EAST LEPPINGTON PRECINCT

TRAFFIC ASSESSMENT

Prepared for

DEPARTMENT OF PLANNING AND INFRASTRUCTURE

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Cardno
Shaping the Future

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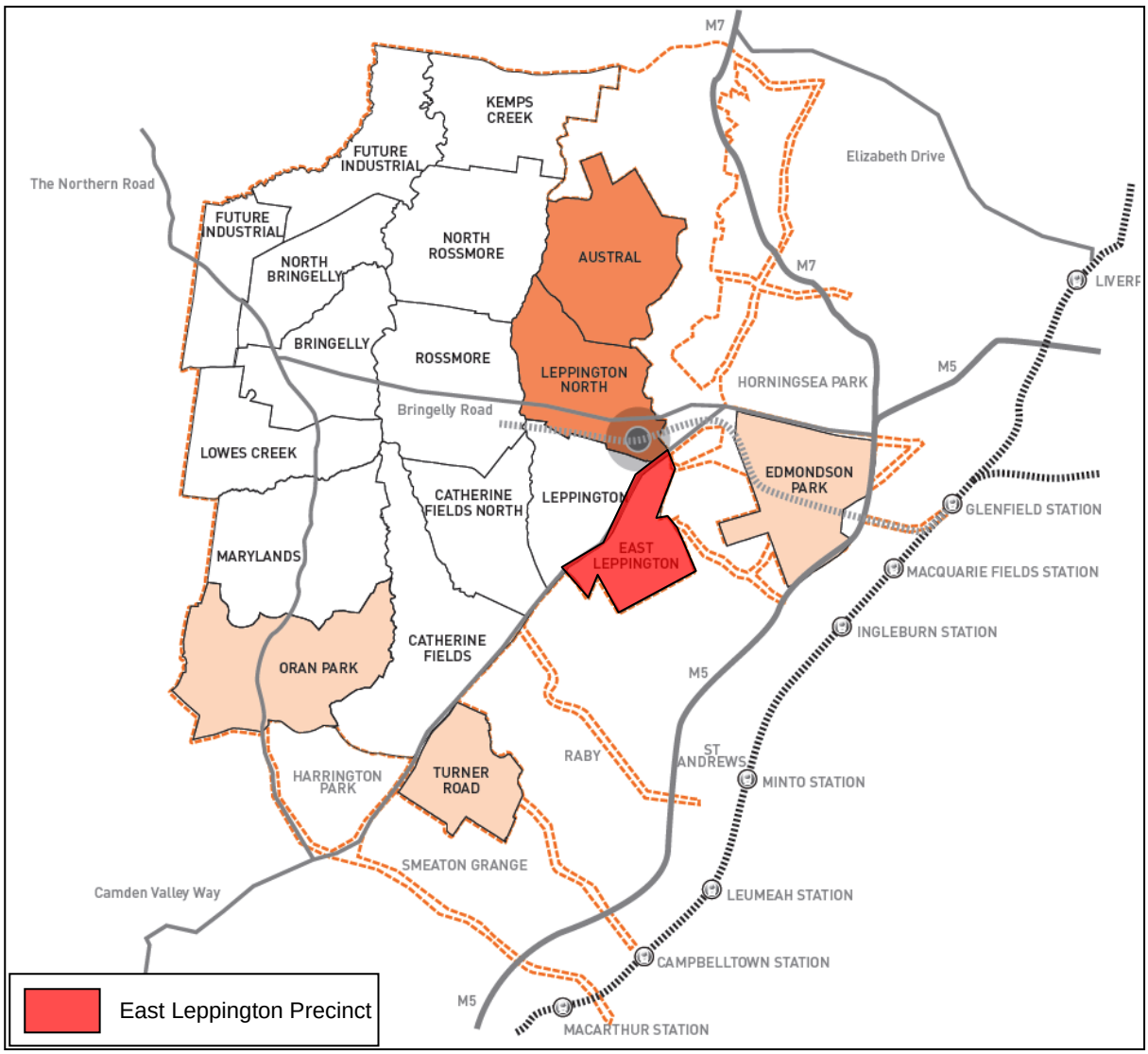
1 INTRODUCTION

Cardno was engaged to prepare a traffic assessment for the East Leppington Precinct development on behalf of Department of Planning and Infrastructure. The proposed development will comprise approximately 4,380 dwellings (a mix of low and medium density residential), provision of neighbourhood retail services, a primary school and community facilities.

The location of the development is within Sydney's South West Growth Centre and fronts Camden Valley Way along its western boundary with Denham Court Road running through the development. Four intersections along Camden Valley Way will provide access to the precinct. The location of the proposed development is shown in **Figure 1.1.**

Figure 1.1 East Leppington Precinct Location



The Indicative Layout Plan (ILP) for the East Leppington precinct was developed with the guidance of various stakeholders and transport planning advice. Through the ILP development process, transport design advice and transport infrastructure assessment has been undertaken in collaboration with key stakeholders, including:

- New South Wales Department of Planning & Infrastructure.
- Camden Council.
- Campbelltown Council.
- Liverpool City Council.

The transport assessment was undertaken as part of this study to assess the ILP in relation to the following transport elements:

- Road network performance.
- Public transportation.
- Active transportation, including walking and cycling.

This transport assessment, along with the stakeholder consultation, was undertaken as part of the development of the final ILP. This report aims to provide high level transport advice to achieve an efficient and safe traffic environment as a result of the development of the East Leppington precinct.

The following scope of works was undertaken as part of this study:

- A review of previous studies and strategic documents to obtain relevant information with regards to background traffic volumes and the strategic transport context.
- Development of a spreadsheet model which represents traffic generation, distribution and assignment of development traffic on the surrounding road network, as well as background traffic. The following scenarios were considered:
  - 2021 traffic volumes.
  - 2026, 2031 and 2036 traffic volumes with:
    - 1.5% background traffic growth.
    - 3.0% background traffic growth.
    - 4.4% background traffic growth.
- Undertake intersection analysis of the following five intersections:
  - Camden Valley Way / Old Cowpasture Road.
  - Camden Valley Way / Denham Court Road.
  - Camden Valley Way / Heath Road.
  - Camden Valley Way / St Andrews Road.
  - Denham Court Road / Precinct access.
- Provide an overview of opportunities and constraints for walking, cycling and public transport provisions within the area to allow a network that is sustainable into the future.
- Undertake a review of site accessibility by non-vehicle modes to strengthen linkages to the planned pedestrian/cycle connections both within the site and to the Leppington town centre and railway station.
- Assessment of connections to the future public transport network, including location of bus stops and likely bus routes through the precinct.

2 BACKGROUND REVIEW

2.1 STRATEGIC CONTEXT

East Leppington is a precinct within the South West Growth Centre and therefore development in the region should conform to a number of strategic priorities. These priorities are outlined in the Metropolitan Plan, which overarches the former Growth Centres Commission (now part of the Department of Planning and Infrastructure), the Growth Centres Development Code, and the Integrated Land Use Transport Package.

2.1.1 Metropolitan Plan

The NSW Government's Metropolitan Plan outlines eight goals for the city of Sydney going forward to 2036.

