

# Appendix G

File Name	Prepared	Reviewed	Issued by	Date	Issued to
P4065.001T 49 Elouera Terrace Bray Park TIS	S. Koskela	B. Newman	B. Newman	05/05/19	Daniel Mulherin – daniel@planitconsulting.com.au
P4065.002T 49 Elouera Terrace Bray Park TIS	S. Koskela	B. Newman	S.Koskela	13/06/19	Daniel Mulherin – daniel@planitconsulting.com.au

# 49 Elouera Terrace Bray Park

## Traffic Impact Statement

### 1. Introduction

#### 1.1 Background

Bitzios Consulting has been engaged by Marjan Management Pty Ltd to undertake a traffic impact statement (TIS) for the proposed residential subdivision and seniors housing development located at 49 Elouera Terrace, Bray Park. The purpose of this TIS is to be submitted as part of a Site Compatibility Certificate in order to demonstrate the suitability of a seniors housing development at the subject site location. The subject site is currently zoned as rural and residential.

The proposed development plans are provided in **Attachment A**.

#### 1.2 Scope

To assess the suitability of the proposed land use compared to the current land use, the scope of this assessment is as follows:

- Estimate the proposed development's traffic generation and distribution on to the external road network
- Determine traffic impacts through a detailed traffic assessment at the year of opening and 10-year design horizon
- Update Tweed Shire Council's (Council's) Strategic Transport Model (STM) to determine the traffic impacts at key strategic locations in proximity to the subject site
- Assess the suitability of key intersections and roads impacted by the proposed development.

### 2. Traffic Assessment

#### 2.1 Background Traffic

Existing traffic volumes were obtained from an intersection survey of the Kyogle Road / Sylvan Street priority-controlled intersection by Traffic Data & Control (TDC) on 28<sup>th</sup> March 2019, from 6:00AM to 9:00AM and from 3:00PM to 6:00PM. The traffic surveys showed that the peak hours were 8:00AM to 9:00AM and from 3:15PM to 4:15PM. The intersection survey results are provided in **Attachment B**.

Council's STM was used to determine a traffic growth rate for the area. This model forecasts to year 2041 and includes planned road upgrades, land use changes and demographics projections. Comparing the Council STM and traffic survey data showed a 1.54% per annum (compounding) traffic growth rate between years 2019 and 2041. This traffic growth rate has been adopted for this assessment. For comparison, Australian Bureau of Statics (ABS) data as shown on the *Profile.ID* website, shows the 'Murwillumbah and District' having a 1.16% per annum (compounding) population growth rate between years 2012 to 2018.

The existing traffic volumes were forecast to the anticipated year of opening (year 2021) and 10-year design horizon (year 2031) using the traffic growth rate previously mentioned. Diagrams showing the forecast background traffic volumes are provided in **Attachment C**.

## 2.2 Development Traffic

Traffic generation rates for low-density residential and seniors housing land uses have been sourced from the Roads and Maritime Service (Roads and Maritime) *Guide to Traffic Generating Developments* (2002). The estimated traffic generation is indicated in Table 2.1.

**Table 2.1: Development Traffic Generation**

Land Use	Quantity	Peak Rate	Daily Rate	Peak Trips (veh/h)	Daily Trips (veh/d)
Low-Density Residential	21 lots	0.85 trips per lot	8.5 trips per lot	18	179
Seniors Housing	139 dwellings	0.2 trips per dwelling	2 trips per dwelling	28	278
<b>Total</b>				<b>46</b>	<b>457</b>

The expected development traffic directionality is shown in Table 2.2.

**Table 2.2: Development Traffic Directionality**

Land Use	AM Proportion		PM Proportion		AM Trips (veh/h)		PM Trips (veh/h)	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT
Residential	20%	80%	60%	40%	4	15	11	8
Seniors Housing	20%	80%	60%	40%	6	23	17	11
<b>Total</b>					<b>10</b>	<b>38</b>	<b>28</b>	<b>19</b>

The development traffic was assigned to the external road network based on the following:

- The distribution of traffic was based on the nearby attractors (employment, retail, residential, etc.)
- 90% of development traffic is expected to travel eastbound (towards Murwillumbah or Tweed)
- 10% of development traffic is expected to travel westbound (towards Chillingham or Uki)
- Eastbound traffic (towards Murwillumbah or Tweed) uses the Kyogle Road / Sylvan Street intersection
- Westbound traffic (towards Chillingham or Uki) uses the Kyogle Road / Bellevue Avenue intersection.

As the increase in traffic at the Kyogle Road / Bellevue Avenue intersection is not significant, the detailed traffic assessment focusses on the Kyogle Road / Sylvan Street intersection.

The development traffic assignment to the external road network has been provided in **Attachment C**.

## 2.3 Design Traffic

The design traffic volumes were determined by combining the background traffic volumes at the anticipated year of opening (year 2021) and 10-year design horizon (year 2031). Diagrams showing the design traffic volumes are provided in **Attachment C**.

## 2.4 Traffic Impacts

### 2.4.1 Kyogle Road / Sylvan Street Intersection

The Kyogle Road / Sylvan Street intersection was assessed using SIDRA Intersection (Version 8) at the anticipated year of opening (year 2021) and 10-year design horizon (year 2031). Both the background (without development) and design (with development) scenarios were assessed during the peak hours. The SIDRA results have been summarised in Table 2.3 and Table 2.4, and detailed outputs are provided in **Attachment D**.

**Table 2.3: Year 2021 Kyogle Road / Sylvan Street SIDRA Intersection Results Summary**

Road Name	AM Peak			PM Peak		
	DOS	Delay (s)	Queue (m)	DOS	Delay (s)	Queue (m)
<b>Year 2021 Background Traffic</b>						
Kyogle Road (S)	0.32	0	1	0.21	0	1
Sylvan Street (E)	0.07	10	2	0.06	10	1
Kyogle Road (N)	0.15	0	0	0.30	0	0
<b>Intersection</b>	<b>0.32</b>	<b>1</b>	<b>2</b>	<b>0.30</b>	<b>1</b>	<b>1</b>
<b>Year 2021 Design Traffic</b>						
Kyogle Road (S)	0.32	0	1	0.21	0	1
Sylvan Street (E)	0.10	10	2	0.07	11	2
Kyogle Road (N)	0.15	1	0	0.31	0	0
<b>Intersection</b>	<b>0.32</b>	<b>1</b>	<b>2</b>	<b>0.31</b>	<b>1</b>	<b>2</b>

**Table 2.4: Year 2031 Kyogle Road / Sylvan Street SIDRA Intersection Results Summary**

Road Name	AM Peak			PM Peak		
	DOS	Delay (s)	Queue (m)	DOS	Delay (s)	Queue (m)
<b>Year 2031 Background Traffic</b>						
Kyogle Road (S)	0.38	0	1	0.24	0	1
Sylvan Street (E)	0.11	11	2	0.08	13	2
Kyogle Road (N)	0.17	0	0	0.35	0	0
<b>Intersection</b>	<b>0.38</b>	<b>1</b>	<b>2</b>	<b>0.35</b>	<b>1</b>	<b>2</b>
<b>Year 2031 Design Traffic</b>						
Kyogle Road (S)	0.38	0	1	0.24	0	1
Sylvan Street (E)	0.21	13	5	0.14	13	3
Kyogle Road (N)	0.18	1	0	0.37	0	0
<b>Intersection</b>	<b>0.38</b>	<b>1</b>	<b>5</b>	<b>0.37</b>	<b>1</b>	<b>3</b>

