Macedon Ranges Shire Council

Strategic Plan

Riddells Creek Movement Network Plan

(2024 - 2033)

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Macedon Ranges Shire Council acknowledges the Dja Dja Wurrung, Taungurung and Wurundjeri Woi Wurrung Peoples as the Traditional Owners and Custodians of this land and waterways. Council recognises their living cultures and ongoing connection to Country and pays respect to their Elders past, present and emerging. Council also acknowledges local Aboriginal and/or Torres Strait Islander residents of Macedon Ranges for their ongoing contribution to the diverse culture of our community.

DOCUMENT HISTORY	Version	Date	Author
Initial Draft	1	14 Feb 2024	Eng Lim
Second Draft			
Final Draft	2	21 May 2024	Eng Lim
Approval	3	26 June 2024	

Executive Summary

Macedon Ranges Shire Council undertook a Movement Network Study for Riddells Creek to create a Movement Network Plan that will provide guidance on the provision and upgrade of transport infrastructure within the township. This will assist with managing the impacts of township growth on infrastructure and traffic management. The study was conducted in three stages: Stage 1, Stage 2A, and Stage 2B.

Stage 1 was conducted by Council officers and involved consultation with the community to understand concerns related to transport infrastructure.

Stage 2A involved the development of the aspirational movement network for the township, including mapping the aspirational walking and cycling networks, by officers with the assistance of a consultant. This aspirational network was underpinned by the methodology outlined in Victoria's Movement and Place framework. Gaps between the existing transport infrastructure and the aspiration network were listed, and projects to address these gaps were identified. These projects include pedestrian projects, cycling projects, intersection upgrades, speed limit reductions, and amenity and streetscape improvements. The projects were mapped and then ranked in order of priority using a multi-criteria analysis (MCA) scoring process.

In Stage 2B, the projects identified in Stage 2A were presented to a small group of the Riddells Creek community for feedback. This feedback was used to refine the MCA scoring. The Riddells Creek community also identified an additional 15 projects that would improve active transport within the township, and these projects were scored in the MCA process.

Traffic and parking surveys were conducted by the consultant to understand current conditions and used to analyse the impact of future population growth within the township. Parking demand is currently low, and the township will be able to accommodate the increase in parking demand from population growth. Traffic modelling was undertaken at intersections within the township with traffic volumes forecasted for 2043.

A broader community consultation was undertaken in March 2024. Based on the feedback received and technical assessment, upgrades are recommended at the following intersections:

- Riddell Road and Kilmore Road
- Station Street and Kilmore Road
- Bolithos Road and Kilmore Road

From the MCA scoring, 38 priority projects were identified for development by Council. The priority projects include:

- 11 shared path projects
- 4 sharrows projects
- 4 speed reduction projects
- 3 wombat crossing projects
- 2 pedestrian operated signals (POS) crossing projects
- 6 refuge crossing projects
- 2 pedestrian crossing projects
- 4 footpath projects
- 1 regional trail project
- 1 streetscape project

Contents

Introduction

Macedon Ranges Shire Council undertook a Movement Network Study for the Riddells Creek Township to provide guidance on the provision and upgrade of transport infrastructure for Riddells Creek, to address the impacts that township growth will have on infrastructure and traffic management.

Stage 1 of the plan was completed by Council officers, which involved consultation with the community to understand current concerns relating to infrastructure and transport.

In Stage 2A, with the assistance of a consultant, Trafficworks, a strategic transport infrastructure plan was developed. This involved identifying the aspirational transport network for the township, and the identification of projects to address gaps in the township's transport network.

The transport infrastructure plan is underpinned by the methodology outlined in Victoria's movement and Place framework. It informs a broad framework to guide future infrastructure development in Riddells Creek over the next 30 years. The plan accounts for current and future development within the township (e.g. Amess Road development), as well as any State infrastructure projects in the area.

This stage of the plan (Stage 2B) focuses on prioritising the identified projects. With the support from the consultant, a multi-criteria analysis (MCA) process was used to rank projects. The criteria included feedback from the Riddells Creek community, who identified additional pedestrian projects suitable for the township. As part of Stage 2B, detailed traffic and parking studies were conducted and analysed to inform recommendations to Council.

An implementation plan will be developed based on the established set of criteria to assist Council in the program of capital works.

Project Background

Context

Riddells Creek is a township of approximately 3,000 residents, located in the Macedon Ranges Shire Council.

Surrounding towns include:

- Gisborne located approximately 8 km to the south-west
- Sunbury located 15 km to the south
- Romsey is located 14 km to the north-east.

See Figure 1 for the study area.

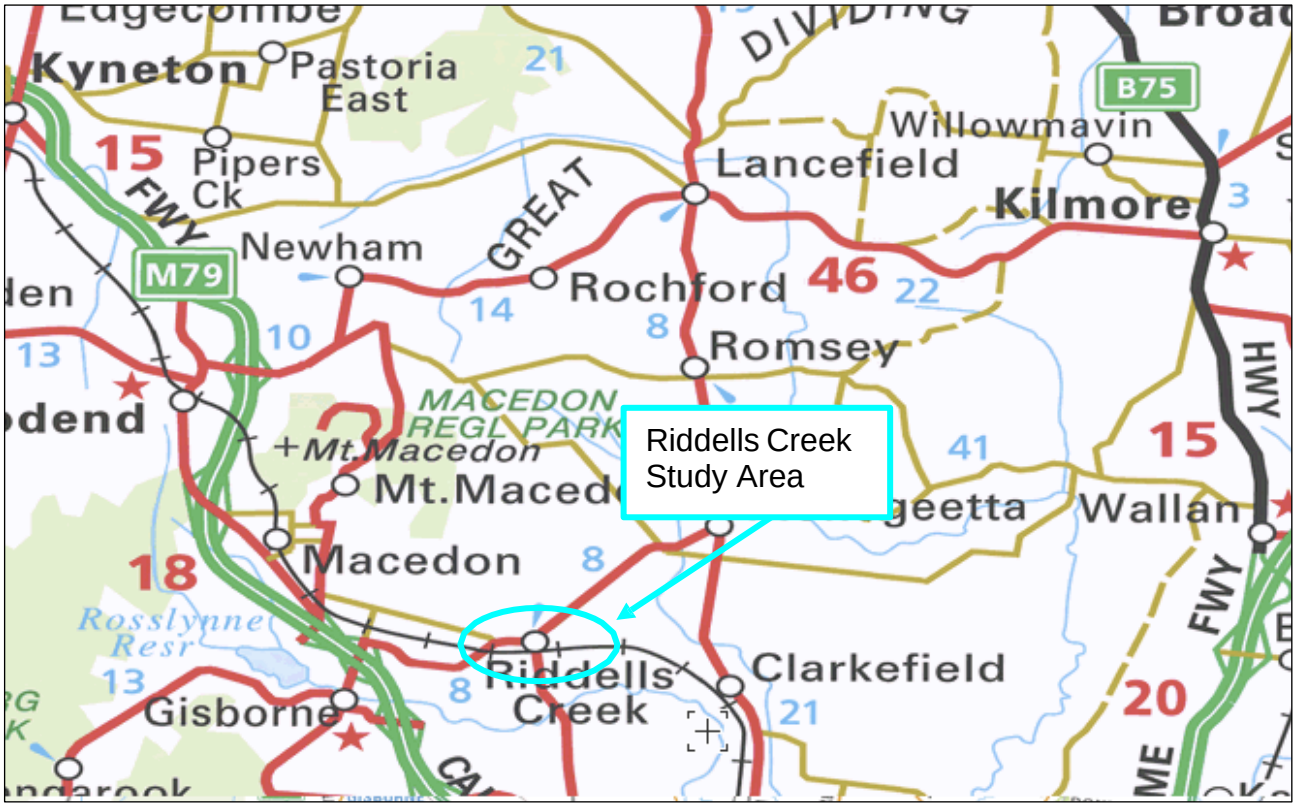


Figure 1: Riddells Creek Study Area

Existing land use

The majority of the township is low-density housing zoned as a Neighbourhood Residential Zone (NRZ). Within the town centre, there is a mixture of commercial, community, and recreational use. Land surrounding the township is zoned as a mixture of Rural Living Zone (RLZ), Low-Density Residential Zone (LDRZ), and Farming Zone (FZ), as shown in Figure 2.

Figure 2: Land use zoning within Riddells Creek

Amess Road precinct

The Amess Road precinct is located to the north-east of the town centre and is currently within an Urban Growth Zone (UGZ). This precinct is identified by the Macedon Ranges Shire Council as a proposed new urban extension area to Riddells Creek.

Riddells South precinct

The Riddells South precinct is located south of the town centre and is currently within a Rural Living Zone (RLZ1). This precinct has been identified by Council as a potential urban extension of Riddells Creek.

Existing road network

Two declared arterial roads run through Riddells Creek, as follows:

- Gisborne-Kilmore Road runs in a southwest to northeast direction between Gisborne and Melbourne-Lancefield Road. In the vicinity of the Riddells Creek township, Gisborne-Kilmore Road is an undivided road in a Transport Zone 2 (TRZ2). It has an approximate sealed carriageway width of 7 m, accommodating one lane in each direction (refer to Figure 3).

Figure 3: Gisborne-Kilmore Road

- Sunbury-Riddells Creek Road runs in a south to north direction between Sunbury and Gisborne-Kilmore Road. In the vicinity of the Riddells Creek township, Riddells Road is an undivided road in a Transport Zone 2 (TRZ2). It has an approximate sealed carriageway width of 7 m,
  accommodating one lane in each direction (refer Figure 4).

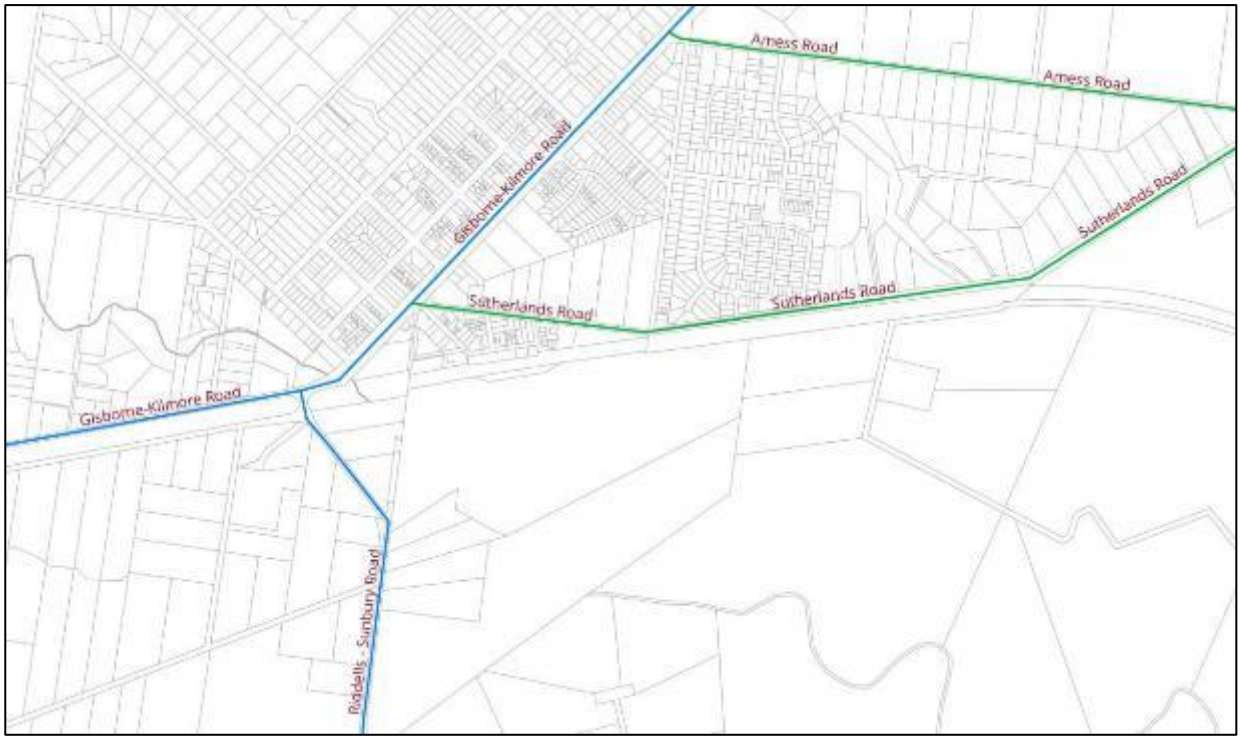
Figure 4: Sunbury-Riddells Creek Road

Other roads within the township that fall within the Transport Zone include:

- Amess Road, within a Transport Zone 3 (TRZ3). Within the vicinity of the Riddells Creek township, Amess Road has a speed limit of 60 km/h. It is an undivided road with an approximate sealed carriageway width of 6 m, accommodating one lane in each direction.

- Sutherlands Road, within a Transport Zone 3 (TRZ3). Sutherlands Road has a speed limit of 60 km/h. It is an undivided road with an approximate sealed carriageway width of 6 m, accommodating one lane in each direction.

Figure 5: Declared roads in Riddells Creek - TRZ2 roads in blue and TRZ3 roads in green



Riddells Creek neighbourhood character

Neighbourhood character profiles were developed for the Residential Neighbourhood Character Precincts as a part of the Riddells Creek Structure Plan 2013. The profiles are split into six different precincts, as follows:

- Garden setting
- Modern residential
- Town centre residential
- Rural bushland A
- Rural bushland B
- Rural bushland C.

These character profiles inform the lot size and frontage, as well as front setbacks and the characteristics of the road reserve, including drainage types (kerb and channel or swale drains),

footpaths, and verge widths. Table 1 below shows the preferred future character relating to the road reserve for each character profile.

Table 1: Character profile - preferred features

Character profile	Preferred features – road network
Garden setting	• Retain wide verges and swale drains
Modern residential	• Concrete kerb and channel • Footpaths and bicycle paths • Permeable network of streets • Softer streetscape to encourage active transport
Town centre	• Minimise crossovers onto the street • Multi-dwelling development • Wider footpaths • Minimal planting of street trees
Rural bushland A, B, C	• Swale drain edging • Informal planting of indigenous trees along the roadside • Wide verges

The character profiles within Riddells Creek are shown in Figure 6.

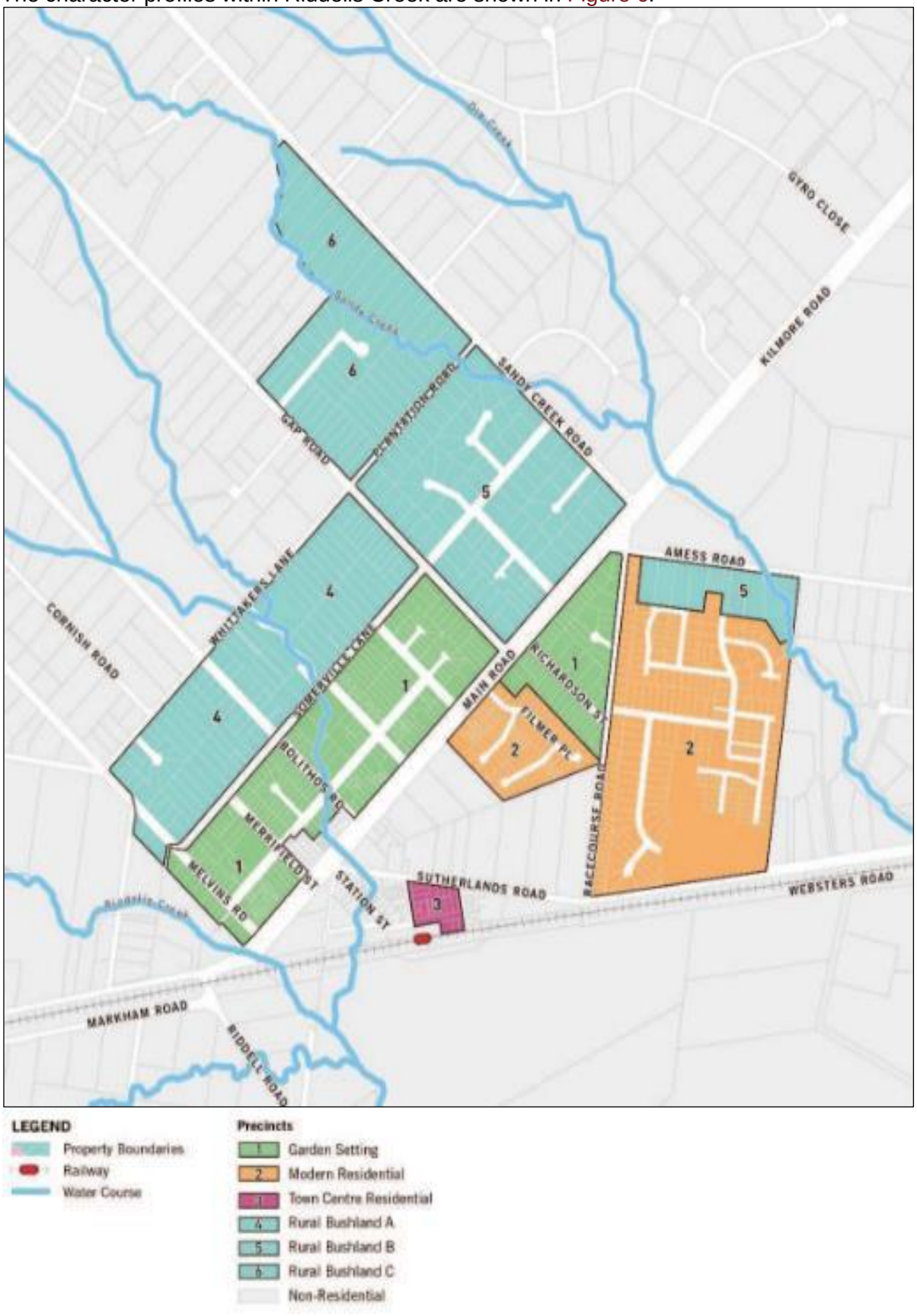


Figure 6: Riddells Creek neighbourhood character precincts

Objectives

The objective of the Movement Network Plan is to create a strategic transport plan to address existing concerns from the local community and propose infrastructure to accommodate long-term population growth in Riddells Creek. The four objectives to achieve this were:

- Create an aspirational movement network plan, that outlines the vision for the transport network in Riddells Creek.
- Identify gaps between this plan and the existing infrastructure in Riddells Creek.
- Identify projects that will plug the gaps and upgrade existing transport infrastructure to meet the specifications of the aspirational movement network.
- Develop a method to prioritise these projects for Council.

Alignment with Macedon Ranges Council plan

The Macedon Ranges Council Plan has outlined 4 strategic objectives to shape the future of the community. Table 2 below outlines how the Movement Network Plan (MNP) will deliver on each of these strategic objectives.

Table 2: Strategic Alignment to Council Plan

Strategic Objective	How the Movement Network Plan will deliver on the objectives
Connecting Communities We will maintain our built environment – including roads, paths, buildings, open space, and other assets – in a fiscally, environmentally, and socially sustainable way. This includes effective land-use planning, which has a direct impact on the liveability of our shire.	The MNS will develop an aspirational transport network which will improve connectivity to key destinations, encourage the uptake of active transport and guide future land use planning to improve the liveability of the Riddells Creek township.
Healthy environment, healthy people The community prioritises the protection of the natural environment and recreational facilities. There is also strong community support for initiatives to minimise our shire's impact on the earth and its resources. Resilient communities and robust economies rely entirely on a healthy environment.	The MNS will deliver on this objective in the following ways: • Encourage a mode shift to active transport, reducing reliance on private vehicles, thereby reducing carbon emissions • Encouraging better lifestyle choices to improve health through travelling by active transport • Improving amenities of the town centre to attract social interactions and events.

Strategic Objective	How the Movement Network Plan will deliver on the objectives
Business and Tourism Business and tourism are about prioritising and promoting the people, resources, services and our regional identity, to ensure economic growth. Economic development is crucial for the continued growth of the economy of the Macedon Ranges Shire.	The MNS will deliver interventions to encourage the people who are currently travelling through the township to stop and support the local businesses.
Deliver Strong and Reliable Government We will demonstrate the qualities of good governance, including a clear vision and culture, transparency, respect, consistency, accountability, and responsiveness.	The MNS will develop an implementation plan to ensure the strategic allocation of resources and the equitable prioritisation of infrastructure improvement works over the next 10 years. The MNS also identifies advocacy projects and opportunities for improvements funded by the State Government.

Study methodology

The project was conducted in four steps:

- Network aspiration
- Gap analysis
- Identify projects
- Prioritise projects.

These steps correspond to the first 3 modules of the Movement and Place framework methodology (refer to Figure 7).

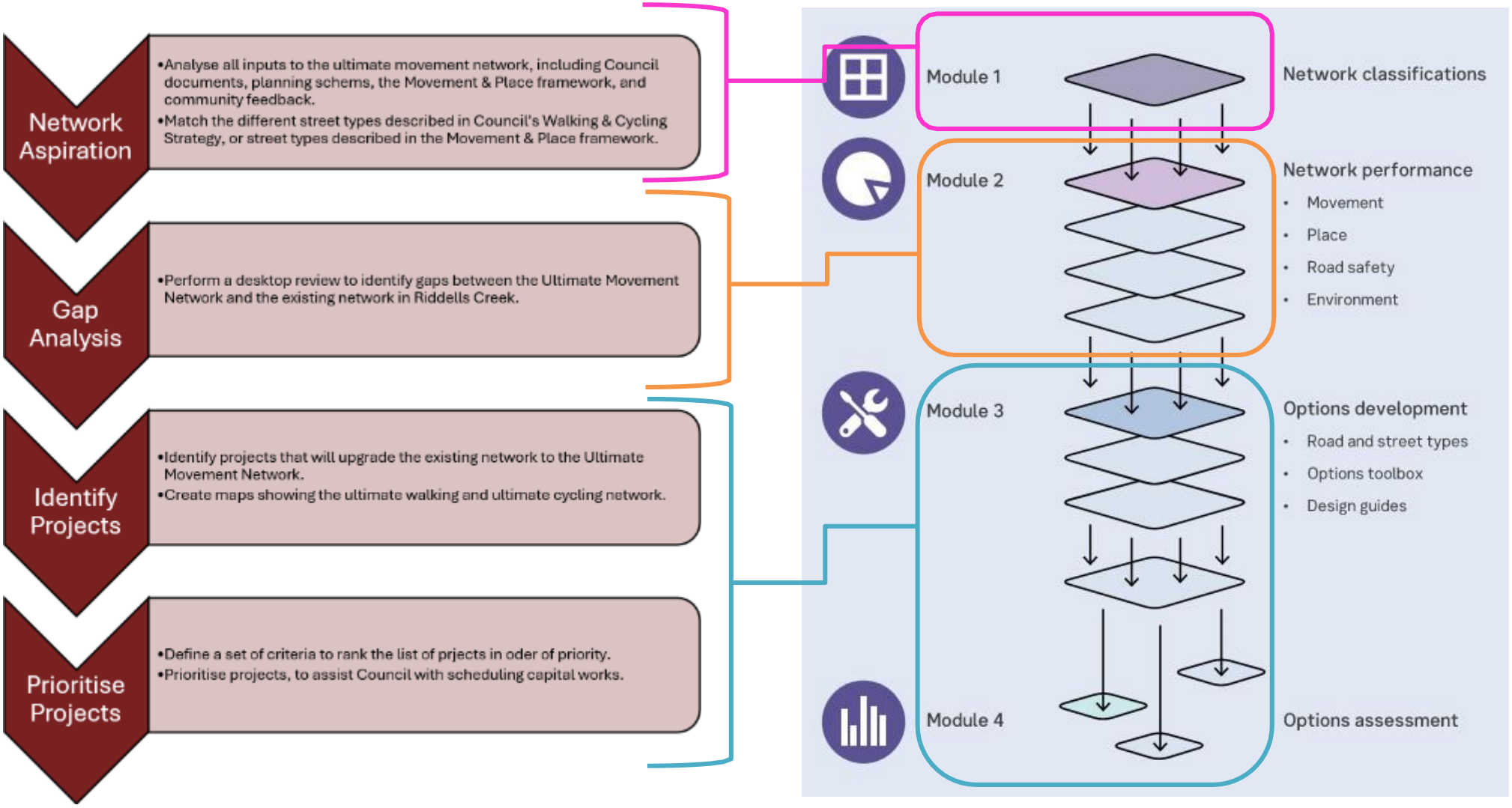


Figure 7: Movement and Place framework methodology

Aspirational Movement Network

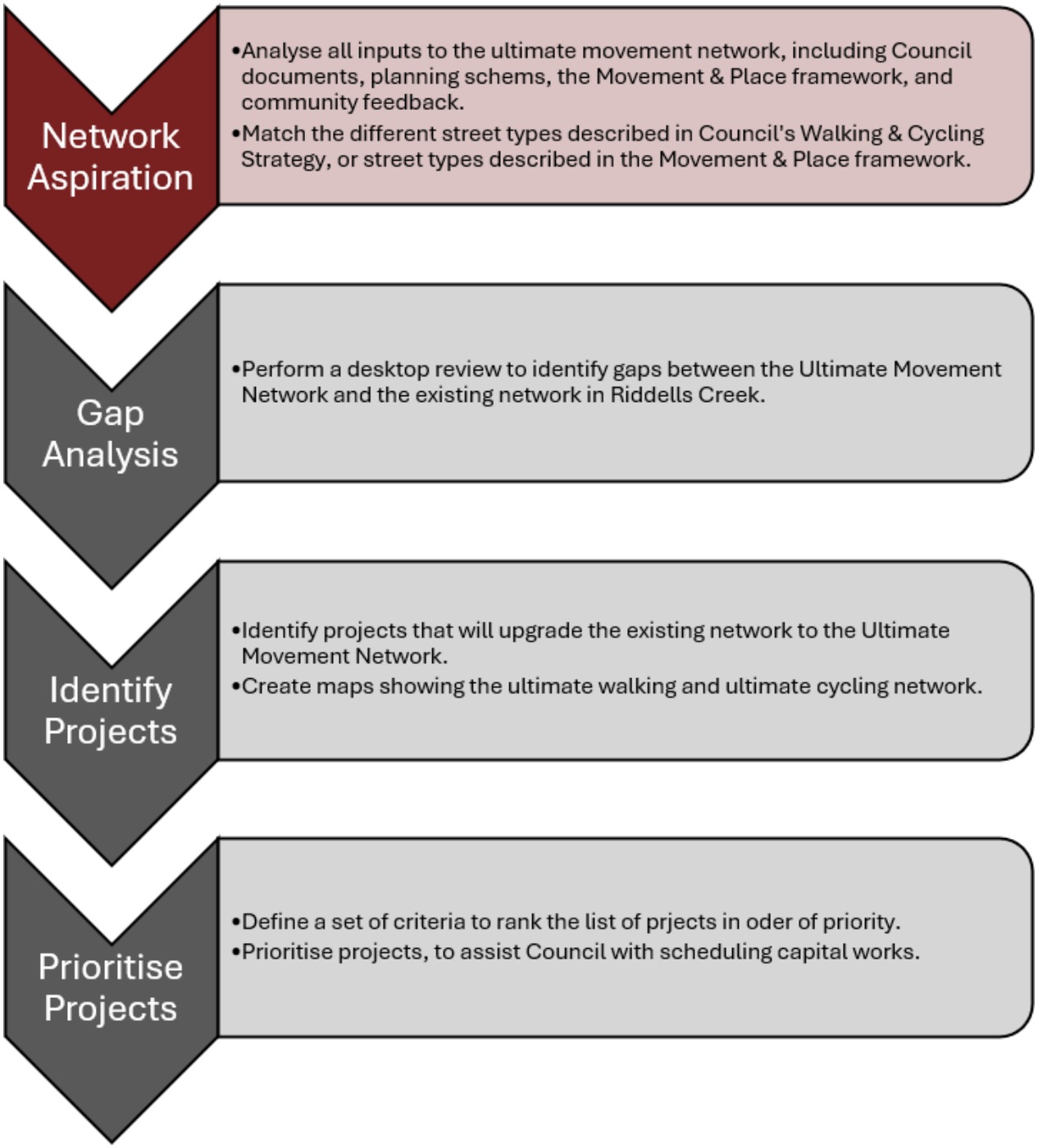


Figure 8: Project Methodology – Module 1

Study Inputs

To ensure the Aspirational Movement Network is responsive to local policy and strategy as well as State guidelines, the Riddells Creek Aspirational Movement Network has been informed by the following:

- Riddells Creek Structure Plan 2013
- Amess Road Precinct Structure Plan
- Riddells Creek Town Centre Opportunities Summary Paper
- Macedon Ranges Shire Council Walking and Cycling Strategy 2014
- Macedon Range Shire 'Participate' Positive Aging Strategy 2020
- Macedon Ranges Shire Disability Action Plan 2021-2025
- Macedon Ranges Shared Trails
- Macedon Ranges Shire-wide Footpath Plan
- Movement and Place in Victoria
- Riddells Creek Movement and Network Study Community Consultation Report.

A brief description of these documents, and details of how they informed the development of the Riddells Creek aspirational movement network, is provided in Table 13 in Appendix A.

Figure 9: Some of the inputs to the Riddells Creek Aspirational Movement Network

The Shire Wide Footpath Plan prioritises the promotion of active transport, health, and well-being and the improvement of the built environment by upgrading the walking and cycling infrastructure within the municipality. This plan is designed to provide pedestrian or cyclist connectivity to key activity centres based on 20 minimum neighbourhood concepts, which aims to progressively branch out paths from the activity centres to residential streets. The Shire Wide Footpath Plan 2018-2027 (2023 Revision) projects are identified based on key priorities to provide the missing link to the school, shopping centre, and community facility. Missing links within a 400m radius of these key activity centres are key priorities of this plan, which will progressively expand to 800m, 1200m radius as the Council delivers the high-priority projects.

The scope of the Shire Wide Footpath Plan is limited to missing path links, whereas the Movement Network studies for Riddells Creek focus on the interconnected system of streets, roads and paths that accommodates pedestrians and cyclists, on-road public transport, and emergency and private vehicles. The ranking of the identified footpath projects may differ in these two documents due to their scope, noting most of the projects identified by the Shire Wide Footpath Plan are also identified by the Movement Network Studies.

Any additional new footpath (or shared path) that has been identified in RMNS will be assessed based on the priority matrix on the Shire Wide Footpath Plan and then added to the list of either high or medium priority based on its scoring.

Movement and Place classifications

The Department of Transport and Planning (DTP) has determined the movement and place classifications for streets throughout Victoria, including in Riddells Creek. Classifications for general traffic, walking, freight, and place in Riddells Creek are provided in Figure 40 to Figure 43 in Appendix B – Movement and Place Classifications in Riddells Creek.

There are currently no cycling classifications mapped within Riddells Creek. For off-road trails which have not been assigned a movement and place classification, a classification has been assigned as part of this plan.

Street Types

The vision for the Riddells Creek Network Plan reflects the strategic role of a street in the wider street network. This plan recognises the role streets play as destinations in their own right, providing a corridor for people to move through as well as a place for the community to enjoy for leisure and recreational purposes. This led to the development of a street and path hierarchy and the categorisation of the streets within Riddells Creek into street types.

The Urban Road and Streets Design Guidelines (Draft Issue June 2020) were utilised to guide on determining street types. These guidelines identify 4 broad groups called ‘Street Families’. Within each Street Family are a number of street types. The street type is primarily determined by the Movement and Place classifications of the street, with a particular consideration of its modal priorities.

By defining streets into certain types, a clear vision and direction can be formed for all stakeholders to collectively work towards and understand. Modal priorities can provide a second layer of detail in defining the desired outcomes.

Four different street types and two path types were identified in Riddells Creek:

- Neighbourhood residential streets
- Residential connectors
- High activity streets
- Boulevards
- Off-road recreational trails
- Off-road trails – preferred routes between towns.

The four street types can be mapped into the Movement and Place matrix. Their location within the matrix assists in demonstrating the role that the street plays within the wider network of the Riddells Creek township (refer to Figure 10).

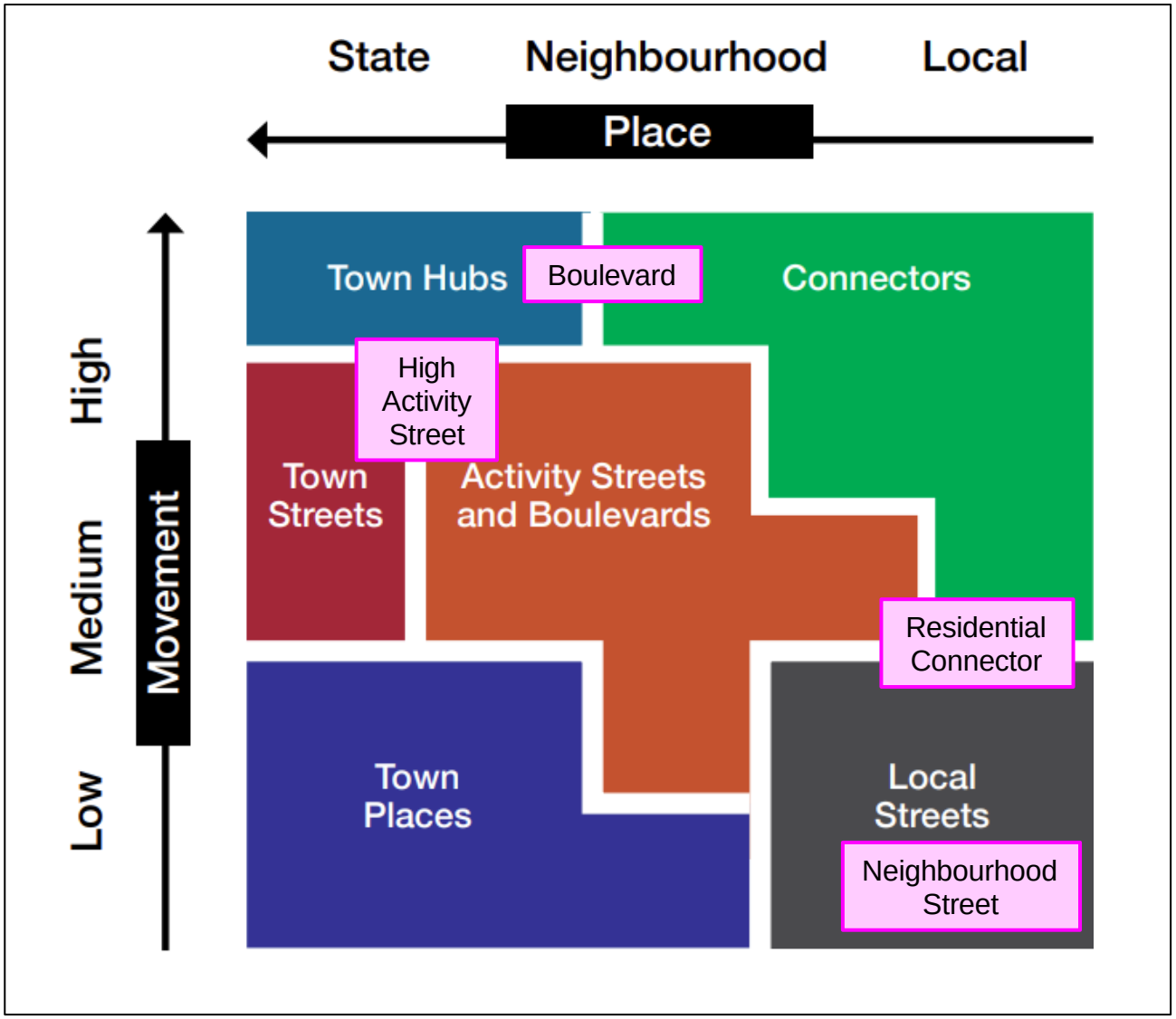


Figure 10: Street types mapped onto the Movement and Place framework

Table 3 below provides a description of each of these street types and paths, their target speeds, some examples of each type within the Riddells Creek township and photos showing some examples. Figure 11 shows the location of the different street types in Riddells Creek.

Table 3: Street Types in Riddells Creek

Street Type	Description	Movement & Place Classification	Target Speeds	Street Examples	Example Photo
Neighbourhood Residential Street	These are local living streets where people inhabit. They support residential life with a low intensity of on-street activity. Neighbourhood streets operate at a slower pace and support local movements. In the Riddells Creek context, these will be characterised by wide verges, softer streetscapes, and a footpath on one side of the street. Bicycle facilities will be provided via sharrows in the pavement to encourage lane sharing.	**M5** W4 GT5 No freight classification **P5** – place of local significance	50 km/h	Eucalypt Court, Sexton Street	
Residential Connector	Residential connectors are access corridors that move high volumes of people. These residential streets are both places where people live and thoroughfares where people move through. Within Riddells Creek, these are characterised by wider streets, a shared path on one side of the street, and wide verges.	**M5** W4 GT5 No freight classification **P5** – place of local significance	60 km/h	Bolithos Road	
High Activity Street	High-activity streets are multi-modal destinations for people to visit, work, and live. They play a central role in the community, supporting a concentration of commercial, civic, and community land use. They are high amenity places that facilitate social interaction and high on-street activity. Each of the key streets located within the Riddells Creek town centre falls under this street type. These streets should reinforce the village feel in the Town Centre and enhance the main street as a people-focused local destination, with the following characteristics: • wider footpaths with increased street tree canopy • activating the street at night with feature lighting • more people meeting places with landscaped areas • a slow speed environment, reinforced with traffic calming.	**M3** W3 GT3 F3 **P4** – place of neighbourhood significance	30 km/h or lower	Station Street, Stephen Street	

Street Type	Description	Movement & Place Classification	Target Speeds	Street Examples	Example Photo
Boulevard	Boulevards are grand, ceremonial movement corridors with a high movement function, forming the backbone of the Riddells Creek township. Boulevards are major gateways that contribute to the township's identity, and provide a sense of arrival, encouraging visitors to travel slower through the township and to stop and visit. Kilmore Road can be categorised as a Boulevard and provides visitors with a first impression of Riddells Creek. Characteristics of a Boulevard include: • increasing tree canopy along the service roads • introducing a boulevard of trees in the centre carriageway between Station Street and the Primary School • provide place-specific markers and gateway entry statements • create a slower speed environment between Station Street and the primary school • additional pedestrian crossing points along Kilmore Road north of the town centre • improved pedestrian and cycling facilities.	**M3** W2 GT3 F3 **P4** – place of neighbourhood significance	50 km/h	Kilmore Road between Melvins Road and Bolithos Road	
Off-road Trail – Recreational	The recreational off-road trails are scenic paths which support communities to access creek corridors, open spaces, parks as well as local and regional destinations. These paths are used for recreational walking and cycling and provide an attraction for tourists. These will be used by a range of users, including walkers, mountain bikers, joggers, and people of all ages and abilities, and are important to encourage physical activity and improved health.	**M5** **P4** – Place of neighbourhood significance	20 km/h	Proposed trail along Sandy Creek	

Street Type	Description	Movement & Place Classification	Target Speeds	Street Examples	Example Photo
Off-road Trail – Preferred Route Between Towns	This provides a network of key off-road paths to create important walking and cycling connections between the regional towns in the municipality.	**M3** **P5**	30 km/h	Riddells Creek to New Gisborne Rail Trail	

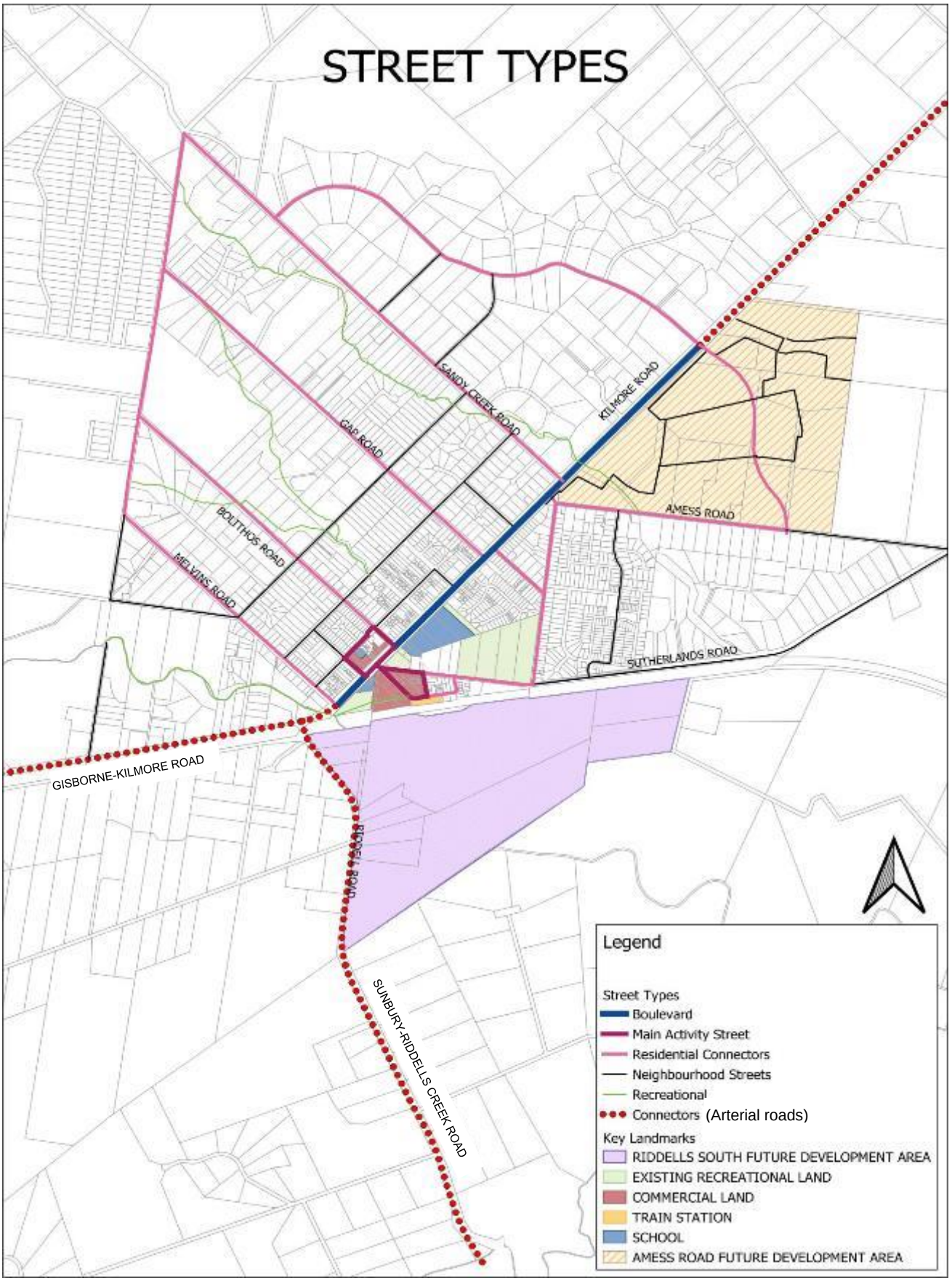


Figure 11: Street types in Riddells Creek

Aspirational movement network

The aspirational movement network is the overall vision for walking, cycling, and public transport in Riddells Creek. This has been developed by establishing a hierarchy of streets and paths based on the street type and the Movement and Place framework. Table 4 and Table 5 describe these route types for walking and cycling, respectively. Figure 12 and Figure 13 show their locations within Riddells Creek.

Walking

The following hierarchy of walking routes has been developed to accommodate the different reasons for walking within the township:

- primary walking routes
- secondary walking routes
- local walking routes
- recreational routes.

A description of each of these routes, including appropriate treatments, is found in Table 4. Figure 12 shows a map of these walking routes in Riddells Creek.

Table 4: Walking Route Types

Walking Route	Description	Street Types	Treatments	Photo
Primary Walking Route (W2/W3)	Regionally significant walking links near key activity generators with existing and/or potential demand. This includes the Riddells Creek town centre, educational institutions, railway stations, and employment precincts.	• Boulevard • High activity street	• Wider sealed footpaths on both sides of the road • Wombat crossings • Pedestrian Operated Signals (POS)	
Secondary Walking Route (W4)	Municipal walking links that support pedestrian movements to and around activity generators such as activity centres and schools.	• Residential connector	• Sealed footpaths on one side of the road • Wombat crossings	
Local Walking Route (W4/W5)	Neighbourhood walking links along residential streets	• Neighbourhood residential streets	• Sealed footpaths on one side of the road • Informal crossings with kerb ramps • Wombat crossings	

Table 4: Walking Route Types

Walking Route	Description	Street Types	Treatments	Photo
Recreational Route	Primarily used for leisure. May be windier and have a lower target speed than other routes, with a greater focus on scenery and recreational use. These routes don't need to be sealed and peak usage will typically occur on weekends.	• Off-Road Trail – Recreational	• Sealed or unsealed shared paths	

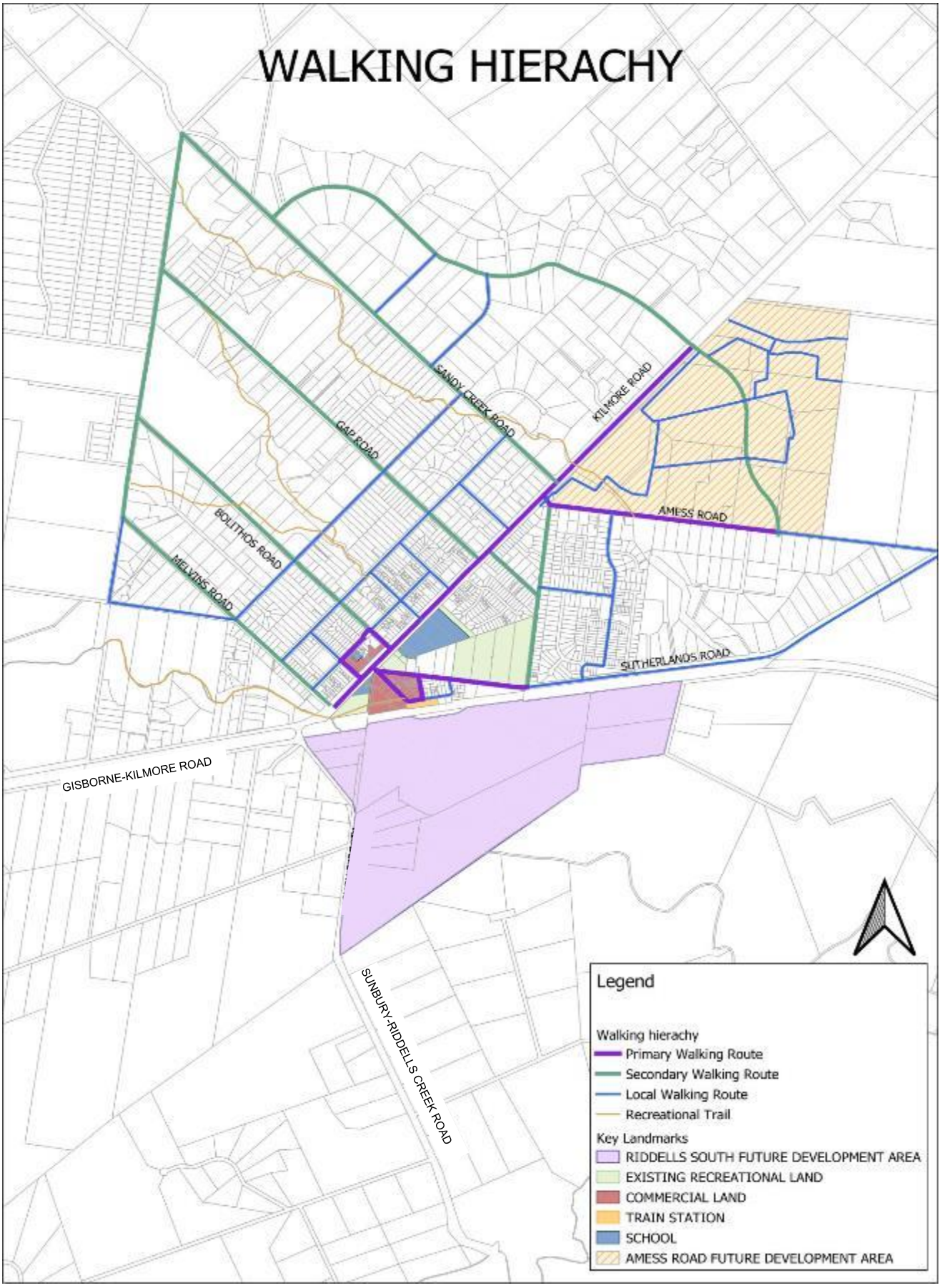


Figure 12: Walking routes in Riddells Creek

Cycling

Five types of cycling routes have been developed to accommodate the different types of cyclists within the township:

- primary cycling routes
- secondary cycling routes
- local cycling routes
- preferred cycling routes between towns
- recreational cycling trails.

