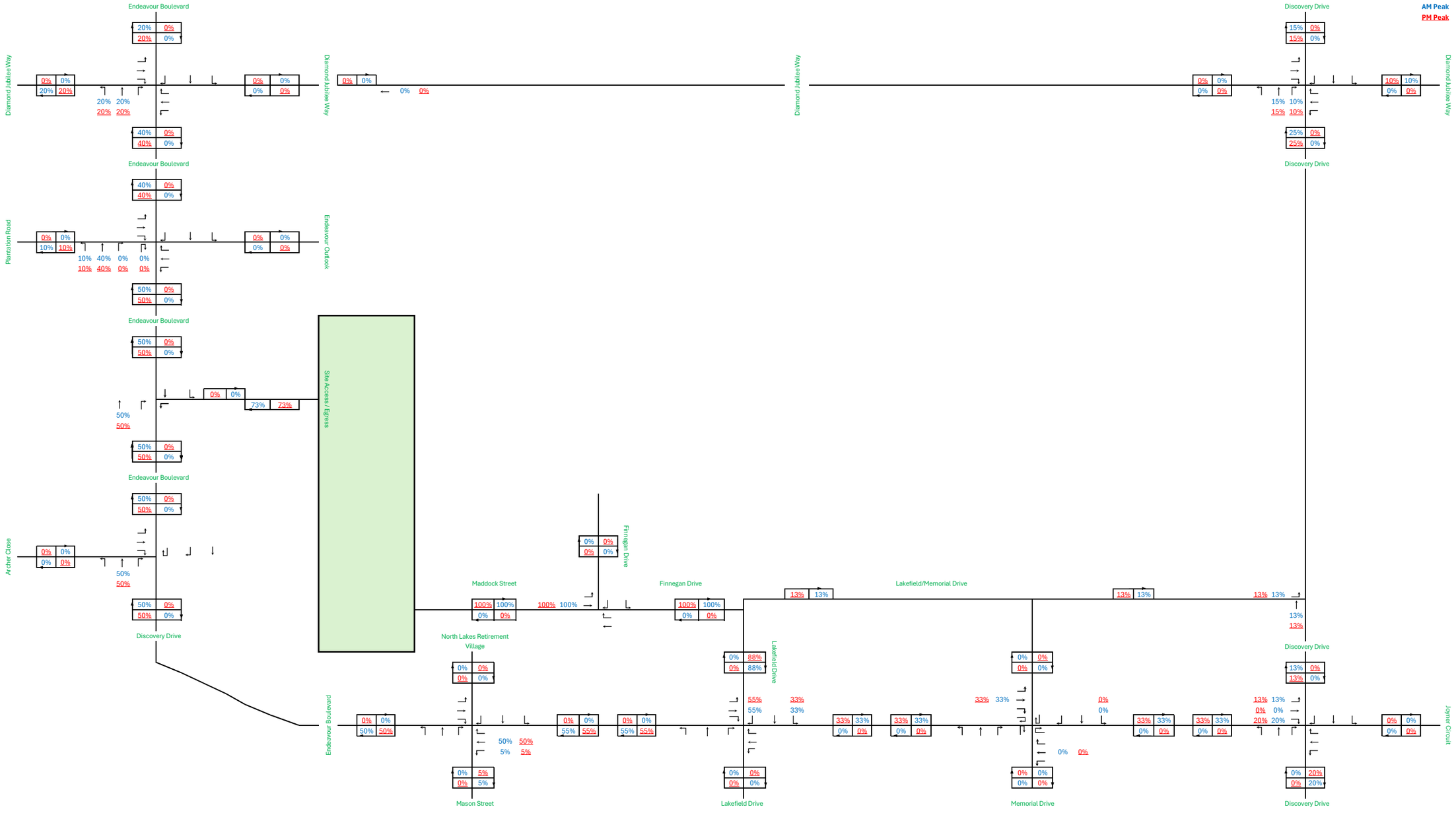
AM Peak
PM Peak

Endeavour Boulevard
Diamond Jubilee Way
Discovery Drive
Plantation Road
Endeavour Outlook
Site Access / Egress
Archer Close
Finnegan Drive
Maddock Street
Finnegan Drive
Lakefield/Memorial Drive
North Lakes Retirement Village
Lakefield Drive
Mason Street
Lakefield Drive
Memorial Drive
Discovery Drive
Joyce Circuit

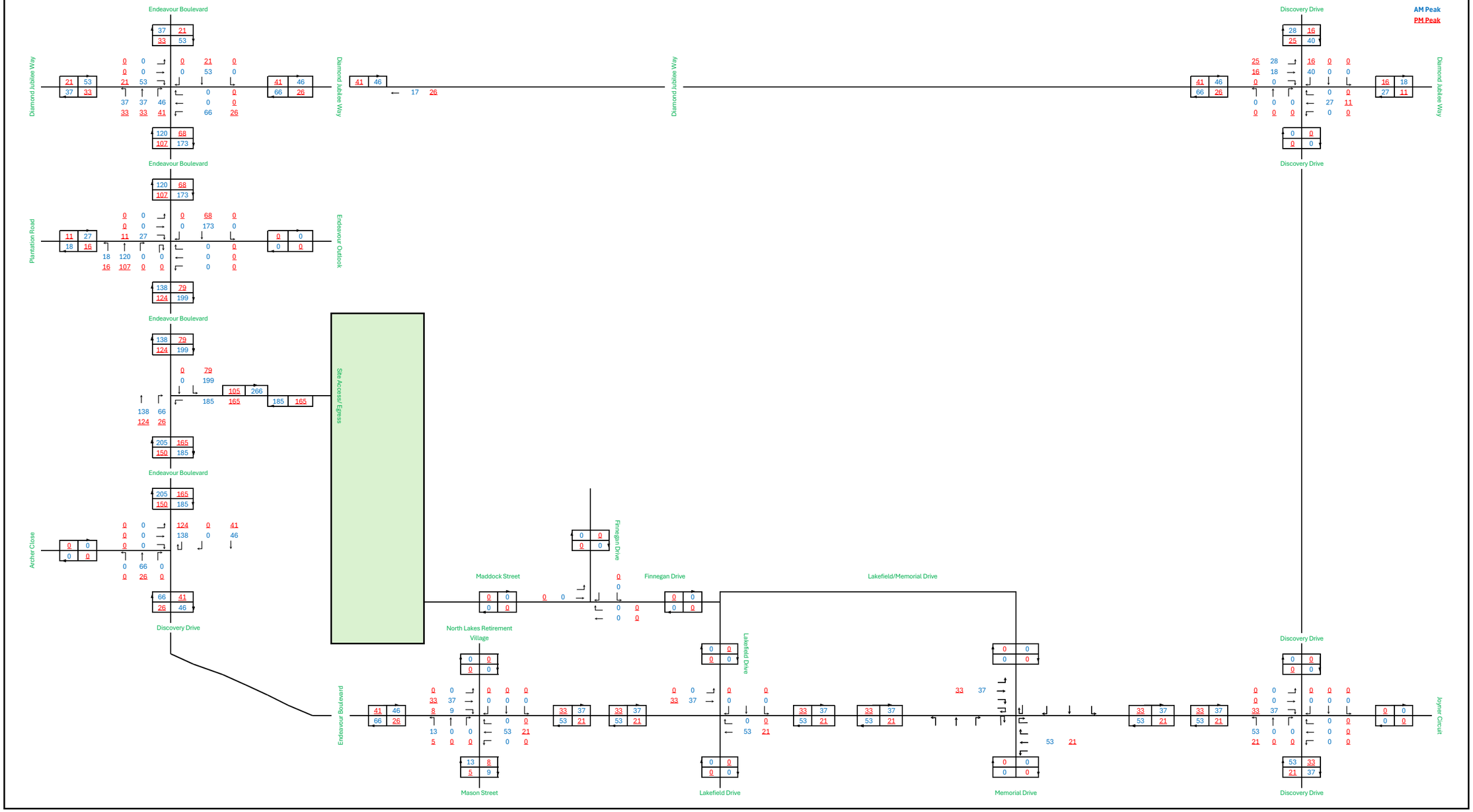
Junior Development Distribution - Inbound (%)



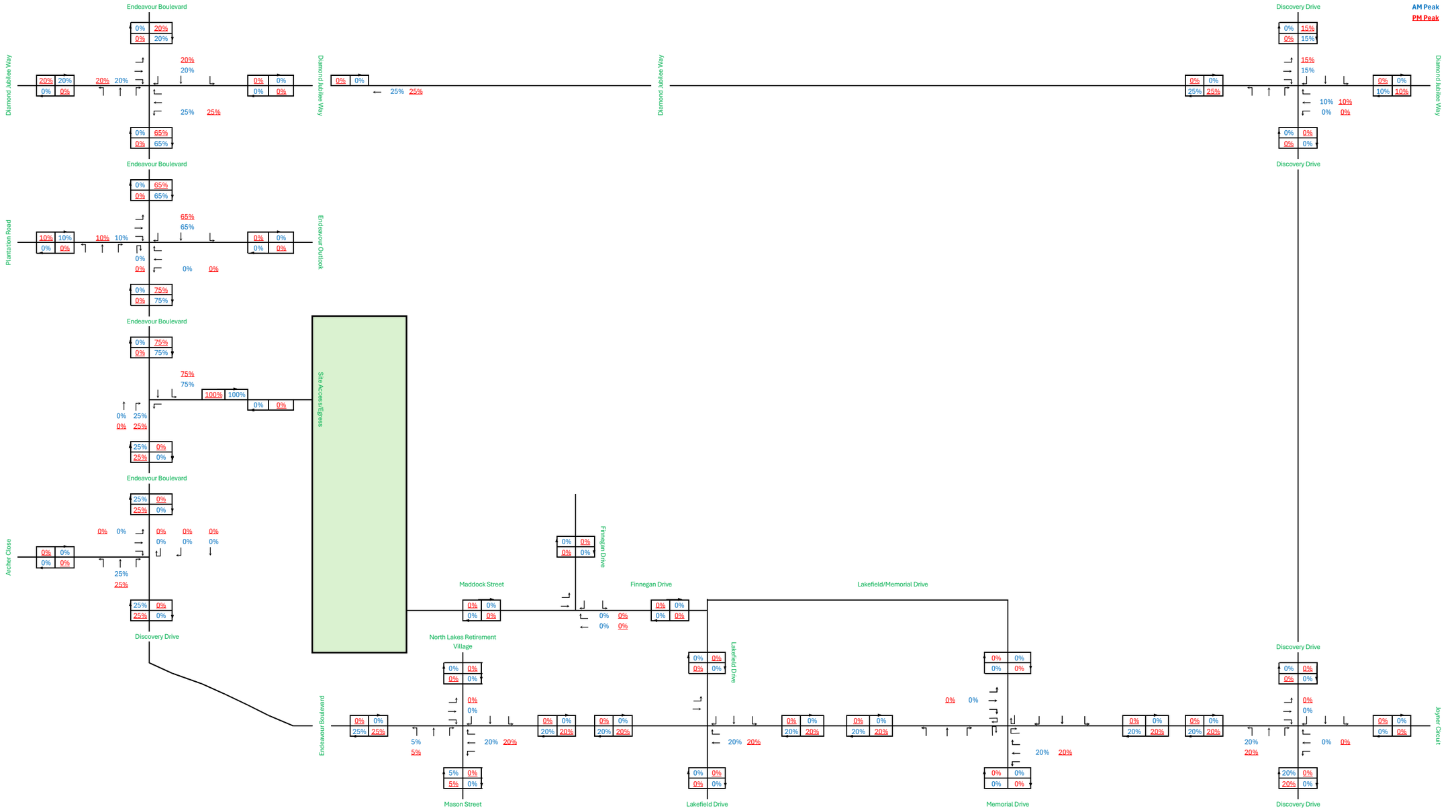
Junior Development Distribution - Outbound (%)



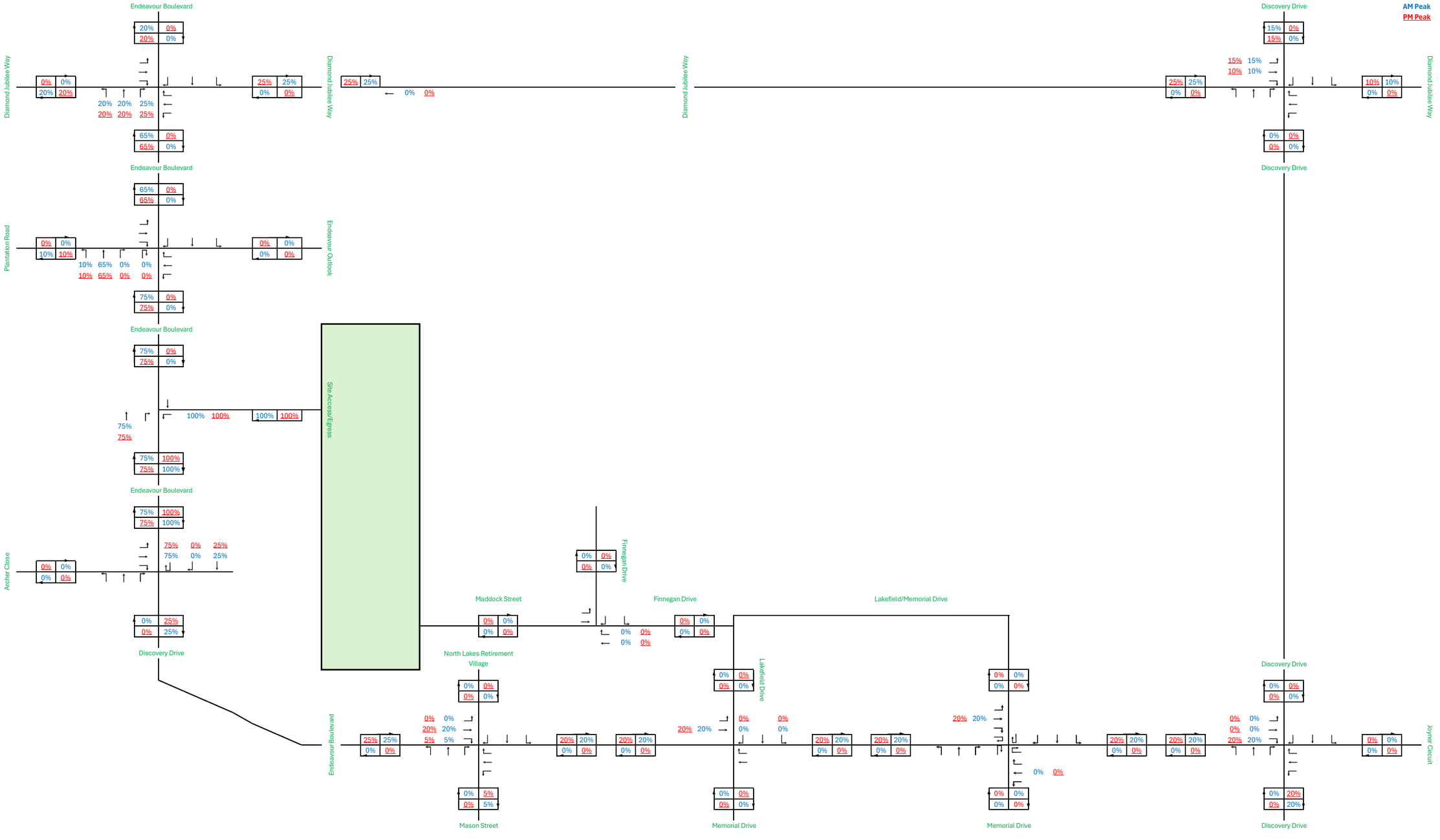
Senior Development Distribution - Total Movements



Senior Development Distribution - Inbound (%)



Senior Development Distribution - Outbound (%)



Appendix D Detailed SIDRA Outputs

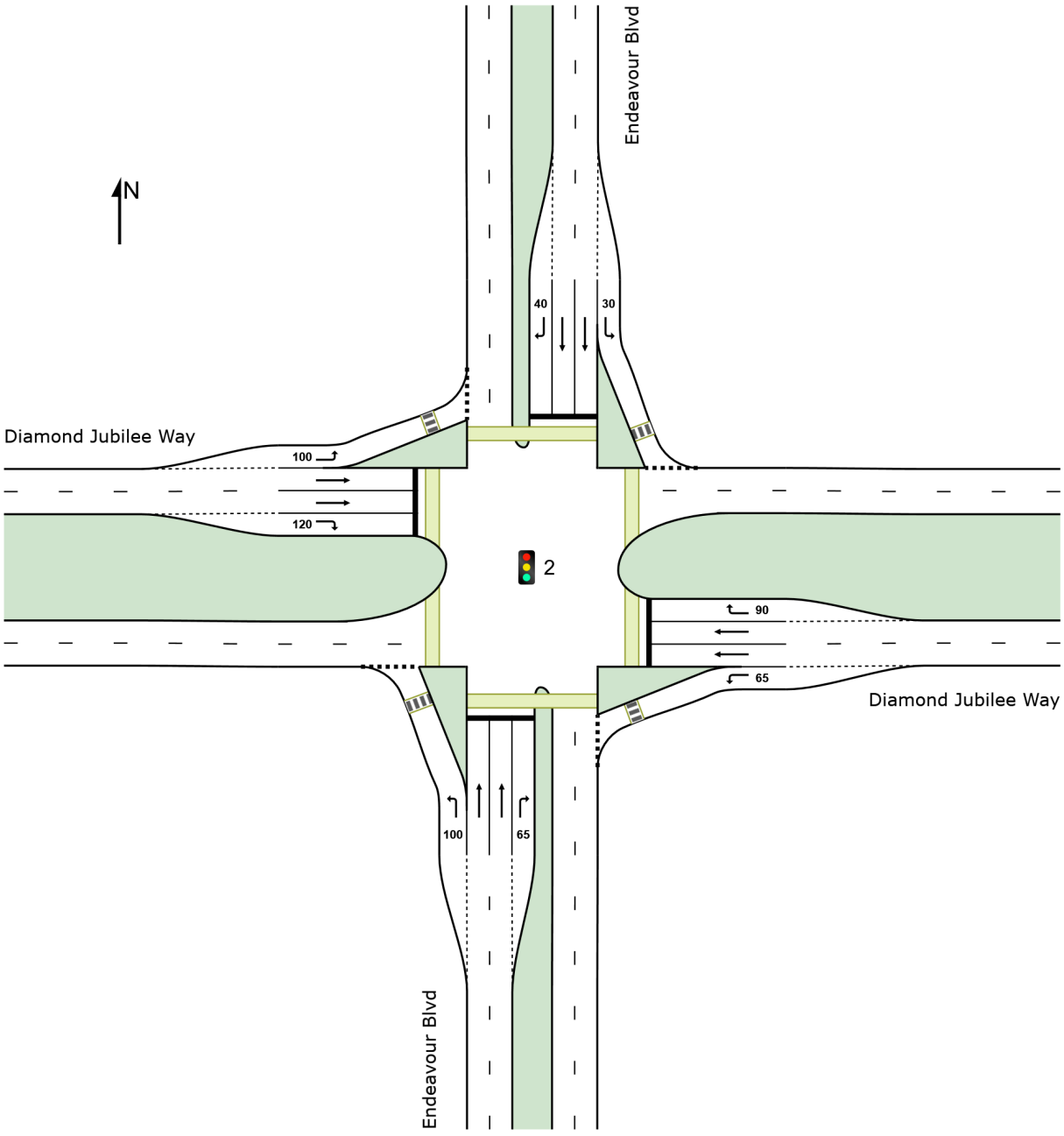
SITE LAYOUT

DIAMOND JUBILEE WAY AM PEAK

Site: 2 [Diamond Jubilee Way/Endeavour Blvd (Site Folder: 2025 AM Survey)]

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



SIDRA INTERSECTION 9.1 | Copyright © 2000-2024 Akcelik and Associates Pty Ltd | sidrasolutions.com
Organisation: TTM CONSULTING PTY LTD | Licence: NETWORK / Enterprise Level 5 | Created: Friday, 28 August 2026 2:20:06 PM
Project: C:\Users\Mark.Hanson\OneDrive - Colliers International\2021 Synergy Projects - 21BRT0438 North Lakes School\7 - Reports\RFIs\MH Update\21BRT0438 SA02_B Network 2026_MH.sip9

MOVEMENT SUMMARY

DIAMOND JUBILEE WAY MOVEMENT SUMMARIES

Site: 2 [Diamond Jubilee Way/Endeavour Blvd (Site Folder: 2025 AM Survey)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 141 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	166	4.0	166	4.0	0.137	8.3	LOS A	2.2	15.8	0.25	0.62	0.25	61.9
2	T1	All MCs	157	5.0	157	5.0	0.202	51.7	LOS D	4.5	32.6	0.87	0.68	0.87	23.2
3	R2	All MCs	258	3.0	258	3.0	*0.817	75.0	LOS E	18.3	131.3	1.00	0.93	1.13	40.2
Approach			581	3.8	581	3.8	0.817	49.6	LOS D	18.3	131.3	0.75	0.77	0.81	40.1
East: Diamond Jubilee Way															
4	L2	All MCs	361	1.0	361	1.0	0.346	21.9	LOS C	12.6	88.7	0.58	0.76	0.58	59.3
5	T1	All MCs	499	2.0	499	2.0	0.677	57.5	LOS E	16.1	114.5	0.99	0.83	0.99	53.2
6	R2	All MCs	209	1.0	209	1.0	*0.801	75.9	LOS E	14.9	105.2	1.00	0.90	1.13	40.1
Approach			1069	1.5	1069	1.5	0.801	49.1	LOS D	16.1	114.5	0.85	0.82	0.88	51.8
North: Endeavour Blvd															
7	L2	All MCs	379	1.0	379	1.0	0.774	62.3	LOS E	21.5	151.5	0.96	1.16	1.00	47.0
8	T1	All MCs	449	1.0	449	1.0	*0.739	78.6	LOS E	18.8	132.9	0.99	0.94	1.05	21.0
9	R2	All MCs	18	6.0	18	6.0	0.057	81.3	LOS F	1.0	7.5	0.86	0.69	0.86	37.7
Approach			846	1.1	846	1.1	0.774	71.4	LOS E	21.5	151.5	0.98	1.03	1.02	31.1
West: Diamond Jubilee Way															
10	L2	All MCs	7	14.0	7	14.0	0.006	10.2	LOS B	0.1	0.7	0.24	0.63	0.24	60.5
11	T1	All MCs	602	3.0	602	3.0	0.516	43.2	LOS D	17.0	121.9	0.88	0.75	0.88	58.0
12	R2	All MCs	377	2.0	377	2.0	*0.806	64.2	LOS E	25.5	181.3	1.00	0.90	1.07	35.5
Approach			986	2.7	986	2.7	0.806	51.0	LOS D	25.5	181.3	0.92	0.81	0.95	50.6
All Vehicles			3483	2.1	3483	2.1	0.817	55.1	LOS E	25.5	181.3	0.88	0.86	0.92	45.0

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Endeavour Blvd												
P1	Full	1	1	64.6	LOS F	0.0	0.0	0.96	0.96	218.5	200.0	0.92
East: Diamond Jubilee Way												

P21 Stage 1	3	3	64.6	LOS F	0.0	0.0	0.96	0.96	218.5	200.0	0.92
P22 Stage 2	3	3	29.7	LOS C	0.0	0.0	0.92	0.92	183.5	200.0	1.09
North: Endeavour Blvd											
P3 Full	1	1	64.6	LOS F	0.0	0.0	0.96	0.96	218.5	200.0	0.92
West: Diamond Jubilee Way											
P41 Stage 1	2	2	64.6	LOS F	0.0	0.0	0.96	0.96	218.5	200.0	0.92
P42 Stage 2	2	2	64.6	LOS F	0.0	0.0	0.96	0.96	218.5	200.0	0.92
All Pedestrians	12	13	55.9	LOS E	0.0	0.0	0.95	0.95	209.7	200.0	0.95

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

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MOVEMENT SUMMARY

Site: 2 [Diamond Jubilee Way/Endeavour Blvd (Site Folder: 2030 AM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	175	4.0	175	4.0	0.114	5.9	LOS A	0.6	4.7	0.07	0.57	0.07	64.1
2	T1	All MCs	164	5.0	164	5.0	0.745	61.8	LOS E	4.6	33.6	1.00	0.91	1.19	20.3
3	R2	All MCs	271	3.0	271	3.0	* 0.776	59.0	LOS E	16.0	114.6	1.00	0.90	1.10	43.6
Approach			609	3.8	609	3.8	0.776	44.5	LOS D	16.0	114.6	0.73	0.81	0.83	41.9
East: Diamond Jubilee Way															
4	L2	All MCs	379	1.0	379	1.0	0.210	7.6	LOS A	1.6	11.1	0.08	0.63	0.08	68.5
5	T1	All MCs	524	2.0	524	2.0	* 0.817	57.5	LOS E	16.0	114.2	1.00	0.93	1.15	53.2
6	R2	All MCs	220	1.0	220	1.0	0.754	63.0	LOS E	13.0	91.9	1.00	0.88	1.09	43.5
Approach			1123	1.5	1123	1.5	0.817	41.8	LOS D	16.0	114.2	0.69	0.82	0.78	54.5
North: Endeavour Blvd															
7	L2	All MCs	398	1.0	398	1.0	0.253	8.8	LOS A	1.7	12.3	0.08	0.85	0.08	68.0
8	T1	All MCs	472	1.0	472	1.0	* 0.798	67.5	LOS E	18.6	131.1	1.00	0.99	1.14	22.2
9	R2	All MCs	19	6.0	19	6.0	0.041	54.7	LOS D	0.8	5.6	0.78	0.67	0.78	45.6
Approach			888	1.1	888	1.1	0.798	40.9	LOS D	18.6	131.1	0.58	0.92	0.66	40.6
West: Diamond Jubilee Way															
10	L2	All MCs	7	14.0	7	14.0	0.006	10.2	LOS B	0.1	0.7	0.26	0.63	0.26	60.4
11	T1	All MCs	633	3.0	633	3.0	0.584	39.8	LOS D	15.9	114.4	0.91	0.78	0.91	59.3
12	R2	All MCs	396	2.0	396	2.0	* 0.786	53.9	LOS D	22.5	160.0	0.99	0.89	1.05	38.7
Approach			1036	2.7	1036	2.7	0.786	45.0	LOS D	22.5	160.0	0.94	0.82	0.96	52.8
All Vehicles			3657	2.1	3657	2.1	0.817	42.9	LOS D	22.5	160.0	0.74	0.84	0.81	49.4

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Endeavour Blvd												
P1	Full	1	1	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96
East: Diamond Jubilee Way												

P21 Stage 1	3	3	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96
P22 Stage 2	3	3	24.5	LOS C	0.0	0.0	0.90	0.90	178.4	200.0	1.12
North: Endeavour Blvd											
P3 Full	1	1	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96
West: Diamond Jubilee Way											
P41 Stage 1	2	2	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96
P42 Stage 2	2	2	24.5	LOS C	0.0	0.0	0.90	0.90	178.4	200.0	1.12
All Pedestrians	12	13	41.8	LOS E	0.0	0.0	0.93	0.93	195.6	200.0	1.02

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

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MOVEMENT SUMMARY

Site: 2 [Diamond Jubilee Way/Endeavour Blvd (Site Folder: 2030 AM Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	201	4.0	201	4.0	0.132	5.9	LOS A	0.8	5.5	0.07	0.57	0.07	64.1
2	T1	All MCs	192	5.0	192	5.0	0.869	68.1	LOS E	5.6	41.1	1.00	0.99	1.39	19.0
3	R2	All MCs	271	3.0	271	3.0	*0.776	59.0	LOS E	16.0	114.6	1.00	0.90	1.10	43.6
Approach			663	3.9	663	3.9	0.869	45.5	LOS D	16.0	114.6	0.72	0.83	0.87	41.0
East: Diamond Jubilee Way															
4	L2	All MCs	379	1.0	379	1.0	0.210	7.6	LOS A	1.6	11.1	0.08	0.63	0.08	68.5
5	T1	All MCs	524	2.0	524	2.0	*0.817	57.5	LOS E	16.0	114.2	1.00	0.93	1.15	53.2
6	R2	All MCs	220	1.0	220	1.0	0.754	63.0	LOS E	13.0	91.9	1.00	0.88	1.09	43.5
Approach			1123	1.5	1123	1.5	0.817	41.8	LOS D	16.0	114.2	0.69	0.82	0.78	54.5
North: Endeavour Blvd															
7	L2	All MCs	398	1.0	398	1.0	0.253	12.1	LOS B	1.7	12.3	0.08	0.83	0.08	68.0
8	T1	All MCs	500	1.0	500	1.0	*0.842	73.2	LOS E	20.4	143.7	1.00	1.03	1.20	21.3
9	R2	All MCs	19	6.0	19	6.0	0.041	56.5	LOS E	0.8	5.6	0.78	0.67	0.78	45.6
Approach			917	1.1	917	1.1	0.842	46.3	LOS D	20.4	143.7	0.60	0.94	0.71	38.2
West: Diamond Jubilee Way															
10	L2	All MCs	7	14.0	7	14.0	0.006	10.4	LOS B	0.1	0.7	0.27	0.63	0.27	60.3
11	T1	All MCs	633	3.0	633	3.0	0.584	39.8	LOS D	15.9	114.4	0.91	0.78	0.91	59.3
12	R2	All MCs	423	2.0	423	2.0	*0.840	58.0	LOS E	25.5	181.7	1.00	0.93	1.12	37.4
Approach			1063	2.7	1063	2.7	0.840	46.9	LOS D	25.5	181.7	0.94	0.84	0.99	51.9
All Vehicles			3766	2.1	3766	2.1	0.869	45.0	LOS D	25.5	181.7	0.74	0.86	0.84	48.3

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Endeavour Blvd												
P1	Full	1	1	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96
East: Diamond Jubilee Way												

P21 Stage 1	3	3	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96
P22 Stage 2	3	3	24.5	LOS C	0.0	0.0	0.90	0.90	178.4	200.0	1.12
North: Endeavour Blvd											
P3 Full	1	1	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96
West: Diamond Jubilee Way											
P41 Stage 1	2	2	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96
P42 Stage 2	2	2	24.5	LOS C	0.0	0.0	0.90	0.90	178.4	200.0	1.12
All Pedestrians	12	13	41.8	LOS E	0.0	0.0	0.93	0.93	195.6	200.0	1.02

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

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MOVEMENT SUMMARY

Site: 2 [Diamond Jubilee Way/Endeavour Blvd-wombat (Site Folder: 2037 AM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	186	4.0	186	4.0	0.122	5.9	LOS A	0.7	5.1	0.07	0.57	0.07	64.1
2	T1	All MCs	176	5.0	176	5.0	0.798	64.3	LOS E	5.0	36.5	1.00	0.94	1.26	19.8
3	R2	All MCs	288	3.0	288	3.0	* 0.831	63.4	LOS E	17.8	127.8	1.00	0.95	1.16	42.6
Approach			651	3.8	651	3.8	0.831	47.2	LOS D	17.8	127.8	0.73	0.84	0.88	40.9
East: Diamond Jubilee Way															
4	L2	All MCs	404	1.0	404	1.0	0.224	7.6	LOS A	1.7	12.0	0.08	0.64	0.08	68.5
5	T1	All MCs	559	2.0	559	2.0	* 0.871	62.1	LOS E	18.0	128.1	1.00	0.99	1.23	51.8
6	R2	All MCs	235	1.0	235	1.0	0.804	65.4	LOS E	14.3	101.2	1.00	0.91	1.15	42.8
Approach			1198	1.5	1198	1.5	0.871	44.3	LOS D	18.0	128.1	0.69	0.85	0.83	53.5
North: Endeavour Blvd															
7	L2	All MCs	424	1.0	424	1.0	0.269	11.9	LOS B	1.9	13.3	0.08	0.83	0.08	68.0
8	T1	All MCs	503	1.0	503	1.0	* 0.853	74.7	LOS E	20.9	147.3	1.00	1.05	1.22	21.0
9	R2	All MCs	20	6.0	20	6.0	0.043	56.9	LOS E	0.8	5.9	0.78	0.67	0.78	45.6
Approach			947	1.1	947	1.1	0.853	46.2	LOS D	20.9	147.3	0.59	0.94	0.70	38.5
West: Diamond Jubilee Way															
10	L2	All MCs	8	14.0	8	14.0	0.007	10.7	LOS B	0.1	0.8	0.28	0.63	0.28	60.1
11	T1	All MCs	675	3.0	675	3.0	0.623	40.4	LOS D	17.2	123.7	0.93	0.80	0.93	59.1
12	R2	All MCs	422	2.0	422	2.0	* 0.838	57.8	LOS E	25.4	180.7	1.00	0.93	1.12	37.4
Approach			1105	2.7	1105	2.7	0.838	46.8	LOS D	25.4	180.7	0.95	0.85	1.00	52.1
All Vehicles			3901	2.1	3901	2.1	0.871	46.0	LOS D	25.4	180.7	0.75	0.87	0.85	48.3

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Endeavour Blvd												
P1	Full	1	1	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96
East: Diamond Jubilee Way												

P21 Stage 1	3	3	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96
P22 Stage 2	3	3	24.5	LOS C	0.0	0.0	0.90	0.90	178.4	200.0	1.12
North: Endeavour Blvd											
P3 Full	1	1	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96
West: Diamond Jubilee Way											
P41 Stage 1	2	2	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96
P42 Stage 2	2	2	24.5	LOS C	0.0	0.0	0.90	0.90	178.4	200.0	1.12
All Pedestrians	12	13	41.8	LOS E	0.0	0.0	0.93	0.93	195.6	200.0	1.02

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

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MOVEMENT SUMMARY

Site: 2 [Diamond Jubilee Way/Endeavour Blvd-wombat (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	285	4.0	285	4.0	0.187	5.9	LOS A	1.1	8.3	0.08	0.57	0.08	64.0
2	T1	All MCs	275	5.0	275	5.0	1.247	258.7	LOS F	16.5	120.7	1.00	1.51	2.74	5.7
3	R2	All MCs	338	3.0	338	3.0	* 1.026	126.6	LOS F	29.6	212.4	1.00	1.27	1.69	31.1
Approach			898	3.9	898	3.9	1.247	128.7	LOS F	29.6	212.4	0.71	1.12	1.50	21.3
East: Diamond Jubilee Way															
4	L2	All MCs	475	1.0	475	1.0	0.264	7.6	LOS A	2.1	14.8	0.08	0.64	0.08	68.5
5	T1	All MCs	559	2.0	559	2.0	* 0.871	62.1	LOS E	18.0	128.1	1.00	0.99	1.23	51.8
6	R2	All MCs	235	1.0	235	1.0	0.804	65.4	LOS E	14.3	101.2	1.00	0.91	1.15	42.8
Approach			1268	1.4	1268	1.4	0.871	42.3	LOS D	18.0	128.1	0.66	0.84	0.79	54.1
North: Endeavour Blvd															
7	L2	All MCs	424	1.0	424	1.0	0.269	22.3	LOS C	1.9	13.3	0.08	0.77	0.08	68.0
8	T1	All MCs	621	1.0	621	1.0	* 1.028	137.1	LOS F	35.2	248.5	1.00	1.39	1.71	13.0
9	R2	All MCs	20	6.0	20	6.0	0.043	63.0	LOS E	0.8	5.9	0.78	0.67	0.78	45.6
Approach			1065	1.1	1065	1.1	1.028	90.0	LOS F	35.2	248.5	0.63	1.13	1.04	26.1
West: Diamond Jubilee Way															
10	L2	All MCs	8	14.0	8	14.0	0.007	10.9	LOS B	0.1	0.9	0.29	0.63	0.29	59.9
11	T1	All MCs	675	3.0	675	3.0	0.623	42.3	LOS D	17.2	123.7	0.93	0.80	0.93	59.1
12	R2	All MCs	540	2.0	540	2.0	* 1.072	149.5	LOS F	52.5	373.5	1.00	1.28	1.81	21.5
Approach			1223	2.6	1223	2.6	1.072	89.4	LOS F	52.5	373.5	0.96	1.01	1.31	39.1
All Vehicles			4455	2.2	4455	2.2	1.247	84.1	LOS F	52.5	373.5	0.74	1.01	1.14	35.6

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Endeavour Blvd												
P1	Full	1	1	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96
East: Diamond Jubilee Way												

P21 Stage 1	3	3	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96
P22 Stage 2	3	3	24.5	LOS C	0.0	0.0	0.90	0.90	178.4	200.0	1.12
North: Endeavour Blvd											
P3 Full	1	1	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96
West: Diamond Jubilee Way											
P41 Stage 1	2	2	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96
P42 Stage 2	2	2	24.5	LOS C	0.0	0.0	0.90	0.90	178.4	200.0	1.12
All Pedestrians	12	13	41.8	LOS E	0.0	0.0	0.93	0.93	195.6	200.0	1.02

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

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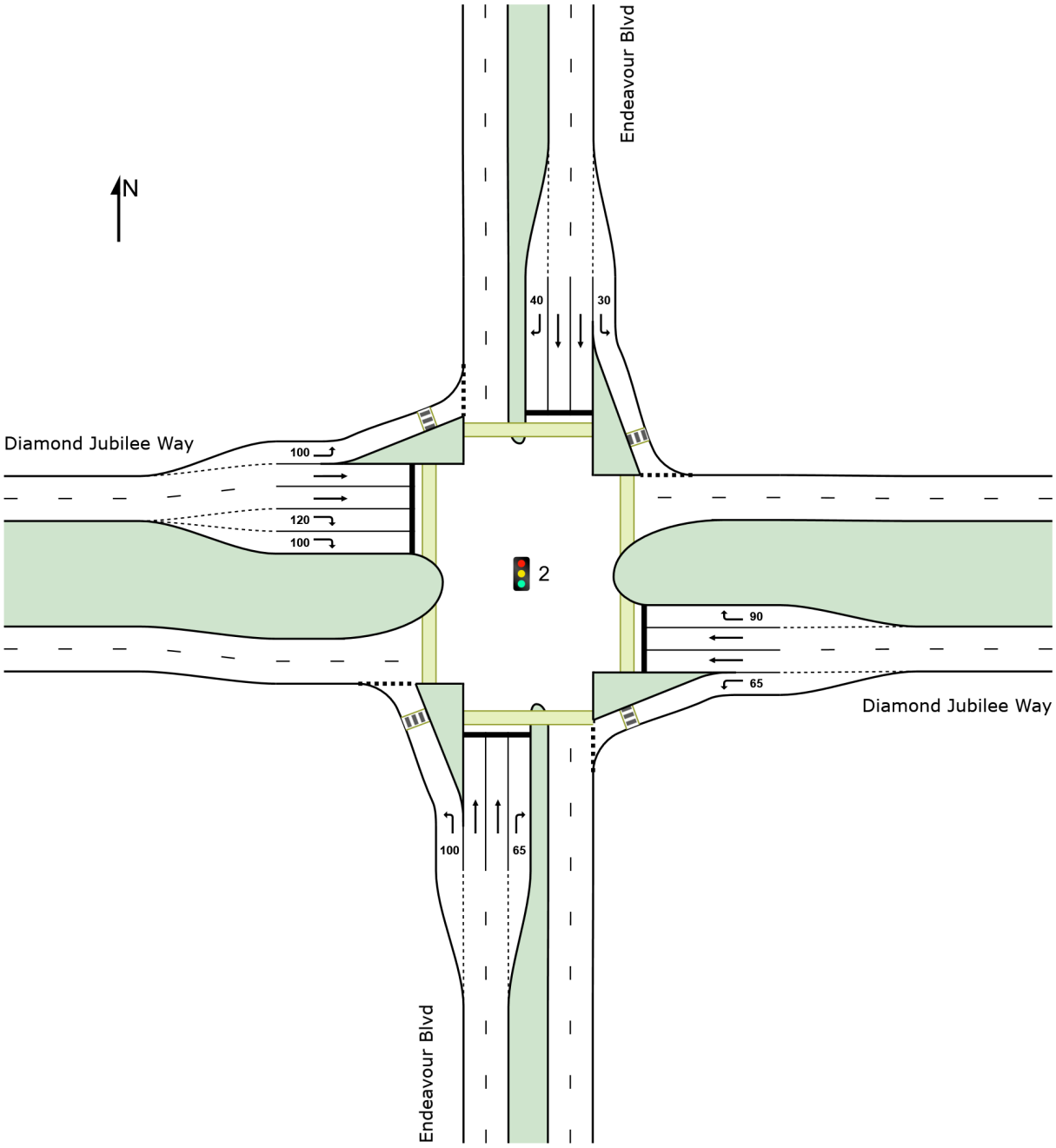
SITE LAYOUT

DIAMOND JUBILEE WAY UPGRADE 1

Site: 2 [Diamond Jubilee Way/Endeavour Blvd - wombat + west right turn (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



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MOVEMENT SUMMARY

Site: 2 [Diamond Jubilee Way/Endeavour Blvd - wombat + west right turn (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 121 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	285	4.0	285	4.0	0.187	5.9	LOS A	1.1	8.3	0.08	0.57	0.08	64.0
2	T1	All MCs	275	5.0	275	5.0	0.733	64.9	LOS E	7.3	53.4	1.00	0.96	1.12	20.5
3	R2	All MCs	338	3.0	338	3.0	* 0.874	72.4	LOS E	21.9	157.3	1.00	0.99	1.21	41.9
Approach			898	3.9	898	3.9	0.874	49.0	LOS D	21.9	157.3	0.71	0.85	0.82	39.3
East: Diamond Jubilee Way															
4	L2	All MCs	475	1.0	475	1.0	0.264	7.6	LOS A	2.1	14.8	0.08	0.64	0.08	68.5
5	T1	All MCs	559	2.0	559	2.0	* 0.837	58.7	LOS E	17.5	124.4	1.00	0.95	1.17	52.8
6	R2	All MCs	235	1.0	235	1.0	0.856	70.4	LOS E	15.1	106.7	1.00	0.95	1.23	41.5
Approach			1268	1.4	1268	1.4	0.856	41.8	LOS D	17.5	124.4	0.66	0.83	0.77	54.3
North: Endeavour Blvd															
7	L2	All MCs	424	1.0	424	1.0	0.276	15.6	LOS B	1.9	13.5	0.08	0.87	0.08	68.0
8	T1	All MCs	621	1.0	621	1.0	* 0.846	73.3	LOS E	25.8	182.0	1.00	1.03	1.17	22.3
9	R2	All MCs	20	6.0	20	6.0	0.037	55.7	LOS E	0.7	5.5	0.73	0.66	0.73	47.6
Approach			1065	1.1	1065	1.1	0.846	50.0	LOS D	25.8	182.0	0.63	0.96	0.73	36.0
West: Diamond Jubilee Way															
10	L2	All MCs	8	14.0	8	14.0	0.007	11.3	LOS B	0.1	0.9	0.30	0.64	0.30	59.6
11	T1	All MCs	675	3.0	675	3.0	0.854	57.5	LOS E	21.2	152.5	1.00	0.97	1.17	53.2
12	R2	All MCs	540	2.0	540	2.0	* 0.811	64.2	LOS E	16.5	117.8	1.00	0.91	1.14	35.5
Approach			1223	2.6	1223	2.6	0.854	60.1	LOS E	21.2	152.5	1.00	0.94	1.15	46.7
All Vehicles			4455	2.2	4455	2.2	0.874	50.2	LOS D	25.8	182.0	0.75	0.90	0.88	45.7

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Endeavour Blvd												
P1	Full	1	1	54.7	LOS E	0.0	0.0	0.95	0.95	208.5	200.0	0.96
East: Diamond Jubilee Way												

P21 Stage 1	3	3	54.7	LOS E	0.0	0.0	0.95	0.95	208.5	200.0	0.96
P22 Stage 2	3	3	24.8	LOS C	0.0	0.0	0.90	0.90	178.6	200.0	1.12
North: Endeavour Blvd											
P3 Full	1	1	54.7	LOS E	0.0	0.0	0.95	0.95	208.5	200.0	0.96
West: Diamond Jubilee Way											
P41 Stage 1	2	2	54.7	LOS E	0.0	0.0	0.95	0.95	208.5	200.0	0.96
P42 Stage 2	2	2	24.6	LOS C	0.0	0.0	0.90	0.90	178.4	200.0	1.12
All Pedestrians	12	13	42.2	LOS E	0.0	0.0	0.93	0.93	196.0	200.0	1.02

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

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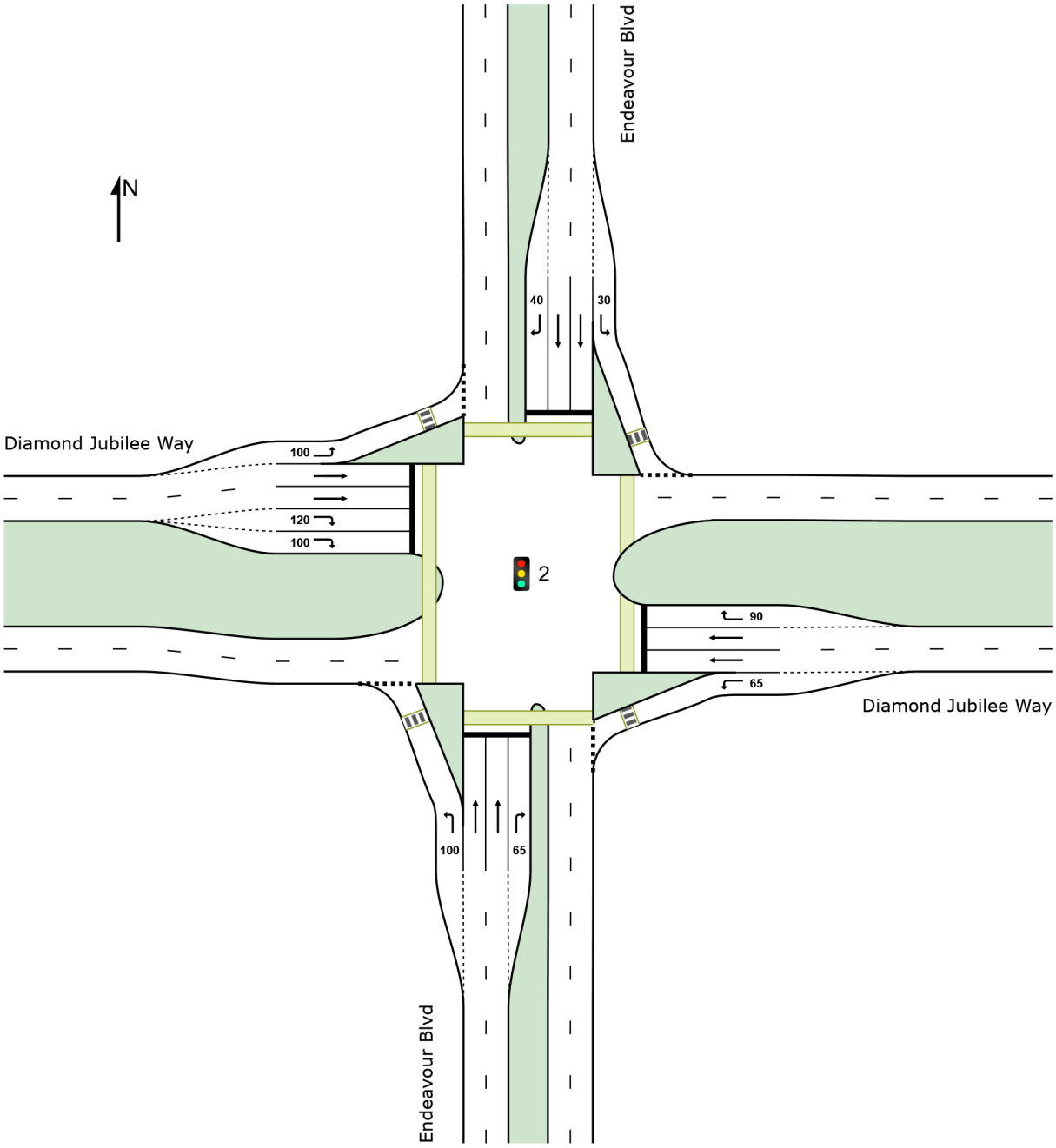
SITE LAYOUT

DIAMOND JUBILEE WAY UPGRADE 2

Site: 2 [Diamond Jubilee Way/Endeavour Blvd - wombat + west right turn + full ped xing (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



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MOVEMENT SUMMARY

Site: 2 [Diamond Jubilee Way/Endeavour Blvd - wombat + west right turn + full ped xing (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 124 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	285	4.0	285	4.0	0.187	5.9	LOS A	1.1	8.3	0.07	0.57	0.07	64.0
2	T1	All MCs	275	5.0	275	5.0	*0.225	30.8	LOS C	5.5	40.1	0.77	0.62	0.77	32.5
3	R2	All MCs	338	3.0	338	3.0	*0.845	69.8	LOS E	21.5	154.5	1.00	0.96	1.16	42.7
Approach			898	3.9	898	3.9	0.845	37.5	LOS D	21.5	154.5	0.63	0.73	0.69	43.8
East: Diamond Jubilee Way															
4	L2	All MCs	475	1.0	475	1.0	0.264	7.6	LOS A	2.1	14.8	0.08	0.64	0.08	68.5
5	T1	All MCs	559	2.0	559	2.0	0.866	62.9	LOS E	18.6	132.4	1.00	0.98	1.22	51.6
6	R2	All MCs	235	1.0	235	1.0	*0.877	74.2	LOS E	15.8	111.5	1.00	0.97	1.27	40.5
Approach			1268	1.4	1268	1.4	0.877	44.3	LOS D	18.6	132.4	0.66	0.85	0.80	53.3
North: Endeavour Blvd															
7	L2	All MCs	424	1.0	424	1.0	0.276	16.1	LOS B	1.9	13.5	0.08	0.87	0.08	68.0
8	T1	All MCs	621	1.0	621	1.0	0.846	75.1	LOS E	26.4	186.6	1.00	1.03	1.17	22.0
9	R2	All MCs	20	6.0	20	6.0	*0.116	70.1	LOS E	0.9	6.8	0.94	0.69	0.94	41.9
Approach			1065	1.1	1065	1.1	0.846	51.5	LOS D	26.4	186.6	0.63	0.96	0.73	35.5
West: Diamond Jubilee Way															
10	L2	All MCs	8	14.0	8	14.0	0.008	11.0	LOS B	0.1	0.9	0.29	0.64	0.29	59.8
11	T1	All MCs	675	3.0	675	3.0	*0.875	61.4	LOS E	22.3	160.1	1.00	0.99	1.21	52.0
12	R2	All MCs	540	2.0	540	2.0	0.831	67.3	LOS E	17.2	122.7	1.00	0.93	1.16	34.7
Approach			1223	2.6	1223	2.6	0.875	63.7	LOS E	22.3	160.1	1.00	0.96	1.18	45.7
All Vehicles			4455	2.2	4455	2.2	0.877	50.0	LOS D	26.4	186.6	0.74	0.88	0.87	45.8

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Endeavour Blvd												
P1	Full	1	1	56.1	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95
East: Diamond Jubilee Way												

P21 Stage 1	3	3	25.6	LOS C	0.0	0.0	0.90	0.90	179.4	200.0	1.11
P22 Stage 2	3	3	56.2	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95
North: Endeavour Blvd											
P3 Full	1	1	56.1	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95
West: Diamond Jubilee Way											
P4 Full	2	2	56.2	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95
All Pedestrians	10	11	47.0	LOS E	0.0	0.0	0.94	0.94	200.8	200.0	1.00

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

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PHASING SUMMARY

DIAMOND JUBILEE WAY PHASING SUMMARIES

Site: 2 [Diamond Jubilee Way/Endeavour Blvd (Site Folder: 2025 AM Survey)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 141 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: diamond SCATS o 2025
Input Phase Sequence: A, C, D, D1*, D2*, E, B
Output Phase Sequence: A, C, D, E, B
Reference Phase: Phase A
(* Variable Phase)

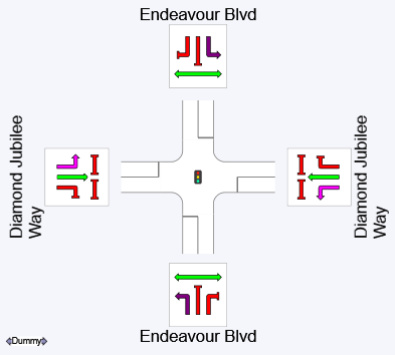
Phase Timing Summary

Phase	A	C	D	E	B
Phase Change Time (sec)	0	7	33	64	99
Green Time (sec)	1	20	25	29	36
Phase Time (sec)	7	26	31	35	42
Phase Split	5%	18%	22%	25%	30%
Phase Frequency (%)	100.0	100.0	100.0	100.0	100.0

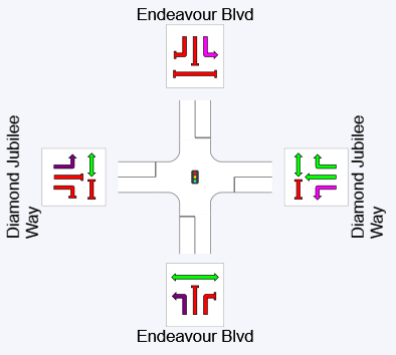
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

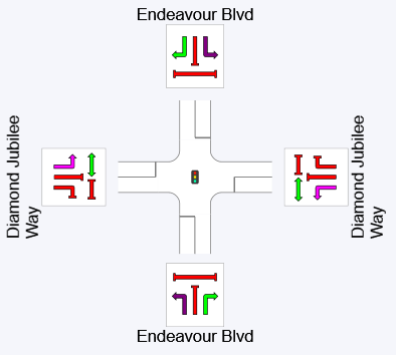
Phase A **REF**



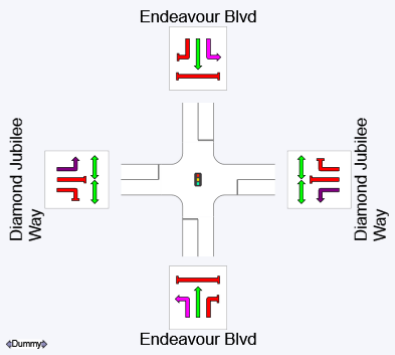
Phase C



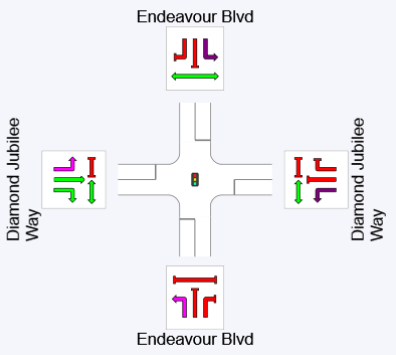
Phase D



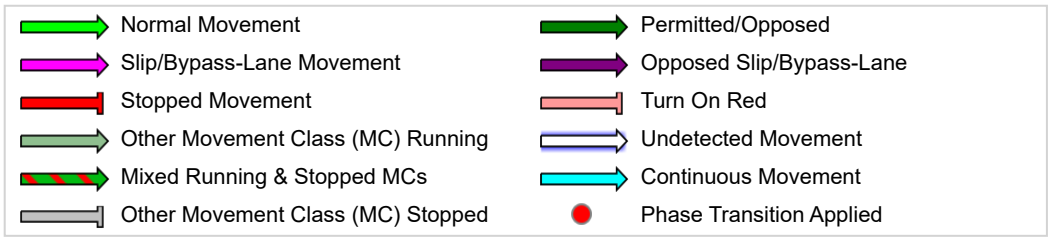
Phase E



Phase B



REF: Reference Phase
VAR: Variable Phase



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PHASING SUMMARY

Site: 2 [Diamond Jubilee Way/Endeavour Blvd (Site Folder: 2030 AM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: diamond SCATS proposed 2030
Input Phase Sequence: A, C, D, D1, D2, E, B
Output Phase Sequence: A, C, D, D1, D2, E, B
Reference Phase: Phase A

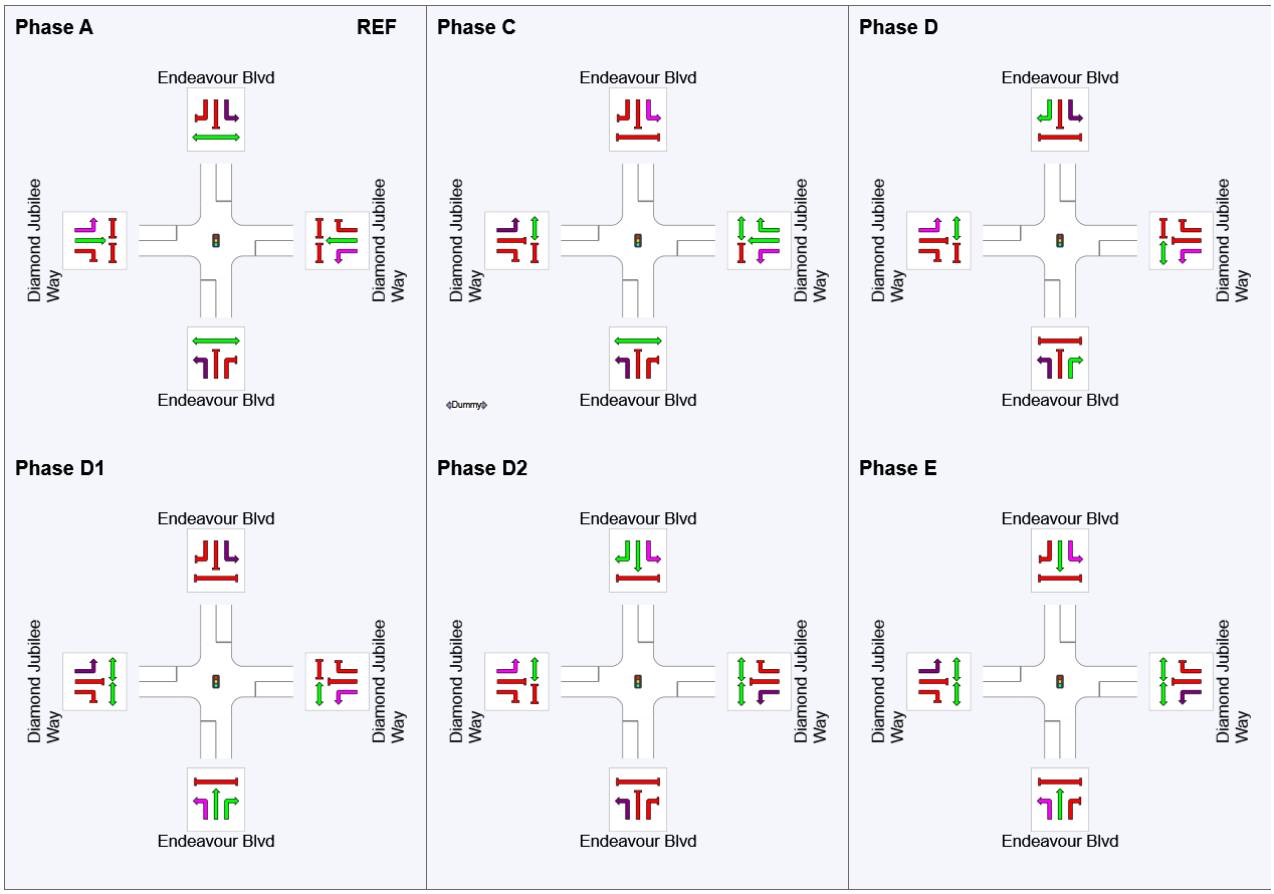
Phase Timing Summary

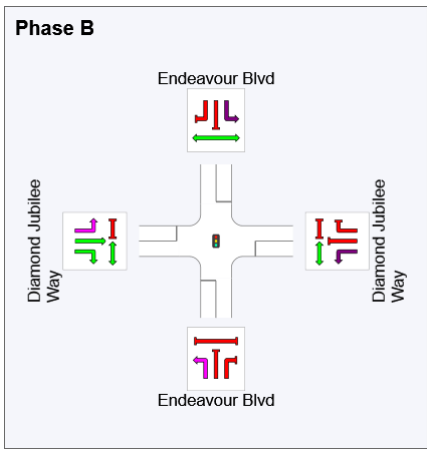
Phase	A	C	D	D1	D2	E	B
Phase Change Time (sec)	0	1	26	47	55	72	81
Green Time (sec)	***	19	15	2	16	5	33
Phase Time (sec)	1	25	21	3	20	11	39
Phase Split	1%	21%	18%	3%	17%	9%	33%
Phase Frequency (%)	100.0[1]	100.0[1]	100.0[1]	25.0[1]	75.0[1]	100.0[1]	100.0[1]

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%.

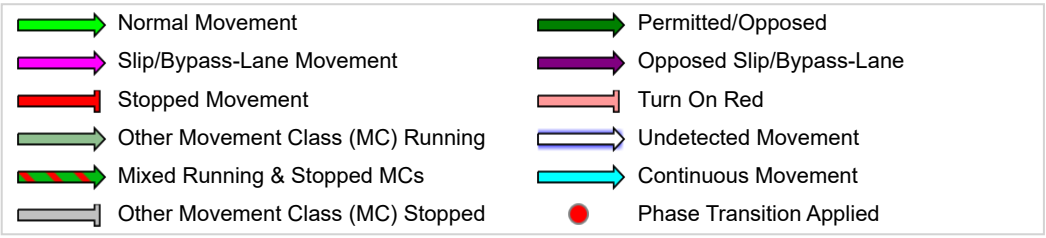
1 Phase Frequency has been given with User-Specified Phase Times.

Output Phase Sequence





REF: Reference Phase
VAR: Variable Phase



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PHASING SUMMARY

Site: 2 [Diamond Jubilee Way/Endeavour Blvd (Site Folder: 2030 AM Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: diamond SCATS proposed 2030 - Import
Input Phase Sequence: A, C, D, D1, D2, E, B
Output Phase Sequence: A, C, D, D1, D2, E, B
Reference Phase: Phase A

Phase Timing Summary

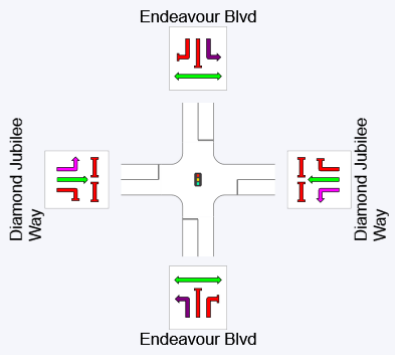
Phase	A	C	D	D1	D2	E	B
Phase Change Time (sec)	0	1	26	47	55	72	81
Green Time (sec)	***	19	15	2	16	5	33
Phase Time (sec)	1	25	21	3	20	11	39
Phase Split	1%	21%	18%	3%	17%	9%	33%
Phase Frequency (%)	100.0[1]	100.0[1]	100.0[1]	25.0[1]	75.0[1]	100.0[1]	100.0[1]

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%.

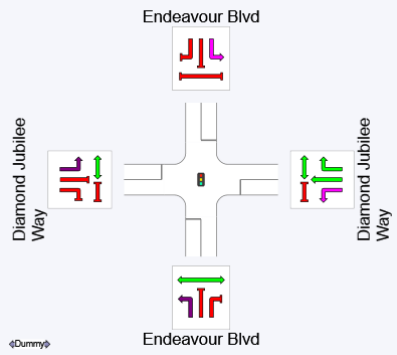
1 Phase Frequency has been given with User-Specified Phase Times.

Output Phase Sequence

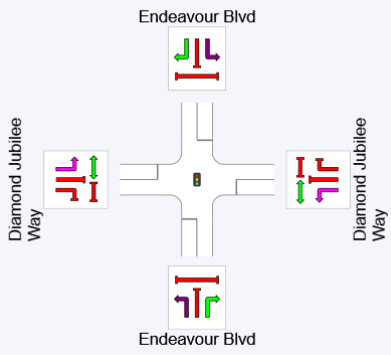
Phase A **REF**



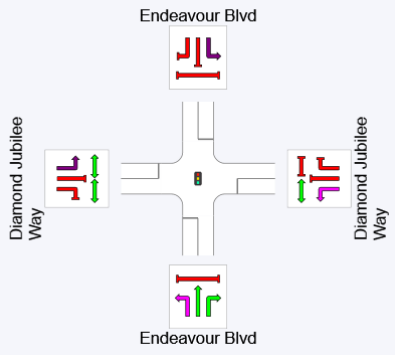
Phase C



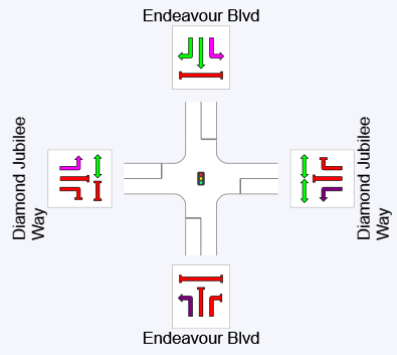
Phase D



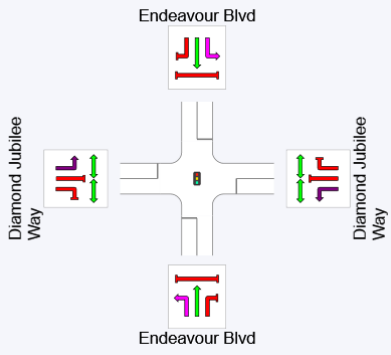
Phase D1

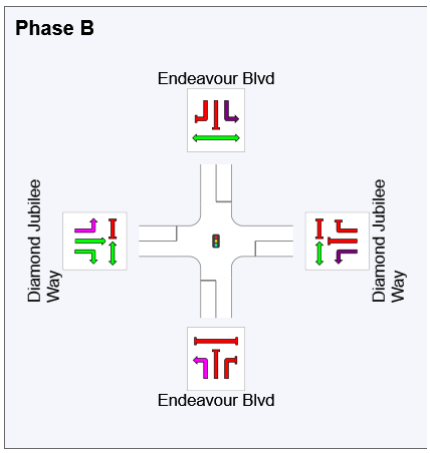


Phase D2



Phase E





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

PHASING SUMMARY

Site: 2 [Diamond Jubilee Way/Endeavour Blvd-wombat (Site Folder: 2037 AM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: diamond SCATS proposed 2037 AM
Input Phase Sequence: A, C, D, D1, D2, E, B
Output Phase Sequence: A, C, D, D1, D2, E, B
Reference Phase: Phase A

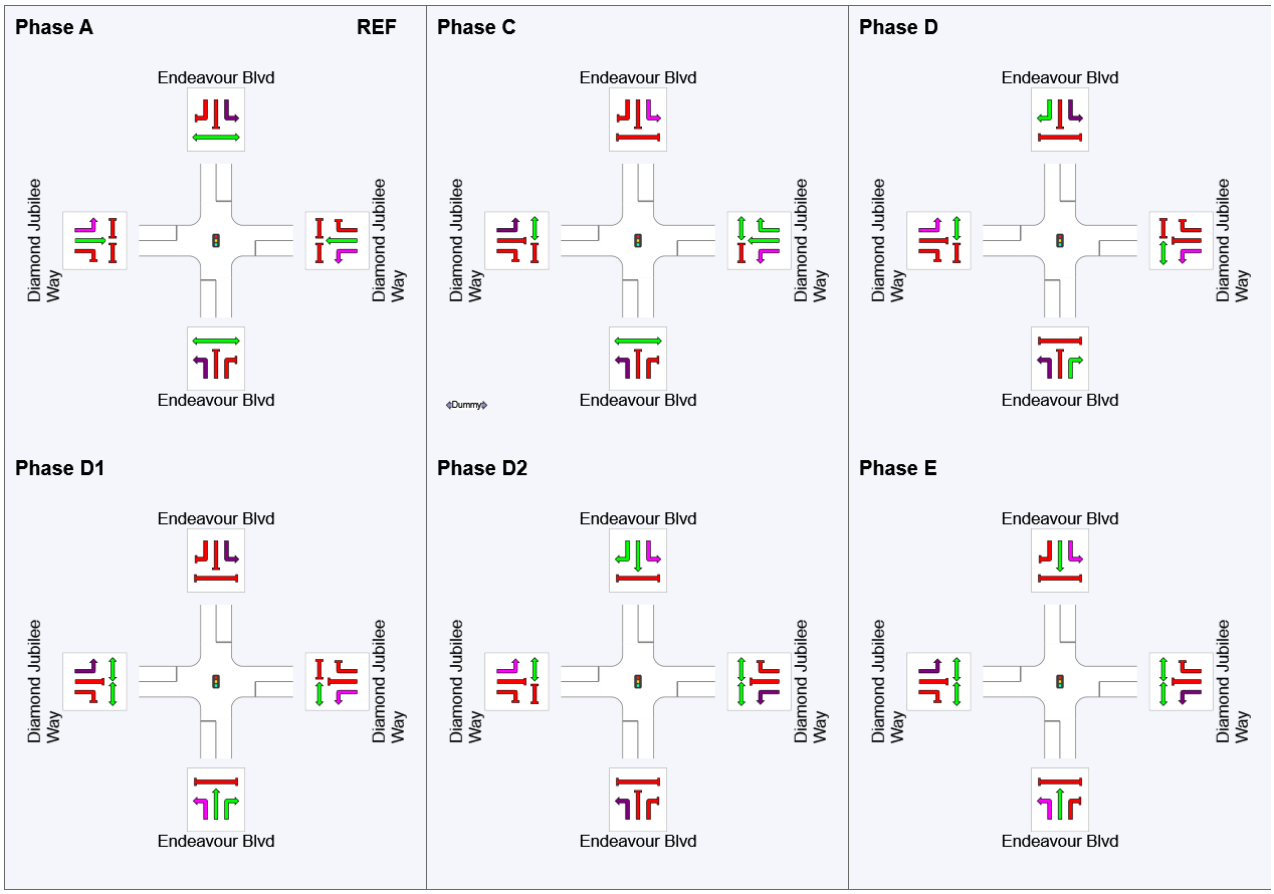
Phase Timing Summary

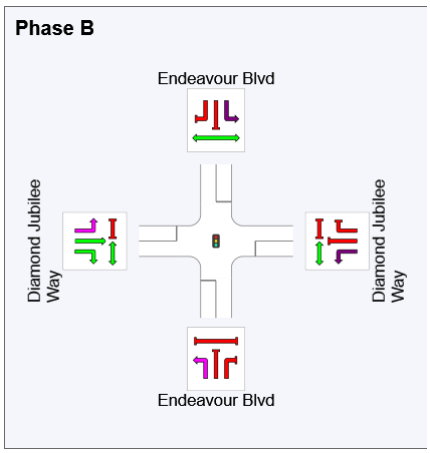
Phase	A	C	D	D1	D2	E	B
Phase Change Time (sec)	0	1	26	47	55	72	81
Green Time (sec)	***	19	15	2	16	5	33
Phase Time (sec)	1	25	21	3	20	11	39
Phase Split	1%	21%	18%	3%	17%	9%	33%
Phase Frequency (%)	100.0[1]	100.0[1]	100.0[1]	25.0[1]	75.0[1]	100.0[1]	100.0[1]

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%.

1 Phase Frequency has been given with User-Specified Phase Times.

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

PHASING SUMMARY

Site: 2 [Diamond Jubilee Way/Endeavour Blvd-wombat (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: diamond SCATS proposed 2037 AM
Input Phase Sequence: A, C, D, D1, D2, E, B
Output Phase Sequence: A, C, D, D1, D2, E, B
Reference Phase: Phase A

Phase Timing Summary

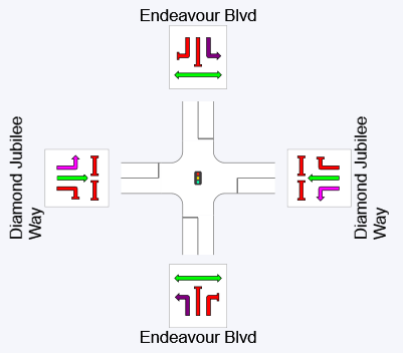
Phase	A	C	D	D1	D2	E	B
Phase Change Time (sec)	0	1	26	47	55	72	81
Green Time (sec)	***	19	15	2	16	5	33
Phase Time (sec)	1	25	21	3	20	11	39
Phase Split	1%	21%	18%	3%	17%	9%	33%
Phase Frequency (%)	100.0[1]	100.0[1]	100.0[1]	25.0[1]	75.0[1]	100.0[1]	100.0[1]

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%.

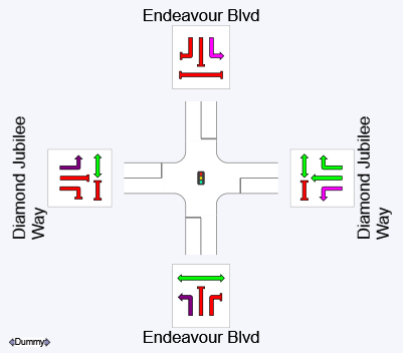
1 Phase Frequency has been given with User-Specified Phase Times.