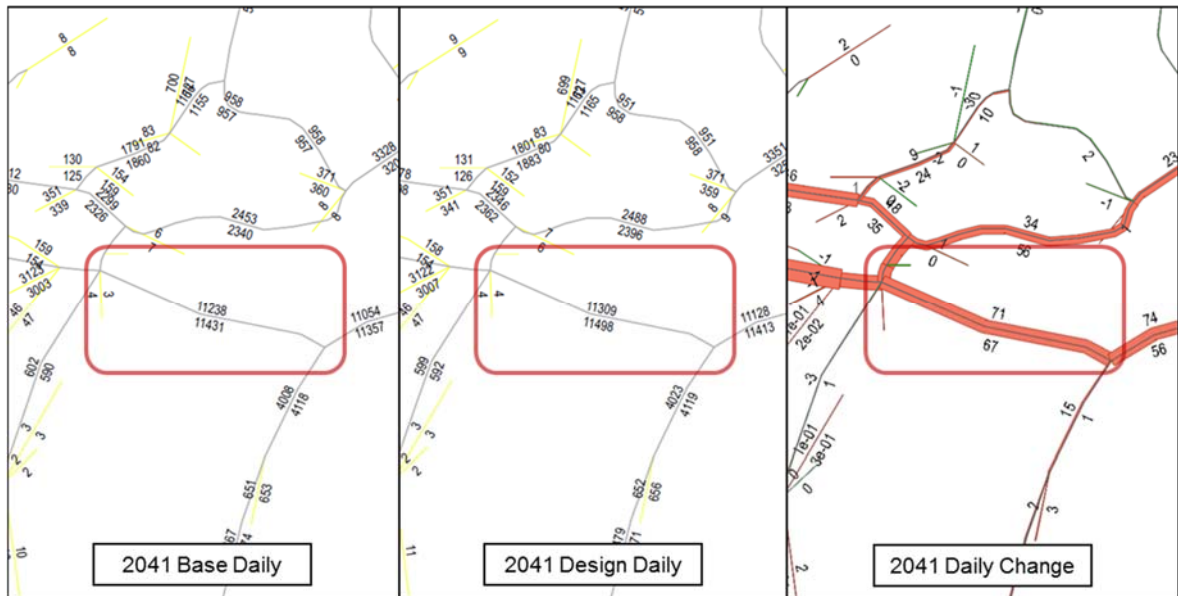
The Kyogle Road / Sylvan Street intersection is expected to operate within acceptable performance thresholds (i.e. DOS < 0.8, Delay < 56s and Queues not impacting on surrounding intersections) at the anticipated year of opening (year 2021) and 10-year design horizon (year 2031). The addition of the development traffic causes a minor worsening in intersection performance however no mitigation measures are required to be imposed.



## 2.4.2 Wollumbin Street Bridge

Based on preliminary discussions between the project team and Council officers, it is understood that the key strategic location within proximity of the subject site is the Wollumbin Street bridge over the Tweed River. Council's STM has been used to determine the increase in traffic on the Wollumbin Street bridge at year 2041. The proposed development is located within a larger zone in Council's STM which includes the entire Sylvan Street and Bellevue Avenue catchment south of Kyogle Road. The proposed development was included in Council's STM by increasing the population consistent with the proposed development's yield.

The outputs from Council's STM are presented in Figure 2.1.



**Figure 2.1: Council's STM at the Wollumbin Street Bridge**

As shown in Figure 2.1, the proposed development is expected to generate an additional 138 daily trips along Wollumbin Street bridge at year 2041. This equates to a traffic increase of 0.61% compared to the base (without development), which is considered negligible. As such, it is not expected that the development would trigger the need for network improvement works.

## 2.5 Intersection Assessment

### 2.5.1 Crash History

The crash history of the area surrounding the subject site is indicated in Table 2.5.

**Table 2.5: Surrounding Area Crash History**



Year	Crash ID	Severity	Code	Description	Location	Light	Injuries
2014	1011880	Tow-Away	93	Parked vehicle runaway into object	Two-way undivided	Daylight	-
2017	1156427	Moderate	74	On road out of control	T-junction	Daylight	1

Table 2.5 shows that two (2) single-vehicle crashes have occurred in the area along the key route from Kyogle Road to the subject site. Importantly, no crashes have been reported at the Kyogle Road / Sylvan Street intersection. The lack of crashes at the Kyogle Road / Sylvan Street intersection shows that there are no existing deficiencies that require mitigation.

### 2.5.2 Sight Distance

Sight distance requirements for the Kyogle Road / Sylvan Street intersection were sourced from the Austroads *Guide to Road Design Part 4A: Unsignalised and Signalised Intersections* (2017). Key sight distance are as follows:

- **Approach Sight Distance (ASD):** the minimum sight distance which must be available on the minor road approach to an intersection to ensure drivers are aware of its presence
- **Safe Intersection Sight Distance (SISD):** the minimum sight distance to be provided on the major road approach to an intersection and is defined as the vehicle distance travelled from observing the intersection to the point of contact
- **Minimum Gap Sight Distance (MGSD):** the minimum distance corresponding to the critical acceptance gap that drivers are prepared to accept when undertaking a turning manoeuvre at an intersection.

Key sight distance requirements are detailed in Table 2.6.

**Table 2.6: Kyogle Road / Sylvan Street Intersection Sight Distance**

Sight distance	Requirement (m)	Available (m)	Compliant
ASD	55m	100m	Yes
SISD	97m	200m (north) 190m (south)	Yes
MGSD	69m	200m (north) 190m (south)	Yes

These sight distances are shown in Figure 2.2.



Source: Nearmap

**Figure 2.2: Kyogle Road / Sylvan Street Intersection Sight Distance**

The available sight distance at the Kyogle Road / Sylvan Street intersection exceeds the minimum Austroads' requirements. No changes are required at the intersection to improve sight lines.

### 2.5.3 Turn Treatments

The Kyogle Road / Sylvan Street intersection does not include turning lanes. The operational performance in Section 2.4.1, crash history in Section 2.5.1 and sight distance in Section 2.5.2 do not suggest that turning treatments are required. As a point of comparison, the need for turning treatments at the Kyogle Road / Sylvan Street intersection was assessed to determine if the proposed development changed the turn treatment required based on the turn warrant charts included in *Austroads Guide to Traffic Management Part 6: Intersections*,

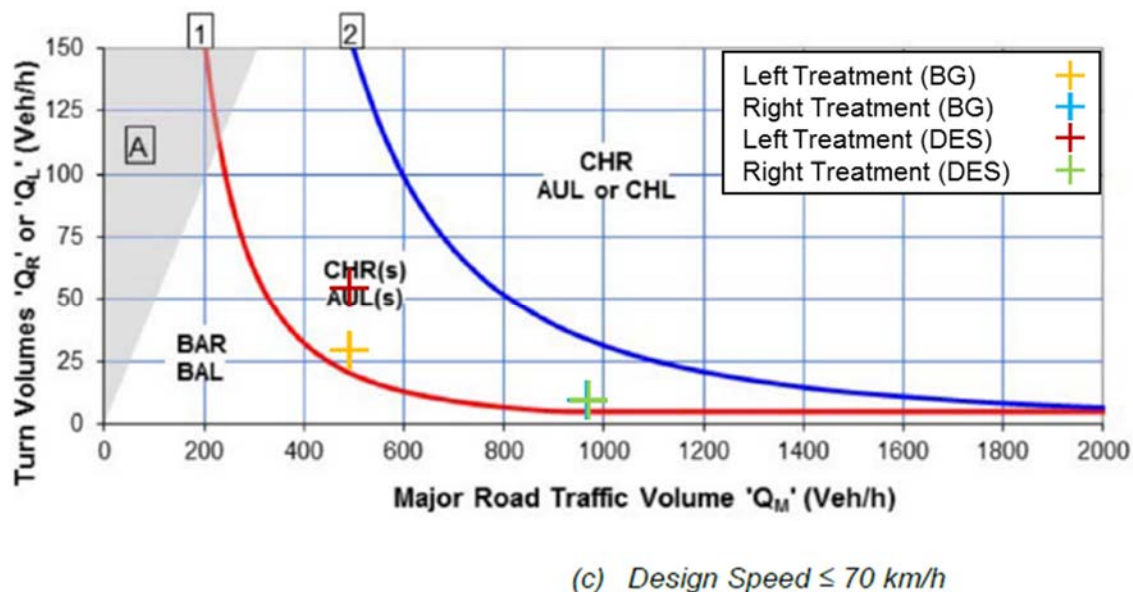
*Interchanges and Crossings* (2017). These warrants are primarily intended for the construction of new intersections.

The background (without development) and design (with development) traffic volumes at the 10-year design horizon (year 2031) used for the turn warrants assessment are detailed in Table 2.7.