A description of each of these routes, including appropriate treatments, is found in Table 5. Figure 13 shows a map of these walking routes in Riddells Creek.

Table 5: Cycling Route Types

Route Type	Description	Street Types	Treatments	Photo
Primary Cycling Route (C1/C2)	Regionally significant cycling links near key activity generators with existing and/or potential demand. This includes strip shopping, educational institutions, railway stations, and employment precincts.	• Boulevard • High activity street	• Sealed shared paths	
Secondary Cycling Route (C3)	Municipal cycling link which supports pedestrian movements to and around activity generators such as activity centres and schools.	• Residential connector	• Sealed shared paths	
Local Cycling Route (C4)	Captures low-density residential areas to connect to primary and secondary cycling routes. Typically designed for lower target speeds than a secondary cycling route.	• Neighbourhood residential street	• Sharrows	
Preferred Cycling Route Between Towns (CR)	Recreational cycling route for cycling enthusiasts or those seeking a long-distance training route, catering for a higher speed than recreational cycling trails.	• Connector (arterial roads in the context of Riddells Creek)	• Sealed shared paths	

Table 5: Cycling Route Types

Route Type	Description	Street Types	Treatments	Photo
Recreational Cycling Trail **(CR)**	A cycling route that is used for leisure and prioritises scenery over a direct travel route.	• Off-Road Trail – Recreational	• Sealed or unsealed shared paths	

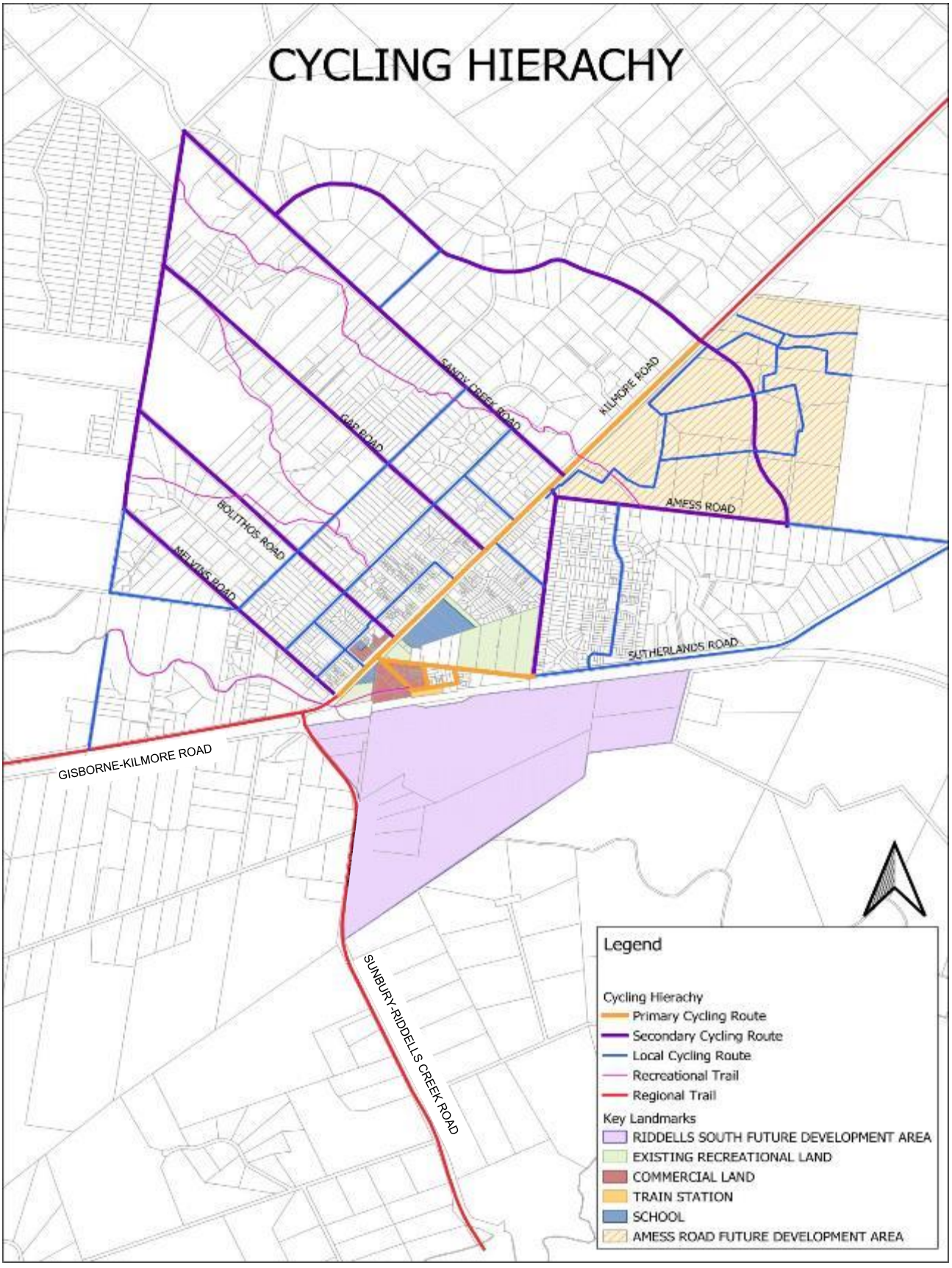


Figure 13: Cycling routes in Riddells Creek

Public Transport

Currently, public transport to and from Riddells Creek is provided via train, with services operated by V/Line. A V/Line bus service also connects Riddells Creek to Lancefield.

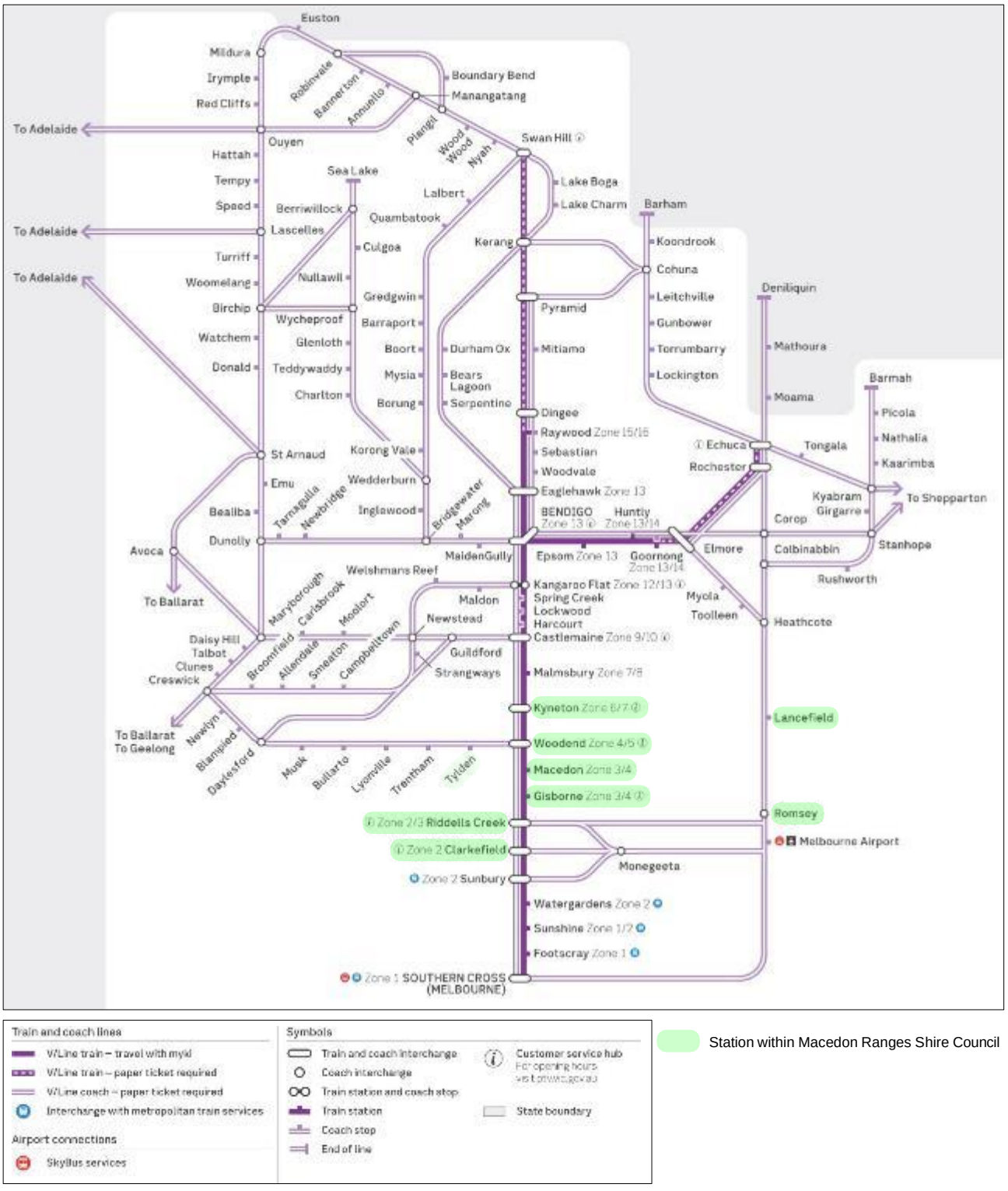


Figure 14: Northern Victoria Public Transport Map

In addition, school bus services operate to and from Riddells Creek Primary School, Holy Cross Primary School, and Gisborne Secondary College.

There are currently no local public bus services operating with the Riddells Creek township.

Since the introduction of the regional V/Line daily fare cap at the current Metropolitan fare, V/Line patronage data has shown an increase in passengers taking advantage of cheaper fares. More than 1.5 million people used public transport across regional Victoria in the first month of the new fares, including 210,000 passengers on the Bendigo Line. Patronage data shows an uplift in passengers on weekends and special services.

It is recommended that Council work with the Department of Transport and Planning to:

- establish a bus route to Gisborne
- establish local bus services to the train station and town centre
- understand the trend of train ridership for the first few months at the Riddells Creek railway station and any impact on the usage of car parking spaces there.

Identification of Projects

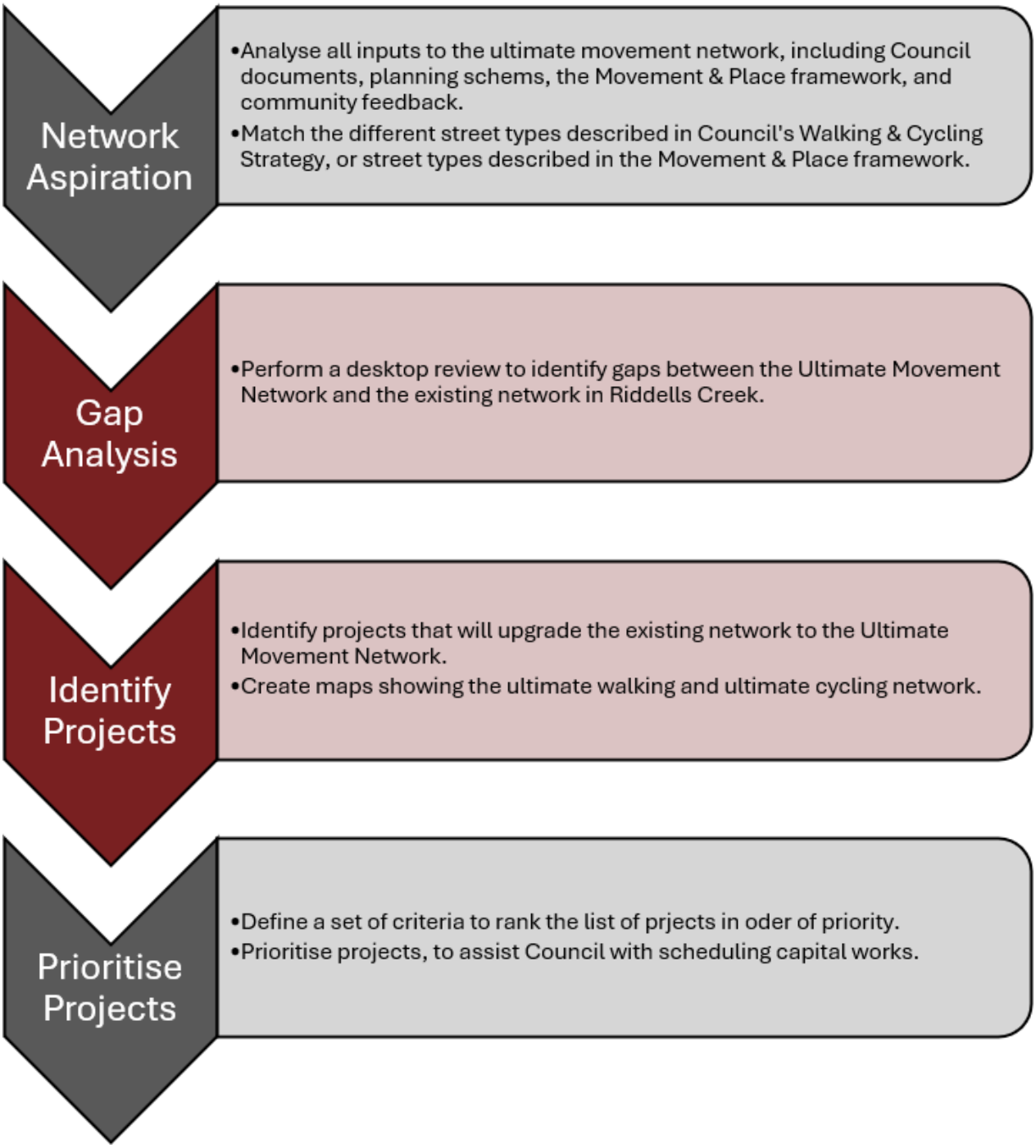


Figure 15: Project Methodology - Module 2

Gap analysis

A desktop study of the road network was undertaken to assess the existing network against the aspirations. Through the process of comparing the aspirations defined within the cycling and walking hierarchies to existing infrastructure in Riddells Creek, gaps in the network were identified. The gap analysis then informed a series of infrastructure upgrade projects, ranging in scale, challenges, and benefits, outlined in the following section.

Project types

To assist in the delivery of the aspiration movement network plan for the Riddells Creek township, a range of project types have been identified. These are categorised into the following:

- pedestrian facility upgrades
- cycling facility upgrades
- intersection upgrades
- speed limit reductions and streetscape projects.

Pedestrian projects

Pedestrian projects consist of the following:

- Footpath
- Shared path
- Recreational shared path
- Regional trail
- Wombat crossing
- Refuge crossing
- Pedestrian Operating Signals (POS) crossing
- New footbridge

A description of these projects, including design parameters and example photos, is provided in Table 15 in Appendix C – Pedestrian and Cycling Project Design Parameters.

Cycling projects

Cycling projects consist of the following:

- Sharrows
- Shared path (within road reserve)
- Recreational shared path
- Regional trail

A description of these projects, including design parameters and example photos, is provided in Table 16 in Appendix C – Pedestrian and Cycling Project Design Parameters.

Intersection upgrades

The following intersection upgrades have been identified within the Riddells Creek township. These are subject to further traffic analysis:

- new roundabout at Riddell Road / Main Road
- new roundabout at Kilmore Road / Sandy Creek Road
- convert Kilmore Road / Station Street to a signalised intersection
- investigate the feasibility of reversing the priority intersection at Sutherlands Road / Station Street, with full consultation of the nearby businesses and residents
- investigate the feasibility of improving the traffic flow between the intersection of Kilmore Road/Bolithos Road and the intersection of Kilmore Road/Sutton Road with the turning movement interactions of the multiple accesses to the Police Station/Fire Brigade and Riddells Creek Primary School
- intersection upgrade at Raws Lane, including turn lanes

- new roundabout at Kilmore Road / Gyro Close intersection with future access into Amess Road development.

Speed limit reductions

The following potential speed limit reductions have been identified within the township, for further investigation (speed limit reductions will require the approval of the Department of Transport and Planning (DTP)):

- reduce the speed limit on Main Road between Walter J Smith Reserve at the southern entry to the township, to Sexton Street from 50 km/h to 40 km/h
- reduce the speed limit on Main Road between Sexton Street to the northern extent of the Amess Road development to 60 km/h
- reduce the speed limit on Maine Road between Williams Lane and Riddell Road at the southern entry to the township from 80 km/h to 60 km/h
- investigate a 30 km/h speed limit within the town centre
- Investigate an area 40 km/h speed limit within the residential areas of the township.

Amenity and streetscape improvements

Implement amenity improvement and streetscaping to enhance the township's character and provide a safer environment for pedestrians along Station Street. This could include the following options:

- one-way traffic flow along Station Street between the railway station and Sutherlands Road
- kerb outstands, sharrow line marking, and speed humps to slow traffic speeds
- implementation of a 10 km/h shared zone, supported by landscaping, raising the road to footpath level and removal of kerbs, and other interventions to enforce the slow environment.

Project Maps

Maps showing the proposed projects are shown in Figure 16 to Figure 19.

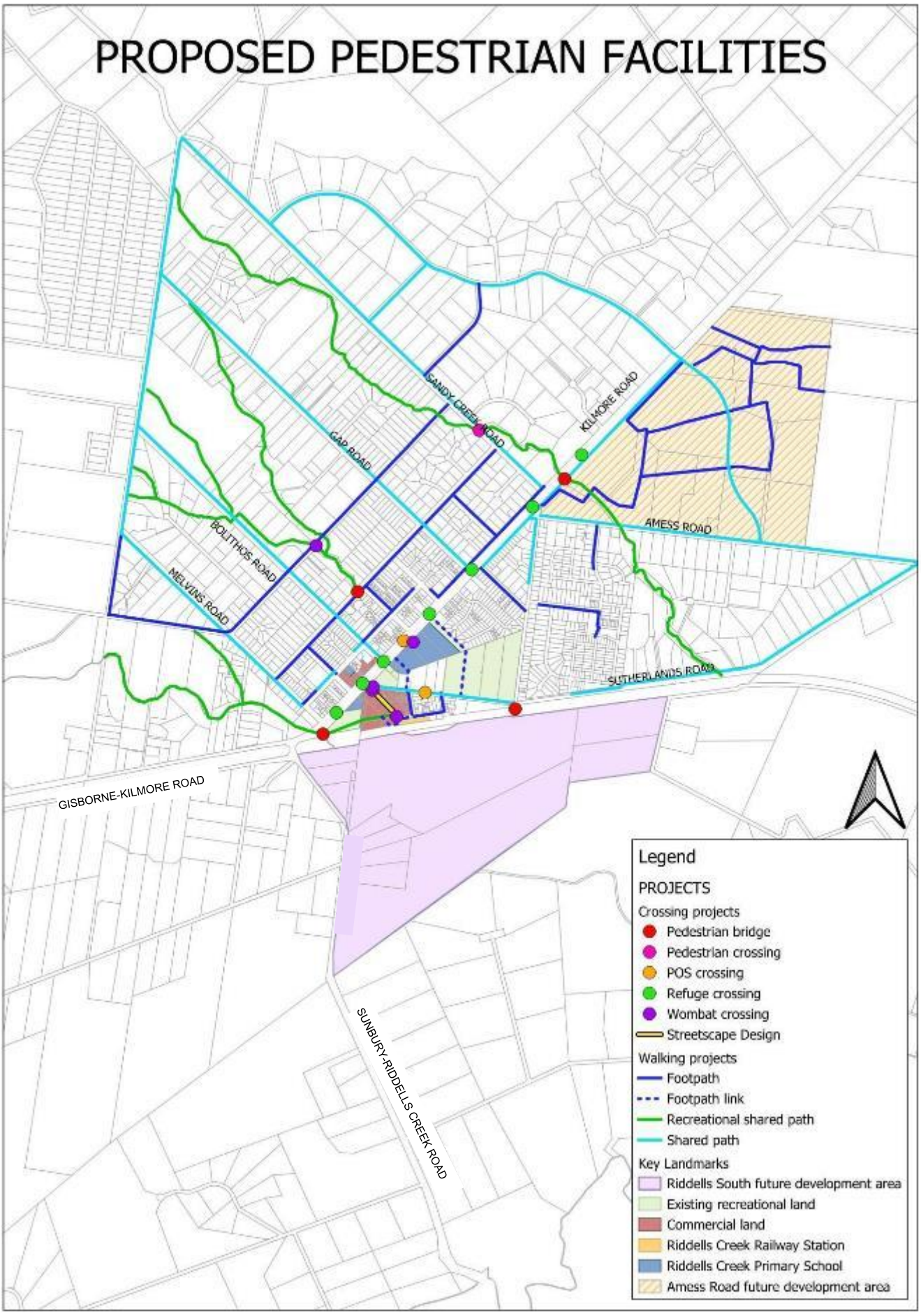


Figure 16: Proposed pedestrian facilities

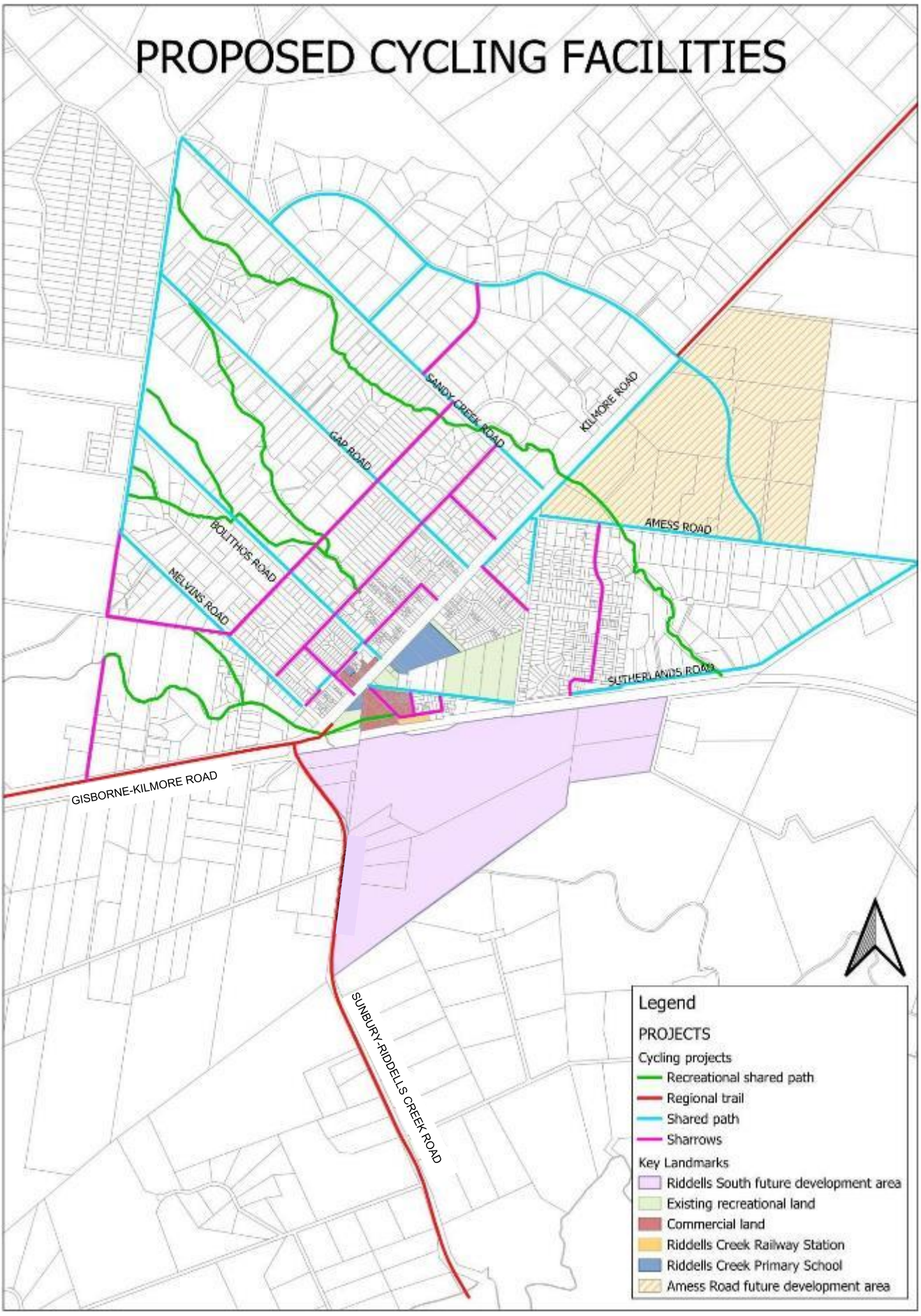


Figure 17: Proposed cycling facilities

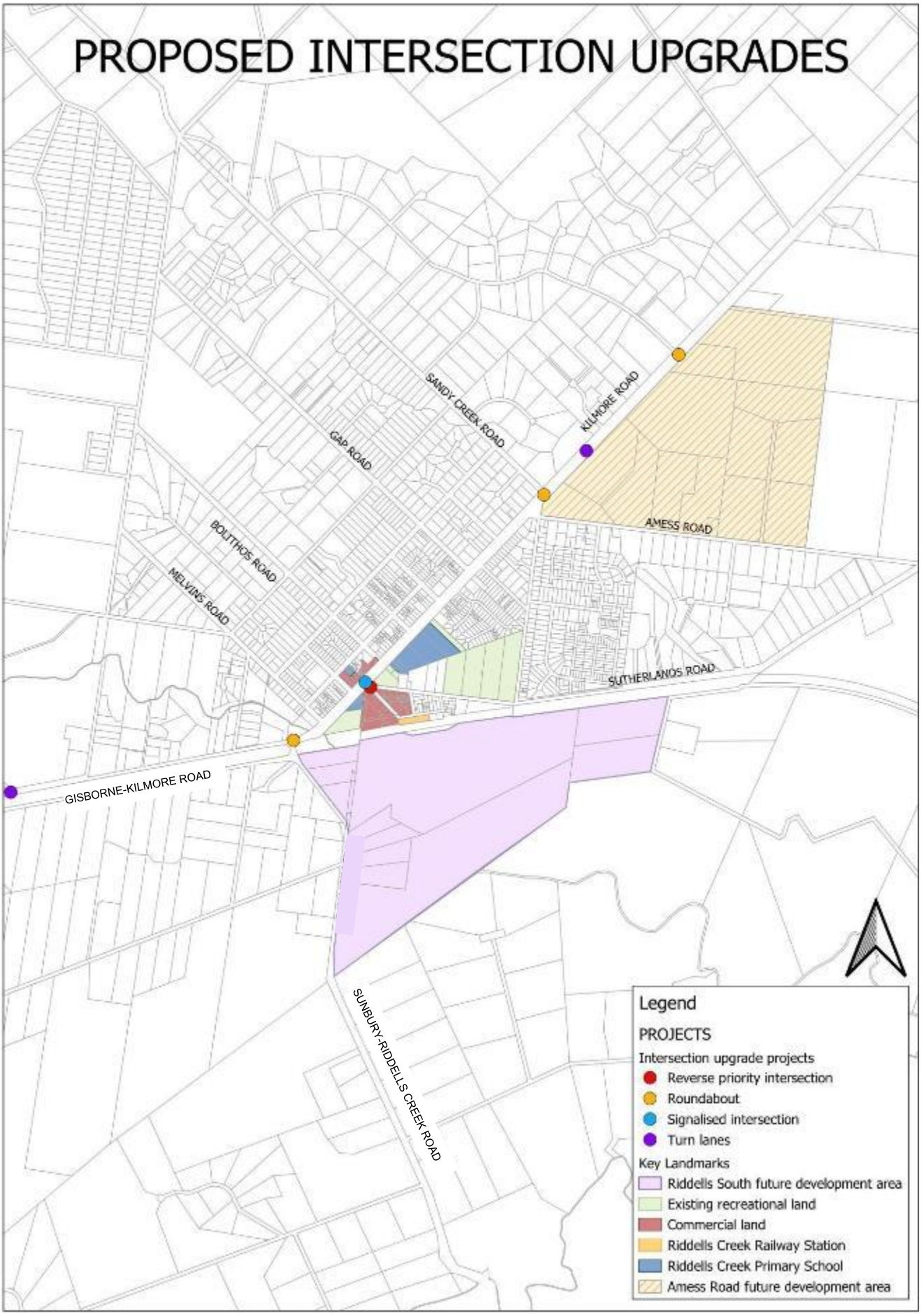


Figure 18: Proposed intersection upgrades

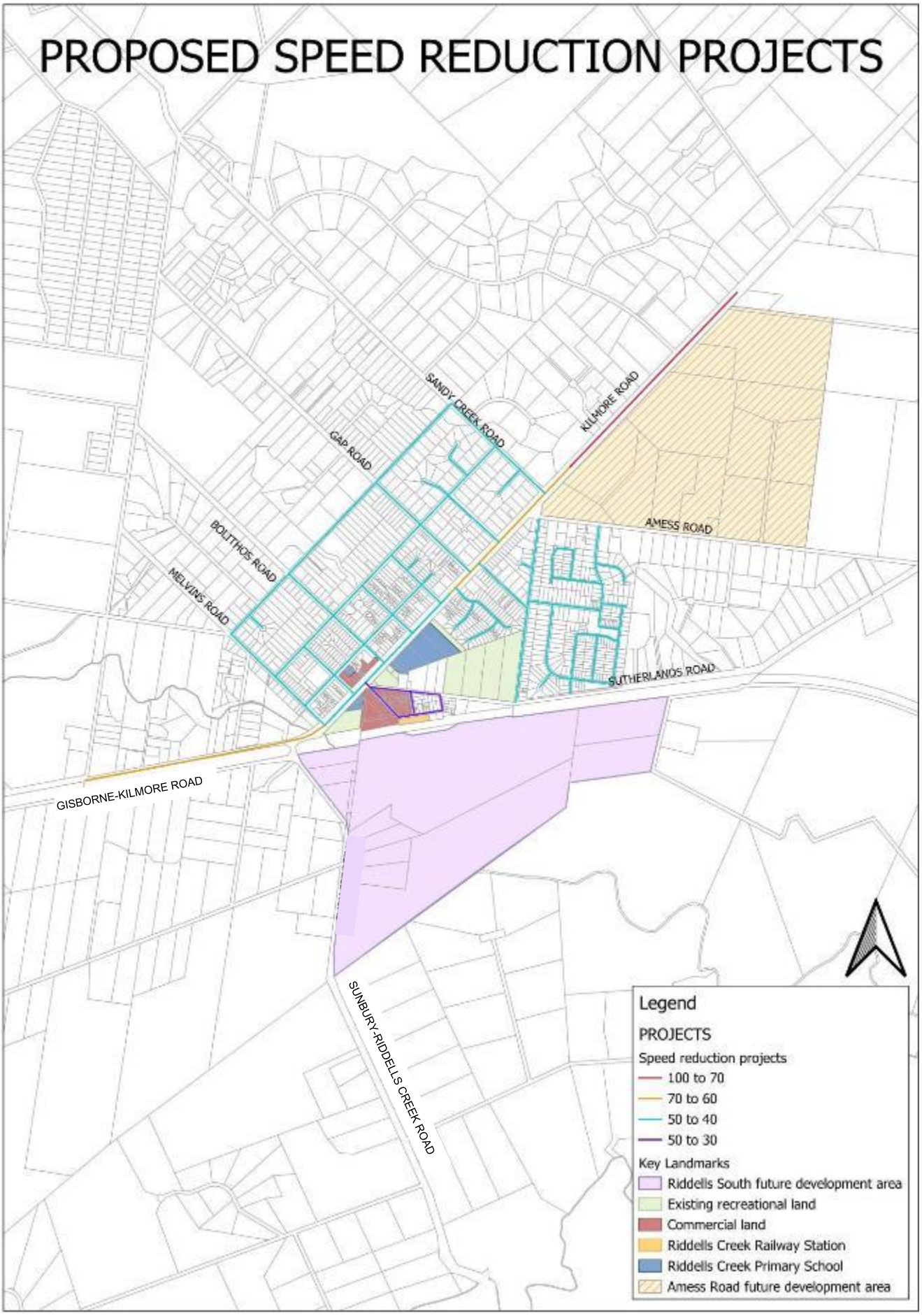


Figure 19: Proposed speed reduction projects

Traffic Impact

A large residential subdivision is proposed on Amess Road in Riddells Creek. Prior to this plan, two consultants estimated the traffic generation and distribution of the development, and undertook traffic modelling at the following intersections:

- Kilmore Road, Gyro Close, proposed access road
- Kilmore Road, Sandy Creek Road
- Kilmore Road and Amess Road.

For this movement and network plan, additional traffic analysis was undertaken to:

- assess intersection traffic operation in 2043 and identify necessary upgrades
- assess the traffic impacts of the community-requested intersection upgrades at Kilmore Road intersections with Riddell Road, Station Street, and Sandy Creek Road.

Traffic Volume

Existing volume

Traffic surveys were conducted at 16 intersections within the township, at the following times:

- 7 am – 9:30 am and 2:30 pm – 6 pm on Thursday 13 August 2023
- 10 am – 4 pm on Saturday 2 September 2023.

The weekday peak hours were 8:15 am – 9:15 am and 4 pm – 5 pm.

For a diagram of the existing peak hour traffic volumes at these 16 intersections, refer to Appendix G – Traffic volume diagrams.

Forecasted traffic volume (base case)

This assessment has estimated future traffic volumes in 2043 which will be used as a base case scenario. The estimated additional traffic includes:

- general growth from various developments
- Amess Road development.

General Growth

The Rangeview Drive residential subdivision is now mostly constructed. Additional through traffic from development in neighbouring townships and rural Victoria is anticipated. The assumed growth was applied to the 2023 surveyed traffic volume along Kilmore Road and Riddell Road, as shown in Table 6.

Table 6: Assumed growth on Kilmore Road/Main Road and Riddell Road

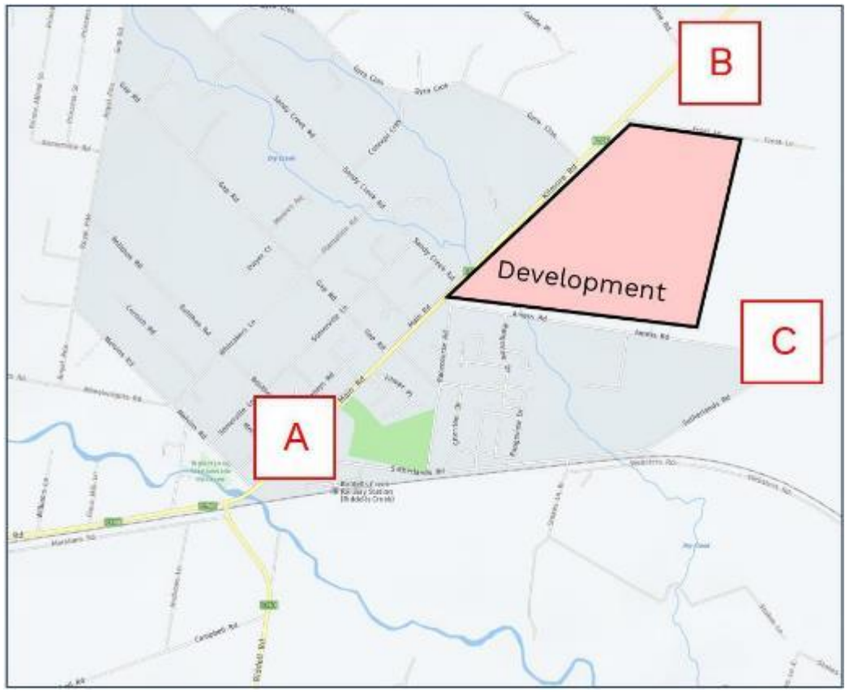
Compound annual growth rate	Number of years	Total growth
1%	20	22.02%

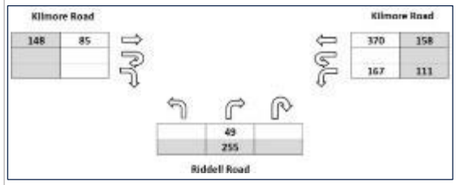
Amess Road development traffic generation and distribution

The traffic generation and distribution assumptions adopted are similar to those assumed by the previous 2 consultants, as described in Table 7.

For diagrams of the additional development peak hour traffic volume and the post-development peak hour traffic volume, refer to Appendix G – Traffic volume diagrams.

Table 7: Comparison of traffic generation and distribution assumptions

	Consultant 1	**Consultant 2** **(peer review of Consultant 1)**	**Modelling for Movement Network Plan**
Traffic generation			
Traffic generation rate	0.8 peak hour vehicle trips per dwelling	0.84 peak hour vehicle trips per dwelling	0.84 peak hour vehicle trips per dwelling
Traffic distribution			
Proportion entering and leaving the development	• AM ingress – 20% • AM egress – 80% • PM ingress – 60% • PM egress – 40%	• As per Consultant 1's assumptions	• As per Consultant 1 and Consultant 2's assumptions
Broader traffic distribution 	• Trips to/from A – 75% • Trips to/from B – 10% • Trips to/from C – 15%	• Trips to/from A – 62% • Trips to/from B – 5% • Trips to/from C – 33%	• As per Consultant 2's assumptions

	Consultant 1	Consultant 2 (peer review of Consultant 1)	Modelling for Movement Network Plan
Proportion of traffic that travels to/from the southwest along Kilmore Road and to/from the south along Riddell Road.	Not investigated as part of their study.	Not investigated as part of their study.	As per the surveyed proportion of through and turning traffic volume in the AM and PM peaks. The assumed additional traffic is shown below. **Legend** AM 8:15 am - 9:15 am PM 4:00 pm - 5:00 pm 

Traffic Analysis

Intersections modelled

The predicted 2043 conditions were modelled for the following intersections:

- Riddell Road and Kilmore Road
- Station Street and Kilmore Road
- Bolithos Road and Kilmore Road
- Gap Road and Kilmore Road
- Kilmore Road, Amess Road, and Sandy Creek Road.

At the Kilmore Road intersections with Amess Road and Sandy Creek Road, 2 proposed intersection layouts were investigated as part of the Amess Road Development. The layouts are described below.

- Option 1: realignment of the western end of Amess Road to connect to Kilmore Road opposite Sandy Creek Road, and construction of a 4-leg roundabout
- Option 2: upgrade the Kilmore Road and Amess Road intersection with left and right turn lane treatments on Kilmore Road and provide an additional approach lane on Amess Road. The Kilmore Road and Sandy Creek Road intersection will be retained as per existing conditions. Figure 20 shows a concept plan of the proposed layout.

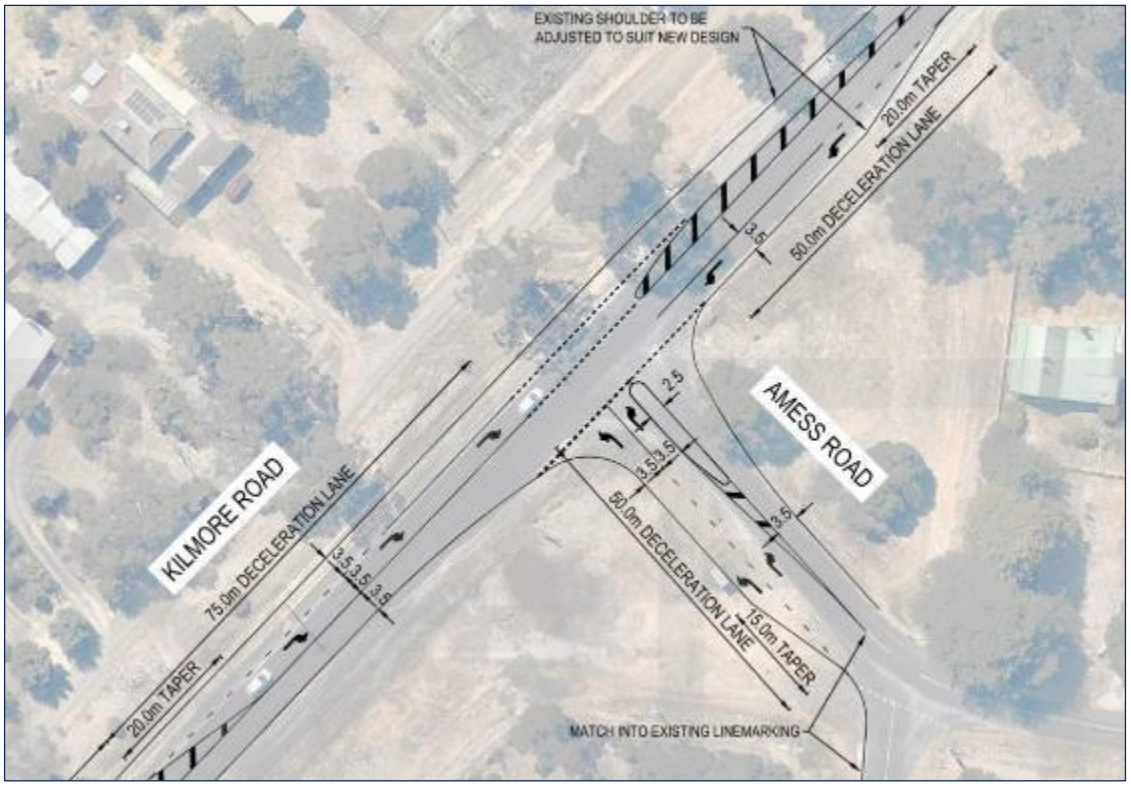


Figure 20: Proposed left and right lane treatments (option 2)

SIDRA Model Layouts[1]

Kilmore Road/Riddell Road

At the intersection of Riddell Road and Kilmore Road, a single-lane roundabout was initially tested, which operated above capacity with excessive queues and delays. Therefore, the roundabout option was modelled with 2 approach lanes on Kilmore Road. The modelled layout is shown in Figure 21.

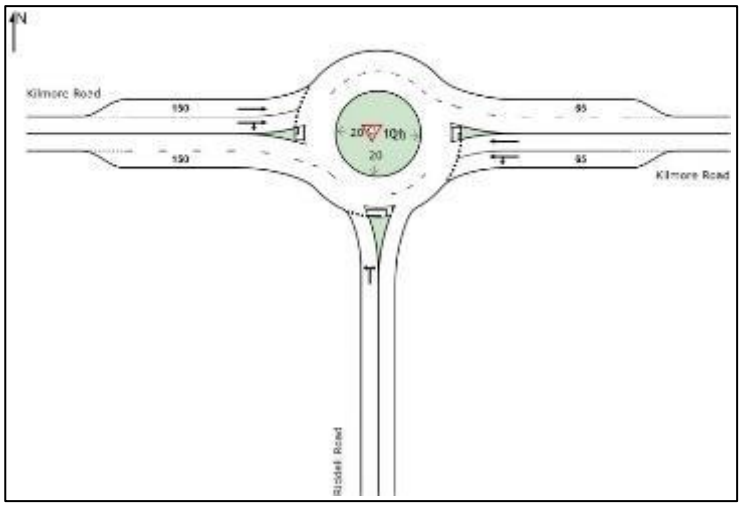


Figure 21: Model of the proposed roundabout at the intersection of Riddell Road & Kilmore Road

Kilmore Road / Bolithos Road

Kilmore Road and Bolithos Road were modelled as a single-lane roundabout, as shown in Figure 22.

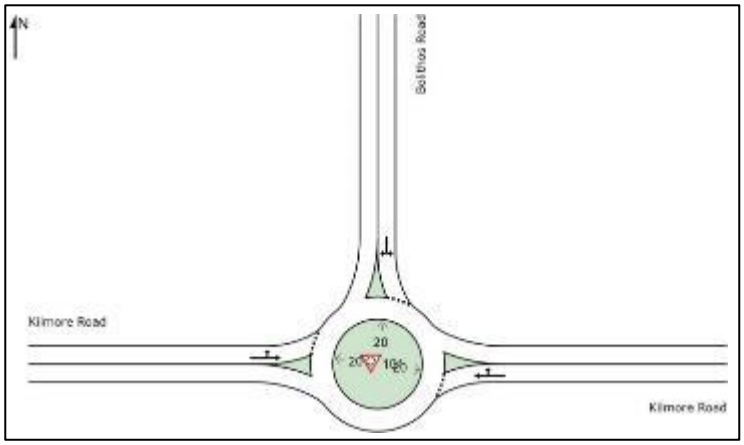


Figure 22: Model of the proposed roundabout at the intersection of Kilmore Road & Bolithos Road

[1] SIDRA software is used to model the performance of traffic flow through intersections. It can be used to determine the average delay experienced by vehicles, and queue lengths, at intersections.

