PROPOSED RESIDENTIAL SUBDIVISION

1-63 Bryants Road & 101 Jackson Court, Ripley QLD 4306

Traffic Impact Assessment

For KDL Property Group Pty Ltd

L+R ENGINEERS MANAGERS SCIENTISTS

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1. Introduction

Lambert & Rehbein (SEQ) Pty Ltd has been commissioned by KDL Property Group Pty Ltd to prepare a Traffic Impact Assessment (TIA) in support of the proposed subdivision development located at 1-63 Bryants Road & 101 Jackson Court, Ripley QLD 4306. The development site is formally described as Lot 359 & 360 on S3173 with a total site area of approximately 37.23ha.

The proposed development application will be Permissible Development under the Ripley Valley PDA (UDA) Development Scheme. It will seek a Development Permit for the Reconfiguring of a Lot to provide a residential subdivision with 162 residential lots plus one (1) balance lot. The subdivision will gain access to the road network via two (2) new priority-controlled intersections onto Wensley Road and Jackson Court. The proposed site layout prepared by Saunders Havill has been included in **Appendix A**.

The report includes an assessment of the potential impact that the development could have on the surrounding road network compared to the existing approval and outlines the proposed servicing and access arrangement.

The report has been compiled in a clear and concise manner and is set out as follows:

Section 2 discusses the existing land use and traffic arrangements in the vicinity of the proposed development site.

Section 3 provides details of the proposed development, including an assessment of the site layout, access, parking and servicing arrangements.

Section 4 displays the calculations and assumptions used to establish the forecast generation of the proposed development traffic.

Section 5 summarises the key outcomes of the traffic investigations.

A response to Ipswich City Council's (ICC) Transport and Parking (TAP) code has been attached in **Appendix C**.

Lambert & Rehbein has derived the data in this report primarily from the data provided by the Client, and detailed desktop site investigation undertaken in July 2026.

This report has been prepared on behalf of and for the exclusive use of the Client and is subject to and issued in connection with the provisions of the agreement between Lambert & Rehbein and the Client. Lambert & Rehbein accepts no liability or responsibility whatsoever for or in respect of any use of or reliance upon this report by any third party.

2. Context of the Development Site

This section of the report describes the context of the proposed development and includes a description of the existing road network, adjacent land uses, and existing active and public transport facilities servicing the site.

2.1. Development Site

The proposed development site is located at 1-63 Bryants Road & 101 Jackson Court, Ripley QLD 4306. The development site is formally described as Lot 359 & 360 on S3173 with a total site area of approximately 37.23ha. The subject site forms part of the Ripley Valley PDA, as such, the development is subject to assessment under the Ripley Valley PDA Development Scheme.

The indicative site location on aerial imagery is shown in **Figure 2-1** below.

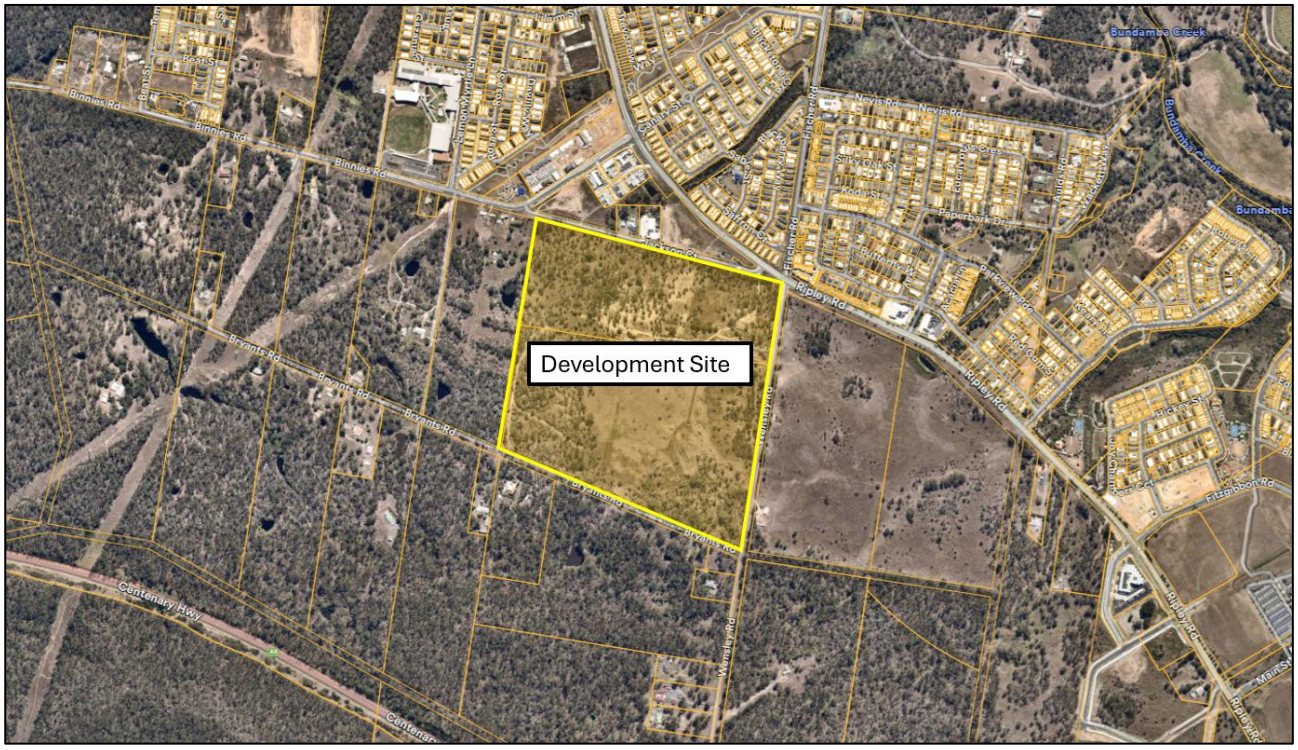


Figure 2-1 Development Site Location (Source: Nearmap 2026)

2.2. Adjacent Road Network

Inspection of the land use, road condition, intersection characteristics, public transport facilities, pedestrian access, and cyclist provisions surrounding the proposed development site have been undertaken in preparation of this traffic assessment. This was completed to collect information about the road network operation, safety characteristics, public transport network and specific network / land-use factors potentially of influence on the proposed development.

Figure 2-2 shows the proposed development site in the context of the surrounding road network and the linkages to the broader network.

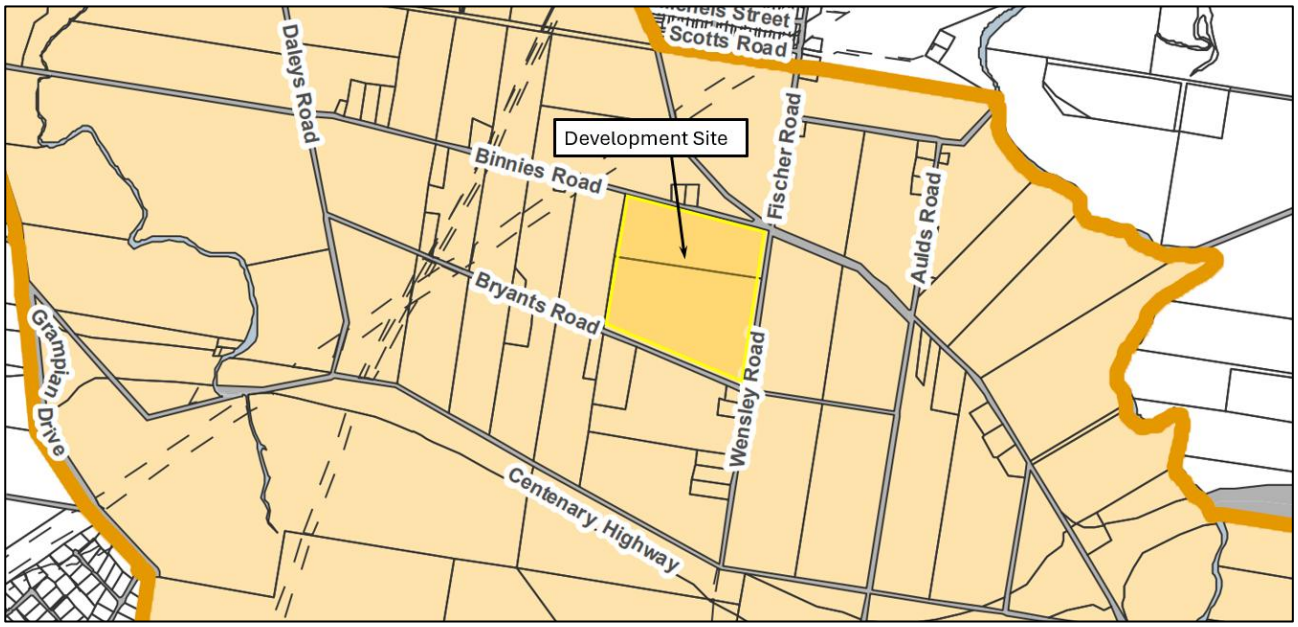


Figure 2-2 Development Site Location (Source: Ripley Valley PDA)

2.2.1. Jackson Court

Jackson Court runs along the northern frontage of the development site and is under the jurisdiction of ICC. The general form of Jackson Court at the development sites frontage is shown in **Figure 2-3** and was observed to have the following characteristics:

- Two, two-lane road with a reserve width of 20m;
- No kerb and channel on either side of the road;
- Pavement width of approximately 8m;
- No dedicated cycle lanes provided;
- No pedestrian footpaths provided on either side of the road;
- No posted speed limit, assume 50km/h in built-up areas.



Figure 2-3 Jackson Court at the Site's Frontage (Source: Google Maps) (Facing East)

2.2.2. Wensley Road

Wensley Road runs along the eastern frontage of the development site and is under the jurisdiction of ICC. The general form of Wensley Road at the development sites frontage is shown in **Figure 2-4** and was observed to have the following characteristics:

- Road width of approximately 5.5m;
- Two, two-lane road with a reserve width of 21.5m;
- Unsealed with no kerb or channel either side of the road;
- No dedicated cycle lanes provided;
- No pedestrian footpaths provided;
- No on-street parking provided; and
- No posted speed limit, assume 50km/h.



Figure 2-4 Wensley Road at the Site's Frontage (Source: Google Maps) (Facing South)

2.3. Crash History

Investigation of the road crash history in the vicinity of the site has been undertaken using available crash data from the Queensland Government's mapping service Queensland Globe. The analysis found that there was four (4) 'killed or seriously injured' (KSI) crash recorded within the vicinity of the site within the last five (5) years of available data as shown in **Figure 2-5** and summarised in **Table 2-1**.



Figure 2-5 Road Crash Location (Source: QLD Globe)

Table 2-1 Detailed Crash Descriptions

ID	SEVERITY	TYPE	NATURE	YEAR	CONDITIONS	CRASH DCA	DESCRIPTION	CRASH REF:
1	Hospitalisation	Multi-Vehicle	Angle	2023	Daylight - Clear	408	Vehs Manoeuvring: Entering From Footway	379055
2	Hospitalisation	Multi-Vehicle	Angle	2020	Dawn - Clear	202	Vehs Opposite Approach: Thru-Right	187717
3	Hospitalisation	Multi-Vehicle	Head-on	2019	Daylight - Raining	201	Vehs Opposite Approach: Head On	298577
4	Hospitalisation	Single-vehicle	Hit object	2023	Daylight - Clear	704	Off Path-Straight: Right Off Cway Hit Ob	217866

As seen in **Figure 2-5**, there has been four (4) hospitalisations recorded in the vicinity of the site within the last five (5) years of available data, however all crashes occurred at different locations, and no common crash trend has been identified that could be exacerbated by development traffic.

2.4. Active Transport Facilities

The development site is currently not directly connected to any active transport infrastructure, however there are some existing pedestrian pathways provided along Binnies Road and Ripley Road along with cycle lanes towards the east on Ripley Road. We note as the surrounding land develops, including the subject site, additional pathways and cycleways will be constructed in accordance with Council's requirements. This is inclusive of an active transport path provided along the southern side of Binnies Road, providing improved east-west connections.

2.5. Public Transport Services

The development site has connectivity to the existing public transport network, with two (2) Translink bus stops located within a typical 400m walking radius as shown in **Figure 2-6.** The services that operate from these bus stops have been summarised below in **Table 2-2.**

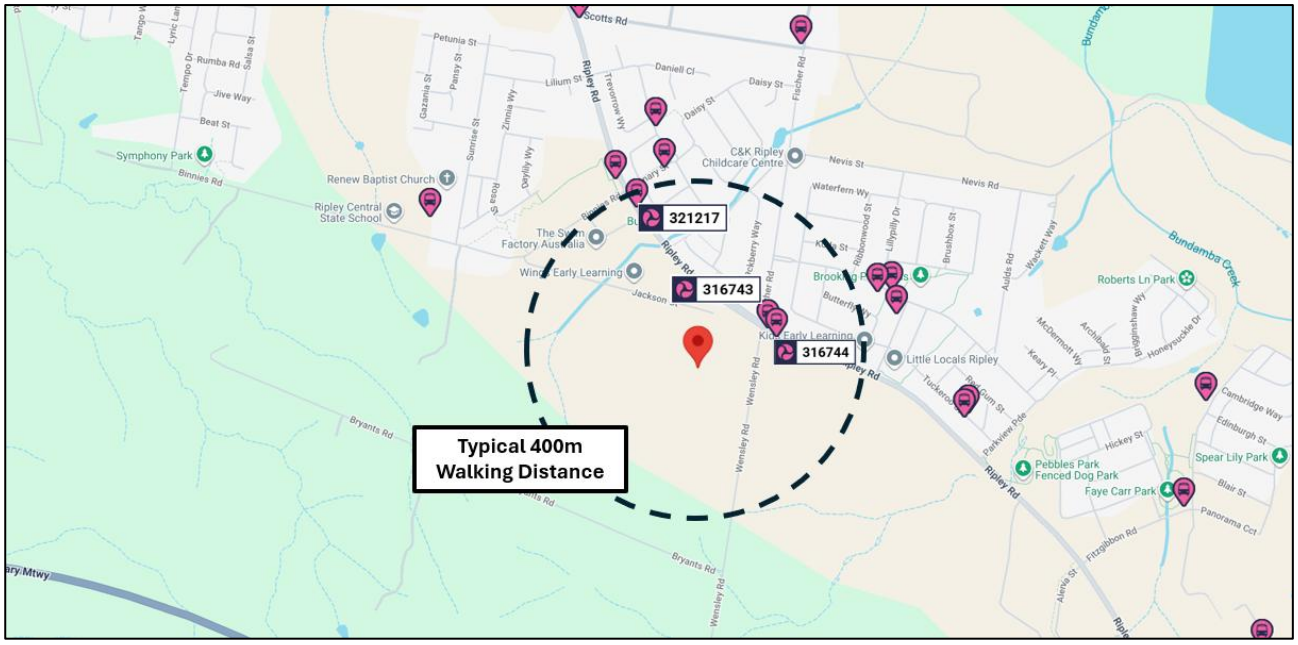


Figure 2-6 Public Transport Facilities (Source: Translink)

Table 2-2 Translink Public Bus Stop Routes

STOP DESCRIPTION (# TRANSLINK ID)	ROUTE ID	ROUTE DESCRIPTION
Ripley Rd at Wensley Rd (#316744)	531	Towards Yamanto West
Ripley Rd at Canary St, Ripley (#321217)	531	Towards Orion Springfield Central East

There are also additional School Bus services that operate from these stops including the hail 'n' ride stop (#316743) as shown in **Figure 2-6.**

As the development site is within the Ripley Valley PDA, it is expected that as more development occurs there will be a greater demand for public transport and Translink will increase its service routes. It is noted that the I2S public transport corridor and associated future train station has been planned for the Ripley Town Centre to the west of the site – with the rail corridor running through the centre of the proposed development lot. Whilst no detailed plans have been made for the network, this intended rail connection will provide significant improvements to the public transport connections in the wider area.

2.6. Future Infrastructure Upgrades

The Ripley Valley *PDA Map 2: Transport (roads) - Trunk Infrastructure* has several planned road and intersection upgrades surrounding the development site in order to cater for the additional traffic generated by development in the wider area. An excerpt of this map is shown below as **Figure 2-7**.

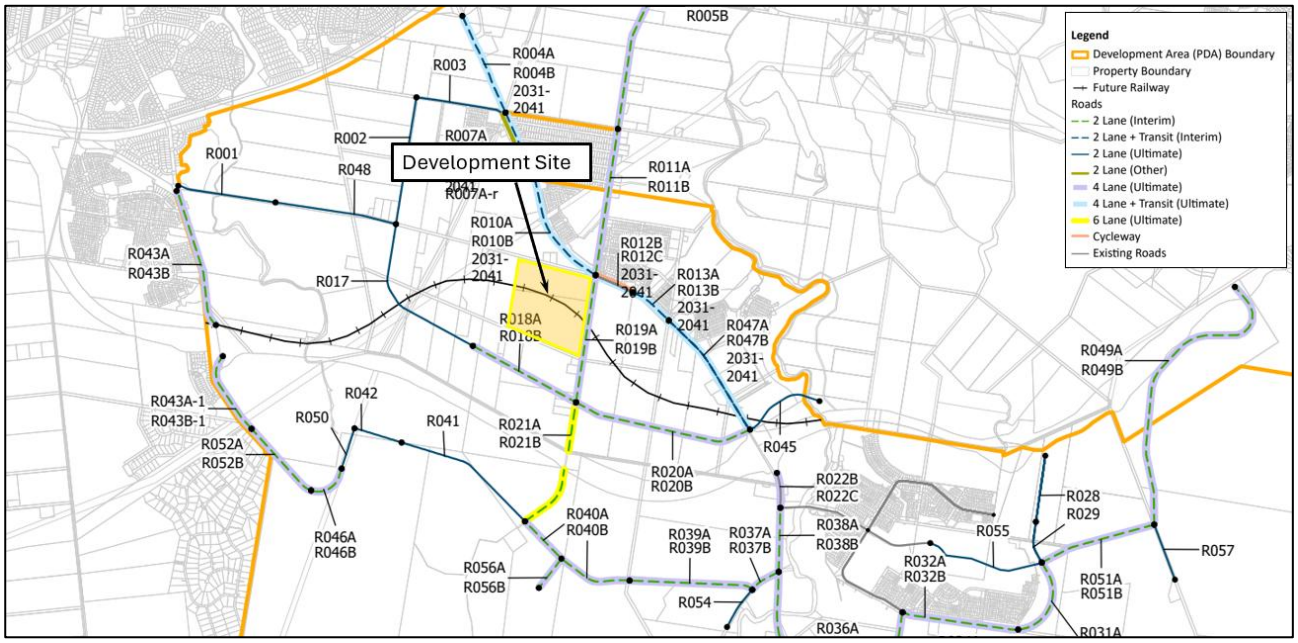


Figure 2-7 Ripley Valley PDA Transport Roads – Trunk Infrastructure Mapping

In addition to the above, the Ripley Valley PDA *Infrastructure Plan Background Report* (IPBR) identifies a program of staged intersection upgrades across the network, with intersections progressively transitioning from priority control to signalised control. A wider review was also conducted of the Queensland Government Development Assessment Mapping System (DAMS), DTMR's Queensland Transport and Roads Investment Program 2023-24 to 2026-27 (QTRIP) as well as ICC's Local Government Infrastructure Plan (LGIP) – Schedule of Works Final.

Specific upgrades in relation to the roads in the immediate area are found as below:

Ripley Road

The form of Ripley Road is currently being upgraded as part of a four-stage project provided by ICC. This upgrade will increase the form of the Ripley Road carriageway from the current two-lane two-way nature to a four-lane two-way configuration, with median separation in the ultimate stages. Stage 1, spanning from the Cunningham Highway Intersection to Monterea Road Intersection, has commenced construction with an expected completion of 2027.

Stage 2, which spans from Monterea Road to Fisher Road, is anticipated for completion during the 2028/2029 financial year. This second stage upgrade leads up until the western frontage of the site of Wensley Road, with works anticipated to commence in late 2026. Further information on this upgrade can be found on the City of Ipswich website.

Jackson Court

The form of Jackson Court is currently being upgraded across different developments within the vicinity. This is currently being undertaken by the Multiple Residential development opposite at 68 Jackson Court, Ripley (ICC Ref: 13883/2024/MAPDA/A) which demonstrates that this road form is to be built as part of the development in addition to a 1.5m concrete path. The development proposes to provide a Collector Street form in accordance with the ICC requirements, with a 2.5m wide shared path on the southern side of the road along the site frontage.

Wensley Road

Wensley Road is to be upgraded as part of the trunk infrastructure mapping noted in PDA Map 2 as shown above in **Figure 2-7**. The intent of this future connection, in combination with Fischer Road to the north, is a major road connection running north-south within the PDA area which will connect to the Centenary Motorway to the south and Centenary Motorway (via Swanbank Road) to the north.

This major road upgrade is to be provided as a staged upgrade, with the initial upgrade being to a 'two-lane + Transit' option, and the ultimate configuration being a 'four-lane' option. It is understood that the upgrade of Wensley Road to an arterial road with four to six lanes is contingent upon the delivery of a new grade-separated interchange at the intersection of Wensley Road and the Centenary Highway. However, the Department of Transport and Main Roads (TMR) does not currently have any approved planning for an interchange at this location on the Centenary Highway.

As noted in the above Ripley Road upgrades section, Stage 2 of the Ripley Road upgrade will lead up until the Wensley Road / Fischer Road intersection. We understand that the Ripley Road / Wensley Road / Fischer Road intersection forms part of these Stage 2 upgrades and will allow for the upgrade to a signalised form.

The intersection upgrade addresses vehicular capacity growth and supports the broader transport vision for the Ripley Valley. This includes the signalisation of the intersection, revised line marking and signage and separated space for shared pedestrians and cyclists, as shown in **Figure 2-8.** As part of the

intersection upgrade, Wensley Road is to be upgraded (i.e. sealed) for a distance of approximately 80m back from Ripley Road.

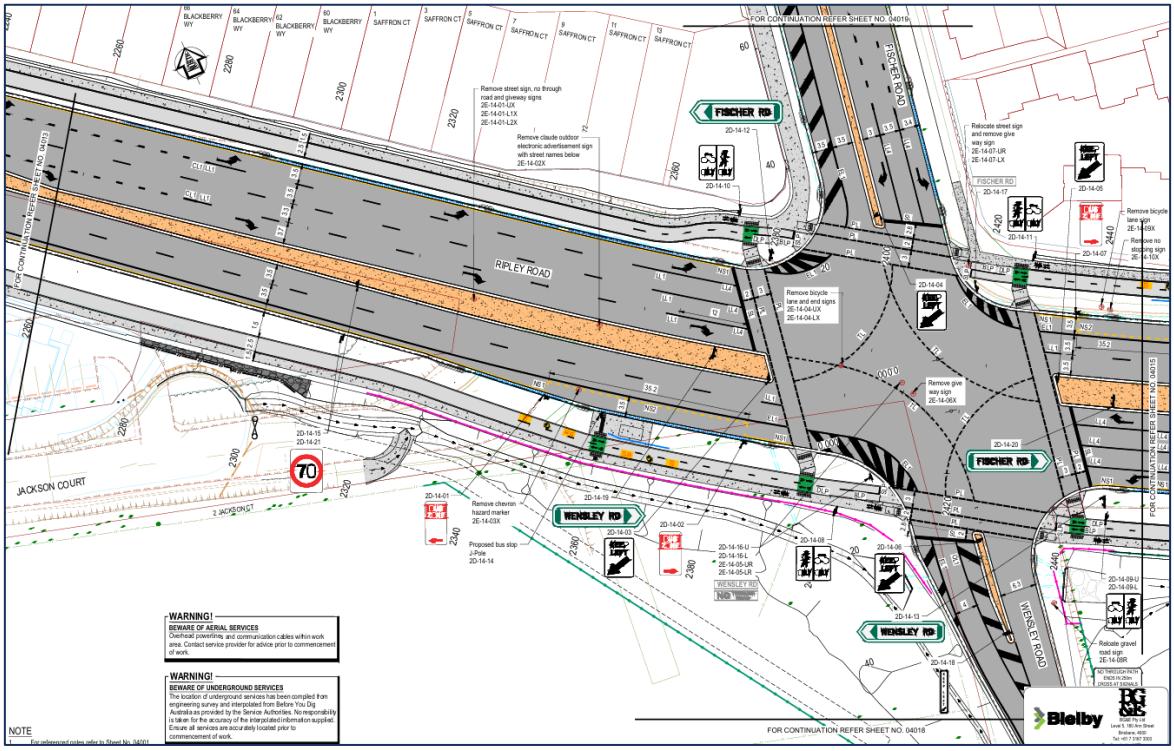


Figure 2-8 Ripley Road / Wensley Road / Fischer Road Planned Upgrade

The existing bus stop on the southern side of Ripley Road is also to be relocated to the western side of the Fischer Road / Wensley Road intersection.

It is also noted that opposite the site frontage on Wensley Road, an application for a new secondary school for Ripley Valley has been submitted (July 2026). This development proposes to connect to the Wensley Road upgrade following the intersection upgrade, with a driveway positioned approximately ~80m from the intersection to align with the road constructed by ICC. The location of this crossover would not impact the future road connection proposed as part of the development.

Wider Road Network

Binnies Road is currently being upgraded to provide an improved east-west connection for vehicle traffic in the vicinity. For the future design horizons, connections are to be upgraded along Bryants Road to the south and via the neighbourhood connector connection within the site, providing additional travel paths for the east-west movement into the future. Upgrades to the motorway interchanges to the north and south are also anticipated in the future design horizons which will are designed to reduce the impact on the existing Centenary Motorway interchange.

Overall, the surrounding road network is anticipated to alter significantly in the coming years, which will have impacts to the traffic flow within the vicinity of the site.

3. Details of the Proposed Development

This section of the report describes the nature of the proposed development, provides a review of the proposed access and includes an assessment of the servicing arrangement.

3.1. Proposed Development

The proposed Development Application will be Permissible Development under the Ripley Valley PDA (UDA) Development Scheme. It will seek a Development Permit for the Reconfiguring of a Lot to provide a residential subdivision with 162 residential lots plus one (1) balance lot. The subdivision will gain access to the road network via two (2) new priority-controlled intersections onto Wensley Road and Jackson Court. This proposed design has taken into account the Movement IMP for the site, with the proposed development layout prepared by Saunders Havill has been included in **Appendix A**.

3.2. External Road Connections

The proposed development will gain access to the external road network via two (2) new intersections onto Wensley Road and Jackson Court. Information on the access arrangements for each of the design horizons are provided below:

Interim Access Arrangement:

- All traffic to travel via priority-controlled Jackson Court access.
- Temporary turnarounds provided at the proposed Wensley Road access.