**Table 2.7: Year 2031 Turn Warrants Volumes**

Turn Movement	Volume (veh/h)	Peak Period		Turn Treatment
		AM	PM	
Background (without development)				
Left	Major (Q <sub>M</sub> )	270	580	Short Auxiliary Left
	Turn (Q <sub>L</sub> )	24	29	
Right	Major (Q <sub>M</sub> )	961	1020	Short Channelised Right
	Turn (Q <sub>R</sub> )	12	5	
Design (with development)				
Left	Major (Q <sub>M</sub> )	270	580	Short Auxiliary Left
	Turn (Q <sub>L</sub> )	33	54	
Right	Major (Q <sub>M</sub> )	970	1045	Short Channelised Right
	Turn (Q <sub>R</sub> )	12	5	

The turn warrants volumes were plotted on the turn warrants charts as shown in Figure 2.3.



Source: *Austrroads Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings* (2017)

**Figure 2.3: Year 2031 Turn Warrants Chart**

The turn warrants charts show that the addition of the proposed development does not increase the turning treatment requirements at the Kyogle Road / Sylvan Street intersection. This does not suggest that turning treatments are required. The provision of turn treatments at the intersection would be out of character with the surrounding intersections along Kyogle Road. As stipulated previously, the operational performance in Section 2.4.1, crash history in Section 2.5.1 and sight distance in Section 2.5.2 do not suggest that turning treatments are required.



#### 2.5.4 Summary

The existing Kyogle Road / Sylvan Street intersection in its current form is adequate to cater for the proposed development. The assessment of the intersections showed the following:

- There is no history of crashes at the intersection that would warrant treatment
- The available sight lines are in excess of the minimum requirements
- The proposed development does not increase the requirement for turning treatments.

Based on the above, the Kyogle Road / Sylvan Street intersection in its current form is adequate to cater for future growth plus the proposed development.

#### 2.6 Road Capacity

The capacity of the nearby roads was assessed for available capacity. The nearby roads of interest are Sylvan Street / Elouera Terrace and Kyogle Road. The capacity of these roads was adopted from Council's standard drawings. Kyogle Road functions as a sub-arterial road that links Murwillumbah in the northeast and Kyogle southwest. Council's standard drawings were reviewed for the likely environmental capacity of a road similar to Kyogle Road however the standard drawings did not include this information. Other nearby Council standard drawings were reviewed and used a reference as follows:

- City of Gold Coast standard drawing (reference number: 02-004) shows the environmental capacity of a single carriageway, two-lane rural sub-arterial road as 14,000 vehicles per day
- Logan City Council Planning Scheme Schedule 2.5 Table 3.4.1.4.1 states that a rural arterial single carriageway has an environmental capacity of 22,000 vehicles per day.

Based on the above, Kyogle Roads is likely to have an environmental capacity of no less than 14,000 vehicles per day.

Table 2.1 shows that the proposed development is estimated to add 457 vehicles per day to the external road network.

Details of the nearby roads are shown in Table 2.8.

**Table 2.8: Road Network Details**

Road Name	Formation Width (m)	Road Reserve Width (m)	Capacity (veh/d)	Design Volumes (veh/d) <sup>2</sup>
Sylvan Street	9	30	3,000 <sup>1</sup>	1,277
Elouera Terrace	9	30	3,000 <sup>1</sup>	1,277
Kyogle Road	7 (varies)	20 (varies)	14,000	9,910 <sup>3</sup>

<sup>1</sup> – Council's standard drawing S.D.001 'Wider Access Street'

<sup>2</sup> – The design volumes were determined by multiplying the highest peak hour volume by a factor of 10

<sup>3</sup> – Council's Local Traffic Data shows the AADT at 8 Kyogle Road, Bray Park in 2017 was 8,934 veh/d

The nearby roads have adequate capacity for the proposed development and not additional capacity is required.

### 3. **Summary**

The key findings of this TIA are summarised as follows:

- The intended development outcome is for 21 residential allotments and 139 seniors housing dwellings noting that the current zoning is for rural and residential
- The proposed development is expected to generate in the order of 46 peak hour trips and 457 daily trips
- The Kyogle Road / Sylvan Street priority-controlled intersection is expected to operate within acceptable capacity limits at the 10-year design horizon and no mitigation measures are required to improve performance
- The key strategic location within proximity of the subject site is the Wollumbin Street bridge over the Tweed River. The proposed development increases traffic by a negligible amount (0.61%) and would not trigger the need for network improvement works at this location
- The Kyogle Road / Sylvan Street intersection did not require any upgrades based on an assessment of crash history, available sight distance and turn treatments
- Sylvan Street, Elouera Terrace and Kyogle Road have adequate capacity to cater for the proposed development traffic at the 10 year design horizon.

Based on the above, the road network is adequate to cater for the intended development outcome.


**Attachment A: Proposed Development Plans**





# Elouera Terrace, Bray Park


## Concept Layout Plan





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**Seniors Housing Type 1A**  
Seniors Housing Lots 18m depth average.  
Average Lot Size 150m<sup>2</sup>  
Single Storey Attached Dwellings in groups of 2-3  
Typical template used: 2 bedroom, single carpark per dwelling (one covered)  
**Yield: 82**
- 


**Seniors Housing Type 1B**  
Seniors Housing Lots 18m depth average.  
Average Lot Size 200m<sup>2</sup> - 250m<sup>2</sup>  
Single Storey Attached Dwellings in groups of 2-3  
Typical template used: 2-3 bedroom, 2 x tandem carparks per dwelling (one covered)  
**Yield: 57**
- 


**Primary Access Street (Indicative)**  
16.0m wide road reserve, 9.0m sealed. TSC 'Wider Access Street'. This street provides a loop road through the development, connecting the primary and secondary site entry points to Elouera Terrace.
- 


**Indicative Internal Street**  
10.0m wide road reserve, 6.0m sealed.
- 


**Indicative Internal Laneway**  
8.0m wide laneway reserve, 6.0m sealed.
- 

**Low Flow Flood Area**  
Area identified through topographic analysis as area of low flow flood area. Nil development proposed within this zone. Potential buffer planting located within this zone to transition to surrounding farmland. Development within this area would be subject to relevant flood considerations and design.
- Indicative Community Facilities 01**  
Community facilities area. Primarily services the northern residential precinct (Residential Type C). Potential to include pool area, lawn bowls, landscaped gardens, areas of open turf. Community use building, footprint illustrated approximately 350-400m<sup>2</sup>. Located to take advantage of views to the east and south across existing farmland. Located at the eastern end of the primary site entry to allow clear line of site through the development of the primary community facilities and to long views to the east.
- Indicative Community Facilities 02**  
Community facilities area. Primarily services the southern residential precinct (Residential Type B). Potential to include pool area, lawn bowls, landscaped gardens, areas of open turf. Community use building, footprint illustrated approximately 350-400m<sup>2</sup>. Located on an elevated site to take advantage of views to the east and south across the residential precincts and over existing farmland. Located at the primary entry of the estate to serve as the 'entry statement' of the development and create a clear and legible arrival.
- 

**Indicative Site Entry**  
Site entry off Elouera Terrace To be confirmed through residential subdivision layout. Subject to relevant approval.
- 

**Visitor Parking**  
Visitor carparking indicative locations illustrated. Requirement based on number of dwelling sites: 20.  
Car parking located primarily in close proximity to community facilities areas(qty: 20) with balance of spaces located throughout the development where layout permits.  
Total visitor carparks illustrated: 40.
- 

**Existing Agricultural Land**  
Working farm located to balance of lot. Potential to provide informal pedestrian access from the proposed development (from Community Facilities 01) to facilitate potential for community gardens and integration of these landuses.
- 