> **Stronger cities in the metropolitan area:** The Metropolitan Plan aims to enhance the many cities that make up the city of Sydney, which include Penrith, Liverpool and Parramatta. These cities will provide cultural experiences, business centres, health and transport facilities and focal points for NSW.
> **Stronger global economic corridor:** Sydney has the opportunity to develop a stronger business core, by providing more business facilities in the region stretching from Macquarie Park to Botany Bay.
> **More jobs in Western Sydney:** A priority in the Metropolitan Plan is to provide employment centres west of Sydney in western growth areas such as Penrith.
> **Contain Sydney's Urban Footprint:** Regional growth in the Metropolitan Plan involves an increase in density in urban areas rather than encroachment on the Hawkesbury or other valuable sanctuaries.
> **Major Centres will emerge as jobs, service and residential locations:** Shopping, health facilities and tertiary education will be developed in regional centres such as Leppington and Castle Hill.
> **Fair access to housing, jobs, services and open space:** Regional centres will provide equitable access to critical resources.
> **Connected cities:** The transport connecting centres will be developed to provide faster and more efficient services.
> **Better connected and stronger regions:** By upgrading facilities and connections between centres, regions like Newcastle and the Central Coast will be able to develop.

2.1.2 Growth Centres Development Code

The Growth Centres Development Code outlines the process by which Precinct Plans can be developed, including the requirements on these plans for physical, transport and social infrastructure. The strategy outlines requirements for employment, residential, school and leisure land usages with the manner in which they should be set out. The strategy provides emphasis on mixed use, higher density town centres with adequate bus facilities that do not interrupt the function of state roads. Street layouts should promote walking or cycling to the town centre, and street hierarchy should be accommodated by the appropriate road form.

2.1.3 South West Growth Centre Structure Plan – Edition 3

The South West Growth Centre Structure Plan (Structure Plan) details the dwelling and population targets for the East Leppington Precinct. 3,000 dwellings are anticipated with a target population of 8,000. It should be noted that the current indicative layout plan (ILP) proposes approximately 4,380 dwellings.

The Structure Plan identifies a new rail line starting from Glenfield station, with a station at both Leppington and Edmondson Park, named the South West Rail Link. This new line is planned to be implemented in coordination with the developments in the South West Growth Centre.

The Structure Plan also indicates that East Leppington is to be developed as a Walkable Neighbourhood, providing community facilities, basic retail and public transport facilities. The precinct should include two to three neighbourhood centres. There are no industrial or significant retail provisions to be planned for the area.

2.1.4 Integrated Land Use Transport Package (ILUT)

The ILUT outlines the importance of 'getting it right from the start' for new residential developments. For developments such as East Leppington, the ILUT places importance on improving transport choice, providing mixed use centres, improving pedestrian and cyclist access as well as implementing good urban design.

The key principles which apply to this study include the connectivity and convenience of pedestrian and cycling facilities. In reducing car dependency, these facilities should be linked to the higher density; mixed use centres and provide a viable alternative to private motor vehicle transport. Car parking supply can be used as a means of monitoring this demand, and over-provision of spaces in neighbourhood centres is not a desirable outcome.

2.2 DOCUMENT REVIEW

The previous studies in the region provide a starting point for statistical research, indicative traffic volumes and final intersection forms. Two recent studies were conducted for the East Leppington precinct RTA's *Camden Valley Way Strategic and Intersection Modelling Report* and AECOM's *Austral and Leppington North (ALN) Precincts Transport Assessment.*

2.2.1 Camden Valley Way Strategic & Intersection Modelling Report

The RTA's study of Camden Valley Way uses the Sydney Strategic Model EMME outputs as a basis for assessment. The study projects household population of 20% and 72% of the 2031 targets specified in the South Western Growth Centres Structural Plan in 2016 and 2026, respectively. The study also projects that employment levels will be 42% and 87% of the 2031 targets in 2016 and 2026, respectively.

The study indicates that Camden Valley Way may require a further upgrade to six lanes in 2026, as it reaches its capacity as a four lane arterial.

The concept design of the upgrade indicates that Camden Valley Way, Ingleburn and Denham Court Roads will be realigned to form a four way signalised intersection to facilitate traffic heading towards the regional centre of Leppington. Denham Court Road will be realigned to match the current position of Ingleburn Road.

The duplication of Camden Valley Way as indicated in the concept design component shows that the road will be initially duplicated in the form of a dual carriageway, four lane road with a median of 8 metres (at a minimum). It is planned that the median will be converted into an additional two lanes in either direction. As a part of this duplication, Park Road will become left-in left out-only, and a number of intersections are planned to be signalised including St Andrews Road, Heath Road, and the composite Ingleburn Road / Denham Court Road. The duplication is currently in progress.

2.2.2 Austral and Leppington North (ALN) Precincts Transport Assessment

AECOM was appointed by the Department of Planning and Infrastructure (DP&I) to assess the transport and access components of the Austral and Leppington North Precincts and support the development of an Indicative Layout Plan for the precincts.

The Austral and Leppington North (ALN) Precincts Transport Assessment details the transport provisions and requirements for the development of the two precincts. The report investigates the road network; identifying the precinct's road hierarchy; intersection design, concluding that all intersections will operate at an acceptable level of service; heavy goods vehicles and outlines a comprehensive public transport framework identifying a proposed bus route network as well as opportunities for the future pedestrian and bicycle networks.

3 EXISTING ROAD NETWORK

Roads are usually classified under two road classification systems. One is the Roads Maritime Services (RMS) administration classification system and the other is the road hierarchy classification system. The RMS classifies roads as State Roads, Regional Roads or Local Roads. The road hierarchy system classifies roads as Arterial, Sub-arterial, Collector or Local roads.

A State Road, as classified by RMS is wholly under care and control of RMS. Regional Roads are under the care and control of Council but may receive maintenance funding from RMS. Local Roads are wholly under the care and control of the Council.

Roads are classified under the road hierarchy based on their functional role within the road network and are used to determine the design standards for the road and access to the road from adjacent properties along the road. The road classifications stipulated in the Growth Centres Development Code, as shown in **Table 3.1**, have been designed for the growth centres and are broadly consistent with the RTA classifications. These classifications have therefore been adopted in this study.

Table 3.1 Functional classification of roads

Road Classification	AADT	Functions	Speed Limit
Arterial/Freeway	35,000+	Connects large urban areas	Up to 80 km/h
Boulevard	30,000 – 35,000	Located close to centres Pedestrian friendly environment	60 – 80 km/h
Sub-Arterial	10,000 – 35,000	Arterial road to town centres Carries major bus routes	Up to 70 km/h
Collector	3,000 – 10,000	Connects neighbourhoods Can accommodate public transport	Up to 60 km/h
Local	1,000 – 3,000	Priority to pedestrians and cyclists Designed for slow residential traffic	Up to 50 km/h

Source: Growth Centres Development Code, GCC, October 2006

The following sections will detail the characteristics of roads and intersections within the vicinity of the East Leppington Precinct.

3.1 REGIONAL ROADS

There are a number of regional arterial and sub-arterial roads that are within the study area. These include Camden Valley Way, Denham Court Road and Cowpasture Road.

3.1.1 Camden Valley Way

Camden Valley Way is an arterial road that provides a link between Hoxton Park and Narellan. Currently, the road is a single carriageway with two lanes of width 15 metres, with a speed limit of 60km/hr. The AADT for the road is 20,000 vehicles. Residential and business accesses are provided along the length of the road. The majority of intersections along the length are either Give Way or Stop controlled priority intersections.

3.1.2 Denham Court Road

Denham Court Road serves a sub-arterial function linking Denham Court, Ingleburn and Leppington. The AADT is 7,000 vehicles. Denham Court Road is a two lane road of width 8.9 metres with a speed limit of 70km/hr. The road provides residential and business access and majority of intersections along the road are priority controlled.