Ultimate Access Arrangement:

- Traffic to travel via either Jackson Court or Wensley Road, with access provided at both of these locations.

The form of these intersections will be a priority-controlled T-intersection and will facilitate all-movements access in and out of the development site.

As noted above, all interim traffic will travel via the Jackson Court Access point, which will effectively operate as a right-in left-out movement given the termination of Jackson Court to the east of the road connection point. At this opening point, the Wensley Road intersection will not be provided.

The ultimate access is contingent on the construction of Wensley Road up until the proposed road connection point, which would occur following the signalised intersection upgrade of Ripley Road / Fischer Road / Wensley Road. In the ultimate form of Wensley Road, a central median would be provided along the road which could limit the road connection to left-in left-out. This is not anticipated until a much further design horizon, and as such within the Interim form of Wensley Road, it is anticipated that a right turn would be allowed in and out of the development. As such this has been taken into account for the intersection assessment.

3.3. External Active Transport Connections

In strict accordance with the EDQ guidelines, a 3m shared cycle path would be provided along the site frontage in order to meet the requirements of the EDQ guidelines for a neighbourhood connector road.

However, it is noted that the Ripley Road / Wensley Road / Fischer Road intersection upgrade provides stormwater infrastructure at the end of Jackson Court that effectively blocks any active transport connection to pathways on Ripley Road as shown in **Figure 3-1**.

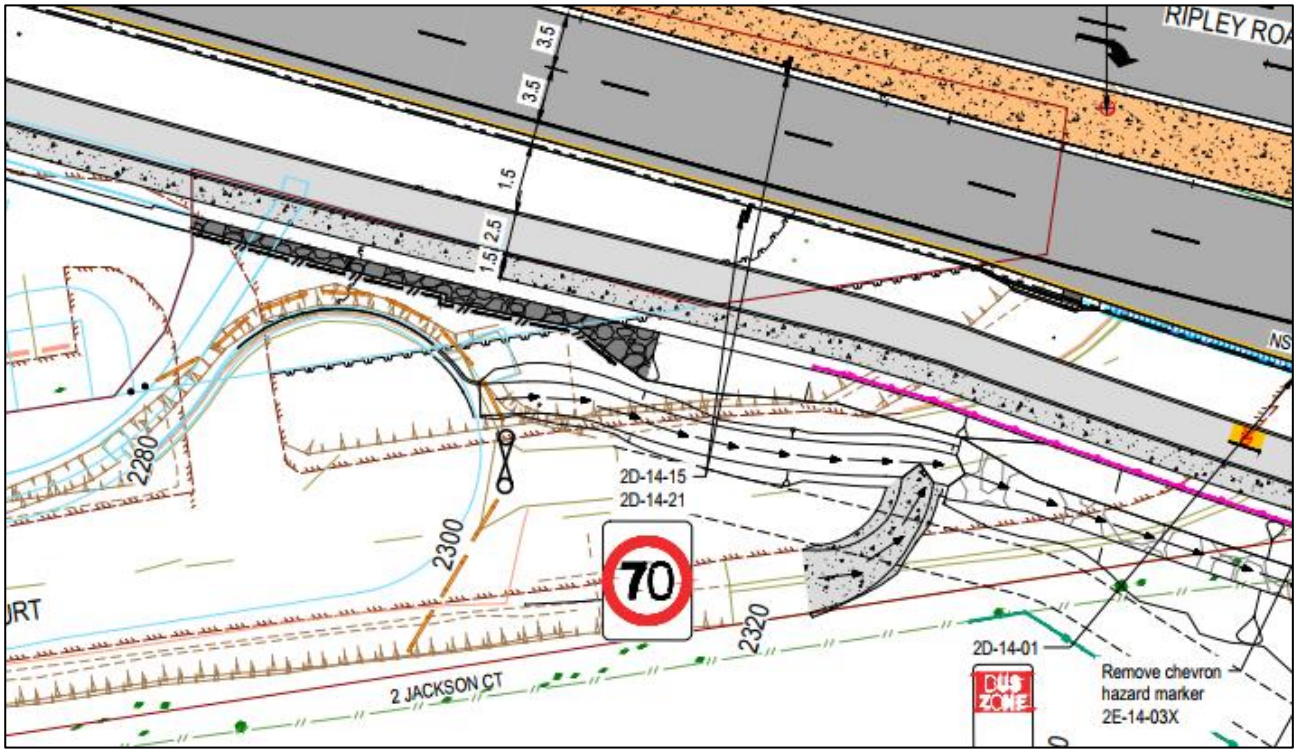


Figure 3-1 Proposed Stormwater Works at end of Jackson Court

The development will instead look for this active transport connection to be provided along Binnies Road as the major connection, as opposed to being provided along Jackson Court at this juncture. This is given the preexisting nature of the active transport connection along the Binnies Road southern frontage, which provides a more direct connection and flow along the east-west corridor when compared to using Jackson Court.

Local active transport connection along the Jackson Court frontage will still be possible with the inclusion of the 2.5m wide pathway provided along the frontage. This still provides an appropriate shared pathway which can facilitate the movement of pedestrians and cyclists, and will connect to the 3m-wide primary active pathway route on Binnies Road which will cater for the majority of these active transport users into the future.

3.4. Internal Road Network

As shown in the proposed site layout attached in **Appendix A**, the proposed internal road network will provide efficient and effective access to the proposed development.

The internal road network has been designed generally in accordance with the EDQ guidelines with respect to the road reserve, with a 15.5m road reserve width as per the EDQ Street and Movement Network requirements for a Neighbourhood Access Street for roads less than 3,000vpd.

A 20m wide modified 'Neighbourhood Connector Street' also runs along the southern boundary of the site, which runs adjacent to the railway corridor. This proposed design is a reduction on the typical 22m requirements given it incorporates a reduced verge on the southern side of the road. This reduction in verge is acceptable given this runs along the future rail corridor, and as such would not require a standard verge profile along this frontage.

All residential lots will gain access from the internal road network with no direct lot access proposed onto Wensley Road or Jackson Court. Shared driveways will be provided for lots 139-140, 322-324, and 422-423, which will be designed in accordance with the ICC requirements.

3.5. Servicing Requirements

The proposed internal road carriageway has been designed generally in accordance with the widths outlined with ICC's Infrastructure Planning Scheme Policy (PSP) and will therefore accommodate the spatial requirements of an ICC side loading domestic refuse collection vehicle (RCV). The vast majority of dwellings will be serviced at individual lot frontages with bin pads provided for lots 139-140, 322-324, and 422-423. A temporary turnaround facility for the RCV will be provided adjacent to lot 423 until such time the Wensley Road connection is provided. Similarly, a turnaround will be provided on the balance land beyond lot 527 until such time where the adjacent western lot develops.

4. Impact Assessment

This section provides details of the potential impact that the development traffic could have on the operation of the surrounding road network.

4.1. Trip Generation

Additional traffic associated with proposed development has been forecasted using the industry accepted peak hour traffic generation rates from the Transport for New South Wales (TfNSW) *Guide to Transport Impact Assessment* for regional low density residential dwellings. The traffic generation rates, and in/out directionality of movements adopted for the analysis within this report, are documented in **Table 4-1**.

Table 4-1: Trip Generation & Directionality Rates

LAND USE	GENERATION RATE		DIRECTIONALITY (% IN / % OUT)	
	AM Peak	PM Peak	AM Peak	PM Peak
Low Density Residential	0.83 trips / dwelling	0.84 trips / dwelling	20% IN / 80% OUT	70% IN / 30% OUT

As such, based on the above guidelines and assumptions, the estimated traffic generated by the development site is documented in **Table 4-2**.

Table 4-2: Trip Generation

LAND USE	YIELD	AM (IN)	AM (OUT)	PM (IN)	PM (OUT)
Low Density Residential	162 Dwellings	27	108	96	41
Total Trips per Peak		**135**		**137**	

As shown in **Table 4-2**, the proposed development is anticipated to generate 135 vehicle trips (combined in and out) during the AM peak period and 137 vehicle trips (combined in and out) during the PM peak period.

4.2. Background Traffic

Vehicle movement surveys were undertaken on 4th June 2026 from 06:30am to 09:30am and 3:00pm to 6:00pm at the following intersections:

- Ripley Road / Binnies Road / Canary Street; and
- Binnies Road / Jackson Court.

The count data was collected in 15-minute intervals to capture peak periods. The AM and PM hours were found to be as follows:

- AM peak hour: 8:00am – 9:00am; and
- PM peak hour: 4:30pm – 5:30pm.

A summary of traffic survey data is displayed in **Figure C1**, attached in **Appendix C**.

4.3. Background Traffic Growth

To assess the future background traffic, growth rates have been applied to the roads adjacent to the site. The following growth rates have been applied to the adjacent road network:

- Ripley Road – 10% Growth (based upon adjacent School application and other applications within the PDA area)
- Other Roads (inclusive of Binnies Road and Jackson Court) – 5% Growth (based upon the significant anticipated growth formed from developments in the wider catchment, whilst also having a slight reduction anticipating additional future connections further distributing traffic across the connecting roads)

It is noted that significant changes to the overall surrounding road network area are anticipated as part of the future development scenarios which will impact the traffic flow and anticipated growth in the area. These potentially include the following:

- Upgrade of Wensley Road running north/south, reducing reliance on Ripley Road
- Additional Centenary Motorway interchange to the south, changing the distribution on the network
- Provision of additional east-west connection roads including along Bryants Road, reducing Binnies Road demands
- Provision of a town centre development to the southwest, providing additional services
- Changes to the public transport network including potential train stations

Application of a 10% growth rate through to a 10-year future design horizon would represent a total increase of over 100% on the existing surveyed conditions of Ripley Road, which would not account for the above changes to the road network. L+R believes the application of this growth would not be an accurate representation of the traffic conditions at any 10-year future design horizon. This principle is similar for the minor road growth rates.

In order to validate this, L+R compared the volumes to those outlined for the Binnies Road / Ripley Road intersection outlined with the Ripley Valley PDA *Infrastructure Planning and Background Report*, which indicated that the current survey volumes already exceeded those modelled for the ultimate horizons.

Given this, L+R have only assessed the opening year horizon which has conservatively been assumed to be 2030, and as such the requisite growth rates have been applied up until this point. The predicted background traffic in 2030 has been presented in **Figure C2** and **Figure D2** attached in **Appendix C.**

4.4. Trip Distribution

It is noted that changes to the trip distribution are anticipated when the Wensley Road upgrade is provided, which would change the overall nature of the development site. For the purposes of this assessment, two separate design scenarios have been provided:

- Interim – all traffic travels via Jackson Court
- Ultimate – traffic is split between Jackson Court and Wensley Road

The distribution of trips to and from the site have been adopted based on the prevailing traffic volumes, which are presented in **Figure C3 and Figure D3** attached in **Appendix C.**

4.5. Development Traffic

Based on the trip distribution outlined in **Section 4.3**, the total development traffic in and out of the site is displayed in **Figure C4 and Figure D4,** attached in **Appendix C**.

4.6. Design Traffic

The design traffic (background traffic plus the development generated traffic) in 2030 is displayed in **Figure C5** and **Figure D5** attached in **Appendix C**.

4.7. Intersection Analysis

This section details the intersection analysis undertaken within the impact assessment area. SIDRA Intersection Analysis software was also used to analyse the performance of the following intersections:

- Binnies Road / Jackson Court;
- Ripley Road / Binnies Road / Canary Street; and
- Ripley Road / Fischer Road / Wensley Road.

4.7.1. SIDRA Model Assumptions

The following parameters have been applied to the SIDRA model:

- A Saturation Flow of 1,950 through car units per hour;
- A Peak Flow Period of 30 minutes, with a conservative Peak Flow Factor of 95%;
- Existing Intersection geometry based on measurements of aerial imagery; and
- SIDRA default gap acceptance parameters.

We note that all intersections have been analysed using conservative values for both peak flow factors and peak flow periods. These values effectively inflate the design traffic volumes, producing a more conservative assessment of each intersection.

Considering the values noted above, we believe that the assessment presented herein should be considered highly conservative and the results should represent a worst-case scenario for the impacts of the proposed development.

4.7.2. Binnies Road / Jackson Court

The existing form of Binnies Road / Jackson Court has been modelled in SIDRA, as shown in **Figure 4-1** below.

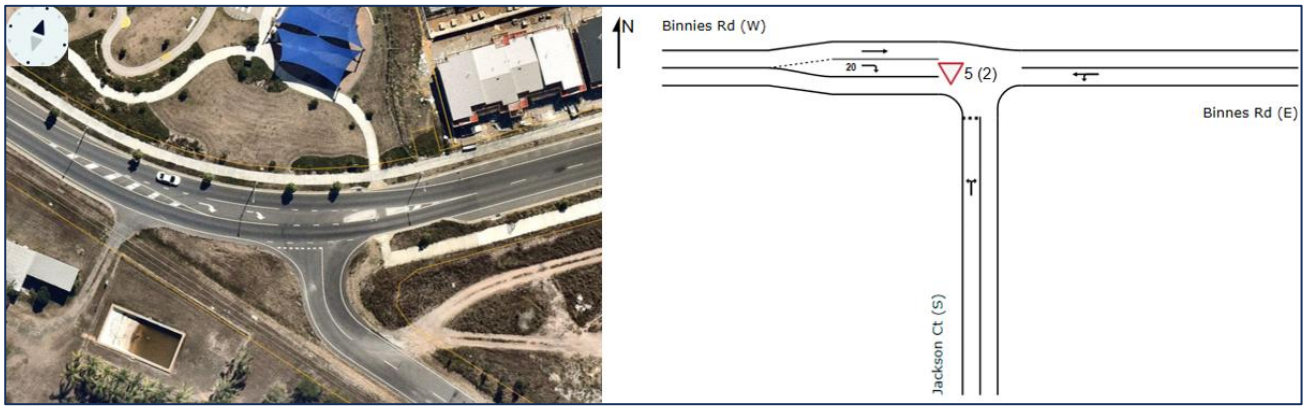


Figure 4-1 : Binnies Road / Jackson Court SIDRA layout

Table 4-3 presents the results of the SIDRA intersection analysis of the background and design (background plus development) scenarios in the year of opening (2030) for the existing intersection configuration. This includes two different design scenarios, one where the interim access arrangement is provided (being traffic only via Jackson Court) and the other being where access is provided via both Jackson Court and Wensley Road). Detailed SIDRA outputs have been included in **Appendix D**.

Table 4-3 Binnies Road / Jackson Court - SIDRA Analysis Results

Scenario	Approach	AM Peak				PM Peak			
		DoS	Avg Delay (s)	LoS	95% Back of Queue (m)	DoS	Avg Delay (s)	LoS	95% Back of Queue (m)
2030 Background Traffic	Jackson Court (South)	0.049	10.6	LOS B	1.2	0.047	8.9	LOS A	1.2
	Binnies Road (East)	0.217	0.5	NA	0	0.16	0.4	NA	0
	Binnies Road (West)	0.166	0.2	NA	0.2	0.106	0.1	NA	0
2030 Design (Jackson Court only)	Jackson Court (South)	0.277	12.3	LOS B	8.4	0.137	9.7	LOS A	3.7
	Binnies Road (East)	0.23	0.8	NA	0	0.204	1.5	NA	0
	Binnies Road (West)	0.166	0.3	NA	0.3	0.106	0.7	NA	0.6
2030 Design (Jackson Court + Wensley Road)	Jackson Court (South)	0.148	10.5	LOS B	3.9	0.097	9.2	LOS A	2.6
	Binnies Road (East)	0.225	0.7	NA	0	0.184	1.1	NA	0
	Binnies Road (West)	0.166	0.3	NA	0.3	0.106	0.7	NA	0.6

As outlined in **Table 4-3**, the Binnies Road / Jackson Court intersection will theoretically operate below practical capacity with acceptable queues and delays) at the year of opening in both peak periods, as a result of the proposed development.

4.7.3. Ripley Road / Binnies Road / Canary Street

The existing form of Ripley Road / Binnies Road / Canary Street has been modelled in SIDRA, as shown in **Figure 4-2** below.

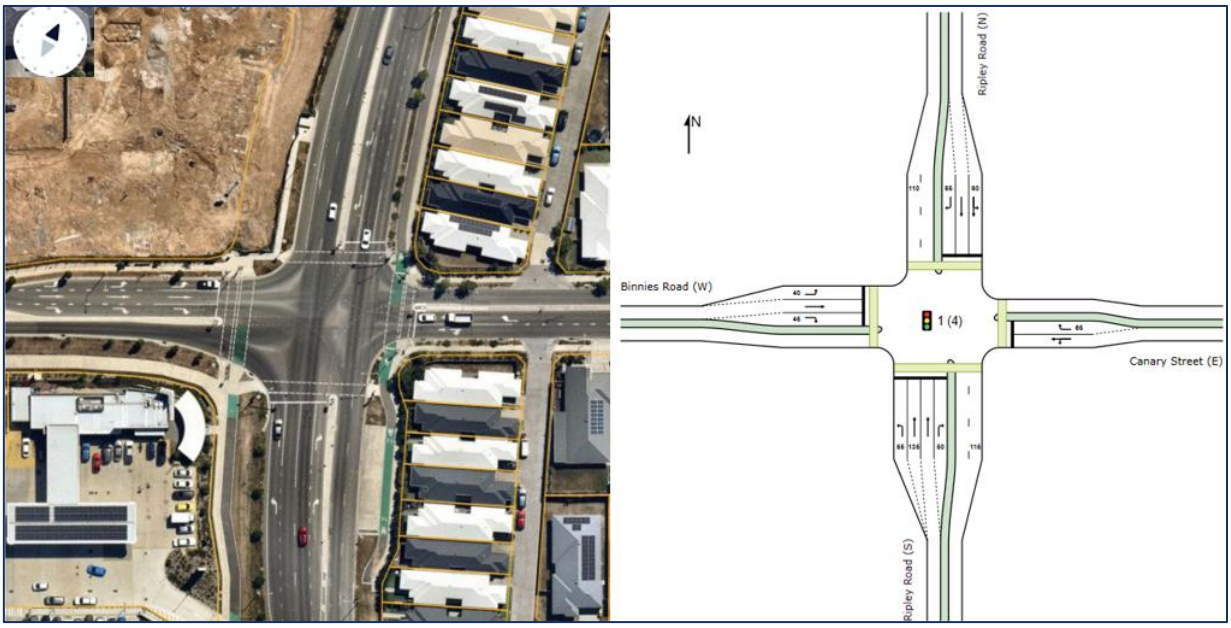


Figure 4-2: Ripley Road / Binnies Road / Canary Street SIDRA layout

We have reviewed video footage of the intersection operations to identify an appropriate phasing arrangement. The signal phasing adopted for the AM peak and PM peak period can be seen in **Figure 4-3.** A practical cycle time determined by SIDRA has been adopted in all traffic scenarios.

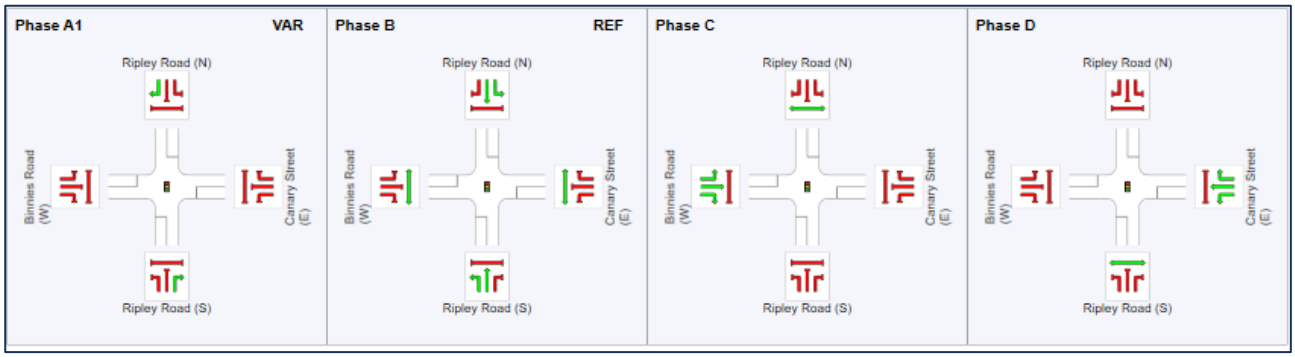


Figure 4-3 Phasing Summary

Table 4-4 presents the SIDRA results of the Ripley Road / Binnies Road / Canary Street intersection analysis of the background and design scenarios in the year of opening (2028) for the existing intersection configuration. Detailed SIDRA outputs have been included in **Appendix D**.

Table 4-4 Ripley Road / Binnies Road / Canary Street -SIDRA Results

Scenario	Approach	AM Peak				PM Peak			
		DoS	Avg Delay (s)	LoS	95% Back of Queue (m)	DoS	Avg Delay (s)	LoS	95% Back of Queue (m)
2030 Background Traffic	Ripley Road (South)	0.77	34.7	LOS C	105.5	0.84	36.4	LOS D	125.8
	Canary Street (East)	0.353	39.6	LOS D	30.1	0.202	34.8	LOS C	15.1
	Ripley Road (North)	0.847	44.3	LOS D	124.1	0.875	40.2	LOS D	135.4
	Binnies Road (West)	0.845	49.2	LOS D	90.5	0.874	47.7	LOS D	67
2030 Design (Jackson Court only)	Ripley Road (South)	0.826	39.3	LOS D	91.7	0.812	39.4	LOS D	133.7
	Canary Street (East)	0.362	39.7	LOS D	31	0.225	39.6	LOS D	18.1
	Ripley Road (North)	0.83	46.8	LOS D	93	0.87	45.7	LOS D	145.7
	Binnies Road (West)	0.83	49.2	LOS D	107	0.868	51	LOS D	80.7
2030 Design Traffic (Jackson Court + Wensley Road)	Ripley Road (South)	0.842	37.2	LOS D	83.9	0.796	38.4	LOS D	130.9
	Canary Street (East)	0.336	34.6	LOS C	27.2	0.225	39.6	LOS D	18.1
	Ripley Road (North)	0.847	43.7	LOS D	85.2	0.85	43.9	LOS D	141.3
	Binnies Road (West)	0.847	44.9	LOS D	83.3	0.849	50.6	LOS D	73

As outlined in **Table 4-4**, the overall operation of the intersection is suitable for the background and design traffic in the opening year (2030). It is however noted that the 95th percentile queuing at all the Binnies Road right turn lane exceeds the geometric design provisions in both the background and design scenarios.

As per the L+R traffic surveys, the right-turn traffic on Binnies Road already exceeds the anticipated right turn traffic demonstrated at the intersection for the 2066 ultimate design horizon within the Infrastructure Planning and Background Report (IPBR). Given this larger than anticipated right turn with a 5% growth applied, queuing is present regardless of the development.

It is noted that existing development in the area constrains the ability to upgrade the Binnies Road leg of the intersection The access provision to the retail facilities at 2 Binnies Road, located on the corner of Binnies and Ripley Road to the immediate south of the intersection, constrains any proposed extension to the intersection right turn lane. It is noted that as future connections are provided in the area running east-west to the site, it Is anticipated that the demand for the Binnies Road movements will be reduced which would potentially alleviate this issue.

Another measure that could potentially be implement would be a change in the lane discipline from Binnies Road to allow for right turn movements from both the short right turn lane and the central through lane, as opposed to the current arrangement where the central lane only travels through. This alteration to the lane discipline would allow for increased right turn volumes at the intersection, and is not anticipated to have significant impacts on the throughbound traffic from Binnies Road to Canary Street given the anticipated volumes are low.

Given the constraints, the operation of the intersection can be deemed acceptable from the development perspective.

4.7.4. Ripley Road / Wensley Road / Fischer Road

As noted in **Section 2.6**, a planned intersection upgrade to signals is proposed for the future of the Ripley Road / Wensley Road / Fischer Road intersection. Information provided to L+R indicates that this intersection is to be constructed as part of Stage 2 of the Ripley Road upgrade, with detailed planning having already been undertaken for the overall design. Given this, the signalised intersection form of the Ripley Road / Wensley Road / Fischer Road intersection has been assessed for the background and development cases to determine whether sufficient capacity is available in this upgraded form.

The planned upgrade of Ripley Road / Wensley Road / Fischer Road has been modelled in SIDRA, with the layout as shown in **Figure 4-4** below.

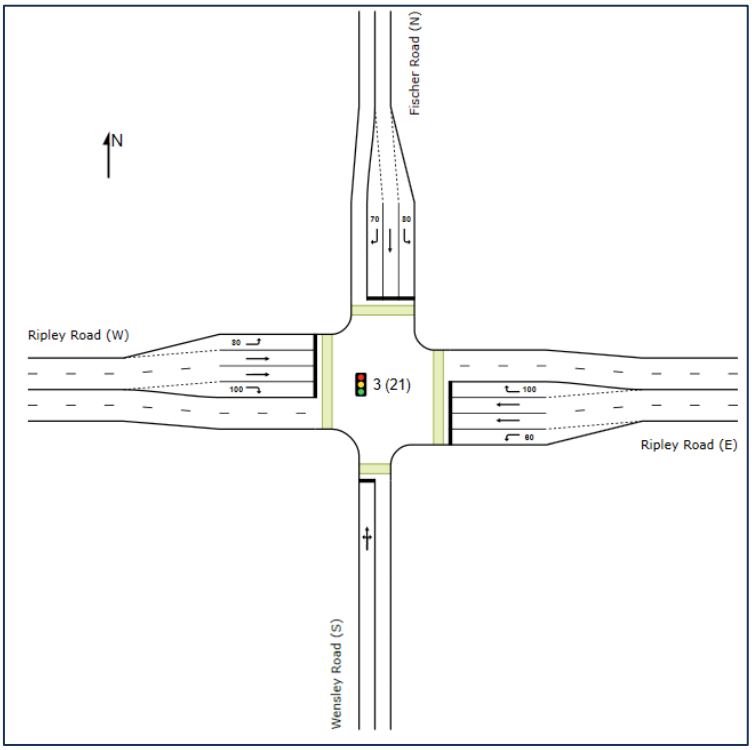


Figure 4-4 : Upgraded Ripley Road / Wensley Road / Fischer Road SIDRA layout

The phasing adopted for the intersection was as provided by the City of Ipswich Council in the form of a signal plan, attached in **Appendix E**. Correspondence provided in addition to this document indicated that the adopted phasing was to be A, D, E and then a variable F, F1 and F2 – with phase B and C being for emergencies. A practical cycle time was adopted for the intersection, with the SIDRA output phasing shown below as **Figure 4-5**.

