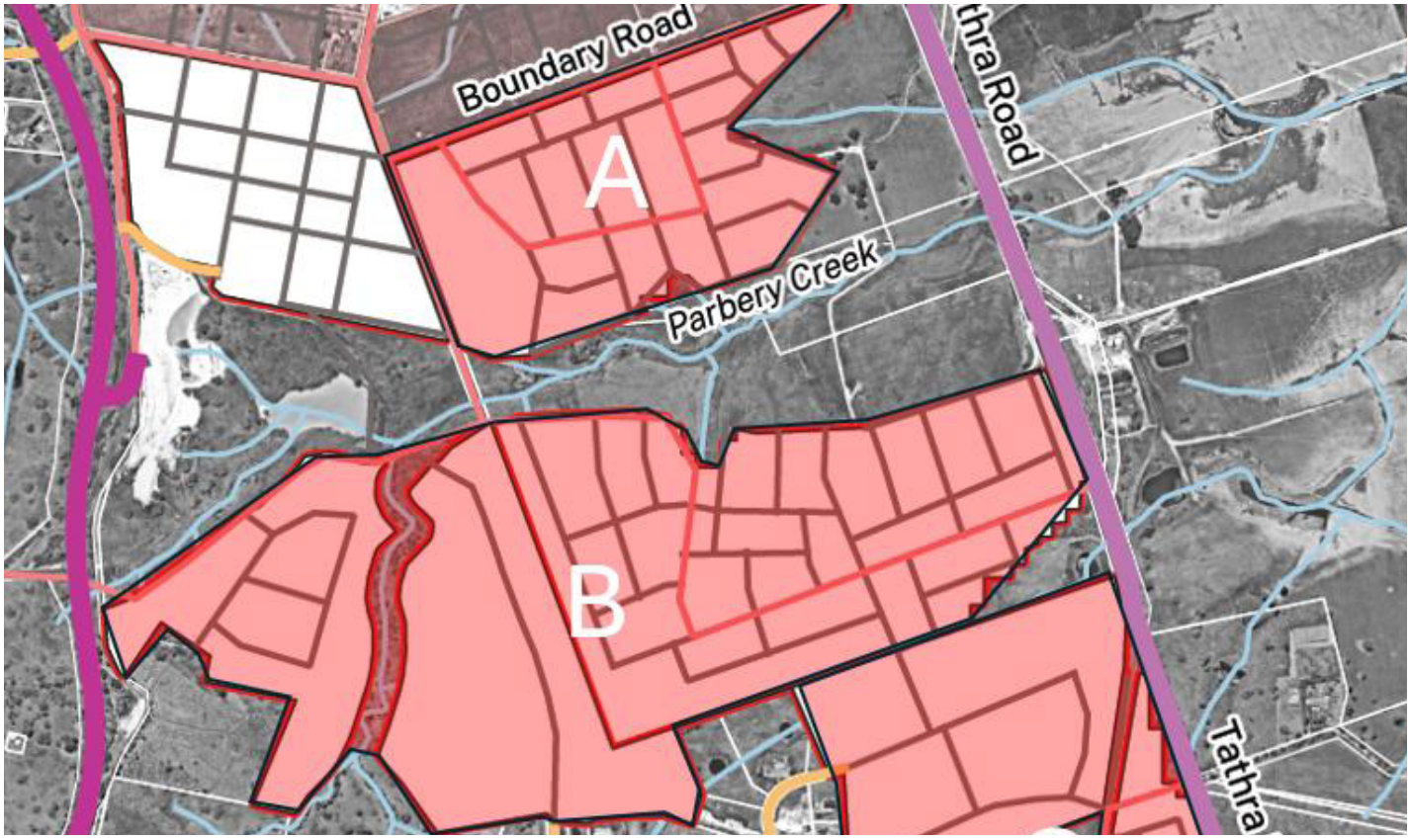
# Bega Urban Release Area

## Traffic and Transport Assessment

February 2025

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# 1. Introduction

## 1.1 Project description

The Bega Valley Shire Council (Council) is leading the development of the Bega Urban Release Areas Project (the project), which is in line with the Bega Structure Plan (Structure Plan). The project aims to accelerate the rezoning and development of key precincts in the southern fringe of Bega to meet the growing housing demand with supporting retail facilities and employment-generating land uses.

The key objectives of the project are:

- **Supply** – increase the availability of residential land to meet current and future housing needs.
- **Diversity** – promote a mix of housing types to cater to various demographics and lifestyle needs.
- **Affordability** – support housing affordability by facilitating the delivery of diverse housing options, including affordable housing solutions.
- **Resilience** – create a climate-resilient and sustainable community by incorporating environmental best practices and promoting liveability.
- **Connectivity** – design a community that enhances social and physical connections, focusing on walkability, active transport, and proximity to essential services.

## 1.2 Site information

The Site is located on the southern edge of Bega, the regional centre of Bega Valley Shire, New South Wales, approximately 1.5 kilometres from the Bega Town Centre. The Site covers an area of approximately 418 hectares and is situated near key local landmarks, including the Southeast Regional Hospital to the east. The Site is surrounded by a mix of land uses, including residential developments to the north, light industrial uses, and rural farmlands to the south and east.

The project site is composed of three distinct precincts:

- Western Precinct: largely undeveloped with pockets of large-lot residential development.
- Central Precinct: characterised by light industrial and retail uses.
- Eastern Precinct: which is a mix of large lot residential and rural land.

The project Site has significant frontage along the Princes Highway (to the west), which is oriented in a north-south direction and connects Bega with key regional centres, as well as the Bega River, which forms part of the western boundary. To the east, the Site is bounded by Tathra Road, which provides important local and regional connectivity to, from and within Bega.

The Structure Plan layout of the project in the context of the wider Bega Township is displayed in Figure 1.1.

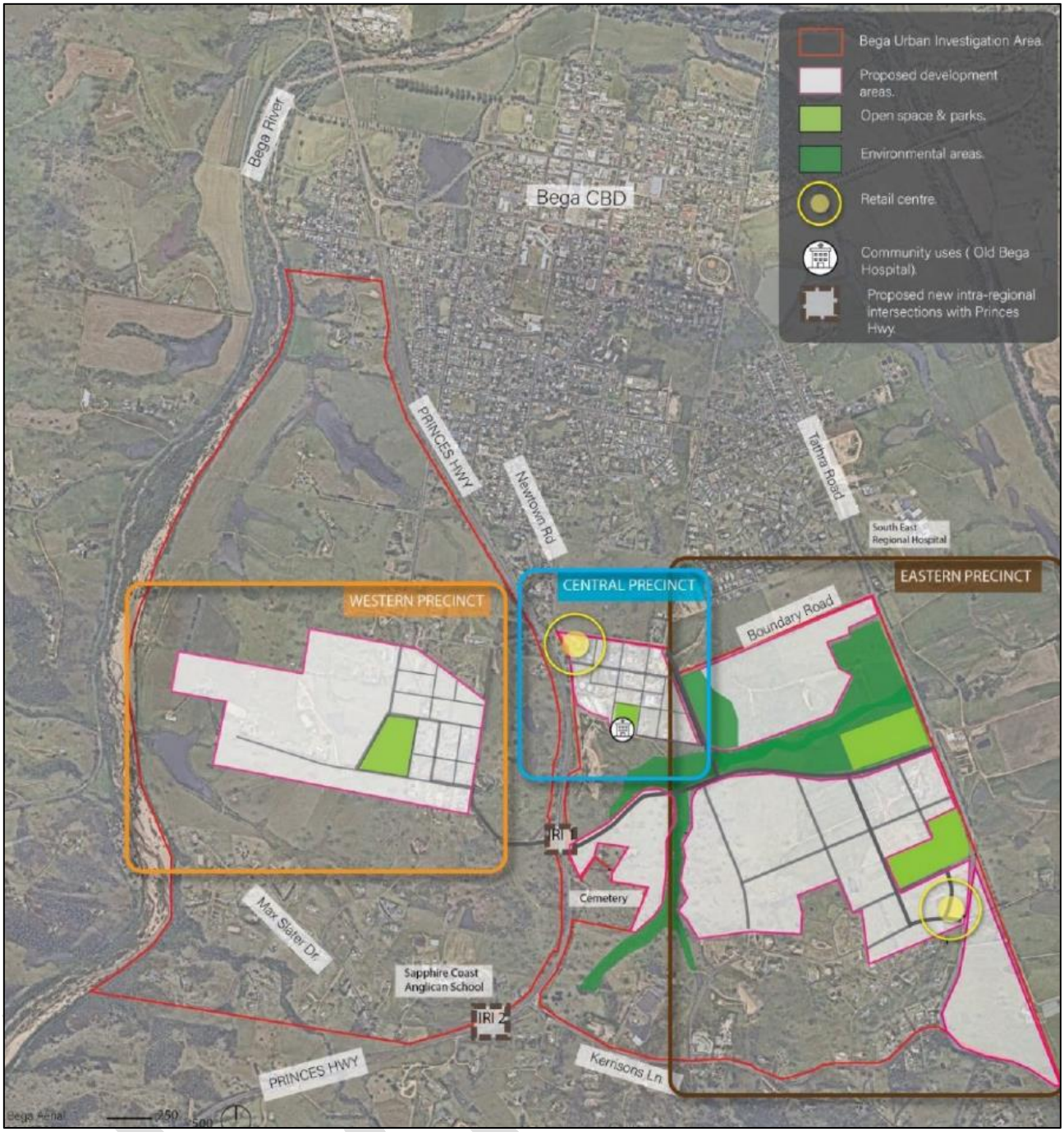



***Figure 1.1 Bega Structure Plan***

*Source: Bega Structure Plan (2022)*

# 1.3 Purpose of this report

GHD has been commissioned by Bega Valley Shire Council to conduct a Traffic and Transport Assessment (TTA) for the project, including modelling the potential impacts of the development on the road network after the completion of construction.

The results of the TTA aim to inform the recommendations for the development of the Structure Plan for the project in relation to access and egress points, as well as the suitability of the surrounding road network to accommodate the increased traffic generation associated with the proposed land uses.

Additionally, observations and recommendations regarding the suitability of the proposed public and active transport links in the structure pan have been provided.

## 1.4 Scope and limitations

The scope of the assessment includes the following tasks:

- A literature review of relevant local and state government planning documents, policies and strategic documents to be provided by Bega Valley Shire Council.
- A desktop review of existing facilities in proximity to the Site, including public and active transport services.
- Traffic surveys at key intersections near the Site.
- SIDRA intersection modelling, including a base model (current year 2024) and future year models.

The following assumptions have been made in preparation for this assessment:

- The intersection configurations, as per the aerial imagery, are accurate to represent existing on-ground conditions.
- The traffic survey data gathered is indicative of typical road network traffic movement conditions.
- All information gathered in the desktop assessment is accurate to current conditions if imagery or maps have been updated within the last two-year period.
- In accordance with the available data, 90 percent of trips associated with the project will take place using private vehicles.
- Gross leasable floor area is 70 percent of gross floor area.
- For the retail facilities, linked trips will be 25 percent of the overall quantum of trips.
- In accordance with the data in the Structure Plan, it is assumed that it will be a roundabout, similar to the size of the Princes Highway/Carp Street Intersection, will be constructed at the intersection of Princes Highway and Finucane Lane.
- As part of the proposed road upgrade, it is assumed that the intersection of Princes Highway/Newtown Road intersection will be changed to left in/left out only, with the current right turn functionality transferred to the proposed roundabout.
- For the proposed residential land uses, it has been assumed that:
  - 80 percent of trips generated by the project residences will be local.
  - 20 percent of trips generated by the project residences will be regional.
- For the non-residential land uses, it has been assumed that:
  - 60 percent of trips generated by the project non-residential land uses will be local.
  - 40 percent of trips generated by the project non-residential land uses will be regional.
- Additionally, it has been assumed that for regional trips:
  - 30 percent of vehicles will access/egress the project via the Princes Highway to/from the north.
  - 50 percent of vehicles will access/egress the project via the Princes Highway to/from the south.
  - 20 percent of vehicles will access/egress the project via Tathra Road to/from the south.
- Intersection modelling has been undertaken for a 15 year horizon through to 2040.

## 1.5 Literature review

A summary of the key planning documents supplied by the Council are summarised below:

### 1.5.1 Bega Valley Shire Active Transport Strategy (2023)

The Bega Valley Active Transport Strategy (ATS) was prepared to shape the Council's active transport agenda. The overall vision for active transport in Bega was identified as:

*Bega has a safe, connected and easy to use walking and riding network that encourages active movement for people of all ages and abilities.*

Key aspects of the ATS are as follows:

– Bega has extensive footpath coverage however, many residential streets in the surrounding area lack pedestrian infrastructure.
– No on-road cycle lanes are provided within Bega.
– Key actions that were identified for Bega include:
    - Investigate the provision of a shared path along Park Lane and East Street to Tathra Road – medium term.
    - As part of a proposed Master Network Plan, identify key routes that link planned growth at South Bega with the existing residential area in North Bega.

### 1.5.2 Bega Valley Shire Council Geometric Road Design (Urban and Rural) (2002)

The Geometric Road Design (GRD) identifies the specifications for the design of subdivision road networks. Key aspects of the GRD are as follows:

– A hierarchical road network is essential to maximise road safety and residential amenity.
– Road types should consist of access streets, local streets, collector streets and sub-arterial roads
– Traffic volumes and speeds on roads should be compatible with residential functions.
– The length of sub-arterial roads in a development should be minimised.
– Connections between internal roads should be T-junctions or roundabout controlled.

### 1.5.3 Bega Valley Shire Council Residential Land Strategy 2040 (2020)

The Residential Land Strategy was prepared by the Council to strategically provide a range of housing options that respond to the growth of the Local Government Area (LGA). Key principles of the strategy include:

– Ensure residential land is available for the expected population growth.
– Increase housing diversity.
– Strengthen and support Bega as a Regional Centre.

Key recommendations for Bega include:

– Develop an urban renewal strategy for Bega to accommodate population growth, support housing diversity and promote connectivity.
– Investigate rezoning to support high residential densities.
– Review planning controls for existing residentially zoned land close to the centre to promote renewal and housing diversity, including student accommodation and seniors housing.

### 1.5.4 Proposed Residential Subdivision Lot 22 DP1260909 Bega Traffic Impact Report (2022)

Council provided GHD with a copy of the Traffic Assessment Report (ML Traffic Engineers, 2022) for a proposed 198-lot subdivision, with frontage to Newtown Road, East Street and Boundary Street, as displayed in Figure 1.2.


***Figure 1.2 Subdivision location***

*Source: Proposed Residential Subdivision Lot 22 DP1260909 Bega Traffic Impact Report (2022)*

Key aspects of the Traffic Assessment Report are as follows:

– The subdivision will generate 198 trips in peak hours of activity.
– SIDRA modelling indicates that the intersections in proximity to the subdivisions are expected to operate with a good level of service.

It is noted that the Traffic Assessment Report assumes that the majority (80 percent) of the trips will access/egress the development via the local road network, with only 20 percent of trips using the Princes Highway and Tathra Road.

### 1.5.5 Bega Structure Plan (2024)

The Bega Structure Plan was developed to provide a strategic framework for the development of the land to the south of the Bega Township. It is anticipated that the development of the Structure Plan will support the delivery of approximately 2,100 new dwellings:

The Structure Plan area has been divided into three precincts, as follows:

– The Eastern Precinct: located adjacent to the east of the Princes Highway.
– The Central Precinct: provides opportunities for the development of land uses which are complimentary to the regional hospital and local light industry.
– The Western Precinct: located to the west of the Princes Highway and is largely undeveloped.

The vision for the Structure Plan is:

*A resilient residential development that meets the needs of a growing Bega Valley community for the next 30 years.*

In terms of transport and access, the following is noted:

– Discussions with TfNSW highlight the following;
  - TfNSW support the reduction of access points on the Princes Highway to minimise conflict points.

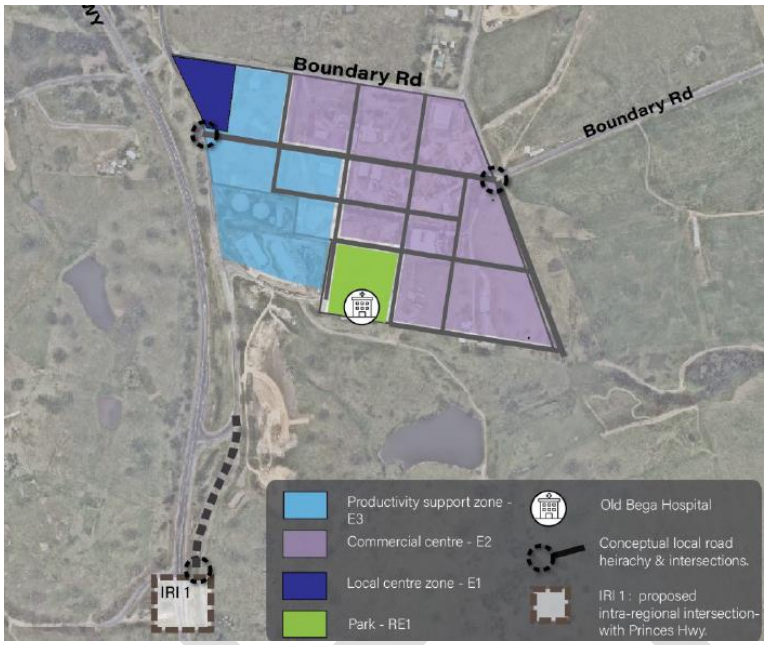
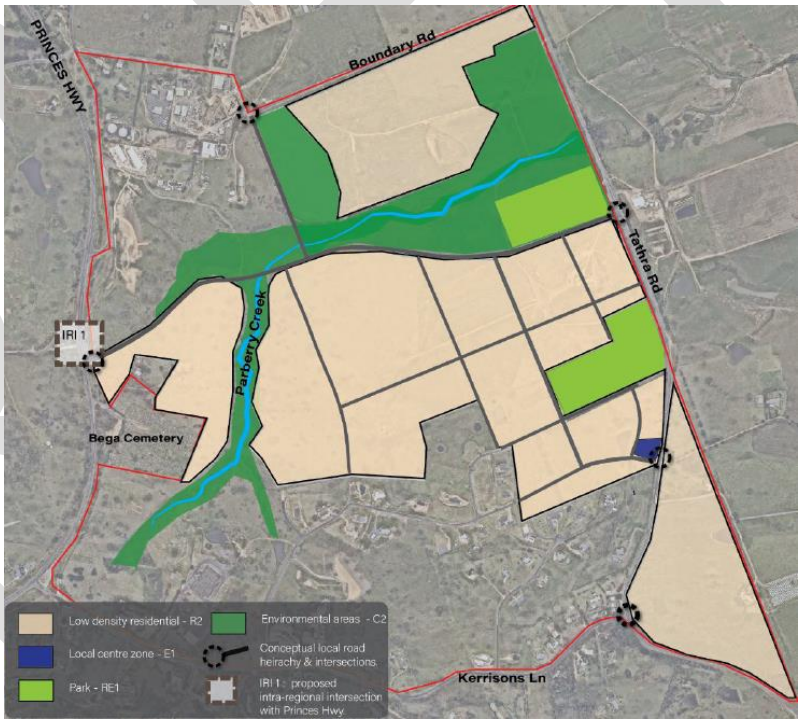
- The extension of Ravenswood Street is seen as an essential sub-arterial road linkage.
- TfNSW would require further consideration before supporting the removal of intersections, such as Kerrisons Lane.
- Accessibility to the Princes Highway must be considered, particularly for emergency vehicles.
- The Structure Plan is an opportunity for the Council to plan for and influence a reduction in private vehicle usage through public and active transport improvements.
- TfNSW supports the provision of mixed land uses (with commercial and employment opportunities), which minimises trips and supports neighbourhood liveability.

– A summary of opportunities and constraints identified in the Structure Plan includes:
  - There is an opportunity to extend Ravenswood Street, Newtown Road, Kerrisons Lane and Boundary Road to make key inter-precinct connections and link with a possible new intersection.
  - The Structure Plan provides an opportunity to consolidate side roads.
  - There is an opportunity to provide a lower speed safe intersection at Finucane Lane as a southern access to Bega that also links with new western and eastern residential precincts.

A summary of the three precincts is provided in Table 1.1.

***Table 1.1 Precinct details***

| Precinct | Layout |
|---|---|
| Western Precinct<br>– Proposes a diversity of lot sizes with large lot and low density residential development.<br>– Opportunity to connect Ravenswood Street and Finucane Lane.<br>– A consolidated Princes Highway interchange from Finucane Lane is proposed (with Newtown Road).<br>– The proposed LEP changes include:<br>• R2 Low density residential – 550 m2 minimum lot size.<br>• R5 Large lot residential – 5,000 m2 minimum lot size.<br>• RE1 Public recreation. |  |

| Precinct | Layout |
|---|---|
| Central Precinct<br>– The central precinct promotes diversity of land use with provisions made for light industrial, large format retail, local shopping and mixed use residential.<br>– The Newtown Road highway connection would run further south to consolidate the interchange connection with Finucane Lane.<br>– The proposed LEP changes include:<br>• E2 Commercial centre – to provide employment and residential uses in one location.<br>• E1 Local centre – to provide local shopping.<br>• E3 Productivity support – to provide light industrial, large format retail and car sales.<br>• RE1 Public recreation. |  |
| Eastern Precinct<br>– Proposes significant areas for low density dwellings and a local centre.<br>– The proposed LEP changes include:<br>• R2 Low density residential – 550 m2 minimum lot size.<br>• E1 Local centre – convenience shopping to support surrounding residences.<br>• RE1 Public recreation.<br>• C2 Environmental conservation. |  |

*Source:* Bega Structure Plan (2022)

The Structure Plan proposes to provide “intra-regional intersections” (IRI) to consolidate access on the Princes Highway (refer to Figure 1.3):

– IRI 1: Newtown Road and Finucane Lane.
– IRI 2: Max Slaters and Kerrisons Lane.

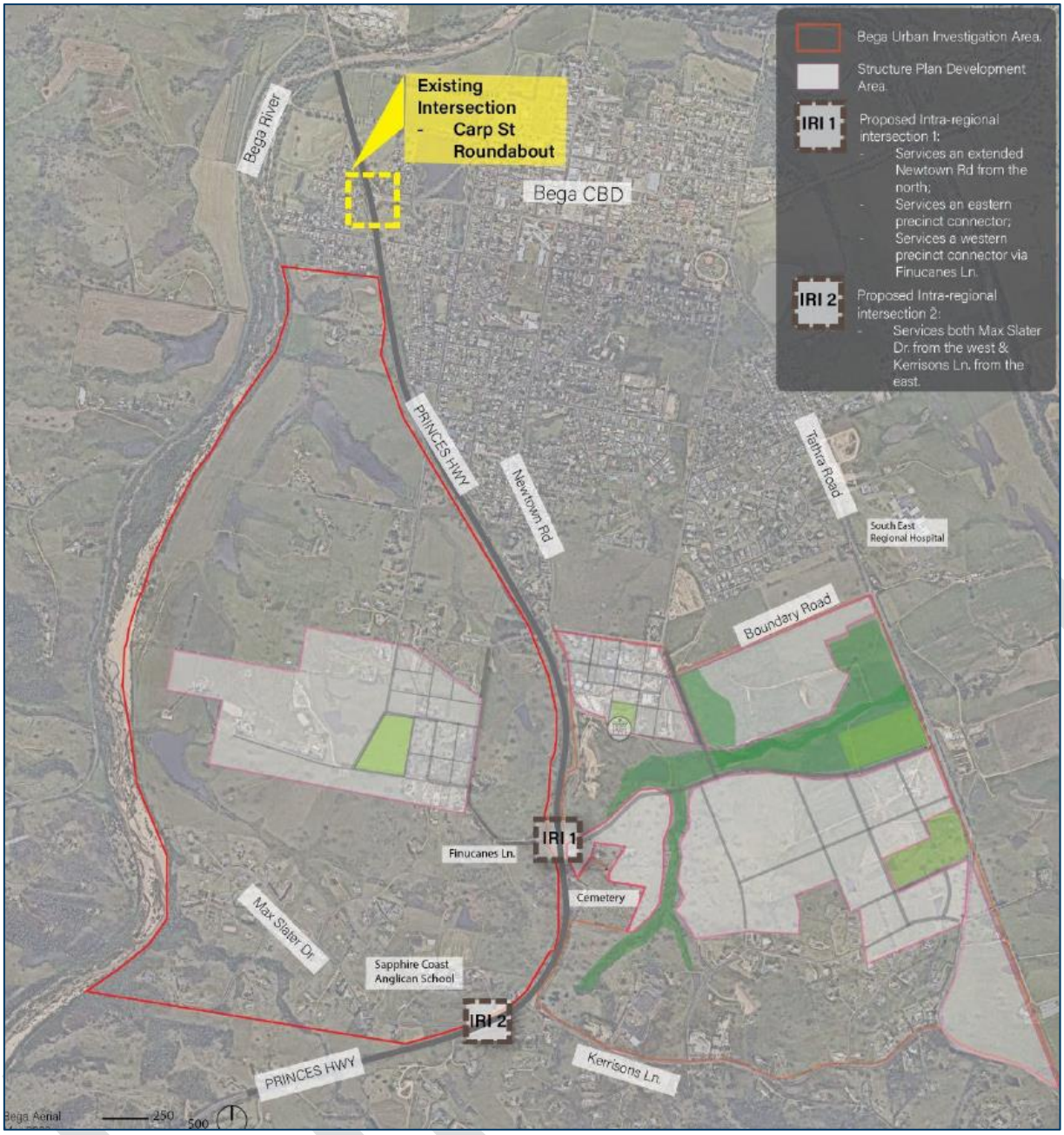



*Figure 1.3 Structure Plan access considerations*

*Source: Bega Structure Plan (2022)*

# 1.6 Report structure

This report follows the following structure:

- **Section 1:** Introduction including project background, scope of the study, limitations and assumptions.
- **Section 2:** Existing conditions assessment, including a desktop assessment of the road network hierarchy, public and active transport facilities, crash history in proximity to the Site, as well as analysis of the base year (2024) SIDRA models.
- **Section 3:** Identification and analysis of future land use in proximity to the project location, including the land use changes proposed in the Structure Plan for the project.
- **Section 4:** Traffic generation and trip distribution for the future year scenarios based on the expected development of the project.
- **Section 5:** Future year scenario analysis for the vehicle activity associated with the project.

– **Section 6:** Summary of the traffic and transport assessment conducted and recommendations for any potential road network upgrades recommended as a result of the project.

# 2. Existing conditions

## 2.1 Road network

### 2.1.1 Functional hierarchy

Roads within NSW are categorised in the following two ways:

– by classification (ownership)
– by the function that they perform.

#### Road classification

Roads are classified (as defined by the NSW *Roads Act 1993*) based on their importance to the movement of people and goods within NSW.

The classification of a road allows TfNSW to exercise authority of all or part of the road. Classified roads include Main Roads, State Highways, Tourist Roads, Secondary Roads, Tollways, Freeways, and Transitways. For management purposes, TfNSW has three administrative classes of roads:

– **State Roads** – Major arterial links through NSW and within major urban areas. They are the principal traffic-carrying roads and are fully controlled and maintained by TfNSW. State Roads include all Tollways, Freeways and Transitways; and all or part of a Main Road, Tourist Road or State Highway.
– **Regional Roads** – Roads of secondary importance between State Roads and Local Roads which, along with State Roads, provide the main connections to and between smaller towns and perform a sub-arterial function in major urban areas. Regional roads are the responsibility of councils for maintenance funding, though TfNSW funds some maintenance based on traffic and infrastructure. Traffic management on Regional Roads is controlled under the delegations to local government from TfNSW. Regional Roads may own all or part of a Main Road, Secondary Road, Tourist Road or State Highway; or other roads as determined by TfNSW.
– **Local Roads** – The remainder of the council-controlled roads, Local Roads, are the responsibility of councils for maintenance funding. TfNSW may fund some maintenance and improvements based on specific programs (e.g. urban bus routes, road safety programs). Traffic management on Local Roads is controlled under the delegations to local government from TfNSW.

#### Functional hierarchy

Functional road classification involves the relative balance of the mobility and access functions. TfNSW defines four levels in a typical functional road hierarchy, ranking from high mobility and low accessibility, to high accessibility and low mobility. These road classes are:

– **Arterial Roads** – generally controlled by TfNSW, typically have no limit in flow and are designed to carry vehicles long distances between regional centres.
– **Sub-Arterial Roads** – can be managed by either TfNSW or local councils. Typically, their operating capacity ranges between 10,000 and 20,000 vehicles per day, and their aim is to carry through traffic between specific areas in a sub region or provide connectivity from arterial road routes (regional links).
– **Collector Roads** – provide connectivity between local roads and the arterial road network and typically carry between 2,000 and 10,000 vehicles per day.
– **Local Roads** – provide direct access to properties and the collector road system and typically carry between 500 and 4,000 vehicles per day.

The key roads in proximity to the subject site in the context of the project are displayed in Figure 2.1.

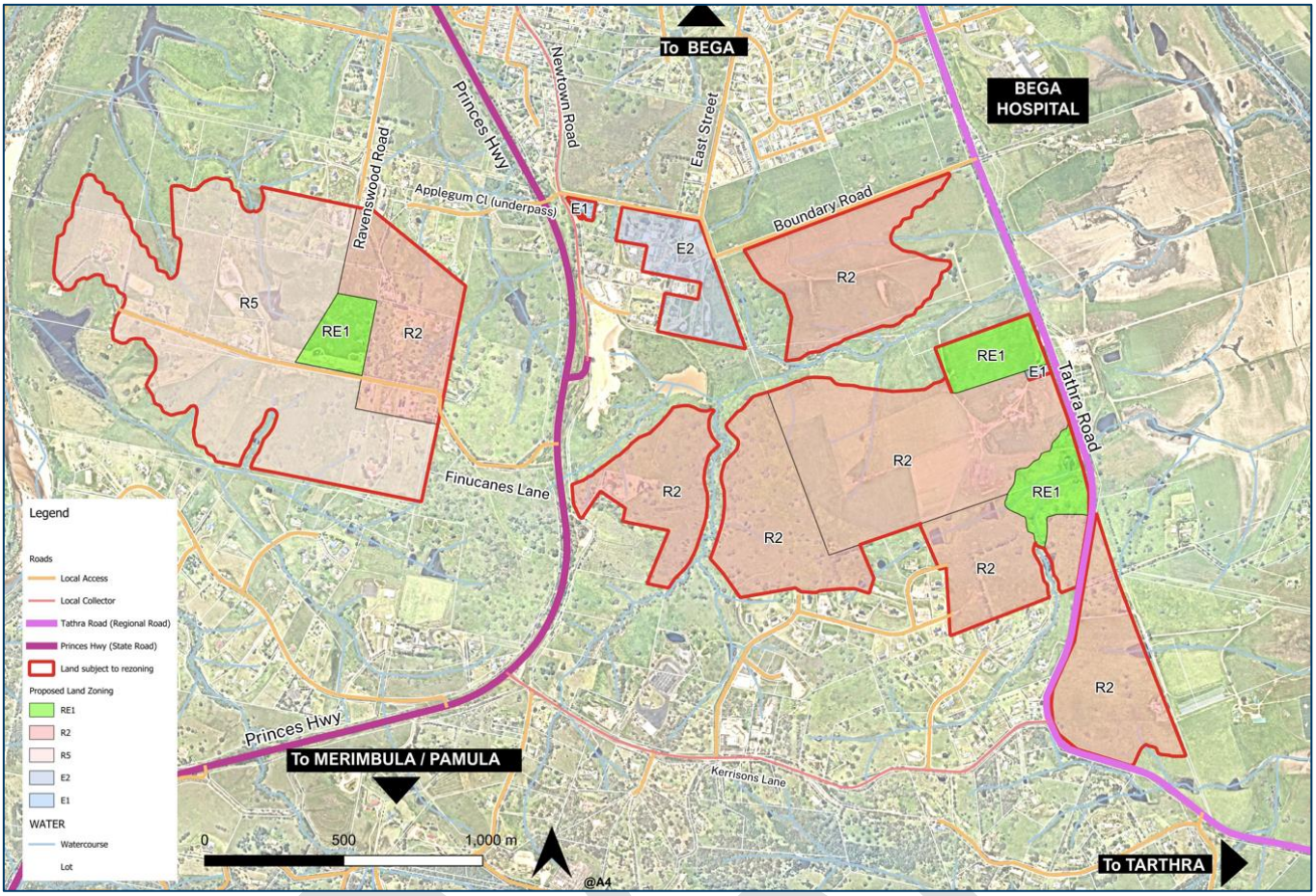



***Figure 2.1 Local road network***

*Source: ADW Johnson*

## 2.1.2 Road network classifications

The road network classifications for the area around the Site are shown in Figure 2.2, with the following breakdown of roads identified:

– State road:
  - Princes Highway
– Regional road:
  - Tathra Road
– Local roads:
  - Newtown Road
  - Rawlinson Street
  - Ravensworth Street
  - Kerrison Lane
  - Finucane lane
  - Boundary Road

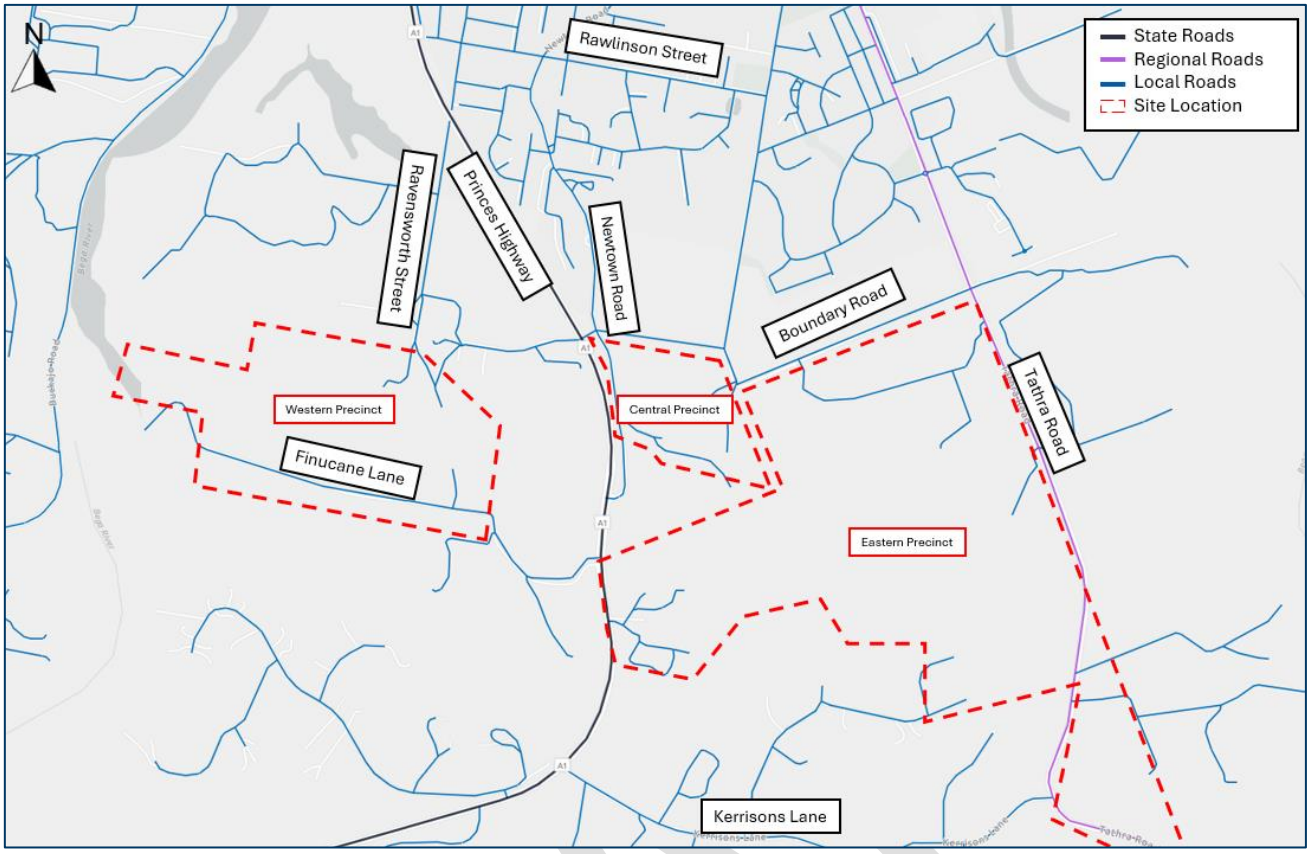



***Figure 2.2 Road network classifications in proximity to the Site***

*Source: TfNSW NSW Road Network Classifications (modified by GHD)*

## 2.1.3 Key road features

The road characteristics of key roads in the vicinity of the Site are outlined below.

### Princes Highway

Princes Highway (refer to Figure 2.3 and Figure 2.4) is a state/arterial road that connects Sydney and Adelaide via Victoria. Princes Highway is the main arterial road orientated in a north-south direction through the Bega Townships, connecting it to neighbouring regions and facilitating regional traffic movements.

Key features of the Princes Highway are summarised in Table 2.1.

***Table 2.1 Princes Highway key features***

| Feature | Description |
|---|---|
| Carriageway | Approximately a 12 metre, line marked carriageway with a single travel lane and 2.5 metre shoulder in either direction |
| Parking | Parking is not permitted |
| Speed Limit | 80 km/h - 100 km/h |
| Pedestrian Facilities | None provided |
| Bicycle Facilities | None provided, though cyclists could ride on the road shoulder |
| Public Transport | None provided in the vicinity of the subject Site |
| Freight Route | Located within an approved route area for 25/26m B-double Restricted Access Vehicle (RAV) and designated Oversize/Overmass (OSOM) route with the following conditions<br>*Vehicles or combinations exceeding 2.5 metres wide or 22 metres long are not permitted to travel between 8:00 am and sunset on weekends or state-wide public holidays.* |


***Figure 2.3 Princes Highway looking south towards Newtown Road***

*Source: Google Streetview (image captured March 2024)*


***Figure 2.4 Princes Highway looking north from Finucane lane***

*Source: Google Streetview (image captured March 2024)*

## Tathra Road

Tathra Road (refer to Figure 2.5 and Figure 2.6) is a regional/collector road that connects Bega with the Tathra Township. Tathra Road provides access to the Bega Town Centre, the Southeast Regional Hospital and low density residential dwellings and is a key movement corridor within the Bega Township.

The key characteristics of Tathra Road are outlined in Table 2.2.

*Table 2.2 Tathra Road key features*

| Feature | Description |
|---|---|
| Carriageway | Approximately a six metre line marked carriageway with a single travel lane in either direction |
| Parking | Parking is not permitted |
| Speed Limit | 60 km/h – 80 km/h |
| Pedestrian Facilities | Limited pedestrian paths near some residential areas but no continuous pedestrian infrastructure |
| Bicycle Facilities | None provided |
| Public Transport | Bus stops are provided on Tathra Road that are served by the 885, 890 and 891 bus services |
| Freight Route | Located within an approved route area for 19m B-double RAV |


*Figure 2.5 Tathra Road looking north from Boundary Road*

*Source: Google Streetview (image captured March 2024)*


***Figure 2.6 Tathra Road looking south from Rose Street***

*Source: Google Streetview (image captured March 2024)*

## Newtown Road

Newtown Road (refer to Figure 2.7 and Figure 2.8) is a local road that provides access to the Bega Town Centre, light industrial areas and residential dwellings. Newtown Road intersects the Princes Highway at a large priority controlled intersection, with left turn and right turn deceleration lanes on the Princes Highway.

Outputs from the traffic surveys (refer to Section 2.6.1) indicate that vehicles to and from the south predominantly use Newtown Road to access/egress Bega.

The key characteristics of Newtown Road are outlined in Table 2.3.