Kilmore Road / Station Street

A single-lane roundabout option was initially tested at this intersection, which showed that the intersection would operate near capacity. Providing additional traffic lanes at the roundabout may not be feasible due to limited space. An alternative signalised intersection option was modelled with fully controlled right turn movements. The modelled layout is shown in Figure 23.

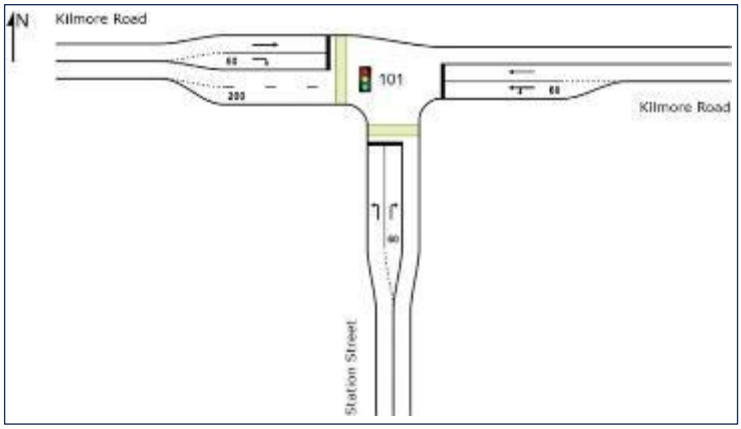


Figure 23: Model of traffic signal layout at Station Street & Kilmore Road

Kilmore Road / Amess Road / Sandy Creek Road

Two proposed options have been tested at this intersection:

Option 1: realignment of the western end of Amess Road to connect to Kilmore Road opposite Sandy Creek Road, and construction of a 4-leg roundabout

Option 2: upgrade the Kilmore Road and Amess Road intersection with left and right turn lane treatments on Kilmore Road and provide an additional approach lane on Amess Road. The Kilmore Road and Sandy Creek Road intersection will be retained as per existing conditions.

Figure 24 and Figure 25 shows the modelled layouts of these two intersections.

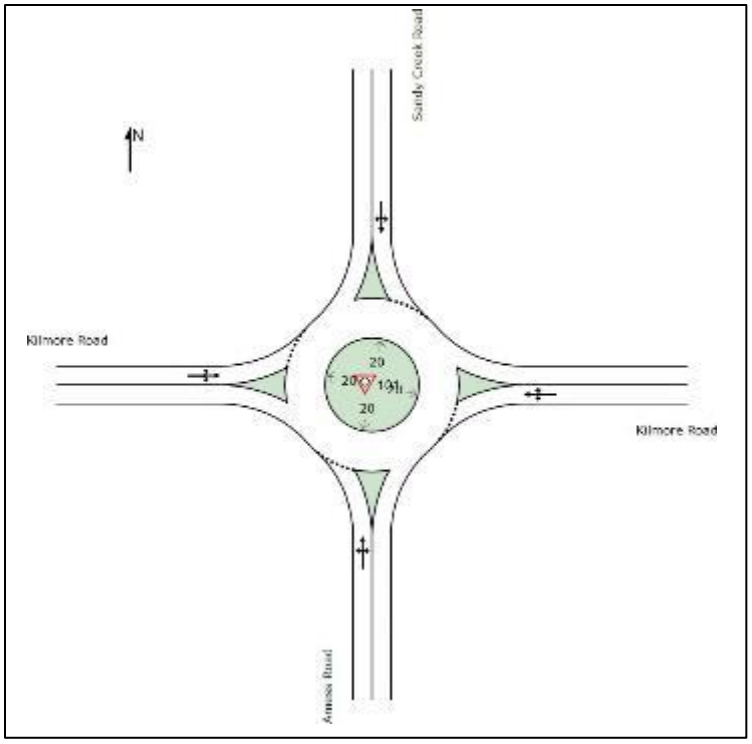


Figure 24: Model of the roundabout at the intersection of Kilmore Road, Sandy Creek Road & Amess Road (option 1)

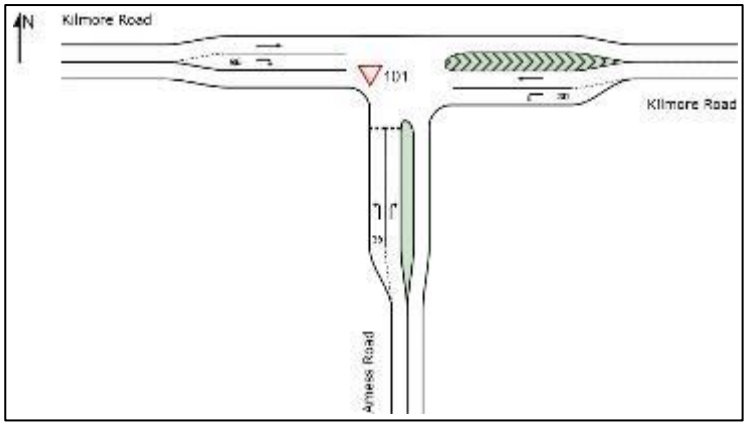


Figure 25: Modelled layout of Consultant 1's proposal at the intersection of Kilmore Road and Amess Road (option 2)

Summary of traffic modelling results

Table 8 and Table 9 summarise the predicted 2043 operating conditions at these intersections.

Table 8: Summary of predicted intersection operating conditions in 2043

Intersection	Base case	Proposed roundabout option	Proposed signals option
Riddell Road & Kilmore Road	Well overcapacity in both peaks, significant congestion on Riddell Road	At capacity in the PM peak	Near capacity in the AM peak
Station Street & Kilmore Road	Overcapacity in the PM peak	Near capacity in the AM peak	Below capacity in both peaks
Bolithos Road & Kilmore Road	Overcapacity in the AM peak, at capacity in the PM peak	Below capacity in both peaks	Not required nor nominated as a project
Gap Road & Kilmore Road	Well below capacity	Not required nor nominated as a project	Not required nor nominated as a project
Sandy Creek Road, Amess Road & Kilmore Road	N/A (does not exist)	Well below capacity	Not modelled in this study

Table 9: Summary of predicted intersection operating conditions in 2043 - proposed left and right turn lanes (option 2)

Intersection	Proposed left and right turn lanes (option 2)
Amess Road and Kilmore Road	Well below capacity
Sandy Creek Road and Kilmore Road	Well below capacity

The SIDRA model results are summarised in Table 17 to Table 19 in Appendix H - SIDRA Results.

The key findings from the SIDRA modelling are:

- Upgrades are recommended at the following intersections, as they are anticipated to operate above capacity after the Amess Road development is fully constructed in 2043:
    - Riddell Road and Kilmore Road
    - Station Street and Kilmore Road
    - Bolithos Road and Kilmore Road
- All other Kilmore Road intersections within Riddells Creek are anticipated to operate below capacity in 2043
- Both options 1 and 2 at Amess Road, Kilmore Road, and Sandy Creek Road will operate well below capacity in 2043. Option 2 (T-intersection) at the Amess Road is the preferred configuration by the developer of the Amess Road precinct. Option 1 (roundabout) has been tested as an alternative to cater for the longer term traffic growth. The trigger for the roundabout may occur in the long term and therefore it is important to put aside the required land now for this possible eventuality.
- If intersections are upgraded to roundabouts or signalised intersections, traffic queues and delays on Kilmore Road will increase. These queues and delays are not expected during off-peak periods.

For SIDRA site reports, refer to Appendix I – SIDRA site reports

Parking Assessment

Parking occupancy

Car parking occupancy surveys were conducted on the following days:

- Thursday 31 August 2023, 9 am – 6 pm
- Saturday 2 September 2023, 9 am – 6 pm.

Overall, the surveys revealed a low level of car parking demand, with maximum parking occupancy occurring between 1 pm and 2 pm on Thursdays (refer to Figure 26 and Figure 27).

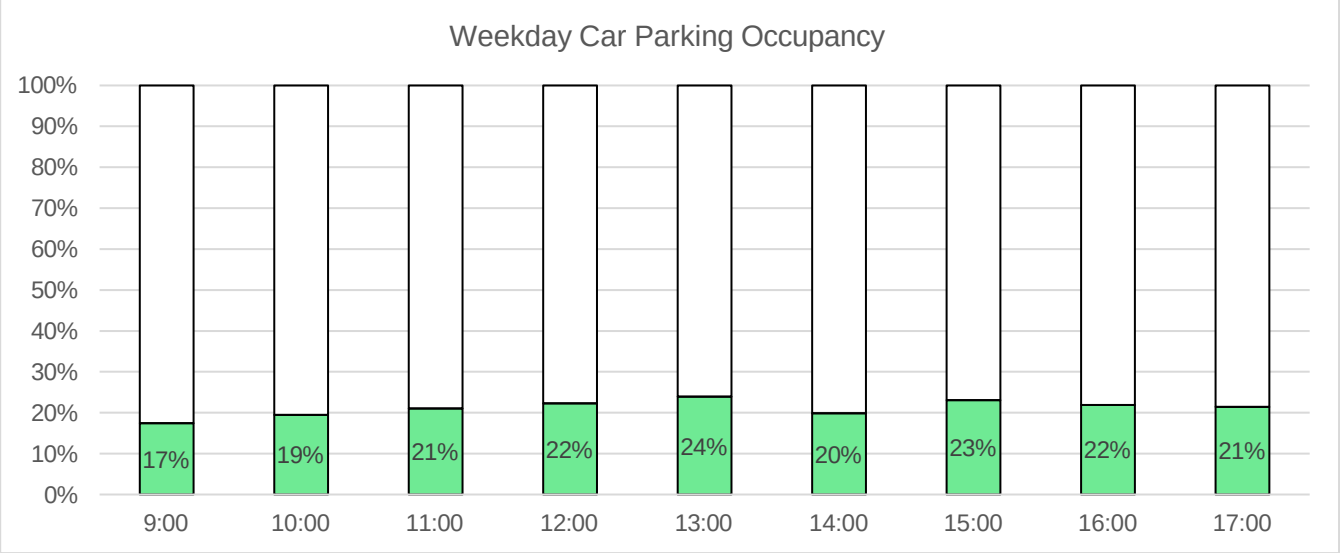


Figure 26: Car parking occupancy, Thursday 31 August 2023

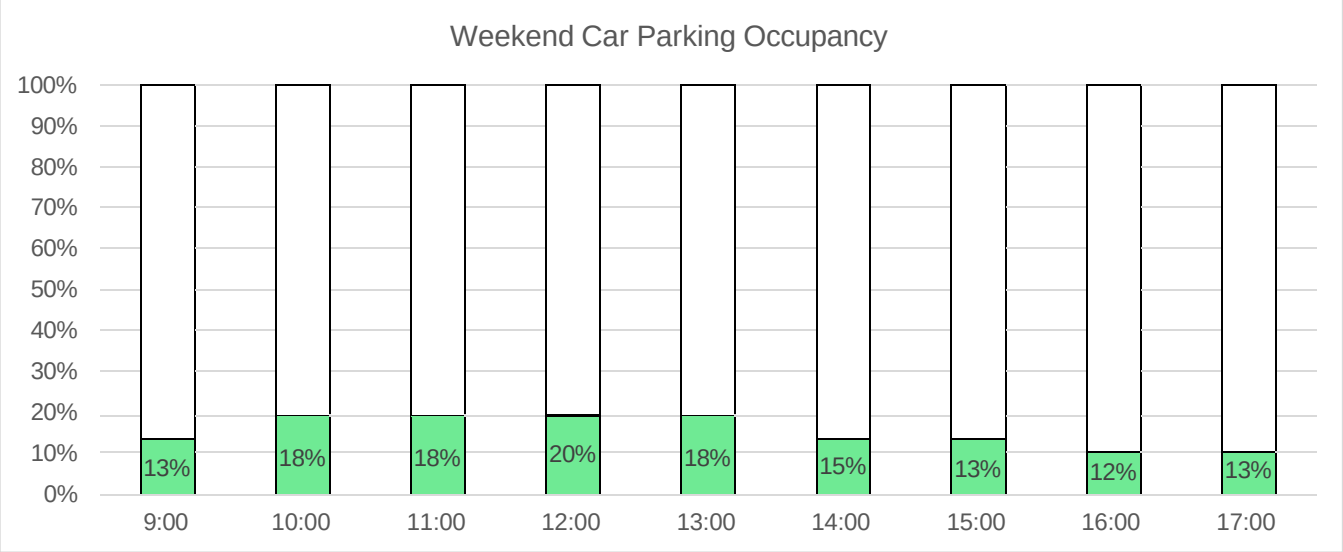


Figure 27: Car parking occupancy, Saturday 2 September 2023

Car parking demand was concentrated along Station Street, near the main shopping strip (refer to Figure 28 and Figure 29). There was no on-street parking observed along Sutherlands Road during either the Thursday or Saturday peak periods. Based on the results of the surveys, there is ample parking to accommodate an increase in traffic volumes and parking demand within Riddells Creek.

Figure 28: Peak car parking occupancy, Thursday 31 August 2023

Figure 29: Peak car parking occupancy, Sunday 2 September 2023

Accessible parking

Of the 247 car parking spaces surveyed, only 4, or 1.6 %, were accessible parking spaces. Within the town centre, on Station Street and Hamilton Street, 1 out of the 61 car parking spaces is an accessible parking space. 2 out of the 29 spaces outside Riddells Creek Primary School are accessible parking spaces, which is approximately 6% of total parking spaces.

As a general rule, 2% of the total parking provision should be accessible parking spaces. To meet this requirement within the town centre, it is recommended that 1 parking space on Station Street is converted to an accessible parking space.

Implementation plan

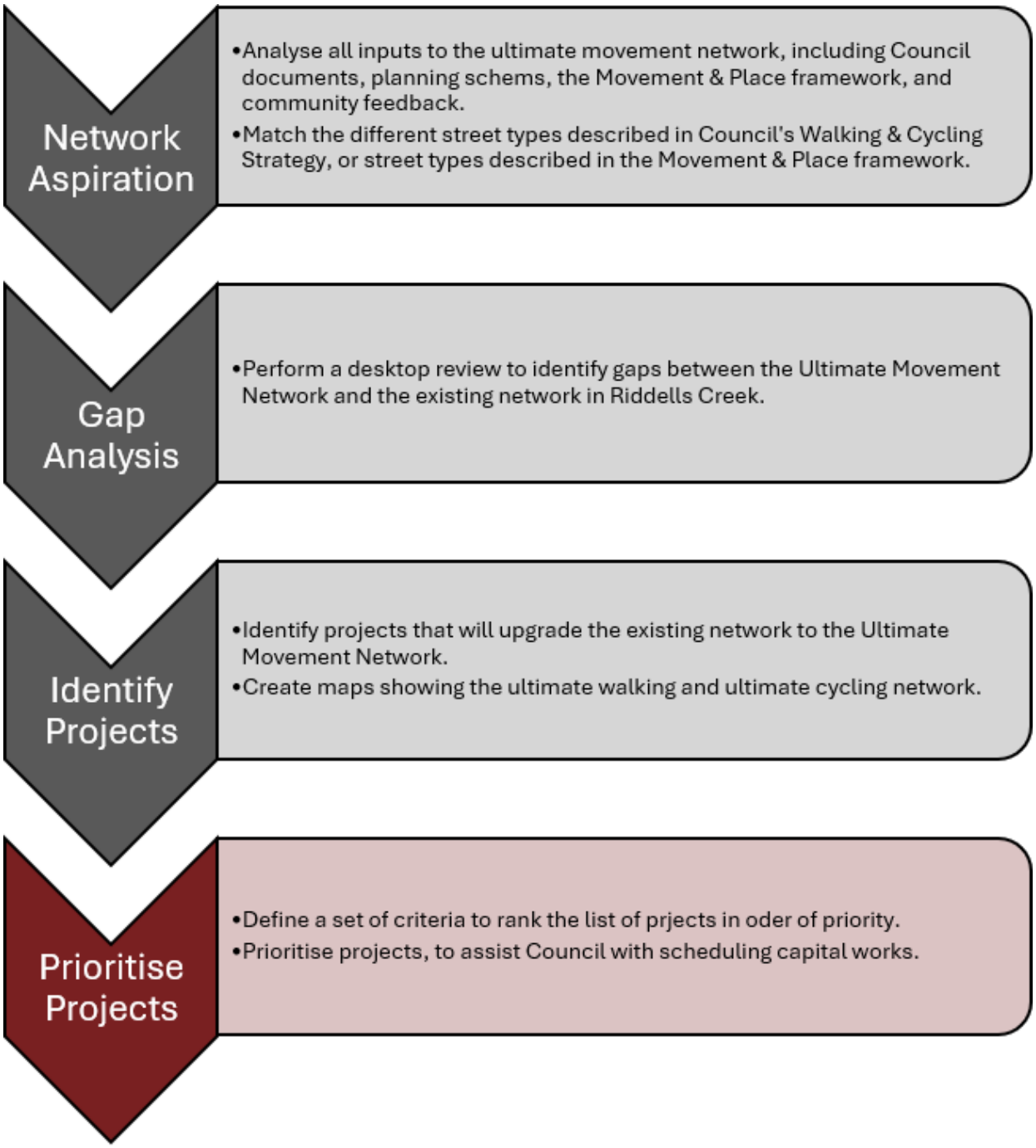


Figure 30: Project Methodology – Module 3

Priority Assessment Criteria

Criteria were developed to prioritise projects to be delivered in the short, medium, and long term.

These assessment criteria included:

1. Feasibility:
    a. prioritise routes within Council land where Council has more control
    b. prioritise routes with less environmental and cultural heritage impacts, and that do not require the removal of trees
    c. prioritise projects that do not require major construction or infrastructure upgrades.
2. Connectivity:
    a. prioritise routes that connect to key destinations within the Riddells Creek Town Centre.
3. Safety:
    a. prioritise projects that provide the greatest increase in safety for all road users.
4. Alignment with Movement and Place aspirations:
    a. prioritise projects that address Movement and Place performance gaps.
5. Alignment with local strategy and policy:
    a. prioritise projects that support Council's objectives for walking and cycling
    b. prioritise projects that provide additional community benefits, for example to tourism
    c. prioritise projects that have already been developed to reduce total project time and cost.
6. Stakeholder and community sentiments:
    a. prioritise projects that the Riddells Creek community supports
    b. prioritise projects that require minimal external stakeholder approvals e.g. projects on local roads that do not require DTP approval.

Multi-criteria analysis

Using the above criteria, a multi-criteria analysis (MCA) was completed to score each of the projects. An MCA is a decision tool that assists in comparing both quantitative and qualitative aspects of projects, by assigning weights and scores to various criteria.

For each assessment criterion, key performance indicators (KPIs) were developed. Each KPI is assigned a score between one and 5, based on a scoring guide. A complete weighting and scoring guide are provided in Appendix E – Multi-Criteria Analysis.

Community feedback

Community feedback was an important component of the MCA process. Throughout the study, Council officers liaised with a resident group called the Riddells Creek Community Planning Group. The community group provided feedback on proposed projects and ranked the proposed projects by order of priority. Crucially, the community group identified an additional 15 projects that they would like to see developed in the township. These projects are listed in Table 10. A summary of the community engagement conducted as part of this project is included in Appendix F – Community Feedback.

Table 10: Additional projects identified by the Riddells Creek Community Planning Group

Project Number	Project Category	Project Description
98	Walking	Pedestrian bridge across Riddells Creek near the Walter J. Smith Reserve
99	Walking	Shared path along the north side of Sutherlands Road between Racecourse Road and Lions Park
100	Walking	Pedestrian bridge across Dry Creek near Kilmore Road
101	Walking	Pedestrian Operated Signals (POS) across Main Road immediately to the southwest of the Main Road Service Road at the entrance to Riddells Creek Primary School
102	Walking	Pedestrian bridge across the Riddells Creek Main Drain between Somerville Lane and Sutton Street
103	Speed Reduction	Speed reduction to 60 km/h on Main Road between Williams Lane and Riddell Road at the southern entry to the township
104	Walking	Pedestrian crossing across Sandy Creek Road near Sandy Creek

Project Number	Project Category	Project Description
105	Walking	Refuge crossing across Main Road, near the Walter J. Smith Reserve
106	Walking	Refuge crossing across Main Road, immediately northeast of Bolithos Road
107	Walking	Refuge crossing across Main Road, near the Riddells Creek War Memorial
108	Walking	Refuge crossing across Main Road, near the Dromkeen Gallery driveway
109	Walking	Recreational shared path along Riddells Creek from Williams Lane to Kilmore Road
110	Walking	Pedestrian crossing on Main Road immediately southwest of Station Street
111	Walking	Recreational shared path along Dry Creek from Amess Road to Sutherlands Road
112	Walking	Shared path and wombat crossing at the Riddells Creek Primary School crossing

Communication consultation in March 2024

Council endorsed the release of the draft Riddells Creek Movement Network Plan (Stage 2B) for four weeks of consultation in March 2024 at the February 2024 Council Meeting.

As part of the community consultation plan per the Council's Community Engagement Policy, the following actions were taken:

- The project webpage was created on Council’s Have Your Say website to seek feedback for 28 days from 4 to 31 March 2024
- The consultation was supported by promotions through various Council channels including inclusion in a media release on 5 March 2024, being featured in the Mayor's Monthly Video wrapping up the February 2024 Council Meeting posted on 5 March 2024
- It was also mentioned in Council's regular fortnightly half-page advertisement in the local weekly paper (Midland Express) on 12 and 26 March 2024
- The local community newsletter, Riddells Roundup, also carried an article in their March 2024 edition mentioning this plan going out for community consultation.

A total of 28 community submissions were received.

Priority project list

Following the community consultation undertaken in March 2024, the community submissions were tallied and considered in the MCA calculation under the “Community Sentiment” criteria.

The community sentiment criteria are calculated as follows:

- The tally for each project is between a low score of zero to a maximum of 14
- For example, if a project received 10 submissions for support, the community sentiment score is calculated as (10/14)* 20% = 14%
- In order to benefit projects that were supported in both consultations, the higher value of the two percentages was selected
- Using this approach, no project is disadvantaged if it does not receive any support in this round of consultation.

After completing the MCA scoring process, all 112 projects have been ranked from highest to lowest priority. 11 of the projects resulted in a tied MCA score of 70 %, and therefore all 11 projects have been included in the priority project list, to ensure fairness in the assessment.

Using this approach, the top 38 projects are considered as the highest priority for development by Council and are listed in Table 11. These projects are mapped in Figure 31.

A speed limit reduction along Kilmore Road between Filmer Place and Melvin Road scored within the top 38 projects. When reviewing this speed zoning, it is recommended that speed zoning along the entire length of Kilmore Road through the township is reviewed, to provide consistency.

Table 11: Top 38 projects identified in the multi-criteria analysis

Rank	Project Type	Location / Road Name	Road Name Start	Road Name End	Community Rank	Indicative Cost
1	Shared path	Sutherlands Road	Racecourse Road	Lions Park	2	$ 600,000
2	Wombat crossing	Sutherlands Road	Station Street		22	$ 150,000
3	Wombat crossing	Station Street	Sutherlands Road		22	$ 150,000
4	Speed limit reduction from 50 km/h to 30 km/h	Stephen Street	Sutherlands Road	Hamilton Street	9	$ 10,000
5	Speed limit reduction from 50 km/h to 30 km/h	Main Activity Area	Station Street / Hamilton Street / Fitzgerald Street		9	$ 10,000
6	Shared path	Bolithos Road	Royal Parade	Kilmore Road	20	$ 1,395,000
7	P.O.S. crossing	Sutherlands Road	No. 5			$ 900,000
8	Shared path	Amess Road	Wohl Court	Sutherlands Road	13	$ 675,000
9	Shared path	Amess Road	Kilmore Road	Wohl Court	12	$ 930,000
10	Shared path	Sutherlands Road	Yellowgum Avenue	Amess Road	14	$ 1,837,500
11	Shared path	Melvins Road	Royal Parade	Mahoneys Road	21	$ 1,020,000

Rank	Project Type	Location / Road Name	Road Name Start	Road Name End	Community Rank	Indicative Cost
12	Shared path	Racecourse Road	Amess Road	Southbourne Road	29	$ 795,000
13	Shared path	Gap Road	Royal Parade	Somerville Lane	5	$ 1,500,000
14	Speed limit reduction from 50 km/h to 40 km/h	Kilmore Road	Filmer Place	Melvin Road	9	$ 10,000
15	Shared path	Gap Road	Somerville Lane	Kilmore Road	5	$ 255,000
16	Refuge crossing	Kilmore Road	Gap Road		17	$ 75,000
17	Shared path & wombat crossing	Riddells Creek Primary School car park	Riddells Creek Primary School car park		30	$ 262,500
18	Refuge crossing	Kilmore Road	Amess Road		17	$ 75,000
19	Pedestrian crossing	Sandy Creek Road	Sandy Creek Road		10	$ 15,000
20	Shared path	Sandy Creek Road	Bush Court	Kilmore Road		$ 2,100,000
21	Sharrows	Stephens Street	Sutherlands Road	Hamilton Road		$ 10,800
22	Sharrows	Hamilton Street/ Fitzgerald Street	Stephen Street	Sutherlands Road		$ 21,600
23	Regional trail	Kilmore Road	Flour Mill Lane	Riddells Creek	11	$ 825,000

Rank	Project Type	Location / Road Name	Road Name Start	Road Name End	Community Rank	Indicative Cost
24	Shared path	Mahoneys Road	No. 7	Merrifield Street	28	$ 13,500
25	Footpath	Sexton Street	No. 13	Kilmore Road	18	$ 37,500
26	Sharrows	Station Street	Kilmore Road	Stephen Street		$ 27,000
27	Pedestrian crossing	Sutherlands Road	Kilmore Road		17	$ 15,000
28	P.O.S. crossing	Main Road	Main Road		6	$ 900,000
29	Sharrows	Merrifield Street	Somerville Lane	Kilmore Road		$ 34,200
30	Footpath	Sutton Street	Somerville Lane	Mahoneys Road		$ 90,000
31	Footpath	Southbourne Road	Racecourse Road	Parkview Terrace		$ 123,000
32	Footpath	Somerville Lane	Melvins Road	Sandy Creek Road		$ 657,750
33	Refuge Crossing	Main Road	Main Road	Dromkeen Gallery		$ 75,000
34	Refuge Crossing	Main Road	Main Road			$ 75,000
35	Refuge Crossing	Main Road	Main Road			$ 75,000
36	Refuge Crossing	Main Road	Main Road	Walter J Smith Reserve		$ 75,000
37	Streetscape project	Station street	Sutherlands road	Hamilton street		$ 500,000
38	50 TO 40	Southeast of Kilmore Road	Kilmore road	Sutherlands road / amess road		$ 10,000
					Total:	**$ 16,330,350**

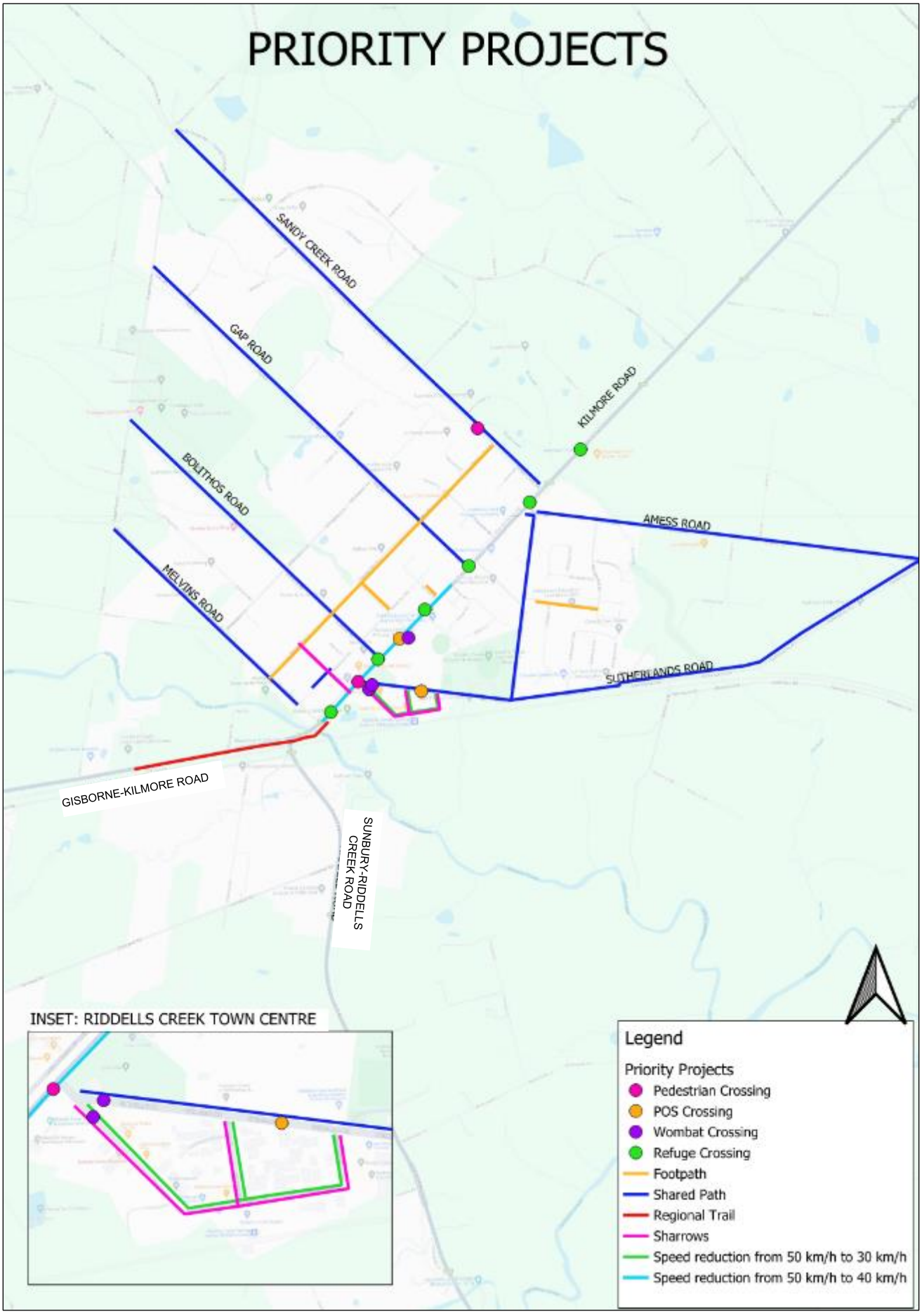


Figure 31: Priority projects identified in the multi-criteria analysis

Advocacy Projects

Several of the proposed projects are located on an arterial road which will require advocacy to the Department of Transport and Planning (DTP). These projects include:

- Pedestrian crossing projects on Kilmore Road
- Intersection upgrades along Kilmore Road
- Speed limit reduction projects.

Seven of these advocacy projects were ranked among the priority projects in the MCA, including:

- 3 refuge crossings along Kilmore Road
- 3 speed limit reduction projects in the township
- a Pedestrian Operated Signal crossing on Main Road near the primary school

These seven projects are listed in Table 12. Refer to Appendix D – Project List, for a complete list of projects and whether they require Council advocacy to DTP.

Table 12: Advocacy Projects to DTP

Rank	Project Category	Project Type	Location/Road Name	Road Name Start	Road Name End
4	Road	50 to 30	Stephen Street	Sutherlands Road	Hamilton Street
5	Road	50 to 30	Main Activity Area	Station Street / Hamilton Street / Fitzgerald Street	
14	Road	50 to 40	Kilmore Road	Filmer Place	Melvin Road
16	Walking	Refuge Crossing	Kilmore Road	Gap Road	
18	Walking	Refuge Crossing	Kilmore Road	Amess Road	
27	Walking	Refuge Crossing	Kilmore Road Near Station Street	Kilmore Road	
28	Walking	P.O.S. Crossing	Main Road Near Riddells Creek Primary School	Main Road	

Acknowledgements

Riddells Creek Community Planning Group

MRSC Councillors

MRSC Team

Trafficworks

Appendix A – Input Documents and Maps

Table 13: Inputs to the Riddells Creek Movement Network

Input Document	Description	Input to the aspirational Movement Network
Riddells Creek Structure Plan 2013	Provides the long-term vision for the future development of Riddells Creek until 2036, including: • Character and role of the town centre • Residential development and housing choice • Employment, commercial, and industrial development • Open space, natural systems, and heritage features • Utilities and infrastructure • Environmental sustainability The Structure Plan include maps designating areas of the township as an open space corridor, priority residential development areas, and areas with residential infill potential (refer to *Figure 32* and *Figure 33* in this appendix).	• Areas characterised as higher density or with infill potential were prioritised when determining priority walking & cycling routes. • Access to commercial land, the train station, and the primary school were prioritised in the aspirational Movement Network. • The notional future pedestrian/cycling routes were included in the aspirational Network Plan. • Open space corridors were identified as future potential recreational walking/cycling routes.

Input Document	Description	Input to the aspirational Movement Network
Amess Road Precinct Structure Plan	Land use and infrastructure plan for the development of the Amess Road area in the north-east of the Riddells Creek township, including: • Preferred location for residential land, open spaces, and community hub • Guidelines for transport, parking, and urban design	• Walking and cycling routes in the Amess Road PSP area were included in the aspirational Movement Network. • Population growth in the Amess Road PSP area and the resulting increased demand on the road network were considered when classifying roads and identifying projects.
Riddells Creek Town Centre Opportunities Summary Paper	This document, prepared as part of the development of the Amess Road Precinct Structure Plan, identifies opportunities to improve the town centre as the community grows and changes over the coming years. This document identifies where resources could be invested in the town centre, particularly infrastructure or streetscape upgrades that can be implemented by Council. Refer to: • *Figure 34* in this appendix • *Figure 35* in this appendix • *Figure 36* in this appendix	• The Walking and Cycling opportunities, township arrival and streetscape opportunities are included in the aspirational Movement Network Plan.

Input Document	Description	Input to the aspirational Movement Network
Macedon Ranges Walking and Cycling Strategy 2014	Provides Council with a strategic plan to increase participation in, and improve the supportive infrastructure for, walking and cycling in the Shire. Includes descriptions of different walking and cycling route types, and maps showing pedestrian and cycling networks (refer to *Figure 41* and *Figure 38* in this appendix).	• Council's primary pedestrian and cycling network in Riddells Creek was included in the aspirational Movement Network. • Council definitions of different walking/cycling routes were used to match street types to walking/cycling route types. • Council standards for walking and cycling path infrastructure were used to identify projects (for example, upgrading footpaths that do not meet Council's minimum standards).
Macedon Ranges Shire 'Participate' Positive Aging Strategy 2020	Provides an action plan for Council to support older residents in the Shire, which was heavily informed by a survey of older Shire residents. Transport was the second most commented-on concern in the survey (after health).	• Feedback from older residents informed the development of the aspirational Movement Network and the identification and prioritisation of projects. Common suggestions included: ○ Improving/extending footpaths, to increase accessibility and opportunities for exercise.

Input Document	Description	Input to the aspirational Movement Network
		○ Reducing speed limits, including introducing 40 km/h speed limits within towns, to improve safety. ○ Expanding the GisBus service so that it services all towns, to improve accessibility.
Macedon Ranges Shire Disability Action Plan 2021-2025	Guides Council decision-making on disability inclusion, accessible and inclusive Council services, programs, events, and partnership approaches.	• Actions from the Action Plan that relate to the aspirational Movement Network include: ○ Continue to improve continuous accessible paths of travel to key destinations, through the funding of the Footpath Construction Program. ○ Maintain open spaces and parks that can be used by all members of the community.
Macedon Ranges Shared Trail Stage 3	A plan for a shared trail along Markham Road	• The shared trail along Markham Road has been included as part of the regional cycling trail network.

Input Document	Description	Input to the aspirational Movement Network
Macedon Ranges Shire-wide Footpath Plan	Contains plans showing the location and priority of footpaths in towns in the Shire, including in Riddells Creek (refer to Figure 39 in this appendix)	• Council's footpath plan for Riddells Creek informed the creation of the aspirational Walking Network.
Movement and Place in Victoria	Describes the Movement and Place framework used for street design in Victoria. This includes a four-module framework used for planning transport networks, and classifications of different types of streets based on their significance as a destination ('place' function) and their importance as a transport corridor ('movement' function).	• The methodology for creating the aspirational Movement Network was based on the four-part Movement and Place framework. • Movement and Place classifications for Riddells Creek informed the classification of streets within the township. • Streets were classified into street types described in the Urban Road and Street Design Guide. These classifications were used to identify appropriate treatments and identify projects for the Council.
Riddells Creek Movement and Network Plan Community Consultation Report	Describes the result of a face-to-face workshop and online survey of Riddells Creek residents. The 4 key themes were: • Maintenance and improvement of sealed and unsealed roads	• Residents' comments helped to identify and prioritise programs in the aspirational Movement Network. Common suggestions included:

Input Document	Description	Input to the aspirational Movement Network
	• Improvements along the main road strategic corridor, including to car parking and pedestrian connectivity. • Intersection analysis to inform future capital works programs. • Pedestrian connectivity, including formal crossing improvements.	○ Maintaining the rural character of the township, and preventing overdevelopment ○ A 40 km/h speed zone on Main Road ○ More footpaths and pedestrian crossings ○ More parking, including disabled parking, in the town centre. ○ Improved safety around schools, including a pedestrian crossing treatment on Main Road. ○ Improved intersections, including adding turning lanes and restricted turning movement to the busier intersections.

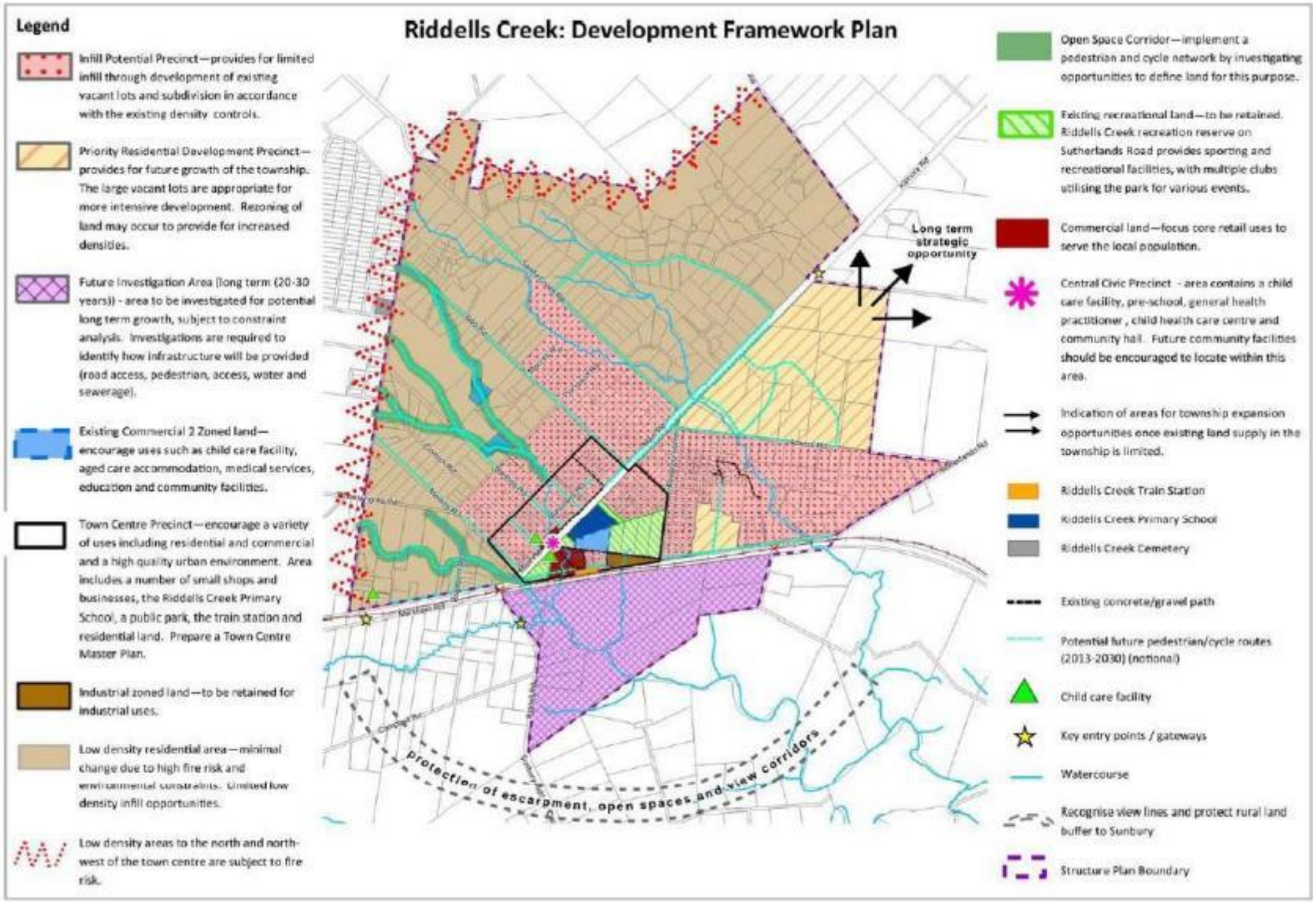


Figure 32: Riddells Creek Development Framework Plan

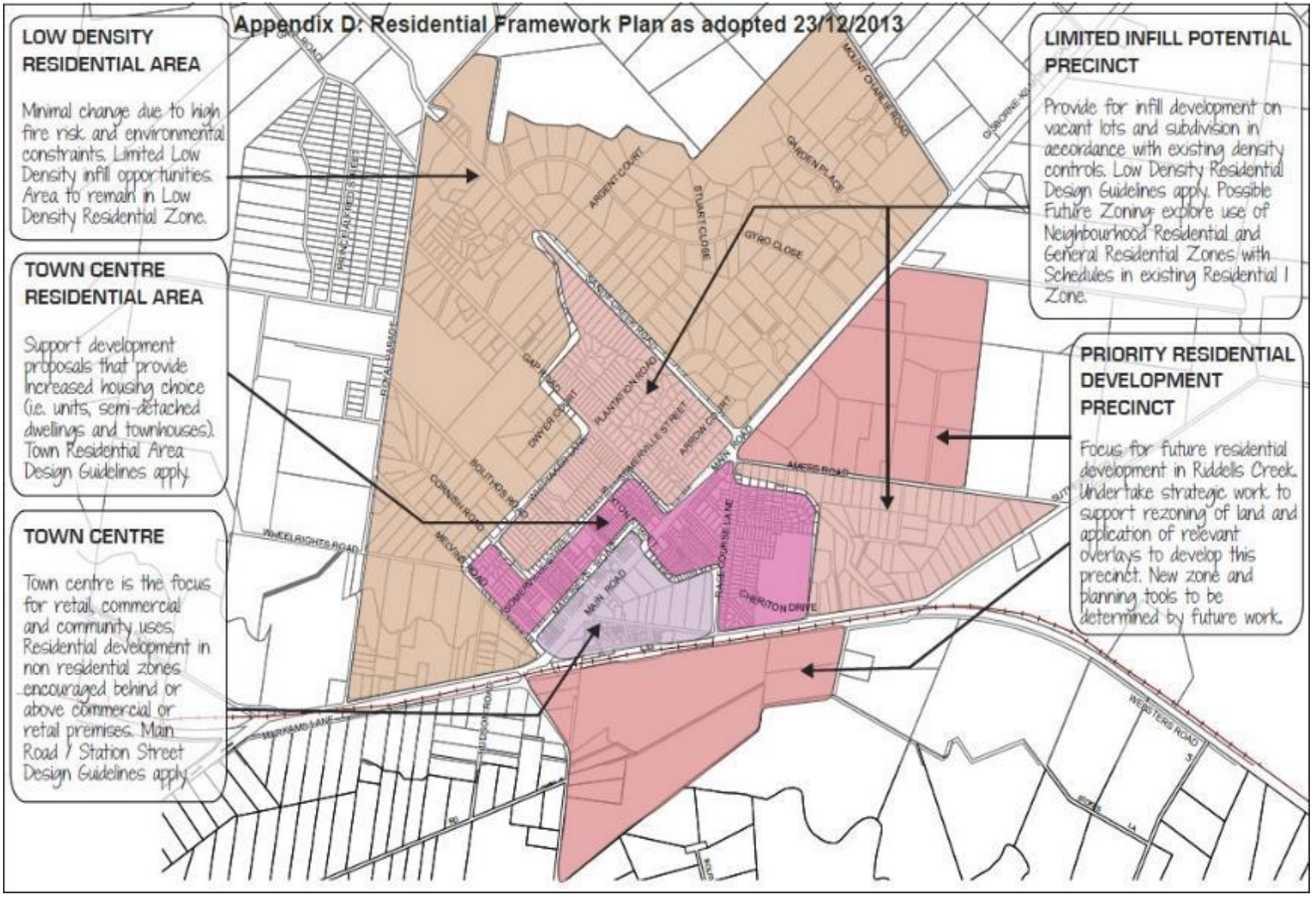


Figure 33: Riddells Creek Residential Framework Plan

Figure 5 Township Arrival & Streetscape Improvement Opportunities

- 1A 1B Kilmore Road Arrival Experience
- 2 Riddells Creek
- 3A 3B Heritage Rail Bridge
- 4 WJ Smith Reserve
- 5 Proposed Signalised Intersection
- 6 Riddles Creek Primary School
- 7 Drainage Corridor
- 8 Lions Park
- 9 Riddells Creek Train Station
- 10 Riddells Creek Hotel
- 11 Stephen Street On Street Dining

Figure 34: Riddells Creek Town Centre Opportunities Summary Paper - Township Arrival and Streetscape Opportunities

Figure 6 Proposed Walking and Cycling Links

Existing Footpath

Proposed Footpath/Shared Path

Potential Links in the case of Future Development

1. New section of footpath linking the Train Station (platform) to Station Street
2. New section of shared path through the WJ Smith Reserve
3. Improved shared path treatment along northern side of Sutherland Road
4. Improved shared path treatment along the eastern side of Kilmore Road
5. Improved shared path treatment along the eastern side of Racecourse Road
6. Potential local access link between the Primary School and Recreation Reserve
7. Potential for mid block link (in the case of any future development)
8. Potential extension to Hamilton Street (in the case of any future development)

Figure 35: Riddells Creek Town Centre Opportunities Summary Paper - Proposed Walking and Cycling Links