Output Phase Sequence

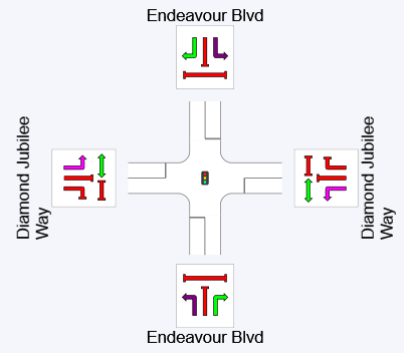
Phase A **REF**



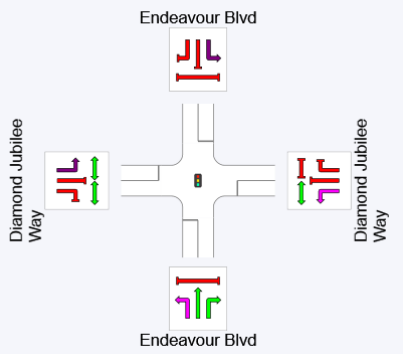
Phase C



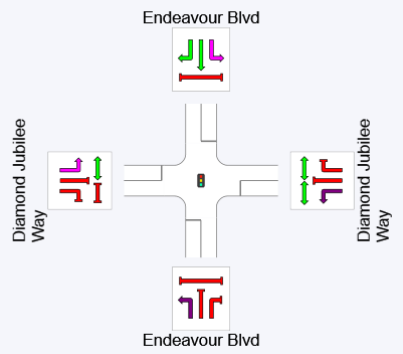
Phase D



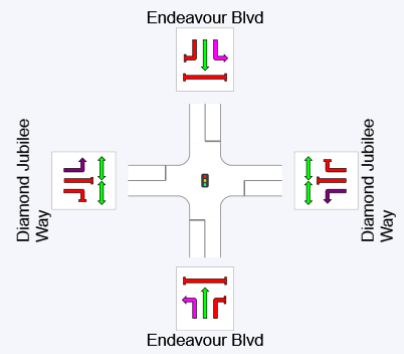
Phase D1

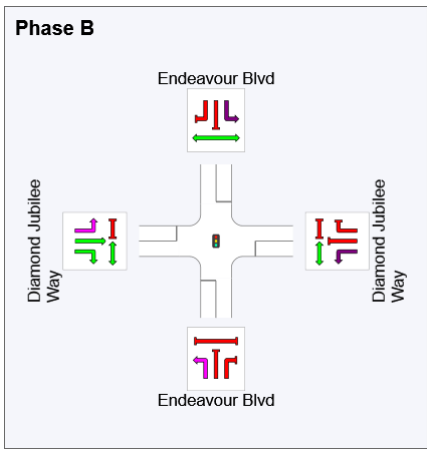


Phase D2

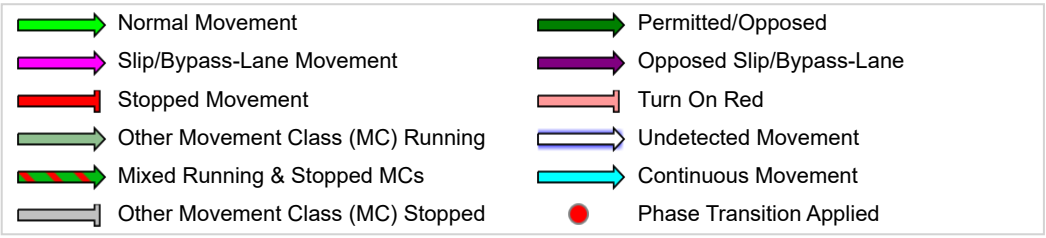


Phase E





REF: Reference Phase
VAR: Variable Phase



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PHASING SUMMARY

Site: 2 [Diamond Jubilee Way/Endeavour Blvd - wombat + west right turn (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 121 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: diamond SCATS proposed 2037 AM dev
Input Phase Sequence: A, C, D, D1, D2, E, B
Output Phase Sequence: A, C, D, D1, D2, E, B
Reference Phase: Phase C

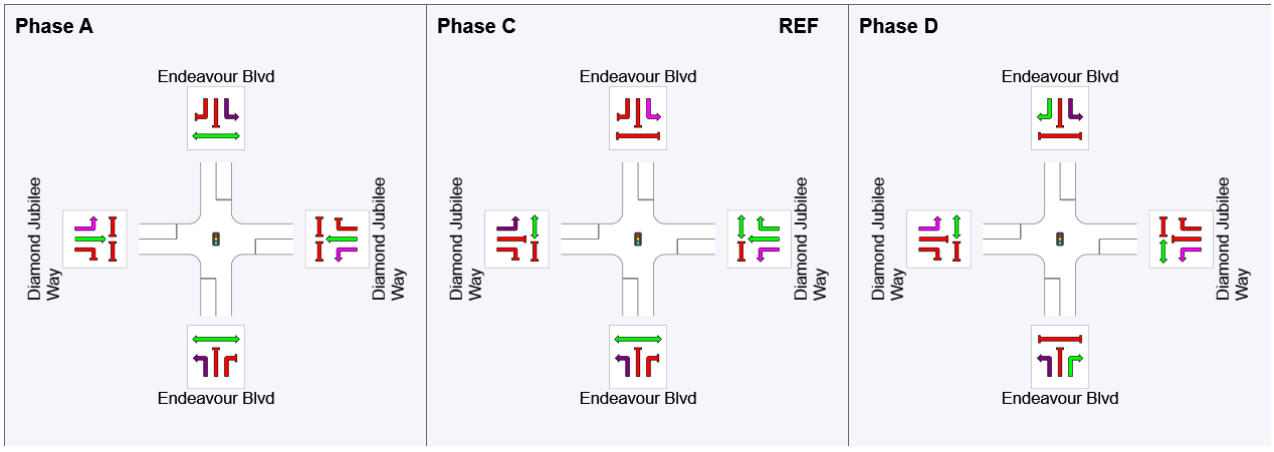
Phase Timing Summary

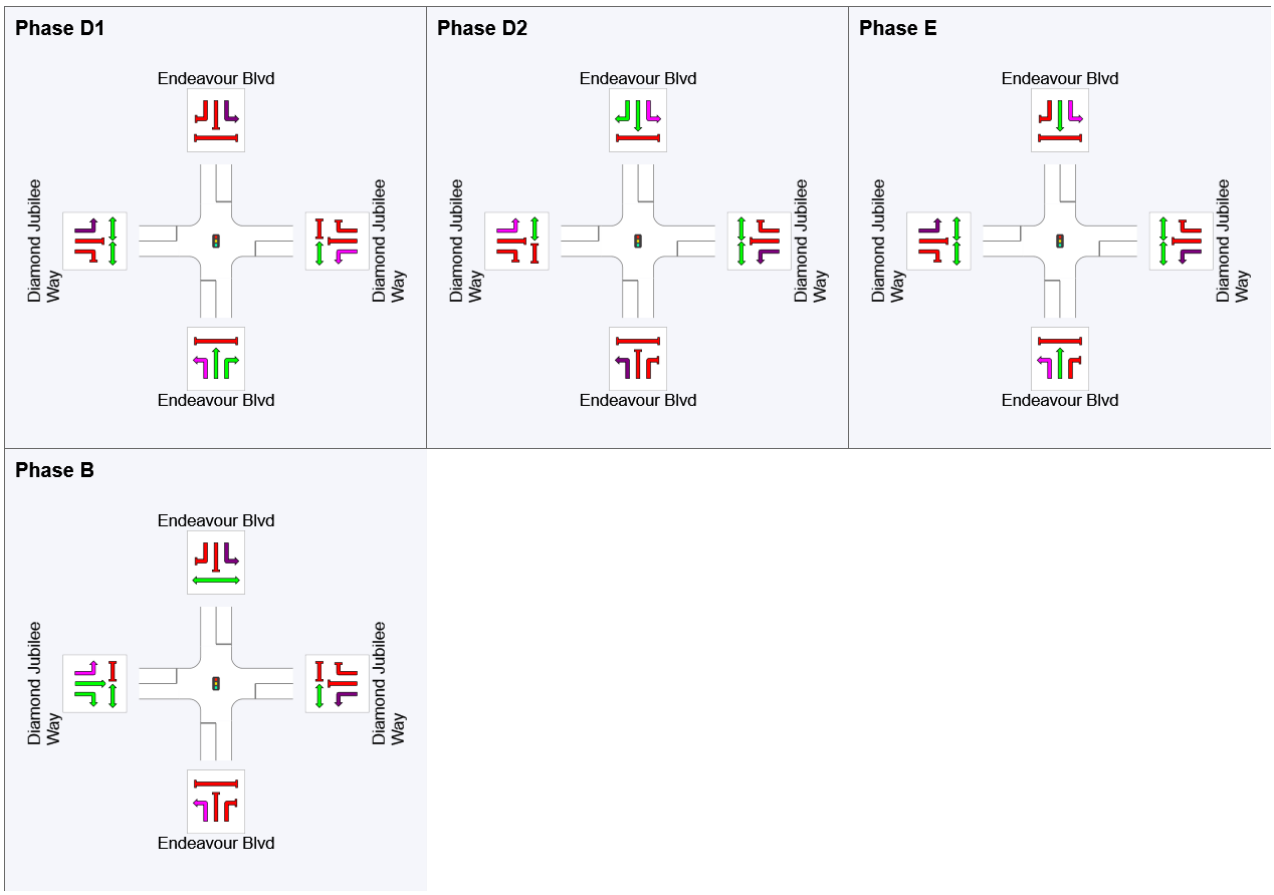
Phase	A	C	D	D1	D2	E	B
Phase Change Time (sec)	115	0	21	46	54	73	87
Green Time (sec)	***	18	19	2	18	10	22
Phase Time (sec)	3	24	25	3	22	16	28
Phase Split	2%	20%	21%	2%	18%	13%	23%
Phase Frequency (%)	50.0[2]	100.0	100.0	25.0[1]	75.0[1]	100.0	100.0

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%.

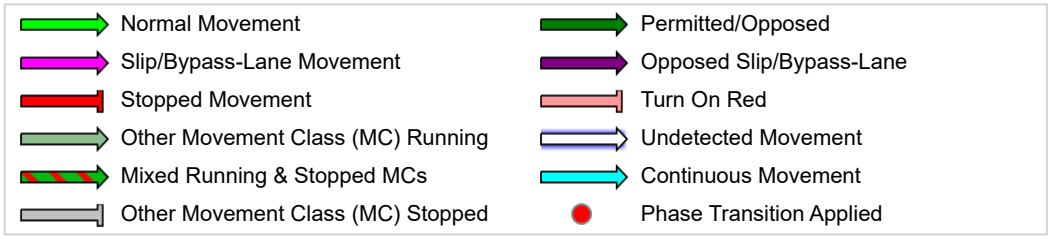
1 Phase Frequency has been given with User-Specified Phase Times.
2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence





REF: Reference Phase
VAR: Variable Phase



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PHASING SUMMARY

Site: 2 [Diamond Jubilee Way/Endeavour Blvd - wombat + west right turn + full ped xing (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 124 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: diamond SCATS proposed 2037 AM dev
Input Phase Sequence: A, C, D, D1, D2, E, B
Output Phase Sequence: A, C, D, D1, D2, E, B
Reference Phase: Phase C

Phase Timing Summary

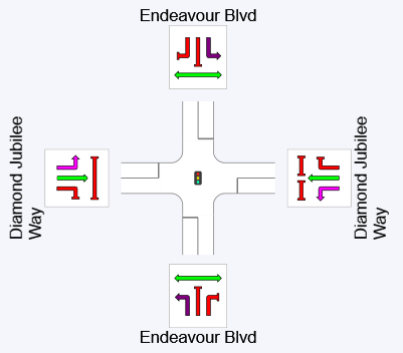
Phase	A	C	D	D1	D2	E	B
Phase Change Time (sec)	121	0	24	37	59	65	93
Green Time (sec)	***	18	7	16	5	24	22
Phase Time (sec)	3	24	13	17	9	30	28
Phase Split	2%	19%	10%	14%	7%	24%	23%
Phase Frequency (%)	100.0	100.0	100.0	25.0[4]	75.0[4]	100.0	100.0

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%.

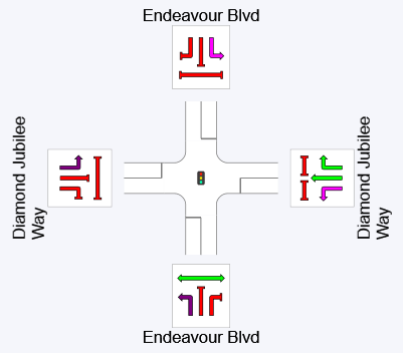
4 Phase Frequency specified by the user (phase times not specified).

Output Phase Sequence

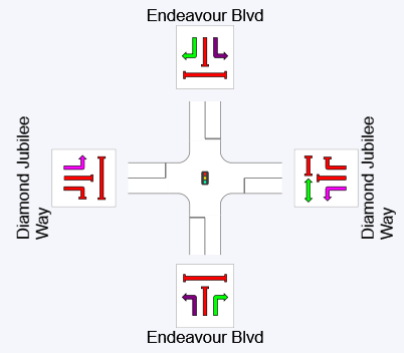
Phase A



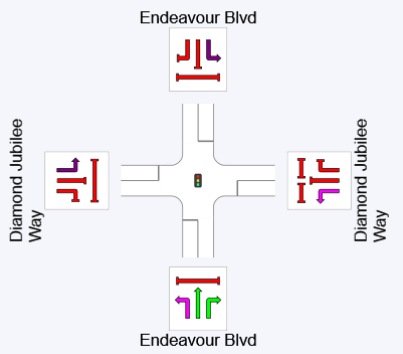
Phase C **REF**



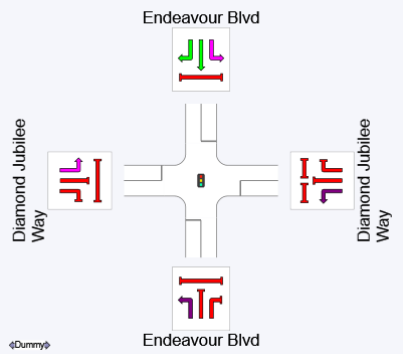
Phase D



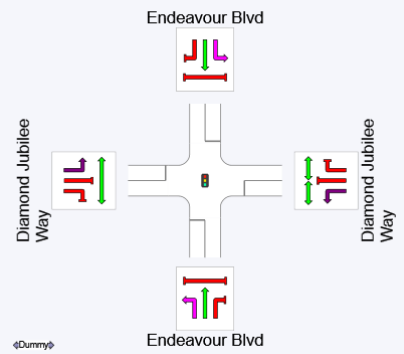
Phase D1

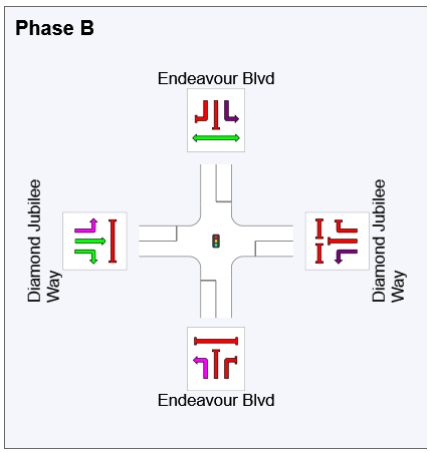


Phase D2

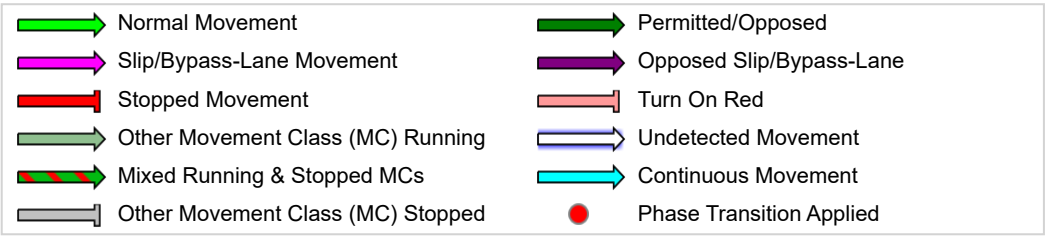


Phase E





REF: Reference Phase
VAR: Variable Phase



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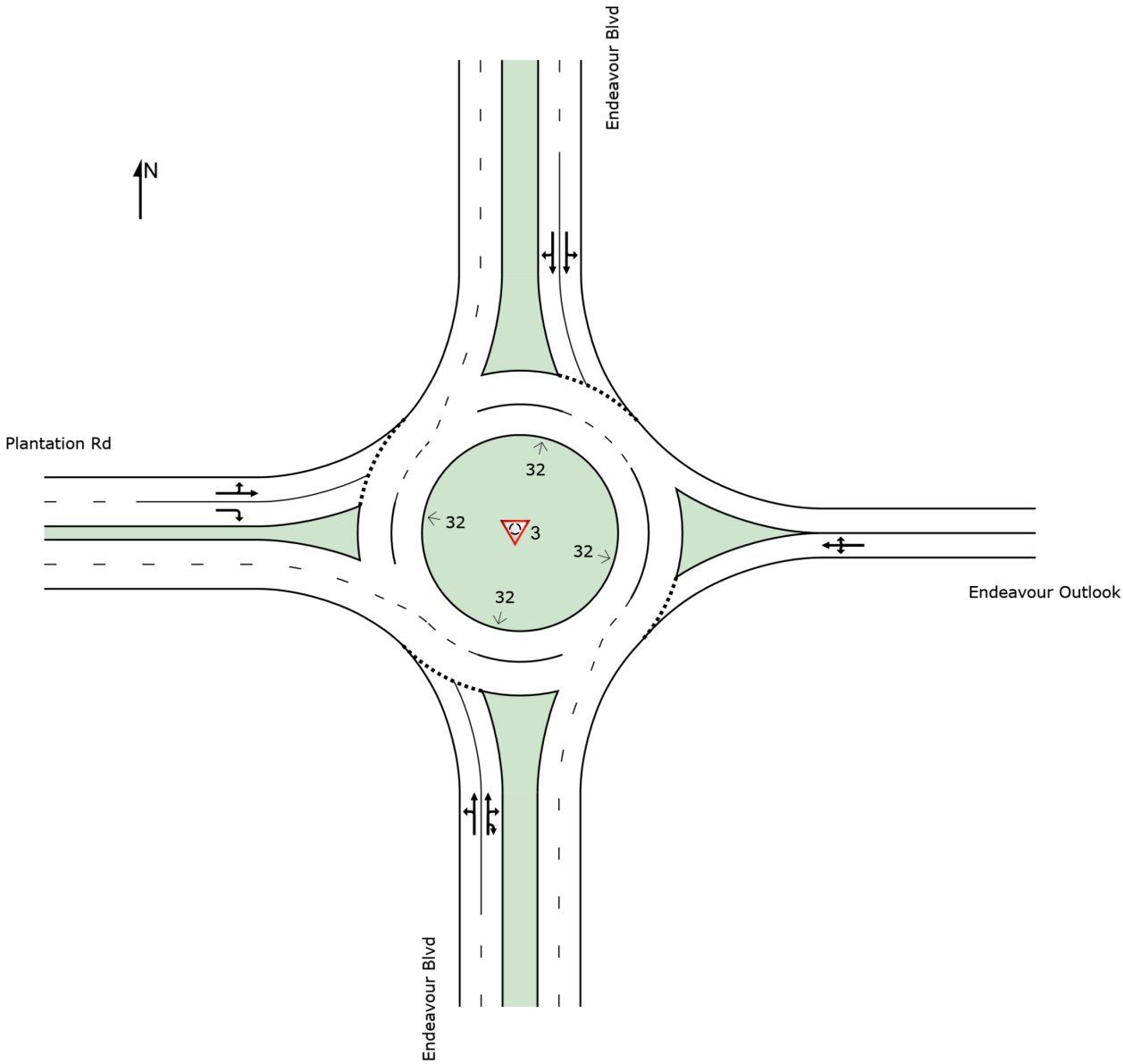
SITE LAYOUT

Site: 3 [Endeavour Blvd/Plantation Rd (Site Folder: 2025 AM Survey)]

PLANTATION ROAD
AM PEAK

Endeavour Boulevard/Plantation Road
Site Category: NA
Roundabout

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



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Project: C:\Users\Mark.Hanson\OneDrive - Colliers International\2021 Synergy Projects - 21BRT0438 North Lakes School\7 - Reports\RFIs\MH Update\21BRT0438 SA02_B Network 2026_MH.sip9

MOVEMENT SUMMARY

PLANTATION ROAD MOVEMENT SUMMARIES

Site: 3 [Endeavour Blvd/Plantation Rd (Site Folder: 2025 AM Survey)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Plantation Road
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
4	L2	All MCs	234	3.0	234	3.0	0.222	4.7	LOS A	1.2	8.9	0.40	0.51	0.40	50.4
5	T1	All MCs	262	5.0	262	5.0	0.222	4.8	LOS A	1.2	8.9	0.41	0.49	0.41	49.7
6	R2	All MCs	4	0.0	4	0.0	0.222	14.5	LOS B	1.2	8.6	0.41	0.49	0.41	41.2
6u	U	All MCs	1	0.0	1	0.0	0.222	13.0	LOS B	1.2	8.6	0.41	0.49	0.41	50.7
Approach			501	4.0	501	4.0	0.222	4.9	LOS A	1.2	8.9	0.40	0.50	0.40	50.0
East: Endeavour Outlook															
7	L2	All MCs	6	17.0	6	17.0	0.035	10.9	LOS B	0.2	1.5	0.86	0.77	0.86	30.6
8	T1	All MCs	2	0.0	2	0.0	0.035	9.8	LOS A	0.2	1.5	0.86	0.77	0.86	27.3
9	R2	All MCs	3	33.0	3	33.0	0.035	11.9	LOS B	0.2	1.5	0.86	0.77	0.86	23.2
Approach			12	18.3	12	18.3	0.035	10.9	LOS B	0.2	1.5	0.86	0.77	0.86	28.2
North: Endeavour Blvd															
10	L2	All MCs	7	0.0	7	0.0	0.759	17.2	LOS B	8.8	62.3	0.84	1.06	1.29	28.5
11	T1	All MCs	807	1.0	807	1.0	0.759	15.0	LOS B	8.8	62.3	0.84	1.08	1.30	41.3
12	R2	All MCs	274	1.0	274	1.0	0.759	22.4	LOS C	7.8	55.1	0.85	1.12	1.33	35.4
Approach			1088	1.0	1088	1.0	0.759	16.9	LOS B	8.8	62.3	0.85	1.09	1.31	39.7
West: Plantation Rd															
1	L2	All MCs	271	1.0	271	1.0	0.288	5.0	LOS A	1.5	10.9	0.46	0.52	0.46	48.1
2	T1	All MCs	2	50.0	2	50.0	0.288	12.5	LOS B	1.5	10.9	0.46	0.52	0.46	37.3
3	R2	All MCs	827	2.0	827	2.0	0.610	10.7	LOS B	5.1	36.3	0.59	0.63	0.59	44.2
Approach			1100	1.8	1100	1.8	0.610	9.3	LOS A	5.1	36.3	0.56	0.60	0.56	44.9
All Vehicles			2701	2.0	2701	2.0	0.759	11.5	LOS B	8.8	62.3	0.65	0.78	0.83	43.4

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

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MOVEMENT SUMMARY

Site: 3 [Endeavour Blvd/Plantation Rd (Site Folder: 2030 AM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Plantation Road
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
4	L2	All MCs	245	3.0	245	3.0	0.237	4.8	LOS A	1.3	9.6	0.42	0.52	0.42	50.3
5	T1	All MCs	275	5.0	275	5.0	0.237	4.9	LOS A	1.3	9.6	0.43	0.50	0.43	49.6
6	R2	All MCs	4	0.0	4	0.0	0.237	14.6	LOS B	1.3	9.3	0.43	0.49	0.43	41.1
6u	U	All MCs	1	0.0	1	0.0	0.237	13.1	LOS B	1.3	9.3	0.43	0.49	0.43	50.6
Approach			525	4.0	525	4.0	0.237	4.9	LOS A	1.3	9.6	0.42	0.51	0.42	49.9
East: Endeavour Outlook															
7	L2	All MCs	6	17.0	6	17.0	0.040	12.5	LOS B	0.2	1.7	0.88	0.80	0.88	29.7
8	T1	All MCs	2	0.0	2	0.0	0.040	11.2	LOS B	0.2	1.7	0.88	0.80	0.88	26.4
9	R2	All MCs	3	33.0	3	33.0	0.040	13.6	LOS B	0.2	1.7	0.88	0.80	0.88	22.4
Approach			12	18.3	12	18.3	0.040	12.5	LOS B	0.2	1.7	0.88	0.80	0.88	27.3
North: Endeavour Blvd															
10	L2	All MCs	7	0.0	7	0.0	0.847	22.9	LOS C	12.4	87.7	0.90	1.24	1.66	24.8
11	T1	All MCs	847	1.0	847	1.0	0.847	21.0	LOS C	12.4	87.7	0.91	1.24	1.67	37.1
12	R2	All MCs	287	1.0	287	1.0	0.847	28.9	LOS C	10.8	76.1	0.91	1.26	1.70	31.5
Approach			1142	1.0	1142	1.0	0.847	23.0	LOS C	12.4	87.7	0.91	1.25	1.68	35.7
West: Plantation Rd															
1	L2	All MCs	284	1.0	284	1.0	0.305	5.1	LOS A	1.7	11.7	0.47	0.53	0.47	48.0
2	T1	All MCs	2	50.0	2	50.0	0.305	12.6	LOS B	1.7	11.7	0.47	0.53	0.47	37.2
3	R2	All MCs	868	2.0	868	2.0	0.646	10.9	LOS B	5.7	40.7	0.63	0.64	0.63	44.0
Approach			1155	1.8	1155	1.8	0.646	9.5	LOS A	5.7	40.7	0.59	0.61	0.59	44.7
All Vehicles			2834	2.0	2834	2.0	0.847	14.1	LOS B	12.4	87.7	0.69	0.85	1.00	41.4

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

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MOVEMENT SUMMARY

Site: 3 [Endeavour Blvd/Plantation Rd (Site Folder: 2030 AM Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Plantation Road
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
4	L2	All MCs	259	3.0	259	3.0	0.269	4.8	LOS A	1.6	11.2	0.43	0.52	0.43	50.2
5	T1	All MCs	328	5.0	328	5.0	0.269	4.9	LOS A	1.6	11.2	0.44	0.50	0.44	49.6
6	R2	All MCs	4	0.0	4	0.0	0.269	14.6	LOS B	1.5	10.9	0.44	0.50	0.44	41.0
6u	U	All MCs	1	0.0	1	0.0	0.269	13.1	LOS B	1.5	10.9	0.44	0.50	0.44	50.5
Approach			593	4.1	593	4.1	0.269	5.0	LOS A	1.6	11.2	0.43	0.51	0.43	49.8
East: Endeavour Outlook															
7	L2	All MCs	6	17.0	6	17.0	0.044	13.6	LOS B	0.2	1.8	0.89	0.83	0.89	29.1
8	T1	All MCs	2	0.0	2	0.0	0.044	12.2	LOS B	0.2	1.8	0.89	0.83	0.89	25.7
9	R2	All MCs	3	33.0	3	33.0	0.044	14.9	LOS B	0.2	1.8	0.89	0.83	0.89	21.9
Approach			12	18.3	12	18.3	0.044	13.7	LOS B	0.2	1.8	0.89	0.83	0.89	26.7
North: Endeavour Blvd															
10	L2	All MCs	7	0.0	7	0.0	0.925	33.2	LOS C	18.4	129.8	0.95	1.49	2.25	20.2
11	T1	All MCs	903	1.0	903	1.0	0.925	31.5	LOS C	18.4	129.8	0.95	1.49	2.26	31.6
12	R2	All MCs	287	1.0	287	1.0	0.925	40.1	LOS D	15.7	110.8	0.96	1.48	2.28	26.6
Approach			1198	1.0	1198	1.0	0.925	33.6	LOS C	18.4	129.8	0.96	1.49	2.27	30.3
West: Plantation Rd															
1	L2	All MCs	284	1.0	284	1.0	0.316	5.4	LOS A	1.7	12.1	0.51	0.55	0.51	47.8
2	T1	All MCs	2	50.0	2	50.0	0.316	13.0	LOS B	1.7	12.1	0.51	0.55	0.51	37.0
3	R2	All MCs	882	2.0	882	2.0	0.677	11.7	LOS B	6.7	47.7	0.69	0.69	0.74	43.8
Approach			1168	1.8	1168	1.8	0.677	10.2	LOS B	6.7	47.7	0.64	0.66	0.68	44.5
All Vehicles			2971	2.0	2971	2.0	0.925	18.6	LOS B	18.4	129.8	0.73	0.96	1.27	38.3

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

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MOVEMENT SUMMARY

Site: 3 [Endeavour Blvd/Plantation Rd (Site Folder: 2037 AM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Plantation Road
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
4	L2	All MCs	262	3.0	262	3.0	0.260	4.9	LOS A	1.5	10.8	0.44	0.54	0.44	50.2
5	T1	All MCs	294	5.0	294	5.0	0.260	5.0	LOS A	1.5	10.8	0.45	0.51	0.45	49.4
6	R2	All MCs	4	0.0	4	0.0	0.260	14.7	LOS B	1.4	10.4	0.45	0.51	0.45	40.9
6u	U	All MCs	1	0.0	1	0.0	0.260	13.2	LOS B	1.4	10.4	0.45	0.51	0.45	50.4
Approach			561	4.0	561	4.0	0.260	5.0	LOS A	1.5	10.8	0.45	0.52	0.45	49.7
East: Endeavour Outlook															
7	L2	All MCs	7	17.0	7	17.0	0.053	15.3	LOS B	0.3	2.2	0.90	0.87	0.90	28.2
8	T1	All MCs	2	0.0	2	0.0	0.053	13.8	LOS B	0.3	2.2	0.90	0.87	0.90	24.9
9	R2	All MCs	3	33.0	3	33.0	0.053	16.8	LOS B	0.3	2.2	0.90	0.87	0.90	21.1
Approach			13	18.2	13	18.2	0.053	15.5	LOS B	0.3	2.2	0.90	0.87	0.90	26.0
North: Endeavour Blvd															
10	L2	All MCs	8	0.0	8	0.0	0.996	57.5	LOS E	30.0	211.7	1.00	1.97	3.45	14.0
11	T1	All MCs	904	1.0	904	1.0	0.996	56.0	LOS E	30.0	211.7	1.00	1.95	3.44	23.4
12	R2	All MCs	306	1.0	306	1.0	0.996	65.2	LOS E	24.8	175.3	1.00	1.89	3.38	19.7
Approach			1219	1.0	1219	1.0	0.996	58.3	LOS E	30.0	211.7	1.00	1.94	3.42	22.4
West: Plantation Rd															
1	L2	All MCs	303	1.0	303	1.0	0.330	5.3	LOS A	1.8	12.9	0.50	0.54	0.50	47.8
2	T1	All MCs	2	50.0	2	50.0	0.330	12.8	LOS B	1.8	12.9	0.50	0.54	0.50	37.0
3	R2	All MCs	926	2.0	926	2.0	0.697	11.6	LOS B	7.2	51.5	0.69	0.68	0.73	43.8
Approach			1232	1.8	1232	1.8	0.697	10.0	LOS B	7.2	51.5	0.64	0.64	0.67	44.5
All Vehicles			3024	2.0	3024	2.0	0.996	28.6	LOS C	30.0	211.7	0.75	1.14	1.74	32.5

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

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MOVEMENT SUMMARY

Site: 3 [Endeavour Blvd/Plantation Rd - u-turn (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Plantation Road
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
4	L2	All MCs	311	3.0	311	3.0	0.382	4.5	LOS A	2.5	18.2	0.40	0.48	0.40	50.3
5	T1	All MCs	539	5.0	539	5.0	0.382	4.6	LOS A	2.5	18.2	0.41	0.50	0.41	49.1
6	R2	All MCs	4	0.0	4	0.0	0.382	14.3	LOS B	2.4	17.5	0.42	0.52	0.42	40.4
6u	U	All MCs	69	0.0	69	0.0	0.382	12.8	LOS B	2.4	17.5	0.42	0.52	0.42	49.8
Approach			923	3.9	923	3.9	0.382	5.2	LOS A	2.5	18.2	0.41	0.50	0.41	49.5
East: Endeavour Outlook															
7	L2	All MCs	7	17.0	7	17.0	0.051	15.9	LOS B	0.3	2.1	0.90	0.85	0.90	27.9
8	T1	All MCs	2	0.0	2	0.0	0.051	14.3	LOS B	0.3	2.1	0.90	0.85	0.90	24.6
9	R2	All MCs	3	33.0	3	33.0	0.051	17.3	LOS B	0.3	2.1	0.90	0.85	0.90	20.9
Approach			13	18.2	13	18.2	0.051	16.0	LOS B	0.3	2.1	0.90	0.85	0.90	25.8
North: Endeavour Blvd															
10	L2	All MCs	8	0.0	8	0.0	1.522	487.2	LOS F	194.1	1370.4	1.00	6.57	15.58	2.2
11	T1	All MCs	1211	1.0	1211	1.0	1.522	485.1	LOS F	194.1	1370.4	1.00	6.32	15.14	4.2
12	R2	All MCs	306	1.0	306	1.0	1.522	492.3	LOS F	149.8	1057.9	1.00	5.72	14.09	3.6
Approach			1525	1.0	1525	1.0	1.522	486.6	LOS F	194.1	1370.4	1.00	6.20	14.93	4.1
West: Plantation Rd															
1	L2	All MCs	303	1.0	303	1.0	0.385	6.6	LOS A	2.1	14.9	0.65	0.66	0.65	46.9
2	T1	All MCs	2	50.0	2	50.0	0.385	14.8	LOS B	2.1	14.9	0.65	0.66	0.65	36.2
3	R2	All MCs	985	2.0	985	2.0	0.861	18.3	LOS B	14.6	104.0	0.96	1.04	1.48	39.8
Approach			1291	1.8	1291	1.8	0.861	15.6	LOS B	14.6	104.0	0.89	0.95	1.28	40.9
All Vehicles			3752	2.1	3752	2.1	1.522	204.5	LOS F	194.1	1370.4	0.81	2.97	6.62	9.1

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

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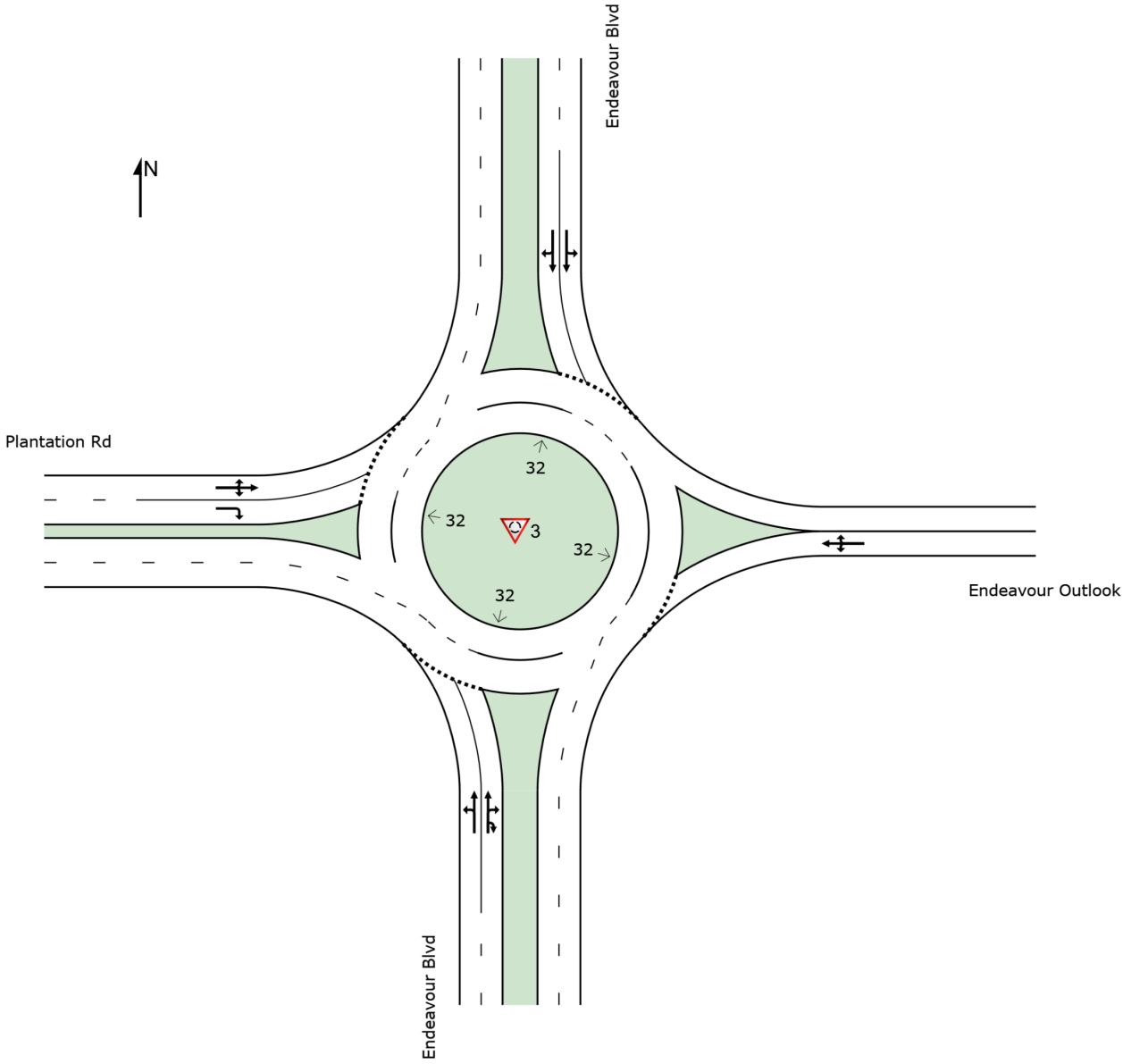
SITE LAYOUT

PLANTATION ROAD UPGRADE 1

Site: 3 [Endeavour Blvd/Plantation Rd - changed linemarking (u-turn) (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Endeavour Boulevard/Plantation Road
Site Category: NA
Roundabout

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



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MOVEMENT SUMMARY

Site: 3 [Endeavour Blvd/Plantation Rd - changed linemarking (u-turn) (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Plantation Road
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
4	L2	All MCs	311	3.0	311	3.0	0.419	5.0	LOS A	2.8	20.4	0.49	0.54	0.49	49.8
5	T1	All MCs	539	5.0	539	5.0	0.419	5.2	LOS A	2.8	20.4	0.49	0.56	0.49	48.6
6	R2	All MCs	4	0.0	4	0.0	0.419	14.8	LOS B	2.7	19.4	0.50	0.57	0.50	39.8
6u	U	All MCs	69	0.0	69	0.0	0.419	13.4	LOS B	2.7	19.4	0.50	0.57	0.50	49.3
Approach			923	3.9	923	3.9	0.419	5.8	LOS A	2.8	20.4	0.49	0.55	0.49	49.0
East: Endeavour Outlook															
7	L2	All MCs	7	17.0	7	17.0	0.048	11.9	LOS B	0.2	1.8	0.86	0.85	0.86	30.1
8	T1	All MCs	2	0.0	2	0.0	0.048	10.5	LOS B	0.2	1.8	0.86	0.85	0.86	26.7
9	R2	All MCs	3	33.0	3	33.0	0.048	13.3	LOS B	0.2	1.8	0.86	0.85	0.86	22.7
Approach			13	18.2	13	18.2	0.048	12.0	LOS B	0.2	1.8	0.86	0.85	0.86	27.8
North: Endeavour Blvd															
10	L2	All MCs	8	0.0	8	0.0	1.060	78.1	LOS F	46.8	330.2	1.00	2.84	6.02	11.1
11	T1	All MCs	1211	1.0	1211	1.0	1.060	76.9	LOS F	46.8	330.2	1.00	2.77	5.92	19.2
12	R2	All MCs	306	1.0	306	1.0	1.060	86.1	LOS F	37.2	262.8	1.00	2.60	5.66	16.2
Approach			1525	1.0	1525	1.0	1.060	78.7	LOS F	46.8	330.2	1.00	2.74	5.87	18.5
West: Plantation Rd															
1	L2	All MCs	303	1.0	303	1.0	0.622	7.1	LOS A	5.6	39.5	0.76	0.78	0.88	43.4
2	T1	All MCs	2	50.0	2	50.0	0.622	14.9	LOS B	5.6	39.5	0.76	0.78	0.88	33.8
3	R2	All MCs	985	2.0	985	2.0	0.622	13.4	LOS B	5.6	39.5	0.77	0.80	0.91	43.9
Approach			1291	1.8	1291	1.8	0.622	11.9	LOS B	5.6	39.5	0.76	0.80	0.90	43.8
All Vehicles			3752	2.1	3752	2.1	1.060	37.6	LOS D	46.8	330.2	0.79	1.53	2.82	29.0

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

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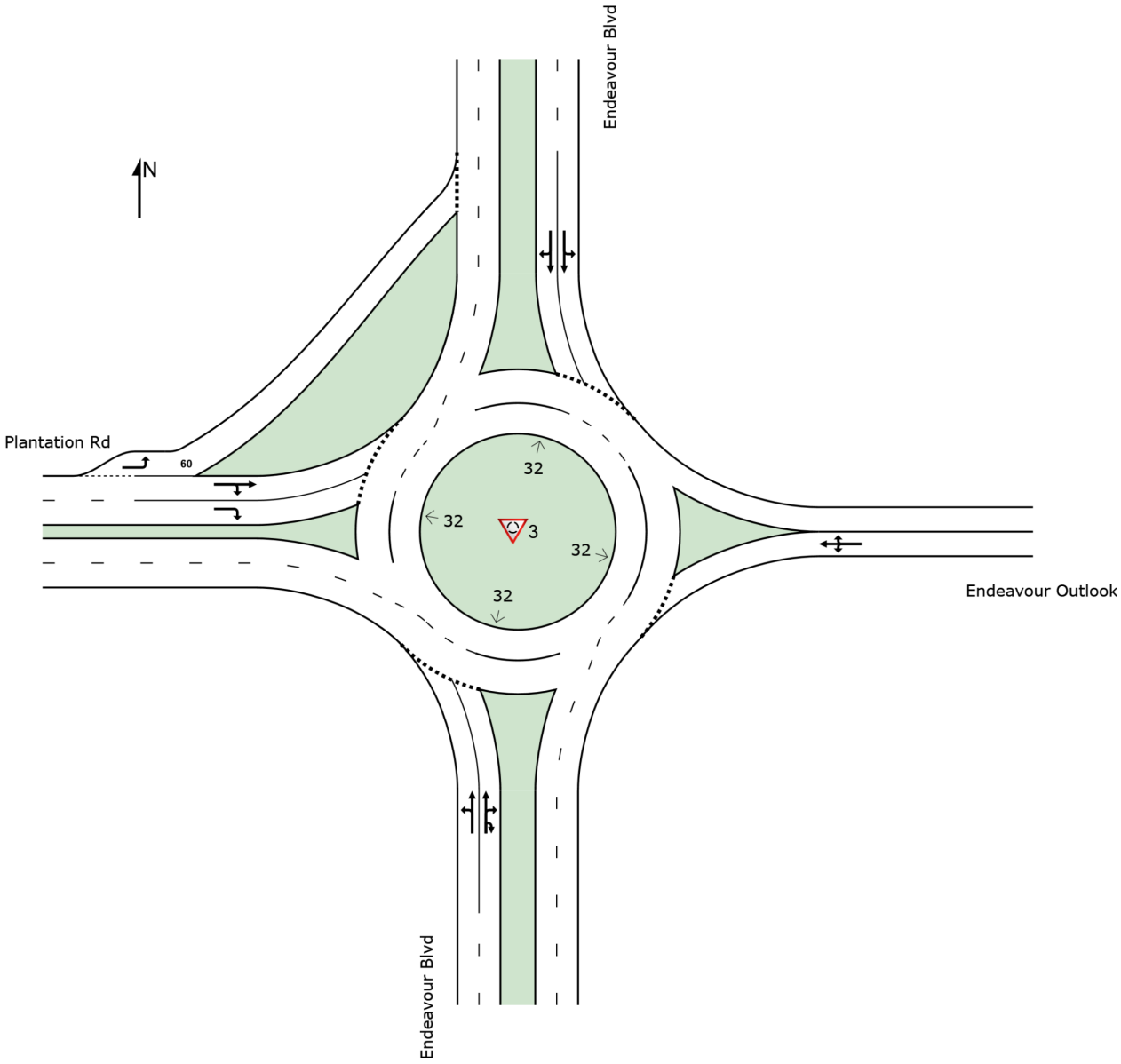
SITE LAYOUT

PLANTATION ROAD UPGRADE 2/3

Site: 3 [Endeavour Blvd/Plantation Rd - left slip (u-turn) (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Endeavour Boulevard/Plantation Road
Site Category: NA
Roundabout

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



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MOVEMENT SUMMARY

UPGRADE 2 RESULTS

Site: 3 [Endeavour Blvd/Plantation Rd - left slip (u-turn) (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Plantation Road
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
4	L2	All MCs	311	3.0	311	3.0	0.423	5.1	LOS A	2.9	20.6	0.49	0.54	0.49	49.7
5	T1	All MCs	539	5.0	539	5.0	0.423	5.2	LOS A	2.9	20.6	0.50	0.56	0.50	48.5
6	R2	All MCs	4	0.0	4	0.0	0.423	14.9	LOS B	2.7	19.6	0.51	0.58	0.51	39.8
6u	U	All MCs	69	0.0	69	0.0	0.423	13.5	LOS B	2.7	19.6	0.51	0.58	0.51	49.2
Approach			923	3.9	923	3.9	0.423	5.8	LOS A	2.9	20.6	0.50	0.56	0.50	48.9
East: Endeavour Outlook															
7	L2	All MCs	7	17.0	7	17.0	0.057	15.8	LOS B	0.3	2.3	0.90	0.88	0.90	28.0
8	T1	All MCs	2	0.0	2	0.0	0.057	14.1	LOS B	0.3	2.3	0.90	0.88	0.90	24.6
9	R2	All MCs	3	33.0	3	33.0	0.057	17.5	LOS B	0.3	2.3	0.90	0.88	0.90	20.9
Approach			13	18.2	13	18.2	0.057	15.9	LOS B	0.3	2.3	0.90	0.88	0.90	25.8
North: Endeavour Blvd															
10	L2	All MCs	8	0.0	8	0.0	1.025	55.1	LOS E	34.9	246.2	1.00	2.32	4.58	14.4
11	T1	All MCs	1211	1.0	1211	1.0	1.025	54.1	LOS E	34.9	246.2	1.00	2.28	4.54	23.9
12	R2	All MCs	306	1.0	306	1.0	1.025	63.8	LOS E	28.5	201.1	1.00	2.19	4.45	20.0
Approach			1525	1.0	1525	1.0	1.025	56.1	LOS E	34.9	246.2	1.00	2.26	4.52	23.0
West: Plantation Rd															
1	L2	All MCs	303	1.0	303	1.0	0.205	4.6	LOS A	1.2	8.2	0.51	0.54	0.51	47.9
2	T1	All MCs	2	50.0	2	50.0	0.396	12.3	LOS B	2.7	19.1	0.62	0.68	0.62	33.2
3	R2	All MCs	985	2.0	985	2.0	0.396	11.1	LOS B	2.7	19.1	0.63	0.69	0.63	44.0
Approach			1291	1.8	1291	1.8	0.396	9.5	LOS A	2.7	19.1	0.60	0.66	0.60	44.7
All Vehicles			3752	2.1	3752	2.1	1.025	27.6	LOS C	34.9	246.2	0.74	1.29	2.17	33.1

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

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MOVEMENT SUMMARY

UPGRADE 3 RESULTS

Site: 3 [Endeavour Blvd/Plantation Rd - left slip + relocated Archer roundabout (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Plantation Road
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
4	L2	All MCs	311	3.0	311	3.0	0.394	5.1	LOS A	2.6	18.7	0.49	0.55	0.49	49.8
5	T1	All MCs	539	5.0	539	5.0	0.394	5.2	LOS A	2.6	18.7	0.49	0.53	0.49	49.2
6	R2	All MCs	4	0.0	4	0.0	0.394	14.9	LOS B	2.4	17.9	0.50	0.53	0.50	40.6
6u	U	All MCs	1	0.0	1	0.0	0.394	13.5	LOS B	2.4	17.9	0.50	0.53	0.50	50.2
Approach			855	4.2	855	4.2	0.394	5.2	LOS A	2.6	18.7	0.49	0.54	0.49	49.4
East: Endeavour Outlook															
7	L2	All MCs	7	17.0	7	17.0	0.057	16.0	LOS B	0.3	2.3	0.90	0.88	0.90	27.9
8	T1	All MCs	2	0.0	2	0.0	0.057	14.2	LOS B	0.3	2.3	0.90	0.88	0.90	24.5
9	R2	All MCs	3	33.0	3	33.0	0.057	17.6	LOS B	0.3	2.3	0.90	0.88	0.90	20.9
Approach			13	18.2	13	18.2	0.057	16.1	LOS B	0.3	2.3	0.90	0.88	0.90	25.7
North: Endeavour Blvd															
10	L2	All MCs	8	0.0	8	0.0	0.981	32.4	LOS C	22.2	156.5	0.98	1.74	3.02	20.5
11	T1	All MCs	1211	1.0	1211	1.0	0.981	31.4	LOS C	22.2	156.5	0.98	1.74	3.04	31.7
12	R2	All MCs	306	1.0	306	1.0	0.981	41.0	LOS D	19.1	134.7	0.99	1.73	3.10	26.4
Approach			1525	1.0	1525	1.0	0.981	33.3	LOS C	22.2	156.5	0.98	1.73	3.05	30.5
West: Plantation Rd															
1	L2	All MCs	303	1.0	303	1.0	0.206	4.6	LOS A	1.2	8.6	0.52	0.54	0.52	47.8
2	T1	All MCs	2	50.0	2	50.0	0.385	12.2	LOS B	2.6	18.4	0.59	0.67	0.59	33.3
3	R2	All MCs	985	2.0	985	2.0	0.385	10.9	LOS B	2.6	18.4	0.60	0.68	0.60	44.2
Approach			1291	1.8	1291	1.8	0.385	9.4	LOS A	2.6	18.4	0.58	0.64	0.58	44.8
All Vehicles			3683	2.1	3683	2.1	0.981	18.4	LOS B	22.2	156.5	0.73	1.07	1.58	38.3

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

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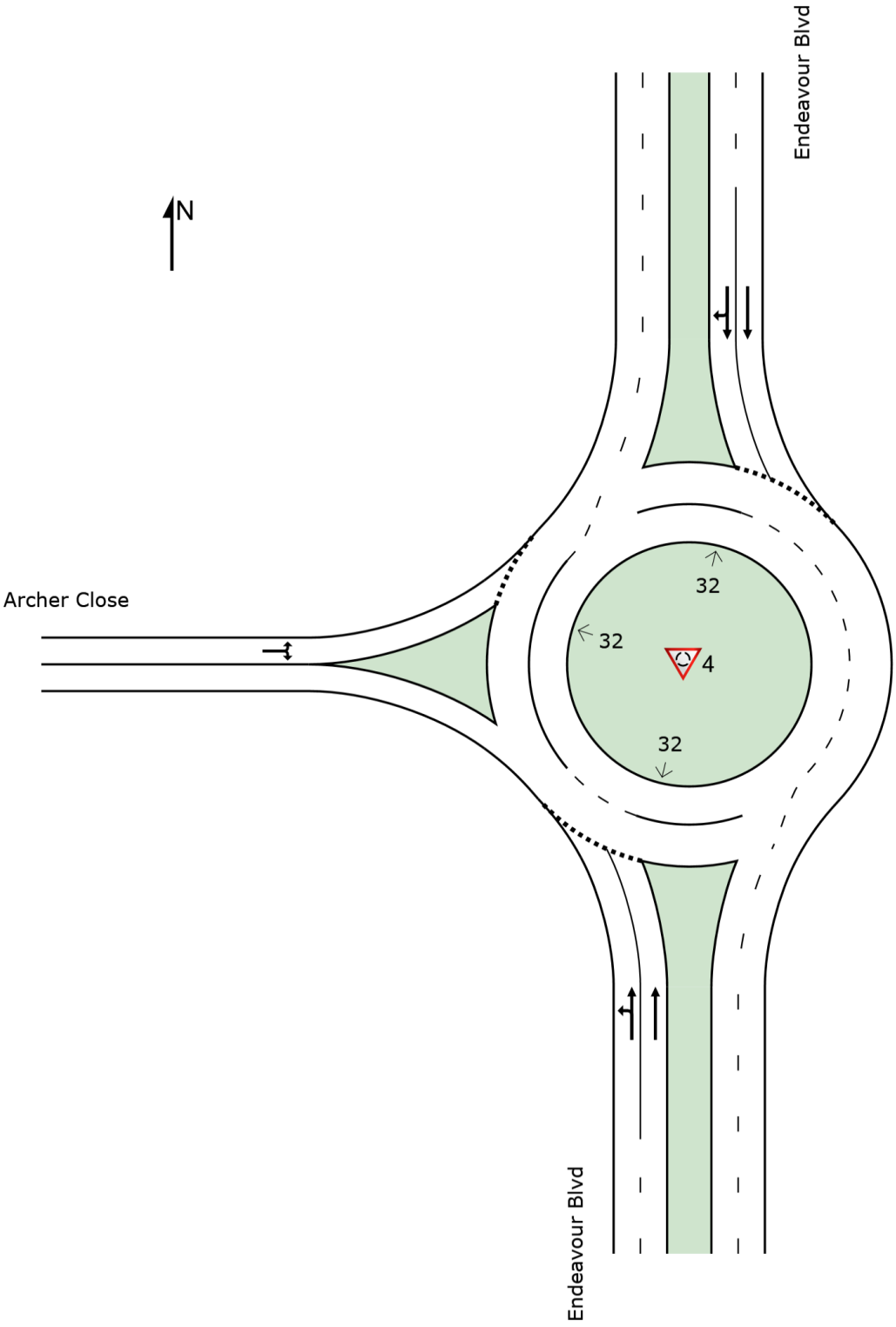
SITE LAYOUT

ARCHER CLOSE
AM PEAK

Site: 4 [Endeavour Blvd/Archer Close (Site Folder: 2025 AM Survey)]

Endeavour Boulevard/Archer Close
Site Category: NA
Roundabout

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



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MOVEMENT SUMMARY

ARCHER CLOSE MOVEMENT SUMMARIES

Site: 4 [Endeavour Blvd/Archer Close (Site Folder: 2025 AM Survey)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Archer Close
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	34	0.0	34	0.0	0.166	3.6	LOS A	0.7	5.4	0.11	0.34	0.11	36.3
2	T1	All MCs	466	4.0	466	4.0	0.166	3.5	LOS A	0.7	5.4	0.11	0.34	0.11	53.2
Approach			500	3.7	500	3.7	0.166	3.6	LOS A	0.7	5.4	0.11	0.34	0.11	52.4
North: Endeavour Blvd															
8	T1	All MCs	1641	2.0	1641	2.0	0.536	3.6	LOS A	4.8	34.2	0.22	0.34	0.22	52.0
9	R2	All MCs	34	0.0	34	0.0	0.536	9.5	LOS A	4.8	34.1	0.23	0.35	0.23	35.6
Approach			1675	2.0	1675	2.0	0.536	3.7	LOS A	4.8	34.2	0.22	0.34	0.22	51.7
West: Archer Close															
10	L2	All MCs	34	0.0	34	0.0	0.068	3.3	LOS A	0.3	2.1	0.45	0.63	0.45	46.9
12	R2	All MCs	34	0.0	34	0.0	0.068	8.7	LOS A	0.3	2.1	0.45	0.63	0.45	42.8
Approach			67	0.0	67	0.0	0.068	6.0	LOS A	0.3	2.1	0.45	0.63	0.45	45.0
All Vehicles			2242	2.3	2242	2.3	0.536	3.8	LOS A	4.8	34.2	0.20	0.35	0.20	51.7

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

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MOVEMENT SUMMARY

Site: 4 [Endeavour Blvd/Archer Close (Site Folder: 2030 AM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Archer Close
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	36	0.0	36	0.0	0.175	3.6	LOS A	0.8	5.7	0.11	0.34	0.11	36.3
2	T1	All MCs	489	4.0	489	4.0	0.175	3.6	LOS A	0.8	5.7	0.12	0.34	0.12	53.2
Approach			525	3.7	525	3.7	0.175	3.6	LOS A	0.8	5.7	0.12	0.34	0.12	52.3
North: Endeavour Blvd															
8	T1	All MCs	1723	2.0	1723	2.0	0.564	3.7	LOS A	5.3	37.8	0.24	0.34	0.24	51.9
9	R2	All MCs	36	0.0	36	0.0	0.564	9.5	LOS A	5.3	37.8	0.25	0.35	0.25	35.5
Approach			1759	2.0	1759	2.0	0.564	3.8	LOS A	5.3	37.8	0.24	0.34	0.24	51.6
West: Archer Close															
10	L2	All MCs	36	0.0	36	0.0	0.073	3.3	LOS A	0.3	2.2	0.46	0.63	0.46	46.8
12	R2	All MCs	36	0.0	36	0.0	0.073	8.8	LOS A	0.3	2.2	0.46	0.63	0.46	42.6
Approach			72	0.0	72	0.0	0.073	6.1	LOS A	0.3	2.2	0.46	0.63	0.46	44.9
All Vehicles			2356	2.3	2356	2.3	0.564	3.8	LOS A	5.3	37.8	0.22	0.35	0.22	51.6

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

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MOVEMENT SUMMARY

Site: 4 [Endeavour Blvd/Archer Close (Site Folder: 2030 AM Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Archer Close
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	36	0.0	36	0.0	0.197	3.6	LOS A	0.9	6.7	0.12	0.34	0.12	36.3
2	T1	All MCs	556	4.0	556	4.0	0.197	3.6	LOS A	0.9	6.7	0.12	0.34	0.12	53.1
Approach			592	3.8	592	3.8	0.197	3.6	LOS A	0.9	6.7	0.12	0.34	0.12	52.3
North: Endeavour Blvd															
8	T1	All MCs	1793	2.0	1793	2.0	0.587	3.7	LOS A	5.8	41.5	0.25	0.34	0.25	51.8
9	R2	All MCs	36	0.0	36	0.0	0.587	9.5	LOS A	5.8	41.4	0.26	0.35	0.26	31.9
9u	U	All MCs	1	0.0	1	0.0	0.587	12.0	LOS B	5.8	41.4	0.26	0.35	0.26	51.6
Approach			1829	2.0	1829	2.0	0.587	3.8	LOS A	5.8	41.5	0.25	0.34	0.25	51.4
West: Archer Close															
10	L2	All MCs	36	0.0	36	0.0	0.076	3.5	LOS A	0.3	2.3	0.48	0.65	0.48	46.6
12	R2	All MCs	36	0.0	36	0.0	0.076	9.0	LOS A	0.3	2.3	0.48	0.65	0.48	42.3
Approach			72	0.0	72	0.0	0.076	6.3	LOS A	0.3	2.3	0.48	0.65	0.48	44.6
All Vehicles			2493	2.3	2493	2.3	0.587	3.8	LOS A	5.8	41.5	0.23	0.35	0.23	51.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (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.

MOVEMENT SUMMARY

Site: 4 [Endeavour Blvd/Archer Close (Site Folder: 2037 AM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Archer Close
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	38	0.0	38	0.0	0.186	3.6	LOS A	0.9	6.2	0.12	0.34	0.12	36.2
2	T1	All MCs	522	4.0	522	4.0	0.186	3.6	LOS A	0.9	6.2	0.12	0.34	0.12	53.1
Approach			560	3.7	560	3.7	0.186	3.6	LOS A	0.9	6.2	0.12	0.34	0.12	52.3
North: Endeavour Blvd															
8	T1	All MCs	1838	2.0	1838	2.0	0.602	3.7	LOS A	6.1	43.4	0.26	0.34	0.26	51.7
9	R2	All MCs	38	0.0	38	0.0	0.602	9.6	LOS A	6.1	43.4	0.28	0.35	0.28	35.3
Approach			1876	2.0	1876	2.0	0.602	3.8	LOS A	6.1	43.4	0.26	0.34	0.26	51.4
West: Archer Close															
10	L2	All MCs	38	0.0	38	0.0	0.079	3.5	LOS A	0.3	2.4	0.47	0.64	0.47	46.7
12	R2	All MCs	38	0.0	38	0.0	0.079	8.9	LOS A	0.3	2.4	0.47	0.64	0.47	42.5
Approach			76	0.0	76	0.0	0.079	6.2	LOS A	0.3	2.4	0.47	0.64	0.47	44.8
All Vehicles			2512	2.3	2512	2.3	0.602	3.8	LOS A	6.1	43.4	0.24	0.35	0.24	51.4

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

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MOVEMENT SUMMARY

Site: 4 [Endeavour Blvd/Archer Close (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Archer Close
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	38	0.0	38	0.0	0.305	4.3	LOS A	1.6	11.7	0.33	0.42	0.33	34.8
2	T1	All MCs	742	4.0	742	4.0	0.305	4.3	LOS A	1.6	11.7	0.34	0.43	0.34	51.5
Approach			780	3.8	780	3.8	0.305	4.3	LOS A	1.6	11.7	0.34	0.43	0.34	50.8
North: Endeavour Blvd															
8	T1	All MCs	2042	2.0	2042	2.0	0.715	3.8	LOS A	9.9	70.5	0.35	0.37	0.35	50.7
9	R2	All MCs	38	0.0	38	0.0	0.715	9.7	LOS A	9.8	69.3	0.37	0.40	0.37	31.2
9u	U	All MCs	145	0.0	145	0.0	0.715	12.1	LOS B	9.8	69.3	0.37	0.40	0.37	50.2
Approach			2225	1.8	2225	1.8	0.715	4.4	LOS A	9.9	70.5	0.35	0.37	0.35	50.3
West: Archer Close															
10	L2	All MCs	38	0.0	38	0.0	0.098	4.7	LOS A	0.5	3.2	0.62	0.72	0.62	44.9
12	R2	All MCs	38	0.0	38	0.0	0.098	10.2	LOS B	0.5	3.2	0.62	0.72	0.62	40.6
Approach			76	0.0	76	0.0	0.098	7.5	LOS A	0.5	3.2	0.62	0.72	0.62	42.9
All Vehicles			3081	2.3	3081	2.3	0.715	4.5	LOS A	9.9	70.5	0.35	0.39	0.35	50.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (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.

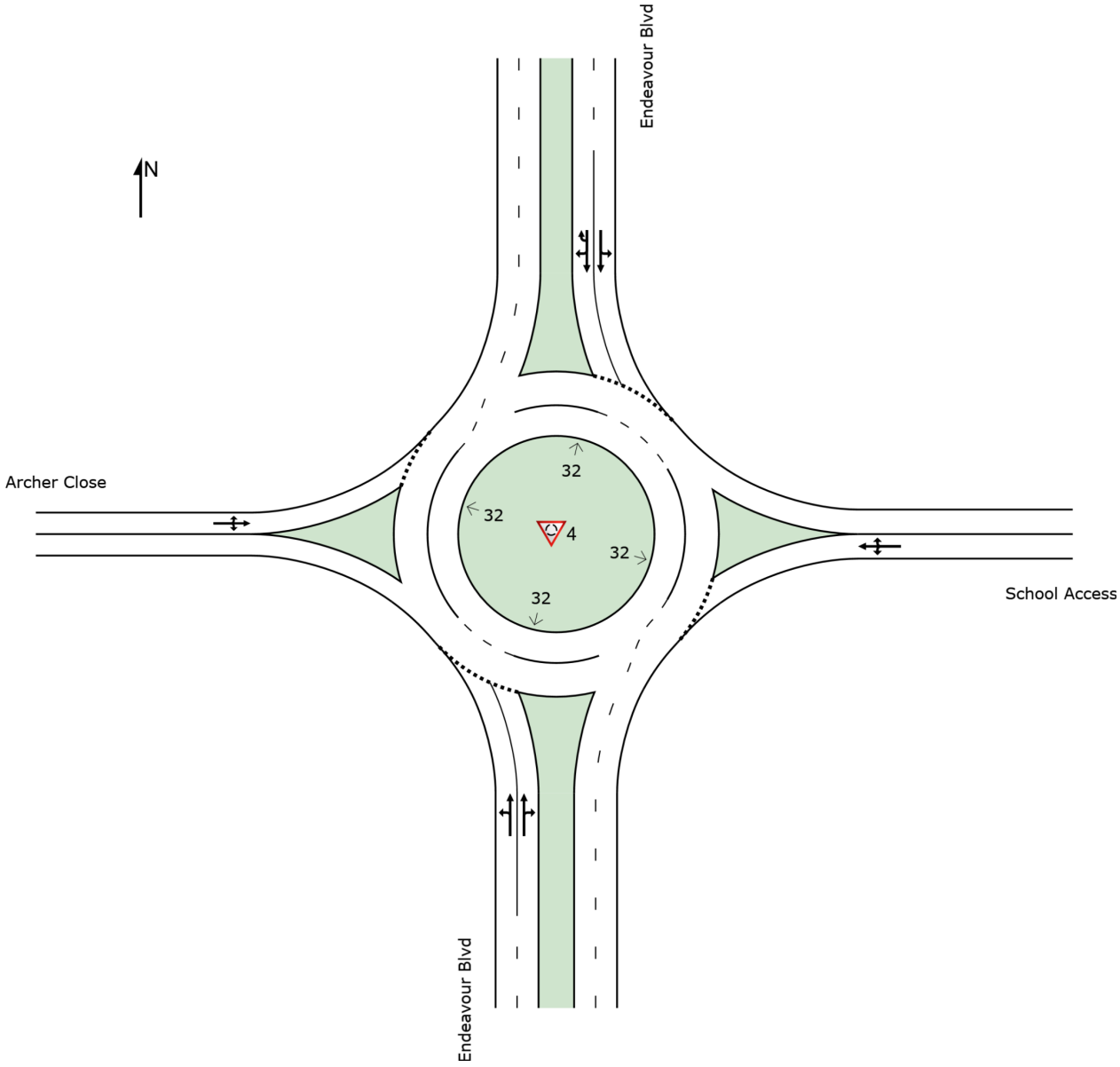
SITE LAYOUT

ARCHER CLOSE UPGRADE 1

Site: 4 [Endeavour Blvd/Archer Close - relocated 4 leg school access (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Endeavour Boulevard/Archer Close
Site Category: NA
Roundabout

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MOVEMENT SUMMARY

Site: 4 [Endeavour Blvd/Archer Close - relocated 4 leg school access (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Archer Close
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	38	0.0	38	0.0	0.309	4.3	LOS A	1.8	13.0	0.36	0.42	0.36	42.4
2	T1	All MCs	672	4.0	672	4.0	0.309	4.3	LOS A	1.8	13.0	0.37	0.45	0.37	50.8
3	R2	All MCs	69	0.0	69	0.0	0.309	10.2	LOS B	1.7	12.6	0.37	0.49	0.37	47.4
Approach			779	3.4	779	3.4	0.309	4.8	LOS A	1.8	13.0	0.37	0.45	0.37	50.2
East: School Access															
4	L2	All MCs	48	0.0	48	0.0	0.475	13.8	LOS B	2.8	19.3	0.88	1.01	1.11	37.1
5	T1	All MCs	1	0.0	1	0.0	0.475	13.9	LOS B	2.8	19.3	0.88	1.01	1.11	22.1
6	R2	All MCs	145	0.0	145	0.0	0.475	19.7	LOS B	2.8	19.3	0.88	1.01	1.11	36.0
Approach			195	0.0	195	0.0	0.475	18.2	LOS B	2.8	19.3	0.88	1.01	1.11	36.2
North: Endeavour Blvd															
7	L2	All MCs	209	0.0	209	0.0	0.781	4.6	LOS A	10.8	76.6	0.58	0.45	0.58	46.6
8	T1	All MCs	1994	2.0	1994	2.0	0.781	4.7	LOS A	10.8	76.6	0.61	0.45	0.61	49.5
9	R2	All MCs	38	0.0	38	0.0	0.781	10.6	LOS B	10.5	75.0	0.64	0.45	0.64	32.3
9u	U	All MCs	1	0.0	1	0.0	0.781	13.0	LOS B	10.5	75.0	0.64	0.45	0.64	47.7
Approach			2242	1.8	2242	1.8	0.781	4.8	LOS A	10.8	76.6	0.61	0.45	0.61	49.0
West: Archer Close															
10	L2	All MCs	38	0.0	38	0.0	0.100	6.3	LOS A	0.5	3.3	0.62	0.72	0.62	42.7
11	T1	All MCs	1	0.0	1	0.0	0.100	6.4	LOS A	0.5	3.3	0.62	0.72	0.62	38.1
12	R2	All MCs	38	0.0	38	0.0	0.100	12.3	LOS B	0.5	3.3	0.62	0.72	0.62	42.4
Approach			77	0.0	77	0.0	0.100	9.2	LOS A	0.5	3.3	0.62	0.72	0.62	42.5
All Vehicles			3293	2.0	3293	2.0	0.781	5.7	LOS A	10.8	76.6	0.57	0.49	0.58	48.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (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.

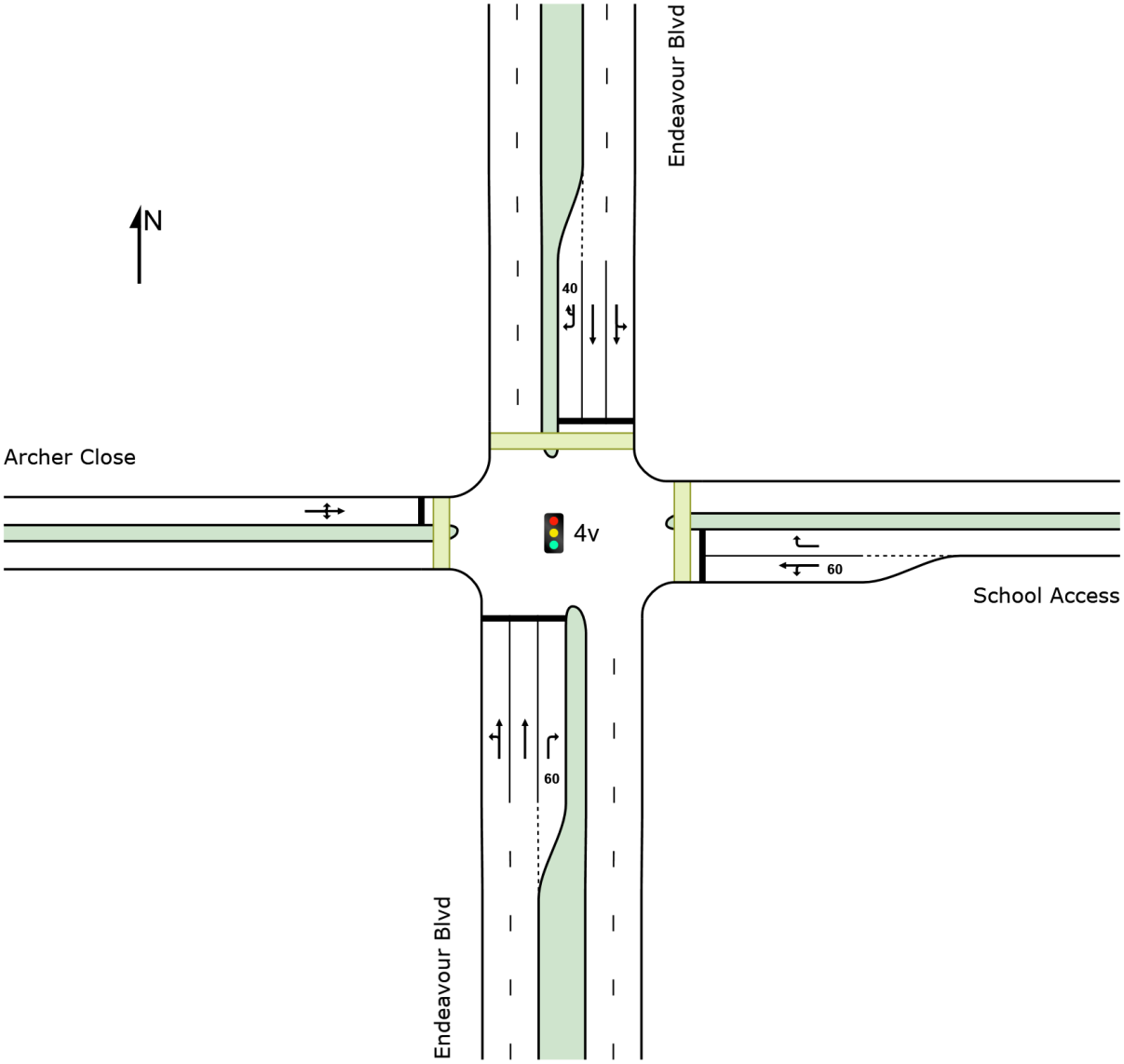
SITE LAYOUT

ARCHER CLOSE SIGNALS OPTION 1

Site: 4v [Endeavour Blvd/Archer Close - relocated 4 leg school access (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Endeavour Boulevard/Archer Close
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



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MOVEMENT SUMMARY

Site: 4v [Endeavour Blvd/Archer Close - relocated 4 leg school access (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Archer Close
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 124 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	38	0.0	38	0.0	0.389	33.6	LOS C	13.5	97.4	0.70	0.63	0.70	21.7
2	T1	All MCs	672	4.0	672	4.0	0.389	21.8	LOS C	13.7	99.1	0.69	0.61	0.69	37.6
3	R2	All MCs	69	0.0	69	0.0	* 0.765	75.5	LOS E	4.6	32.1	1.00	0.86	1.24	16.2
Approach			779	3.4	779	3.4	0.765	27.2	LOS C	13.7	99.1	0.72	0.63	0.74	33.6
East: School Access															
4	L2	All MCs	48	0.0	48	0.0	0.155	52.1	LOS D	2.6	17.9	0.88	0.74	0.88	20.5
5	T1	All MCs	1	0.0	1	0.0	0.155	57.1	LOS E	2.6	17.9	0.88	0.74	0.88	13.6
6	R2	All MCs	145	0.0	145	0.0	0.882	77.0	LOS E	9.9	69.3	1.00	0.98	1.35	15.7
Approach			195	0.0	195	0.0	0.882	70.7	LOS E	9.9	69.3	0.97	0.92	1.23	16.7
North: Endeavour Blvd															
7	L2	All MCs	209	0.0	209	0.0	* 1.042	84.6	LOS F	101.2	718.3	1.00	1.22	1.53	12.5
8	T1	All MCs	1994	2.0	1994	2.0	* 1.042	105.3	LOS F	101.2	719.3	1.00	1.33	1.53	16.4
9	R2	All MCs	38	0.0	38	0.0	0.148	78.7	LOS E	2.1	14.6	0.91	0.73	0.91	15.3
9u	U	All MCs	1	0.0	1	0.0	0.148	80.0	LOS F	2.1	14.6	0.91	0.73	0.91	23.1
Approach			2242	1.8	2242	1.8	1.042	102.9	LOS F	101.2	719.3	1.00	1.31	1.52	14.8
West: Archer Close															
10	L2	All MCs	38	0.0	38	0.0	* 0.740	78.5	LOS E	5.0	35.1	1.00	0.86	1.19	14.6
11	T1	All MCs	1	0.0	1	0.0	0.740	63.7	LOS E	5.0	35.1	1.00	0.86	1.19	10.4
12	R2	All MCs	38	0.0	38	0.0	0.740	69.2	LOS E	5.0	35.1	1.00	0.86	1.19	14.9
Approach			77	0.0	77	0.0	0.740	73.7	LOS E	5.0	35.1	1.00	0.86	1.19	14.7
All Vehicles			3293	2.0	3293	2.0	1.042	82.4	LOS F	101.2	719.3	0.93	1.12	1.31	17.2

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: School Access												

P2	Full	50	53	56.3	LOS E	0.2	0.2	0.95	0.95	210.1	200.0	0.95
North: Endeavour Blvd												
P3	Full	50	53	56.3	LOS E	0.2	0.2	0.95	0.95	210.1	200.0	0.95
West: Archer Close												
P4	Full	50	53	56.3	LOS E	0.2	0.2	0.95	0.95	210.1	200.0	0.95
All Pedestrians		0	158	56.3	LOS E	0.2	0.2	0.95	0.95	210.1	200.0	0.95

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

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PHASING SUMMARY

Site: 4v [Endeavour Blvd/Archer Close - relocated 4 leg school access (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Archer Close
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 124 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: lead lag right 120
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E
Reference Phase: Phase A

Phase Timing Summary

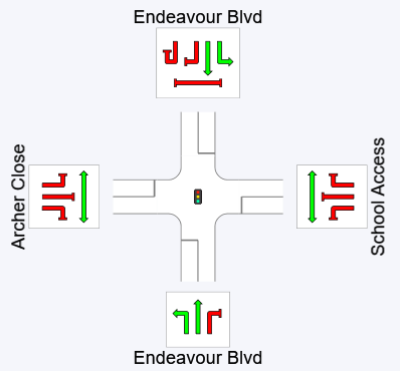
Phase	A	B	C	D	E
Phase Change Time (sec)	0	53	65	81	100
Green Time (sec)	48	6	11	13	18
Phase Time (sec)	54	11	17	19	23
Phase Split	44%	9%	14%	15%	19%
Phase Frequency (%)	100.0[1]	90.0[1]	100.0[1]	100.0[1]	90.0[1]

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%.