***Table 2.3 Newtown Road key features***

| Feature | Description |
|---|---|
| Carriageway | Typically a 12 metre line marked carriageway with a single travel lane and parking lane in either direction within the Bega Township<br>In proximity to Princes Highway, a seven metre line marked carriageway with a single travel lane in either direction |
| Parking | On-street parking is typically provided within the Bega Township |
| Speed Limit | 50 km/h - 60 km/h |
| Pedestrian Facilities | Footpaths are typically provided on both sides of Newtown Road within the Bega Township |
| Bicycle Facilities | None provided |
| Public Transport | Bus stops are provided on Newtown Road that are served by the 890 and 891 bus services |
| Freight Route | Located within an approved route area for 25/26m B-double RAV with the following conditions<br>*Permitted for southbound travel only and only when the highway is closed, and detours are in place (northbound B-doubles must use decoupling facilities at Kerrisons Lane to break up load)* |


***Figure 2.7 Newtown Road looking south towards the Princes Highway***

*Source: Google Streetview (image captured March 2024)*


***Figure 2.8 Newtown Road looking south from Rawlinson Street***

*Source: Google Streetview (image captured March 2024)*

## Kerrisons Lane

Kerrisons Lane (refer to Figure 2.9 and Figure 2.10) is a local road in south Bega that is orientated in an east-west direction and connects Princes Highway and Tathra Road, intersecting both roads at priority-controlled intersections.

Kerrisons Lane intersects the Princes Highway at a large priority controlled intersection, with left turn and right turn deceleration lanes on the Princes Highway. Additionally, a right turn deceleration lane is provided on Tathra Road at its intersection with Kerrisons Lane.

The key characteristics of Kerrisons Lane are outlined in Table 2.4.

***Table 2.4 Kerrisons Lane key features***

| Feature | Description |
|---|---|
| Carriageway | Approximately a six metre, line marked carriageway with a single travel lane in either direction |
| Parking | Parking is not permitted |
| Speed Limit | 80km/h |
| Pedestrian Facilities | None provided |
| Bicycle Facilities | None provided |
| Public Transport | None provided |
| Freight Route | Located within an approved route area for 19m B-double RAV between Tathra Road and Bega Valley Saleyards access road |


***Figure 2.9 Kerrisons Lane looking east from Princes Highway***

*Source: Google Streetview (image captured March 2024)*


*Figure 2.10 Kerrisons Lane looking west from Tathra Road*

*Source: Google Streetview (image captured March 2024)*

## Finucane Lane

Finucane Lane (refer to Figure 2.11) is a local road in south Bega that is orientated in an east-west direction, provides access to a small number of residential dwellings and intersects Princes Highway at a priority controlled intersection with a right turn deceleration lane on the Princes Highway.

The key characteristics of Finucane Lane are outlined in Table 2.5.

*Table 2.5 Finucane key features*

| Feature | Description |
|---|---|
| Carriageway | The first (approximately) 190 metres of Finucane Lane provided an approximately a six metre, line marked carriageway with a single travel lane in either direction<br>Further to the west, Finucane Lane provides a six metre unsealed bi-directional carriageway |
| Parking | Parking is not permitted |
| Speed Limit | Rural default of 100 km/h is assumed |
| Pedestrian Facilities | None provided |
| Bicycle Facilities | None provided |
| Public Transport | None provided |
| Freight Route | No approved freight routes |


*Figure 2.11 Finucane Lane looking west*

*Source: Google Streetview (image captured March 2024)*

## Carp Street

Carp Street (refer to Figure 2.12 and Figure 2.13) is a collector road that intersects the Princes Highway at a roundabout in the west and East Street at a priority-controlled junction in the east. Carp Street provides access to the Bega Town Centre and residential dwellings within Bega.

The key characteristics of Carp Street are outlined in Table 2.6.

*Table 2.6 Carp Street key features*

| Feature | Description |
|---|---|
| Carriageway | Typically, a 12 metre line marked carriageway with a single travel lane and parking lane in either direction |
| Parking | On-street parking is typically provided |
| Speed Limit | 50 km/ |
| Pedestrian Facilities | Footpaths are typically provided on both sides of Carp Street. Signalised pedestrian crossings are provided at the intersection with Aukland Street |
| Bicycle Facilities | None provided |
| Public Transport | Bus stops are not provided on Carp Street, but it is traversed by the 890 and 891 bus services |
| Freight Route | Located within an approved route area for 25/26m B-double RAV with the following conditions<br>*Permitted for southbound travel only and only when the highway is closed and detours are in place (northbound B-doubles must use decoupling facilities at Kerrisons Lane to break up load)* |


***Figure 2.12 Carp Street looking west towards the Princes Highway***

*Source: Google Streetview (image captured March 2024)*


***Figure 2.13 Carp Street looking west from East Street***

*Source: Google Streetview (image captured March 2024)*

## Boundary Road

Boundary Road (refer to Figure 2.14) is a local road that intersects Tathra Road in the east with Newtown Road in the west.

As displayed in Figure 2.14, an unsealed access road is provided at the intersection of Tathra Road and Boundary Road providing access to a property. Outputs from the traffic surveys (refer to Section 2.6.1) show that the traffic volumes on the access road are negligible, in the order of one to two vehicles per hour during peak periods of road network activity.

The key characteristics of Boundary Road are outlined in Table 2.7.

***Table 2.7 Boundary Road key features***

| Feature | Description |
|---|---|
| Carriageway | Approximately a seven metre line marked carriageway with a single travel lane in either direction |
| Parking | Parking is not permitted |
| Speed Limit | 80km/h |
| Pedestrian Facilities | None provided |
| Bicycle Facilities | None provided |
| Public Transport | None provided |
| Freight Route | Located within an approved route area for 25/26m B-double RAV with the following conditions<br>*Permitted for southbound travel only and only when the highway is closed and detours are in place (northbound B-doubles must use decoupling facilities at Kerrisons Lane to break up load)* |


***Figure 2.14 Intersection Boundary Road and Tathra Road***

*Source: Google Streetview (image captured March 2024)*

## Rawlinson Street and Ravensworth Street

Rawlinson Street and Ravensworth Street (refer to Figure 2.15 and Figure 2.16) are local roads in Bega that typically provide access to low-density residential dwellings. Additionally:

– Rawlinson Street is a cul-de-sac at its western end.
– Ravenswood provides an overpass over the Princes Highway.

The key characteristics of Rawlinson and Ravensworth Streets are outlined in Table 2.8.

*Table 2.8 Rawlinson Street and Ravensworth Street key features*

| Feature | Description |
|---|---|
| Carriageway | Approximately12 six metre, line marked carriageway with a single travel lane and parking lane in either direction |
| Parking | On-street parking is typically provided |
| Speed Limit | 50km/h |
| Pedestrian Facilities | Concrete footpaths are typically provided |
| Bicycle Facilities | None provided |
| Public Transport | Bus stops are provided on Rawlinson Street and Ravensworth Street that are served by the 890 and 891 bus services |
| Freight Route | No approved freight routes |


*Figure 2.15 Ravensworth Street Princes Highway overpass looking south*

*Source: Google Streetview (image captured March 2024)*


***Figure 2.16 Rawlinson Street looking east from Ravensworth Street***

*Source: Google Streetview (image captured March 2024)*

## 2.2 Demographics

Outputs for Bega Valley from the 2021 census (2021 Bega Valley, Census All persons QuickStats | Australian Bureau of Statistics) are provided below.

– Employment status (people aged 15 years and over):
  - 51 percent in labour force
  - 42 percent not in labour force
  - Seven percent not stated
– Method of travel to work:
  - Car as driver: 73 percent
  - Car as passenger: 4.6 percent
  - Walked: 5.3 percent
  - Truck: 1.5 percent
  - Bicycle: 0.5 percent
  - Public transportation: 0.5 percent
  - Worked from home: 14.6 percent

The above data suggest cars are the predominant mode of transport for Bega's working population.

Outputs for Bega Valley sourced from the .idcommunity website (https://profile.id.com.au/bega-valley) are provided below:

– Residential location of local workers:
  - 97 percent live and work in the LGA
  - Three percent work in the area but live outside
– Population data:

- Year 2025: 37,054 persons
- Year 2046: 40,813 persons

The available data indicates that the population of Bega will increase by approximately 10 percent in the next 20 years.

The project will support the provision of additional residences that will be required to accommodate this growth.

## 2.3 Crash data

Data from the TfNSW Centre for Road Safety was assessed to identify crashes in proximity to the Site. Recorded incidents were assessed for a five-year period between 2019 and 2023 for up to 500 metres from the site location. The breakdown of incidents by crash severity and year is presented in Table 2.9.

*Table 2.9 Crashes within 500m of the Site by year and crash severity*

| Year | Non-casualty | Minor / Other injury | Moderate Injury | Serious Injury | Fatality | Total |
|---|---|---|---|---|---|---|
| 2019 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2020 | 0 | 0 | 1 | 3 | 0 | 4 |
| 2021 | 0 | 0 | 1 | 2 | 0 | 3 |
| 2022 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2023 | 0 | 1 | 0 | 0 | 0 | 1 |
| **Total** | **0** | **1** | **4** | **5** | **0** | **10** |

The analysis shows that of the total of ten incidents recorded, with five serious injury crashes, four moderate injury crashes and one minor injury crash. The locations of the crashes are shown in Figure 2.17. The serious injury crashes were reported along Tathra Road, Kerrison Lane and Princes Highway, where the other moderate injury crashes (indicated by the blue dot) occurred. No fatalities were recorded.

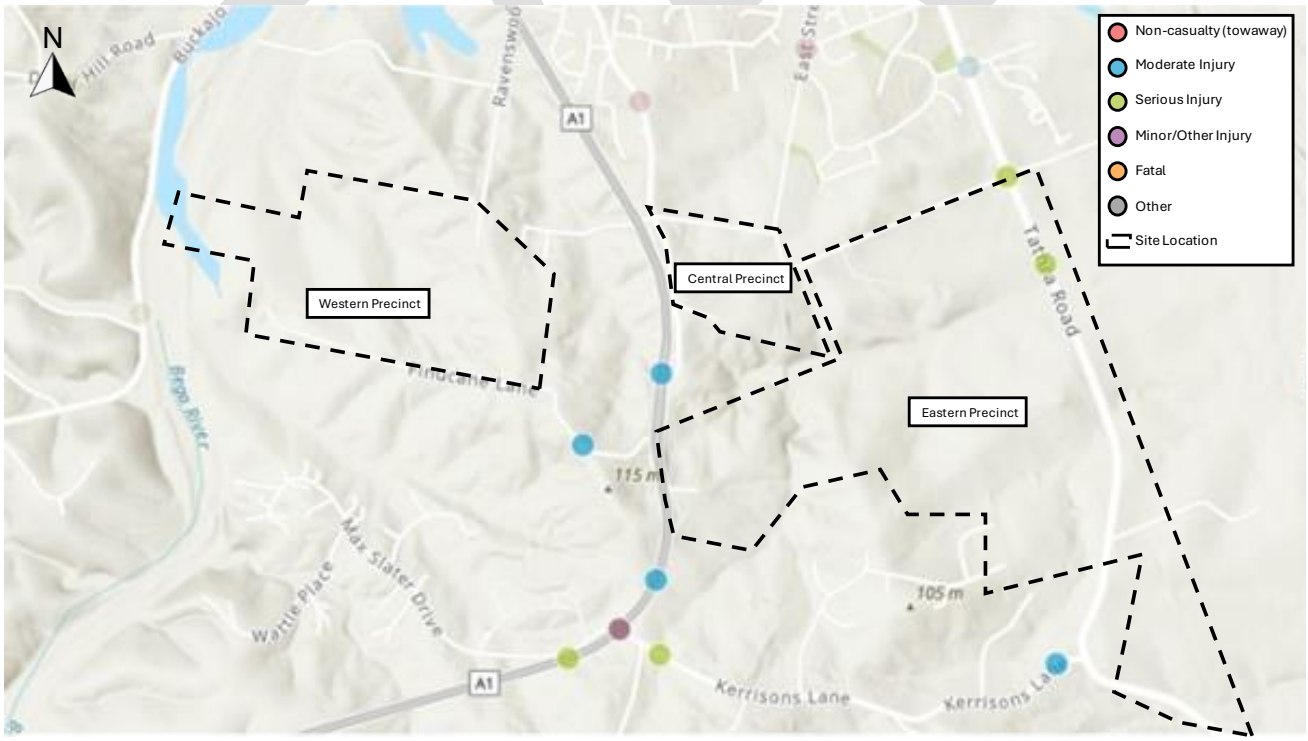



*Figure 2.17 Recorded crashes near the Site 2019-2023*

*Source: NSW Centre for Road Safety (modified by GHD)*

## 2.4 Active transport

A summary of the existing active transport facilities for Bega is provided in Figure 2.18.

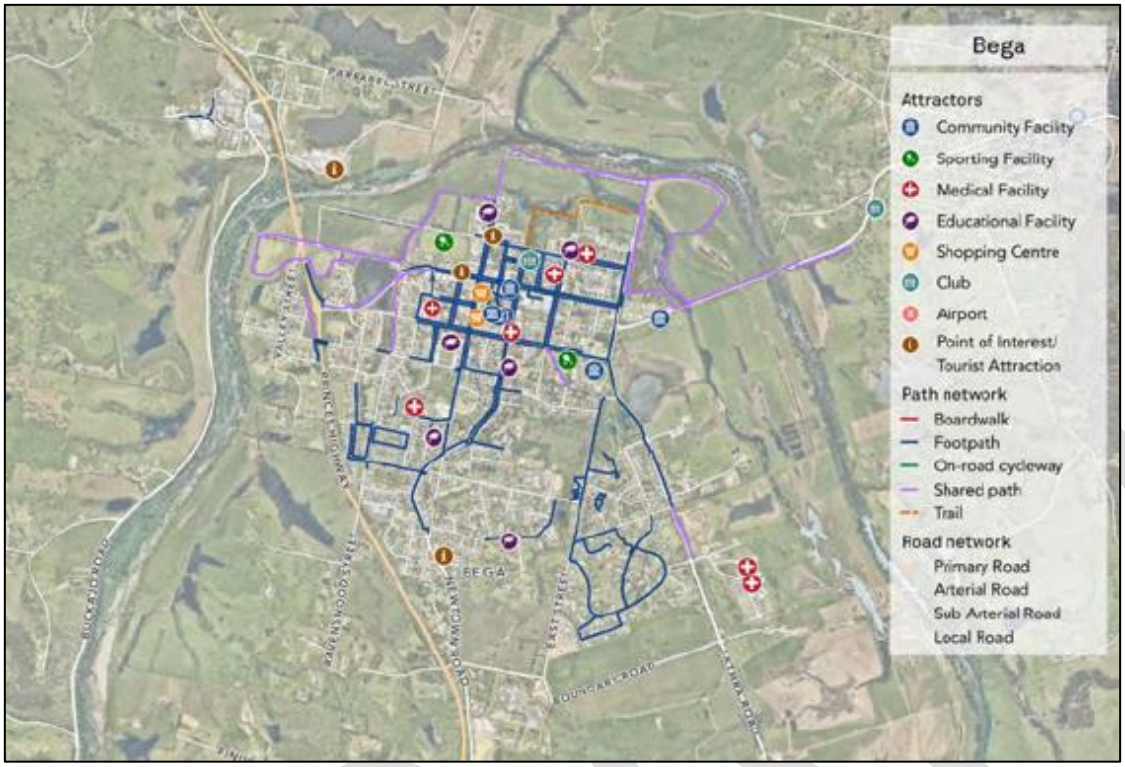



***Figure 2.18 Bega active transport network***

*Source: Bega ATS*

The data in Figure 2.18 indicates that while concrete footpaths are typically provided within the Bega Township, there are currently limited active transport facilities in south Bega in proximity to the project site.

### 2.4.1 Cycling facilities

The TfNSW Cycleway finder provides the following definitions for the cycling facilities above:

- **General Roads:** A road where bicycles share space with motor vehicles (Mixed Traffic), buses (Bus Lane) or parked cars (Parking Lane).
- **Road Shoulders:** The edge of a road that has a high-speed limit (High-speed Shoulder) or is for vehicle breakdowns (Emergency Stopping Lane).
- **Shared Paths:** A facility that is separated from motor vehicle traffic and is for shared use by people walking or cycling.

A review of the TfNSW Cycleway finder was undertaken to identify any cycleways around the Site location. The following existing facilities were identified, as shown in Figure 2.19.

- General road cycling is available to the west of Bega's Town Centre, particularly along Poplar Street. Beyond this point, cyclists can utilise the road shoulders on the Princes Highway, from the roundabout at Old Princes Highway to Ravenswood Street.
- Scattered shared paths can be found around the Bega Town Centre, which lies to the north of the study area.
- No dedicated cycling facilities are currently available within the project site, however, the proposed road hierarchy (refer to Section 3) will support the provision of an extensive active transport network.

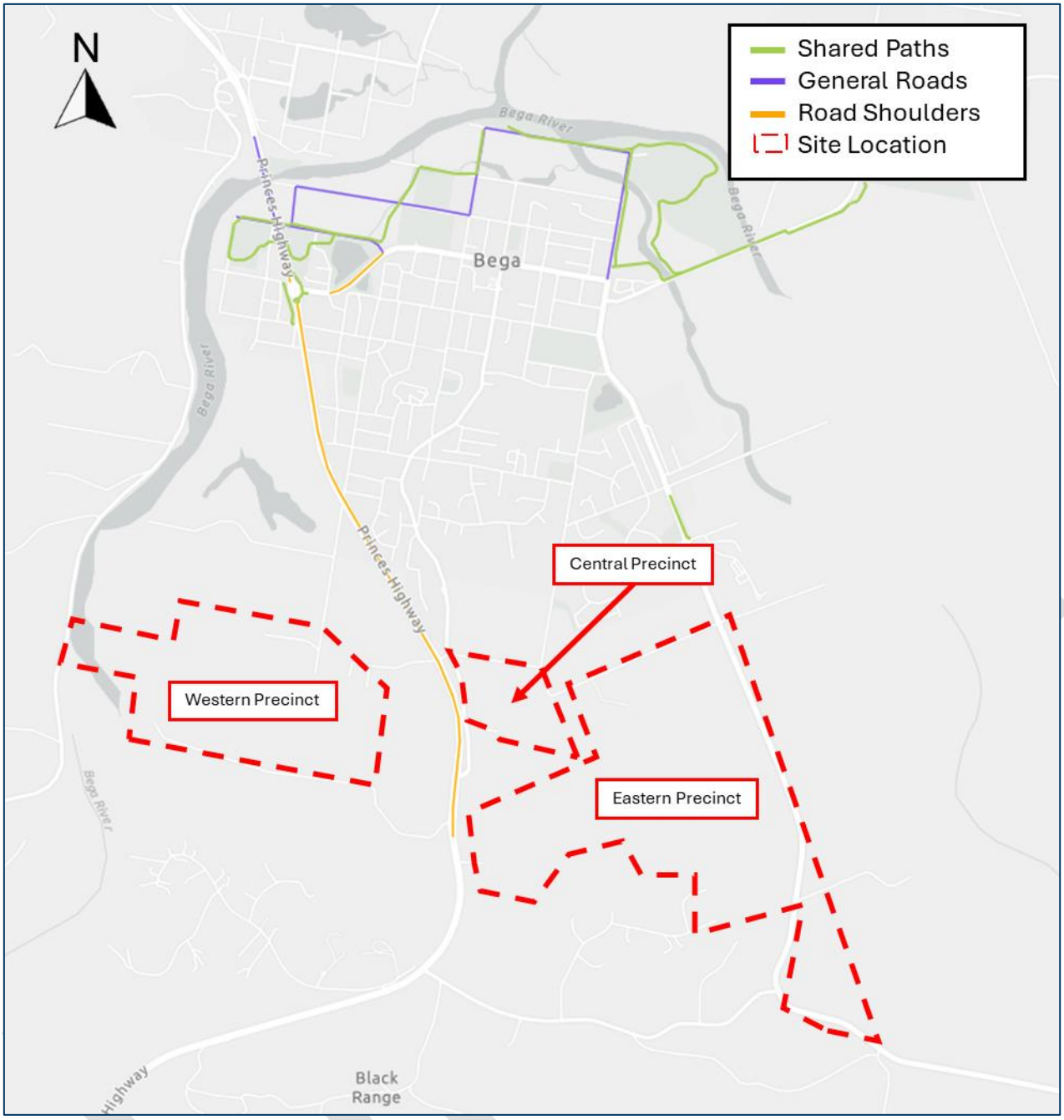



***Figure 2.19 Cycleways in the vicinity of the Site***

*Source: TfNSW Cycleway Finder (modified by GHD)*

## 2.4.2 Pedestrian facilities

The existing pedestrian facilities in proximity to the Site were assessed using Nearmaps aerial imagery and Google Street View, as follows:

– Footpaths are available around within and in proximity to the Bega Town Centre, offering pedestrian access to key services and amenities.
– Pedestrian crossings are limited within the study area, with crossings mostly found closer to the Bega Town Centre, particularly near the hospital and key commercial zones.
– Roads within the study area do not feature footpaths or designated pedestrian crossings.

## 2.5 Public transport

The following bus routes/ services were found in proximity to the Site:

– 885 – Bega to Merimbula (via Tathra Road)
– 890 - Bega to Eden (via Merimbula)
– 891 Bega to Bombala

The routes above in relation to the Site location are shown in Figure 2.20.

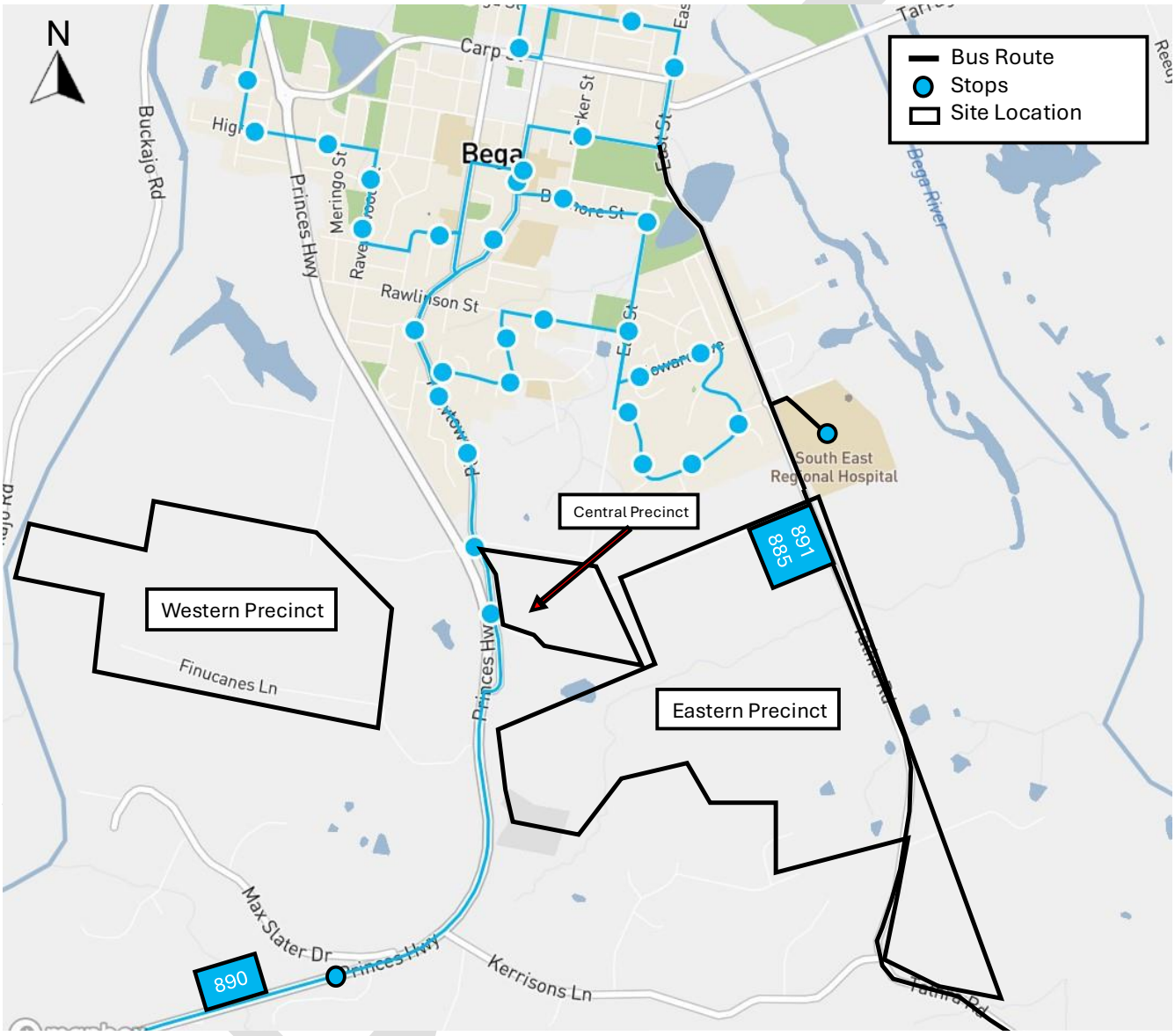



*Figure 2.20 Local bus routes in relation to the Site*

*Source: TfNSW* (modified by GHD)

The frequency of services for the weekday AM and PM periods and weekends (as sourced from timetable information) are outlined in Table 2.10.

*Table 2.10 Bus service frequency*

| Route | Direction of service | Weekday services | Number of services | | Weekend services |
|---|---|---|---|---|---|
| | | | Weekday AM | Weekday PM | |
| 885 | Bega to Merimbula (via Tathra) | 4 | 2 | 2 | 2 |
| 890 | Bega to Eden (via Merimbula) | 3 | 1 | 2 | 1 |
| 891 | Bega to Bombala | 2 | 1 | 1 | 0 |

The analysis of the frequency of services demonstrated that:

– The regional services (Routes 885, 890, and 891) have relatively limited frequencies, with between two to four services per day.
– Weekend services are more limited, with some routes operating only once or twice on weekends, such as Route 885 and Route 890.

# 2.6 Existing road network performance

## 2.6.1 Traffic surveys

Intersection turning movement counts and week-long tube counts were commissioned to support the analysis of the traffic impacts of the project, as displayed in Figure 2.21.

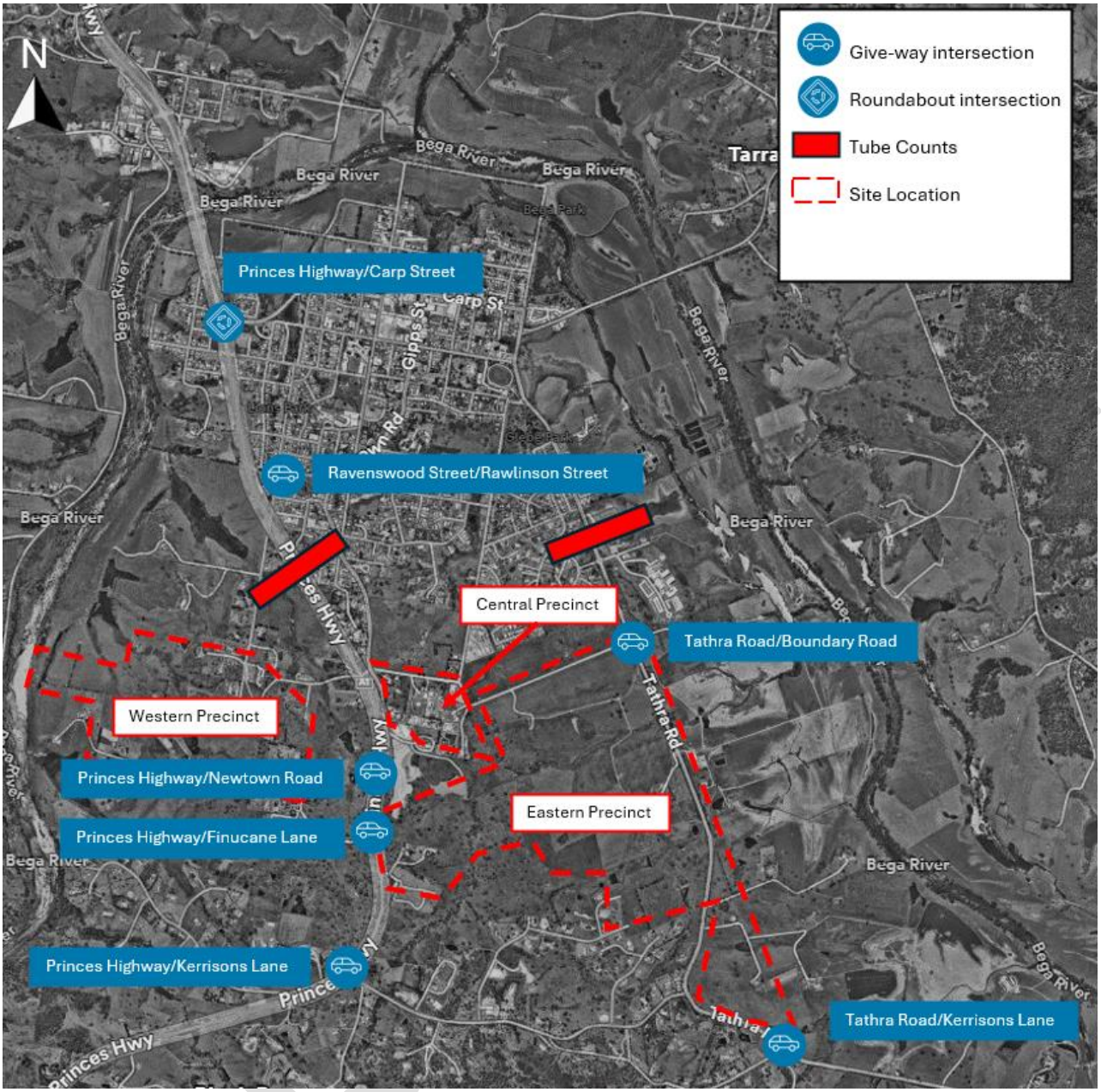



*Figure 2.21 Traffic survey locations*

*Source: Nearmap (modified by GHD)*

### 2.6.1.1 Turning movement counts

The turning movement count surveys were carried out by a subcontractor (Trans Traffic Survey) on 31 October 2024, with counts conducted at the following seven intersections:

– Princes Highway / Carp Street
– Princes Highway / Newtown Road

– Princes Highway / Kerrisons Lane
– Tathra Road / Kerrisons Lane
– Princes Highway / Finucane Lane
– Rawlinson Street / Ravenswood Street
– Tathra Road / Boundary

The traffic surveys were undertaken for the following peak periods of road network activity:

– 6:00 am – 9:00 am
– 4:00 pm – 7:00 pm

The peak hours of activity typically occur between 8:00 am to 9:00 am and 4:00 pm to 5:00 pm.

The current road network activity for the AM and PM peak hours are displayed in Figure 2.22 and Figure 2.23, respectively.

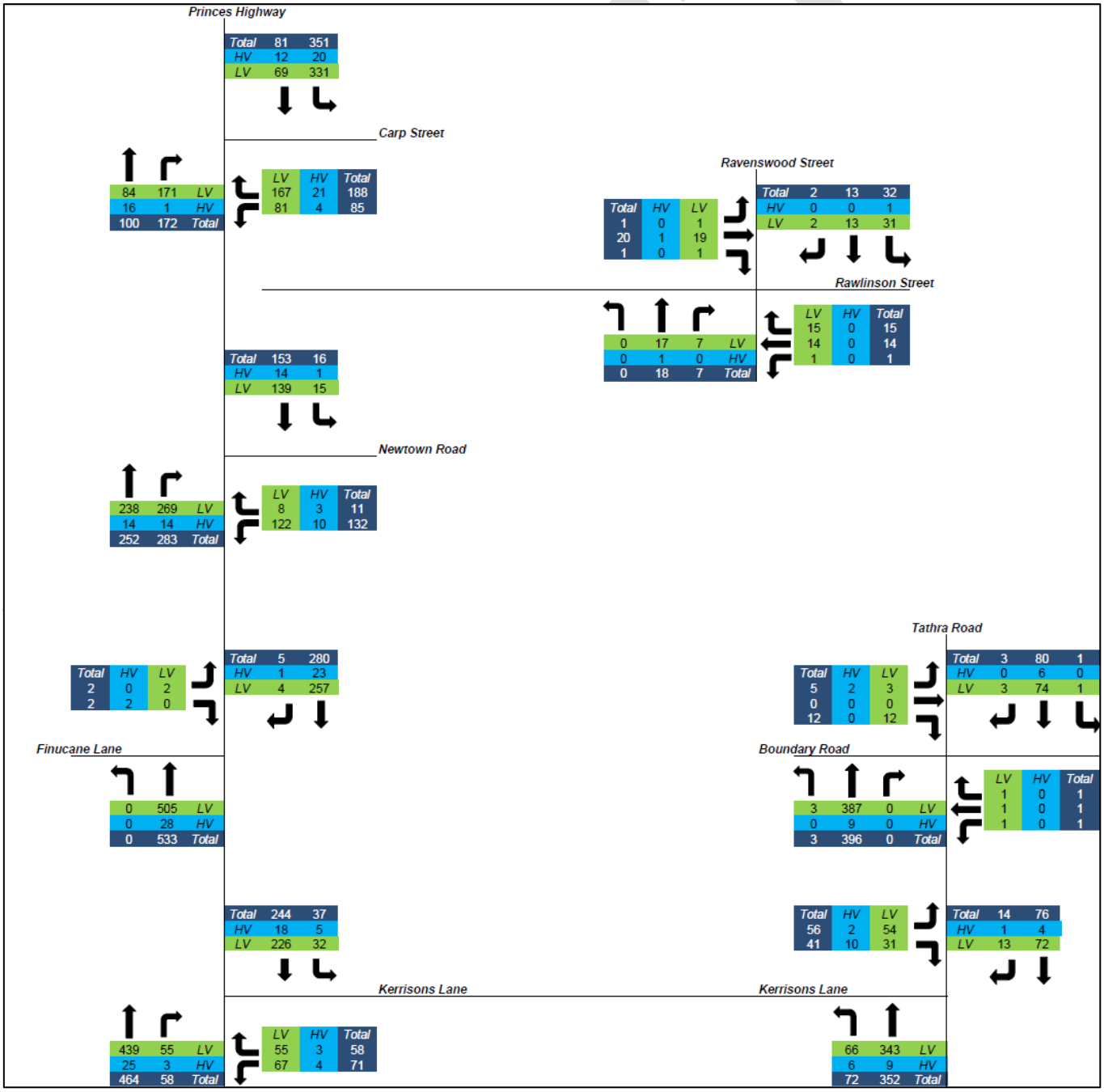



*Figure 2.22 2024 (baseline) AM peak hour traffic volumes*

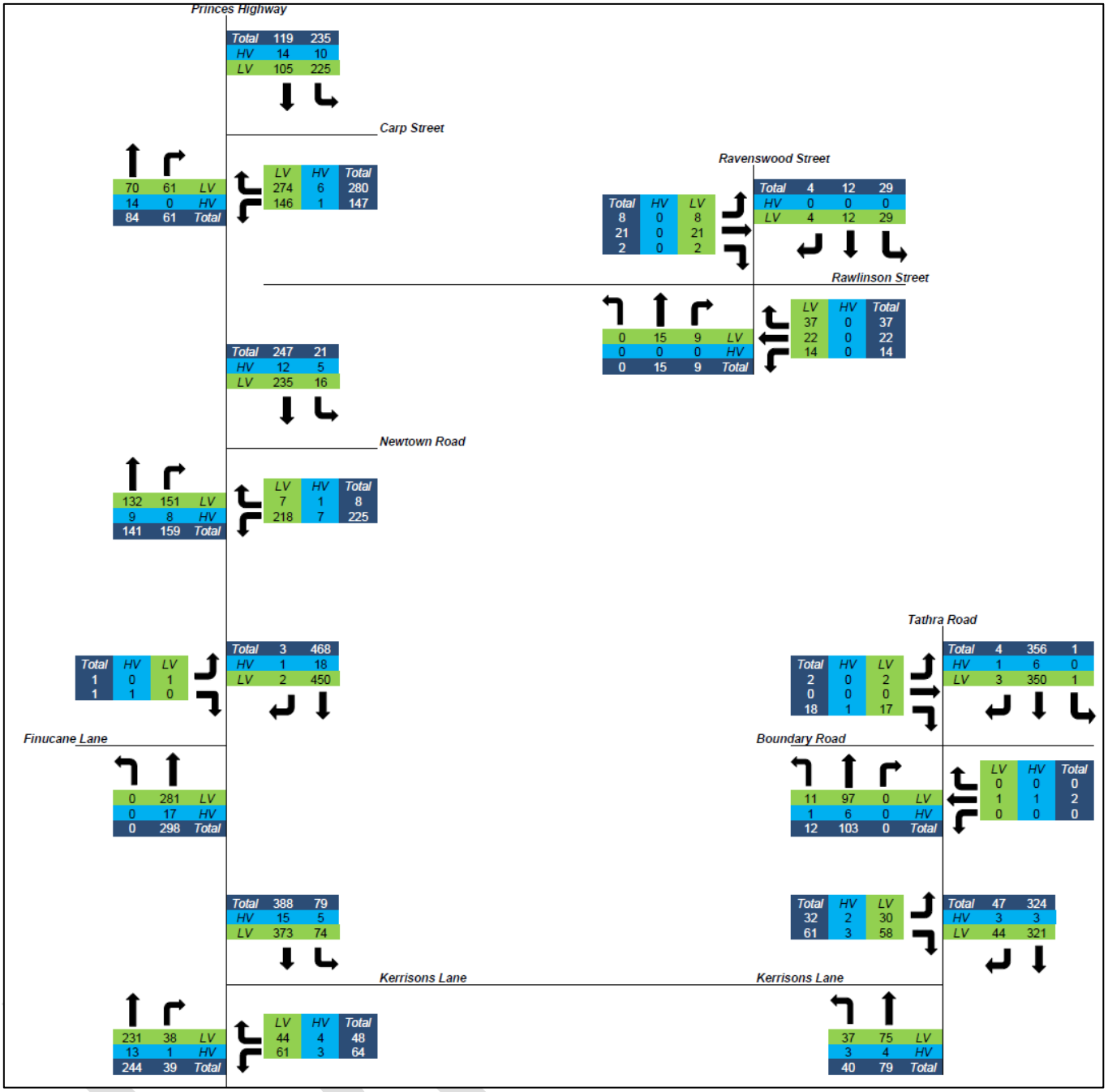



*Figure 2.23 2024 (baseline) PM peak hour traffic volumes*

A review of the traffic data indicates that:

- South of Carp Street, traffic on the Princes Highway is predominantly northbound in the AM peak and southbound in the PM peak.
- Vehicles from the north predominantly access/egress Bega via the Princes Highway/Carp Street intersection.
- The majority of vehicles accessing/egressing Bega from the south via Princes Highway typically use Newtown Road, but a relatively high portion also use the Carp Street intersection.
- A relatively small portion of traffic access/egress Bega via the Princess Highway/Kerrisons Lane intersection.
- Traffic on Tathra Road is predominantly northbound in the AM peak hour and southbound in the PM peak hour.
- The peak hour traffic volumes on Boundary Road, Ravenswood Street and Rawlinson Street are minor, in the order of 15 to 70 vehicles per hour per lane.
- The traffic volumes on Finucane Lane are negligible, in the order to two to four vehicles per hour per lane.

The northbound and southbound peak hour traffic volumes on Princes Highway and Tathra Road are approximately equivalent. The data highlights the importance of the regional and local connectivity provided by Tathra Road, particularly for settlements to the south of Bega, such as Tathra and Kalaru.

The “tidal” nature of traffic on Princes Highway and Tathra Road is consistent with individuals accessing their places of employment, education, etc, in the morning and returning to their homes in the afternoon/evening.

### 2.6.1.2 Tube counts

As displayed in Figure 2.21, weeklong tube counts were undertaken between 30 October 2024 and 6 October 2024 at the following locations:

– Princes Highway north of Newtown Road
– Tathra Road north of Boundary Road

The average weekday traffic volumes for the Princes Highway are displayed in Figure 2.24.