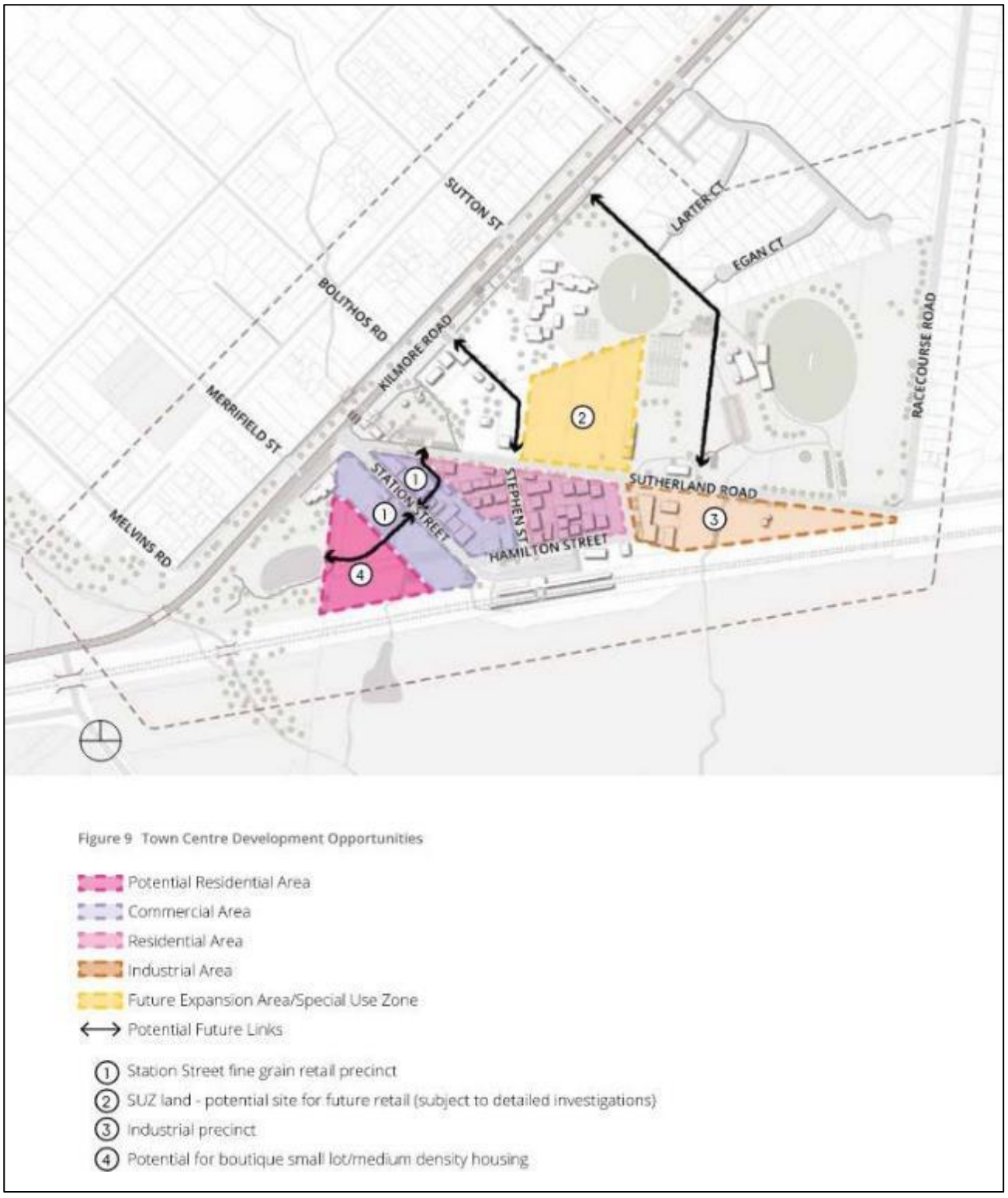


Figure 36: Riddells Creek Town Centre Development Opportunities

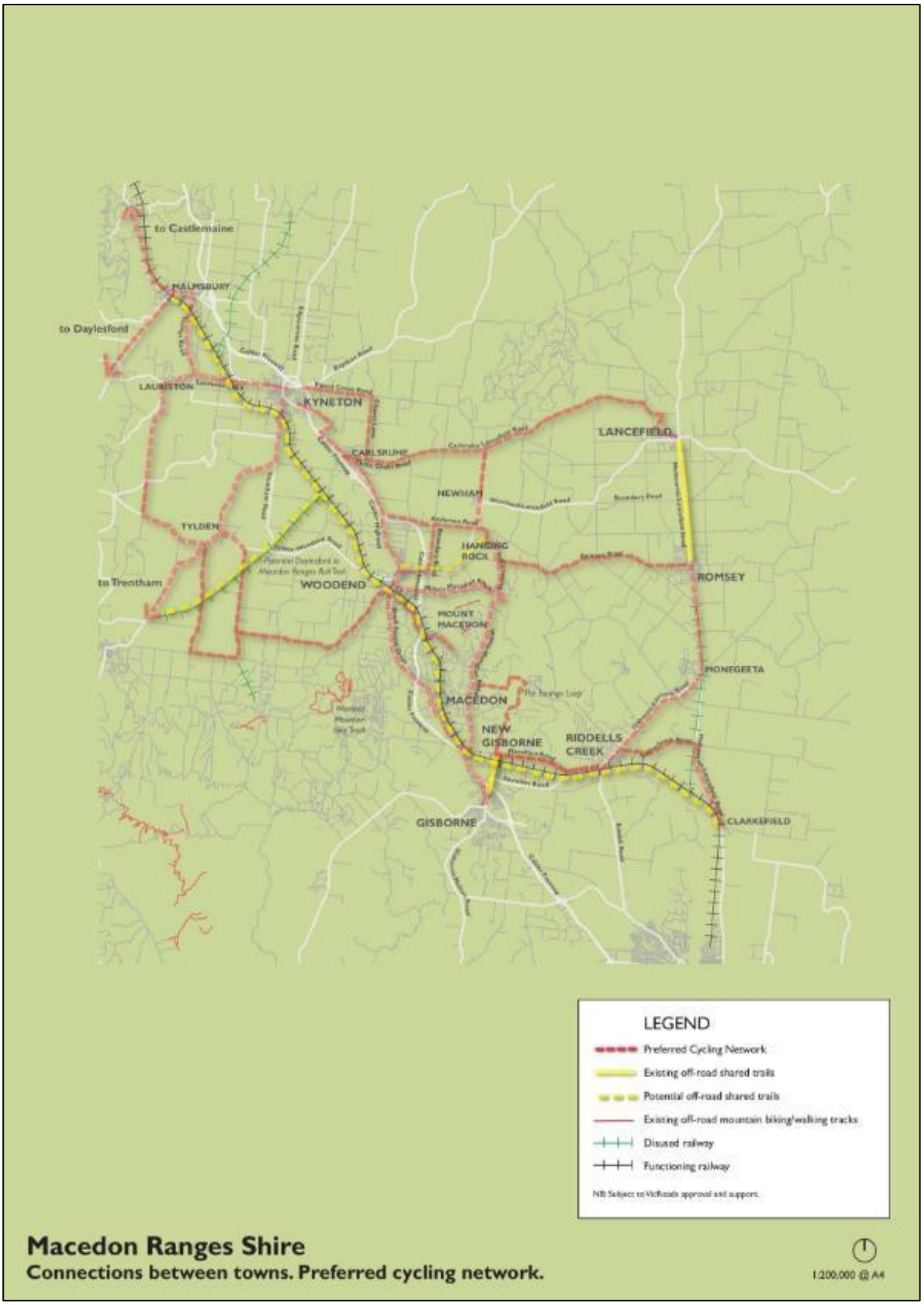


Figure 37: Macedon Ranges Shire preferred cycling network between towns

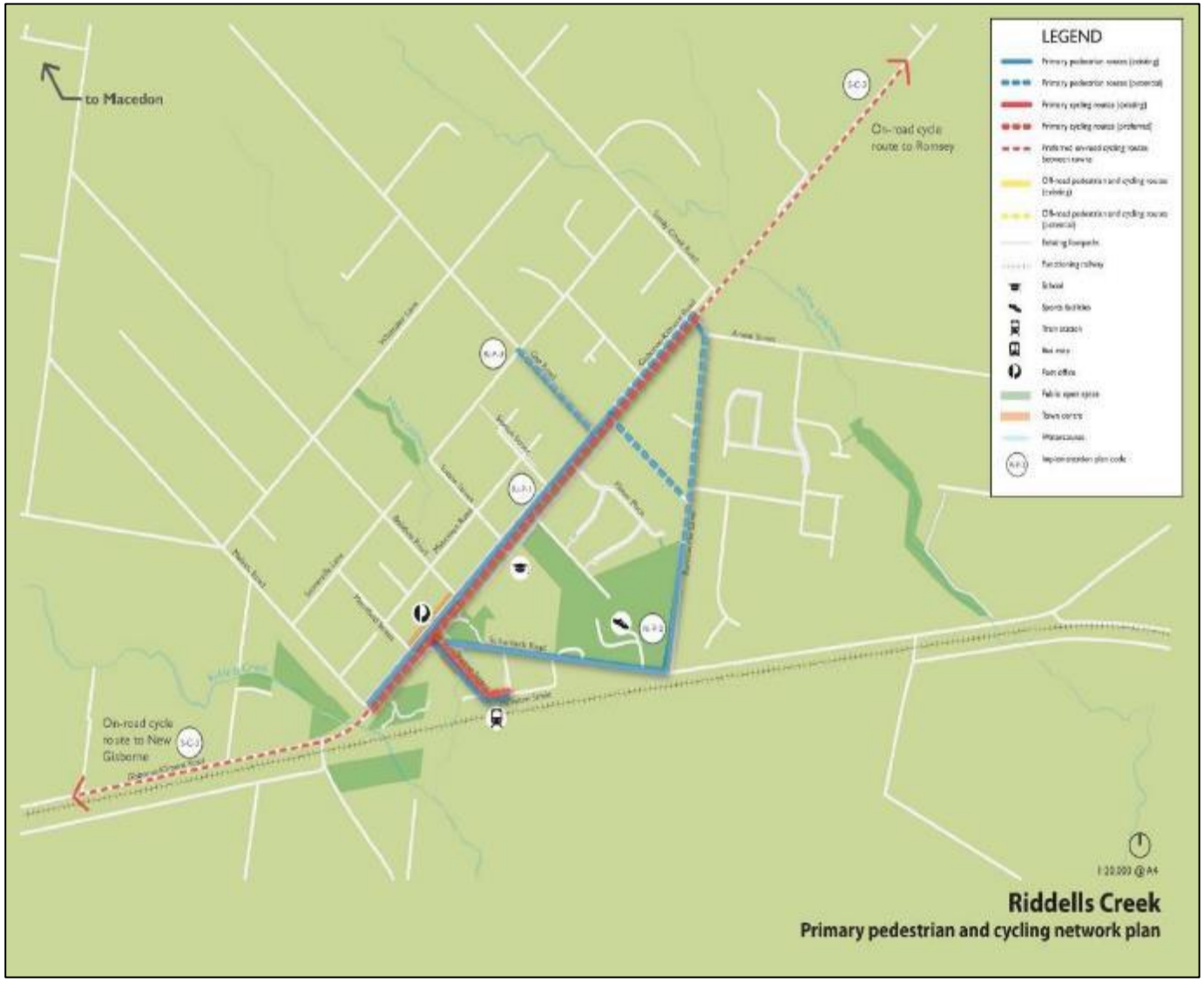


Figure 38: Riddells Creek Primary Pedestrian and Cycling Network Plan

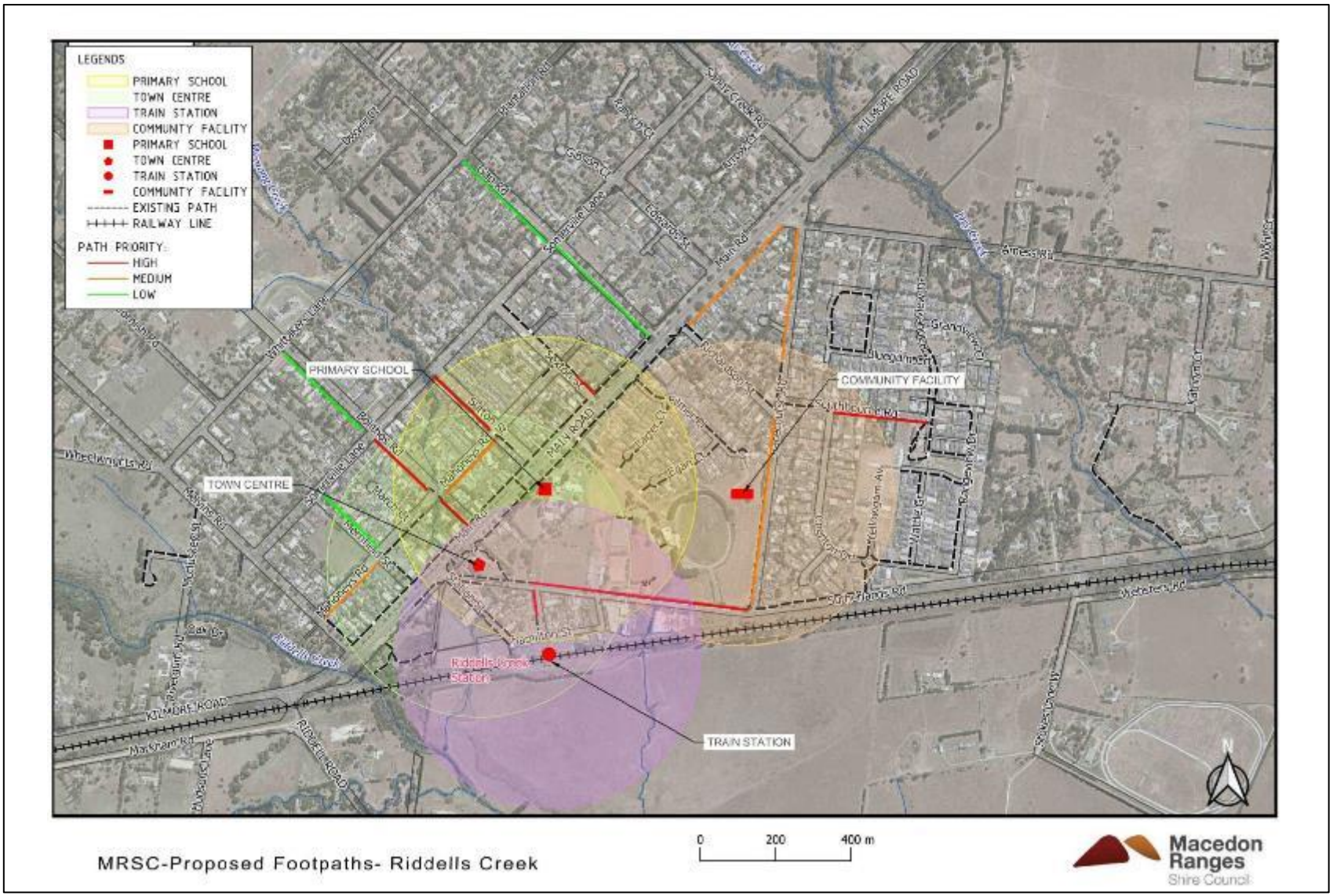


Figure 39: Macedon Ranges Shire Proposed Footpaths (Macedon Ranges Shire Council Shire Wide Footpath Plan, 2023)

Appendix B – Movement and Place Classifications within Riddells Creek

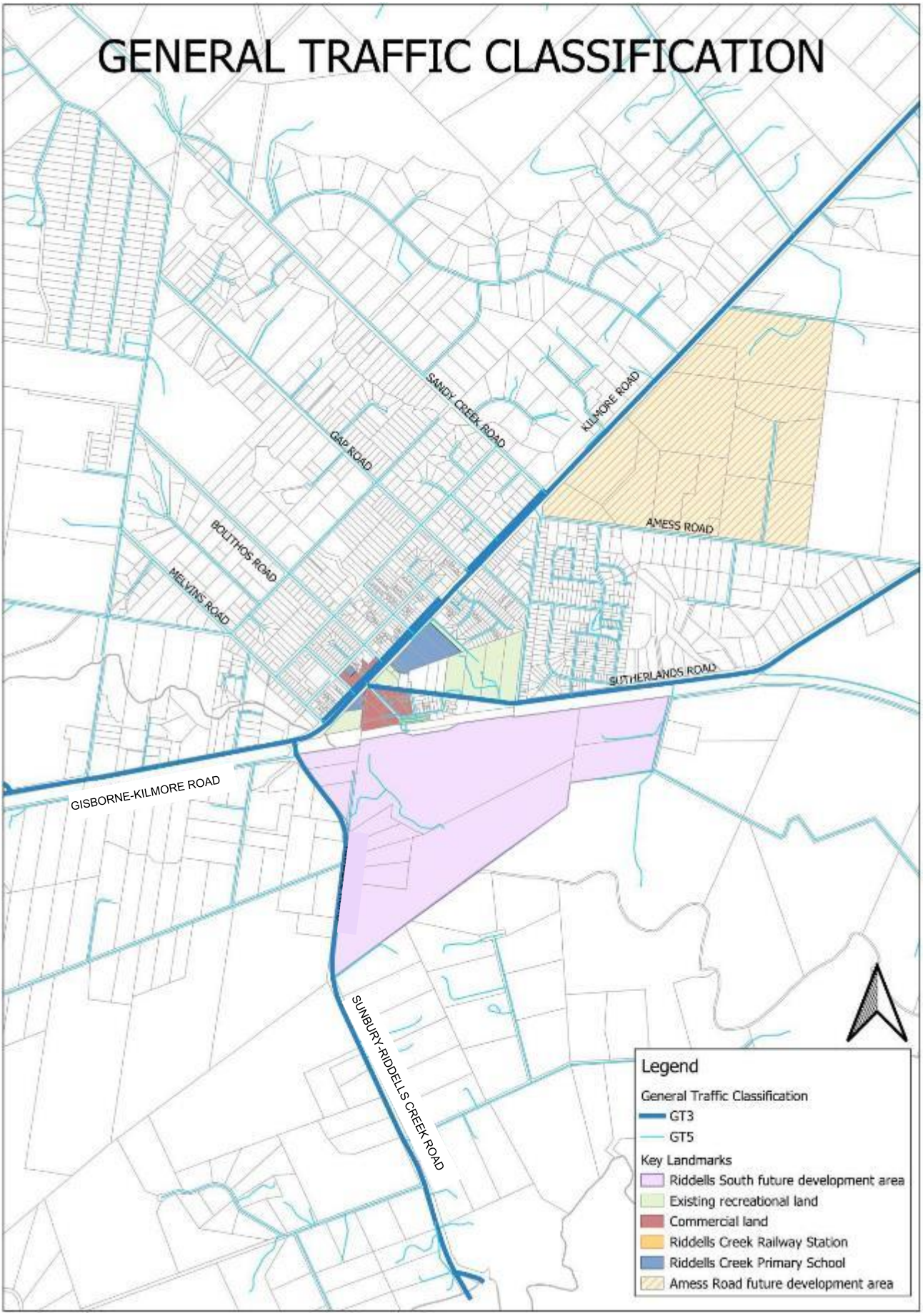


Figure 40: General traffic classifications within Riddells Creek

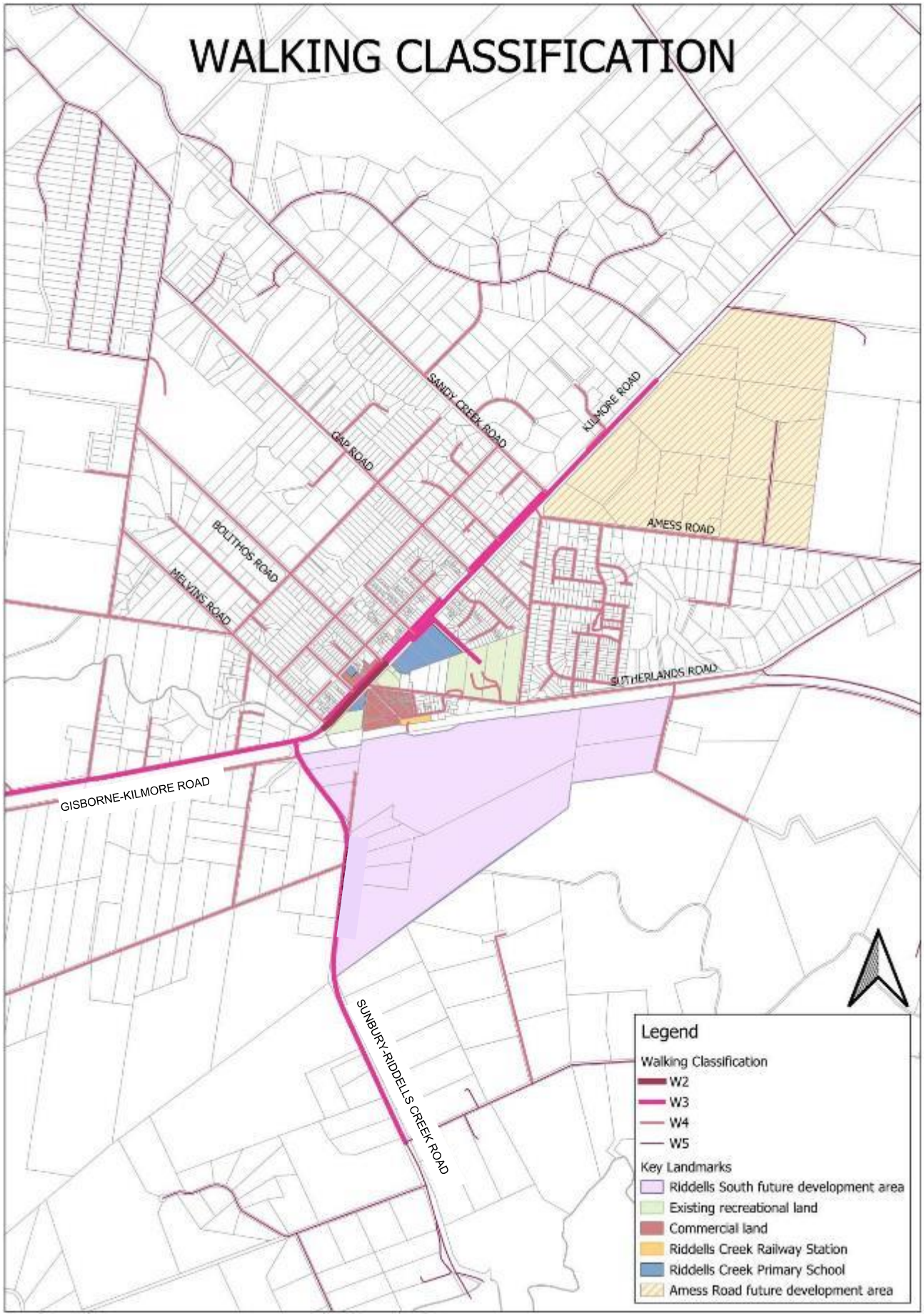


Figure 41: Walking classifications within Riddells Creek

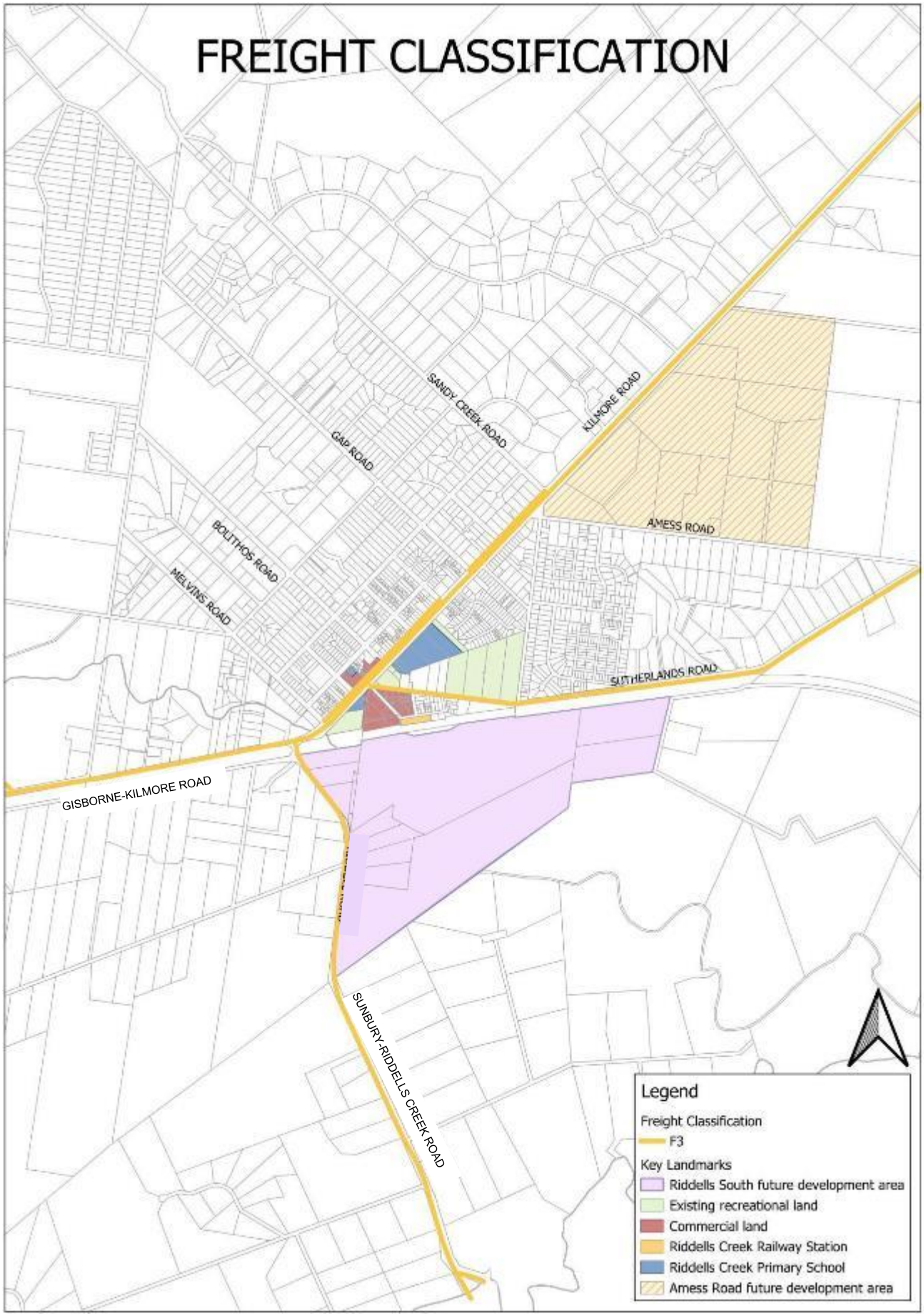


Figure 42: Freight classifications in Riddells Creek

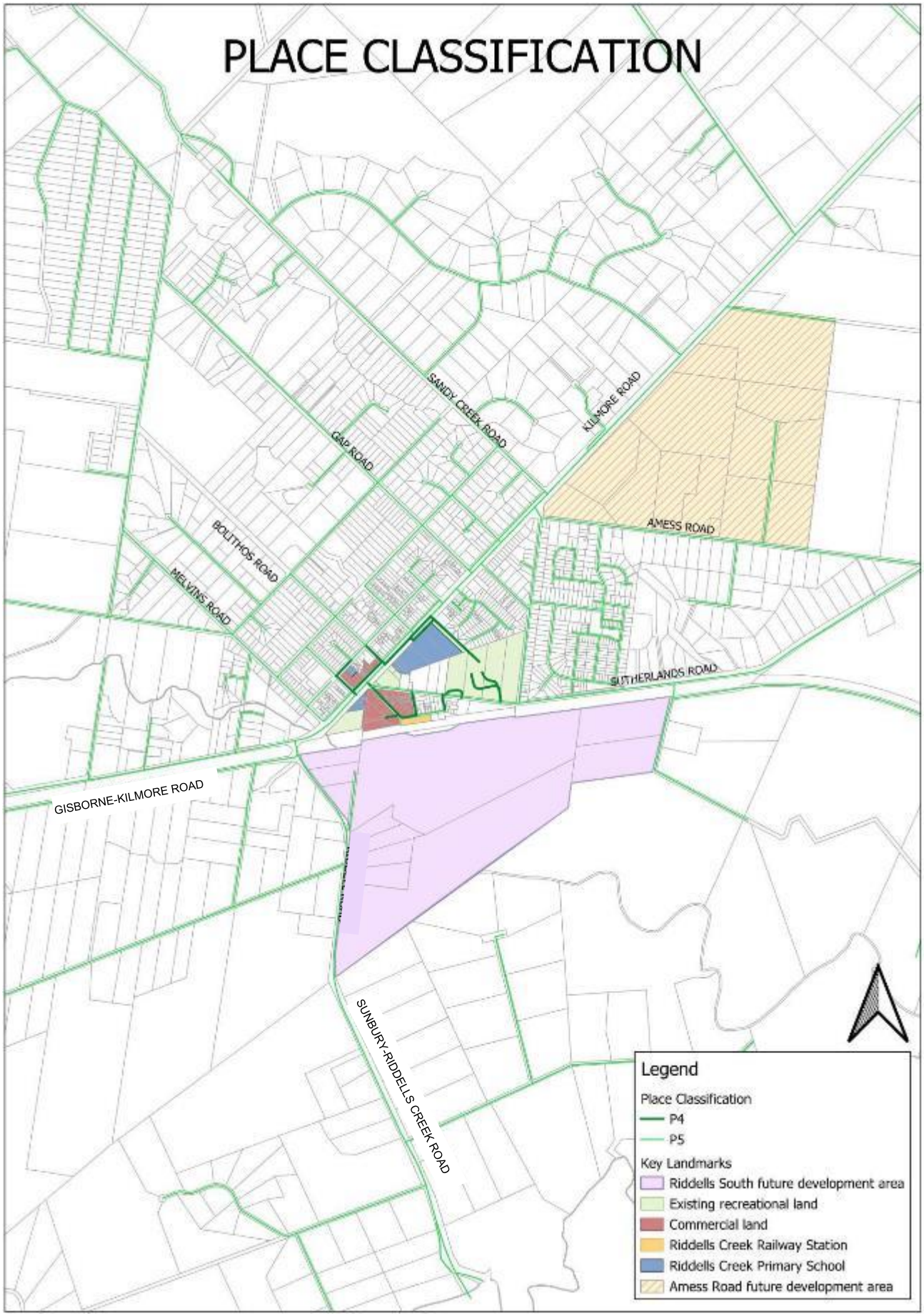


Figure 43: Place classifications in Riddells Creek

Appendix C – Pedestrian and Cycling Project Design Parameters

Table 14: Pedestrian project descriptions

Project	Description	Design Parameters	Example Photo
Footpath	A sealed path for pedestrians to walk along	• Minimum 1.5 m width • For commercial areas, as wide as possible • Parm ramps to connect to the road	
Shared Path	A sealed path that is shared between pedestrians and cyclists. Shared paths are wider, and cater for higher speeds, than a footpath.	• Minimum 2.5 m width • Desirable 3 m width • Design speed 20 km/h	
Recreational Shared Path	A sealed or unsealed path is used by pedestrians and cyclists for leisure. They often prioritise scenery over a direct route. Peak usage on these paths typically occurs on weekends.	• Minimum 2.5 m width • Desirable 3 – 4 m width	

Project	Description	Design Parameters	Example Photo
Regional Trail	A trail used by pedestrians and cyclists to travel between regional towns or points of interest.	• Minimum 2.5 m width • Desirable 3 m width	
Wombat Crossing	A raised pedestrian crossing provides priority to pedestrians crossing the road and encourages motorists to slow down when approaching the crossing. Appropriate in the following locations: • where there is a need to reduce vehicle speeds at pedestrian crossings • on two-lane streets • at mid-block locations, especially near schools • on streets with low speed (less than 60 km/h) and low-traffic environments • where there is adequate street lighting to maximise visibility.	• Profile of hump to consider types of vehicles • Desirable width of 3.6 m • Minimum width of 3 m	

Project	Description	Design Parameters	Example Photo
Refuge Crossing	A section of pavement in the middle of a road where pedestrians can stop before finishing crossing the road.	• Desirable width of 3 m • Minimum width of 2 m	
Pedestrian Operated Signals (POS) Crossing	A street crossing with traffic lights activates a red light for motorists when a pedestrian pushes a button.	• Minimum 2.5 m width, or 3 m for shared path crossings • Appropriate for roads with high volumes of traffic and locations with high volumes of pedestrians	
New Footbridge	A bridge that provides pedestrians and cyclists with safe access over a road or railway line.	• Minimum 3 m width • Desirable 5 m width • Ramps to be provided	

Table 15: Cycling project descriptions

Project	Description	Design Parameters	Example Photo
Sharrows	Markings that indicate a road is a shared environment for bicycles and cars and alert all road users to the presence of bicycles on the road.	• Wayfinding signage • Sharrow line marking • Traffic calming	
Shared Path (within road reserve)	A sealed path that is shared between pedestrians and cyclists. Shared paths are wider, and cater for higher speeds, than a footpath.	• Minimum 2.5 m width • Desirable 3 – 4 m width • Design speed 20 km/h	
Recreational Shared Path	A sealed or unsealed path is used by pedestrians and cyclists for leisure. They often prioritise scenery over a direct route. Peaks on these paths typically occur on weekends.	• Minimum 2.5 m width • Desirable 3 m width • Design speed 10 – 15 km/h	

Project	Description	Design Parameters	Example Photo
Regional Trail	A trail used by pedestrians and cyclists to travel between regional towns or points of interest.	• Minimum 2.5 m width • Desirable 3 m width	

Appendix D – Project List

No.	MCA Rank	Project Category	Project Type	Location / Road Name	Road Name Start	Road Name End	Community Rank	Requires DTP Approval
1	32	Walking	Footpath	Somerville Lane	Melvins Road	Sandy Creek Road	15	No
2	41	Walking	Footpath	Merrifield Street	Somerville Lane	Mahoneys Road	23	No
3	90	Walking	Footpath	Royal Parade	Melvins Road	Wheelwrights Road		No
4	31	Walking	Footpath	Southbourne Road	Racecourse Road	Parkview Terrace	3	No
5	61	Walking	Footpath	Hamilton Street / Fitzgerald Street	Stephen Street	Sutherlands Road		No
6	42	Walking	Footpath	Stephens Street	Sutherlands Road	Hamilton Road		No
7	84	Walking	Footpath	Mahoneys Road	Melvins Road	No. 7		No
8	95	Walking	Footpath	Richardson Street	Kilmore Road	Racecourse Road		No
9	60	Walking	Footpath	Main Road Service Road	Sexton Street	Sandy Creek Road	8	No
10	94	Walking	Footpath	Rangeview Drive	Amess Road	Grandview Close		No
11	25	Walking	Footpath	Sexton Street	No. 13	Kilmore Road	18	No
12	91	Walking	Footpath	Whittakers Lane	Melvins Road	Sandy Creek Road		No
13	83	Walking	Footpath	Parkview Drive	Parkview Terrace Park	Parkview Terrace Park		No
14	89	Walking	Footpath	Parkview Terrace Park	Parkview Terrace Park	Parkview Terrace Park		No
15	65	Walking	Footpath	Edwards Street	Somerville Lane	Kilmore Road		No
16	67	Walking	Footpath	Station Street	No. 11	Bus Stop		No
17	89	Walking	Footpath	Mahoneys Road	Bolithos Road	Sexton Street	24	No
18	82	Walking	Footpath	Cutevan Crescent	Sandy Creek Road	Gyro Close		No
19	30	Walking	Footpath	Sutton Street	Somerville Lane	Mahoneys Road	25	No
20	81	Walking	Footpath	Wheelwrights Road	Royal Parade	Melvins Road		No
21	86	Walking	Footpath link	Unnamed	Station Street	Riddells Creek Station		No
22	92	Walking	Footpath link	Unnamed	Fire Brigade	Sutherlands Road		No

No.	MCA Rank	Project Category	Project Type	Location / Road Name	Road Name Start	Road Name End	Community Rank	Requires DTP Approval
23	49	Walking	Footpath link	Unnamed	Kilmore Road	Sutherlands Road		No
24	23	Cycling	Regional trail	Kilmore Road	Flour Mill Lane	Riddells Creek	11	No
25	97	Cycling	Regional trail	Kilmore Road	Mullalys Road	Gyro Close		No
26	99	Cycling	Regional trail	Kilmore Road	Hamilton Road	Flour Mill Lane		No
27	104	Cycling	Regional trail	Riddell Road	Kilmore Road	No. 1265		No
28	39	Walking	Shared path	Kilmore Road	Amess Road	Richardson Street	8	No
29	46	Walking	Shared path	Unnamed Road	Sandy Creek Road	Gyro Close	16	No
30	20	Walking	Shared path	Sandy Creek Road	Bush Court	Kilmore Road	27	No
31	103	Walking	Shared path	Kilmore Road	Gyro Close	Amess Road		No
32	13	Walking	Shared path	Gap Road	Royal Parade	Somerville Lane	5	No
33	6	Walking	Shared path	Bolithos Road	Royal Parade	Kilmore Road	20	No
34	12	Walking	Shared path	Racecourse Road	Amess Road	Southbourne Road	29	No
35	9	Walking	Shared path	Amess Road	Kilmore Road	Wohl Court	12	No
36	15	Walking	Shared path	Gap Road	Somerville Lane	Kilmore Road	5	No
37	11	Walking	Shared path	Melvins Road	Royal Parade	Mahoneys Road	21	No
38	24	Walking	Shared path	Mahoneys Road	No. 7	Merrifield Street	28	No
39	80	Walking	Shared path	Mahoneys Road	No. 33	Bolithos Road		No
40	45	Walking	Shared path	Gyro Close	Unnamed Road	Kilmore Road		No
41	44	Walking	Shared path	Gyro Close	Sandy Creek Road	Unnamed Road		No
42	43	Walking	Shared path	Gap Road	Sandy Creek Road	Royal Parade		No
43	8	Walking	Shared path	Amess Road	Wohl Court	Sutherlands Road	13	No
44	10	Walking	Shared path	Sutherlands Road	Yellowgum Avenue	Amess Road	14	No

No.	MCA Rank	Project Category	Project Type	Location / Road Name	Road Name Start	Road Name End	Community Rank	Requires DTP Approval
45	58	Walking	Shared path	Royal Parade	Gap Road	Melvins Road		No
46	26	Cycling	Sharrows	Station Street	Kilmore Road	Stephen Street		No
47	64	Cycling	Sharrows	Parkview Drive	Rangeview Drive	No. 9		No
48	79	Cycling	Sharrows	Whittakers Lane	Melvins Road	Gap Road		No
49	78	Cycling	Sharrows	Somerville Lane	Melvins Road	No. 33		No
50	77	Cycling	Sharrows	Rangeview Drive	Amess Road	Parkview Terrace		No
51	88	Cycling	Sharrows	Richardson Street	Kilmore Road	Racecourse Road		No
52	76	Cycling	Sharrows	Cutevan Crescent	Sandy Creek Road	Gyro Close		No
53	100	Cycling	Sharrows	Mahoneys Road	Melvins Road	No. 7		No
54	29	Cycling	Sharrows	Merrifield Street	Somerville Lane	Kilmore road		No
55	57	Cycling	Sharrows	Edwards Street	Somerville Lane	Kilmore Road		No
56	75	Cycling	Sharrows	Williams Lane	No. 52	Kilmore Road		No
57	74	Cycling	Sharrows	Wheelwrights Road	Royal Parade	Melvins Road		No
58	22	Cycling	Sharrows	Hamilton Street / Fitzgerald Street	Stephen Street	Sutherlands Road		No
59	51	Cycling	Sharrows	Parkview Terrace Park	Parkview Terrace Park	Parkview Terrace Park		No
60	73	Cycling	Sharrows	Wattle Grove / Cheriton Drive / Yellowgum Avenue	Yellowgum Avenue	Sutherlands Road		No
61	56	Cycling	Sharrows	Mahoneys Road	Bolithos Road	Sexton Street		No
62	55	Cycling	Sharrows	Mahoneys Road	Merrifield Street	No. 3		No
63	72	Cycling	Sharrows	Somerville Lane	Sutton Street	Sandy Creek Road		No
64	71	Cycling	Sharrows	Somerville Lane	Somerville Lane	Sutton Street		No
65	70	Cycling	Sharrows	Whittakers Lane	Plantation Road	Sandy Creek Road		No
66	69	Cycling	Sharrows	Royal Parade	Melvins Road	Wheelwrights Road		No

No.	MCA Rank	Project Category	Project Type	Location / Road Name	Road Name Start	Road Name End	Community Rank	Requires DTP Approval
67	21	Cycling	Sharrows	Stephens Street	Sutherlands Road	Hamilton Road		No
68	68	Cycling	Sharrows	Sexton Road	Mahoneys Road	Kilmore Road		No
69	48	Road	100 to 70	Kilmore Road	Frost Lane	190 m North of Sandy Creek Road		Yes
70	40	Road	70 to 60	Kilmore Road	190 m north of Sandy Creek Road	Filmer Place		Yes
71	14	Road	50 to 40	Kilmore Road	Filmer Place	Melvin Road	9	Yes
72	50	Road	50 to 40	Northwest of Kilmore Road	Melvins Road / Whittakers Lane / Sandy Creek Road	Kilmore Road		Yes
73	38	Road	50 to 40	Southeast of Kilmore Road	Kilmore Road	Sutherlands Road / Amess Road		Yes
74	5	Road	50 to 30	Main Activity Area	Station Street / Hamilton Street / Fitzgerald Street		9	Yes
75	4	Road	50 to 30	Stephen Street	Sutherlands Road	Hamilton Street	9	Yes
76	37	Road	50 to 40	Northwest of Kilmore Road	Melvins Road / Whittakers Lane / Sandy Creek Road	Kilmore Road		No
77	93	Road	Roundabout	Main Road	Riddell Road			Yes
78	87	Road	Roundabout	Kilmore Road	Gyro Court			Yes
79	85	Road	Roundabout	Kilmore Road	Sandy Creek Road			Yes
80	66	Road	Reverse priority intersection	Sutherlands Road	Station Street			No
81	102	Road	Turn lanes	Kilmore Road	Raws Lane			Yes
82	111	Road	Turn lanes	Kilmore Road	Hamilton Road			Yes
83	54	Road	Signalised intersection	Kilmore Road	Station Street			Yes
84	3	Walking	Wombat crossing	Station Street	Sutherlands Road		22	No
85	2	Walking	Wombat crossing	Sutherlands Road	Station Street		22	No
86	53	Walking	Wombat crossing	Whittakers Lane	No. 63			No

No.	MCA Rank	Project Category	Project Type	Location / Road Name	Road Name Start	Road Name End	Community Rank	Requires DTP Approval
87	112	Walking	Bridge crossing	Sutherlands Road	Racecourse Road			No
88	7	Walking	P.O.S. crossing	Sutherlands Road	No. 5			No
89	18	Walking	Refuge crossing	Kilmore Road	Amess Road		17	Yes
90	16	Walking	Refuge crossing	Kilmore Road	Gap Road		17	Yes
91	105	Walking	Recreational shared path	Sandy Creek	Gap Road	Amess Road		No
92	110	Walking	Recreational shared path	Riddell Creek main drain	Gap Road	Somerville Lane		No
93	109	Walking	Recreational shared path	Riddell Creek main drain	Gap Road	Somerville Lane		No
94	108	Walking	Recreational shared path	Treetops main drain	Gap Road	Whittakers Lane		No
95	107	Walking	Recreational shared path	Between Melvins Road and Bolithos Road	Royal Parade	Bolithos Road		No
96	101	Walking	Recreational shared path	Riddell Creek	Williams Lane	Station Street		No
97	106	Walking	Recreational shared path	Riddell Creek Main Drive	Wheelwrights Road	Riddells Creek		No
98	96	Walking	Pedestrian bridge	Riddells Creek Near Walter J Smith Reserve	Riddells Creek		1	No
99	1	Walking	Shared path	Sutherlands Road	Racecourse Road	Station Street	2	No
100	52	Walking	Pedestrian bridge	Dry Creek near Kilmore Road	Dry Creek		4	No
101	28	Walking	P.O.S. crossing	Main Road near Riddells Creek Primary School	Main Road		6	Yes
102	62	Walking	Pedestrian bridge	Riddells Creek main drain	Somerville Lane	Sutton Street	7	No
103	63	Speed reduction	80 to 60	Kilmore Road	Kilmore Road	Main Road		Yes

No.	MCA Rank	Project Category	Project Type	Location / Road Name	Road Name Start	Road Name End	Community Rank	Requires DTP Approval
104	19	Walking	Pedestrian crossing	Sandy Creek Road near Sandy Creek	Sandy Creek Road		10	No
105	36	Walking	Refuge crossing	Main Road near Walter J Smith Reserve	Main Road		17	Yes
106	35	Walking	Refuge crossing	Across Main Road, immediately northeast of Bolithos Road	Main Road			Yes
107	34	Walking	Refuge crossing	Across Main Road, near the Riddells Creek War Memorial	Main Road			Yes
108	33	Walking	Refuge crossing	Across Main Road, near the Dromkeen Gallery driveway	Main Road			Yes
109	98	Walking	Shared path	Along Riddells Creek from Williams Lane to Kilmore Road	Riddells Creek			No
110	28	Walking	Pedestrian crossing	Main Road immediately southwest of Station Street	Main Road			Yes
111	47	Walking	Shared path	Along Dry Creek from Amess Road to Sutherlands Road	Dry Creek			No
112	18	Walking	Shared path and wombat crossing	Riddells Creek Primary School crossing				No

Appendix E – Multi-Criteria Analysis

Key Assessment Criteria	Criteria Weighting	Key Performance Indicators (KPIs)	KPI Individual Weighting	KPI Weighting Guide	Score 0	Score 1	Score 2	Score 3	Score 4	Score 5	Source Data
Feasibility	25%	Arterial roads/rail corridors / non-Council land	10%	Council will have less influence on change in non-Council land.	n/a	Requires approval from external authorities	n/a	n/a	n/a	Within Council land	QGIS - overlays for arterial roads (DTP), VicTrack, and Greater Western Water
		Environmental and cultural impacts	5%	Will the project have an impact on flora & fauna, and cultural heritage, or require the removal of trees?	n/a	Major	n/a	Moderate	n/a	Minor	
		Significant infrastructure	10%	Is major infrastructure required? Removal of existing or new infrastructure.	n/a	Major	n/a	Moderate	n/a	Minor	Major for footbridge, signalised pedestrian crossing, shared paths along creeks requiring significant earthworks) Shared path - moderate
Connectivity	15%	Proximity to essential services	15%	Is the project near key destinations such as schools, childcare centres, etc? Is the project within the town centre?	n/a	No	n/a	Provides connectivity	n/a	Close proximity	QGIS - destination layers
Safety	20%	Road safety	20%	Does the project improve safety for all road users?	Greatly reduces safety	Reduces road safety	Neutral	slightly improves safety	Improves road safety (Safe System aligned treatments)	Significantly improves safety (Safe System aligned treatments)	desktop assessment. This will be a comparison between the existing and the proposed safety conditions, and will consider: • traffic volumes • speed • presence of vulnerable road users • heavy vehicles • other road characteristics
Movement and Place	10%	Alignment with Movement and Place aspirations	10%	Does the project align with M&P aspirations? Will the project address a M&P performance gap?	Strongly goes against M&P objectives.	n/a	n/a	Neutral	Aligns with M&P objectives. Addresses a gap.	Strongly aligns with M&P objectives. Addresses a large gap.	