3.1.3 Cowpasture Road

Cowpasture Road is a linking road between Camden Valley Way and Bringelly Road, and provides a sub-arterial function despite its low AADT of 3,000 vehicles. Cowpasture Road is accessed by residential properties, but does not currently serve any local or collector roads. Cowpasture Road is a two lane road of width 6.5m with a speed limit of 70km/hr.

3.2 COLLECTOR & LOCAL ROADS

The following roads provide the majority of direct access for residential properties, businesses and schools.

3.2.1 Ingleburn Road

Ingleburn Road is a collector road that serves the suburb of Leppington by connecting local roads to Camden Valley Way. The road is a two lane road of width 6.5m with a speed limit of 80km/hr. With the development of Austral and North Leppington, it is planned that Ingleburn Road will function as a sub-arterial road in the future.

3.2.2 Heath Road

Heath Road is a collector road that also serves the suburb of Leppington and connects to Camden Valley Way. The road is a two lane road of width 6.5 metres with a speed limit of 80km/hr.

3.2.3 St Andrews Road

St Andrews Road is a local road that serves a number of properties to the south of the proposed development. The road is two lane road of width 5m with no published speed limit. Currently, St Andrews Road is a 'No Through Road' and does not connect to Campbelltown Road to the east.

3.3 KEY INTERSECTIONS

The following key intersections are located within close proximity of the East Leppington Precinct:

> Camden Valley Way / Cowpasture Road (Priority controlled intersection with channelised right turn).
> Camden Valley Way / Denham Court Road (Priority controlled seagull intersection).
> Camden Valley Way / Ingleburn Road (Priority controlled seagull intersection).
> Camden Valley Way / Heath Road (Priority controlled intersection with left turn auxiliary lane).
> Camden Valley Way / St Andrews Road (Basic priority controlled intersection).

4 INDICATIVE LAYOUT PLAN

The East Leppington precinct will comprise of a majority of low density residential development, along with medium density residential development, a local centre, neighbourhood retail services, primary school, community facilities and recreational land uses. A breakdown of the approximate development yields is shown in **Table 4.1.**

Table 4.1 Indicative Layout Plan

Land Use	Yield
Residential	Approx. 4,380 dwellings
Local Centre	16,500 m^2 (GFA)
Neighborhood Centre	2,500 m^2 (GFA)
School	29,900 m^2 (lot area)
Community Facilities	3,200 m^2 (lot area)
Recreational	25.9 hectares

The indicative layout plan is shown in **Figure 4.1**. The precinct will include five connections with Camden Valley Way at the following locations:

> Signalised connection at Cowpasture Road (Proposed).
> Signalised intersection at Denham Court Road (To be constructed by RMS).
> Signalised connection at Heath Road (To be constructed by RMS).
> Signalised connection at St Andrews Road (To be constructed by RMS).

Additionally, the precinct will include three connections with Denham Court Road at the following locations (refer to **Figure 5.4**):

> Traffic signals approximately 200 metres south of Camden Valley Way.
> Traffic signals approximately 400 metres south of Camden Valley Way.
> Roundabout approximately 800 metres south of Camden Valley Way (Denham Court Road / Precinct access).

4.1 CAMDEN VALLEY WAY CONNECTIONS

Current RMS plans as part of the Camden Valley Way upgrade include the signalisation of Camden Valley Way / Cowpasture Road. The additional inclusion of a southern leg at the intersection to provide access to the East Leppington precinct is considered appropriate from a traffic engineering perspective. This allows consolidated, higher order access to the northern part of the precinct at a formal control point.

Additionally, RMS plans to realign Denham Court Road to align with Ingleburn Road and upgrade to signals. The upgraded intersection will provide a more desirable traffic environment with improved operation and a safer road environment.

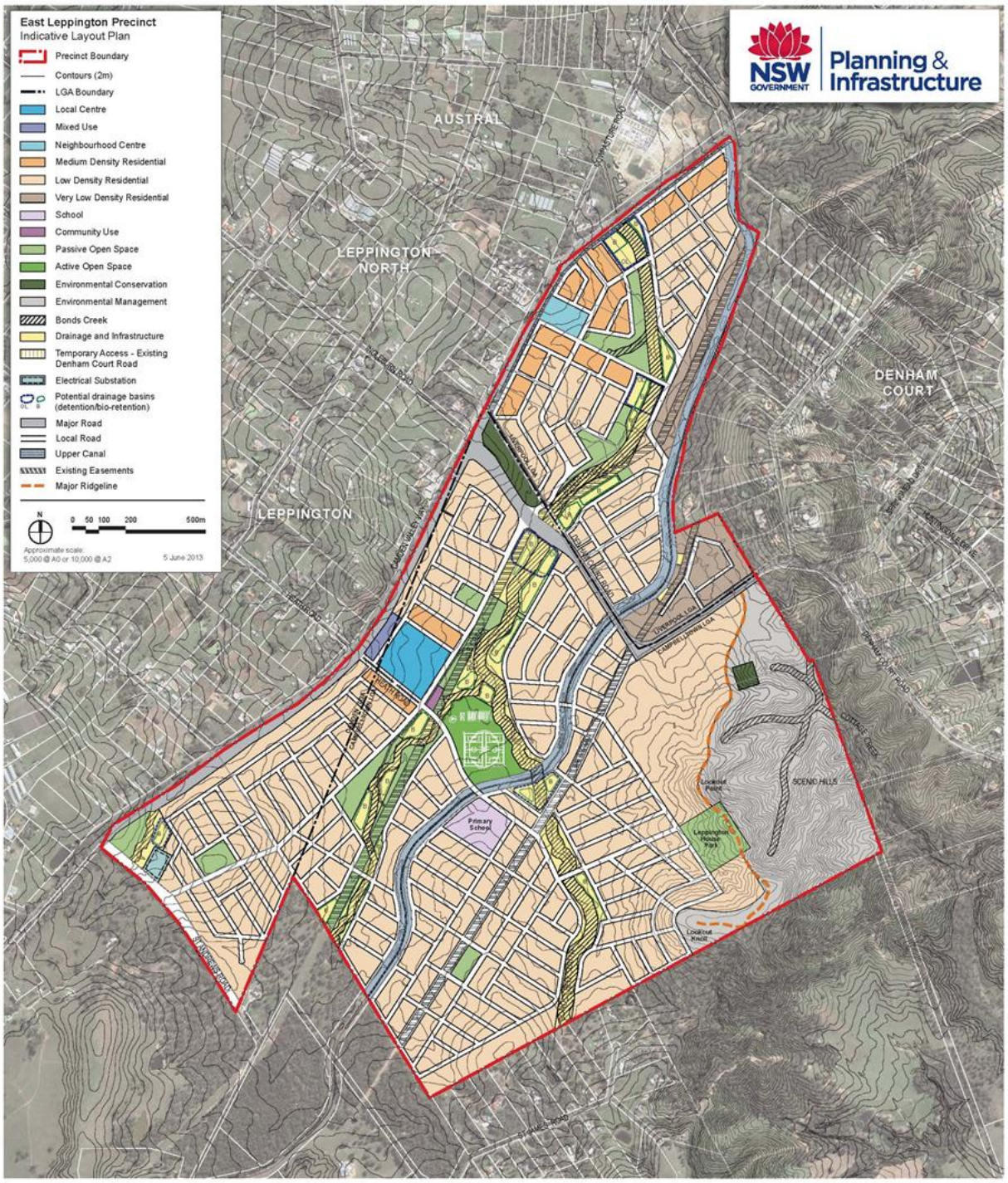
4.2 DENHAM COURT ROAD

A connection on the eastern boundary of the precinct will be provided in the form of a roundabout on Denham Court Road. Additionally, connections along Denham Court Road will be provided with the precinct. It is noted that the four-way connections on Denham Court Road will be constructed as traffic signal configurations, providing full access between the northern and southern precincts. The basis for the provision of traffic signals is to provide improved pedestrian and cyclist amenity, safety and connectivity, as well as to improve traffic flow within the East Leppington Precinct. It is noted that based on the expected traffic volumes, Denham Court Road will require two lanes in each direction north of the eastern precinct access.