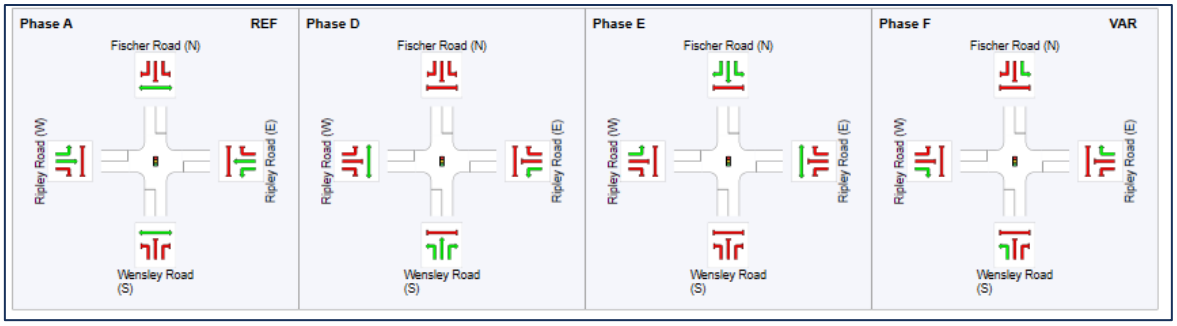


Figure 4-5 – Output Phasing

Table 4-5 presents the SIDRA results of the Ripley Road / Wensley Road / Fischer Road intersection analysis of the background and design (background plus development) scenarios in the year of opening (2028) and in the 10-year design horizon (2038) for the existing intersection configuration. Detailed SIDRA outputs have been included in **Appendix D**.

Table 4-5 Ripley Road / Wensley Road / Fischer Road - SIDRA Analysis Results

Scenario	Approach	AM Peak				PM Peak			
		DoS	Avg Delay (s)	LoS	95% Back of Queue (m)	DoS	Avg Delay (s)	LoS	95% Back of Queue (m)
2030 Background Traffic	Wensley Road (South)	0.206	35	LOS D	15.8	0.012	17.2	LOS B	0.6
	Ripley Road (East)	0.835	43.6	LOS D	131.9	0.834	40.7	LOS D	105.1
	Fischer Road (North)	0.185	32.4	LOS C	29.3	0.323	27.5	LOS C	43.1
	Ripley Road (West)	0.836	41.9	LOS D	161.6	0.816	36.3	LOS D	100.7
2030 Design (Jackson Court only)	Wensley Road (South)	0.028	21.1	LOS C	1.4	0.016	21.6	LOS C	0.9
	Ripley Road (East)	0.869	43.8	LOS D	131.7	0.802	44.4	LOS D	165.2
	Fischer Road (North)	0.188	32.7	LOS C	29.5	0.403	35.6	LOS D	65.7
	Ripley Road (West)	0.869	45.9	LOS D	179.2	0.773	35.3	LOS D	153.9
2030 Design Traffic (Jackson Court + Wensley Road)	Wensley Road (South)	0.206	35	LOS D	15.8	0.078	21.4	LOS C	3.6
	Ripley Road (East)	0.835	43.6	LOS D	131.9	0.899	50.9	LOS D	173.2
	Fischer Road (North)	0.185	32.4	LOS C	29.3	0.392	31.9	LOS C	58.5
	Ripley Road (West)	0.836	41.9	LOS D	161.6	0.872	41.4	LOS D	159.5

As outlined in **Table 4-5**, the operation of the intersection is suitable for the background and design traffic in the opening year (2030). The 95th percentile queuing at all intersection turn lanes is within the geometric design provisions, and as such can also be deemed acceptable from this perspective.

5. Summary

Lambert and Rehbein (SEQ) Pty Ltd has been commissioned by River Quarter No.3 Development Co. Pty Ltd to prepare a Traffic Impact Assessment report for a proposed residential subdivision located at 1-63 Bryants Road & 101 Jackson Court, Ripley QLD 4306. The development site is formally described as Lot 359 & 360 on S3173 with a total site area of approximately 37.23ha.

The proposed development application will be Permissible Development under the Ripley Valley PDA (UDA) Development Scheme. It will seek a Development Permit for the Reconfiguring of a Lot to provide a residential subdivision with 162 residential lots.

The subdivision will gain access to the road network via new road connections to both Jackson Court and Wensley Road. This interim access arrangement allows access to Jackson Court only, up until a point where Wensley Road is upgraded to allow for this second access. Investigation of the ICC upgrades within the vicinity indicate that this Wensley Road intersection will be upgraded in the near future, and as such the sole operation of Jackson Court will be up until 2030 at the latest.

The proposed development is anticipated to generate 135 vehicle trips (combined in and out) during the AM peak period and 137 vehicle trips (combined in and out) during the PM peak period. Given the nature of the growth and proposed infrastructure changes in the surrounding development area, and the changes to the overall traffic distribution associated with it, the proposed road network has been analysed up until 2030 – a point whereby the opening of the Wensley Road / Ripley Road / Fischer Road intersection is anticipated to be opened.

The development proposes internal road cross-sections consistent with EDQ's Street and Movement Network, which meets the requirements of the Ripley Valley PDA area. The nature of this internal road network will allow for future connection to the adjacent sites into the future. It is noted the site frontage onto Jackson Court will be designed in accordance with the ICC Collector Street road hierarchy, with a 2.5m shared path running along the northern boundary. This is appropriate given the anticipated active transport volumes onto Jackson Court being lower than that of Binnies Road, which will operate as the Intersuburban Active Transport Route for the area, whilst still providing the appropriate provisions for active travel.

Refuse collection for the site will take place in a kerbside manner by an ICC Side Loader RCV. The vast majority of dwellings will be serviced at individual lot frontages, with bin pads provided for lots 139-140, 322-324, and 422-423. Temporary turnaround will be provided adjacent to lot 423 until such time the Wensley Road connection is provided, and on the balance land beyond lot 527 until such time where the adjacent western lot develops

There are no outstanding issues, in our view, that should preclude approval of the proposed development.

PROPOSAL PLAN

DISCLAIMER

THIS PLAN WAS PREPARED AS A CONCEPTUAL LAYOUT ONLY. IT IS NOT SUITABLE FOR ANY OTHER PURPOSE. PROPERTY DIMENSIONS, AREAS, LOT NUMBERS, AND OTHER FEATURES ARE BASED ON EXISTING INFORMATION AND MAY NOT HAVE BEEN VERIFIED BY SURVEY. THESE DETAILS MAY CHANGE SUBJECT TO DEVELOPMENT APPROVAL OR FURTHER DESIGN. PAVEMENT AND CENTRELINES SHOWN ARE INDICATIVE ONLY AND ARE SUBJECT TO ENGINEERING DESIGN. THE DESIGNS DOCUMENTED HEREIN REMAIN THE PROPERTY OF SAUNDERS HAVILL GROUP AND MUST NOT BE REPRODUCED OR USED IN WHOLE OR PART WITHOUT WRITTEN PERMISSION. SAUNDERS HAVILL GROUP ACCEPTS NO RESPONSIBILITY FOR ANY USE OR RELIANCE BY THIRD PARTIES. REPRODUCTION WITHOUT THIS NOTE IN FULL RENDERS THE INFORMATION INVALID.

SOURCE

PROJECTION: GDA 2020 Vide DWG 7553-0002-A Potholing Survey by SURVEY MARK dated 22/07/2026
SUBJECT BOUNDARIES: Vide DWG 7553-0002-A Potholing Survey by SURVEY MARK dated 22/07/2026
CONTOURS: ELVIS - LIDAR (2023)

RIPLEY ROAD
JACKSON COURT
ROAD 15.5m WIDE
ROAD 15.5m WIDE
ROAD 15.5m WIDE
ROAD 15.5m WIDE
ROAD 15.5m WIDE
ROAD 20m WIDE
801
4573m²
1001
297708m²
FUTURE RAIL CORRIDOR
WENSLEY ROAD
BRYANTS ROAD

DEVELOPMENT STATISTICS - Overall			
RESIDENTIAL ALLOTMENTS	**No. Lots**	**%**	**Net Area**
25m Deep Lots			
8.5m - 10.49m frontage	13	8.0%	0.283 ha
10.5m - 12.49m frontage	7	4.3%	0.188 ha
12.5m + frontage	3	1.9%	0.116 ha
26m Deep Lots			
8.5m - 10.49m frontage	20	12.3%	0.444 ha
10.5m - 12.49m frontage	15	9.3%	0.408 ha
12.5m + frontage	8	4.9%	0.319 ha
28m deep Lots			
Terrace (7.5m frontage)	26	16.0%	0.555 ha
8.5m - 10.49m frontage	22	13.6%	0.565 ha
10.5m - 12.49m frontage	16	9.9%	0.538 ha
12.5m + frontage	6	3.7%	0.232 ha
30m deep Lots			
8.5m - 10.49m frontage	14	8.6%	0.384 ha
10.5m - 12.49m frontage	9	5.6%	0.314 ha
12.5m + frontage	3	1.9%	0.201 ha
Total Residential Allotments	**162**	**100.0%**	**4.547 ha**

Land Budget	**Area (Ha)**	**%**	
Area of Subject Site / Stage	**7.698 ha**		
Net Residential Area (no roads)	4.547 ha	59.1%	
Detention / Drainage	0.457 ha	5.9%	
Road Widening	0.522 ha	6.8%	
Road Areas	2.172 ha	28.2%	
Total	**7.698 ha**	**100.0%**	

LEGEND

- Site Boundary
- Development Application Boundary
- Major Contour (5.0m interval)
- Minor Contour (1.0m interval)
- Railway Corridor (DAMS Mapping)
- Proposed Access Easement

SCALE @A1 1:1500 @A3 1:3000 - LENGTHS ARE IN METRES

20 0 20 40 60 80 100 120 140 160 180

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1300 123 744 | saundershavill.com

N

CLIENT
KDL PROPERTY GROUP PTY LTD

SITE ADDRESS
1-63 BRYANTS ROAD & 101 JACKSON COURT, RIPLEY

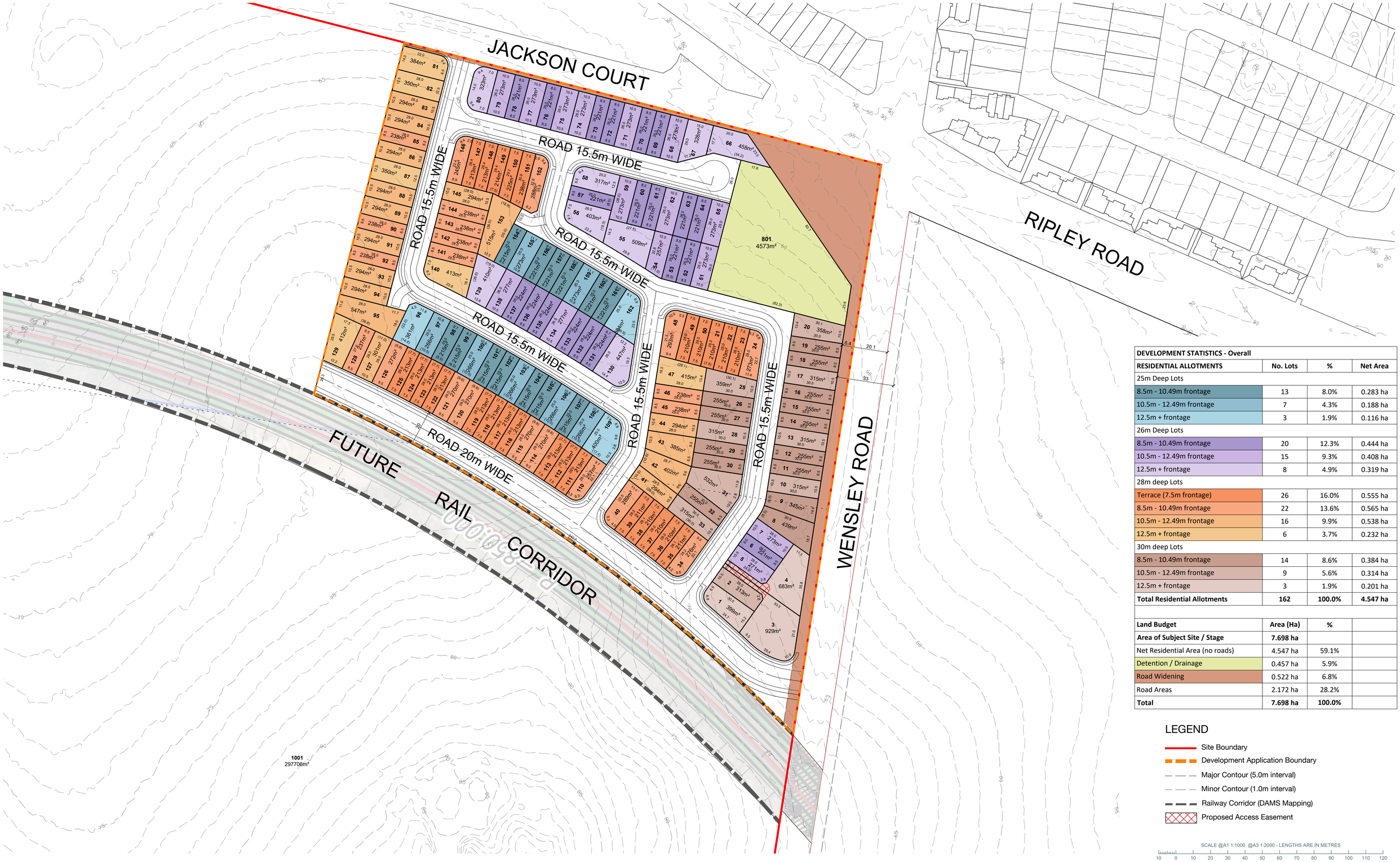
RP DESCRIPTION
LOTS 359 & 360 on S3173

DRAWN
AJB

DATE
11/08/2026

DRAWING NO.
13059 P 09 Rev G - CON 01

PROPOSAL PLAN



DEVELOPMENT STATISTICS - Overall			
RESIDENTIAL ALLOTMENTS	**No. Lots**	**%**	**Net Area**
25m Deep Lots			
8.5m - 10.49m frontage	13	8.0%	0.283 ha
10.5m - 12.49m frontage	7	4.3%	0.188 ha
12.5m + frontage	3	1.9%	0.116 ha
26m Deep Lots			
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12.5m + frontage	8	4.9%	0.319 ha
28m deep Lots			
Terrace (7.5m frontage)	26	16.0%	0.555 ha
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10.5m - 12.49m frontage	16	9.9%	0.538 ha
12.5m + frontage	6	3.7%	0.232 ha
30m deep Lots			
8.5m - 10.49m frontage	14	8.6%	0.384 ha
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Total Residential Allotments	**162**	**100.0%**	**4.547 ha**
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Area of Subject Site / Stage	**7.698 ha**		
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Detention / Drainage	0.457 ha	5.9%	
Road Widening	0.522 ha	6.8%	
Road Areas	2.172 ha	28.2%	
Total	**7.698 ha**	**100.0%**	

LEGEND

- Site Boundary
- Development Application Boundary
- Major Contour (5.0m interval)
- Minor Contour (1.0m interval)
- Railway Corridor (DAMS Mapping)
- Proposed Access Easement

SCALE @A1 1:1000 @A3 1:2000 - LENGTHS ARE IN METRES

10 0 10 20 30 40 50 60 70 80 90 100 110 120

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CONTOURS: ELVIS - LIDAR (2023)

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CLIENT
KDL PROPERTY GROUP PTY LTD

SITE ADDRESS
1-63 BRYANTS ROAD & 101 JACKSON COURT, RIPLEY

RP DESCRIPTION
LOTS 359 & 360 on S3173

DRAWN
AJB

DATE
11/08/2026

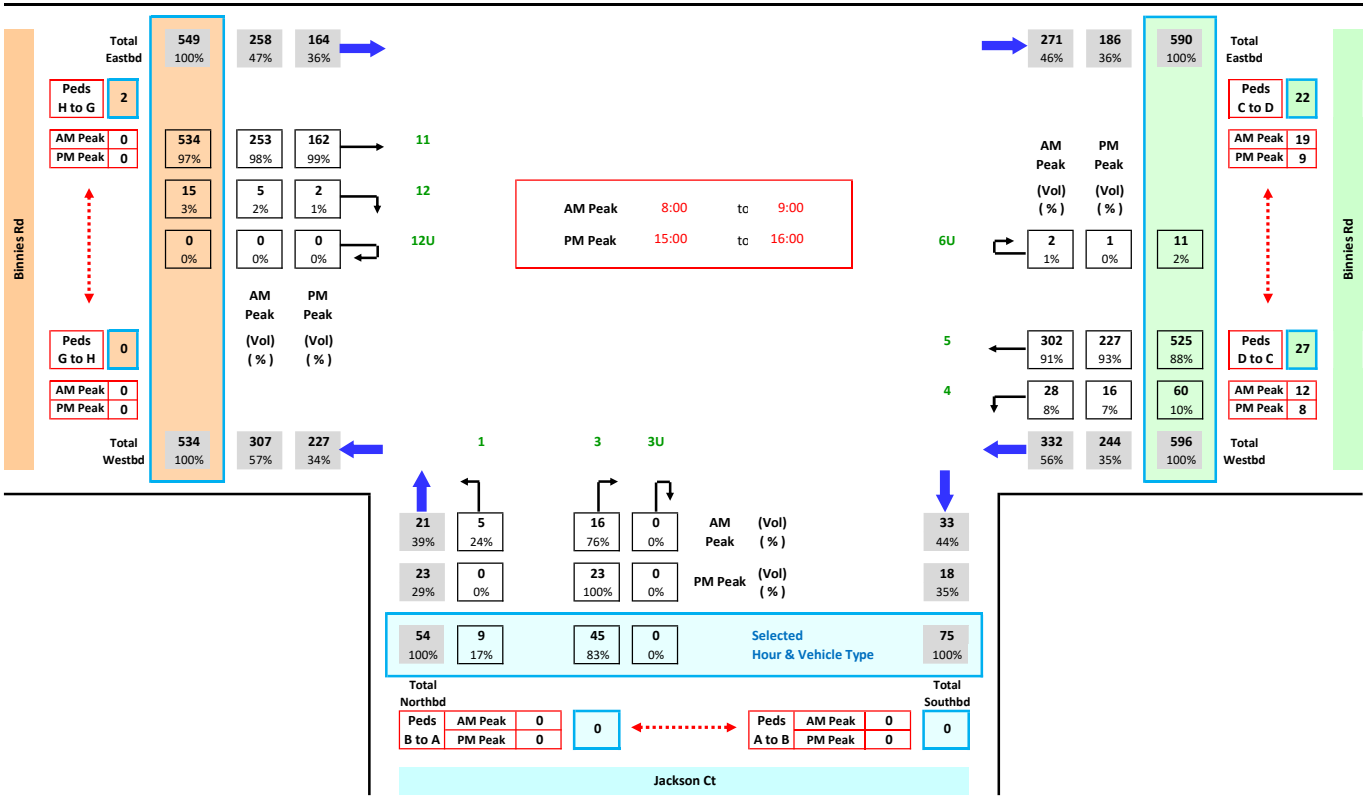
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13059 P 09 Rev G - CON 02

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Suburb : Ripley
Location : 3. Jackson Ct & Binnies Rd

Day/Date : Thursday, 4 June 2026
Weather : Fine
Description : Classified Intersection Count
: Intersection Diagram

Hour Starting AM Totals
Vehicle Type All Vehicles

MATRIX Traffic and Transport Data

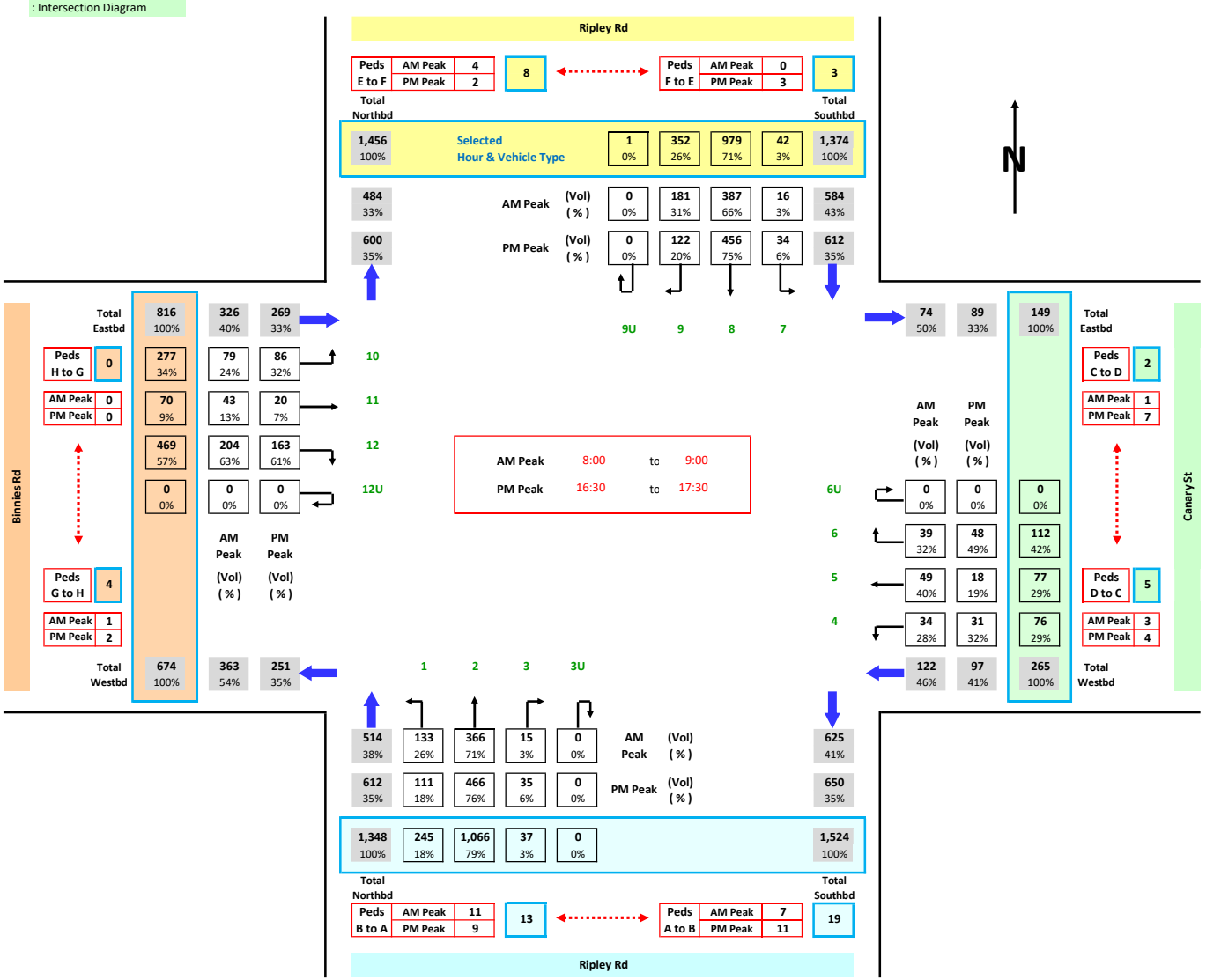


Job No. : AUQLD15870
Client : Lambert & Rehbein (SEQ) Pty Ltd
Suburb : Ripley
Location : 2. Ripley Rd & Canary St & Binnies Rd

Day/Date : Thursday, 4 June 2026
Weather : Fine
Description : Classified Intersection Count
: Intersection Diagram