**Existing Residential Area**
- 

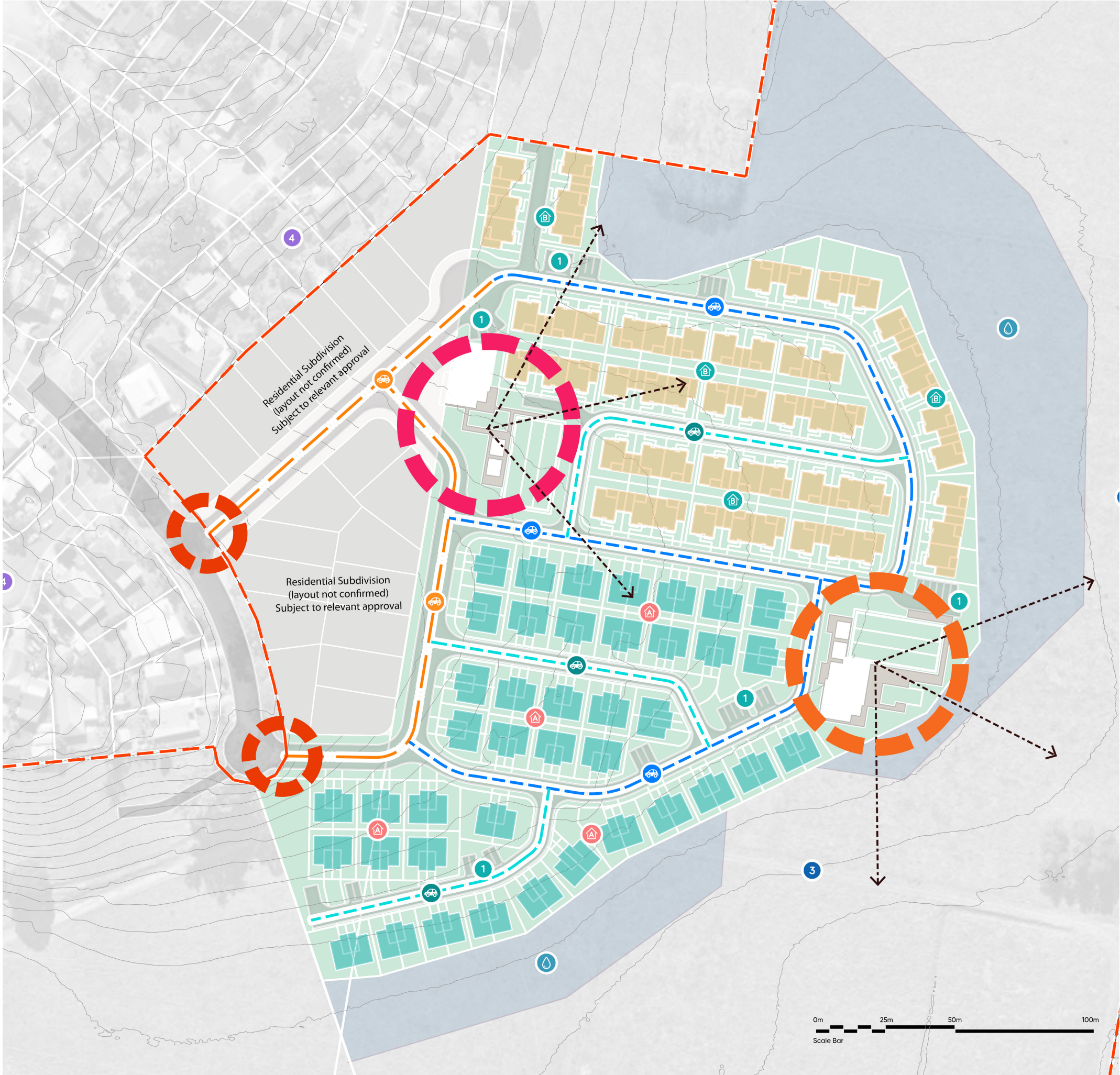
**Indicative Bus Pick up point**
- Area 1 Seniors: 45.272 m2**
- Area 2 Buffer: 20.039 m2**
- Area 3 Residential Subdivision: 12.728 m2**





# Elouera Terrace, Bray Park

## Concept Layout Plan



- Seniors Housing Type 1A**  
Seniors Housing Lots 18m depth average.  
Average Lot Size 150m<sup>2</sup>  
Single Storey Attached Dwellings in groups of 2-3  
Typical template used: 2 bedroom, single carpark per dwelling (one covered)  
**Yield: 82**
- Seniors Housing Type 1B**  
Seniors Housing Lots 18m depth average.  
Average Lot Size 200m<sup>2</sup> - 250m<sup>2</sup>  
Single Storey Attached Dwellings in groups of 2-3  
Typical template used: 2-3 bedroom, 2 x tandem carpark per dwelling (one covered)  
**Yield: 57**
- Primary Access Street (Indicative)**  
16.0m wide road reserve, 9.0m sealed. TSC 'Wider Access Street'. This street provides a loop road through the development, connecting the primary and secondary site entry points to Elouera Terrace.
- Indicative Internal Street**  
10.0m wide road reserve, 6.0m sealed.
- Indicative Internal Laneway**  
8.0m wide laneway reserve, 6.0m sealed.
- Low Flow Flood Area**  
Area identified through topographic analysis as area of low flow flood area. Nil development proposed within this zone. Potential buffer planting located within this zone to transition to surrounding farmland. Development within this area would be subject to relevant flood considerations and design.
- Indicative Community Facilities 01**  
Community facilities area. Primarily services the northern residential precinct (Residential Type C). Potential to include pool area, lawn bowls, landscaped gardens, areas of open turf. Community use building, footprint illustrated approximately 350-400m<sup>2</sup>. Located to take advantage of views to the east and south across existing farmland. Located at the eastern end of the primary site entry to allow clear line of site through the development of the primary community facilities and to long views to the east.
- Indicative Community Facilities 02**  
Community facilities area. Primarily services the southern residential precinct (Residential Type B). Potential to include pool area, lawn bowls, landscaped gardens, areas of open turf. Community use building, footprint illustrated approximately 350-400m<sup>2</sup>. Located on an elevated site to take advantage of views to the east and south across the residential precincts and over existing farmland. Located at the primary entry of the estate to serve as the 'entry statement' of the development and create a clear and legible arrival.
- Indicative Site Entry**  
Site entry off Elouera Terrace To be confirmed through residential subdivision layout. Subject to relevant approval.
- 1 Visitor Parking**  
Visitor carparking indicative locations illustrated. Requirement based on number of dwelling sites: 20.  
Car parking located primarily in close proximity to community facilities areas(qty: 20) with balance of spaces located throughout the development where layout permits.  
Total visitor carpark illustrated: 40.
- 3 Existing Agricultural Land**  
Working farm located to balance of lot. Potential to provide informal pedestrian access from the proposed development (from Community Facilities 01) to facilitate potential for community gardens and integration of these landuses.
- 4 Existing Residential Area**
- Indicative Bus Pick up point**
- Area 1 Seniors: 45,272 m<sup>2</sup>
- Area 2 Buffer: 20,039 m<sup>2</sup>
- Area 3 Residential Subdivision: 12,728 m<sup>2</sup>