4.3 CREEK CROSSINGS

Sensitivity assessment was undertaken to explore the implications of multiple connections that cross both the creek and canal on the internal road form. The assessment indicated that the proposed layout with one connection crossing both the creek and canal (along Heath Road) provided the best balance of connectivity and traffic impact. Providing another connection that crosses over both the creek and canal was shown to increase traffic volumes through the St Andrews connection to levels where larger road forms would be required. This would result in amenity impacts to residents in the area. Based on the above and the creek crossing scenarios discussed above, input was provided to the ILP development process and required a number of creek and canal crossings and a number of roundabouts were recommended.

Figure 4.1 Indicative Layout Plan v12.6



5 TRAFFIC ASSESSMENT

A traffic assessment was undertaken to consider the traffic impacts at 5 year staged intervals between 2021and 2036 with the assumption that the development will be complete by 2026. The objective of the assessment was to determine the traffic volumes and appropriateness of the internal road network. Analysis of the internal links and external connections points was undertaken at the following intersections:

> Camden Valley Way / Cowpasture Road.
> Camden Valley Way / Ingleburn Road.
> Camden Valley Way / Heath Road.
> Camden Valley Way / St Andrews Road.
> Denham Court Road / Eastern access to East Leppington Precinct.

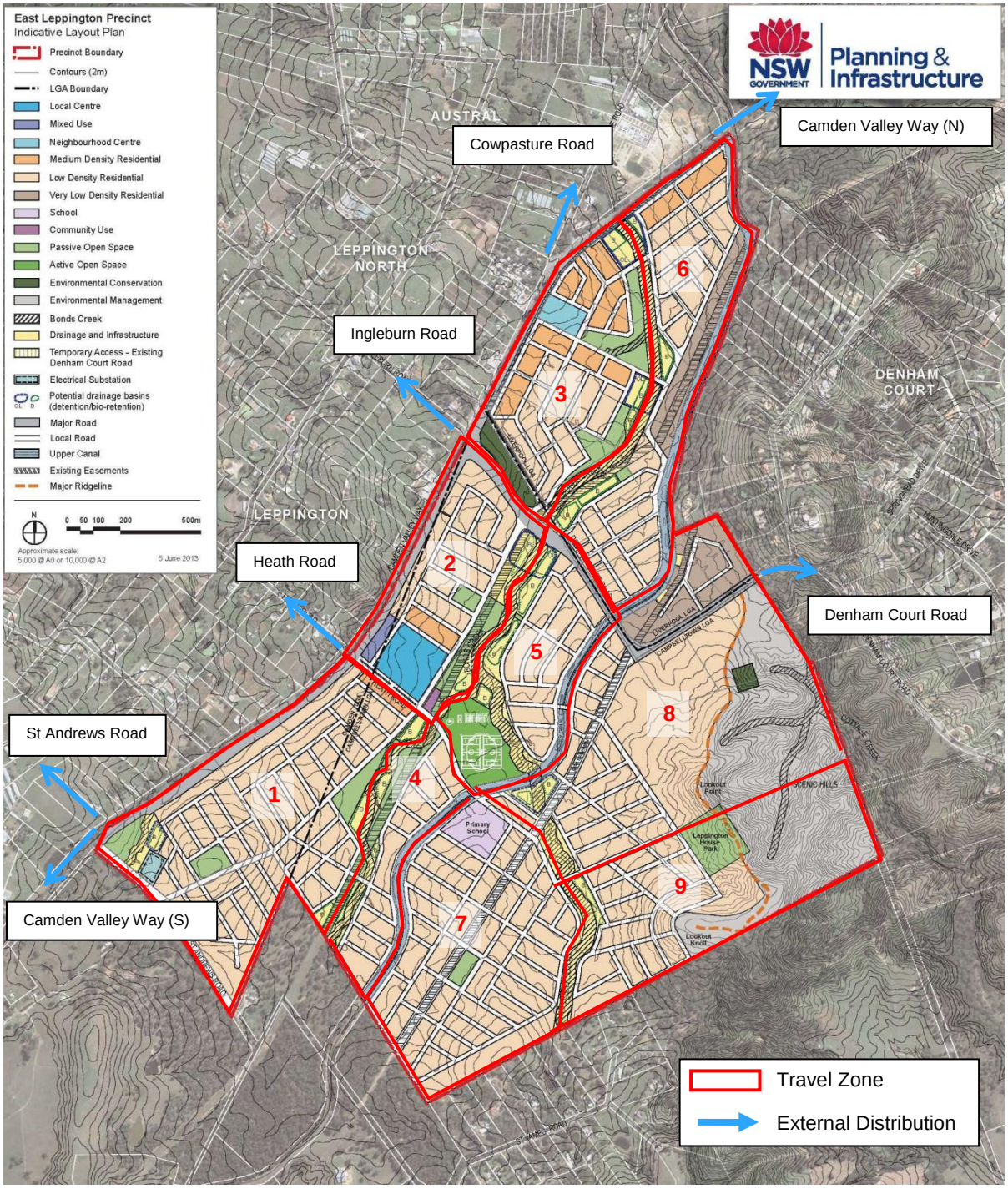
5.1 TRAFFIC MODEL DEVELOPMENT

A spreadsheet traffic model was developed to assess the operation of the key road network in the vicinity of the East Leppington precinct. The development of the traffic model included the following processes:

> Determine baseline traffic volumes on the road network.
> Determine traffic generation of the proposed development.
> Distribute development traffic to the external road network.
> Assign development traffic between the internal traffic precincts and the external road network.

The modelling was undertaken with consideration to the ILP 12.6 with a dwelling yield of 4,386. The proposed development was split into traffic precincts to allow for a more detailed traffic distribution throughout the internal road network between the traffic precincts and the external destinations. The traffic model characteristics are illustrated in **Figure 5.1**.

Figure 5.1 Traffic Model Characteristics



5.1.1 Baseline Traffic Volumes

Baseline traffic volumes were calculated based on the *RTA Strategic & Intersection Modelling Report* for Camden Valley Way which assumed 3,000 dwelling in the East Leppington precinct based on the Structure Plan. 2016 and 2026 peak hour turning counts were obtained from the report, which include development traffic for the East Leppington precinct. Based on distribution and land use assumptions specified in the report, the development traffic was removed from the turning movements to obtain baseline flows for 2021.

Traffic growth rates in the area between 2021 and 2036 were calculated based on a review of various sources and studies in the vicinity of the site, including EMME/2 data provided by RMS. It was found that the growth rates varied across these studies. For this reason the modelling approach taken was based on a sensitivity assessment of growth rates of 1.5%, 3.0% and 4.4 % per annum, which is broadly consistent with the range of growth rates calculated in various other studies. These growth rates were applied to through traffic along Camden Valley Way and Denham Court Road to assess future scenarios for 5 year staged intervals between 2021 and 2036.