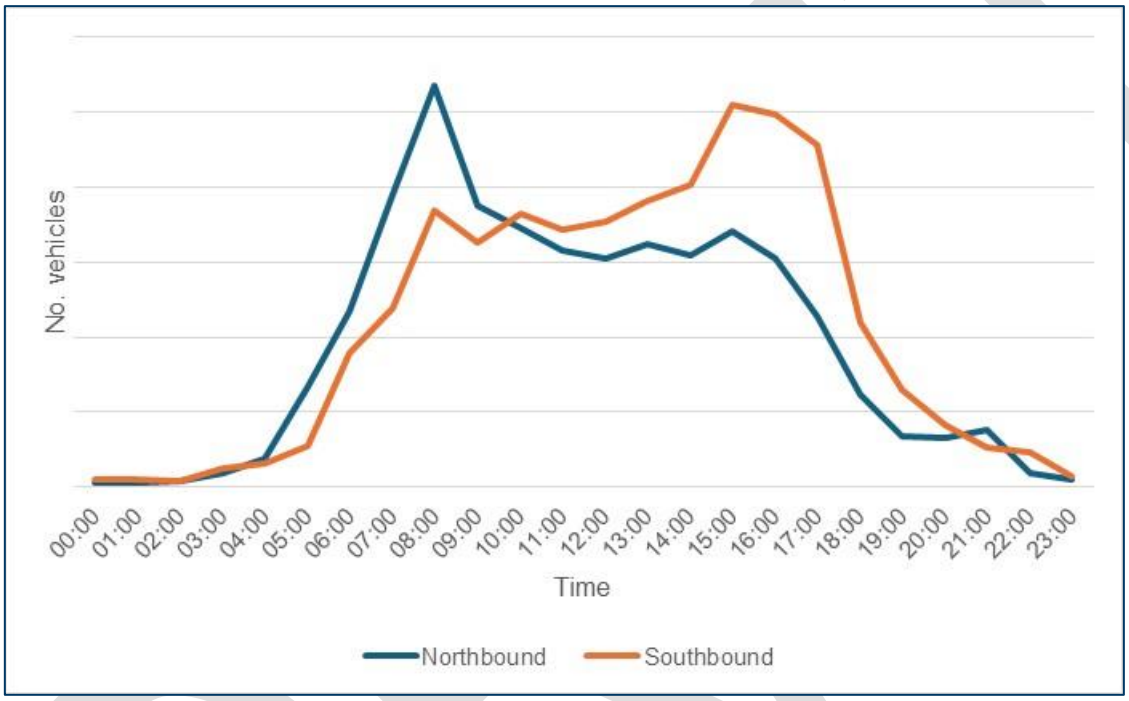



***Figure 2.24 Princes Highway weekday traffic volumes (2024)***

The data in Figure 2.24 indicates that:

– Vehicles are predominantly northbound in the AM peak hour and southbound in the PM peak hour.
– The AM peak hour occurred between 8:00 am and 9:00 am with 268 northbound and 185 southbound vehicles.
– The PM peak hour occurred between 3:00 pm and 4:00 pm with 171 northbound and 255 southbound vehicles.

The average weekday traffic volumes for Tathra Road are displayed in Figure 2.25.

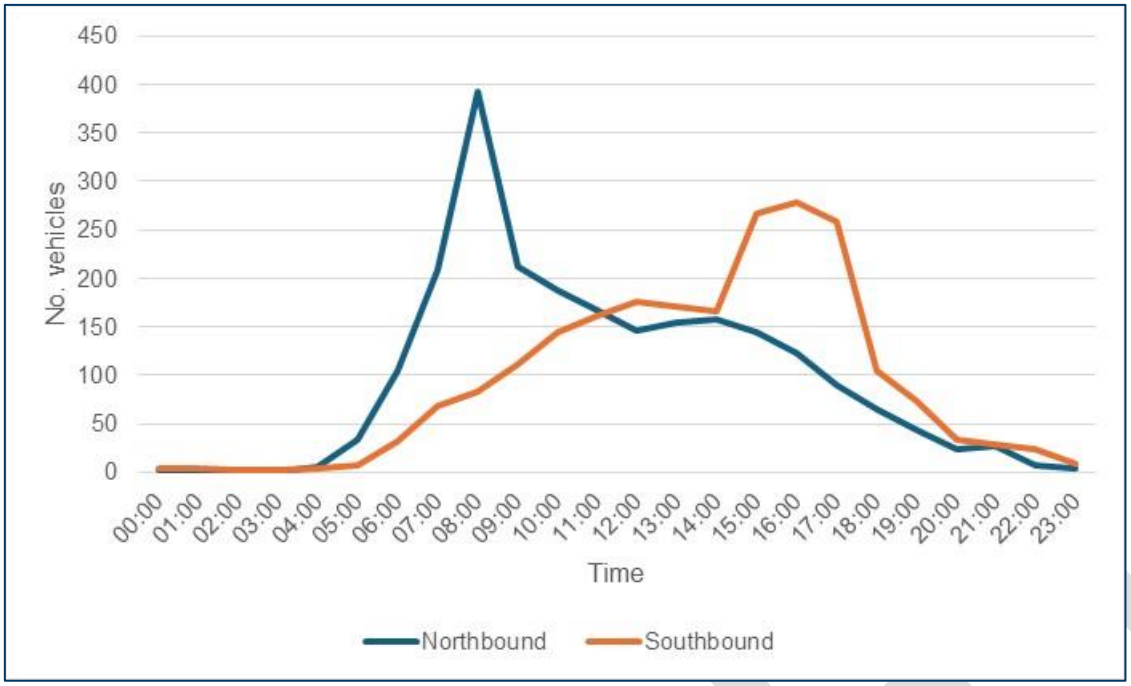



***Figure 2.25 Tathra Road weekday traffic volumes (2024)***

The data in Figure 2.25 indicates that:

– Vehicles are predominantly northbound in the AM peak hour and southbound in the PM peak hour.
– The AM peak hour occurred between 8:00 am and 9:00 am with 392 northbound and 83 southbound vehicles.
– The PM peak hour occurred between 3:00 pm and 4:00 pm with 144 northbound and 266 southbound vehicles.

It has been assumed that a significant portion of vehicles on Tathra Road are associated with the operation of Bega South East Regional Hospital, which is a major trip generator within the township.

The outputs of the traffic surveys are included in Appendix A.

## 2.6.2 Base year SIDRA analysis

The operation of the intersections of interest have been assessed using SIDRA 9. SIDRA calculates the amount of delay to vehicles using an intersection and, amongst other performance measures, gives a Level of Service (LoS) rating, which indicates the relative performance of traffic movements within the intersection.

Table 2.11 presents the criteria generally applied to intersection performance. The LoS is determined from the calculated delay to traffic movements, which is a representation of driver frustration, fuel consumption and increased travel time. There are six LoS measures ranging from A (very low delay and very good operating conditions) to F (over saturation where arrival rates exceed intersection capacity). Typically, a LoS D or better is considered to be acceptable. However, a LoS E may be acceptable if it also operates with a low degree of saturation.

*Table 2.11 Intersection Level of Service Criteria*

| LoS | Average Delay/ Vehicle (sec) | Traffic Signals & Roundabouts | Give-way & Stop signs |
|---|---|---|---|
| A | Less than 15 | Good operation | Good operation |
| B | 15 to 28 | Good with acceptable delays and spare capacity | Acceptable delays and spare capacity |
| C | 28 to 42 | Satisfactory | Satisfactory, but accident study required |
| D | 42 to 56 | Operating near capacity | Near capacity, accident study required |
| E | 56 to 70 | At capacity, excessive delays; roundabout requires other control mode | At capacity; requires other control mode |
| F | Exceeding 70 | Unsatisfactory; requires additional capacity | Unsatisfactory, requires other control mode. |

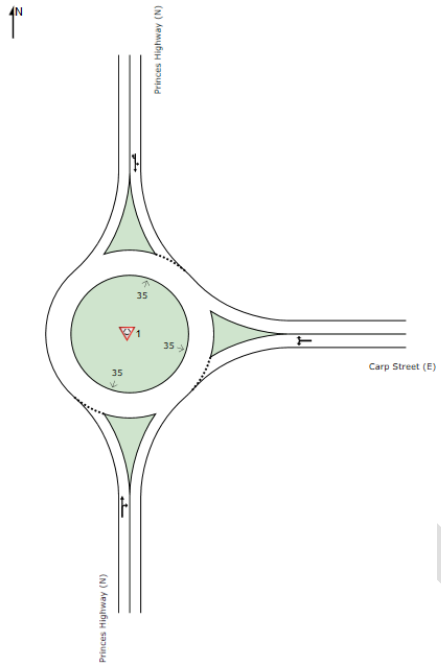
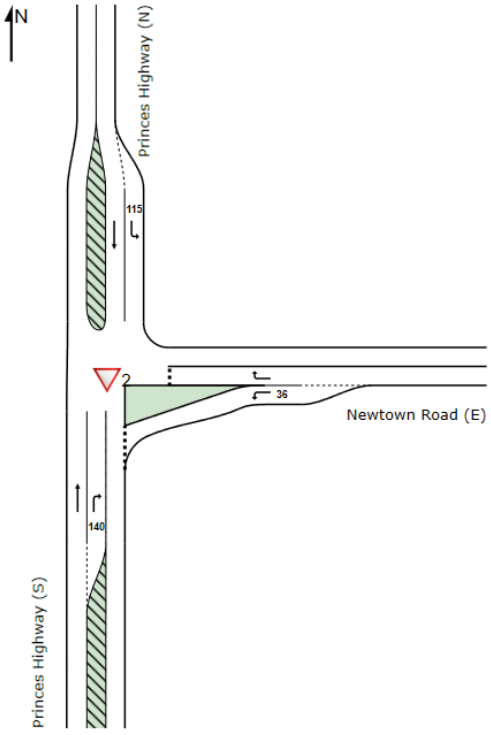
For the SIDRA model, the individual intersection identification numbers are outlined in Table 2.12.

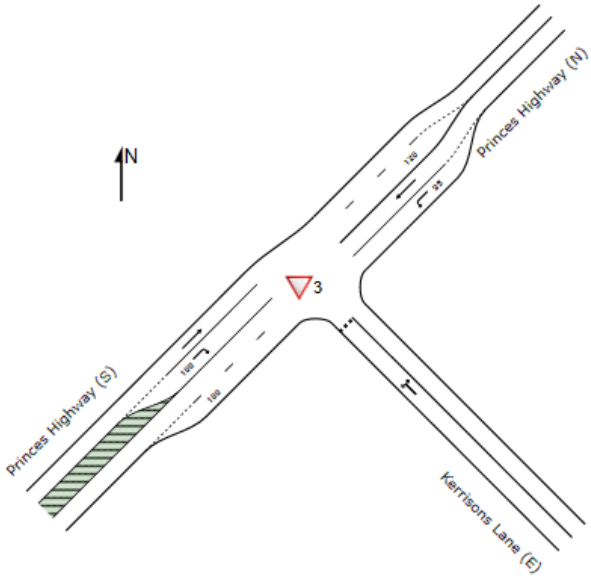
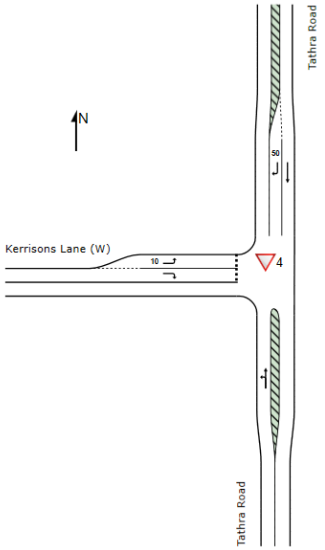
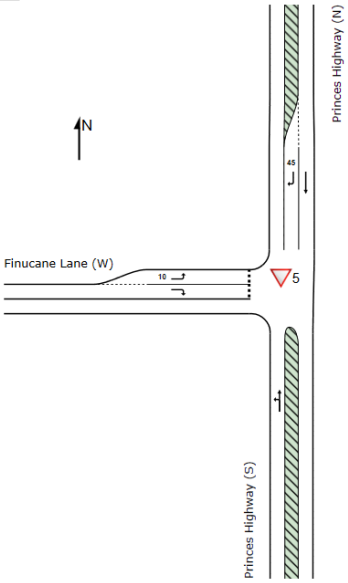
*Table 2.12 SIDRA Site ID numbers*

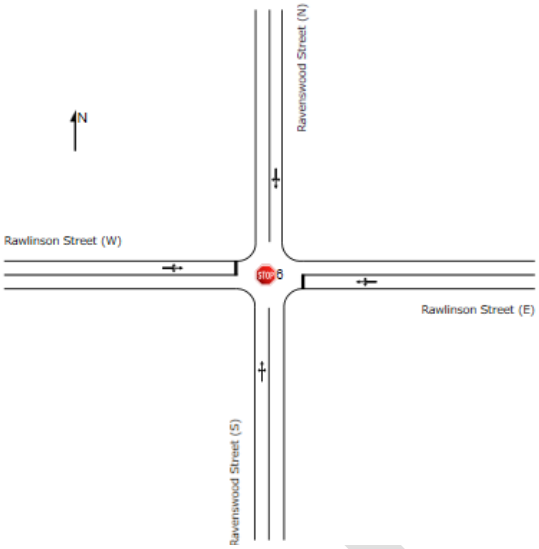
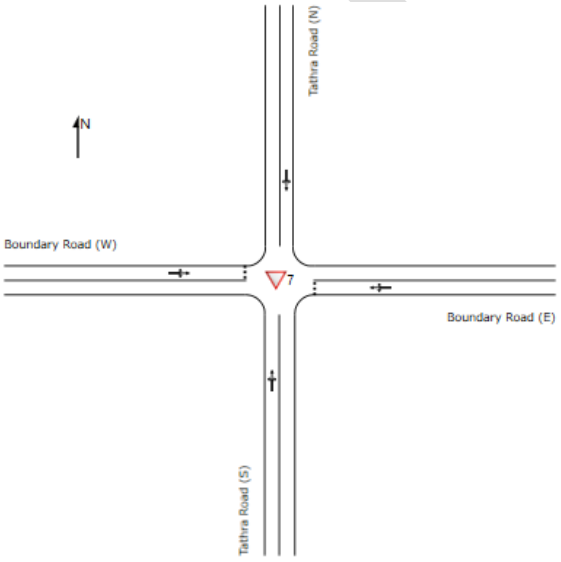
| SIDRA Intersection ID | Intersection description |
|---|---|
| 1 | Princes Highway / Carp Street |
| 2 | Princes Highway / Newtown Road |
| 3 | Princes Highway / Kerrisons Lane |
| 4 | Tathra Road / Kerrisons Lane |
| 5 | Princes Highway / Finucane Lane |
| 6 | Ravenswood Street / Rawlinson Street |
| 7 | Tathra Road / Boundary Road |

The layouts of the intersections of interest are displayed in Table 2.13.

*Table 2.13 Intersection layouts*

| ID | Aerial | SIDRA layouts |
|---|---|---|
| 1 |  |  |
| 2 |  |  |

| ID | Aerial | SIDRA layouts |
|---|---|---|
| 3 |  |  |
| 4 |  |  |
| 5 |  |  |

| ID | Aerial | SIDRA layouts |
|---|---|---|
| 6 |  |  |
| 7 |  |  |

Due to their proximity, the intersections of Princes Highway/Finucane Lane and Princes Highway/Newtown Road were modelled as a network (refer to Figure 2.26), while the remaining intersections were modelled individually as isolated intersections.

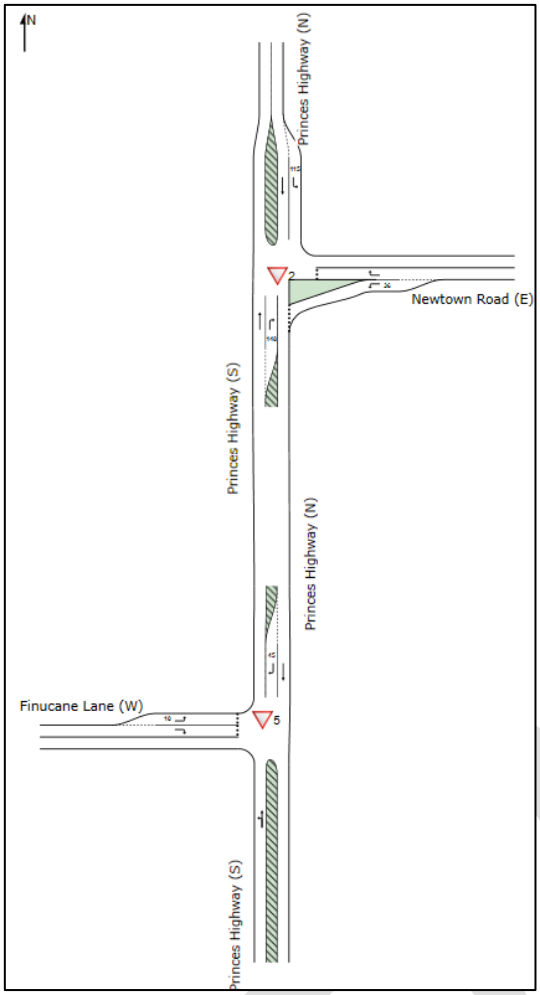



*Figure 2.26 Finucane Lane, Newtown Road and Princes Highway network*

A summary of the results from the 2024 base year SIDRA are presented below in Table 2.14.

*Table 2.14 2024 SIDRA results summary*

| Int no. | Intersection Name | AM Peak Hour (08:00 - 09:00) | | | | PM Peak Hour (16:30 – 17:30) | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Ave Delay (s) | LoS | 95th % Queue (m) | DoS | Ave Delay (s) | LoS | 95th % Queue (m) | DoS |
| 1 | Princes Highway/Carp Street | 6.1 | A | 21 | 0.37 | 5.4 | A | 15 | 0.32 |
| 2 | Princes Highway/Newtown Road | 7.3 | A | 4 | 0.26 | 7.2 | A | 3 | 0.24 |
| 3 | Princes Highway/Kerrisons Lane | 12.2 | B | 9 | 0.29 | 10.7 | A | 7 | 0.24 |
| 4 | Tathra Road/Kerrisons Lane | 101 | A | 3 | 0.24 | 9.5 | A | 3 | 0.18 |
| 5 | Princes Highway/Finucane Lane | 20.9 | B | 0 | 0.30 | 17.7 | B | 0 | 0.26 |
| 6 | Ravenswood Street/Rawlinson Street | 7.9 | A | 1 | 0.03 | 8.0 | A | 1. | 0.07 |
| 7 | Tathra Road/Boundary Road | 8.4 | A | 1 | 0.22 | 8.4 | A | 1 | 0.20 |

*Notes: The average delay for priority-controlled intersections is selected from the movement on the approach with the highest average delay.*

Analysis of the 2024 SIDRA results indicates that the seven intersections of interest operate with an acceptable LoS during peak periods of road network activity.

The full SIDRA outputs for the existing situation are in Appendix B.

# 3. Future transport and land use

## 3.1 Future land use changes

A summary of the land uses associated with the project are presented in Table 3.1.

*Table 3.1 Proposed URA yield*

| Precinct | Sub-precinct | Area (ha) | Dwellings |
|---|---|---|---|
| Western | East of Ravenswood | 81 ha | 162 |
| | West of Ravenswood | 22.1 ha | 265 |
| Central | Local Centre | 0.5 ha | - |
| | Commercial Centre | 11 ha | 55 |
| | Productivity Support | 4.7 ha | - |
| Eastern | Low Density | 145.4 ha | 1,745 |
| | Local Centre | 0.3 ha | - |
| Total | | | 2,227 |

The data in Table 3.1 indicates that the project proposes to provide a total of 2,227 dwellings. With respect to the non-residential land uses, in accordance with the data in the Bega Structure Plan:

– The local centres are intended to supply local shops for the nearby residents.
– The productivity zone is intended to supply light industrial, large format retail and car sales.
– The commercial centre in the Central Precinct includes:
  - A 2,500 $m^2$ GFA area zoned as E1 that is proposed to provide retail and commercial land uses.
  - A larger E2 zone that is proposed to provide a shopping complex and a hotel.

## 3.1.1 Road network

The proposed road upgrades and hierarchy of the project are displayed in Figure 3.1.

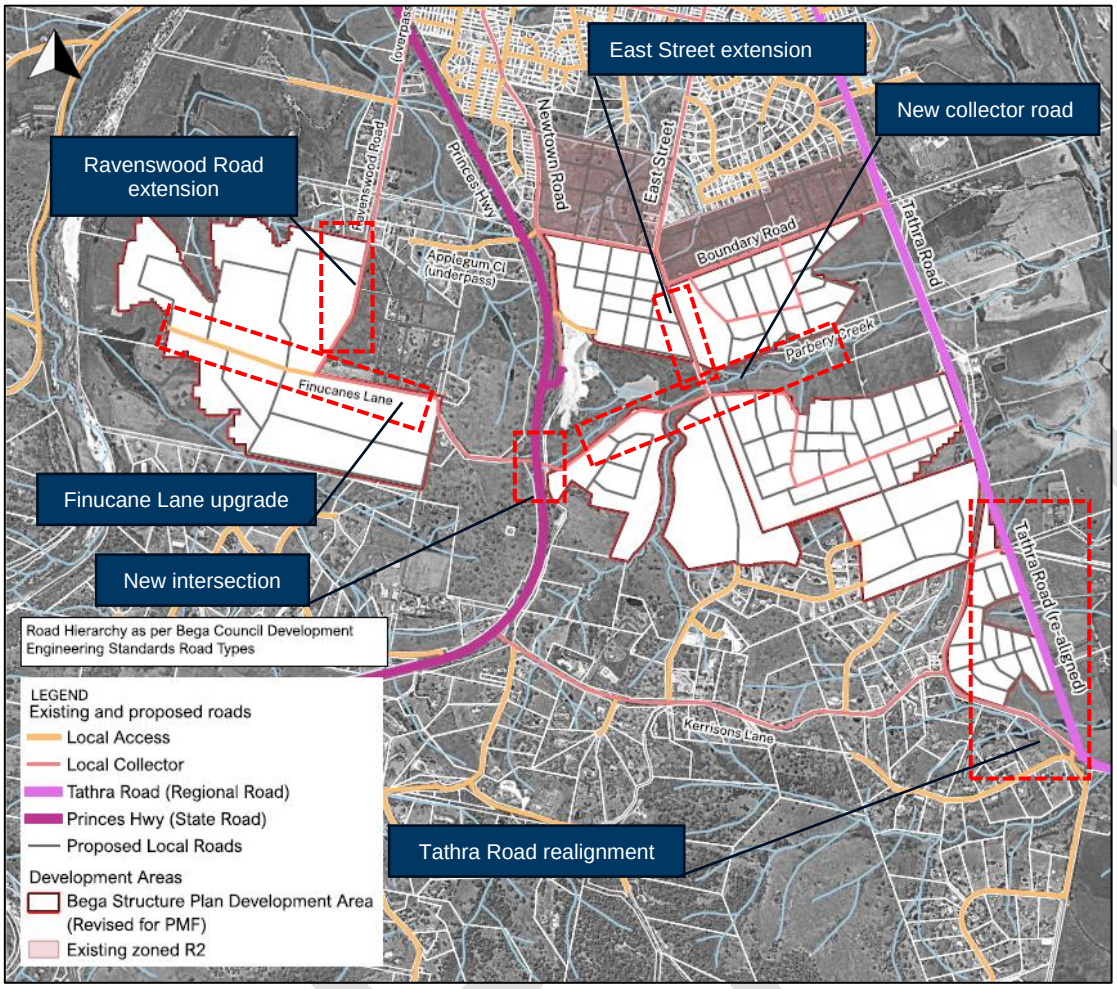



*Figure 3.1 Bega URA proposed road network*

*Source: ADW Johnson modified by GHD*

Key aspects of the proposed road network are as follows:

- The extension of Ravenswood Street to Finucane Lane, which will enable vehicles in the Western Precinct to access/egress Bega via the existing overpass.
- The realignment of Tathra Road to the south of the subject Site.
- The upgrade of Finucane Lane to the standard of a local access road and a local collector road.
- The provision of a new east-west local collector road which will form a new four-legged intersection with Princess Highway and Finucane Lane (consistent with IRI 1).
- The extension of East Street (to the south) to the proposed east-west collector road.
- The provision of new T-junctions on Tathra Road to support access/egress to and from the east.

Additionally, it is proposed that Boundary Road be upgraded from a local road to a collector road (refer to Table 3.2).

With respect to the proposed four-legged intersection on the Princes Highway at Finucane Lane:

- It is assumed that it will be a roundabout similar to the size of the Princes Highway/Carp Street Intersection.
- As part of the proposed road upgrade, it is assumed that the intersection of Princes Highway/Newtown Road intersection will be changed to left in/left out only, with the current right turn functionality transferred to the adjoining proposed roundabout.

The current speed limit change on the Princes Highway from 100 km/h to 80 km/h is located approximately 200 metres south of Carp Street. The provision of a new roundabout on the Princes Highway and Finucane Lane will require the relocation of the 80 km/h zone to the south, on the Princes Highway, in proximity to Kerrisons Lane. The 80 km/h speed limit supports approaching vehicles slowing down to give way to other vehicles already in the roundabout.

Any change in speed limit on the Princes Highway will require the concurrence of TfNSW.

The project's road hierarchy is based on the Council's Geometric Road Design (Urban and Rural) Development Design Specifications. The key aims of the Geometric Road Design for subdivision road design include:

– Provide convenient and safe access for pedestrians, vehicles and cyclists.
– Provide safe, logical and hierarchical transport linkages with existing street systems.

The Geometric Road Design identifies four levels of roads, namely:

– Access Street
– Local Street
– Collector Road
– Local Sub-Arterial Road

The key aspects of the road hierarchy are described in Table 3.2.

***Table 3.2 Bega road characteristics***

| Road type | Max volumes (vpd) | Carriageway width | Footpath requirements | Verge width (each side) | Minimum road reserve width |
|---|---|---|---|---|---|
| Access Streets | 150 | 6m | 1.2m on one side | 4.5m | 15 |
| Local Streets | 1,000 | 8m | 1.2m on one side | 3.5m | 15 |
| Collector Streets | 3,000 | 9m | 1.2m on one side | 3.5m | 16 |
| Local Sub-Arterial | 6,000 | 11m | 1.2m on one side | 4.5m | 20 |

Geometric Road Design specifies that:

– Bus routes will typically be identified by Council, with the key criteria that no more than five percent of residents should have to walk more than 400 metres to/from a bus stop.
– Roads above local streets in the hierarchy are designed as bus routes.

In this respect, it is noted that information in the TfNSW Guidelines for Public Transport Cabable Infrastructure in Greenfield Sites (2018) indicates that bus-capable lanes should have minimum widths of 3.5 metres.

### 3.1.2 Active and public transport facilities

Key actions that were identified for Bega in the ATS include:

– Investigate the provision of a shared path along Park Lane and East Street to Tathra Road – medium term.
– As part of a proposed Master Network Plan, identify key routes that link planned growth at South Bega with the existing residential area in North Bega.

The provision of footpaths on all the proposed local and collector roads, as detailed in Figure 3.1, will support the active connectivity between north and south Bega.

The current bus services and stops within Bega are detailed in Section 2.5. As the project is constructed, there will be opportunities to expand the current bus services into southern Bega.

In accordance with the Council's Geometric Road Design, the proposed collector roads will be designed and constructed to be bus-capable and support integration with the current bus services. The locations of the bus stops on the proposed collector road network will be identified at a later time to support the 400-metre walking provision specified in the Geometric Road Design.

# 4. Trip distribution and generation

The NSW Government's Guide to Transport Impact Assessment (2024) specifies that for new developments (particularly for commercial and retail facilities), trips will be either new or changes to existing trip patterns. These trips are categorised as:

– Unlinked trips: Direct journeys from an origin to a destination, i.e. a direct trip from home to work.
– Linked trips: Journeys from an origin to a destination with an intermediate stop, i.e. a trip from work to home with a stop at a shopping centre or fast food outlet.

Additionally, trips can be characterised as

– Internal trips that occur wholly within a development site, such as trips between residential and retail land uses or linked trips between different retailers in a retail centre.
– External trips that occur outside the development and use the external road network (typically unlinked trips).

It is expected that linked trips/internal trips will be applicable to the retail/commercial land uses associated with the project.

## 4.1 Residential trip generation

Trip generation analysis has been used to calculate the trip generation characteristics of the project's residential land uses. Reference has been made to the NSW Government's Guide to Transport Impact Assessment (2024). The Guide specifies the following rates for regional low-density dwellings:

– AM peak hour: 0.83 trips per dwelling.
– PM peak hour: 0.84 trips per dwelling.

In accordance with the census data detailed in Section 2.2, it has been assumed that 90 percent of residential trips will be undertaken using private vehicles, with the remaining 10 percent of trips using active or public transport (refer to Section 3.1.2).

The trips associated with the residential components of the project are detailed in Table 4.1, assuming that trips will be:

– AM peak hour: 80 percent outbound and 20 percent inbound.
– PM peak hour: 20 percent outbound and 80 percent outbound.

***Table 4.1 Residential vehicle trips***

| Precinct | No Dwellings | AM Peak | | | PM Peak | | |
|---|---|---|---|---|---|---|---|
| | | Number of trips | Inbound trips | Outbound Trips | Number of trips | Inbound trips | Outbound Trips |
| Western | 427 | 319 | 64 | 255 | 323 | 258 | 65 |
| Central | 55 | 41 | 8 | 33 | 42 | 33 | 8 |
| Eastern | 1,745 | 1,304 | 261 | 1,043 | 1,319 | 1,055 | 264 |
| **Total** | **2,227** | **1,664** | **333** | **1,331** | **1,684** | **1,347** | **337** |

The data in Table 4.1 indicates that the residential component of the project will generate:

– 1,664 trips in the AM peak hour
– 1,684 trips in the PM peak hour

# 4.2 Non-residential trip generation

## 4.2.1 Productivity zone

As detailed in the Structure Plan, the productivity zone is proposed to predominantly consist of light industrial and large format retail.

The productivity zone has an overall area of 4.7 hectares or 47,000 $m^2$. For the purposes of analysis, it has been assumed that the Site has a floor space ratio (FSR) of 0.4 to account for roads, setbacks, car parking loading areas, etc.

Therefore, for the purposes of analysis it has been assumed that the land uses within the productivity zone have a GFA of 18,800 m2.

The applicable rate for the productivity zone in accordance with the criteria in the NSW Government's Guide to Transport Impact Assessment (2024) is "Business Park", which is defined as:

*"……developments that permit a range of land uses in an integrated complex. The developments generally incorporate a mix of office, warehousing, workshops, manufacturing, light industrial and showrooms".*

The trip rates for regional business parks are as follows:

– AM peak hour: 0.69 trips per 100$m^2$ GFA.
– PM peak hour: 0.78 trips per 100$m^2$ GFA.

For the purpose of analysis, it has been assumed that accounting for 90 percent mode share by private vehicles, trips associated with the productivity zone will be:

– AM peak hour:70 percent inbound and 30 percent outbound.
– PM peak hour: 70 percent outbound and 30 percent inbound.

Based on the above data and assumptions, the trip generation characteristics associated with the productivity zone are presented in Table 4.2.

***Table 4.2 Productivity zone vehicle trips***

| Land use | Area (GFA) | AM Peak | | | PM Peak | | |
|---|---|---|---|---|---|---|---|
| | | Number of trips | Inbound trips | Outbound Trips | Number of trips | Inbound trips | Outbound Trips |
| Productivity zone | 18,800 $m^2$ | 117 | 82 | 35 | 132 | 40 | 92 |

The data in Table 4.2 indicates that the proposed productivity zone will generate:

– 117 trips in the AM peak hour.
– 132 trips in the PM peak hour.

## 4.2.2 Commercial precinct

As detailed in Section 3.1, the Central Precinct's commercial centre is proposed to provide a 2,500 $m^2$ GFA area zoned as E1 that is proposed to provide retail and commercial land uses (potentially as a small shopping centre) and a larger E2 zone that will provide a shopping complex and a hotel.

### 4.2.2.1 E1 zone

For the E1 zone, the Thursday rates for a regional shopping centre are as follows:

– AM peak hour: 3.34 trips per 100$m^2$ gross leasable floor areas (GLFA[1]).
– PM peak hour: 4.67 trips per 100$m^2$ GLFA.

[1] GLFA is the leasable area only and excludes toilets, walkways, open spaces and centre supply rooms.

Additionally:

– The NSW Government's Transport Assessment Guideline (2024) also indicates that 90 percent of trips associated with shopping centres are undertaken by private vehicles.
– For the purposes of analysis it has been assumed that GLFA is 70 percent of GFA, equivalent to 1,750m$^2$ GLFA.

Information in the Trip Generation Surveys Small Suburban Shopping Centres Analysis Report (Bitzios Consulting for TfNSW 2018) indicates that for shopping centres up to 10,000 m$^2$ GLFA:

– On Thursdays the linked trip average is 25 percent.
– On Friday the linked trip average is 33 percent.

In summary, for the purpose of analysis for the E1 zone, it has been assumed that:

– There is a FSR of 0.4
– 25 percent of the vehicle trips associated with the shopping centre will be linked.
– 90 percent of trips will be undertaken using private vehicles.

Additionally it has been assumed that the retail trips will be 50 percent inbound and 50 percent outbound during the AM and PM peak hours.

Based on the above data and assumptions, the trip generation characteristics associated with the E1 zone are presented in Table 4.3.

***Table 4.3 E1 zone vehicle trips***

| Land use | Area (GLFA) | AM Peak | | | PM Peak | | |
|---|---|---|---|---|---|---|---|
| | | Number of trips | Inbound trips | Outbound Trips | Number of trips | Inbound trips | Outbound Trips |
| Retail/commercial | 1,750 m$^2$ | 40 | 20 | 20 | 56 | 28 | 28 |

The data in Table 4.3 indicates that the proposed E1 zone retail/commercial land uses will generate:

– 40 trips in the AM peak hour.
– 56 trips in the PM peak hour.

#### 4.2.2.2 E2 zone

The proposed land uses in the E2 are as follows:

– A hotel with 50 rooms
– A large shopping complex

**Hotel**

It is proposed to provide a hotel with 50 hotel rooms. The NSW Government's Guide to Transport Impact Assessment (2024) specifies the peak hour trip rate for hotels as 0.4 trips/room.

For the purposes of analysis, it has been assumed that:

– All trips will be undertaken by vehicle.
– All trips associated with the hotel are unlinked/external.
– Trips will be 50 percent inbound and 50 percent outbound during the AM and PM peak hours.

**Shopping complex**

The size of the proposed shopping complex has not yet been determined. The overall area of the E2 zone is approximately 100,000 m$^2$. For the purposes of analysis, the following assumptions have been made:

– To account for the requirement for a large car park and other supporting infrastructure, a FSR of 0.3 has been assumed.
– GLFA is 0.70 of GFA.
– 25 percent of the vehicle trips associated with the shopping centre will be linked.

– 90 percent of trips will be undertaken using private vehicles.
– Trips will be 50 percent inbound and 50 percent outbound during the AM and PM peak hours.

Based on these assumptions, the shopping complex is expected to have a GFA of 30,000 $m^2$ and a GLFA of 21,000 $m^2$. The trip generation characteristics of the E2 zone are displayed in Table 4.4.

***Table 4.4 E2 zone vehicle trips***

| Land use | Quantum | AM Peak | | | PM Peak | | |
|---|---|---|---|---|---|---|---|
| | | Number of trips | Inbound trips | Outbound Trips | Number of trips | Inbound trips | Outbound Trips |
| Hotel | 50 rooms | 20 | 10 | 10 | 20 | 10 | 10 |
| Retail | 21,000$m^2$ GLFA | 474 | 237 | 237 | 662 | 331 | 331 |
| Total | | 494 | 247 | 247 | 682 | 341 | 341 |

The data in Table 4.4 indicates that the proposed E2 zone hotel retail/commercial land uses will generate:

– 494 trips in the AM peak hour.
– 682 trips in the PM peak hour.

A summary of the total vehicle activity associated with the non-residential land uses (excluding local centres) of the project is provided in Table 4.5.

***Table 4.5 Non-residential vehicle trip summary***

| Land use | AM Peak | | | PM Peak | | |
|---|---|---|---|---|---|---|
| | Number of trips | Inbound trips | Outbound Trips | Number of trips | Inbound trips | Outbound Trips |
| Productivity zone | 117 | 82 | 35 | 132 | 40 | 92 |
| E1 Retail/commercial | 40 | 20 | 20 | 56 | 28 | 28 |
| Hotel | 20 | 10 | 10 | 20 | 10 | 10 |
| E2 Retail/commercial | 474 | 237 | 237 | 662 | 331 | 331 |
| Total | **651** | **349** | **302** | **890** | **419** | **471** |

The data in Table 4.5 indicates that the non-residential land uses will generate:

– 651 trips in the AM peak hour.
– 890 trips in the PM peak hour.

#### 4.2.2.3 Local centres

For the purposes of analysis, it has been assumed that the local centres will provide convenience shopping for the adjoining residential developments. It has been assumed that the majority of trips will be internal and, therefore, will have negligible impacts on the road network included in the analysis.

## 4.3 Trip distribution

For the purpose of analysis, trips associated with the project have been divided into:

– Local trips between the residential areas and the Bega Town Centre.
– Regional trips that will utilise the Princes Highway or Tathra Road as part of their journey.

Further, it has been assumed that:

– The intersection of Princes Highway and Newtown Road is left in/left out.
– A four-legged roundabout has been constructed at the Finucane Lane/Princes Highway intersection.

Due to its large size and the multiple access/egress options available, for the purposes of analysis, the Eastern Precinct has been separated into three areas (A, B and C), as displayed in Figure 4.1.

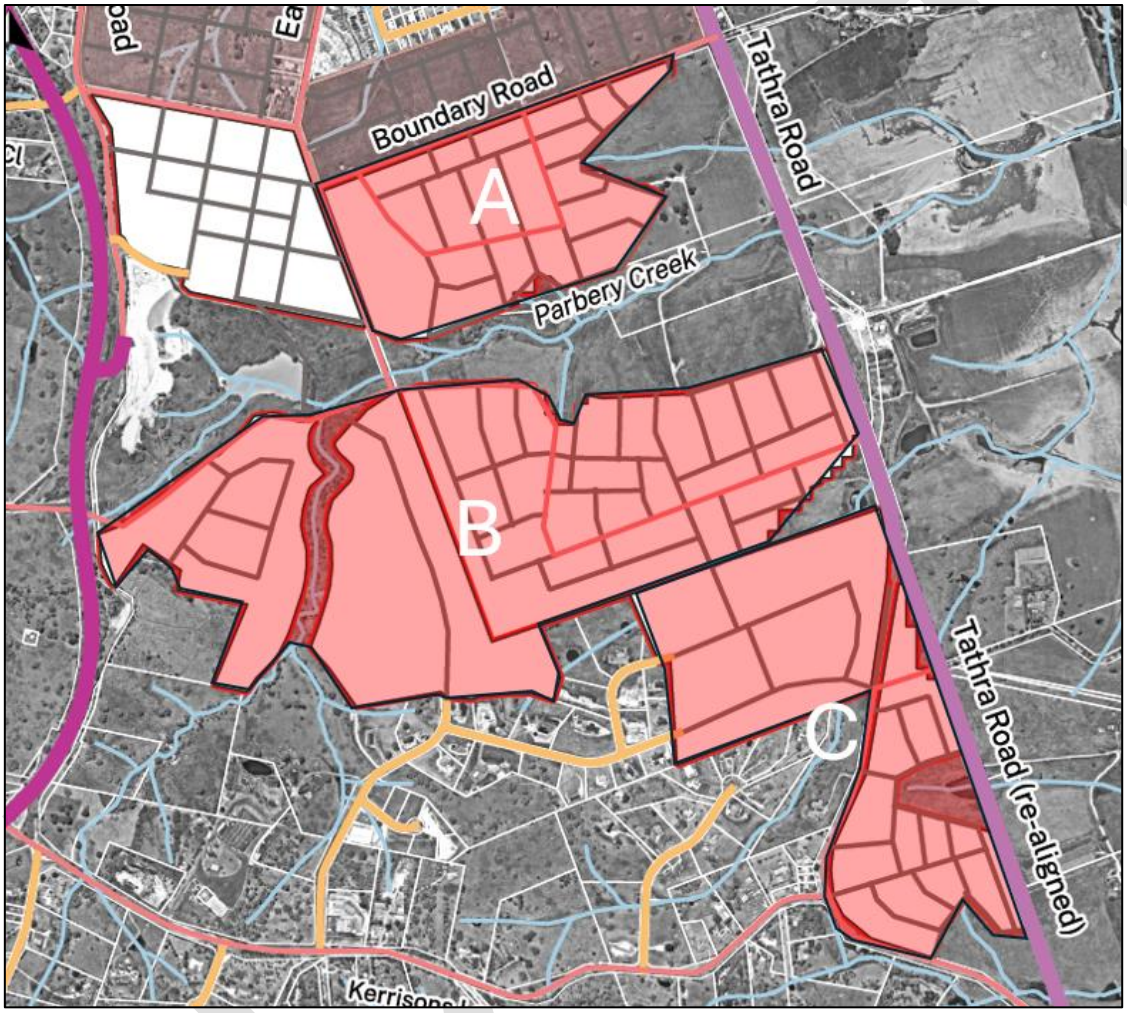



***Figure 4.1 Eastern Precinct trip analysis sections***

*Source: ADW Johnson modified by GHD*

### 4.3.1 Residential trips

As detailed in Section 2.2, a large majority of employed individuals in the Bega LGA live and work in the area. Further, the Bega Township is the major retail/commercial centre within the wider LGA. Accordingly, for the purposes of analysis, it has been assumed that:

– 80 percent of trips generated by the project residences will be local.
– 20 percent of trips generated by the project residences will be regional.