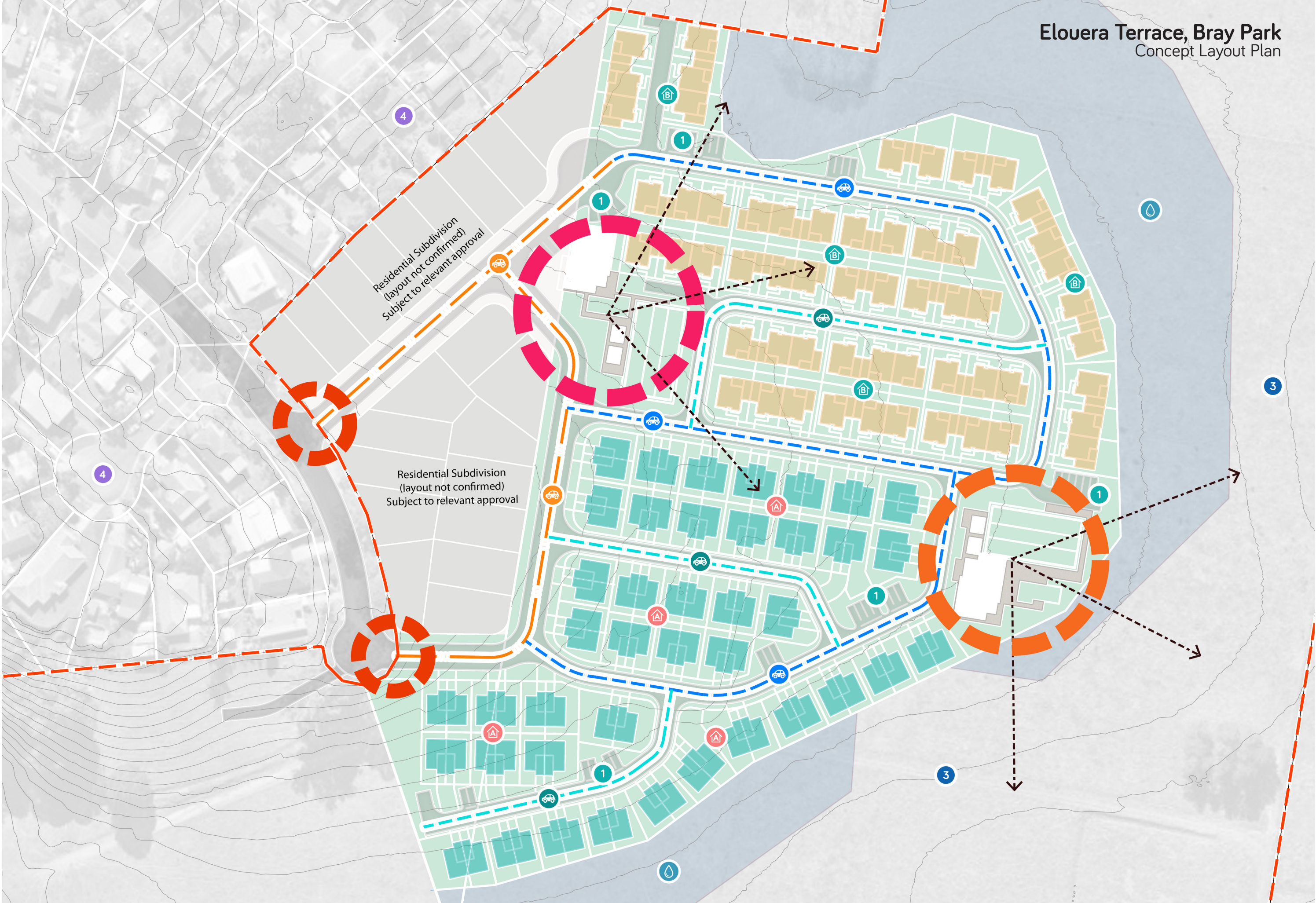
# Elouera Terrace, Bray Park

## Concept Layout Plan





Elouera Terrace, Bray Park  
Concept Layout Plan







**Seniors Housing Type 1A**  
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Single Storey Attached Dwellings in groups of 2-3  
Typical template used: 2-3 bedroom, 2 x tandem carparks per dwelling (one covered)  
**Yield: 57**



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16.0m wide road reserve, 9.0m sealed. TSC 'Wider Access Street'. This street provides a loop road through the development, connecting the primary and secondary site entry points to Elouera Terrace.



**Indicative Internal Street**  
10.0m wide road reserve, 6.0m sealed.



**Indicative Internal Laneway**  
8.0m wide laneway reserve, 6.0m sealed.



**Low Flow Flood Area**  
Area identified through topographic analysis as area of low flow flood area. Nil development proposed within this zone. Potential buffer planting located within this zone to transition to surrounding farmland. Development within this area would be subject to relevant flood considerations and design.



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**Indicative Community Facilities 02**  
Community facilities area. Primarily services the southern residential precinct (Residential Type B). Potential to include pool area, lawn bowls, landscaped gardens, areas of open turf. Community use building, footprint illustrated approximately 350-400m<sup>2</sup>. Located on an elevated site to take advantage of views to the east and south across the residential precincts and over existing farmland. Located at the primary entry of the estate to serve as the 'entry statement' of the development and create a clear and legible arrival.



**Indicative Site Entry**  
Site entry off Elouera Terrace To be confirmed through residential subdivision layout. Subject to relevant approval.



**Visitor Parking**  
Visitor carparking indicative locations illustrated. Requirement based on number of dwelling sites: 20.  
Car parking located primarily in close proximity to community facilities areas(qty: 20) with balance of spaces located throughout the development where layout permits.  
Total visitor carparks illustrated: 40.



**Existing Agricultural Land**  
Working farm located to balance of lot. Potential to provide informal pedestrian access from the proposed development (from Community Facilities 01) to facilitate potential for community gardens and integration of these landuses.