For the purposes of this assessment it was assumed that heavy vehicles would make up 3.5% of the traffic composition in the future. The reduction in the proportion of heavy vehicles from existing levels is due to the large increase in residential land use resulting in higher volumes of light vehicle traffic.

5.1.2 Traffic Generation

The RTA Guide to Traffic Generating Development provides guidance for traffic generation rates for low density and medium density residential developments. For the purposes of this assessment, it was assumed that the other non-residential land uses, such as schools, local centres etc. proposed within the precinct services internal traffic movements only. The generation rates used in this assessment are shown in **Table 5.1** as stipulated in the RTA Guide to Traffic Generating Developments.

Table 5.1 Traffic Generation Rates

Land Use	RTA Traffic Generation Rate
Low density residential	9 daily trips per dwelling
Medium density residential	5 – 6.5 trips daily trips per dwelling

Based on the application of the traffic generation rates outlined above and the Indicative Layout Plan (ILP) current at the time of modelling (ILP 12.6), which included approximately 4,386 dwellings (mix of low and medium density), the total daily trips generated from the proposed development will be in the order of 38,168 trips. For the purposes of this assessment the peak hour trips were assumed to equal 10% of the daily trips. The total trips generated from each internal precinct are shown in **Table 5.2**.

It is noted that not all trips generated from the precinct are external trips as a certain amount of trips generated by the precinct will remain internal to the development to reflect trips between residential land uses and local centres, schools and recreational land uses. These internal trips have been estimated as 25% of the total trips generated, which is in accordance with the RTA Guide to Traffic Generating Developments.

For the purposes of this assessment it was assumed that 70% of the development will be complete by 2021 and full development will be achieved by 2026.

Table 5.2 Traffic generation by internal precinct (Full development)

Precinct	Dwelling Type	Yield	Generation Rate	Total Trips	External Trips	Peak Hour External Trips
1	Low Density	786	9 daily	7,074	5,306	531
	Medium Density	20	6.5 daily	130	98	10
2	Low Density	146	9 daily	1,314	986	99
	Medium Density	61	6.5 daily	397	297	30
3	Low Density	202	9 daily	1,818	1,364	137
	Medium Density	341	6.5 daily	2,217	1,663	167
4	Low Density	517	9 daily	4,653	3,490	349
	Medium Density	00	6.5 daily	0	0	0
5	Low Density	132	9 daily	1,188	891	90
	Medium Density	0	6.5 daily	0	0	0
6	Low Density	488	9 daily	4,392	3,294	330
	Medium Density	86	6.5 daily	559	420	42
7	Low Density	728	9 daily	6,552	4,914	492
	Medium Density	0	6.5 daily	0	0	0
8	Low Density	504	9 daily	4,536	3,402	341
	Medium Density	0	6.5 daily	0	0	0
9	Low Density	375	9 daily	3,375	2,532	254
	Medium Density	0	6.5 daily	0	0	0
Total	*Low Density*	*3,878*		*34,866*	*26,177*	*2,618*
	Medium Density	*508*		*3,302*	*2,477*	*248*
	All	**4,386**		38,168	28,654	2,866

*Based on the ILP current at the time of modelling (ILP12.6)

5.1.3 Traffic Distribution

The modelling undertaken in this study has considered the East Leppington precinct as a discrete zone and distributed the development traffic to external destinations. The traffic distribution to the external road network is detailed in **Table 5.3**. It is noted that the traffic distribution is broadly based on Journey to Work data, with consideration given to the change in travel patterns due to land use changes identified in RMS's strategic modelling.

Table 5.3 Development Traffic Trip Distribution

Road	Destination / Origin*	Traffic Assignment
Camden Valley Way (S)	Camden, Picton	20%
George Road	Leppington	0%
Heath Road	Leppington	5%
Ingleburn Road	Leppington	10%
Cowpasture Road	Leppington	5%
Camden Valley Way (N)	Liverpool, Bankstown, Auburn, Burwood, City	30%
Denham Court Road	Denham Court, Ingleburn, Minto, Campbelltown, M7 Southbound	30%
Total		100%

All percentages rounded to nearest 5%
*All destinations and origins were considered in the strategic transport modeling and in this assessment. Locations shown in the table above are major attractors as identified in the Journey to Work data.

Based on the largely residential nature of the East Leppington precinct the following directional splits were assumed for the AM and PM peak periods:

> AM Peak – 20% in / 80% out.
> PM Peak – 80% in / 20% out.

These directional splits are considered appropriate for the nature of the proposed development.

5.1.4 Traffic Assignment

The aim of traffic assignment is to determine the route paths the development traffic travel along. The modelling undertaken in this study assumed that the route assignment was based on the shortest path and most likely route choice. The routes were determined from the traffic precincts discussed in Section 5.1 and the external trip destinations/origins outlined in **Table 5.3**.

It is noted that the route assignment is based on an all-or-nothing path building process with distance being the only factor on trip cost. The modelling did not account for congestion or any other factors that have an impact on increased travel time.

5.1.5 Resultant Traffic Volumes

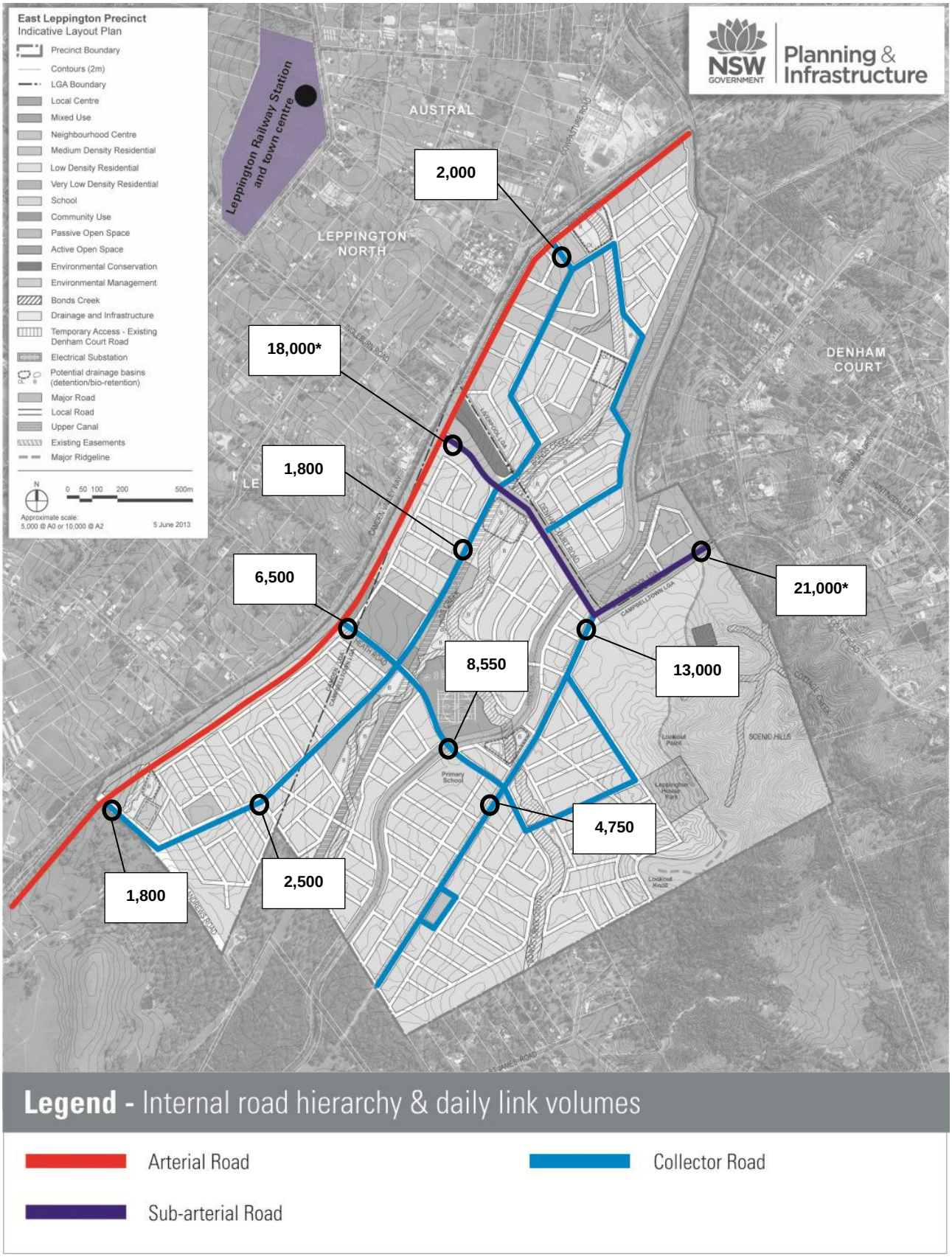
The resultant daily traffic volumes on each key internal are shown in **Figure 5.2**. It is noted that the volumes shown on Denham Court Road include background traffic of approximately 10,000 daily trips in addition to development traffic.