Hour Starting: AM Totals
Vehicle Type: All Vehicles

MATRIX Traffic and Transport Data

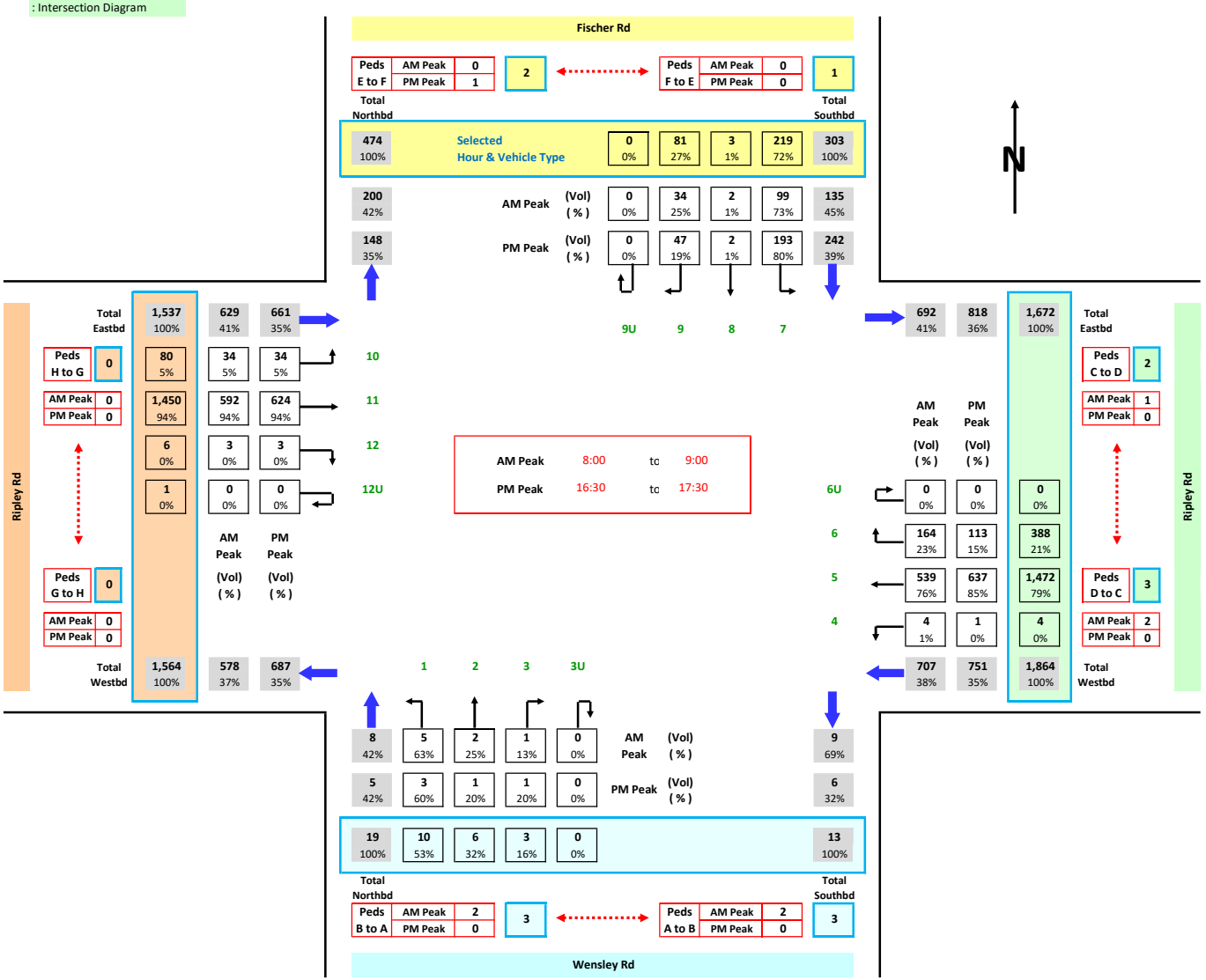


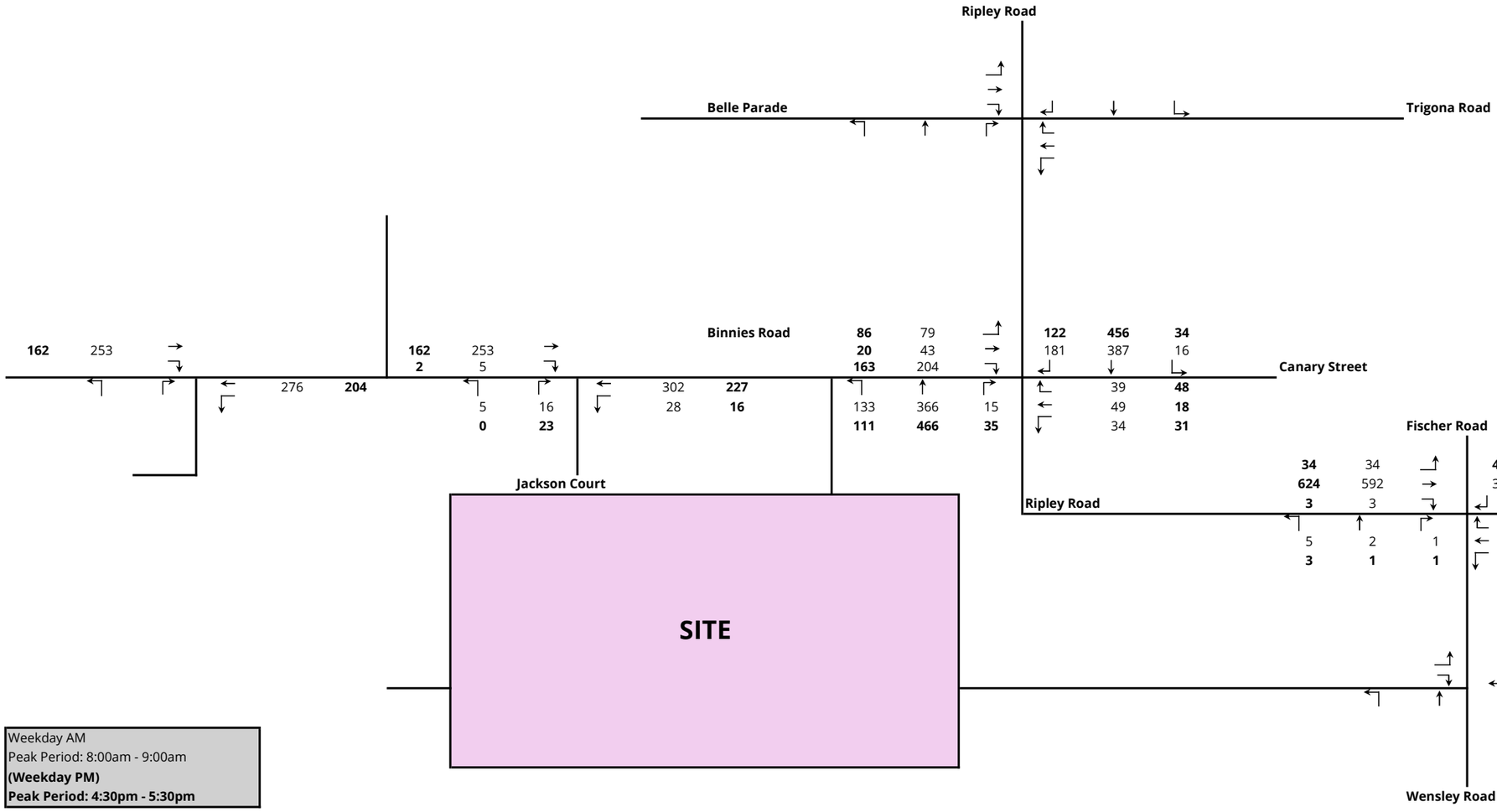
Job No. : AUQLD15870
Client : Lambert & Rehbein (SEQ) Pty Ltd
Suburb : Ripley
Location : 1. Wensley Rd & Ripley Rd & Fischer Rd

Day/Date : Thursday, 4 June 2026
Weather : Fine
Description : Classified Intersection Count
: Intersection Diagram

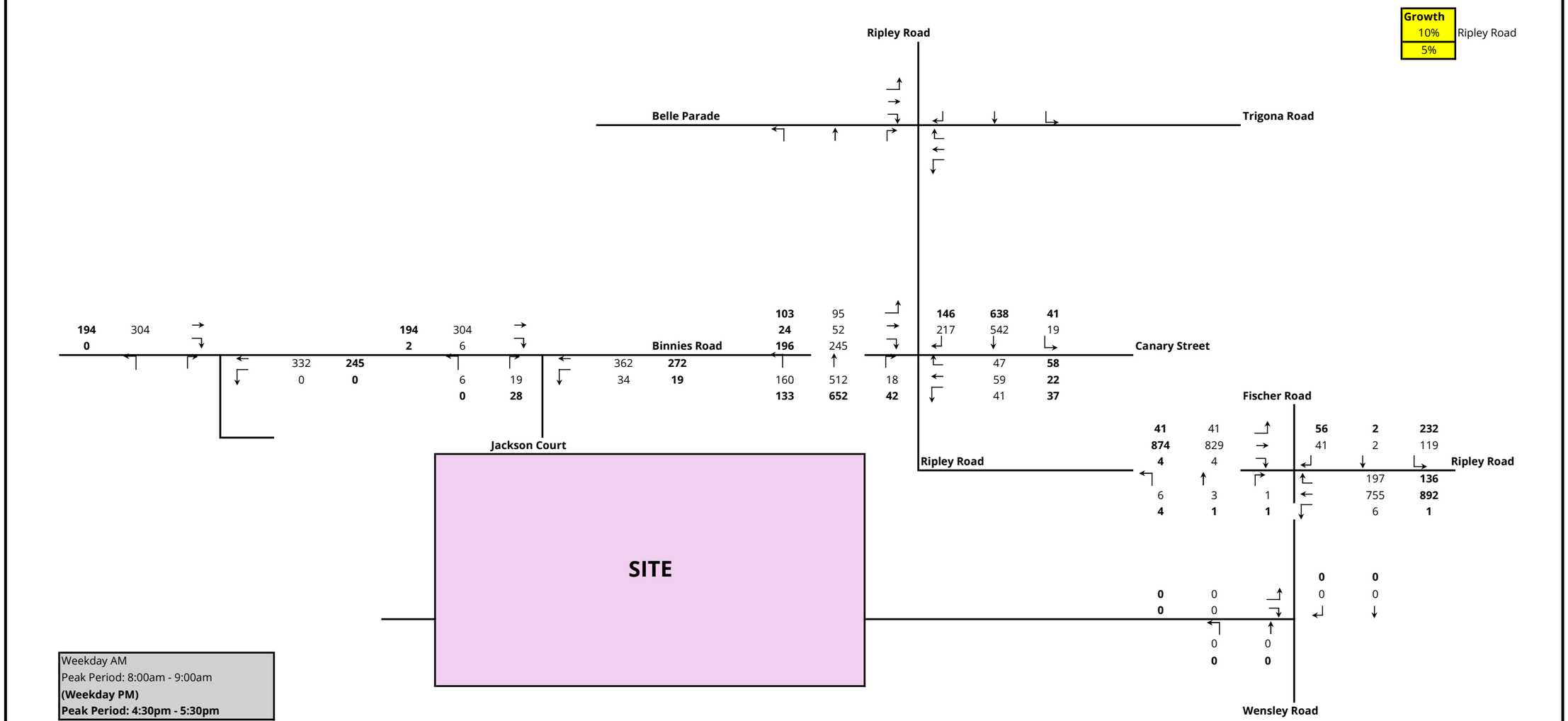
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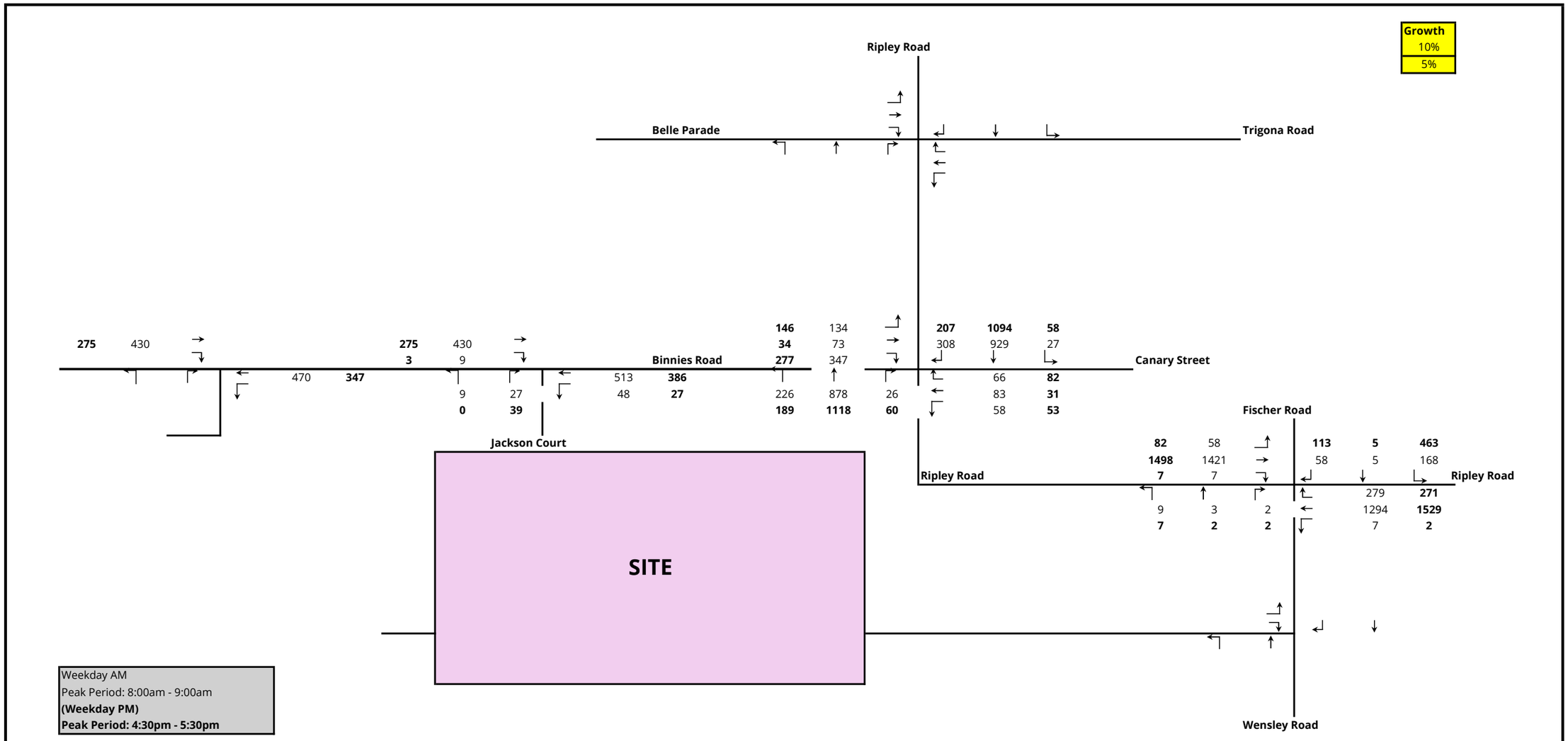




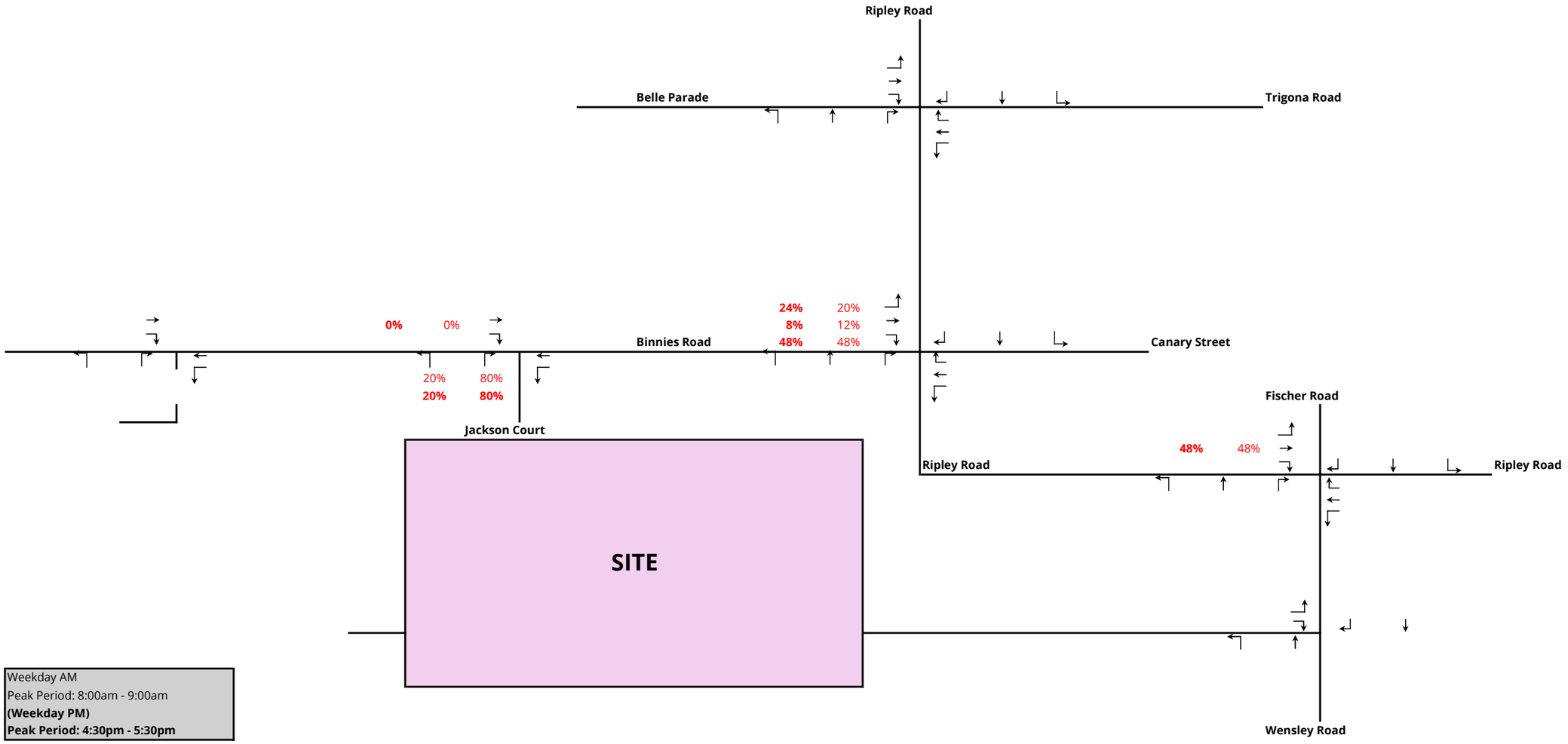
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Client:	KDL DEV 5 PTY LTD		Prepared: MG	Rev: A Date: Aug-26	



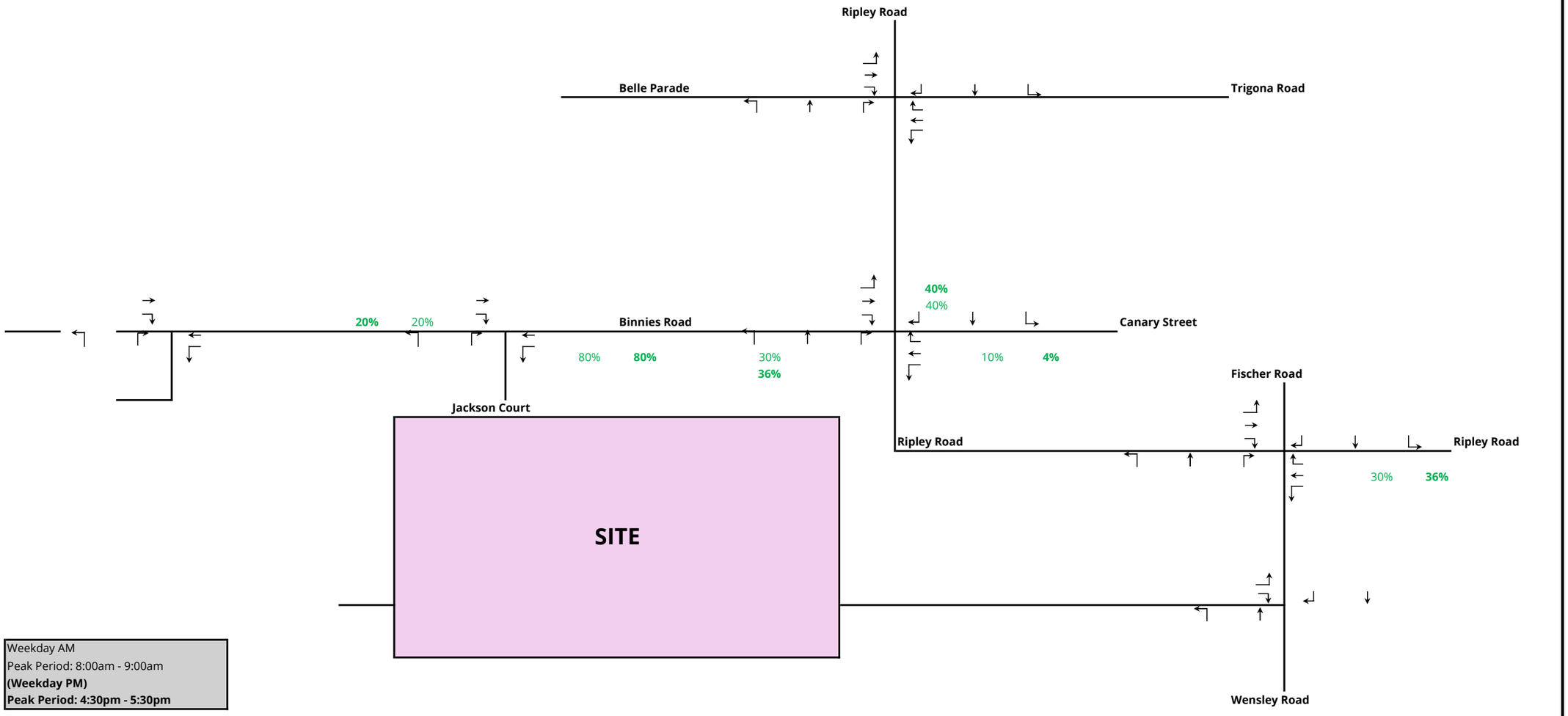
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Client:	KDL DEV 5 PTY LTD		Prepared: MG	Rev: A Date: Jun-26	



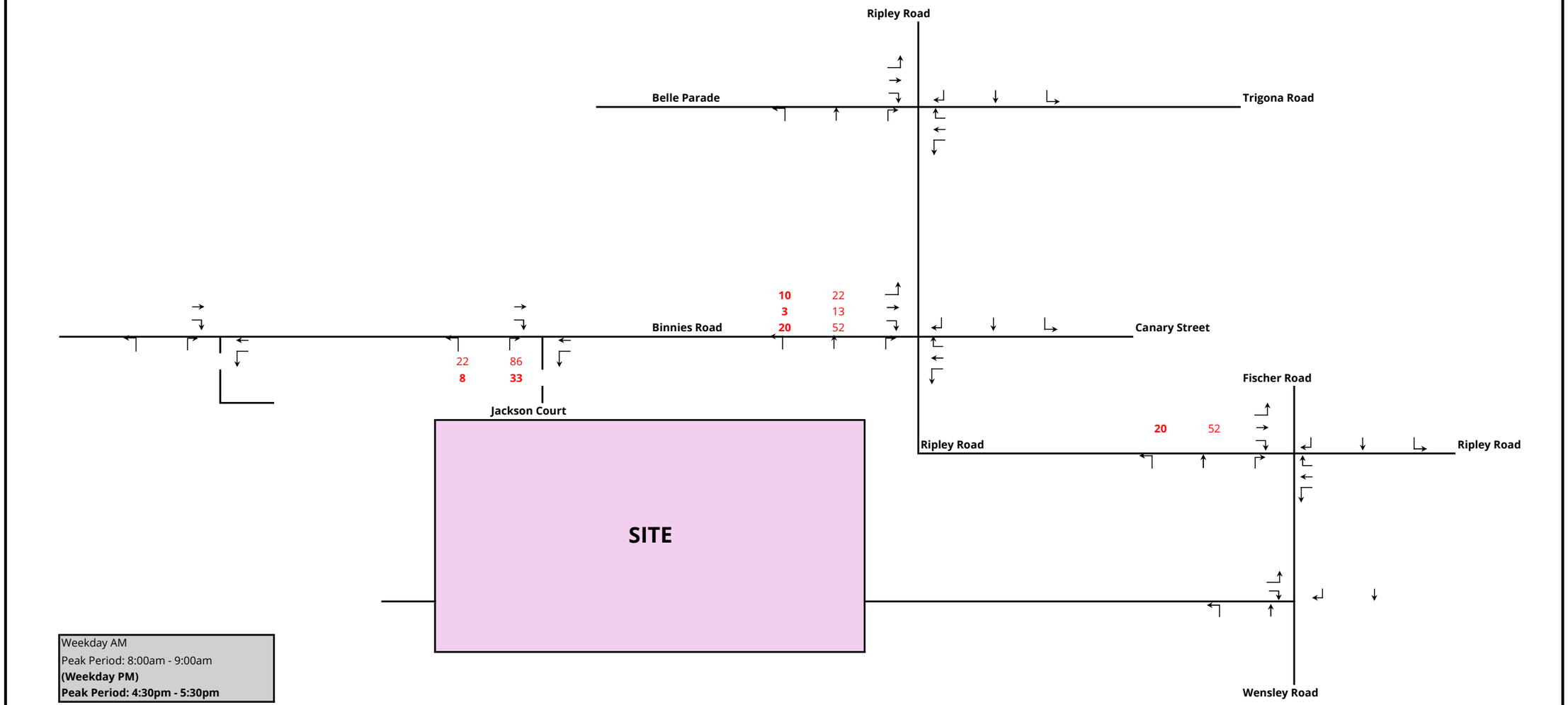
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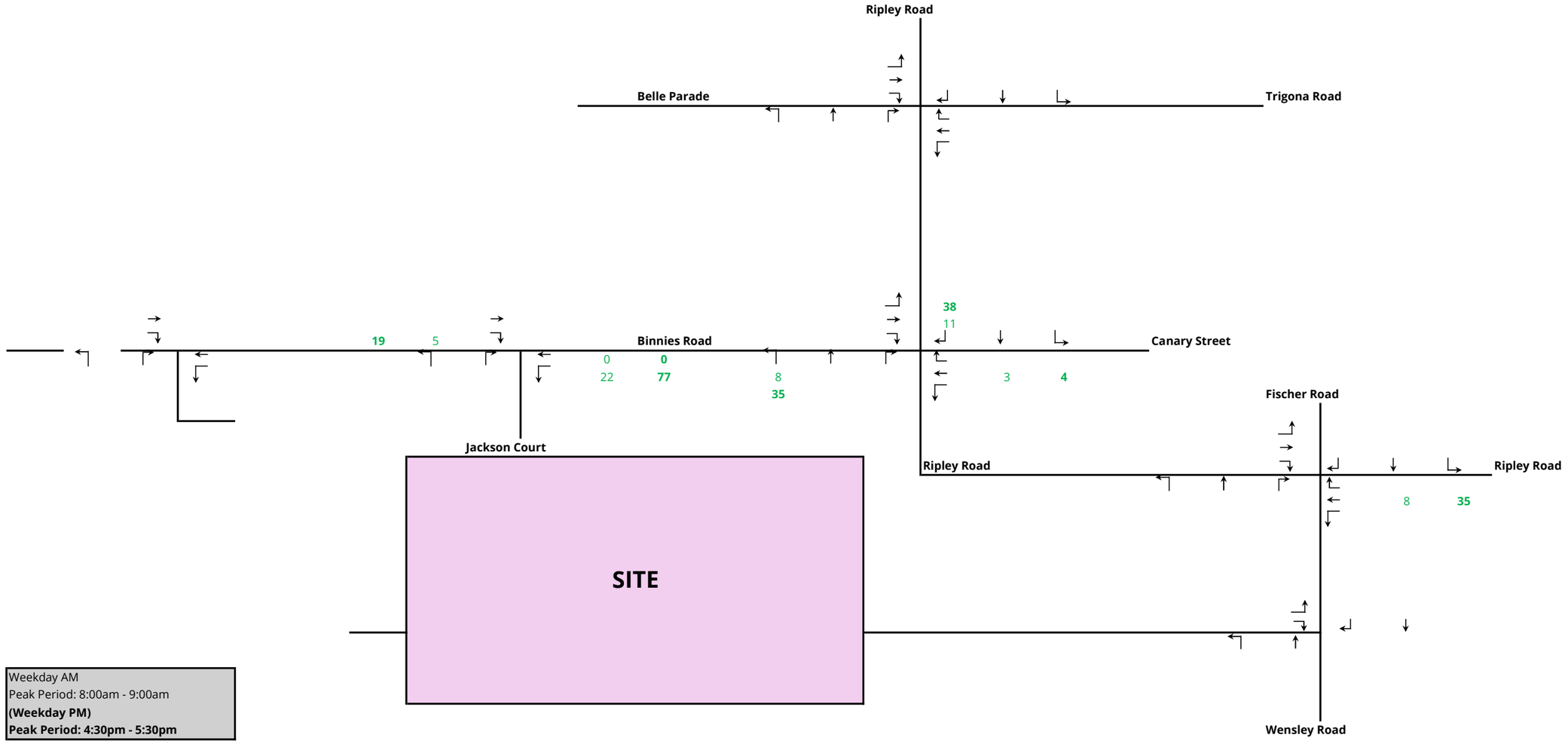
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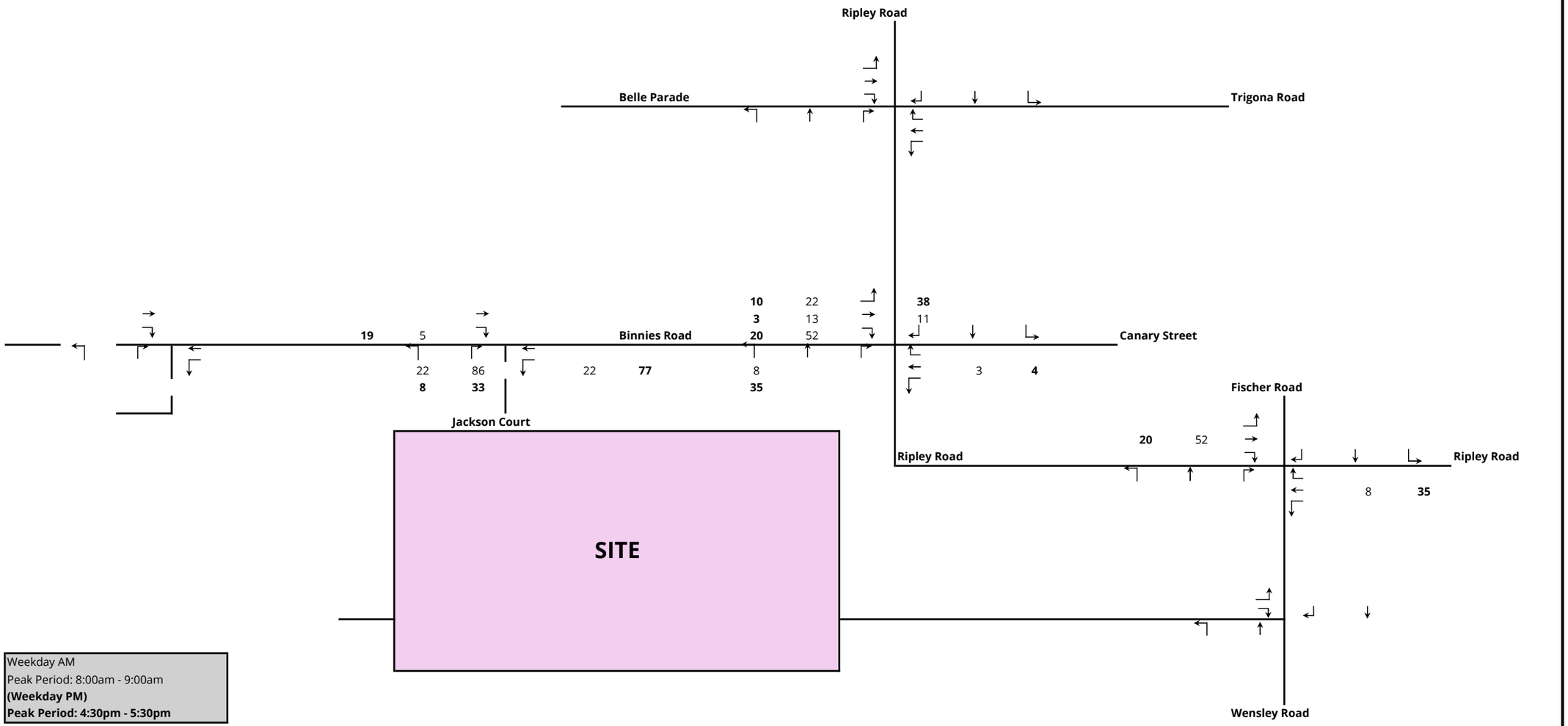
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Client:	KDL DEV 5 PTY LTD		Prepared: MG	Rev: A Date: Jun-26	