A summary of the residential trip distribution associated with each of the precincts is provided below.

For the Western Precinct:

– Local trips: 100 percent of trips will utilise the Ravenswood Road overpass.
– Regional trips: 100 percent of trips will utilise the proposed Princes Highway roundabout at Finucane Lane.

For the Central Precinct

– Local trips: 50 percent of trips will utilise Newtown Road and 50 percent will utilise East Street.
– Regional trips: 80 percent of trips will utilise Princes Highway (via the proposed Princes Highway intersection and Newtown Road intersection), and 20 percent will utilise Tathra Road.

For the Eastern Precinct:

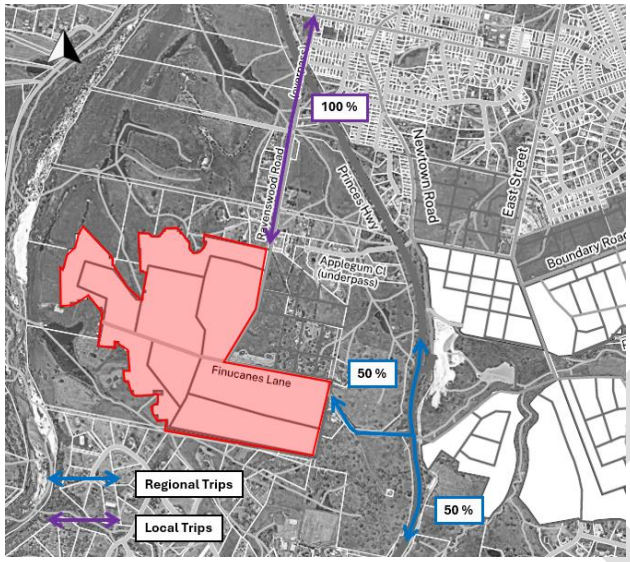
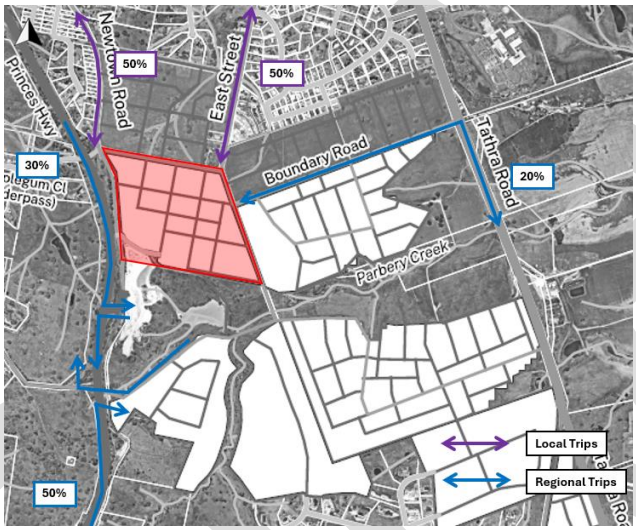
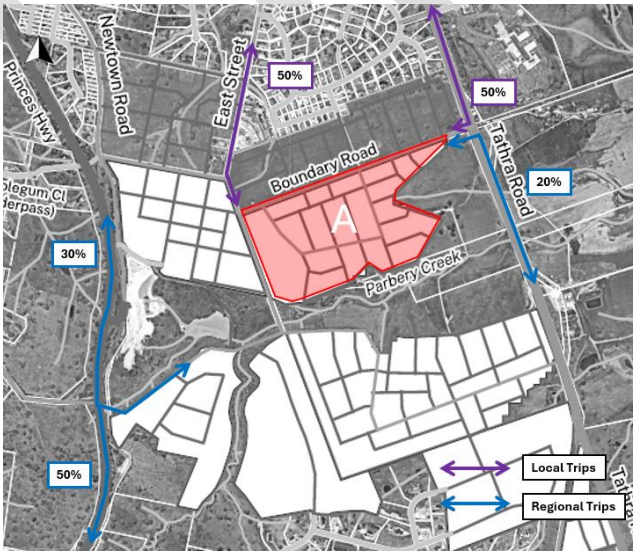
– Section A:
  - Local trips: 50 percent of trips will utilise East Street, and 50 percent will utilise Tathra Road.
  - Regional trips: 80 percent of trips will utilise Princes Highway (via the proposed Princes Highway intersection), and 20 percent will utilise Tathra Road.
– Section B:
  - Local trips: 50 percent of trips will utilise East Street, and 50 percent will utilise Tathra Road.
  - Regional trips: 80 percent of trips will utilise Princes Highway (via the proposed Princes Highway intersection), and 20 percent will utilise Tathra Road
– Section C:
  - Local trips: 100 percent of trips will utilise Tathra Road.
  - Regional trips: 80 percent of trips will utilise Princes Highway/Kerrison Lane, and 20 percent will utilise Tathra Road.

Additionally, it has been assumed that for regional trips generated by the Central and Eastern Precincts:

– 30 percent of vehicles will access/egress the project via the Princes Highway to/from the north.
– 50 percent of vehicles will access/egress the project via the Princes Highway to/from the south.
– 20 percent of vehicles will access/egress the project via Tathra Road to/from the south.

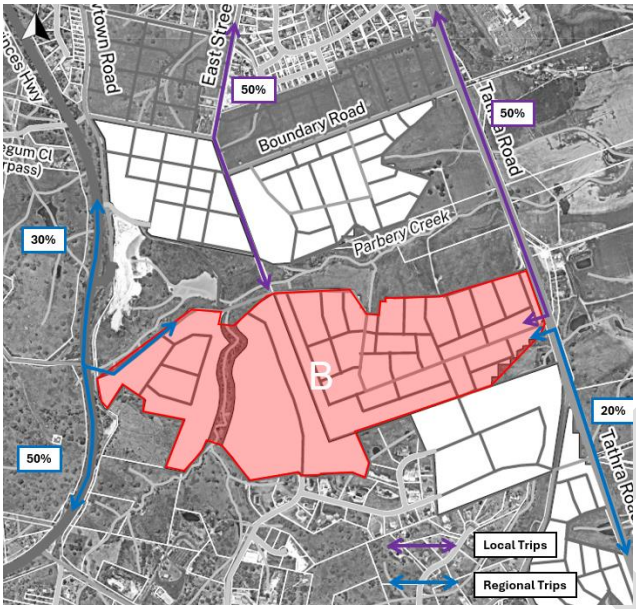
The assumed trip generation routes are displayed in Table 4.6.

*Table 4.6 Trip distribution data*

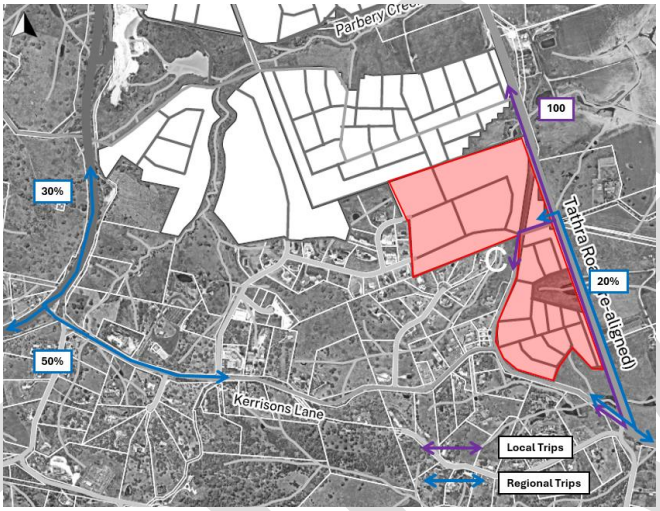
| Vehicle routes |
| --- |
| **Western Precinct**<br>  |
| **Central Precinct**<br>  |
| **Eastern Precinct – Section A**<br>  |

**Vehicle routes**

**Eastern Precinct – Section B**




**Eastern Precinct – Section C**




## 4.3.2 Non-residential trips

As detailed in Section 4.2, it is expected that the commercial zones and the productivity zone within the Central Precinct will be major trip generators. For the purposes of analysis, it has been assumed that:

– 60 percent of trips generated by the non-residential land uses will be local.
– 40 percent of trips generated by the non-residential land uses will be regional.

Similarly to the assumptions for the Central Precinct specified in Section 4.3.1, it has been assumed that:

– Local trips: 70 percent of trips will utilise Newtown Road and East Street and 30 percent will utilise Tathra Road.
– Regional trips: 80 percent of trips will utilise Princes Highway (via the proposed Princes Highway intersection and the Newtown Road intersection), and 20 percent will utilise Tathra Road.

The total vehicle trips associated with the residential and non-residential land uses are displayed in Appendix C.

# 5. Impact assessment

## 5.1 Introduction

The current timing of the development of the project is not currently known. Accordingly, a 15-year period to 2040 has been used as the basis of the assessment. Additionally:

– A one percent per annum growth rate has been applied to Princes Highway and Tathra Road to determine the 2040 background traffic volumes.
– For the purposes of analysis, the proposed roundabout on Princes Highway (at Finucane Lane) and the Princes Highway/Newtown Road intersection have been modelled as a network, as displayed in Figure 5.1.
– Additionally, the horizon year traffic modelling has included the two priority-controlled T-junctions that are proposed to support access/egress to and from the Eastern Precinct (Section B and Section C, refer to Figure 4.1).

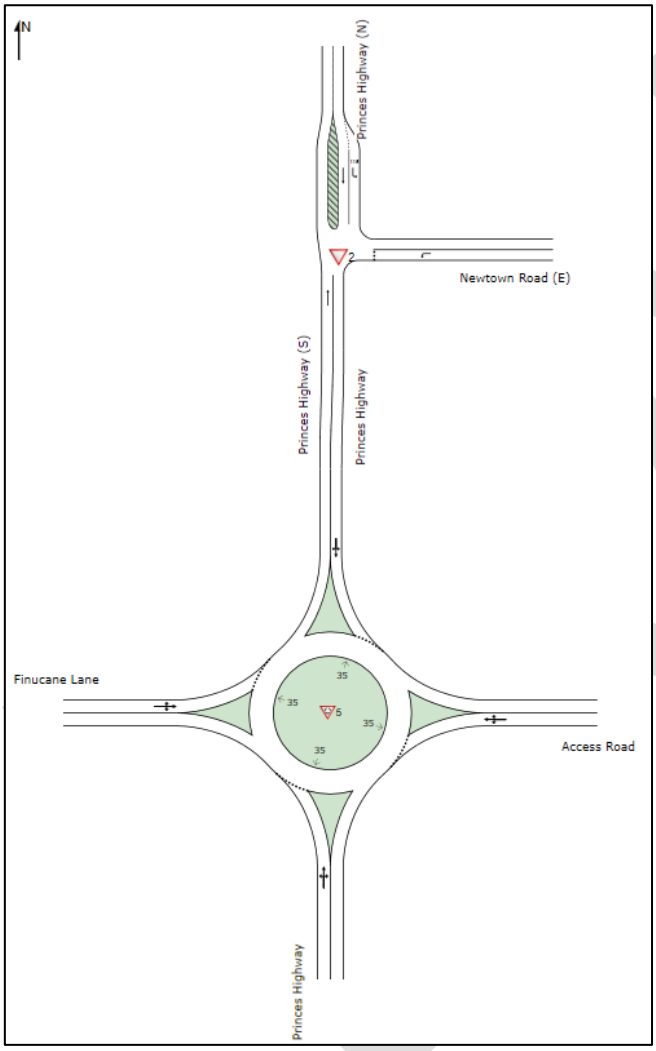


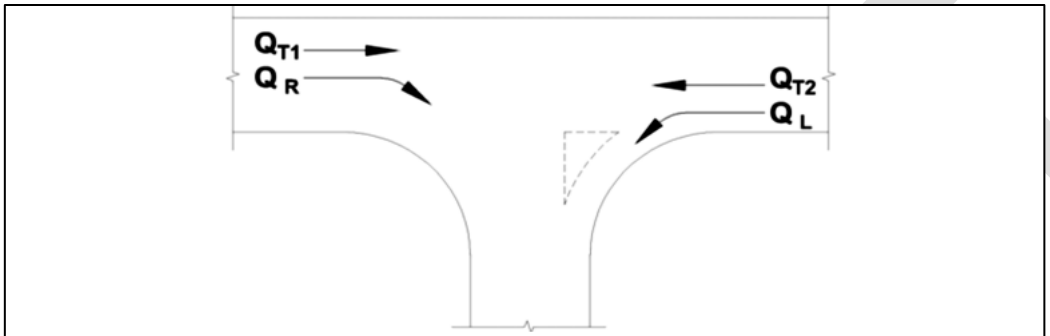

*Figure 5.1 Finucane Lane, Newtown Road and Princes Highway network*

The 2040 peak hour traffic volumes, based on the project's trip generation characteristics and the background traffic volumes, are displayed in Appendix D.

## 5.2 Intersection warrant analysis

A review of applicable intersection treatment has been conducted for the two additional proposed access intersections on Tathra Road. The speed limit of Tathra Road is 80 km/h at the location of the proposed access intersection.

Austroads *Guide to Traffic Management – Part 6: Interchanges, Intersections and Crossing Management (AGTM Part 6)* (Austroads, 2020) provides guidance on the appropriate road turn treatments for major roads (Tathra Road) based on the road's posted speed limit and existing traffic volumes, and the expected volume of turning traffic, which is equivalent to the traffic that would be generated by the proposed development. The criteria on which the turning lane warrant assessment is completed is displayed in Figure 5.2.




| Road type | Turn type | Splitter island | $Q_M$ (veh/h) |
|---|---|---|---|
| Two-lane two-way | Right | No | = $Q_{T1} + Q_{T2} + Q_L$ |
| | | Yes | = $Q_{T1} + Q_{T2}$ |
| | Left | Yes or no | = $Q_{T2}$ |

***Figure 5.2 Warrant assessment criteria***

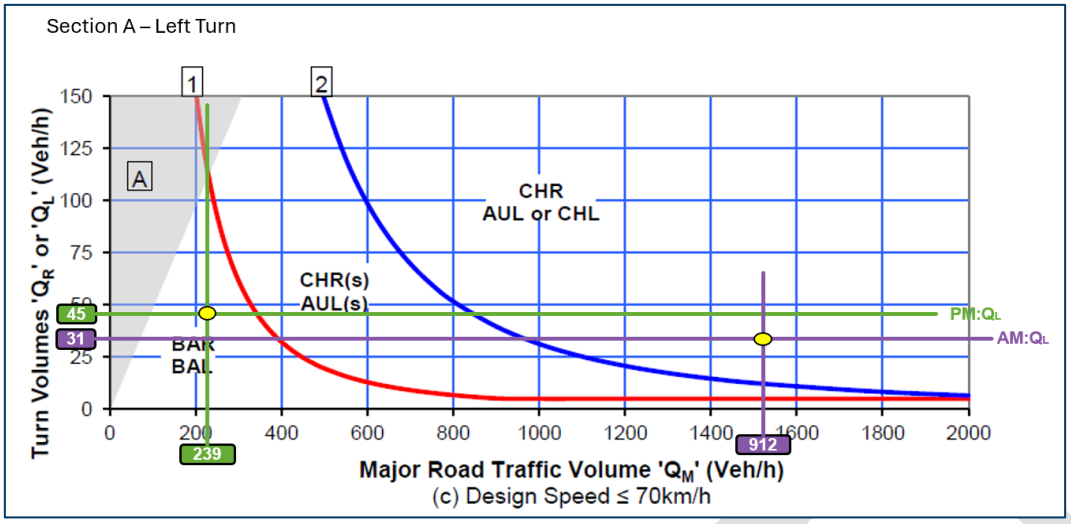
*Source: Austroads Guide to Traffic Management*

The intersection treatment warrant assessment facilitates the safety and efficiency of traffic on the roads. The two proposed access intersections on Tathra Road and the existing Boundary Road intersection have been assessed based on the expected horizon year traffic volumes, as displayed in Table 5.1.

***Table 5.1 Critical hourly traffic volume and hourly traffic turning volume during the peak periods***

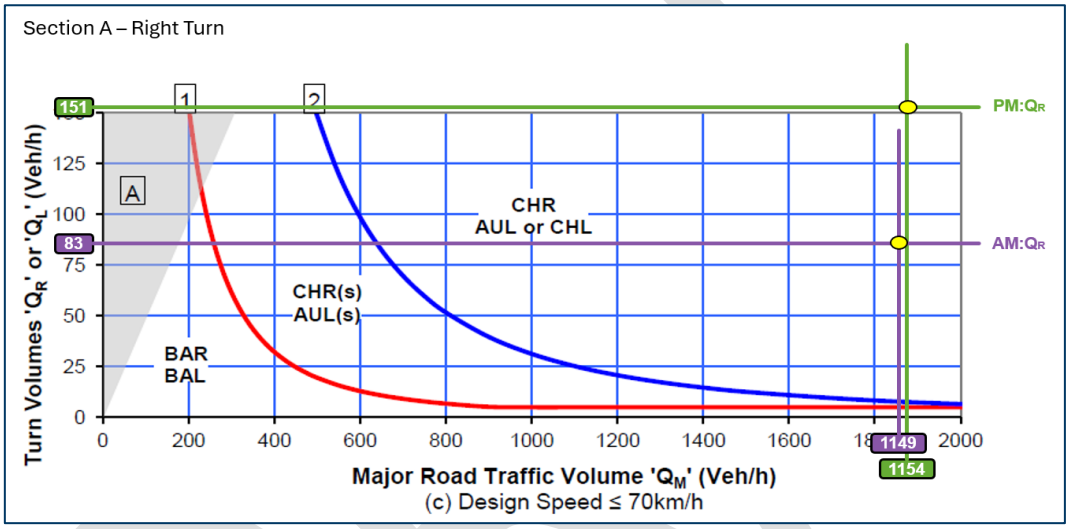
| Area | Turn | Volume type | AM (veh/hr) | PM (veh/hr) |
|---|---|---|---|---|
| Section A (Boundary Road) | Right Turn | Hourly Traffic Volume (major road) (QM) | 1149 | 1154 |
| | | Hourly turning Volume (Site) (QR) | 83 | 151 |
| | Left Turn | Hourly Traffic Volume (major road) (QM) | 912 | 239 |
| | | Hourly turning Volume (Site) (QL) | 31 | 45 |
| Section B Access Road | Right Turn | Hourly Traffic Volume (major road) (QM) | 914 | 935 |
| | | Hourly turning Volume (Site) (QR) | 60 | 241 |
| | Left Turn | Hourly Traffic Volume (major road) (QM) | 716 | 222 |
| | | Hourly turning Volume (Site) (QL) | 6 | 24 |
| Section C Access Road | Right Turn | Hourly Traffic Volume (major road) (QM) | 803 | 808 |
| | | Hourly turning Volume (Site) (QR) | 27 | 110 |
| | Left Turn | Hourly Traffic Volume (major road) (QM) | 613 | 218 |
| | | Hourly turning Volume (Site) (QL) | 1 | 5 |

These values have been plotted against AGTM Part 6 *Figure 3.25 Warrants for turn treatments on major roads at Unsignalised intersections*. As shown in the graphs from Figure 5.3 to Figure 5.8, individual assessment has been undertaken considering the period, turning movements, and traffic volumes.



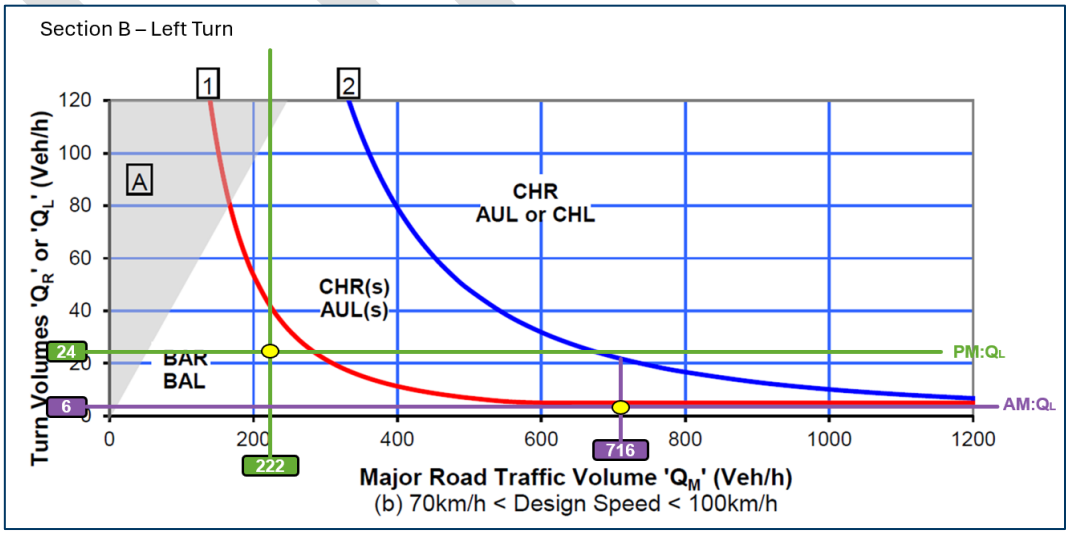

*Note: CHL = Channelised left turn; BAL = Basic left turn; CHR = Channelised right turn; AUL = Auxiliary left turn; (s) = short*

***Figure 5.3 Warrants for left turn treatments at Tathra Road and Boundary Road (Section A)***



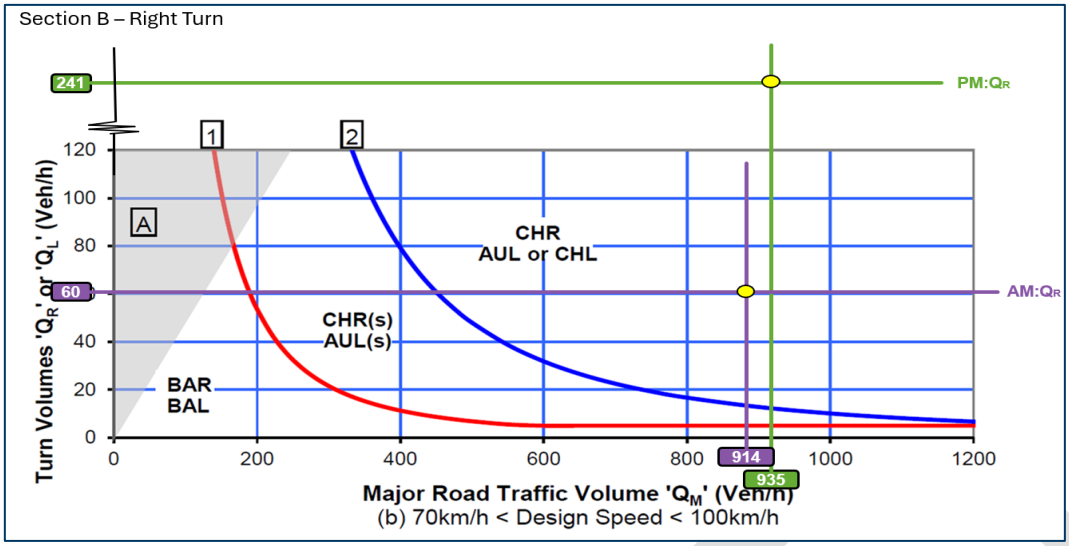

*Note: CHL = Channelised left turn; BAL = Basic left turn; CHR = Channelised right turn; AUL = Auxiliary left turn; (s) = short*

***Figure 5.4 Warrants for right turn treatments at Tathra Road and Boundary Road (Section A)***



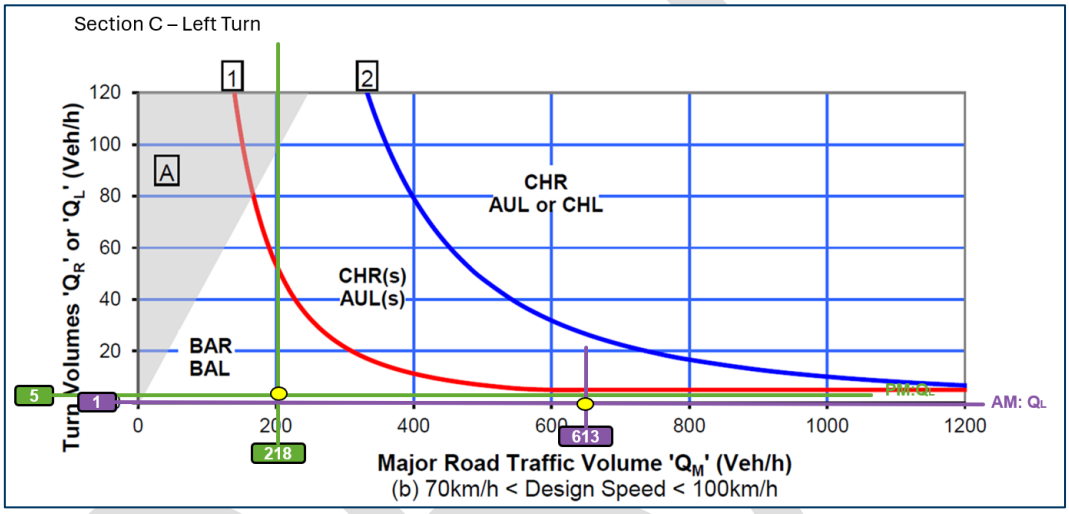

*Note: CHL = Channelised left turn; BAL = Basic left turn; CHR = Channelised right turn; AUL = Auxiliary left turn; (s) = short*

***Figure 5.5 Warrants for left turn treatments at Tathra Road – Section B***



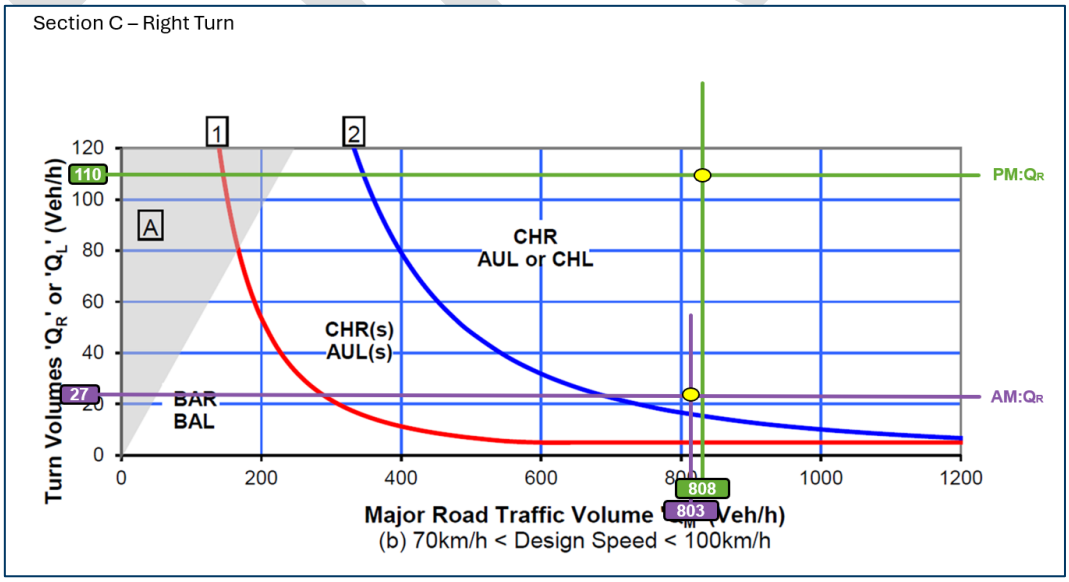

*Note: CHL = Channelised left turn; BAL = Basic left turn; CHR = Channelised right turn; AUL = Auxiliary left turn; (s) = short*

***Figure 5.6 Warrants for right turn treatments at Tathra Road – Section B***




*Note: CHL = Channelised left turn; BAL = Basic left turn; CHR = Channelised right turn; AUL = Auxiliary left turn; (s) = short*

***Figure 5.7 Warrants for left turn treatments at Tathra Road – Section C***




*Note: CHL = Channelised left turn; BAL = Basic left turn; CHR = Channelised right turn; AUL = Auxiliary left turn; (s) = short*

***Figure 5.8 Warrants for right treatments at Tathra Road – Section C***

Based on the assessment using the turn warrant charts from Figure 5.3 to Figure 5.8, the following intersection treatments are recommended for the site accesses, as shown in Table 5.2.

*Table 5.2 Recommended Turn treatments warrant*

| Site access | Left | Right |
|---|---|---|
| Boundary Road (Section A) | CHL | CHR |
| Section B Access Road | BAL | CHR |
| Section C Access Road | BAL | CHR |

Examples of the recommended turn treatments are displayed in Table 5.3.

*Table 5.3 Turn treatments example*

| Turn treatment | Example |
|---|---|
| Basic Left Turn (BAL) on the Major Road |  |
| Channelised Left Turn (CHL) on the Major Road |  |
| Channelised Right Turn (CHR) on the Major Road |  |

*Note: Diagram illustrates principles, not detailed design. Arrows indicate movements relevant to turn type; they do not represent actual pavement markings.*

Based upon this review and evaluation of operation performance, the following is noted:

– The intersection of Tathra Road and Boundary Road should be updated with a CHL and CHR treatment.
– Access points for the Section B and Section C intersections require BAL and CHR treatments on the major road.
– Implementing CHL and CHR treatments on the major road would reduce ‘rear-end’ crashes and ‘overtaking-intersection’ vehicle crashes by providing a designated space for stationary right-turning vehicles, preventing them from obstructing through traffic.
– BAL treatment on the major road would assist turning vehicles by allowing them to move further off the through carriageway, reducing potential delays and making it easier for through traffic to pass safely.

Based on the above analysis, the geometry of Tahra Road and Boundary Street (Section A) and the two proposed access intersections (Section B and Section C), as modelled in SIDRA, are displayed in Figure 5.9 and Figure 5.10.

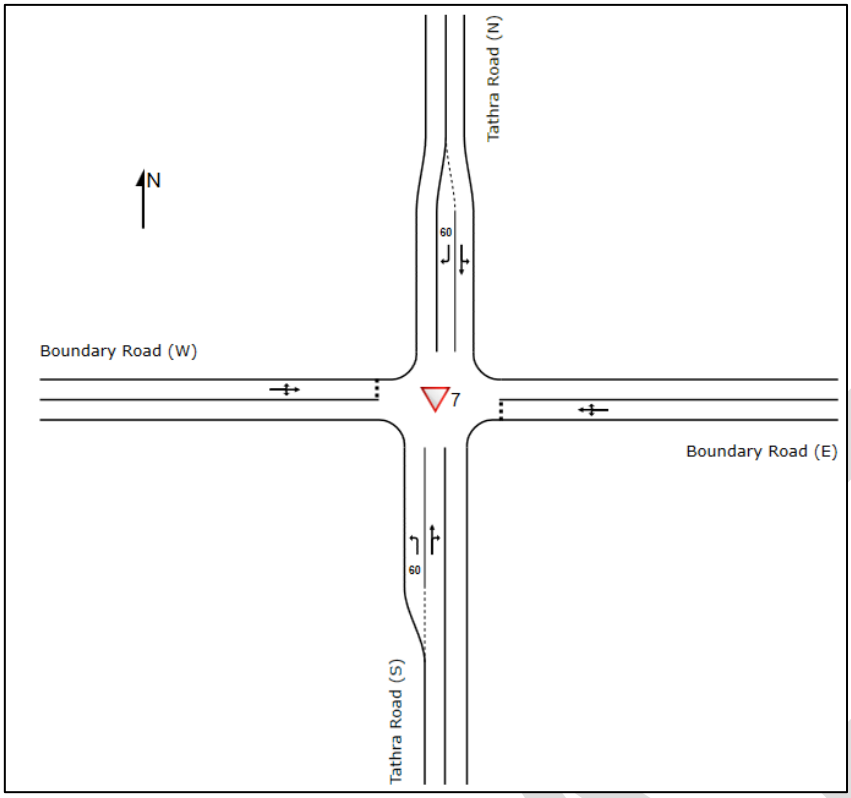



*Figure 5.9 Tathra Road and Boundary Road intersection layout*

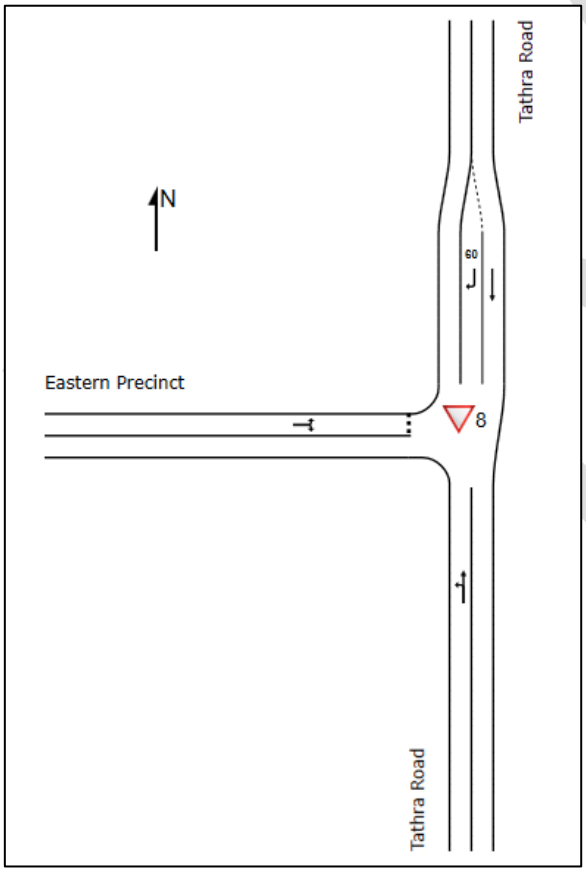



*Figure 5.10 Tathra Road access intersections layout*

## 5.3 Future year SIDRA analysis

The results of the 2040 SIDRA analysis is displayed in Table 5.4.

*Table 5.4 2040 SIDRA Results*

| Int no. | Intersection Name | AM Peak Hour (08:00 - 09:00) | | | | PM Peak Hour (16:30 – 17:30) | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Ave Delay (s) | LoS | 95th % Queue (m) | DoS | Ave Delay (s) | LoS | 95th % Queue (m) | DoS |
| 1 | Princes Highway/Carp Street | 5.9 | A | 27 | 0.35 | 5.5 | A | 23 | 0.38 |
| 2 | Princes Highway/Newtown Road | 6.4 | A | 2 | 0.16 | 7.5 | A | 4 | 0.31 |
| 3 | Princes Highway/Kerrisons Lane | 36.1 | C | 33 | 0.76 | 27.5 | B | 17 | 0.56 |
| 4 | Tathra Road/Kerrisons Lane | 10.5 | A | 5 | 0.17 | 11.3 | A | 4 | 0.17 |
| 5 | Princes Highway/Finucane Lane | 11.0 | A | 1.5 | 0.08 | 11.9 | A | 3 | 0.14 |
| 6 | Ravenswood Street/Rawlinson Street | 9.6 | A | 1 | 0.03 | 8.8 | A | 1 | 0.03 |
| 7 | Tathra Road/Boundary Road | 23.8 | B | 20 | 0.61 | 18.4 | B | 0 | 0.13 |
| 8 | Tathra Road/Section B access | 12.9 | A | 16 | 0.46 | 7.9 | A | 2 | 0.08 |
| 9 | Tathra Road/Section C access | 9.0 | A | 4 | 0.16 | 6.6 | A | 1 | 0.03 |

The data in Table 5.4 indicates that in the 2040 horizon year, the intersections of interest are expected to operate with a good LoS.

The 2040 SIDRA outputs are included in Appendix E.

# 6. Summary and recommendations

## 6.1 Summary of assessment

Council is leading the development of the Bega Urban Release Areas Project, in line with the Structure Plan. The project aims to accelerate the rezoning and development of key precincts in the southern fringe of Bega to meet the growing housing demand with supporting retail facilities and employment-generating land uses.

The Structure Plan area has been divided into three precincts, as follows:

– The Eastern Precinct is located adjacent to the east of the Princes Highway.
– The Central Precinct provides opportunities for the development of land uses that are complimentary to the regional hospital and local light industry.
– The Western Precinct is located to the west of the Princes Highway and is largely undeveloped.

GHD has been commissioned by the Council to conduct a TTA for the project, including modelling the potential impacts of the development of the road network after the completion of construction.

The results of the TTA aim to inform the recommendations for the development of the Structure Plan for the project in relation to access and egress points, as well as the suitability of the surrounding road network to accommodate the increased traffic generation associated with the proposed land uses.

### 6.1.1 Existing conditions assessment

The traffic and transport assessment undertaken included an assessment of the existing conditions at and around the Site. This assessment included a desktop investigation using Google Maps, Nearmap, Google Street View and other aerial imagery as well as online information such as the TfNSW Cycleway Finder, TfNSW Centre for Road Safety and TfNSW Trip Planner. Additionally, a base year SIDRA model for 2024 was constructed using data provided from traffic surveys.

The desktop assessment identified the current conditions of the road network, active transport facilities, public transport services and heavy vehicle permissions on adjacent roads, as well as current traffic volumes (including the peak hours) at key intersections around the Site location.

Peak hour traffic surveys  were conducted at key intersections in the general proximity of the Site, including:

– Princes Highway / Carp Street
– Princes Highway / Newtown Road
– Princes Highway / Kerrisons Lane
– Tathra Road / Kerrisons Lane
– Princes Highway / Finucane Lane
– Rawlinson Street / Ravenswood Street
– Tathra Road / Boundary

The 2024 base year SIDRA results demonstrate that

– All intersections were at or above an acceptable level of service in a LoS B.
– Queue lengths were all contained within the approach distances.

### 6.1.2 Future land use and transport

The land uses associated with the project include:

– 2,227 residential dwellings
– A productivity zone (supply light industrial, large format retail)
– Shopping centres
– A hotel

– Local retail facilities

Key aspects of the proposed road network are as follows:

– The extension of Ravenswood Street to Finucane Lane, which will enable vehicles in the Western Precinct to access/egress Bega via the existing overpass.
– The realignment of Tathra Road to the south of the subject Site.
– The upgrade of Finucane Lane to the standard of a local access road and a local collector road.
– The provision of a new east-west local collector road which will form a new four-legged intersection with Princess Highway and Finucane Lane (consistent with IRI 1).
– The extension of East Street (to the south) to the proposed east-west collector road.
– The provision of new T-junctions on Tathra Road to support access/egress to and from the east.

The project's internal road network will be designed and constructed in accordance with Council's Geometric Road Design (Urban and Rural) Development Design Specifications to support the provision of active transport and public transport infrastructure.

### 6.1.3 Trip generation and distribution

The trip generation characteristics of the project were determined in accordance with the NSW Government's Guide to Transport Impact Assessment (2024).

The analysis indicates that the residential component of the project will generate:

– 1,664 trips in the AM peak hour.
– 1,684 trips in the PM peak hour.

While the non-residential trips will generate:

– 651 trips in the AM peak hour.
– 890 trips in the PM peak hour.

The trip distribution was undertaken on a per-precinct basis. The calculated trips generated through this process were then distributed through the surrounding road network through the proposed access and egress points, with volumes added to adjacent intersections where possible.

For the purpose of analysis, residential trips associated with the project have been divided into:

– Local trips between the residential areas and the Bega Town Centre.
– Regional trips that will utilise the Princes Highway or Tathra Road as part of their journey.