5.2 INTERNAL ROAD CAPACITY & HIERARCHY

5.2.1 Internal road cross-sections

The road cross sections for the roads internal to the East Leppington precinct were determined based on the function and traffic volumes calculated in the spreadsheet model. The internal road hierarchy is illustrated in **Figure 5.2** along with the daily midblock volumes along the key links.

Figure 5.2 Internal Road Hierarchy & Daily Link Volumes (2036 – 10 year design horizon)



*East Leppington Precinct development traffic plus 2036 forecast background traffic of approximately 10,000 daily trips

Preliminary consideration has been given to road cross sections that could potentially apply within the East Leppington precinct, which are shown in **Table 5.4**. These cross sections are considered appropriate and are generally in accordance with the Growth Centres Development Code. The Growth Centres Development Code cross sections are provided in Appendix A.

Table 5.4 Typical Road Cross Sections

Verge	Carriageway	Median	Carriageway	Verge
Sub-arterial (30.2 metres) – Denham Court Road between Camden Valley Way and edge of precinct				
4.7m	6.5m plus 1.8m cycle lane	4.2m	6.5m plus 1.8m cycle lane	4.7m
Collector (20.0 metres)				
4.5m inclusive of Shared pedestrian/cycle path	5.5m with parking	-	5.5m with parking	4.5m inclusive of footpath
Local (16 metres)				
3.5m inclusive of footpath	5.5m with parking	-	3.5m	3.5m

5.2.2 Denham Court Road Alignment

Based on the traffic modelling it is envisaged that Denham Court Road will carry approximately 18,000 vehicles daily within the boundaries of the East Leppington Precinct north of the roundabout. Based on the expected traffic volumes Denham Court Road will require two lanes in each direction north of the roundabout located at the southern connection to the development. It is envisaged that this upgrade will be required in 2026, that is, when volumes are expected to exceed 16,000 vehicles per day.

It is noted that constraints exist with the construction of two lanes in each direction along Denham Court Road. They are associated with a high pressure gas pipeline and heritage bridge over the creek in the vicinity of the roundabout. These constraints may result in constructability issues when considering the duplication of Denham Court Road.

As the area develops, the road environment of Denham Court Road will change, transitioning from a rural arterial to an urban arterial.

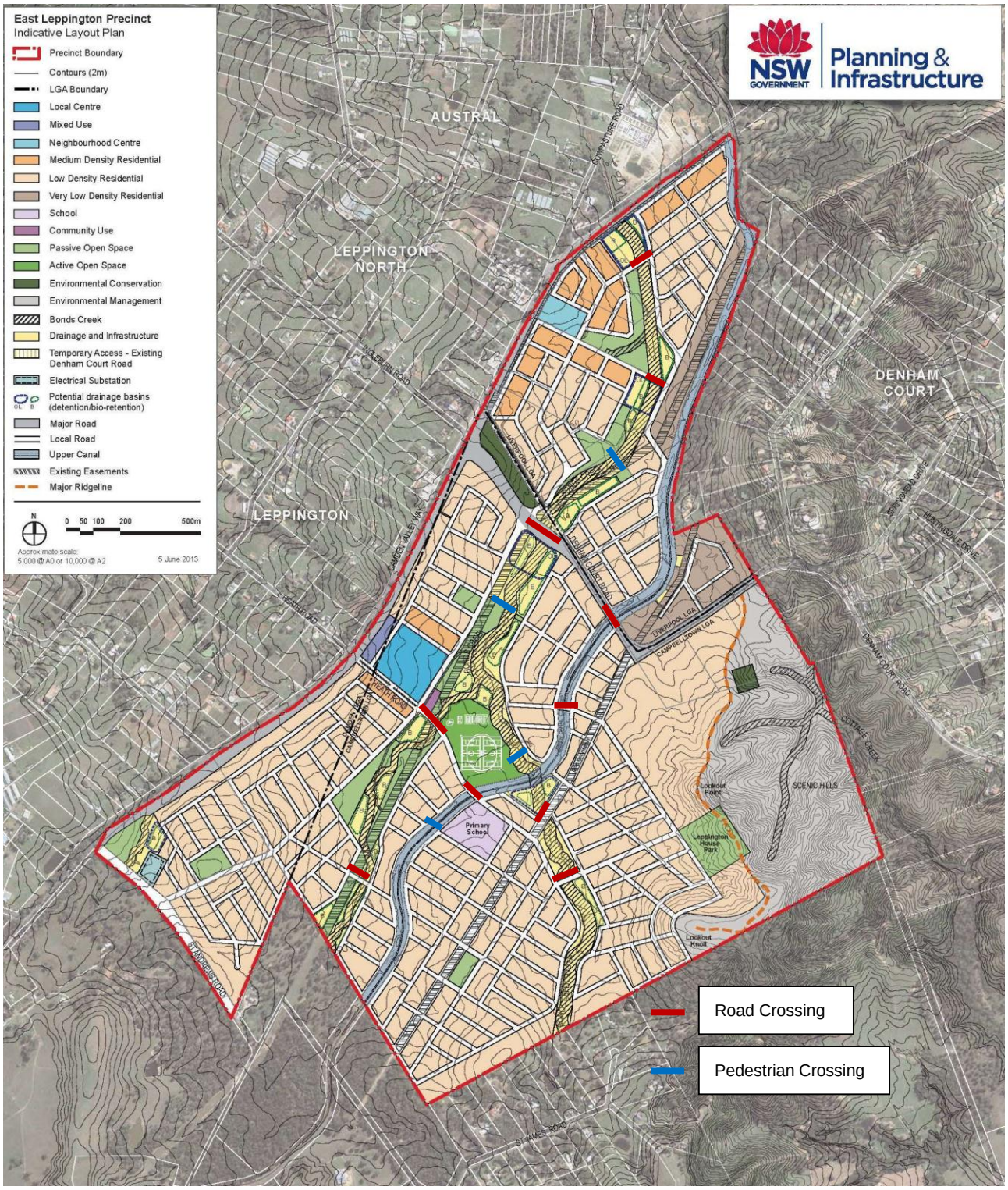
This change, as well as the introduction of intersection controls will sufficiently change the environment to the effect that existing safety deficiencies relating to expectancy, lighting and alignment could be reduced and therefore the existing alignment is considered acceptable.