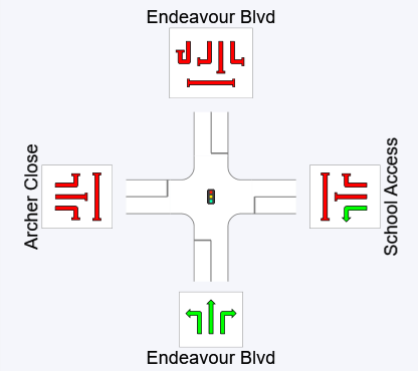
1 Phase Frequency has been given with User-Specified Phase Times.

Output Phase Sequence

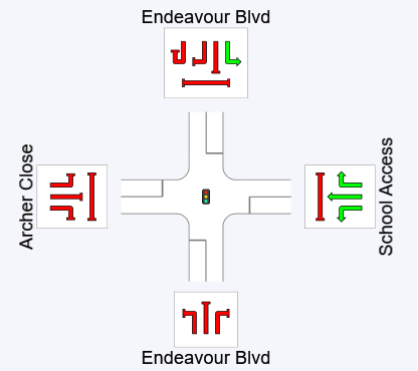
Phase A **REF**



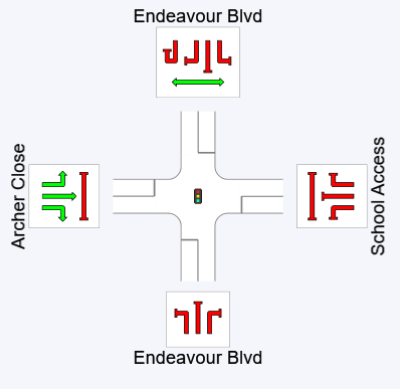
Phase B



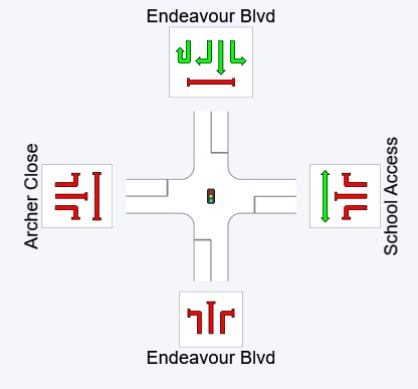
Phase C



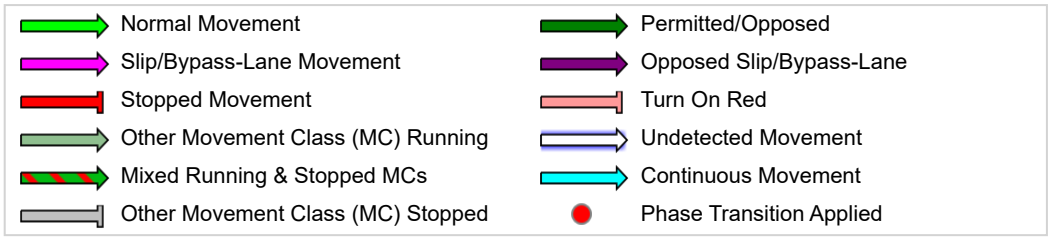
Phase D



Phase E



REF: Reference Phase
VAR: Variable Phase



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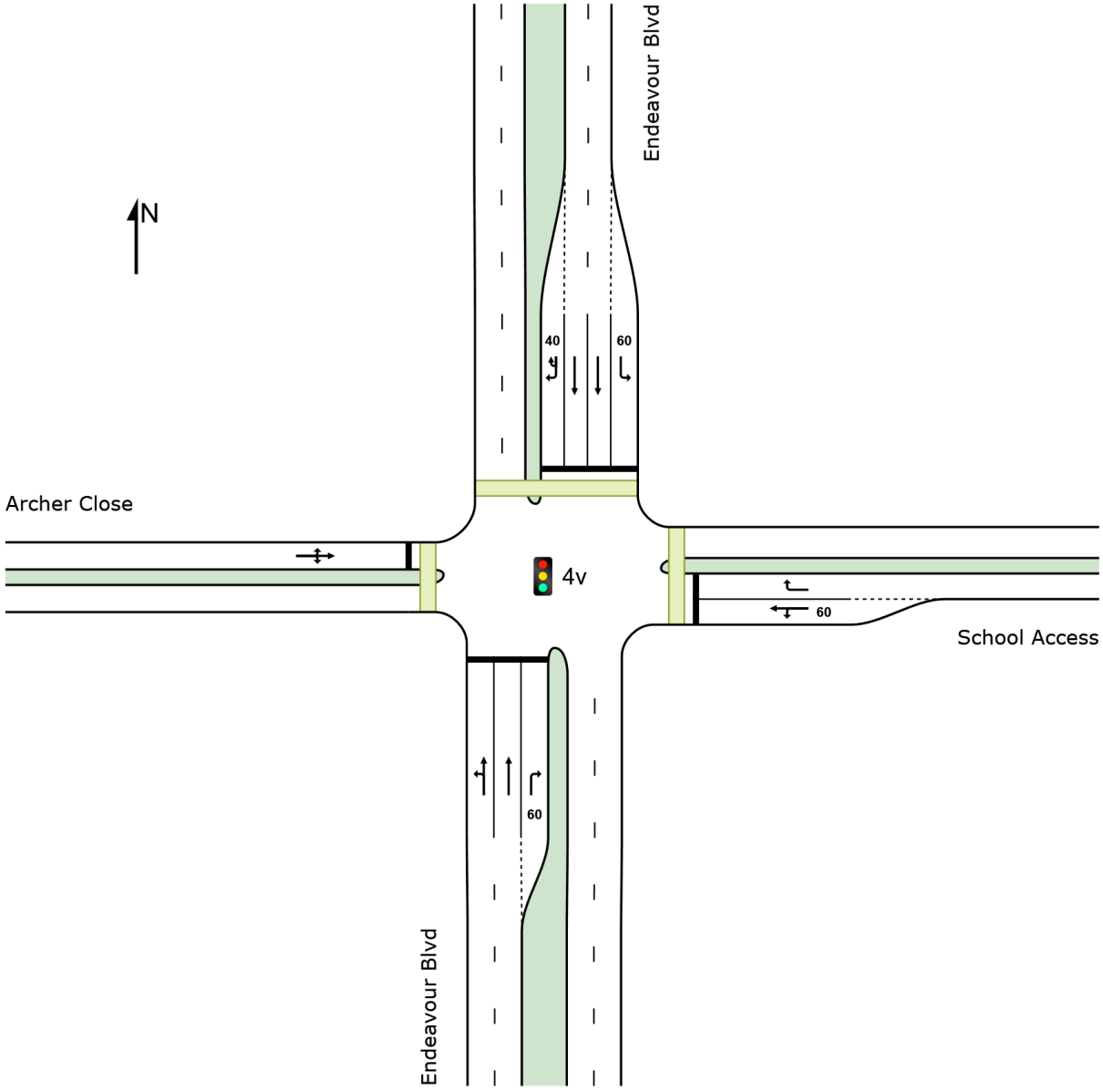
SITE LAYOUT

ARCHER CLOSE SIGNALS OPTION 2

Site: 4v [Endeavour Blvd/Archer Close - relocated 4 leg school access - north left + no south ped xing (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Endeavour Boulevard/Archer Close
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



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MOVEMENT SUMMARY

Site: 4v [Endeavour Blvd/Archer Close - relocated 4 leg school access - north left + no south ped xing (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Archer Close
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 128 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	38	0.0	38	0.0	0.395	34.9	LOS C	14.1	101.9	0.71	0.63	0.71	21.3
2	T1	All MCs	672	4.0	672	4.0	0.395	23.1	LOS C	14.3	103.6	0.70	0.62	0.70	36.8
3	R2	All MCs	69	0.0	69	0.0	* 0.790	78.4	LOS E	4.8	33.3	1.00	0.88	1.27	15.8
Approach			779	3.4	779	3.4	0.790	28.6	LOS C	14.3	103.6	0.72	0.64	0.75	32.9
East: School Access															
4	L2	All MCs	48	0.0	48	0.0	0.154	53.3	LOS D	2.6	18.4	0.88	0.74	0.88	20.3
5	T1	All MCs	1	0.0	1	0.0	0.154	59.2	LOS E	2.6	18.4	0.88	0.74	0.88	13.4
6	R2	All MCs	145	0.0	145	0.0	* 0.910	82.7	LOS F	10.5	73.4	1.00	1.02	1.41	15.0
Approach			195	0.0	195	0.0	0.910	75.2	LOS E	10.5	73.4	0.97	0.95	1.27	16.1
North: Endeavour Blvd															
7	L2	All MCs	209	0.0	209	0.0	0.196	31.0	LOS C	3.6	25.2	0.51	0.71	0.51	38.4
8	T1	All MCs	1994	2.0	1994	2.0	* 0.981	82.1	LOS F	84.3	600.0	1.00	1.19	1.28	22.6
9	R2	All MCs	38	0.0	38	0.0	0.131	76.7	LOS E	2.1	14.6	0.89	0.73	0.89	15.5
9u	U	All MCs	1	0.0	1	0.0	0.131	78.1	LOS E	2.1	14.6	0.89	0.73	0.89	23.3
Approach			2242	1.8	2242	1.8	0.981	77.2	LOS E	84.3	600.0	0.95	1.14	1.20	19.1
West: Archer Close															
10	L2	All MCs	38	0.0	38	0.0	* 0.895	88.7	LOS F	5.5	38.6	1.00	0.96	1.46	13.2
11	T1	All MCs	1	0.0	1	0.0	0.895	73.7	LOS E	5.5	38.6	1.00	0.96	1.46	9.4
12	R2	All MCs	38	0.0	38	0.0	0.895	79.3	LOS E	5.5	38.6	1.00	0.96	1.46	13.5
Approach			77	0.0	77	0.0	0.895	83.9	LOS F	5.5	38.6	1.00	0.96	1.46	13.3
All Vehicles			3293	2.0	3293	2.0	0.981	65.8	LOS E	84.3	600.0	0.90	1.01	1.10	20.9

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: School Access												

P2	Full	50	53	58.3	LOS E	0.2	0.2	0.96	0.96	212.1	200.0	0.94
North: Endeavour Blvd												
P3	Full	50	53	58.3	LOS E	0.2	0.2	0.96	0.96	212.1	200.0	0.94
West: Archer Close												
P4	Full	50	53	58.3	LOS E	0.2	0.2	0.96	0.96	212.1	200.0	0.94
All Pedestrians		0	158	58.3	LOS E	0.2	0.2	0.96	0.96	212.1	200.0	0.94

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

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PHASING SUMMARY

Site: 4v [Endeavour Blvd/Archer Close - relocated 4 leg school access - north left + no south ped xing (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Archer Close
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 128 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: lead lag right 113
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E
Reference Phase: Phase A

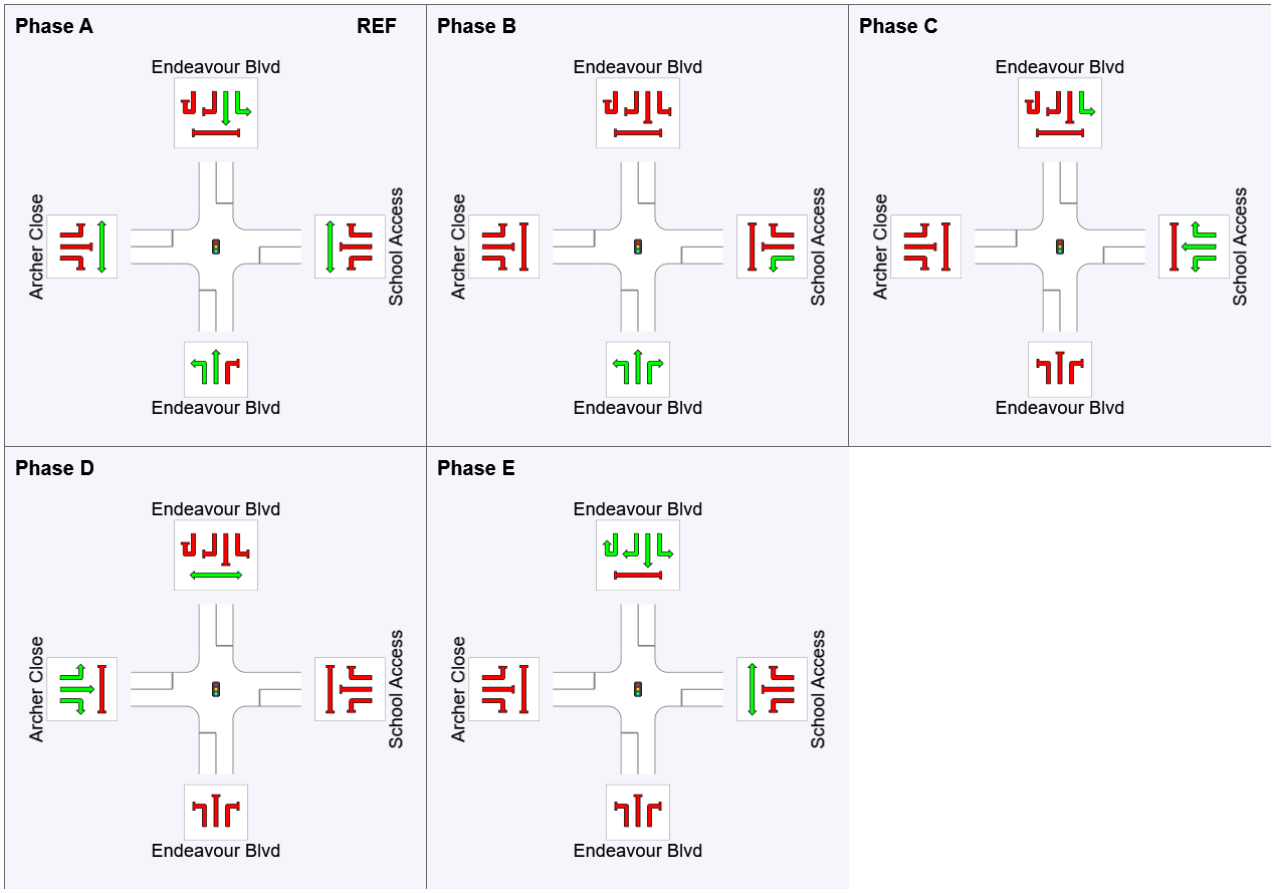
Phase Timing Summary

Phase	A	B	C	D	E
Phase Change Time (sec)	0	54	66	83	101
Green Time (sec)	49	6	11	12	21
Phase Time (sec)	55	12	17	18	26
Phase Split	43%	9%	13%	14%	20%
Phase Frequency (%)	100.0[1]	100.0[1]	100.0[1]	100.0[1]	90.0[1]

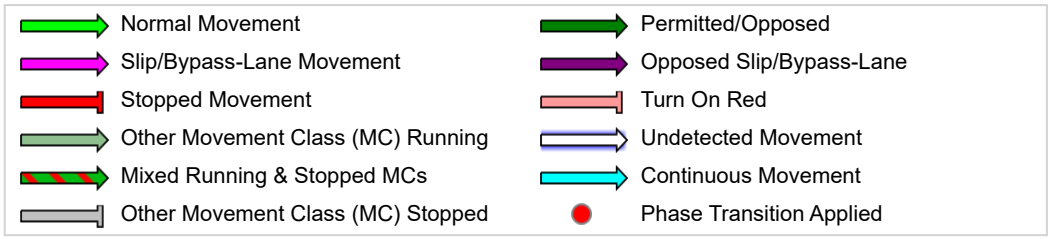
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

1 Phase Frequency has been given with User-Specified Phase Times.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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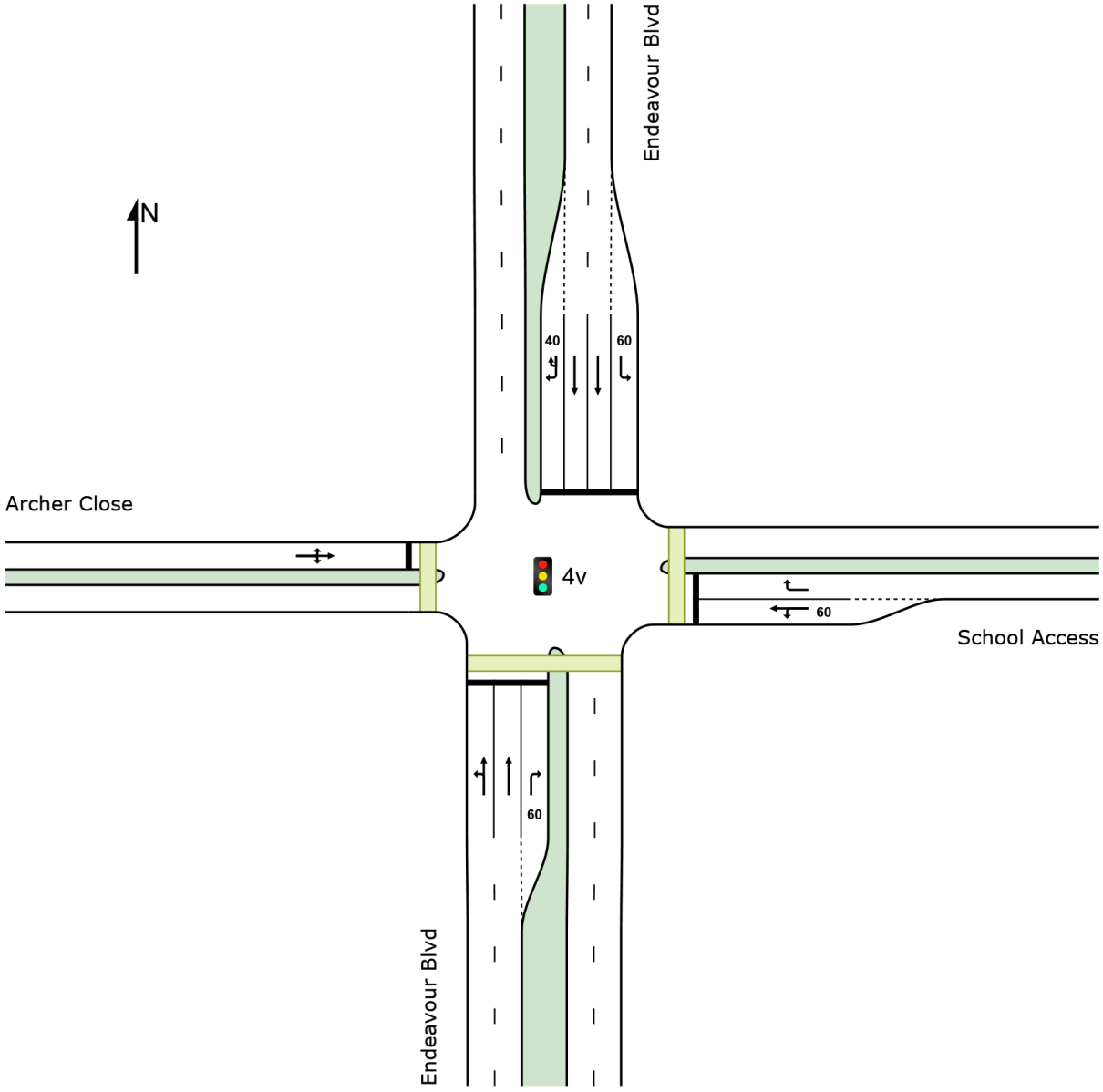
SITE LAYOUT

ARCHER CLOSE SIGNALS OPTION 3

Site: 4v [Endeavour Blvd/Archer Close - relocated 4 leg school access - north left + no north ped xing (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Endeavour Boulevard/Archer Close
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated

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



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Project: C:\Users\Mark.Hanson\OneDrive - Colliers International\2021 Synergy Projects - 21BRT0438 North Lakes School\7 - Reports\RFIs\MH Update\21BRT0438 SA02_B Network 2026_MH.sip9

MOVEMENT SUMMARY

Site: 4v [Endeavour Blvd/Archer Close - relocated 4 leg school access - north left + no north ped xing (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Archer Close
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 131 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	38	0.0	38	0.0	0.367	22.4	LOS C	9.8	70.7	0.48	0.45	0.48	25.0
2	T1	All MCs	672	4.0	672	4.0	0.367	12.9	LOS B	9.8	70.7	0.47	0.42	0.47	44.3
3	R2	All MCs	69	0.0	69	0.0	0.808	78.8	LOS E	4.8	33.9	1.00	0.86	1.23	15.7
Approach			779	3.4	779	3.4	0.808	19.2	LOS B	9.8	70.7	0.51	0.46	0.53	38.3
East: School Access															
4	L2	All MCs	48	0.0	48	0.0	* 0.220	62.4	LOS E	2.9	20.4	0.94	0.74	0.94	18.3
5	T1	All MCs	1	0.0	1	0.0	0.220	60.9	LOS E	2.9	20.4	0.94	0.74	0.94	11.9
6	R2	All MCs	145	0.0	145	0.0	0.854	77.9	LOS E	10.2	71.3	1.00	0.96	1.28	15.7
Approach			195	0.0	195	0.0	0.854	73.9	LOS E	10.2	71.3	0.98	0.90	1.19	16.3
North: Endeavour Blvd															
7	L2	All MCs	209	0.0	209	0.0	0.176	24.1	LOS C	2.9	20.1	0.44	0.69	0.44	40.3
8	T1	All MCs	1994	2.0	1994	2.0	* 0.893	42.1	LOS D	59.9	426.6	0.91	0.88	0.97	34.7
9	R2	All MCs	38	0.0	38	0.0	0.122	70.8	LOS E	2.1	14.7	0.88	0.73	0.88	15.5
9u	U	All MCs	1	0.0	1	0.0	0.122	72.2	LOS E	2.1	14.7	0.88	0.73	0.88	23.4
Approach			2242	1.8	2242	1.8	0.893	40.9	LOS D	59.9	426.6	0.87	0.86	0.92	28.1
West: Archer Close															
10	L2	All MCs	38	0.0	38	0.0	0.894	85.3	LOS F	5.6	39.4	1.00	0.96	1.45	13.1
11	T1	All MCs	1	0.0	1	0.0	* 0.894	79.8	LOS E	5.6	39.4	1.00	0.96	1.45	9.2
12	R2	All MCs	38	0.0	38	0.0	0.894	85.3	LOS F	5.6	39.4	1.00	0.96	1.45	13.4
Approach			77	0.0	77	0.0	0.894	85.3	LOS F	5.6	39.4	1.00	0.96	1.45	13.2
All Vehicles			3293	2.0	3293	2.0	0.894	38.8	LOS D	59.9	426.6	0.80	0.77	0.86	28.4

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Endeavour Blvd												

P1	Full	50	53	59.8	LOS E	0.2	0.2	0.96	0.96	213.6	200.0	0.94
East: School Access												
P2	Full	50	53	59.8	LOS E	0.2	0.2	0.96	0.96	213.6	200.0	0.94
West: Archer Close												
P4	Full	50	53	59.8	LOS E	0.2	0.2	0.96	0.96	213.6	200.0	0.94
All Pedestrians		0	158	59.8	LOS E	0.2	0.2	0.96	0.96	213.6	200.0	0.94

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

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PHASING SUMMARY

Site: 4v [Endeavour Blvd/Archer Close - relocated 4 leg school access - north left + no north ped xing (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Archer Close
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 131 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: lead lag right 113
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E
Reference Phase: Phase A

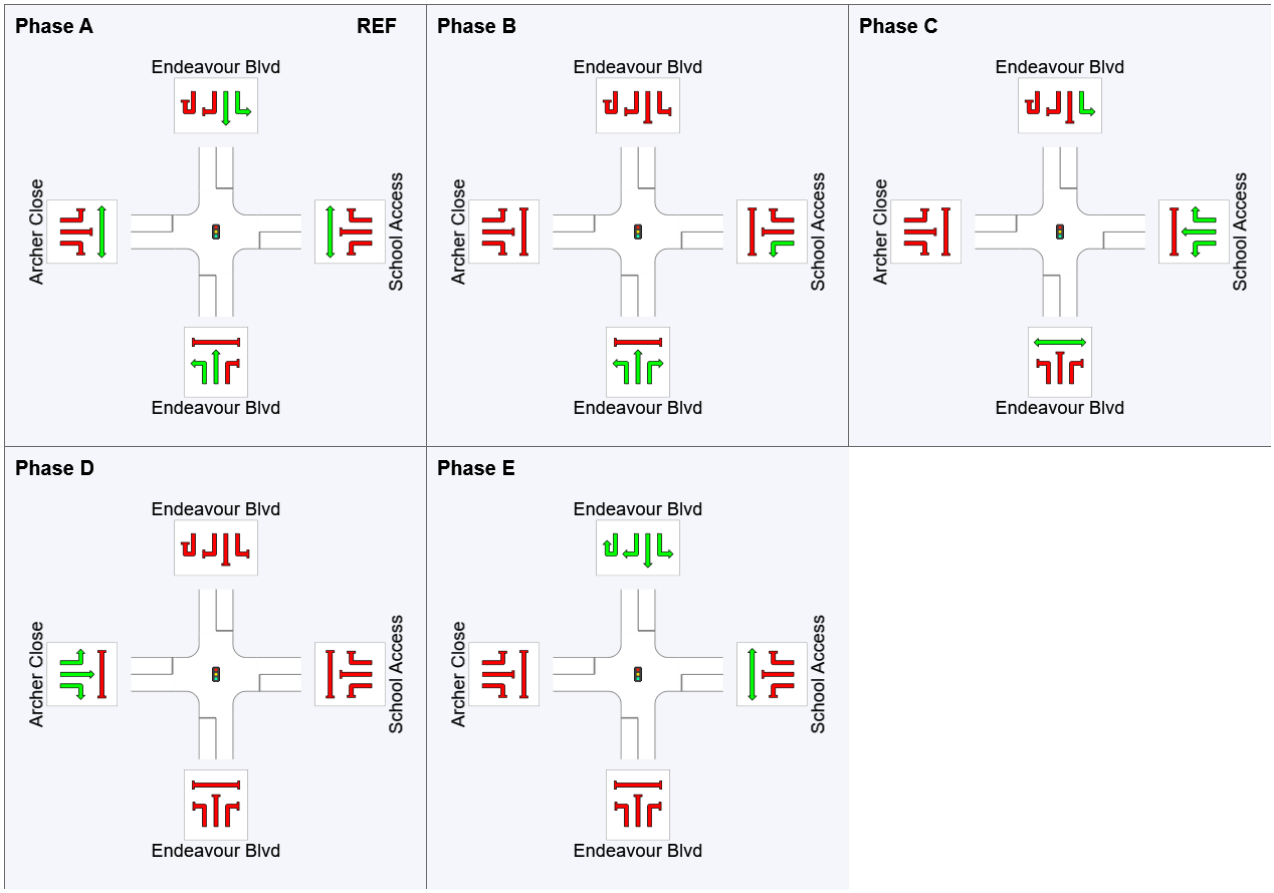
Phase Timing Summary

Phase	A	B	C	D	E
Phase Change Time (sec)	0	61	73	91	103
Green Time (sec)	55	6	12	6	23
Phase Time (sec)	61	12	18	11	29
Phase Split	47%	9%	14%	8%	22%
Phase Frequency (%)	100.0[1]	100.0[1]	100.0[1]	90.0[1]	95.0[1]

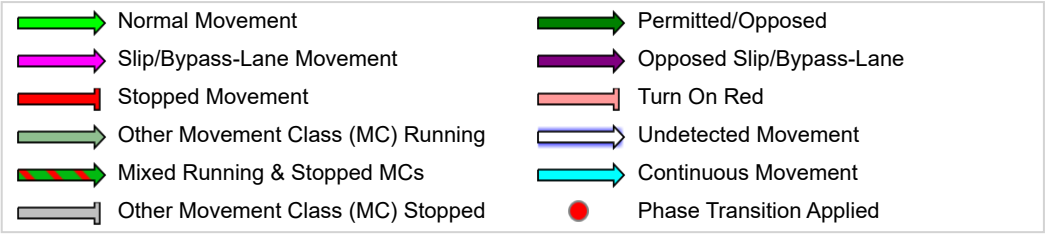
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

1 Phase Frequency has been given with User-Specified Phase Times.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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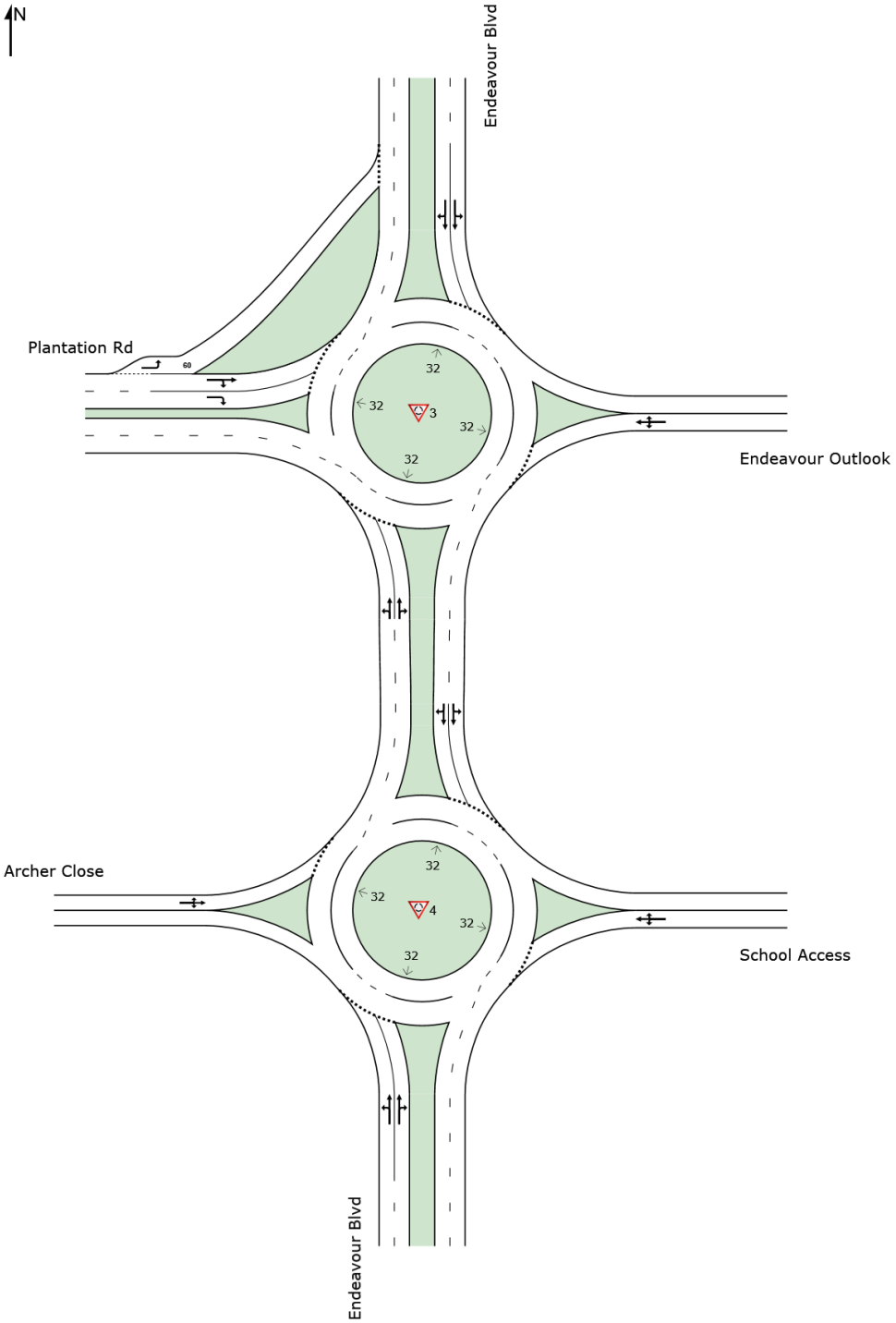
NETWORK LAYOUT

PLANTATION & ARCHER
NO MIDBLOCK CROSSING

Network: N101 [2037 AM no midblock crossing (Network Folder: General)]

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**
3	NA	Endeavour Blvd/Plantation Rd - left slip + relocated Archer roundabout
4	NA	Endeavour Blvd/Archer Close - relocated 4 leg school access

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MOVEMENT SUMMARY

Site: 3 [Endeavour Blvd/Plantation Rd - left slip + relocated Archer roundabout (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [2037 AM no midblock crossing (Network Folder: General)]

Endeavour Boulevard/Plantation Road
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
4	L2	All MCs	311	3.0	311	3.0	0.395	5.1	LOS A	3.0	21.4	0.62	0.53	0.62	49.0
5	T1	All MCs	539	5.0	539	5.0	0.395	5.2	LOS A	3.0	21.4	0.63	0.53	0.63	48.3
6	R2	All MCs	4	0.0	4	0.0	0.395	14.9	LOS B	2.8	20.6	0.63	0.53	0.63	39.8
6u	U	All MCs	1	0.0	1	0.0	0.395	13.5	LOS B	2.8	20.6	0.63	0.53	0.63	45.4
Approach			855	4.2	855	4.2	0.395	5.2	LOS A	3.0	21.4	0.62	0.53	0.62	48.5
East: Endeavour Outlook															
7	L2	All MCs	7	17.0	7	17.0	0.058	16.0	LOS B	0.3	2.3	0.90	0.89	0.90	9.9
8	T1	All MCs	2	0.0	2	0.0	0.058	14.2	LOS B	0.3	2.3	0.90	0.89	0.90	24.5
9	R2	All MCs	3	33.0	3	33.0	0.058	17.7	LOS B	0.3	2.3	0.90	0.89	0.90	20.9
Approach			13	18.2	13	18.2	0.058	16.1	LOS B	0.3	2.3	0.90	0.89	0.90	16.5
North: Endeavour Blvd															
10	L2	All MCs	8	0.0	8	0.0	0.981	36.2	LOS D	25.2	178.0	1.00	1.86	3.37	19.1
11	T1	All MCs	1211	1.0	1211	1.0	0.981	35.2	LOS D	25.2	178.0	1.00	1.85	3.39	18.3
12	R2	All MCs	306	1.0	306	1.0	0.981	45.1	LOS D	21.8	153.9	1.00	1.83	3.43	25.0
Approach			1525	1.0	1525	1.0	0.981	37.2	LOS D	25.2	178.0	1.00	1.85	3.40	20.1
West: Plantation Rd															
1	L2	All MCs	303	1.0	303	1.0	0.212	4.6	LOS A	1.1	8.0	0.52	0.55	0.52	47.8
2	T1	All MCs	2	50.0	2	50.0	0.398	12.1	LOS B	2.4	17.3	0.59	0.69	0.59	33.3
3	R2	All MCs	985	2.0	985	2.0	0.398	10.8	LOS B	2.4	17.3	0.60	0.70	0.60	37.0
Approach			1291	1.8	1291	1.8	0.398	9.4	LOS A	2.4	17.3	0.58	0.67	0.58	39.8
All Vehicles			3683	2.1	3683	2.1	0.981	20.0	LOS B	25.2	178.0	0.77	1.13	1.76	31.6

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

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MOVEMENT SUMMARY

Site: 4 [Endeavour Blvd/Archer Close - relocated 4 leg school access (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Network: N101 [2037 AM no midblock crossing (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Archer Close
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	38	0.0	38	0.0	0.310	4.3	LOS A	2.1	14.9	0.43	0.42	0.43	41.9
2	T1	All MCs	672	4.0	672	4.0	0.310	4.3	LOS A	2.1	14.9	0.43	0.45	0.43	45.9
3	R2	All MCs	69	0.0	69	0.0	0.310	10.2	LOS B	2.0	14.4	0.44	0.48	0.44	46.9
Approach			779	3.4	779	3.4	0.310	4.8	LOS A	2.1	14.9	0.43	0.45	0.43	45.8
East: School Access															
4	L2	All MCs	48	0.0	48	0.0	0.476	13.8	LOS B	2.8	19.4	0.88	1.01	1.11	37.1
5	T1	All MCs	1	0.0	1	0.0	0.476	13.9	LOS B	2.8	19.4	0.88	1.01	1.11	22.1
6	R2	All MCs	145	0.0	145	0.0	0.476	19.7	LOS B	2.8	19.4	0.88	1.01	1.11	24.8
Approach			195	0.0	195	0.0	0.476	18.2	LOS B	2.8	19.4	0.88	1.01	1.11	29.1
North: Endeavour Blvd															
7	L2	All MCs	209	0.0	209	0.0	0.783	4.6	LOS A	10.4	74.1	0.59	0.45	0.59	46.5
8	T1	All MCs	1994	2.0	1994	2.0	0.783	4.7	LOS A	10.4	74.1	0.61	0.46	0.61	49.5
9	R2	All MCs	38	0.0	38	0.0	0.783	10.6	LOS B	10.2	72.7	0.64	0.46	0.64	32.3
9u	U	All MCs	1	0.0	1	0.0	0.783	13.0	LOS B	10.2	72.7	0.64	0.46	0.64	43.4
Approach			2242	1.8	2242	1.8	0.783	4.8	LOS A	10.4	74.1	0.61	0.46	0.61	48.9
West: Archer Close															
10	L2	All MCs	38	0.0	38	0.0	0.107	6.4	LOS A	0.5	3.3	0.63	0.75	0.63	28.3
11	T1	All MCs	1	0.0	1	0.0	0.107	6.5	LOS A	0.5	3.3	0.63	0.75	0.63	37.9
12	R2	All MCs	38	0.0	38	0.0	0.107	12.4	LOS B	0.5	3.3	0.63	0.75	0.63	42.3
Approach			77	0.0	77	0.0	0.107	9.3	LOS A	0.5	3.3	0.63	0.75	0.63	37.8
All Vehicles			3293	2.0	3293	2.0	0.783	5.7	LOS A	10.4	74.1	0.59	0.50	0.60	47.2

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

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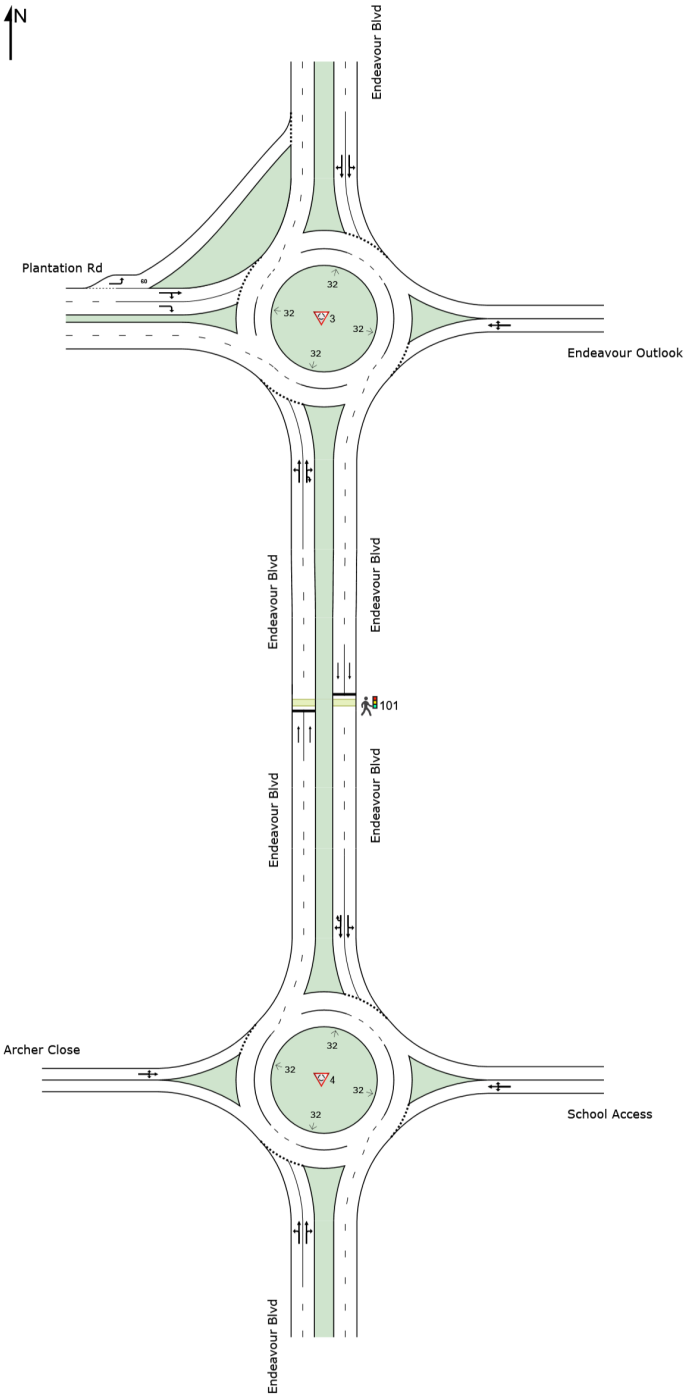
NETWORK LAYOUT

PLANTATION & ARCHER +MIDBLOCK CROSSING

Network: N101 [2037 AM with midblock crossing staged (Network Folder: General)]

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**
3	NA	Endeavour Blvd/Plantation Rd - left slip + relocated Archer roundabout
101	NA	Endeavour Blvd midblock Crossing staged
4	NA	Endeavour Blvd/Archer Close - relocated 4 leg school access midblock xing

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MOVEMENT SUMMARY

Site: 3 [Endeavour Blvd/Plantation Rd - left slip + relocated Archer roundabout (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [2037 AM with midblock crossing staged (Network Folder: General)]

Endeavour Boulevard/Plantation Road
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
4	L2	All MCs	311	3.0	311	3.0	0.395	5.1	LOS A	2.8	20.3	0.58	0.54	0.58	49.3
5	T1	All MCs	539	5.0	539	5.0	0.395	5.2	LOS A	2.8	20.3	0.59	0.53	0.59	48.6
6	R2	All MCs	4	0.0	4	0.0	0.395	14.9	LOS B	2.7	19.6	0.59	0.53	0.59	40.0
6u	U	All MCs	1	0.0	1	0.0	0.395	13.5	LOS B	2.7	19.6	0.59	0.53	0.59	45.8
Approach			855	4.2	855	4.2	0.395	5.2	LOS A	2.8	20.3	0.59	0.54	0.59	48.8
East: Endeavour Outlook															
7	L2	All MCs	7	17.0	7	17.0	0.058	16.0	LOS B	0.3	2.3	0.90	0.89	0.90	9.9
8	T1	All MCs	2	0.0	2	0.0	0.058	14.2	LOS B	0.3	2.3	0.90	0.89	0.90	24.5
9	R2	All MCs	3	33.0	3	33.0	0.058	17.6	LOS B	0.3	2.3	0.90	0.89	0.90	20.9
Approach			13	18.2	13	18.2	0.058	16.1	LOS B	0.3	2.3	0.90	0.89	0.90	16.5
North: Endeavour Blvd															
10	L2	All MCs	8	0.0	8	0.0	0.980	35.9	LOS D	25.0	176.6	1.00	1.85	3.35	19.2
11	T1	All MCs	1211	1.0	1211	1.0	0.980	34.9	LOS C	25.0	176.6	1.00	1.84	3.37	18.4
12	R2	All MCs	306	1.0	306	1.0	0.980	44.7	LOS D	21.6	152.8	1.00	1.82	3.41	25.1
Approach			1525	1.0	1525	1.0	0.980	36.9	LOS D	25.0	176.6	1.00	1.84	3.38	20.2
West: Plantation Rd															
1	L2	All MCs	303	1.0	303	1.0	0.210	4.6	LOS A	1.1	8.1	0.52	0.56	0.52	47.8
2	T1	All MCs	2	50.0	2	50.0	0.394	12.1	LOS B	2.4	17.5	0.59	0.69	0.59	33.3
3	R2	All MCs	985	2.0	985	2.0	0.394	10.9	LOS B	2.4	17.5	0.60	0.70	0.60	37.0
Approach			1291	1.8	1291	1.8	0.394	9.4	LOS A	2.4	17.5	0.58	0.66	0.58	39.8
All Vehicles			3683	2.1	3683	2.1	0.980	19.8	LOS B	25.0	176.6	0.76	1.12	1.74	31.7

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

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MOVEMENT SUMMARY

Site: 4 [Endeavour Blvd/Archer Close - relocated 4 leg school access midblock xing (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [2037 AM with midblock crossing staged (Network Folder: General)]

Endeavour Boulevard/Archer Close
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	38	0.0	38	0.0	0.310	4.3	LOS A	2.2	15.7	0.44	0.42	0.44	46.9
2	T1	All MCs	672	4.0	672	4.0	0.310	4.3	LOS A	2.2	15.7	0.45	0.45	0.45	45.8
3	R2	All MCs	69	0.0	69	0.0	0.310	10.2	LOS B	2.1	15.2	0.45	0.47	0.45	46.8
Approach			779	3.4	779	3.4	0.310	4.8	LOS A	2.2	15.7	0.45	0.45	0.45	46.0
East: School Access															
4	L2	All MCs	48	0.0	48	0.0	0.362	14.9	LOS B	3.5	24.2	1.00	0.80	1.00	36.3
5	T1	All MCs	1	0.0	1	0.0	0.362	14.9	LOS B	3.5	24.2	1.00	0.80	1.00	20.9
6	R2	All MCs	145	0.0	145	0.0	0.362	20.8	LOS C	3.5	24.2	1.00	0.80	1.00	24.0
Approach			195	0.0	195	0.0	0.362	19.3	LOS B	3.5	24.2	1.00	0.80	1.00	28.2
North: Endeavour Blvd															
7	L2	All MCs	209	0.0	209	0.0	0.783	4.0	LOS A	10.5	74.3	0.40	0.42	0.40	42.9
8	T1	All MCs	1994	2.0	1994	2.0	0.783	4.2	LOS A	10.5	74.3	0.42	0.43	0.42	48.4
9	R2	All MCs	38	0.0	38	0.0	0.783	10.0	LOS A	10.0	71.1	0.45	0.45	0.45	29.9
9u	U	All MCs	1	0.0	1	0.0	0.783	12.4	LOS B	10.0	71.1	0.45	0.45	0.45	34.0
Approach			2242	1.8	2242	1.8	0.783	4.3	LOS A	10.5	74.3	0.42	0.43	0.42	47.7
West: Archer Close															
10	L2	All MCs	38	0.0	38	0.0	0.107	6.4	LOS A	0.5	3.3	0.63	0.75	0.63	28.3
11	T1	All MCs	1	0.0	1	0.0	0.107	6.5	LOS A	0.5	3.3	0.63	0.75	0.63	37.9
12	R2	All MCs	38	0.0	38	0.0	0.107	12.4	LOS B	0.5	3.3	0.63	0.75	0.63	42.3
Approach			77	0.0	77	0.0	0.107	9.3	LOS A	0.5	3.3	0.63	0.75	0.63	37.8
All Vehicles			3293	2.0	3293	2.0	0.783	5.4	LOS A	10.5	74.3	0.47	0.47	0.47	45.7

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

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MOVEMENT SUMMARY

Site: 101 [Endeavour Blvd midblock Crossing staged (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [2037 AM with midblock crossing staged (Network Folder: General)]

New Site
Site Category: (None)
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
2	T1	All MCs	855	4.0	855	4.0	0.318	3.7	LOS A	4.8	34.8	0.41	0.36	0.41	34.7
Approach			855	4.0	855	4.0	0.318	3.7	LOS A	4.8	34.8	0.41	0.36	0.41	34.7
North: Endeavour Blvd															
8	T1	All MCs	2203	2.0	2203	2.0	* 0.844	12.5	LOS B	28.7	204.2	0.80	0.82	0.91	31.1
Approach			2203	2.0	2203	2.0	0.844	12.5	LOS B	28.7	204.2	0.80	0.82	0.91	31.1
All Vehicles			3058	2.6	3058	2.6	0.844	10.1	LOS B	28.7	204.2	0.69	0.69	0.77	31.5

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Endeavour Blvd											
P11	Stage 1	105	24.4	LOS C	0.2	0.2	0.90	0.90	178.3	200.0	1.12
P12	Stage 2	105	24.4	LOS C	0.2	0.2	0.90	0.90	178.3	200.0	1.12
All Pedestrians		211	24.4	LOS C	0.2	0.2	0.90	0.90	178.3	200.0	1.12

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

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PHASING SUMMARY

Site: 101 [Endeavour Blvd midblock Crossing staged (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [2037 AM with midblock crossing staged (Network Folder: General)]

New Site
Site Category: (None)
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: short phases staged
Input Phase Sequence: A, P1, P2
Output Phase Sequence: A, P1, P2
Reference Phase: Phase A
Offset: NA

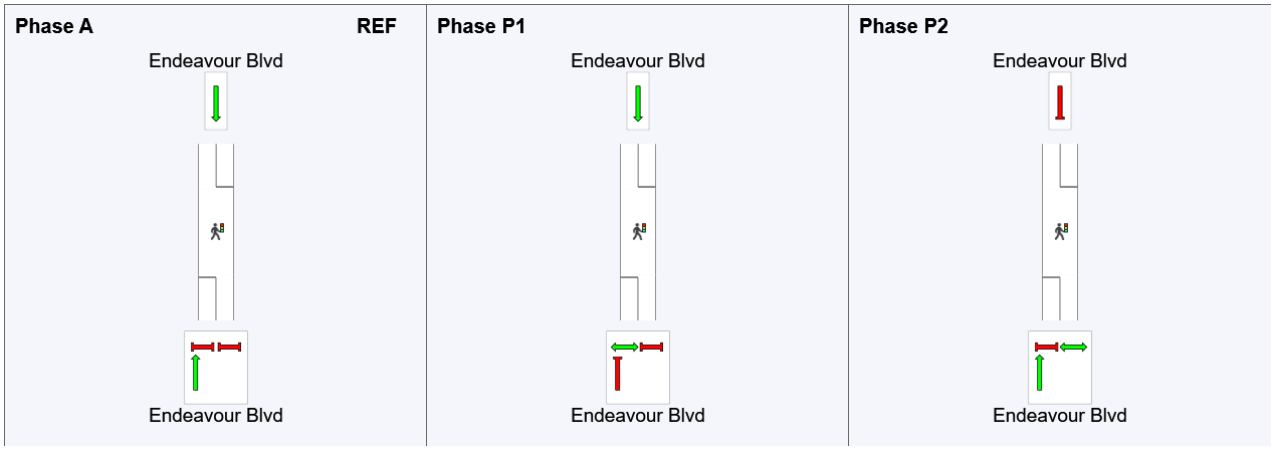
Phase Timing Summary

Phase	A	P1	P2
Phase Change Time (sec)	0	36	48
Green Time (sec)	30	6	6
Phase Time (sec)	36	12	12
Phase Split	60%	20%	20%
Phase Frequency (%)	100.0[1]	100.0[1]	100.0[1]

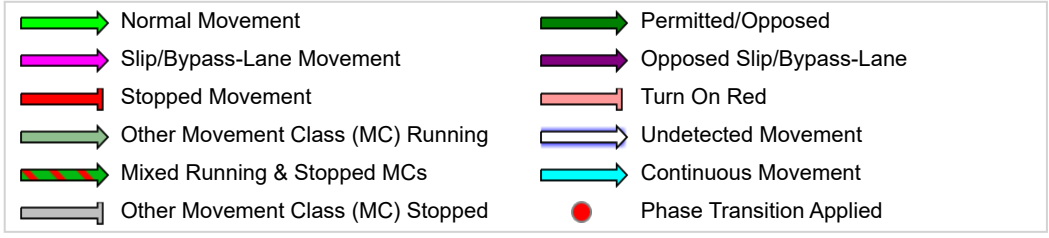
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

1 Phase Frequency has been given with User-Specified Phase Times.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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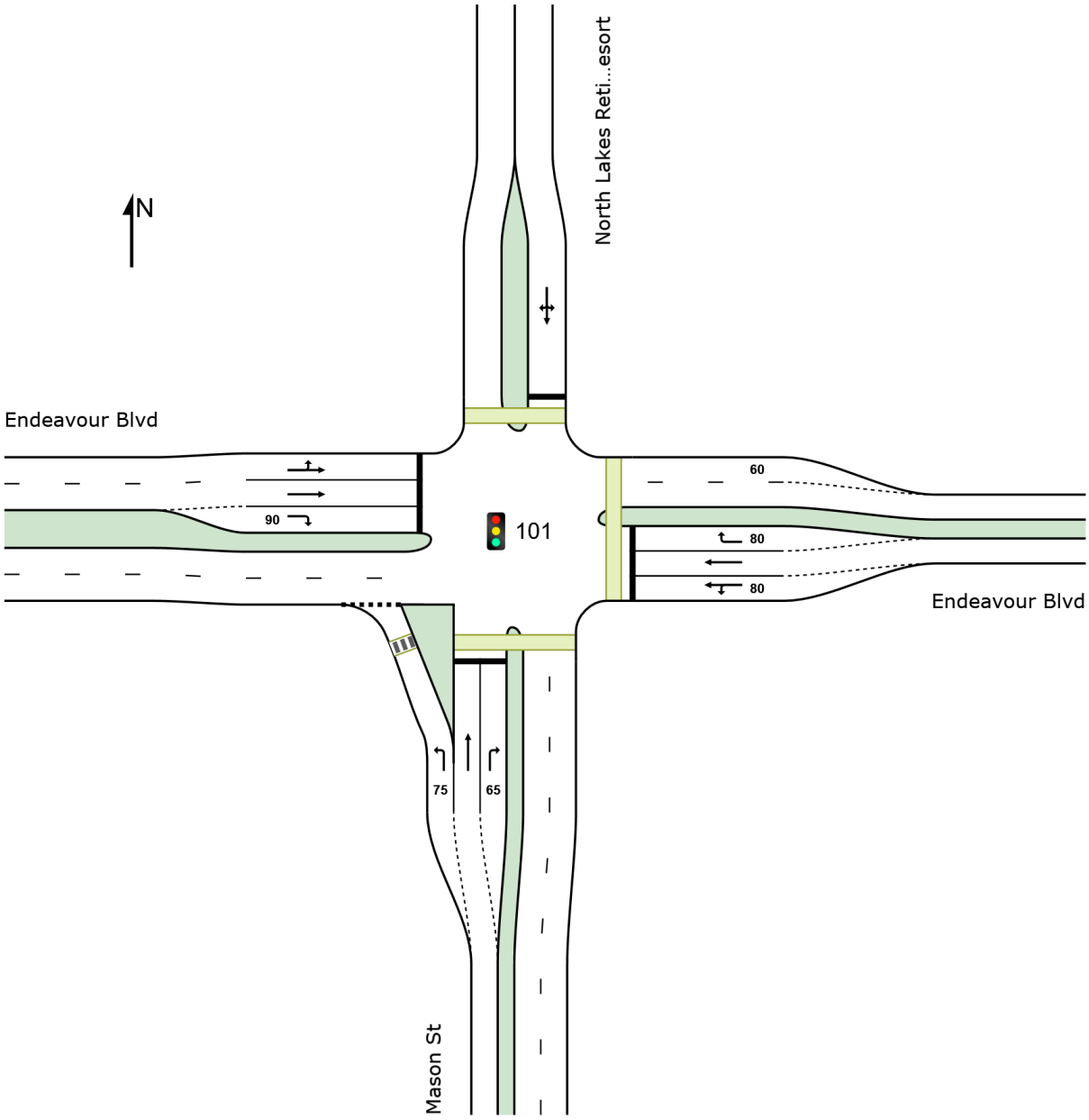
SITE LAYOUT

MASON STREET
AM PEAK

Site: 101 [Endeavour Blvd/Mason St (Site Folder: 2025 AM Survey)]

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

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



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MOVEMENT SUMMARY

MASON STREET MOVEMENT SUMMARIES

Site: 101 [Endeavour Blvd/Mason St (Site Folder: 2025 AM Survey)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 123 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Mason St															
1	L2	All MCs	173	1.0	173	1.0	0.115	6.5	LOS A	1.2	8.4	0.14	0.59	0.14	44.0
2	T1	All MCs	2	0.0	2	0.0	0.016	67.2	LOS E	0.1	0.8	0.96	0.62	0.96	10.2
3	R2	All MCs	63	2.0	63	2.0	*0.525	69.1	LOS E	3.9	27.7	1.00	0.76	1.00	19.5
Approach			238	1.3	238	1.3	0.525	23.6	LOS C	3.9	27.7	0.38	0.63	0.38	30.4
East: Endeavour Blvd															
4	L2	All MCs	58	11.0	58	11.0	0.337	36.1	LOS D	7.7	57.3	0.73	0.66	0.73	29.5
5	T1	All MCs	318	6.0	318	6.0	*0.337	30.4	LOS C	7.9	58.1	0.73	0.63	0.73	34.2
6	R2	All MCs	3	0.0	3	0.0	0.070	75.7	LOS E	0.2	1.4	0.99	0.62	0.99	15.3
Approach			379	6.7	379	6.7	0.337	31.7	LOS C	7.9	58.1	0.74	0.63	0.74	33.2
North: North Lakes Retirement Resort															
7	L2	All MCs	4	0.0	4	0.0	0.273	68.1	LOS E	1.4	10.1	1.00	0.70	1.00	15.6
8	T1	All MCs	16	0.0	16	0.0	*0.273	65.8	LOS E	1.4	10.1	1.00	0.70	1.00	9.7
9	R2	All MCs	3	0.0	3	0.0	0.273	65.8	LOS E	1.4	10.1	1.00	0.70	1.00	12.3
Approach			23	0.0	23	0.0	0.273	66.2	LOS E	1.4	10.1	1.00	0.70	1.00	11.2
West: Endeavour Blvd															
10	L2	All MCs	6	0.0	6	0.0	0.189	11.9	LOS B	4.8	34.0	0.32	0.29	0.32	25.2
11	T1	All MCs	954	1.0	954	1.0	0.474	6.9	LOS A	16.1	114.0	0.40	0.37	0.40	52.0
12	R2	All MCs	791	2.0	791	2.0	*0.716	15.3	LOS B	21.4	152.2	0.75	0.82	0.75	34.9
Approach			1751	1.4	1751	1.4	0.716	10.7	LOS B	21.4	152.2	0.56	0.57	0.56	44.7
All Vehicles			2391	2.2	2391	2.2	0.716	15.9	LOS B	21.4	152.2	0.57	0.59	0.57	39.8

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Mason St												
P1	Full	6	6	55.7	LOS E	0.0	0.0	0.95	0.95	209.5	200.0	0.95
East: Endeavour Blvd												

P2	Full	2	2	55.7	LOS E	0.0	0.0	0.95	0.95	209.5	200.0	0.95
North: North Lakes Retirement Resort												
P3	Full	1	1	55.6	LOS E	0.0	0.0	0.95	0.95	209.5	200.0	0.95
All Pedestrians		9	9	55.7	LOS E	0.0	0.0	0.95	0.95	209.5	200.0	0.95

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

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MOVEMENT SUMMARY

Site: 101 [Endeavour Blvd/Mason St (Site Folder: 2030 AM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 123 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Mason St															
1	L2	All MCs	181	1.0	181	1.0	0.133	6.0	LOS A	0.8	5.6	0.10	0.58	0.10	44.6
2	T1	All MCs	2	0.0	2	0.0	0.019	68.6	LOS E	0.1	0.9	0.96	0.62	0.96	10.0
3	R2	All MCs	66	2.0	66	2.0	*0.630	71.5	LOS E	4.2	29.9	1.00	0.80	1.08	19.1
Approach			249	1.3	249	1.3	0.630	23.9	LOS C	4.2	29.9	0.35	0.64	0.37	30.3
East: Endeavour Blvd															
4	L2	All MCs	61	11.0	61	11.0	0.187	12.9	LOS B	3.2	24.0	0.30	0.38	0.30	44.2
5	T1	All MCs	334	6.0	334	6.0	*0.187	7.2	LOS A	3.3	24.3	0.30	0.31	0.30	50.4
6	R2	All MCs	3	0.0	3	0.0	0.070	75.7	LOS E	0.2	1.4	0.99	0.62	0.99	15.3
Approach			398	6.7	398	6.7	0.187	8.6	LOS A	3.3	24.3	0.30	0.32	0.30	48.7
North: North Lakes Retirement Resort															
7	L2	All MCs	4	0.0	4	0.0	0.285	68.5	LOS E	1.5	10.6	1.00	0.70	1.00	15.6
8	T1	All MCs	17	0.0	17	0.0	*0.285	65.9	LOS E	1.5	10.6	1.00	0.70	1.00	9.6
9	R2	All MCs	3	0.0	3	0.0	0.285	65.9	LOS E	1.5	10.6	1.00	0.70	1.00	12.3
Approach			24	0.0	24	0.0	0.285	66.3	LOS E	1.5	10.6	1.00	0.70	1.00	11.1
West: Endeavour Blvd															
10	L2	All MCs	6	0.0	6	0.0	0.196	11.6	LOS B	4.9	34.8	0.32	0.29	0.32	25.3
11	T1	All MCs	1001	1.0	1001	1.0	0.492	7.0	LOS A	16.9	119.0	0.40	0.37	0.40	52.3
12	R2	All MCs	831	2.0	831	2.0	*0.817	15.8	LOS B	23.5	167.0	0.75	0.82	0.75	34.7
Approach			1838	1.4	1838	1.4	0.817	11.0	LOS B	23.5	167.0	0.56	0.57	0.56	44.4
All Vehicles			2509	2.3	2509	2.3	0.817	12.5	LOS B	23.5	167.0	0.50	0.54	0.50	42.7

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Mason St												
P1	Full	6	6	55.7	LOS E	0.0	0.0	0.95	0.95	209.5	200.0	0.95
East: Endeavour Blvd												

P2	Full	2	2	55.7	LOS E	0.0	0.0	0.95	0.95	209.5	200.0	0.95
North: North Lakes Retirement Resort												
P3	Full	1	1	55.6	LOS E	0.0	0.0	0.95	0.95	209.5	200.0	0.95
All Pedestrians		9	9	55.7	LOS E	0.0	0.0	0.95	0.95	209.5	200.0	0.95

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

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MOVEMENT SUMMARY

Site: 101 [Endeavour Blvd/Mason St (Site Folder: 2030 AM Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 123 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Mason St															
1	L2	All MCs	181	1.0	181	1.0	0.137	6.0	LOS A	0.9	6.3	0.11	0.58	0.11	44.5
2	T1	All MCs	2	0.0	2	0.0	0.019	68.6	LOS E	0.1	0.9	0.96	0.62	0.96	10.0
3	R2	All MCs	74	2.0	74	2.0	*0.700	72.5	LOS E	4.7	33.6	1.00	0.84	1.15	18.9
Approach			257	1.3	257	1.3	0.700	25.6	LOS C	4.7	33.6	0.37	0.65	0.41	29.5
East: Endeavour Blvd															
4	L2	All MCs	67	11.0	67	11.0	0.222	13.0	LOS B	3.9	29.3	0.31	0.38	0.31	44.2
5	T1	All MCs	400	6.0	400	6.0	*0.222	7.3	LOS A	4.0	29.7	0.31	0.31	0.31	50.3
6	R2	All MCs	3	0.0	3	0.0	0.070	75.7	LOS E	0.2	1.4	0.99	0.62	0.99	15.3
Approach			471	6.7	471	6.7	0.222	8.6	LOS A	4.0	29.7	0.31	0.32	0.31	48.8
North: North Lakes Retirement Resort															
7	L2	All MCs	4	0.0	4	0.0	0.285	69.0	LOS E	1.5	10.6	1.00	0.70	1.00	15.6
8	T1	All MCs	17	0.0	17	0.0	*0.285	65.9	LOS E	1.5	10.6	1.00	0.70	1.00	9.6
9	R2	All MCs	3	0.0	3	0.0	0.285	65.9	LOS E	1.5	10.6	1.00	0.70	1.00	12.3
Approach			24	0.0	24	0.0	0.285	66.4	LOS E	1.5	10.6	1.00	0.70	1.00	11.1
West: Endeavour Blvd															
10	L2	All MCs	6	0.0	6	0.0	0.209	11.7	LOS B	5.3	37.7	0.32	0.29	0.32	25.3
11	T1	All MCs	1071	1.0	1071	1.0	0.526	7.4	LOS A	18.8	132.6	0.41	0.38	0.41	52.1
12	R2	All MCs	831	2.0	831	2.0	*0.817	15.8	LOS B	23.5	167.0	0.75	0.82	0.75	34.7
Approach			1907	1.4	1907	1.4	0.817	11.1	LOS B	23.5	167.0	0.56	0.57	0.56	44.6
All Vehicles			2659	2.3	2659	2.3	0.817	12.6	LOS B	23.5	167.0	0.50	0.54	0.51	42.8

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Mason St												
P1	Full	6	6	55.7	LOS E	0.0	0.0	0.95	0.95	209.5	200.0	0.95
East: Endeavour Blvd												

P2	Full	2	2	55.7	LOS E	0.0	0.0	0.95	0.95	209.5	200.0	0.95
North: North Lakes Retirement Resort												
P3	Full	1	1	55.6	LOS E	0.0	0.0	0.95	0.95	209.5	200.0	0.95
All Pedestrians		9	9	55.7	LOS E	0.0	0.0	0.95	0.95	209.5	200.0	0.95

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

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MOVEMENT SUMMARY

Site: 101 [Endeavour Blvd/Mason St (Site Folder: 2037 AM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 124 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Mason St															
1	L2	All MCs	194	1.0	194	1.0	0.144	6.0	LOS A	0.9	6.0	0.10	0.58	0.10	44.6
2	T1	All MCs	2	0.0	2	0.0	0.019	69.2	LOS E	0.1	0.9	0.96	0.62	0.96	10.0
3	R2	All MCs	71	2.0	71	2.0	*0.675	72.7	LOS E	4.5	32.3	1.00	0.82	1.12	18.9
Approach			266	1.3	266	1.3	0.675	24.1	LOS C	4.5	32.3	0.34	0.64	0.38	30.2
East: Endeavour Blvd															
4	L2	All MCs	65	11.0	65	11.0	0.199	12.8	LOS B	3.4	25.6	0.30	0.38	0.30	44.3
5	T1	All MCs	356	6.0	356	6.0	*0.199	7.1	LOS A	3.5	25.9	0.30	0.30	0.30	50.5
6	R2	All MCs	3	0.0	3	0.0	0.070	76.3	LOS E	0.2	1.4	0.99	0.62	0.99	15.2
Approach			424	6.7	424	6.7	0.199	8.5	LOS A	3.5	25.9	0.30	0.32	0.30	48.8
North: North Lakes Retirement Resort															
7	L2	All MCs	4	0.0	4	0.0	0.300	69.6	LOS E	1.6	11.1	1.00	0.71	1.00	15.5
8	T1	All MCs	18	0.0	18	0.0	*0.300	66.5	LOS E	1.6	11.1	1.00	0.71	1.00	9.6
9	R2	All MCs	3	0.0	3	0.0	0.300	66.5	LOS E	1.6	11.1	1.00	0.71	1.00	12.2
Approach			25	0.0	25	0.0	0.300	67.0	LOS E	1.6	11.1	1.00	0.71	1.00	11.0
West: Endeavour Blvd															
10	L2	All MCs	7	0.0	7	0.0	0.209	11.7	LOS B	5.3	37.6	0.32	0.29	0.32	25.3
11	T1	All MCs	1068	1.0	1068	1.0	0.524	8.6	LOS A	18.8	132.4	0.41	0.38	0.41	52.1
12	R2	All MCs	885	2.0	885	2.0	*0.868	24.2	LOS C	28.7	204.3	0.82	0.89	0.87	30.0
Approach			1961	1.4	1961	1.4	0.868	15.6	LOS B	28.7	204.3	0.59	0.61	0.62	40.4
All Vehicles			2677	2.3	2677	2.3	0.868	15.8	LOS B	28.7	204.3	0.53	0.57	0.55	39.9

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Mason St												
P1	Full	6	6	56.2	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95
East: Endeavour Blvd												

P2	Full	2	2	56.2	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95
North: North Lakes Retirement Resort												
P3	Full	1	1	56.1	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95
All Pedestrians		9	9	56.2	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95

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

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MOVEMENT SUMMARY

Site: 101 [Endeavour Blvd/Mason St (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 124 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Mason St															
1	L2	All MCs	207	1.0	207	1.0	0.170	6.2	LOS A	1.2	8.3	0.12	0.58	0.12	44.4
2	T1	All MCs	2	0.0	2	0.0	0.019	69.2	LOS E	0.1	0.9	0.96	0.62	0.96	10.0
3	R2	All MCs	86	2.0	86	2.0	*0.826	76.5	LOS E	5.8	41.1	1.00	0.92	1.31	18.2
Approach			296	1.3	296	1.3	0.826	27.1	LOS C	5.8	41.1	0.38	0.68	0.47	28.7
East: Endeavour Blvd															
4	L2	All MCs	80	11.0	80	11.0	0.293	12.1	LOS B	5.3	39.1	0.30	0.37	0.30	45.2
5	T1	All MCs	561	6.0	561	6.0	*0.293	6.5	LOS A	5.4	39.5	0.30	0.30	0.30	51.3
6	R2	All MCs	3	0.0	3	0.0	0.105	79.9	LOS E	0.2	1.5	1.00	0.61	1.00	14.9
Approach			644	6.6	644	6.6	0.293	7.5	LOS A	5.4	39.5	0.30	0.31	0.30	50.0
North: North Lakes Retirement Resort															
7	L2	All MCs	4	0.0	4	0.0	0.300	71.5	LOS E	1.6	11.1	1.00	0.71	1.00	15.5
8	T1	All MCs	18	0.0	18	0.0	*0.300	66.5	LOS E	1.6	11.1	1.00	0.71	1.00	9.6
9	R2	All MCs	3	0.0	3	0.0	0.300	66.5	LOS E	1.6	11.1	1.00	0.71	1.00	12.2
Approach			25	0.0	25	0.0	0.300	67.3	LOS E	1.6	11.1	1.00	0.71	1.00	11.0
West: Endeavour Blvd															
10	L2	All MCs	7	0.0	7	0.0	0.254	11.6	LOS B	6.6	46.9	0.32	0.29	0.32	25.3
11	T1	All MCs	1262	1.0	1262	1.0	0.639	9.1	LOS A	23.5	165.7	0.44	0.40	0.44	52.0
12	R2	All MCs	895	2.0	895	2.0	*0.872	24.5	LOS C	28.1	200.1	0.82	0.89	0.87	29.7
Approach			2164	1.4	2164	1.4	0.872	15.5	LOS B	28.1	200.1	0.59	0.60	0.62	41.1
All Vehicles			3129	2.5	3129	2.5	0.872	15.4	LOS B	28.1	200.1	0.52	0.55	0.54	40.9

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Mason St												
P1	Full	6	6	56.2	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95
East: Endeavour Blvd												

P2	Full	2	2	56.2	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95
North: North Lakes Retirement Resort												
P3	Full	1	1	56.1	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95
All Pedestrians		9	9	56.2	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95

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

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PHASING SUMMARY

MASON STREET PHASING SUMMARIES

Site: 101 [Endeavour Blvd/Mason St (Site Folder: 2025 AM Survey)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 123 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: SCATS - BACED - Exact
Input Phase Sequence: B, A, C, E, D
Output Phase Sequence: B, A, C, E, D
Reference Phase: Phase B

Phase Timing Summary

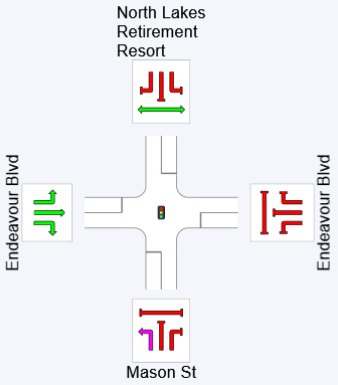
Phase	B	A	C	E	D
Phase Change Time (sec)	0	60	94	103	113
Green Time (sec)	57	28	3	8	5
Phase Time (sec)	63	34	5	13	8
Phase Split	51%	28%	4%	11%	7%
Phase Frequency (%)	100.0[1]	97.0[1]	30.0[1]	83.0[1]	56.0[1]

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%.