Further, it has been assumed that:

– The intersection of Princes Highway and Newtown Road is left in/left out.
– A four-legged roundabout has been constructed at the Finucane Lane/Princes Highway intersection.

### 6.1.4 Future year analysis

SIDRA intersection was undertaken for the 2040 horizon year as follows:

– A one percent per annum growth rate has been applied to Princes Highway and Tathra Road to determine the 2040 background traffic volumes.
– The horizon year traffic modelling has included the two priority-controlled T-junctions that are proposed to support access/egress to and from the Eastern Precinct.

Austroads warrant assessment indicates that the additional T-junctions should be constructed with channelised (CHR) treatments on Tathra Road, which would reduce potential 'rear-end' crashes by providing a designated space for stationary right-turning vehicles, preventing them from obstructing through traffic.

The SIDRA analysis in the 2040 horizon year indicates that the intersections of interest are expected to operate with a good LoS.

## 6.2 Recommendations

### 6.2.1 Road network upgrades

In accordance with the above analysis, it is recommended that the proposed road upgrades associated with the Structure Plan be implemented. It is noted that the proposed four-legged roundabout at the intersection of Princes Highway and Finucane Lane (corresponding to IRI 1) and the T-junctions on Tathra Road are important to support regional and local regional connectivity of the project.

The provision of a roundabout on the Princes Highway will require the relocation of the 80km/h speed zone to south Bega, in proximity to Kerrisons Lane.

As part of the proposed road upgrade, it is assumed that the intersection of Princes Highway/Newtown Road intersection will be changed to left in/left out only, with the current right turn functionality transferred to the adjoining proposed roundabout.

A warrant analysis indicates that the intersection of Tathra Road and Boundary Road (Section A) and the two proposed access intersections on Tathra Road (Section B and Section C), should provide left turn and right turn treatments on the major road.

### 6.2.2 Active and public transport

Key actions that were identified for Bega in the ATS include:

– Investigate the provision of a shared path along Park Lane and East Street to Tathra Road – medium term.
– As part of a proposed Master Network Plan, identify key routes that link planned growth at South Bega with the existing residential area in North Bega.

The Structure Plan proposes a network of footpaths that will integrate with the Bega Township's current active transport.

The footpaths along the street typologies were also assessed with footpath widths of 1.2 to 1.5 metres identified, which complies with the Austroads guidelines (*Guide to Road Design 6a*)

As the project is constructed, there will be opportunities to expand the current bus services into southern Bega. In accordance with the Council's Geometric Road Design, the proposed collector roads will be designed and constructed to be bus-capable and support integration with the current bus services. The locations of the bus stops on the proposed collector road network will be identified at a later time to support the 400-metre walking provision specified in the Geometric Road Design.

In accordance with the above recommendations, the project is supported from a traffic and transport perspective.

# Appendix A

## Traffic survey data

# TRANS TRAFFIC SURVEY

trafficsurvey.com.au

## TURNING MOVEMENT SURVEY

## Intersection of Princes Hwy and Carp St, Bega

***GPS*** *-36.675739, 149.830472*

| | |
|---|---|
| ***Date:*** | Thu 31/10/24 |
| ***Weather:*** | Overcast |
| ***Suburban:*** | Bega |
| ***Customer:*** | GHD |

| | |
|---|---|
| ***North:*** | Princes Hwy |
| ***East:*** | Carp St |
| ***South:*** | Princes Hwy |
| ***West:*** | N/A |

| | | |
|---|---|---|
| ***Survey Period*** | AM: | 6:00 AM-9:00 AM |
| | PM: | 4:00 PM-7:00 PM |
| ***Traffic Peak*** | AM: | 8:00 AM-9:00 AM |
| | PM: | 4:15 PM-5:15 PM |

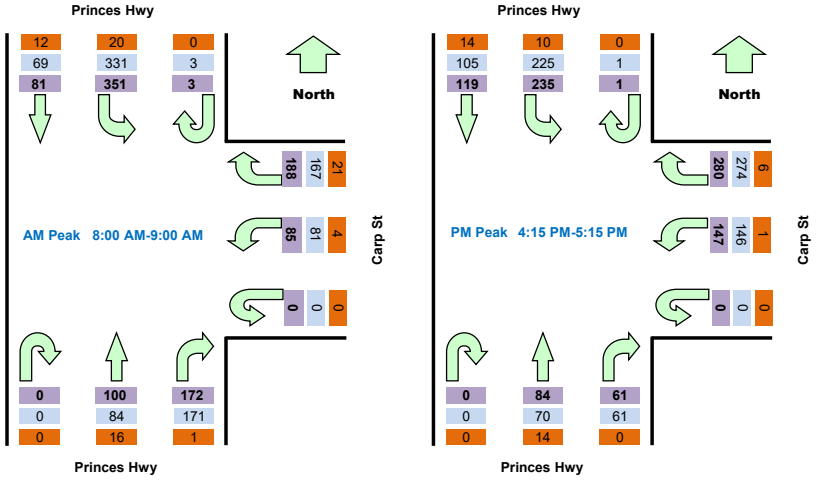
***All Vehicles***

| Time | | North Approach Princes Hw | | | East Approach Carp St | | | South Approach Princes Hw | | | Hourly Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Period Start | Period End | U | SB | L | U | R | L | U | R | NB | Hour | Peak |
| 6:00 | 6:15 | 0 | 18 | 31 | 0 | 12 | 5 | 0 | 3 | 10 | 439 | |
| 6:15 | 6:30 | 0 | 18 | 30 | 0 | 16 | 12 | 0 | 6 | 17 | 498 | |
| 6:30 | 6:45 | 0 | 16 | 21 | 0 | 31 | 9 | 1 | 12 | 25 | 553 | |
| 6:45 | 7:00 | 0 | 11 | 41 | 0 | 37 | 9 | 0 | 13 | 35 | 627 | |
| 7:00 | 7:15 | 0 | 15 | 33 | 0 | 37 | 7 | 0 | 16 | 30 | 670 | |
| 7:15 | 7:30 | 0 | 18 | 37 | 0 | 37 | 12 | 0 | 21 | 29 | 718 | |
| 7:30 | 7:45 | 0 | 18 | 50 | 0 | 46 | 20 | 0 | 25 | 30 | 778 | |
| 7:45 | 8:00 | 0 | 19 | 59 | 0 | 40 | 10 | 0 | 30 | 31 | 866 | |
| 8:00 | 8:15 | 1 | 18 | 57 | 0 | 48 | 15 | 0 | 26 | 21 | 980 | Peak |
| 8:15 | 8:30 | 0 | 17 | 82 | 0 | 35 | 14 | 0 | 46 | 20 | | |
| 8:30 | 8:45 | 0 | 25 | 101 | 0 | 41 | 34 | 0 | 47 | 29 | | |
| 8:45 | 9:00 | 2 | 21 | 111 | 0 | 64 | 22 | 0 | 53 | 30 | | |
| 16:00 | 16:15 | 0 | 35 | 56 | 0 | 74 | 33 | 0 | 23 | 11 | 911 | |
| 16:15 | 16:30 | 1 | 24 | 69 | 0 | 63 | 29 | 0 | 22 | 21 | 927 | Peak |
| 16:30 | 16:45 | 0 | 31 | 53 | 0 | 57 | 31 | 0 | 9 | 26 | 884 | |
| 16:45 | 17:00 | 0 | 36 | 58 | 0 | 69 | 47 | 0 | 17 | 16 | 854 | |
| 17:00 | 17:15 | 0 | 28 | 55 | 0 | 91 | 40 | 0 | 13 | 21 | 745 | |
| 17:15 | 17:30 | 0 | 20 | 42 | 0 | 61 | 34 | 0 | 16 | 13 | 634 | |
| 17:30 | 17:45 | 0 | 24 | 44 | 0 | 47 | 29 | 0 | 14 | 19 | 557 | |
| 17:45 | 18:00 | 0 | 23 | 40 | 0 | 44 | 17 | 0 | 5 | 5 | 470 | |
| 18:00 | 18:15 | 0 | 13 | 38 | 2 | 44 | 20 | 0 | 11 | 9 | 441 | |
| 18:15 | 18:30 | 0 | 9 | 25 | 0 | 39 | 14 | 0 | 9 | 13 | | |
| 18:30 | 18:45 | 0 | 6 | 27 | 1 | 27 | 10 | 0 | 6 | 13 | | |
| 18:45 | 19:00 | 0 | 9 | 22 | 0 | 41 | 14 | 0 | 4 | 15 | | |

| Peak Time | | North Approach Princes Hw | | | East Approach Carp St | | | South Approach Princes Hw | | | Peak |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Period Start | Period End | U | SB | L | U | R | L | U | R | NB | total |
| 8:00 | 9:00 | 3 | 81 | 351 | 0 | 188 | 85 | 0 | 172 | 100 | 980 |
| 16:15 | 17:15 | 1 | 119 | 235 | 0 | 280 | 147 | 0 | 61 | 84 | 927 |

**Graphic**

Total
Light
Heavy



# TRANS TRAFFIC SURVEY

trafficsurvey.com.au

## TURNING MOVEMENT SURVEY

## Intersection of Princes Hwy and Newtown Rd, Bega

***GPS*** *-36.699540, 149.840462*

| | |
|---|---|
| ***Date:*** | Thu 31/10/24 |
| ***Weather:*** | Overcast |
| ***Suburban:*** | Bega |
| ***Customer:*** | GHD |

| | |
|---|---|
| ***North:*** | Princes Hwy |
| ***East:*** | Newtown Rd |
| ***South:*** | Princes Hwy |
| ***West:*** | N/A |

| | | |
|---|---|---|
| ***Survey Period*** | AM: | 6:00 AM-9:00 AM |
| | PM: | 4:00 PM-7:00 PM |
| ***Traffic Peak*** | AM: | 8:00 AM-9:00 AM |
| | PM: | 4:00 PM-5:00 PM |

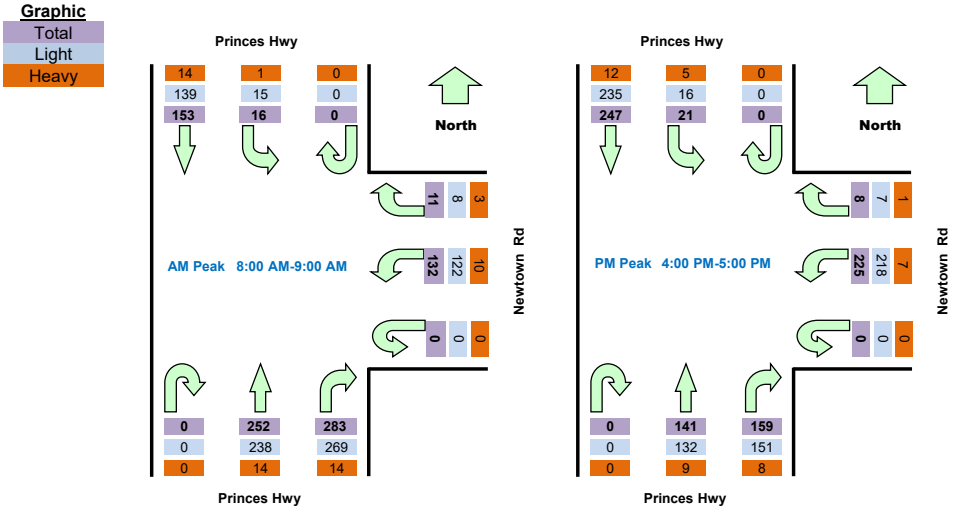
***All Vehicles***

| Time | | North Approach Princes Hw | | | East Approach Newtown R | | | South Approach Princes Hw | | | Hourly Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Period Start | Period End | U | SB | L | U | R | L | U | R | NB | Hour | Peak |
| 6:00 | 6:15 | 0 | 19 | 1 | 0 | 2 | 4 | 0 | 1 | 18 | 350 | |
| 6:15 | 6:30 | 0 | 27 | 2 | 0 | 1 | 7 | 0 | 11 | 22 | 425 | |
| 6:30 | 6:45 | 0 | 28 | 1 | 0 | 2 | 16 | 0 | 25 | 39 | 478 | |
| 6:45 | 7:00 | 0 | 15 | 3 | 0 | 5 | 10 | 0 | 47 | 44 | 522 | |
| 7:00 | 7:15 | 0 | 21 | 4 | 0 | 6 | 20 | 0 | 31 | 38 | 564 | |
| 7:15 | 7:30 | 0 | 23 | 4 | 0 | 3 | 18 | 0 | 31 | 44 | 587 | |
| 7:30 | 7:45 | 0 | 34 | 3 | 0 | 0 | 21 | 0 | 40 | 57 | 672 | |
| 7:45 | 8:00 | 0 | 25 | 3 | 0 | 5 | 25 | 0 | 49 | 59 | 776 | |
| 8:00 | 8:15 | 0 | 33 | 0 | 0 | 1 | 21 | 0 | 40 | 48 | 847 | Peak |
| 8:15 | 8:30 | 0 | 28 | 4 | 0 | 1 | 41 | 0 | 67 | 67 | | |
| 8:30 | 8:45 | 0 | 46 | 5 | 0 | 3 | 43 | 0 | 94 | 68 | | |
| 8:45 | 9:00 | 0 | 46 | 7 | 0 | 6 | 27 | 0 | 82 | 69 | | |
| 16:00 | 16:15 | 0 | 75 | 3 | 0 | 2 | 55 | 0 | 39 | 39 | 801 | Peak |
| 16:15 | 16:30 | 0 | 47 | 4 | 0 | 2 | 47 | 0 | 42 | 39 | 764 | |
| 16:30 | 16:45 | 0 | 58 | 4 | 0 | 1 | 58 | 0 | 35 | 34 | 760 | |
| 16:45 | 17:00 | 0 | 67 | 10 | 0 | 3 | 65 | 0 | 43 | 29 | 707 | |
| 17:00 | 17:15 | 0 | 66 | 2 | 0 | 3 | 56 | 0 | 26 | 23 | 577 | |
| 17:15 | 17:30 | 0 | 53 | 6 | 0 | 2 | 55 | 0 | 31 | 30 | 502 | |
| 17:30 | 17:45 | 0 | 61 | 1 | 0 | 1 | 29 | 0 | 19 | 26 | 417 | |
| 17:45 | 18:00 | 0 | 34 | 2 | 0 | 0 | 25 | 0 | 13 | 13 | 351 | |
| 18:00 | 18:15 | 0 | 36 | 2 | 0 | 0 | 29 | 0 | 14 | 20 | 326 | |
| 18:15 | 18:30 | 0 | 23 | 1 | 0 | 1 | 23 | 0 | 23 | 21 | | |
| 18:30 | 18:45 | 0 | 12 | 2 | 0 | 1 | 21 | 0 | 19 | 16 | | |
| 18:45 | 19:00 | 0 | 23 | 0 | 0 | 2 | 8 | 0 | 12 | 17 | | |

| Peak Time | | North Approach Princes Hw | | | East Approach Newtown R | | | South Approach Princes Hw | | | Peak |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Period Start | Period End | U | SB | L | U | R | L | U | R | NB | total |
| 8:00 | 9:00 | 0 | 153 | 16 | 0 | 11 | 132 | 0 | 283 | 252 | 847 |
| 16:00 | 17:00 | 0 | 247 | 21 | 0 | 8 | 225 | 0 | 159 | 141 | 801 |

**Graphic**

Total
Light
Heavy



# TRANS TRAFFIC SURVEY

trafficsurvey.com.au

## TURNING MOVEMENT SURVEY

## Intersection of Princes Hwy and Kerrisons Ln, Bega

***GPS*** *-36.709232, 149.838389*

| | |
|---|---|
| ***Date:*** | Thu 31/10/24 |
| ***Weather:*** | Overcast |
| ***Suburban:*** | Bega |
| ***Customer:*** | GHD |

| | |
|---|---|
| ***North:*** | Princes Hwy |
| ***East:*** | Kerrisons Ln |
| ***South:*** | Princes Hwy |
| ***West:*** | N/A |

| | | |
|---|---|---|
| ***Survey Period*** | AM: | 6:00 AM-9:00 AM |
| | PM: | 4:00 PM-7:00 PM |
| ***Traffic Peak*** | AM: | 8:00 AM-9:00 AM |
| | PM: | 4:00 PM-5:00 PM |

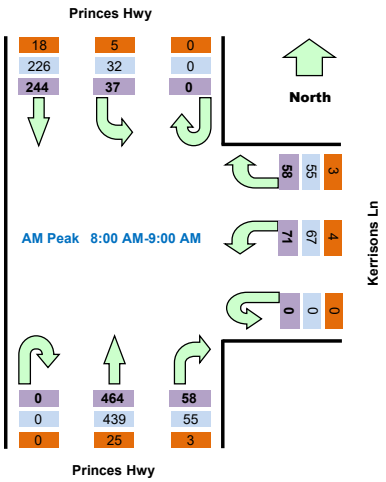
***All Vehicles***

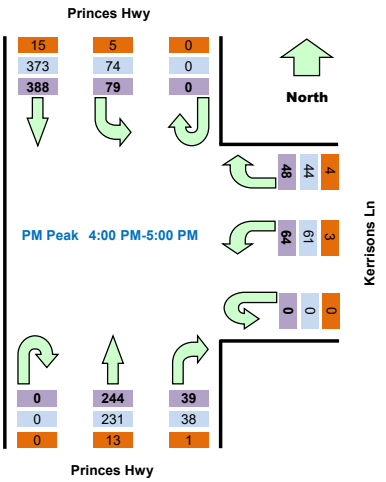
| Time | | North Approach Princes Hw | | | East Approach Kerrisons Ln | | | South Approach Princes Hw | | | Hourly Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Period Start | Period End | U | SB | L | U | R | L | U | R | NB | Hour | Peak |
| 6:00 | 6:15 | 0 | 20 | 4 | 0 | 3 | 2 | 0 | 6 | 15 | 377 | |
| 6:15 | 6:30 | 0 | 26 | 8 | 0 | 8 | 0 | 0 | 6 | 24 | 449 | |
| 6:30 | 6:45 | 0 | 31 | 12 | 0 | 14 | 2 | 0 | 9 | 50 | 510 | |
| 6:45 | 7:00 | 0 | 20 | 4 | 0 | 13 | 2 | 0 | 17 | 81 | 553 | |
| 7:00 | 7:15 | 0 | 28 | 12 | 0 | 15 | 7 | 0 | 12 | 48 | 593 | |
| 7:15 | 7:30 | 0 | 33 | 8 | 0 | 15 | 4 | 0 | 11 | 62 | 640 | |
| 7:30 | 7:45 | 0 | 43 | 7 | 0 | 14 | 8 | 0 | 10 | 79 | 727 | |
| 7:45 | 8:00 | 0 | 44 | 4 | 0 | 25 | 11 | 0 | 14 | 79 | 858 | |
| 8:00 | 8:15 | 0 | 46 | 7 | 0 | 12 | 9 | 0 | 16 | 79 | 932 | Peak |
| 8:15 | 8:30 | 0 | 55 | 9 | 0 | 16 | 19 | 0 | 11 | 110 | | |
| 8:30 | 8:45 | 0 | 79 | 10 | 0 | 13 | 21 | 0 | 22 | 147 | | |
| 8:45 | 9:00 | 0 | 64 | 11 | 0 | 17 | 22 | 0 | 9 | 128 | | |
| 16:00 | 16:15 | 0 | 105 | 20 | 0 | 12 | 13 | 0 | 6 | 62 | 862 | Peak |
| 16:15 | 16:30 | 0 | 79 | 10 | 0 | 14 | 13 | 0 | 7 | 69 | 836 | |
| 16:30 | 16:45 | 0 | 99 | 22 | 0 | 11 | 20 | 0 | 14 | 57 | 828 | |
| 16:45 | 17:00 | 0 | 105 | 27 | 0 | 11 | 18 | 0 | 12 | 56 | 765 | |
| 17:00 | 17:15 | 0 | 103 | 14 | 0 | 10 | 14 | 0 | 9 | 42 | 632 | |
| 17:15 | 17:30 | 0 | 82 | 23 | 0 | 9 | 17 | 0 | 4 | 49 | 548 | |
| 17:30 | 17:45 | 0 | 81 | 13 | 1 | 5 | 16 | 0 | 5 | 39 | 464 | |
| 17:45 | 18:00 | 0 | 48 | 8 | 0 | 7 | 8 | 0 | 5 | 20 | 381 | |
| 18:00 | 18:15 | 0 | 54 | 10 | 0 | 4 | 10 | 0 | 2 | 28 | 355 | |
| 18:15 | 18:30 | 0 | 34 | 13 | 0 | 7 | 4 | 0 | 6 | 36 | | |
| 18:30 | 18:45 | 0 | 26 | 7 | 0 | 8 | 3 | 0 | 7 | 26 | | |
| 18:45 | 19:00 | 0 | 20 | 11 | 0 | 13 | 8 | 0 | 2 | 16 | | |

| Peak Time | | North Approach Princes Hw | | | East Approach Kerrisons Ln | | | South Approach Princes Hw | | | Peak |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Period Start | Period End | U | SB | L | U | R | L | U | R | NB | total |
| 8:00 | 9:00 | 0 | 244 | 37 | 0 | 58 | 71 | 0 | 58 | 464 | 932 |
| 16:00 | 17:00 | 0 | 388 | 79 | 0 | 48 | 64 | 0 | 39 | 244 | 862 |

**Graphic**

Total
Light
Heavy



# TRANS TRAFFIC SURVEY

TURNING MOVEMENT SURVEY trafficsurvey.com.au

## Intersection of Kerrisons Ln and Tathra Rd, Bega

*GPS* -36.710348, 149.860249

| | |
|---|---|
| ***Date:*** | Thu 31/10/24 |
| ***Weather:*** | Overcast |
| ***Suburban:*** | Bega |
| ***Customer:*** | GHD |

| | |
|---|---|
| ***North:*** | Tathra Rd |
| ***East:*** | N/A |
| ***South:*** | Tathra Rd |
| ***West:*** | Kerrisons Ln |

| | | |
|---|---|---|
| ***Survey Period*** | AM: | 6:00 AM-9:00 AM |
| | PM: | 4:00 PM-7:00 PM |
| ***Traffic Peak*** | AM: | 8:00 AM-9:00 AM |
| | PM: | 4:30 PM-5:30 PM |

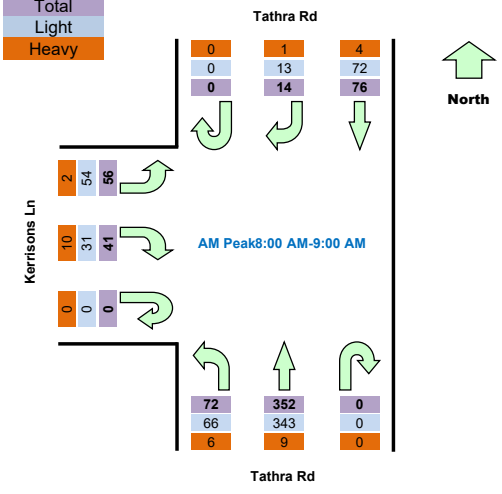
***All Vehicles***

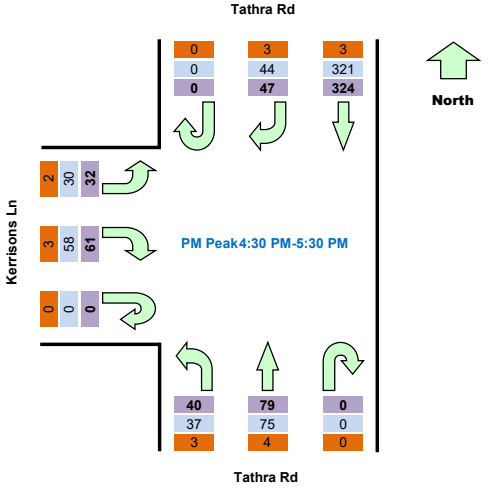
| Time | | North Approach Tathra Rd | | | South Approach Tathra Rd | | | West Approach Kerrisons L | | | Hourly Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Period Start | Period End | U | R | SB | U | NB | L | U | R | L | Hour | Peak |
| 6:00 | 6:15 | 0 | 2 | 9 | 0 | 6 | 2 | 0 | 3 | 4 | 203 | |
| 6:15 | 6:30 | 0 | 0 | 6 | 0 | 12 | 7 | 0 | 3 | 4 | 263 | |
| 6:30 | 6:45 | 0 | 1 | 5 | 0 | 31 | 8 | 0 | 9 | 8 | 318 | |
| 6:45 | 7:00 | 0 | 3 | 14 | 0 | 41 | 11 | 0 | 4 | 10 | 361 | |
| 7:00 | 7:15 | 0 | 2 | 20 | 0 | 34 | 14 | 0 | 7 | 9 | 420 | |
| 7:15 | 7:30 | 0 | 6 | 14 | 0 | 41 | 13 | 0 | 4 | 9 | 473 | |
| 7:30 | 7:45 | 0 | 8 | 23 | 0 | 46 | 14 | 0 | 5 | 9 | 556 | |
| 7:45 | 8:00 | 0 | 3 | 17 | 0 | 76 | 26 | 0 | 6 | 14 | 608 | |
| 8:00 | 8:15 | 0 | 2 | 17 | 0 | 76 | 18 | 0 | 9 | 17 | 611 | Peak |
| 8:15 | 8:30 | 0 | 6 | 22 | 0 | 98 | 21 | 0 | 7 | 16 | | |
| 8:30 | 8:45 | 0 | 3 | 17 | 0 | 94 | 14 | 0 | 15 | 14 | | |
| 8:45 | 9:00 | 0 | 3 | 20 | 0 | 84 | 19 | 0 | 10 | 9 | | |
| 16:00 | 16:15 | 0 | 11 | 61 | 0 | 20 | 9 | 0 | 18 | 3 | 505 | |
| 16:15 | 16:30 | 0 | 8 | 50 | 0 | 26 | 8 | 0 | 10 | 7 | 550 | |
| 16:30 | 16:45 | 0 | 16 | 75 | 0 | 16 | 8 | 0 | 9 | 6 | 583 | Peak |
| 16:45 | 17:00 | 0 | 10 | 62 | 0 | 21 | 16 | 0 | 25 | 10 | 553 | |
| 17:00 | 17:15 | 0 | 12 | 108 | 0 | 17 | 7 | 0 | 13 | 10 | 491 | |
| 17:15 | 17:30 | 0 | 9 | 79 | 0 | 25 | 9 | 0 | 14 | 6 | 400 | |
| 17:30 | 17:45 | 0 | 13 | 49 | 0 | 17 | 4 | 0 | 13 | 4 | 350 | |
| 17:45 | 18:00 | 0 | 2 | 44 | 0 | 18 | 9 | 0 | 8 | 1 | 325 | |
| 18:00 | 18:15 | 0 | 7 | 33 | 0 | 25 | 5 | 0 | 5 | 1 | 307 | |
| 18:15 | 18:30 | 0 | 6 | 38 | 0 | 32 | 4 | 0 | 10 | 2 | | |
| 18:30 | 18:45 | 0 | 3 | 19 | 0 | 33 | 11 | 0 | 9 | 0 | | |
| 18:45 | 19:00 | 0 | 5 | 12 | 0 | 23 | 16 | 0 | 8 | 0 | | |

| Peak Time | | North Approach Tathra Rd | | | South Approach Tathra Rd | | | West Approach Kerrisons L | | | Peak |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Period Start | Period End | U | R | SB | U | NB | L | U | R | L | total |
| 8:00 | 9:00 | 0 | 14 | 76 | 0 | 352 | 72 | 0 | 41 | 56 | 611 |
| 16:30 | 17:30 | 0 | 47 | 324 | 0 | 79 | 40 | 0 | 61 | 32 | 583 |

**Graphic**

Total
Light
Heavy



# TRANS TRAFFIC SURVEY

TURNING MOVEMENT SURVEY trafficsurvey.com.au

## Intersection of Finucane La and Princes Hwy, Bega

*GPS* -36.701739, 149.840123

| | |
|---|---|
| ***Date:*** | Thu 31/10/24 |
| ***Weather:*** | Overcast |
| ***Suburban:*** | Bega |
| ***Customer:*** | GHD |

| | |
|---|---|
| ***North:*** | Princes Hwy |
| ***East:*** | N/A |
| ***South:*** | Princes Hwy |
| ***West:*** | Finucane La |

| | | |
|---|---|---|
| ***Survey Period*** | AM: | 6:00 AM-9:00 AM |
| | PM: | 4:00 PM-7:00 PM |
| ***Traffic Peak*** | AM: | 8:00 AM-9:00 AM |
| | PM: | 4:00 PM-5:00 PM |

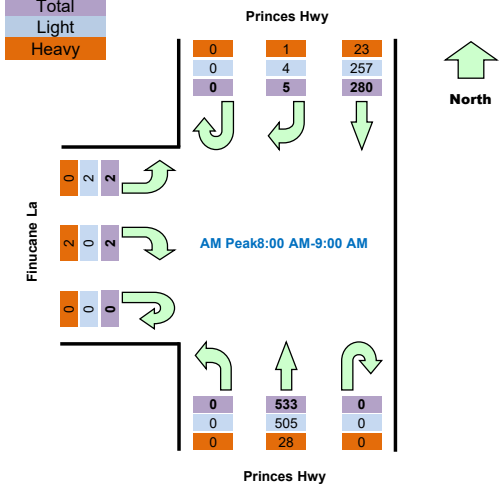
***All Vehicles***

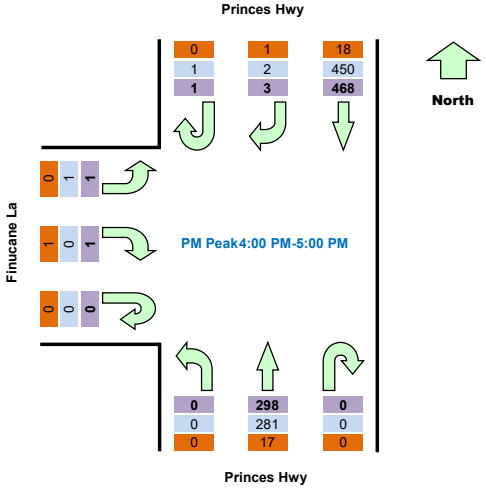
| Time | | North Approach Princes Hw | | | South Approach Princes Hw | | | West Approach Finucane La | | | Hourly Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Period Start | Period End | U | R | SB | U | NB | L | U | R | L | Hour | Peak |
| 6:00 | 6:15 | 0 | 0 | 23 | 0 | 16 | 0 | 0 | 0 | 3 | 333 | |
| 6:15 | 6:30 | 0 | 0 | 34 | 0 | 32 | 0 | 0 | 0 | 1 | 401 | |
| 6:30 | 6:45 | 0 | 0 | 44 | 0 | 64 | 0 | 0 | 0 | 0 | 450 | |
| 6:45 | 7:00 | 0 | 1 | 24 | 0 | 91 | 0 | 0 | 0 | 0 | 496 | |
| 7:00 | 7:15 | 0 | 1 | 40 | 0 | 67 | 0 | 0 | 0 | 2 | 542 | |
| 7:15 | 7:30 | 0 | 0 | 41 | 0 | 73 | 0 | 0 | 0 | 2 | 575 | |
| 7:30 | 7:45 | 0 | 2 | 53 | 0 | 96 | 2 | 0 | 0 | 1 | 663 | |
| 7:45 | 8:00 | 0 | 3 | 47 | 0 | 108 | 1 | 0 | 3 | 0 | 760 | |
| 8:00 | 8:15 | 0 | 0 | 54 | 0 | 88 | 0 | 0 | 1 | 0 | 822 | Peak |
| 8:15 | 8:30 | 0 | 2 | 67 | 0 | 132 | 0 | 0 | 1 | 2 | | |
| 8:30 | 8:45 | 0 | 1 | 88 | 0 | 162 | 0 | 0 | 0 | 0 | | |
| 8:45 | 9:00 | 0 | 2 | 71 | 0 | 151 | 0 | 0 | 0 | 0 | | |
| 16:00 | 16:15 | 0 | 0 | 130 | 0 | 78 | 0 | 0 | 0 | 0 | 772 | Peak |
| 16:15 | 16:30 | 0 | 1 | 93 | 0 | 81 | 0 | 0 | 0 | 0 | 736 | |
| 16:30 | 16:45 | 0 | 1 | 115 | 0 | 69 | 0 | 0 | 1 | 0 | 730 | |
| 16:45 | 17:00 | 1 | 1 | 130 | 0 | 70 | 0 | 0 | 0 | 1 | 679 | |
| 17:00 | 17:15 | 0 | 0 | 122 | 0 | 48 | 1 | 0 | 0 | 1 | 561 | |
| 17:15 | 17:30 | 0 | 1 | 107 | 0 | 61 | 0 | 0 | 0 | 0 | 488 | |
| 17:30 | 17:45 | 0 | 0 | 90 | 0 | 45 | 0 | 0 | 0 | 0 | 409 | |
| 17:45 | 18:00 | 0 | 0 | 59 | 0 | 25 | 0 | 0 | 0 | 1 | 342 | |
| 18:00 | 18:15 | 0 | 1 | 64 | 0 | 34 | 0 | 0 | 0 | 0 | 317 | |
| 18:15 | 18:30 | 0 | 0 | 46 | 0 | 44 | 0 | 0 | 0 | 0 | | |
| 18:30 | 18:45 | 0 | 0 | 33 | 0 | 35 | 0 | 0 | 0 | 0 | | |
| 18:45 | 19:00 | 0 | 0 | 31 | 0 | 29 | 0 | 0 | 0 | 0 | | |

| Peak Time | | North Approach Princes Hw | | | South Approach Princes Hw | | | West Approach Finucane La | | | Peak |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Period Start | Period End | U | R | SB | U | NB | L | U | R | L | total |
| 8:00 | 9:00 | 0 | 5 | 280 | 0 | 533 | 0 | 0 | 2 | 2 | 822 |
| 16:00 | 17:00 | 1 | 3 | 468 | 0 | 298 | 0 | 0 | 1 | 1 | 772 |

**Graphic**

Total
Light
Heavy



# TRANS TRAFFIC SURVEY

trafficsurvey.com.au

## TURNING MOVEMENT SURVEY

## Intersection of Rawlinson St and Ravenswood St, Bega

| | |
|---|---|
| ***GPS*** | *-36.68339, 149.83395* |
| ***Date:*** | Thu 31/10/24 |
| ***Weather:*** | Overcast |
| ***Suburban:*** | Bega |
| ***Customer:*** | GHD |

| | |
|---|---|
| ***North:*** | Ravenswood St |
| ***East:*** | Rawlinson St |
| ***South:*** | Ravenswood St |
| ***West:*** | Rawlinson St |

| | | |
|---|---|---|
| ***Survey Period*** | AM: | 6:00 AM-9:00 AM |
| | PM: | 4:00 PM-7:00 PM |
| ***Traffic Peak*** | AM: | 7:45 AM-8:45 AM |
| | PM: | 4:30 PM-5:30 PM |

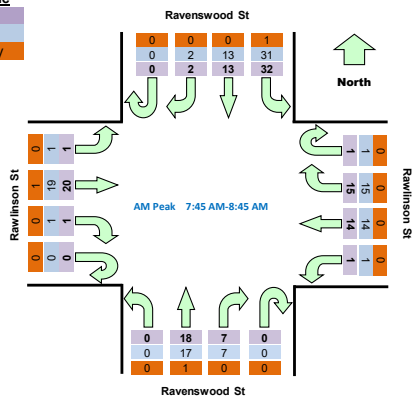
***All Vehicles***

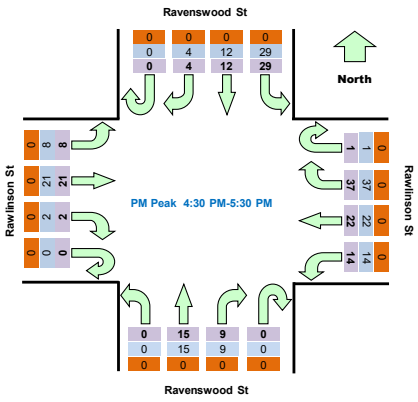
| Time | | North Approach Ravenswood St | | | | East Approach Rawlinson St | | | | South Approach Ravenswood St | | | | West Approach Rawlinson St | | | | Hourly Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Period Start | Period End | U | R | SB | L | U | R | WB | L | U | R | NB | L | U | R | EB | L | Hour | Peak |
| 6:00 | 6:15 | 0 | 0 | 1 | 8 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 47 | |
| 6:15 | 6:30 | 0 | 0 | 2 | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 49 | |
| 6:30 | 6:45 | 0 | 0 | 2 | 1 | 0 | 3 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 55 | |
| 6:45 | 7:00 | 0 | 0 | 1 | 3 | 0 | 4 | 3 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 2 | 0 | 57 | |
| 7:00 | 7:15 | 0 | 0 | 1 | 4 | 0 | 5 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 69 | |
| 7:15 | 7:30 | 0 | 0 | 1 | 2 | 0 | 2 | 4 | 1 | 0 | 0 | 4 | 0 | 0 | 0 | 1 | 1 | 84 | |
| 7:30 | 7:45 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 106 | |
| 7:45 | 8:00 | 0 | 0 | 6 | 4 | 0 | 4 | 3 | 0 | 0 | 2 | 6 | 0 | 0 | 1 | 2 | 0 | 125 | Peak |
| 8:00 | 8:15 | 0 | 1 | 3 | 6 | 0 | 4 | 3 | 0 | 0 | 2 | 5 | 0 | 0 | 0 | 4 | 1 | 124 | |
| 8:15 | 8:30 | 0 | 1 | 2 | 15 | 0 | 2 | 5 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 7 | 0 | | |
| 8:30 | 8:45 | 0 | 0 | 2 | 7 | 1 | 5 | 3 | 1 | 0 | 0 | 4 | 0 | 0 | 0 | 7 | 0 | | |
| 8:45 | 9:00 | 0 | 2 | 0 | 10 | 0 | 0 | 4 | 3 | 0 | 4 | 3 | 0 | 0 | 0 | 1 | 0 | | |
| 16:00 | 16:15 | 0 | 0 | 1 | 4 | 1 | 9 | 3 | 2 | 0 | 0 | 10 | 0 | 0 | 1 | 5 | 0 | 148 | |
| 16:15 | 16:30 | 0 | 0 | 5 | 7 | 0 | 4 | 3 | 0 | 0 | 2 | 3 | 1 | 0 | 0 | 4 | 0 | 158 | |
| 16:30 | 16:45 | 0 | 1 | 4 | 15 | 0 | 8 | 3 | 3 | 0 | 2 | 2 | 0 | 0 | 0 | 3 | 0 | 174 | Peak |
| 16:45 | 17:00 | 0 | 0 | 4 | 2 | 0 | 10 | 6 | 2 | 0 | 5 | 7 | 0 | 0 | 2 | 3 | 1 | 157 | |
| 17:00 | 17:15 | 0 | 2 | 1 | 3 | 1 | 9 | 7 | 5 | 0 | 2 | 3 | 0 | 0 | 0 | 9 | 4 | 137 | |
| 17:15 | 17:30 | 0 | 1 | 3 | 9 | 0 | 10 | 6 | 4 | 0 | 0 | 3 | 0 | 0 | 0 | 6 | 3 | 126 | |
| 17:30 | 17:45 | 0 | 1 | 1 | 3 | 0 | 5 | 6 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 6 | 0 | 104 | |
| 17:45 | 18:00 | 0 | 0 | 3 | 3 | 0 | 7 | 1 | 2 | 0 | 1 | 2 | 0 | 0 | 0 | 3 | 0 | 105 | |
| 18:00 | 18:15 | 0 | 2 | 1 | 10 | 0 | 7 | 5 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 6 | 0 | 101 | |
| 18:15 | 18:30 | 0 | 0 | 0 | 4 | 0 | 8 | 4 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 2 | | |
| 18:30 | 18:45 | 0 | 0 | 4 | 3 | 0 | 12 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 0 | | |
| 18:45 | 19:00 | 0 | 0 | 2 | 6 | 0 | 1 | 4 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | | |

| Peak Time | | North Approach Ravenswood St | | | | East Approach Rawlinson St | | | | South Approach Ravenswood St | | | | West Approach Rawlinson St | | | | Peak |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Period Start | Period End | U | R | SB | L | U | R | WB | L | U | R | NB | L | U | R | EB | L | total |
| 7:45 | 8:45 | 0 | 2 | 13 | 32 | 1 | 15 | 14 | 1 | 0 | 7 | 18 | 0 | 0 | 1 | 20 | 1 | 125 |
| 16:30 | 17:30 | 0 | 4 | 12 | 29 | 1 | 37 | 22 | 14 | 0 | 9 | 15 | 0 | 0 | 2 | 21 | 8 | 174 |