**Existing Residential Area**



**Indicative Bus Pick up point**

Area 1 Seniors: 45.272 m2

Area 2 Buffer: 20.039 m2

Area 3 Residential Subdivision: 12.728 m2

**Attachment B: Intersection Survey Results**

## Turning Movement Count Summary

Site ID: 1

Location: Kyogle Rd & Sylvan St, Bray Park

Date: 21-Mar-2019

Surveyed Time: 6:00 AM to 9:00 AM

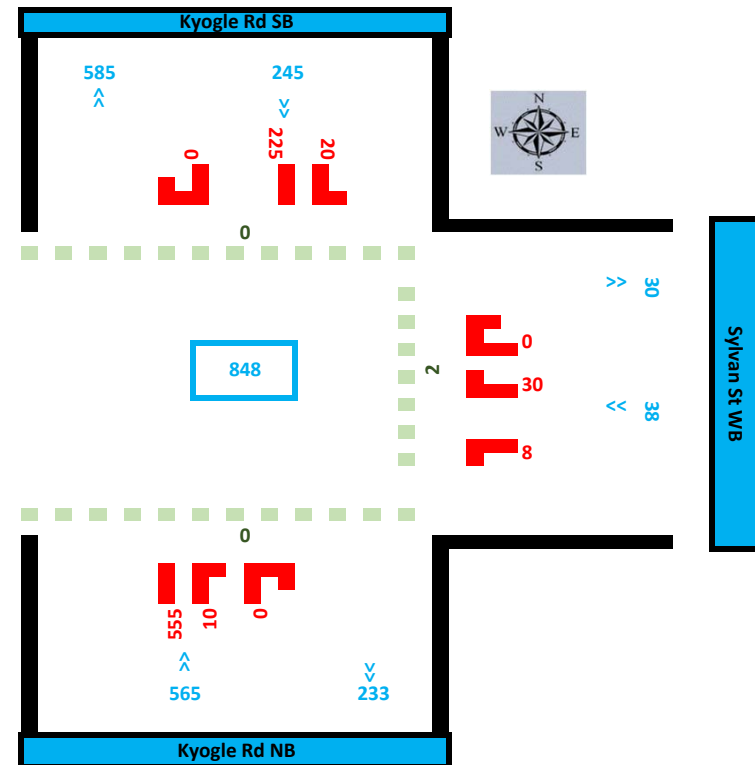
Weather: Fine

Data for hour starting: 8:00 AM to 9:00 AM

Vehicle Class: ALL VEHICLES



Pedestrians



## Turning Movement Count Summary

Site ID: 1

Location: Kyogle Rd & Sylvan St, Bray Park

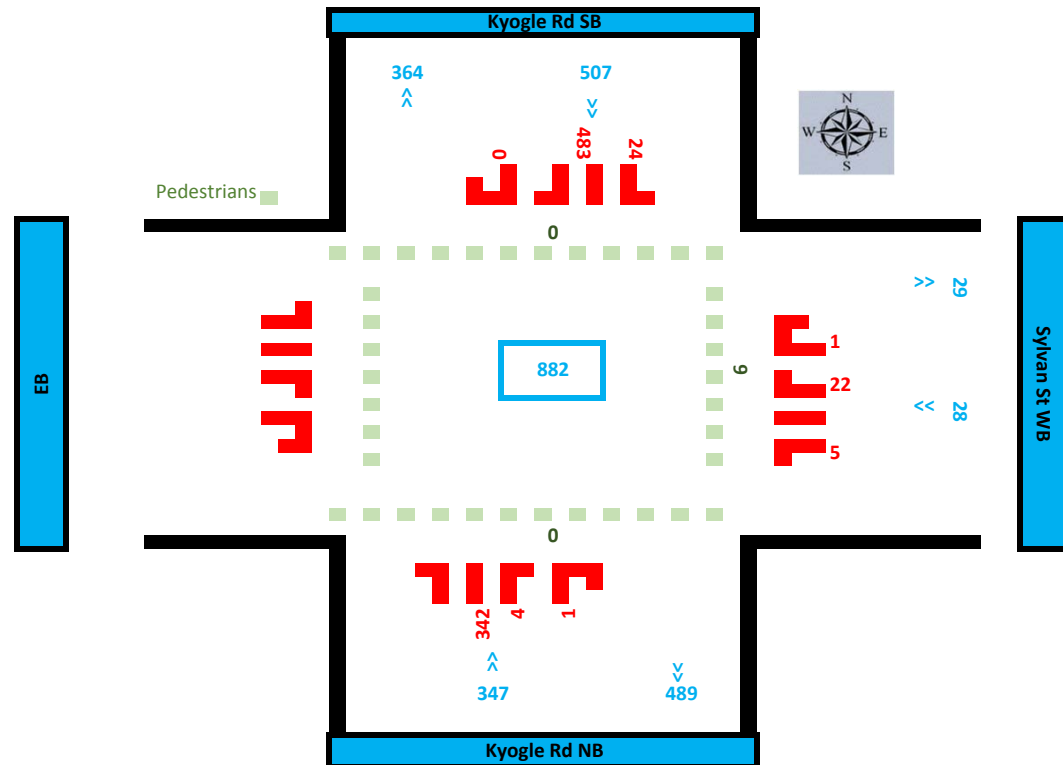
Date: 21-Mar-2019

Surveyed Time: 3:00 PM to 6:00 PM

Weather: Fine

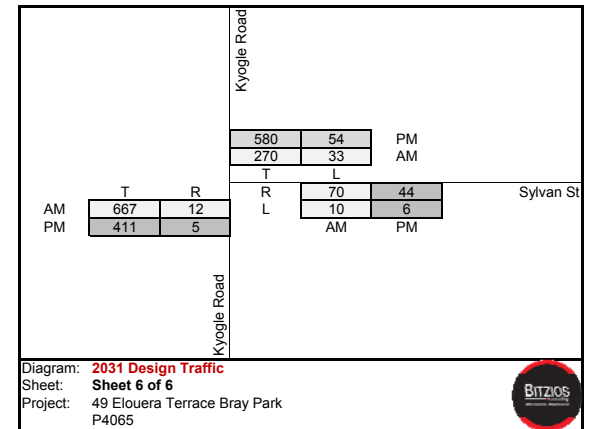
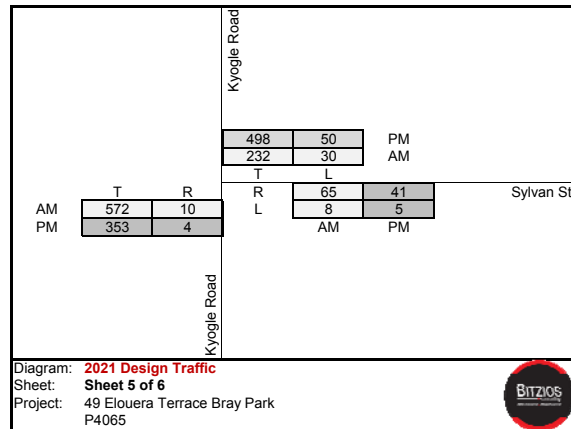
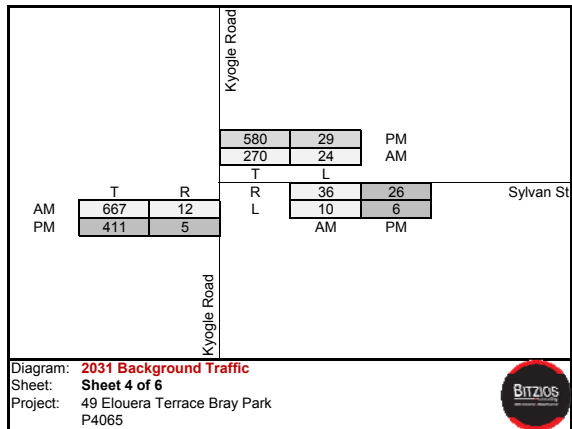
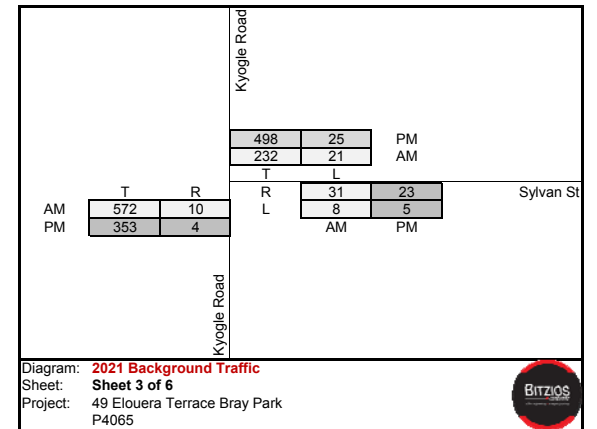
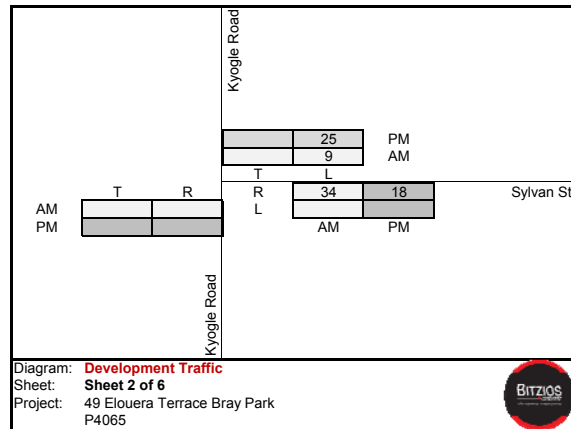
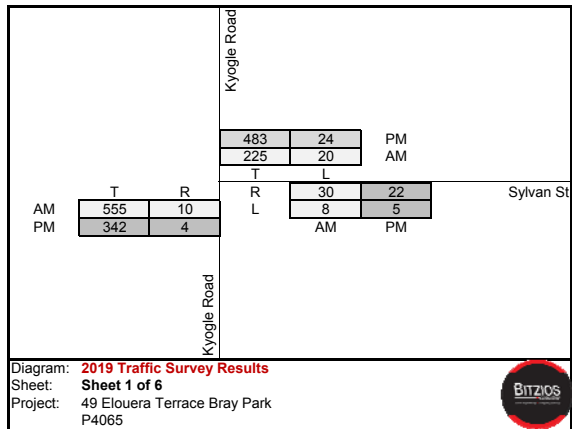
Data for hour starting: 3:15 PM to 4:15 PM