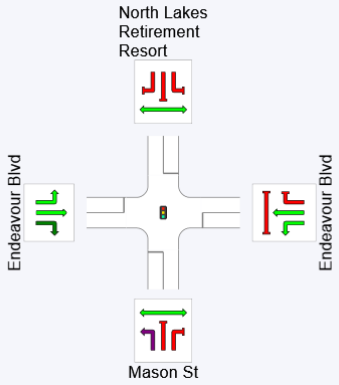
1 Phase Frequency has been given with User-Specified Phase Times.

Output Phase Sequence

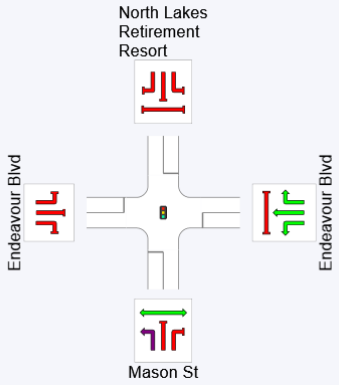
Phase B **REF**



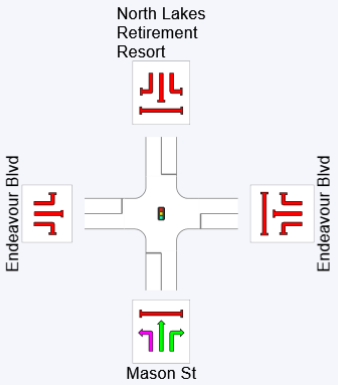
Phase A



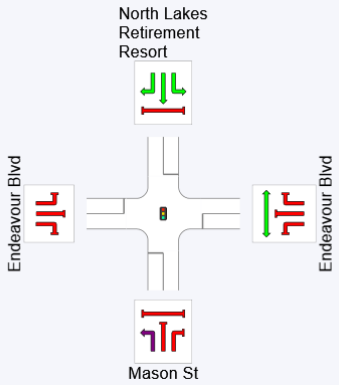
Phase C



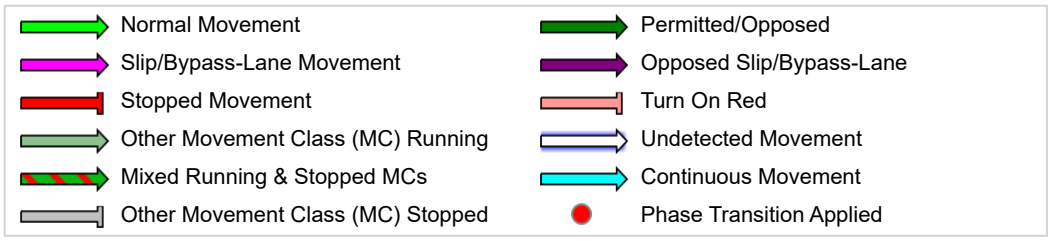
Phase E



Phase D



REF: Reference Phase
VAR: Variable Phase



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PHASING SUMMARY

Site: 101 [Endeavour Blvd/Mason St (Site Folder: 2030 AM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 123 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: SCATS - BACED - Exact
Input Phase Sequence: B, A, C, E, D
Output Phase Sequence: B, A, C, E, D
Reference Phase: Phase B

Phase Timing Summary

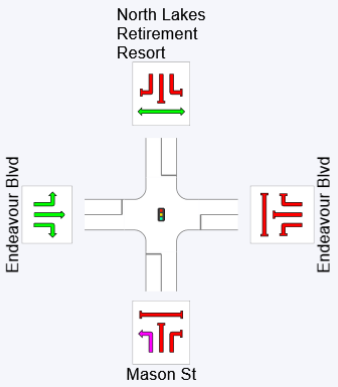
Phase	B	A	C	E	D
Phase Change Time (sec)	0	28	95	104	113
Green Time (sec)	25	61	3	7	5
Phase Time (sec)	31	67	5	12	8
Phase Split	25%	54%	4%	10%	7%
Phase Frequency (%)	100.0[1]	97.0[1]	30.0[1]	83.0[1]	56.0[1]

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%.

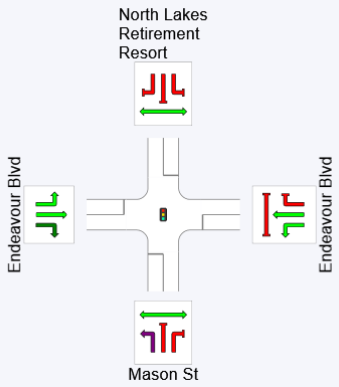
1 Phase Frequency has been given with User-Specified Phase Times.

Output Phase Sequence

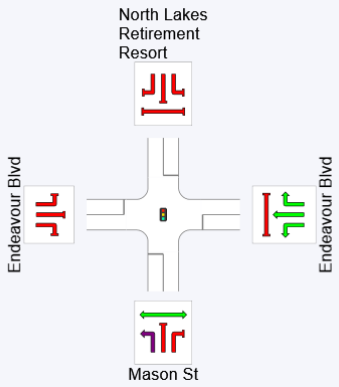
Phase B **REF**



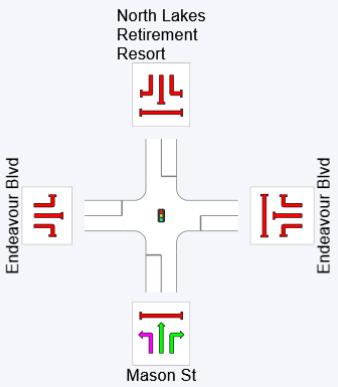
Phase A



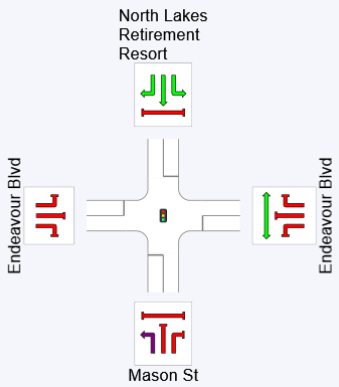
Phase C



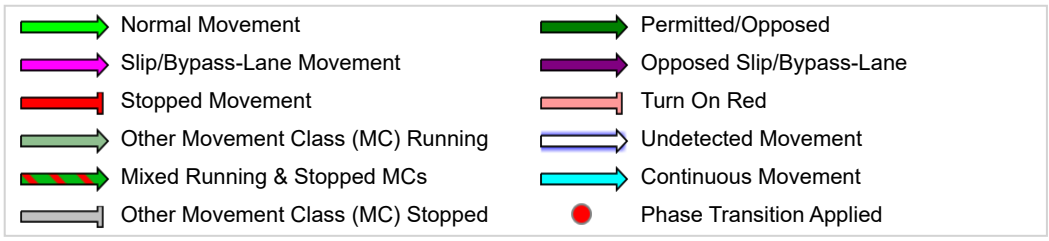
Phase E



Phase D



REF: Reference Phase
VAR: Variable Phase



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PHASING SUMMARY

Site: 101 [Endeavour Blvd/Mason St (Site Folder: 2030 AM Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 123 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: SCATS - BACED - Exact
Input Phase Sequence: B, A, C, E, D
Output Phase Sequence: B, A, C, E, D
Reference Phase: Phase B

Phase Timing Summary

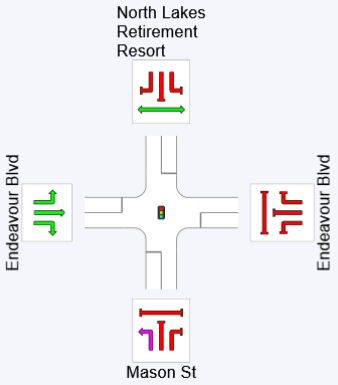
Phase	B	A	C	E	D
Phase Change Time (sec)	0	28	95	104	113
Green Time (sec)	25	61	3	7	5
Phase Time (sec)	31	67	5	12	8
Phase Split	25%	54%	4%	10%	7%
Phase Frequency (%)	100.0[1]	97.0[1]	30.0[1]	83.0[1]	56.0[1]

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%.

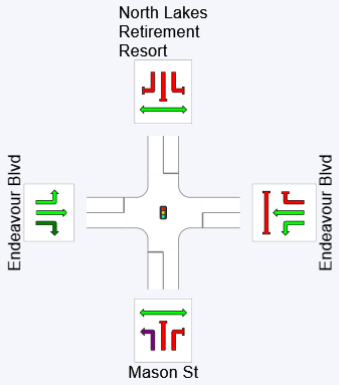
1 Phase Frequency has been given with User-Specified Phase Times.

Output Phase Sequence

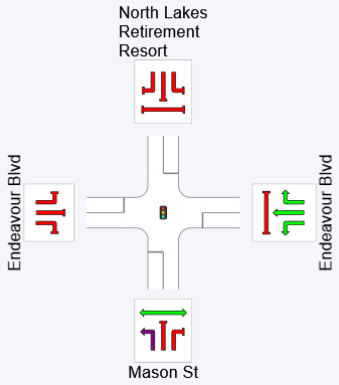
Phase B **REF**



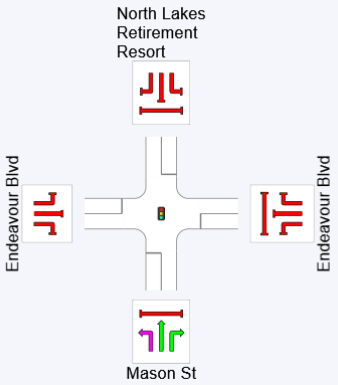
Phase A



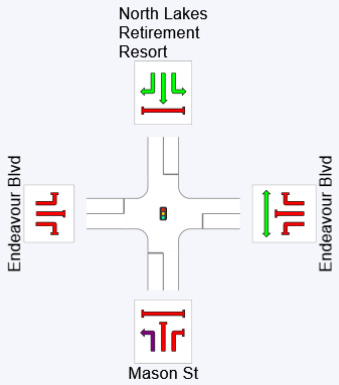
Phase C



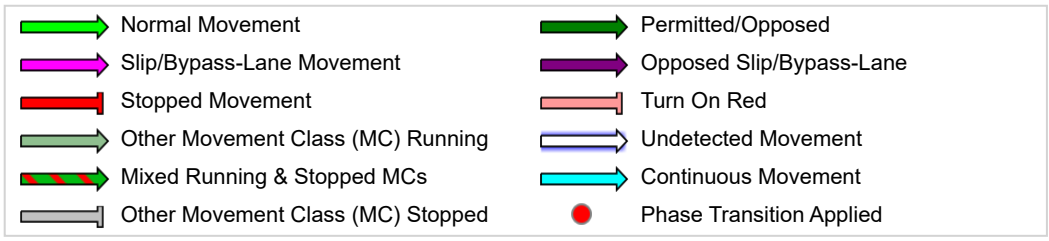
Phase E



Phase D



REF: Reference Phase
VAR: Variable Phase



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PHASING SUMMARY

Site: 101 [Endeavour Blvd/Mason St (Site Folder: 2037 AM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 124 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: SCATS - BACED - Exact
Input Phase Sequence: B, A, C, E, D
Output Phase Sequence: B, A, C, E, D
Reference Phase: Phase B

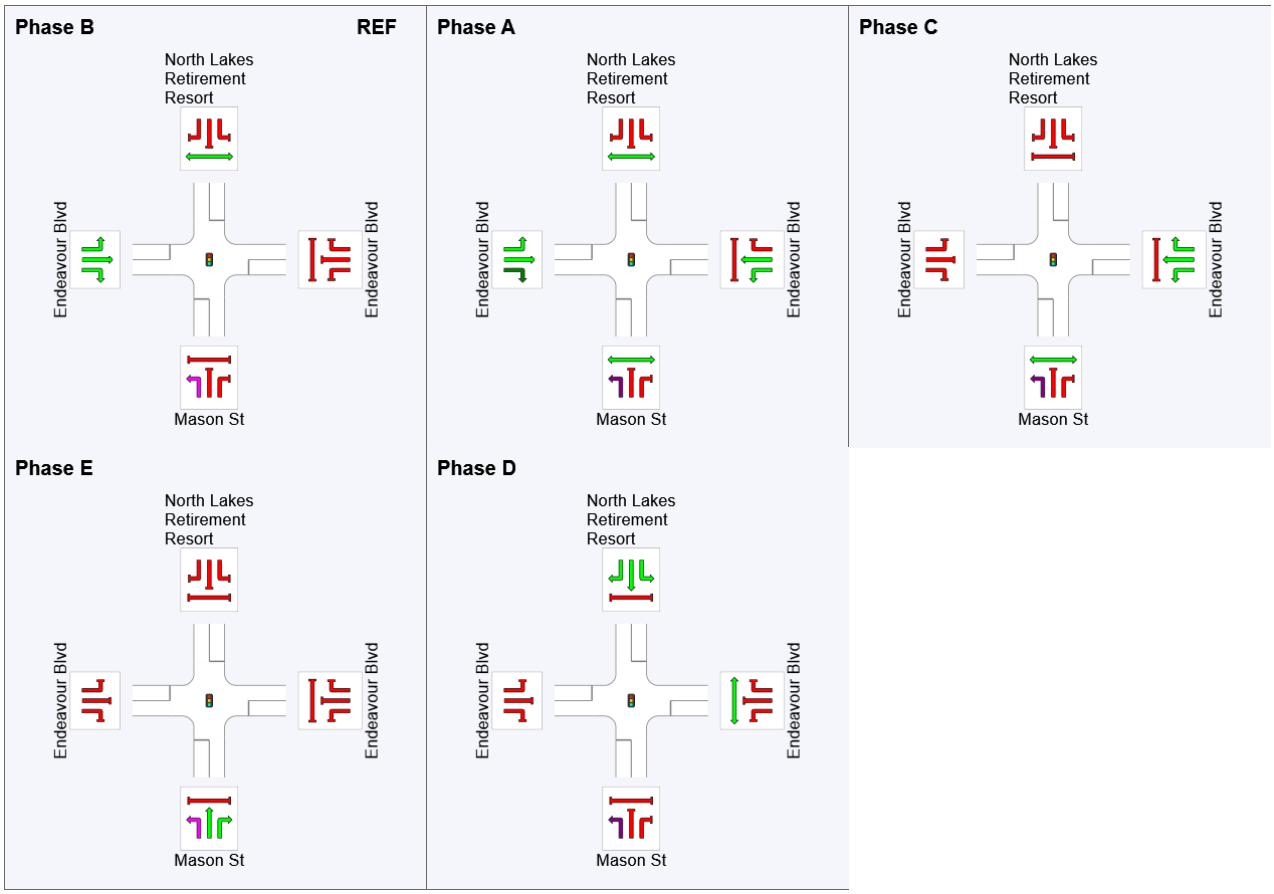
Phase Timing Summary

Phase	B	A	C	E	D
Phase Change Time (sec)	0	28	96	105	114
Green Time (sec)	25	62	3	7	5
Phase Time (sec)	31	68	5	12	8
Phase Split	25%	55%	4%	10%	6%
Phase Frequency (%)	100.0[1]	97.0[1]	30.0[1]	83.0[1]	56.0[1]

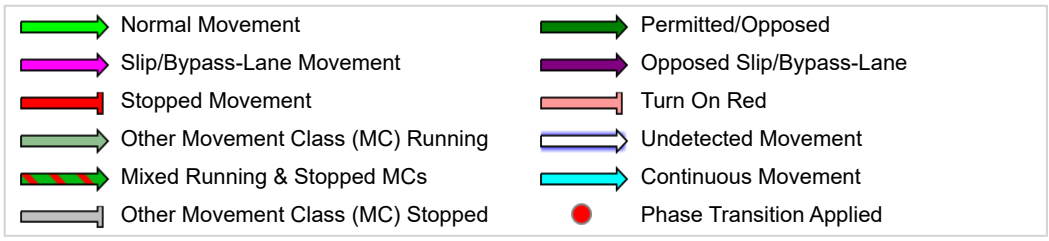
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

1 Phase Frequency has been given with User-Specified Phase Times.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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PHASING SUMMARY

Site: 101 [Endeavour Blvd/Mason St (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 124 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: SCATS - BACED - Exact
Input Phase Sequence: B, A, C, E, D
Output Phase Sequence: B, A, C, E, D
Reference Phase: Phase B

Phase Timing Summary

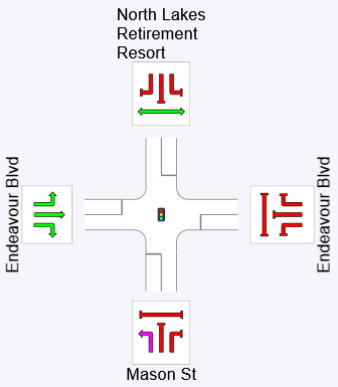
Phase	B	A	C	E	D
Phase Change Time (sec)	0	26	97	105	114
Green Time (sec)	23	65	2	7	5
Phase Time (sec)	29	71	4	12	8
Phase Split	23%	57%	3%	10%	6%
Phase Frequency (%)	100.0[1]	97.0[1]	30.0[1]	83.0[1]	56.0[1]

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%.

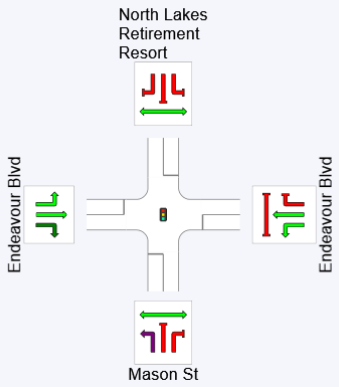
1 Phase Frequency has been given with User-Specified Phase Times.

Output Phase Sequence

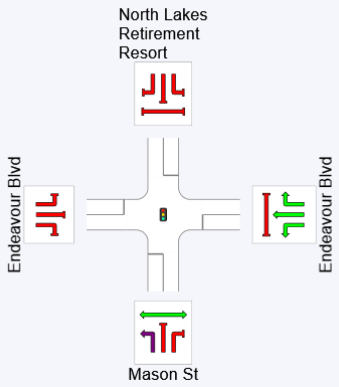
Phase B **REF**



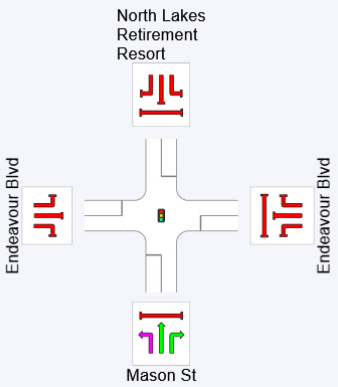
Phase A



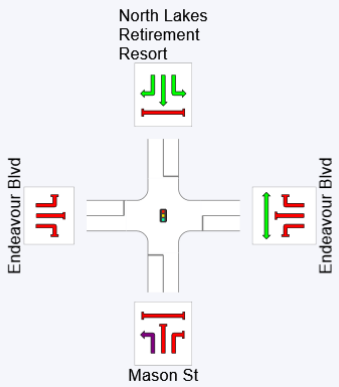
Phase C



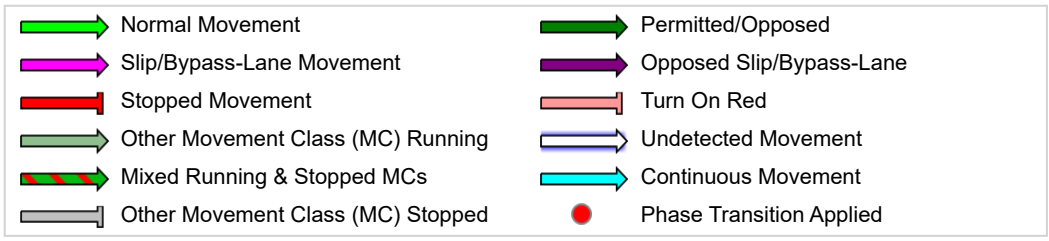
Phase E



Phase D



REF: Reference Phase
VAR: Variable Phase



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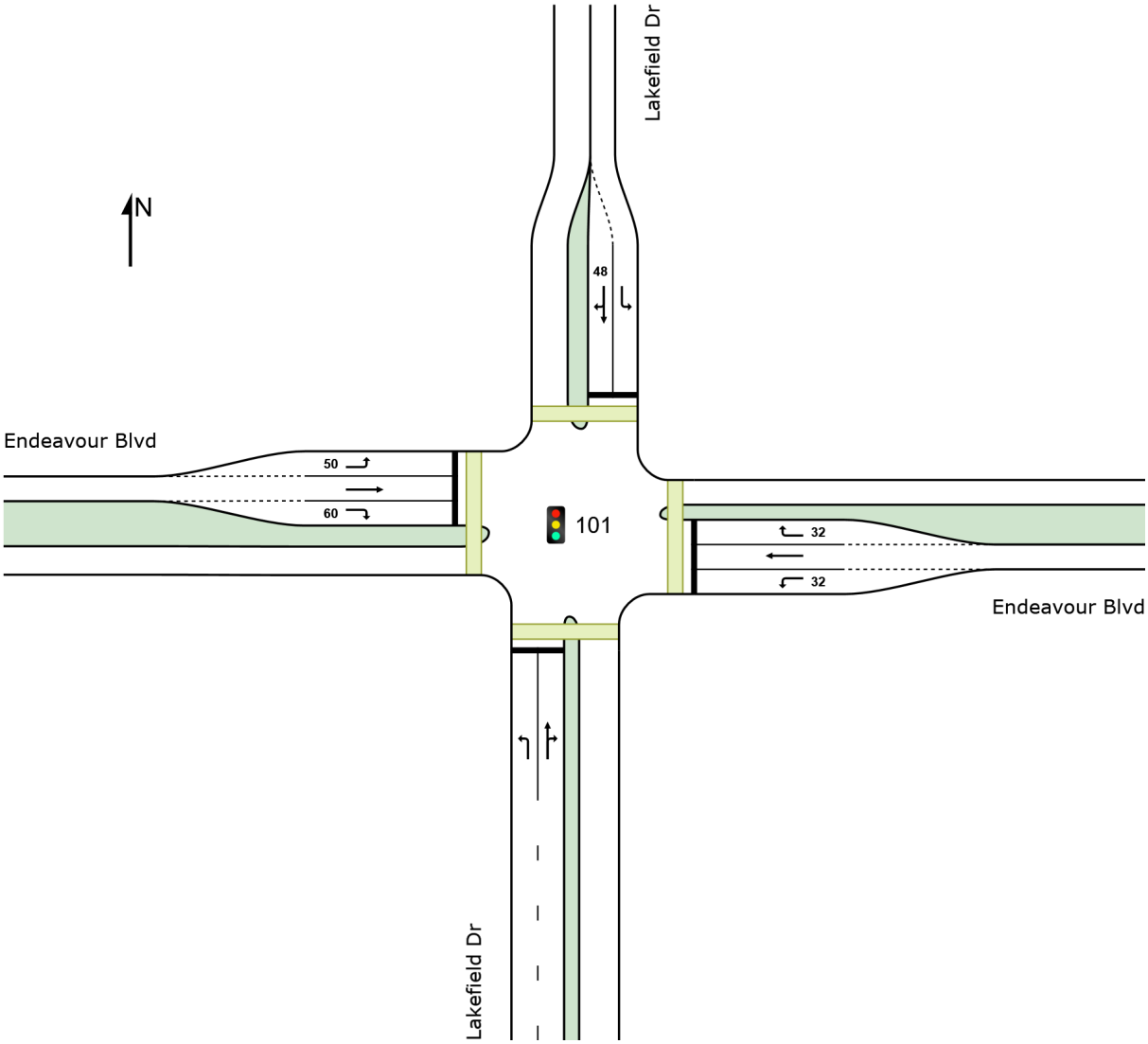
SITE LAYOUT

Site: 101 [Endeavour Blvd/Lakefield Dr (Site Folder: 2025 AM Survey)]

LAKEFIELD DRIVE
AM PEAK

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

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



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Project: C:\Users\Mark.Hanson\OneDrive - Colliers International\2021 Synergy Projects - 21BRT0438 North Lakes School\7 - Reports\RFIs\MH Update\21BRT0438 SA02_B Network 2026_MH.sip9

MOVEMENT SUMMARY

LAKEFIELD DRIVE MOVEMENT SUMMARIES

Site: 101 [Endeavour Blvd/Lakefield Dr (Site Folder: 2025 AM Survey)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 119 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Lakefield Dr															
1	L2	All MCs	65	2.0	65	2.0	0.155	28.1	LOS C	2.2	15.5	0.84	0.73	0.84	31.2
2	T1	All MCs	43	2.0	43	2.0	*0.250	49.6	LOS D	3.6	25.4	0.93	0.73	0.93	16.1
3	R2	All MCs	25	0.0	25	0.0	0.250	54.2	LOS D	3.6	25.4	0.93	0.73	0.93	16.6
Approach			134	1.6	134	1.6	0.250	40.0	LOS D	3.6	25.4	0.88	0.73	0.88	23.2
East: Endeavour Blvd															
4	L2	All MCs	40	3.0	40	3.0	0.057	39.1	LOS D	1.4	10.3	0.66	0.70	0.66	23.1
5	T1	All MCs	301	6.0	301	6.0	0.410	35.7	LOS D	12.3	90.2	0.76	0.65	0.76	34.7
6	R2	All MCs	4	0.0	4	0.0	*0.067	78.9	LOS E	0.3	1.8	0.99	0.63	0.99	13.1
Approach			345	5.6	345	5.6	0.410	36.6	LOS D	12.3	90.2	0.75	0.66	0.75	28.8
North: Lakefield Dr															
7	L2	All MCs	15	0.0	15	0.0	0.067	55.5	LOS E	0.8	5.4	0.92	0.69	0.92	15.1
8	T1	All MCs	45	0.0	45	0.0	*0.424	51.3	LOS D	6.2	43.6	0.96	0.77	0.96	15.6
9	R2	All MCs	68	2.0	68	2.0	0.424	55.8	LOS E	6.2	43.6	0.96	0.77	0.96	22.6
Approach			128	1.1	128	1.1	0.424	54.2	LOS D	6.2	43.6	0.95	0.76	0.95	19.6
West: Endeavour Blvd															
10	L2	All MCs	127	1.0	127	1.0	0.168	40.6	LOS D	4.6	32.5	0.67	0.74	0.67	31.0
11	T1	All MCs	605	2.0	605	2.0	*0.697	35.6	LOS D	26.5	188.9	0.82	0.74	0.82	36.1
12	R2	All MCs	119	1.0	119	1.0	0.590	71.3	LOS E	6.8	48.3	1.00	0.79	1.00	21.3
Approach			852	1.7	852	1.7	0.697	41.3	LOS D	26.5	188.9	0.83	0.75	0.83	27.6
All Vehicles			1459	2.6	1459	2.6	0.697	41.2	LOS D	26.5	188.9	0.82	0.73	0.82	26.7

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Lakefield Dr												
P1	Full	50	53	53.8	LOS E	0.2	0.2	0.95	0.95	207.6	200.0	0.96
East: Endeavour Blvd												

P2	Full	50	53	53.8	LOS E	0.2	0.2	0.95	0.95	207.6	200.0	0.96
North: Lakefield Dr												
P3	Full	50	53	53.8	LOS E	0.2	0.2	0.95	0.95	207.6	200.0	0.96
West: Endeavour Blvd												
P4	Full	50	53	53.8	LOS E	0.2	0.2	0.95	0.95	207.6	200.0	0.96
All Pedestrians		200	211	53.8	LOS E	0.2	0.2	0.95	0.95	207.6	200.0	0.96

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

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MOVEMENT SUMMARY

Site: 101 [Endeavour Blvd/Lakefield Dr (Site Folder: 2030 AM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 116 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Lakefield Dr															
1	L2	All MCs	68	2.0	68	2.0	0.172	28.2	LOS C	2.2	16.0	0.85	0.73	0.85	31.2
2	T1	All MCs	45	2.0	45	2.0	* 0.254	48.1	LOS D	3.7	25.9	0.93	0.73	0.93	16.4
3	R2	All MCs	26	0.0	26	0.0	0.254	52.6	LOS D	3.7	25.9	0.93	0.73	0.93	16.9
Approach			140	1.6	140	1.6	0.254	39.2	LOS D	3.7	25.9	0.89	0.73	0.89	23.4
East: Endeavour Blvd															
4	L2	All MCs	42	3.0	42	3.0	0.058	28.0	LOS C	1.1	8.2	0.51	0.67	0.51	26.2
5	T1	All MCs	316	6.0	316	6.0	0.412	22.9	LOS C	10.0	73.9	0.61	0.52	0.61	39.9
6	R2	All MCs	4	0.0	4	0.0	* 0.066	71.8	LOS E	0.2	1.7	0.98	0.63	0.98	13.4
Approach			362	5.6	362	5.6	0.412	24.1	LOS C	10.0	73.9	0.60	0.54	0.60	34.9
North: Lakefield Dr															
7	L2	All MCs	16	0.0	16	0.0	0.070	54.0	LOS D	0.8	5.6	0.92	0.69	0.92	15.4
8	T1	All MCs	47	0.0	47	0.0	* 0.432	49.7	LOS D	6.3	44.4	0.96	0.78	0.96	15.9
9	R2	All MCs	72	2.0	72	2.0	0.432	54.2	LOS D	6.3	44.4	0.96	0.78	0.96	23.0
Approach			135	1.1	135	1.1	0.432	52.6	LOS D	6.3	44.4	0.95	0.77	0.95	19.9
West: Endeavour Blvd															
10	L2	All MCs	134	1.0	134	1.0	0.172	31.5	LOS C	3.6	25.5	0.51	0.70	0.51	34.6
11	T1	All MCs	636	2.0	636	2.0	* 0.759	26.4	LOS C	24.0	170.7	0.73	0.65	0.73	40.9
12	R2	All MCs	125	1.0	125	1.0	0.716	68.8	LOS E	7.3	51.2	1.00	0.84	1.09	21.2
Approach			895	1.7	895	1.7	0.759	33.1	LOS C	24.0	170.7	0.73	0.69	0.75	30.8
All Vehicles			1532	2.6	1532	2.6	0.759	33.3	LOS C	24.0	170.7	0.73	0.66	0.74	29.7

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Lakefield Dr												
P1	Full	50	53	52.3	LOS E	0.2	0.2	0.95	0.95	206.1	200.0	0.97
East: Endeavour Blvd												

P2	Full	50	53	52.3	LOS E	0.2	0.2	0.95	0.95	206.1	200.0	0.97
North: Lakefield Dr												
P3	Full	50	53	52.3	LOS E	0.2	0.2	0.95	0.95	206.1	200.0	0.97
West: Endeavour Blvd												
P4	Full	50	53	52.3	LOS E	0.2	0.2	0.95	0.95	206.1	200.0	0.97
All Pedestrians		200	211	52.3	LOS E	0.2	0.2	0.95	0.95	206.1	200.0	0.97

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

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MOVEMENT SUMMARY

Site: 101 [Endeavour Blvd/Lakefield Dr (Site Folder: 2030 AM Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 116 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Lakefield Dr															
1	L2	All MCs	68	2.0	68	2.0	0.172	28.2	LOS C	2.2	16.0	0.85	0.73	0.85	31.2
2	T1	All MCs	45	2.0	45	2.0	* 0.254	48.1	LOS D	3.7	25.9	0.93	0.73	0.93	16.4
3	R2	All MCs	26	0.0	26	0.0	0.254	52.6	LOS D	3.7	25.9	0.93	0.73	0.93	16.9
Approach			140	1.6	140	1.6	0.254	39.2	LOS D	3.7	25.9	0.89	0.73	0.89	23.4
East: Endeavour Blvd															
4	L2	All MCs	42	3.0	42	3.0	0.058	28.0	LOS C	1.1	8.2	0.51	0.67	0.51	26.2
5	T1	All MCs	316	6.0	316	6.0	0.412	22.9	LOS C	10.0	73.9	0.61	0.52	0.61	39.9
6	R2	All MCs	49	0.0	49	0.0	* 0.773	77.2	LOS E	3.1	21.8	1.00	0.83	1.24	12.7
Approach			407	5.0	407	5.0	0.773	30.0	LOS C	10.0	73.9	0.64	0.58	0.67	30.9
North: Lakefield Dr															
7	L2	All MCs	59	0.0	59	0.0	0.263	55.8	LOS E	3.1	21.8	0.95	0.75	0.95	15.1
8	T1	All MCs	47	0.0	47	0.0	* 0.707	53.4	LOS D	10.9	77.1	1.00	0.86	1.06	15.0
9	R2	All MCs	145	2.0	145	2.0	0.707	57.9	LOS E	10.9	77.1	1.00	0.86	1.06	22.0
Approach			252	1.2	252	1.2	0.707	56.5	LOS E	10.9	77.1	0.99	0.84	1.04	19.4
West: Endeavour Blvd															
10	L2	All MCs	209	1.0	209	1.0	0.269	32.6	LOS C	6.0	42.6	0.55	0.72	0.55	34.2
11	T1	All MCs	636	2.0	636	2.0	* 0.807	29.2	LOS C	25.9	184.4	0.75	0.70	0.78	39.1
12	R2	All MCs	125	1.0	125	1.0	0.716	68.8	LOS E	7.3	51.2	1.00	0.84	1.09	21.2
Approach			971	1.7	971	1.7	0.807	35.0	LOS D	25.9	184.4	0.74	0.72	0.77	29.8
All Vehicles			1769	2.3	1769	2.3	0.807	37.3	LOS D	25.9	184.4	0.77	0.71	0.79	27.7

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Lakefield Dr												
P1	Full	50	53	52.3	LOS E	0.2	0.2	0.95	0.95	206.1	200.0	0.97
East: Endeavour Blvd												

P2	Full	50	53	52.3	LOS E	0.2	0.2	0.95	0.95	206.1	200.0	0.97
North: Lakefield Dr												
P3	Full	50	53	52.3	LOS E	0.2	0.2	0.95	0.95	206.1	200.0	0.97
West: Endeavour Blvd												
P4	Full	50	53	52.3	LOS E	0.2	0.2	0.95	0.95	206.1	200.0	0.97
All Pedestrians		200	211	52.3	LOS E	0.2	0.2	0.95	0.95	206.1	200.0	0.97

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

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MOVEMENT SUMMARY

Site: 101 [Endeavour Blvd/Lakefield Dr (Site Folder: 2037 AM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 116 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Lakefield Dr															
1	L2	All MCs	73	2.0	73	2.0	0.190	28.6	LOS C	2.4	17.1	0.86	0.74	0.86	31.0
2	T1	All MCs	48	2.0	48	2.0	*0.290	49.4	LOS D	4.0	28.2	0.94	0.74	0.94	16.1
3	R2	All MCs	28	0.0	28	0.0	0.290	53.9	LOS D	4.0	28.2	0.94	0.74	0.94	16.6
Approach			149	1.6	149	1.6	0.290	40.1	LOS D	4.0	28.2	0.90	0.74	0.90	23.1
East: Endeavour Blvd															
4	L2	All MCs	45	3.0	45	3.0	0.063	29.4	LOS C	1.2	8.8	0.51	0.67	0.51	26.1
5	T1	All MCs	337	6.0	337	6.0	0.443	24.6	LOS C	11.0	80.6	0.62	0.54	0.62	39.7
6	R2	All MCs	4	0.0	4	0.0	*0.066	73.2	LOS E	0.2	1.7	0.98	0.63	0.98	13.4
Approach			386	5.6	386	5.6	0.443	25.7	LOS C	11.0	80.6	0.61	0.55	0.61	34.0
North: Lakefield Dr															
7	L2	All MCs	17	0.0	17	0.0	0.075	54.0	LOS D	0.9	6.0	0.92	0.69	0.92	15.4
8	T1	All MCs	51	0.0	51	0.0	*0.463	50.0	LOS D	6.8	47.8	0.96	0.78	0.96	15.8
9	R2	All MCs	77	2.0	77	2.0	0.463	54.5	LOS D	6.8	47.8	0.96	0.78	0.96	22.9
Approach			144	1.1	144	1.1	0.463	52.9	LOS D	6.8	47.8	0.96	0.77	0.96	19.9
West: Endeavour Blvd															
10	L2	All MCs	143	1.0	143	1.0	0.184	33.9	LOS C	3.9	27.5	0.52	0.70	0.52	34.5
11	T1	All MCs	678	2.0	678	2.0	*0.820	31.7	LOS C	28.7	204.0	0.78	0.73	0.81	38.7
12	R2	All MCs	134	1.0	134	1.0	0.765	71.9	LOS E	7.9	55.6	1.00	0.86	1.13	21.0
Approach			955	1.7	955	1.7	0.820	37.7	LOS D	28.7	204.0	0.77	0.74	0.81	28.9
All Vehicles			1635	2.6	1635	2.6	0.820	36.4	LOS D	28.7	204.0	0.76	0.70	0.78	28.4

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Lakefield Dr												
P1	Full	50	53	52.3	LOS E	0.2	0.2	0.95	0.95	206.1	200.0	0.97
East: Endeavour Blvd												

P2	Full	50	53	52.3	LOS E	0.2	0.2	0.95	0.95	206.1	200.0	0.97
North: Lakefield Dr												
P3	Full	50	53	52.3	LOS E	0.2	0.2	0.95	0.95	206.1	200.0	0.97
West: Endeavour Blvd												
P4	Full	50	53	52.3	LOS E	0.2	0.2	0.95	0.95	206.1	200.0	0.97
All Pedestrians		200	211	52.3	LOS E	0.2	0.2	0.95	0.95	206.1	200.0	0.97

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

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MOVEMENT SUMMARY

Site: 101 [Endeavour Blvd/Lakefield Dr (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 122 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Lakefield Dr															
1	L2	All MCs	73	2.0	73	2.0	0.200	31.9	LOS C	2.7	19.6	0.87	0.73	0.87	29.6
2	T1	All MCs	48	2.0	48	2.0	*0.814	70.0	LOS E	5.1	35.8	1.00	0.92	1.31	12.7
3	R2	All MCs	28	0.0	28	0.0	0.814	74.5	LOS E	5.1	35.8	1.00	0.92	1.31	13.1
Approach			149	1.6	149	1.6	0.814	52.3	LOS D	5.1	35.8	0.94	0.82	1.09	19.8
East: Endeavour Blvd															
4	L2	All MCs	45	3.0	45	3.0	0.071	39.3	LOS D	1.5	10.4	0.57	0.69	0.57	23.8
5	T1	All MCs	393	6.0	393	6.0	0.529	32.0	LOS C	14.4	106.2	0.67	0.58	0.67	38.1
6	R2	All MCs	106	0.0	106	0.0	*0.873	85.3	LOS F	7.0	49.1	1.00	0.93	1.31	12.5
Approach			544	4.6	544	4.6	0.873	43.1	LOS D	14.4	106.2	0.72	0.66	0.78	25.2
North: Lakefield Dr															
7	L2	All MCs	114	0.0	114	0.0	0.249	57.8	LOS E	5.4	38.1	0.85	0.76	0.85	17.6
8	T1	All MCs	51	0.0	51	0.0	*0.897	78.8	LOS E	19.8	140.5	1.00	1.04	1.28	13.1
9	R2	All MCs	241	2.0	241	2.0	0.897	83.3	LOS F	19.8	140.5	1.00	1.04	1.28	19.5
Approach			405	1.2	405	1.2	0.897	75.6	LOS E	19.8	140.5	0.96	0.96	1.16	16.1
West: Endeavour Blvd															
10	L2	All MCs	314	1.0	314	1.0	0.280	20.6	LOS C	2.7	18.8	0.26	0.65	0.26	44.6
11	T1	All MCs	717	2.0	717	2.0	*0.899	39.5	LOS D	36.1	257.1	0.78	0.80	0.90	34.2
12	R2	All MCs	134	1.0	134	1.0	0.421	59.3	LOS E	6.9	48.7	0.90	0.78	0.90	23.8
Approach			1164	1.6	1164	1.6	0.899	36.7	LOS D	36.1	257.1	0.66	0.76	0.73	29.1
All Vehicles			2263	2.3	2263	2.3	0.899	46.2	LOS D	36.1	257.1	0.75	0.78	0.84	24.4

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Lakefield Dr												
P1	Full	50	53	55.3	LOS E	0.2	0.2	0.95	0.95	209.1	200.0	0.96
East: Endeavour Blvd												

P2	Full	50	53	55.3	LOS E	0.2	0.2	0.95	0.95	209.1	200.0	0.96
North: Lakefield Dr												
P3	Full	50	53	55.3	LOS E	0.2	0.2	0.95	0.95	209.1	200.0	0.96
West: Endeavour Blvd												
P4	Full	50	53	55.3	LOS E	0.2	0.2	0.95	0.95	209.1	200.0	0.96
All Pedestrians		200	211	55.3	LOS E	0.2	0.2	0.95	0.95	209.1	200.0	0.96

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

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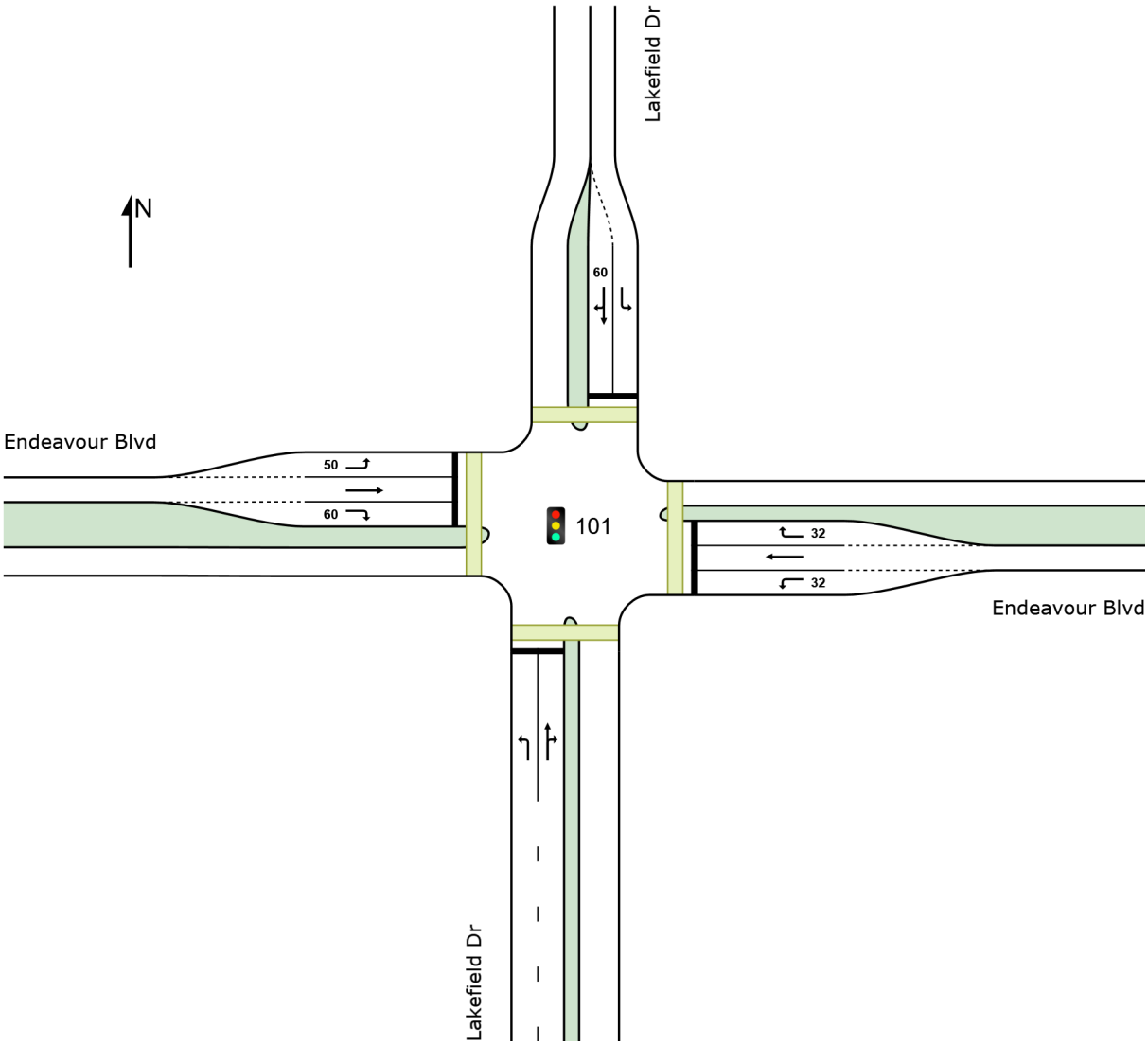
SITE LAYOUT

LAKEFIELD DRIVE UPGRADE

Site: 101 [Endeavour Blvd/Lakefield Dr - extended short lane on north leg (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

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

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



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Project: C:\Users\Mark.Hanson\OneDrive - Colliers International\2021 Synergy Projects - 21BRT0438 North Lakes School\7 - Reports\RFIs\MH Update\21BRT0438 SA02_B Network 2026_MH.sip9

MOVEMENT SUMMARY

Site: 101 [Endeavour Blvd/Lakefield Dr - extended short lane on north leg (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 122 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Lakefield Dr															
1	L2	All MCs	73	2.0	73	2.0	0.200	31.9	LOS C	2.7	19.6	0.87	0.73	0.87	29.6
2	T1	All MCs	48	2.0	48	2.0	* 0.814	70.0	LOS E	5.1	35.8	1.00	0.92	1.31	12.7
3	R2	All MCs	28	0.0	28	0.0	0.814	74.5	LOS E	5.1	35.8	1.00	0.92	1.31	13.1
Approach			149	1.6	149	1.6	0.814	52.3	LOS D	5.1	35.8	0.94	0.82	1.09	19.8
East: Endeavour Blvd															
4	L2	All MCs	45	3.0	45	3.0	0.071	39.3	LOS D	1.5	10.4	0.57	0.69	0.57	23.8
5	T1	All MCs	393	6.0	393	6.0	0.529	32.0	LOS C	14.4	106.2	0.67	0.58	0.67	38.1
6	R2	All MCs	106	0.0	106	0.0	* 0.873	85.3	LOS F	7.0	49.1	1.00	0.93	1.31	12.5
Approach			544	4.6	544	4.6	0.873	43.1	LOS D	14.4	106.2	0.72	0.66	0.78	25.2
North: Lakefield Dr															
7	L2	All MCs	114	0.0	114	0.0	0.249	49.2	LOS D	5.4	38.1	0.85	0.76	0.85	17.6
8	T1	All MCs	51	0.0	51	0.0	* 0.838	62.7	LOS E	18.4	130.3	1.00	0.96	1.17	14.2
9	R2	All MCs	241	2.0	241	2.0	0.838	67.2	LOS E	18.4	130.3	1.00	0.96	1.17	21.0
Approach			405	1.2	405	1.2	0.838	61.6	LOS E	18.4	130.3	0.96	0.91	1.08	18.4
West: Endeavour Blvd															
10	L2	All MCs	314	1.0	314	1.0	0.280	20.6	LOS C	2.7	18.8	0.26	0.65	0.26	44.6
11	T1	All MCs	717	2.0	717	2.0	* 0.899	39.5	LOS D	36.1	257.1	0.78	0.80	0.90	34.2
12	R2	All MCs	134	1.0	134	1.0	0.421	59.3	LOS E	6.9	48.7	0.90	0.78	0.90	23.8
Approach			1164	1.6	1164	1.6	0.899	36.7	LOS D	36.1	257.1	0.66	0.76	0.73	29.1
All Vehicles			2263	2.3	2263	2.3	0.899	43.7	LOS D	36.1	257.1	0.75	0.77	0.83	25.2

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Lakefield Dr												
P1	Full	50	53	55.3	LOS E	0.2	0.2	0.95	0.95	209.1	200.0	0.96
East: Endeavour Blvd												

P2	Full	50	53	55.3	LOS E	0.2	0.2	0.95	0.95	209.1	200.0	0.96
North: Lakefield Dr												
P3	Full	50	53	55.3	LOS E	0.2	0.2	0.95	0.95	209.1	200.0	0.96
West: Endeavour Blvd												
P4	Full	50	53	55.3	LOS E	0.2	0.2	0.95	0.95	209.1	200.0	0.96
All Pedestrians		200	211	55.3	LOS E	0.2	0.2	0.95	0.95	209.1	200.0	0.96

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

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PHASING SUMMARY

LAKEFIELD DRIVE PHASING SUMMARIES

Site: 101 [Endeavour Blvd/Lakefield Dr (Site Folder: 2025 AM Survey)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 119 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: SCATS
Input Phase Sequence: A, D, E, F, F1
Output Phase Sequence: A, D, E, F, F1
Reference Phase: Phase A

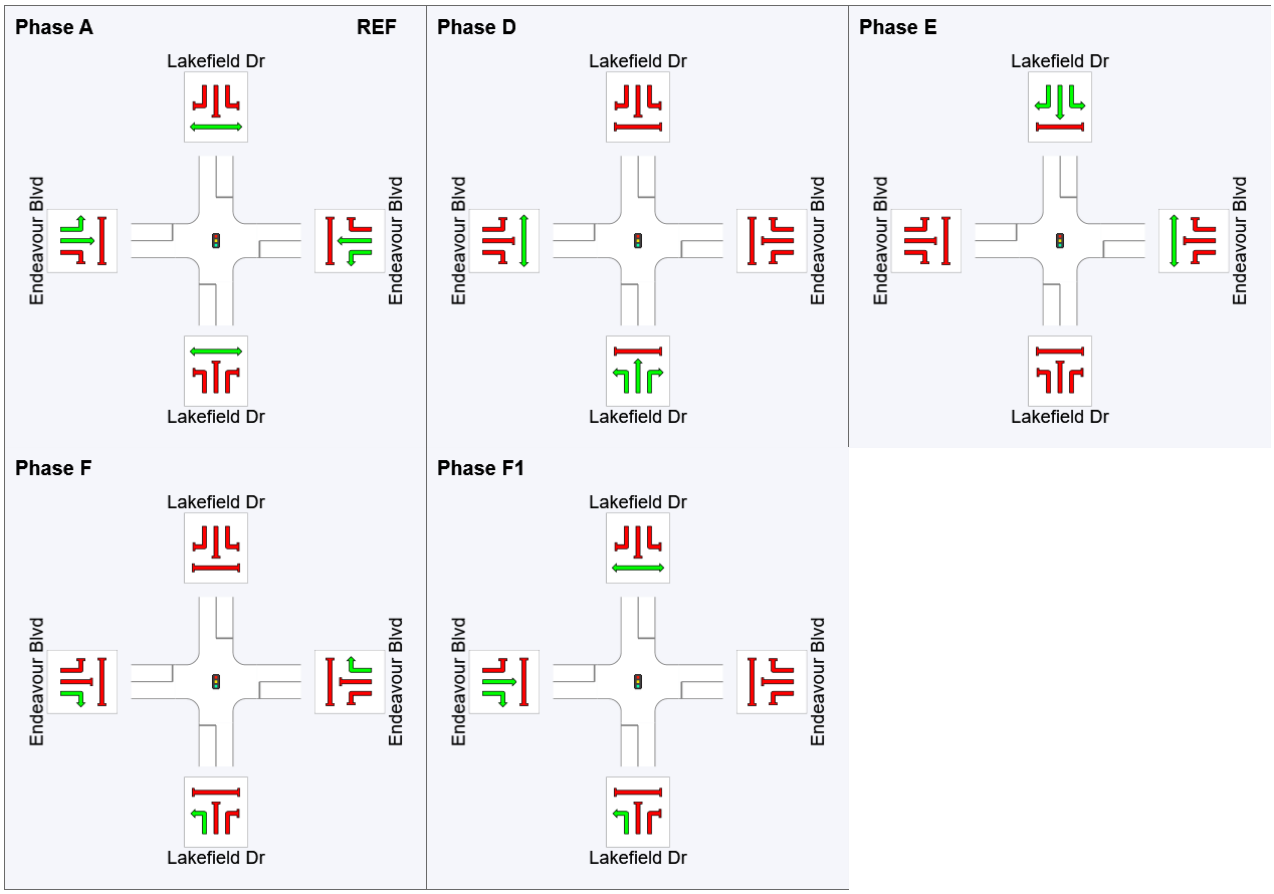
Phase Timing Summary

Phase	A	D	E	F	F1
Phase Change Time (sec)	0	55	78	100	110
Green Time (sec)	49	17	17	4	5
Phase Time (sec)	55	22	23	8	11
Phase Split	46%	18%	19%	7%	9%
Phase Frequency (%)	100.0	88.0[2]	95.8[2]	66.7[2]	100.0

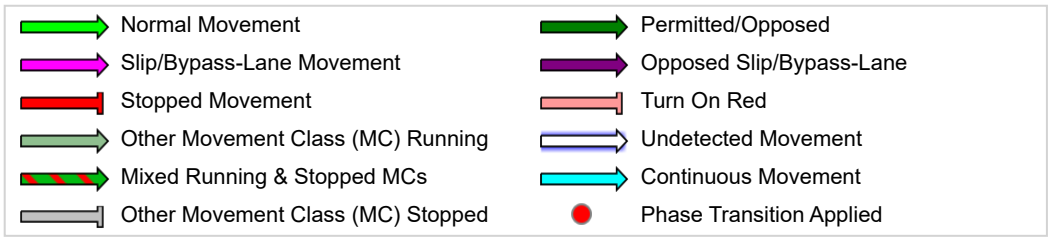
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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PHASING SUMMARY

Site: 101 [Endeavour Blvd/Lakefield Dr (Site Folder: 2030 AM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 116 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: SCATS
Input Phase Sequence: A, D, E, F, F1
Output Phase Sequence: A, D, E, F, F1
Reference Phase: Phase A

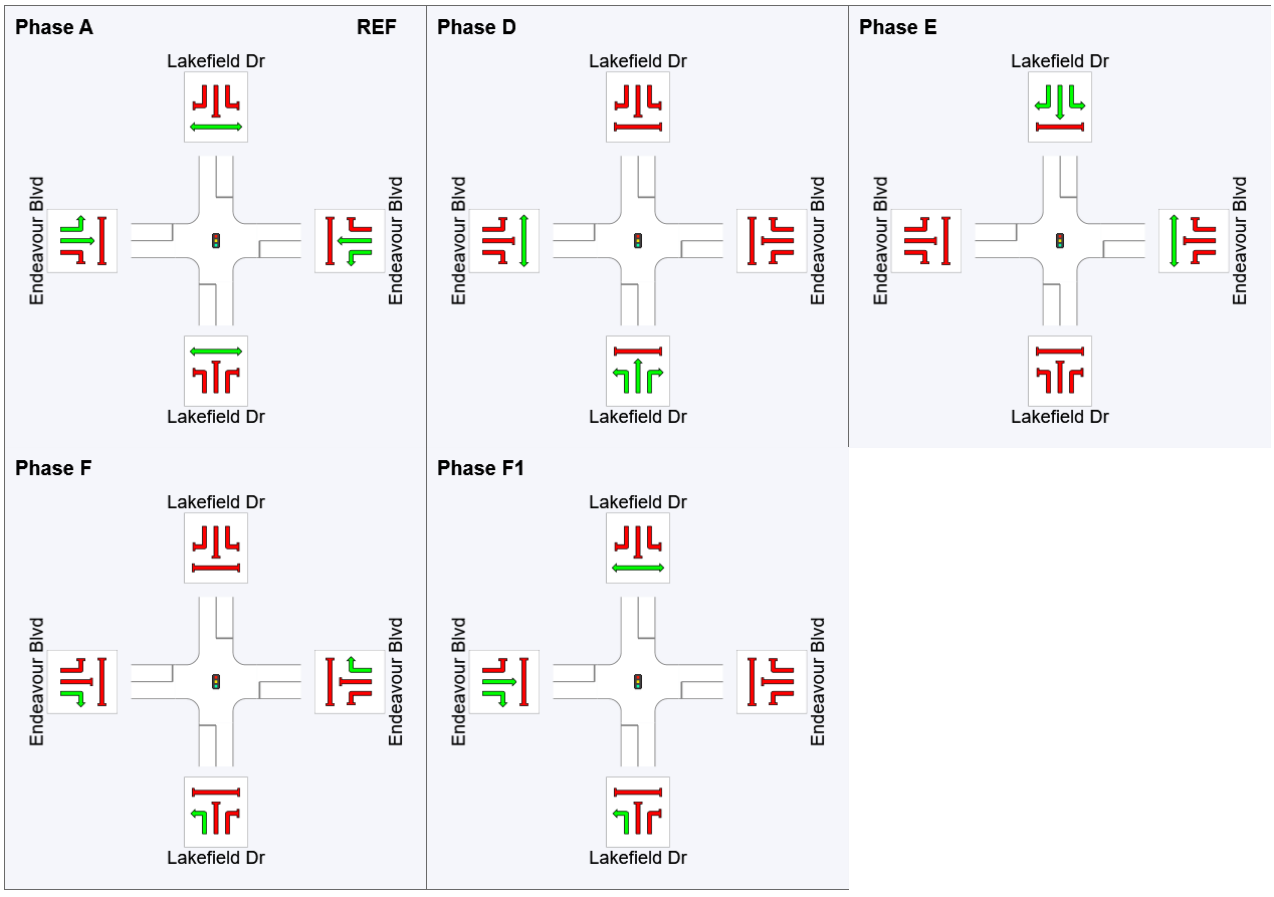
Phase Timing Summary

Phase	A	D	E	F	F1
Phase Change Time (sec)	0	54	77	99	109
Green Time (sec)	49	17	17	4	2
Phase Time (sec)	55	22	23	9	7
Phase Split	47%	19%	20%	8%	6%
Phase Frequency (%)	100.0	88.0[2]	95.8[2]	80.0[1]	80.0[1]

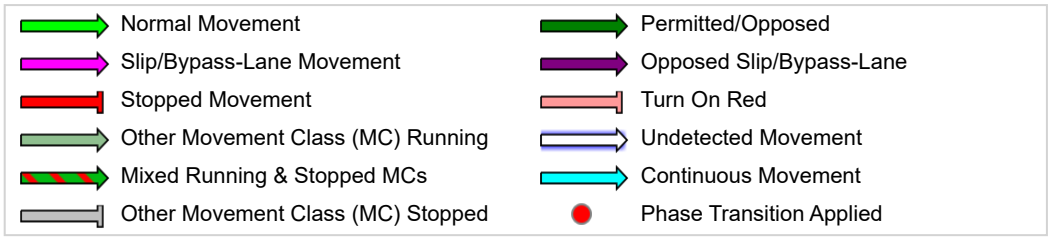
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

1 Phase Frequency has been given with User-Specified Phase Times.
2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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PHASING SUMMARY

Site: 101 [Endeavour Blvd/Lakefield Dr (Site Folder: 2030 AM Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 116 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: SCATS
Input Phase Sequence: A, D, E, F, F1
Output Phase Sequence: A, D, E, F, F1
Reference Phase: Phase A

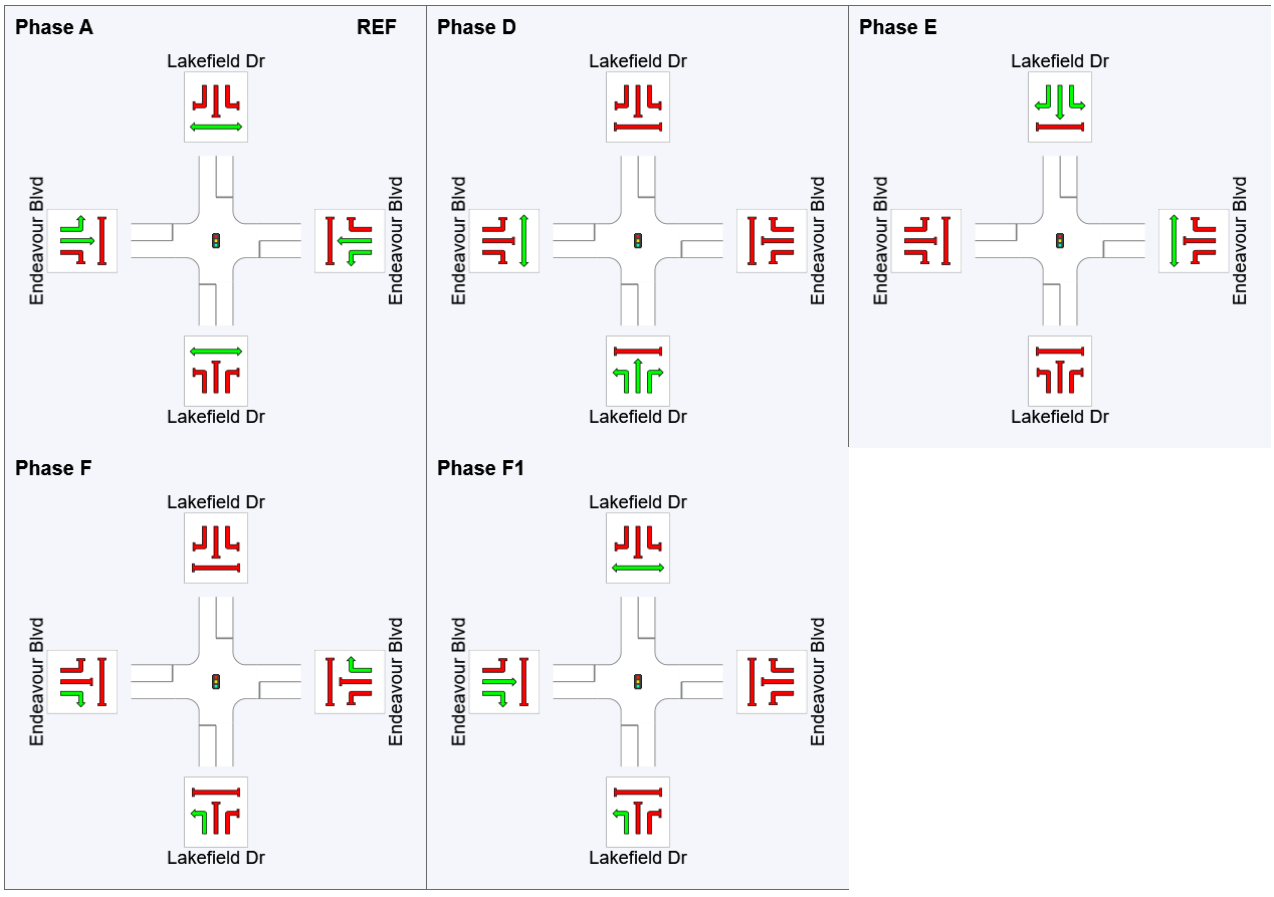
Phase Timing Summary

Phase	A	D	E	F	F1
Phase Change Time (sec)	0	54	77	99	109
Green Time (sec)	49	17	17	4	2
Phase Time (sec)	55	22	23	9	7
Phase Split	47%	19%	20%	8%	6%
Phase Frequency (%)	100.0	88.0[2]	95.8[2]	80.0[1]	80.0[1]

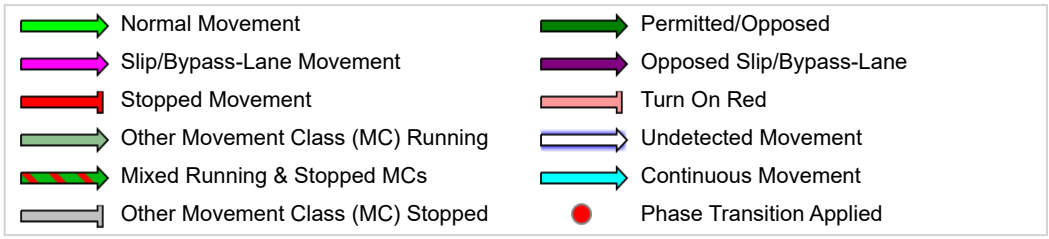
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

1 Phase Frequency has been given with User-Specified Phase Times.
2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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PHASING SUMMARY

Site: 101 [Endeavour Blvd/Lakefield Dr (Site Folder: 2037 AM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 116 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: SCATS
Input Phase Sequence: A, D, E, F, F1
Output Phase Sequence: A, D, E, F, F1
Reference Phase: Phase A

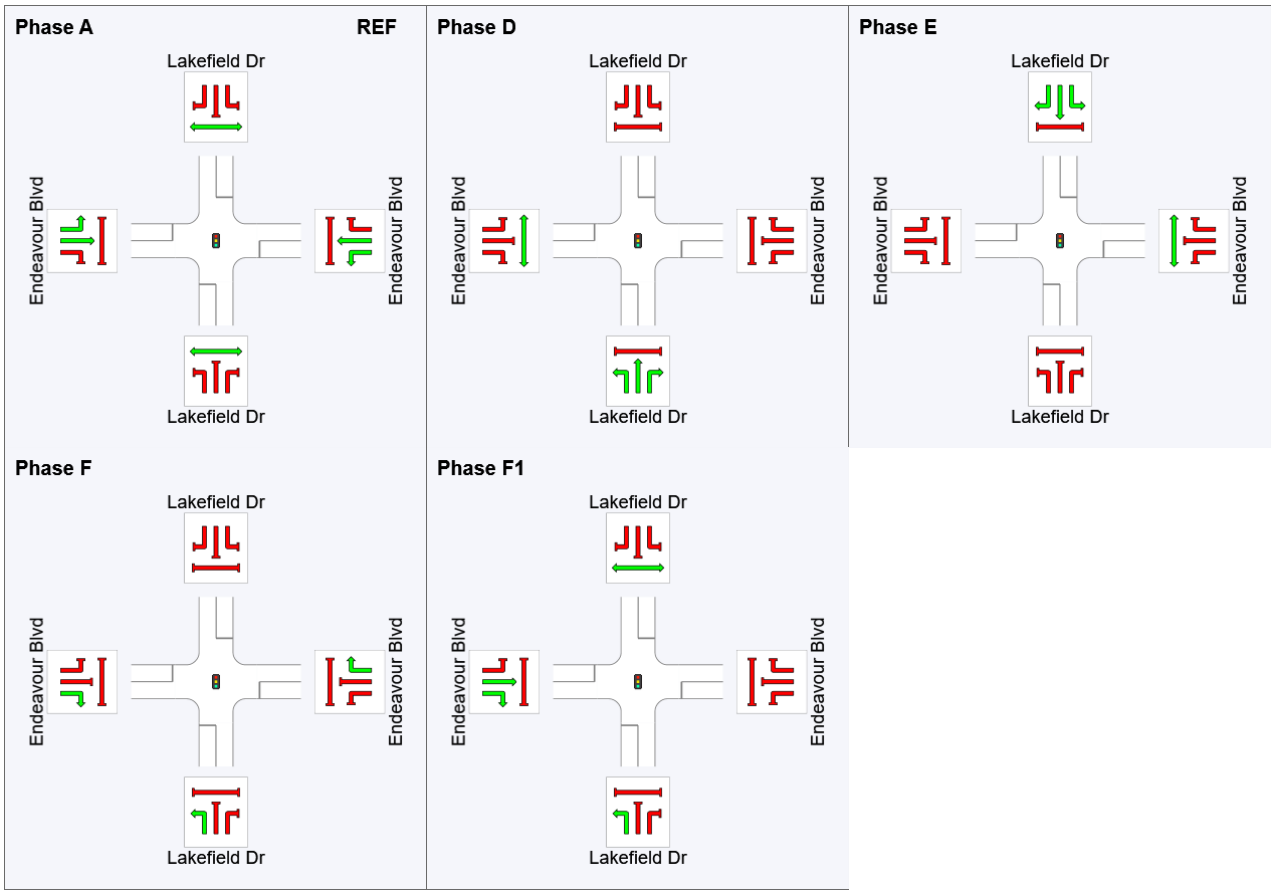
Phase Timing Summary

Phase	A	D	E	F	F1
Phase Change Time (sec)	0	54	76	99	109
Green Time (sec)	49	16	17	4	2
Phase Time (sec)	55	22	23	9	7
Phase Split	47%	19%	20%	8%	6%
Phase Frequency (%)	100.0	100.0[1]	100.0[1]	80.0[1]	80.0[1]

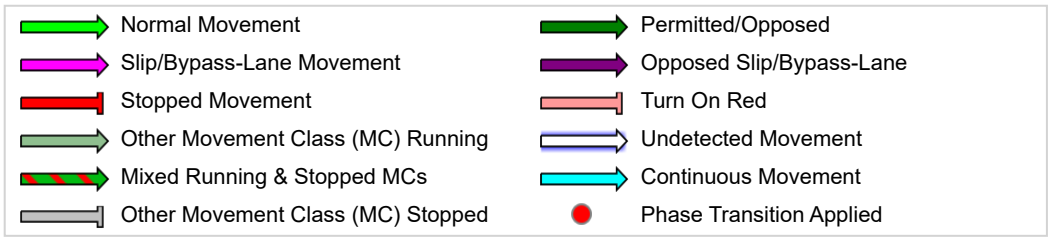
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

1 Phase Frequency has been given with User-Specified Phase Times.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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PHASING SUMMARY

Site: 101 [Endeavour Blvd/Lakefield Dr (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 122 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: SCATS - optimised
Input Phase Sequence: A, D, E, F, F1
Output Phase Sequence: A, D, E, F, F1
Reference Phase: Phase A

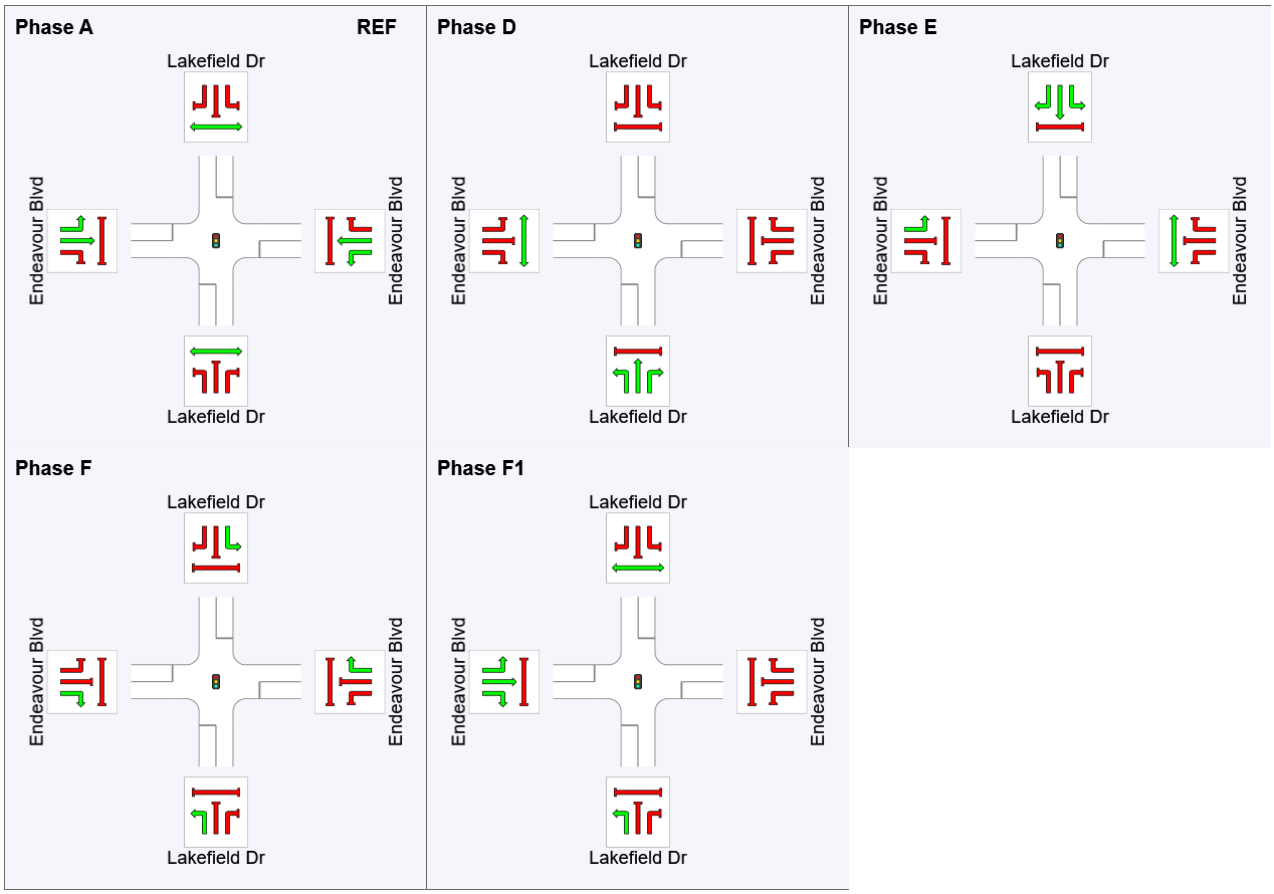
Phase Timing Summary

Phase	A	D	E	F	F1
Phase Change Time (sec)	0	56	68	95	109
Green Time (sec)	51	6	24	8	7
Phase Time (sec)	57	9	30	14	12
Phase Split	47%	7%	25%	11%	10%
Phase Frequency (%)	100.0	55.0[1]	100.0	100.0	80.0[1]

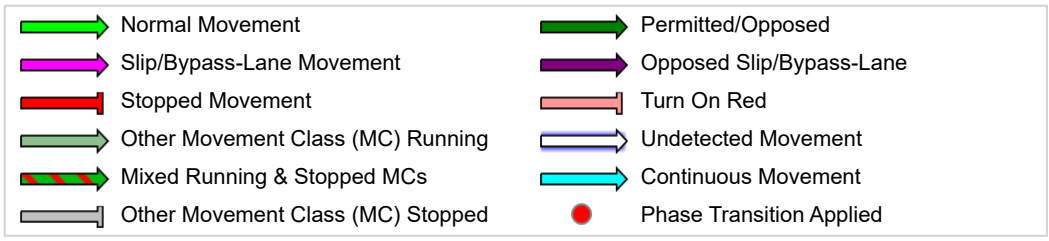
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