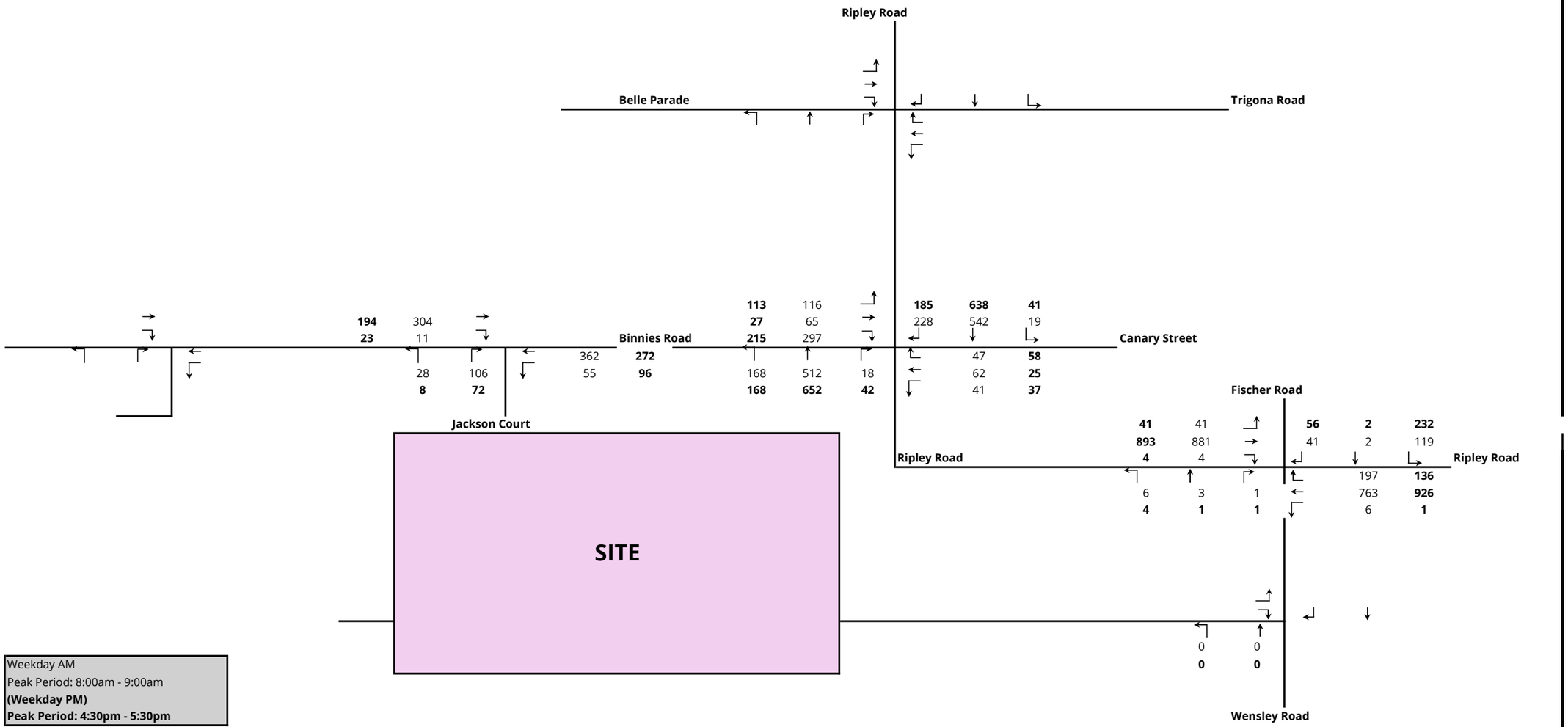
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Project Name:	PROPOSED SUBDIVISION DEVELOPMENT	**Out Movement Development Traffic**			B 6
Address:	1-63 Bryants Road & 101 Jackson Court, Ripley QLD 4306				
Client:	KDL DEV 5 PTY LTD		Prepared: MG	Rev: A Date: Jun-26	



Project Number:	B26117	Title:			Figure Number:
Project Name:	PROPOSED SUBDIVISION DEVELOPMENT	**In Movement Development Traffic**			B 7
Address:	1-63 Bryants Road & 101 Jackson Court, Ripley QLD 4306				
Client:	KDL DEV 5 PTY LTD		Prepared: MG	Rev: A Date: Jun-26	

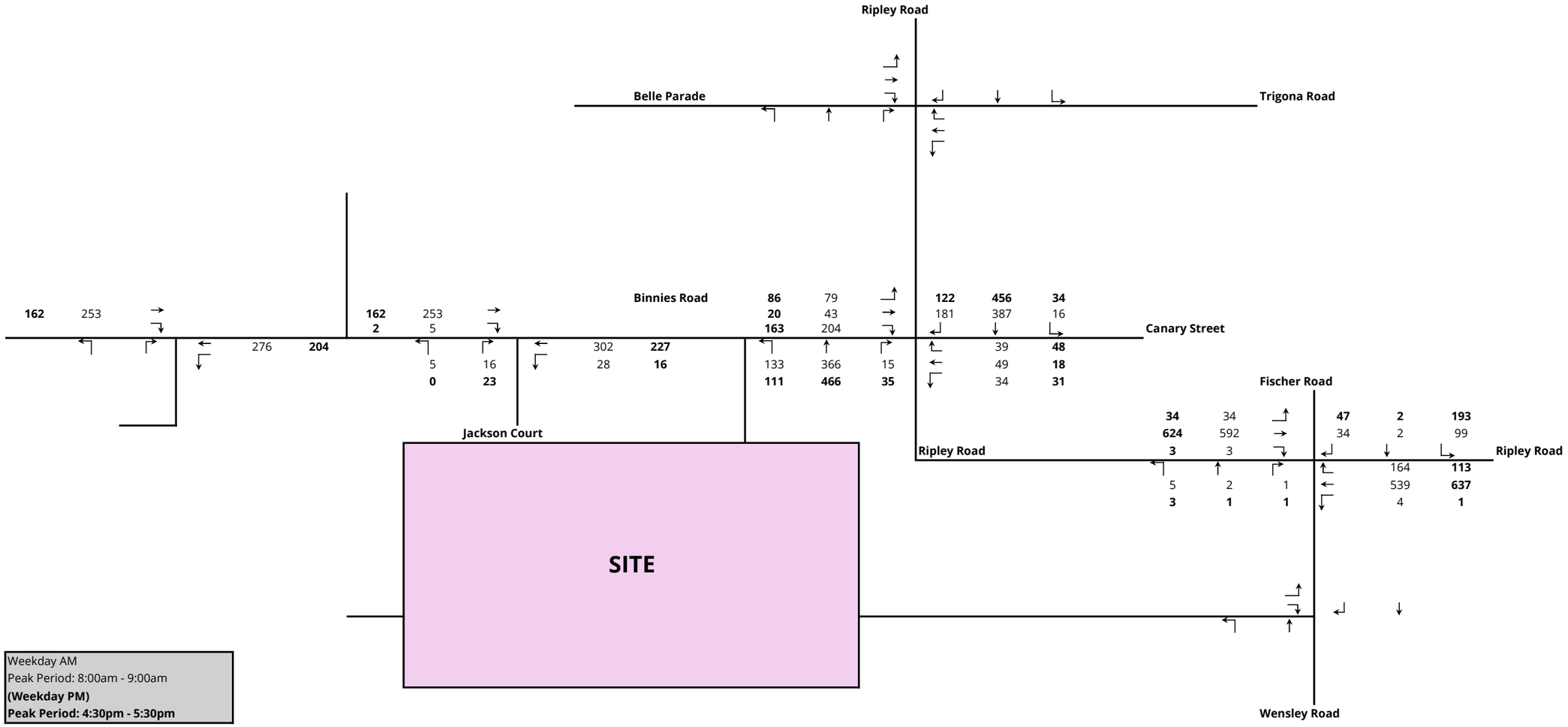


Project Number:	B26117	Title:			Figure Number:
Project Name:	PROPOSED SUBDIVISION DEVELOPMENT	**Development Traffic**			B 8
Address:	1-63 Bryants Road & 101 Jackson Court, Ripley QLD 4306				
Client:	KDL DEV 5 PTY LTD		Prepared: MG	Rev: A Date: Jun-26	



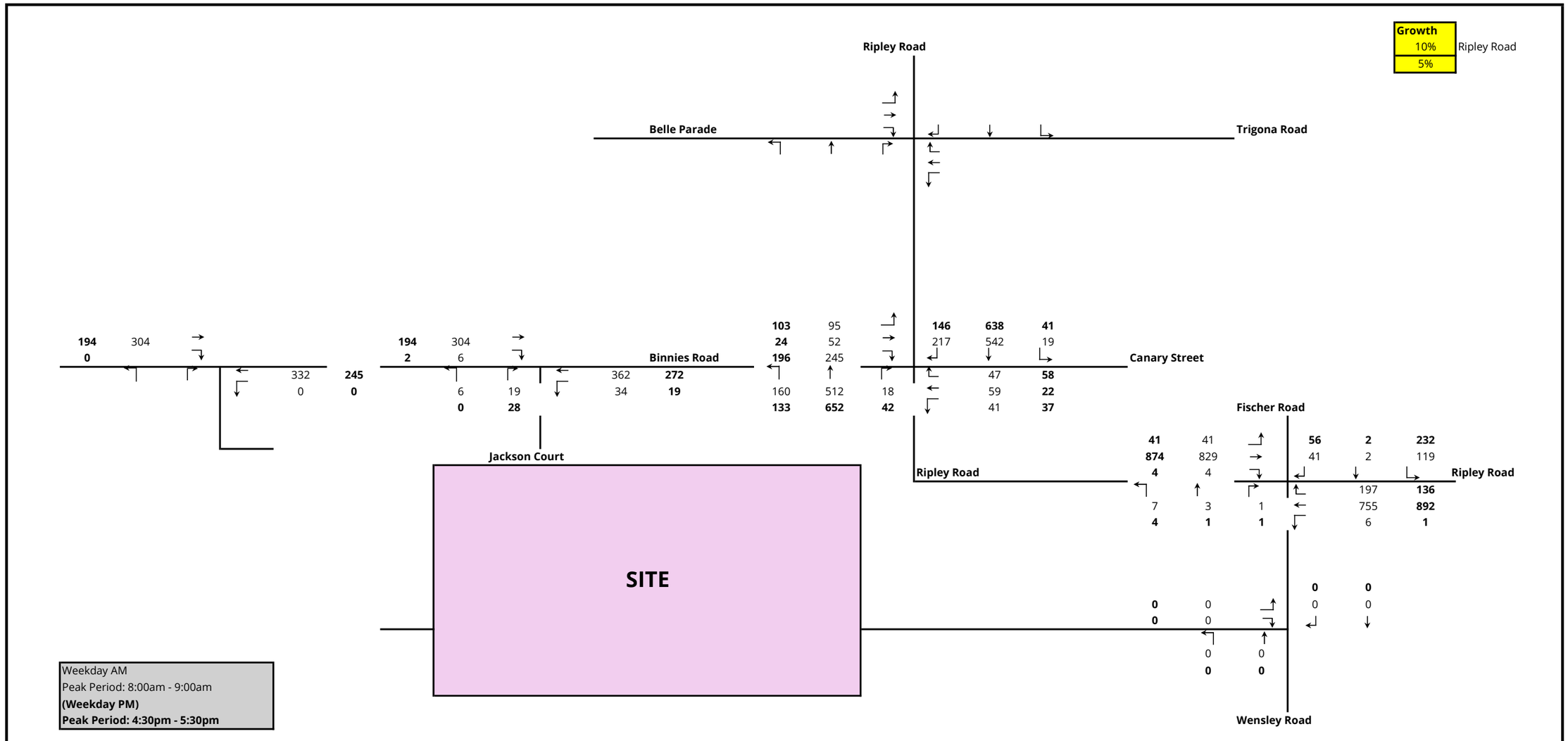
Weekday AM
Peak Period: 8:00am - 9:00am
(Weekday PM)
Peak Period: 4:30pm - 5:30pm

Project Number:	B26117	Title:			Figure Number:
Project Name:	PROPOSED SUBDIVISION DEVELOPMENT	**Design Traffic**			B 9
Address:	1-63 Bryants Road & 101 Jackson Court, Ripley QLD 4306	**2030**			
Client:	KDL DEV 5 PTY LTD		Prepared: MG	Rev: A Date: Jun-26	

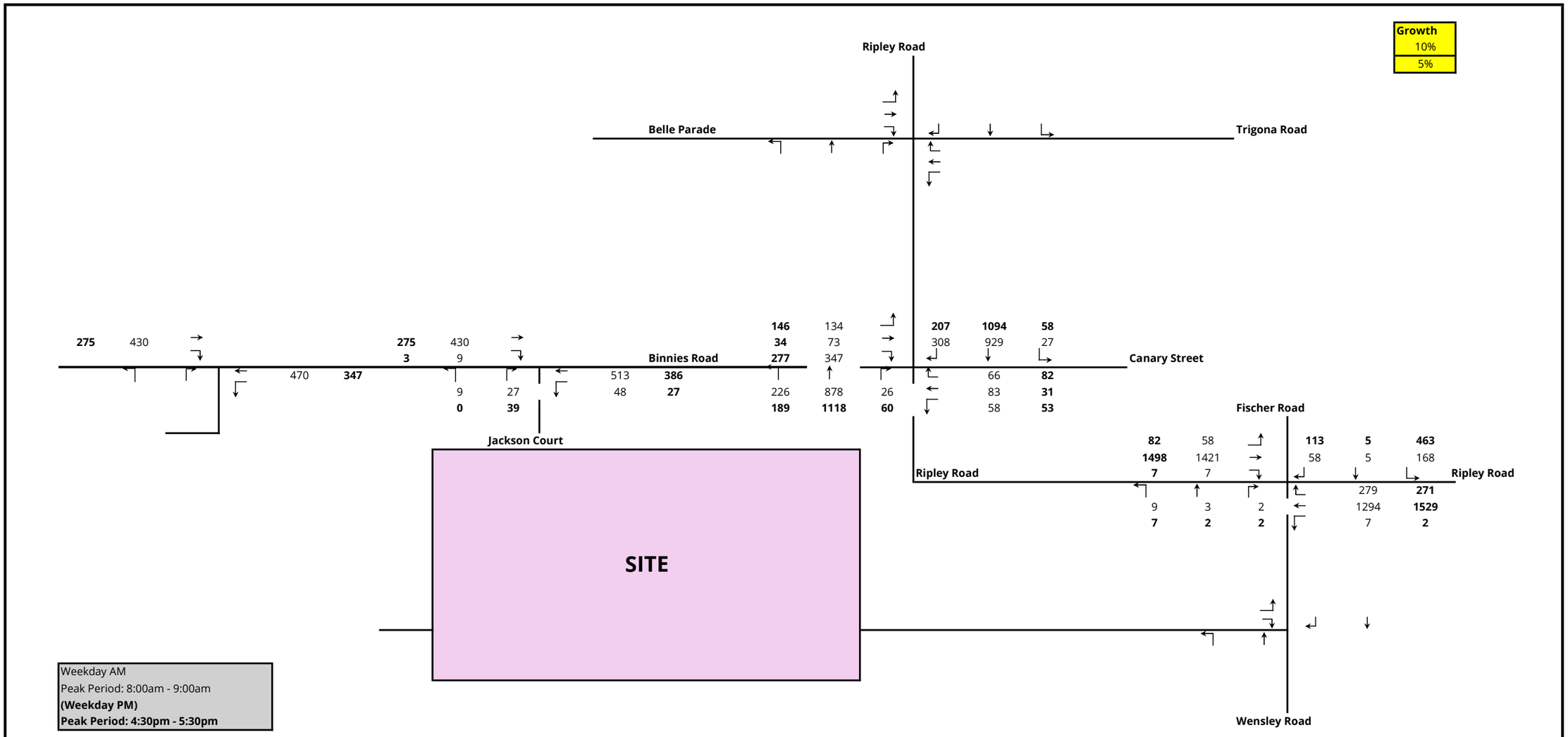


Weekday AM
Peak Period: 8:00am - 9:00am
(Weekday PM)
Peak Period: 4:30pm - 5:30pm

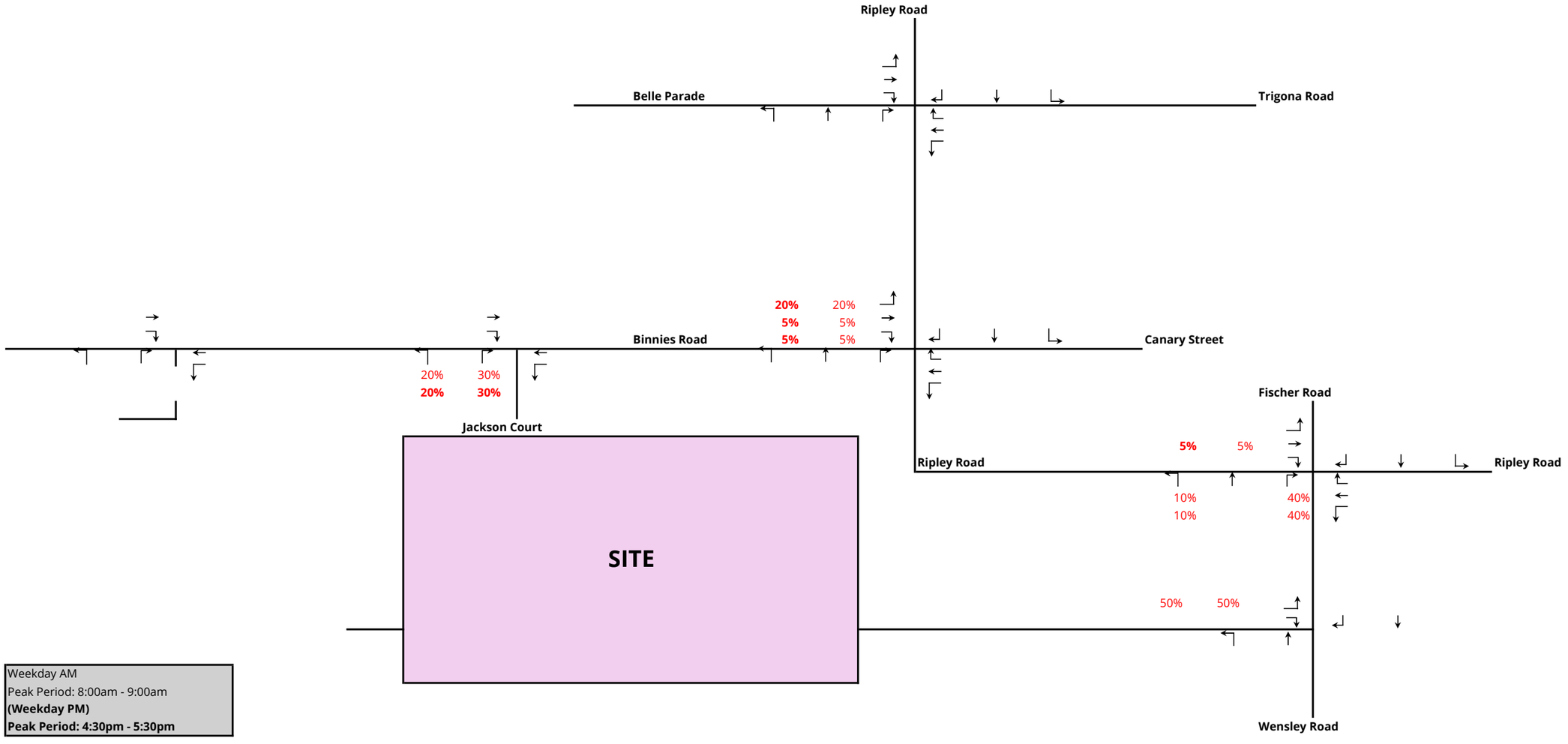
Project Number:	B26117	Title:			Figure Number:
Project Name:	PROPOSED SUBDIVISION DEVELOPMENT	**Background Traffic- Survey Volumes 2026**			C 1
Address:	1-63 Bryants Road & 101 Jackson Court, Ripley QLD 4306				
Client:	KDL DEV 5 PTY LTD		Prepared: MG	Rev: A Date: Aug-26	



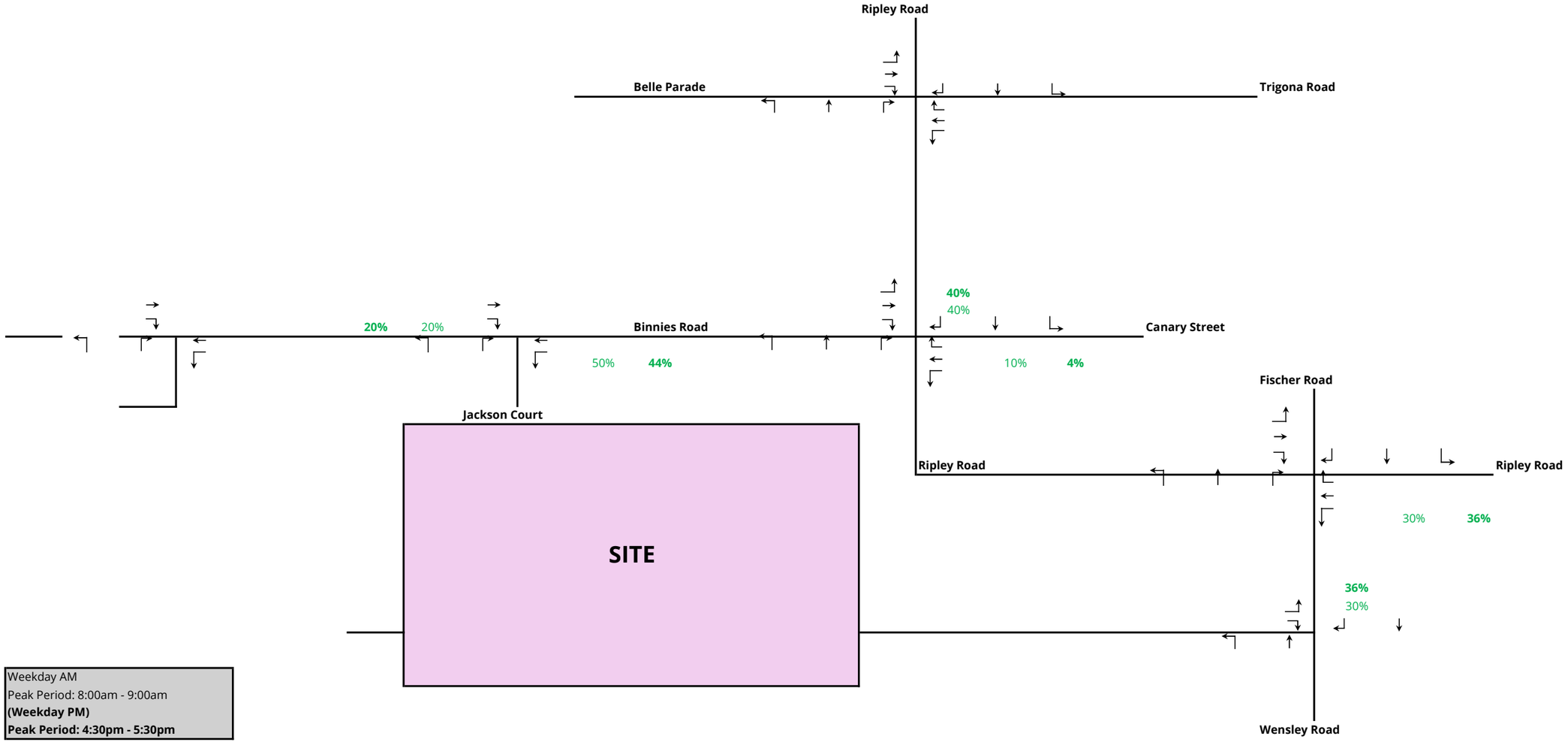
Project Number:	B26117	Title:			Figure Number:
Project Name:	PROPOSED SUBDIVISION DEVELOPMENT	**Background Traffic**			C 2
Address:	1-63 Bryants Road & 101 Jackson Court, Ripley QLD 4306	**2030**			
Client:	KDL DEV 5 PTY LTD		Prepared: MG	Rev: A Date: Jun-26	