**Graphic**

Total
Light
Heavy



# TRANS TRAFFIC SURVEY

trafficsurvey.com.au

## TURNING MOVEMENT SURVEY

## Intersection of Boundary Rd and Tathra Rd, Bega

| | |
|---|---|
| ***GPS*** | *-36.69217, 149.85659* |
| ***Date:*** | Thu 31/10/24 |
| ***Weather:*** | Overcast |
| ***Suburban:*** | Bega |
| ***Customer:*** | GHD |

| | |
|---|---|
| ***North:*** | Tathra Rd |
| ***East:*** | Boundary Rd |
| ***South:*** | Tathra Rd |
| ***West:*** | Boundary Rd |

| | | |
|---|---|---|
| ***Survey Period*** | AM: | 6:00 AM-9:00 AM |
| | PM: | 4:00 PM-7:00 PM |
| ***Traffic Peak*** | AM: | 8:00 AM-9:00 AM |
| | PM: | 4:30 PM-5:30 PM |

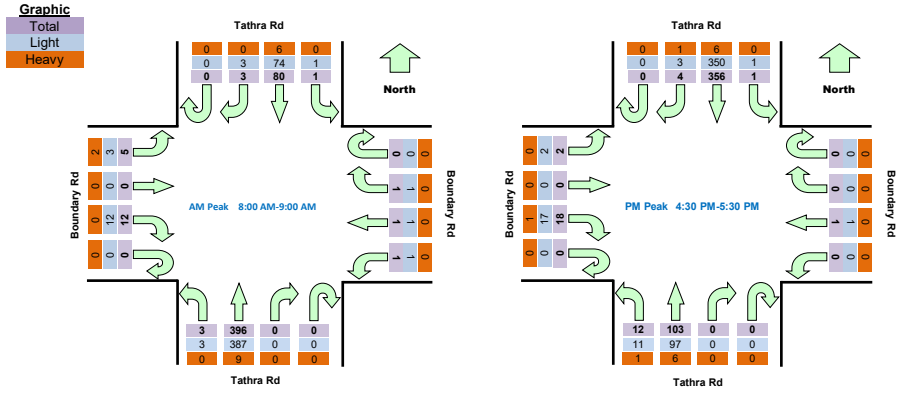
***All Vehicles***

| Time | | North Approach Tathra Rd | | | | East Approach Boundary Rd | | | | South Approach Tathra Rd | | | | West Approach Boundary Rd | | | | Hourly Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Period Start | Period End | U | R | SB | L | U | R | WB | L | U | R | NB | L | U | R | EB | L | Hour | Peak |
| 6:00 | 6:15 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 159 | |
| 6:15 | 6:30 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 201 | |
| 6:30 | 6:45 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 8 | 0 | 0 | 0 | 2 | 248 | |
| 6:45 | 7:00 | 0 | 1 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 41 | 10 | 0 | 3 | 0 | 0 | 289 | |
| 7:00 | 7:15 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 35 | 5 | 0 | 3 | 0 | 0 | 329 | |
| 7:15 | 7:30 | 0 | 0 | 19 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 44 | 4 | 0 | 0 | 0 | 0 | 381 | |
| 7:30 | 7:45 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 51 | 5 | 0 | 9 | 0 | 1 | 454 | |
| 7:45 | 8:00 | 1 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 84 | 4 | 0 | 2 | 0 | 1 | 491 | |
| 8:00 | 8:15 | 0 | 2 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 89 | 1 | 0 | 3 | 0 | 4 | 503 | Peak |
| 8:15 | 8:30 | 0 | 0 | 22 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 113 | 1 | 0 | 3 | 0 | 0 | | |
| 8:30 | 8:45 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 103 | 1 | 0 | 3 | 0 | 0 | | |
| 8:45 | 9:00 | 0 | 1 | 23 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 91 | 0 | 0 | 3 | 0 | 1 | | |
| 16:00 | 16:15 | 0 | 0 | 67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 4 | 0 | 6 | 0 | 0 | 419 | |
| 16:15 | 16:30 | 0 | 1 | 53 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 28 | 3 | 0 | 5 | 0 | 1 | 474 | |
| 16:30 | 16:45 | 0 | 1 | 92 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 2 | 0 | 5 | 0 | 1 | 497 | Peak |
| 16:45 | 17:00 | 0 | 1 | 65 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 28 | 5 | 0 | 5 | 0 | 0 | 460 | |
| 17:00 | 17:15 | 0 | 2 | 118 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 2 | 0 | 5 | 0 | 1 | 419 | |
| 17:15 | 17:30 | 0 | 0 | 81 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 3 | 0 | 3 | 0 | 0 | 334 | |
| 17:30 | 17:45 | 0 | 0 | 63 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 4 | 0 | 0 | 0 | 1 | 297 | |
| 17:45 | 18:00 | 0 | 0 | 41 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 18 | 1 | 0 | 2 | 0 | 1 | 263 | |
| 18:00 | 18:15 | 0 | 0 | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 4 | 0 | 5 | 0 | 0 | 240 | |
| 18:15 | 18:30 | 0 | 0 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 5 | 0 | 5 | 0 | 0 | | |
| 18:30 | 18:45 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 2 | 0 | 2 | 0 | 0 | | |
| 18:45 | 19:00 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 1 | 0 | 0 | 0 | 0 | | |

| Peak Time | | North Approach Tathra Rd | | | | East Approach Boundary Rd | | | | South Approach Tathra Rd | | | | West Approach Boundary Rd | | | | Peak total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Period Start | Period End | U | R | SB | L | U | R | WB | L | U | R | NB | L | U | R | EB | L | |
| 8:00 | 9:00 | 0 | 3 | 80 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 396 | 3 | 0 | 12 | 0 | 5 | 503 |
| 16:30 | 17:30 | 0 | 4 | 356 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 103 | 12 | 0 | 18 | 0 | 2 | 497 |

**Graphic**

Total
Light
Heavy



# TRANS TRAFFIC SURVEY

trafficsurvey.com.au

T. 1300 82 88 82 - F. 1300 83 88 83 - E. traffic@trafficsurvey.com.au - W. www.trafficsurvey.com.au

## AUTOMATIC COUNT SUMMARY

| | | | |
|---|---|---|---|
| **Street Name :** | Princes Hwy | **Location :** | Near 20 Redgum Close |
| **Suburb :** | Bega | **Start Date :** | 00:00 Wed 30/October/2024 |
| **Machine ID:** | SC99VRNZ | **Finish Date :** | 00:00 Wed 06/November/2024 |
| **Site ID:** | 3541 | **Speed Zone :** | 100 km/h |
| **Prepared By :** | Vo Son Binh | **Email:** | binh@trafficsurvey.com.au |

| GPS information | Lat 36° 41' 24.90 South<br>Long 149° 50' 12.35 East | | Direction of Travel | | |
|---|---|---|---|---|---|
| | | | **Both directions** | **Northbound** | **Southbound** |
| **Traffic Volume :** | | Weekdays Average | 4,846 | 2,291 | 2,555 |
| **(Vehicles/Day)** | | 7 Day Average | 4,385 | 2,082 | 2,303 |
| **Weekday** | **AM** | 08:00 | 453 | 268 | 185 |
| **Peak hour starts** | **PM** | 15:00 | 425 | 171 | 255 |
| **Speeds :** | | 85th Percentile | 97.2 | 97.6 | 96.8 |
| **(Km/Hr)** | | Average | 91.1 | 91.9 | 90.3 |
| **Classification % :** | | Light Vehicles up to 5.5m | 91.3% | 91.5% | 91.1% |

## Location

**GPS Information** Load Google Map (internet required)

(Latitude, Longitude) -36.690251, 149.836764


Speed Data | Speed Graph | Speed Bin
Volume Data | Volume Graph | Classification

QUALITY SYSTEM CERTIFICATION DNV·GL ISO 9001
SAFETY SYSTEM CERTIFICATION DNV·GL AS/NZS 4801
ENVIRONMENTAL SYSTEM CERTIFICATION DNV·GL ISO 14001

**QUALITY ASSURED COMPANY BY ISO 9001:2015**
**OH&S SYSTEM CERTIFIED TO ISO 4801:2001**
**ENVIRONMENT MANAGEMENT SYSTEM CERTIFIED TO ISO14001:2015**

**Status of movement – Covid 19**

*"Traffic behaviour is not the same as pre-pandemic (traditional morning/afternoon peak is much less pronounced and school start/finish times are much more pronounced), the current patterns are close enough to what probably is going to be a 'COVID normal' situation for at least the next year or two. Workplaces are currently not all yet open.*
*These results should be used for indicative assessment only."*

# TRANS TRAFFIC SURVEY

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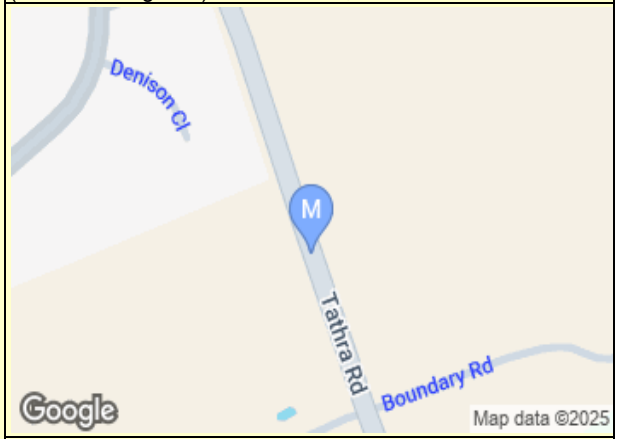
## AUTOMATIC COUNT SUMMARY

| | | | |
|---|---|---|---|
| **Street Name :** | Tathra Rd | **Location :** | Outside Property 1563 |
| **Suburb :** | Bega | **Start Date :** | 00:00 Wed 30/October/2024 |
| **Machine ID:** | 2329AT27 | **Finish Date :** | 00:00 Wed 06/November/2024 |
| **Site ID:** | 3542 | **Speed Zone :** | 60 km/h NB, 100 km/h SB |
| **Prepared By :** | Vo Son Binh | **Email:** | binh@trafficsurvey.com.au |

| GPS information | Lat 36° 41' 26.69 South<br>Long 149° 51' 21.23 East | | Direction of Travel | | |
|---|---|---|---|---|---|
| | | | **Both directions** | **Northbound** | **Southbound** |
| **Traffic Volume :** | | Weekdays Average | 4,510 | 2,302 | 2,208 |
| **(Vehicles/Day)** | | 7 Day Average | 4,085 | 2,088 | 1,997 |
| **Weekday** | **AM** | 08:00 | 476 | 392 | 83 |
| **Peak hour starts** | **PM** | 15:00 | 410 | 144 | 266 |
| **Speeds :** | | 85th Percentile | 67.9 | 65.8 | 69.9 |
| **(Km/Hr)** | | Average | 61.4 | 59.8 | 63.1 |
| **Classification % :** | | Light Vehicles up to 5.5m | 95.8% | 96.1% | 95.6% |

## Location

| | |
|---|---|
| **GPS Information** | Load Google Map (internet required) |
| (Latitude, Longitude) | -36.690747, 149.855896 |




| | | |
|---|---|---|
| Speed Data | Speed Graph | Speed Bin |
| Volume Data | Volume Graph | Classification |

**QUALITY ASSURED COMPANY BY ISO 9001:2015**
**OH&S SYSTEM CERTIFIED TO ISO 4801:2001**
**ENVIRONMENT MANAGEMENT SYSTEM CERTIFIED TO ISO14001:2015**

**Status of movement – Covid 19**

*"Traffic behaviour is not the same as pre-pandemic (traditional morning/afternoon peak is much less pronounced and school start/finish times are much more pronounced), the current patterns are close enough to what probably is going to be a 'COVID normal' situation for at least the next year or two. Workplaces are currently not all yet open.*
*These results should be used for indicative assessment only."*

# Appendix B

## SIDRA outputs – existing situation

## MOVEMENT SUMMARY

**Site: 1 [1_Princes Highway / Carp Street_AM Peak (Site Folder: 2024 Existing AM Peak)]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

New Site
Site Category: (None)
Roundabout

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Princes Highway (N) | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 105 | 16.0 | 105 | 16.0 | 0.240 | 4.6 | LOS A | 1.6 | 11.7 | 0.47 | 0.56 | 0.47 | 58.0 |
| 3 | R2 | All MCs | 181 | 0.6 | 181 | 0.6 | 0.240 | 10.5 | LOS A | 1.6 | 11.7 | 0.47 | 0.56 | 0.47 | 56.7 |
| Approach | | | 286 | 6.3 | 286 | 6.3 | 0.240 | 8.3 | LOS A | 1.6 | 11.7 | 0.47 | 0.56 | 0.47 | 57.3 |
| East: Carp Street (E) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 89 | 4.7 | 89 | 4.7 | 0.210 | 2.5 | LOS A | 1.3 | 9.8 | 0.29 | 0.49 | 0.29 | 56.7 |
| 6 | R2 | All MCs | 198 | 11.2 | 198 | 11.2 | 0.210 | 8.0 | LOS A | 1.3 | 9.8 | 0.29 | 0.49 | 0.29 | 55.0 |
| Approach | | | 287 | 9.2 | 287 | 9.2 | 0.210 | 6.3 | LOS A | 1.3 | 9.8 | 0.29 | 0.49 | 0.29 | 55.7 |
| North: Princes Highway (N) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 369 | 5.7 | 369 | 5.7 | 0.368 | 4.5 | LOS A | 2.9 | 21.3 | 0.50 | 0.47 | 0.50 | 56.9 |
| 8 | T1 | All MCs | 85 | 14.8 | 85 | 14.8 | 0.368 | 4.5 | LOS A | 2.9 | 21.3 | 0.50 | 0.47 | 0.50 | 58.7 |
| 9u | U | All MCs | 3 | 0.0 | 3 | 0.0 | 0.368 | 12.9 | LOS A | 2.9 | 21.3 | 0.50 | 0.47 | 0.50 | 58.2 |
| Approach | | | 458 | 7.4 | 458 | 7.4 | 0.368 | 4.5 | LOS A | 2.9 | 21.3 | 0.50 | 0.47 | 0.50 | 57.5 |
| All Vehicles | | | 1032 | 7.6 | 1032 | 7.6 | 0.368 | 6.1 | LOS A | 2.9 | 21.3 | 0.43 | 0.50 | 0.43 | 57.0 |

## MOVEMENT SUMMARY

**Site: 2 [2_Princes Highway / Newtown Road_AM Peak (Site Folder: 2024 Existing AM Peak)]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

**Network: N101 [AM Peak Existing (Network Folder: General)]**

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

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | Aver. Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Princes Highway (S) | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 265 | 5.6 | 265 | 5.6 | 0.139 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| 3 | R2 | All MCs | 298 | 4.9 | 298 | 4.9 | 0.255 | 6.5 | LOS A | 0.5 | 3.5 | 0.35 | 0.60 | 0.35 | 46.6 |
| Approach | | | 563 | 5.2 | 563 | 5.2 | 0.255 | 3.5 | NA | 0.5 | 3.5 | 0.18 | 0.32 | 0.18 | 57.1 |
| East: Newtown Road (E) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 139 | 7.6 | 139 | 7.6 | 0.128 | 6.5 | LOS A | 0.2 | 1.5 | 0.28 | 0.56 | 0.28 | 45.0 |
| 6 | R2 | All MCs | 12 | 27.3 | 12 | 27.3 | 0.043 | 17.3 | LOS B | 0.1 | 0.5 | 0.70 | 0.86 | 0.70 | 54.0 |
| Approach | | | 151 | 9.1 | 151 | 9.1 | 0.128 | 7.3 | LOS A | 0.2 | 1.5 | 0.31 | 0.58 | 0.31 | 48.5 |
| North: Princes Highway (N) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 17 | 6.3 | 17 | 6.3 | 0.009 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.57 | 0.00 | 57.4 |
| 8 | T1 | All MCs | 161 | 9.2 | 161 | 9.2 | 0.088 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 60.0 |
| Approach | | | 178 | 8.9 | 178 | 8.9 | 0.088 | 0.6 | NA | 0.0 | 0.0 | 0.00 | 0.05 | 0.00 | 59.7 |
| All Vehicles | | | 892 | 6.6 | 892 | 6.6 | 0.255 | 3.6 | NA | 0.5 | 3.5 | 0.17 | 0.31 | 0.17 | 57.4 |

## MOVEMENT SUMMARY

**Site: 3 [3_Princes Highway / Kerrisons Lane_AM Peak (Site Folder: 2024 Existing AM Peak)]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

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

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SouthEast: Kerrisons Lane (E) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 75 | 5.6 | 75 | 5.6 | 0.289 | 6.2 | LOS A | 1.2 | 9.0 | 0.64 | 0.78 | 0.74 | 32.7 |
| 6 | R2 | All MCs | 61 | 5.2 | 61 | 5.2 | 0.289 | 19.6 | LOS B | 1.2 | 9.0 | 0.64 | 0.78 | 0.74 | 44.2 |
| Approach | | | 136 | 5.4 | 136 | 5.4 | 0.289 | 12.2 | LOS A | 1.2 | 9.0 | 0.64 | 0.78 | 0.74 | 39.4 |
| NorthEast: Princes Highway (N) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 39 | 13.5 | 39 | 13.5 | 0.023 | 5.7 | LOS A | 0.0 | 0.0 | 0.00 | 0.57 | 0.00 | 50.0 |
| 8 | T1 | All MCs | 257 | 7.4 | 257 | 7.4 | 0.138 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| Approach | | | 296 | 8.2 | 296 | 8.2 | 0.138 | 0.8 | NA | 0.0 | 0.0 | 0.00 | 0.08 | 0.00 | 58.7 |
| SouthWest: Princes Highway (S) | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 488 | 5.4 | 488 | 5.4 | 0.263 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.8 |
| 3 | R2 | All MCs | 61 | 5.2 | 61 | 5.2 | 0.060 | 7.0 | LOS A | 0.2 | 1.7 | 0.39 | 0.62 | 0.39 | 39.0 |
| Approach | | | 549 | 5.4 | 549 | 5.4 | 0.263 | 0.8 | NA | 0.2 | 1.7 | 0.04 | 0.07 | 0.04 | 58.5 |
| All Vehicles | | | 981 | 6.2 | 981 | 6.2 | 0.289 | 2.4 | NA | 1.2 | 9.0 | 0.11 | 0.17 | 0.13 | 56.2 |

## MOVEMENT SUMMARY

**Site: 4 [4_Tathra Road / Kerrisons Lane_AM Peak (Site Folder: 2024 Existing AM Peak)]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

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

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Tathra Road | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 76 | 8.3 | 76 | 8.3 | 0.236 | 7.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.11 | 0.00 | 75.8 |
| 8 | T1 | All MCs | 371 | 2.6 | 371 | 2.6 | 0.236 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.11 | 0.00 | 77.8 |
| Approach | | | 446 | 3.5 | 446 | 3.5 | 0.236 | 1.3 | NA | 0.0 | 0.0 | 0.00 | 0.11 | 0.00 | 77.1 |
| North: Tathra Road | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 80 | 5.3 | 80 | 5.3 | 0.043 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 80.0 |
| 3 | R2 | All MCs | 15 | 7.1 | 15 | 7.1 | 0.014 | 8.7 | LOS A | 0.1 | 0.4 | 0.48 | 0.64 | 0.48 | 56.8 |
| Approach | | | 95 | 5.6 | 95 | 5.6 | 0.043 | 1.4 | NA | 0.1 | 0.4 | 0.07 | 0.10 | 0.07 | 71.3 |
| West: Kerrisons Lane (W) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 59 | 3.6 | 59 | 3.6 | 0.053 | 8.4 | LOS A | 0.2 | 1.5 | 0.41 | 0.66 | 0.41 | 70.6 |
| 6 | R2 | All MCs | 43 | 24.4 | 43 | 24.4 | 0.086 | 12.4 | LOS A | 0.3 | 2.6 | 0.56 | 0.80 | 0.56 | 65.7 |
| Approach | | | 102 | 12.4 | 102 | 12.4 | 0.086 | 10.1 | LOS A | 0.3 | 2.6 | 0.47 | 0.72 | 0.47 | 68.2 |
| All Vehicles | | | 643 | 5.2 | 643 | 5.2 | 0.236 | 2.7 | NA | 0.3 | 2.6 | 0.09 | 0.21 | 0.09 | 73.8 |

## MOVEMENT SUMMARY

▽ Site: 5 [5_Princes Highway / Finucane Lane_AM Peak (Site Folder: 2024 Existing AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

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

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

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | Demand Flows HV ] % | Arrival Flows [ Total veh/h | Arrival Flows HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | Aver. Back Of Queue [ Veh. veh | Aver. Back Of Queue Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Princes Highway (S) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.298 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 56.5 |
| 8 | T1 | All MCs | 561 | 5.3 | 561 | 5.3 | 0.298 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.8 |
| Approach | | | 562 | 5.2 | 562 | 5.2 | 0.298 | 0.1 | NA | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.8 |
| North: Princes Highway (N) | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 295 | 8.2 | 295 | 8.2 | 0.158 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| 3 | R2 | All MCs | 5 | 20.0 | 5 | 20.0 | 0.007 | 8.7 | LOS A | 0.0 | 0.1 | 0.55 | 0.63 | 0.55 | 47.1 |
| Approach | | | 300 | 8.4 | 300 | 8.4 | 0.158 | 0.2 | NA | 0.0 | 0.1 | 0.01 | 0.01 | 0.01 | 59.5 |
| West: Finucane Lane (W) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.002 | 7.7 | LOS A | 0.0 | 0.0 | 0.50 | 0.59 | 0.50 | 48.0 |
| 6 | R2 | All MCs | 2 | 100.0 | 2 | 100.0 | 0.017 | 34.0 | LOS C | 0.0 | 0.3 | 0.85 | 0.94 | 0.85 | 30.6 |
| Approach | | | 4 | 50.0 | 4 | 50.0 | 0.017 | 20.9 | LOS B | 0.0 | 0.3 | 0.67 | 0.76 | 0.67 | 36.0 |
| All Vehicles | | | 866 | 6.6 | 866 | 6.6 | 0.298 | 0.2 | NA | 0.0 | 0.3 | 0.01 | 0.01 | 0.01 | 59.2 |

## MOVEMENT SUMMARY

Site: 6 [6_Ravenswood Street/ Rawlinson Street_AM Peak (Site Folder: 2024 Existing AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

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

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | Demand Flows HV ] % | Arrival Flows [ Total veh/h | Arrival Flows HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | 95% Back Of Queue Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Ravenswood Street (S) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.015 | 5.7 | LOS A | 0.0 | 0.3 | 0.08 | 0.19 | 0.08 | 35.6 |
| 8 | T1 | All MCs | 19 | 5.6 | 19 | 5.6 | 0.015 | 0.0 | LOS A | 0.0 | 0.3 | 0.08 | 0.19 | 0.08 | 52.6 |
| 3 | R2 | All MCs | 7 | 0.0 | 7 | 0.0 | 0.015 | 5.6 | LOS A | 0.0 | 0.3 | 0.08 | 0.19 | 0.08 | 48.5 |
| Approach | | | 27 | 3.8 | 27 | 3.8 | 0.015 | 1.8 | NA | 0.0 | 0.3 | 0.08 | 0.19 | 0.08 | 50.3 |
| East: Rawlinson Street (E) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.031 | 8.1 | LOS A | 0.1 | 0.7 | 0.15 | 0.94 | 0.15 | 40.5 |
| 5 | T1 | All MCs | 15 | 0.0 | 15 | 0.0 | 0.031 | 7.9 | LOS A | 0.1 | 0.7 | 0.15 | 0.94 | 0.15 | 34.1 |
| 6 | R2 | All MCs | 16 | 0.0 | 16 | 0.0 | 0.031 | 7.8 | LOS A | 0.1 | 0.7 | 0.15 | 0.94 | 0.15 | 33.7 |
| Approach | | | 32 | 0.0 | 32 | 0.0 | 0.031 | 7.9 | LOS A | 0.1 | 0.7 | 0.15 | 0.94 | 0.15 | 34.1 |
| North: Ravenswood Street (N) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 34 | 3.1 | 34 | 3.1 | 0.027 | 5.5 | LOS A | 0.0 | 0.1 | 0.01 | 0.42 | 0.01 | 43.3 |
| 2 | T1 | All MCs | 14 | 0.0 | 14 | 0.0 | 0.027 | 0.0 | LOS A | 0.0 | 0.1 | 0.01 | 0.42 | 0.01 | 47.3 |
| 3 | R2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.027 | 5.5 | LOS A | 0.0 | 0.1 | 0.01 | 0.42 | 0.01 | 27.5 |
| Approach | | | 49 | 2.1 | 49 | 2.1 | 0.027 | 4.0 | NA | 0.0 | 0.1 | 0.01 | 0.42 | 0.01 | 43.4 |
| West: Rawlinson Street (W) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.021 | 8.1 | LOS A | 0.1 | 0.5 | 0.16 | 0.97 | 0.16 | 24.1 |
| 11 | T1 | All MCs | 21 | 5.0 | 21 | 5.0 | 0.021 | 8.2 | LOS A | 0.1 | 0.5 | 0.16 | 0.97 | 0.16 | 37.3 |
| 6 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.021 | 7.8 | LOS A | 0.1 | 0.5 | 0.16 | 0.97 | 0.16 | 34.8 |
| Approach | | | 23 | 4.5 | 23 | 4.5 | 0.021 | 8.1 | LOS A | 0.1 | 0.5 | 0.16 | 0.97 | 0.16 | 36.6 |
| All Vehicles | | | 132 | 2.4 | 132 | 2.4 | 0.031 | 5.2 | NA | 0.1 | 0.7 | 0.08 | 0.59 | 0.08 | 40.4 |

## MOVEMENT SUMMARY

▽ Site: 7 [7_Tathra Road / Boundary Road_AM Peak (Site Folder: 2024 Existing AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

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

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | Demand Flows HV ] % | Arrival Flows [ Total veh/h | Arrival Flows HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | 95% Back Of Queue Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Tathra Road (S) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 3 | 0.0 | 3 | 0.0 | 0.219 | 5.5 | LOS A | 0.0 | 0.1 | 0.00 | 0.01 | 0.00 | 57.8 |
| 8 | T1 | All MCs | 417 | 2.3 | 417 | 2.3 | 0.219 | 0.0 | LOS A | 0.0 | 0.1 | 0.00 | 0.01 | 0.00 | 59.9 |
| 3 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.219 | 5.5 | LOS A | 0.0 | 0.1 | 0.00 | 0.01 | 0.00 | 57.6 |
| Approach | | | 421 | 2.3 | 421 | 2.3 | 0.219 | 0.1 | NA | 0.0 | 0.1 | 0.00 | 0.01 | 0.00 | 59.9 |
| East: Boundary Road (E) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.004 | 5.8 | LOS A | 0.0 | 0.1 | 0.33 | 0.53 | 0.33 | 52.9 |
| 5 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.004 | 6.5 | LOS A | 0.0 | 0.1 | 0.33 | 0.53 | 0.33 | 52.3 |
| 6 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.004 | 8.4 | LOS A | 0.0 | 0.1 | 0.33 | 0.53 | 0.33 | 51.3 |
| Approach | | | 3 | 0.0 | 3 | 0.0 | 0.004 | 6.9 | LOS A | 0.0 | 0.1 | 0.33 | 0.53 | 0.33 | 52.2 |
| North: Tathra Road (N) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.049 | 6.9 | LOS A | 0.0 | 0.2 | 0.05 | 0.06 | 0.05 | 57.0 |
| 2 | T1 | All MCs | 84 | 7.5 | 84 | 7.5 | 0.049 | 0.1 | LOS A | 0.0 | 0.2 | 0.05 | 0.06 | 0.05 | 59.6 |
| 3 | R2 | All MCs | 3 | 0.0 | 3 | 0.0 | 0.049 | 7.0 | LOS A | 0.0 | 0.2 | 0.05 | 0.06 | 0.05 | 56.6 |
| Approach | | | 88 | 7.1 | 88 | 7.1 | 0.049 | 0.4 | NA | 0.0 | 0.2 | 0.05 | 0.06 | 0.05 | 59.5 |
| West: Boundary Road (W) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 5 | 40.0 | 5 | 40.0 | 0.028 | 8.4 | LOS A | 0.1 | 0.7 | 0.47 | 0.68 | 0.47 | 49.0 |
| 11 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.028 | 6.6 | LOS A | 0.1 | 0.7 | 0.47 | 0.68 | 0.47 | 51.3 |
| 6 | R2 | All MCs | 13 | 0.0 | 13 | 0.0 | 0.028 | 8.6 | LOS A | 0.1 | 0.7 | 0.47 | 0.68 | 0.47 | 51.8 |
| Approach | | | 19 | 11.1 | 19 | 11.1 | 0.028 | 8.4 | LOS A | 0.1 | 0.7 | 0.47 | 0.68 | 0.47 | 51.1 |
| All Vehicles | | | 532 | 3.4 | 532 | 3.4 | 0.219 | 0.5 | NA | 0.1 | 0.7 | 0.03 | 0.04 | 0.03 | 59.4 |

## MOVEMENT SUMMARY

**Site: 1 [1_Princes Highway / Carp Street_PM Peak (Site Folder: 2024 Existing PM Peak )]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

New Site
Site Category: (None)
Roundabout

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Princes Highway (N) | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 88 | 16.7 | 88 | 16.7 | 0.143 | 5.0 | LOS A | 0.9 | 6.6 | 0.52 | 0.56 | 0.52 | 58.1 |
| 3 | R2 | All MCs | 64 | 0.0 | 64 | 0.0 | 0.143 | 10.9 | LOS A | 0.9 | 6.6 | 0.52 | 0.56 | 0.52 | 56.9 |
| Approach | | | 153 | 9.7 | 153 | 9.7 | 0.143 | 7.5 | LOS A | 0.9 | 6.6 | 0.52 | 0.56 | 0.52 | 57.7 |
| East: Carp Street (E) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 155 | 0.7 | 155 | 0.7 | 0.323 | 2.7 | LOS A | 2.1 | 14.9 | 0.36 | 0.51 | 0.36 | 56.6 |
| 6 | R2 | All MCs | 295 | 2.1 | 295 | 2.1 | 0.323 | 8.2 | LOS A | 2.1 | 14.9 | 0.36 | 0.51 | 0.36 | 55.1 |
| Approach | | | 449 | 1.6 | 449 | 1.6 | 0.323 | 6.3 | LOS A | 2.1 | 14.9 | 0.36 | 0.51 | 0.36 | 55.8 |
| North: Princes Highway (N) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 247 | 4.3 | 247 | 4.3 | 0.259 | 3.6 | LOS A | 1.9 | 14.3 | 0.27 | 0.37 | 0.27 | 57.4 |
| 8 | T1 | All MCs | 125 | 11.8 | 125 | 11.8 | 0.259 | 3.5 | LOS A | 1.9 | 14.3 | 0.27 | 0.37 | 0.27 | 58.9 |
| 9u | U | All MCs | 3 | 0.0 | 3 | 0.0 | 0.259 | 12.1 | LOS A | 1.9 | 14.3 | 0.27 | 0.37 | 0.27 | 58.4 |
| Approach | | | 376 | 6.7 | 376 | 6.7 | 0.259 | 3.6 | LOS A | 1.9 | 14.3 | 0.27 | 0.37 | 0.27 | 58.2 |
| All Vehicles | | | 978 | 4.8 | 978 | 4.8 | 0.323 | 5.4 | LOS A | 2.1 | 14.9 | 0.35 | 0.47 | 0.35 | 57.1 |

## MOVEMENT SUMMARY

**Site: 2 [2_Princes Highway / Newtown Road_PM Peak (Site Folder: 2024 Existing PM Peak )]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

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

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

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | Aver. Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Princes Highway (S) | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 148 | 6.4 | 148 | 6.4 | 0.078 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 60.0 |
| 3 | R2 | All MCs | 167 | 5.0 | 167 | 5.0 | 0.161 | 7.0 | LOS A | 0.3 | 2.0 | 0.41 | 0.64 | 0.41 | 46.3 |
| Approach | | | 316 | 5.7 | 316 | 5.7 | 0.161 | 3.7 | NA | 0.3 | 2.0 | 0.22 | 0.34 | 0.22 | 57.1 |
| East: Newtown Road (E) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 237 | 3.1 | 237 | 3.1 | 0.236 | 7.1 | LOS A | 0.4 | 2.8 | 0.39 | 0.62 | 0.39 | 44.2 |
| 6 | R2 | All MCs | 8 | 12.5 | 8 | 12.5 | 0.020 | 11.9 | LOS A | 0.0 | 0.2 | 0.58 | 0.72 | 0.58 | 55.6 |
| Approach | | | 245 | 3.4 | 245 | 3.4 | 0.236 | 7.2 | LOS A | 0.4 | 2.8 | 0.40 | 0.62 | 0.40 | 46.5 |
| North: Princes Highway (N) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 22 | 23.8 | 22 | 23.8 | 0.014 | 5.8 | LOS A | 0.0 | 0.0 | 0.00 | 0.57 | 0.00 | 57.1 |
| 8 | T1 | All MCs | 260 | 4.9 | 260 | 4.9 | 0.138 | 0.2 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| Approach | | | 282 | 6.3 | 282 | 6.3 | 0.138 | 0.6 | NA | 0.0 | 0.0 | 0.00 | 0.04 | 0.00 | 59.7 |
| All Vehicles | | | 843 | 5.2 | 843 | 5.2 | 0.236 | 3.7 | NA | 0.4 | 2.8 | 0.20 | 0.32 | 0.20 | 57.5 |

## MOVEMENT SUMMARY

**Site: 3 [3_Princes Highway / Kerrisons Lane_PM Peak (Site Folder: 2024 Existing PM Peak )]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

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

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SouthEast: Kerrisons Lane (E) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 67 | 4.7 | 67 | 4.7 | 0.238 | 6.8 | LOS A | 0.9 | 6.7 | 0.62 | 0.81 | 0.65 | 34.1 |
| 6 | R2 | All MCs | 51 | 8.3 | 51 | 8.3 | 0.238 | 16.0 | LOS B | 0.9 | 6.7 | 0.62 | 0.81 | 0.65 | 45.0 |
| Approach | | | 118 | 6.3 | 118 | 6.3 | 0.238 | 10.7 | LOS A | 0.9 | 6.7 | 0.62 | 0.81 | 0.65 | 40.2 |
| NorthEast: Princes Highway (N) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 83 | 6.3 | 83 | 6.3 | 0.047 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.57 | 0.00 | 50.1 |
| 8 | T1 | All MCs | 408 | 3.9 | 408 | 3.9 | 0.215 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| Approach | | | 492 | 4.3 | 492 | 4.3 | 0.215 | 1.0 | NA | 0.0 | 0.0 | 0.00 | 0.10 | 0.00 | 58.3 |
| SouthWest: Princes Highway (S) | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 257 | 5.3 | 257 | 5.3 | 0.138 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| 3 | R2 | All MCs | 41 | 2.6 | 41 | 2.6 | 0.050 | 8.1 | LOS A | 0.2 | 1.3 | 0.50 | 0.69 | 0.50 | 37.7 |
| Approach | | | 298 | 4.9 | 298 | 4.9 | 0.138 | 1.1 | NA | 0.2 | 1.3 | 0.07 | 0.10 | 0.07 | 58.1 |
| All Vehicles | | | 907 | 4.8 | 907 | 4.8 | 0.238 | 2.3 | NA | 0.9 | 6.7 | 0.10 | 0.19 | 0.11 | 56.2 |

## MOVEMENT SUMMARY

**Site: 4 [4_Tathra Road / Kerrisons Lane_PM Peak (Site Folder: 2024 Existing PM Peak )]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

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

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Tathra Road | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 42 | 7.5 | 42 | 7.5 | 0.068 | 7.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.22 | 0.00 | 75.2 |
| 8 | T1 | All MCs | 83 | 5.1 | 83 | 5.1 | 0.068 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.22 | 0.00 | 75.9 |
| Approach | | | 125 | 5.9 | 125 | 5.9 | 0.068 | 2.4 | NA | 0.0 | 0.0 | 0.00 | 0.22 | 0.00 | 75.5 |
| North: Tathra Road | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 341 | 0.9 | 341 | 0.9 | 0.179 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 79.9 |
| 3 | R2 | All MCs | 49 | 6.4 | 49 | 6.4 | 0.032 | 7.3 | LOS A | 0.1 | 1.1 | 0.24 | 0.58 | 0.24 | 57.2 |
| Approach | | | 391 | 1.6 | 391 | 1.6 | 0.179 | 0.9 | NA | 0.1 | 1.1 | 0.03 | 0.07 | 0.03 | 72.6 |
| West: Kerrisons Lane (W) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 34 | 6.3 | 34 | 6.3 | 0.023 | 7.3 | LOS A | 0.1 | 0.7 | 0.17 | 0.58 | 0.17 | 70.9 |
| 6 | R2 | All MCs | 64 | 4.9 | 64 | 4.9 | 0.103 | 10.7 | LOS A | 0.4 | 2.8 | 0.54 | 0.78 | 0.54 | 70.0 |
| Approach | | | 98 | 5.4 | 98 | 5.4 | 0.103 | 9.5 | LOS A | 0.4 | 2.8 | 0.41 | 0.71 | 0.41 | 70.3 |
| All Vehicles | | | 614 | 3.1 | 614 | 3.1 | 0.179 | 2.6 | NA | 0.4 | 2.8 | 0.08 | 0.21 | 0.08 | 72.6 |

## MOVEMENT SUMMARY

**Site: 5 [5_Princes Highway / Finucane Lane_PM Peak (Site Folder: 2024 Existing PM Peak )]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

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

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

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | Aver. Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Princes Highway (S) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.167 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 56.5 |
| 8 | T1 | All MCs | 314 | 5.7 | 314 | 5.7 | 0.167 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.8 |
| Approach | | | 315 | 5.7 | 315 | 5.7 | 0.167 | 0.0 | NA | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.8 |
| North: Princes Highway (N) | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 493 | 3.8 | 493 | 3.8 | 0.256 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| 3 | R2 | All MCs | 3 | 33.3 | 3 | 33.3 | 0.003 | 7.4 | LOS A | 0.0 | 0.0 | 0.42 | 0.55 | 0.42 | 47.6 |
| Approach | | | 496 | 4.0 | 496 | 4.0 | 0.256 | 0.1 | NA | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.7 |
| West: Finucane Lane (W) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.001 | 6.5 | LOS A | 0.0 | 0.0 | 0.36 | 0.52 | 0.36 | 48.9 |
| 6 | R2 | All MCs | 1 | 100.0 | 1 | 100.0 | 0.007 | 28.9 | LOS C | 0.0 | 0.1 | 0.82 | 0.85 | 0.82 | 32.5 |
| Approach | | | 2 | 50.0 | 2 | 50.0 | 0.007 | 17.7 | LOS B | 0.0 | 0.1 | 0.59 | 0.69 | 0.59 | 37.7 |
| All Vehicles | | | 813 | 4.8 | 813 | 4.8 | 0.256 | 0.1 | NA | 0.0 | 0.1 | 0.00 | 0.00 | 0.00 | 59.6 |

## MOVEMENT SUMMARY

**Site: 6 [6_Ravenswood Street/ Rawlinson Street_PM Peak (Site Folder: 2024 Existing PM Peak )]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