1 Phase Frequency has been given with User-Specified Phase Times.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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PHASING SUMMARY

Site: 101 [Endeavour Blvd/Lakefield Dr - extended short lane on north leg (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 122 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: SCATS - optimised
Input Phase Sequence: A, D, E, F, F1
Output Phase Sequence: A, D, E, F, F1
Reference Phase: Phase A

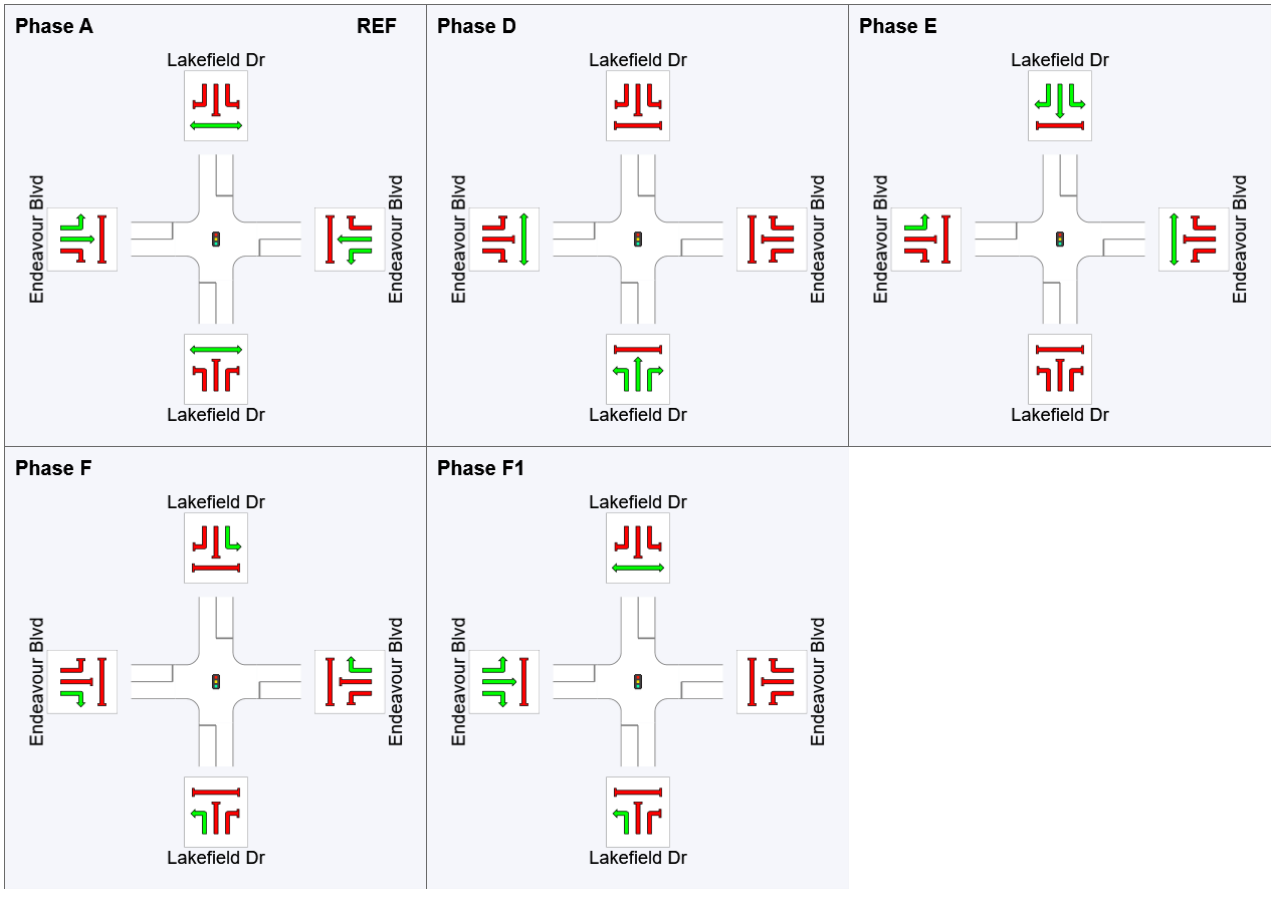
Phase Timing Summary

Phase	A	D	E	F	F1
Phase Change Time (sec)	0	56	68	95	109
Green Time (sec)	51	6	24	8	7
Phase Time (sec)	57	9	30	14	12
Phase Split	47%	7%	25%	11%	10%
Phase Frequency (%)	100.0	55.0[1]	100.0	100.0	80.0[1]

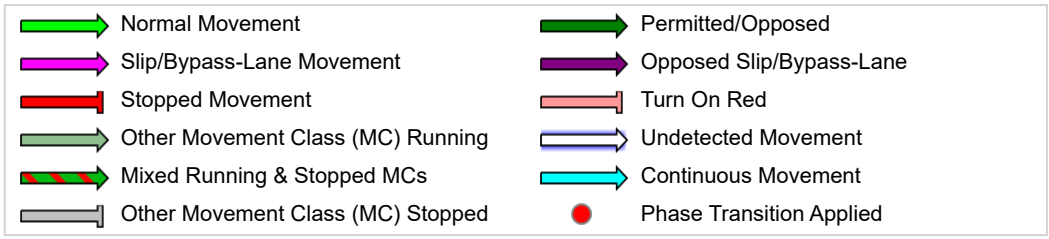
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

1 Phase Frequency has been given with User-Specified Phase Times.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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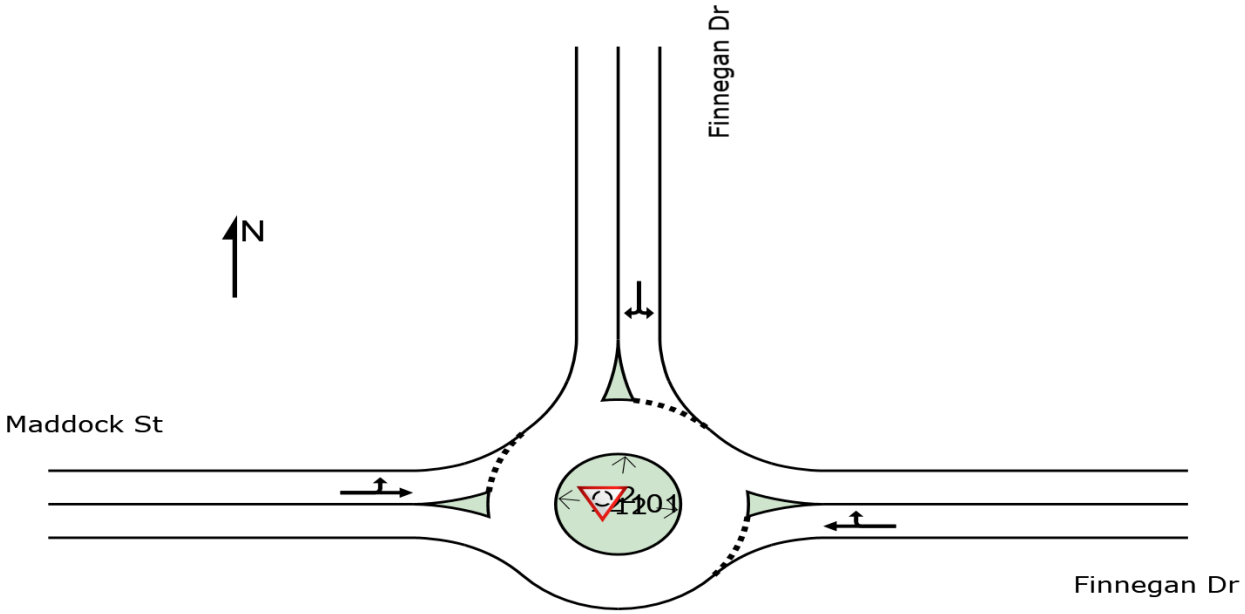
SITE LAYOUT

FINNEGAN DRIVE
AM PEAK

Site: 101 [Finnegan Dr / Maddock St (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

New Site
Site Category: (None)
Roundabout

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



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MOVEMENT SUMMARY

FINNEGAN DRIVE MOVEMENT SUMMARY

Site: 101 [Finnegan Dr / Maddock St (Site Folder: 2037 AM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Finnegan Dr															
5	T1	All MCs	278	0.0	278	0.0	0.218	2.1	LOS A	1.4	10.0	0.02	0.37	0.02	36.2
6	R2	All MCs	92	0.0	92	0.0	0.218	5.5	LOS A	1.4	10.0	0.02	0.37	0.02	35.6
Approach			369	0.0	369	0.0	0.218	2.9	LOS A	1.4	10.0	0.02	0.37	0.02	36.1
North: Finnegan Dr															
7	L2	All MCs	207	0.0	207	0.0	0.209	4.2	LOS A	1.2	8.2	0.50	0.52	0.50	34.7
9	R2	All MCs	1	0.0	1	0.0	0.209	7.3	LOS A	1.2	8.2	0.50	0.52	0.50	31.4
Approach			208	0.0	208	0.0	0.209	4.2	LOS A	1.2	8.2	0.50	0.52	0.50	34.6
West: Maddock St															
10	L2	All MCs	1	0.0	1	0.0	0.238	2.9	LOS A	1.3	9.2	0.26	0.32	0.26	33.3
11	T1	All MCs	305	0.0	305	0.0	0.238	2.6	LOS A	1.3	9.2	0.26	0.32	0.26	35.8
Approach			306	0.0	306	0.0	0.238	2.6	LOS A	1.3	9.2	0.26	0.32	0.26	35.8
All Vehicles			884	0.0	884	0.0	0.238	3.1	LOS A	1.4	10.0	0.22	0.39	0.22	35.6

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

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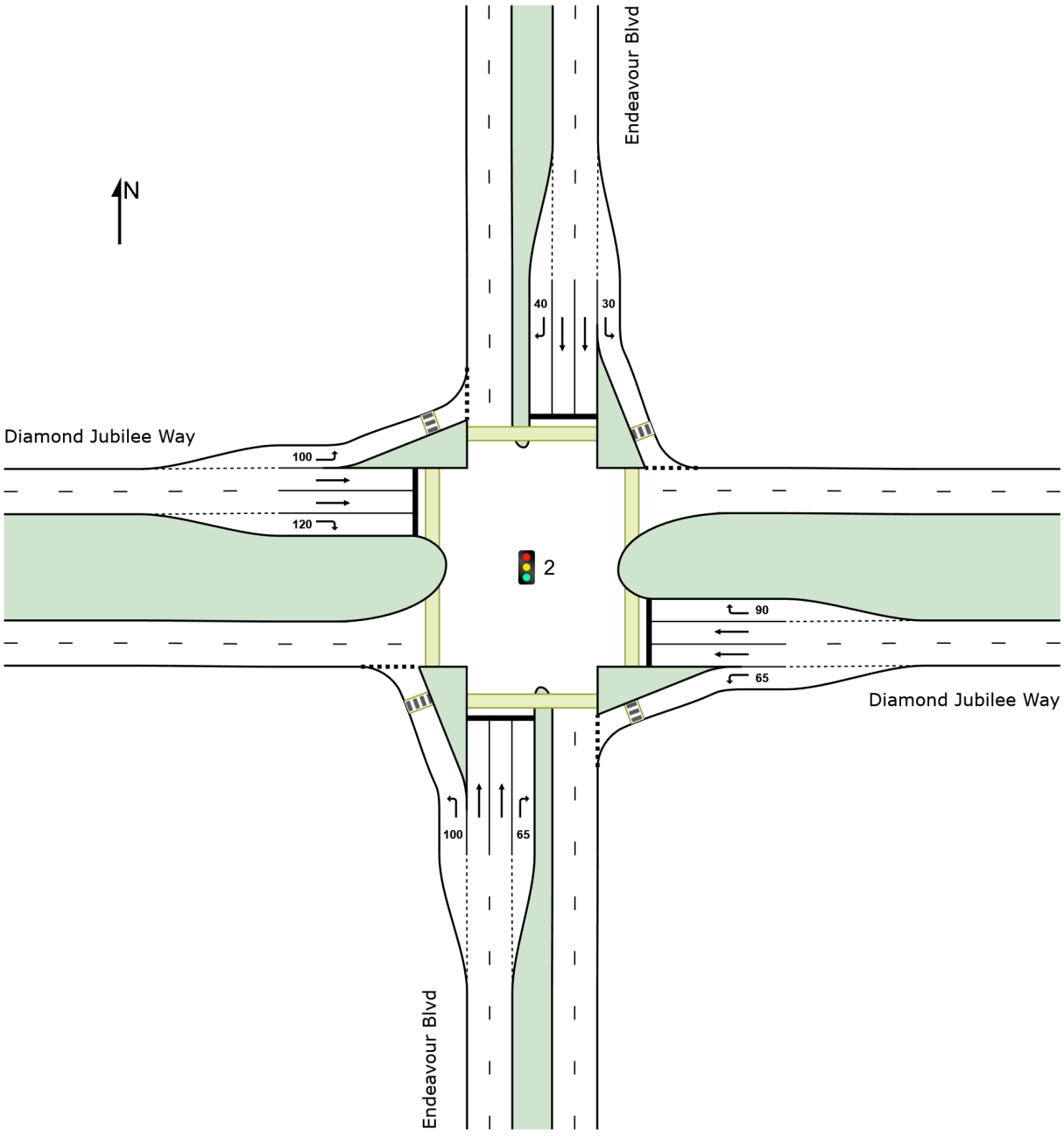
SITE LAYOUT

DIAMOND JUBILEE WAY
PM PEAK

Site: 2 [Diamond Jubilee Way/Endeavour Blvd (Site Folder: 2025 PM Survey)]

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



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Project: C:\Users\Mark.Hanson\OneDrive - Colliers International\2021 Synergy Projects - 21BRT0438 North Lakes School\7 - Reports\RFIs\MH Update\21BRT0438 SA02_B Network 2026_MH.sip9

MOVEMENT SUMMARY

DIAMOND JUBILEE WAY MOVEMENT SUMMARIES

Site: 2 [Diamond Jubilee Way/Endeavour Blvd (Site Folder: 2025 PM Survey)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 123 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	380	3.0	380	3.0	0.463	20.1	LOS C	12.6	90.6	0.64	0.76	0.64	53.2
2	T1	All MCs	311	3.0	311	3.0	0.399	46.1	LOS D	8.1	58.5	0.91	0.75	0.91	24.4
3	R2	All MCs	256	1.0	256	1.0	*0.812	64.1	LOS E	16.0	112.9	1.00	0.93	1.14	42.2
Approach			946	2.5	946	2.5	0.812	40.5	LOS D	16.0	112.9	0.83	0.80	0.87	41.3
East: Diamond Jubilee Way															
4	L2	All MCs	356	2.0	356	2.0	0.286	10.7	LOS B	5.2	37.3	0.33	0.70	0.33	66.2
5	T1	All MCs	594	1.0	594	1.0	0.410	30.4	LOS C	13.1	92.1	0.79	0.68	0.79	63.2
6	R2	All MCs	286	0.0	286	0.0	*0.729	58.0	LOS E	16.5	115.7	0.99	0.86	1.03	45.0
Approach			1236	1.1	1236	1.1	0.729	31.1	LOS C	16.5	115.7	0.70	0.73	0.71	59.1
North: Endeavour Blvd															
7	L2	All MCs	184	1.0	184	1.0	0.186	10.8	LOS B	3.4	23.8	0.37	0.66	0.37	64.7
8	T1	All MCs	248	3.0	248	3.0	*0.470	53.8	LOS D	7.0	50.5	0.97	0.77	0.97	22.2
9	R2	All MCs	13	0.0	13	0.0	0.064	59.8	LOS E	0.7	4.9	0.93	0.68	0.93	37.1
Approach			445	2.1	445	2.1	0.470	36.2	LOS D	7.0	50.5	0.72	0.72	0.72	41.9
West: Diamond Jubilee Way															
10	L2	All MCs	20	0.0	20	0.0	0.016	11.7	LOS B	0.3	2.1	0.32	0.65	0.32	60.9
11	T1	All MCs	380	1.0	380	1.0	*0.335	36.6	LOS D	8.9	62.9	0.83	0.69	0.83	60.6
12	R2	All MCs	168	1.0	168	1.0	0.702	65.6	LOS E	10.1	71.6	1.00	0.85	1.07	35.2
Approach			568	1.0	568	1.0	0.702	44.3	LOS D	10.1	71.6	0.86	0.74	0.88	53.8
All Vehicles			3196	1.6	3196	1.6	0.812	36.9	LOS D	16.5	115.7	0.77	0.75	0.79	51.7

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Endeavour Blvd												
P1	Full	1	1	55.6	LOS E	0.0	0.0	0.95	0.95	209.5	200.0	0.95
East: Diamond Jubilee Way												

P21 Stage 1	3	3	55.7	LOS E	0.0	0.0	0.95	0.95	209.5	200.0	0.95
P22 Stage 2	3	3	55.7	LOS E	0.0	0.0	0.95	0.95	209.5	200.0	0.95
North: Endeavour Blvd											
P3 Full	1	1	55.6	LOS E	0.0	0.0	0.95	0.95	209.5	200.0	0.95
West: Diamond Jubilee Way											
P41 Stage 1	2	2	55.7	LOS E	0.0	0.0	0.95	0.95	209.5	200.0	0.95
P42 Stage 2	2	2	26.3	LOS C	0.0	0.0	0.90	0.90	180.2	200.0	1.11
All Pedestrians	12	13	50.8	LOS E	0.0	0.0	0.94	0.94	204.6	200.0	0.98

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

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MOVEMENT SUMMARY

Site: 2 [Diamond Jubilee Way/Endeavour Blvd (Site Folder: 2030 PM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 121 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	399	3.0	399	3.0	0.480	21.3	LOS C	13.8	99.0	0.69	0.78	0.69	52.4
2	T1	All MCs	326	3.0	326	3.0	0.449	47.3	LOS D	8.6	62.0	0.93	0.76	0.93	24.0
3	R2	All MCs	268	1.0	268	1.0	* 0.766	58.9	LOS E	15.8	111.8	1.00	0.89	1.08	43.7
Approach			994	2.5	994	2.5	0.766	40.0	LOS D	15.8	111.8	0.85	0.80	0.88	41.5
East: Diamond Jubilee Way															
4	L2	All MCs	374	2.0	374	2.0	0.280	10.8	LOS B	5.6	39.6	0.34	0.70	0.34	66.2
5	T1	All MCs	623	1.0	623	1.0	0.442	31.2	LOS C	13.8	97.8	0.81	0.69	0.81	62.8
6	R2	All MCs	301	0.0	301	0.0	* 0.754	58.0	LOS E	17.4	121.5	1.00	0.87	1.06	45.0
Approach			1298	1.1	1298	1.1	0.754	31.5	LOS C	17.4	121.5	0.72	0.74	0.73	58.9
North: Endeavour Blvd															
7	L2	All MCs	194	1.0	194	1.0	0.183	11.4	LOS B	3.7	26.1	0.40	0.67	0.40	64.4
8	T1	All MCs	261	3.0	261	3.0	* 0.590	56.5	LOS E	7.6	54.3	1.00	0.79	1.00	21.5
9	R2	All MCs	14	0.0	14	0.0	0.064	57.6	LOS E	0.7	5.1	0.92	0.68	0.92	37.8
Approach			468	2.1	468	2.1	0.590	37.8	LOS D	7.6	54.3	0.75	0.74	0.75	41.2
West: Diamond Jubilee Way															
10	L2	All MCs	21	0.0	21	0.0	0.018	12.4	LOS B	0.3	2.4	0.34	0.65	0.34	60.4
11	T1	All MCs	399	1.0	399	1.0	* 0.366	37.5	LOS D	9.4	66.5	0.85	0.71	0.85	60.2
12	R2	All MCs	177	1.0	177	1.0	0.725	65.2	LOS E	10.6	74.7	1.00	0.86	1.08	35.3
Approach			597	1.0	597	1.0	0.725	44.8	LOS D	10.6	74.7	0.88	0.75	0.90	53.7
All Vehicles			3357	1.6	3357	1.6	0.766	37.3	LOS D	17.4	121.5	0.79	0.76	0.81	51.5

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Endeavour Blvd												
P1	Full	1	1	54.7	LOS E	0.0	0.0	0.95	0.95	208.5	200.0	0.96
East: Diamond Jubilee Way												

P21 Stage 1	3	3	54.7	LOS E	0.0	0.0	0.95	0.95	208.5	200.0	0.96
P22 Stage 2	3	3	54.7	LOS E	0.0	0.0	0.95	0.95	208.5	200.0	0.96
North: Endeavour Blvd											
P3 Full	1	1	54.7	LOS E	0.0	0.0	0.95	0.95	208.5	200.0	0.96
West: Diamond Jubilee Way											
P41 Stage 1	2	2	54.7	LOS E	0.0	0.0	0.95	0.95	208.5	200.0	0.96
P42 Stage 2	2	2	25.6	LOS C	0.0	0.0	0.90	0.90	179.5	200.0	1.11
All Pedestrians	12	13	49.8	LOS E	0.0	0.0	0.94	0.94	203.7	200.0	0.98

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

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MOVEMENT SUMMARY

Site: 2 [Diamond Jubilee Way/Endeavour Blvd (Site Folder: 2030 PM Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 121 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	420	3.0	420	3.0	0.506	21.6	LOS C	14.9	106.7	0.70	0.78	0.70	52.2
2	T1	All MCs	347	3.0	347	3.0	0.478	47.6	LOS D	9.3	66.4	0.94	0.77	0.94	23.9
3	R2	All MCs	268	1.0	268	1.0	* 0.766	58.9	LOS E	15.8	111.8	1.00	0.89	1.08	43.7
Approach			1036	2.5	1036	2.5	0.766	40.0	LOS D	15.8	111.8	0.86	0.81	0.88	41.3
East: Diamond Jubilee Way															
4	L2	All MCs	374	2.0	374	2.0	0.285	11.4	LOS B	6.0	42.8	0.36	0.71	0.36	65.8
5	T1	All MCs	623	1.0	623	1.0	* 0.442	31.2	LOS C	13.8	97.8	0.81	0.69	0.81	62.8
6	R2	All MCs	301	0.0	301	0.0	0.754	58.0	LOS E	17.4	121.5	1.00	0.87	1.06	45.0
Approach			1298	1.1	1298	1.1	0.754	31.7	LOS C	17.4	121.5	0.72	0.74	0.74	58.8
North: Endeavour Blvd															
7	L2	All MCs	194	1.0	194	1.0	0.183	11.4	LOS B	3.7	26.1	0.40	0.67	0.40	64.4
8	T1	All MCs	281	3.0	281	3.0	* 0.646	57.3	LOS E	8.4	60.3	1.00	0.82	1.03	21.3
9	R2	All MCs	14	0.0	14	0.0	0.064	57.6	LOS E	0.7	5.1	0.92	0.68	0.92	37.8
Approach			488	2.1	488	2.1	0.646	39.1	LOS D	8.4	60.3	0.76	0.76	0.78	40.2
West: Diamond Jubilee Way															
10	L2	All MCs	21	0.0	21	0.0	0.018	12.7	LOS B	0.4	2.5	0.35	0.65	0.35	60.1
11	T1	All MCs	399	1.0	399	1.0	0.366	37.5	LOS D	9.4	66.5	0.85	0.71	0.85	60.2
12	R2	All MCs	197	1.0	197	1.0	* 0.807	68.4	LOS E	12.3	86.7	1.00	0.91	1.17	34.4
Approach			617	1.0	617	1.0	0.807	46.5	LOS D	12.3	86.7	0.88	0.77	0.94	52.7
All Vehicles			3439	1.6	3439	1.6	0.807	37.9	LOS D	17.4	121.5	0.80	0.77	0.82	51.0

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Endeavour Blvd												
P1	Full	1	1	54.7	LOS E	0.0	0.0	0.95	0.95	208.5	200.0	0.96
East: Diamond Jubilee Way												

P21 Stage 1	3	3	54.7	LOS E	0.0	0.0	0.95	0.95	208.5	200.0	0.96
P22 Stage 2	3	3	54.7	LOS E	0.0	0.0	0.95	0.95	208.5	200.0	0.96
North: Endeavour Blvd											
P3 Full	1	1	54.7	LOS E	0.0	0.0	0.95	0.95	208.5	200.0	0.96
West: Diamond Jubilee Way											
P41 Stage 1	2	2	54.7	LOS E	0.0	0.0	0.95	0.95	208.5	200.0	0.96
P42 Stage 2	2	2	25.6	LOS C	0.0	0.0	0.90	0.90	179.5	200.0	1.11
All Pedestrians	12	13	49.8	LOS E	0.0	0.0	0.94	0.94	203.7	200.0	0.98

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

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MOVEMENT SUMMARY

Site: 2 [Diamond Jubilee Way/Endeavour Blvd-wombat (Site Folder: 2037 PM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 121 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	425	3.0	425	3.0	0.549	22.7	LOS C	15.6	111.7	0.73	0.79	0.73	51.6
2	T1	All MCs	347	3.0	347	3.0	0.478	47.6	LOS D	9.3	66.4	0.94	0.77	0.94	23.9
3	R2	All MCs	286	1.0	286	1.0	*0.818	62.0	LOS E	17.6	124.1	1.00	0.94	1.14	42.8
Approach			1059	2.5	1059	2.5	0.818	41.5	LOS D	17.6	124.1	0.87	0.82	0.91	40.9
East: Diamond Jubilee Way															
4	L2	All MCs	399	2.0	399	2.0	0.325	11.6	LOS B	6.5	46.4	0.37	0.71	0.37	65.7
5	T1	All MCs	665	1.0	665	1.0	0.472	31.6	LOS C	15.0	105.8	0.82	0.71	0.82	62.6
6	R2	All MCs	321	0.0	321	0.0	*0.805	60.7	LOS E	19.3	134.8	1.00	0.91	1.11	44.2
Approach			1385	1.1	1385	1.1	0.805	32.6	LOS C	19.3	134.8	0.73	0.75	0.76	58.5
North: Endeavour Blvd															
7	L2	All MCs	206	1.0	206	1.0	0.221	12.3	LOS B	4.3	30.2	0.43	0.68	0.43	63.9
8	T1	All MCs	278	3.0	278	3.0	*0.638	57.1	LOS E	8.3	59.4	1.00	0.82	1.03	21.3
9	R2	All MCs	14	0.0	14	0.0	0.064	57.6	LOS E	0.7	5.1	0.92	0.68	0.92	37.8
Approach			498	2.1	498	2.1	0.638	38.6	LOS D	8.3	59.4	0.76	0.76	0.77	40.9
West: Diamond Jubilee Way															
10	L2	All MCs	22	0.0	22	0.0	0.019	13.1	LOS B	0.4	2.7	0.36	0.66	0.36	59.9
11	T1	All MCs	425	1.0	425	1.0	*0.391	37.8	LOS D	10.1	71.5	0.86	0.72	0.86	60.1
12	R2	All MCs	188	1.0	188	1.0	0.773	66.8	LOS E	11.5	81.3	1.00	0.89	1.13	34.8
Approach			636	1.0	636	1.0	0.773	45.5	LOS D	11.5	81.3	0.88	0.76	0.92	53.4
All Vehicles			3578	1.6	3578	1.6	0.818	38.4	LOS D	19.3	134.8	0.80	0.78	0.83	51.1

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Endeavour Blvd												
P1	Full	1	1	54.7	LOS E	0.0	0.0	0.95	0.95	208.5	200.0	0.96
East: Diamond Jubilee Way												

P21 Stage 1	3	3	54.7	LOS E	0.0	0.0	0.95	0.95	208.5	200.0	0.96
P22 Stage 2	3	3	54.7	LOS E	0.0	0.0	0.95	0.95	208.5	200.0	0.96
North: Endeavour Blvd											
P3 Full	1	1	54.7	LOS E	0.0	0.0	0.95	0.95	208.5	200.0	0.96
West: Diamond Jubilee Way											
P41 Stage 1	2	2	54.7	LOS E	0.0	0.0	0.95	0.95	208.5	200.0	0.96
P42 Stage 2	2	2	25.6	LOS C	0.0	0.0	0.90	0.90	179.5	200.0	1.11
All Pedestrians	12	13	49.8	LOS E	0.0	0.0	0.94	0.94	203.7	200.0	0.98

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

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MOVEMENT SUMMARY

Site: 2 [Diamond Jubilee Way/Endeavour Blvd wombats (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 124 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	507	3.0	507	3.0	0.684	28.6	LOS C	22.6	162.0	0.85	0.84	0.85	48.2
2	T1	All MCs	429	3.0	429	3.0	0.480	47.6	LOS D	11.3	80.9	0.91	0.76	0.91	24.9
3	R2	All MCs	329	1.0	329	1.0	* 0.871	72.1	LOS E	21.8	153.6	1.00	0.99	1.21	41.7
Approach			1266	2.5	1266	2.5	0.871	46.4	LOS D	22.6	162.0	0.91	0.85	0.96	38.8
East: Diamond Jubilee Way															
4	L2	All MCs	426	2.0	426	2.0	0.374	15.7	LOS B	9.5	67.9	0.47	0.78	0.47	63.7
5	T1	All MCs	665	1.0	665	1.0	* 0.611	41.5	LOS D	17.9	126.6	0.92	0.80	0.92	58.9
6	R2	All MCs	321	0.0	321	0.0	0.824	63.7	LOS E	20.1	140.6	1.00	0.92	1.13	43.3
Approach			1413	1.1	1413	1.1	0.824	38.8	LOS D	20.1	140.6	0.80	0.82	0.83	55.8
North: Endeavour Blvd															
7	L2	All MCs	206	1.0	206	1.0	0.230	20.5	LOS C	5.1	36.2	0.48	1.00	0.48	62.3
8	T1	All MCs	346	3.0	346	3.0	* 0.829	71.9	LOS E	13.1	93.8	1.00	1.03	1.22	19.8
9	R2	All MCs	14	0.0	14	0.0	0.061	67.5	LOS E	0.7	5.2	0.91	0.68	0.91	37.6
Approach			566	2.2	566	2.2	0.829	53.1	LOS D	13.1	93.8	0.81	1.01	0.95	34.2
West: Diamond Jubilee Way															
10	L2	All MCs	22	0.0	22	0.0	0.019	13.8	LOS B	0.4	2.9	0.37	0.66	0.37	59.3
11	T1	All MCs	425	1.0	425	1.0	0.454	43.2	LOS D	11.0	77.6	0.90	0.75	0.90	58.0
12	R2	All MCs	256	1.0	256	1.0	* 0.860	71.1	LOS E	16.8	118.9	1.00	0.95	1.22	33.7
Approach			703	1.0	703	1.0	0.860	52.4	LOS D	16.8	118.9	0.92	0.82	1.00	50.0
All Vehicles			3948	1.7	3948	1.7	0.871	45.7	LOS D	22.6	162.0	0.86	0.86	0.92	47.3

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Endeavour Blvd												
P1	Full	1	1	56.1	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95
East: Diamond Jubilee Way												

P21 Stage 1	1	1	31.2	LOS D	0.0	0.0	0.90	0.90	185.0	200.0	1.08
P22 Stage 2	1	1	56.1	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95
North: Endeavour Blvd											
P3 Full	1	1	56.1	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95
West: Diamond Jubilee Way											
P41 Stage 1	7	7	56.2	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95
P42 Stage 2	7	7	56.2	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95
All Pedestrians	18	19	54.8	LOS E	0.0	0.0	0.95	0.95	208.6	200.0	0.96

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

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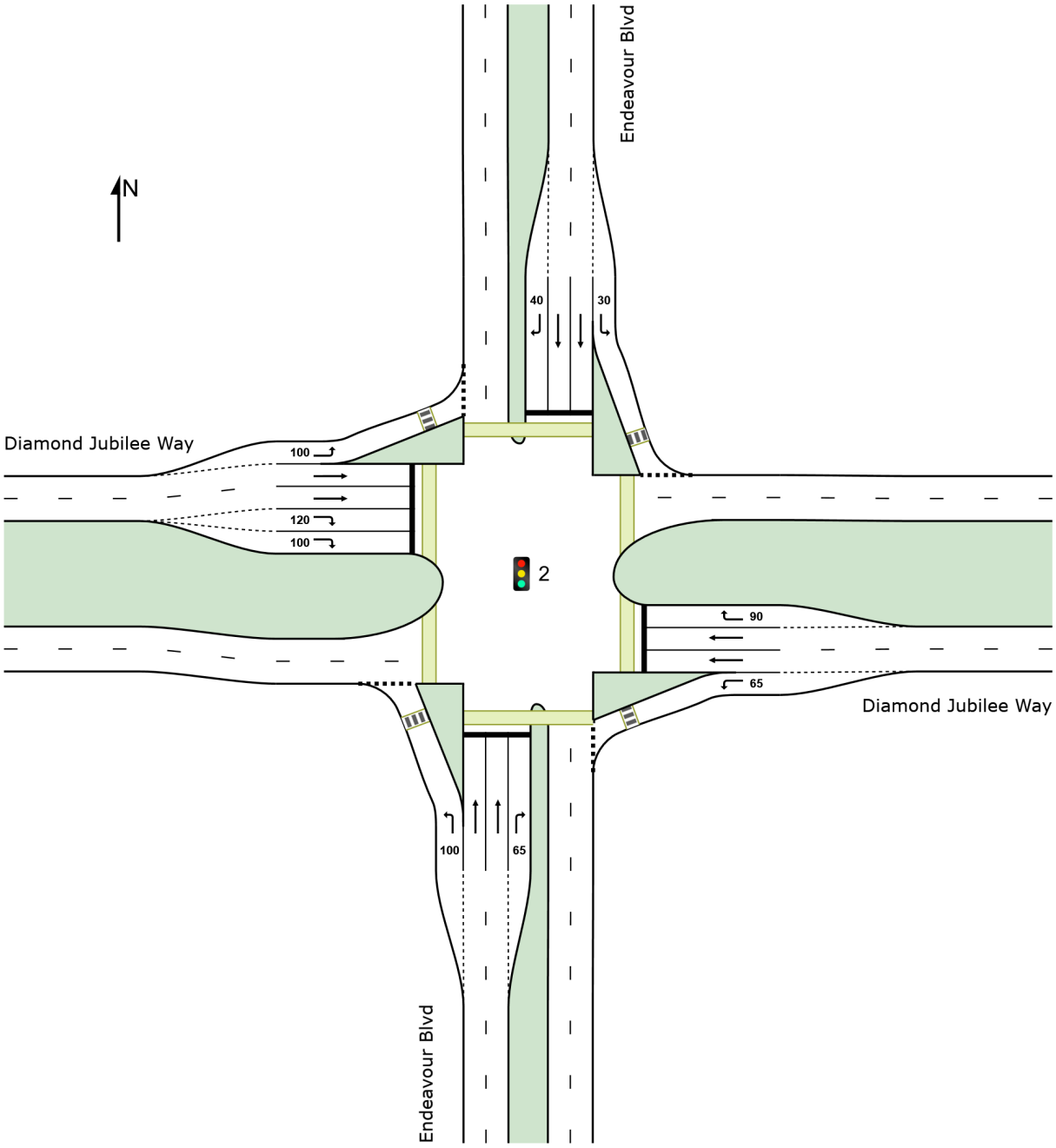
SITE LAYOUT

DIAMOND JUBILEE WAY UPGRADE 1

Site: 2 [Diamond Jubilee Way/Endeavour Blvd - wombat + west right turn (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



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MOVEMENT SUMMARY

Site: 2 [Diamond Jubilee Way/Endeavour Blvd - wombat + west right turn (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 124 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	507	3.0	507	3.0	0.642	24.4	LOS C	20.7	148.5	0.79	0.82	0.79	50.5
2	T1	All MCs	429	3.0	429	3.0	0.480	47.6	LOS D	11.3	80.9	0.91	0.76	0.91	25.0
3	R2	All MCs	329	1.0	329	1.0	* 0.871	72.1	LOS E	21.8	153.6	1.00	0.99	1.21	41.7
Approach			1266	2.5	1266	2.5	0.871	44.7	LOS D	21.8	153.6	0.89	0.84	0.94	39.4
East: Diamond Jubilee Way															
4	L2	All MCs	426	2.0	426	2.0	0.349	11.6	LOS B	7.2	51.3	0.37	0.72	0.37	65.7
5	T1	All MCs	665	1.0	665	1.0	0.537	36.9	LOS D	16.6	116.9	0.87	0.75	0.87	60.5
6	R2	All MCs	321	0.0	321	0.0	* 0.824	63.7	LOS E	20.1	140.6	1.00	0.92	1.13	43.3
Approach			1413	1.1	1413	1.1	0.824	35.4	LOS D	20.1	140.6	0.75	0.78	0.78	57.2
North: Endeavour Blvd															
7	L2	All MCs	206	1.0	206	1.0	0.230	20.5	LOS C	5.1	36.2	0.48	1.00	0.48	62.3
8	T1	All MCs	346	3.0	346	3.0	* 0.829	71.9	LOS E	13.1	93.8	1.00	1.03	1.22	19.9
9	R2	All MCs	14	0.0	14	0.0	0.061	67.5	LOS E	0.7	5.2	0.91	0.68	0.91	37.7
Approach			566	2.2	566	2.2	0.829	53.1	LOS D	13.1	93.8	0.81	1.01	0.95	34.3
West: Diamond Jubilee Way															
10	L2	All MCs	22	0.0	22	0.0	0.019	13.8	LOS B	0.4	2.9	0.37	0.66	0.37	59.3
11	T1	All MCs	425	1.0	425	1.0	* 0.454	43.2	LOS D	11.0	77.6	0.90	0.75	0.90	58.0
12	R2	All MCs	256	1.0	256	1.0	0.538	63.6	LOS E	7.4	52.6	0.98	0.80	0.98	35.7
Approach			703	1.0	703	1.0	0.538	49.7	LOS D	11.0	77.6	0.92	0.77	0.92	51.0
All Vehicles			3948	1.7	3948	1.7	0.871	43.4	LOS D	21.8	153.6	0.83	0.83	0.88	48.2

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Endeavour Blvd												
P1	Full	1	1	56.1	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95
East: Diamond Jubilee Way												

P21 Stage 1	1	1	31.2	LOS D	0.0	0.0	0.90	0.90	185.0	200.0	1.08
P22 Stage 2	1	1	56.1	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95
North: Endeavour Blvd											
P3 Full	1	1	56.1	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95
West: Diamond Jubilee Way											
P41 Stage 1	7	7	56.2	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95
P42 Stage 2	7	7	56.2	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95
All Pedestrians	18	19	54.8	LOS E	0.0	0.0	0.95	0.95	208.6	200.0	0.96

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

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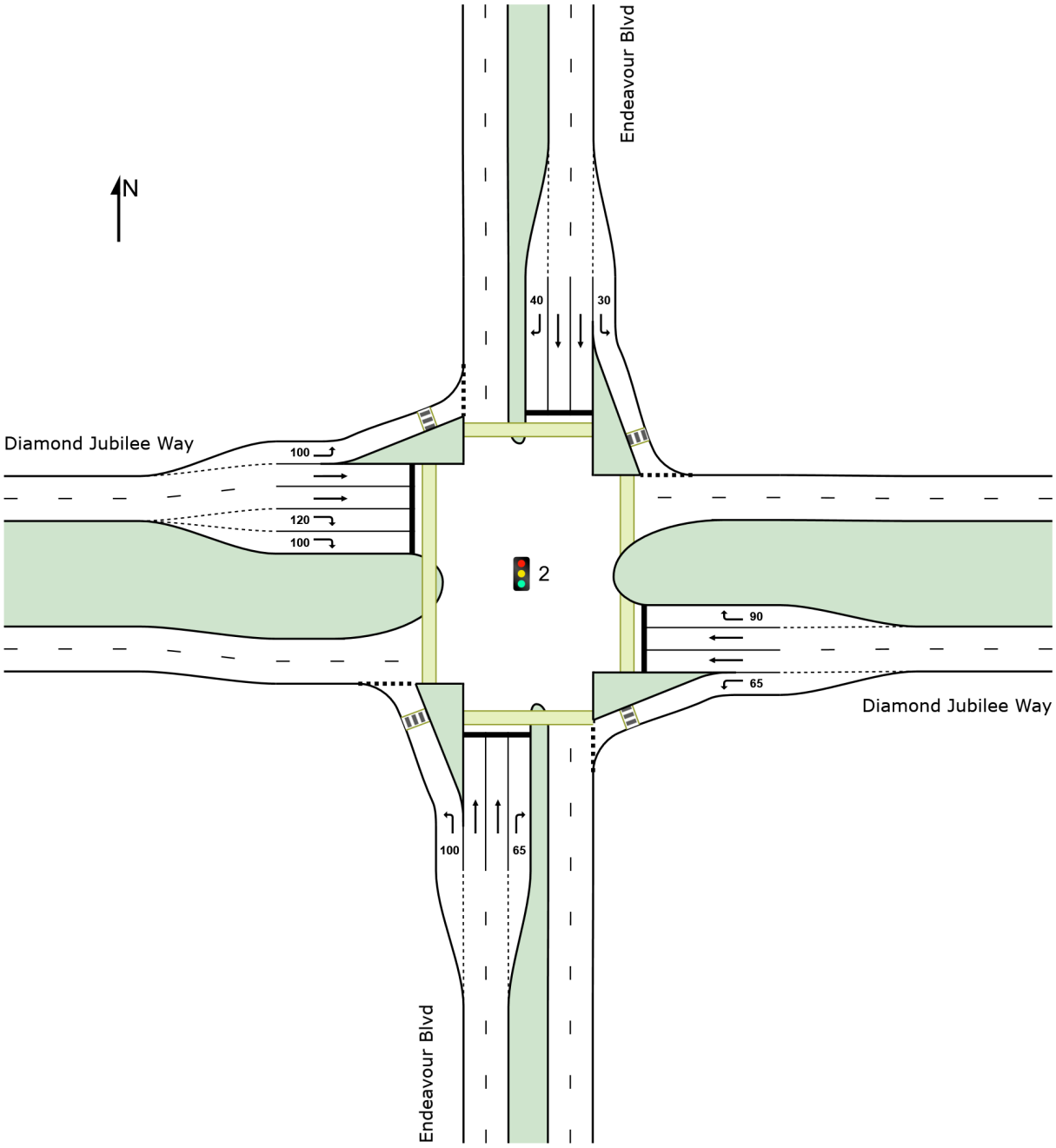
SITE LAYOUT

DIAMOND JUBILEE WAY UPGRADE 2

Site: 2 [Diamond Jubilee Way/Endeavour Blvd - wombat + west right turn + full ped xing (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



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MOVEMENT SUMMARY

Site: 2 [Diamond Jubilee Way/Endeavour Blvd - wombat + west right turn + full ped xing (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 124 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	507	3.0	507	3.0	0.642	24.4	LOS C	20.7	148.5	0.79	0.82	0.79	50.5
2	T1	All MCs	429	3.0	429	3.0	0.480	47.6	LOS D	11.3	80.9	0.91	0.76	0.91	25.0
3	R2	All MCs	329	1.0	329	1.0	* 0.871	72.1	LOS E	21.8	153.6	1.00	0.99	1.21	41.7
Approach			1266	2.5	1266	2.5	0.871	44.7	LOS D	21.8	153.6	0.89	0.84	0.94	39.4
East: Diamond Jubilee Way															
4	L2	All MCs	426	2.0	426	2.0	0.349	11.6	LOS B	7.2	51.3	0.37	0.72	0.37	65.7
5	T1	All MCs	665	1.0	665	1.0	0.537	36.9	LOS D	16.6	116.9	0.87	0.75	0.87	60.5
6	R2	All MCs	321	0.0	321	0.0	* 0.824	63.7	LOS E	20.1	140.6	1.00	0.92	1.13	43.3
Approach			1413	1.1	1413	1.1	0.824	35.4	LOS D	20.1	140.6	0.75	0.78	0.78	57.2
North: Endeavour Blvd															
7	L2	All MCs	206	1.0	206	1.0	0.230	20.5	LOS C	5.1	36.2	0.48	1.00	0.48	62.3
8	T1	All MCs	346	3.0	346	3.0	* 0.829	71.9	LOS E	13.1	93.8	1.00	1.03	1.22	19.9
9	R2	All MCs	14	0.0	14	0.0	0.061	67.5	LOS E	0.7	5.2	0.91	0.68	0.91	37.7
Approach			566	2.2	566	2.2	0.829	53.1	LOS D	13.1	93.8	0.81	1.01	0.95	34.3
West: Diamond Jubilee Way															
10	L2	All MCs	22	0.0	22	0.0	0.019	13.8	LOS B	0.4	2.9	0.37	0.66	0.37	59.3
11	T1	All MCs	425	1.0	425	1.0	* 0.454	43.2	LOS D	11.0	77.6	0.90	0.75	0.90	58.0
12	R2	All MCs	256	1.0	256	1.0	0.538	63.6	LOS E	7.4	52.6	0.98	0.80	0.98	35.7
Approach			703	1.0	703	1.0	0.538	49.7	LOS D	11.0	77.6	0.92	0.77	0.92	51.0
All Vehicles			3948	1.7	3948	1.7	0.871	43.4	LOS D	21.8	153.6	0.83	0.83	0.88	48.2

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Endeavour Blvd												
P1	Full	1	1	56.1	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95
East: Diamond Jubilee Way												

P21 Stage 1	1	1	56.1	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95
P22 Stage 2	1	1	56.1	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95
North: Endeavour Blvd											
P3 Full	1	1	56.1	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95
West: Diamond Jubilee Way											
P4 Full	7	7	56.2	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95
All Pedestrians	11	12	56.2	LOS E	0.0	0.0	0.95	0.95	210.0	200.0	0.95

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

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PHASING SUMMARY

Site: 2 [Diamond Jubilee Way/Endeavour Blvd (Site Folder: 2025 PM Survey)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 123 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: SCATS - 2025 PM
Input Phase Sequence: A, B, D, D1, E, C
Output Phase Sequence: A, B, D, D1, E, C
Reference Phase: Phase A

Phase Timing Summary

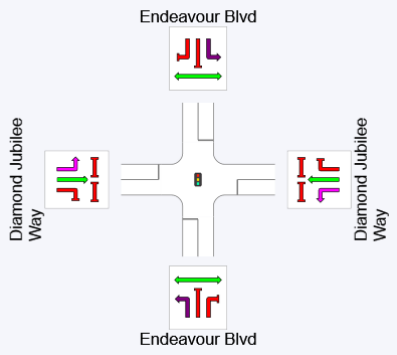
Phase	A	B	D	D1	E	C
Phase Change Time (sec)	0	20	42	61	69	91
Green Time (sec)	14	16	13	3	17	26
Phase Time (sec)	20	22	18	8	23	32
Phase Split	16%	18%	15%	7%	19%	26%
Phase Frequency (%)	100.0	100.0	90.0[1]	90.0[1]	100.0	100.0

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%.

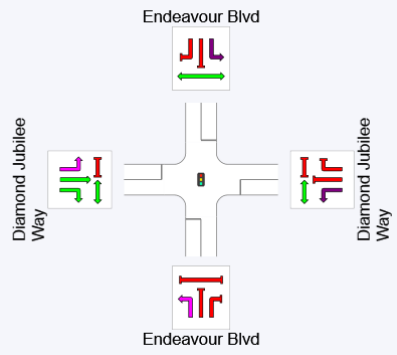
1 Phase Frequency has been given with User-Specified Phase Times.

Output Phase Sequence

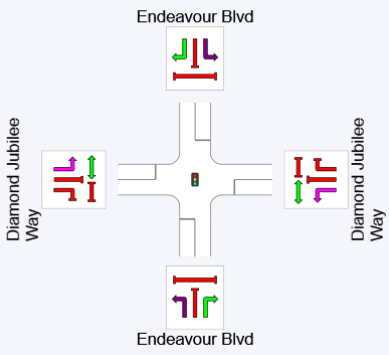
Phase A **REF**



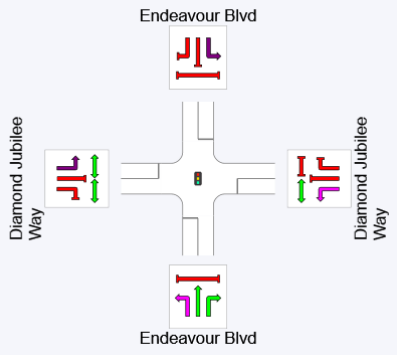
Phase B



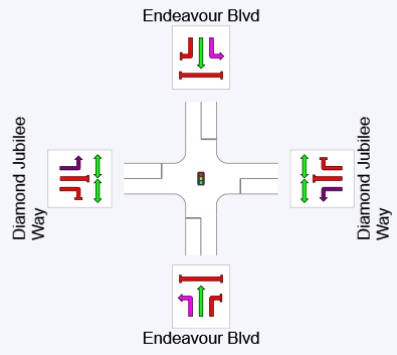
Phase D



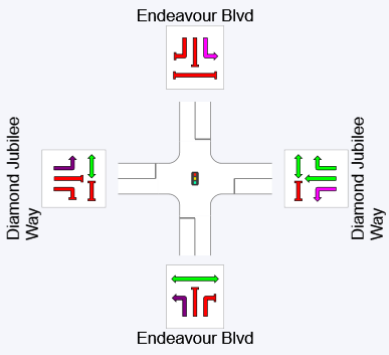
Phase D1



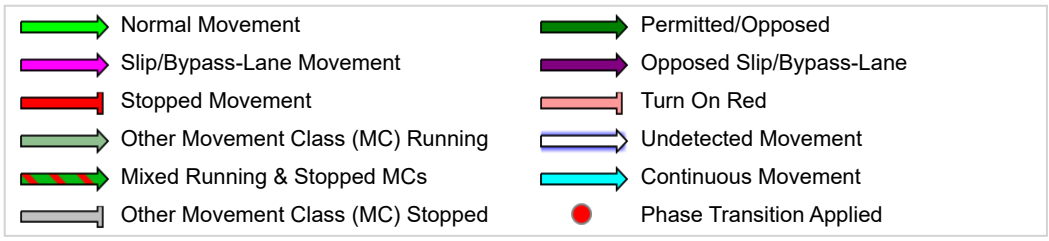
Phase E



Phase C



REF: Reference Phase
VAR: Variable Phase



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PHASING SUMMARY

Site: 2 [Diamond Jubilee Way/Endeavour Blvd (Site Folder: 2030 PM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 121 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: SCATS - 2030 PM ABDEC
Input Phase Sequence: A, B, D, D1, E, C
Output Phase Sequence: A, B, D, D1, E, C
Reference Phase: Phase A

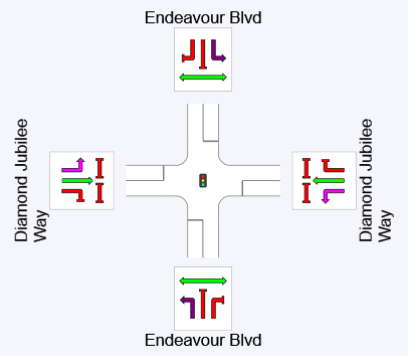
Phase Timing Summary

Phase	A	B	D	D1	E	C
Phase Change Time (sec)	0	18	40	60	69	89
Green Time (sec)	12	16	14	3	14	26
Phase Time (sec)	18	22	20	9	20	32
Phase Split	15%	18%	17%	7%	17%	26%
Phase Frequency (%)	100.0	100.0	100.0	100.0	100.0	100.0

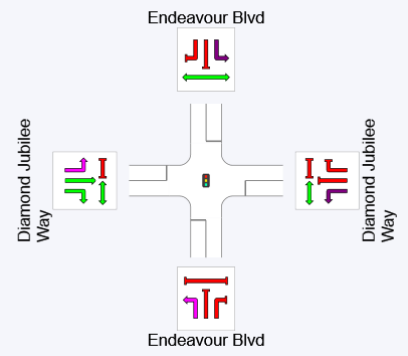
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

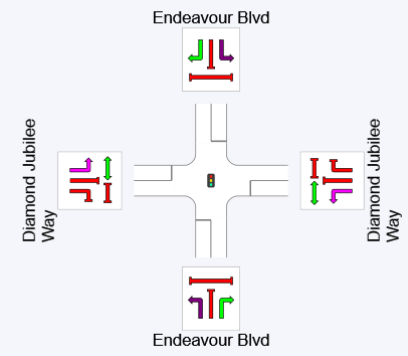
Phase A **REF**



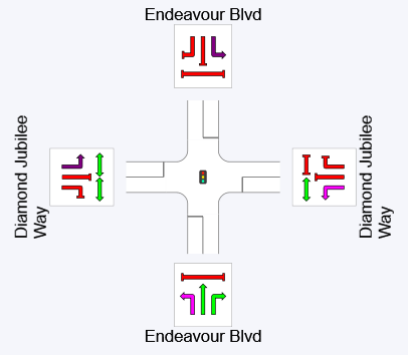
Phase B



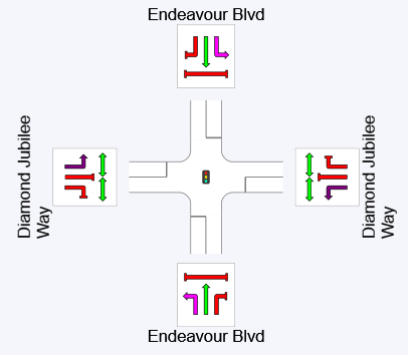
Phase D



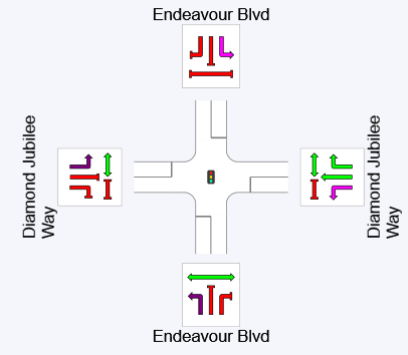
Phase D1



Phase E

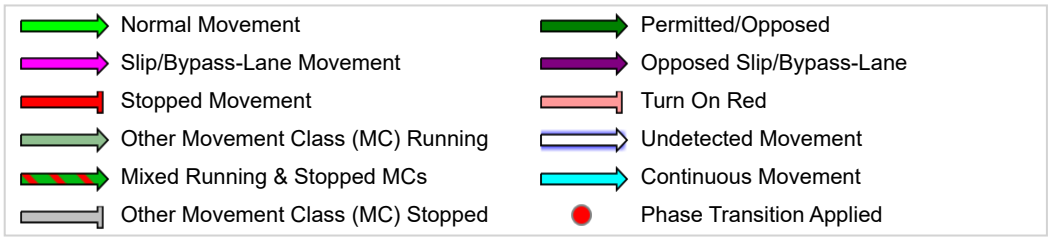


Phase C



REF: Reference Phase

VAR: Variable Phase



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PHASING SUMMARY

Site: 2 [Diamond Jubilee Way/Endeavour Blvd (Site Folder: 2030 PM Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 121 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: SCATS - 2030 PM ABDEC
Input Phase Sequence: A, B, D, D1, E, C
Output Phase Sequence: A, B, D, D1, E, C
Reference Phase: Phase A

Phase Timing Summary

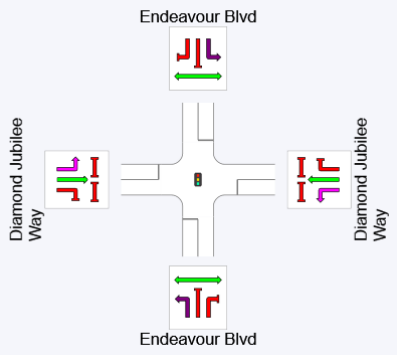
Phase	A	B	D	D1	E	C
Phase Change Time (sec)	0	18	40	60	69	89
Green Time (sec)	12	16	14	3	14	26
Phase Time (sec)	18	22	20	9	20	32
Phase Split	15%	18%	17%	7%	17%	26%
Phase Frequency (%)	100.0	100.0	100.0[1]	100.0[1]	100.0	100.0

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%.

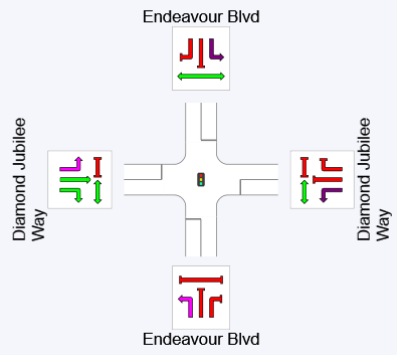
1 Phase Frequency has been given with User-Specified Phase Times.

Output Phase Sequence

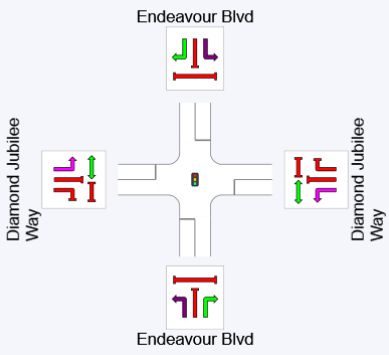
Phase A **REF**



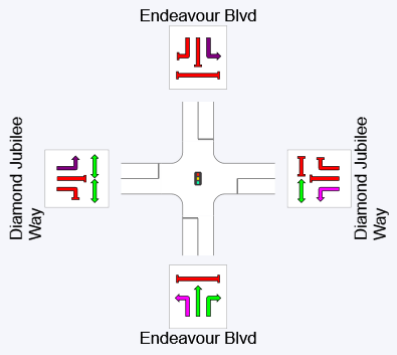
Phase B



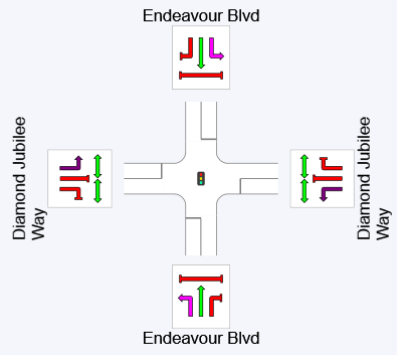
Phase D



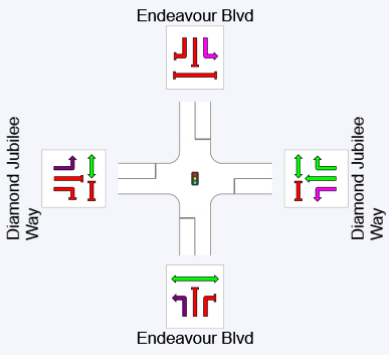
Phase D1



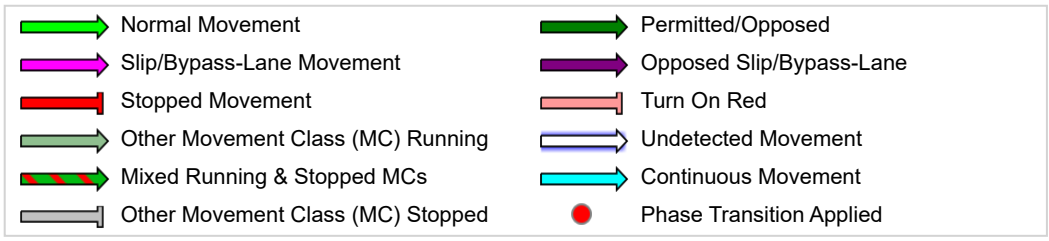
Phase E



Phase C



REF: Reference Phase
VAR: Variable Phase



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PHASING SUMMARY

Site: 2 [Diamond Jubilee Way/Endeavour Blvd-wombat (Site Folder: 2037 PM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 121 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: SCATS - 2037 PM ABDEC
Input Phase Sequence: A, B, D, D1, E, C
Output Phase Sequence: A, B, D, D1, E, C
Reference Phase: Phase A

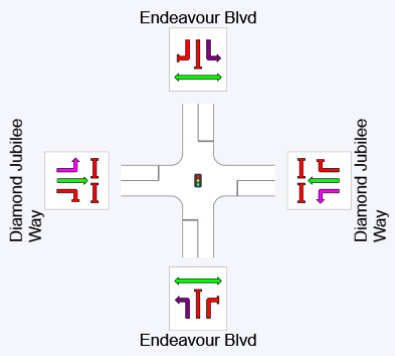
Phase Timing Summary

Phase	A	B	D	D1	E	C
Phase Change Time (sec)	0	18	40	60	69	89
Green Time (sec)	12	16	14	3	14	26
Phase Time (sec)	18	22	20	9	20	32
Phase Split	15%	18%	17%	7%	17%	26%
Phase Frequency (%)	100.0	100.0	100.0	100.0	100.0	100.0

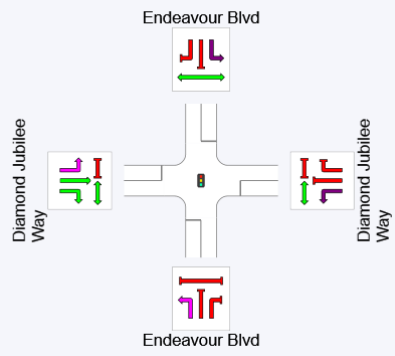
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

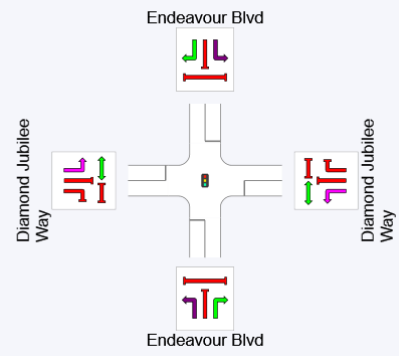
Phase A REF



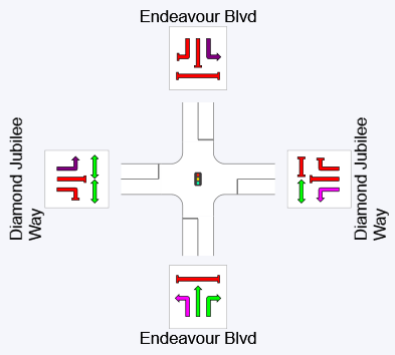
Phase B



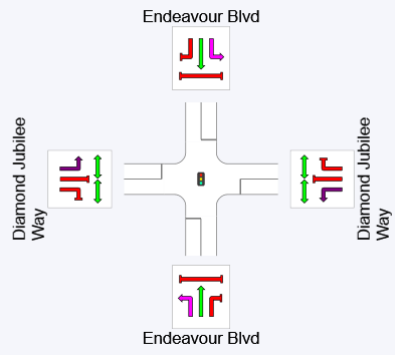
Phase D



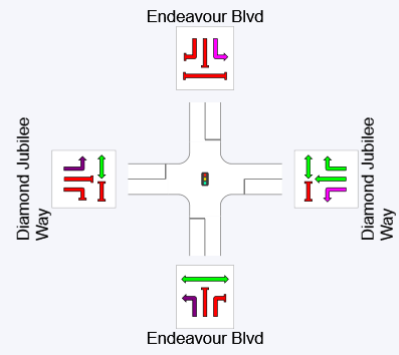
Phase D1



Phase E

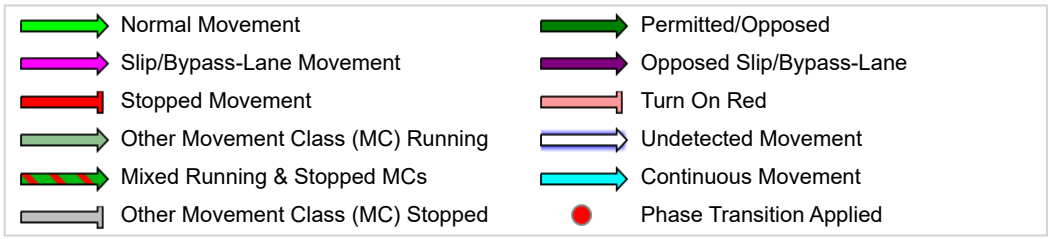


Phase C



REF: Reference Phase

VAR: Variable Phase



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PHASING SUMMARY

Site: 2 [Diamond Jubilee Way/Endeavour Blvd wombats (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 124 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: SCATS - 2037 PM ABDEC
Input Phase Sequence: A, B, D, D1, E, C
Output Phase Sequence: A, B, D, D1, E, C
Reference Phase: Phase A

Phase Timing Summary

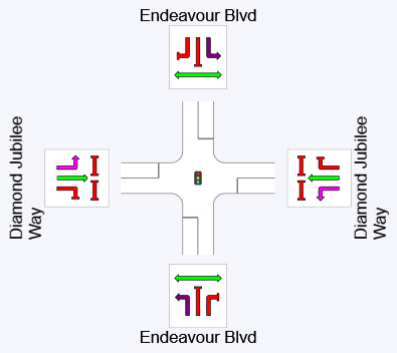
Phase	A	B	D	D1	E	C
Phase Change Time (sec)	0	10	36	57	70	92
Green Time (sec)	4	20	15	7	16	26
Phase Time (sec)	10	26	21	13	22	32
Phase Split	8%	21%	17%	10%	18%	26%
Phase Frequency (%)	100.0	100.0	100.0[1]	100.0[1]	100.0	100.0

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%.

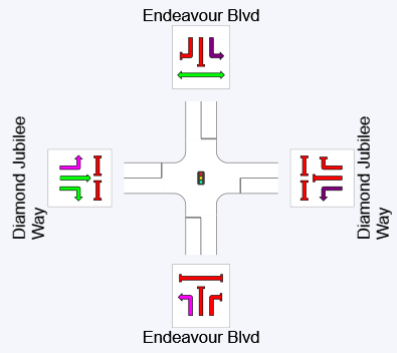
1 Phase Frequency has been given with User-Specified Phase Times.

Output Phase Sequence

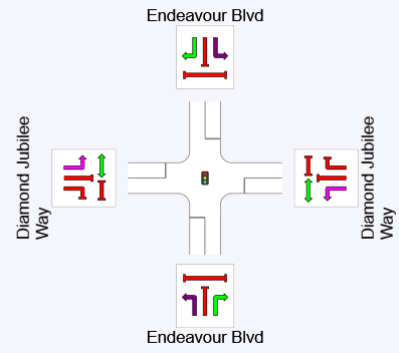
Phase A **REF**



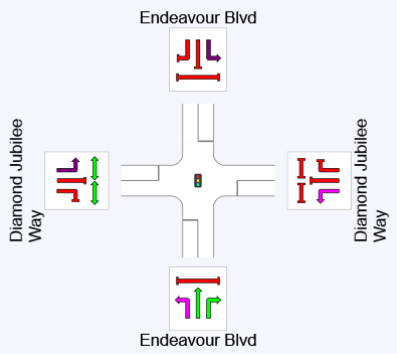
Phase B



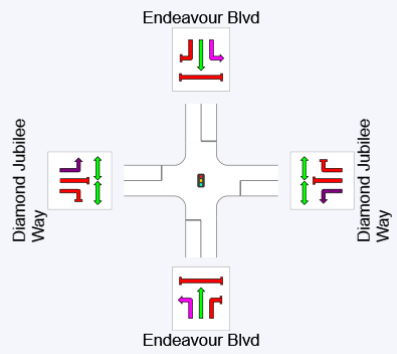
Phase D



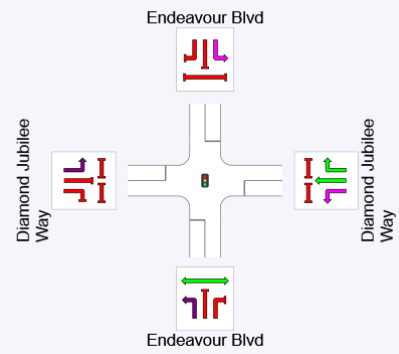
Phase D1



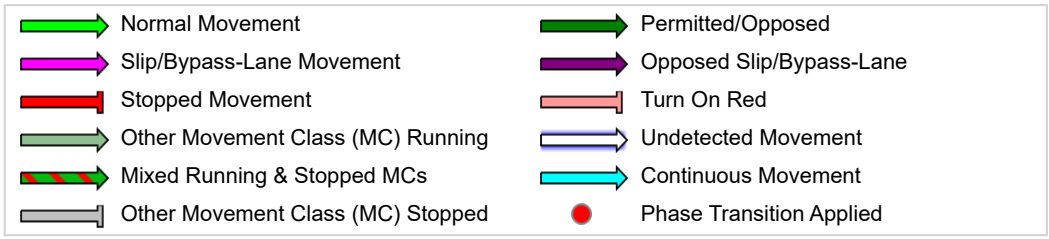
Phase E



Phase C



REF: Reference Phase
VAR: Variable Phase



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PHASING SUMMARY

Site: 2 [Diamond Jubilee Way/Endeavour Blvd - wombat + west right turn (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 124 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: SCATS - 2037 PM ABDEC
Input Phase Sequence: A, B, D, D1, E, C
Output Phase Sequence: A, B, D, D1, E, C
Reference Phase: Phase A

Phase Timing Summary

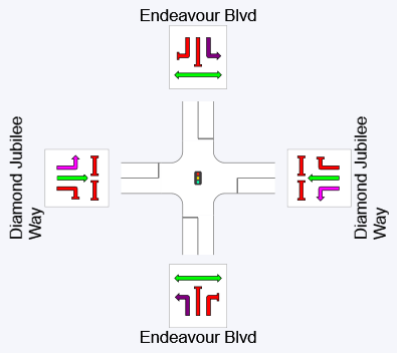
Phase	A	B	D	D1	E	C
Phase Change Time (sec)	0	14	36	57	70	92
Green Time (sec)	8	16	15	7	16	26
Phase Time (sec)	14	22	21	13	22	32
Phase Split	11%	18%	17%	10%	18%	26%
Phase Frequency (%)	100.0	100.0	100.0[1]	100.0[1]	100.0	100.0

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%.

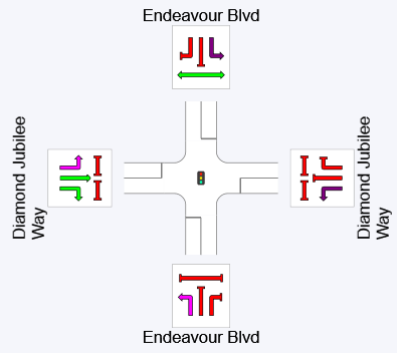
1 Phase Frequency has been given with User-Specified Phase Times.

Output Phase Sequence

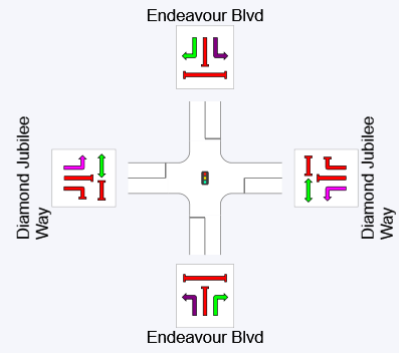
Phase A **REF**



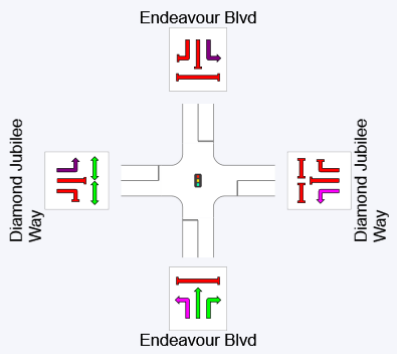
Phase B



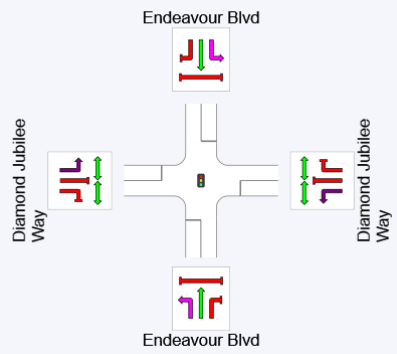
Phase D



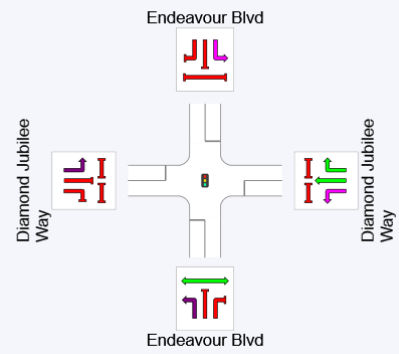
Phase D1



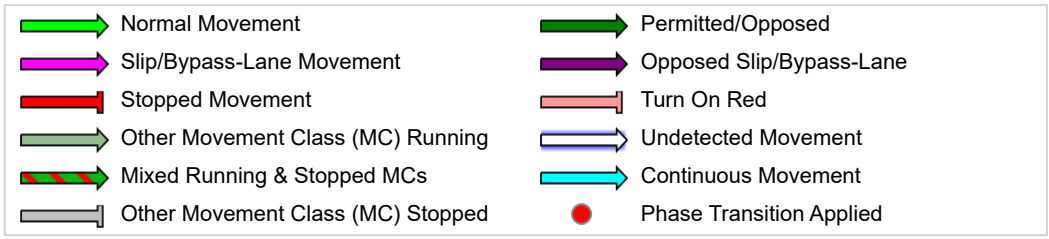
Phase E



Phase C



REF: Reference Phase
VAR: Variable Phase



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PHASING SUMMARY

Site: 2 [Diamond Jubilee Way/Endeavour Blvd - wombat + west right turn + full ped xing (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Diamond Jubilee Way/Endeavour Boulevard
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 124 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: SCATS - 2037 PM ABDEC
Input Phase Sequence: A, B, D, D1, E, C
Output Phase Sequence: A, B, D, D1, E, C
Reference Phase: Phase A

Phase Timing Summary

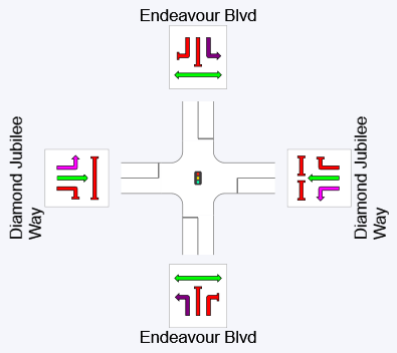
Phase	A	B	D	D1	E	C
Phase Change Time (sec)	0	14	36	57	70	92
Green Time (sec)	8	16	15	7	16	26
Phase Time (sec)	14	22	21	13	22	32
Phase Split	11%	18%	17%	10%	18%	26%
Phase Frequency (%)	100.0	100.0	100.0[1]	100.0[1]	100.0	100.0

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%.