Key Assessment Criteria	Criteria Weighting	Key Performance Indicators (KPIs)	KPI Individual Weighting	KPI Weighting Guide	Score 0	Score 1	Score 2	Score 3	Score 4	Score 5	Source Data
Alignment with local strategy and policy	10%	Aligns with relevant Council strategy	5%	How well does the project align with Council strategy?	Strongly goes against strategic objectives	Goes against strategic objectives	Does not support strategic objectives	Neutral	Generally, aligns with strategic objectives	Aligns strongly with strategic objectives	QGIS - walking and cycling layers is it within the Amess Road development
		Social and economic benefits	2%	Does delivering active transport improvements provide added community benefits? is this a tourism, local businesses, school routes, shopping routes or training routes? Does it provide activation and renewal opportunities?	N/A	Low	N/A	Medium	N/A	High	High if it is in an activity centre, major recreational routes or tourism routes, or a place with a strong sense of place / identity
		Project developed separately	3%	Has the project already been developed separately? This will reduce total project time and cost.	n/a	No	n/a	n/a	n/a	Yes	Information provided by Council
Stakeholder & community sentiment	20%	Community sentiments	15%	Is the community supportive of the project?	Strongly against	Low support		Supportive		Strongly supportive	Based on community feedback dated 31/10/23
		Stakeholder support	5%	Is the project likely to obtain stakeholder support? Will there be a challenge with obtaining stakeholder approval? (e.g. POS on an arterial road, signalised intersection, etc)	n/a	Difficult to obtain approvals	n/a	some stakeholder consultation required	n/a	Little to no approvals required	

Appendix F – Community Feedback

Community Feedback

Community feedback was an important component of the MCA process. Council officers involved in this Plan were contacted by a resident group called Riddells Creek Community Planning Group in June 2023. This was a follow-up from a meeting the group had with the Council Strategic Planning team on 30 November 2022 that Council would come back to this group in 2023 to give and indication of what were high, medium, and low priorities. Cr Annette Death also indicated at the November 2022 meeting that this would occur in June 2023.

The resident group read the August 2022 Council Report which described the draft recommendations for the Riddells Creek community. They were aware from looking at the website's project timeline that further community consultation will occur on the analysis, as part of this process. Part of the work that the group has been undertaking (as was promised as part of their commitment to working better with Council) is around developing a vision and key prioritise for infrastructure for the town and a community driven process that can help to inform Council planning as well.

Two officers met the Riddell Creek Community Planning Group in two Thursday evening sessions, once on 6 July 2023 and another on 9 November 2023.

In the first evening session on 6 July 2023, officers met 15 members of the Riddells Creek Community Planning Group where the key discussions were summarised as follows:

- Officers presented the draft recommendations from the Plan's Stage 2A which has produced an aspirational plan with over 90-plus recommendations for further investigation and prioritisation.

- Officers explained that a multi-criteria analysis will be developed during Stage 2B (2023-2024) supported by a traffic and parking analysis which will be conducted around August and September 2023, with a broader community consultation planned in February to March 2024.

- The resident group also presents their work via *What Riddell Wants (Infrastructure)* priorities relating to transport, pedestrian, and bike movement while agreeing that the various recommendations to date are largely in line with community feedback.

- Both parties agreed to another meeting for further discussion on the establishment of priorities.

- The resident group will collate feedback and provide input to Council officers in October 2023.

In the second evening session on 9 November 2023, officers met 4 members of the Riddells Creek Community Planning Group where:

- The resident group shared their report describing their thought process, why they focus on walkability, listing their top 10 and 30 projects from their perspective and what criteria should be used to assess projects.

- It was agreed that officers will incorporate these top 30 projects as an initial input to the multi-criteria analysis process which has included stakeholder and community sentiments as one of the six assessment criteria.

Projects identified in Stage 2A of the Movement and Network Plan were presented to the Riddells Creek community for their feedback, which was used to score the ‘Stakeholder and community sentiments’ criteria in the MCA. Additionally, the Riddells Creek Community Planning Group identified 15 additional projects that they would like to see developed in the township.

Appendix G – Traffic Volume Diagrams

Legend

AM	8:15 am - 9:15 am
PM	4:00 pm - 5:00 pm

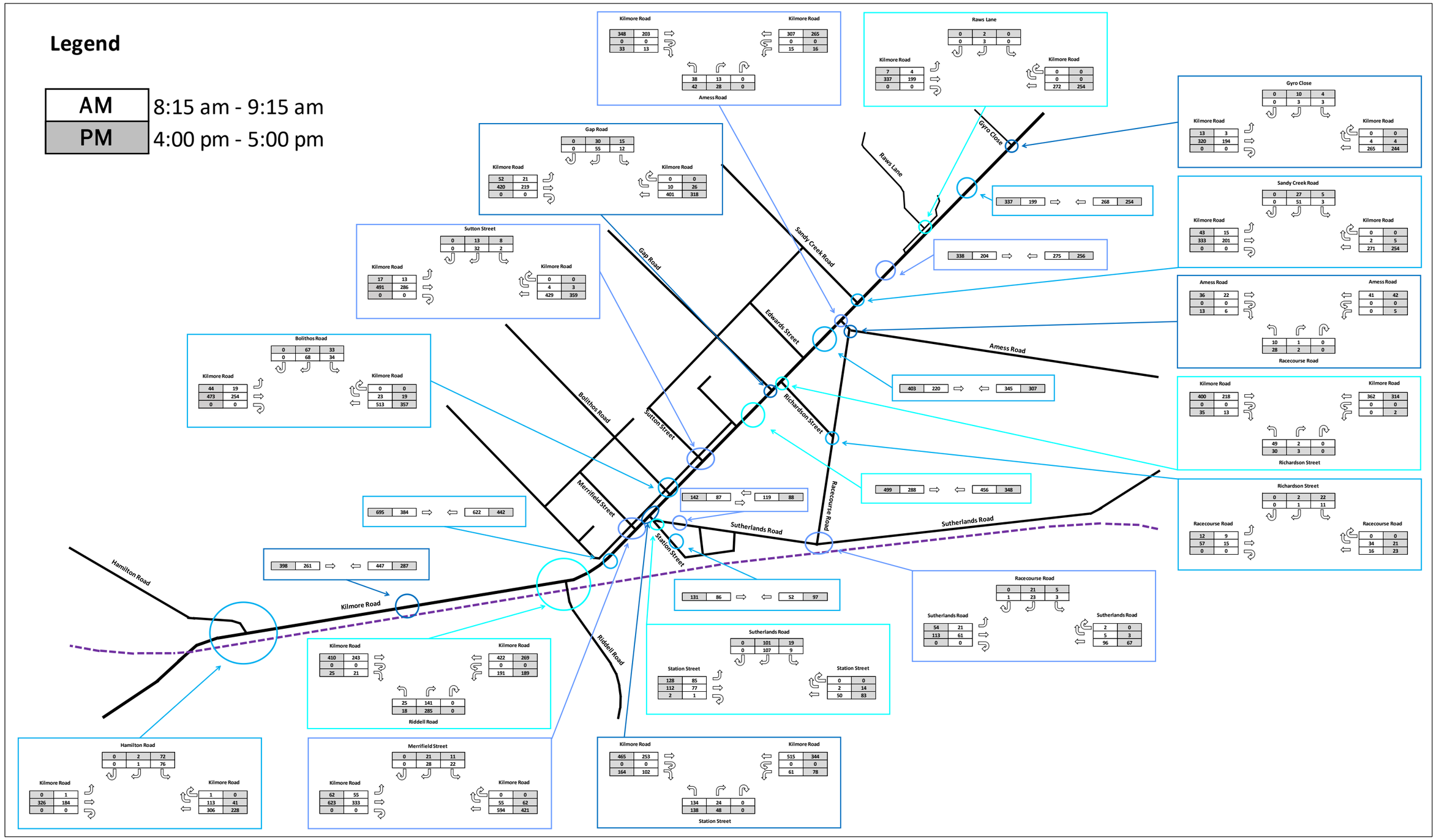


Figure 1: Existing traffic volume - Thursday 13 August 2023

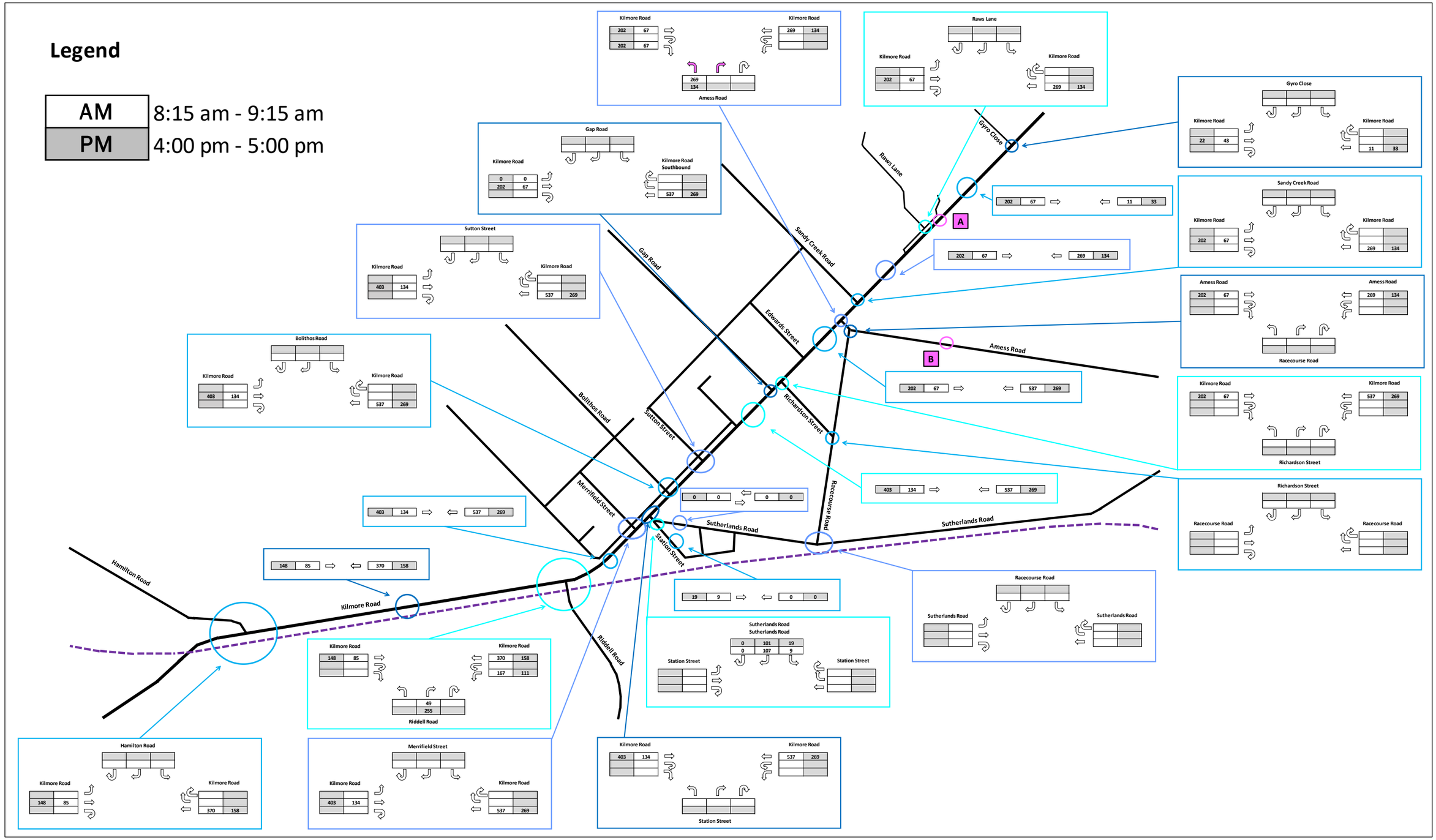


Figure 2: Amess Road development traffic distribution

Legend

AM	8:15 am - 9:15 am
PM	4:00 pm - 5:00 pm

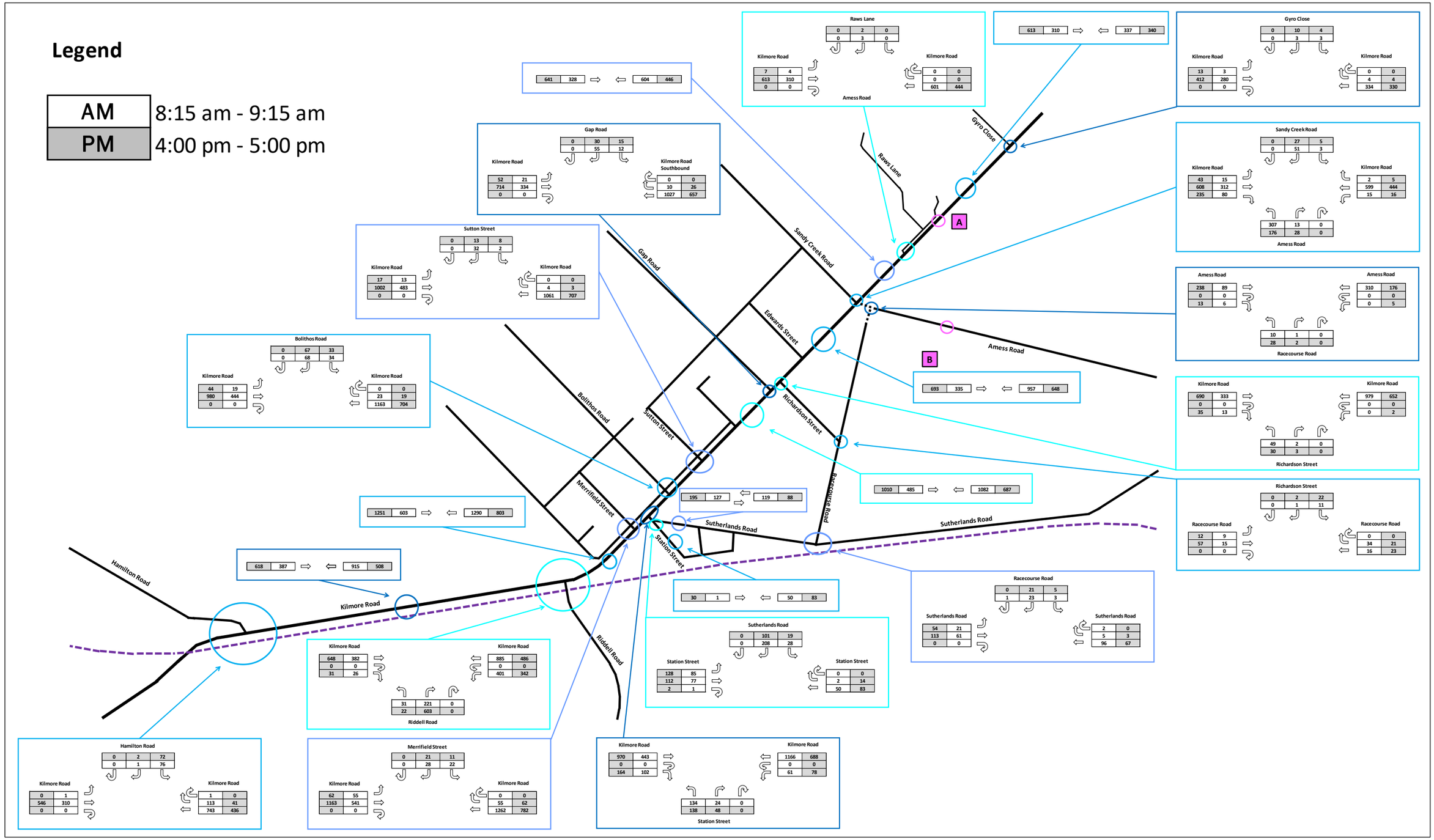


Figure 3: Anticipated 2043 traffic volumes

Appendix H – SIDRA Results

Definitions of traffic engineering terms used in this appendix:

Degree of saturation (DoS)

The ratio of the vehicle demand to the maximum number of vehicles that can travel through the intersection. If 3 vehicles can travel through an intersection in a minute, and 3 vehicles arrive at the intersection in a minute, the intersection has a DoS of 1.

95th percentile queue

The 95th percentile longest vehicle queue length that will occur at an approach to the intersection. 5% of anticipated queue lengths will be longer that the 95th percentile queue.

Average delay

The average additional travel time for motorists travelling through an intersection, in comparison to free flow conditions (i.e. travelling at the speed limit with no congestion or reason to decelerate).

Table 17 Summary of SIDRA results - base case and proposed roundabouts in 2043

	Movements	Base case (existing plus Amess Road development traffic)						Proposed (roundabout)					
		DOS		95% queue (m)		Average delay (sec)		DOS		95% queue (m)		Average delay (sec)	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Riddell Road & Kilmore Road	Riddell Road (south app.)	4.151	6.183	988.2	2573.4	2874.3	4684.9	0.409	0.708	21.4	60.2	18.6	17.9
	Kilmore Road (east app.)	0.487	0.267	0.0	0.0	2.1	2.7	0.442	0.291	26.9	16.8	5.6	5.4
	Kilmore Road (west app.)	0.213	0.355	3.3	1.8s	1.7	0.7	0.242	0.588	12.1	45.1	6.9	12.1
Station Street & Kilmore Road	Station Street (south app.)	0.637	1.027	19.1	37.0	38.6	67.2	0.643	0.282	47.3	13.8	38.7	8.8
	Kilmore Road (east app.)	0.674	0.420	0.0	0.0	0.7	0.6	0.912	0.637	142.1	44.8	5.1	4.3
	Kilmore Road (west app.)	0.835	0.788	125.6	91.2	38.8	7.9	0.367	0.776	23.5	97.9	3.8	4.1
Bolithos Road & Kilmore Road	Kilmore Road (east app.)	0.661	0.445	6.4	11.7	0.5	2.5	0.843	0.528	120.0	38.0	6.5	5.9
	Bolithos Road (north app.)	1.052	0.958	70.0	40.8	179.6	118.4	0.113	0.184	4.3	8.5	9.6	15.8
	Kilmore Road (west app.)	0.254	0.558	0.0	0.0	0.3	0.5	0.312	0.655	16.9	55.3	5.4	5.4

	Movements	Base case (existing plus Amess Road development traffic)						Proposed (roundabout)					
		Degree of saturation		95% queue (m)		Average delay (sec)		Degree of saturation		95% queue (m)		Average delay (sec)	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Gap Road & Kilmore Road	Kilmore Road (east app.)	0.574	0.574	2.2	2.2	0.2	0.2						
	Gap Road (north app.)	0.411	0.411	9.6	9.6	30.3	30.3						
	Kilmore Road (west app.)	0.195	0.195	0.0	0.0	0.4	0.4						
Sandy Creek Road, Amess Road & Kilmore Road	Amess Road (south app.)							0.461	0.253	26.1	11.7	10.3	7.6
	Kilmore Road (east app.)							0.501	0.448	28.4	22.8	6.3	7.3
	Sandy Creek Road (north app.)							0.060	0.058	2.2	2.6	10.6	14.6
	Kilmore Road (west app.)							0.273	0.604	14.7	49.5	6.3	6.8

	Movements	Base case (2043)						Proposed traffic signals (2043)					
		Degree of Saturation		95% queue (m)		Average delay (sec)		Degree of Saturation		95% queue (m)		Average delay (sec)	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Station Street & Kilmore Road	Station Street (south app.)	0.637	1.027	19.1	37.0	38.6	67.2	0.343	0.318	42.7	41.6	44.3	41.6
	Kilmore Road (east app.)	0.674	0.420	0.0	0.0	0.7	0.6	0.713	0.700	127.3	190.7	13.5	15.2
	Kilmore Road (west app.)	0.835	0.788	125.6	91.2	38.8	7.9	0.674	0.760	48.3	154.0	13.5	11.9

Table 18: Summary of SIDRA results - base case and proposed traffic signals in 2043

	Movements	Base case (2043)						Proposed traffic signals (2043)					
		Degree of Saturation		95% queue (m)		Average delay (sec)		Degree of Saturation		95% queue (m)		Average delay (sec)	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Station Street & Kilmore Road	Station Street (south app.)	0.637	1.027	19.1	37.0	38.6	67.2	0.343	0.318	42.7	41.6	44.3	41.6
	Kilmore Road (east app.)	0.674	0.420	0.0	0.0	0.7	0.6	0.713	0.700	127.3	190.7	13.5	15.2
	Kilmore Road (west app.)	0.835	0.788	125.6	91.2	38.8	7.9	0.674	0.760	48.3	154.0	13.5	11.9

Table 19: Summary of SIDRA results at Kilmore Road / Amess Road / Sandy Creek Road - base case and option 2

	Movements	Option 2 with 2043 traffic (post construction)					
		Degree of Saturation		95% queue (m)		Average delay (sec)	
		AM	PM	AM	PM	AM	PM
Amess Road & Kilmore Road	Amess Road (south app.)	0.588	0.303	25.1	7.1	15.1	14.3
	Kilmore Road (east app.)	0.358	0.255	0.0	0.0	0.2	0.2
	Kilmore Road (west app.)	0.177	0.351	3.9	11.0	2.3	2.8
Sandy Creek Road & Kilmore Road	Kilmore Road (east app.)	0.336	0.254	0.2	0.8	0.0	0.2
	Sandy Creek Road (north app.)	0.137	0.098	3.1	2.2	12.6	14.4
	Kilmore Road (west app.)	0.183	0.364	0.0	0.0	0.3	0.4

Appendix I – SIDRA Site Reports

USER REPORT FOR SITE

All Movement Classes

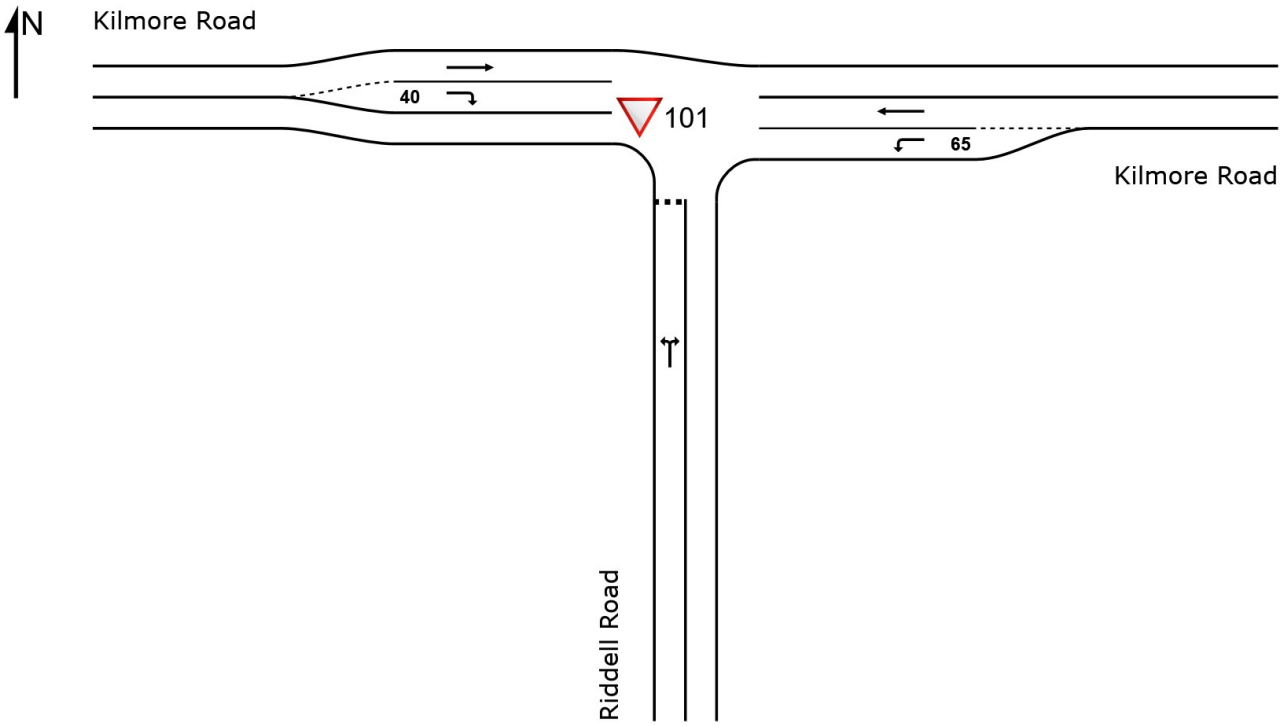
Project: 220073_Kilmore Road intersections_15.12.2023 **Template: Report format 2**

Site: 101 [Base AM Riddell Road & Kilmore Road (Site Folder: Base case - growth)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Site Layout

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



Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Riddell Road														
1	L2	31	2	33	6.5	4.151	2862.5	LOS F	137.9	988.2	1.00	3.55	13.47	1.2
3	R2	221	5	233	2.3	4.151	2875.9	LOS F	137.9	988.2	1.00	3.55	13.47	1.2
Approach		252	7	265	2.8	4.151	2874.3	LOS F	137.9	988.2	1.00	3.55	13.47	1.2
East: Kilmore Road														
4	L2	401	9	422	2.2	0.231	6.4	LOS A	0.0	0.0	0.00	0.61	0.00	59.0
5	T1	885	27	932	3.1	0.487	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	69.6
Approach		1286	36	1354	2.8	0.487	2.1	NA	0.0	0.0	0.00	0.19	0.00	65.9
West: Kilmore Road														
11	T1	382	13	402	3.4	0.213	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	69.9
12	R2	26	1	27	3.8	0.148	25.4	LOS D	0.5	3.3	0.89	0.96	0.89	44.5
Approach		408	14	429	3.4	0.213	1.7	NA	0.5	3.3	0.06	0.06	0.06	67.4
All Vehicles		1946	57	2048	2.9	4.151	374.0	NA	137.9	988.2	0.14	0.60	1.76	8.4

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Riddell Road													
Lane 1	265	2.8	64	4.151	100	2874.3	LOS F	137.9	988.2	Full	500	0.0	31.6
Approach	265	2.8		4.151		2874.3	LOS F	137.9	988.2				
East: Kilmore Road													
Lane 1	422	2.2	1828	0.231	100	6.4	LOS A	0.0	0.0	Short	65	0.0	NA
Lane 2	932	3.1	1912	0.487	100	0.2	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	1354	2.8		0.487		2.1	NA	0.0	0.0				
West: Kilmore Road													
Lane 1	402	3.4	1892	0.213	100	0.0	LOS A	0.0	0.0	Full	500	0.0	0.0
Lane 2	27	3.8	185	0.148	100	25.4	LOS D	0.5	3.3	Short	40	0.0	NA
Approach	429	3.4		0.213		1.7	NA	0.5	3.3				
Intersection	2048	2.9		4.151		374.0	NA	137.9	988.2				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: 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 lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Queues (Distance)															
Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Green (m)		Cycle Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Riddell Road															
Lane 1		4.151	1.000	363.0	397.6	988.2	NA	NA	1514.5	2747.4	0.80	1.98	31.6	NA	NA
Approach		4.151			397.6	988.2	NA	NA	1514.5	2747.4	0.80	1.98			
East: Kilmore Road															
Lane 1	Y	0.231	1.000	0.0	0.0	0.0	NA	NA	0.0	0.0	0.00	0.00	NA	0.0	2
Lane 2	Y	0.487	1.000	0.0	0.0	0.0	NA	NA	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.487			0.0	0.0	NA	NA	0.0	0.0	0.00	0.00			
West: Kilmore Road															
Lane 1	Y	0.213	1.000	0.0	0.0	0.0	NA	NA	0.0	0.0	0.00	0.00	0.0	NA	NA
Lane 2		0.148	1.000	0.0	1.3	3.3	NA	NA	1.1	1.9	0.03	0.08	NA	0.0	1
Approach		0.213			1.3	3.3	NA	NA	1.1	1.9	0.00	0.00			
Intersection		4.151			397.6	988.2	NA	NA	1514.5	2747.4	0.80	1.98			

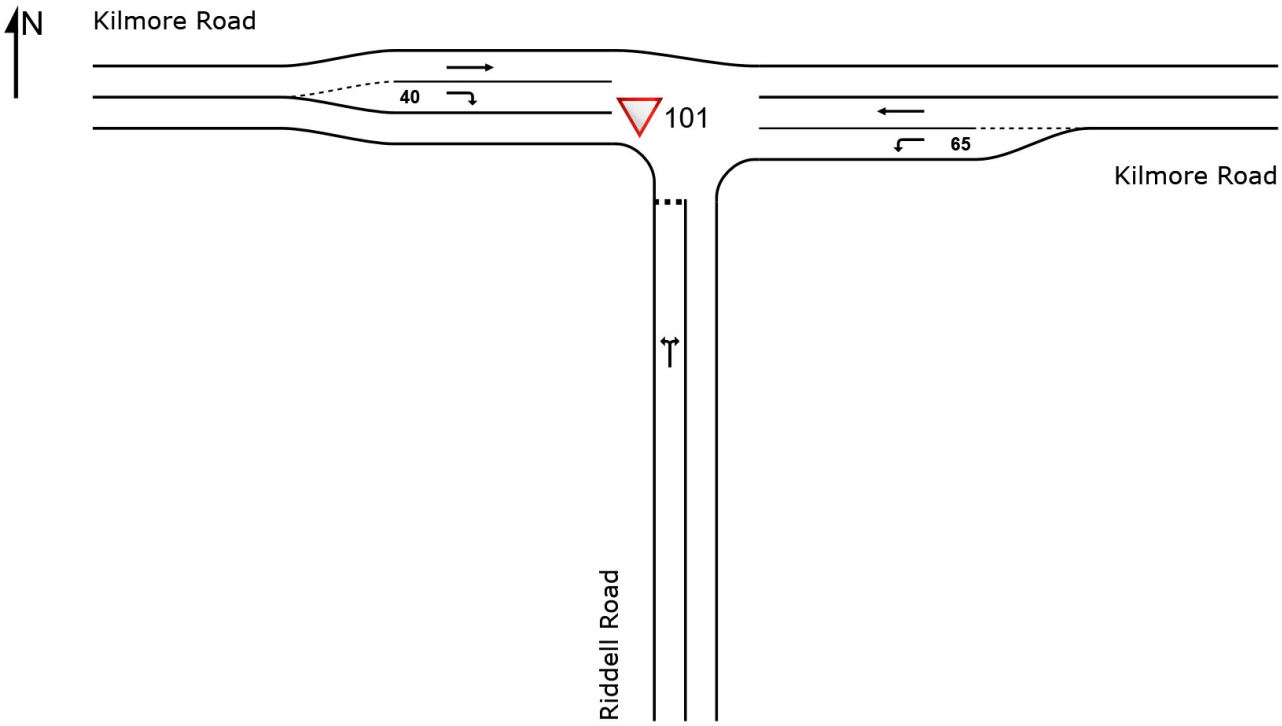
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

Site: 101 [Base PM Riddell Road & Kilmore Road (Site Folder: Base case - growth)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Site Layout

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



Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Riddell Road														
1	L2	22	1	23	4.5	6.183	4679.3	LOS F	363.6	2573.4	1.00	5.36	21.52	0.8
3	R2	603	7	635	1.2	6.183	4685.1	LOS F	363.6	2573.4	1.00	5.36	21.52	0.8
Approach		625	8	658	1.3	6.183	4684.9	LOS F	363.6	2573.4	1.00	5.36	21.52	0.8
East: Kilmore Road														
4	L2	342	4	360	1.2	0.195	6.4	LOS A	0.0	0.0	0.00	0.61	0.00	59.3
5	T1	486	12	512	2.5	0.267	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.8
Approach		828	16	872	1.9	0.267	2.7	NA	0.0	0.0	0.00	0.25	0.00	65.1
West: Kilmore Road														
11	T1	648	11	682	1.7	0.355	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.7
12	R2	31	2	33	6.5	0.068	12.5	LOS B	0.2	1.8	0.67	0.88	0.67	52.3
Approach		679	13	715	1.9	0.355	0.7	NA	0.2	1.8	0.03	0.04	0.03	68.7
All Vehicles		2132	37	2244	1.7	6.183	1374.6	NA	363.6	2573.4	0.30	1.68	6.32	2.5

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Riddell Road													
Lane 1	658	1.3	106	6.183	100	4684.9	LOS F	363.6	2573.4	Full	500	0.0	100.0
Approach	658	1.3		6.183		4684.9	LOS F	363.6	2573.4				
East: Kilmore Road													
Lane 1	360	1.2	1842	0.195	100	6.4	LOS A	0.0	0.0	Short	65	0.0	NA
Lane 2	512	2.5	1919	0.267	100	0.1	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	872	1.9		0.267		2.7	NA	0.0	0.0				
West: Kilmore Road													
Lane 1	682	1.7	1919	0.355	100	0.1	LOS A	0.0	0.0	Full	500	0.0	0.0
Lane 2	33	6.5	483	0.068	100	12.5	LOS B	0.2	1.8	Short	40	0.0	NA
Approach	715	1.9		0.355		0.7	NA	0.2	1.8				
Intersection	2244	1.7		6.183		1374.6	NA	363.6	2573.4				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: 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 lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Queues (Distance)															
Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Green (m)		Cycle Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Riddell Road															
Lane 1		6.183	1.000	977.9	1035.4	2573.4	NA	NA	6050.7	10976.4	2.07	5.15	100.0	NA	NA
Approach		6.183			1035.4	2573.4	NA	NA	6050.7	10976.4	2.07	5.15			
East: Kilmore Road															
Lane 1	Y	0.195	1.000	0.0	0.0	0.0	NA	NA	0.0	0.0	0.00	0.00	NA	0.0	2
Lane 2	Y	0.267	1.000	0.0	0.0	0.0	NA	NA	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.267			0.0	0.0	NA	NA	0.0	0.0	0.00	0.00			
West: Kilmore Road															
Lane 1	Y	0.355	1.000	0.0	0.0	0.0	NA	NA	0.0	0.0	0.00	0.00	0.0	NA	NA
Lane 2		0.068	1.000	0.0	0.7	1.8	NA	NA	0.4	0.8	0.02	0.04	NA	0.0	1
Approach		0.355			0.7	1.8	NA	NA	0.4	0.8	0.00	0.00			
Intersection		6.183			1035.4	2573.4	NA	NA	6050.7	10976.4	2.07	5.15			

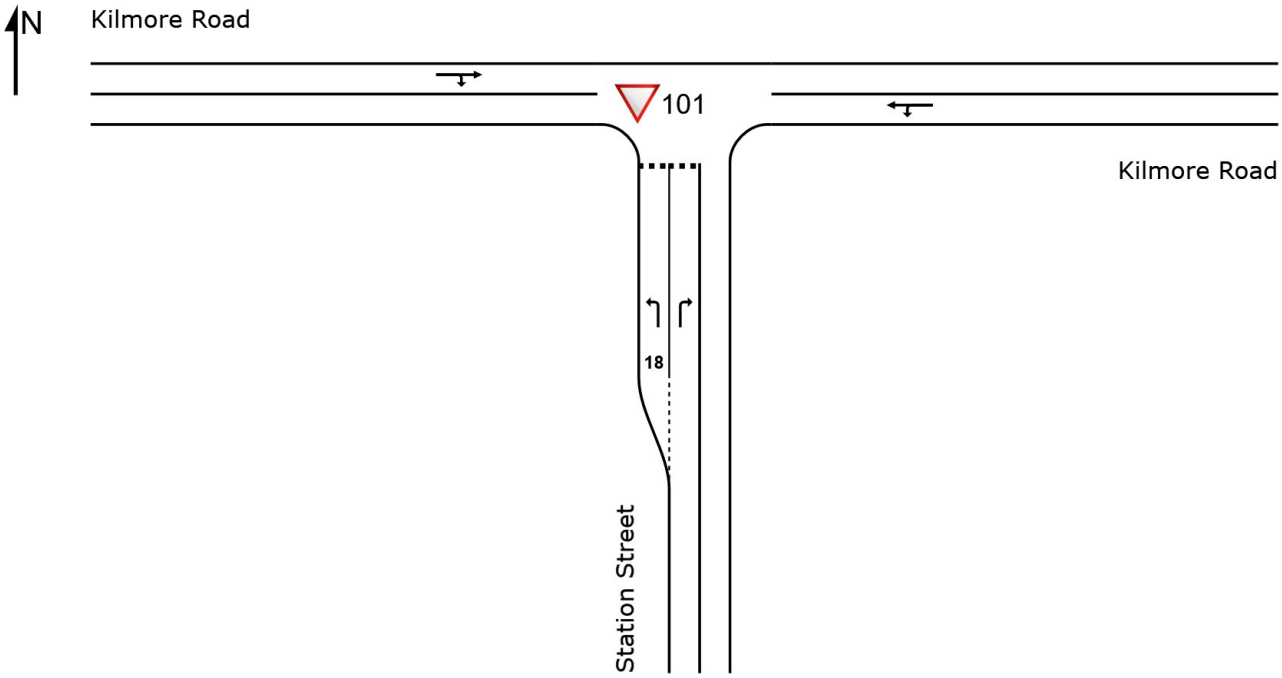
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

Site: 101 [Base AM Station Street & Killmore Road (Site Folder: Base case - growth)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Site Layout

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



Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Station Street														
1	L2	134	7	141	5.2	0.637	31.4	LOS D	2.6	19.1	0.94	1.13	1.50	34.7
3	R2	24	0	25	0.0	0.439	78.9	LOS F	1.2	8.3	0.97	1.03	1.12	23.8
Approach		158	7	166	4.4	0.637	38.6	LOS E	2.6	19.1	0.95	1.12	1.44	32.5
East: Kilmore Road														
4	L2	61	2	64	3.3	0.674	5.0	LOS A	0.0	0.0	0.00	0.03	0.00	48.7
5	T1	1166	26	1227	2.2	0.674	0.5	LOS A	0.0	0.0	0.00	0.03	0.00	49.2
Approach		1227	28	1292	2.3	0.674	0.7	NA	0.0	0.0	0.00	0.03	0.00	49.2
West: Kilmore Road														
11	T1	443	10	466	2.3	0.835	36.2	LOS E	17.5	125.6	1.00	0.26	2.56	32.6
12	R2	102	7	107	6.9	0.835	50.3	LOS F	17.5	125.6	1.00	0.26	2.56	32.3
Approach		545	17	574	3.1	0.835	38.8	NA	17.5	125.6	1.00	0.26	2.56	32.6
All Vehicles		1930	52	2032	2.7	0.835	14.6	NA	17.5	125.6	0.36	0.18	0.84	41.5

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Station Street													
Lane 1	141	5.2	221	0.637	100	31.4	LOS D	2.6	19.1	Short	18	0.0	NA
Lane 2	25	0.0	58	0.439	100	78.9	LOS F	1.2	8.3	Full	500	0.0	0.0
Approach	166	4.4		0.637		38.6	LOS E	2.6	19.1				
East: Kilmore Road													
Lane 1	1292	2.3	1917	0.674	100	0.7	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	1292	2.3		0.674		0.7	NA	0.0	0.0				
West: Kilmore Road													
Lane 1	574	3.1	687	0.835	100	38.8	LOS E	17.5	125.6	Full	500	0.0	0.0
Approach	574	3.1		0.835		38.8	NA	17.5	125.6				
Intersection	2032	2.7		0.835		14.6	NA	17.5	125.6				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: 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 lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Queues (Distance)															
Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Green (m)		Cycle Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Station Street															
Lane 1		0.637	1.000	2.7	7.7	19.1	NA	NA	7.7	13.9	0.43	1.06	NA	6.7	2
Lane 2		0.439	1.000	0.8	3.3	8.3	NA	NA	3.7	6.6	0.01	0.02	0.0	NA	NA
Approach		0.637			7.7	19.1	NA	NA	7.7	13.9	0.01	0.02			
East: Kilmore Road															
Lane 1	Y	0.674	1.000	0.0	0.0	0.0	NA	NA	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.674			0.0	0.0	NA	NA	0.0	0.0	0.00	0.00			
West: Kilmore Road															
Lane 1		0.835	1.000	21.3	50.5	125.6	NA	NA	43.5	78.8	0.10	0.25	0.0	NA	NA
Approach		0.835			50.5	125.6	NA	NA	43.5	78.8	0.10	0.25			
Intersection		0.835			50.5	125.6	NA	NA	43.5	78.8	0.10	0.25			

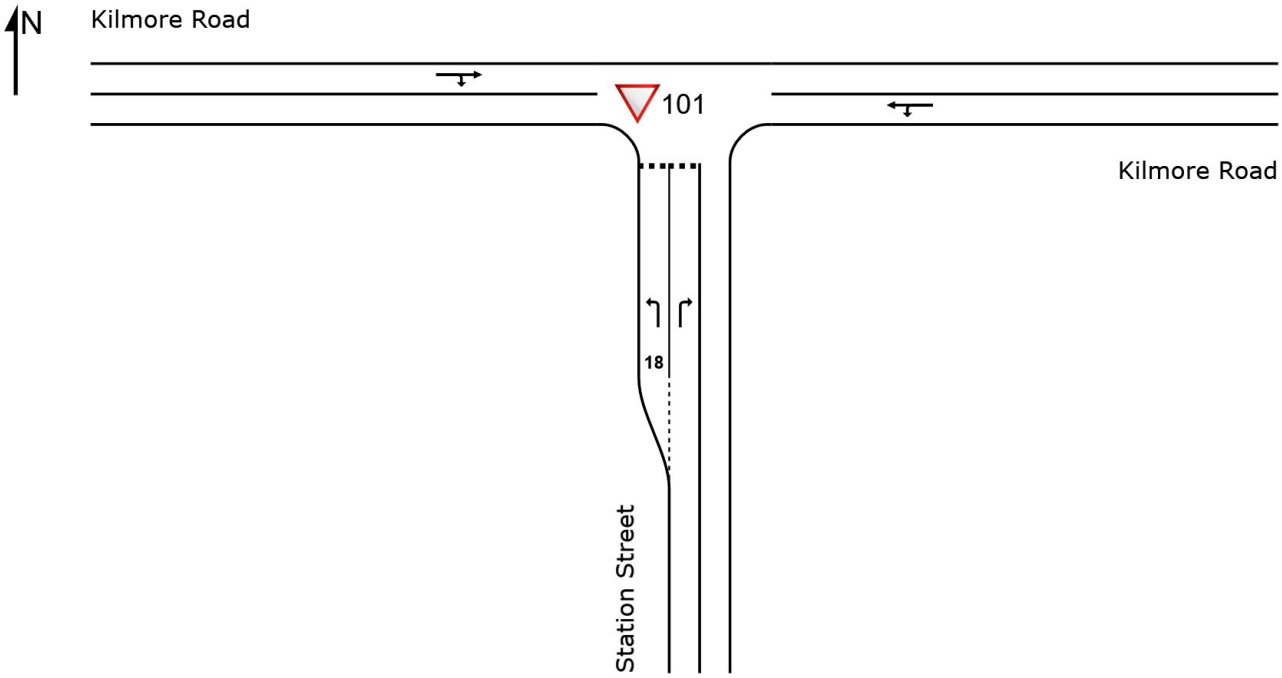
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

Site: 101 [Base PM Station Street & Killmore Road (Site Folder: Base case - growth)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Site Layout

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



Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Station Street														
1	L2	138	3	145	2.2	0.204	8.7	LOS A	0.8	5.5	0.62	0.82	0.62	44.3
3	R2	48	0	51	0.0	1.027	235.5	LOS F	5.3	37.0	1.00	1.40	2.63	11.7
Approach		186	3	196	1.6	1.027	67.2	LOS F	5.3	37.0	0.71	0.97	1.14	25.8
East: Kilmore Road														
4	L2	78	0	82	0.0	0.420	4.7	LOS A	0.0	0.0	0.00	0.06	0.00	49.0
5	T1	688	13	724	1.9	0.420	0.2	LOS A	0.0	0.0	0.00	0.06	0.00	49.4
Approach		766	13	806	1.7	0.420	0.6	NA	0.0	0.0	0.00	0.06	0.00	49.4
West: Kilmore Road														
11	T1	970	12	1021	1.2	0.788	6.0	LOS A	12.9	91.2	1.00	0.18	1.73	45.1
12	R2	164	2	173	1.2	0.788	19.4	LOS C	12.9	91.2	1.00	0.18	1.73	44.5
Approach		1134	14	1194	1.2	0.788	7.9	NA	12.9	91.2	1.00	0.18	1.73	45.0
All Vehicles		2086	30	2196	1.4	1.027	10.5	NA	12.9	91.2	0.61	0.21	1.04	43.5

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Use and Performance													
	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Station Street													
Lane 1	145	2.2	712	0.204	100	8.7	LOS A	0.8	5.5	Short	18	0.0	NA
Lane 2	51	0.0	49	1.027	100	235.5	LOS F	5.3	37.0	Full	500	0.0	0.0
Approach	196	1.6		1.027		67.2	LOS F	5.3	37.0				
East: Kilmore Road													
Lane 1	806	1.7	1919	0.420	100	0.6	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	806	1.7		0.420		0.6	NA	0.0	0.0				
West: Kilmore Road													
Lane 1	1194	1.2	1515	0.788	100	7.9	LOS A	12.9	91.2	Full	500	0.0	0.0
Approach	1194	1.2		0.788		7.9	NA	12.9	91.2				
Intersection	2196	1.4		1.027		10.5	NA	12.9	91.2				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: 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 lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Queues (Distance)															
Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Green (m)		Cycle Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Station Street															
Lane 1		0.204	1.000	0.0	2.2	5.5	NA	NA	1.2	2.1	0.12	0.30	NA	0.0	2
Lane 2		1.027	1.000	11.5	14.9	37.0	NA	NA	22.7	41.2	0.03	0.07	0.0	NA	NA
Approach		1.027			14.9	37.0	NA	NA	22.7	41.2	0.03	0.07			
East: Kilmore Road															
Lane 1	Y	0.420	1.000	0.0	0.0	0.0	NA	NA	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.420			0.0	0.0	NA	NA	0.0	0.0	0.00	0.00			
West: Kilmore Road															
Lane 1		0.788	1.000	6.3	36.7	91.2	NA	NA	17.0	30.8	0.07	0.18	0.0	NA	NA
Approach		0.788			36.7	91.2	NA	NA	17.0	30.8	0.07	0.18			
Intersection		1.027			36.7	91.2	NA	NA	22.7	41.2	0.07	0.18			