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

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Ravenswood Street (S) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.014 | 5.6 | LOS A | 0.0 | 0.3 | 0.09 | 0.24 | 0.09 | 34.9 |
| 8 | T1 | All MCs | 16 | 0.0 | 16 | 0.0 | 0.014 | 0.1 | LOS A | 0.0 | 0.3 | 0.09 | 0.24 | 0.09 | 51.1 |
| 3 | R2 | All MCs | 9 | 0.0 | 9 | 0.0 | 0.014 | 5.6 | LOS A | 0.0 | 0.3 | 0.09 | 0.24 | 0.09 | 47.6 |
| Approach | | | 26 | 0.0 | 26 | 0.0 | 0.014 | 2.3 | NA | 0.0 | 0.3 | 0.09 | 0.24 | 0.09 | 48.7 |
| East: Rawlinson Street (E) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 15 | 0.0 | 15 | 0.0 | 0.072 | 8.1 | LOS A | 0.3 | 1.8 | 0.12 | 0.94 | 0.12 | 40.4 |
| 5 | T1 | All MCs | 23 | 0.0 | 23 | 0.0 | 0.072 | 7.9 | LOS A | 0.3 | 1.8 | 0.12 | 0.94 | 0.12 | 34.0 |
| 6 | R2 | All MCs | 39 | 0.0 | 39 | 0.0 | 0.072 | 7.9 | LOS A | 0.3 | 1.8 | 0.12 | 0.94 | 0.12 | 33.6 |
| Approach | | | 77 | 0.0 | 77 | 0.0 | 0.072 | 7.9 | LOS A | 0.3 | 1.8 | 0.12 | 0.94 | 0.12 | 35.0 |
| North: Ravenswood Street (N) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 31 | 0.0 | 31 | 0.0 | 0.026 | 5.5 | LOS A | 0.0 | 0.2 | 0.02 | 0.43 | 0.02 | 43.7 |
| 2 | T1 | All MCs | 13 | 0.0 | 13 | 0.0 | 0.026 | 0.0 | LOS A | 0.0 | 0.2 | 0.02 | 0.43 | 0.02 | 47.0 |
| 3 | R2 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.026 | 5.5 | LOS A | 0.0 | 0.2 | 0.02 | 0.43 | 0.02 | 27.3 |
| Approach | | | 47 | 0.0 | 47 | 0.0 | 0.026 | 4.0 | NA | 0.0 | 0.2 | 0.02 | 0.43 | 0.02 | 42.8 |
| West: Rawlinson Street (W) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 8 | 0.0 | 8 | 0.0 | 0.028 | 8.1 | LOS A | 0.1 | 0.7 | 0.11 | 0.97 | 0.11 | 24.1 |
| 11 | T1 | All MCs | 22 | 0.0 | 22 | 0.0 | 0.028 | 8.0 | LOS A | 0.1 | 0.7 | 0.11 | 0.97 | 0.11 | 38.0 |
| 6 | R2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.028 | 7.9 | LOS A | 0.1 | 0.7 | 0.11 | 0.97 | 0.11 | 34.7 |
| Approach | | | 33 | 0.0 | 33 | 0.0 | 0.028 | 8.0 | LOS A | 0.1 | 0.7 | 0.11 | 0.97 | 0.11 | 34.2 |
| All Vehicles | | | 183 | 0.0 | 183 | 0.0 | 0.072 | 6.1 | NA | 0.3 | 1.8 | 0.09 | 0.71 | 0.09 | 38.1 |

## MOVEMENT SUMMARY

**Site: 7 [7_Tathra Road / Boundary Road_PM Peak (Site Folder: 2024 Existing PM Peak )]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

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

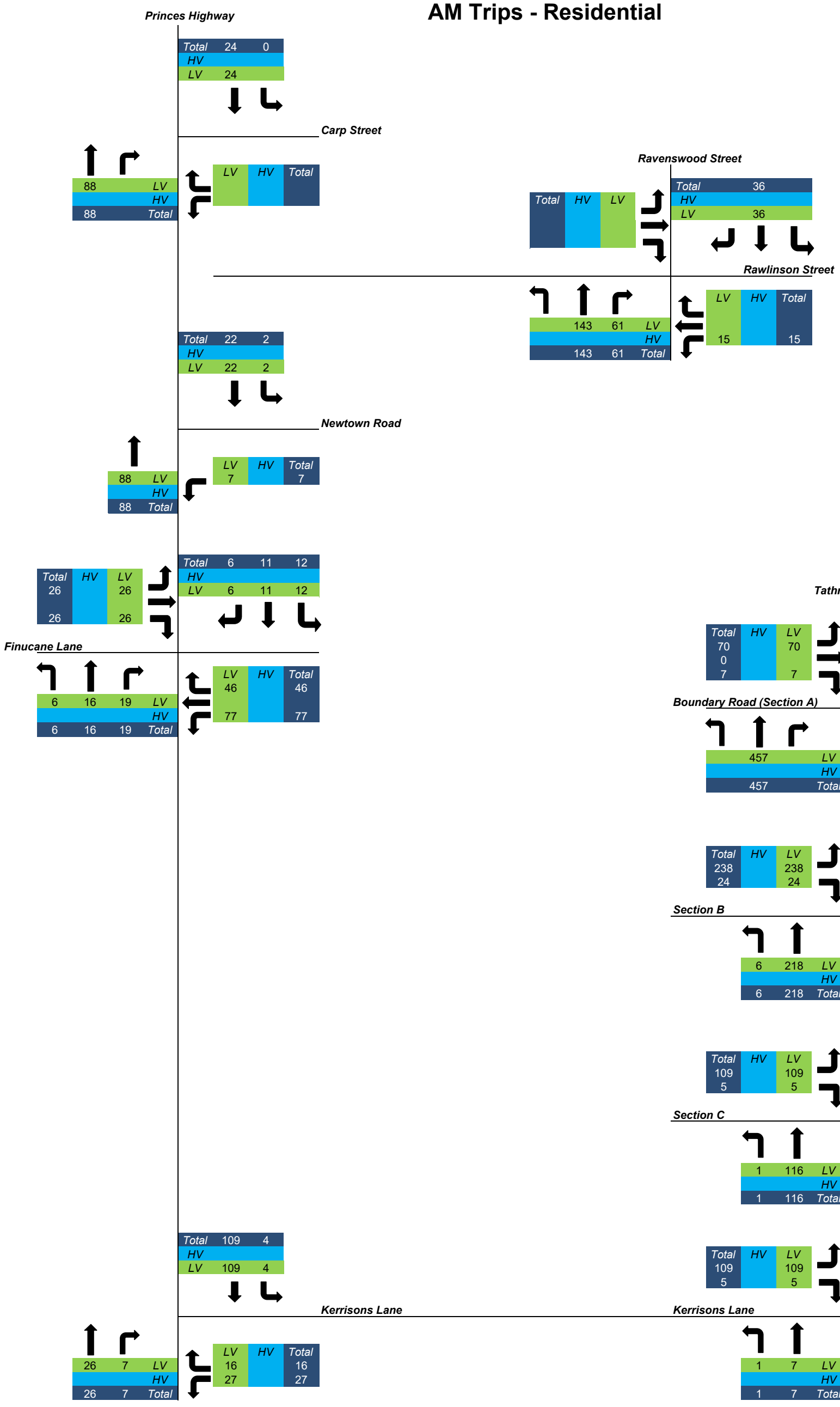
**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Tathra Road (S) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 13 | 8.3 | 13 | 8.3 | 0.066 | 5.7 | LOS A | 0.0 | 0.1 | 0.01 | 0.07 | 0.01 | 57.0 |
| 8 | T1 | All MCs | 108 | 5.8 | 108 | 5.8 | 0.066 | 0.0 | LOS A | 0.0 | 0.1 | 0.01 | 0.07 | 0.01 | 59.4 |
| 3 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.066 | 6.1 | LOS A | 0.0 | 0.1 | 0.01 | 0.07 | 0.01 | 57.1 |
| Approach | | | 122 | 6.0 | 122 | 6.0 | 0.066 | 0.6 | NA | 0.0 | 0.1 | 0.01 | 0.07 | 0.01 | 59.1 |
| East: Boundary Road (E) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.004 | 6.7 | LOS A | 0.0 | 0.1 | 0.44 | 0.59 | 0.44 | 52.8 |
| 5 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.004 | 6.4 | LOS A | 0.0 | 0.1 | 0.44 | 0.59 | 0.44 | 52.1 |
| 6 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.004 | 8.2 | LOS A | 0.0 | 0.1 | 0.44 | 0.59 | 0.44 | 51.1 |
| Approach | | | 3 | 0.0 | 3 | 0.0 | 0.004 | 7.1 | LOS A | 0.0 | 0.1 | 0.44 | 0.59 | 0.44 | 52.0 |
| North: Tathra Road (N) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 1 | 100.0 | 1 | 100.0 | 0.202 | 6.8 | LOS A | 0.0 | 0.3 | 0.01 | 0.01 | 0.01 | 52.6 |
| 2 | T1 | All MCs | 375 | 1.7 | 375 | 1.7 | 0.202 | 0.0 | LOS A | 0.0 | 0.3 | 0.01 | 0.01 | 0.01 | 59.9 |
| 3 | R2 | All MCs | 4 | 25.0 | 4 | 25.0 | 0.202 | 5.9 | LOS A | 0.0 | 0.3 | 0.01 | 0.01 | 0.01 | 55.6 |
| Approach | | | 380 | 2.2 | 380 | 2.2 | 0.202 | 0.1 | NA | 0.0 | 0.3 | 0.01 | 0.01 | 0.01 | 59.8 |
| West: Boundary Road (W) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.034 | 5.9 | LOS A | 0.1 | 0.8 | 0.45 | 0.66 | 0.45 | 50.5 |
| 11 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.034 | 6.5 | LOS A | 0.1 | 0.8 | 0.45 | 0.66 | 0.45 | 51.2 |
| 6 | R2 | All MCs | 19 | 5.6 | 19 | 5.6 | 0.034 | 8.8 | LOS A | 0.1 | 0.8 | 0.45 | 0.66 | 0.45 | 51.6 |
| Approach | | | 22 | 4.8 | 22 | 4.8 | 0.034 | 8.4 | LOS A | 0.1 | 0.8 | 0.45 | 0.66 | 0.45 | 51.5 |
| All Vehicles | | | 527 | 3.2 | 527 | 3.2 | 0.202 | 0.6 | NA | 0.1 | 0.8 | 0.03 | 0.05 | 0.03 | 59.2 |

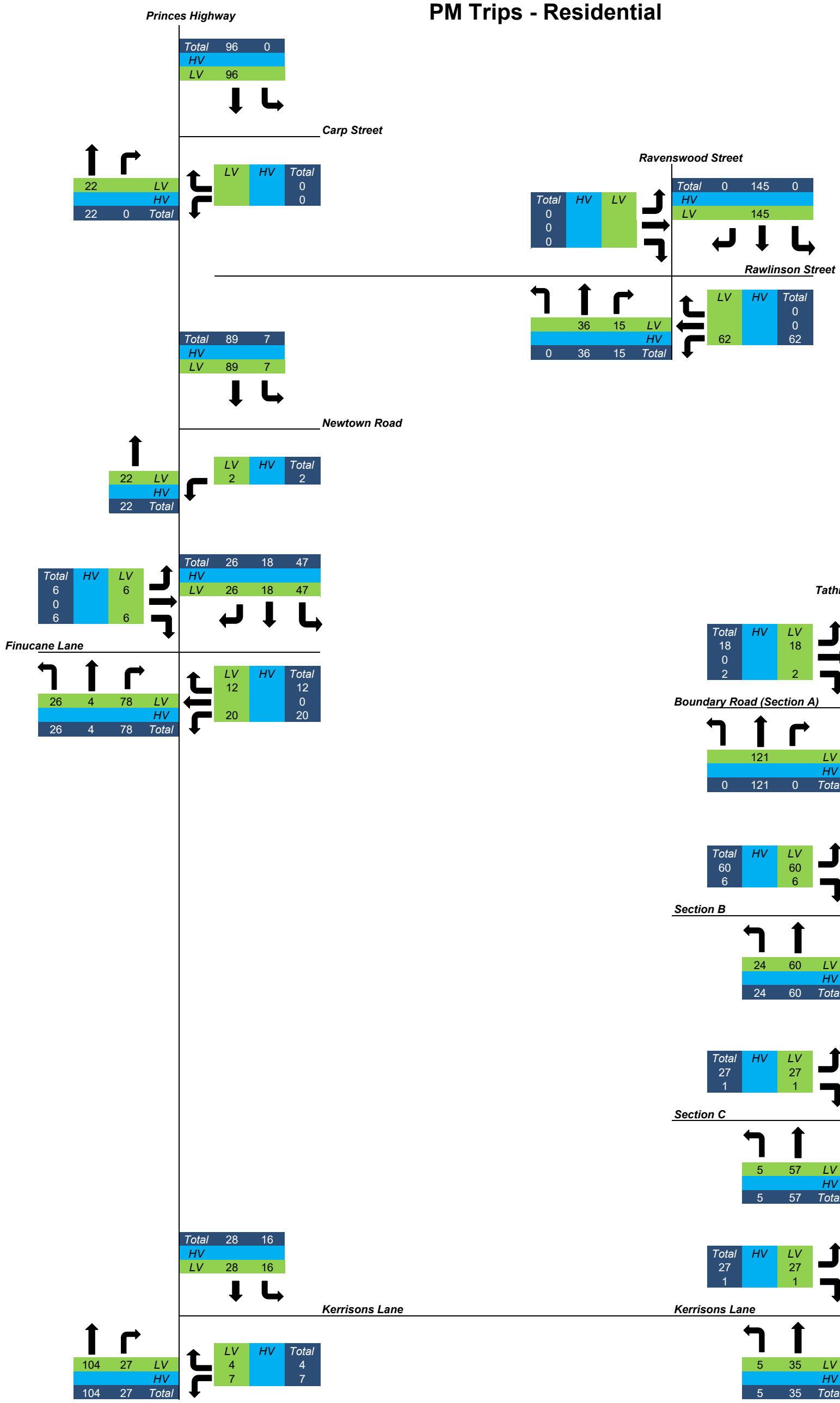
# Appendix C

## Trip generation data

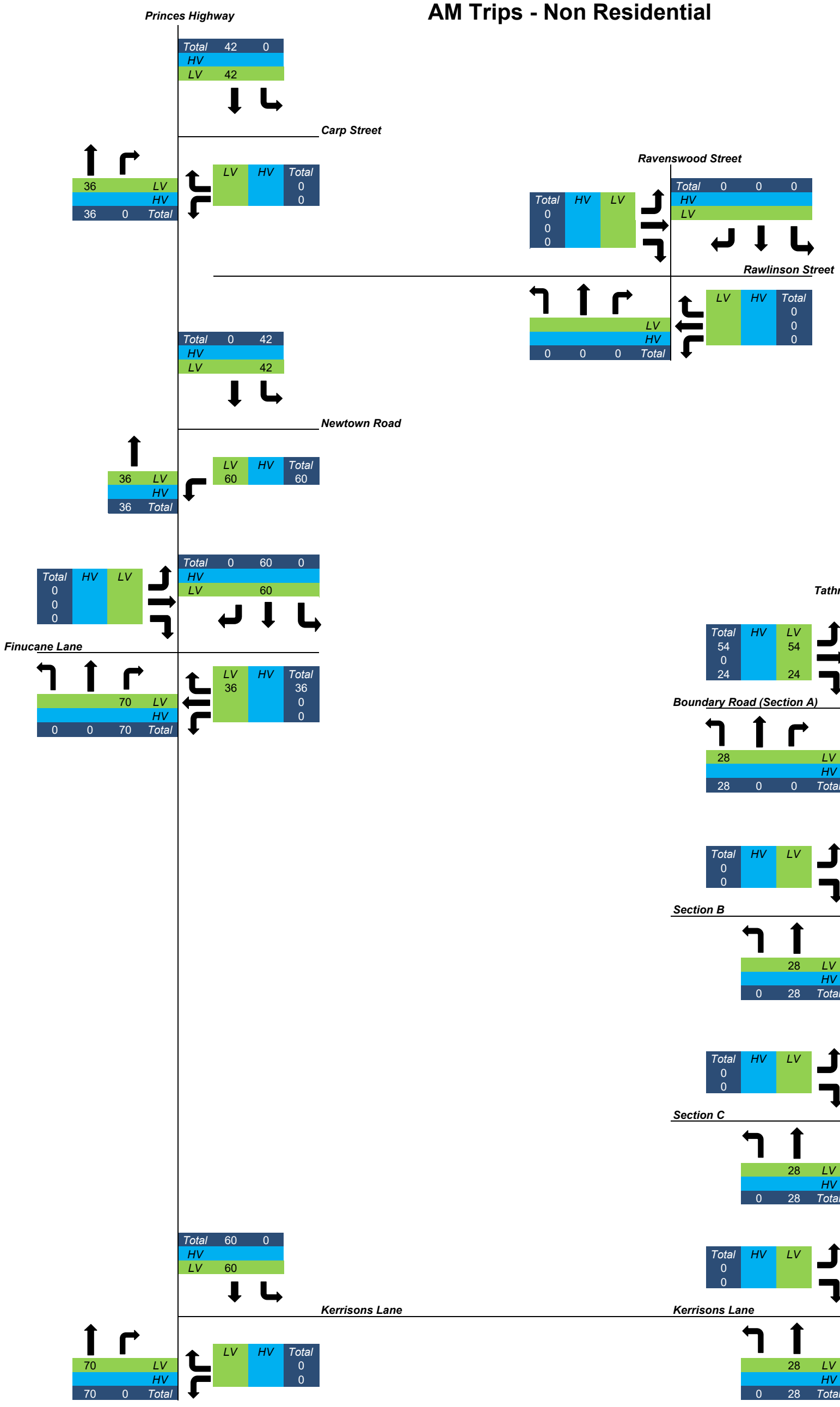
# AM Trips - Residential



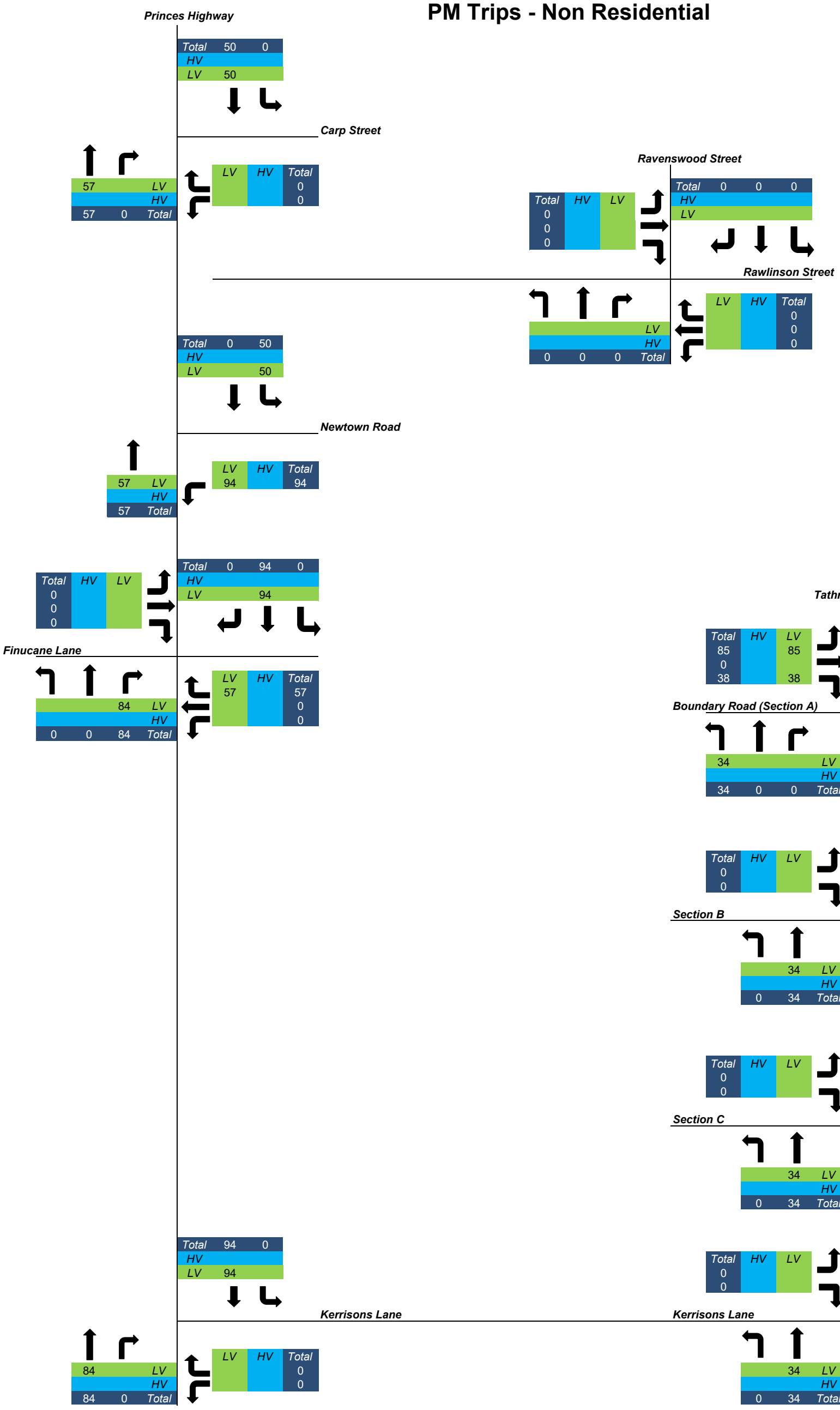
# PM Trips - Residential



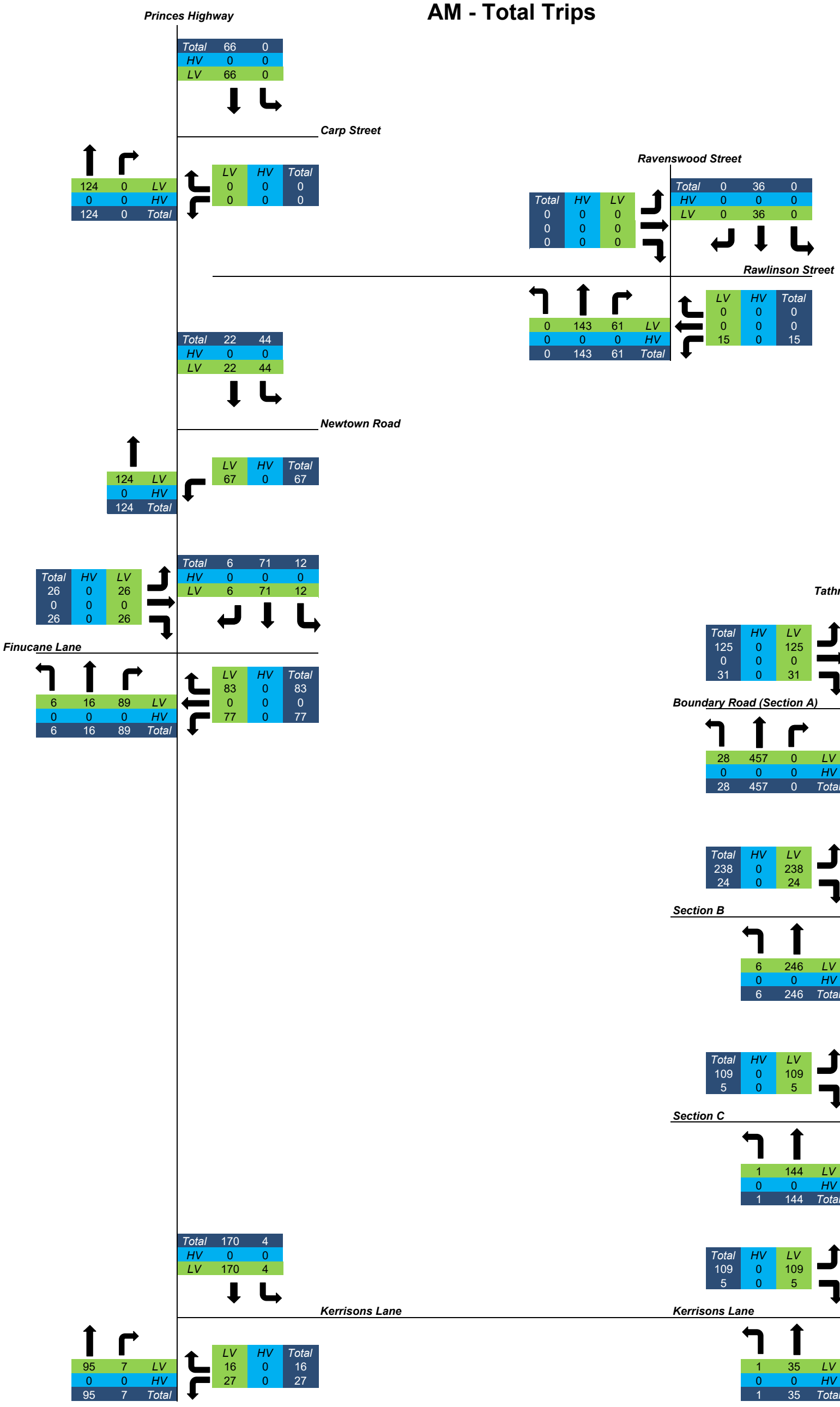
# AM Trips - Non Residential



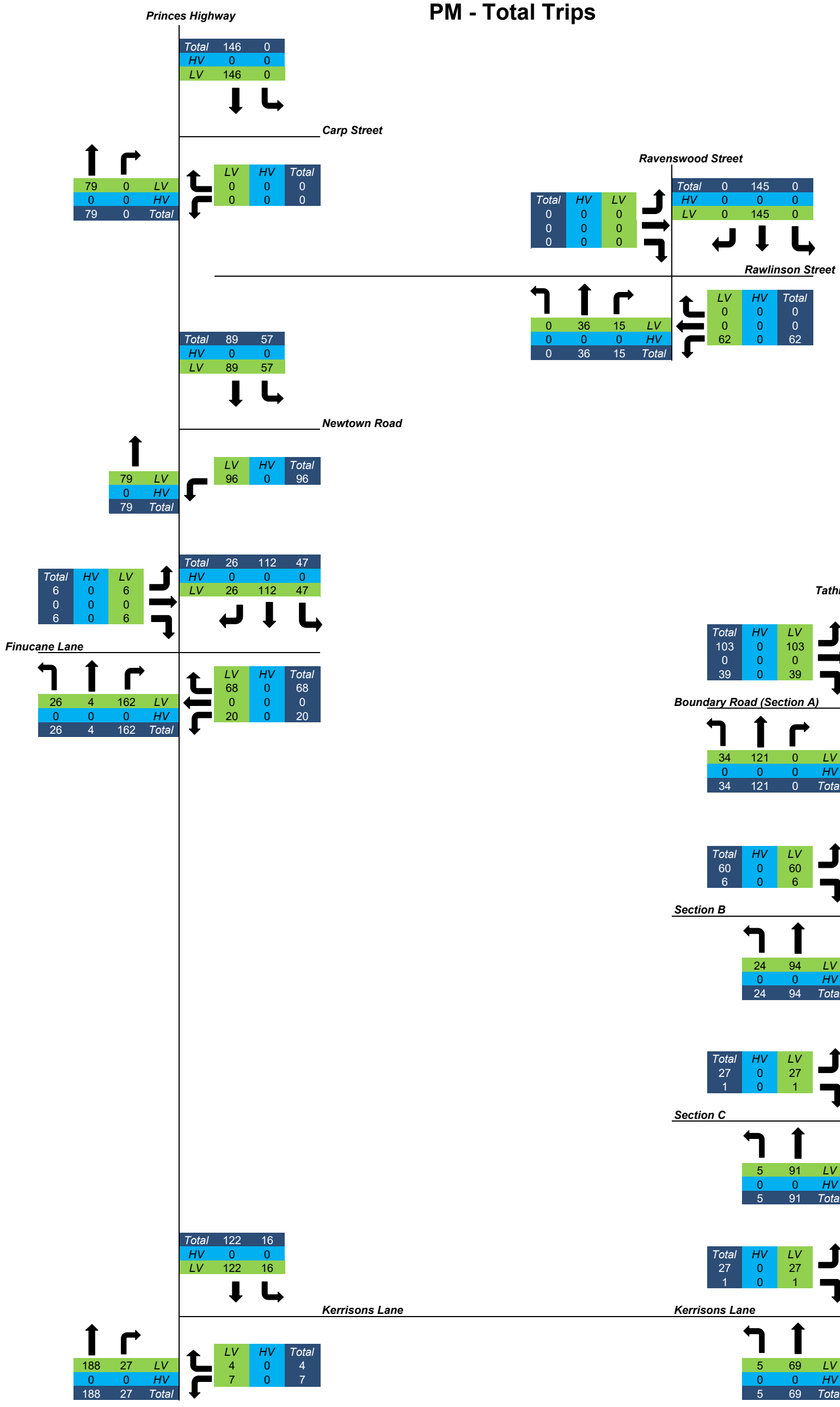
# PM Trips - Non Residential



# AM - Total Trips



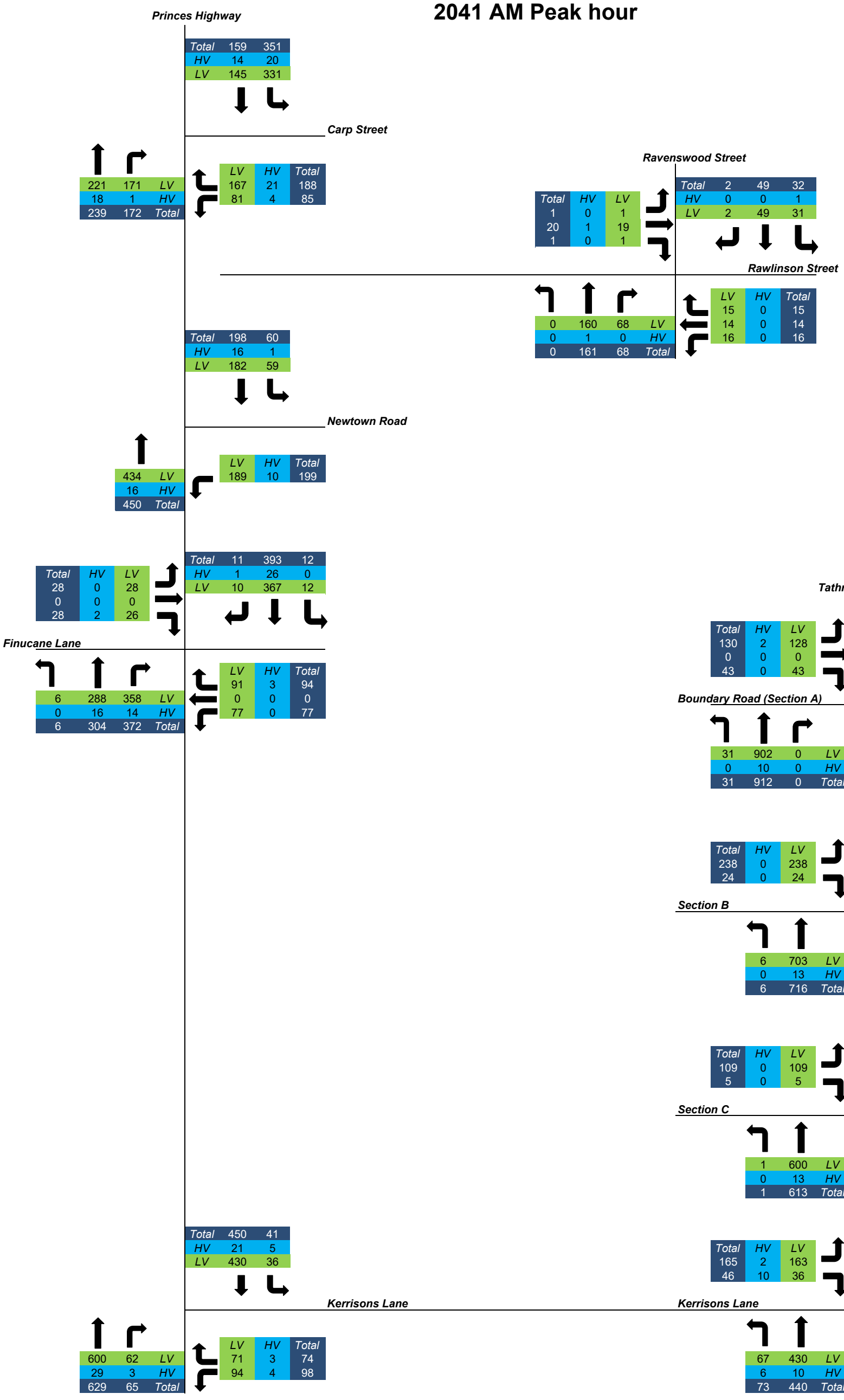
# PM - Total Trips



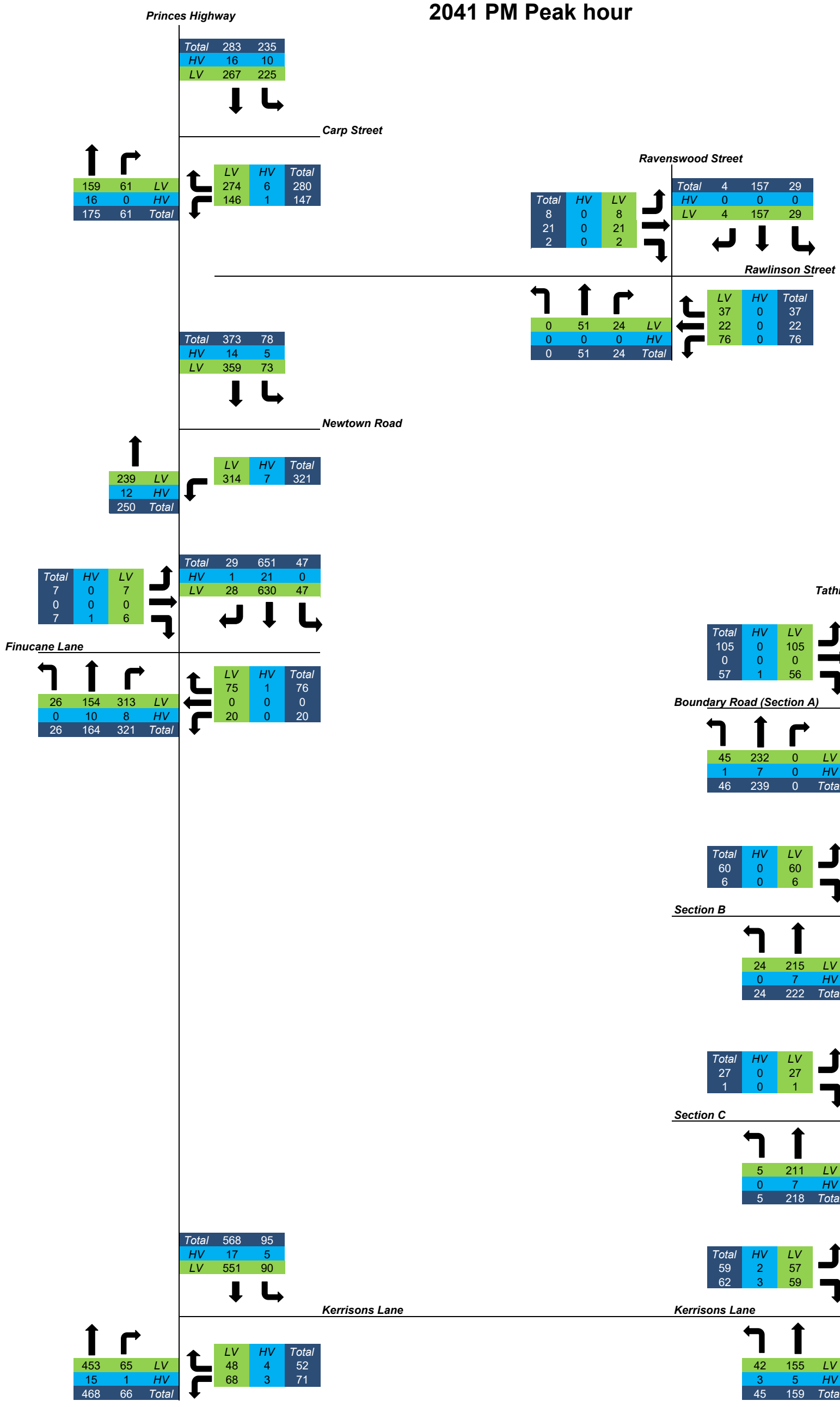
# Appendix D

## 2040 traffic volumes

# 2041 AM Peak hour



# 2041 PM Peak hour



# Appendix E

## SIDRA outputs – 2040

## MOVEMENT SUMMARY

**Site: 1 [1_Princes Highway / Carp Street_AM Peak (Site Folder: 2040 AM Peak)]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

New Site
Site Category: (None)
Roundabout

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Princes Highway (N) | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 252 | 7.5 | 252 | 7.5 | 0.354 | 4.5 | LOS A | 2.7 | 19.4 | 0.52 | 0.53 | 0.52 | 58.2 |
| 3 | R2 | All MCs | 181 | 0.6 | 181 | 0.6 | 0.354 | 10.7 | LOS A | 2.7 | 19.4 | 0.52 | 0.53 | 0.52 | 56.9 |
| Approach | | | 433 | 4.6 | 433 | 4.6 | 0.354 | 7.1 | LOS A | 2.7 | 19.4 | 0.52 | 0.53 | 0.52 | 57.8 |
| East: Carp Street (E) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 89 | 4.7 | 89 | 4.7 | 0.232 | 2.9 | LOS A | 1.4 | 10.9 | 0.41 | 0.53 | 0.41 | 56.5 |
| 6 | R2 | All MCs | 198 | 11.2 | 198 | 11.2 | 0.232 | 8.5 | LOS A | 1.4 | 10.9 | 0.41 | 0.53 | 0.41 | 54.9 |
| Approach | | | 287 | 9.2 | 287 | 9.2 | 0.232 | 6.7 | LOS A | 1.4 | 10.9 | 0.41 | 0.53 | 0.41 | 55.5 |
| North: Princes Highway (N) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 369 | 5.7 | 369 | 5.7 | 0.430 | 4.6 | LOS A | 3.6 | 26.7 | 0.54 | 0.47 | 0.54 | 56.7 |
| 8 | T1 | All MCs | 167 | 8.8 | 167 | 8.8 | 0.430 | 4.4 | LOS A | 3.6 | 26.7 | 0.54 | 0.47 | 0.54 | 58.6 |
| 9u | U | All MCs | 3 | 0.0 | 3 | 0.0 | 0.430 | 13.0 | LOS A | 3.6 | 26.7 | 0.54 | 0.47 | 0.54 | 58.1 |
| Approach | | | 540 | 6.6 | 540 | 6.6 | 0.430 | 4.6 | LOS A | 3.6 | 26.7 | 0.54 | 0.47 | 0.54 | 57.7 |
| All Vehicles | | | 1260 | 6.5 | 1260 | 6.5 | 0.430 | 5.9 | LOS A | 3.6 | 26.7 | 0.50 | 0.50 | 0.50 | 57.3 |

## MOVEMENT SUMMARY

**Site: 2 [2_Princes Highway / Newtown Road_AM Peak (Site Folder: 2040 AM Peak)]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

**Network: N101 [2040 AM Peak (Network Folder: General)]**

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

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | Aver. Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Princes Highway (S) | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 474 | 3.6 | 474 | 3.6 | 0.246 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| Approach | | | 474 | 3.6 | 474 | 3.6 | 0.246 | 0.0 | NA | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| East: Newtown Road (E) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 209 | 5.0 | 209 | 5.0 | 0.160 | 6.4 | LOS A | 0.3 | 2.0 | 0.33 | 0.59 | 0.33 | 44.7 |
| Approach | | | 209 | 5.0 | 209 | 5.0 | 0.160 | 6.4 | LOS A | 0.3 | 2.0 | 0.33 | 0.59 | 0.33 | 44.7 |
| North: Princes Highway (N) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 63 | 1.7 | 63 | 1.7 | 0.034 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.58 | 0.00 | 57.5 |
| 8 | T1 | All MCs | 208 | 8.1 | 208 | 8.1 | 0.112 | 0.2 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| Approach | | | 272 | 6.6 | 272 | 6.6 | 0.112 | 1.4 | NA | 0.0 | 0.0 | 0.00 | 0.13 | 0.00 | 59.3 |
| All Vehicles | | | 955 | 4.7 | 955 | 4.7 | 0.246 | 1.8 | NA | 0.3 | 2.0 | 0.07 | 0.17 | 0.07 | 59.1 |

## MOVEMENT SUMMARY

**Site: 3 [3_Princes Highway / Kerrisons Lane_AM Peak (Site Folder: 2040 AM Peak)]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