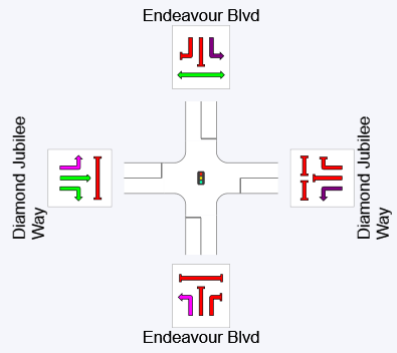
1 Phase Frequency has been given with User-Specified Phase Times.

Output Phase Sequence

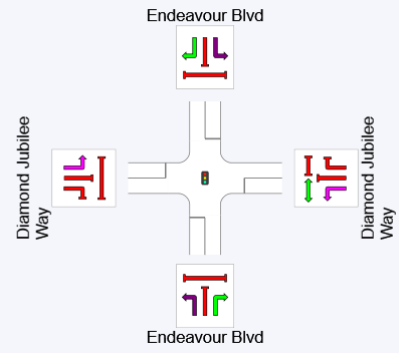
Phase A **REF**



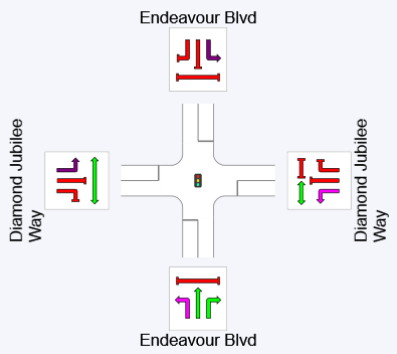
Phase B



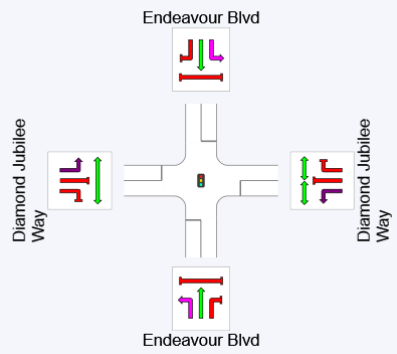
Phase D



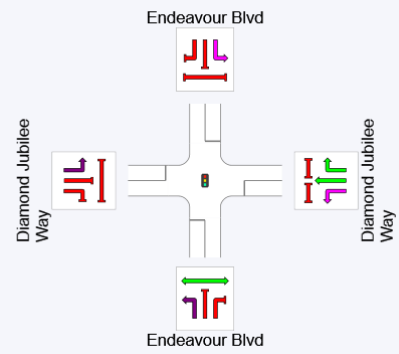
Phase D1



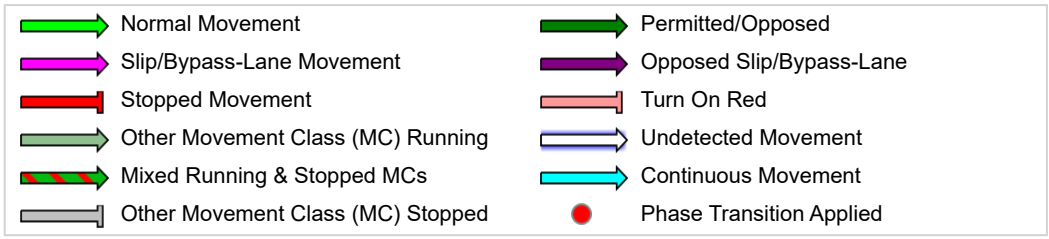
Phase E



Phase C



REF: Reference Phase
VAR: Variable Phase



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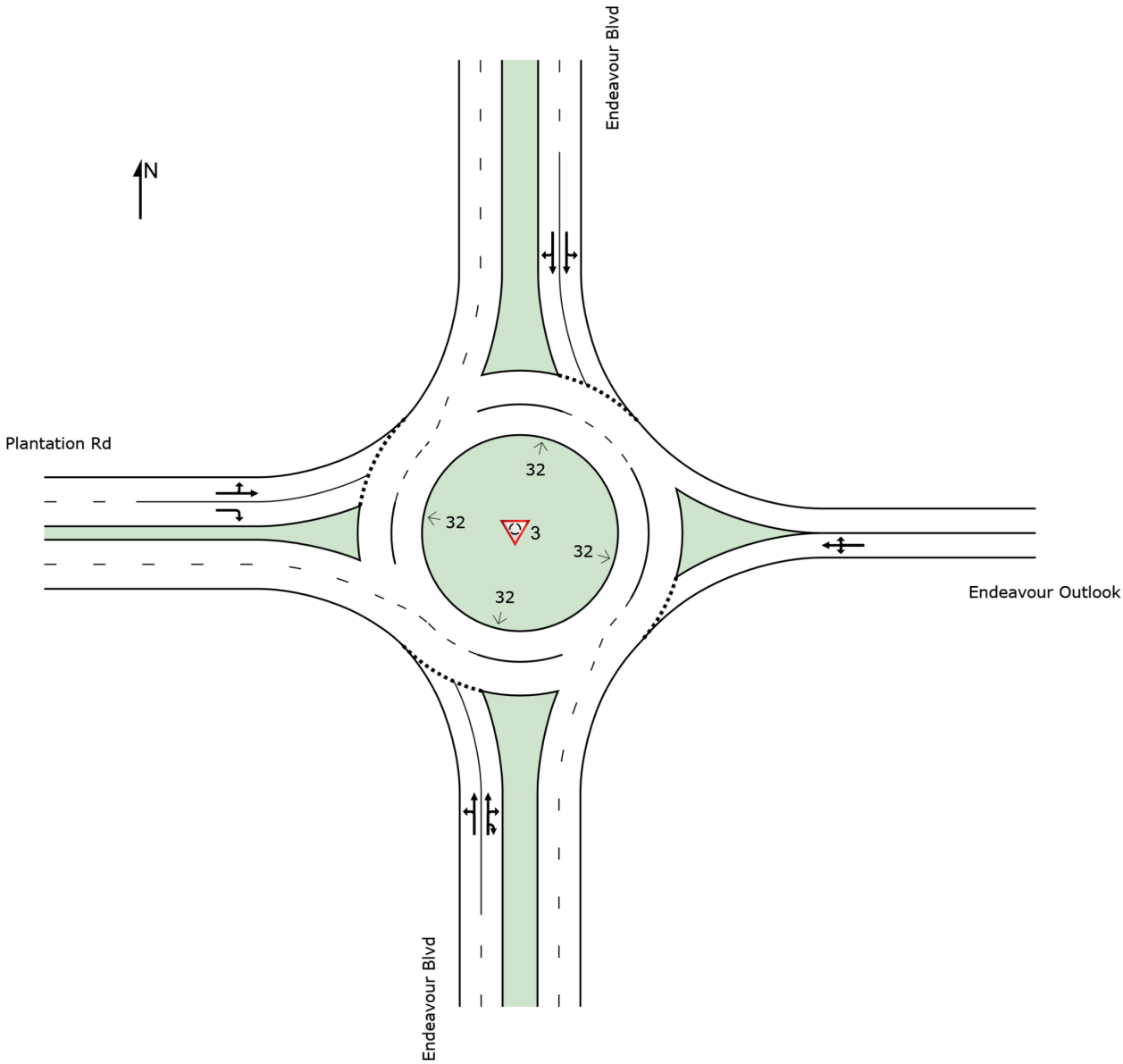
SITE LAYOUT

PLANTATION ROAD
PM PEAK

Site: 3 [Endeavour Blvd/Plantation Rd (Site Folder: 2025 PM Survey)]

Endeavour Boulevard/Plantation Road
Site Category: NA
Roundabout

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



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MOVEMENT SUMMARY

PLANTATION ROAD MOVEMENT SUMMARIES

Site: 3 [Endeavour Blvd/Plantation Rd (Site Folder: 2025 PM Survey)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Plantation Road
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
4	L2	All MCs	420	1.0	420	1.0	0.396	5.0	LOS A	2.7	19.0	0.43	0.52	0.43	50.5
5	T1	All MCs	519	4.0	519	4.0	0.396	5.2	LOS A	2.7	19.0	0.44	0.50	0.44	49.7
6	R2	All MCs	4	0.0	4	0.0	0.396	14.8	LOS B	2.5	18.4	0.44	0.50	0.44	41.0
6u	U	All MCs	3	0.0	3	0.0	0.396	13.4	LOS B	2.5	18.4	0.44	0.50	0.44	50.5
Approach			946	2.6	946	2.6	0.396	5.1	LOS A	2.7	19.0	0.43	0.51	0.43	50.0
East: Endeavour Outlook															
7	L2	All MCs	6	0.0	6	0.0	0.018	3.0	LOS A	0.1	0.6	0.62	0.46	0.62	36.6
8	T1	All MCs	3	0.0	3	0.0	0.018	3.0	LOS A	0.1	0.6	0.62	0.46	0.62	32.9
9	R2	All MCs	4	0.0	4	0.0	0.018	3.0	LOS A	0.1	0.6	0.62	0.46	0.62	31.0
Approach			14	0.0	14	0.0	0.018	3.0	LOS A	0.1	0.6	0.62	0.46	0.62	34.3
North: Endeavour Blvd															
10	L2	All MCs	11	0.0	11	0.0	0.325	7.6	LOS A	1.8	12.6	0.44	0.49	0.44	36.0
11	T1	All MCs	444	3.0	444	3.0	0.325	5.0	LOS A	1.8	12.6	0.44	0.52	0.44	49.5
12	R2	All MCs	271	2.0	271	2.0	0.325	11.1	LOS B	1.7	12.1	0.45	0.68	0.45	43.2
Approach			725	2.6	725	2.6	0.325	7.3	LOS A	1.8	12.6	0.44	0.58	0.44	47.0
West: Plantation Rd															
1	L2	All MCs	311	1.0	311	1.0	0.312	5.7	LOS A	1.8	12.9	0.59	0.60	0.59	47.2
2	T1	All MCs	6	0.0	6	0.0	0.312	11.7	LOS B	1.8	12.9	0.59	0.60	0.59	36.4
3	R2	All MCs	340	3.0	340	3.0	0.293	11.1	LOS B	1.8	12.7	0.57	0.67	0.57	44.1
Approach			657	2.0	657	2.0	0.312	8.5	LOS A	1.8	12.9	0.58	0.63	0.58	45.2
All Vehicles			2342	2.4	2342	2.4	0.396	6.7	LOS A	2.7	19.0	0.48	0.57	0.48	47.6

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

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MOVEMENT SUMMARY

Site: 3 [Endeavour Blvd/Plantation Rd (Site Folder: 2030 PM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Plantation Road
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
4	L2	All MCs	441	1.0	441	1.0	0.422	5.1	LOS A	2.9	20.8	0.45	0.53	0.45	50.4
5	T1	All MCs	545	4.0	545	4.0	0.422	5.3	LOS A	2.9	20.8	0.46	0.52	0.46	49.5
6	R2	All MCs	4	0.0	4	0.0	0.422	15.0	LOS B	2.8	20.1	0.46	0.51	0.46	40.9
6u	U	All MCs	3	0.0	3	0.0	0.422	13.5	LOS B	2.8	20.1	0.46	0.51	0.46	50.4
Approach			994	2.6	994	2.6	0.422	5.3	LOS A	2.9	20.8	0.46	0.52	0.46	49.9
East: Endeavour Outlook															
7	L2	All MCs	6	0.0	6	0.0	0.018	3.2	LOS A	0.1	0.6	0.64	0.48	0.64	36.4
8	T1	All MCs	3	0.0	3	0.0	0.018	3.2	LOS A	0.1	0.6	0.64	0.48	0.64	32.7
9	R2	All MCs	4	0.0	4	0.0	0.018	3.2	LOS A	0.1	0.6	0.64	0.48	0.64	30.9
Approach			14	0.0	14	0.0	0.018	3.2	LOS A	0.1	0.6	0.64	0.48	0.64	34.1
North: Endeavour Blvd															
10	L2	All MCs	12	0.0	12	0.0	0.348	7.7	LOS A	1.9	13.8	0.45	0.50	0.45	35.8
11	T1	All MCs	466	3.0	466	3.0	0.348	5.1	LOS A	1.9	13.8	0.46	0.53	0.46	49.4
12	R2	All MCs	284	2.0	284	2.0	0.348	11.2	LOS B	1.8	13.2	0.47	0.69	0.47	43.1
Approach			762	2.6	762	2.6	0.348	7.4	LOS A	1.9	13.8	0.46	0.59	0.46	46.9
West: Plantation Rd															
1	L2	All MCs	326	1.0	326	1.0	0.335	5.8	LOS A	2.0	14.1	0.61	0.61	0.61	47.0
2	T1	All MCs	6	0.0	6	0.0	0.335	11.9	LOS B	2.0	14.1	0.61	0.61	0.61	36.3
3	R2	All MCs	357	3.0	357	3.0	0.313	11.2	LOS B	1.9	13.8	0.60	0.68	0.60	44.0
Approach			689	2.0	689	2.0	0.335	8.7	LOS A	2.0	14.1	0.60	0.64	0.60	45.1
All Vehicles			2459	2.4	2459	2.4	0.422	6.9	LOS A	2.9	20.8	0.50	0.58	0.50	47.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (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.

MOVEMENT SUMMARY

Site: 3 [Endeavour Blvd/Plantation Rd (Site Folder: 2030 PM Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Plantation Road
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
4	L2	All MCs	452	1.0	452	1.0	0.443	5.1	LOS A	3.2	22.5	0.46	0.53	0.46	50.3
5	T1	All MCs	587	4.0	587	4.0	0.443	5.3	LOS A	3.2	22.5	0.47	0.52	0.47	49.5
6	R2	All MCs	4	0.0	4	0.0	0.443	15.0	LOS B	3.0	21.6	0.47	0.52	0.47	40.8
6u	U	All MCs	1	0.0	1	0.0	0.443	13.6	LOS B	3.0	21.6	0.47	0.52	0.47	50.3
Approach			1044	2.7	1044	2.7	0.443	5.3	LOS A	3.2	22.5	0.47	0.53	0.47	49.8
East: Endeavour Outlook															
7	L2	All MCs	6	0.0	6	0.0	0.019	3.4	LOS A	0.1	0.6	0.65	0.49	0.65	36.3
8	T1	All MCs	3	0.0	3	0.0	0.019	3.4	LOS A	0.1	0.6	0.65	0.49	0.65	32.6
9	R2	All MCs	4	0.0	4	0.0	0.019	3.4	LOS A	0.1	0.6	0.65	0.49	0.65	30.7
Approach			14	0.0	14	0.0	0.019	3.4	LOS A	0.1	0.6	0.65	0.49	0.65	33.9
North: Endeavour Blvd															
10	L2	All MCs	12	0.0	12	0.0	0.369	7.8	LOS A	2.1	15.2	0.47	0.51	0.47	35.7
11	T1	All MCs	506	3.0	506	3.0	0.369	5.2	LOS A	2.1	15.2	0.47	0.54	0.47	49.2
12	R2	All MCs	284	2.0	284	2.0	0.369	11.3	LOS B	2.0	14.4	0.48	0.70	0.48	43.2
Approach			802	2.6	802	2.6	0.369	7.4	LOS A	2.1	15.2	0.47	0.60	0.47	47.0
West: Plantation Rd															
1	L2	All MCs	326	1.0	326	1.0	0.344	6.0	LOS A	2.1	14.5	0.63	0.62	0.63	46.9
2	T1	All MCs	6	0.0	6	0.0	0.344	12.0	LOS B	2.1	14.5	0.63	0.62	0.63	36.2
3	R2	All MCs	367	3.0	367	3.0	0.328	11.4	LOS B	2.0	14.7	0.62	0.68	0.62	43.9
Approach			700	2.0	700	2.0	0.344	8.9	LOS A	2.1	14.7	0.63	0.66	0.63	45.0
All Vehicles			2560	2.5	2560	2.5	0.443	6.9	LOS A	3.2	22.5	0.51	0.58	0.51	47.5

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

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MOVEMENT SUMMARY

Site: 3 [Endeavour Blvd/Plantation Rd (Site Folder: 2037 PM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Plantation Road
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
4	L2	All MCs	471	1.0	471	1.0	0.458	5.3	LOS A	3.3	23.6	0.48	0.55	0.48	50.2
5	T1	All MCs	581	4.0	581	4.0	0.458	5.5	LOS A	3.3	23.6	0.49	0.54	0.49	49.3
6	R2	All MCs	4	0.0	4	0.0	0.458	15.2	LOS B	3.1	22.7	0.49	0.54	0.49	40.7
6u	U	All MCs	4	0.0	4	0.0	0.458	13.7	LOS B	3.1	22.7	0.49	0.54	0.49	50.2
Approach			1060	2.6	1060	2.6	0.458	5.5	LOS A	3.3	23.6	0.49	0.54	0.49	49.7
East: Endeavour Outlook															
7	L2	All MCs	7	0.0	7	0.0	0.021	3.5	LOS A	0.1	0.7	0.66	0.51	0.66	36.3
8	T1	All MCs	3	0.0	3	0.0	0.021	3.5	LOS A	0.1	0.7	0.66	0.51	0.66	32.5
9	R2	All MCs	4	0.0	4	0.0	0.021	3.5	LOS A	0.1	0.7	0.66	0.51	0.66	30.7
Approach			15	0.0	15	0.0	0.021	3.5	LOS A	0.1	0.7	0.66	0.51	0.66	34.1
North: Endeavour Blvd															
10	L2	All MCs	12	0.0	12	0.0	0.379	7.8	LOS A	2.2	15.6	0.48	0.52	0.48	35.6
11	T1	All MCs	498	3.0	498	3.0	0.379	5.3	LOS A	2.2	15.6	0.48	0.55	0.48	49.2
12	R2	All MCs	303	2.0	303	2.0	0.379	11.4	LOS B	2.1	14.8	0.49	0.71	0.49	42.9
Approach			813	2.6	813	2.6	0.379	7.6	LOS A	2.2	15.6	0.49	0.61	0.49	46.7
West: Plantation Rd															
1	L2	All MCs	347	1.0	347	1.0	0.367	6.1	LOS A	2.2	15.8	0.65	0.63	0.65	46.8
2	T1	All MCs	7	0.0	7	0.0	0.367	12.1	LOS B	2.2	15.8	0.65	0.63	0.65	36.1
3	R2	All MCs	381	3.0	381	3.0	0.342	11.4	LOS B	2.2	15.5	0.63	0.69	0.63	43.9
Approach			736	2.0	736	2.0	0.367	8.9	LOS A	2.2	15.8	0.64	0.66	0.64	44.9
All Vehicles			2623	2.4	2623	2.4	0.458	7.1	LOS A	3.3	23.6	0.53	0.59	0.53	47.3

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

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MOVEMENT SUMMARY

Site: 3 [Endeavour Blvd/Plantation Rd - u-turn (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Plantation Road
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
4	L2	All MCs	512	1.0	512	1.0	0.577	5.5	LOS A	4.9	34.5	0.54	0.57	0.54	49.8
5	T1	All MCs	788	4.0	788	4.0	0.577	5.8	LOS A	4.9	34.5	0.55	0.58	0.56	48.7
6	R2	All MCs	4	0.0	4	0.0	0.577	15.5	LOS B	4.6	33.0	0.56	0.58	0.56	40.0
6u	U	All MCs	27	0.0	27	0.0	0.577	14.1	LOS B	4.6	33.0	0.56	0.58	0.56	49.6
Approach			1332	2.8	1332	2.8	0.577	5.9	LOS A	4.9	34.5	0.55	0.58	0.55	49.1
East: Endeavour Outlook															
7	L2	All MCs	7	0.0	7	0.0	0.023	4.5	LOS A	0.1	0.8	0.73	0.58	0.73	35.5
8	T1	All MCs	3	0.0	3	0.0	0.023	4.5	LOS A	0.1	0.8	0.73	0.58	0.73	31.7
9	R2	All MCs	4	0.0	4	0.0	0.023	4.5	LOS A	0.1	0.8	0.73	0.58	0.73	29.8
Approach			15	0.0	15	0.0	0.023	4.5	LOS A	0.1	0.8	0.73	0.58	0.73	33.3
North: Endeavour Blvd															
10	L2	All MCs	12	0.0	12	0.0	0.479	8.2	LOS A	3.0	21.7	0.55	0.55	0.55	35.1
11	T1	All MCs	660	3.0	660	3.0	0.479	5.7	LOS A	3.0	21.7	0.55	0.60	0.55	48.6
12	R2	All MCs	306	2.0	306	2.0	0.479	12.0	LOS B	2.9	21.0	0.56	0.74	0.58	42.8
Approach			978	2.7	978	2.7	0.479	7.7	LOS A	3.0	21.7	0.55	0.64	0.56	46.7
West: Plantation Rd															
1	L2	All MCs	347	1.0	347	1.0	0.429	7.3	LOS A	2.8	19.8	0.75	0.73	0.79	45.9
2	T1	All MCs	7	0.0	7	0.0	0.429	13.4	LOS B	2.8	19.8	0.75	0.73	0.79	35.3
3	R2	All MCs	415	3.0	415	3.0	0.417	12.2	LOS B	2.8	20.1	0.75	0.74	0.75	43.4
Approach			769	2.1	769	2.1	0.429	10.0	LOS B	2.8	20.1	0.75	0.73	0.77	44.3
All Vehicles			3094	2.5	3094	2.5	0.577	7.5	LOS A	4.9	34.5	0.60	0.64	0.61	47.0

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

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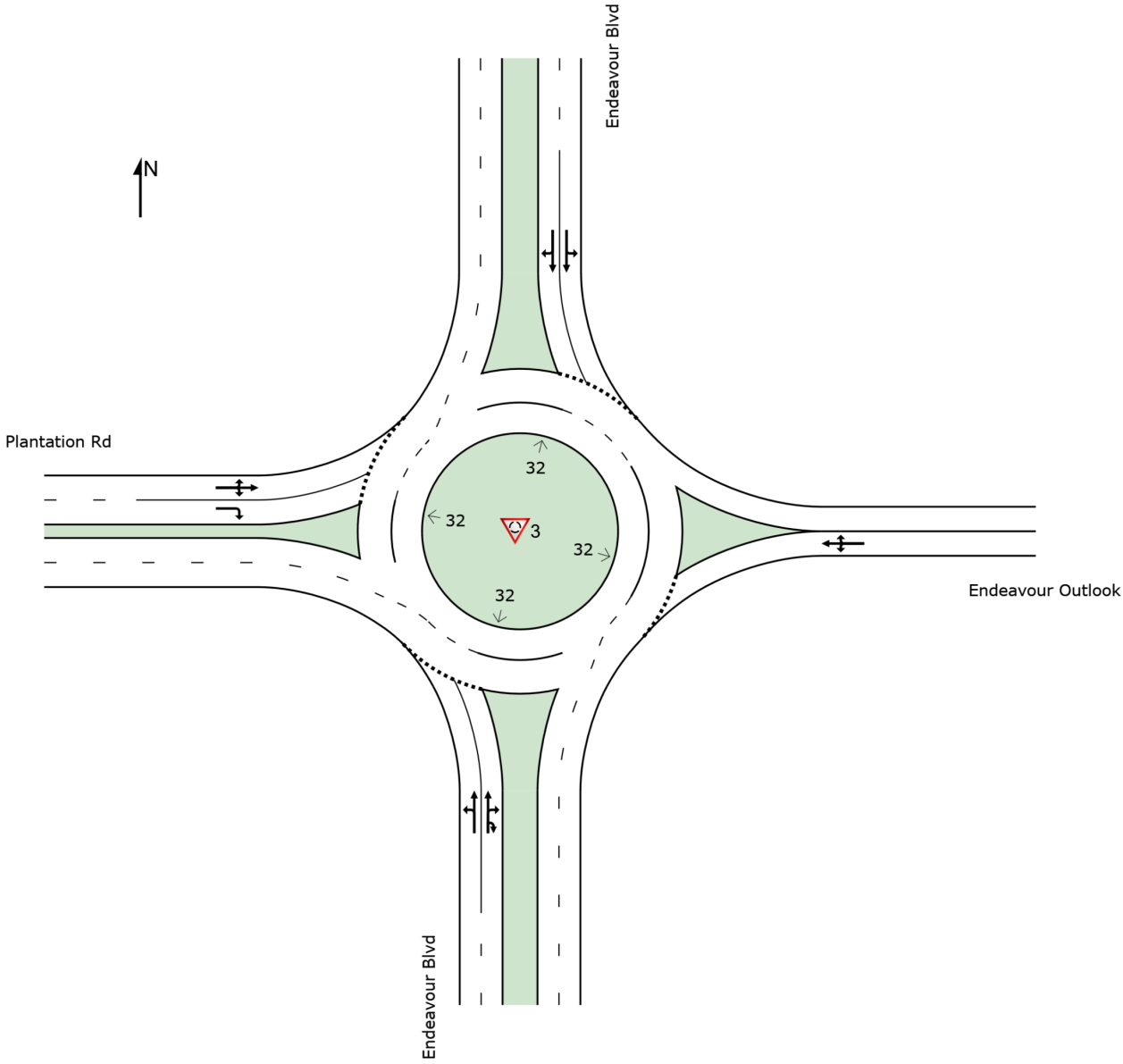
SITE LAYOUT

PLANTATION ROAD UPGRADE 1

Site: 3 [Endeavour Blvd/Plantation Rd - changed linemarking (u-turn) (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Endeavour Boulevard/Plantation Road
Site Category: NA
Roundabout

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



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MOVEMENT SUMMARY

Site: 3 [Endeavour Blvd/Plantation Rd - changed linemarking (u-turn) (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Plantation Road
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
4	L2	All MCs	512	1.0	512	1.0	0.576	5.5	LOS A	4.8	34.4	0.54	0.57	0.54	49.8
5	T1	All MCs	788	4.0	788	4.0	0.576	5.8	LOS A	4.8	34.4	0.55	0.58	0.55	48.8
6	R2	All MCs	4	0.0	4	0.0	0.576	15.5	LOS B	4.5	32.8	0.56	0.58	0.56	40.1
6u	U	All MCs	27	0.0	27	0.0	0.576	14.1	LOS B	4.5	32.8	0.56	0.58	0.56	49.6
Approach			1332	2.8	1332	2.8	0.576	5.9	LOS A	4.8	34.4	0.55	0.57	0.55	49.2
East: Endeavour Outlook															
7	L2	All MCs	7	0.0	7	0.0	0.022	4.1	LOS A	0.1	0.8	0.70	0.56	0.70	35.9
8	T1	All MCs	3	0.0	3	0.0	0.022	4.1	LOS A	0.1	0.8	0.70	0.56	0.70	32.1
9	R2	All MCs	4	0.0	4	0.0	0.022	4.1	LOS A	0.1	0.8	0.70	0.56	0.70	30.2
Approach			15	0.0	15	0.0	0.022	4.1	LOS A	0.1	0.8	0.70	0.56	0.70	33.7
North: Endeavour Blvd															
10	L2	All MCs	12	0.0	12	0.0	0.471	8.0	LOS A	2.8	20.0	0.52	0.54	0.52	35.3
11	T1	All MCs	660	3.0	660	3.0	0.471	5.5	LOS A	2.8	20.0	0.52	0.58	0.53	48.8
12	R2	All MCs	306	2.0	306	2.0	0.471	11.8	LOS B	2.7	19.4	0.54	0.74	0.55	43.0
Approach			978	2.7	978	2.7	0.471	7.5	LOS A	2.8	20.0	0.53	0.63	0.54	46.9
West: Plantation Rd															
1	L2	All MCs	347	1.0	347	1.0	0.423	6.4	LOS A	2.9	20.4	0.75	0.70	0.75	45.4
2	T1	All MCs	7	0.0	7	0.0	0.423	12.5	LOS B	2.9	20.4	0.75	0.70	0.75	35.1
3	R2	All MCs	415	3.0	415	3.0	0.423	13.0	LOS B	2.9	20.4	0.75	0.77	0.78	43.9
Approach			769	2.1	769	2.1	0.423	10.0	LOS B	2.9	20.4	0.75	0.73	0.77	44.4
All Vehicles			3094	2.5	3094	2.5	0.576	7.4	LOS A	4.8	34.4	0.59	0.63	0.60	47.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (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.

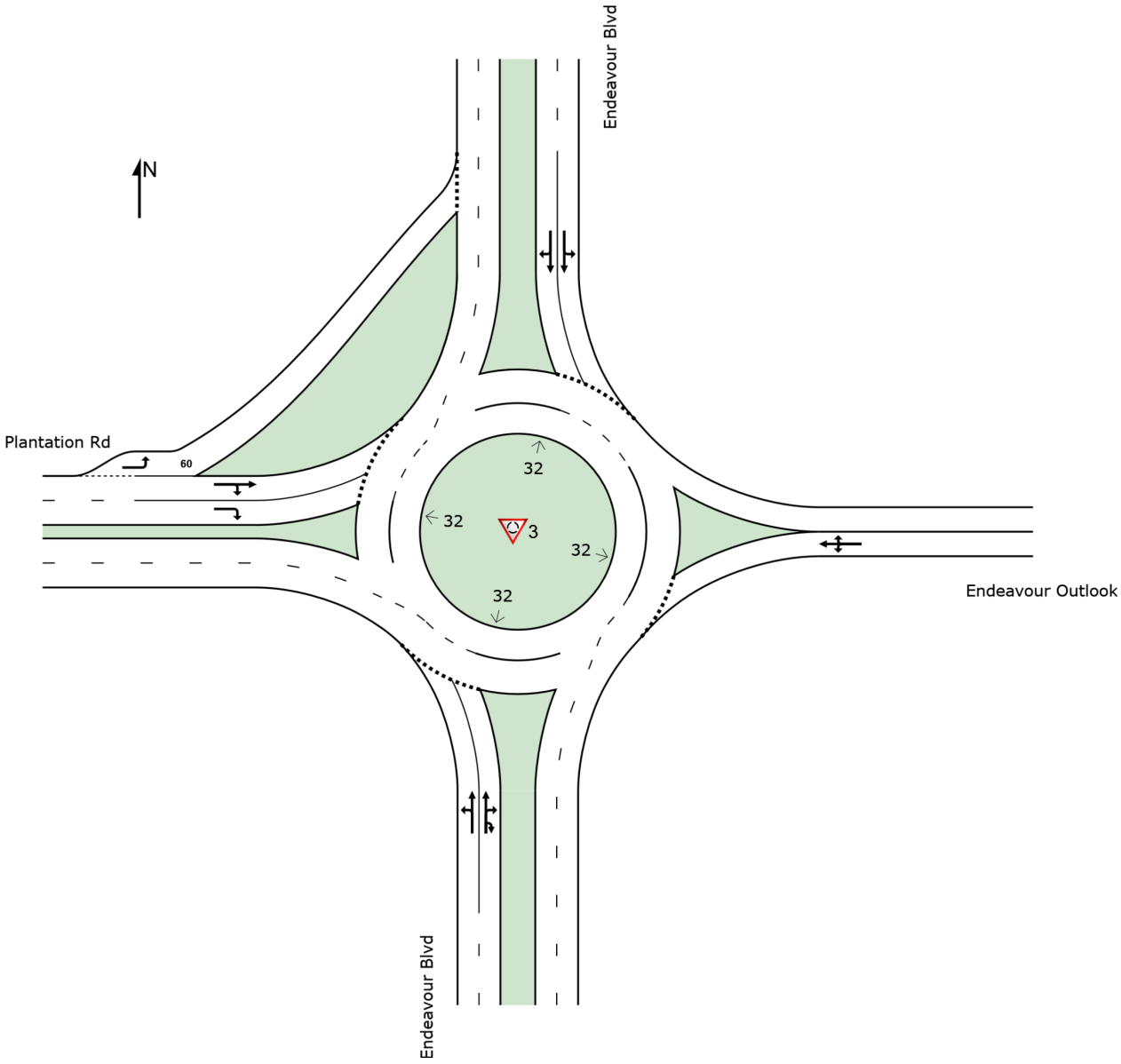
SITE LAYOUT

PLANTATION ROAD UPGRADE 2

Site: 3 [Endeavour Blvd/Plantation Rd - left slip (u-turn) (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Endeavour Boulevard/Plantation Road
Site Category: NA
Roundabout

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



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MOVEMENT SUMMARY

Site: 3 [Endeavour Blvd/Plantation Rd - left slip (u-turn) (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Plantation Road
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
4	L2	All MCs	512	1.0	512	1.0	0.575	5.6	LOS A	4.8	34.4	0.54	0.57	0.54	49.8
5	T1	All MCs	788	4.0	788	4.0	0.575	5.8	LOS A	4.8	34.4	0.55	0.58	0.55	48.8
6	R2	All MCs	4	0.0	4	0.0	0.575	15.5	LOS B	4.5	32.7	0.55	0.58	0.55	40.1
6u	U	All MCs	27	0.0	27	0.0	0.575	14.1	LOS B	4.5	32.7	0.55	0.58	0.55	49.6
Approach			1332	2.8	1332	2.8	0.575	5.9	LOS A	4.8	34.4	0.55	0.57	0.55	49.2
East: Endeavour Outlook															
7	L2	All MCs	7	0.0	7	0.0	0.021	3.7	LOS A	0.1	0.7	0.68	0.54	0.68	36.2
8	T1	All MCs	3	0.0	3	0.0	0.021	3.7	LOS A	0.1	0.7	0.68	0.54	0.68	32.4
9	R2	All MCs	4	0.0	4	0.0	0.021	3.7	LOS A	0.1	0.7	0.68	0.54	0.68	30.6
Approach			15	0.0	15	0.0	0.021	3.7	LOS A	0.1	0.7	0.68	0.54	0.68	34.0
North: Endeavour Blvd															
10	L2	All MCs	12	0.0	12	0.0	0.464	7.9	LOS A	2.6	18.7	0.50	0.53	0.50	35.5
11	T1	All MCs	660	3.0	660	3.0	0.464	5.4	LOS A	2.6	18.7	0.50	0.57	0.51	48.9
12	R2	All MCs	306	2.0	306	2.0	0.464	11.7	LOS B	2.5	18.2	0.52	0.73	0.53	43.1
Approach			978	2.7	978	2.7	0.464	7.4	LOS A	2.6	18.7	0.51	0.62	0.52	47.0
West: Plantation Rd															
1	L2	All MCs	347	1.0	347	1.0	0.263	5.4	LOS A	1.8	12.6	0.67	0.61	0.67	46.9
2	T1	All MCs	7	0.0	7	0.0	0.191	11.5	LOS B	1.3	9.1	0.66	0.68	0.66	33.0
3	R2	All MCs	415	3.0	415	3.0	0.191	11.5	LOS B	1.3	9.1	0.66	0.70	0.66	43.7
Approach			769	2.1	769	2.1	0.263	8.7	LOS A	1.8	12.6	0.67	0.66	0.67	44.8
All Vehicles			3094	2.5	3094	2.5	0.575	7.1	LOS A	4.8	34.4	0.56	0.61	0.57	47.3

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

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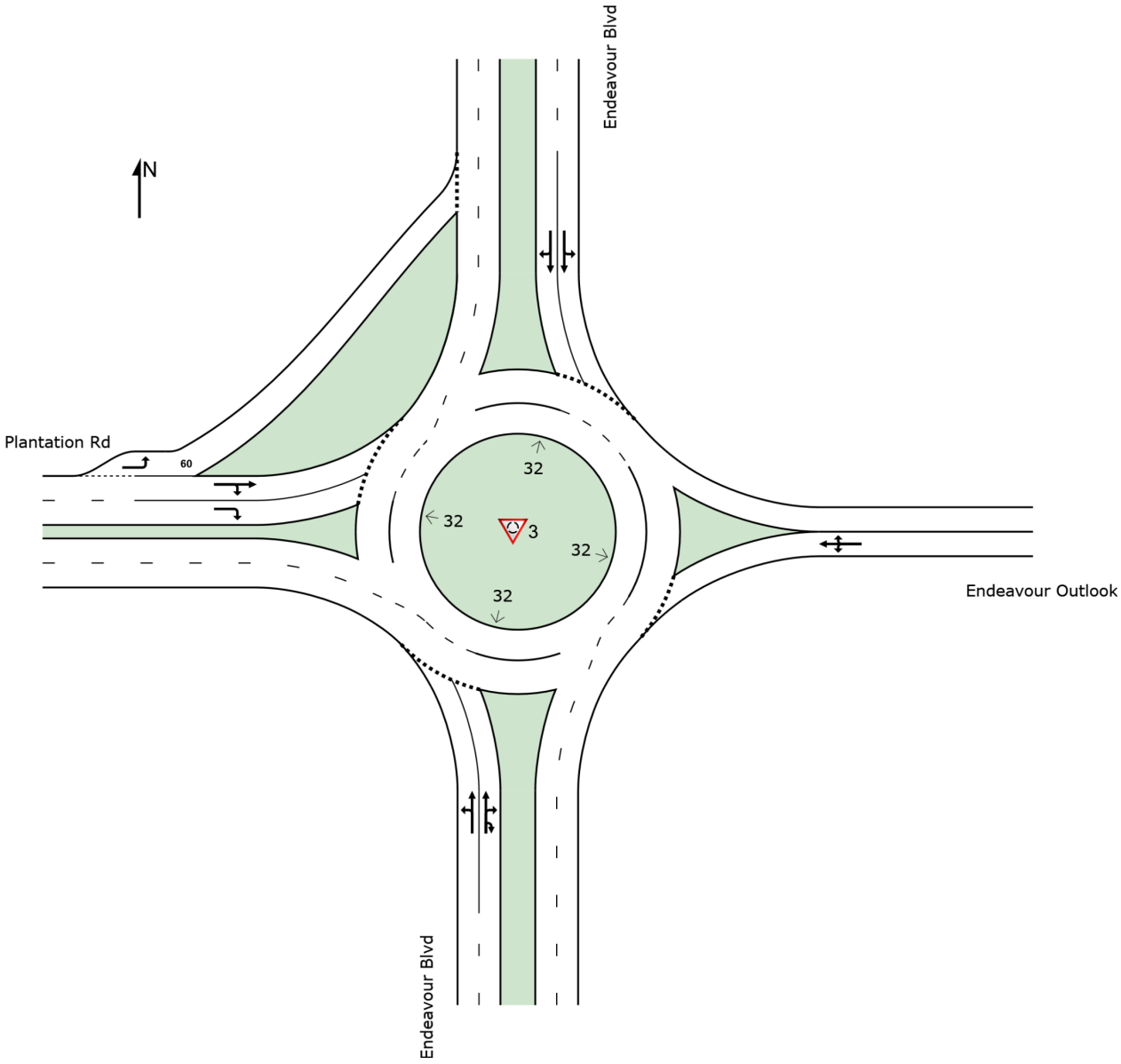
SITE LAYOUT

PLANTATION ROAD UPGRADE 3

Site: 3 [Endeavour Blvd/Plantation Rd - left slip + relocated Archer roundabout (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Endeavour Boulevard/Plantation Road
Site Category: NA
Roundabout

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



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Project: C:\Users\Mark.Hanson\OneDrive - Colliers International\2021 Synergy Projects - 21BRT0438 North Lakes School\7 - Reports\RFIs\MH Update\21BRT0438 SA02_B Network 2026_MH.sip9

MOVEMENT SUMMARY

Site: 3 [Endeavour Blvd/Plantation Rd - left slip + relocated Archer roundabout (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Plantation Road
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
4	L2	All MCs	512	1.0	512	1.0	0.563	5.5	LOS A	4.7	33.2	0.53	0.57	0.53	49.9
5	T1	All MCs	788	4.0	788	4.0	0.563	5.8	LOS A	4.7	33.2	0.54	0.56	0.54	49.0
6	R2	All MCs	4	0.0	4	0.0	0.563	15.5	LOS B	4.4	31.6	0.55	0.56	0.55	40.3
6u	U	All MCs	1	0.0	1	0.0	0.563	14.0	LOS B	4.4	31.6	0.55	0.56	0.55	49.9
Approach			1305	2.8	1305	2.8	0.563	5.7	LOS A	4.7	33.2	0.54	0.56	0.54	49.3
East: Endeavour Outlook															
7	L2	All MCs	7	0.0	7	0.0	0.021	3.7	LOS A	0.1	0.7	0.68	0.54	0.68	36.2
8	T1	All MCs	3	0.0	3	0.0	0.021	3.7	LOS A	0.1	0.7	0.68	0.54	0.68	32.4
9	R2	All MCs	4	0.0	4	0.0	0.021	3.7	LOS A	0.1	0.7	0.68	0.54	0.68	30.6
Approach			15	0.0	15	0.0	0.021	3.7	LOS A	0.1	0.7	0.68	0.54	0.68	34.0
North: Endeavour Blvd															
10	L2	All MCs	12	0.0	12	0.0	0.458	7.8	LOS A	2.6	18.3	0.49	0.51	0.49	35.6
11	T1	All MCs	660	3.0	660	3.0	0.458	5.3	LOS A	2.6	18.3	0.49	0.56	0.50	49.0
12	R2	All MCs	306	2.0	306	2.0	0.458	11.5	LOS B	2.5	17.7	0.51	0.72	0.51	43.3
Approach			978	2.7	978	2.7	0.458	7.3	LOS A	2.6	18.3	0.50	0.61	0.50	47.1
West: Plantation Rd															
1	L2	All MCs	347	1.0	347	1.0	0.264	5.4	LOS A	1.8	12.8	0.68	0.61	0.68	46.9
2	T1	All MCs	7	0.0	7	0.0	0.188	11.4	LOS B	1.2	8.9	0.65	0.68	0.65	33.0
3	R2	All MCs	415	3.0	415	3.0	0.188	11.4	LOS B	1.2	8.9	0.65	0.69	0.65	43.8
Approach			769	2.1	769	2.1	0.264	8.7	LOS A	1.8	12.8	0.66	0.66	0.66	44.8
All Vehicles			3067	2.6	3067	2.6	0.563	7.0	LOS A	4.7	33.2	0.56	0.60	0.56	47.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (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.

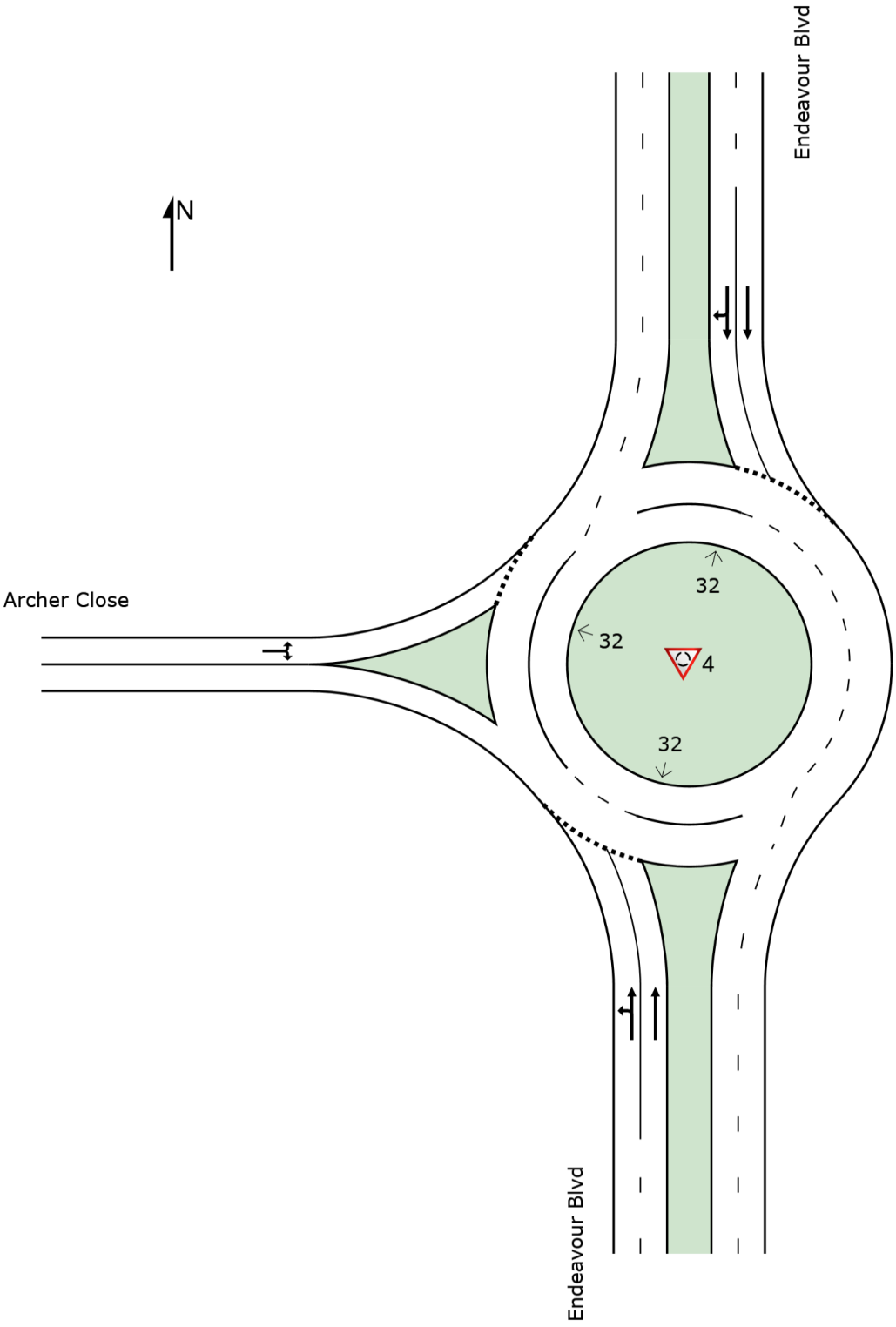
SITE LAYOUT

ARCHER CLOSE
PM PEAK

Site: 4 [Endeavour Blvd/Archer Close (Site Folder: 2025 PM Survey)]

Endeavour Boulevard/Archer Close
Site Category: NA
Roundabout

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



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MOVEMENT SUMMARY

ARCHER CLOSE MOVEMENT SUMMARIES

Site: 4 [Endeavour Blvd/Archer Close (Site Folder: 2025 PM Survey)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Archer Close
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	34	0.0	34	0.0	0.305	3.6	LOS A	1.6	11.2	0.12	0.34	0.12	36.3
2	T1	All MCs	909	2.0	909	2.0	0.305	3.6	LOS A	1.6	11.2	0.12	0.34	0.12	53.1
Approach			943	1.9	943	1.9	0.305	3.6	LOS A	1.6	11.2	0.12	0.34	0.12	52.7
North: Endeavour Blvd															
8	T1	All MCs	791	3.0	791	3.0	0.271	3.6	LOS A	1.8	12.8	0.16	0.34	0.16	52.2
9	R2	All MCs	34	0.0	34	0.0	0.271	9.4	LOS A	1.7	12.5	0.17	0.36	0.17	35.7
Approach			824	2.9	824	2.9	0.271	3.8	LOS A	1.8	12.8	0.16	0.34	0.16	51.5
West: Archer Close															
10	L2	All MCs	34	0.0	34	0.0	0.081	4.5	LOS A	0.4	2.6	0.58	0.70	0.58	45.2
12	R2	All MCs	34	0.0	34	0.0	0.081	10.0	LOS B	0.4	2.6	0.58	0.70	0.58	40.9
Approach			67	0.0	67	0.0	0.081	7.3	LOS A	0.4	2.6	0.58	0.70	0.58	43.2
All Vehicles			1835	2.3	1835	2.3	0.305	3.8	LOS A	1.8	12.8	0.16	0.35	0.16	51.9

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

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MOVEMENT SUMMARY

Site: 4 [Endeavour Blvd/Archer Close (Site Folder: 2030 PM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Archer Close
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	36	0.0	36	0.0	0.321	3.6	LOS A	1.7	12.1	0.13	0.34	0.13	36.3
2	T1	All MCs	955	2.0	955	2.0	0.321	3.6	LOS A	1.7	12.1	0.13	0.34	0.13	53.1
Approach			991	1.9	991	1.9	0.321	3.6	LOS A	1.7	12.1	0.13	0.34	0.13	52.6
North: Endeavour Blvd															
8	T1	All MCs	831	3.0	831	3.0	0.286	3.6	LOS A	1.9	13.8	0.17	0.34	0.17	52.1
9	R2	All MCs	36	0.0	36	0.0	0.286	9.4	LOS A	1.9	13.5	0.18	0.36	0.18	35.7
Approach			866	2.9	866	2.9	0.286	3.8	LOS A	1.9	13.8	0.17	0.34	0.17	51.4
West: Archer Close															
10	L2	All MCs	36	0.0	36	0.0	0.087	4.7	LOS A	0.4	2.8	0.59	0.71	0.59	45.0
12	R2	All MCs	36	0.0	36	0.0	0.087	10.2	LOS B	0.4	2.8	0.59	0.71	0.59	40.7
Approach			72	0.0	72	0.0	0.087	7.4	LOS A	0.4	2.8	0.59	0.71	0.59	43.0
All Vehicles			1928	2.3	1928	2.3	0.321	3.8	LOS A	1.9	13.8	0.17	0.35	0.17	51.8

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

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MOVEMENT SUMMARY

Site: 4 [Endeavour Blvd/Archer Close (Site Folder: 2030 PM Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Archer Close
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	36	0.0	36	0.0	0.339	3.6	LOS A	1.9	13.3	0.13	0.34	0.13	36.2
2	T1	All MCs	1007	3.0	1007	3.0	0.339	3.6	LOS A	1.9	13.3	0.14	0.34	0.14	53.0
Approach			1043	2.9	1043	2.9	0.339	3.6	LOS A	1.9	13.3	0.14	0.34	0.14	52.6
North: Endeavour Blvd															
8	T1	All MCs	881	3.0	881	3.0	0.302	3.6	LOS A	2.1	14.9	0.18	0.34	0.18	52.1
9	R2	All MCs	36	0.0	36	0.0	0.302	9.4	LOS A	2.0	14.6	0.18	0.36	0.18	32.2
9u	U	All MCs	1	0.0	1	0.0	0.302	11.8	LOS B	2.0	14.6	0.18	0.36	0.18	51.9
Approach			918	2.9	918	2.9	0.302	3.8	LOS A	2.1	14.9	0.18	0.34	0.18	51.2
West: Archer Close															
10	L2	All MCs	36	0.0	36	0.0	0.089	4.9	LOS A	0.4	2.9	0.61	0.72	0.61	44.8
12	R2	All MCs	36	0.0	36	0.0	0.089	10.3	LOS B	0.4	2.9	0.61	0.72	0.61	40.4
Approach			72	0.0	72	0.0	0.089	7.6	LOS A	0.4	2.9	0.61	0.72	0.61	42.8
All Vehicles			2033	2.8	2033	2.8	0.339	3.8	LOS A	2.1	14.9	0.17	0.35	0.17	51.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (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.

MOVEMENT SUMMARY

Site: 4 [Endeavour Blvd/Archer Close (Site Folder: 2037 PM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Archer Close
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	38	0.0	38	0.0	0.343	3.6	LOS A	1.9	13.4	0.13	0.34	0.13	36.2
2	T1	All MCs	1019	2.0	1019	2.0	0.343	3.6	LOS A	1.9	13.4	0.14	0.34	0.14	53.0
Approach			1057	1.9	1057	1.9	0.343	3.6	LOS A	1.9	13.4	0.14	0.34	0.14	52.6
North: Endeavour Blvd															
8	T1	All MCs	885	3.0	885	3.0	0.305	3.6	LOS A	2.1	15.1	0.18	0.34	0.18	52.0
9	R2	All MCs	38	0.0	38	0.0	0.305	9.4	LOS A	2.1	14.8	0.19	0.36	0.19	35.6
Approach			923	2.9	923	2.9	0.305	3.8	LOS A	2.1	15.1	0.18	0.34	0.18	51.4
West: Archer Close															
10	L2	All MCs	38	0.0	38	0.0	0.094	4.9	LOS A	0.4	3.1	0.61	0.72	0.61	44.7
12	R2	All MCs	38	0.0	38	0.0	0.094	10.4	LOS B	0.4	3.1	0.61	0.72	0.61	40.4
Approach			76	0.0	76	0.0	0.094	7.6	LOS A	0.4	3.1	0.61	0.72	0.61	42.7
All Vehicles			2056	2.3	2056	2.3	0.343	3.8	LOS A	2.1	15.1	0.18	0.36	0.18	51.8

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

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MOVEMENT SUMMARY

Site: 4 [Endeavour Blvd/Archer Close (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Archer Close
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	38	0.0	38	0.0	0.453	4.3	LOS A	2.8	20.1	0.35	0.43	0.35	34.7
2	T1	All MCs	1164	3.0	1164	3.0	0.453	4.4	LOS A	2.8	20.1	0.36	0.43	0.36	51.3
Approach			1202	2.9	1202	2.9	0.453	4.4	LOS A	2.8	20.1	0.36	0.43	0.36	50.9
North: Endeavour Blvd															
8	T1	All MCs	1042	3.0	1042	3.0	0.397	3.6	LOS A	3.2	22.8	0.21	0.38	0.21	51.2
9	R2	All MCs	38	0.0	38	0.0	0.397	9.5	LOS A	3.1	22.1	0.22	0.45	0.22	31.5
9u	U	All MCs	131	0.0	131	0.0	0.397	11.9	LOS B	3.1	22.1	0.22	0.45	0.22	50.3
Approach			1211	2.6	1211	2.6	0.397	4.7	LOS A	3.2	22.8	0.21	0.39	0.21	50.4
West: Archer Close															
10	L2	All MCs	38	0.0	38	0.0	0.115	6.0	LOS A	0.6	4.1	0.71	0.78	0.71	43.3
12	R2	All MCs	38	0.0	38	0.0	0.115	11.5	LOS B	0.6	4.1	0.71	0.78	0.71	38.9
Approach			76	0.0	76	0.0	0.115	8.8	LOS A	0.6	4.1	0.71	0.78	0.71	41.3
All Vehicles			2488	2.7	2488	2.7	0.453	4.7	LOS A	3.2	22.8	0.30	0.42	0.30	50.5

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

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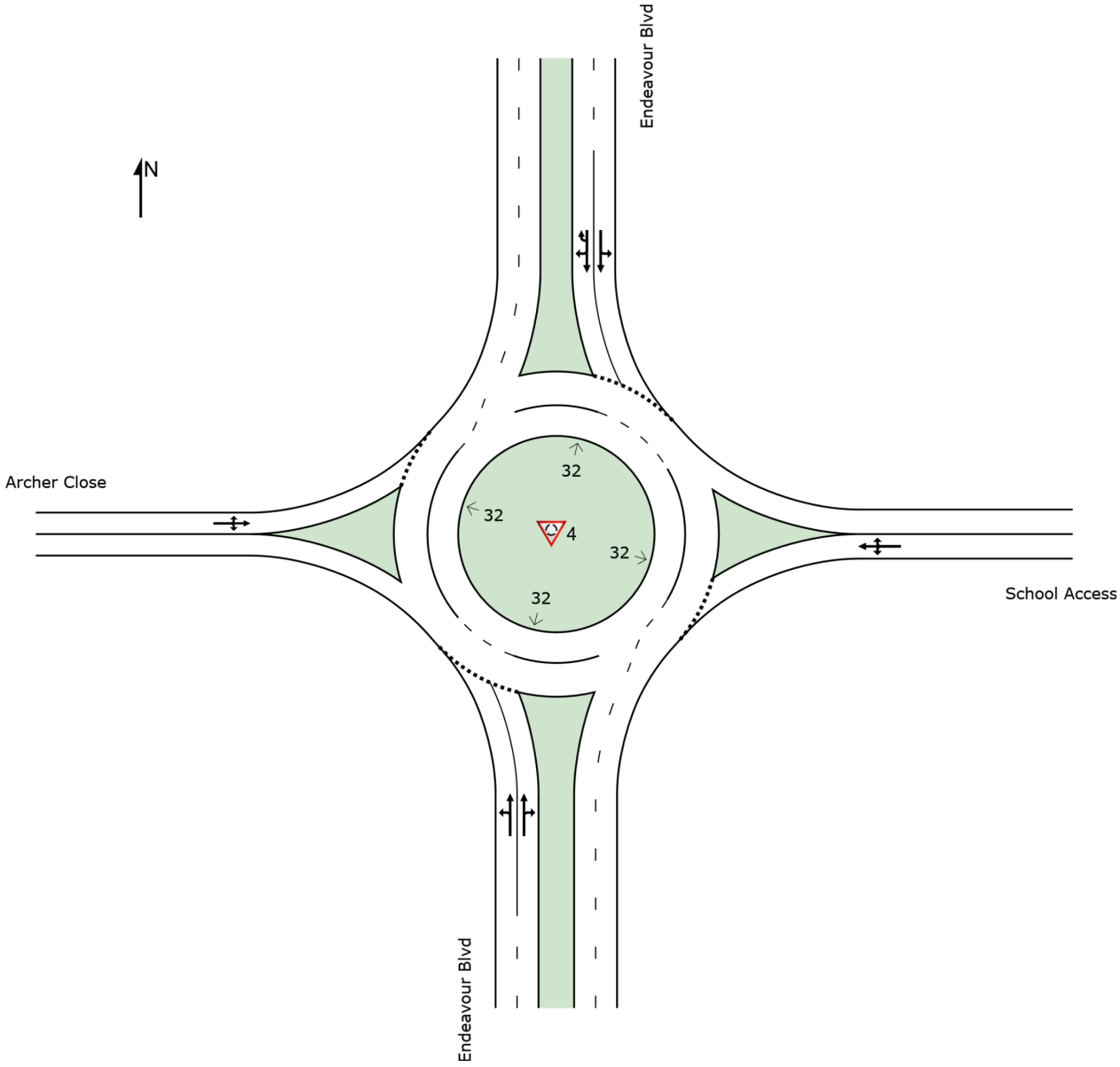
SITE LAYOUT

ARCHER CLOSE UPGRADE 1

Site: 4 [Endeavour Blvd/Archer Close - relocated 4 leg school access (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Endeavour Boulevard/Archer Close
Site Category: NA
Roundabout

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



MOVEMENT SUMMARY

Site: 4 [Endeavour Blvd/Archer Close - relocated 4 leg school access (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Archer Close
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	38	0.0	38	0.0	0.446	4.3	LOS A	2.9	20.9	0.37	0.43	0.37	42.3
2	T1	All MCs	1019	2.0	1019	2.0	0.446	4.4	LOS A	2.9	20.9	0.38	0.46	0.38	50.8
3	R2	All MCs	118	0.0	118	0.0	0.446	10.3	LOS B	2.8	20.1	0.39	0.50	0.39	47.2
Approach			1175	1.7	1175	1.7	0.446	5.0	LOS A	2.9	20.9	0.38	0.46	0.38	50.2
East: School Access															
4	L2	All MCs	43	0.0	43	0.0	0.224	6.2	LOS A	1.0	6.7	0.62	0.79	0.62	43.6
5	T1	All MCs	1	0.0	1	0.0	0.224	6.3	LOS A	1.0	6.7	0.62	0.79	0.62	26.1
6	R2	All MCs	131	0.0	131	0.0	0.224	12.1	LOS B	1.0	6.7	0.62	0.79	0.62	42.3
Approach			175	0.0	175	0.0	0.224	10.6	LOS B	1.0	6.7	0.62	0.79	0.62	42.5
North: Endeavour Blvd															
7	L2	All MCs	83	0.0	83	0.0	0.379	4.2	LOS A	2.6	18.8	0.39	0.41	0.39	48.2
8	T1	All MCs	885	3.0	885	3.0	0.379	4.3	LOS A	2.6	18.8	0.39	0.42	0.39	50.9
9	R2	All MCs	38	0.0	38	0.0	0.379	10.1	LOS B	2.6	18.4	0.40	0.43	0.40	33.3
9u	U	All MCs	1	0.0	1	0.0	0.379	12.6	LOS B	2.6	18.4	0.40	0.43	0.40	49.1
Approach			1007	2.6	1007	2.6	0.379	4.5	LOS A	2.6	18.8	0.39	0.42	0.39	50.0
West: Archer Close															
10	L2	All MCs	38	0.0	38	0.0	0.117	7.4	LOS A	0.6	4.1	0.71	0.78	0.71	41.4
11	T1	All MCs	1	0.0	1	0.0	0.117	7.5	LOS A	0.6	4.1	0.71	0.78	0.71	36.5
12	R2	All MCs	38	0.0	38	0.0	0.117	13.4	LOS B	0.6	4.1	0.71	0.78	0.71	41.1
Approach			77	0.0	77	0.0	0.117	10.4	LOS B	0.6	4.1	0.71	0.78	0.71	41.2
All Vehicles			2434	1.9	2434	1.9	0.446	5.3	LOS A	2.9	20.9	0.41	0.48	0.41	49.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (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.

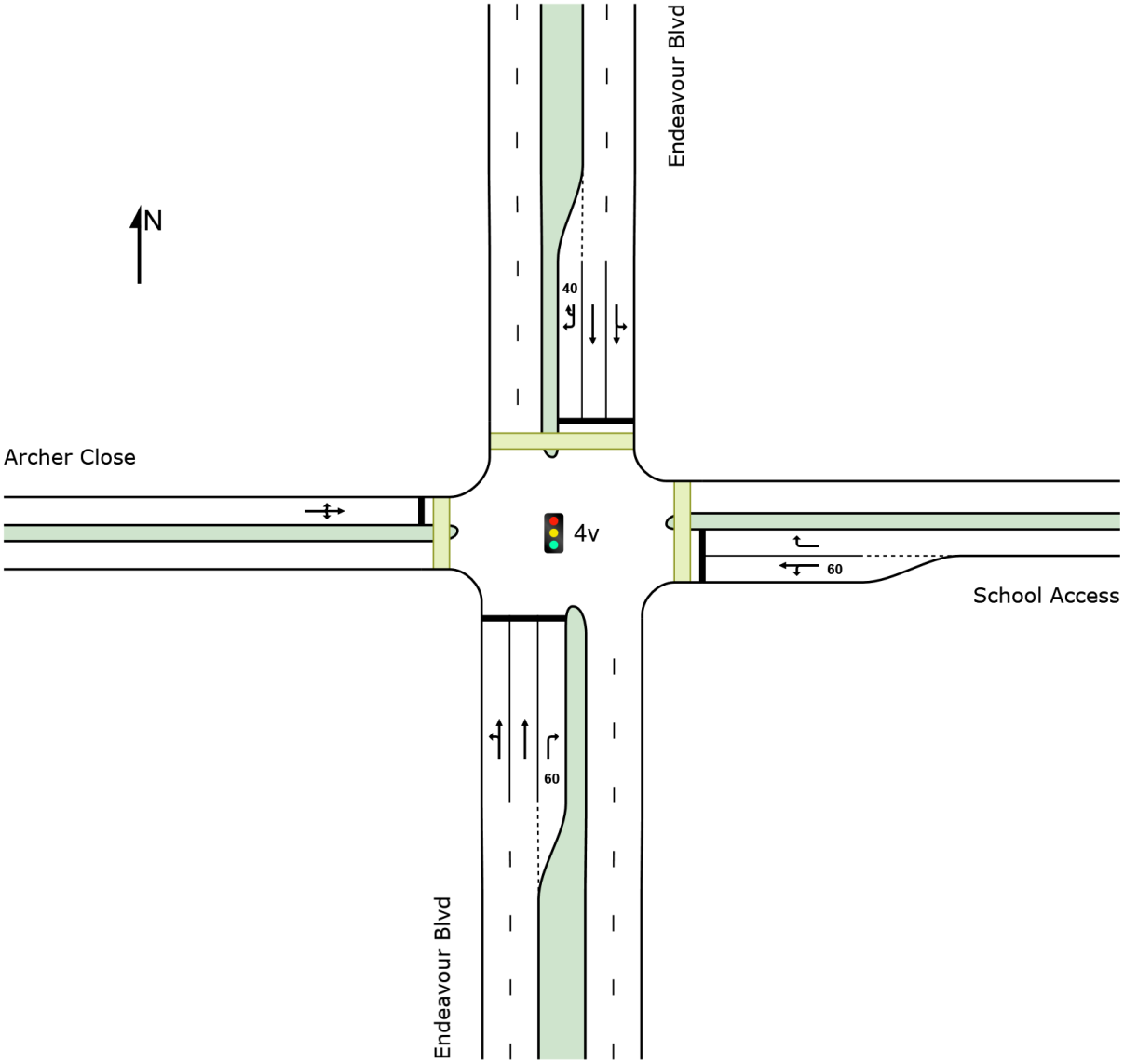
SITE LAYOUT

ARCHER CLOSE SIGNALS OPTION 1

Site: 4v [Endeavour Blvd/Archer Close - relocated 4 leg school access (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Endeavour Boulevard/Archer Close
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



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MOVEMENT SUMMARY

Site: 4v [Endeavour Blvd/Archer Close - relocated 4 leg school access (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Archer Close
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 128 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	38	0.0	38	0.0	*0.590	37.5	LOS D	24.3	172.9	0.78	0.71	0.78	21.0
2	T1	All MCs	1019	2.0	1019	2.0	0.590	29.5	LOS C	24.3	172.9	0.78	0.70	0.78	35.3
3	R2	All MCs	118	0.0	118	0.0	0.670	77.4	LOS E	7.5	52.5	1.00	0.83	1.06	17.2
Approach			1175	1.7	1175	1.7	0.670	34.6	LOS C	24.3	172.9	0.80	0.71	0.81	30.1
East: School Access															
4	L2	All MCs	43	0.0	43	0.0	0.113	49.0	LOS D	2.2	15.6	0.84	0.73	0.84	21.3
5	T1	All MCs	1	0.0	1	0.0	0.113	60.7	LOS E	2.2	15.6	0.84	0.73	0.84	14.3
6	R2	All MCs	131	0.0	131	0.0	0.818	74.7	LOS E	8.8	61.6	1.00	0.92	1.23	15.8
Approach			175	0.0	175	0.0	0.818	68.3	LOS E	8.8	61.6	0.96	0.87	1.13	16.9
North: Endeavour Blvd															
7	L2	All MCs	83	0.0	83	0.0	*0.498	19.2	LOS B	19.2	137.2	0.70	0.68	0.70	30.1
8	T1	All MCs	885	3.0	885	3.0	0.498	27.6	LOS C	19.2	137.2	0.69	0.64	0.69	37.5
9	R2	All MCs	38	0.0	38	0.0	*0.153	67.4	LOS E	2.2	15.2	0.91	0.73	0.91	14.8
9u	U	All MCs	1	0.0	1	0.0	0.153	68.7	LOS E	2.2	15.2	0.91	0.73	0.91	22.1
Approach			1007	2.6	1007	2.6	0.498	28.5	LOS C	19.2	137.2	0.70	0.65	0.70	33.0
West: Archer Close															
10	L2	All MCs	38	0.0	38	0.0	*0.592	75.9	LOS E	4.9	34.5	1.00	0.79	1.03	14.7
11	T1	All MCs	1	0.0	1	0.0	0.592	61.4	LOS E	4.9	34.5	1.00	0.79	1.03	10.7
12	R2	All MCs	38	0.0	38	0.0	0.592	66.9	LOS E	4.9	34.5	1.00	0.79	1.03	15.3
Approach			77	0.0	77	0.0	0.592	71.2	LOS E	4.9	34.5	1.00	0.79	1.03	14.9
All Vehicles			2434	1.9	2434	1.9	0.818	35.6	LOS D	24.3	172.9	0.78	0.70	0.79	29.2

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: School Access												

P2	Full	50	53	58.3	LOS E	0.2	0.2	0.96	0.96	212.1	200.0	0.94
North: Endeavour Blvd												
P3	Full	50	53	58.3	LOS E	0.2	0.2	0.96	0.96	212.1	200.0	0.94
West: Archer Close												
P4	Full	50	53	58.3	LOS E	0.2	0.2	0.96	0.96	212.1	200.0	0.94
All Pedestrians		0	158	58.3	LOS E	0.2	0.2	0.96	0.96	212.1	200.0	0.94

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

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PHASING SUMMARY

Site: 4v [Endeavour Blvd/Archer Close - relocated 4 leg school access (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Archer Close
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 128 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: lead lag right 120 - Copy
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E
Reference Phase: Phase A

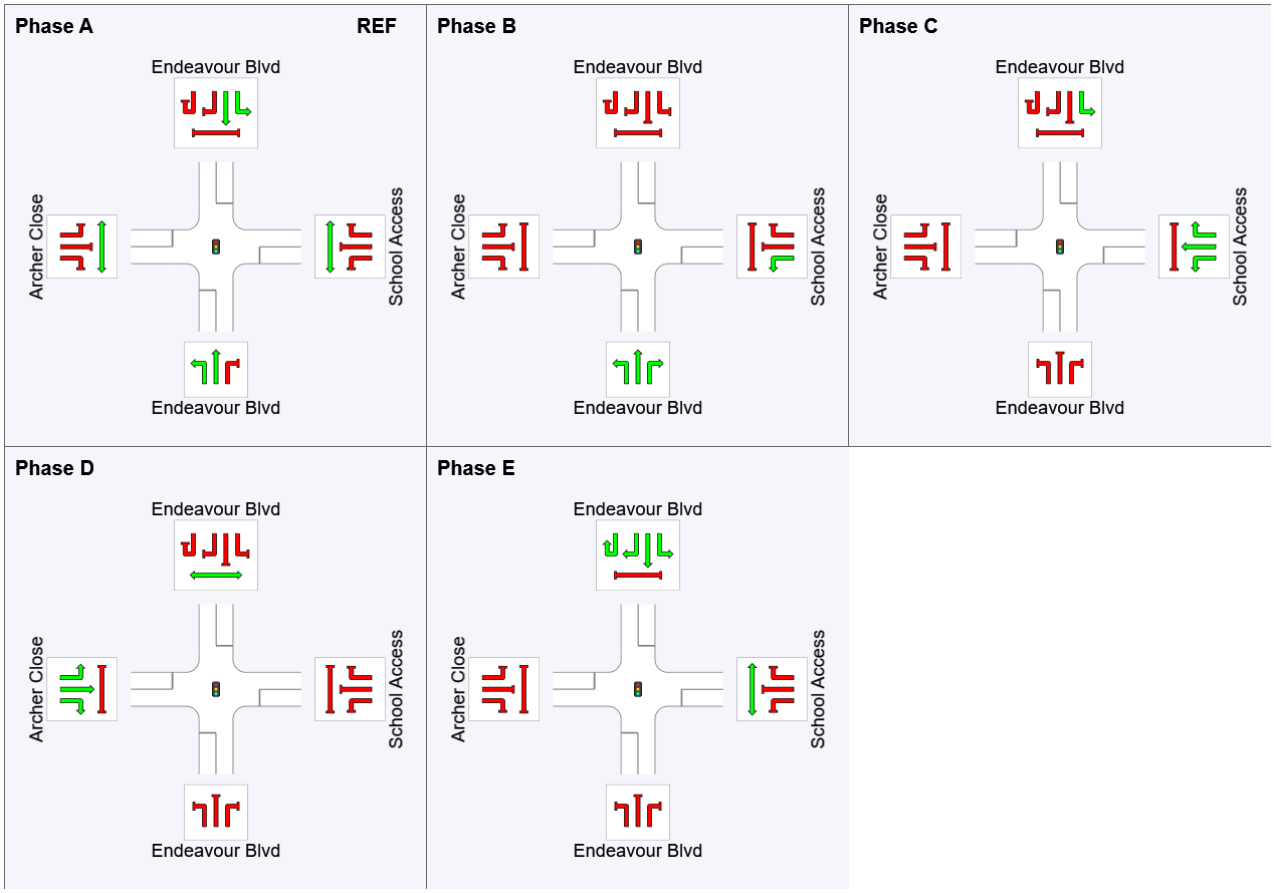
Phase Timing Summary

Phase	A	B	C	D	E
Phase Change Time (sec)	0	51	68	85	106
Green Time (sec)	45	12	11	15	18
Phase Time (sec)	50	18	17	19	24
Phase Split	39%	14%	13%	15%	19%
Phase Frequency (%)	83.4[2]	100.0	100.0	73.1[2]	100.0