Vehicle Class: ALL VEHICLES



**Attachment C: Traffic Diagrams**



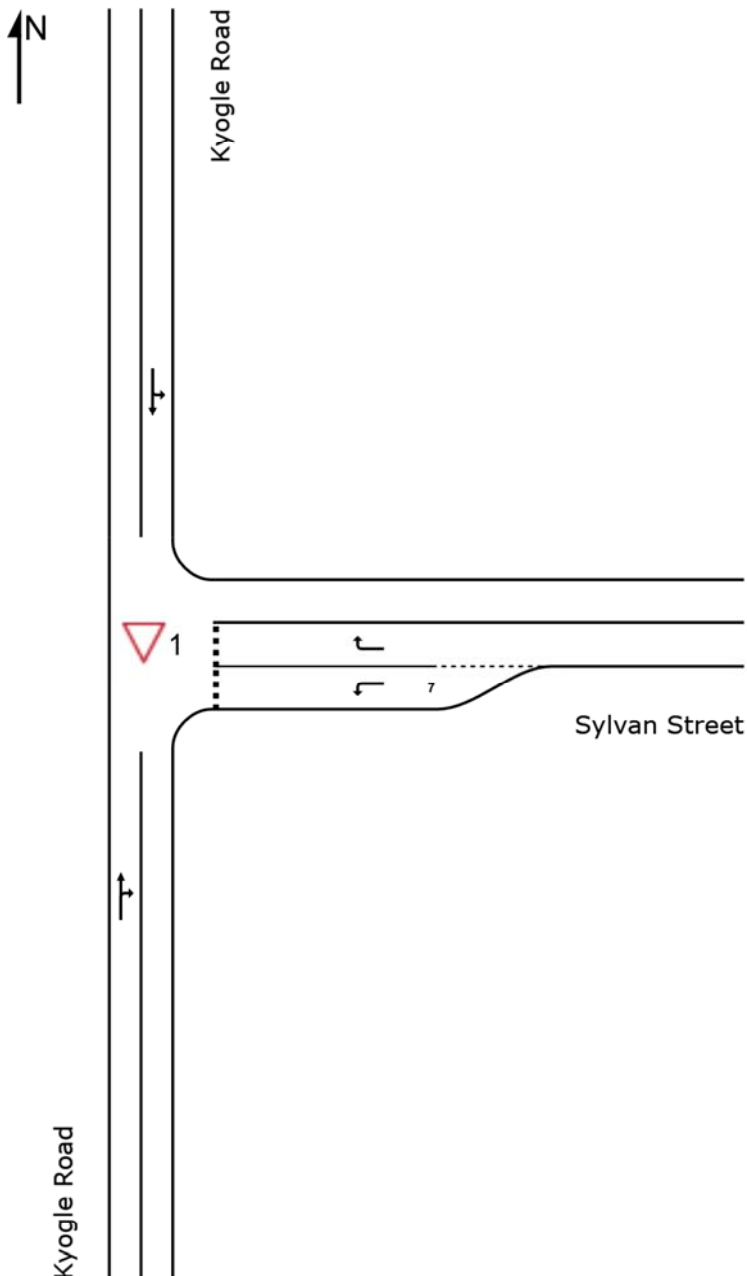


**Attachment D: SIDRA Outputs**

# SITE LAYOUT

## ▽ Site: 1 [2019BG AM]

Kyogle Road / Sylvan Street Priority-Controlled Intersection  
2019 Survey Traffic  
AM Peak Hour  
Site Category: (None)  
Giveaway / Yield (Two-Way)



# MOVEMENT SUMMARY

▽ Site: 1 [2019BG AM]

Kyogle Road / Sylvan Street Priority-Controlled Intersection  
2019 Survey Traffic  
AM Peak Hour  
Site Category: (None)  
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Kyogle Road												
2	T1	584	3.0	0.314	0.0	LOS A	0.1	0.8	0.02	0.01	0.02	49.9
3	R2	11	10.0	0.314	6.1	LOS A	0.1	0.8	0.02	0.01	0.02	49.3
Approach		595	3.1	0.314	0.1	NA	0.1	0.8	0.02	0.01	0.02	49.9
East: Sylvan Street												
4	L2	8	0.0	0.006	5.3	LOS A	0.0	0.2	0.31	0.51	0.31	45.9
6	R2	32	7.0	0.067	10.3	LOS B	0.2	1.5	0.64	0.84	0.64	43.2
Approach		40	5.5	0.067	9.2	LOS A	0.2	1.5	0.57	0.77	0.57	43.7
North: Kyogle Road												
7	L2	21	10.0	0.142	4.7	LOS A	0.0	0.0	0.00	0.04	0.00	49.1
8	T1	237	11.0	0.142	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	49.7
Approach		258	10.9	0.142	0.4	NA	0.0	0.0	0.00	0.04	0.00	49.7
All Vehicles		893	5.5	0.314	0.6	NA	0.2	1.5	0.04	0.05	0.04	49.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

# MOVEMENT SUMMARY

▽ Site: 1 [2019BG PM]

Kyogle Road / Sylvan Street Priority-Controlled Intersection  
2019 Survey Traffic  
PM Peak Hour  
Site Category: (None)  
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Kyogle Road												
2	T1	360	8.0	0.200	0.1	LOS A	0.1	0.5	0.02	0.01	0.02	49.9
3	R2	4	25.0	0.200	8.7	LOS A	0.1	0.5	0.02	0.01	0.02	49.1
Approach		364	8.2	0.200	0.2	NA	0.1	0.5	0.02	0.01	0.02	49.9
East: Sylvan Street												
4	L2	5	20.0	0.006	7.2	LOS A	0.0	0.2	0.50	0.60	0.50	44.9
6	R2	23	5.0	0.052	10.6	LOS B	0.2	1.2	0.65	0.84	0.65	43.0
Approach		28	7.8	0.052	10.0	LOS A	0.2	1.2	0.63	0.80	0.63	43.3
North: Kyogle Road												
7	L2	25	10.0	0.294	4.7	LOS A	0.0	0.0	0.00	0.03	0.00	49.2
8	T1	508	11.0	0.294	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	49.8
Approach		534	11.0	0.294	0.3	NA	0.0	0.0	0.00	0.03	0.00	49.8
All Vehicles		926	9.8	0.294	0.5	NA	0.2	1.2	0.03	0.04	0.03	49.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

# MOVEMENT SUMMARY

▽ Site: 1 [2021BG AM]

Kyogle Road / Sylvan Street Priority-Controlled Intersection  
2021 Forecast Background Traffic  
AM Peak Hour  
Site Category: (None)  
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Kyogle Road												
2	T1	602	3.0	0.323	0.0	LOS A	0.1	0.9	0.02	0.01	0.02	49.9
3	R2	11	10.0	0.323	6.2	LOS A	0.1	0.9	0.02	0.01	0.02	49.3
Approach		613	3.1	0.323	0.1	NA	0.1	0.9	0.02	0.01	0.02	49.9
East: Sylvan Street												
4	L2	8	0.0	0.006	5.3	LOS A	0.0	0.2	0.32	0.51	0.32	45.9
6	R2	33	7.0	0.072	10.6	LOS B	0.2	1.6	0.65	0.84	0.65	43.0
Approach		41	5.6	0.072	9.5	LOS A	0.2	1.6	0.59	0.78	0.59	43.5
North: Kyogle Road												
7	L2	22	10.0	0.147	4.7	LOS A	0.0	0.0	0.00	0.04	0.00	49.1
8	T1	244	11.0	0.147	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	49.7
Approach		266	10.9	0.147	0.4	NA	0.0	0.0	0.00	0.04	0.00	49.7
All Vehicles		920	5.5	0.323	0.6	NA	0.2	1.6	0.04	0.05	0.04	49.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

# MOVEMENT SUMMARY

▽ Site: 1 [2021BG PM]

Kyogle Road / Sylvan Street Priority-Controlled Intersection  
2021 Forecast Background Traffic  
PM Peak Hour  
Site Category: (None)  
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Kyogle Road												
2	T1	372	8.0	0.206	0.1	LOS A	0.1	0.6	0.02	0.01	0.02	49.9
3	R2	4	25.0	0.206	8.9	LOS A	0.1	0.6	0.02	0.01	0.02	49.1
Approach		376	8.2	0.206	0.2	NA	0.1	0.6	0.02	0.01	0.02	49.9
East: Sylvan Street												
4	L2	5	20.0	0.007	7.4	LOS A	0.0	0.2	0.51	0.60	0.51	44.8
6	R2	24	5.0	0.056	11.0	LOS B	0.2	1.3	0.67	0.85	0.67	42.8
Approach		29	7.7	0.056	10.4	LOS B	0.2	1.3	0.64	0.81	0.64	43.2
North: Kyogle Road												
7	L2	26	10.0	0.303	4.7	LOS A	0.0	0.0	0.00	0.03	0.00	49.2
8	T1	524	11.0	0.303	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	49.8
Approach		551	11.0	0.303	0.3	NA	0.0	0.0	0.00	0.03	0.00	49.8
All Vehicles		956	9.8	0.303	0.5	NA	0.2	1.3	0.03	0.04	0.03	49.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

# MOVEMENT SUMMARY

▽ Site: 1 [2021DES Tot AM]