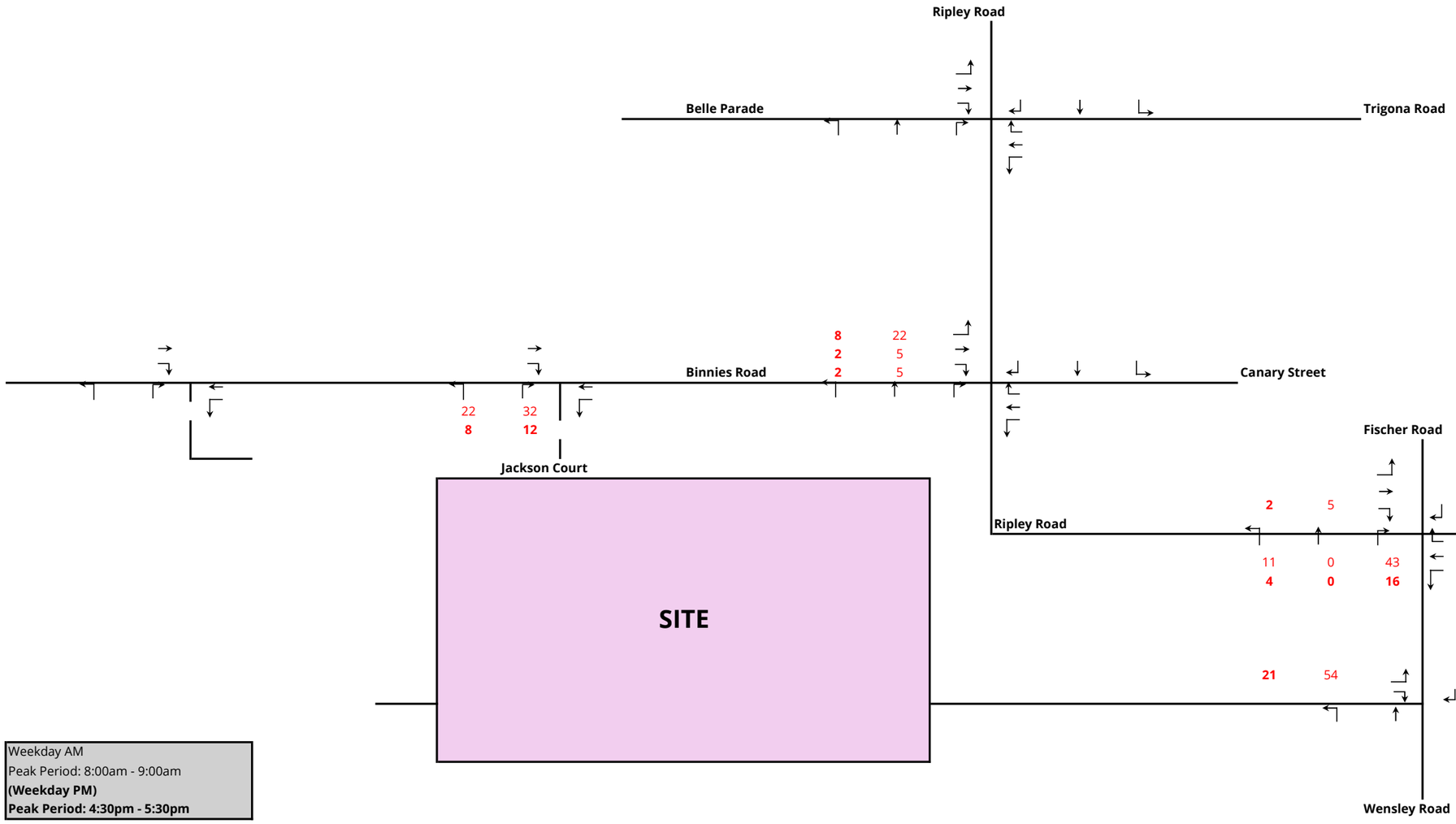
Project Number:	B26117	Title:			Figure Number:
Project Name:	PROPOSED SUBDIVISION DEVELOPMENT	**Background Traffic**			C 3
Address:	1-63 Bryants Road & 101 Jackson Court, Ripley QLD 4306	**2040**			
Client:	KDL DEV 5 PTY LTD		Prepared: MG	Rev: A Date: Jun-26	



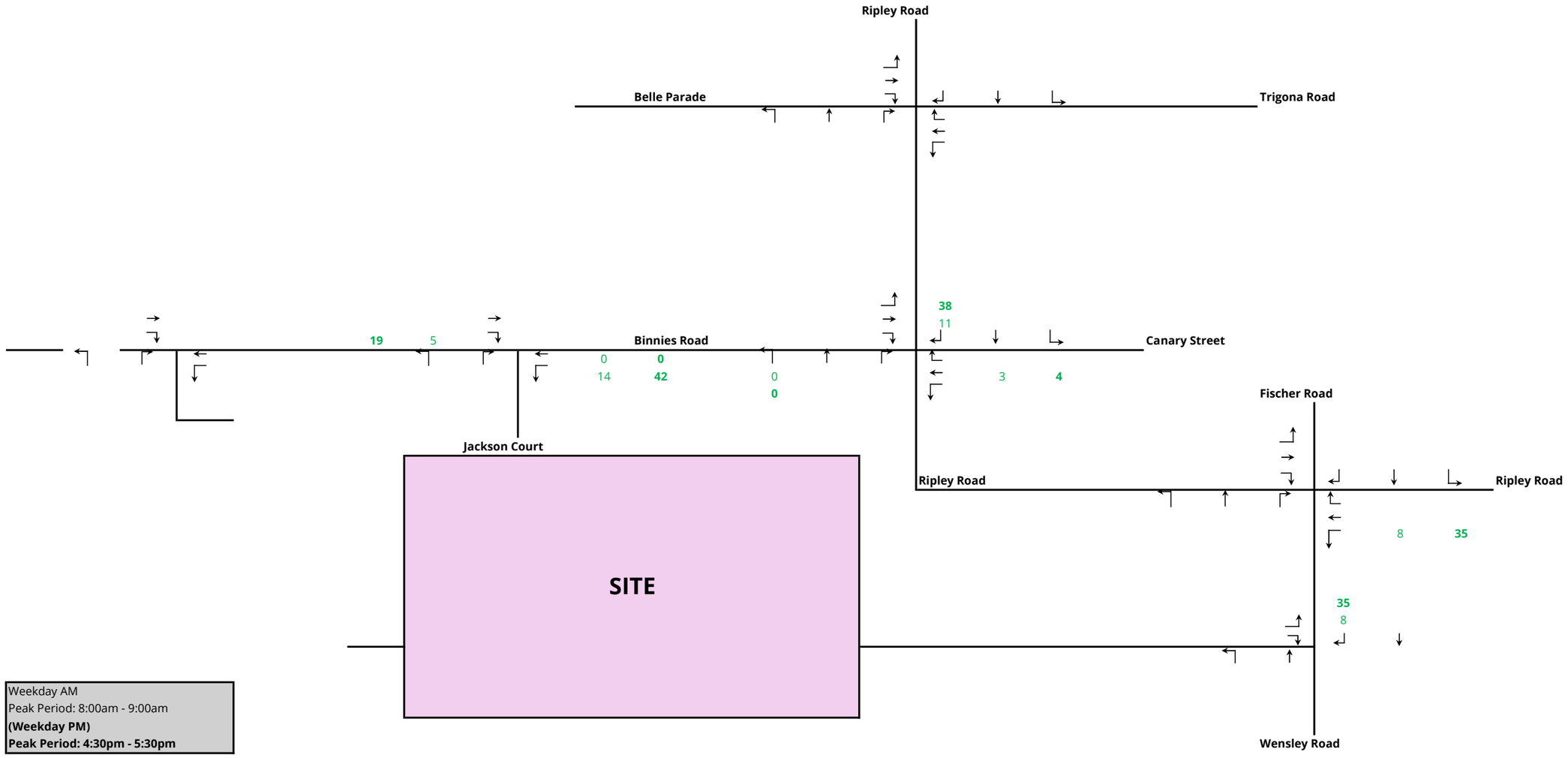
Project Number:	B26117	Title:			Figure Number:
Project Name:	PROPOSED SUBDIVISION DEVELOPMENT	**Development Traffic Distribution Out Movements**			C 4
Address:	1-63 Bryants Road & 101 Jackson Court, Ripley QLD 4306				
Client:	KDL DEV 5 PTY LTD		Prepared: MG	Rev: A Date: Jun-26	



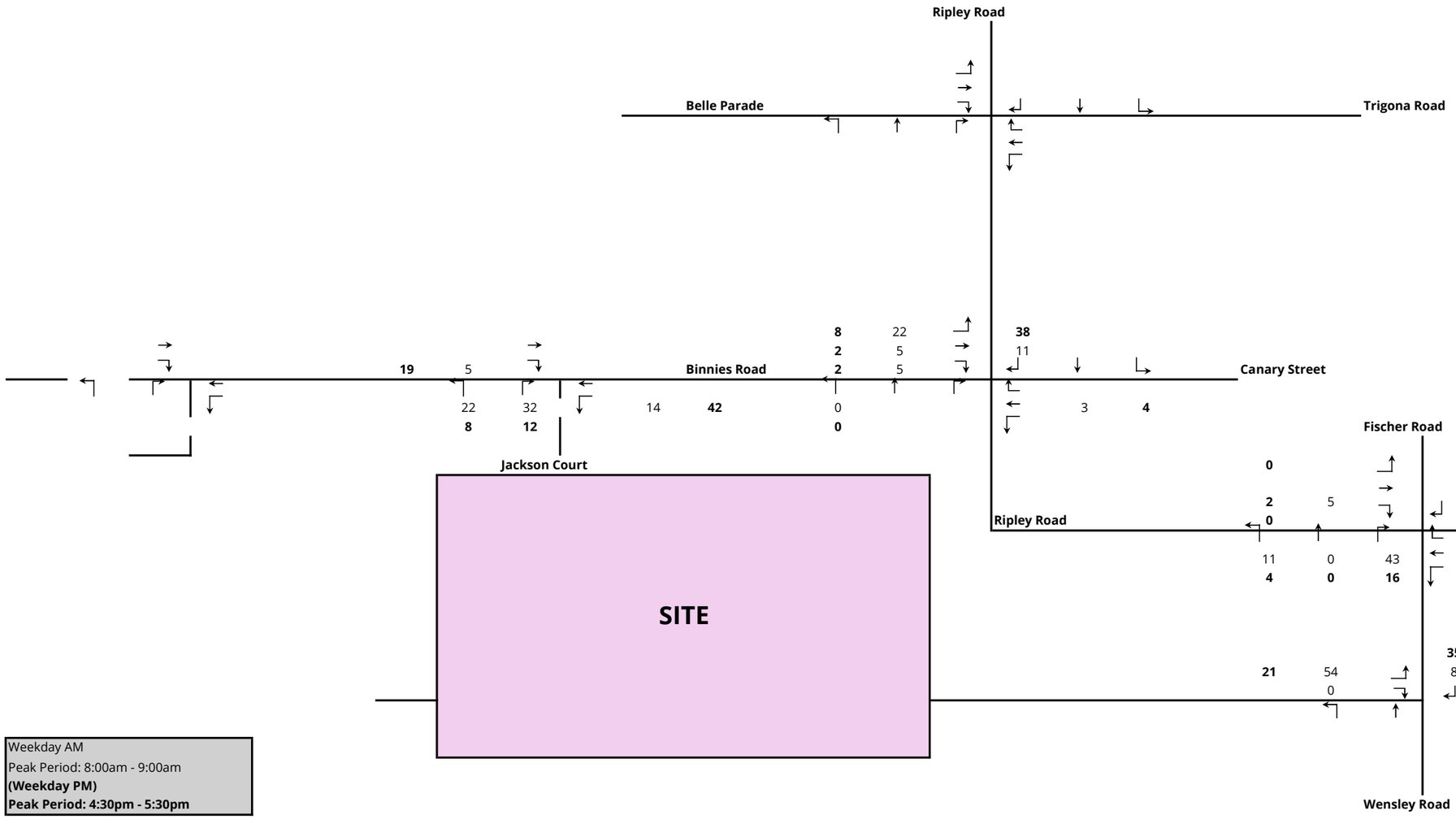
Project Number:	B26117	Title:			Figure Number:
Project Name:	PROPOSED SUBDIVISION DEVELOPMENT	**Development Traffic Distribution In Movements**			C 5
Address:	1-63 Bryants Road & 101 Jackson Court, Ripley QLD 4306				
Client:	KDL DEV 5 PTY LTD		Prepared: MG	Rev: A Date: Jun-26	



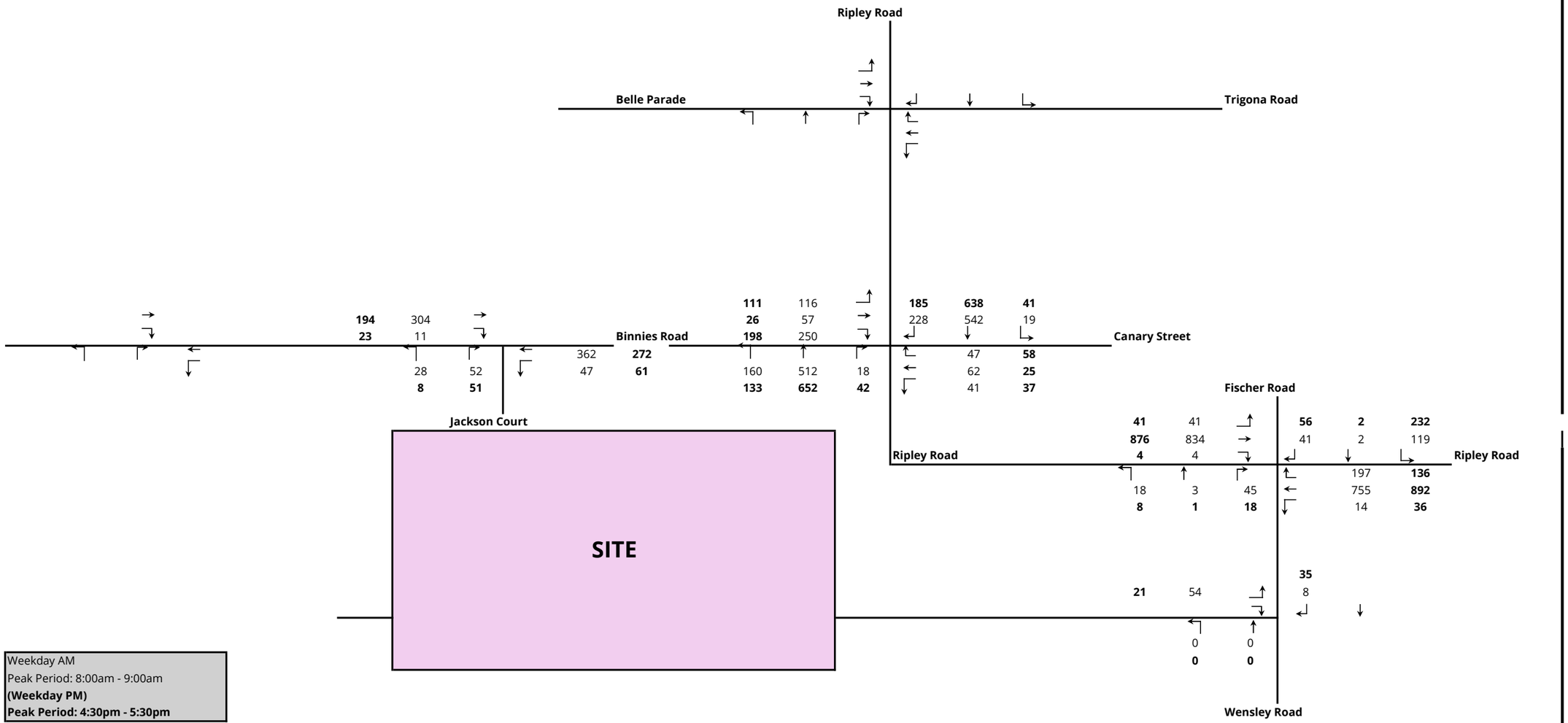
Project Number:	B26117	Title:			Figure Number:
Project Name:	PROPOSED SUBDIVISION DEVELOPMENT	**Out Movement Development Traffic**			C 6
Address:	1-63 Bryants Road & 101 Jackson Court, Ripley QLD 4306				
Client:	KDL DEV 5 PTY LTD		Prepared: MG	Rev: A Date: Jun-26	



Project Number:	B26117	Title:			Figure Number:
Project Name:	PROPOSED SUBDIVISION DEVELOPMENT	**In Movement Development Traffic**			C 7
Address:	1-63 Bryants Road & 101 Jackson Court, Ripley QLD 4306				
Client:	KDL DEV 5 PTY LTD		Prepared: MG	Rev: A Date: Jun-26	



Project Number:	B26117	Title:			Figure Number:
Project Name:	PROPOSED SUBDIVISION DEVELOPMENT	**Development Traffic**			C 8
Address:	1-63 Bryants Road & 101 Jackson Court, Ripley QLD 4306				
Client:	KDL DEV 5 PTY LTD		Prepared: MG	Rev: A Date: Jun-26	



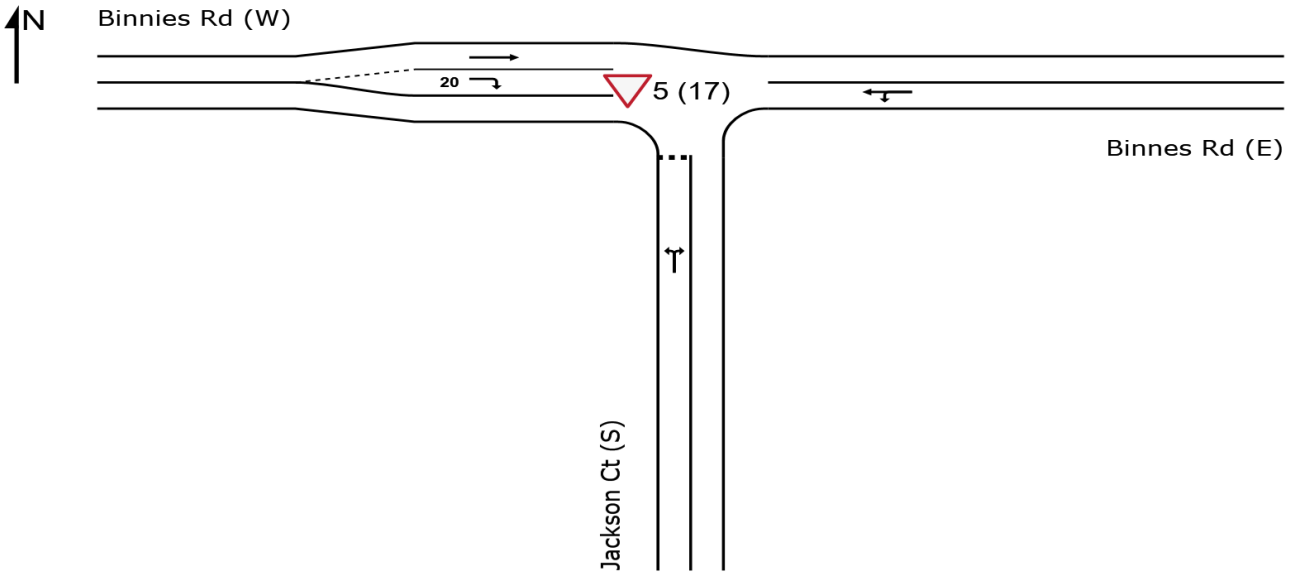
Project Number:	B26117	Title:			Figure Number:
Project Name:	PROPOSED SUBDIVISION DEVELOPMENT	**Design Traffic**			C 9
Address:	1-63 Bryants Road & 101 Jackson Court, Ripley QLD 4306	**2030**			
Client:	KDL DEV 5 PTY LTD		Prepared: MG	Rev: A Date: Jun-26	

SITE LAYOUT

Site: [5 (17)] 2030 BG AM - Background (Binnes Rd / Jackson Ct - FINAL)

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

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



MOVEMENT SUMMARY

Site: [5 (17)] 2030 BG AM - Background (Binnes Rd / Jackson Ct - FINAL)

Output produced by SIDRA INTERSECTION Version: 10.0.9.250

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Jackson Ct (S)															
1	L2	All MCs	6	2.0	6	2.0	0.049	6.9	LOS A	0.2	1.2	0.58	0.76	0.58	49.2
3	R2	All MCs	20	2.0	20	2.0	0.049	11.7	LOS B	0.2	1.2	0.58	0.76	0.58	49.0
Approach			26	2.0	26	2.0	0.049	10.6	LOS B	0.2	1.2	0.58	0.76	0.58	49.0
East: Binnes Rd (E)															
4	L2	All MCs	36	2.0	36	2.0	0.217	5.6	LOS A	0.0	0.0	0.00	0.05	0.00	56.9
5	T1	All MCs	381	2.0	381	2.0	0.217	0.1	LOS A	0.0	0.0	0.00	0.05	0.00	59.4
Approach			417	2.0	417	2.0	0.217	0.5	NA	0.0	0.0	0.00	0.05	0.00	59.2
West: Binnies Rd (W)															
11	T1	All MCs	320	2.0	320	2.0	0.166	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
12	R2	All MCs	6	2.0	6	2.0	0.005	6.9	LOS A	0.0	0.2	0.45	0.58	0.45	51.4
Approach			326	2.0	326	2.0	0.166	0.2	NA	0.0	0.2	0.01	0.01	0.01	59.7
All Vehicles			769	2.0	769	2.0	0.217	0.7	NA	0.2	1.2	0.02	0.06	0.02	59.0

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.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [5 (18)] 2030 BG PM - Background (Binnes Rd / Jackson Ct - FINAL)

Output produced by SIDRA INTERSECTION Version: 10.0.9.250

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Jackson Ct (S)															
1	L2	All MCs	1	2.0	1	2.0	0.047	6.5	LOS A	0.2	1.2	0.52	0.71	0.52	50.3
3	R2	All MCs	29	2.0	29	2.0	0.047	9.0	LOS A	0.2	1.2	0.52	0.71	0.52	50.1
Approach			31	2.0	31	2.0	0.047	8.9	LOS A	0.2	1.2	0.52	0.71	0.52	50.1
East: Binnes Rd (E)															
4	L2	All MCs	20	2.0	20	2.0	0.160	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	57.0
5	T1	All MCs	286	2.0	286	2.0	0.160	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.6
Approach			306	2.0	306	2.0	0.160	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.4
West: Binnies Rd (W)															
11	T1	All MCs	204	2.0	204	2.0	0.106	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
12	R2	All MCs	2	2.0	2	2.0	0.002	6.4	LOS A	0.0	0.0	0.38	0.54	0.38	51.6
Approach			206	2.0	206	2.0	0.106	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.9
All Vehicles			543	2.0	543	2.0	0.160	0.8	NA	0.2	1.2	0.03	0.06	0.03	58.9

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.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [5 (19)] 2030 DT AM - Interim (Binnes Rd / Jackson Ct - FINAL)

Output produced by SIDRA INTERSECTION Version: 10.0.9.250

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Jackson Ct (S)															
1	L2	All MCs	29	2.0	29	2.0	0.277	7.6	LOS A	1.2	8.4	0.65	0.88	0.74	48.1
3	R2	All MCs	112	2.0	112	2.0	0.277	13.5	LOS B	1.2	8.4	0.65	0.88	0.74	47.9
Approach			141	2.0	141	2.0	0.277	12.3	LOS B	1.2	8.4	0.65	0.88	0.74	47.9
East: Binnes Rd (E)															
4	L2	All MCs	58	2.0	58	2.0	0.230	5.6	LOS A	0.0	0.0	0.00	0.08	0.00	56.6
5	T1	All MCs	381	2.0	381	2.0	0.230	0.1	LOS A	0.0	0.0	0.00	0.08	0.00	59.2
Approach			439	2.0	439	2.0	0.230	0.8	NA	0.0	0.0	0.00	0.08	0.00	58.8
West: Binnies Rd (W)															
11	T1	All MCs	320	2.0	320	2.0	0.166	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
12	R2	All MCs	12	2.0	12	2.0	0.010	7.0	LOS A	0.0	0.3	0.46	0.61	0.46	51.3
Approach			332	2.0	332	2.0	0.166	0.3	NA	0.0	0.3	0.02	0.02	0.02	59.6
All Vehicles			912	2.0	912	2.0	0.277	2.4	NA	1.2	8.4	0.11	0.18	0.12	57.1

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.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [5 (20)] 2030 DT PM - Interim (Binnes Rd / Jackson Ct - FINAL)

Output produced by SIDRA INTERSECTION Version: 10.0.9.250

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Jackson Ct (S)															
1	L2	All MCs	8	2.0	8	2.0	0.137	6.6	LOS A	0.5	3.7	0.56	0.78	0.56	49.8
3	R2	All MCs	76	2.0	76	2.0	0.137	10.0	LOS B	0.5	3.7	0.56	0.78	0.56	49.6
Approach			84	2.0	84	2.0	0.137	9.7	LOS A	0.5	3.7	0.56	0.78	0.56	49.6
East: Binnes Rd (E)															
4	L2	All MCs	101	2.0	101	2.0	0.204	5.6	LOS A	0.0	0.0	0.00	0.15	0.00	56.0
5	T1	All MCs	286	2.0	286	2.0	0.204	0.1	LOS A	0.0	0.0	0.00	0.15	0.00	58.5
Approach			387	2.0	387	2.0	0.204	1.5	NA	0.0	0.0	0.00	0.15	0.00	57.8
West: Binnies Rd (W)															
11	T1	All MCs	204	2.0	204	2.0	0.106	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
12	R2	All MCs	24	2.0	24	2.0	0.020	6.8	LOS A	0.1	0.6	0.44	0.61	0.44	51.4
Approach			228	2.0	228	2.0	0.106	0.7	NA	0.1	0.6	0.05	0.06	0.05	58.9
All Vehicles			700	2.0	700	2.0	0.204	2.2	NA	0.5	3.7	0.08	0.20	0.08	57.0