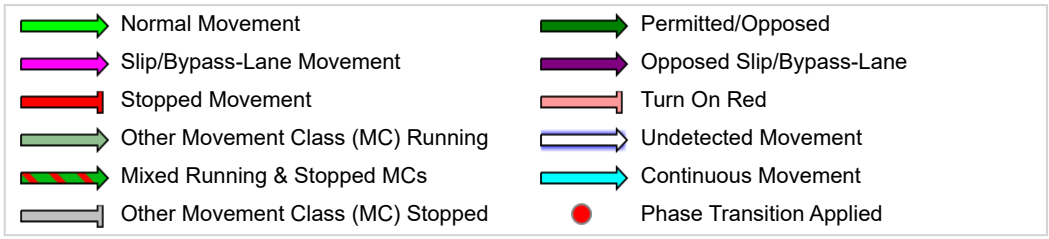
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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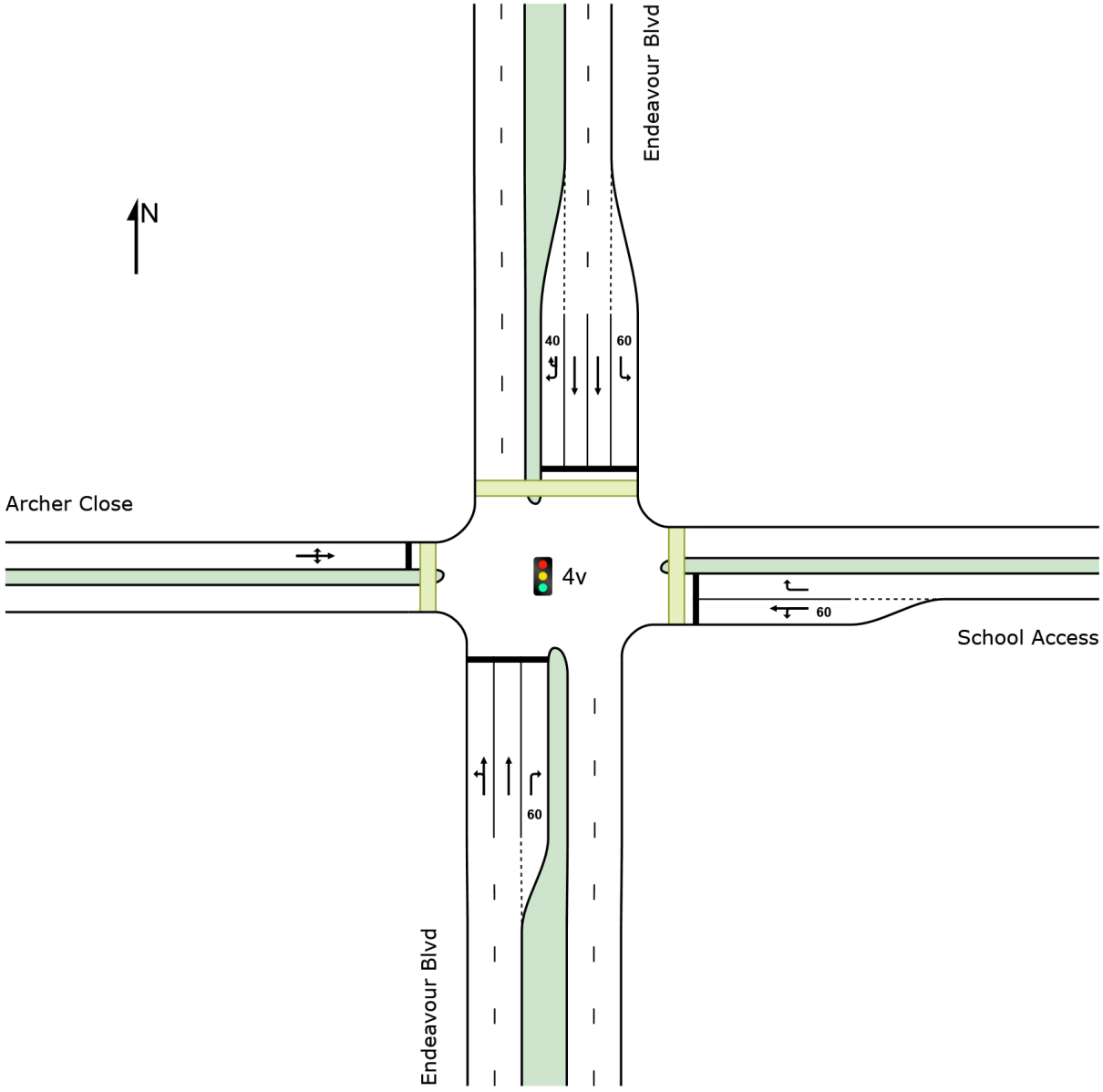
SITE LAYOUT

ARCHER CLOSE SIGNALS OPTION 2

Site: 4v [Endeavour Blvd/Archer Close - relocated 4 leg school access - north left + no south ped xing (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Endeavour Boulevard/Archer Close
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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MOVEMENT SUMMARY

Site: 4v [Endeavour Blvd/Archer Close - relocated 4 leg school access - north left + no south ped xing (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Archer Close
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 127 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	38	0.0	38	0.0	* 0.574	36.0	LOS D	23.5	167.1	0.77	0.69	0.77	21.4
2	T1	All MCs	1019	2.0	1019	2.0	0.574	27.7	LOS C	23.5	167.1	0.76	0.69	0.76	36.1
3	R2	All MCs	118	0.0	118	0.0	0.665	75.9	LOS E	7.4	52.0	1.00	0.83	1.06	17.3
Approach			1175	1.7	1175	1.7	0.665	32.8	LOS C	23.5	167.1	0.79	0.70	0.79	30.9
East: School Access															
4	L2	All MCs	43	0.0	43	0.0	0.112	48.4	LOS D	2.2	15.4	0.84	0.73	0.84	21.4
5	T1	All MCs	1	0.0	1	0.0	0.112	60.1	LOS E	2.2	15.4	0.84	0.73	0.84	14.4
6	R2	All MCs	131	0.0	131	0.0	0.811	73.9	LOS E	8.7	60.9	1.00	0.92	1.22	16.0
Approach			175	0.0	175	0.0	0.811	67.5	LOS E	8.7	60.9	0.96	0.87	1.13	17.1
North: Endeavour Blvd															
7	L2	All MCs	83	0.0	83	0.0	* 0.087	17.0	LOS B	1.4	9.6	0.54	0.69	0.54	37.0
8	T1	All MCs	885	3.0	885	3.0	0.459	25.0	LOS C	16.9	121.7	0.67	0.59	0.67	39.1
9	R2	All MCs	38	0.0	38	0.0	* 0.171	67.7	LOS E	2.2	15.4	0.93	0.73	0.93	14.5
9u	U	All MCs	1	0.0	1	0.0	0.171	69.0	LOS E	2.2	15.4	0.93	0.73	0.93	21.7
Approach			1007	2.6	1007	2.6	0.459	26.0	LOS C	16.9	121.7	0.67	0.61	0.67	34.3
West: Archer Close															
10	L2	All MCs	38	0.0	38	0.0	* 0.587	75.2	LOS E	4.9	34.2	1.00	0.79	1.03	14.8
11	T1	All MCs	1	0.0	1	0.0	0.587	60.7	LOS E	4.9	34.2	1.00	0.79	1.03	10.8
12	R2	All MCs	38	0.0	38	0.0	0.587	66.3	LOS E	4.9	34.2	1.00	0.79	1.03	15.4
Approach			77	0.0	77	0.0	0.587	70.6	LOS E	4.9	34.2	1.00	0.79	1.03	15.0
All Vehicles			2434	1.9	2434	1.9	0.811	33.7	LOS C	23.5	167.1	0.76	0.68	0.77	30.1

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: School Access												

P2	Full	50	53	57.8	LOS E	0.2	0.2	0.95	0.95	211.6	200.0	0.95
North: Endeavour Blvd												
P3	Full	50	53	57.8	LOS E	0.2	0.2	0.95	0.95	211.6	200.0	0.95
West: Archer Close												
P4	Full	50	53	57.8	LOS E	0.2	0.2	0.95	0.95	211.6	200.0	0.95
All Pedestrians		0	158	57.8	LOS E	0.2	0.2	0.95	0.95	211.6	200.0	0.95

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

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PHASING SUMMARY

Site: 4v [Endeavour Blvd/Archer Close - relocated 4 leg school access - north left + no south ped xing (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Archer Close
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 127 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: lead lag right 113
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E
Reference Phase: Phase A

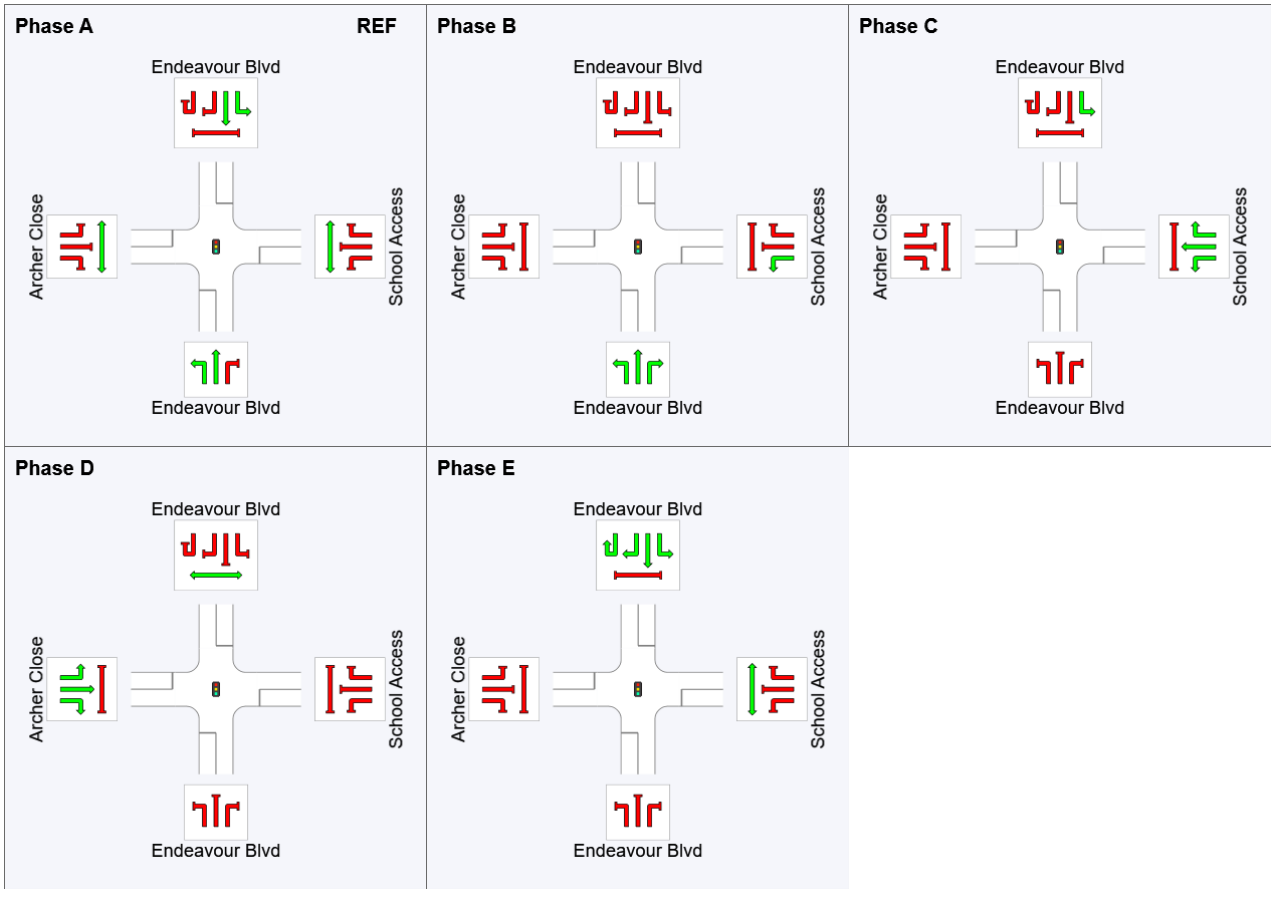
Phase Timing Summary

Phase	A	B	C	D	E
Phase Change Time (sec)	0	52	69	86	107
Green Time (sec)	46	12	11	15	16
Phase Time (sec)	51	18	17	19	22
Phase Split	40%	14%	13%	15%	17%
Phase Frequency (%)	83.2[2]	100.0	100.0	65.5[2]	100.0

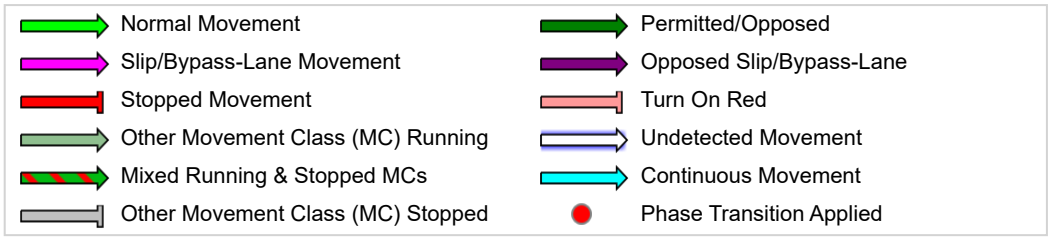
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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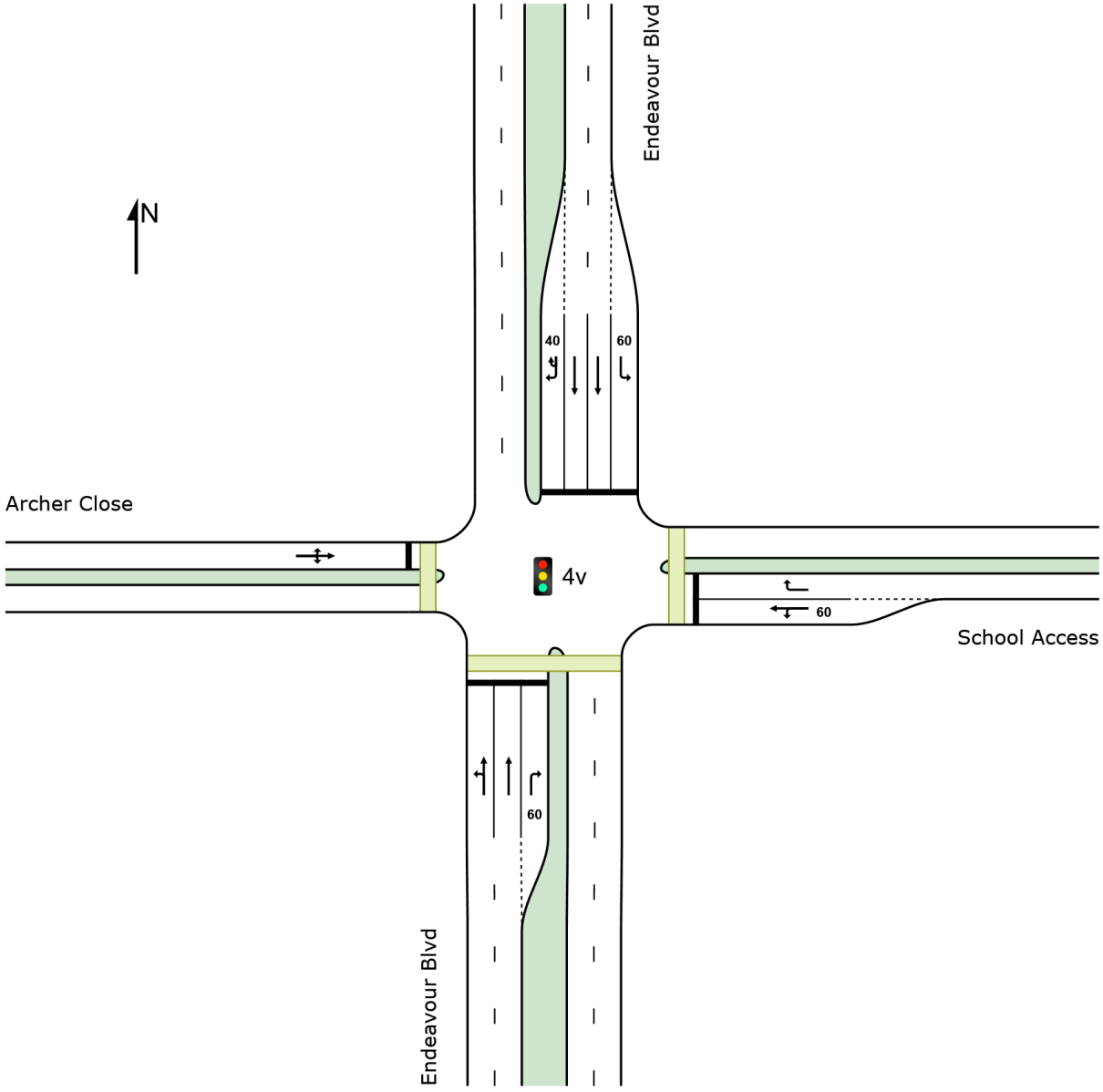
SITE LAYOUT

ARCHER CLOSE SIGNALS OPTION 3

Site: 4v [Endeavour Blvd/Archer Close - relocated 4 leg school access - north left + no north ped xing (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Endeavour Boulevard/Archer Close
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated

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MOVEMENT SUMMARY

Site: 4v [Endeavour Blvd/Archer Close - relocated 4 leg school access - north left + no north ped xing (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Archer Close
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 126 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	38	0.0	38	0.0	* 0.531	21.8	LOS C	15.6	112.1	0.53	0.49	0.53	25.7
2	T1	All MCs	1019	3.0	1019	3.0	0.531	12.8	LOS B	15.6	112.1	0.52	0.48	0.52	44.6
3	R2	All MCs	118	0.0	118	0.0	0.792	71.3	LOS E	7.6	53.5	1.00	0.88	1.16	17.0
Approach			1175	2.6	1175	2.6	0.792	19.0	LOS B	15.6	112.1	0.57	0.52	0.59	38.6
East: School Access															
4	L2	All MCs	43	0.0	43	0.0	0.127	51.0	LOS D	2.3	15.8	0.87	0.73	0.87	20.8
5	T1	All MCs	1	0.0	1	0.0	0.127	52.9	LOS D	2.3	15.8	0.87	0.73	0.87	13.9
6	R2	All MCs	131	0.0	131	0.0	0.553	62.8	LOS E	7.7	54.2	0.99	0.80	0.99	18.0
Approach			175	0.0	175	0.0	0.553	59.8	LOS E	7.7	54.2	0.96	0.78	0.96	18.6
North: Endeavour Blvd															
7	L2	All MCs	83	0.0	83	0.0	* 0.075	12.7	LOS B	1.2	8.4	0.45	0.67	0.45	39.4
8	T1	All MCs	885	3.0	885	3.0	0.426	20.1	LOS C	15.5	111.4	0.62	0.55	0.62	41.3
9	R2	All MCs	38	0.0	38	0.0	* 0.181	66.2	LOS E	2.2	15.4	0.94	0.73	0.94	14.4
9u	U	All MCs	1	0.0	1	0.0	0.181	67.5	LOS E	2.2	15.4	0.94	0.73	0.94	21.6
Approach			1007	2.6	1007	2.6	0.426	21.2	LOS C	15.5	111.4	0.62	0.57	0.62	37.1
West: Archer Close															
10	L2	All MCs	38	0.0	38	0.0	0.737	74.7	LOS E	5.1	35.5	1.00	0.85	1.18	14.2
11	T1	All MCs	1	0.0	1	0.0	* 0.737	69.2	LOS E	5.1	35.5	1.00	0.85	1.18	10.3
12	R2	All MCs	38	0.0	38	0.0	0.737	74.7	LOS E	5.1	35.5	1.00	0.85	1.18	14.7
Approach			77	0.0	77	0.0	0.737	74.6	LOS E	5.1	35.5	1.00	0.85	1.18	14.4
All Vehicles			2434	2.3	2434	2.3	0.792	24.6	LOS C	15.6	112.1	0.63	0.57	0.64	34.6

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Endeavour Blvd												

P1	Full	50	53	57.3	LOS E	0.2	0.2	0.95	0.95	211.1	200.0	0.95
East: School Access												
P2	Full	50	53	57.3	LOS E	0.2	0.2	0.95	0.95	211.1	200.0	0.95
West: Archer Close												
P4	Full	50	53	57.3	LOS E	0.2	0.2	0.95	0.95	211.1	200.0	0.95
All Pedestrians		0	158	57.3	LOS E	0.2	0.2	0.95	0.95	211.1	200.0	0.95

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

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PHASING SUMMARY

Site: 4v [Endeavour Blvd/Archer Close - relocated 4 leg school access - north left + no north ped xing (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Archer Close
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 126 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: lead lag right 113
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E
Reference Phase: Phase A

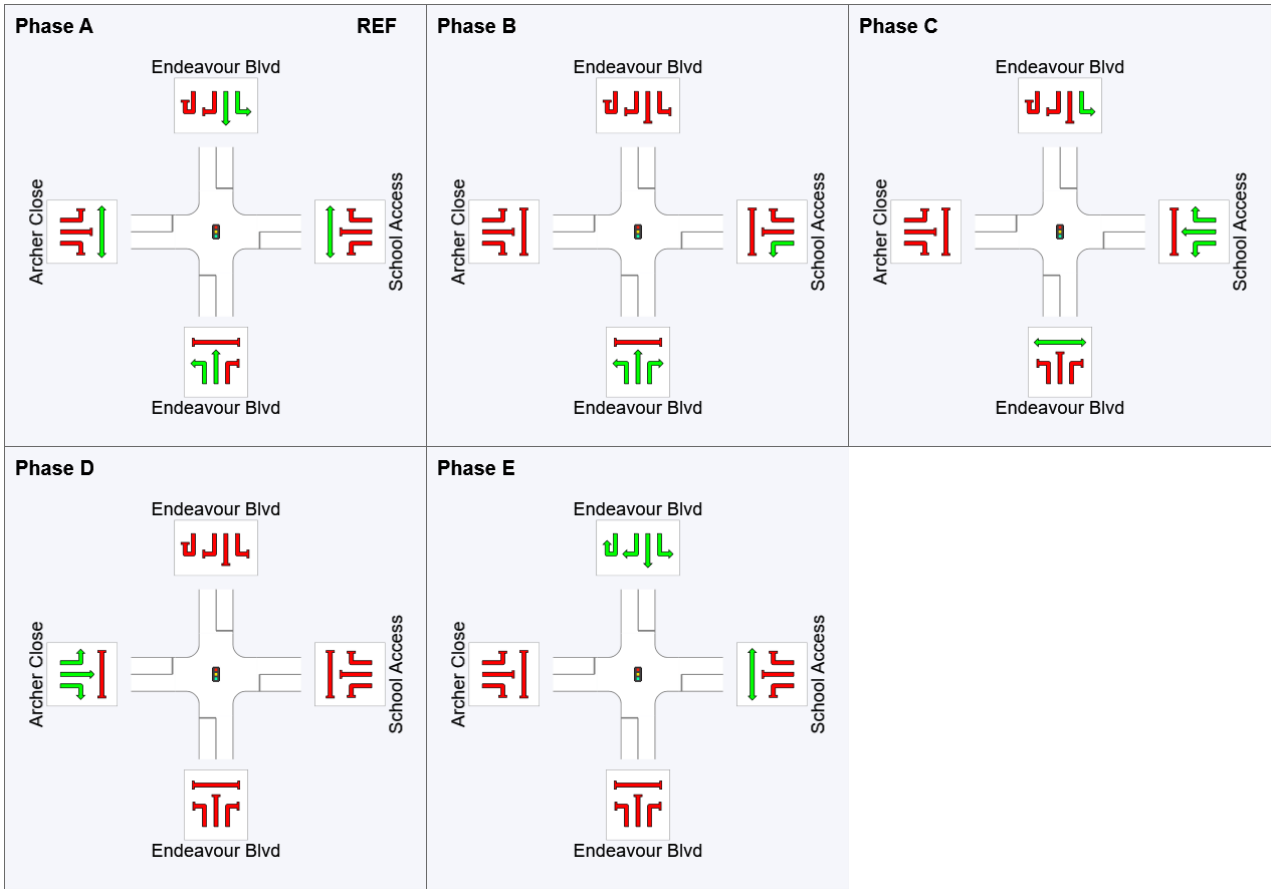
Phase Timing Summary

Phase	A	B	C	D	E
Phase Change Time (sec)	0	57	72	94	105
Green Time (sec)	51	10	16	7	15
Phase Time (sec)	56	16	20	13	21
Phase Split	44%	13%	16%	10%	17%
Phase Frequency (%)	82.9[2]	100.0	71.4[2]	100.0	100.0

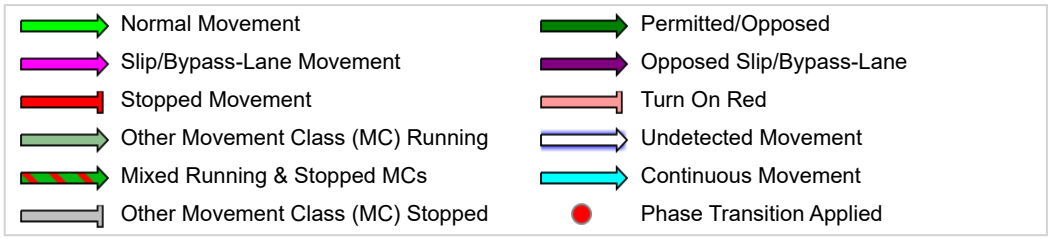
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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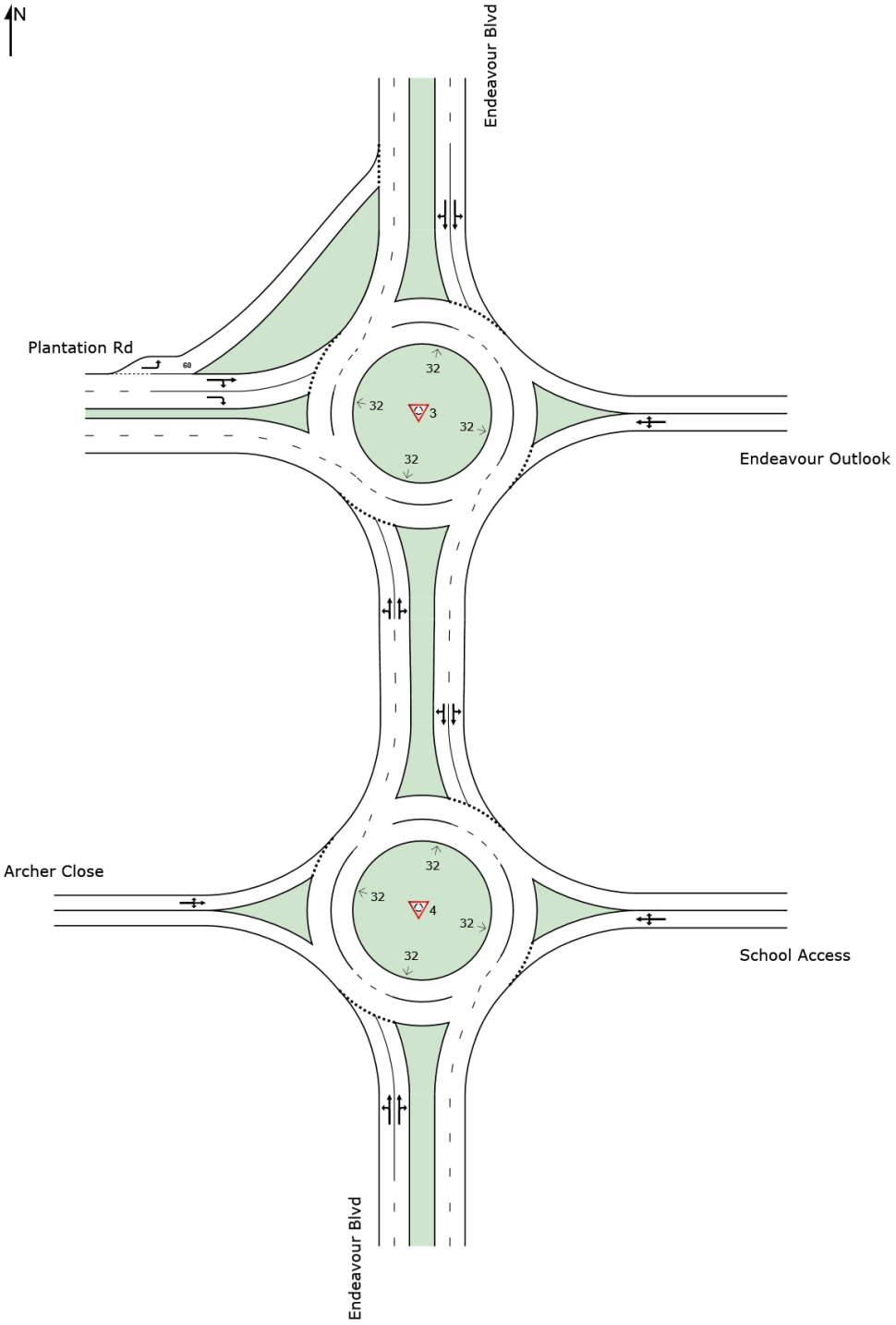
NETWORK LAYOUT

PLANTATION & ARCHER NO MIDBLOCK CROSSING

Network: N101 [2037 PM no midblock crossing (Network Folder: General)]

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**
3	NA	Endeavour Blvd/Plantation Rd - left slip + relocated Archer roundabout
4	NA	Endeavour Blvd/Archer Close - relocated 4 leg school access

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Organisation: TTM CONSULTING PTY LTD | Licence: NETWORK / Enterprise Level 5 | Created: Friday, 28 August 2026 2:39:34 PM
Project: C:\Users\Mark.Hanson\OneDrive - Colliers International\2021 Synergy Projects - 21BRT0438 North Lakes School\7 - Reports\RFIs\MH Update\21BRT0438 SA02_B Network 2026_MH.sip9

MOVEMENT SUMMARY

Site: 3 [Endeavour Blvd/Plantation Rd - left slip + relocated Archer roundabout (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Network: N101 [2037 PM no midblock crossing (Network Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Endeavour Boulevard/Plantation Road
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
4	L2	All MCs	512	1.0	512	1.0	0.576	5.4	LOS A	4.9	34.8	0.68	0.57	0.69	49.0
5	T1	All MCs	788	4.0	788	4.0	0.576	5.9	LOS A	4.9	35.5	0.70	0.59	0.72	48.0
6	R2	All MCs	4	0.0	4	0.0	0.576	15.7	LOS B	4.9	35.5	0.70	0.59	0.73	39.3
6u	U	All MCs	1	0.0	1	0.0	0.576	14.2	LOS B	4.9	35.5	0.70	0.59	0.73	44.7
Approach			1305	2.8	1305	2.8	0.576	5.8	LOS A	4.9	35.5	0.69	0.58	0.71	48.4
East: Endeavour Outlook															
7	L2	All MCs	7	0.0	7	0.0	0.023	3.6	LOS A	0.1	0.7	0.67	0.58	0.67	16.5
8	T1	All MCs	3	0.0	3	0.0	0.023	3.6	LOS A	0.1	0.7	0.67	0.58	0.67	32.5
9	R2	All MCs	4	0.0	4	0.0	0.023	3.6	LOS A	0.1	0.7	0.67	0.58	0.67	30.6
Approach			15	0.0	15	0.0	0.023	3.6	LOS A	0.1	0.7	0.67	0.58	0.67	26.1
North: Endeavour Blvd															
10	L2	All MCs	12	0.0	12	0.0	0.458	7.8	LOS A	2.9	20.8	0.62	0.51	0.62	34.6
11	T1	All MCs	660	3.0	660	3.0	0.458	5.3	LOS A	2.9	20.8	0.63	0.55	0.63	39.4
12	R2	All MCs	306	2.0	306	2.0	0.458	11.5	LOS B	2.8	20.3	0.64	0.68	0.65	42.9
Approach			978	2.7	978	2.7	0.458	7.3	LOS A	2.9	20.8	0.63	0.59	0.64	40.9
West: Plantation Rd															
1	L2	All MCs	347	1.0	347	1.0	0.275	5.2	LOS A	1.7	11.9	0.67	0.63	0.67	46.9
2	T1	All MCs	7	0.0	7	0.0	0.198	11.2	LOS B	1.2	8.3	0.65	0.71	0.65	33.1
3	R2	All MCs	415	3.0	415	3.0	0.198	11.2	LOS B	1.2	8.3	0.65	0.73	0.65	36.7
Approach			769	2.1	769	2.1	0.275	8.5	LOS A	1.7	11.9	0.66	0.68	0.66	41.6
All Vehicles			3067	2.6	3067	2.6	0.576	6.9	LOS A	4.9	35.5	0.66	0.61	0.67	44.8

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

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MOVEMENT SUMMARY

Site: 4 [Endeavour Blvd/Archer Close - relocated 4 leg school access (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [2037 PM no midblock crossing (Network Folder: General)]

Endeavour Boulevard/Archer Close
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	38	0.0	38	0.0	0.446	4.3	LOS A	3.3	23.3	0.44	0.42	0.44	41.8
2	T1	All MCs	1019	2.0	1019	2.0	0.446	4.4	LOS A	3.3	23.3	0.45	0.45	0.45	45.7
3	R2	All MCs	118	0.0	118	0.0	0.446	10.3	LOS B	3.2	22.8	0.46	0.48	0.46	46.7
Approach			1175	1.7	1175	1.7	0.446	5.0	LOS A	3.3	23.3	0.45	0.45	0.45	45.7
East: School Access															
4	L2	All MCs	43	0.0	43	0.0	0.224	6.2	LOS A	1.0	6.7	0.62	0.79	0.62	43.6
5	T1	All MCs	1	0.0	1	0.0	0.224	6.3	LOS A	1.0	6.7	0.62	0.79	0.62	26.1
6	R2	All MCs	131	0.0	131	0.0	0.224	12.1	LOS B	1.0	6.7	0.62	0.79	0.62	32.8
Approach			175	0.0	175	0.0	0.224	10.6	LOS B	1.0	6.7	0.62	0.79	0.62	36.8
North: Endeavour Blvd															
7	L2	All MCs	83	0.0	83	0.0	0.381	4.2	LOS A	2.5	18.0	0.39	0.41	0.39	48.2
8	T1	All MCs	885	3.0	885	3.0	0.381	4.2	LOS A	2.5	18.0	0.40	0.42	0.40	50.9
9	R2	All MCs	38	0.0	38	0.0	0.381	10.1	LOS B	2.5	17.7	0.40	0.44	0.40	33.3
9u	U	All MCs	1	0.0	1	0.0	0.381	12.6	LOS B	2.5	17.7	0.40	0.44	0.40	45.6
Approach			1007	2.6	1007	2.6	0.381	4.5	LOS A	2.5	18.0	0.40	0.42	0.40	50.0
West: Archer Close															
10	L2	All MCs	38	0.0	38	0.0	0.129	7.5	LOS A	0.6	4.1	0.71	0.82	0.71	26.6
11	T1	All MCs	1	0.0	1	0.0	0.129	7.6	LOS A	0.6	4.1	0.71	0.82	0.71	36.4
12	R2	All MCs	38	0.0	38	0.0	0.129	13.6	LOS B	0.6	4.1	0.71	0.82	0.71	41.0
Approach			77	0.0	77	0.0	0.129	10.5	LOS B	0.6	4.1	0.71	0.82	0.71	36.3
All Vehicles			2434	1.9	2434	1.9	0.446	5.3	LOS A	3.3	23.3	0.45	0.48	0.45	47.2

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

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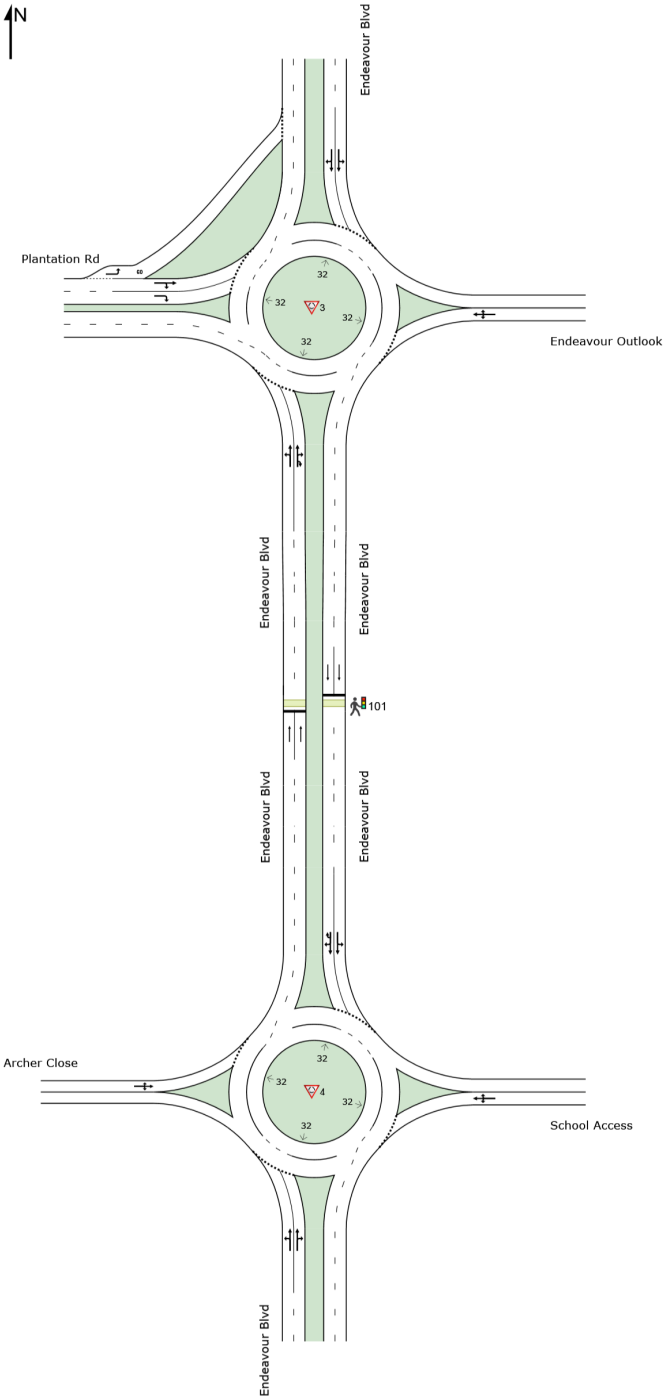
NETWORK LAYOUT

PLANTATION & ARCHER +MIDBLOCK CROSSING

Network: N101 [2037 PM with midblock crossing staged (Network Folder: General)]

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**
3	NA	Endeavour Blvd/Plantation Rd - left slip + relocated Archer roundabout
101	NA	Endeavour Blvd midblock Crossing staged
4	NA	Endeavour Blvd/Archer Close - relocated 4 leg school access midblock xing

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MOVEMENT SUMMARY

Site: 3 [Endeavour Blvd/Plantation Rd - left slip + relocated Archer roundabout (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [2037 PM with midblock crossing staged (Network Folder: General)]

Endeavour Boulevard/Plantation Road
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
4	L2	All MCs	512	1.0	512	1.0	0.576	5.4	LOS A	4.5	32.1	0.62	0.59	0.62	49.4
5	T1	All MCs	788	4.0	788	4.0	0.576	5.9	LOS A	4.5	32.7	0.63	0.61	0.65	48.4
6	R2	All MCs	4	0.0	4	0.0	0.576	15.7	LOS B	4.5	32.7	0.64	0.61	0.66	39.7
6u	U	All MCs	1	0.0	1	0.0	0.576	14.2	LOS B	4.5	32.7	0.64	0.61	0.66	45.4
Approach			1305	2.8	1305	2.8	0.576	5.8	LOS A	4.5	32.7	0.63	0.60	0.64	48.8
East: Endeavour Outlook															
7	L2	All MCs	7	0.0	7	0.0	0.023	3.6	LOS A	0.1	0.7	0.67	0.57	0.67	16.5
8	T1	All MCs	3	0.0	3	0.0	0.023	3.6	LOS A	0.1	0.7	0.67	0.57	0.67	32.5
9	R2	All MCs	4	0.0	4	0.0	0.023	3.6	LOS A	0.1	0.7	0.67	0.57	0.67	30.6
Approach			15	0.0	15	0.0	0.023	3.6	LOS A	0.1	0.7	0.67	0.57	0.67	26.1
North: Endeavour Blvd															
10	L2	All MCs	12	0.0	12	0.0	0.458	7.8	LOS A	2.9	20.8	0.62	0.51	0.62	34.6
11	T1	All MCs	660	3.0	660	3.0	0.458	5.3	LOS A	2.9	20.8	0.63	0.55	0.63	39.4
12	R2	All MCs	306	2.0	306	2.0	0.458	11.5	LOS B	2.8	20.3	0.64	0.68	0.65	42.9
Approach			978	2.7	978	2.7	0.458	7.3	LOS A	2.9	20.8	0.63	0.59	0.64	40.9
West: Plantation Rd															
1	L2	All MCs	347	1.0	347	1.0	0.270	5.3	LOS A	1.7	12.1	0.67	0.63	0.67	46.9
2	T1	All MCs	7	0.0	7	0.0	0.194	11.3	LOS B	1.2	8.4	0.65	0.70	0.65	33.1
3	R2	All MCs	415	3.0	415	3.0	0.194	11.3	LOS B	1.2	8.4	0.65	0.72	0.65	36.7
Approach			769	2.1	769	2.1	0.270	8.6	LOS A	1.7	12.1	0.66	0.68	0.66	41.6
All Vehicles			3067	2.6	3067	2.6	0.576	6.9	LOS A	4.5	32.7	0.64	0.62	0.64	45.0

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

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MOVEMENT SUMMARY

Site: 4 [Endeavour Blvd/Archer Close - relocated 4 leg school access midblock xing (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [2037 PM with midblock crossing staged (Network Folder: General)]

Endeavour Boulevard/Archer Close
Site Category: NA
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
1	L2	All MCs	38	0.0	38	0.0	0.445	4.3	LOS A	3.3	23.7	0.45	0.42	0.45	46.8
2	T1	All MCs	1019	2.0	1019	2.0	0.445	4.4	LOS A	3.3	23.7	0.45	0.45	0.45	45.7
3	R2	All MCs	118	0.0	118	0.0	0.445	10.3	LOS B	3.3	23.1	0.46	0.48	0.46	46.7
Approach			1175	1.7	1175	1.7	0.445	5.0	LOS A	3.3	23.7	0.45	0.45	0.45	45.9
East: School Access															
4	L2	All MCs	43	0.0	43	0.0	0.211	6.2	LOS A	1.0	6.9	0.62	0.75	0.62	43.6
5	T1	All MCs	1	0.0	1	0.0	0.211	6.2	LOS A	1.0	6.9	0.62	0.75	0.62	25.0
6	R2	All MCs	131	0.0	131	0.0	0.211	12.1	LOS B	1.0	6.9	0.62	0.75	0.62	32.8
Approach			175	0.0	175	0.0	0.211	10.6	LOS B	1.0	6.9	0.62	0.75	0.62	36.8
North: Endeavour Blvd															
7	L2	All MCs	83	0.0	83	0.0	0.381	3.6	LOS A	2.2	15.9	0.33	0.42	0.33	43.7
8	T1	All MCs	885	3.0	885	3.0	0.381	3.8	LOS A	2.2	15.9	0.34	0.44	0.34	48.9
9	R2	All MCs	38	0.0	38	0.0	0.381	9.5	LOS A	2.2	15.6	0.34	0.45	0.34	30.4
9u	U	All MCs	1	0.0	1	0.0	0.381	11.9	LOS B	2.2	15.6	0.34	0.45	0.34	35.2
Approach			1007	2.6	1007	2.6	0.381	4.0	LOS A	2.2	15.9	0.34	0.44	0.34	48.0
West: Archer Close															
10	L2	All MCs	38	0.0	38	0.0	0.129	7.5	LOS A	0.6	4.1	0.71	0.82	0.71	26.6
11	T1	All MCs	1	0.0	1	0.0	0.129	7.6	LOS A	0.6	4.1	0.71	0.82	0.71	36.4
12	R2	All MCs	38	0.0	38	0.0	0.129	13.6	LOS B	0.6	4.1	0.71	0.82	0.71	41.0
Approach			77	0.0	77	0.0	0.129	10.5	LOS B	0.6	4.1	0.71	0.82	0.71	36.3
All Vehicles			2434	1.9	2434	1.9	0.445	5.1	LOS A	3.3	23.7	0.43	0.48	0.43	45.9

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

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MOVEMENT SUMMARY

Site: 101 [Endeavour Blvd midblock Crossing staged (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [2037 PM with midblock crossing staged (Network Folder: General)]

New Site
Site Category: (None)
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Endeavour Blvd															
2	T1	All MCs	1304	3.0	1304	3.0	* 0.482	4.4	LOS A	8.6	62.0	0.49	0.44	0.49	32.3
Approach			1304	3.0	1304	3.0	0.482	4.4	LOS A	8.6	62.0	0.49	0.44	0.49	32.3
North: Endeavour Blvd															
8	T1	All MCs	1082	3.0	1082	3.0	0.400	4.0	LOS A	6.6	47.3	0.45	0.40	0.45	46.2
Approach			1082	3.0	1082	3.0	0.400	4.0	LOS A	6.6	47.3	0.45	0.40	0.45	46.2
All Vehicles			2386	3.0	2386	3.0	0.482	4.2	LOS A	8.6	62.0	0.47	0.42	0.47	40.7

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Endeavour Blvd											
P11	Stage 1	105	24.4	LOS C	0.2	0.2	0.90	0.90	178.3	200.0	1.12
P12	Stage 2	105	24.4	LOS C	0.2	0.2	0.90	0.90	178.3	200.0	1.12
All Pedestrians		211	24.4	LOS C	0.2	0.2	0.90	0.90	178.3	200.0	1.12

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

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PHASING SUMMARY

Site: 101 [Endeavour Blvd midblock Crossing staged (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [2037 PM with midblock crossing staged (Network Folder: General)]

New Site
Site Category: (None)
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: short phases staged
Input Phase Sequence: A, P1, P2
Output Phase Sequence: A, P1, P2
Reference Phase: Phase A
Offset: NA

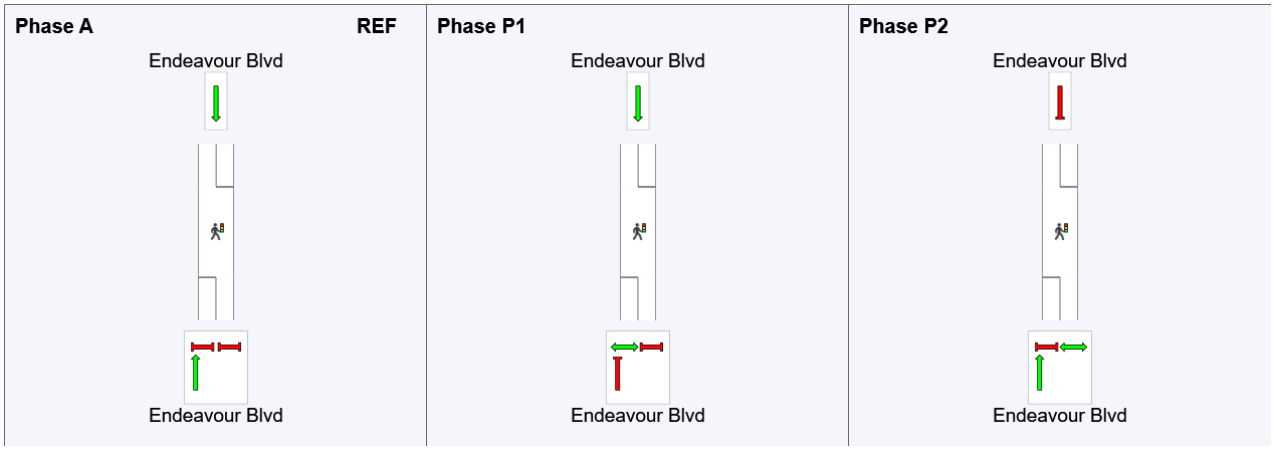
Phase Timing Summary

Phase	A	P1	P2
Phase Change Time (sec)	0	36	48
Green Time (sec)	30	6	6
Phase Time (sec)	36	12	12
Phase Split	60%	20%	20%
Phase Frequency (%)	100.0[1]	100.0[1]	100.0[1]

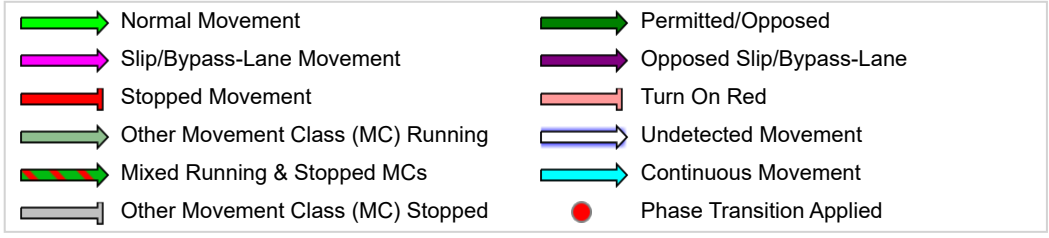
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

1 Phase Frequency has been given with User-Specified Phase Times.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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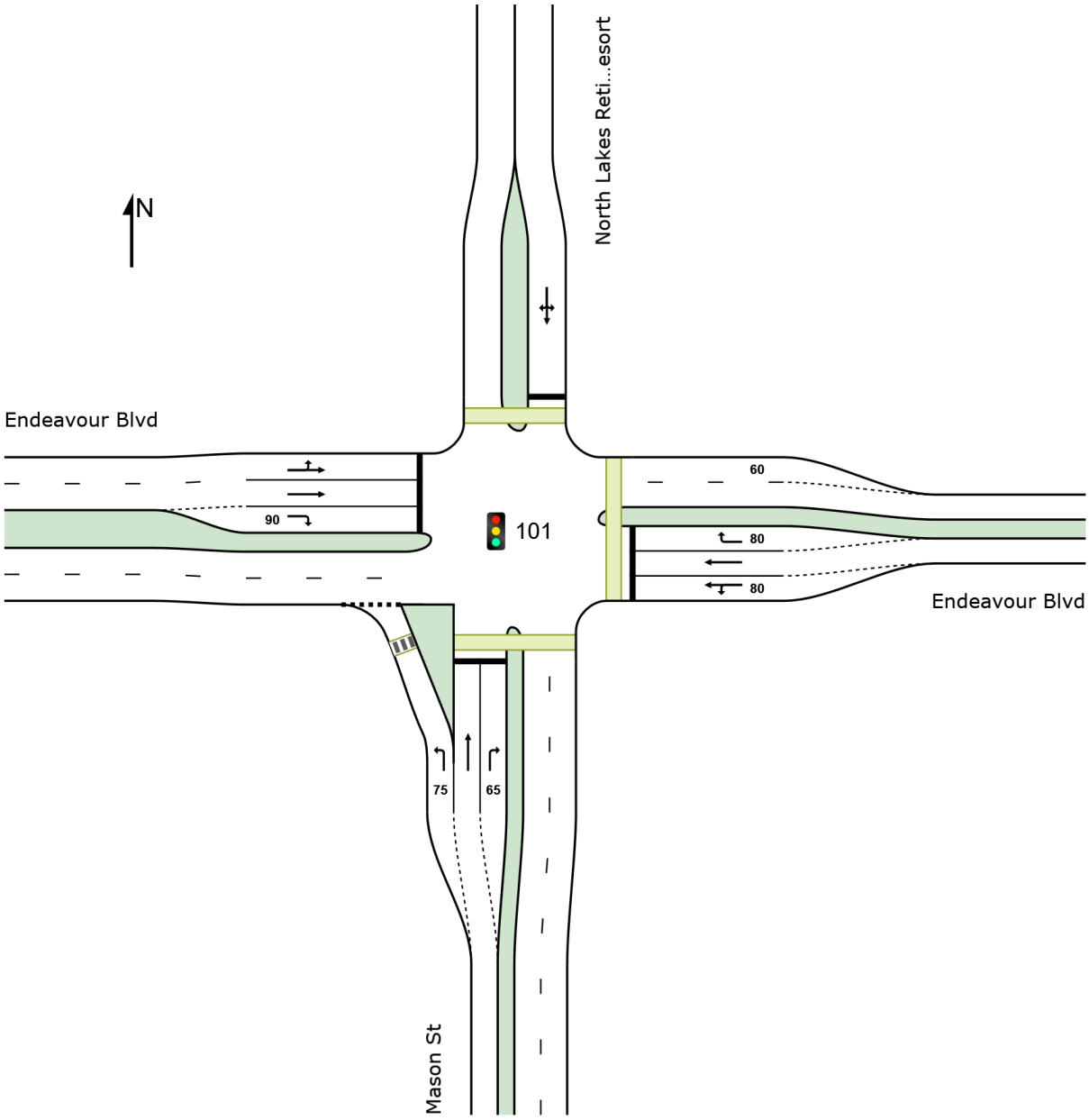
SITE LAYOUT

MASON STREET
PM PEAK

Site: 101 [Endeavour Blvd/Mason St (Site Folder: 2025 PM Survey)]

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

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



MOVEMENT SUMMARY

MASON STREET MOVEMENT SUMMARIES

Site: 101 [Endeavour Blvd/Mason St (Site Folder: 2025 PM Survey)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 118 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Mason St															
1	L2	All MCs	471	2.0	471	2.0	0.384	7.4	LOS A	5.4	38.3	0.24	0.63	0.24	42.8
2	T1	All MCs	7	0.0	7	0.0	0.049	63.9	LOS E	0.4	2.8	0.95	0.67	0.95	10.4
3	R2	All MCs	74	1.0	74	1.0	*0.519	65.1	LOS E	4.3	30.4	1.00	0.77	1.00	20.3
Approach			552	1.8	552	1.8	0.519	15.9	LOS B	5.4	38.3	0.35	0.65	0.35	34.8
East: Endeavour Blvd															
4	L2	All MCs	77	1.0	77	1.0	*0.359	18.6	LOS B	8.4	59.5	0.47	0.48	0.47	40.9
5	T1	All MCs	605	2.0	605	2.0	0.359	12.0	LOS B	8.6	61.1	0.47	0.44	0.47	46.0
6	R2	All MCs	2	0.0	2	0.0	0.067	75.8	LOS E	0.1	0.9	1.00	0.60	1.00	15.3
Approach			684	1.9	684	1.9	0.359	12.9	LOS B	8.6	61.1	0.47	0.44	0.47	45.2
North: North Lakes Retirement Resort															
7	L2	All MCs	6	0.0	6	0.0	0.139	63.5	LOS E	0.7	5.2	0.98	0.67	0.98	16.1
8	T1	All MCs	3	0.0	3	0.0	*0.139	59.5	LOS E	0.7	5.2	0.98	0.67	0.98	10.0
9	R2	All MCs	3	0.0	3	0.0	0.139	59.5	LOS E	0.7	5.2	0.98	0.67	0.98	12.7
Approach			13	0.0	13	0.0	0.139	61.5	LOS E	0.7	5.2	0.98	0.67	0.98	13.9
West: Endeavour Blvd															
10	L2	All MCs	3	0.0	3	0.0	0.083	11.7	LOS B	1.9	13.6	0.31	0.27	0.31	25.2
11	T1	All MCs	409	3.0	409	3.0	0.210	5.4	LOS A	5.3	38.1	0.33	0.29	0.33	53.2
12	R2	All MCs	372	2.0	372	2.0	*0.383	12.9	LOS B	7.3	52.3	0.54	0.72	0.54	36.9
Approach			784	2.5	784	2.5	0.383	9.0	LOS A	7.3	52.3	0.43	0.49	0.43	46.0
All Vehicles			2033	2.1	2033	2.1	0.519	12.5	LOS B	8.6	61.1	0.43	0.52	0.43	42.3

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Mason St												
P1	Full	50	53	53.3	LOS E	0.2	0.2	0.95	0.95	207.1	200.0	0.97
East: Endeavour Blvd												

P2	Full	50	53	53.3	LOS E	0.2	0.2	0.95	0.95	207.1	200.0	0.97
North: North Lakes Retirement Resort												
P3	Full	5	5	53.2	LOS E	0.0	0.0	0.95	0.95	207.0	200.0	0.97
All Pedestrians		105	111	53.3	LOS E	0.2	0.2	0.95	0.95	207.1	200.0	0.97

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

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MOVEMENT SUMMARY

Site: 101 [Endeavour Blvd/Mason St (Site Folder: 2030 PM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 118 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Mason St															
1	L2	All MCs	494	2.0	494	2.0	0.407	7.7	LOS A	6.2	44.1	0.26	0.63	0.26	42.4
2	T1	All MCs	7	0.0	7	0.0	0.049	63.9	LOS E	0.4	2.8	0.95	0.67	0.95	10.4
3	R2	All MCs	78	1.0	78	1.0	*0.548	65.3	LOS E	4.6	32.2	1.00	0.77	1.00	20.2
Approach			579	1.8	579	1.8	0.548	16.2	LOS B	6.2	44.1	0.37	0.65	0.37	34.6
East: Endeavour Blvd															
4	L2	All MCs	81	1.0	81	1.0	*0.377	18.7	LOS B	9.0	63.6	0.48	0.49	0.48	40.8
5	T1	All MCs	636	2.0	636	2.0	0.377	12.1	LOS B	9.2	65.2	0.48	0.45	0.48	45.9
6	R2	All MCs	2	0.0	2	0.0	0.067	75.8	LOS E	0.1	0.9	1.00	0.60	1.00	15.3
Approach			719	1.9	719	1.9	0.377	13.0	LOS B	9.2	65.2	0.48	0.45	0.48	45.1
North: North Lakes Retirement Resort															
7	L2	All MCs	6	0.0	6	0.0	0.139	63.5	LOS E	0.7	5.2	0.98	0.67	0.98	16.1
8	T1	All MCs	3	0.0	3	0.0	*0.139	59.5	LOS E	0.7	5.2	0.98	0.67	0.98	10.0
9	R2	All MCs	3	0.0	3	0.0	0.139	59.5	LOS E	0.7	5.2	0.98	0.67	0.98	12.7
Approach			13	0.0	13	0.0	0.139	61.5	LOS E	0.7	5.2	0.98	0.67	0.98	13.9
West: Endeavour Blvd															
10	L2	All MCs	3	0.0	3	0.0	0.087	11.7	LOS B	2.0	14.3	0.31	0.27	0.31	25.2
11	T1	All MCs	429	3.0	429	3.0	0.220	5.5	LOS A	5.6	40.3	0.33	0.29	0.33	53.2
12	R2	All MCs	391	2.0	391	2.0	*0.405	13.0	LOS B	7.8	55.7	0.55	0.73	0.55	36.8
Approach			823	2.5	823	2.5	0.405	9.1	LOS A	7.8	55.7	0.44	0.50	0.44	45.9
All Vehicles			2134	2.1	2134	2.1	0.548	12.6	LOS B	9.2	65.2	0.44	0.53	0.44	42.2

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Mason St												
P1	Full	50	53	53.3	LOS E	0.2	0.2	0.95	0.95	207.1	200.0	0.97
East: Endeavour Blvd												

P2	Full	50	53	53.3	LOS E	0.2	0.2	0.95	0.95	207.1	200.0	0.97
North: North Lakes Retirement Resort												
P3	Full	5	5	53.2	LOS E	0.0	0.0	0.95	0.95	207.0	200.0	0.97
All Pedestrians		105	111	53.3	LOS E	0.2	0.2	0.95	0.95	207.1	200.0	0.97

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

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MOVEMENT SUMMARY

Site: 101 [Endeavour Blvd/Mason St (Site Folder: 2030 PM Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 118 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Mason St															
1	L2	All MCs	494	2.0	494	2.0	0.414	8.0	LOS A	6.7	47.4	0.28	0.64	0.28	42.1
2	T1	All MCs	7	0.0	7	0.0	0.049	63.9	LOS E	0.4	2.8	0.95	0.67	0.95	10.4
3	R2	All MCs	82	1.0	82	1.0	*0.578	65.6	LOS E	4.8	34.1	1.00	0.79	1.02	20.2
Approach			583	1.8	583	1.8	0.578	16.8	LOS B	6.7	47.4	0.39	0.66	0.39	34.1
East: Endeavour Blvd															
4	L2	All MCs	86	1.0	86	1.0	*0.407	18.9	LOS B	9.9	70.7	0.49	0.50	0.49	40.6
5	T1	All MCs	688	2.0	688	2.0	0.407	12.3	LOS B	10.2	72.5	0.49	0.46	0.49	45.7
6	R2	All MCs	2	0.0	2	0.0	0.067	75.8	LOS E	0.1	0.9	1.00	0.60	1.00	15.3
Approach			777	1.9	777	1.9	0.407	13.2	LOS B	10.2	72.5	0.49	0.46	0.49	44.9
North: North Lakes Retirement Resort															
7	L2	All MCs	6	0.0	6	0.0	0.139	63.7	LOS E	0.7	5.2	0.98	0.67	0.98	16.1
8	T1	All MCs	3	0.0	3	0.0	*0.139	59.5	LOS E	0.7	5.2	0.98	0.67	0.98	10.0
9	R2	All MCs	3	0.0	3	0.0	0.139	59.5	LOS E	0.7	5.2	0.98	0.67	0.98	12.7
Approach			13	0.0	13	0.0	0.139	61.6	LOS E	0.7	5.2	0.98	0.67	0.98	13.9
West: Endeavour Blvd															
10	L2	All MCs	3	0.0	3	0.0	0.098	11.7	LOS B	2.2	16.1	0.31	0.27	0.31	25.2
11	T1	All MCs	480	3.0	480	3.0	0.245	5.6	LOS A	6.4	46.0	0.34	0.30	0.34	53.1
12	R2	All MCs	391	2.0	391	2.0	*0.411	13.2	LOS B	7.8	55.7	0.57	0.73	0.57	36.6
Approach			874	2.5	874	2.5	0.411	9.0	LOS A	7.8	55.7	0.44	0.49	0.44	46.2
All Vehicles			2246	2.1	2246	2.1	0.578	12.8	LOS B	10.2	72.5	0.45	0.53	0.45	42.3

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Mason St												
P1	Full	50	53	53.3	LOS E	0.2	0.2	0.95	0.95	207.1	200.0	0.97
East: Endeavour Blvd												

P2	Full	50	53	53.3	LOS E	0.2	0.2	0.95	0.95	207.1	200.0	0.97
North: North Lakes Retirement Resort												
P3	Full	5	5	53.2	LOS E	0.0	0.0	0.95	0.95	207.0	200.0	0.97
All Pedestrians		105	111	53.3	LOS E	0.2	0.2	0.95	0.95	207.1	200.0	0.97

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

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MOVEMENT SUMMARY

Site: 101 [Endeavour Blvd/Mason St (Site Folder: 2037 PM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 118 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Mason St															
1	L2	All MCs	527	2.0	527	2.0	0.441	8.0	LOS A	7.4	52.6	0.29	0.64	0.29	42.0
2	T1	All MCs	8	0.0	8	0.0	0.056	64.0	LOS E	0.5	3.2	0.95	0.67	0.95	10.4
3	R2	All MCs	82	1.0	82	1.0	*0.578	65.6	LOS E	4.8	34.1	1.00	0.79	1.02	20.2
Approach			618	1.8	618	1.8	0.578	16.5	LOS B	7.4	52.6	0.39	0.66	0.40	34.3
East: Endeavour Blvd															
4	L2	All MCs	86	1.0	86	1.0	*0.402	18.9	LOS B	9.8	69.4	0.49	0.50	0.49	40.7
5	T1	All MCs	678	2.0	678	2.0	0.402	12.2	LOS B	10.0	71.2	0.49	0.46	0.49	45.7
6	R2	All MCs	2	0.0	2	0.0	0.067	75.8	LOS E	0.1	0.9	1.00	0.60	1.00	15.3
Approach			766	1.9	766	1.9	0.402	13.1	LOS B	10.0	71.2	0.49	0.46	0.49	45.0
North: North Lakes Retirement Resort															
7	L2	All MCs	7	0.0	7	0.0	0.155	63.7	LOS E	0.8	5.6	0.98	0.68	0.98	16.1
8	T1	All MCs	3	0.0	3	0.0	*0.155	59.6	LOS E	0.8	5.6	0.98	0.68	0.98	10.0
9	R2	All MCs	3	0.0	3	0.0	0.155	59.6	LOS E	0.8	5.6	0.98	0.68	0.98	12.7
Approach			14	0.0	14	0.0	0.155	61.8	LOS E	0.8	5.6	0.98	0.68	0.98	14.1
West: Endeavour Blvd															
10	L2	All MCs	3	0.0	3	0.0	0.093	11.7	LOS B	2.1	15.3	0.31	0.27	0.31	25.2
11	T1	All MCs	459	3.0	459	3.0	0.235	5.6	LOS A	6.1	43.6	0.34	0.30	0.34	53.1
12	R2	All MCs	416	2.0	416	2.0	*0.436	13.4	LOS B	8.5	60.3	0.58	0.74	0.58	36.5
Approach			878	2.5	878	2.5	0.436	9.3	LOS A	8.5	60.3	0.45	0.50	0.45	45.7
All Vehicles			2276	2.1	2276	2.1	0.578	12.8	LOS B	10.0	71.2	0.45	0.53	0.45	42.0

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Mason St												
P1	Full	50	53	53.3	LOS E	0.2	0.2	0.95	0.95	207.1	200.0	0.97
East: Endeavour Blvd												

P2	Full	50	53	53.3	LOS E	0.2	0.2	0.95	0.95	207.1	200.0	0.97
North: North Lakes Retirement Resort												
P3	Full	5	5	53.2	LOS E	0.0	0.0	0.95	0.95	207.0	200.0	0.97
All Pedestrians		105	111	53.3	LOS E	0.2	0.2	0.95	0.95	207.1	200.0	0.97

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

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MOVEMENT SUMMARY

Site: 101 [Endeavour Blvd/Mason St (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 118 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Mason St															
1	L2	All MCs	533	2.0	533	2.0	0.468	9.0	LOS A	9.2	65.2	0.35	0.67	0.35	40.8
2	T1	All MCs	8	0.0	8	0.0	0.056	64.0	LOS E	0.5	3.2	0.95	0.67	0.95	10.4
3	R2	All MCs	94	1.0	94	1.0	*0.659	66.6	LOS E	5.6	39.6	1.00	0.83	1.08	20.0
Approach			635	1.8	635	1.8	0.659	18.3	LOS B	9.2	65.2	0.45	0.69	0.46	33.1
East: Endeavour Blvd															
4	L2	All MCs	98	1.0	98	1.0	*0.481	19.5	LOS B	12.6	89.8	0.53	0.53	0.53	40.3
5	T1	All MCs	818	2.0	818	2.0	0.481	12.8	LOS B	12.9	91.9	0.53	0.49	0.53	45.3
6	R2	All MCs	2	0.0	2	0.0	0.067	75.8	LOS E	0.1	0.9	1.00	0.60	1.00	15.3
Approach			918	1.9	918	1.9	0.481	13.7	LOS B	12.9	91.9	0.53	0.50	0.53	44.6
North: North Lakes Retirement Resort															
7	L2	All MCs	7	0.0	7	0.0	0.155	64.1	LOS E	0.8	5.6	0.98	0.68	0.98	16.1
8	T1	All MCs	3	0.0	3	0.0	*0.155	59.6	LOS E	0.8	5.6	0.98	0.68	0.98	10.0
9	R2	All MCs	3	0.0	3	0.0	0.155	59.6	LOS E	0.8	5.6	0.98	0.68	0.98	12.7
Approach			14	0.0	14	0.0	0.155	62.0	LOS E	0.8	5.6	0.98	0.68	0.98	14.1
West: Endeavour Blvd															
10	L2	All MCs	3	0.0	3	0.0	0.123	11.8	LOS B	2.9	20.8	0.32	0.28	0.32	25.2
11	T1	All MCs	607	3.0	607	3.0	0.310	6.0	LOS A	8.6	61.8	0.36	0.32	0.36	52.8
12	R2	All MCs	425	2.0	425	2.0	*0.464	14.1	LOS B	8.7	62.1	0.62	0.75	0.62	35.8
Approach			1036	2.6	1036	2.6	0.464	9.4	LOS A	8.7	62.1	0.47	0.50	0.47	46.2
All Vehicles			2602	2.1	2602	2.1	0.659	13.3	LOS B	12.9	91.9	0.49	0.54	0.49	42.1

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Mason St												
P1	Full	50	53	53.3	LOS E	0.2	0.2	0.95	0.95	207.1	200.0	0.97
East: Endeavour Blvd												

P2	Full	50	53	53.3	LOS E	0.2	0.2	0.95	0.95	207.1	200.0	0.97
North: North Lakes Retirement Resort												
P3	Full	5	5	53.2	LOS E	0.0	0.0	0.95	0.95	207.0	200.0	0.97
All Pedestrians		105	111	53.3	LOS E	0.2	0.2	0.95	0.95	207.1	200.0	0.97

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

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PHASING SUMMARY

MASON STREET PHASING SUMMARIES

Site: 101 [Endeavour Blvd/Mason St (Site Folder: 2025 PM Survey)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 118 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: SCATS - BACED 2025 PM
Input Phase Sequence: A, C, D, E, B
Output Phase Sequence: A, C, D, E, B
Reference Phase: Phase B

Phase Timing Summary

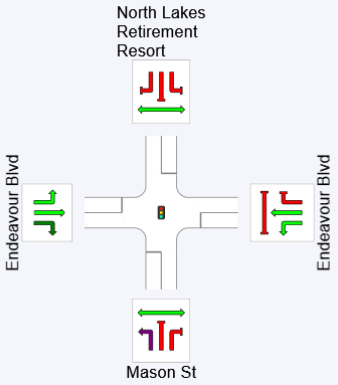
Phase	A	C	D	E	B
Phase Change Time (sec)	34	91	99	107	0
Green Time (sec)	51	2	7	9	29
Phase Time (sec)	57	3	9	14	35
Phase Split	48%	3%	8%	12%	30%
Phase Frequency (%)	100.0	16.0[1]	34.0[1]	81.0[1]	100.0

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%.

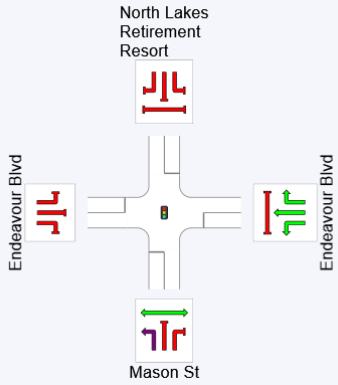
1 Phase Frequency has been given with User-Specified Phase Times.

Output Phase Sequence

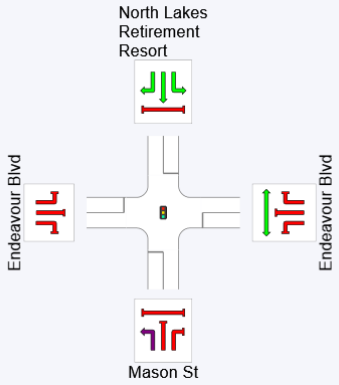
Phase A



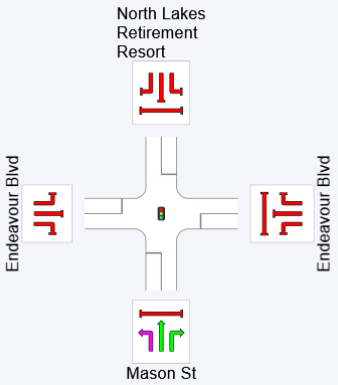
Phase C



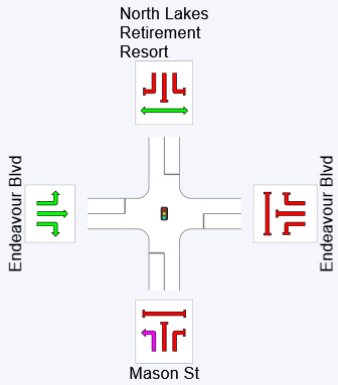
Phase D



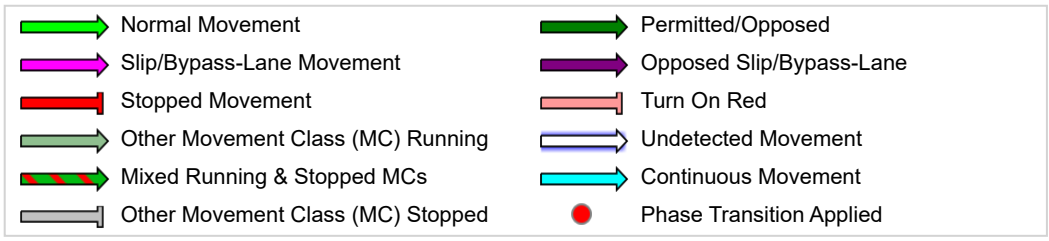
Phase E



Phase B **REF**



REF: Reference Phase
VAR: Variable Phase



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PHASING SUMMARY

Site: 101 [Endeavour Blvd/Mason St (Site Folder: 2030 PM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 118 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: SCATS - BACED 2030 PM - Import
Input Phase Sequence: A, C, D, E, B
Output Phase Sequence: A, C, D, E, B
Reference Phase: Phase B

Phase Timing Summary

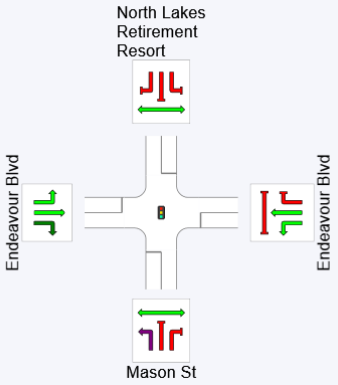
Phase	A	C	D	E	B
Phase Change Time (sec)	34	91	99	107	0
Green Time (sec)	51	2	7	9	29
Phase Time (sec)	57	3	9	14	35
Phase Split	48%	3%	8%	12%	30%
Phase Frequency (%)	100.0	16.0[1]	34.0[1]	81.0[1]	100.0

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%.

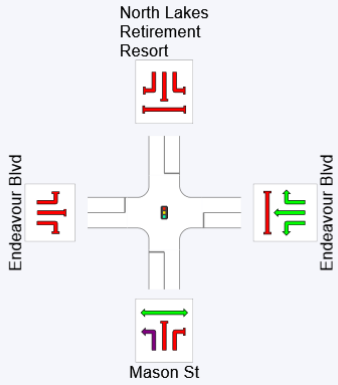
1 Phase Frequency has been given with User-Specified Phase Times.