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

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SouthEast: Kerrisons Lane (E) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 103 | 4.1 | 103 | 4.1 | 0.761 | 20.5 | LOS B | 4.6 | 33.3 | 0.91 | 1.32 | 2.09 | 19.2 |
| 6 | R2 | All MCs | 78 | 4.1 | 78 | 4.1 | 0.761 | 56.7 | LOS E | 4.6 | 33.3 | 0.91 | 1.32 | 2.09 | 31.2 |
| Approach | | | 181 | 4.1 | 181 | 4.1 | 0.761 | 36.1 | LOS C | 4.6 | 33.3 | 0.91 | 1.32 | 2.09 | 25.4 |
| NorthEast: Princes Highway (N) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 43 | 12.2 | 43 | 12.2 | 0.025 | 5.7 | LOS A | 0.0 | 0.0 | 0.00 | 0.57 | 0.00 | 50.0 |
| 8 | T1 | All MCs | 475 | 4.7 | 475 | 4.7 | 0.251 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| Approach | | | 518 | 5.3 | 518 | 5.3 | 0.251 | 0.6 | NA | 0.0 | 0.0 | 0.00 | 0.05 | 0.00 | 59.1 |
| SouthWest: Princes Highway (S) | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 662 | 4.6 | 662 | 4.6 | 0.355 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.8 |
| 3 | R2 | All MCs | 68 | 4.6 | 68 | 4.6 | 0.089 | 8.6 | LOS A | 0.3 | 2.4 | 0.52 | 0.74 | 0.52 | 37.0 |
| Approach | | | 731 | 4.6 | 731 | 4.6 | 0.355 | 0.9 | NA | 0.3 | 2.4 | 0.05 | 0.07 | 0.05 | 58.5 |
| All Vehicles | | | 1429 | 4.8 | 1429 | 4.8 | 0.761 | 5.2 | NA | 4.6 | 33.3 | 0.14 | 0.22 | 0.29 | 53.4 |

## MOVEMENT SUMMARY

**Site: 4 [4_Tathra Road / Kerrisons Lane_AM Peak (Site Folder: 2040 AM Peak)]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

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

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Tathra Road | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 77 | 8.2 | 77 | 8.2 | 0.285 | 7.2 | LOS A | 0.0 | 0.0 | 0.00 | 0.09 | 0.00 | 75.9 |
| 8 | T1 | All MCs | 463 | 2.3 | 463 | 2.3 | 0.285 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.09 | 0.00 | 78.1 |
| Approach | | | 540 | 3.1 | 540 | 3.1 | 0.285 | 1.1 | NA | 0.0 | 0.0 | 0.00 | 0.09 | 0.00 | 77.4 |
| North: Tathra Road | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 156 | 3.4 | 156 | 3.4 | 0.083 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 80.0 |
| 3 | R2 | All MCs | 43 | 2.4 | 43 | 2.4 | 0.044 | 9.1 | LOS A | 0.2 | 1.3 | 0.52 | 0.71 | 0.52 | 56.7 |
| Approach | | | 199 | 3.2 | 199 | 3.2 | 0.083 | 2.0 | NA | 0.2 | 1.3 | 0.11 | 0.15 | 0.11 | 68.9 |
| West: Kerrisons Lane (W) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 174 | 1.2 | 174 | 1.2 | 0.169 | 9.0 | LOS A | 0.7 | 4.8 | 0.49 | 0.73 | 0.49 | 70.6 |
| 6 | R2 | All MCs | 48 | 21.7 | 48 | 21.7 | 0.134 | 15.9 | LOS B | 0.5 | 3.7 | 0.68 | 0.88 | 0.68 | 64.5 |
| Approach | | | 222 | 5.7 | 222 | 5.7 | 0.169 | 10.5 | LOS A | 0.7 | 4.8 | 0.53 | 0.77 | 0.53 | 69.0 |
| All Vehicles | | | 961 | 3.7 | 961 | 3.7 | 0.285 | 3.4 | NA | 0.7 | 4.8 | 0.15 | 0.26 | 0.15 | 72.6 |

## MOVEMENT SUMMARY

**Site: 5 [5-Princes Highway / Finucane Lane_AM Peak (Site Folder: 2040 AM Peak)]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [2040 AM Peak (Network Folder: General)]

New Site
Site Category: (None)
Roundabout

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | Aver. Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Princes Highway | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 6 | 0.0 | 6 | 0.0 | 0.507 | 5.8 | LOS A | 1.8 | 13.0 | 0.43 | 0.56 | 0.43 | 56.7 |
| 2 | T1 | All MCs | 320 | 5.3 | 320 | 5.3 | 0.507 | 6.3 | LOS A | 1.8 | 13.0 | 0.43 | 0.56 | 0.43 | 55.7 |
| 3 | R2 | All MCs | 392 | 3.8 | 392 | 3.8 | 0.507 | 12.8 | LOS A | 1.8 | 13.0 | 0.43 | 0.56 | 0.43 | 55.9 |
| Approach | | | 718 | 4.4 | 718 | 4.4 | 0.507 | 9.8 | LOS A | 1.8 | 13.0 | 0.43 | 0.56 | 0.43 | 55.8 |
| East: Access Road | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 81 | 0.0 | 81 | 0.0 | 0.183 | 5.4 | LOS A | 0.5 | 3.4 | 0.63 | 0.64 | 0.63 | 51.6 |
| 5 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.183 | 5.2 | LOS A | 0.5 | 3.4 | 0.63 | 0.64 | 0.63 | 51.9 |
| 6 | R2 | All MCs | 99 | 3.2 | 99 | 3.2 | 0.183 | 11.6 | LOS A | 0.5 | 3.4 | 0.63 | 0.64 | 0.63 | 47.0 |
| Approach | | | 181 | 1.7 | 181 | 1.7 | 0.183 | 8.8 | LOS A | 0.5 | 3.4 | 0.63 | 0.64 | 0.63 | 49.7 |
| North: Princes Highway | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 13 | 0.0 | 13 | 0.0 | 0.446 | 8.1 | LOS A | 1.3 | 10.0 | 0.73 | 0.64 | 0.73 | 52.1 |
| 8 | T1 | All MCs | 414 | 6.6 | 414 | 6.6 | 0.446 | 8.7 | LOS A | 1.3 | 10.0 | 0.73 | 0.64 | 0.73 | 57.6 |
| 9 | R2 | All MCs | 12 | 9.1 | 12 | 9.1 | 0.446 | 15.4 | LOS B | 1.3 | 10.0 | 0.73 | 0.64 | 0.73 | 51.0 |
| Approach | | | 438 | 6.5 | 438 | 6.5 | 0.446 | 8.9 | LOS A | 1.3 | 10.0 | 0.73 | 0.64 | 0.73 | 57.3 |
| West: Finucane Lane | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 29 | 0.0 | 29 | 0.0 | 0.081 | 7.9 | LOS A | 0.2 | 1.5 | 0.76 | 0.72 | 0.76 | 45.1 |
| 11 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.081 | 7.7 | LOS A | 0.2 | 1.5 | 0.76 | 0.72 | 0.76 | 50.7 |
| 12 | R2 | All MCs | 29 | 7.1 | 29 | 7.1 | 0.081 | 14.3 | LOS A | 0.2 | 1.5 | 0.76 | 0.72 | 0.76 | 49.6 |
| Approach | | | 60 | 3.5 | 60 | 3.5 | 0.081 | 11.0 | LOS A | 0.2 | 1.5 | 0.76 | 0.72 | 0.76 | 48.0 |
| All Vehicles | | | 1397 | 4.7 | 1397 | 4.7 | 0.507 | 9.4 | LOS A | 1.8 | 13.0 | 0.57 | 0.60 | 0.57 | 55.0 |

## MOVEMENT SUMMARY

**Site: 6 [6_Ravenswood Street/ Rawlinson Street_AM Peak (Site Folder: 2040 AM Peak)]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

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

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Ravenswood Street (S) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.132 | 5.8 | LOS A | 0.4 | 3.0 | 0.12 | 0.20 | 0.12 | 35.5 |
| 8 | T1 | All MCs | 169 | 0.6 | 169 | 0.6 | 0.132 | 0.1 | LOS A | 0.4 | 3.0 | 0.12 | 0.20 | 0.12 | 52.3 |
| 3 | R2 | All MCs | 72 | 0.0 | 72 | 0.0 | 0.132 | 5.7 | LOS A | 0.4 | 3.0 | 0.12 | 0.20 | 0.12 | 48.3 |
| Approach | | | 242 | 0.4 | 242 | 0.4 | 0.132 | 1.8 | NA | 0.4 | 3.0 | 0.12 | 0.20 | 0.12 | 50.6 |
| East: Rawlinson Street (E) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 17 | 0.0 | 17 | 0.0 | 0.052 | 8.2 | LOS A | 0.2 | 1.3 | 0.25 | 0.89 | 0.25 | 39.4 |
| 5 | T1 | All MCs | 15 | 0.0 | 15 | 0.0 | 0.052 | 9.3 | LOS A | 0.2 | 1.3 | 0.25 | 0.89 | 0.25 | 33.2 |
| 6 | R2 | All MCs | 16 | 0.0 | 16 | 0.0 | 0.052 | 9.6 | LOS A | 0.2 | 1.3 | 0.25 | 0.89 | 0.25 | 32.8 |
| Approach | | | 47 | 0.0 | 47 | 0.0 | 0.052 | 9.0 | LOS A | 0.2 | 1.3 | 0.25 | 0.89 | 0.25 | 35.3 |
| North: Ravenswood Street (N) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 34 | 3.1 | 34 | 3.1 | 0.047 | 5.5 | LOS A | 0.0 | 0.1 | 0.02 | 0.24 | 0.02 | 46.3 |
| 2 | T1 | All MCs | 52 | 0.0 | 52 | 0.0 | 0.047 | 0.0 | LOS A | 0.0 | 0.1 | 0.02 | 0.24 | 0.02 | 51.9 |
| 3 | R2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.047 | 5.7 | LOS A | 0.0 | 0.1 | 0.02 | 0.24 | 0.02 | 29.3 |
| Approach | | | 87 | 1.2 | 87 | 1.2 | 0.047 | 2.3 | NA | 0.0 | 0.1 | 0.02 | 0.24 | 0.02 | 48.7 |
| West: Rawlinson Street (W) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.028 | 8.6 | LOS A | 0.1 | 0.7 | 0.39 | 0.93 | 0.39 | 23.3 |
| 11 | T1 | All MCs | 21 | 5.0 | 21 | 5.0 | 0.028 | 9.6 | LOS A | 0.1 | 0.7 | 0.39 | 0.93 | 0.39 | 36.2 |
| 6 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.028 | 9.5 | LOS A | 0.1 | 0.7 | 0.39 | 0.93 | 0.39 | 33.6 |
| Approach | | | 23 | 4.5 | 23 | 4.5 | 0.028 | 9.6 | LOS A | 0.1 | 0.7 | 0.39 | 0.93 | 0.39 | 35.5 |
| All Vehicles | | | 400 | 0.8 | 400 | 0.8 | 0.132 | 3.2 | NA | 0.4 | 3.0 | 0.13 | 0.33 | 0.13 | 46.3 |

## MOVEMENT SUMMARY

**Site: 7 [7_Tathra Road / Boundary Road_AM Peak -Update (Site Folder: 2040 AM Peak)]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

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

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Tathra Road (S) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 33 | 0.0 | 33 | 0.0 | 0.018 | 5.5 | LOS A | 0.0 | 0.0 | 0.00 | 0.58 | 0.00 | 53.8 |
| 8 | T1 | All MCs | 960 | 1.1 | 960 | 1.1 | 0.497 | 0.0 | LOS A | 0.0 | 0.1 | 0.00 | 0.00 | 0.00 | 60.0 |
| 3 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.497 | 5.5 | LOS A | 0.0 | 0.1 | 0.00 | 0.00 | 0.00 | 57.6 |
| Approach | | | 994 | 1.1 | 994 | 1.1 | 0.497 | 0.2 | NA | 0.0 | 0.1 | 0.00 | 0.02 | 0.00 | 59.8 |
| East: Boundary Road (E) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.011 | 6.3 | LOS A | 0.0 | 0.2 | 0.71 | 0.66 | 0.71 | 47.8 |
| 5 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.011 | 18.1 | LOS B | 0.0 | 0.2 | 0.71 | 0.66 | 0.71 | 46.5 |
| 6 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.011 | 22.2 | LOS B | 0.0 | 0.2 | 0.71 | 0.66 | 0.71 | 45.7 |
| Approach | | | 3 | 0.0 | 3 | 0.0 | 0.011 | 15.5 | LOS B | 0.0 | 0.2 | 0.71 | 0.66 | 0.71 | 46.7 |
| North: Tathra Road (N) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.116 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 57.3 |
| 2 | T1 | All MCs | 217 | 3.4 | 217 | 3.4 | 0.116 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| 3 | R2 | All MCs | 87 | 0.0 | 87 | 0.0 | 0.244 | 15.8 | LOS B | 0.9 | 6.2 | 0.80 | 0.94 | 0.88 | 45.4 |
| Approach | | | 305 | 2.4 | 305 | 2.4 | 0.244 | 4.6 | NA | 0.9 | 6.2 | 0.23 | 0.27 | 0.25 | 55.4 |
| West: Boundary Road (W) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 137 | 1.5 | 137 | 1.5 | 0.614 | 22.5 | LOS B | 2.8 | 19.5 | 0.90 | 1.11 | 1.48 | 41.3 |
| 11 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.614 | 26.7 | LOS B | 2.8 | 19.5 | 0.90 | 1.11 | 1.48 | 42.1 |
| 6 | R2 | All MCs | 45 | 0.0 | 45 | 0.0 | 0.614 | 27.9 | LOS B | 2.8 | 19.5 | 0.90 | 1.11 | 1.48 | 43.7 |
| Approach | | | 183 | 1.1 | 183 | 1.1 | 0.614 | 23.8 | LOS B | 2.8 | 19.5 | 0.90 | 1.11 | 1.48 | 42.0 |
| All Vehicles | | | 1485 | 1.3 | 1485 | 1.3 | 0.614 | 4.0 | NA | 2.8 | 19.5 | 0.16 | 0.21 | 0.24 | 56.2 |

## MOVEMENT SUMMARY

**Site: 8 [8_Tathra Road / Section B access road_AM Peak (Site Folder: 2040 AM Peak)]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

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

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Tathra Road | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 6 | 0.0 | 6 | 0.0 | 0.394 | 7.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.01 | 0.00 | 73.2 |
| 2 | T1 | All MCs | 754 | 1.8 | 754 | 1.8 | 0.394 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.01 | 0.00 | 79.6 |
| Approach | | | 760 | 1.8 | 760 | 1.8 | 0.394 | 0.1 | NA | 0.0 | 0.0 | 0.00 | 0.01 | 0.00 | 79.5 |
| North: Tathra Road | | | | | | | | | | | | | | | |
| 8 | T1 | All MCs | 202 | 3.6 | 202 | 3.6 | 0.106 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 79.9 |
| 9 | R2 | All MCs | 63 | 0.0 | 63 | 0.0 | 0.086 | 10.6 | LOS A | 0.3 | 2.3 | 0.62 | 0.84 | 0.62 | 54.6 |
| Approach | | | 265 | 2.8 | 265 | 2.8 | 0.106 | 2.5 | NA | 0.3 | 2.3 | 0.15 | 0.20 | 0.15 | 72.0 |
| West: Section B access | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 251 | 0.0 | 251 | 0.0 | 0.456 | 11.9 | LOS A | 2.3 | 16.3 | 0.74 | 0.99 | 1.07 | 52.0 |
| 12 | R2 | All MCs | 25 | 0.0 | 25 | 0.0 | 0.456 | 23.0 | LOS B | 2.3 | 16.3 | 0.74 | 0.99 | 1.07 | 51.9 |
| Approach | | | 276 | 0.0 | 276 | 0.0 | 0.456 | 12.9 | LOS A | 2.3 | 16.3 | 0.74 | 0.99 | 1.07 | 52.0 |
| All Vehicles | | | 1301 | 1.6 | 1301 | 1.6 | 0.456 | 3.3 | NA | 2.3 | 16.3 | 0.19 | 0.25 | 0.26 | 70.1 |

## MOVEMENT SUMMARY

**Site: 9 [9_Tathra Road / Section C access road_AM Peak (Site Folder: 2040 AM Peak)]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

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

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Tathra Road | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.336 | 7.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 73.4 |
| 2 | T1 | All MCs | 645 | 2.1 | 645 | 2.1 | 0.336 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 79.7 |
| Approach | | | 646 | 2.1 | 646 | 2.1 | 0.336 | 0.1 | NA | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 79.7 |
| North: Tathra Road | | | | | | | | | | | | | | | |
| 8 | T1 | All MCs | 199 | 3.7 | 199 | 3.7 | 0.104 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 79.9 |
| 9 | R2 | All MCs | 28 | 0.0 | 28 | 0.0 | 0.032 | 9.5 | LOS A | 0.1 | 0.9 | 0.56 | 0.74 | 0.56 | 55.6 |
| Approach | | | 227 | 3.2 | 227 | 3.2 | 0.104 | 1.2 | NA | 0.1 | 0.9 | 0.07 | 0.09 | 0.07 | 75.8 |
| West: Section C access | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 115 | 0.0 | 115 | 0.0 | 0.155 | 8.7 | LOS A | 0.6 | 4.1 | 0.58 | 0.80 | 0.58 | 55.1 |
| 12 | R2 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.155 | 15.3 | LOS B | 0.6 | 4.1 | 0.58 | 0.80 | 0.58 | 54.9 |
| Approach | | | 120 | 0.0 | 120 | 0.0 | 0.155 | 9.0 | LOS A | 0.6 | 4.1 | 0.58 | 0.80 | 0.58 | 55.1 |
| All Vehicles | | | 994 | 2.1 | 994 | 2.1 | 0.336 | 1.4 | NA | 0.6 | 4.1 | 0.09 | 0.12 | 0.09 | 74.8 |

## MOVEMENT SUMMARY

**Site: 1 [1_Princes Highway / Carp Street_PM Peak (Site Folder: 2040 PM Peak )]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

New Site
Site Category: (None)
Roundabout

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Princes Highway (N) | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 184 | 9.1 | 184 | 9.1 | 0.232 | 5.0 | LOS A | 1.6 | 11.7 | 0.57 | 0.54 | 0.57 | 58.3 |
| 3 | R2 | All MCs | 64 | 0.0 | 64 | 0.0 | 0.232 | 11.0 | LOS A | 1.6 | 11.7 | 0.57 | 0.54 | 0.57 | 57.1 |
| Approach | | | 248 | 6.8 | 248 | 6.8 | 0.232 | 6.6 | LOS A | 1.6 | 11.7 | 0.57 | 0.54 | 0.57 | 58.0 |
| East: Carp Street (E) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 155 | 0.7 | 155 | 0.7 | 0.383 | 3.8 | LOS A | 2.6 | 18.3 | 0.56 | 0.59 | 0.56 | 56.4 |
| 6 | R2 | All MCs | 295 | 2.1 | 295 | 2.1 | 0.383 | 9.3 | LOS A | 2.6 | 18.3 | 0.56 | 0.59 | 0.56 | 54.8 |
| Approach | | | 449 | 1.6 | 449 | 1.6 | 0.383 | 7.4 | LOS A | 2.6 | 18.3 | 0.56 | 0.59 | 0.56 | 55.5 |
| North: Princes Highway (N) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 247 | 4.3 | 247 | 4.3 | 0.369 | 3.6 | LOS A | 3.2 | 23.1 | 0.31 | 0.36 | 0.31 | 57.3 |
| 8 | T1 | All MCs | 298 | 5.7 | 298 | 5.7 | 0.369 | 3.4 | LOS A | 3.2 | 23.1 | 0.31 | 0.36 | 0.31 | 58.9 |
| 9u | U | All MCs | 3 | 0.0 | 3 | 0.0 | 0.369 | 12.1 | LOS A | 3.2 | 23.1 | 0.31 | 0.36 | 0.31 | 58.4 |
| Approach | | | 548 | 5.0 | 548 | 5.0 | 0.369 | 3.6 | LOS A | 3.2 | 23.1 | 0.31 | 0.36 | 0.31 | 58.4 |
| All Vehicles | | | 1246 | 4.1 | 1246 | 4.1 | 0.383 | 5.5 | LOS A | 3.2 | 23.1 | 0.45 | 0.48 | 0.45 | 57.5 |

## MOVEMENT SUMMARY

**Site: 2 [2_Princes Highway / Newtown Road_PM Peak (Site Folder: 2040 PM Peak )]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

**Network: N101 [2040 PM Peak (Network Folder: General)]**

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

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | Aver. Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Princes Highway (S) | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 264 | 4.8 | 264 | 4.8 | 0.138 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| Approach | | | 264 | 4.8 | 264 | 4.8 | 0.138 | 0.0 | NA | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| East: Newtown Road (E) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 338 | 2.2 | 338 | 2.2 | 0.307 | 7.5 | LOS A | 0.6 | 4.1 | 0.50 | 0.69 | 0.51 | 43.6 |
| Approach | | | 338 | 2.2 | 338 | 2.2 | 0.307 | 7.5 | LOS A | 0.6 | 4.1 | 0.50 | 0.69 | 0.51 | 43.6 |
| North: Princes Highway (N) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 82 | 6.4 | 82 | 6.4 | 0.046 | 5.7 | LOS A | 0.0 | 0.0 | 0.00 | 0.57 | 0.00 | 57.4 |
| 8 | T1 | All MCs | 393 | 3.8 | 393 | 3.8 | 0.206 | 0.3 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| Approach | | | 475 | 4.2 | 475 | 4.2 | 0.206 | 1.2 | NA | 0.0 | 0.0 | 0.00 | 0.10 | 0.00 | 59.4 |
| All Vehicles | | | 1077 | 3.7 | 1077 | 3.7 | 0.307 | 2.9 | NA | 0.6 | 4.1 | 0.16 | 0.26 | 0.16 | 58.5 |

## MOVEMENT SUMMARY

**Site: 3 [3_Princes Highway / Kerrisons Lane_PM Peak (Site Folder: 2040 PM Peak )]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

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

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SouthEast: Kerrisons Lane (E) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 75 | 4.2 | 75 | 4.2 | 0.562 | 14.3 | LOS A | 2.4 | 17.4 | 0.87 | 1.10 | 1.40 | 22.5 |
| 6 | R2 | All MCs | 55 | 7.7 | 55 | 7.7 | 0.562 | 45.6 | LOS D | 2.4 | 17.4 | 0.87 | 1.10 | 1.40 | 34.7 |
| Approach | | | 129 | 5.7 | 129 | 5.7 | 0.562 | 27.5 | LOS B | 2.4 | 17.4 | 0.87 | 1.10 | 1.40 | 28.8 |
| NorthEast: Princes Highway (N) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 100 | 5.3 | 100 | 5.3 | 0.056 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.57 | 0.00 | 50.2 |
| 8 | T1 | All MCs | 598 | 3.0 | 598 | 3.0 | 0.313 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.8 |
| Approach | | | 698 | 3.3 | 698 | 3.3 | 0.313 | 0.9 | NA | 0.0 | 0.0 | 0.00 | 0.08 | 0.00 | 58.5 |
| SouthWest: Princes Highway (S) | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 493 | 3.2 | 493 | 3.2 | 0.262 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.9 |
| 3 | R2 | All MCs | 69 | 1.5 | 69 | 1.5 | 0.113 | 10.0 | LOS A | 0.4 | 2.9 | 0.59 | 0.83 | 0.59 | 35.3 |
| Approach | | | 562 | 3.0 | 562 | 3.0 | 0.262 | 1.3 | NA | 0.4 | 2.9 | 0.07 | 0.10 | 0.07 | 57.9 |
| All Vehicles | | | 1389 | 3.4 | 1389 | 3.4 | 0.562 | 3.5 | NA | 2.4 | 17.4 | 0.11 | 0.18 | 0.16 | 55.1 |

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

## MOVEMENT SUMMARY

**Site: 4 [4_Tathra Road / Kerrisons Lane_PM Peak (Site Folder: 2040 PM Peak )]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

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

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Tathra Road | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 47 | 6.7 | 47 | 6.7 | 0.114 | 7.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.14 | 0.00 | 75.8 |
| 8 | T1 | All MCs | 167 | 2.5 | 167 | 2.5 | 0.114 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.14 | 0.00 | 77.3 |
| Approach | | | 215 | 3.4 | 215 | 3.4 | 0.114 | 1.6 | NA | 0.0 | 0.0 | 0.00 | 0.14 | 0.00 | 76.6 |
| North: Tathra Road | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 441 | 0.7 | 441 | 0.7 | 0.231 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 79.9 |
| 3 | R2 | All MCs | 165 | 1.9 | 165 | 1.9 | 0.113 | 7.6 | LOS A | 0.5 | 3.8 | 0.34 | 0.62 | 0.34 | 57.1 |
| Approach | | | 606 | 1.0 | 606 | 1.0 | 0.231 | 2.1 | NA | 0.5 | 3.8 | 0.09 | 0.17 | 0.09 | 67.4 |
| West: Kerrisons Lane (W) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 62 | 3.4 | 62 | 3.4 | 0.045 | 7.5 | LOS A | 0.2 | 1.3 | 0.26 | 0.59 | 0.26 | 71.0 |
| 6 | R2 | All MCs | 65 | 4.8 | 65 | 4.8 | 0.165 | 14.9 | LOS B | 0.6 | 4.2 | 0.69 | 0.89 | 0.69 | 67.8 |
| Approach | | | 127 | 4.1 | 127 | 4.1 | 0.165 | 11.3 | LOS A | 0.6 | 4.2 | 0.48 | 0.75 | 0.48 | 69.2 |
| All Vehicles | | | 948 | 2.0 | 948 | 2.0 | 0.231 | 3.2 | NA | 0.6 | 4.2 | 0.12 | 0.24 | 0.12 | 69.5 |

## MOVEMENT SUMMARY

**Site: 5 [5-Princes Highway / Finucane Lane_PM Peak (Site Folder: 2040 PM Peak )]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

**Network: N101 [2040 PM Peak (Network Folder: General)]**

New Site
Site Category: (None)
Roundabout

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | Aver. Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Princes Highway | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 27 | 0.0 | 27 | 0.0 | 0.372 | 3.8 | LOS A | 1.1 | 7.9 | 0.37 | 0.53 | 0.37 | 52.0 |
| 2 | T1 | All MCs | 162 | 0.0 | 162 | 0.0 | 0.372 | 3.6 | LOS A | 1.1 | 7.9 | 0.37 | 0.53 | 0.37 | 47.8 |
| 3 | R2 | All MCs | 338 | 2.5 | 338 | 2.5 | 0.372 | 9.9 | LOS A | 1.1 | 7.9 | 0.37 | 0.53 | 0.37 | 51.4 |
| Approach | | | 527 | 1.6 | 527 | 1.6 | 0.372 | 7.6 | LOS A | 1.1 | 7.9 | 0.37 | 0.53 | 0.37 | 50.7 |
| East: Access Road | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 21 | 0.0 | 21 | 0.0 | 0.141 | 7.2 | LOS A | 0.4 | 2.8 | 0.81 | 0.73 | 0.81 | 49.8 |
| 5 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.141 | 6.9 | LOS A | 0.4 | 2.8 | 0.81 | 0.73 | 0.81 | 50.1 |
| 6 | R2 | All MCs | 80 | 1.3 | 80 | 1.3 | 0.141 | 13.3 | LOS A | 0.4 | 2.8 | 0.81 | 0.73 | 0.81 | 44.4 |
| Approach | | | 102 | 1.0 | 102 | 1.0 | 0.141 | 11.9 | LOS A | 0.4 | 2.8 | 0.81 | 0.73 | 0.81 | 46.1 |
| North: Princes Highway | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 49 | 0.0 | 49 | 0.0 | 0.692 | 8.1 | LOS A | 3.4 | 24.6 | 0.84 | 0.71 | 0.99 | 49.6 |
| 8 | T1 | All MCs | 685 | 3.2 | 685 | 3.2 | 0.692 | 8.1 | LOS A | 3.4 | 24.6 | 0.84 | 0.71 | 0.99 | 50.0 |
| 9 | R2 | All MCs | 31 | 3.4 | 31 | 3.4 | 0.692 | 14.4 | LOS A | 3.4 | 24.6 | 0.84 | 0.71 | 0.99 | 48.8 |
| Approach | | | 765 | 3.0 | 765 | 3.0 | 0.692 | 8.3 | LOS A | 3.4 | 24.6 | 0.84 | 0.71 | 0.99 | 49.9 |
| West: Finucane Lane | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 7 | 0.0 | 7 | 0.0 | 0.017 | 5.7 | LOS A | 0.0 | 0.3 | 0.60 | 0.60 | 0.60 | 47.5 |
| 11 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.017 | 5.5 | LOS A | 0.0 | 0.3 | 0.60 | 0.60 | 0.60 | 52.3 |
| 12 | R2 | All MCs | 7 | 14.3 | 7 | 14.3 | 0.017 | 12.3 | LOS A | 0.0 | 0.3 | 0.60 | 0.60 | 0.60 | 50.9 |
| Approach | | | 16 | 6.7 | 16 | 6.7 | 0.017 | 8.8 | LOS A | 0.0 | 0.3 | 0.60 | 0.60 | 0.60 | 49.9 |
| All Vehicles | | | 1411 | 2.4 | 1411 | 2.4 | 0.692 | 8.3 | LOS A | 3.4 | 24.6 | 0.66 | 0.64 | 0.74 | 50.0 |

## MOVEMENT SUMMARY

**Site: 6 [6_Ravenswood Street/ Rawlinson Street_PM Peak (Site Folder: 2040 PM Peak )]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

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

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Ravenswood Street (S) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.040 | 6.1 | LOS A | 0.1 | 1.0 | 0.22 | 0.28 | 0.22 | 34.3 |
| 8 | T1 | All MCs | 43 | 0.0 | 43 | 0.0 | 0.040 | 0.3 | LOS A | 0.1 | 1.0 | 0.22 | 0.28 | 0.22 | 49.9 |
| 3 | R2 | All MCs | 25 | 0.0 | 25 | 0.0 | 0.040 | 6.0 | LOS A | 0.1 | 1.0 | 0.22 | 0.28 | 0.22 | 46.9 |
| Approach | | | 69 | 0.0 | 69 | 0.0 | 0.040 | 2.5 | NA | 0.1 | 1.0 | 0.22 | 0.28 | 0.22 | 48.2 |
| East: Rawlinson Street (E) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 80 | 0.0 | 80 | 0.0 | 0.143 | 8.7 | LOS A | 0.6 | 3.9 | 0.33 | 0.89 | 0.33 | 39.7 |
| 5 | T1 | All MCs | 23 | 0.0 | 23 | 0.0 | 0.143 | 9.1 | LOS A | 0.6 | 3.9 | 0.33 | 0.89 | 0.33 | 33.5 |
| 6 | R2 | All MCs | 39 | 0.0 | 39 | 0.0 | 0.143 | 9.4 | LOS A | 0.6 | 3.9 | 0.33 | 0.89 | 0.33 | 33.1 |
| Approach | | | 142 | 0.0 | 142 | 0.0 | 0.143 | 9.0 | LOS A | 0.6 | 3.9 | 0.33 | 0.89 | 0.33 | 36.9 |
| North: Ravenswood Street (N) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 31 | 0.0 | 31 | 0.0 | 0.105 | 5.5 | LOS A | 0.0 | 0.3 | 0.01 | 0.10 | 0.01 | 49.9 |
| 2 | T1 | All MCs | 165 | 0.0 | 165 | 0.0 | 0.105 | 0.0 | LOS A | 0.0 | 0.3 | 0.01 | 0.10 | 0.01 | 56.2 |
| 3 | R2 | All MCs | 4 | 0.0 | 4 | 0.0 | 0.105 | 5.5 | LOS A | 0.0 | 0.3 | 0.01 | 0.10 | 0.01 | 31.0 |
| Approach | | | 200 | 0.0 | 200 | 0.0 | 0.105 | 1.0 | NA | 0.0 | 0.3 | 0.01 | 0.10 | 0.01 | 54.3 |
| West: Rawlinson Street (W) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 8 | 0.0 | 8 | 0.0 | 0.034 | 8.2 | LOS A | 0.1 | 0.8 | 0.24 | 0.91 | 0.24 | 23.6 |
| 11 | T1 | All MCs | 22 | 0.0 | 22 | 0.0 | 0.034 | 9.0 | LOS A | 0.1 | 0.8 | 0.24 | 0.91 | 0.24 | 37.3 |
| 6 | R2 | All MCs | 2 | 0.0 | 2 | 0.0 | 0.034 | 9.6 | LOS A | 0.1 | 0.8 | 0.24 | 0.91 | 0.24 | 34.0 |
| Approach | | | 33 | 0.0 | 33 | 0.0 | 0.034 | 8.8 | LOS A | 0.1 | 0.8 | 0.24 | 0.91 | 0.24 | 33.6 |
| All Vehicles | | | 444 | 0.0 | 444 | 0.0 | 0.143 | 4.3 | NA | 0.6 | 3.9 | 0.16 | 0.44 | 0.16 | 43.8 |

## MOVEMENT SUMMARY

**Site: 7 [7_Tathra Road / Boundary Road_PM Peak - Update (Site Folder: 2040 PM Peak )]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

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

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Tathra Road (S) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 48 | 2.2 | 48 | 2.2 | 0.026 | 5.6 | LOS A | 0.0 | 0.0 | 0.00 | 0.58 | 0.00 | 53.7 |
| 8 | T1 | All MCs | 252 | 2.9 | 252 | 2.9 | 0.133 | 0.0 | LOS A | 0.0 | 0.2 | 0.01 | 0.01 | 0.01 | 59.9 |
| 3 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.133 | 8.6 | LOS A | 0.0 | 0.2 | 0.01 | 0.01 | 0.01 | 57.5 |
| Approach | | | 301 | 2.8 | 301 | 2.8 | 0.133 | 1.0 | NA | 0.0 | 0.2 | 0.01 | 0.10 | 0.01 | 58.8 |
| East: Boundary Road (E) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.013 | 13.1 | LOS A | 0.0 | 0.3 | 0.82 | 0.91 | 0.82 | 46.3 |
| 5 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.013 | 19.5 | LOS B | 0.0 | 0.3 | 0.82 | 0.91 | 0.82 | 44.9 |
| 6 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.013 | 22.7 | LOS B | 0.0 | 0.3 | 0.82 | 0.91 | 0.82 | 44.1 |
| Approach | | | 3 | 0.0 | 3 | 0.0 | 0.013 | 18.4 | LOS B | 0.0 | 0.3 | 0.82 | 0.91 | 0.82 | 45.1 |
| North: Tathra Road (N) | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.480 | 5.7 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 57.1 |
| 2 | T1 | All MCs | 916 | 0.8 | 916 | 0.8 | 0.480 | 0.2 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 59.6 |
| 3 | R2 | All MCs | 159 | 0.7 | 159 | 0.7 | 0.150 | 6.9 | LOS A | 0.6 | 4.4 | 0.41 | 0.65 | 0.41 | 51.3 |
| Approach | | | 1076 | 0.8 | 1076 | 0.8 | 0.480 | 1.2 | NA | 0.6 | 4.4 | 0.06 | 0.10 | 0.06 | 58.4 |
| West: Boundary Road (W) | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 111 | 0.0 | 111 | 0.0 | 0.395 | 8.4 | LOS A | 2.0 | 13.8 | 0.72 | 0.83 | 0.98 | 45.9 |
| 11 | T1 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.395 | 26.0 | LOS B | 2.0 | 13.8 | 0.72 | 0.83 | 0.98 | 46.6 |
| 6 | R2 | All MCs | 60 | 1.8 | 60 | 1.8 | 0.395 | 28.2 | LOS B | 2.0 | 13.8 | 0.72 | 0.83 | 0.98 | 47.8 |
| Approach | | | 172 | 0.6 | 172 | 0.6 | 0.395 | 15.4 | LOS B | 2.0 | 13.8 | 0.72 | 0.83 | 0.98 | 46.6 |
| All Vehicles | | | 1552 | 1.2 | 1552 | 1.2 | 0.480 | 2.7 | NA | 2.0 | 13.8 | 0.13 | 0.18 | 0.15 | 57.0 |

## MOVEMENT SUMMARY

**Site: 8 [8_Tathra Road / Section B access road_PM Peak (Site Folder: 2040 PM Peak )]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

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

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Tathra Road | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 25 | 0.0 | 25 | 0.0 | 0.136 | 7.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.06 | 0.00 | 72.5 |
| 2 | T1 | All MCs | 234 | 3.2 | 234 | 3.2 | 0.136 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.06 | 0.00 | 78.7 |
| Approach | | | 259 | 2.8 | 259 | 2.8 | 0.136 | 0.7 | NA | 0.0 | 0.0 | 0.00 | 0.06 | 0.00 | 78.1 |
| North: Tathra Road | | | | | | | | | | | | | | | |
| 8 | T1 | All MCs | 725 | 1.2 | 725 | 1.2 | 0.375 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 79.7 |
| 9 | R2 | All MCs | 254 | 0.0 | 254 | 0.0 | 0.179 | 7.6 | LOS A | 0.9 | 6.1 | 0.39 | 0.65 | 0.39 | 56.9 |
| Approach | | | 979 | 0.9 | 979 | 0.9 | 0.375 | 2.0 | NA | 0.9 | 6.1 | 0.10 | 0.17 | 0.10 | 72.2 |
| West: Section B access | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 63 | 0.0 | 63 | 0.0 | 0.079 | 6.3 | LOS A | 0.3 | 2.1 | 0.42 | 0.60 | 0.42 | 56.0 |
| 12 | R2 | All MCs | 6 | 0.0 | 6 | 0.0 | 0.079 | 24.3 | LOS B | 0.3 | 2.1 | 0.42 | 0.60 | 0.42 | 55.8 |
| Approach | | | 69 | 0.0 | 69 | 0.0 | 0.079 | 7.9 | LOS A | 0.3 | 2.1 | 0.42 | 0.60 | 0.42 | 55.9 |
| All Vehicles | | | 1307 | 1.2 | 1307 | 1.2 | 0.375 | 2.1 | NA | 0.9 | 6.1 | 0.10 | 0.17 | 0.10 | 72.1 |

## MOVEMENT SUMMARY

**Site: 9 [9_ Tathra Road / Section C access road_PM Peak (Site Folder: 2040 PM Peak )]**

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

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

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Tathra Road | | | | | | | | | | | | | | | |
| 1 | L2 | All MCs | 5 | 0.0 | 5 | 0.0 | 0.123 | 7.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.01 | 0.00 | 73.3 |
| 2 | T1 | All MCs | 229 | 3.2 | 229 | 3.2 | 0.123 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.01 | 0.00 | 79.6 |
| Approach | | | 235 | 3.1 | 235 | 3.1 | 0.123 | 0.2 | NA | 0.0 | 0.0 | 0.00 | 0.01 | 0.00 | 79.5 |
| North: Tathra Road | | | | | | | | | | | | | | | |
| 8 | T1 | All MCs | 616 | 1.4 | 616 | 1.4 | 0.319 | 0.1 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 79.8 |
| 9 | R2 | All MCs | 116 | 0.0 | 116 | 0.0 | 0.080 | 7.4 | LOS A | 0.4 | 2.5 | 0.34 | 0.62 | 0.34 | 57.0 |
| Approach | | | 732 | 1.2 | 732 | 1.2 | 0.319 | 1.2 | NA | 0.4 | 2.5 | 0.05 | 0.10 | 0.05 | 75.0 |
| West: Section C access | | | | | | | | | | | | | | | |
| 10 | L2 | All MCs | 28 | 0.0 | 28 | 0.0 | 0.025 | 6.2 | LOS A | 0.1 | 0.7 | 0.33 | 0.56 | 0.33 | 56.9 |
| 12 | R2 | All MCs | 1 | 0.0 | 1 | 0.0 | 0.025 | 15.8 | LOS B | 0.1 | 0.7 | 0.33 | 0.56 | 0.33 | 56.7 |
| Approach | | | 29 | 0.0 | 29 | 0.0 | 0.025 | 6.6 | LOS A | 0.1 | 0.7 | 0.33 | 0.56 | 0.33 | 56.9 |
| All Vehicles | | | 996 | 1.6 | 996 | 1.6 | 0.319 | 1.1 | NA | 0.4 | 2.5 | 0.05 | 0.09 | 0.05 | 75.3 |

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The Power of Commitment