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.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [5 (21)] 2030 DT AM - Ultimate (Binnes Rd / Jackson Ct - FINAL)

Output produced by SIDRA INTERSECTION Version: 10.0.9.250

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Jackson Ct (S)															
1	L2	All MCs	29	2.0	29	2.0	0.148	7.0	LOS A	0.6	3.9	0.60	0.80	0.60	49.2
3	R2	All MCs	55	2.0	55	2.0	0.148	12.4	LOS B	0.6	3.9	0.60	0.80	0.60	49.0
Approach			84	2.0	84	2.0	0.148	10.5	LOS B	0.6	3.9	0.60	0.80	0.60	49.1
East: Binnes Rd (E)															
4	L2	All MCs	49	2.0	49	2.0	0.225	5.6	LOS A	0.0	0.0	0.00	0.07	0.00	56.7
5	T1	All MCs	381	2.0	381	2.0	0.225	0.1	LOS A	0.0	0.0	0.00	0.07	0.00	59.3
Approach			431	2.0	431	2.0	0.225	0.7	NA	0.0	0.0	0.00	0.07	0.00	59.0
West: Binnies Rd (W)															
11	T1	All MCs	320	2.0	320	2.0	0.166	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
12	R2	All MCs	12	2.0	12	2.0	0.010	7.0	LOS A	0.0	0.3	0.46	0.60	0.46	51.3
Approach			332	2.0	332	2.0	0.166	0.3	NA	0.0	0.3	0.02	0.02	0.02	59.6
All Vehicles			846	2.0	846	2.0	0.225	1.5	NA	0.6	3.9	0.07	0.12	0.07	58.0

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.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [5 (22)] 2030 DT PM - Ultimate (Binnes Rd / Jackson Ct - FINAL)

Output produced by SIDRA INTERSECTION Version: 10.0.9.250

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

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Jackson Ct (S)															
1	L2	All MCs	8	2.0	8	2.0	0.097	6.6	LOS A	0.4	2.6	0.54	0.75	0.54	50.1
3	R2	All MCs	54	2.0	54	2.0	0.097	9.7	LOS A	0.4	2.6	0.54	0.75	0.54	49.9
Approach			62	2.0	62	2.0	0.097	9.2	LOS A	0.4	2.6	0.54	0.75	0.54	49.9
East: Binnes Rd (E)															
4	L2	All MCs	64	2.0	64	2.0	0.184	5.6	LOS A	0.0	0.0	0.00	0.11	0.00	56.4
5	T1	All MCs	286	2.0	286	2.0	0.184	0.0	LOS A	0.0	0.0	0.00	0.11	0.00	58.9
Approach			351	2.0	351	2.0	0.184	1.1	NA	0.0	0.0	0.00	0.11	0.00	58.4
West: Binnies Rd (W)															
11	T1	All MCs	204	2.0	204	2.0	0.106	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
12	R2	All MCs	24	2.0	24	2.0	0.019	6.7	LOS A	0.1	0.6	0.41	0.60	0.41	51.5
Approach			228	2.0	228	2.0	0.106	0.7	NA	0.1	0.6	0.04	0.06	0.04	58.9
All Vehicles			641	2.0	641	2.0	0.184	1.7	NA	0.4	2.6	0.07	0.15	0.07	57.7

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.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

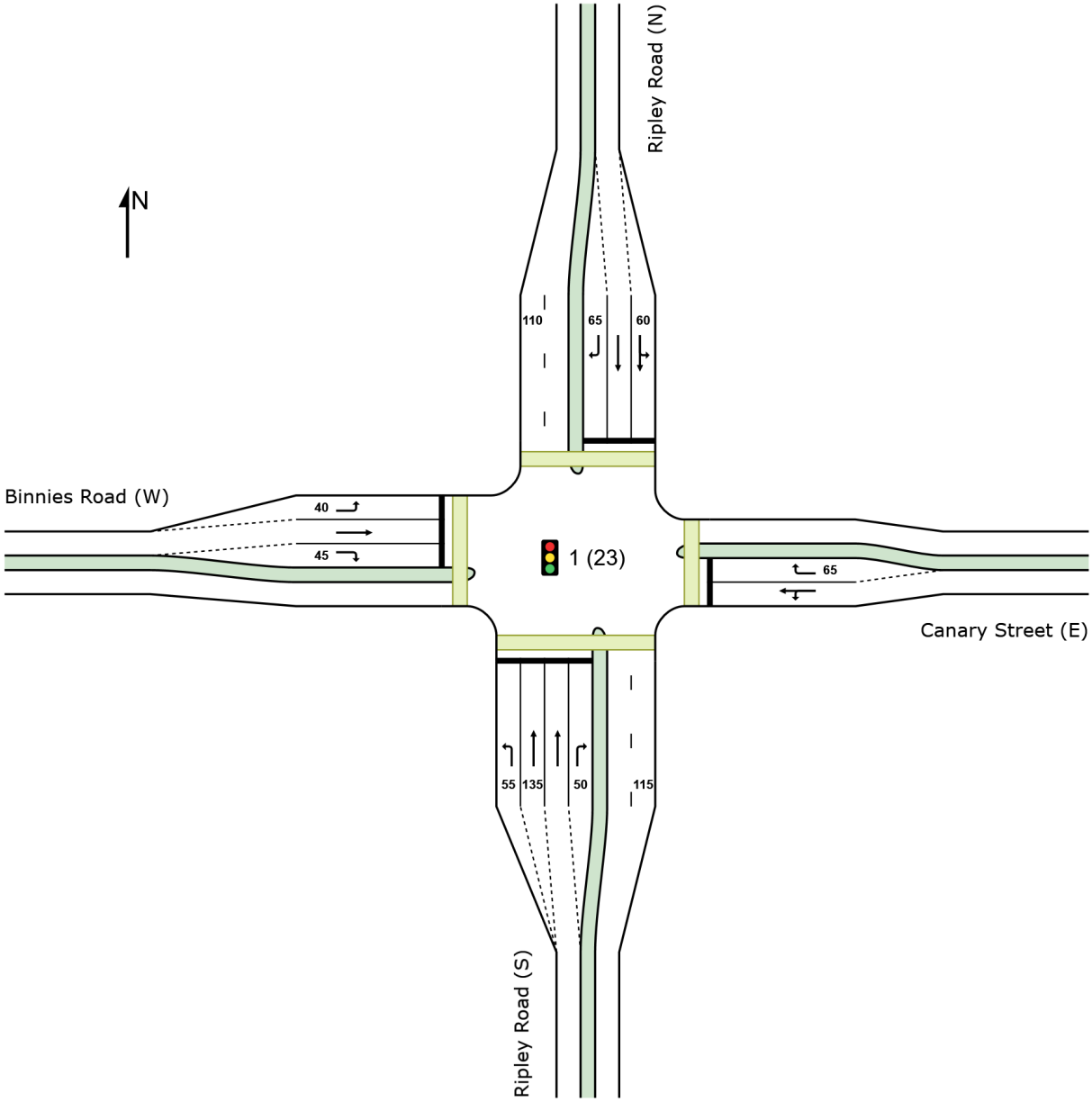
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SITE LAYOUT

Site: [1 (23)] 2030 BG AM - Background (Binnies Rd / Ripley Rd / Canary St)

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated
Site Scenario: 1 | Local Volumes

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



MOVEMENT SUMMARY

Site: [1 (23)] 2030 BG AM - Background (Binnies Rd / Ripley Rd / Canary St)

Output produced by SIDRA INTERSECTION Version: 10.0.9.250

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90.0 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Ripley Road (S)															
1	L2	All MCs	168	3.0	168	3.0	0.201	20.9	LOS C	4.4	31.3	0.63	0.73	0.63	43.2
2	T1	All MCs	539	2.7	539	2.7	0.770	38.6	LOS D	14.7	105.5	0.97	0.85	1.03	37.6
3	R2	All MCs	19	0.0	19	0.0	0.069	45.1	LOS D	0.7	5.1	0.89	0.69	0.89	34.8
Approach			726	2.7	726	2.7	0.770	34.7	LOS C	14.7	105.5	0.88	0.82	0.93	38.0
East: Canary Street (E)															
4	L2	All MCs	43	2.9	43	2.9	* 0.353	46.4	LOS D	4.3	30.1	0.94	0.75	0.94	35.4
5	T1	All MCs	62	0.0	62	0.0	0.353	35.5	LOS D	4.3	30.1	0.94	0.75	0.94	36.4
6	R2	All MCs	49	0.0	49	0.0	0.140	38.9	LOS D	1.8	12.9	0.87	0.73	0.87	35.8
Approach			155	0.8	155	0.8	0.353	39.6	LOS D	4.3	30.1	0.91	0.75	0.91	35.9
North: Ripley Road (N)															
7	L2	All MCs	20	0.0	20	0.0	0.543	40.1	LOS D	9.2	66.7	0.93	0.78	0.93	37.4
8	T1	All MCs	571	4.1	571	4.1	* 0.847	40.7	LOS D	17.1	124.1	0.98	0.92	1.11	36.3
9	R2	All MCs	228	2.8	228	2.8	* 0.845	53.6	LOS D	11.2	80.0	1.00	0.98	1.29	31.3
Approach			819	3.7	819	3.7	0.847	44.3	LOS D	17.1	124.1	0.98	0.93	1.16	34.6
West: Binnies Road (W)															
10	L2	All MCs	100	2.5	100	2.5	0.486	48.1	LOS D	4.3	31.0	0.98	0.78	0.98	32.7
11	T1	All MCs	55	0.0	55	0.0	0.167	35.2	LOS D	2.1	14.7	0.89	0.68	0.89	38.2
12	R2	All MCs	258	3.4	258	3.4	* 0.845	52.6	LOS D	12.6	90.5	1.00	0.98	1.27	31.7
Approach			413	2.8	413	2.8	0.845	49.2	LOS D	12.6	90.5	0.98	0.89	1.15	32.7
All Vehicles			2113	3.0	2113	3.0	0.847	41.6	LOS D	17.1	124.1	0.94	0.87	1.06	35.4

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE [Ped	Dist]	Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed

	ped/h	ped/h	sec		ped	m			sec	m	m/sec
South: Ripley Road (S)											
P1 Full	18	19	39.2	LOS D	0.0	0.0	0.93	0.93	193.1	200.0	1.04
East: Canary Street (E)											
P2 Full	4	4	39.2	LOS D	0.0	0.0	0.93	0.93	193.1	200.0	1.04
North: Ripley Road (N)											
P3 Full	4	4	39.2	LOS D	0.0	0.0	0.93	0.93	193.1	200.0	1.04
West: Binnies Road (W)											
P4 Full	1	1	39.2	LOS D	0.0	0.0	0.93	0.93	193.0	200.0	1.04
All Pedestrians	27	28	39.2	LOS D	0.0	0.0	0.93	0.93	193.1	200.0	1.04

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: [1 (25)] 2030 BG PM - Background (Binnies Rd / Ripley Rd / Canary St)

Output produced by SIDRA INTERSECTION Version: 10.0.9.250

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80.0 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Ripley Road (S)															
1	L2	All MCs	140	3.3	140	3.3	0.292	31.3	LOS C	4.4	31.9	0.84	0.77	0.84	38.5
2	T1	All MCs	686	0.9	686	0.9	0.840	36.6	LOS D	17.8	125.8	0.96	0.91	1.09	38.9
3	R2	All MCs	44	0.0	44	0.0	0.252	49.3	LOS D	1.7	11.9	0.96	0.73	0.96	34.1
Approach			871	1.2	871	1.2	0.840	36.4	LOS D	17.8	125.8	0.94	0.88	1.04	37.4
East: Canary Street (E)															
4	L2	All MCs	39	0.0	39	0.0	* 0.202	39.7	LOS D	2.2	15.1	0.90	0.72	0.90	36.9
5	T1	All MCs	23	0.0	23	0.0	0.202	29.1	LOS C	2.2	15.1	0.90	0.72	0.90	37.9
6	R2	All MCs	61	1.9	61	1.9	0.157	33.9	LOS C	2.0	14.1	0.85	0.74	0.85	37.7
Approach			123	0.9	123	0.9	0.202	34.8	LOS C	2.2	15.1	0.88	0.73	0.88	37.5
North: Ripley Road (N)															
7	L2	All MCs	43	2.7	43	2.7	0.561	35.0	LOS D	9.8	69.2	0.92	0.78	0.92	39.6
8	T1	All MCs	672	0.5	672	0.5	* 0.875	37.5	LOS D	19.2	135.4	0.97	0.96	1.15	37.7
9	R2	All MCs	154	0.0	154	0.0	* 0.874	53.6	LOS D	7.0	49.1	1.00	1.02	1.47	31.4
Approach			868	0.6	868	0.6	0.875	40.2	LOS D	19.2	135.4	0.97	0.96	1.19	36.0
West: Binnies Road (W)															
10	L2	All MCs	108	1.1	108	1.1	0.456	42.2	LOS D	4.1	29.1	0.97	0.78	0.97	34.6
11	T1	All MCs	25	0.0	25	0.0	0.100	34.1	LOS C	0.9	6.3	0.91	0.66	0.91	38.6
12	R2	All MCs	206	2.2	206	2.2	* 0.874	52.3	LOS D	9.4	67.0	1.00	1.03	1.41	31.8
Approach			340	1.7	340	1.7	0.874	47.7	LOS D	9.4	67.0	0.98	0.92	1.23	33.1
All Vehicles			2202	1.0	2202	1.0	0.875	39.6	LOS D	19.2	135.4	0.96	0.91	1.12	36.1

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.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE [Ped	Dist]	Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed

	ped/h	ped/h	sec		ped	m			sec	m	m/sec
South: Ripley Road (S)											
P1 Full	20	21	34.3	LOS D	0.0	0.0	0.93	0.93	188.1	200.0	1.06
East: Canary Street (E)											
P2 Full	11	12	34.2	LOS D	0.0	0.0	0.93	0.93	188.1	200.0	1.06
North: Ripley Road (N)											
P3 Full	5	5	34.2	LOS D	0.0	0.0	0.93	0.93	188.1	200.0	1.06
West: Binnies Road (W)											
P4 Full	2	2	34.2	LOS D	0.0	0.0	0.93	0.93	188.1	200.0	1.06
All Pedestrians	38	40	34.2	LOS D	0.0	0.0	0.93	0.93	188.1	200.0	1.06

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

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MOVEMENT SUMMARY

Site: [1 (26)] 2030 DT AM - Interim (Binnies Rd / Ripley Rd / Canary St)

Output produced by SIDRA INTERSECTION Version: 10.0.9.250

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90.0 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Ripley Road (S)															
1	L2	All MCs	177	3.0	177	3.0	0.215	21.6	LOS C	4.7	33.7	0.64	0.74	0.64	42.9
2	T1	All MCs	539	2.7	539	2.7	0.826	45.0	LOS D	12.8	91.7	1.00	0.98	1.22	34.5
3	R2	All MCs	19	0.0	19	0.0	0.064	40.8	LOS D	0.7	5.0	0.88	0.69	0.88	35.1
Approach			735	2.7	735	2.7	0.826	39.3	LOS D	12.8	91.7	0.91	0.91	1.07	36.2
East: Canary Street (E)															
4	L2	All MCs	43	2.9	43	2.9	* 0.362	46.8	LOS D	4.4	31.0	0.94	0.75	0.94	35.4
5	T1	All MCs	65	0.0	65	0.0	0.362	35.6	LOS D	4.4	31.0	0.94	0.75	0.94	36.4
6	R2	All MCs	49	0.0	49	0.0	0.140	38.8	LOS D	1.8	12.9	0.87	0.73	0.87	35.9
Approach			158	0.8	158	0.8	0.362	39.7	LOS D	4.4	31.0	0.92	0.75	0.92	36.0
North: Ripley Road (N)															
7	L2	All MCs	20	0.0	20	0.0	0.166	40.6	LOS D	2.0	14.6	0.89	0.70	0.89	36.3
8	T1	All MCs	571	4.1	571	4.1	* 0.830	44.8	LOS D	12.8	93.0	0.99	0.97	1.21	34.6
9	R2	All MCs	240	2.8	240	2.8	* 0.830	52.0	LOS D	11.5	82.7	1.00	0.96	1.25	31.8
Approach			831	3.6	831	3.6	0.830	46.8	LOS D	12.8	93.0	0.99	0.96	1.21	33.8
West: Binnies Road (W)															
10	L2	All MCs	122	2.5	122	2.5	0.421	43.5	LOS D	5.0	35.8	0.95	0.78	0.95	34.1
11	T1	All MCs	68	0.0	68	0.0	0.164	36.7	LOS D	2.5	17.3	0.85	0.66	0.85	39.8
12	R2	All MCs	313	3.4	313	3.4	* 0.830	54.2	LOS D	14.8	107.0	1.00	0.96	1.21	32.7
Approach			503	2.7	503	2.7	0.830	49.2	LOS D	14.8	107.0	0.97	0.87	1.10	32.6
All Vehicles			2226	2.9	2226	2.9	0.830	44.4	LOS D	14.8	107.0	0.95	0.91	1.12	34.4

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE [Ped	Dist]	Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed

	ped/h	ped/h	sec		ped	m			sec	m	m/sec
South: Ripley Road (S)											
P1 Full	18	19	39.2	LOS D	0.0	0.0	0.93	0.93	193.1	200.0	1.04
East: Canary Street (E)											
P2 Full	4	4	39.2	LOS D	0.0	0.0	0.93	0.93	193.1	200.0	1.04
North: Ripley Road (N)											
P3 Full	4	4	39.2	LOS D	0.0	0.0	0.93	0.93	193.1	200.0	1.04
West: Binnies Road (W)											
P4 Full	1	1	39.2	LOS D	0.0	0.0	0.93	0.93	193.0	200.0	1.04
All Pedestrians	27	28	39.2	LOS D	0.0	0.0	0.93	0.93	193.1	200.0	1.04

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: [1 (27)] 2030 DT PM - Interim (Binnies Rd / Ripley Rd / Canary St)

Output produced by SIDRA INTERSECTION Version: 10.0.9.250

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90.0 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Ripley Road (S)															
1	L2	All MCs	177	2.5	177	2.5	0.353	34.1	LOS C	6.3	45.2	0.85	0.79	0.85	37.4
2	T1	All MCs	686	0.9	686	0.9	0.812	39.8	LOS D	19.0	133.7	0.96	0.87	1.04	38.3
3	R2	All MCs	44	0.0	44	0.0	0.197	53.6	LOS D	1.8	12.7	0.94	0.73	0.94	33.7
Approach			907	1.2	907	1.2	0.812	39.4	LOS D	19.0	133.7	0.93	0.85	1.00	36.3
East: Canary Street (E)															
4	L2	All MCs	39	0.0	39	0.0	*0.225	44.8	LOS D	2.6	18.1	0.92	0.73	0.92	35.2
5	T1	All MCs	26	0.0	26	0.0	0.225	34.1	LOS C	2.6	18.1	0.92	0.73	0.92	36.2
6	R2	All MCs	61	1.9	61	1.9	0.170	38.7	LOS D	2.3	16.1	0.87	0.74	0.87	35.9
Approach			126	0.9	126	0.9	0.225	39.6	LOS D	2.6	18.1	0.89	0.73	0.89	35.7
North: Ripley Road (N)															
7	L2	All MCs	43	2.7	43	2.7	0.557	39.9	LOS D	11.2	79.2	0.91	0.78	0.91	38.5
8	T1	All MCs	672	0.5	672	0.5	*0.870	42.4	LOS D	20.7	145.7	0.97	0.94	1.12	36.7
9	R2	All MCs	195	0.0	195	0.0	*0.868	58.3	LOS E	9.8	68.4	1.00	1.01	1.37	30.5
Approach			909	0.5	909	0.5	0.870	45.7	LOS D	20.7	145.7	0.97	0.95	1.16	34.2
West: Binnies Road (W)															
10	L2	All MCs	119	1.0	119	1.0	0.453	45.3	LOS D	5.0	35.1	0.96	0.78	0.96	33.6
11	T1	All MCs	28	0.0	28	0.0	0.102	36.9	LOS D	1.1	7.8	0.90	0.65	0.90	37.5
12	R2	All MCs	226	2.0	226	2.0	*0.868	55.9	LOS E	11.3	80.7	1.00	1.01	1.34	30.8
Approach			374	1.5	374	1.5	0.868	51.0	LOS D	11.3	80.7	0.98	0.91	1.19	32.1
All Vehicles			2317	1.0	2317	1.0	0.870	43.8	LOS D	20.7	145.7	0.95	0.89	1.09	34.7

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE [Ped	Dist]	Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed

	ped/h	ped/h	sec		ped	m			sec	m	m/sec
South: Ripley Road (S)											
P1 Full	20	21	39.2	LOS D	0.1	0.1	0.93	0.93	193.1	200.0	1.04
East: Canary Street (E)											
P2 Full	11	12	39.2	LOS D	0.0	0.0	0.93	0.93	193.1	200.0	1.04
North: Ripley Road (N)											
P3 Full	5	5	39.2	LOS D	0.0	0.0	0.93	0.93	193.1	200.0	1.04
West: Binnies Road (W)											
P4 Full	2	2	39.2	LOS D	0.0	0.0	0.93	0.93	193.0	200.0	1.04
All Pedestrians	38	40	39.2	LOS D	0.1	0.1	0.93	0.93	193.1	200.0	1.04

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: [1 (28)] 2030 DT AM - Ultimate (Binnies Rd / Ripley Rd / Canary St)

Output produced by SIDRA INTERSECTION Version: 10.0.9.250

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80.0 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Ripley Road (S)															
1	L2	All MCs	168	3.0	168	3.0	0.224	21.9	LOS C	4.3	30.5	0.68	0.75	0.68	42.7
2	T1	All MCs	539	2.7	539	2.7	0.842	41.9	LOS D	11.7	83.9	1.00	1.00	1.28	35.6
3	R2	All MCs	19	0.0	19	0.0	0.066	37.3	LOS D	0.6	4.5	0.88	0.69	0.88	36.4
Approach			726	2.7	726	2.7	0.842	37.2	LOS D	11.7	83.9	0.92	0.94	1.13	37.0
East: Canary Street (E)															
4	L2	All MCs	43	2.9	43	2.9	* 0.336	41.6	LOS D	3.8	27.2	0.92	0.75	0.92	37.2
5	T1	All MCs	65	0.0	65	0.0	0.336	30.5	LOS C	3.8	27.2	0.92	0.75	0.92	38.3
6	R2	All MCs	49	0.0	49	0.0	0.129	34.0	LOS C	1.6	11.2	0.85	0.73	0.85	37.7
Approach			158	0.8	158	0.8	0.336	34.6	LOS C	3.8	27.2	0.90	0.74	0.90	37.8
North: Ripley Road (N)															
7	L2	All MCs	20	0.0	20	0.0	0.169	37.1	LOS D	1.8	13.1	0.89	0.70	0.89	37.6
8	T1	All MCs	571	4.1	571	4.1	* 0.847	41.7	LOS D	11.8	85.2	0.99	0.99	1.27	35.6
9	R2	All MCs	240	2.8	240	2.8	* 0.847	48.8	LOS D	10.6	75.7	1.00	0.99	1.31	32.7
Approach			831	3.6	831	3.6	0.847	43.7	LOS D	11.8	85.2	0.99	0.98	1.27	34.8
West: Binnies Road (W)															
10	L2	All MCs	122	2.5	122	2.5	0.615	45.0	LOS D	4.9	35.0	1.00	0.81	1.06	33.7
11	T1	All MCs	60	0.0	60	0.0	0.180	31.3	LOS C	2.1	14.4	0.89	0.68	0.89	39.8
12	R2	All MCs	263	3.4	263	3.4	* 0.847	48.0	LOS D	11.6	83.3	1.00	0.99	1.30	32.9
Approach			445	2.7	445	2.7	0.847	44.9	LOS D	11.6	83.3	0.99	0.90	1.18	33.9
All Vehicles			2160	2.9	2160	2.9	0.847	41.1	LOS D	11.8	85.2	0.96	0.93	1.18	35.5

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.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE [Ped	Dist]	Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed

	ped/h	ped/h	sec		ped	m			sec	m	m/sec
South: Ripley Road (S)											
P1 Full	18	19	34.3	LOS D	0.0	0.0	0.93	0.93	188.1	200.0	1.06
East: Canary Street (E)											
P2 Full	4	4	34.2	LOS D	0.0	0.0	0.93	0.93	188.1	200.0	1.06
North: Ripley Road (N)											
P3 Full	4	4	34.2	LOS D	0.0	0.0	0.93	0.93	188.1	200.0	1.06
West: Binnies Road (W)											
P4 Full	1	1	34.2	LOS D	0.0	0.0	0.93	0.93	188.1	200.0	1.06
All Pedestrians	27	28	34.2	LOS D	0.0	0.0	0.93	0.93	188.1	200.0	1.06

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

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MOVEMENT SUMMARY

Site: [1 (29)] 2030 DT PM - Ultimate (Binnies Rd / Ripley Rd / Canary St)

Output produced by SIDRA INTERSECTION Version: 10.0.9.250

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90.0 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Ripley Road (S)															
1	L2	All MCs	140	2.5	140	2.5	0.274	33.0	LOS C	4.8	34.6	0.82	0.77	0.82	37.8
2	T1	All MCs	686	0.9	686	0.9	0.796	38.6	LOS D	18.6	130.9	0.95	0.86	1.02	38.7
3	R2	All MCs	44	0.0	44	0.0	0.193	53.0	LOS D	1.8	12.6	0.93	0.73	0.93	33.8
Approach			871	1.1	871	1.1	0.796	38.4	LOS D	18.6	130.9	0.93	0.84	0.98	36.7
East: Canary Street (E)															
4	L2	All MCs	39	0.0	39	0.0	* 0.225	44.7	LOS D	2.6	18.1	0.92	0.73	0.92	35.2
5	T1	All MCs	26	0.0	26	0.0	0.225	34.1	LOS C	2.6	18.1	0.92	0.73	0.92	36.2
6	R2	All MCs	61	1.9	61	1.9	0.170	38.7	LOS D	2.3	16.1	0.87	0.74	0.87	35.9
Approach			126	0.9	126	0.9	0.225	39.6	LOS D	2.6	18.1	0.89	0.73	0.89	35.7
North: Ripley Road (N)															
7	L2	All MCs	43	2.7	43	2.7	0.545	39.2	LOS D	11.1	78.3	0.90	0.77	0.90	38.7
8	T1	All MCs	672	0.5	672	0.5	* 0.850	40.5	LOS D	20.1	141.3	0.96	0.92	1.09	37.3
9	R2	All MCs	195	0.0	195	0.0	* 0.849	56.5	LOS E	9.6	67.1	1.00	0.98	1.32	30.9
Approach			909	0.5	909	0.5	0.850	43.9	LOS D	20.1	141.3	0.97	0.93	1.13	34.8
West: Binnies Road (W)															
10	L2	All MCs	117	1.0	117	1.0	0.472	46.1	LOS D	4.9	34.9	0.97	0.78	0.97	33.4
11	T1	All MCs	27	0.0	27	0.0	0.105	37.7	LOS D	1.1	7.6	0.91	0.66	0.91	37.2
12	R2	All MCs	208	2.0	208	2.0	* 0.849	54.8	LOS D	10.3	73.0	1.00	0.99	1.31	31.1
Approach			353	1.5	353	1.5	0.849	50.6	LOS D	10.3	73.0	0.98	0.89	1.17	32.2
All Vehicles			2259	0.9	2259	0.9	0.850	42.6	LOS D	20.1	141.3	0.95	0.88	1.06	35.1

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.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE [Ped	Dist]	Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed

	ped/h	ped/h	sec		ped	m			sec	m	m/sec
South: Ripley Road (S)											
P1 Full	20	21	39.2	LOS D	0.1	0.1	0.93	0.93	193.1	200.0	1.04
East: Canary Street (E)											
P2 Full	11	12	39.2	LOS D	0.0	0.0	0.93	0.93	193.1	200.0	1.04
North: Ripley Road (N)											
P3 Full	5	5	39.2	LOS D	0.0	0.0	0.93	0.93	193.1	200.0	1.04
West: Binnies Road (W)											
P4 Full	2	2	39.2	LOS D	0.0	0.0	0.93	0.93	193.0	200.0	1.04
All Pedestrians	38	40	39.2	LOS D	0.1	0.1	0.93	0.93	193.1	200.0	1.04

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.