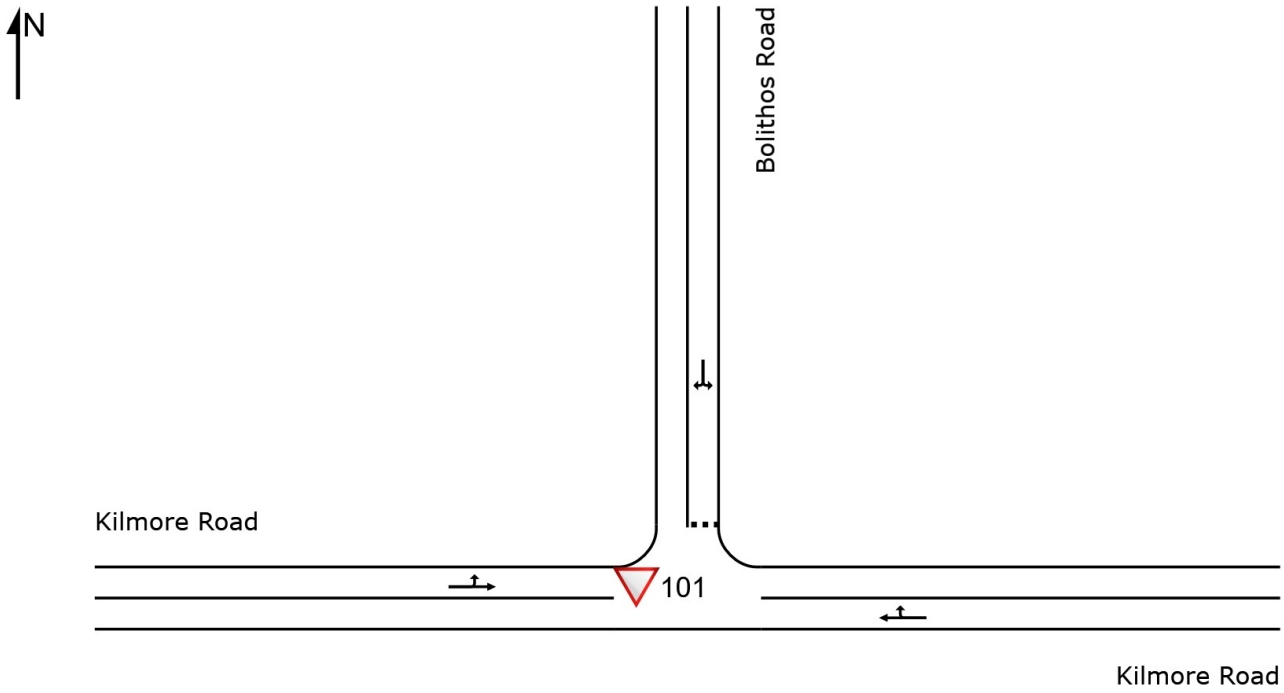
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

Site: 101 [Base AM Bolithos Road & Kilmore Road (Site Folder: Base case - growth)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Site Layout

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



Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Kilmore Road														
5	T1	1163	27	1224	2.3	0.661	0.3	LOS A	0.9	6.4	0.06	0.01	0.09	59.5
6	R2	23	1	24	4.3	0.661	11.7	LOS B	0.9	6.4	0.06	0.01	0.09	57.0
Approach		1186	28	1248	2.4	0.661	0.5	NA	0.9	6.4	0.06	0.01	0.09	59.5
North: Bolithos Road														
7	L2	34	1	36	2.9	1.052	146.8	LOS F	9.8	70.0	1.00	1.87	4.22	14.9
9	R2	68	2	72	2.9	1.052	196.1	LOS F	9.8	70.0	1.00	1.87	4.22	14.9
Approach		102	3	107	2.9	1.052	179.6	LOS F	9.8	70.0	1.00	1.87	4.22	14.9
West: Kilmore Road														
10	L2	19	1	20	5.3	0.254	5.7	LOS A	0.0	0.0	0.00	0.02	0.00	57.8
11	T1	444	9	467	2.0	0.254	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.6
Approach		463	10	487	2.2	0.254	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.6
All Vehicles		1751	41	1843	2.3	1.052	10.9	NA	9.8	70.0	0.10	0.12	0.31	50.6

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Use and Performance													
	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
East: Kilmore Road													
Lane 1	1248	2.4	1889	0.661	100	0.5	LOS A	0.9	6.4	Full	500	0.0	0.0
Approach	1248	2.4		0.661		0.5	NA	0.9	6.4				
North: Bolithos Road													
Lane 1	107	2.9	102	1.052	100	179.6	LOS F	9.8	70.0	Full	500	0.0	0.0
Approach	107	2.9		1.052		179.6	LOS F	9.8	70.0				
West: Kilmore Road													
Lane 1	487	2.2	1919	0.254	100	0.3	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	487	2.2		0.254		0.3	NA	0.0	0.0				
Intersection	1843	2.3		1.052		10.9	NA	9.8	70.0				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: 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 lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Queues (Distance)															
Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Green (m)		Cycle Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
East: Kilmore Road															
Lane 1		0.661	1.000	0.3	2.6	6.4	NA	NA	1.0	1.8	0.01	0.01	0.0	NA	NA
Approach		0.661			2.6	6.4	NA	NA	1.0	1.8	0.01	0.01			
North: Bolithos Road															
Lane 1		1.052	1.000	23.4	28.2	70.0	NA	NA	37.3	67.6	0.06	0.14	0.0	NA	NA
Approach		1.052			28.2	70.0	NA	NA	37.3	67.6	0.06	0.14			
West: Kilmore Road															
Lane 1	Y	0.254	1.000	0.0	0.0	0.0	NA	NA	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.254			0.0	0.0	NA	NA	0.0	0.0	0.00	0.00			
Intersection		1.052			28.2	70.0	NA	NA	37.3	67.6	0.06	0.14			

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

Site: 101 [Base PM Bolithos Road & Kilmore Road (Site Folder: Base case - growth)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Site Layout

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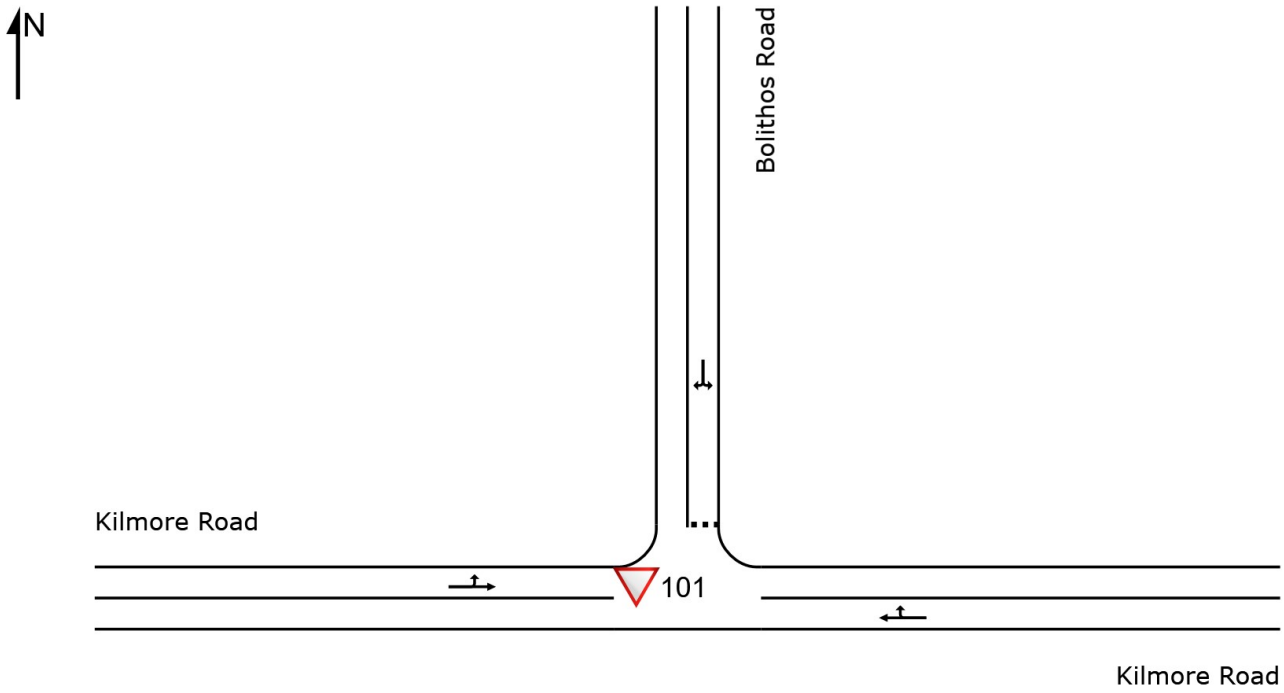


Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Kilmore Road														
5	T1	704	13	741	1.8	0.445	1.9	LOS A	1.6	11.7	0.16	0.02	0.23	57.6
6	R2	19	2	20	10.5	0.445	24.4	LOS C	1.6	11.7	0.16	0.02	0.23	55.0
Approach		723	15	761	2.1	0.445	2.5	NA	1.6	11.7	0.16	0.02	0.23	57.5
North: Bolithos Road														
7	L2	33	1	35	3.0	0.958	94.3	LOS F	5.8	40.8	0.99	1.46	2.99	20.1
9	R2	67	0	71	0.0	0.958	130.2	LOS F	5.8	40.8	0.99	1.46	2.99	20.1
Approach		100	1	105	1.0	0.958	118.4	LOS F	5.8	40.8	0.99	1.46	2.99	20.1
West: Kilmore Road														
10	L2	44	1	46	2.3	0.558	5.8	LOS A	0.0	0.0	0.00	0.03	0.00	57.6
11	T1	980	11	1032	1.1	0.558	0.3	LOS A	0.0	0.0	0.00	0.03	0.00	59.3
Approach		1024	12	1078	1.2	0.558	0.5	NA	0.0	0.0	0.00	0.03	0.00	59.2
All Vehicles		1847	28	1944	1.5	0.958	7.7	NA	5.8	40.8	0.11	0.10	0.25	53.0

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Use and Performance													
	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
East: Kilmore Road													
Lane 1	761	2.1	1711	0.445	100	2.5	LOS A	1.6	11.7	Full	500	0.0	0.0
Approach	761	2.1		0.445		2.5	NA	1.6	11.7				
North: Bolithos Road													
Lane 1	105	1.0	110	0.958	100	118.4	LOS F	5.8	40.8	Full	500	0.0	0.0
Approach	105	1.0		0.958		118.4	LOS F	5.8	40.8				
West: Kilmore Road													
Lane 1	1078	1.2	1931	0.558	100	0.5	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	1078	1.2		0.558		0.5	NA	0.0	0.0				
Intersection	1944	1.5		0.958		7.7	NA	5.8	40.8				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: 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 lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Queues (Distance)															
Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Green (m)		Cycle Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
East: Kilmore Road															
Lane 1		0.445	1.000	0.7	4.7	11.7	NA	NA	3.6	6.5	0.01	0.02	0.0	NA	NA
Approach		0.445			4.7	11.7	NA	NA	3.6	6.5	0.01	0.02			
North: Bolithos Road															
Lane 1		0.958	1.000	12.9	16.4	40.8	NA	NA	23.3	42.3	0.03	0.08	0.0	NA	NA
Approach		0.958			16.4	40.8	NA	NA	23.3	42.3	0.03	0.08			
West: Kilmore Road															
Lane 1	Y	0.558	1.000	0.0	0.0	0.0	NA	NA	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.558			0.0	0.0	NA	NA	0.0	0.0	0.00	0.00			
Intersection		0.958			16.4	40.8	NA	NA	23.3	42.3	0.03	0.08			

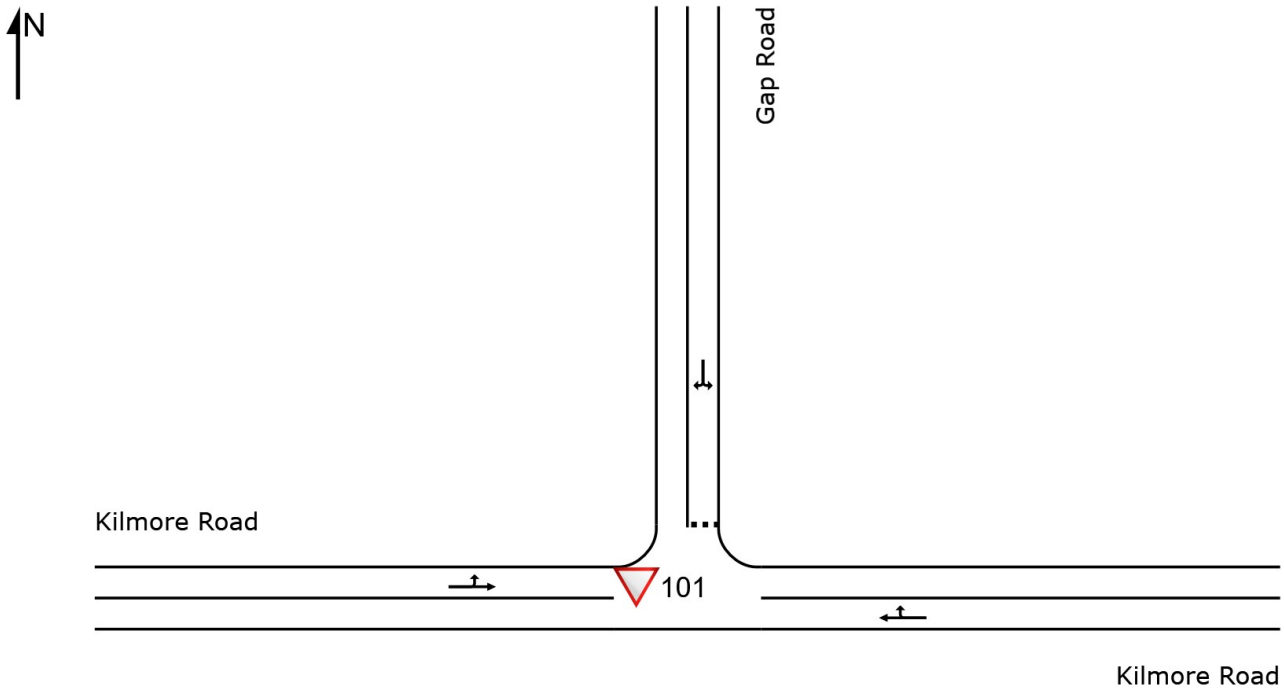
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

Site: 101 [Base AM Gap Road & Kilmore Road (Site Folder: Base case - growth)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Site Layout

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



Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Kilmore Road														
5	T1	1027	25	1081	2.4	0.574	0.1	LOS A	0.3	2.2	0.02	0.01	0.03	59.8
6	R2	10	2	11	20.0	0.574	9.7	LOS A	0.3	2.2	0.02	0.01	0.03	56.5
Approach		1037	27	1092	2.6	0.574	0.2	NA	0.3	2.2	0.02	0.01	0.03	59.8
North: Gap Road														
7	L2	12	1	13	8.3	0.411	11.8	LOS B	1.3	9.6	0.87	0.98	1.09	39.1
9	R2	55	2	58	3.6	0.411	34.4	LOS D	1.3	9.6	0.87	0.98	1.09	38.9
Approach		67	3	71	4.5	0.411	30.3	LOS D	1.3	9.6	0.87	0.98	1.09	38.9
West: Kilmore Road														
10	L2	19	2	20	10.5	0.195	5.7	LOS A	0.0	0.0	0.00	0.03	0.00	57.5
11	T1	334	9	352	2.7	0.195	0.1	LOS A	0.0	0.0	0.00	0.03	0.00	59.6
Approach		353	11	372	3.1	0.195	0.4	NA	0.0	0.0	0.00	0.03	0.00	59.5
All Vehicles		1457	41	1534	2.8	0.574	1.6	NA	1.3	9.6	0.06	0.06	0.07	58.3

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
East: Kilmore Road													
Lane 1	1092	2.6	1902	0.574	100	0.2	LOS A	0.3	2.2	Full	500	0.0	0.0
Approach	1092	2.6		0.574		0.2	NA	0.3	2.2				
North: Gap Road													
Lane 1	71	4.5	172	0.411	100	30.3	LOS D	1.3	9.6	Full	500	0.0	0.0
Approach	71	4.5		0.411		30.3	LOS D	1.3	9.6				
West: Kilmore Road													
Lane 1	372	3.1	1905	0.195	100	0.4	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	372	3.1		0.195		0.4	NA	0.0	0.0				
Intersection	1534	2.8		0.574		1.6	NA	1.3	9.6				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: 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 lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Queues (Distance)															
Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Green (m)		Cycle Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
East: Kilmore Road															
Lane 1		0.574	1.000	0.1	0.9	2.2	NA	NA	0.3	0.5	0.00	0.00	0.0	NA	NA
Approach		0.574			0.9	2.2	NA	NA	0.3	0.5	0.00	0.00			
North: Gap Road															
Lane 1		0.411	1.000	0.9	3.9	9.6	NA	NA	3.5	6.4	0.01	0.02	0.0	NA	NA
Approach		0.411			3.9	9.6	NA	NA	3.5	6.4	0.01	0.02			
West: Kilmore Road															
Lane 1	Y	0.195	1.000	0.0	0.0	0.0	NA	NA	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.195			0.0	0.0	NA	NA	0.0	0.0	0.00	0.00			
Intersection		0.574			3.9	9.6	NA	NA	3.5	6.4	0.01	0.02			

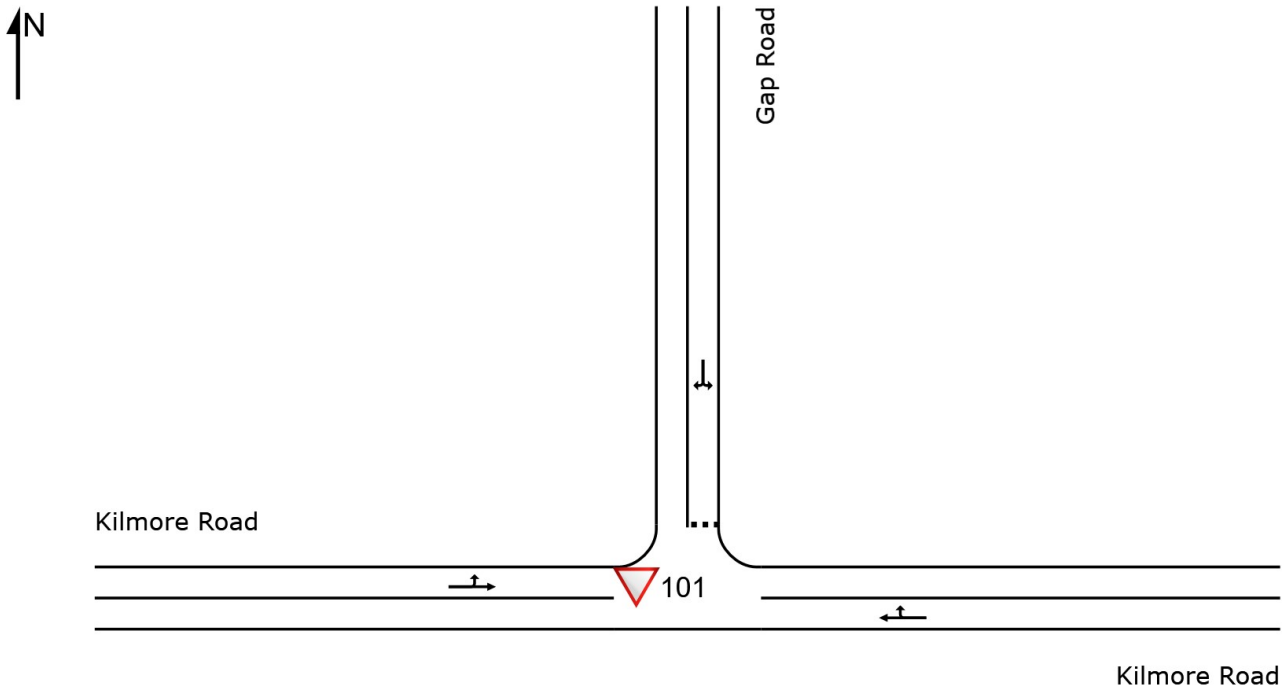
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

Site: 101 [Base PM Gap Road & Kilmore Road (Site Folder: Base case - growth)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Site Layout

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



Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Kilmore Road														
5	T1	657	14	692	2.1	0.377	0.3	LOS A	0.4	2.7	0.05	0.01	0.07	59.5
6	R2	10	1	11	10.0	0.377	14.0	LOS B	0.4	2.7	0.05	0.01	0.07	56.7
Approach		667	15	702	2.2	0.377	0.5	NA	0.4	2.7	0.05	0.01	0.07	59.4
North: Gap Road														
7	L2	15	2	16	13.3	0.199	10.8	LOS B	0.6	4.5	0.83	0.94	0.88	43.9
9	R2	30	1	32	3.3	0.199	24.6	LOS C	0.6	4.5	0.83	0.94	0.88	43.8
Approach		45	3	47	6.7	0.199	20.0	LOS C	0.6	4.5	0.83	0.94	0.88	43.8
West: Kilmore Road														
10	L2	52	0	55	0.0	0.418	5.7	LOS A	0.0	0.0	0.00	0.04	0.00	57.8
11	T1	714	9	752	1.3	0.418	0.1	LOS A	0.0	0.0	0.00	0.04	0.00	59.3
Approach		766	9	806	1.2	0.418	0.5	NA	0.0	0.0	0.00	0.04	0.00	59.2
All Vehicles		1478	27	1556	1.8	0.418	1.1	NA	0.6	4.5	0.05	0.05	0.06	58.7

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Use and Performance													
	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
East: Kilmore Road													
Lane 1	702	2.2	1861	0.377	100	0.5	LOS A	0.4	2.7	Full	500	0.0	0.0
Approach	702	2.2		0.377		0.5	NA	0.4	2.7				
North: Gap Road													
Lane 1	47	6.7	238	0.199	100	20.0	LOS C	0.6	4.5	Full	500	0.0	0.0
Approach	47	6.7		0.199		20.0	LOS C	0.6	4.5				
West: Kilmore Road													
Lane 1	806	1.2	1929	0.418	100	0.5	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	806	1.2		0.418		0.5	NA	0.0	0.0				
Intersection	1556	1.8		0.418		1.1	NA	0.6	4.5				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: 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 lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Queues (Distance)															
Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Green (m)		Cycle Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
East: Kilmore Road															
Lane 1		0.377	1.000	0.1	1.1	2.7	NA	NA	0.6	1.2	0.00	0.01	0.0	NA	NA
Approach		0.377			1.1	2.7	NA	NA	0.6	1.2	0.00	0.01			
North: Gap Road															
Lane 1		0.199	1.000	0.1	1.8	4.5	NA	NA	1.4	2.6	0.00	0.01	0.0	NA	NA
Approach		0.199			1.8	4.5	NA	NA	1.4	2.6	0.00	0.01			
West: Kilmore Road															
Lane 1	Y	0.418	1.000	0.0	0.0	0.0	NA	NA	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.418			0.0	0.0	NA	NA	0.0	0.0	0.00	0.00			
Intersection		0.418			1.8	4.5	NA	NA	1.4	2.6	0.00	0.01			

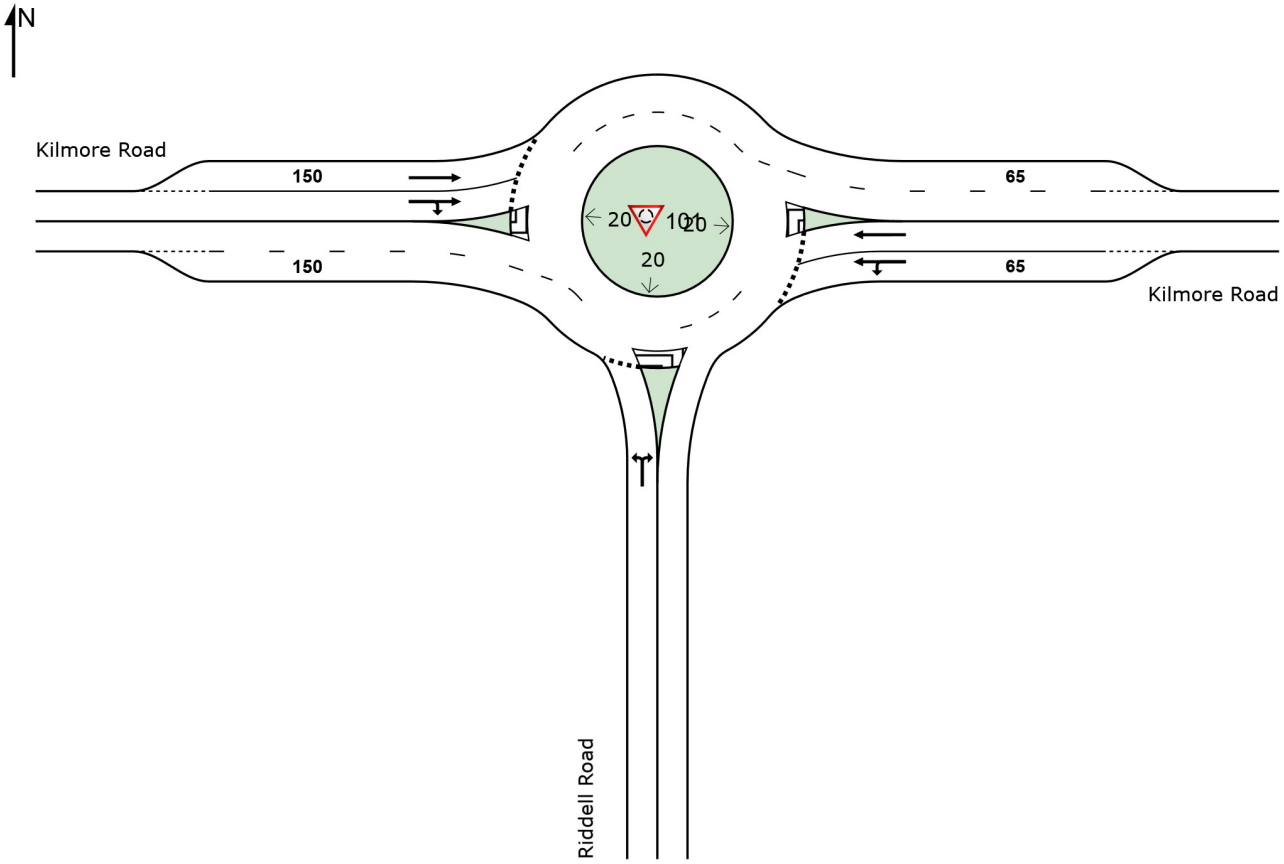
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

Site: 101 [Proposed AM Riddell Road & Kilmore Road - roundabout - 2 lane approaches (Site Folder: Proposed - with Amess Road traffic)]

New Site
Site Category: (None)
Roundabout

Site Layout

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



Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Riddell Road														
1	L2	31	2	33	6.5	0.409	16.2	LOS B	3.0	21.4	0.87	0.97	0.96	49.8
3	R2	221	5	233	2.3	0.409	18.9	LOS B	3.0	21.4	0.87	0.97	0.96	51.4
Approach		252	7	265	2.8	0.409	18.6	LOS B	3.0	21.4	0.87	0.97	0.96	51.2
East: Kilmore Road														
4	L2	401	9	422	2.2	0.402	5.3	LOS A	3.2	22.8	0.18	0.49	0.18	60.2
5	T1	885	27	932	3.1	0.442	5.8	LOS A	3.7	26.9	0.18	0.45	0.18	61.6
Approach		1286	36	1354	2.8	0.442	5.6	LOS A	3.7	26.9	0.18	0.46	0.18	61.1
West: Kilmore Road														
11	T1	382	13	402	3.4	0.242	6.7	LOS A	1.7	12.1	0.48	0.56	0.48	59.5
12	R2	26	1	27	3.8	0.242	11.0	LOS B	1.7	12.1	0.49	0.56	0.49	58.9
Approach		408	14	429	3.4	0.242	6.9	LOS A	1.7	12.1	0.48	0.56	0.48	59.4
All Vehicles		1946	57	2048	2.9	0.442	7.6	LOS A	3.7	26.9	0.33	0.55	0.34	59.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Riddell Road													
Lane 1[d]	265	2.8	648	0.409	100	18.6	LOS B	3.0	21.4	Full	500	0.0	0.0
Approach	265	2.8		0.409		18.6	LOS B	3.0	21.4				
East: Kilmore Road													
Lane 1	590	2.5	1468	0.402	91[6]	5.9	LOS A	3.2	22.8	Short	65	0.0	NA
Lane 2[d]	764	3.1	1728	0.442	100	5.4	LOS A	3.7	26.9	Full	500	0.0	0.0
Approach	1354	2.8		0.442		5.6	LOS A	3.7	26.9				
West: Kilmore Road													
Lane 1	110	3.4	971	0.114	47[6]	7.8	LOS A	0.7	4.8	Short	150	0.0	NA
Lane 2[d]	319	3.4	1320	0.242	100	6.7	LOS A	1.7	12.1	Full	500	0.0	0.0
Approach	429	3.4		0.242		6.9	LOS A	1.7	12.1				
Intersection	2048	2.9		0.442		7.6	LOS A	3.7	26.9				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

6 Lane under-utilisation due to downstream effects
d Dominant lane on roundabout approach

Lane Queues (Distance)															
Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Green (m)		Cycle Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Riddell Road															
Lane 1		0.409	1.000	0.6	8.6	21.4	NA	NA	4.8	8.6	0.02	0.04	0.0	NA	NA
Approach		0.409			8.6	21.4	NA	NA	4.8	8.6	0.02	0.04			
East: Kilmore Road															
Lane 1		0.402	1.000	0.0	9.2	22.8	NA	NA	0.2	0.4	0.14	0.35	NA	0.0	2
Lane 2		0.442	1.000	0.0	10.8	26.9	NA	NA	0.2	0.4	0.02	0.05	0.0	NA	NA
Approach		0.442			10.8	26.9	NA	NA	0.2	0.4	0.02	0.05			
West: Kilmore Road															
Lane 1		0.114	1.000	0.0	1.9	4.8	NA	NA	0.3	0.6	0.01	0.03	NA	0.0	2
Lane 2		0.242	1.000	0.0	4.9	12.1	NA	NA	0.6	1.1	0.01	0.02	0.0	NA	NA
Approach		0.242			4.9	12.1	NA	NA	0.6	1.1	0.01	0.02			
Intersection		0.442			10.8	26.9	NA	NA	4.8	8.6	0.02	0.05			

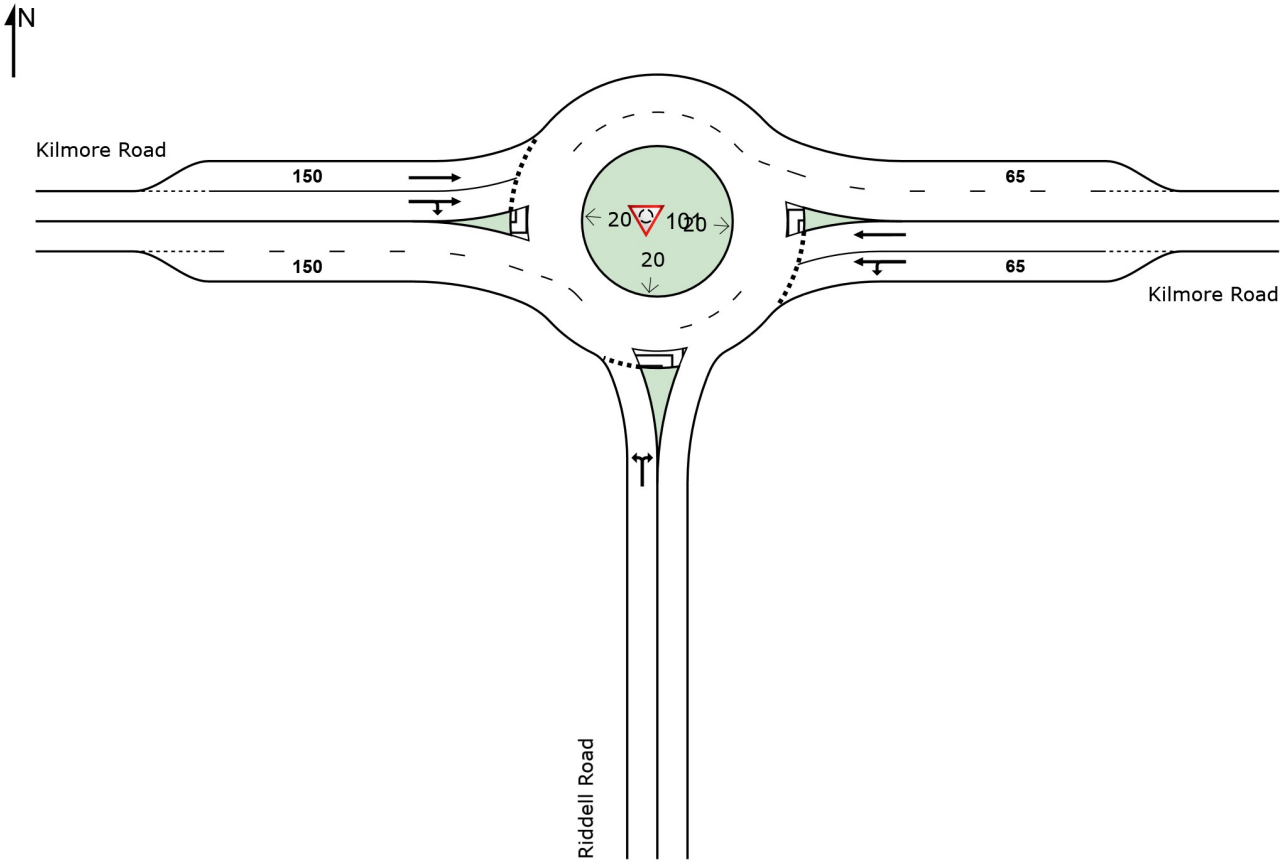
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

Site: 101 [Proposed PM Riddell Road & Kilmore Road - roundabout - 2 lane approaches (Site Folder: Proposed - with Amess Road traffic)]

New Site
Site Category: (None)
Roundabout

Site Layout

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



Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Riddell Road														
1	L2	22	1	23	4.5	0.708	14.1	LOS B	8.5	60.2	0.88	1.01	1.20	50.5
3	R2	603	7	635	1.2	0.708	18.1	LOS B	8.5	60.2	0.88	1.01	1.20	52.0
Approach		625	8	658	1.3	0.708	17.9	LOS B	8.5	60.2	0.88	1.01	1.20	51.9
East: Kilmore Road														
4	L2	342	4	360	1.2	0.264	5.2	LOS A	2.0	14.1	0.20	0.50	0.20	60.5
5	T1	486	12	512	2.5	0.291	5.4	LOS A	2.3	16.8	0.19	0.44	0.19	61.6
Approach		828	16	872	1.9	0.291	5.4	LOS A	2.3	16.8	0.19	0.46	0.19	61.2
West: Kilmore Road														
11	T1	648	11	682	1.7	0.588	11.9	LOS B	6.3	45.1	0.91	0.90	1.02	57.5
12	R2	31	2	33	6.5	0.588	15.7	LOS B	6.3	45.1	0.95	0.93	1.10	55.8
Approach		679	13	715	1.9	0.588	12.1	LOS B	6.3	45.1	0.91	0.90	1.03	57.4
All Vehicles		2132	37	2244	1.7	0.708	11.2	LOS B	8.5	60.2	0.62	0.76	0.75	57.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Riddell Road													
Lane 1[d]	658	1.3	929	0.708	100	17.9	LOS B	8.5	60.2	Full	500	0.0	0.0
Approach	658	1.3		0.708		17.9	LOS B	8.5	60.2				
East: Kilmore Road													
Lane 1	381	1.2	1444	0.264	91[6]	5.3	LOS A	2.0	14.1	Short	65	0.0	NA
Lane 2[d]	490	2.5	1686	0.291	100	5.4	LOS A	2.3	16.8	Full	500	0.0	0.0
Approach	872	1.9		0.291		5.4	LOS A	2.3	16.8				
West: Kilmore Road													
Lane 1	177	1.7	641	0.276	47[6]	15.1	LOS B	1.9	13.2	Short	150	0.0	NA
Lane 2[d]	538	2.0	914	0.588	100	11.2	LOS B	6.3	45.1	Full	500	0.0	0.0
Approach	715	1.9		0.588		12.1	LOS B	6.3	45.1				
Intersection	2244	1.7		0.708		11.2	LOS B	8.5	60.2				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

6 Lane under-utilisation due to downstream effects
d Dominant lane on roundabout approach

Lane Queues (Distance)															
Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Green (m)		Cycle Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Riddell Road															
Lane 1		0.708	1.000	5.0	24.2	60.2	NA	NA	10.5	19.1	0.05	0.12	0.0	NA	NA
Approach		0.708			24.2	60.2	NA	NA	10.5	19.1	0.05	0.12			
East: Kilmore Road															
Lane 1		0.264	1.000	0.0	5.7	14.1	NA	NA	0.1	0.2	0.09	0.22	NA	0.0	2
Lane 2		0.291	1.000	0.0	6.8	16.8	NA	NA	0.1	0.2	0.01	0.03	0.0	NA	NA
Approach		0.291			6.8	16.8	NA	NA	0.1	0.2	0.01	0.03			
West: Kilmore Road															
Lane 1		0.276	1.000	0.0	5.3	13.2	NA	NA	1.6	2.9	0.04	0.09	NA	0.0	2
Lane 2		0.588	1.000	2.1	18.1	45.1	NA	NA	6.0	10.8	0.04	0.09	0.0	NA	NA
Approach		0.588			18.1	45.1	NA	NA	6.0	10.8	0.04	0.09			
Intersection		0.708			24.2	60.2	NA	NA	10.5	19.1	0.05	0.12			

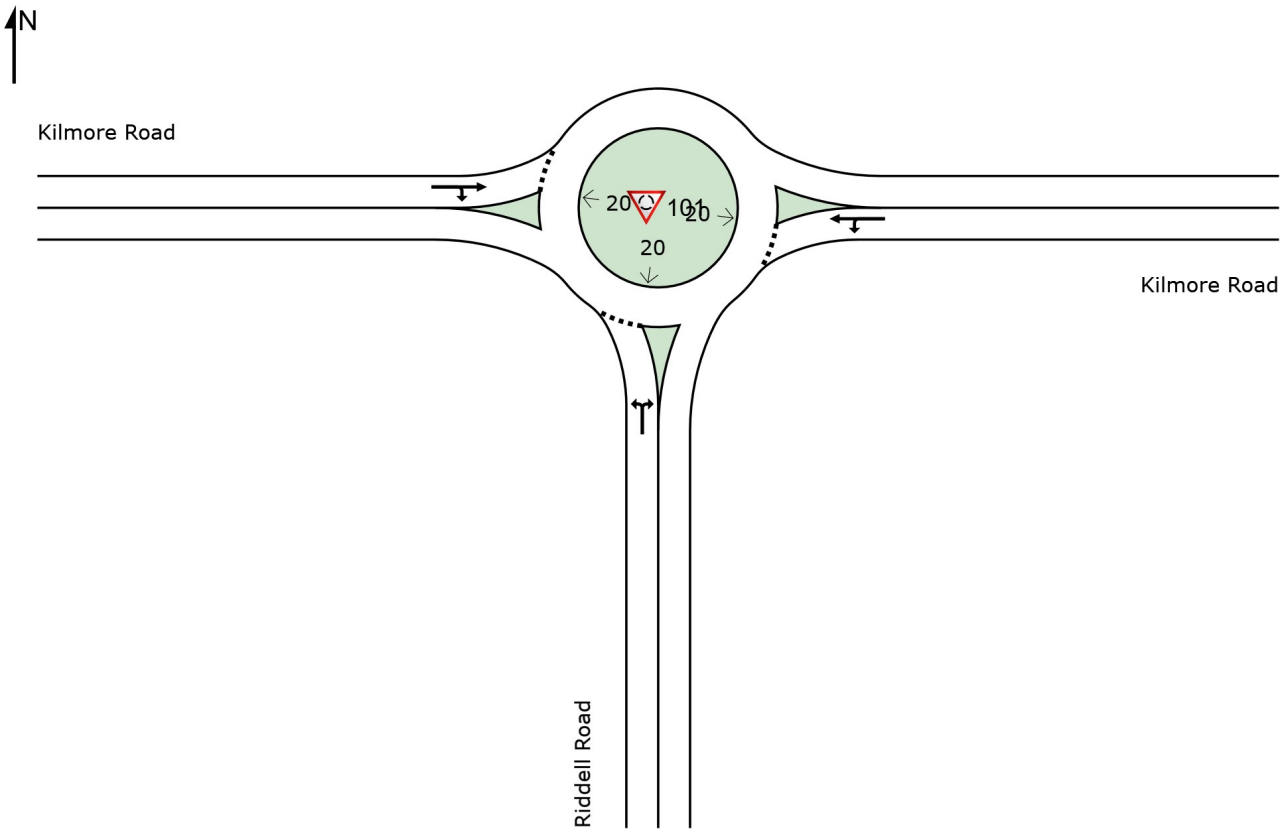
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

Site: 101 [Proposed AM Station Street & Kilmore Road - roundabout (Site Folder: Proposed - with Amess Road traffic)]

New Site
Site Category: (None)
Roundabout

Site Layout

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



Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Riddell Road														
1	L2	134	7	141	5.2	0.643	38.1	LOS D	6.5	47.3	1.00	1.20	1.48	32.7
3	R2	24	0	25	0.0	0.643	42.1	LOS D	6.5	47.3	1.00	1.20	1.48	33.4
Approach		158	7	166	4.4	0.643	38.7	LOS D	6.5	47.3	1.00	1.20	1.48	32.8
East: Kilmore Road														
4	L2	61	2	64	3.3	0.912	5.2	LOS A	19.9	142.1	0.96	0.56	0.96	44.9
5	T1	1166	26	1227	2.2	0.912	5.1	LOS A	19.9	142.1	0.96	0.56	0.96	45.9
Approach		1227	28	1292	2.3	0.912	5.1	LOS A	19.9	142.1	0.96	0.56	0.96	45.8
West: Kilmore Road														
11	T1	443	10	466	2.3	0.367	2.9	LOS A	3.3	23.5	0.19	0.37	0.19	48.2
12	R2	102	7	107	6.9	0.367	7.5	LOS A	3.3	23.5	0.19	0.37	0.19	48.3
Approach		545	17	574	3.1	0.367	3.8	LOS A	3.3	23.5	0.19	0.37	0.19	48.2
All Vehicles		1930	52	2032	2.7	0.912	7.5	LOS A	19.9	142.1	0.75	0.56	0.78	45.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Riddell Road													
Lane 1[d]	166	4.4	259	0.643	100	38.7	LOS D	6.5	47.3	Full	500	0.0	0.0
Approach	166	4.4		0.643		38.7	LOS D	6.5	47.3				
East: Kilmore Road													
Lane 1[d]	1292	2.3	1417	0.912	100	5.1	LOS A	19.9	142.1	Full	500	0.0	0.0
Approach	1292	2.3		0.912		5.1	LOS A	19.9	142.1				
West: Kilmore Road													
Lane 1[d]	574	3.1	1561	0.367	100	3.8	LOS A	3.3	23.5	Full	500	0.0	0.0
Approach	574	3.1		0.367		3.8	LOS A	3.3	23.5				
Intersection	2032	2.7		0.912		7.5	LOS A	19.9	142.1				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Lane Queues (Distance)																
Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Green (m)		Cycle Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Riddell Road															
Lane 1		0.643	1.000	4.8	19.0	47.3	NA	NA	11.8	21.4	0.04	0.09	0.0	NA	NA
Approach		0.643			19.0	47.3	NA	NA	11.8	21.4	0.04	0.09			
East: Kilmore Road															
Lane 1		0.912	1.000	0.0	57.2	142.1	NA	NA	6.0	10.8	0.11	0.28	0.0	NA	NA
Approach		0.912			57.2	142.1	NA	NA	6.0	10.8	0.11	0.28			
West: Kilmore Road															
Lane 1		0.367	1.000	0.0	9.4	23.5	NA	NA	0.2	0.3	0.02	0.05	0.0	NA	NA
Approach		0.367			9.4	23.5	NA	NA	0.2	0.3	0.02	0.05			
Intersection		0.912			57.2	142.1	NA	NA	11.8	21.4	0.11	0.28			