Kyogle Road / Sylvan Street Priority-Controlled Intersection  
2021 Design Traffic  
AM Peak Hour  
Site Category: (None)  
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Kyogle Road												
2	T1	602	3.0	0.324	0.0	LOS A	0.1	0.9	0.02	0.01	0.02	49.9
3	R2	11	10.0	0.324	6.2	LOS A	0.1	0.9	0.02	0.01	0.02	49.3
Approach		613	3.1	0.324	0.1	NA	0.1	0.9	0.02	0.01	0.02	49.9
East: Sylvan Street												
4	L2	8	0.0	0.006	5.3	LOS A	0.0	0.2	0.32	0.51	0.32	45.9
6	R2	67	7.0	0.150	11.0	LOS B	0.5	3.5	0.68	0.85	0.68	42.8
Approach		76	6.2	0.150	10.4	LOS B	0.5	3.5	0.64	0.81	0.64	43.1
North: Kyogle Road												
7	L2	31	10.0	0.152	4.7	LOS A	0.0	0.0	0.00	0.06	0.00	49.0
8	T1	244	11.0	0.152	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	49.6
Approach		275	10.9	0.152	0.5	NA	0.0	0.0	0.00	0.06	0.00	49.6
All Vehicles		963	5.6	0.324	1.1	NA	0.5	3.5	0.06	0.09	0.06	49.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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



# MOVEMENT SUMMARY

▽ Site: 1 [2021DES Tot PM]

Kyogle Road / Sylvan Street Priority-Controlled Intersection  
2021 Design Traffic  
PM Peak Hour  
Site Category: (None)  
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Kyogle Road												
2	T1	372	8.0	0.206	0.1	LOS A	0.1	0.6	0.02	0.01	0.02	49.9
3	R2	4	25.0	0.206	9.3	LOS A	0.1	0.6	0.02	0.01	0.02	49.1
Approach		376	8.2	0.206	0.2	NA	0.1	0.6	0.02	0.01	0.02	49.9
East: Sylvan Street												
4	L2	5	20.0	0.007	7.4	LOS A	0.0	0.2	0.51	0.60	0.51	44.8
6	R2	41	5.0	0.098	11.4	LOS B	0.3	2.2	0.69	0.86	0.69	42.6
Approach		46	6.7	0.098	10.9	LOS B	0.3	2.2	0.67	0.83	0.67	42.9
North: Kyogle Road												
7	L2	52	10.0	0.318	4.7	LOS A	0.0	0.0	0.00	0.05	0.00	49.0
8	T1	524	11.0	0.318	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	49.7
Approach		576	10.9	0.318	0.5	NA	0.0	0.0	0.00	0.05	0.00	49.6
All Vehicles		998	9.7	0.318	0.8	NA	0.3	2.2	0.04	0.07	0.04	49.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

# MOVEMENT SUMMARY

## ▼ Site: 1 [2031BG AM]

Kyogle Road / Sylvan Street Priority-Controlled Intersection  
 2031 Forecast Background Traffic  
 AM Peak Hour  
 Site Category: (None)  
 Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Kyogle Road												
2	T1	702	3.0	0.378	0.1	LOS A	0.2	1.3	0.03	0.01	0.03	49.9
3	R2	13	10.0	0.378	6.7	LOS A	0.2	1.3	0.03	0.01	0.03	49.3
Approach		715	3.1	0.378	0.2	NA	0.2	1.3	0.03	0.01	0.03	49.9
East: Sylvan Street												
4	L2	11	0.0	0.008	5.5	LOS A	0.0	0.2	0.35	0.53	0.35	45.8
6	R2	38	7.0	0.107	13.0	LOS B	0.3	2.4	0.74	0.88	0.74	41.8
Approach		48	5.5	0.107	11.4	LOS B	0.3	2.4	0.65	0.80	0.65	42.6
North: Kyogle Road												
7	L2	25	10.0	0.171	4.7	LOS A	0.0	0.0	0.00	0.04	0.00	49.1
8	T1	284	11.0	0.171	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	49.7
Approach		309	10.9	0.171	0.4	NA	0.0	0.0	0.00	0.04	0.00	49.7
All Vehicles		1073	5.5	0.378	0.7	NA	0.3	2.4	0.05	0.06	0.05	49.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

# MOVEMENT SUMMARY

▼ Site: 1 [2031BG PM]

Kyogle Road / Sylvan Street Priority-Controlled Intersection  
2031 Forecast Background Traffic  
PM Peak Hour  
Site Category: (None)  
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Kyogle Road												
2	T1	433	8.0	0.242	0.2	LOS A	0.1	0.9	0.03	0.01	0.03	49.8
3	R2	5	25.0	0.242	10.5	LOS B	0.1	0.9	0.03	0.01	0.03	49.0
Approach		438	8.2	0.242	0.3	NA	0.1	0.9	0.03	0.01	0.03	49.8
East: Sylvan Street												
4	L2	6	20.0	0.009	8.1	LOS A	0.0	0.3	0.55	0.65	0.55	44.4
6	R2	27	5.0	0.082	13.5	LOS B	0.2	1.8	0.75	0.89	0.75	41.6
Approach		34	7.8	0.082	12.5	LOS B	0.2	1.8	0.71	0.84	0.71	42.1
North: Kyogle Road												
7	L2	31	10.0	0.353	4.7	LOS A	0.0	0.0	0.00	0.03	0.00	49.1
8	T1	611	11.0	0.353	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	49.8
Approach		641	11.0	0.353	0.3	NA	0.0	0.0	0.00	0.03	0.00	49.8
All Vehicles		1113	9.8	0.353	0.6	NA	0.2	1.8	0.03	0.04	0.03	49.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

# MOVEMENT SUMMARY

▽ Site: 1 [2031DES Tot AM]

Kyogle Road / Sylvan Street Priority-Controlled Intersection  
2031 Design Traffic  
AM Peak Hour  
Site Category: (None)  
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Kyogle Road												
2	T1	702	3.0	0.378	0.1	LOS A	0.2	1.3	0.03	0.01	0.03	49.9
3	R2	13	10.0	0.378	6.8	LOS A	0.2	1.3	0.03	0.01	0.03	49.3
Approach		715	3.1	0.378	0.2	NA	0.2	1.3	0.03	0.01	0.03	49.9
East: Sylvan Street												
4	L2	11	0.0	0.008	5.5	LOS A	0.0	0.2	0.35	0.53	0.35	45.8
6	R2	73	7.0	0.206	13.8	LOS B	0.7	4.9	0.76	0.91	0.81	41.4
Approach		83	6.1	0.206	12.7	LOS B	0.7	4.9	0.71	0.86	0.75	41.9
North: Kyogle Road												
7	L2	34	10.0	0.176	4.7	LOS A	0.0	0.0	0.00	0.06	0.00	49.0
8	T1	284	11.0	0.176	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	49.6
Approach		318	10.9	0.176	0.5	NA	0.0	0.0	0.00	0.06	0.00	49.6
All Vehicles		1116	5.6	0.378	1.2	NA	0.7	4.9	0.07	0.09	0.07	49.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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

# MOVEMENT SUMMARY

Site: 1 [2031DES Tot PM]

Kyogle Road / Sylvan Street Priority-Controlled Intersection  
 2031 Design Traffic  
 PM Peak Hour  
 Site Category: (None)  
 Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Kyogle Road												
2	T1	433	8.0	0.242	0.2	LOS A	0.1	1.0	0.03	0.01	0.03	49.8
3	R2	5	25.0	0.242	10.9	LOS B	0.1	1.0	0.03	0.01	0.03	49.0
Approach		438	8.2	0.242	0.3	NA	0.1	1.0	0.03	0.01	0.03	49.8
East: Sylvan Street												
4	L2	6	20.0	0.009	8.1	LOS A	0.0	0.3	0.55	0.65	0.55	44.4
6	R2	45	5.0	0.138	14.1	LOS B	0.4	3.0	0.77	0.89	0.77	41.3
Approach		52	6.8	0.138	13.4	LOS B	0.4	3.0	0.74	0.86	0.74	41.7
North: Kyogle Road												
7	L2	56	10.0	0.368	4.7	LOS A	0.0	0.0	0.00	0.05	0.00	49.0
8	T1	611	11.0	0.368	0.1	LOS A	0.0	0.0	0.00	0.05	0.00	49.7
Approach		666	10.9	0.368	0.4	NA	0.0	0.0	0.00	0.05	0.00	49.6
All Vehicles		1156	9.7	0.368	1.0	NA	0.4	3.0	0.04	0.07	0.05	49.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

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

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