Output Phase Sequence

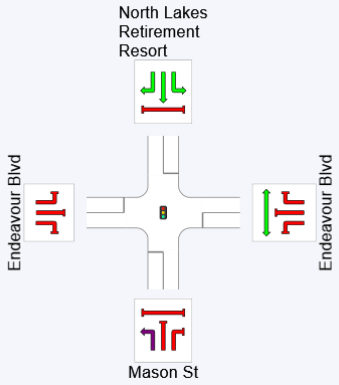
Phase A



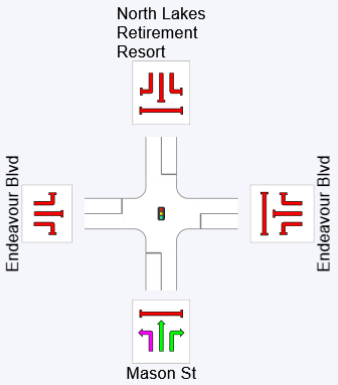
Phase C



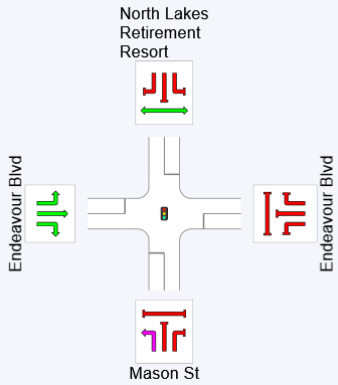
Phase D



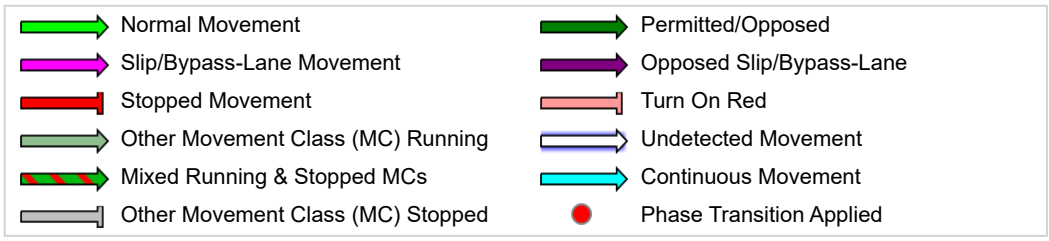
Phase E



Phase B **REF**



REF: Reference Phase
VAR: Variable Phase



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PHASING SUMMARY

Site: 101 [Endeavour Blvd/Mason St (Site Folder: 2030 PM Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 118 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: SCATS - BACED 2030 PM
Input Phase Sequence: A, C, D, E, B
Output Phase Sequence: A, C, D, E, B
Reference Phase: Phase B

Phase Timing Summary

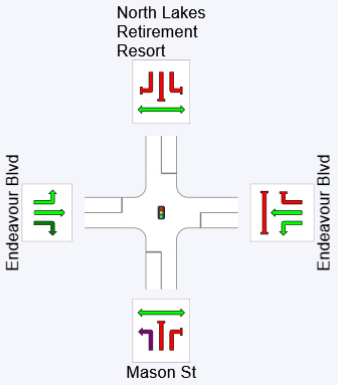
Phase	A	C	D	E	B
Phase Change Time (sec)	34	91	99	107	0
Green Time (sec)	51	2	7	9	29
Phase Time (sec)	57	3	9	14	35
Phase Split	48%	3%	8%	12%	30%
Phase Frequency (%)	100.0	16.0[1]	34.0[1]	81.0[1]	100.0

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%.

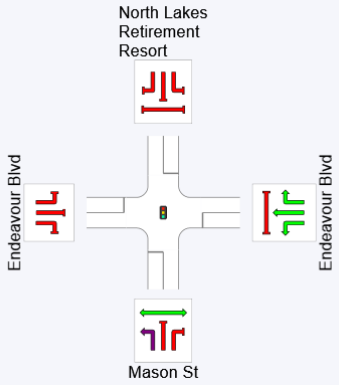
1 Phase Frequency has been given with User-Specified Phase Times.

Output Phase Sequence

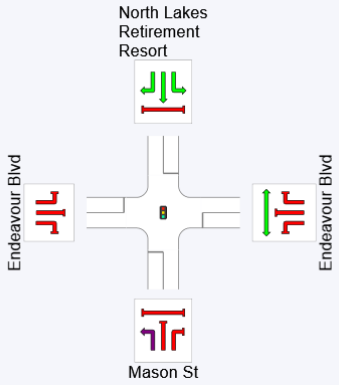
Phase A



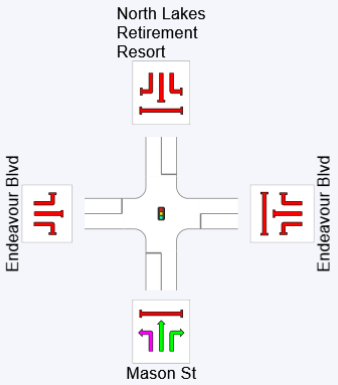
Phase C



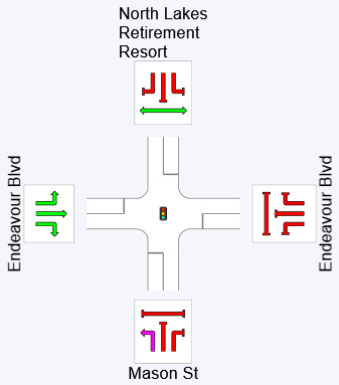
Phase D



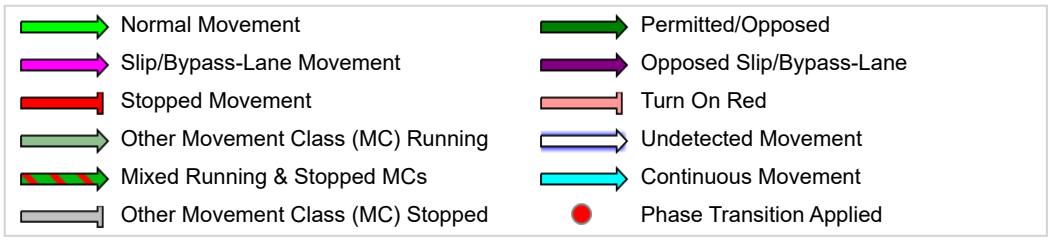
Phase E



Phase B **REF**



REF: Reference Phase
VAR: Variable Phase



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PHASING SUMMARY

Site: 101 [Endeavour Blvd/Mason St (Site Folder: 2037 PM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 118 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: SCATS - BACED 2037 PM
Input Phase Sequence: A, C, D, E, B
Output Phase Sequence: A, C, D, E, B
Reference Phase: Phase B

Phase Timing Summary

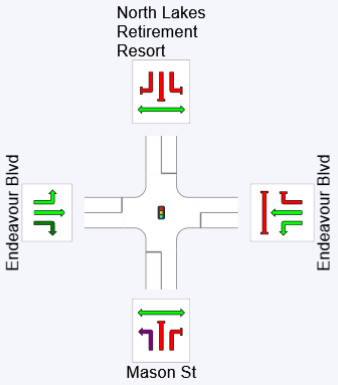
Phase	A	C	D	E	B
Phase Change Time (sec)	34	91	99	107	0
Green Time (sec)	51	2	7	9	29
Phase Time (sec)	57	3	9	14	35
Phase Split	48%	3%	8%	12%	30%
Phase Frequency (%)	100.0	16.0[1]	34.0[1]	81.0[1]	100.0

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%.

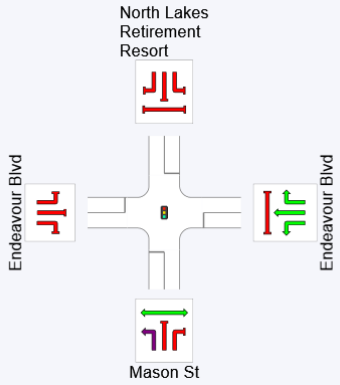
1 Phase Frequency has been given with User-Specified Phase Times.

Output Phase Sequence

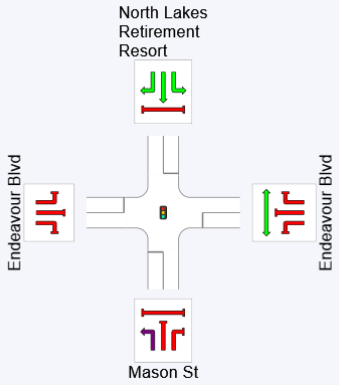
Phase A



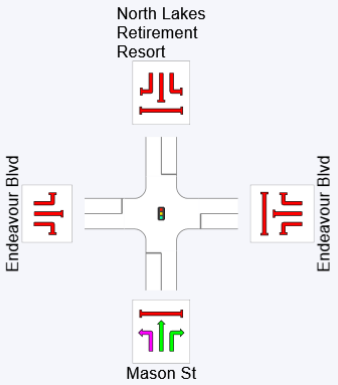
Phase C



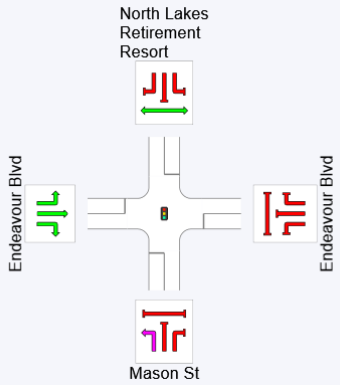
Phase D



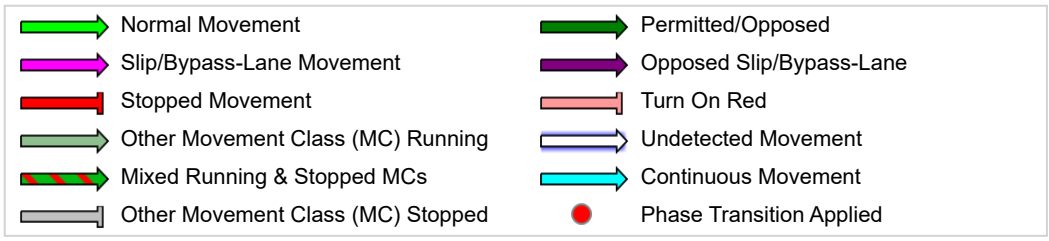
Phase E



Phase B **REF**



REF: Reference Phase
VAR: Variable Phase



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PHASING SUMMARY

Site: 101 [Endeavour Blvd/Mason St (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 118 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: SCATS - BACED 2037 PM
Input Phase Sequence: A, C, D, E, B
Output Phase Sequence: A, C, D, E, B
Reference Phase: Phase B

Phase Timing Summary

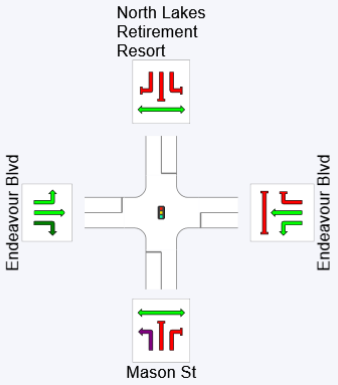
Phase	A	C	D	E	B
Phase Change Time (sec)	34	91	99	107	0
Green Time (sec)	51	2	7	9	29
Phase Time (sec)	57	3	9	14	35
Phase Split	48%	3%	8%	12%	30%
Phase Frequency (%)	100.0	16.0[1]	34.0[1]	81.0[1]	100.0

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%.

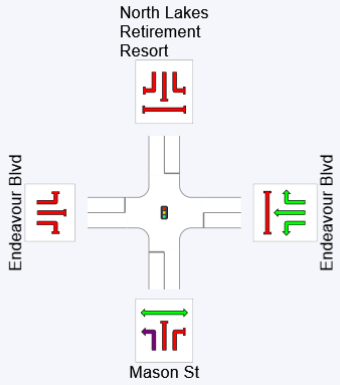
1 Phase Frequency has been given with User-Specified Phase Times.

Output Phase Sequence

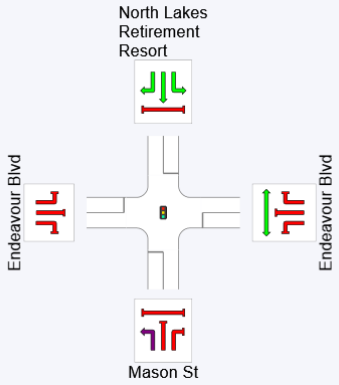
Phase A



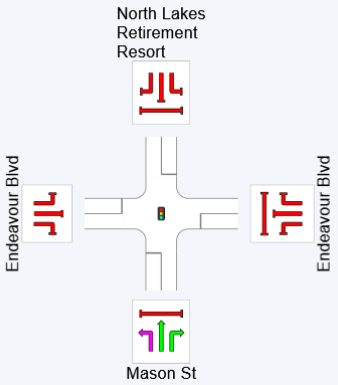
Phase C



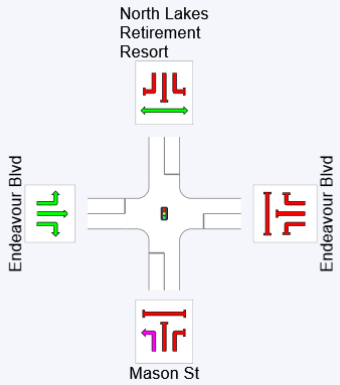
Phase D



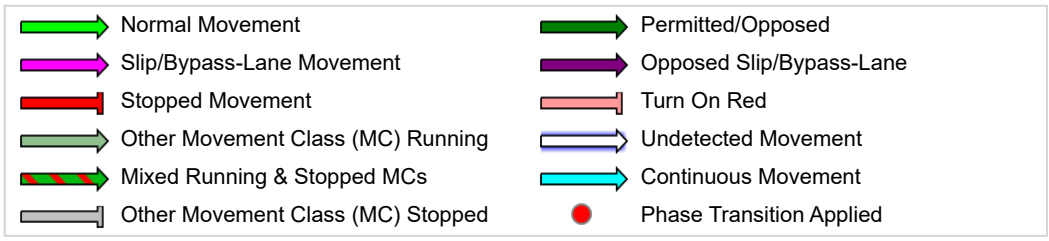
Phase E



Phase B **REF**



REF: Reference Phase
VAR: Variable Phase



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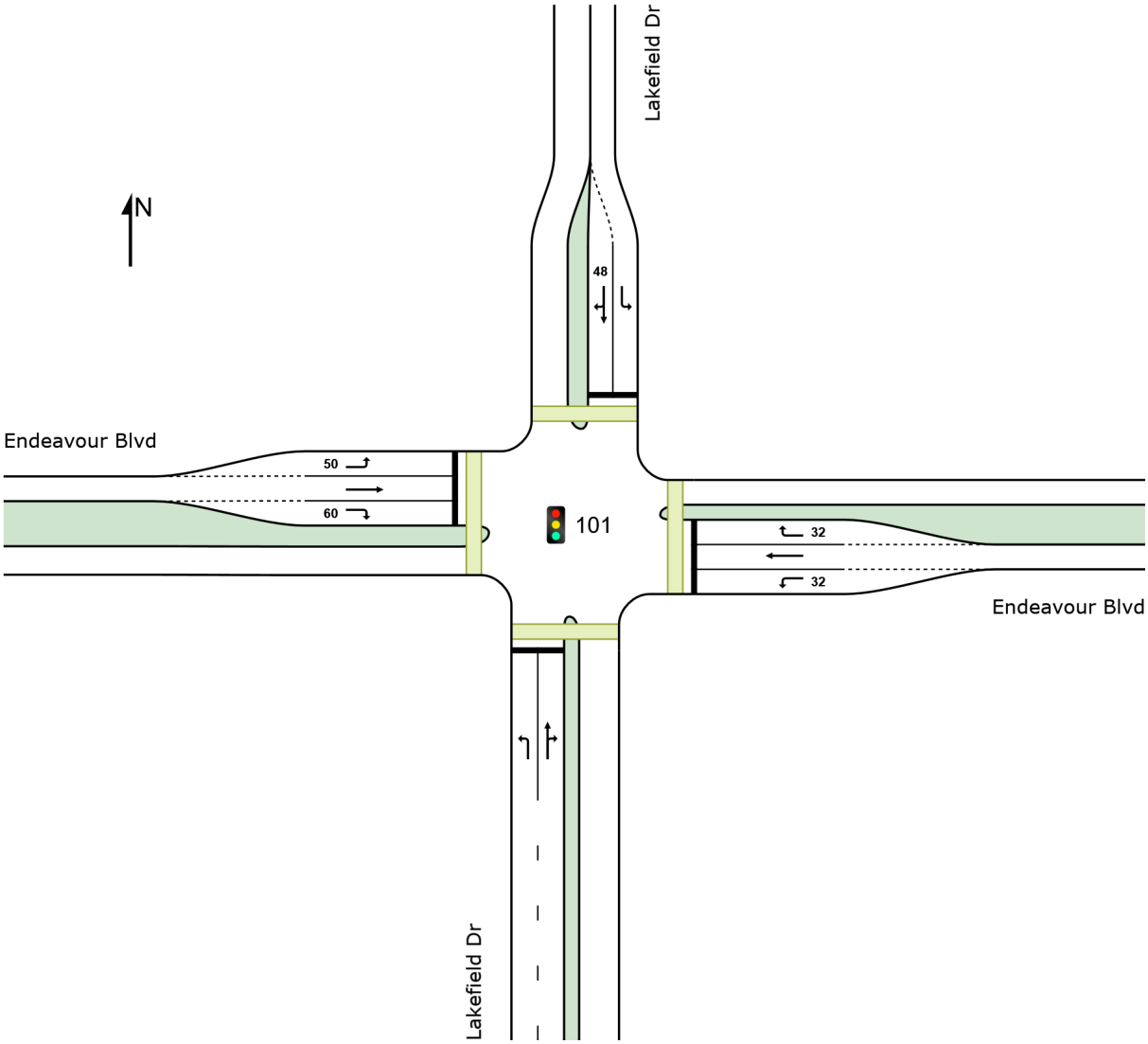
SITE LAYOUT

Site: 101 [Endeavour Blvd/Lakefield Dr (Site Folder: 2025 PM Survey)]

LAKEFIELD DRIVE
PM PEAK

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

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



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Project: C:\Users\Mark.Hanson\OneDrive - Colliers International\2021 Synergy Projects - 21BRT0438 North Lakes School\7 - Reports\RFIs\MH Update\21BRT0438 SA02_B Network 2026_MH.sip9

MOVEMENT SUMMARY

LAKEFIELD DRIVE MOVEMENT SUMMARIES

Site: 101 [Endeavour Blvd/Lakefield Dr (Site Folder: 2025 PM Survey)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 121 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Lakefield Dr															
1	L2	All MCs	145	1.0	145	1.0	0.410	33.1	LOS C	5.6	39.4	0.92	0.78	0.92	29.1
2	T1	All MCs	74	0.0	74	0.0	*0.522	53.2	LOS D	7.9	55.4	0.98	0.79	0.98	15.3
3	R2	All MCs	67	0.0	67	0.0	0.522	57.7	LOS E	7.9	55.4	0.98	0.79	0.98	15.8
Approach			286	0.5	286	0.5	0.522	44.0	LOS D	7.9	55.4	0.95	0.79	0.95	22.1
East: Endeavour Blvd															
4	L2	All MCs	47	0.0	47	0.0	0.056	25.3	LOS C	1.1	7.8	0.43	0.66	0.43	28.5
5	T1	All MCs	406	3.0	406	3.0	*0.462	20.6	LOS C	12.1	86.6	0.55	0.48	0.55	42.7
6	R2	All MCs	11	0.0	11	0.0	0.137	74.7	LOS E	0.6	4.4	0.98	0.67	0.98	13.2
Approach			464	2.6	464	2.6	0.462	22.3	LOS C	12.1	86.6	0.54	0.50	0.54	36.1
North: Lakefield Dr															
7	L2	All MCs	8	0.0	8	0.0	0.039	56.2	LOS E	0.4	3.1	0.91	0.66	0.91	15.0
8	T1	All MCs	42	0.0	42	0.0	*0.479	52.9	LOS D	7.0	49.7	0.97	0.78	0.97	15.2
9	R2	All MCs	83	3.0	83	3.0	0.479	57.4	LOS E	7.0	49.7	0.97	0.78	0.97	22.2
Approach			134	1.9	134	1.9	0.479	55.9	LOS E	7.0	49.7	0.96	0.78	0.96	19.8
West: Endeavour Blvd															
10	L2	All MCs	68	0.0	68	0.0	0.076	17.3	LOS B	1.5	10.2	0.39	0.66	0.39	37.6
11	T1	All MCs	280	4.0	280	4.0	0.288	11.1	LOS B	6.4	46.4	0.42	0.36	0.42	46.0
12	R2	All MCs	85	4.0	85	4.0	*0.635	66.3	LOS E	5.2	37.3	1.00	0.80	1.05	20.4
Approach			434	3.4	434	3.4	0.635	22.9	LOS C	6.4	46.4	0.53	0.49	0.54	35.9
All Vehicles			1318	2.3	1318	2.3	0.635	30.6	LOS C	12.1	86.6	0.67	0.59	0.67	30.2

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Lakefield Dr												
P1	Full	50	53	54.8	LOS E	0.2	0.2	0.95	0.95	208.6	200.0	0.96
East: Endeavour Blvd												

P2	Full	50	53	54.8	LOS E	0.2	0.2	0.95	0.95	208.6	200.0	0.96
North: Lakefield Dr												
P3	Full	50	53	54.8	LOS E	0.2	0.2	0.95	0.95	208.6	200.0	0.96
West: Endeavour Blvd												
P4	Full	50	53	54.8	LOS E	0.2	0.2	0.95	0.95	208.6	200.0	0.96
All Pedestrians		200	211	54.8	LOS E	0.2	0.2	0.95	0.95	208.6	200.0	0.96

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

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MOVEMENT SUMMARY

Site: 101 [Endeavour Blvd/Lakefield Dr (Site Folder: 2030 PM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 121 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Lakefield Dr															
1	L2	All MCs	153	1.0	153	1.0	0.431	33.2	LOS C	5.9	41.6	0.93	0.78	0.93	29.1
2	T1	All MCs	78	0.0	78	0.0	* 0.549	53.4	LOS D	8.4	58.5	0.98	0.80	0.98	15.2
3	R2	All MCs	71	0.0	71	0.0	0.549	57.9	LOS E	8.4	58.5	0.98	0.80	0.98	15.7
Approach			301	0.5	301	0.5	0.549	44.2	LOS D	8.4	58.5	0.95	0.79	0.95	22.1
East: Endeavour Blvd															
4	L2	All MCs	49	0.0	49	0.0	0.059	26.3	LOS C	1.2	8.2	0.43	0.66	0.43	28.5
5	T1	All MCs	426	3.0	426	3.0	* 0.488	21.7	LOS C	12.9	92.9	0.56	0.49	0.56	42.5
6	R2	All MCs	12	0.0	12	0.0	0.151	75.7	LOS E	0.7	4.9	0.98	0.67	0.98	13.2
Approach			487	2.6	487	2.6	0.488	23.5	LOS C	12.9	92.9	0.56	0.51	0.56	35.3
North: Lakefield Dr															
7	L2	All MCs	8	0.0	8	0.0	0.039	56.2	LOS E	0.4	3.1	0.91	0.66	0.91	15.0
8	T1	All MCs	44	0.0	44	0.0	* 0.503	53.1	LOS D	7.4	52.4	0.97	0.79	0.97	15.2
9	R2	All MCs	87	3.0	87	3.0	0.503	57.6	LOS E	7.4	52.4	0.97	0.79	0.97	22.1
Approach			140	1.9	140	1.9	0.503	56.1	LOS E	7.4	52.4	0.97	0.78	0.97	19.8
West: Endeavour Blvd															
10	L2	All MCs	72	0.0	72	0.0	0.079	17.3	LOS B	1.5	10.7	0.39	0.66	0.39	37.5
11	T1	All MCs	294	4.0	294	4.0	0.302	11.1	LOS B	6.8	49.3	0.43	0.37	0.43	45.9
12	R2	All MCs	89	4.0	89	4.0	* 0.666	66.7	LOS E	5.4	39.4	1.00	0.81	1.07	20.3
Approach			455	3.4	455	3.4	0.666	23.0	LOS C	6.8	49.3	0.53	0.50	0.55	35.8
All Vehicles			1383	2.3	1383	2.3	0.666	31.2	LOS C	12.9	92.9	0.68	0.60	0.68	30.0

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Lakefield Dr												
P1	Full	50	53	54.8	LOS E	0.2	0.2	0.95	0.95	208.6	200.0	0.96
East: Endeavour Blvd												

P2	Full	50	53	54.8	LOS E	0.2	0.2	0.95	0.95	208.6	200.0	0.96
North: Lakefield Dr												
P3	Full	50	53	54.8	LOS E	0.2	0.2	0.95	0.95	208.6	200.0	0.96
West: Endeavour Blvd												
P4	Full	50	53	54.8	LOS E	0.2	0.2	0.95	0.95	208.6	200.0	0.96
All Pedestrians		200	211	54.8	LOS E	0.2	0.2	0.95	0.95	208.6	200.0	0.96

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

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MOVEMENT SUMMARY

Site: 101 [Endeavour Blvd/Lakefield Dr (Site Folder: 2030 PM Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 121 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Lakefield Dr															
1	L2	All MCs	153	1.0	153	1.0	0.431	33.2	LOS C	5.9	41.6	0.93	0.78	0.93	29.1
2	T1	All MCs	78	0.0	78	0.0	*0.549	53.4	LOS D	8.4	58.5	0.98	0.80	0.98	15.2
3	R2	All MCs	71	0.0	71	0.0	0.549	57.9	LOS E	8.4	58.5	0.98	0.80	0.98	15.7
Approach			301	0.5	301	0.5	0.549	44.2	LOS D	8.4	58.5	0.95	0.79	0.95	22.1
East: Endeavour Blvd															
4	L2	All MCs	49	0.0	49	0.0	0.059	26.3	LOS C	1.2	8.2	0.43	0.66	0.43	28.5
5	T1	All MCs	426	3.0	426	3.0	*0.488	21.7	LOS C	12.9	92.9	0.56	0.49	0.56	42.5
6	R2	All MCs	44	0.0	44	0.0	0.576	78.3	LOS E	2.8	19.5	1.00	0.76	1.05	12.8
Approach			520	2.5	520	2.5	0.576	27.0	LOS C	12.9	92.9	0.58	0.53	0.59	32.8
North: Lakefield Dr															
7	L2	All MCs	43	0.0	43	0.0	0.201	57.9	LOS E	2.4	16.5	0.94	0.73	0.94	14.7
8	T1	All MCs	44	0.0	44	0.0	*0.730	56.8	LOS E	11.3	80.6	1.00	0.88	1.08	14.4
9	R2	All MCs	145	3.0	145	3.0	0.730	61.3	LOS E	11.3	80.6	1.00	0.88	1.08	21.2
Approach			233	1.9	233	1.9	0.730	59.8	LOS E	11.3	80.6	0.99	0.85	1.06	19.0
West: Endeavour Blvd															
10	L2	All MCs	127	0.0	127	0.0	0.141	17.6	LOS B	2.8	19.9	0.41	0.68	0.41	37.3
11	T1	All MCs	294	4.0	294	4.0	0.302	11.1	LOS B	6.8	49.3	0.43	0.37	0.43	45.9
12	R2	All MCs	89	4.0	89	4.0	*0.666	66.7	LOS E	5.4	39.4	1.00	0.81	1.07	20.3
Approach			511	3.0	511	3.0	0.666	22.5	LOS C	6.8	49.3	0.52	0.52	0.53	35.9
All Vehicles			1564	2.2	1564	2.2	0.730	33.7	LOS C	12.9	92.9	0.70	0.63	0.71	28.6

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Lakefield Dr												
P1	Full	50	53	54.8	LOS E	0.2	0.2	0.95	0.95	208.6	200.0	0.96
East: Endeavour Blvd												

P2	Full	50	53	54.8	LOS E	0.2	0.2	0.95	0.95	208.6	200.0	0.96
North: Lakefield Dr												
P3	Full	50	53	54.8	LOS E	0.2	0.2	0.95	0.95	208.6	200.0	0.96
West: Endeavour Blvd												
P4	Full	50	53	54.8	LOS E	0.2	0.2	0.95	0.95	208.6	200.0	0.96
All Pedestrians		200	211	54.8	LOS E	0.2	0.2	0.95	0.95	208.6	200.0	0.96

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

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MOVEMENT SUMMARY

Site: 101 [Endeavour Blvd/Lakefield Dr (Site Folder: 2037 PM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 121 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Lakefield Dr															
1	L2	All MCs	163	1.0	163	1.0	0.461	33.4	LOS C	6.3	44.7	0.93	0.79	0.93	29.0
2	T1	All MCs	82	0.0	82	0.0	*0.584	53.7	LOS D	8.9	62.6	0.99	0.80	0.99	15.2
3	R2	All MCs	76	0.0	76	0.0	0.584	58.2	LOS E	8.9	62.6	0.99	0.80	0.99	15.7
Approach			321	0.5	321	0.5	0.584	44.5	LOS D	8.9	62.6	0.96	0.79	0.96	22.0
East: Endeavour Blvd															
4	L2	All MCs	53	0.0	53	0.0	0.062	27.6	LOS C	1.2	8.7	0.43	0.66	0.43	28.4
5	T1	All MCs	455	3.0	455	3.0	*0.523	23.4	LOS C	14.3	102.3	0.58	0.51	0.58	42.2
6	R2	All MCs	12	0.0	12	0.0	0.151	77.0	LOS E	0.7	4.9	0.98	0.67	0.98	13.2
Approach			519	2.6	519	2.6	0.523	25.0	LOS C	14.3	102.3	0.57	0.53	0.57	34.5
North: Lakefield Dr															
7	L2	All MCs	9	0.0	9	0.0	0.047	57.4	LOS E	0.5	3.6	0.92	0.67	0.92	14.8
8	T1	All MCs	47	0.0	47	0.0	*0.569	54.6	LOS D	8.0	56.8	0.99	0.80	0.99	14.9
9	R2	All MCs	93	3.0	93	3.0	0.569	59.1	LOS E	8.0	56.8	0.99	0.80	0.99	21.8
Approach			149	1.9	149	1.9	0.569	57.5	LOS E	8.0	56.8	0.98	0.79	0.98	19.4
West: Endeavour Blvd															
10	L2	All MCs	77	0.0	77	0.0	0.085	17.3	LOS B	1.6	11.5	0.39	0.66	0.39	37.5
11	T1	All MCs	314	4.0	314	4.0	0.322	11.3	LOS B	7.4	53.6	0.43	0.38	0.43	45.8
12	R2	All MCs	96	4.0	96	4.0	*0.713	67.4	LOS E	5.9	42.6	1.00	0.83	1.11	20.2
Approach			486	3.4	486	3.4	0.713	23.3	LOS C	7.4	53.6	0.54	0.51	0.56	35.7
All Vehicles			1476	2.3	1476	2.3	0.713	32.0	LOS C	14.3	102.3	0.69	0.61	0.69	29.6

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Lakefield Dr												
P1	Full	50	53	54.8	LOS E	0.2	0.2	0.95	0.95	208.6	200.0	0.96
East: Endeavour Blvd												

P2	Full	50	53	54.8	LOS E	0.2	0.2	0.95	0.95	208.6	200.0	0.96
North: Lakefield Dr												
P3	Full	50	53	54.8	LOS E	0.2	0.2	0.95	0.95	208.6	200.0	0.96
West: Endeavour Blvd												
P4	Full	50	53	54.8	LOS E	0.2	0.2	0.95	0.95	208.6	200.0	0.96
All Pedestrians		200	211	54.8	LOS E	0.2	0.2	0.95	0.95	208.6	200.0	0.96

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

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MOVEMENT SUMMARY

Site: 101 [Endeavour Blvd/Lakefield Dr (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Lakefield Dr															
1	L2	All MCs	163	1.0	163	1.0	0.457	29.9	LOS C	5.3	37.7	0.93	0.79	0.93	30.5
2	T1	All MCs	82	0.0	82	0.0	*0.579	53.1	LOS D	8.9	62.0	0.98	0.80	0.98	15.3
3	R2	All MCs	76	0.0	76	0.0	0.579	57.6	LOS E	8.9	62.0	0.98	0.80	0.98	15.8
Approach			321	0.5	321	0.5	0.579	42.4	LOS D	8.9	62.0	0.96	0.79	0.96	22.6
East: Endeavour Blvd															
4	L2	All MCs	53	0.0	53	0.0	0.083	49.6	LOS D	1.7	12.0	0.59	0.69	0.59	23.5
5	T1	All MCs	477	3.0	477	3.0	*0.730	48.8	LOS D	21.8	156.7	0.84	0.74	0.84	34.0
6	R2	All MCs	85	0.0	85	0.0	0.424	79.9	LOS E	4.7	32.9	0.95	0.77	0.95	14.8
Approach			615	2.3	615	2.3	0.730	53.2	LOS D	21.8	156.7	0.84	0.74	0.84	22.6
North: Lakefield Dr															
7	L2	All MCs	86	0.0	86	0.0	0.242	57.4	LOS E	4.3	30.2	0.89	0.76	0.89	16.4
8	T1	All MCs	47	0.0	47	0.0	*0.720	56.9	LOS E	15.2	108.4	0.99	0.86	1.02	15.9
9	R2	All MCs	223	3.0	223	3.0	0.720	61.4	LOS E	15.2	108.4	0.99	0.86	1.02	23.0
Approach			357	1.9	357	1.9	0.720	59.9	LOS E	15.2	108.4	0.96	0.84	0.99	19.0
West: Endeavour Blvd															
10	L2	All MCs	202	0.0	202	0.0	0.353	40.3	LOS D	8.1	56.9	0.73	0.77	0.73	28.7
11	T1	All MCs	348	4.0	348	4.0	0.621	35.2	LOS D	15.4	111.6	0.81	0.70	0.81	33.0
12	R2	All MCs	96	4.0	96	4.0	*0.707	67.6	LOS E	5.8	42.2	1.00	0.83	1.10	20.3
Approach			646	2.7	646	2.7	0.707	41.6	LOS D	15.4	111.6	0.81	0.74	0.83	27.2
All Vehicles			1939	2.1	1939	2.1	0.730	48.8	LOS D	21.8	156.7	0.87	0.77	0.88	23.3

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Lakefield Dr												
P1	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
East: Endeavour Blvd												

P2	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
North: Lakefield Dr												
P3	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
West: Endeavour Blvd												
P4	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
All Pedestrians		200	211	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96

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

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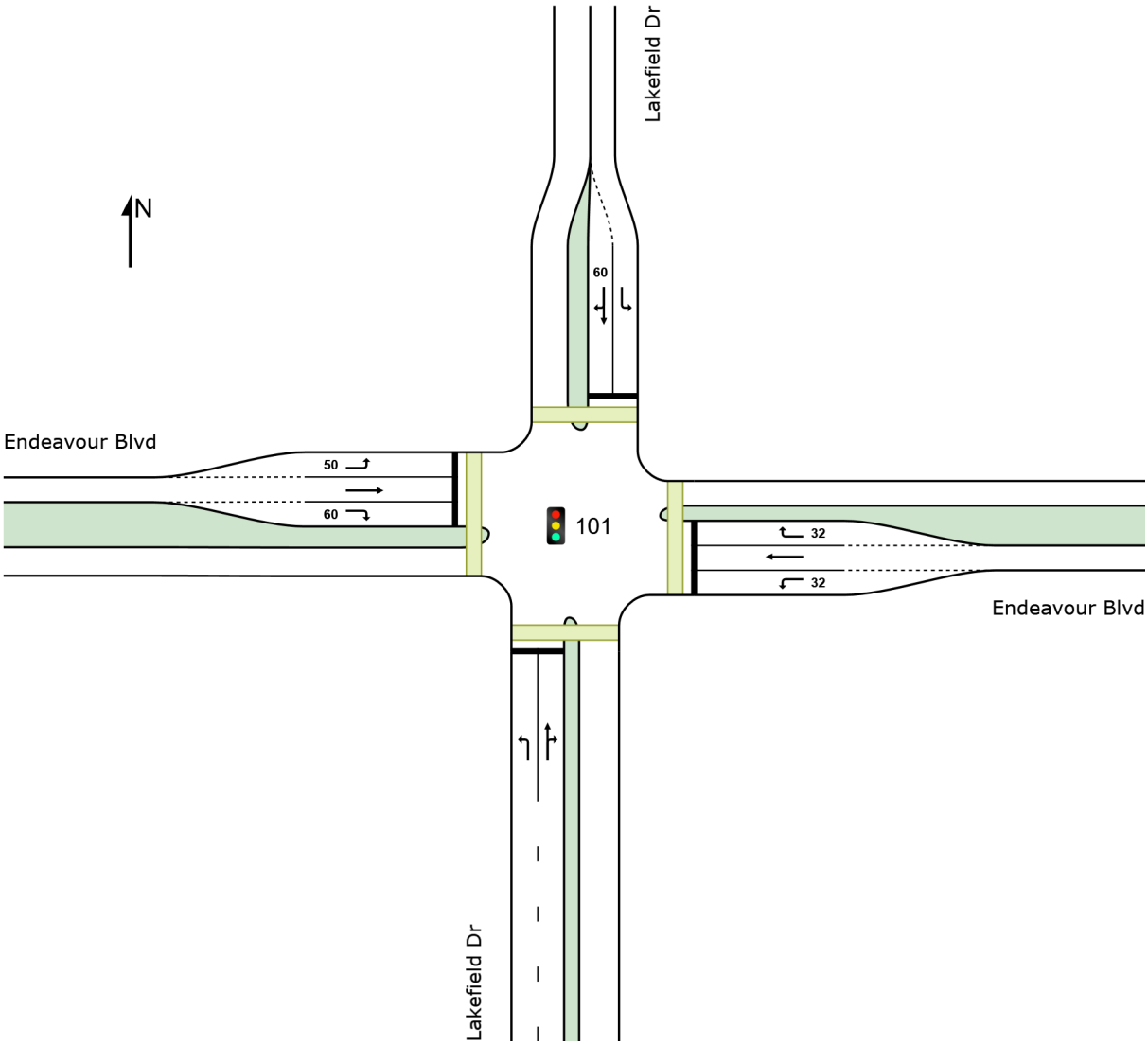
SITE LAYOUT

LAKEFIELD DRIVE UPGRADE

Site: 101 [Endeavour Blvd/Lakefield Dr - extended short lane on north leg (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

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

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



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Organisation: TTM CONSULTING PTY LTD | Licence: NETWORK / Enterprise Level 5 | Created: Friday, 28 August 2026 2:42:12 PM
Project: C:\Users\Mark.Hanson\OneDrive - Colliers International\2021 Synergy Projects - 21BRT0438 North Lakes School\7 - Reports\RFIs\MH Update\21BRT0438 SA02_B Network 2026_MH.sip9

MOVEMENT SUMMARY

Site: 101 [Endeavour Blvd/Lakefield Dr - extended short lane on north leg (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Lakefield Dr															
1	L2	All MCs	163	1.0	163	1.0	0.457	30.1	LOS C	5.4	38.3	0.93	0.79	0.93	30.4
2	T1	All MCs	82	0.0	82	0.0	*0.579	53.1	LOS D	8.9	62.0	0.98	0.80	0.98	15.3
3	R2	All MCs	76	0.0	76	0.0	0.579	57.6	LOS E	8.9	62.0	0.98	0.80	0.98	15.8
Approach			321	0.5	321	0.5	0.579	42.5	LOS D	8.9	62.0	0.96	0.79	0.96	22.6
East: Endeavour Blvd															
4	L2	All MCs	53	0.0	53	0.0	0.081	47.8	LOS D	1.7	11.8	0.58	0.69	0.58	23.8
5	T1	All MCs	477	3.0	477	3.0	*0.713	46.7	LOS D	21.3	153.1	0.82	0.73	0.82	34.5
6	R2	All MCs	85	0.0	85	0.0	0.424	78.9	LOS E	4.7	32.9	0.95	0.77	0.95	14.8
Approach			615	2.3	615	2.3	0.713	51.3	LOS D	21.3	153.1	0.82	0.73	0.82	23.1
North: Lakefield Dr															
7	L2	All MCs	86	0.0	86	0.0	0.254	50.2	LOS D	4.4	30.6	0.90	0.76	0.90	16.2
8	T1	All MCs	47	0.0	47	0.0	*0.706	48.8	LOS D	15.1	107.9	0.99	0.85	1.01	15.9
9	R2	All MCs	223	3.0	223	3.0	0.706	53.4	LOS D	15.1	107.9	0.99	0.85	1.01	23.0
Approach			357	1.9	357	1.9	0.706	52.0	LOS D	15.1	107.9	0.96	0.83	0.98	20.7
West: Endeavour Blvd															
10	L2	All MCs	202	0.0	202	0.0	0.344	38.6	LOS D	8.0	55.8	0.72	0.76	0.72	29.0
11	T1	All MCs	348	4.0	348	4.0	0.600	33.4	LOS C	15.1	109.0	0.79	0.68	0.79	33.6
12	R2	All MCs	96	4.0	96	4.0	*0.707	67.0	LOS E	5.8	42.2	1.00	0.83	1.10	20.3
Approach			646	2.7	646	2.7	0.707	40.0	LOS D	15.1	109.0	0.80	0.73	0.81	27.7
All Vehicles			1939	2.1	1939	2.1	0.713	46.2	LOS D	21.3	153.1	0.86	0.76	0.87	24.0

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Lakefield Dr												
P1	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
East: Endeavour Blvd												

P2	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
North: Lakefield Dr												
P3	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
West: Endeavour Blvd												
P4	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
All Pedestrians		200	211	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96

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

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PHASING SUMMARY

LAKEFIELD DRIVE PHASING SUMMARIES

Site: 101 [Endeavour Blvd/Lakefield Dr (Site Folder: 2025 PM Survey)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 121 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: SCATS - 2025 PM ACDEB
Input Phase Sequence: A, C, D, E, B
Output Phase Sequence: A, C, D, E, B
Reference Phase: Phase A

Phase Timing Summary

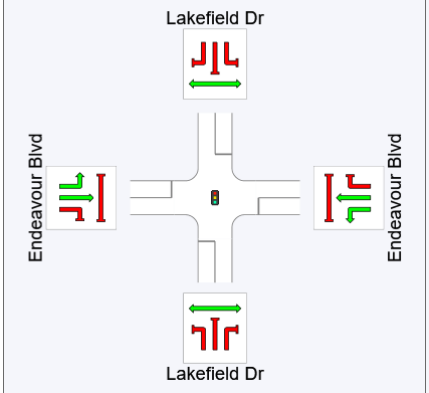
Phase	A	C	D	E	B
Phase Change Time (sec)	0	53	64	84	107
Green Time (sec)	47	5	17	17	9
Phase Time (sec)	53	8	23	22	15
Phase Split	44%	7%	19%	18%	12%
Phase Frequency (%)	100.0	50.0[1]	92.0[2]	91.7[2]	100.0

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%.

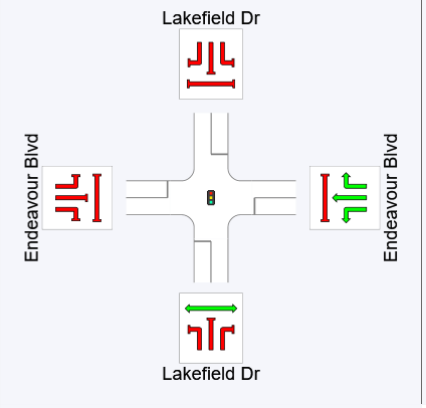
1 Phase Frequency has been given with User-Specified Phase Times.
2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence

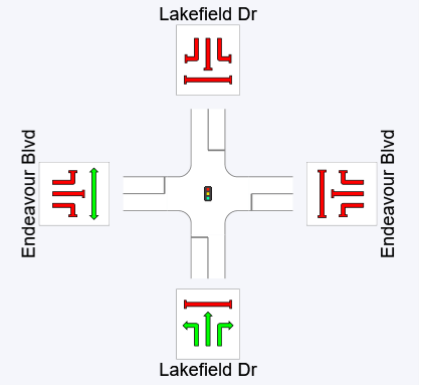
Phase A **REF**



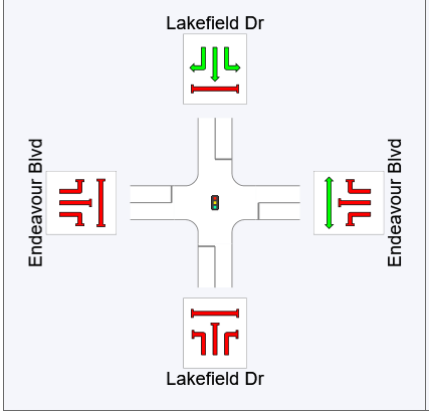
Phase C



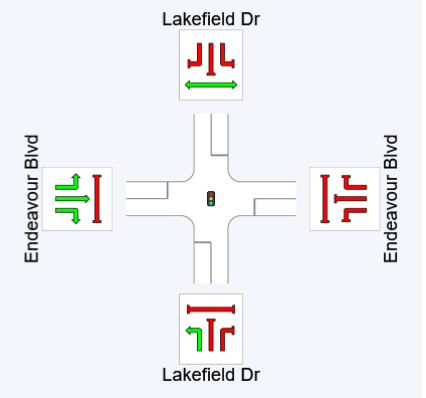
Phase D



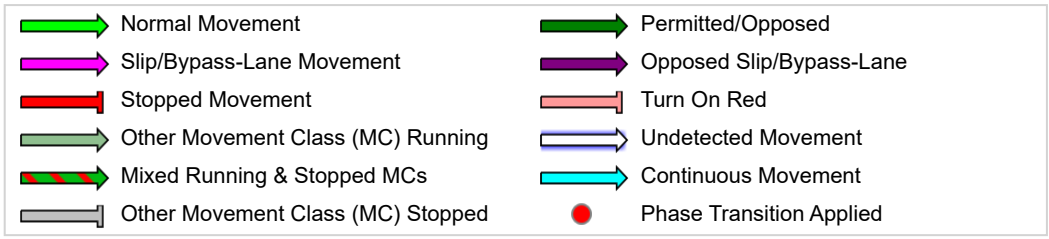
Phase E



Phase B



REF: Reference Phase
VAR: Variable Phase



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PHASING SUMMARY

Site: 101 [Endeavour Blvd/Lakefield Dr (Site Folder: 2030 PM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 121 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: SCATS - 2025 PM ACDEB
Input Phase Sequence: A, C, D, E, B
Output Phase Sequence: A, C, D, E, B
Reference Phase: Phase A

Phase Timing Summary

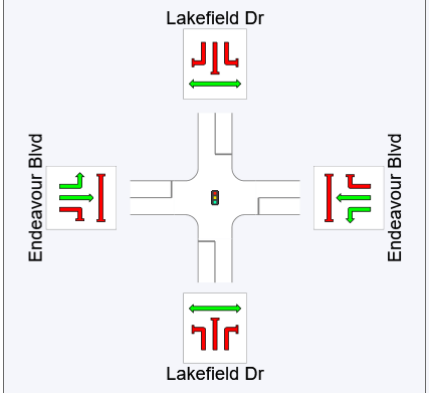
Phase	A	C	D	E	B
Phase Change Time (sec)	0	53	64	84	107
Green Time (sec)	47	5	17	17	9
Phase Time (sec)	53	8	23	22	15
Phase Split	44%	7%	19%	18%	12%
Phase Frequency (%)	100.0	50.0[1]	92.0[2]	91.7[2]	100.0

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%.

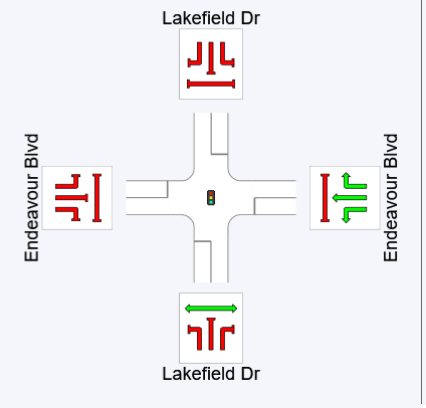
1 Phase Frequency has been given with User-Specified Phase Times.
2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence

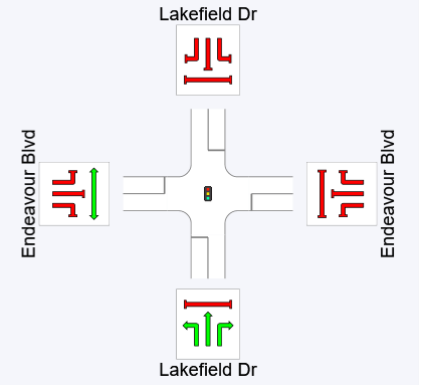
Phase A **REF**



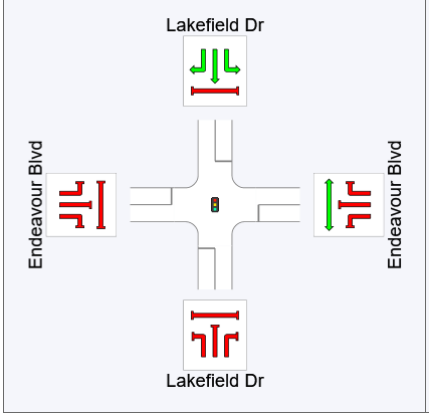
Phase C



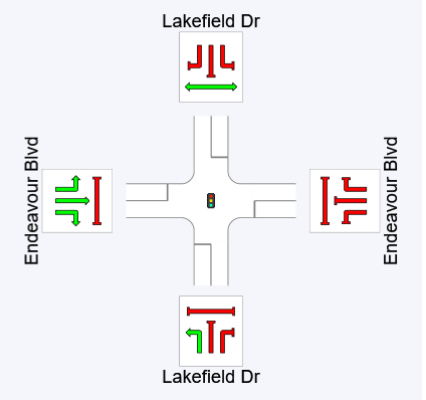
Phase D



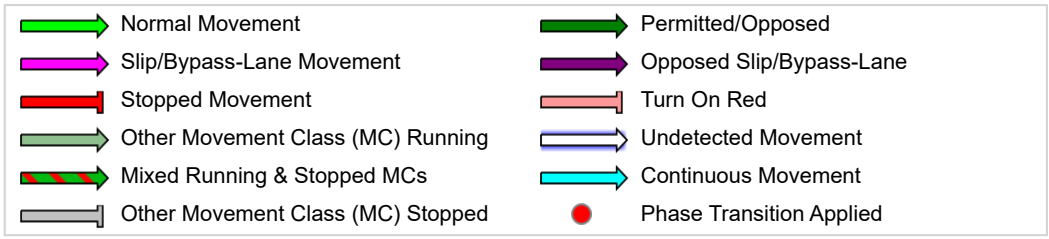
Phase E



Phase B



REF: Reference Phase
VAR: Variable Phase



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PHASING SUMMARY

Site: 101 [Endeavour Blvd/Lakefield Dr (Site Folder: 2030 PM Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 121 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: SCATS - 2025 PM ACDEB
Input Phase Sequence: A, C, D, E, B
Output Phase Sequence: A, C, D, E, B
Reference Phase: Phase A

Phase Timing Summary

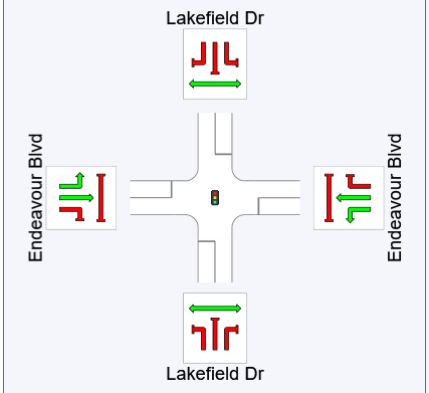
Phase	A	C	D	E	B
Phase Change Time (sec)	0	53	64	84	107
Green Time (sec)	47	5	17	17	9
Phase Time (sec)	53	8	23	22	15
Phase Split	44%	7%	19%	18%	12%
Phase Frequency (%)	100.0	50.0[1]	92.0[2]	91.7[2]	100.0

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%.

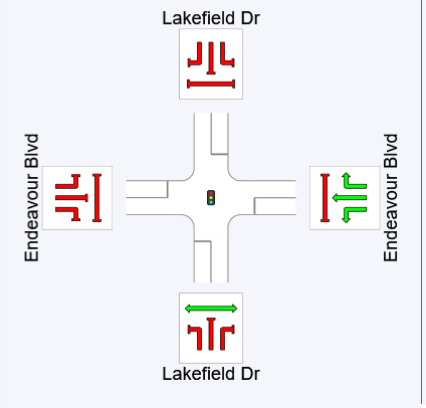
1 Phase Frequency has been given with User-Specified Phase Times.
2 Phase Frequency is implied by a Phase Time specified by the user that is less than the Required Movement Time.

Output Phase Sequence

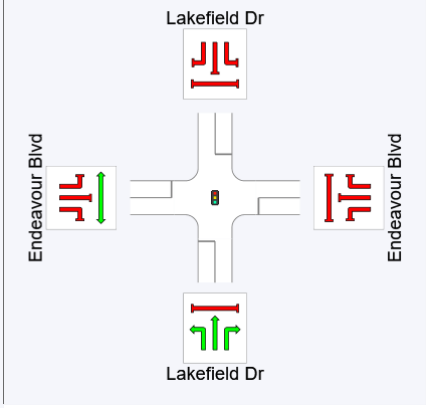
Phase A **REF**



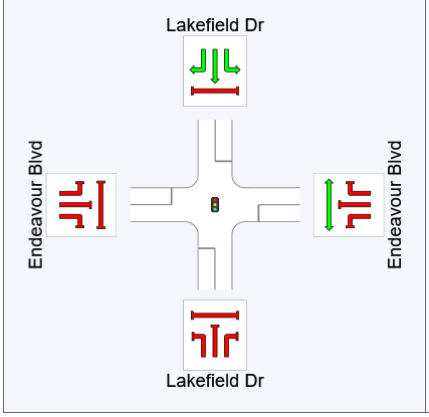
Phase C



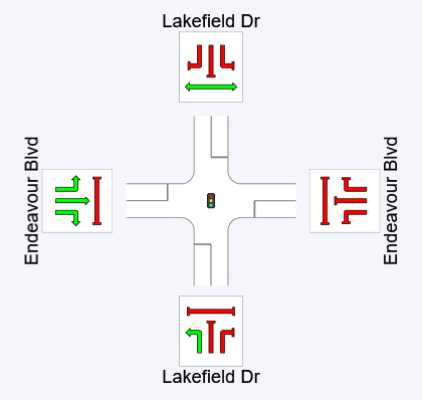
Phase D



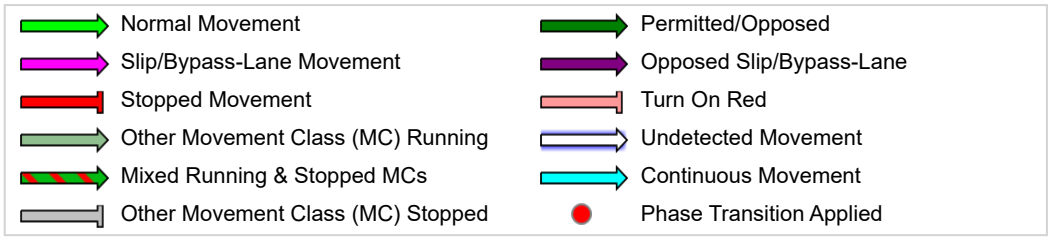
Phase E



Phase B



REF: Reference Phase
VAR: Variable Phase



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PHASING SUMMARY

Site: 101 [Endeavour Blvd/Lakefield Dr (Site Folder: 2037 PM Base Case)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 121 seconds (Site User-Given Phase Times)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: SCATS - 2037 PM ACDEB
Input Phase Sequence: A, C, D, E, B
Output Phase Sequence: A, C, D, E, B
Reference Phase: Phase A

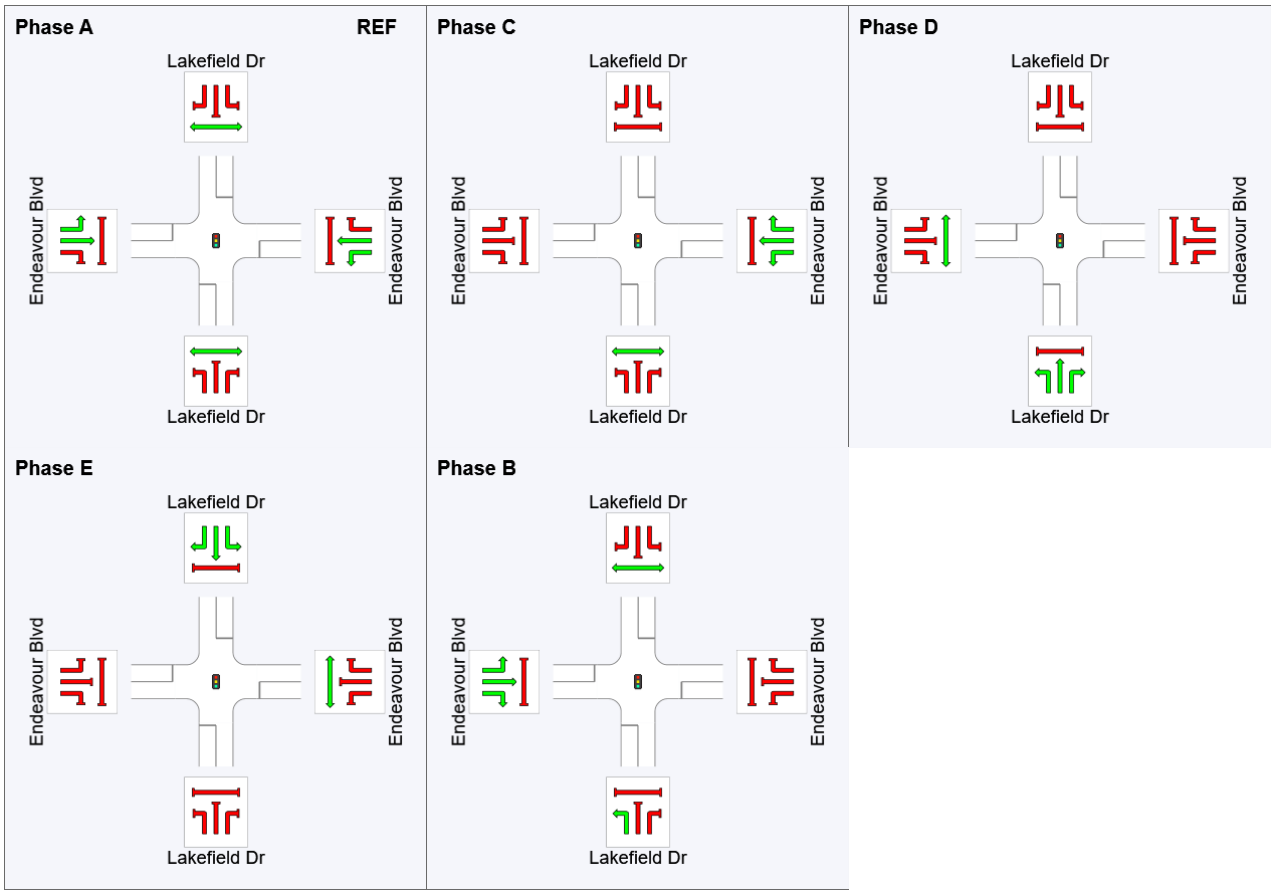
Phase Timing Summary

Phase	A	C	D	E	B
Phase Change Time (sec)	0	53	64	84	106
Green Time (sec)	47	5	17	16	9
Phase Time (sec)	53	8	23	22	15
Phase Split	44%	7%	19%	18%	12%
Phase Frequency (%)	100.0	50.0[1]	100.0[1]	100.0[1]	100.0

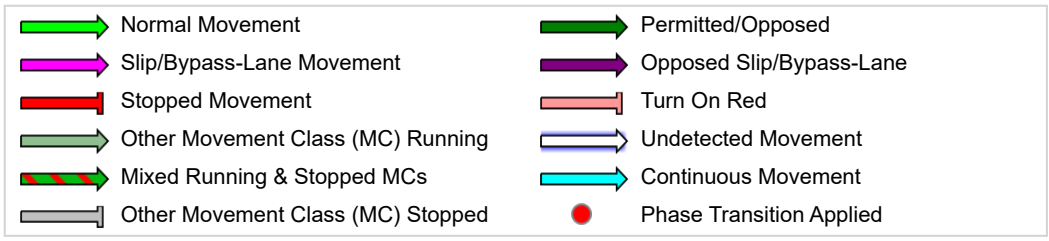
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

1 Phase Frequency has been given with User-Specified Phase Times.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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PHASING SUMMARY

Site: 101 [Endeavour Blvd/Lakefield Dr (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: SCATS - 2037 PM ACDEB
Input Phase Sequence: A, C, D, E, B
Output Phase Sequence: A, C, D, E, B
Reference Phase: Phase A

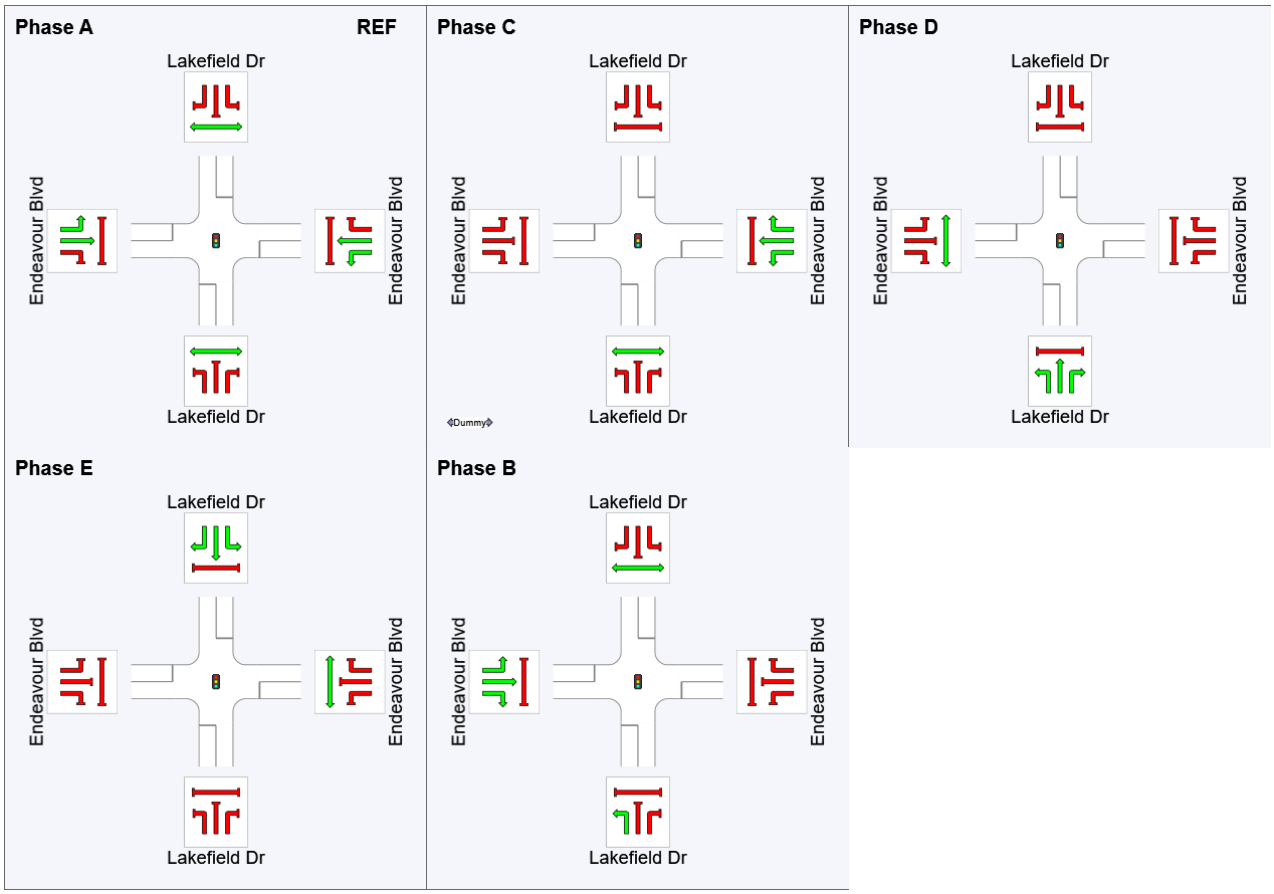
Phase Timing Summary

Phase	A	C	D	E	B
Phase Change Time (sec)	0	31	50	73	105
Green Time (sec)	25	13	17	26	9
Phase Time (sec)	31	19	23	32	15
Phase Split	26%	16%	19%	27%	13%
Phase Frequency (%)	100.0	100.0[4]	100.0	100.0	100.0

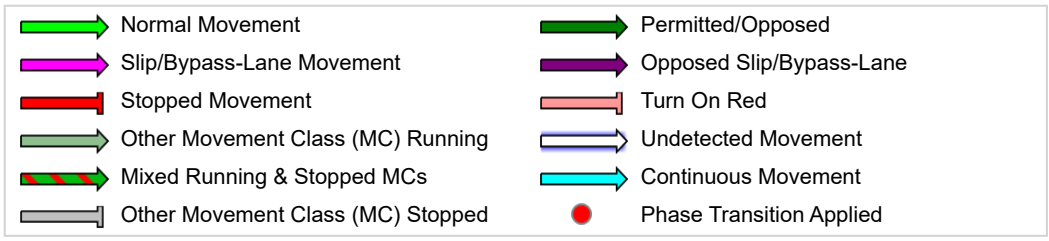
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

4 Phase Frequency specified by the user (phase times not specified).

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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PHASING SUMMARY

Site: 101 [Endeavour Blvd/Lakefield Dr - extended short lane on north leg (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: SCATS - 2037 PM ACDEB
Input Phase Sequence: A, C, D, E, B
Output Phase Sequence: A, C, D, E, B
Reference Phase: Phase A

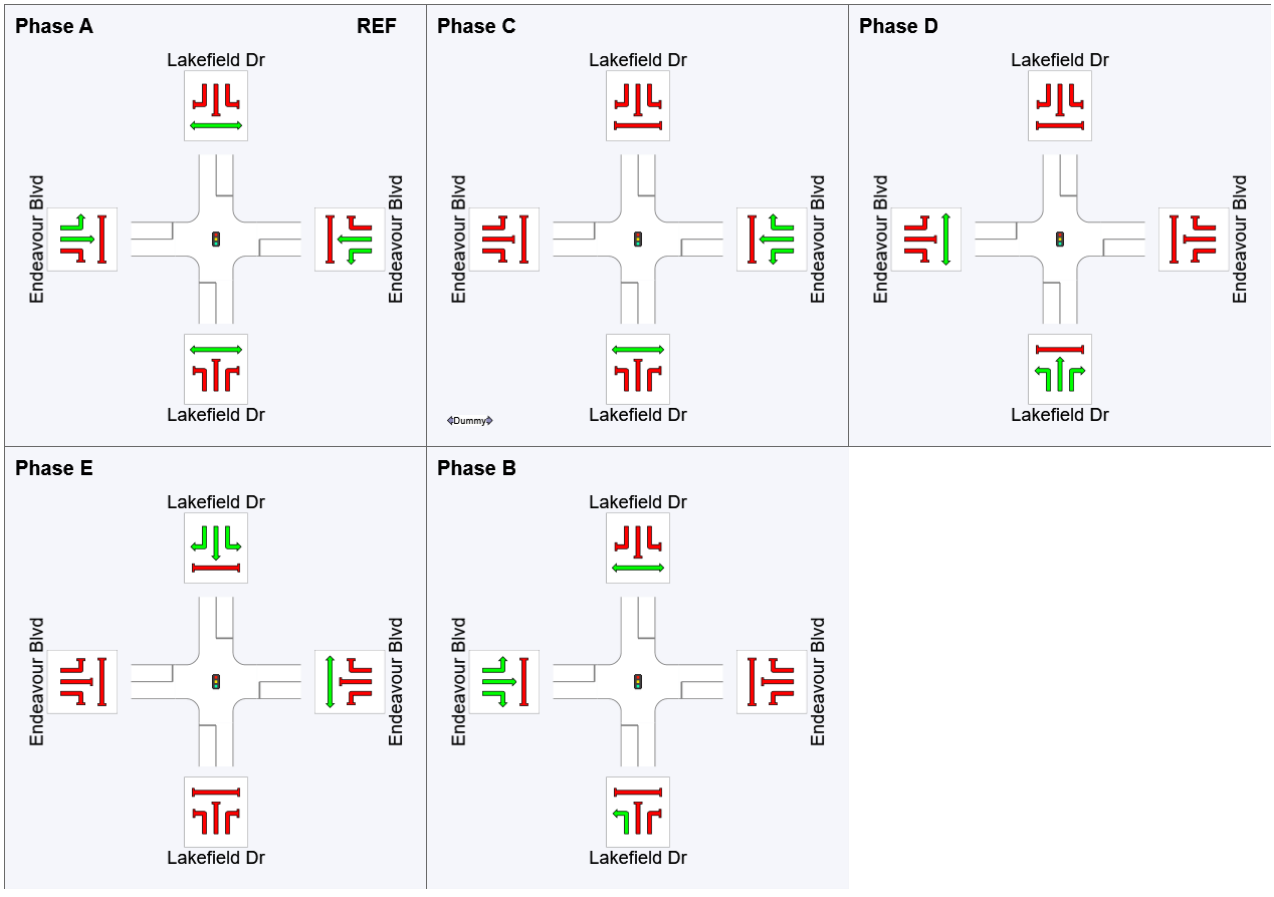
Phase Timing Summary

Phase	A	C	D	E	B
Phase Change Time (sec)	0	32	51	74	105
Green Time (sec)	26	13	17	25	9
Phase Time (sec)	32	19	23	31	15
Phase Split	27%	16%	19%	26%	13%
Phase Frequency (%)	100.0	100.0[4]	100.0	100.0	100.0

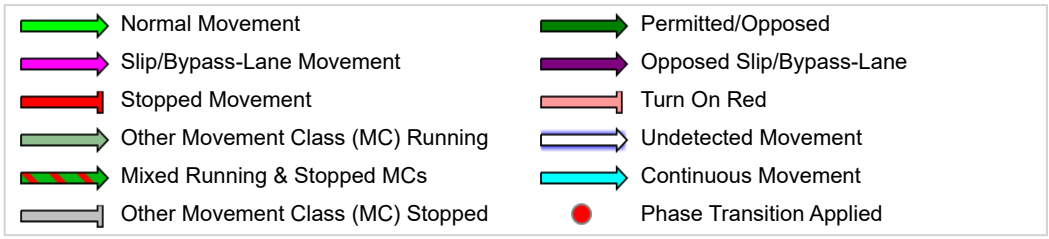
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

4 Phase Frequency specified by the user (phase times not specified).

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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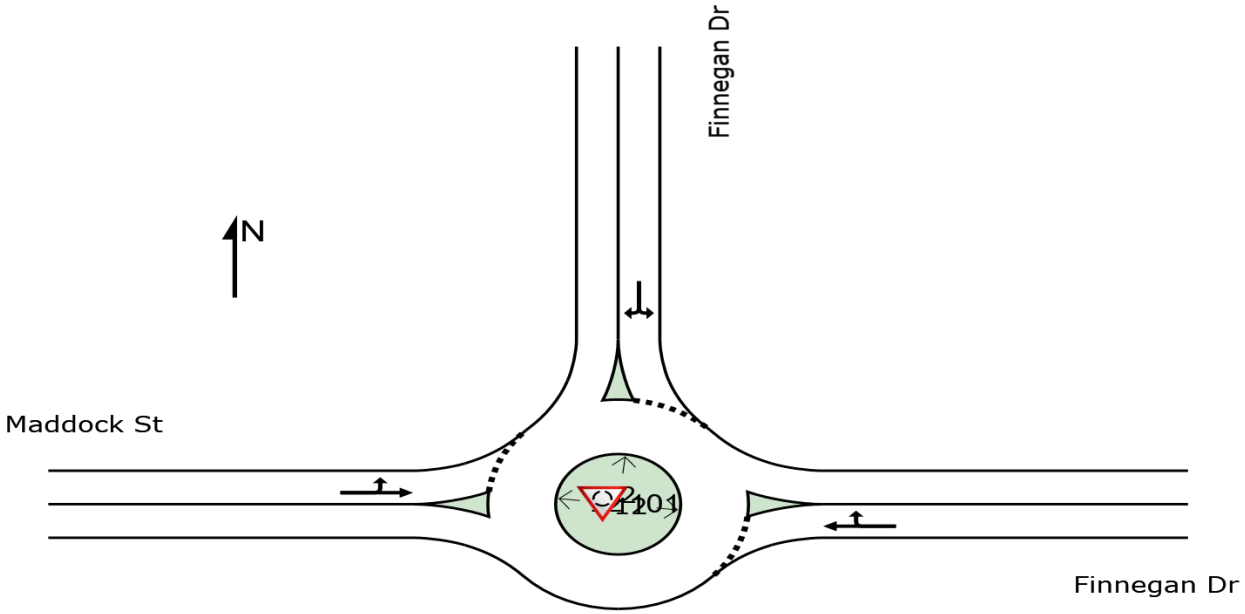
SITE LAYOUT

FINNEGAN DRIVE
PM PEAK

Site: 101 [Finnegan Dr / Maddock St (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

New Site
Site Category: (None)
Roundabout

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



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MOVEMENT SUMMARY

Site: 101 [Finnegan Dr / Maddock St (Site Folder: 2037 PM Development - without Diamond Jubilee Way Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Finnegan Dr															
5	T1	All MCs	212	0.0	212	0.0	0.206	2.1	LOS A	1.3	9.1	0.02	0.42	0.02	35.8
6	R2	All MCs	138	0.0	138	0.0	0.206	5.5	LOS A	1.3	9.1	0.02	0.42	0.02	35.1
Approach			349	0.0	349	0.0	0.206	3.4	LOS A	1.3	9.1	0.02	0.42	0.02	35.5
North: Finnegan Dr															
7	L2	All MCs	95	0.0	95	0.0	0.092	3.7	LOS A	0.5	3.3	0.42	0.48	0.42	34.9
9	R2	All MCs	1	0.0	1	0.0	0.092	6.8	LOS A	0.5	3.3	0.42	0.48	0.42	31.7
Approach			96	0.0	96	0.0	0.092	3.7	LOS A	0.5	3.3	0.42	0.48	0.42	34.9
West: Maddock St															
10	L2	All MCs	1	0.0	1	0.0	0.211	3.1	LOS A	1.1	7.9	0.32	0.35	0.32	32.9
11	T1	All MCs	249	0.0	249	0.0	0.211	2.8	LOS A	1.1	7.9	0.32	0.35	0.32	35.5
Approach			251	0.0	251	0.0	0.211	2.8	LOS A	1.1	7.9	0.32	0.35	0.32	35.5
All Vehicles			696	0.0	696	0.0	0.211	3.2	LOS A	1.3	9.1	0.18	0.41	0.18	35.4

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

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