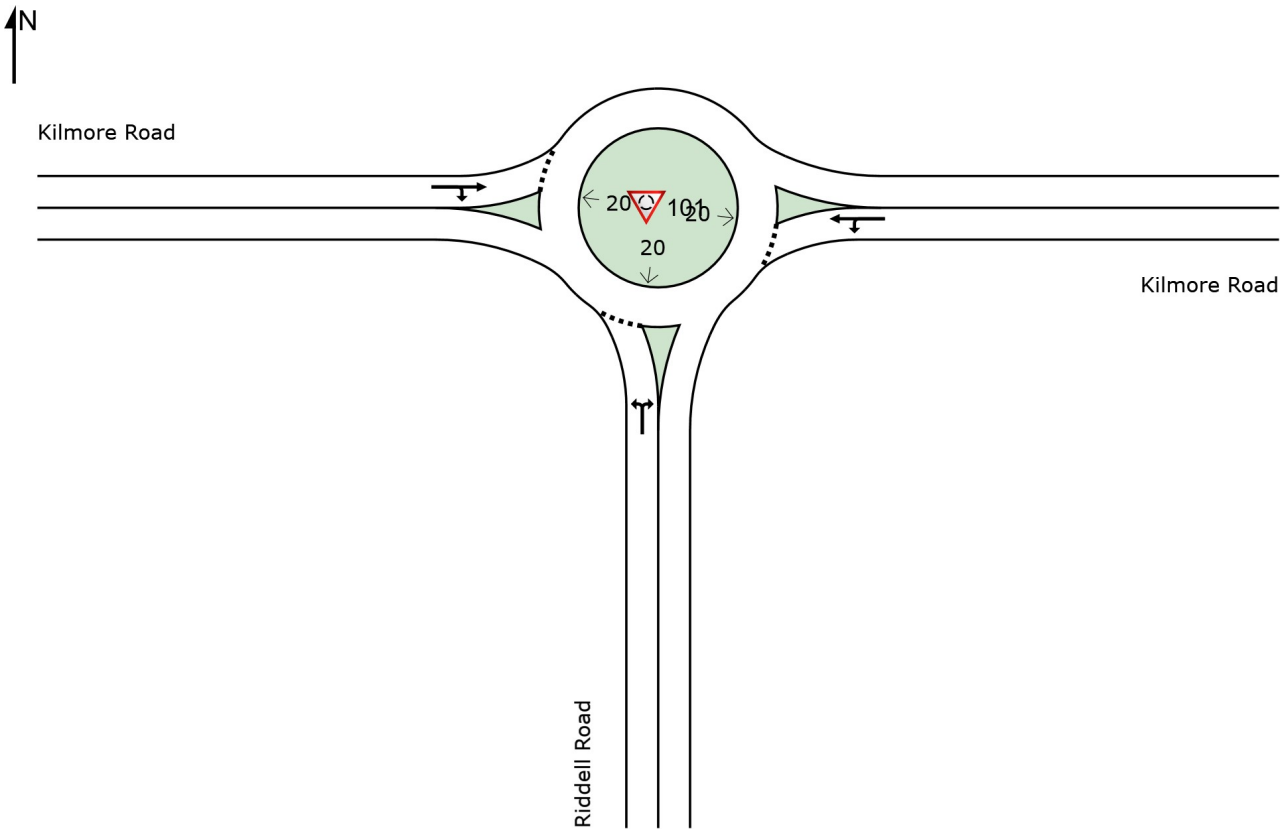
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

Site: 101 [Proposed PM Station Street & Kilmore Road - roundabout (Site Folder: Proposed - with Amess Road traffic)]

New Site
Site Category: (None)
Roundabout

Site Layout

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



Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Riddell Road														
1	L2	138	3	145	2.2	0.282	7.7	LOS A	1.9	13.8	0.82	0.82	0.82	44.6
3	R2	48	0	51	0.0	0.282	12.1	LOS B	1.9	13.8	0.82	0.82	0.82	45.8
Approach		186	3	196	1.6	0.282	8.8	LOS A	1.9	13.8	0.82	0.82	0.82	44.9
East: Kilmore Road														
4	L2	78	0	82	0.0	0.637	4.3	LOS A	6.3	44.8	0.62	0.50	0.62	46.0
5	T1	688	13	724	1.9	0.637	4.3	LOS A	6.3	44.8	0.62	0.50	0.62	47.1
Approach		766	13	806	1.7	0.637	4.3	LOS A	6.3	44.8	0.62	0.50	0.62	47.0
West: Kilmore Road														
11	T1	970	12	1021	1.2	0.776	3.4	LOS A	13.8	97.9	0.52	0.39	0.52	47.2
12	R2	164	2	173	1.2	0.776	7.9	LOS A	13.8	97.9	0.52	0.39	0.52	47.3
Approach		1134	14	1194	1.2	0.776	4.1	LOS A	13.8	97.9	0.52	0.39	0.52	47.2
All Vehicles		2086	30	2196	1.4	0.776	4.6	LOS A	13.8	97.9	0.59	0.47	0.59	46.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Use and Performance													
	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Riddell Road													
Lane 1[d]	196	1.6	694	0.282	100	8.8	LOS A	1.9	13.8	Full	500	0.0	0.0
Approach	196	1.6		0.282		8.8	LOS A	1.9	13.8				
East: Kilmore Road													
Lane 1[d]	806	1.7	1266	0.637	100	4.3	LOS A	6.3	44.8	Full	500	0.0	0.0
Approach	806	1.7		0.637		4.3	LOS A	6.3	44.8				
West: Kilmore Road													
Lane 1[d]	1194	1.2	1539	0.776	100	4.1	LOS A	13.8	97.9	Full	500	0.0	0.0
Approach	1194	1.2		0.776		4.1	LOS A	13.8	97.9				
Intersection	2196	1.4		0.776		4.6	LOS A	13.8	97.9				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Lane Queues (Distance)															
Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Green (m)		Cycle Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Riddell Road															
Lane 1		0.282	1.000	0.0	5.5	13.8	NA	NA	1.9	3.4	0.01	0.03	0.0	NA	NA
Approach		0.282			5.5	13.8	NA	NA	1.9	3.4	0.01	0.03			
East: Kilmore Road															
Lane 1		0.637	1.000	0.0	18.0	44.8	NA	NA	2.4	4.4	0.04	0.09	0.0	NA	NA
Approach		0.637			18.0	44.8	NA	NA	2.4	4.4	0.04	0.09			
West: Kilmore Road															
Lane 1		0.776	1.000	0.0	39.4	97.9	NA	NA	1.5	2.7	0.08	0.20	0.0	NA	NA
Approach		0.776			39.4	97.9	NA	NA	1.5	2.7	0.08	0.20			
Intersection		0.776			39.4	97.9	NA	NA	2.4	4.4	0.08	0.20			

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

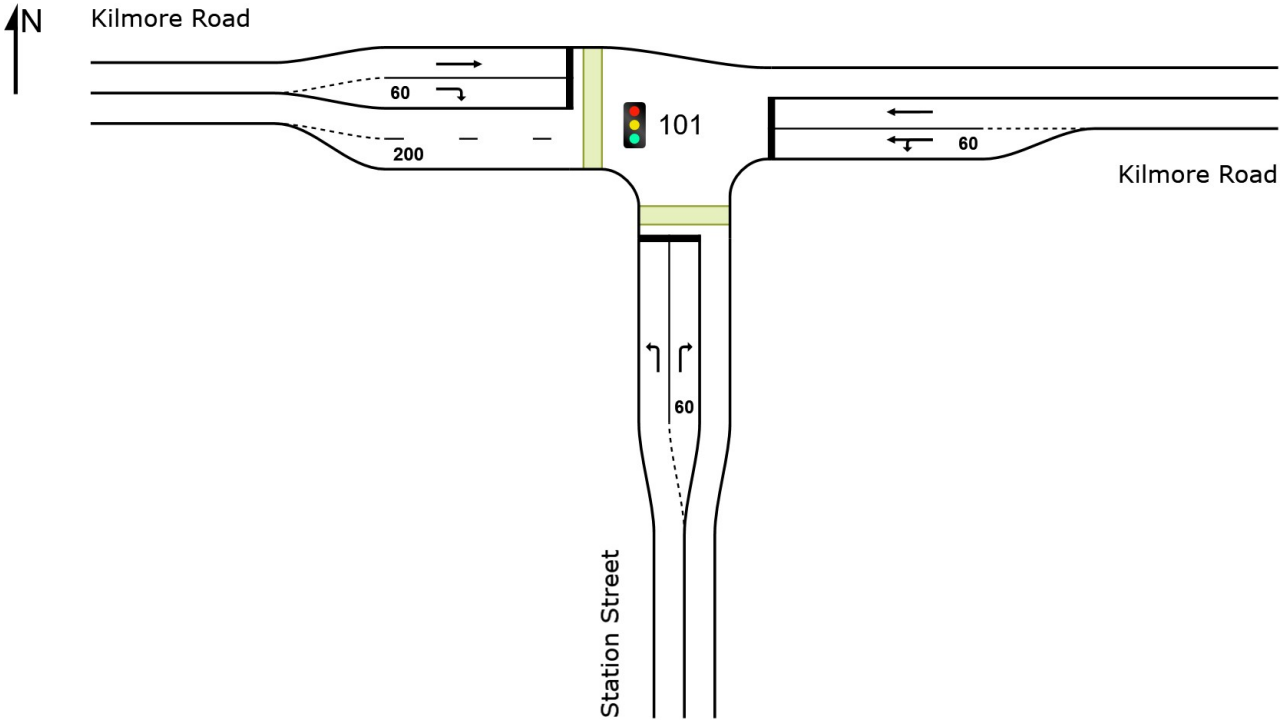
Site: 101 [Proposed AM Station Street & Kilmore Road - signals (Site Folder: Proposed - with Amess Road traffic)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: FCRT
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Site Layout

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



Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Station Street														
1	L2	134	7	141	5.2	0.343	43.4	LOS D	5.8	42.7	0.88	0.78	0.88	32.2
3	R2	24	0	25	0.0	* 0.124	49.1	LOS D	1.1	8.0	0.93	0.71	0.93	29.6
Approach		158	7	166	4.4	0.343	44.3	LOS D	5.8	42.7	0.89	0.77	0.89	31.8
East: Kilmore Road														
4	L2	61	2	64	3.3	0.713	16.2	LOS B	17.8	127.3	0.62	0.58	0.62	42.5
5	T1	1166	26	1227	2.2	* 0.713	13.3	LOS B	17.8	127.2	0.62	0.57	0.62	43.0
Approach		1227	28	1292	2.3	0.713	13.5	LOS B	17.8	127.3	0.62	0.57	0.62	43.0
West: Kilmore Road														
11	T1	443	10	466	2.3	0.315	3.7	LOS A	6.8	48.3	0.33	0.29	0.33	47.6
12	R2	102	7	107	6.9	* 0.674	56.0	LOS E	5.5	40.6	1.00	0.84	1.11	28.1
Approach		545	17	574	3.1	0.674	13.5	LOS B	6.8	48.3	0.45	0.39	0.47	42.1
All Vehicles		1930	52	2032	2.7	0.713	16.0	LOS B	17.8	127.3	0.59	0.53	0.60	41.6

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.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Station Street													
Lane 1	141	5.2	412	0.343	100	43.4	LOS D	5.8	42.7	Full	500	0.0	0.0
Lane 2	25	0.0	204	0.124	100	49.1	LOS D	1.1	8.0	Short	60	0.0	NA
Approach	166	4.4		0.343		44.3	LOS D	5.8	42.7				
East: Kilmore Road													
Lane 1	645	2.3	905[1]	0.713	100	15.4	LOS B	17.8	127.3	Short	60	0.0	NA
Lane 2	647	2.2	907[1]	0.713	100	11.6	LOS B	17.8	127.2	Full	500	0.0	0.0
Approach	1292	2.3		0.713		13.5	LOS B	17.8	127.3				
West: Kilmore Road													
Lane 1	466	2.3	1480	0.315	100	3.7	LOS A	6.8	48.3	Full	500	0.0	0.0
Lane 2	107	6.9	159	0.674	100	56.0	LOS E	5.5	40.6	Short	60	0.0	NA
Approach	574	3.1		0.674		13.5	LOS B	6.8	48.3				
Intersection	2032	2.7		0.713		16.0	LOS B	17.8	127.3				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Lane Queues (Distance)															
Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Green (m)		Cycle Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Station Street															
Lane 1		0.343	1.000	0.0	26.1	42.7	24.1	39.3	10.1	21.0	0.05	0.09	0.0	NA	NA
Lane 2		0.124	1.000	0.0	4.9	8.0	4.8	7.9	2.2	4.6	0.08	0.13	NA	0.0	1
Approach		0.343			26.1	42.7	24.1	39.3	10.1	21.0	0.05	0.09			
East: Kilmore Road															
Lane 1		0.713	1.000	0.0	78.0	127.3	51.7	84.3	14.8	31.0	1.30	2.12	NA	75.0	2
Lane 2		0.713	1.000	0.0	77.9	127.2	51.7	84.4	14.8	30.9	0.16	0.25	0.0	NA	NA
Approach		0.713			78.0	127.3	51.7	84.4	14.8	31.0	0.16	0.25			
West: Kilmore Road															
Lane 1		0.315	1.000	0.0	29.6	48.3	22.4	36.6	3.4	7.1	0.06	0.10	0.0	NA	NA
Lane 2		0.674	1.000	0.3	24.9	40.6	23.3	38.0	11.4	23.7	0.41	0.68	NA	0.0	1
Approach		0.674			29.6	48.3	23.3	38.0	11.4	23.7	0.06	0.10			
Intersection		0.713			78.0	127.3	51.7	84.4	14.8	31.0	0.16	0.25			

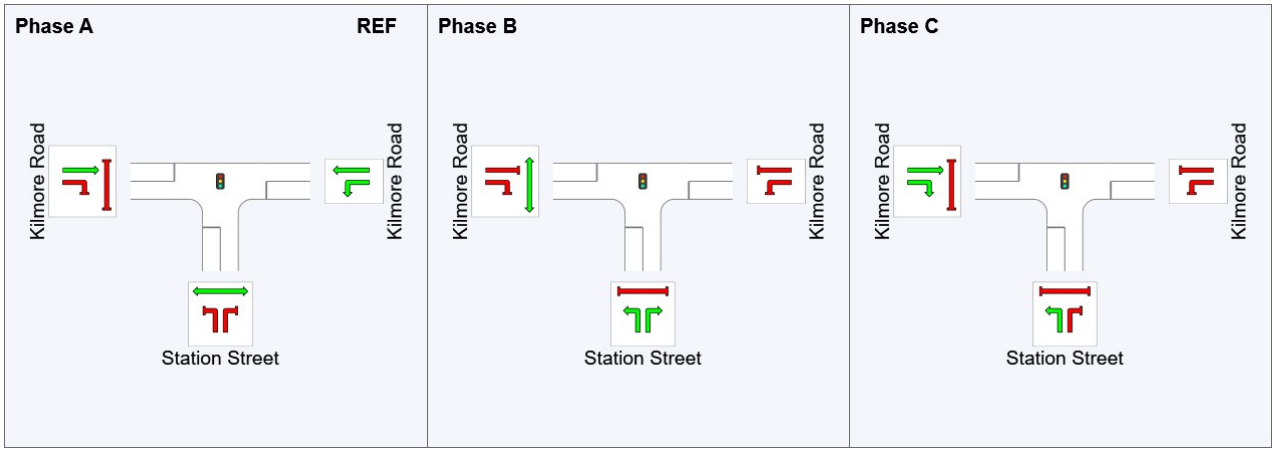
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

Phase Timing Summary

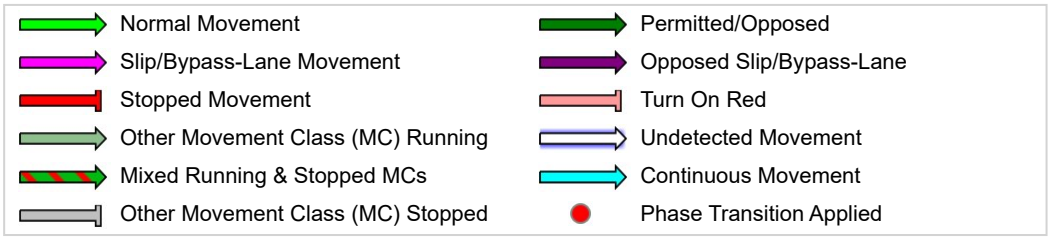
Phase	A	B	C
Phase Change Time (sec)	0	68	85
Green Time (sec)	62	11	9
Phase Time (sec)	68	17	15
Phase Split	68%	17%	15%

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

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



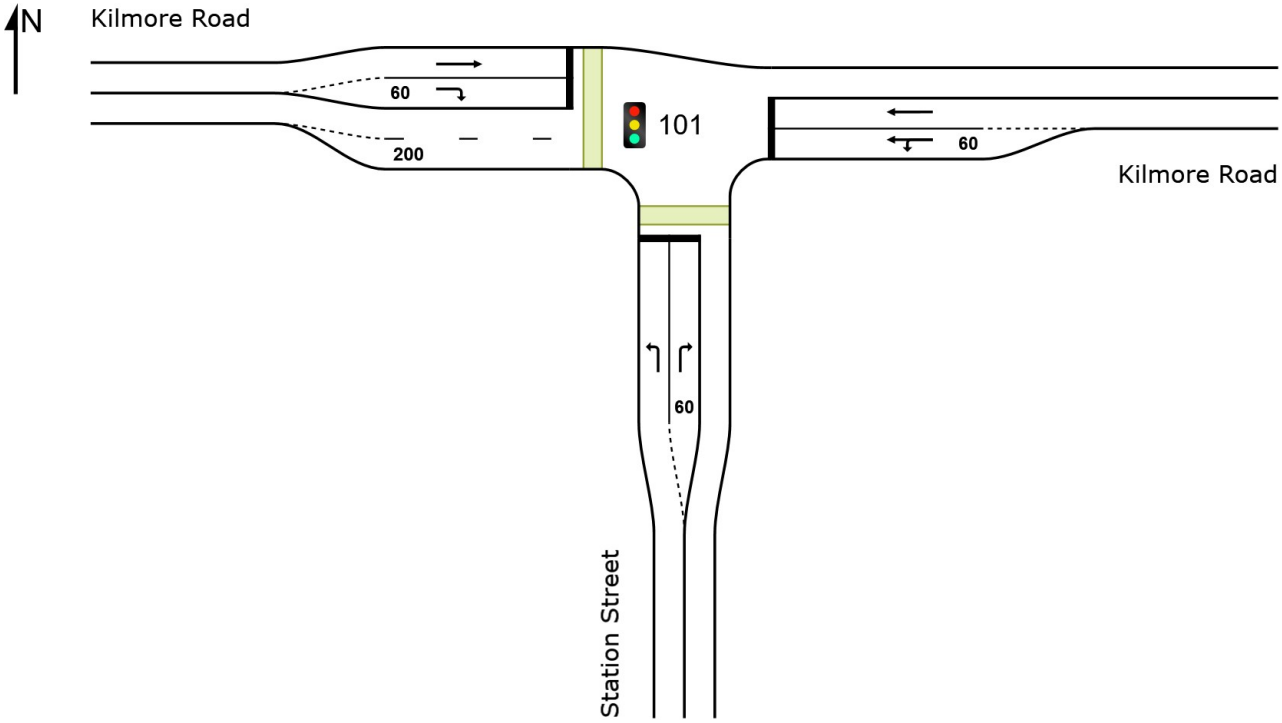
Site: 101 [Proposed PM Station Street & Kilmore Road - signals (Site Folder: Proposed - with Amess Road traffic)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: FCRT
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Site Layout

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



Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Station Street														
1	L2	138	3	145	2.2	0.221	29.6	LOS C	4.9	35.0	0.73	0.74	0.73	35.7
3	R2	48	0	51	0.0	* 0.247	50.0	LOS D	2.3	16.4	0.95	0.74	0.95	29.4
Approach		186	3	196	1.6	0.247	34.8	LOS C	4.9	35.0	0.79	0.74	0.79	33.9
East: Kilmore Road														
4	L2	78	0	82	0.0	0.429	22.1	LOS C	12.5	88.9	0.69	0.64	0.69	39.6
5	T1	688	13	724	1.9	0.429	18.1	LOS B	12.6	89.9	0.69	0.62	0.69	40.1
Approach		766	13	806	1.7	0.429	18.5	LOS B	12.6	89.9	0.69	0.62	0.69	40.1
West: Kilmore Road														
11	T1	970	12	1021	1.2	* 0.779	5.9	LOS A	23.9	168.8	0.53	0.49	0.53	46.2
12	R2	164	2	173	1.2	0.426	41.3	LOS D	7.4	52.1	0.91	0.79	0.91	31.7
Approach		1134	14	1194	1.2	0.779	11.0	LOS B	23.9	168.8	0.59	0.54	0.59	43.4
All Vehicles		2086	30	2196	1.4	0.779	15.9	LOS B	23.9	168.8	0.64	0.59	0.64	41.1

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.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Station Street													
Lane 1	145	2.2	658	0.221	100	29.6	LOS C	4.9	35.0	Full	500	0.0	0.0
Lane 2	51	0.0	204	0.247	100	50.0	LOS D	2.3	16.4	Short	60	0.0	NA
Approach	196	1.6		0.247		34.8	LOS C	4.9	35.0				
East: Kilmore Road													
Lane 1	402	1.5	937	0.429	100	19.4	LOS B	12.5	88.9	Short	60	0.0	NA
Lane 2	405	1.9	944	0.429	100	17.6	LOS B	12.6	89.9	Full	500	0.0	0.0
Approach	806	1.7		0.429		18.5	LOS B	12.6	89.9				
West: Kilmore Road													
Lane 1	1021	1.2	1311[1]	0.779	100	5.9	LOS A	23.9	168.8	Full	500	0.0	0.0
Lane 2	173	1.2	405	0.426	100	41.3	LOS D	7.4	52.1	Short	60	0.0	NA
Approach	1194	1.2		0.779		11.0	LOS B	23.9	168.8				
Intersection	2196	1.4		0.779		15.9	LOS B	23.9	168.8				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Lane Queues (Distance)															
Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Green (m)		Cycle Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Station Street															
Lane 1		0.221	1.000	0.0	21.5	35.0	19.8	32.2	6.9	14.3	0.04	0.07	0.0	NA	NA
Lane 2		0.247	1.000	0.0	10.0	16.4	9.8	15.9	4.5	9.3	0.17	0.27	NA	0.0	1
Approach		0.247			21.5	35.0	19.8	32.2	6.9	14.3	0.04	0.07			
East: Kilmore Road															
Lane 1		0.429	1.000	0.0	54.5	88.9	43.0	70.3	13.9	29.0	0.91	1.48	NA	41.0	2
Lane 2		0.429	1.000	0.0	55.1	89.9	43.5	71.0	14.0	29.3	0.11	0.18	0.0	NA	NA
Approach		0.429			55.1	89.9	43.5	71.0	14.0	29.3	0.11	0.18			
West: Kilmore Road															
Lane 1		0.779	1.000	0.0	103.4	168.8	48.8	79.7	11.9	24.9	0.21	0.34	0.0	NA	NA
Lane 2		0.426	1.000	0.0	31.9	52.1	28.9	47.2	12.5	26.0	0.53	0.87	NA	0.0	1
Approach		0.779			103.4	168.8	48.8	79.7	12.5	26.0	0.21	0.34			
Intersection		0.779			103.4	168.8	48.8	79.7	14.0	29.3	0.21	0.34			

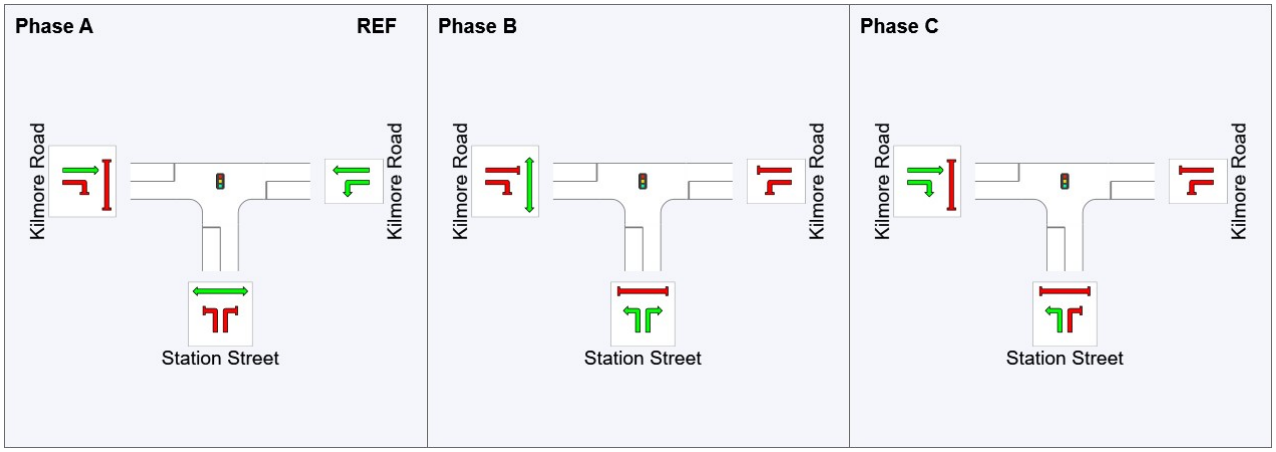
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

Phase Timing Summary

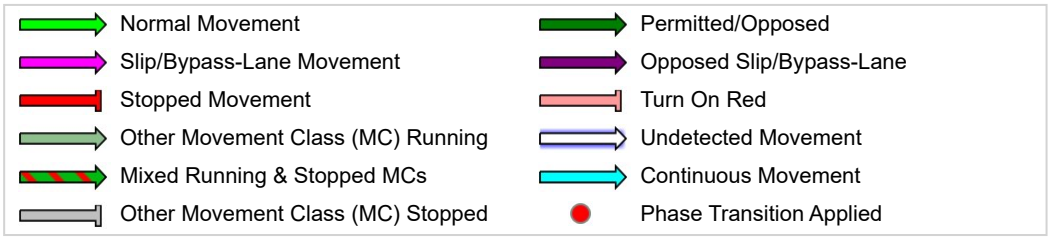
Phase	A	B	C
Phase Change Time (sec)	0	55	72
Green Time (sec)	49	11	22
Phase Time (sec)	55	17	28
Phase Split	55%	17%	28%

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

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

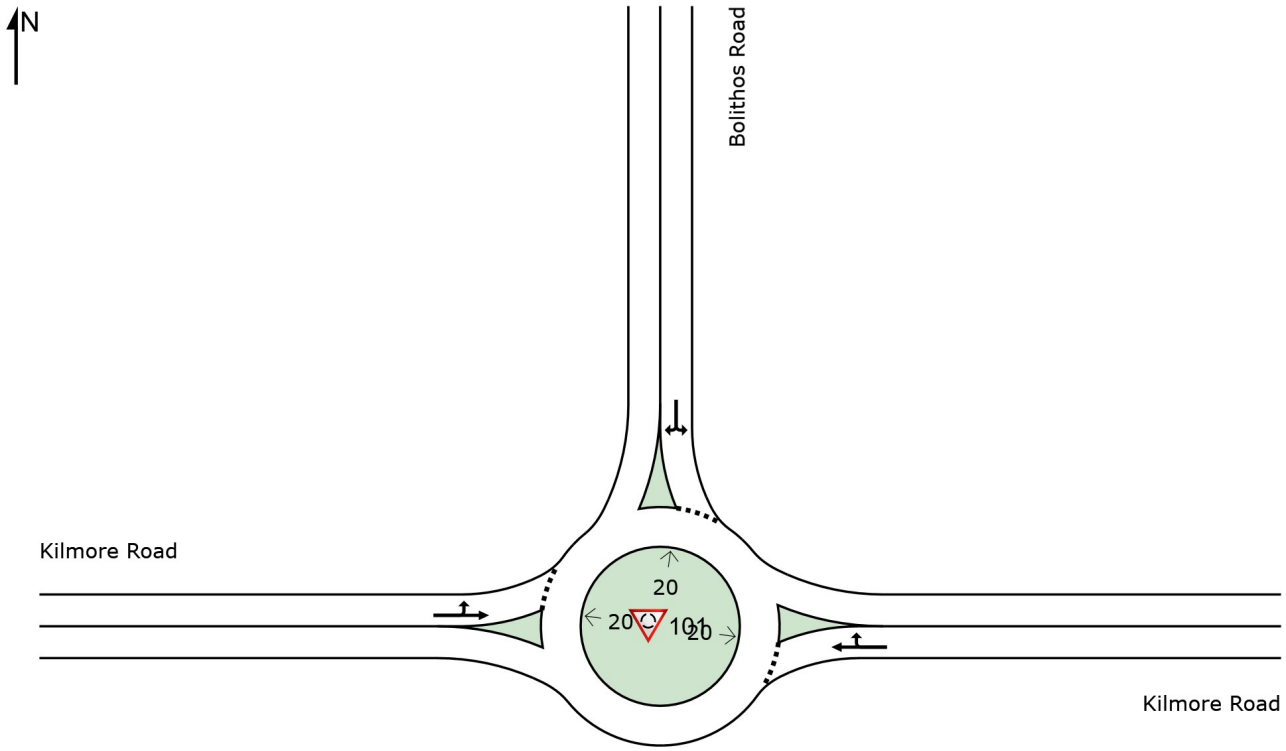


Site: 101 [Proposed AM Bolithos Road & Kilmore Road (Site Folder: Proposed - with Amess Road traffic)]

New Site
Site Category: (None)
Roundabout

Site Layout

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



Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Kilmore Road														
5	T1	1163	27	1224	2.3	0.843	6.4	LOS A	16.8	120.0	0.70	0.48	0.70	58.6
6	R2	23	1	24	4.3	0.843	11.2	LOS B	16.8	120.0	0.70	0.48	0.70	56.0
Approach		1186	28	1248	2.4	0.843	6.5	LOS A	16.8	120.0	0.70	0.48	0.70	58.6
North: Bolithos Road														
7	L2	34	1	36	2.9	0.113	6.4	LOS A	0.6	4.3	0.55	0.69	0.55	53.3
9	R2	68	2	72	2.9	0.113	11.2	LOS B	0.6	4.3	0.55	0.69	0.55	54.2
Approach		102	3	107	2.9	0.113	9.6	LOS A	0.6	4.3	0.55	0.69	0.55	53.9
West: Kilmore Road														
10	L2	19	1	20	5.3	0.312	5.0	LOS A	2.4	16.9	0.16	0.44	0.16	57.5
11	T1	444	9	467	2.0	0.312	5.4	LOS A	2.4	16.9	0.16	0.44	0.16	61.9
Approach		463	10	487	2.2	0.312	5.4	LOS A	2.4	16.9	0.16	0.44	0.16	61.8
All Vehicles		1751	41	1843	2.3	0.843	6.4	LOS A	16.8	120.0	0.55	0.48	0.55	59.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Use and Performance													
	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
East: Kilmore Road													
Lane 1[d]	1248	2.4	1481	0.843	100	6.5	LOS A	16.8	120.0	Full	500	0.0	0.0
Approach	1248	2.4		0.843		6.5	LOS A	16.8	120.0				
North: Bolithos Road													
Lane 1[d]	107	2.9	951	0.113	100	9.6	LOS A	0.6	4.3	Full	500	0.0	0.0
Approach	107	2.9		0.113		9.6	LOS A	0.6	4.3				
West: Kilmore Road													
Lane 1[d]	487	2.2	1564	0.312	100	5.4	LOS A	2.4	16.9	Full	500	0.0	0.0
Approach	487	2.2		0.312		5.4	LOS A	2.4	16.9				
Intersection	1843	2.3		0.843		6.4	LOS A	16.8	120.0				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Lane Queues (Distance)															
Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Green (m)		Cycle Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
East: Kilmore Road															
Lane 1		0.843	1.000	0.0	48.3	120.0	NA	NA	2.9	5.3	0.10	0.24	0.0	NA	NA
Approach		0.843			48.3	120.0	NA	NA	2.9	5.3	0.10	0.24			
North: Bolithos Road															
Lane 1		0.113	1.000	0.0	1.7	4.3	NA	NA	0.5	1.0	0.00	0.01	0.0	NA	NA
Approach		0.113			1.7	4.3	NA	NA	0.5	1.0	0.00	0.01			
West: Kilmore Road															
Lane 1		0.312	1.000	0.0	6.8	16.9	NA	NA	0.1	0.2	0.01	0.03	0.0	NA	NA
Approach		0.312			6.8	16.9	NA	NA	0.1	0.2	0.01	0.03			
Intersection		0.843			48.3	120.0	NA	NA	2.9	5.3	0.10	0.24			

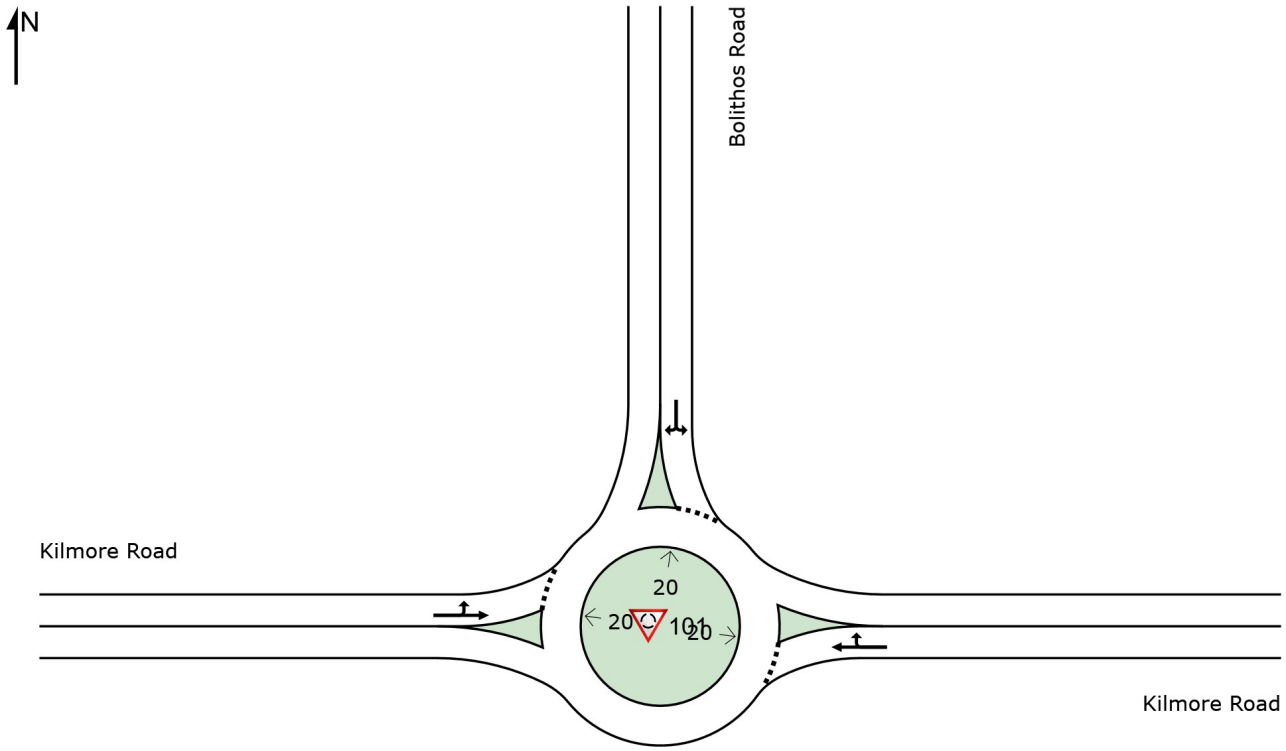
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

Site: 101 [Proposed PM Bolithos Road & Kilmore Road (Site Folder: Proposed - with Amess Road traffic)]

New Site
Site Category: (None)
Roundabout

Site Layout

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



Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Kilmore Road														
5	T1	704	13	741	1.8	0.528	5.8	LOS A	5.3	38.0	0.39	0.47	0.39	60.5
6	R2	19	2	20	10.5	0.528	10.6	LOS B	5.3	38.0	0.39	0.47	0.39	57.4
Approach		723	15	761	2.1	0.528	5.9	LOS A	5.3	38.0	0.39	0.47	0.39	60.4
North: Bolithos Road														
7	L2	33	1	35	3.0	0.184	12.7	LOS B	1.2	8.5	0.85	0.87	0.85	48.9
9	R2	67	0	71	0.0	0.184	17.3	LOS B	1.2	8.5	0.85	0.87	0.85	50.3
Approach		100	1	105	1.0	0.184	15.8	LOS B	1.2	8.5	0.85	0.87	0.85	49.8
West: Kilmore Road														
10	L2	44	1	46	2.3	0.655	5.0	LOS A	7.8	55.3	0.21	0.43	0.21	57.4
11	T1	980	11	1032	1.1	0.655	5.4	LOS A	7.8	55.3	0.21	0.43	0.21	61.9
Approach		1024	12	1078	1.2	0.655	5.4	LOS A	7.8	55.3	0.21	0.43	0.21	61.7
All Vehicles		1847	28	1944	1.5	0.655	6.2	LOS A	7.8	55.3	0.32	0.47	0.32	60.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Use and Performance													
	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
East: Kilmore Road													
Lane 1[d]	761	2.1	1441	0.528	100	5.9	LOS A	5.3	38.0	Full	500	0.0	0.0
Approach	761	2.1		0.528		5.9	LOS A	5.3	38.0				
North: Bolithos Road													
Lane 1[d]	105	1.0	573	0.184	100	15.8	LOS B	1.2	8.5	Full	500	0.0	0.0
Approach	105	1.0		0.184		15.8	LOS B	1.2	8.5				
West: Kilmore Road													
Lane 1[d]	1078	1.2	1645	0.655	100	5.4	LOS A	7.8	55.3	Full	500	0.0	0.0
Approach	1078	1.2		0.655		5.4	LOS A	7.8	55.3				
Intersection	1944	1.5		0.655		6.2	LOS A	7.8	55.3				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Lane Queues (Distance)															
Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Green (m)		Cycle Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
East: Kilmore Road															
Lane 1		0.528	1.000	0.0	15.3	38.0	NA	NA	0.8	1.4	0.03	0.08	0.0	NA	NA
Approach		0.528			15.3	38.0	NA	NA	0.8	1.4	0.03	0.08			
North: Bolithos Road															
Lane 1		0.184	1.000	0.0	3.4	8.5	NA	NA	1.8	3.2	0.01	0.02	0.0	NA	NA
Approach		0.184			3.4	8.5	NA	NA	1.8	3.2	0.01	0.02			
West: Kilmore Road															
Lane 1		0.655	1.000	0.0	22.3	55.3	NA	NA	0.4	0.7	0.04	0.11	0.0	NA	NA
Approach		0.655			22.3	55.3	NA	NA	0.4	0.7	0.04	0.11			
Intersection		0.655			22.3	55.3	NA	NA	1.8	3.2	0.04	0.11			

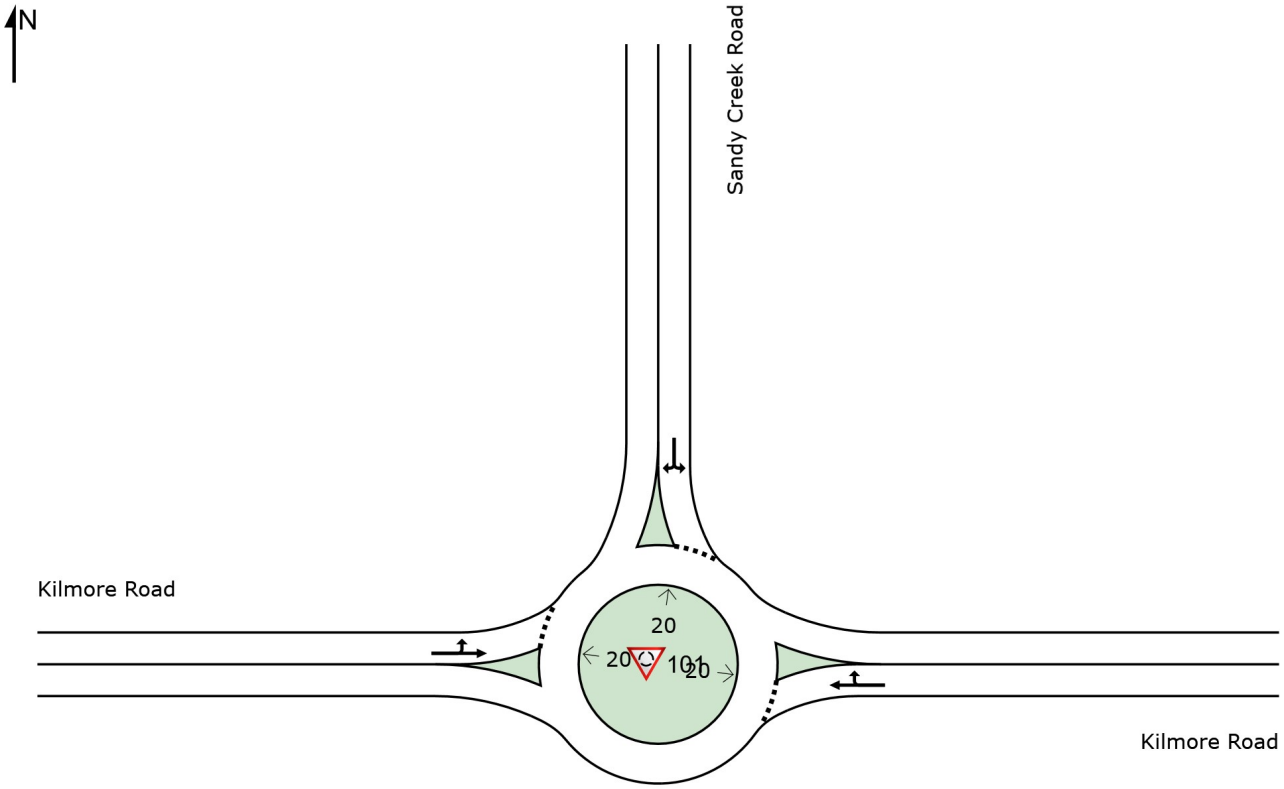
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

Site: 101 [Proposed AM Sandy Creek Road & Kilmore Road (Site Folder: Proposed - with Amess Road traffic)]

New Site
Site Category: (None)
Roundabout

Site Layout

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



Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Kilmore Road														
5	T1	599	22	631	3.7	0.431	5.6	LOS A	3.4	24.8	0.27	0.45	0.27	60.8
6	R2	2	0	2	0.0	0.431	10.2	LOS B	3.4	24.8	0.27	0.45	0.27	58.5
Approach		601	22	633	3.7	0.431	5.6	LOS A	3.4	24.8	0.27	0.45	0.27	60.8
North: Sandy Creek Road														
7	L2	3	0	3	0.0	0.054	5.4	LOS A	0.3	1.9	0.44	0.65	0.44	53.4
9	R2	51	3	54	5.9	0.054	10.4	LOS B	0.3	1.9	0.44	0.65	0.44	53.0
Approach		54	3	57	5.6	0.054	10.1	LOS B	0.3	1.9	0.44	0.65	0.44	53.0
West: Kilmore Road														
10	L2	15	0	16	0.0	0.202	4.8	LOS A	1.2	8.4	0.03	0.46	0.03	58.4
11	T1	312	10	328	3.2	0.202	5.3	LOS A	1.2	8.4	0.03	0.46	0.03	62.4
Approach		327	10	344	3.1	0.202	5.3	LOS A	1.2	8.4	0.03	0.46	0.03	62.2
All Vehicles		982	35	1034	3.6	0.431	5.7	LOS A	3.4	24.8	0.20	0.47	0.20	60.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Use and Performance													
	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
East: Kilmore Road													
Lane 1[d]	633	3.7	1468	0.431	100	5.6	LOS A	3.4	24.8	Full	500	0.0	0.0
Approach	633	3.7		0.431		5.6	LOS A	3.4	24.8				
North: Sandy Creek Road													
Lane 1[d]	57	5.6	1045	0.054	100	10.1	LOS B	0.3	1.9	Full	500	0.0	0.0
Approach	57	5.6		0.054		10.1	LOS B	0.3	1.9				
West: Kilmore Road													
Lane 1[d]	344	3.1	1706	0.202	100	5.3	LOS A	1.2	8.4	Full	500	0.0	0.0
Approach	344	3.1		0.202		5.3	LOS A	1.2	8.4				
Intersection	1034	3.6		0.431		5.7	LOS A	3.4	24.8				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Lane Queues (Distance)															
Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Green (m)		Cycle Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
East: Kilmore Road															
Lane 1		0.431	1.000	0.0	10.0	24.8	NA	NA	0.4	0.8	0.02	0.05	0.0	NA	NA
Approach		0.431			10.0	24.8	NA	NA	0.4	0.8	0.02	0.05			
North: Sandy Creek Road															
Lane 1		0.054	1.000	0.0	0.8	1.9	NA	NA	0.2	0.3	0.00	0.00	0.0	NA	NA
Approach		0.054			0.8	1.9	NA	NA	0.2	0.3	0.00	0.00			
West: Kilmore Road															
Lane 1		0.202	1.000	0.0	3.4	8.4	NA	NA	0.0	0.0	0.01	0.02	0.0	NA	NA
Approach		0.202			3.4	8.4	NA	NA	0.0	0.0	0.01	0.02			
Intersection		0.431			10.0	24.8	NA	NA	0.4	0.8	0.02	0.05			

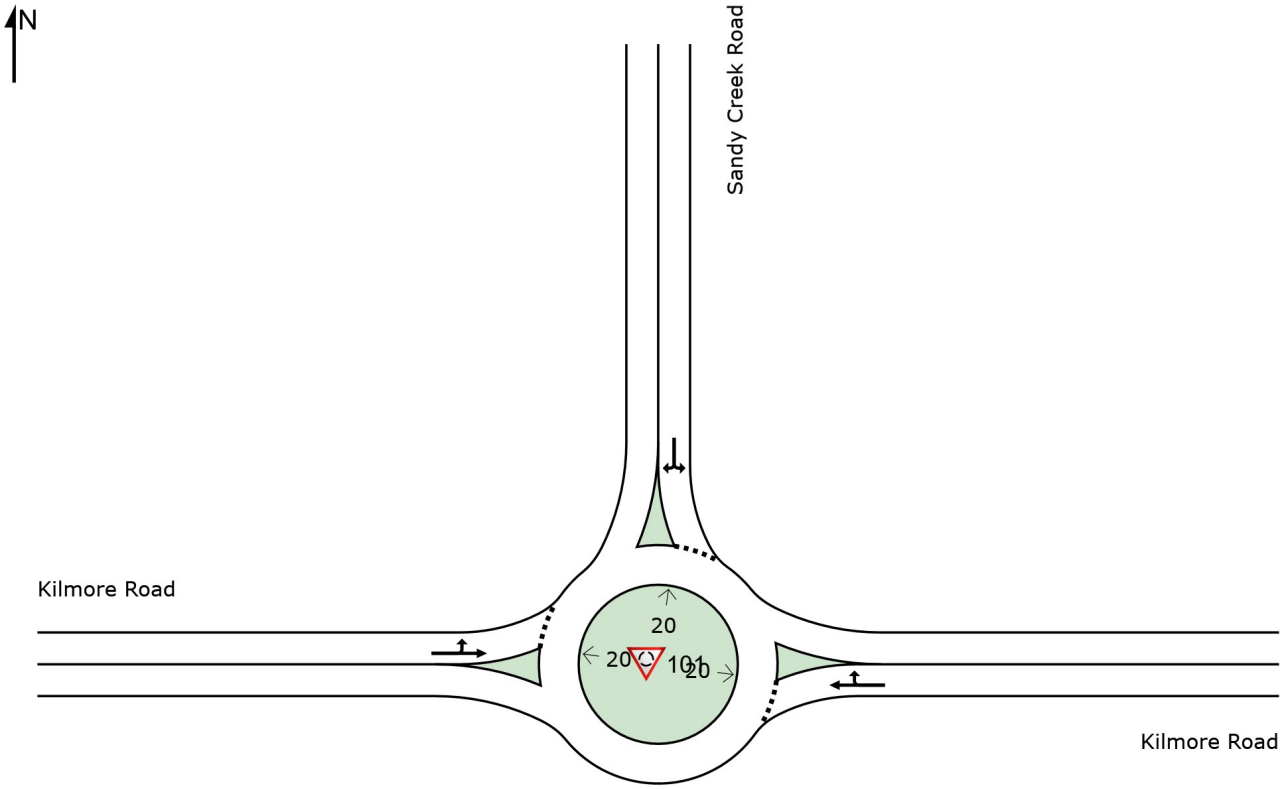
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