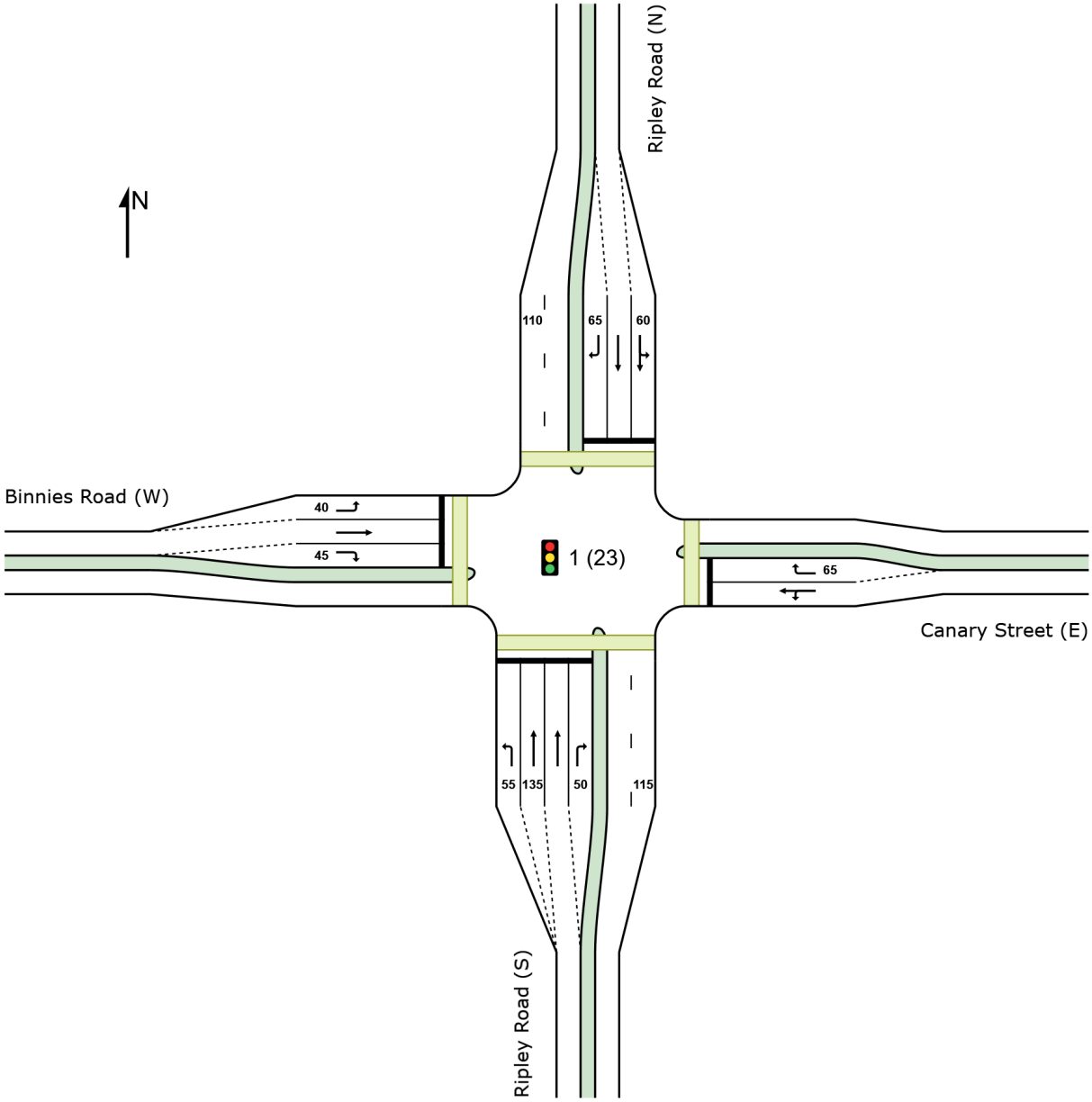
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SITE LAYOUT

Site: [1 (23)] 2030 BG AM - Background (Binnies Rd / Ripley Rd / Canary St)

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated
Site Scenario: 1 | Local Volumes

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



MOVEMENT SUMMARY

Site: [1 (23)] 2030 BG AM - Background (Binnies Rd / Ripley Rd / Canary St)

Output produced by SIDRA INTERSECTION Version: 10.0.9.250

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90.0 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Ripley Road (S)															
1	L2	All MCs	168	3.0	168	3.0	0.201	20.9	LOS C	4.4	31.3	0.63	0.73	0.63	43.2
2	T1	All MCs	539	2.7	539	2.7	0.770	38.6	LOS D	14.7	105.5	0.97	0.85	1.03	37.6
3	R2	All MCs	19	0.0	19	0.0	0.069	45.1	LOS D	0.7	5.1	0.89	0.69	0.89	34.8
Approach			726	2.7	726	2.7	0.770	34.7	LOS C	14.7	105.5	0.88	0.82	0.93	38.0
East: Canary Street (E)															
4	L2	All MCs	43	2.9	43	2.9	* 0.353	46.4	LOS D	4.3	30.1	0.94	0.75	0.94	35.4
5	T1	All MCs	62	0.0	62	0.0	0.353	35.5	LOS D	4.3	30.1	0.94	0.75	0.94	36.4
6	R2	All MCs	49	0.0	49	0.0	0.140	38.9	LOS D	1.8	12.9	0.87	0.73	0.87	35.8
Approach			155	0.8	155	0.8	0.353	39.6	LOS D	4.3	30.1	0.91	0.75	0.91	35.9
North: Ripley Road (N)															
7	L2	All MCs	20	0.0	20	0.0	0.543	40.1	LOS D	9.2	66.7	0.93	0.78	0.93	37.4
8	T1	All MCs	571	4.1	571	4.1	* 0.847	40.7	LOS D	17.1	124.1	0.98	0.92	1.11	36.3
9	R2	All MCs	228	2.8	228	2.8	* 0.845	53.6	LOS D	11.2	80.0	1.00	0.98	1.29	31.3
Approach			819	3.7	819	3.7	0.847	44.3	LOS D	17.1	124.1	0.98	0.93	1.16	34.6
West: Binnies Road (W)															
10	L2	All MCs	100	2.5	100	2.5	0.486	48.1	LOS D	4.3	31.0	0.98	0.78	0.98	32.7
11	T1	All MCs	55	0.0	55	0.0	0.167	35.2	LOS D	2.1	14.7	0.89	0.68	0.89	38.2
12	R2	All MCs	258	3.4	258	3.4	* 0.845	52.6	LOS D	12.6	90.5	1.00	0.98	1.27	31.7
Approach			413	2.8	413	2.8	0.845	49.2	LOS D	12.6	90.5	0.98	0.89	1.15	32.7
All Vehicles			2113	3.0	2113	3.0	0.847	41.6	LOS D	17.1	124.1	0.94	0.87	1.06	35.4

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE [Ped	Dist]	Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed

	ped/h	ped/h	sec		ped	m			sec	m	m/sec
South: Ripley Road (S)											
P1 Full	18	19	39.2	LOS D	0.0	0.0	0.93	0.93	193.1	200.0	1.04
East: Canary Street (E)											
P2 Full	4	4	39.2	LOS D	0.0	0.0	0.93	0.93	193.1	200.0	1.04
North: Ripley Road (N)											
P3 Full	4	4	39.2	LOS D	0.0	0.0	0.93	0.93	193.1	200.0	1.04
West: Binnies Road (W)											
P4 Full	1	1	39.2	LOS D	0.0	0.0	0.93	0.93	193.0	200.0	1.04
All Pedestrians	27	28	39.2	LOS D	0.0	0.0	0.93	0.93	193.1	200.0	1.04

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: [1 (25)] 2030 BG PM - Background (Binnies Rd / Ripley Rd / Canary St)

Output produced by SIDRA INTERSECTION Version: 10.0.9.250

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80.0 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Ripley Road (S)															
1	L2	All MCs	140	3.3	140	3.3	0.292	31.3	LOS C	4.4	31.9	0.84	0.77	0.84	38.5
2	T1	All MCs	686	0.9	686	0.9	0.840	36.6	LOS D	17.8	125.8	0.96	0.91	1.09	38.9
3	R2	All MCs	44	0.0	44	0.0	0.252	49.3	LOS D	1.7	11.9	0.96	0.73	0.96	34.1
Approach			871	1.2	871	1.2	0.840	36.4	LOS D	17.8	125.8	0.94	0.88	1.04	37.4
East: Canary Street (E)															
4	L2	All MCs	39	0.0	39	0.0	* 0.202	39.7	LOS D	2.2	15.1	0.90	0.72	0.90	36.9
5	T1	All MCs	23	0.0	23	0.0	0.202	29.1	LOS C	2.2	15.1	0.90	0.72	0.90	37.9
6	R2	All MCs	61	1.9	61	1.9	0.157	33.9	LOS C	2.0	14.1	0.85	0.74	0.85	37.7
Approach			123	0.9	123	0.9	0.202	34.8	LOS C	2.2	15.1	0.88	0.73	0.88	37.5
North: Ripley Road (N)															
7	L2	All MCs	43	2.7	43	2.7	0.561	35.0	LOS D	9.8	69.2	0.92	0.78	0.92	39.6
8	T1	All MCs	672	0.5	672	0.5	* 0.875	37.5	LOS D	19.2	135.4	0.97	0.96	1.15	37.7
9	R2	All MCs	154	0.0	154	0.0	* 0.874	53.6	LOS D	7.0	49.1	1.00	1.02	1.47	31.4
Approach			868	0.6	868	0.6	0.875	40.2	LOS D	19.2	135.4	0.97	0.96	1.19	36.0
West: Binnies Road (W)															
10	L2	All MCs	108	1.1	108	1.1	0.456	42.2	LOS D	4.1	29.1	0.97	0.78	0.97	34.6
11	T1	All MCs	25	0.0	25	0.0	0.100	34.1	LOS C	0.9	6.3	0.91	0.66	0.91	38.6
12	R2	All MCs	206	2.2	206	2.2	* 0.874	52.3	LOS D	9.4	67.0	1.00	1.03	1.41	31.8
Approach			340	1.7	340	1.7	0.874	47.7	LOS D	9.4	67.0	0.98	0.92	1.23	33.1
All Vehicles			2202	1.0	2202	1.0	0.875	39.6	LOS D	19.2	135.4	0.96	0.91	1.12	36.1

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.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE [Ped	Dist]	Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed

	ped/h	ped/h	sec		ped	m			sec	m	m/sec
South: Ripley Road (S)											
P1 Full	20	21	34.3	LOS D	0.0	0.0	0.93	0.93	188.1	200.0	1.06
East: Canary Street (E)											
P2 Full	11	12	34.2	LOS D	0.0	0.0	0.93	0.93	188.1	200.0	1.06
North: Ripley Road (N)											
P3 Full	5	5	34.2	LOS D	0.0	0.0	0.93	0.93	188.1	200.0	1.06
West: Binnies Road (W)											
P4 Full	2	2	34.2	LOS D	0.0	0.0	0.93	0.93	188.1	200.0	1.06
All Pedestrians	38	40	34.2	LOS D	0.0	0.0	0.93	0.93	188.1	200.0	1.06

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

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MOVEMENT SUMMARY

Site: [1 (26)] 2030 DT AM - Interim (Binnies Rd / Ripley Rd / Canary St)

Output produced by SIDRA INTERSECTION Version: 10.0.9.250

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90.0 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Ripley Road (S)															
1	L2	All MCs	177	3.0	177	3.0	0.215	21.6	LOS C	4.7	33.7	0.64	0.74	0.64	42.9
2	T1	All MCs	539	2.7	539	2.7	0.826	45.0	LOS D	12.8	91.7	1.00	0.98	1.22	34.5
3	R2	All MCs	19	0.0	19	0.0	0.064	40.8	LOS D	0.7	5.0	0.88	0.69	0.88	35.1
Approach			735	2.7	735	2.7	0.826	39.3	LOS D	12.8	91.7	0.91	0.91	1.07	36.2
East: Canary Street (E)															
4	L2	All MCs	43	2.9	43	2.9	* 0.362	46.8	LOS D	4.4	31.0	0.94	0.75	0.94	35.4
5	T1	All MCs	65	0.0	65	0.0	0.362	35.6	LOS D	4.4	31.0	0.94	0.75	0.94	36.4
6	R2	All MCs	49	0.0	49	0.0	0.140	38.8	LOS D	1.8	12.9	0.87	0.73	0.87	35.9
Approach			158	0.8	158	0.8	0.362	39.7	LOS D	4.4	31.0	0.92	0.75	0.92	36.0
North: Ripley Road (N)															
7	L2	All MCs	20	0.0	20	0.0	0.166	40.6	LOS D	2.0	14.6	0.89	0.70	0.89	36.3
8	T1	All MCs	571	4.1	571	4.1	* 0.830	44.8	LOS D	12.8	93.0	0.99	0.97	1.21	34.6
9	R2	All MCs	240	2.8	240	2.8	* 0.830	52.0	LOS D	11.5	82.7	1.00	0.96	1.25	31.8
Approach			831	3.6	831	3.6	0.830	46.8	LOS D	12.8	93.0	0.99	0.96	1.21	33.8
West: Binnies Road (W)															
10	L2	All MCs	122	2.5	122	2.5	0.421	43.5	LOS D	5.0	35.8	0.95	0.78	0.95	34.1
11	T1	All MCs	68	0.0	68	0.0	0.164	36.7	LOS D	2.5	17.3	0.85	0.66	0.85	39.8
12	R2	All MCs	313	3.4	313	3.4	* 0.830	54.2	LOS D	14.8	107.0	1.00	0.96	1.21	32.7
Approach			503	2.7	503	2.7	0.830	49.2	LOS D	14.8	107.0	0.97	0.87	1.10	32.6
All Vehicles			2226	2.9	2226	2.9	0.830	44.4	LOS D	14.8	107.0	0.95	0.91	1.12	34.4

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE [Ped	Dist]	Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed

	ped/h	ped/h	sec		ped	m			sec	m	m/sec
South: Ripley Road (S)											
P1 Full	18	19	39.2	LOS D	0.0	0.0	0.93	0.93	193.1	200.0	1.04
East: Canary Street (E)											
P2 Full	4	4	39.2	LOS D	0.0	0.0	0.93	0.93	193.1	200.0	1.04
North: Ripley Road (N)											
P3 Full	4	4	39.2	LOS D	0.0	0.0	0.93	0.93	193.1	200.0	1.04
West: Binnies Road (W)											
P4 Full	1	1	39.2	LOS D	0.0	0.0	0.93	0.93	193.0	200.0	1.04
All Pedestrians	27	28	39.2	LOS D	0.0	0.0	0.93	0.93	193.1	200.0	1.04

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: [1 (27)] 2030 DT PM - Interim (Binnies Rd / Ripley Rd / Canary St)

Output produced by SIDRA INTERSECTION Version: 10.0.9.250

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90.0 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Ripley Road (S)															
1	L2	All MCs	177	2.5	177	2.5	0.353	34.1	LOS C	6.3	45.2	0.85	0.79	0.85	37.4
2	T1	All MCs	686	0.9	686	0.9	0.812	39.8	LOS D	19.0	133.7	0.96	0.87	1.04	38.3
3	R2	All MCs	44	0.0	44	0.0	0.197	53.6	LOS D	1.8	12.7	0.94	0.73	0.94	33.7
Approach			907	1.2	907	1.2	0.812	39.4	LOS D	19.0	133.7	0.93	0.85	1.00	36.3
East: Canary Street (E)															
4	L2	All MCs	39	0.0	39	0.0	*0.225	44.8	LOS D	2.6	18.1	0.92	0.73	0.92	35.2
5	T1	All MCs	26	0.0	26	0.0	0.225	34.1	LOS C	2.6	18.1	0.92	0.73	0.92	36.2
6	R2	All MCs	61	1.9	61	1.9	0.170	38.7	LOS D	2.3	16.1	0.87	0.74	0.87	35.9
Approach			126	0.9	126	0.9	0.225	39.6	LOS D	2.6	18.1	0.89	0.73	0.89	35.7
North: Ripley Road (N)															
7	L2	All MCs	43	2.7	43	2.7	0.557	39.9	LOS D	11.2	79.2	0.91	0.78	0.91	38.5
8	T1	All MCs	672	0.5	672	0.5	*0.870	42.4	LOS D	20.7	145.7	0.97	0.94	1.12	36.7
9	R2	All MCs	195	0.0	195	0.0	*0.868	58.3	LOS E	9.8	68.4	1.00	1.01	1.37	30.5
Approach			909	0.5	909	0.5	0.870	45.7	LOS D	20.7	145.7	0.97	0.95	1.16	34.2
West: Binnies Road (W)															
10	L2	All MCs	119	1.0	119	1.0	0.453	45.3	LOS D	5.0	35.1	0.96	0.78	0.96	33.6
11	T1	All MCs	28	0.0	28	0.0	0.102	36.9	LOS D	1.1	7.8	0.90	0.65	0.90	37.5
12	R2	All MCs	226	2.0	226	2.0	*0.868	55.9	LOS E	11.3	80.7	1.00	1.01	1.34	30.8
Approach			374	1.5	374	1.5	0.868	51.0	LOS D	11.3	80.7	0.98	0.91	1.19	32.1
All Vehicles			2317	1.0	2317	1.0	0.870	43.8	LOS D	20.7	145.7	0.95	0.89	1.09	34.7

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE [Ped	Dist]	Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed

	ped/h	ped/h	sec		ped	m			sec	m	m/sec
South: Ripley Road (S)											
P1 Full	20	21	39.2	LOS D	0.1	0.1	0.93	0.93	193.1	200.0	1.04
East: Canary Street (E)											
P2 Full	11	12	39.2	LOS D	0.0	0.0	0.93	0.93	193.1	200.0	1.04
North: Ripley Road (N)											
P3 Full	5	5	39.2	LOS D	0.0	0.0	0.93	0.93	193.1	200.0	1.04
West: Binnies Road (W)											
P4 Full	2	2	39.2	LOS D	0.0	0.0	0.93	0.93	193.0	200.0	1.04
All Pedestrians	38	40	39.2	LOS D	0.1	0.1	0.93	0.93	193.1	200.0	1.04

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: [1 (28)] 2030 DT AM - Ultimate (Binnies Rd / Ripley Rd / Canary St)

Output produced by SIDRA INTERSECTION Version: 10.0.9.250

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80.0 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Ripley Road (S)															
1	L2	All MCs	168	3.0	168	3.0	0.224	21.9	LOS C	4.3	30.5	0.68	0.75	0.68	42.7
2	T1	All MCs	539	2.7	539	2.7	0.842	41.9	LOS D	11.7	83.9	1.00	1.00	1.28	35.6
3	R2	All MCs	19	0.0	19	0.0	0.066	37.3	LOS D	0.6	4.5	0.88	0.69	0.88	36.4
Approach			726	2.7	726	2.7	0.842	37.2	LOS D	11.7	83.9	0.92	0.94	1.13	37.0
East: Canary Street (E)															
4	L2	All MCs	43	2.9	43	2.9	* 0.336	41.6	LOS D	3.8	27.2	0.92	0.75	0.92	37.2
5	T1	All MCs	65	0.0	65	0.0	0.336	30.5	LOS C	3.8	27.2	0.92	0.75	0.92	38.3
6	R2	All MCs	49	0.0	49	0.0	0.129	34.0	LOS C	1.6	11.2	0.85	0.73	0.85	37.7
Approach			158	0.8	158	0.8	0.336	34.6	LOS C	3.8	27.2	0.90	0.74	0.90	37.8
North: Ripley Road (N)															
7	L2	All MCs	20	0.0	20	0.0	0.169	37.1	LOS D	1.8	13.1	0.89	0.70	0.89	37.6
8	T1	All MCs	571	4.1	571	4.1	* 0.847	41.7	LOS D	11.8	85.2	0.99	0.99	1.27	35.6
9	R2	All MCs	240	2.8	240	2.8	* 0.847	48.8	LOS D	10.6	75.7	1.00	0.99	1.31	32.7
Approach			831	3.6	831	3.6	0.847	43.7	LOS D	11.8	85.2	0.99	0.98	1.27	34.8
West: Binnies Road (W)															
10	L2	All MCs	122	2.5	122	2.5	0.615	45.0	LOS D	4.9	35.0	1.00	0.81	1.06	33.7
11	T1	All MCs	60	0.0	60	0.0	0.180	31.3	LOS C	2.1	14.4	0.89	0.68	0.89	39.8
12	R2	All MCs	263	3.4	263	3.4	* 0.847	48.0	LOS D	11.6	83.3	1.00	0.99	1.30	32.9
Approach			445	2.7	445	2.7	0.847	44.9	LOS D	11.6	83.3	0.99	0.90	1.18	33.9
All Vehicles			2160	2.9	2160	2.9	0.847	41.1	LOS D	11.8	85.2	0.96	0.93	1.18	35.5

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.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE [Ped	Dist]	Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed

	ped/h	ped/h	sec		ped	m			sec	m	m/sec
South: Ripley Road (S)											
P1 Full	18	19	34.3	LOS D	0.0	0.0	0.93	0.93	188.1	200.0	1.06
East: Canary Street (E)											
P2 Full	4	4	34.2	LOS D	0.0	0.0	0.93	0.93	188.1	200.0	1.06
North: Ripley Road (N)											
P3 Full	4	4	34.2	LOS D	0.0	0.0	0.93	0.93	188.1	200.0	1.06
West: Binnies Road (W)											
P4 Full	1	1	34.2	LOS D	0.0	0.0	0.93	0.93	188.1	200.0	1.06
All Pedestrians	27	28	34.2	LOS D	0.0	0.0	0.93	0.93	188.1	200.0	1.06

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

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MOVEMENT SUMMARY

Site: [1 (29)] 2030 DT PM - Ultimate (Binnies Rd / Ripley Rd / Canary St)

Output produced by SIDRA INTERSECTION Version: 10.0.9.250

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90.0 seconds (Site Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Ripley Road (S)															
1	L2	All MCs	140	2.5	140	2.5	0.274	33.0	LOS C	4.8	34.6	0.82	0.77	0.82	37.8
2	T1	All MCs	686	0.9	686	0.9	0.796	38.6	LOS D	18.6	130.9	0.95	0.86	1.02	38.7
3	R2	All MCs	44	0.0	44	0.0	0.193	53.0	LOS D	1.8	12.6	0.93	0.73	0.93	33.8
Approach			871	1.1	871	1.1	0.796	38.4	LOS D	18.6	130.9	0.93	0.84	0.98	36.7
East: Canary Street (E)															
4	L2	All MCs	39	0.0	39	0.0	* 0.225	44.7	LOS D	2.6	18.1	0.92	0.73	0.92	35.2
5	T1	All MCs	26	0.0	26	0.0	0.225	34.1	LOS C	2.6	18.1	0.92	0.73	0.92	36.2
6	R2	All MCs	61	1.9	61	1.9	0.170	38.7	LOS D	2.3	16.1	0.87	0.74	0.87	35.9
Approach			126	0.9	126	0.9	0.225	39.6	LOS D	2.6	18.1	0.89	0.73	0.89	35.7
North: Ripley Road (N)															
7	L2	All MCs	43	2.7	43	2.7	0.545	39.2	LOS D	11.1	78.3	0.90	0.77	0.90	38.7
8	T1	All MCs	672	0.5	672	0.5	* 0.850	40.5	LOS D	20.1	141.3	0.96	0.92	1.09	37.3
9	R2	All MCs	195	0.0	195	0.0	* 0.849	56.5	LOS E	9.6	67.1	1.00	0.98	1.32	30.9
Approach			909	0.5	909	0.5	0.850	43.9	LOS D	20.1	141.3	0.97	0.93	1.13	34.8
West: Binnies Road (W)															
10	L2	All MCs	117	1.0	117	1.0	0.472	46.1	LOS D	4.9	34.9	0.97	0.78	0.97	33.4
11	T1	All MCs	27	0.0	27	0.0	0.105	37.7	LOS D	1.1	7.6	0.91	0.66	0.91	37.2
12	R2	All MCs	208	2.0	208	2.0	* 0.849	54.8	LOS D	10.3	73.0	1.00	0.99	1.31	31.1
Approach			353	1.5	353	1.5	0.849	50.6	LOS D	10.3	73.0	0.98	0.89	1.17	32.2
All Vehicles			2259	0.9	2259	0.9	0.850	42.6	LOS D	20.1	141.3	0.95	0.88	1.06	35.1

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.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE [Ped	Dist]	Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed

	ped/h	ped/h	sec		ped	m			sec	m	m/sec
South: Ripley Road (S)											
P1 Full	20	21	39.2	LOS D	0.1	0.1	0.93	0.93	193.1	200.0	1.04
East: Canary Street (E)											
P2 Full	11	12	39.2	LOS D	0.0	0.0	0.93	0.93	193.1	200.0	1.04
North: Ripley Road (N)											
P3 Full	5	5	39.2	LOS D	0.0	0.0	0.93	0.93	193.1	200.0	1.04
West: Binnies Road (W)											
P4 Full	2	2	39.2	LOS D	0.0	0.0	0.93	0.93	193.0	200.0	1.04
All Pedestrians	38	40	39.2	LOS D	0.1	0.1	0.93	0.93	193.1	200.0	1.04

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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