Site: 101 [Proposed PM Sandy Creek Road & Kilmore Road (Site Folder: Proposed - with Amess Road traffic)]

New Site
Site Category: (None)
Roundabout

Site Layout

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



Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Kilmore Road														
5	T1	444	17	467	3.8	0.309	5.4	LOS A	2.3	16.4	0.17	0.44	0.17	61.4
6	R2	5	2	5	40.0	0.309	10.6	LOS B	2.3	16.4	0.17	0.44	0.17	57.2
Approach		449	19	473	4.2	0.309	5.5	LOS A	2.3	16.4	0.17	0.44	0.17	61.3
North: Sandy Creek Road														
7	L2	5	0	5	0.0	0.039	7.2	LOS A	0.2	1.4	0.61	0.69	0.61	52.7
9	R2	27	0	28	0.0	0.039	12.1	LOS B	0.2	1.4	0.61	0.69	0.61	53.6
Approach		32	0	34	0.0	0.039	11.3	LOS B	0.2	1.4	0.61	0.69	0.61	53.4
West: Kilmore Road														
10	L2	43	1	45	2.3	0.403	4.9	LOS A	2.9	20.7	0.06	0.45	0.06	58.2
11	T1	608	10	640	1.6	0.403	5.3	LOS A	2.9	20.7	0.06	0.45	0.06	62.6
Approach		651	11	685	1.7	0.403	5.3	LOS A	2.9	20.7	0.06	0.45	0.06	62.3
All Vehicles		1132	30	1192	2.7	0.403	5.5	LOS A	2.9	20.7	0.12	0.45	0.12	61.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
East: Kilmore Road													
Lane 1[d]	473	4.2	1530	0.309	100	5.5	LOS A	2.3	16.4	Full	500	0.0	0.0
Approach	473	4.2		0.309		5.5	LOS A	2.3	16.4				
North: Sandy Creek Road													
Lane 1[d]	34	0.0	864	0.039	100	11.3	LOS B	0.2	1.4	Full	500	0.0	0.0
Approach	34	0.0		0.039		11.3	LOS B	0.2	1.4				
West: Kilmore Road													
Lane 1[d]	685	1.7	1700	0.403	100	5.3	LOS A	2.9	20.7	Full	500	0.0	0.0
Approach	685	1.7		0.403		5.3	LOS A	2.9	20.7				
Intersection	1192	2.7		0.403		5.5	LOS A	2.9	20.7				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Lane Queues (Distance)															
Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Green (m)		Cycle Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
East: Kilmore Road															
Lane 1		0.309	1.000	0.0	6.6	16.4	NA	NA	0.1	0.2	0.01	0.03	0.0	NA	NA
Approach		0.309			6.6	16.4	NA	NA	0.1	0.2	0.01	0.03			
North: Sandy Creek Road															
Lane 1		0.039	1.000	0.0	0.6	1.4	NA	NA	0.2	0.4	0.00	0.00	0.0	NA	NA
Approach		0.039			0.6	1.4	NA	NA	0.2	0.4	0.00	0.00			
West: Kilmore Road															
Lane 1		0.403	1.000	0.0	8.3	20.7	NA	NA	0.0	0.1	0.02	0.04	0.0	NA	NA
Approach		0.403			8.3	20.7	NA	NA	0.0	0.1	0.02	0.04			
Intersection		0.403			8.3	20.7	NA	NA	0.2	0.4	0.02	0.04			

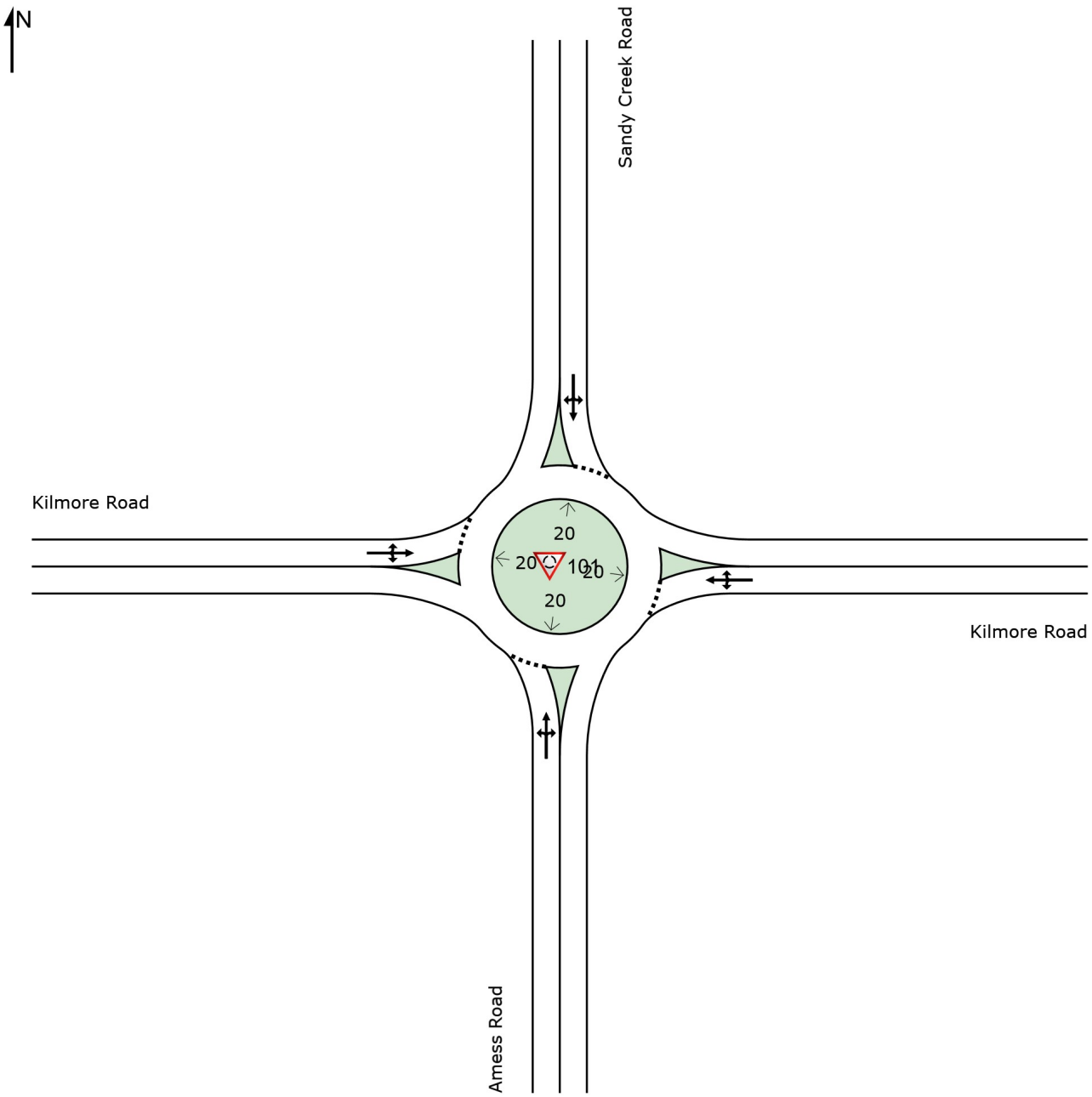
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

Site: 101 [NEW AM Kilmore Road, Sandy Creek Road & Amess Road - PSP roundabout (Site Folder: Proposed - with Amess Road traffic)]

New Site
Site Category: (None)
Roundabout

Site Layout

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



Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Amess Road														
1	L2	307	5.0	323	5.0	0.461	10.1	LOS B	3.6	26.1	0.84	0.91	0.93	52.2
2	T1	1	5.0	1	5.0	0.461	10.3	LOS B	3.6	26.1	0.84	0.91	0.93	51.8
3	R2	13	5.0	14	5.0	0.461	15.0	LOS B	3.6	26.1	0.84	0.91	0.93	53.1
Approach		321	5.0	338	5.0	0.461	10.3	LOS B	3.6	26.1	0.84	0.91	0.93	52.3
East: Kilmore Road														
4	L2	15	5.0	16	5.0	0.501	5.9	LOS A	3.9	28.4	0.45	0.52	0.45	56.1
5	T1	599	5.0	631	5.0	0.501	6.3	LOS A	3.9	28.4	0.45	0.52	0.45	60.5
6	R2	2	5.0	2	5.0	0.501	11.0	LOS B	3.9	28.4	0.45	0.52	0.45	57.4
Approach		616	5.0	648	5.0	0.501	6.3	LOS A	3.9	28.4	0.45	0.52	0.45	60.3
North: Sandy Creek Road														
7	L2	3	5.0	3	5.0	0.060	6.1	LOS A	0.3	2.2	0.51	0.67	0.51	52.1
8	T1	1	5.0	1	5.0	0.060	6.3	LOS A	0.3	2.2	0.51	0.67	0.51	51.8
9	R2	51	5.0	54	5.0	0.060	10.9	LOS B	0.3	2.2	0.51	0.67	0.51	53.0
Approach		55	5.0	58	5.0	0.060	10.6	LOS B	0.3	2.2	0.51	0.67	0.51	52.9
West: Kilmore Road														
10	L2	15	5.0	16	5.0	0.273	4.9	LOS A	2.0	14.7	0.12	0.50	0.12	57.0
11	T1	312	5.0	328	5.0	0.273	5.4	LOS A	2.0	14.7	0.12	0.50	0.12	60.5
12	R2	80	5.0	84	5.0	0.273	10.0	LOS B	2.0	14.7	0.12	0.50	0.12	58.3
Approach		407	5.0	428	5.0	0.273	6.3	LOS A	2.0	14.7	0.12	0.50	0.12	59.9
All Vehicles		1399	5.0	1473	5.0	0.501	7.4	LOS A	3.9	28.4	0.45	0.61	0.47	57.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Use and Performance													
	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Amess Road													
Lane 1[d]	338	5.0	732	0.461	100	10.3	LOS B	3.6	26.1	Full	500	0.0	0.0
Approach	338	5.0		0.461		10.3	LOS B	3.6	26.1				
East: Kilmore Road													
Lane 1[d]	648	5.0	1294	0.501	100	6.3	LOS A	3.9	28.4	Full	500	0.0	0.0
Approach	648	5.0		0.501		6.3	LOS A	3.9	28.4				
North: Sandy Creek Road													
Lane 1[d]	58	5.0	958	0.060	100	10.6	LOS B	0.3	2.2	Full	500	0.0	0.0
Approach	58	5.0		0.060		10.6	LOS B	0.3	2.2				
West: Kilmore Road													
Lane 1[d]	428	5.0	1571	0.273	100	6.3	LOS A	2.0	14.7	Full	500	0.0	0.0
Approach	428	5.0		0.273		6.3	LOS A	2.0	14.7				
Intersection	1473	5.0		0.501		7.4	LOS A	3.9	28.4				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Lane Queues (Distance)															
Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Green (m)		Cycle Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Amess Road															
Lane 1		0.461	1.000	0.8	10.5	26.1	NA	NA	4.3	7.7	0.02	0.05	0.0	NA	NA
Approach		0.461			10.5	26.1	NA	NA	4.3	7.7	0.02	0.05			
East: Kilmore Road															
Lane 1		0.501	1.000	0.0	11.4	28.4	NA	NA	1.4	2.5	0.02	0.06	0.0	NA	NA
Approach		0.501			11.4	28.4	NA	NA	1.4	2.5	0.02	0.06			
North: Sandy Creek Road															
Lane 1		0.060	1.000	0.0	0.9	2.2	NA	NA	0.3	0.5	0.00	0.00	0.0	NA	NA
Approach		0.060			0.9	2.2	NA	NA	0.3	0.5	0.00	0.00			
West: Kilmore Road															
Lane 1		0.273	1.000	0.0	5.9	14.7	NA	NA	0.1	0.1	0.01	0.03	0.0	NA	NA
Approach		0.273			5.9	14.7	NA	NA	0.1	0.1	0.01	0.03			
Intersection		0.501			11.4	28.4	NA	NA	4.3	7.7	0.02	0.06			

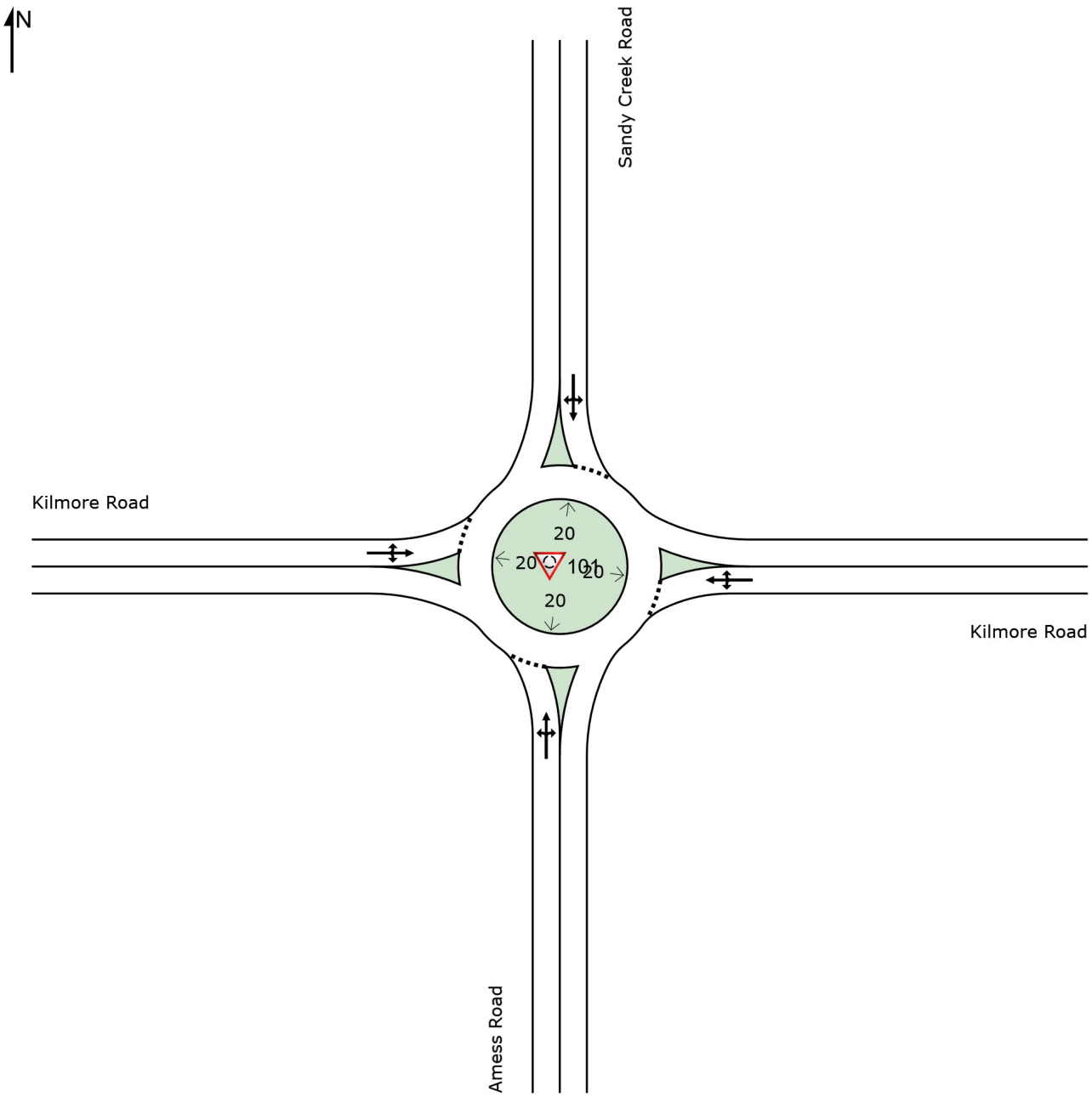
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

Site: 101 [NEW PM Kilmore Road, Sandy Creek Road & Amess Road - PSP roundabout (Site Folder: Proposed - with Amess Road traffic)]

New Site
Site Category: (None)
Roundabout

Site Layout

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



Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Amess Road														
1	L2	176	5.0	185	5.0	0.253	7.0	LOS A	1.6	11.7	0.68	0.73	0.68	54.3
2	T1	1	5.0	1	5.0	0.253	7.2	LOS A	1.6	11.7	0.68	0.73	0.68	53.9
3	R2	28	5.0	29	5.0	0.253	11.9	LOS B	1.6	11.7	0.68	0.73	0.68	55.2
Approach		205	5.0	216	5.0	0.253	7.6	LOS A	1.6	11.7	0.68	0.73	0.68	54.4
East: Kilmore Road														
4	L2	16	5.0	17	5.0	0.448	6.8	LOS A	3.1	22.8	0.58	0.63	0.58	55.4
5	T1	444	5.0	467	5.0	0.448	7.2	LOS A	3.1	22.8	0.58	0.63	0.58	59.7
6	R2	5	5.0	5	5.0	0.448	12.0	LOS B	3.1	22.8	0.58	0.63	0.58	56.7
Approach		465	5.0	489	5.0	0.448	7.3	LOS A	3.1	22.8	0.58	0.63	0.58	59.5
North: Sandy Creek Road														
7	L2	5	5.0	5	5.0	0.058	10.6	LOS B	0.4	2.6	0.79	0.77	0.79	49.4
8	T1	1	5.0	1	5.0	0.058	10.8	LOS B	0.4	2.6	0.79	0.77	0.79	49.1
9	R2	27	5.0	28	5.0	0.058	15.4	LOS B	0.4	2.6	0.79	0.77	0.79	50.2
Approach		33	5.0	35	5.0	0.058	14.6	LOS B	0.4	2.6	0.79	0.77	0.79	50.0
West: Kilmore Road														
10	L2	43	5.0	45	5.0	0.604	5.2	LOS A	6.8	49.5	0.29	0.50	0.29	56.1
11	T1	608	5.0	640	5.0	0.604	5.6	LOS A	6.8	49.5	0.29	0.50	0.29	59.4
12	R2	235	5.0	247	5.0	0.604	10.3	LOS B	6.8	49.5	0.29	0.50	0.29	57.3
Approach		886	5.0	933	5.0	0.604	6.8	LOS A	6.8	49.5	0.29	0.50	0.29	58.7
All Vehicles		1589	5.0	1673	5.0	0.604	7.2	LOS A	6.8	49.5	0.43	0.57	0.43	58.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Amess Road													
Lane 1[d]	216	5.0	854	0.253	100	7.6	LOS A	1.6	11.7	Full	500	0.0	0.0
Approach	216	5.0		0.253		7.6	LOS A	1.6	11.7				
East: Kilmore Road													
Lane 1[d]	489	5.0	1094	0.448	100	7.3	LOS A	3.1	22.8	Full	500	0.0	0.0
Approach	489	5.0		0.448		7.3	LOS A	3.1	22.8				
North: Sandy Creek Road													
Lane 1[d]	35	5.0	600	0.058	100	14.6	LOS B	0.4	2.6	Full	500	0.0	0.0
Approach	35	5.0		0.058		14.6	LOS B	0.4	2.6				
West: Kilmore Road													
Lane 1[d]	933	5.0	1544	0.604	100	6.8	LOS A	6.8	49.5	Full	500	0.0	0.0
Approach	933	5.0		0.604		6.8	LOS A	6.8	49.5				
Intersection	1673	5.0		0.604		7.2	LOS A	6.8	49.5				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Lane Queues (Distance)																
Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Green (m)		Cycle Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Amess Road															
Lane 1		0.253	1.000	0.0	4.7	11.7	NA	NA	1.4	2.5	0.01	0.02	0.0	NA	NA
Approach		0.253			4.7	11.7	NA	NA	1.4	2.5	0.01	0.02			
East: Kilmore Road															
Lane 1		0.448	1.000	0.0	9.2	22.8	NA	NA	2.0	3.6	0.02	0.05	0.0	NA	NA
Approach		0.448			9.2	22.8	NA	NA	2.0	3.6	0.02	0.05			
North: Sandy Creek Road															
Lane 1		0.058	1.000	0.0	1.0	2.6	NA	NA	0.5	0.9	0.00	0.01	0.0	NA	NA
Approach		0.058			1.0	2.6	NA	NA	0.5	0.9	0.00	0.01			
West: Kilmore Road															
Lane 1		0.604	1.000	0.0	19.9	49.5	NA	NA	0.6	1.0	0.04	0.10	0.0	NA	NA
Approach		0.604			19.9	49.5	NA	NA	0.6	1.0	0.04	0.10			
Intersection		0.604			19.9	49.5	NA	NA	2.0	3.6	0.04	0.10			

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

USER REPORT FOR SITE

All Movement Classes

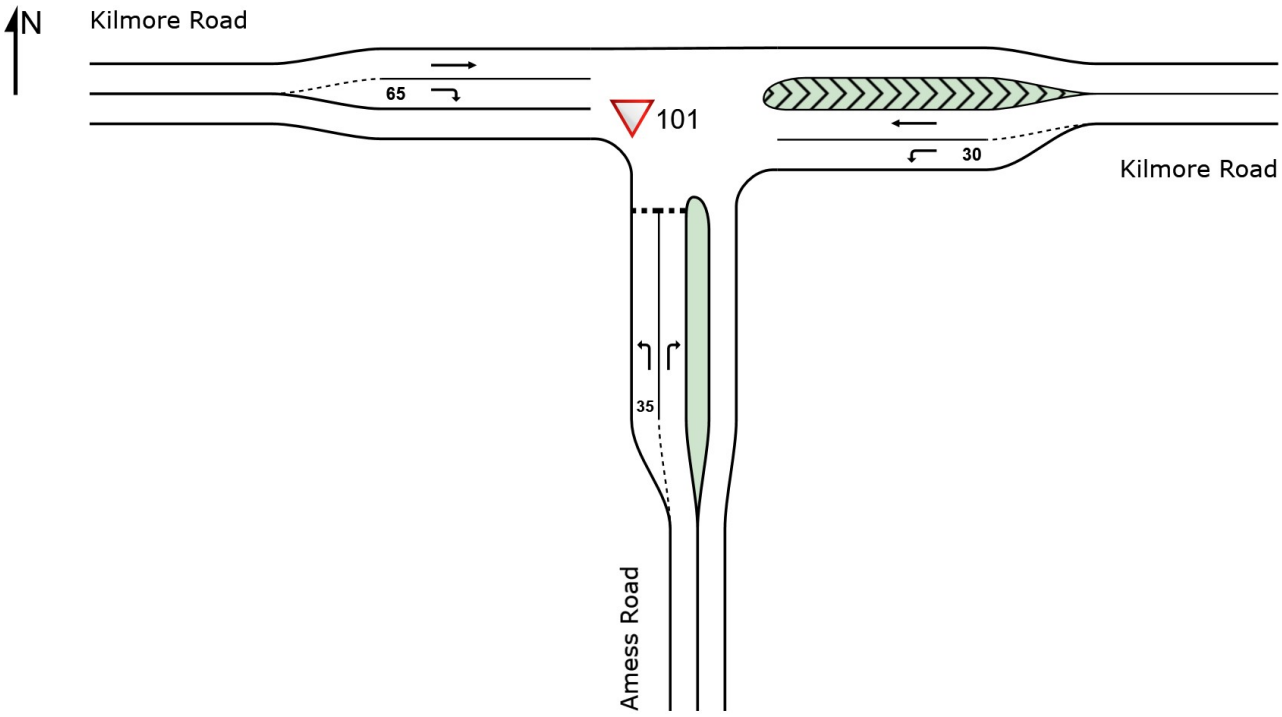
Project: 220073_Kilmore Road intersections_15.12.2023 **Template: Report format 2**

Site: 101 [NEW Amess Road / Kilmore Road AM (Site Folder: Ratio proposed intersection arrangement)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Site Layout

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



Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Amess Road														
1	L2	307	5.0	323	5.0	0.588	14.6	LOS B	3.4	25.1	0.77	1.07	1.31	48.5
3	R2	13	5.0	14	5.0	0.081	26.1	LOS D	0.3	1.9	0.85	0.94	0.85	33.5
Approach		320	5.0	337	5.0	0.588	15.1	LOS C	3.4	25.1	0.77	1.06	1.30	48.0
East: Kilmore Road														
4	L2	15	5.0	16	5.0	0.009	5.7	LOS A	0.0	0.0	0.00	0.60	0.00	53.3
5	T1	643	5.0	677	5.0	0.358	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	69.7
Approach		658	5.0	693	5.0	0.358	0.2	NA	0.0	0.0	0.00	0.01	0.00	69.2
West: Kilmore Road														
11	T1	315	5.0	332	5.0	0.177	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	69.9
12	R2	80	5.0	84	5.0	0.145	11.3	LOS B	0.5	3.9	0.62	0.86	0.62	52.1
Approach		395	5.0	416	5.0	0.177	2.3	NA	0.5	3.9	0.13	0.17	0.13	63.5
All Vehicles		1373	5.0	1445	5.0	0.588	4.3	NA	3.4	25.1	0.22	0.30	0.34	59.3

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Amess Road													
Lane 1	323	5.0	549	0.588	100	14.6	LOS B	3.4	25.1	Short	35	0.0	NA
Lane 2	14	5.0	168	0.081	100	26.1	LOS D	0.3	1.9	Full	500	0.0	0.0
Approach	337	5.0		0.588		15.1	LOS C	3.4	25.1				
East: Kilmore Road													
Lane 1	16	5.0	1793	0.009	100	5.7	LOS A	0.0	0.0	Short	30	0.0	NA
Lane 2	677	5.0	1889	0.358	100	0.0	LOS A	0.0	0.0	Full	100	0.0	0.0
Approach	693	5.0		0.358		0.2	NA	0.0	0.0				
West: Kilmore Road													
Lane 1	332	5.0	1875	0.177	100	0.0	LOS A	0.0	0.0	Full	500	0.0	0.0
Lane 2	84	5.0	581	0.145	100	11.3	LOS B	0.5	3.9	Short	65	0.0	NA
Approach	416	5.0		0.177		2.3	NA	0.5	3.9				
Intersection	1445	5.0		0.588		4.3	NA	3.4	25.1				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: 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 lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Queues (Distance)															
Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Green (m)		Cycle Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Amess Road															
Lane 1		0.588	1.000	2.4	10.1	25.1	NA	NA	5.9	10.8	0.29	0.72	NA	0.0	2
Lane 2		0.081	1.000	0.0	0.7	1.9	NA	NA	0.6	1.0	0.00	0.00	0.0	NA	NA
Approach		0.588			10.1	25.1	NA	NA	5.9	10.8	0.00	0.00			
East: Kilmore Road															
Lane 1	Y	0.009	1.000	0.0	0.0	0.0	NA	NA	0.0	0.0	0.00	0.00	NA	0.0	2
Lane 2	Y	0.358	1.000	0.0	0.0	0.0	NA	NA	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.358			0.0	0.0	NA	NA	0.0	0.0	0.00	0.00			
West: Kilmore Road															
Lane 1	Y	0.177	1.000	0.0	0.0	0.0	NA	NA	0.0	0.0	0.00	0.00	0.0	NA	NA
Lane 2		0.145	1.000	0.0	1.6	3.9	NA	NA	0.9	1.5	0.02	0.06	NA	0.0	1
Approach		0.177			1.6	3.9	NA	NA	0.9	1.5	0.00	0.00			
Intersection		0.588			10.1	25.1	NA	NA	5.9	10.8	0.00	0.00			

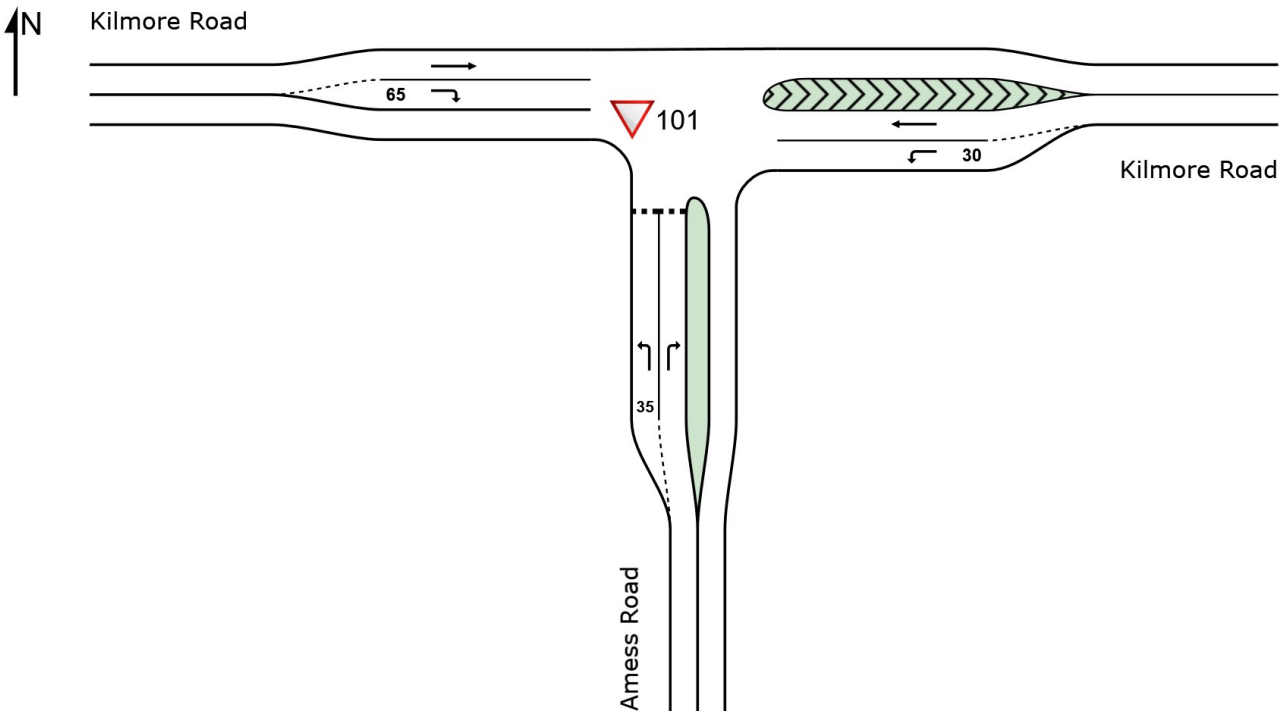
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

Site: 101 [NEW Amess Road / Kilmore Road PM (Site Folder: Ratio proposed intersection arrangement)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Site Layout

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



Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Amess Road														
1	L2	176	5.0	185	5.0	0.247	8.8	LOS A	1.0	7.0	0.53	0.79	0.55	52.6
3	R2	28	5.0	29	5.0	0.303	49.0	LOS E	1.0	7.1	0.93	1.00	1.05	24.9
Approach		204	5.0	215	5.0	0.303	14.3	LOS B	1.0	7.1	0.59	0.82	0.62	47.9
East: Kilmore Road														
4	L2	16	5.0	17	5.0	0.009	5.7	LOS A	0.0	0.0	0.00	0.60	0.00	53.3
5	T1	458	5.0	482	5.0	0.255	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	69.8
Approach		474	5.0	499	5.0	0.255	0.2	NA	0.0	0.0	0.00	0.02	0.00	69.1
West: Kilmore Road														
11	T1	626	5.0	659	5.0	0.351	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.7
12	R2	235	5.0	247	5.0	0.314	10.0	LOS A	1.5	11.0	0.58	0.86	0.66	53.1
Approach		861	5.0	906	5.0	0.351	2.8	NA	1.5	11.0	0.16	0.23	0.18	62.3
All Vehicles		1539	5.0	1620	5.0	0.351	3.5	NA	1.5	11.0	0.17	0.25	0.18	60.6

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Amess Road													
Lane 1	185	5.0	749	0.247	100	8.8	LOS A	1.0	7.0	Short	35	0.0	NA
Lane 2	29	5.0	97	0.303	100	49.0	LOS E	1.0	7.1	Full	500	0.0	0.0
Approach	215	5.0		0.303		14.3	LOS B	1.0	7.1				
East: Kilmore Road													
Lane 1	17	5.0	1793	0.009	100	5.7	LOS A	0.0	0.0	Short	30	0.0	NA
Lane 2	482	5.0	1889	0.255	100	0.0	LOS A	0.0	0.0	Full	100	0.0	0.0
Approach	499	5.0		0.255		0.2	NA	0.0	0.0				
West: Kilmore Road													
Lane 1	659	5.0	1877	0.351	100	0.1	LOS A	0.0	0.0	Full	500	0.0	0.0
Lane 2	247	5.0	788	0.314	100	10.0	LOS A	1.5	11.0	Short	65	0.0	NA
Approach	906	5.0		0.351		2.8	NA	1.5	11.0				
Intersection	1620	5.0		0.351		3.5	NA	1.5	11.0				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: 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 lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Queues (Distance)															
Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Green (m)		Cycle Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Amess Road															
Lane 1		0.247	1.000	0.0	2.8	7.0	NA	NA	1.2	2.2	0.08	0.20	NA	0.0	2
Lane 2		0.303	1.000	0.5	2.8	7.1	NA	NA	2.6	4.7	0.01	0.01	0.0	NA	NA
Approach		0.303			2.8	7.1	NA	NA	2.6	4.7	0.01	0.01			
East: Kilmore Road															
Lane 1	Y	0.009	1.000	0.0	0.0	0.0	NA	NA	0.0	0.0	0.00	0.00	NA	0.0	2
Lane 2	Y	0.255	1.000	0.0	0.0	0.0	NA	NA	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.255			0.0	0.0	NA	NA	0.0	0.0	0.00	0.00			
West: Kilmore Road															
Lane 1	Y	0.351	1.000	0.0	0.0	0.0	NA	NA	0.0	0.0	0.00	0.00	0.0	NA	NA
Lane 2		0.314	1.000	0.3	4.4	11.0	NA	NA	1.9	3.4	0.07	0.17	NA	0.0	1
Approach		0.351			4.4	11.0	NA	NA	1.9	3.4	0.00	0.00			
Intersection		0.351			4.4	11.0	NA	NA	2.6	4.7	0.01	0.01			

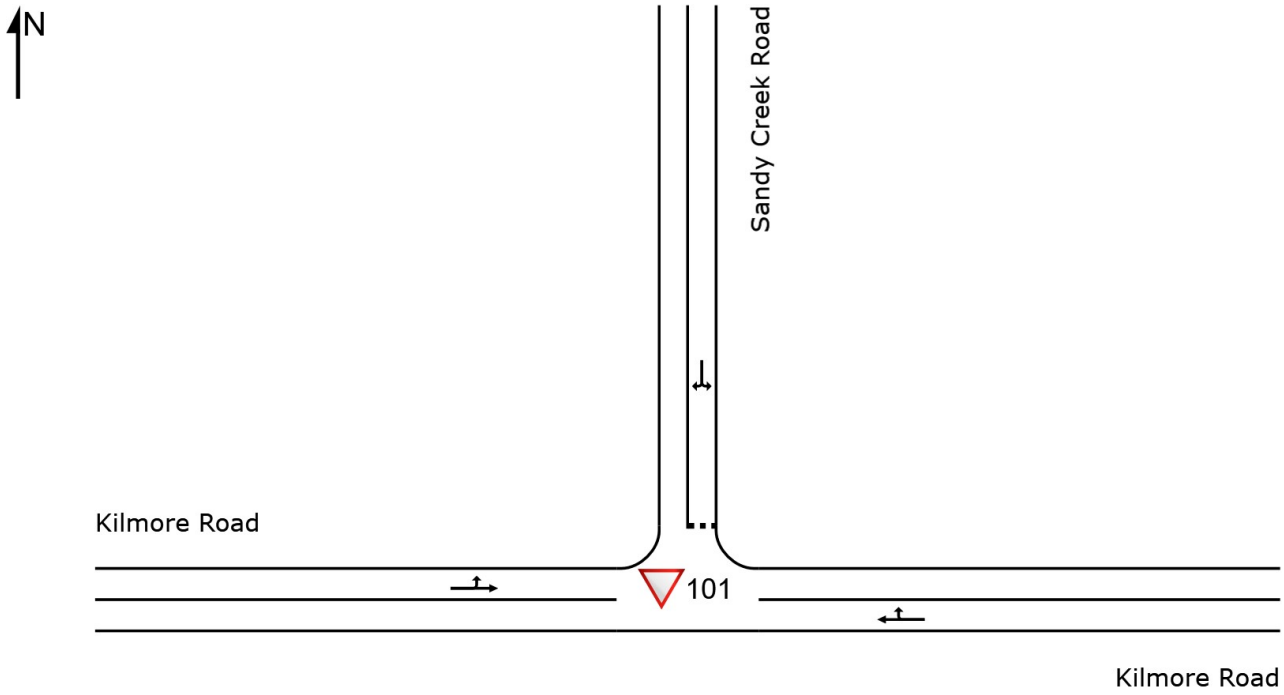
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

Site: 101 [NEW Sandy Creek Road / Kilmore Road AM (Site Folder: Ratio proposed intersection arrangement)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Site Layout

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



Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Kilmore Road														
5	T1	599	5.0	631	5.0	0.336	0.0	LOS A	0.0	0.2	0.00	0.00	0.00	69.9
6	R2	2	5.0	2	5.0	0.336	8.1	LOS A	0.0	0.2	0.00	0.00	0.00	61.6
Approach		601	5.0	633	5.0	0.336	0.0	NA	0.0	0.2	0.00	0.00	0.00	69.9
North: Sandy Creek Road														
7	L2	3	5.0	3	5.0	0.137	6.8	LOS A	0.4	3.1	0.69	0.87	0.69	49.8
9	R2	51	5.0	54	5.0	0.137	12.9	LOS B	0.4	3.1	0.69	0.87	0.69	30.9
Approach		54	5.0	57	5.0	0.137	12.6	LOS B	0.4	3.1	0.69	0.87	0.69	32.0
West: Kilmore Road														
10	L2	15	5.0	16	5.0	0.183	5.8	LOS A	0.0	0.0	0.00	0.03	0.00	61.3
11	T1	312	5.0	328	5.0	0.183	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	69.3
Approach		327	5.0	344	5.0	0.183	0.3	NA	0.0	0.0	0.00	0.03	0.00	68.9
All Vehicles		982	5.0	1034	5.0	0.336	0.8	NA	0.4	3.1	0.04	0.06	0.04	65.2

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
East: Kilmore Road													
Lane 1	633	5.0	1885	0.336	100	0.0	LOS A	0.0	0.2	Full	500	0.0	0.0
Approach	633	5.0		0.336		0.0	NA	0.0	0.2				
North: Sandy Creek Road													
Lane 1	57	5.0	414	0.137	100	12.6	LOS B	0.4	3.1	Full	500	0.0	0.0
Approach	57	5.0		0.137		12.6	LOS B	0.4	3.1				
West: Kilmore Road													
Lane 1	344	5.0	1884	0.183	100	0.3	LOS A	0.0	0.0	Full	100	0.0	0.0
Approach	344	5.0		0.183		0.3	NA	0.0	0.0				
Intersection	1034	5.0		0.336		0.8	NA	0.4	3.1				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: 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 lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Queues (Distance)															
Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Green (m)		Cycle Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
East: Kilmore Road															
Lane 1		0.336	1.000	0.0	0.1	0.2	NA	NA	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.336			0.1	0.2	NA	NA	0.0	0.0	0.00	0.00			
North: Sandy Creek Road															
Lane 1		0.137	1.000	0.0	1.3	3.1	NA	NA	0.8	1.5	0.00	0.01	0.0	NA	NA
Approach		0.137			1.3	3.1	NA	NA	0.8	1.5	0.00	0.01			
West: Kilmore Road															
Lane 1	Y	0.183	1.000	0.0	0.0	0.0	NA	NA	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.183			0.0	0.0	NA	NA	0.0	0.0	0.00	0.00			
Intersection		0.336			1.3	3.1	NA	NA	0.8	1.5	0.00	0.01			

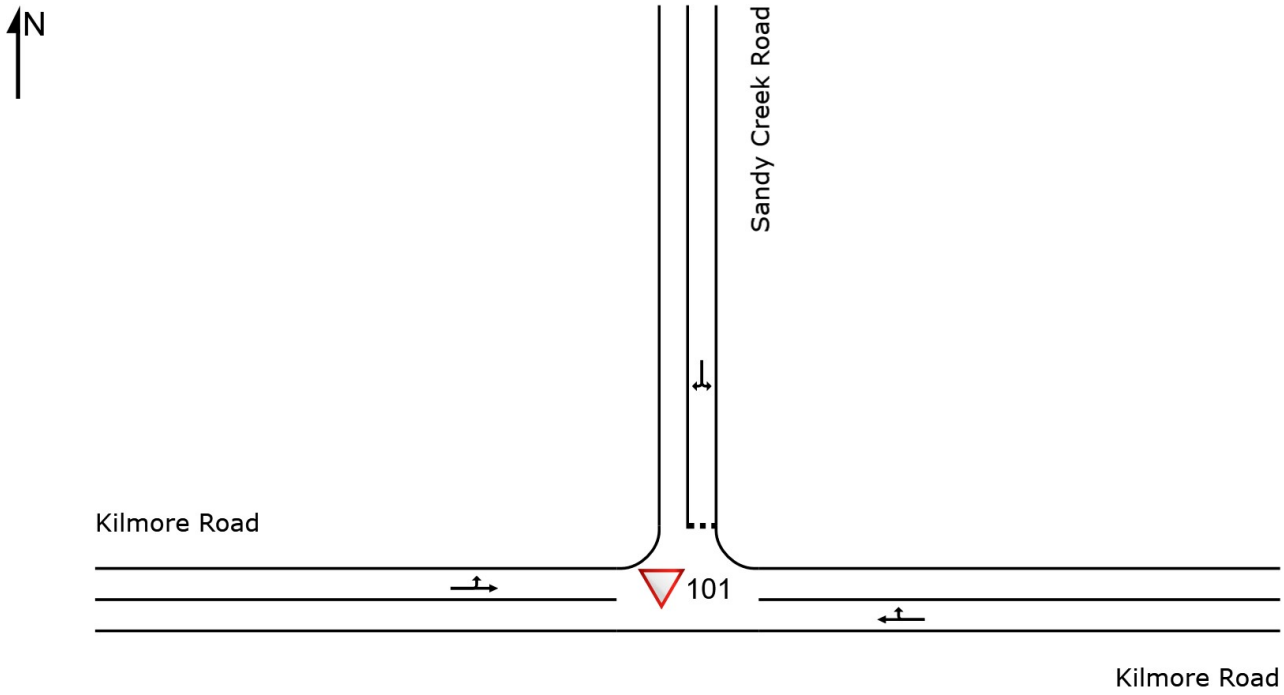
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

Site: 101 [NEW Sandy Creek Road / Kilmore Road PM (Site Folder: Ratio proposed intersection arrangement)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Site Layout

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



Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Kilmore Road														
5	T1	444	5.0	467	5.0	0.254	0.1	LOS A	0.1	0.8	0.02	0.01	0.03	69.5
6	R2	5	5.0	5	5.0	0.254	11.1	LOS B	0.1	0.8	0.02	0.01	0.03	61.4
Approach		449	5.0	473	5.0	0.254	0.2	NA	0.1	0.8	0.02	0.01	0.03	69.3
North: Sandy Creek Road														
7	L2	5	5.0	5	5.0	0.098	8.7	LOS A	0.3	2.2	0.74	0.89	0.74	48.6
9	R2	27	5.0	28	5.0	0.098	15.4	LOS C	0.3	2.2	0.74	0.89	0.74	30.2
Approach		32	5.0	34	5.0	0.098	14.4	LOS B	0.3	2.2	0.74	0.89	0.74	33.1
West: Kilmore Road														
10	L2	43	5.0	45	5.0	0.364	5.8	LOS A	0.0	0.0	0.00	0.04	0.00	61.0
11	T1	608	5.0	640	5.0	0.364	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	68.9
Approach		651	5.0	685	5.0	0.364	0.4	NA	0.0	0.0	0.00	0.04	0.00	68.3
All Vehicles		1132	5.0	1192	5.0	0.364	0.7	NA	0.3	2.2	0.03	0.05	0.03	66.5

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.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Use and Performance													
	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
East: Kilmore Road													
Lane 1	473	5.0	1858	0.254	100	0.2	LOS A	0.1	0.8	Full	500	0.0	0.0
Approach	473	5.0		0.254		0.2	NA	0.1	0.8				
North: Sandy Creek Road													
Lane 1	34	5.0	343	0.098	100	14.4	LOS B	0.3	2.2	Full	500	0.0	0.0
Approach	34	5.0		0.098		14.4	LOS B	0.3	2.2				
West: Kilmore Road													
Lane 1	685	5.0	1882	0.364	100	0.4	LOS A	0.0	0.0	Full	100	0.0	0.0
Approach	685	5.0		0.364		0.4	NA	0.0	0.0				
Intersection	1192	5.0		0.364		0.7	NA	0.3	2.2				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: 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 lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lane Queues (Distance)															
Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Green (m)		Cycle Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
East: Kilmore Road															
Lane 1		0.254	1.000	0.0	0.3	0.8	NA	NA	0.2	0.3	0.00	0.00	0.0	NA	NA
Approach		0.254			0.3	0.8	NA	NA	0.2	0.3	0.00	0.00			
North: Sandy Creek Road															
Lane 1		0.098	1.000	0.0	0.9	2.2	NA	NA	0.6	1.1	0.00	0.00	0.0	NA	NA
Approach		0.098			0.9	2.2	NA	NA	0.6	1.1	0.00	0.00			
West: Kilmore Road															
Lane 1	Y	0.364	1.000	0.0	0.0	0.0	NA	NA	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.364			0.0	0.0	NA	NA	0.0	0.0	0.00	0.00			
Intersection		0.364			0.9	2.2	NA	NA	0.6	1.1	0.00	0.00			

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