Denham Court Road will carry approximately 21,000 vehicles daily east of the roundabout within the East Leppington precinct. Beyond the precinct boundary, the performance and geometry of Denham Court Road has not been assessed in detail, however it is likely that upgrades will be required to cater for the forecast traffic volumes. This will need to be addressed in a strategic context with consideration to the growth in the region and the resulting travel demands.

5.2.3 Internal Road and Pedestrian Bridge/Culvert Crossings

Locations of bridges have been informed by the results of this study and developed in consultation with the urban designer, in order to appropriately provide pedestrian and vehicular access and connectivity throughout the precinct. Figure 5.3 indicates the recommended locations of vehicular and pedestrian bridges.

Figure 5.3 Vehicular and pedestrian bridge locations

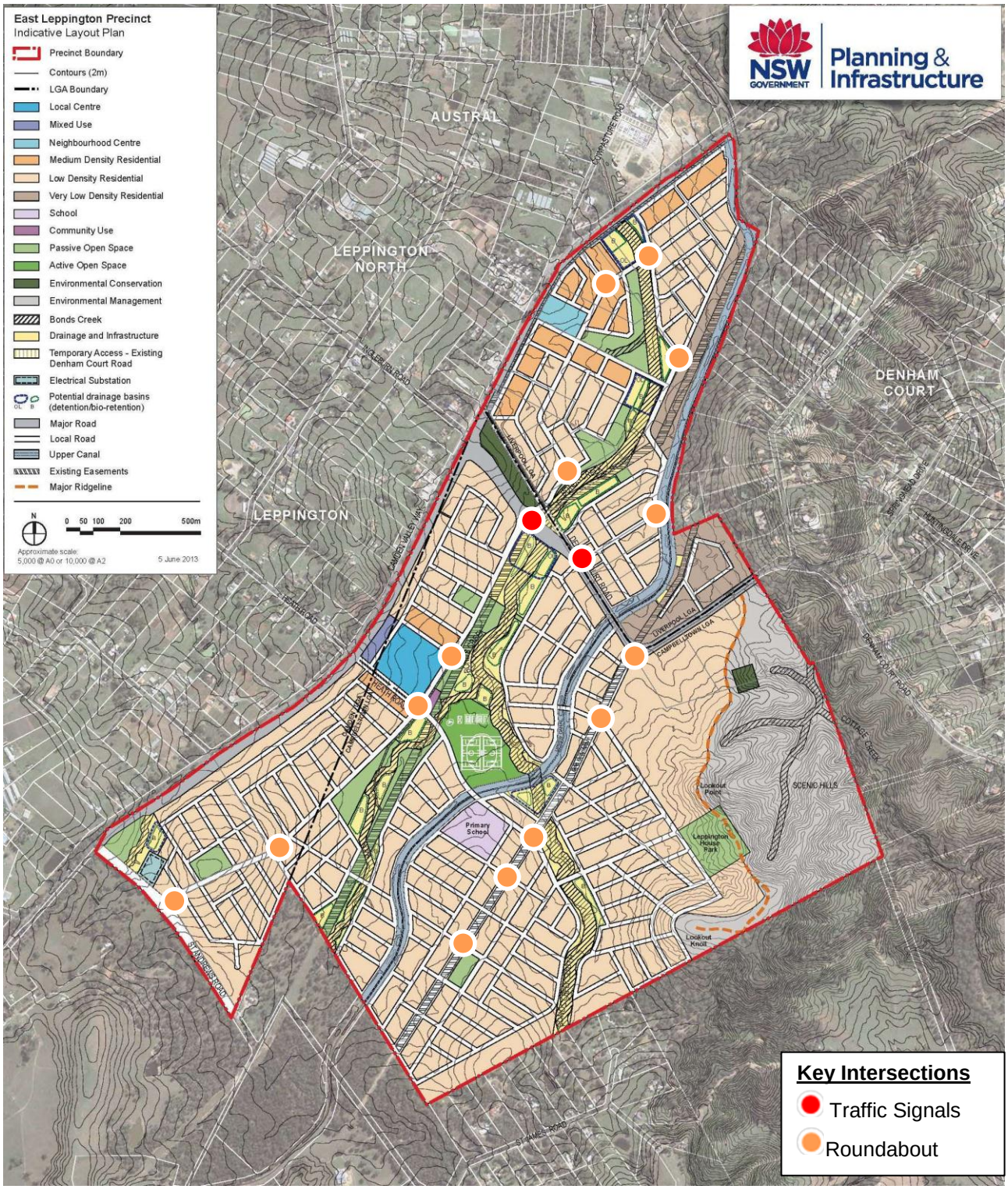


5.2.4 Key Internal Intersections

The selection of appropriate intersection treatments is dependent on a number of factors, including traffic operations, road function, road safety and surrounding environmental conditions. For the purpose of this study, high level principles were adopted for the selection of intersection treatments, in particular the provision of roundabouts, within the East Leppington Precinct. These principles include the provision of roundabouts at collector road intersections to ensure satisfactory traffic operations within the precinct, as well as balanced traffic flow across all approaches when considering the provision of roundabouts. The locations of these roundabouts are illustrated in **Figure 5.3**.

It should be noted that the internal intersections were not assessed, however the traffic volumes anticipated on the internal road network would not warrant any additional land take over and above the allowed road widths or normal intersection splays.

Figure 5.4 Key intersections within Precinct



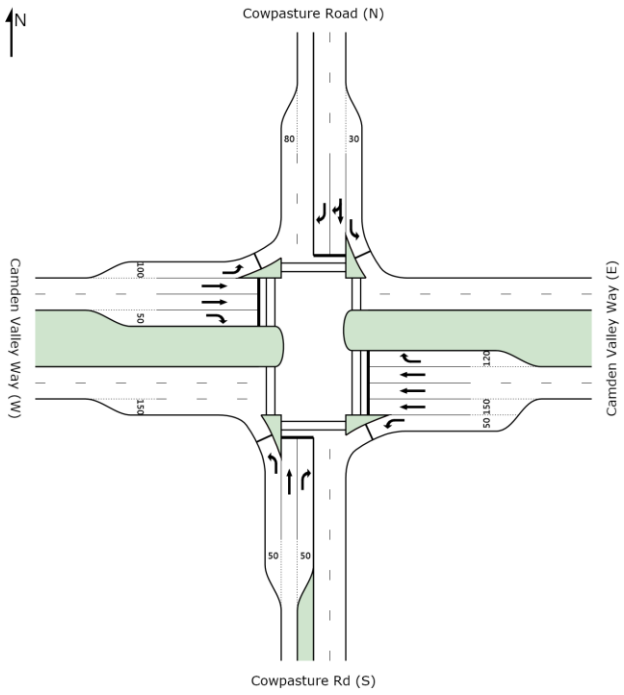
5.3 INTERSECTION ANALYSIS

Intersection analysis was undertaken for the five key intersections providing access between the East Leppington precinct, Camden Valley Way and Denham Court Road. These include:

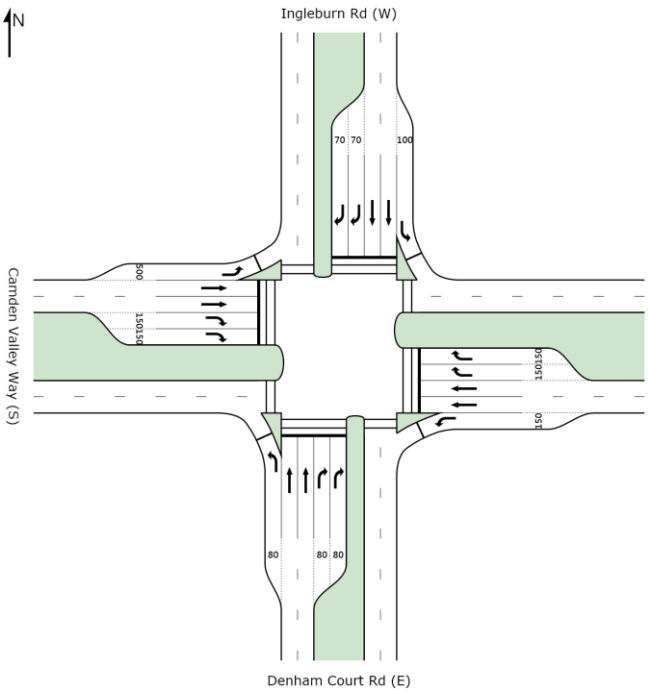
> Camden Valley Way / St Andrews Road (traffic signals).
> Camden Valley Way / Heath Road (traffic signals).
> Camden Valley Way / Ingleburn Road (traffic signals).
> Camden Valley Way / Cowpasture Road (traffic signals).
> Denham Court Road / Eastern access to East Leppington precinct (roundabout).

The intersection layouts tested in this assessment are consistent with the most recent planned upgrades of Camden Valley Way. It is noted that with the additional approach proposed at the intersection of Camden Valley Way / Cowpasture Road, amendments to the intersection planned by RMS were made for this assessment. The intersection forms assessed in this study is shown in **Figure 5.5.**

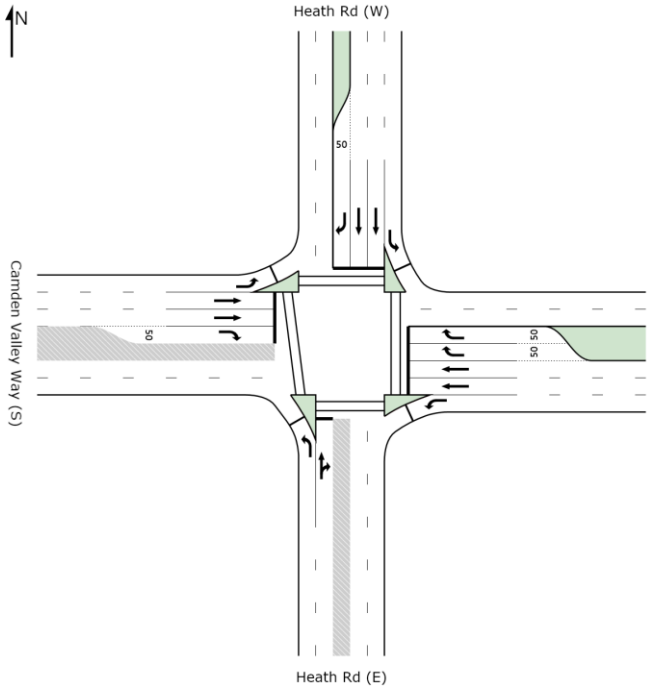
Figure 5.5 SIDRA Intersection Layouts



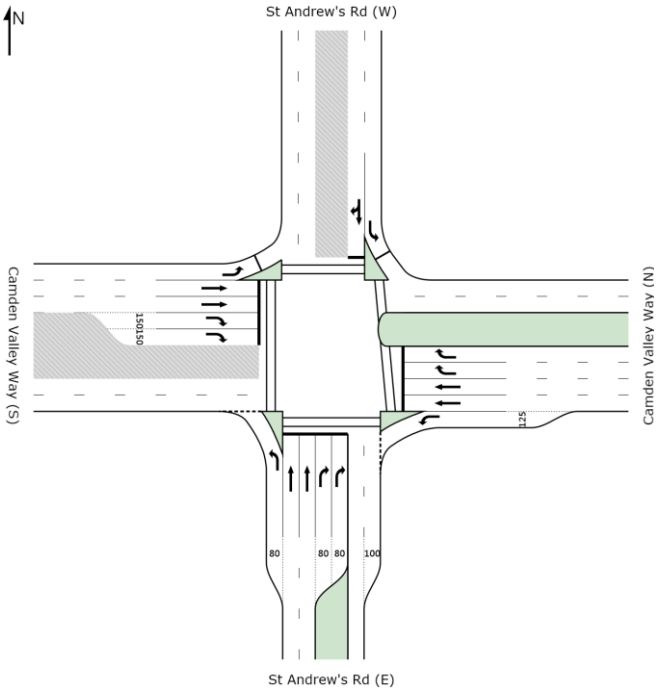
Camden Valley Way / Cowpasture Road



Camden Valley Way / Denham Court Road



Camden Valley Way / Heath Road



Camden Valley Way / St Andrew's Road

In an urban area the capacity of a road network can be largely determined by the capacity of the controlling intersections. The existing intersection operating performance was assessed using the SIDRA software package to determine the Degree of Saturation (DS), Average Delay (AVD in seconds) and Level of Service (LoS) at each intersection. The key indicator of intersection performance is Level of Service, where results are placed on a continuum from 'A' to 'F', as shown in **Table 5.5**.

Table 5.5 Intersection Level of Service

LoS	Traffic signal / roundabout	Give way / stop sign / T-junction control
A	Good operation	Good operation
B	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	Satisfactory	Satisfactory, but accident study required
D	Operating near capacity	Near capacity & accident study required
E	At capacity, at signals incidents will cause excessive delays.	At capacity, requires other control mode
F	Unsatisfactory and requires additional capacity, Roundabouts require other control mode	At capacity, requires other control mode

The Average Vehicle Delay (AVD) provides a measure of the operational performance of an intersection as indicated below in **Table 5.6** which relates AVD to LOS. The AVDs should be taken as a guide only as longer delays could be tolerated in some locations (i.e. inner city conditions) and on some roads (i.e. minor side street intersecting with a major arterial route). For traffic signals, the average delay over all movements should be taken. For roundabouts and priority control intersections (sign control) the critical movement for level of service assessment should be that movement with the highest average delay.

Table 5.6 Intersection Average Delay (AVD)

LoS	Average Delay per Vehicles (seconds/vehicle)
A	Less than 14
B	15 to 28
C	29 to 42
D	43 to 56
E	57 to 70
F	>70

The degree of saturation (DS) is another measure of the operational performance of individual intersections. For intersections controlled by traffic signals both queue length and delay increase rapidly as DS approaches 1. It is usual to attempt to keep DS to less than 0.9. DS in the order of 0.7 generally represent satisfactory intersection operation, when DS exceed 0.9 queues can be expected.

Traffic volumes were obtained from the spreadsheet model and used in this assessment. Assessment was undertaken for five year staged intervals between 2021 and 2036. For the purposes of this assessment it was assumed that East Leppington precinct will be fully developed by 2026. Subsequent scenarios have been modelled with growth in background traffic along Camden Valley Way and Denham Court Road.

As discussed in Section 5.1.1 traffic growth rates between 2021 and 2036 were calculated based on various sources and studies in the vicinity of the site, including EMME/2 data provided by RMS. It was found that the growth rates varied across the studies. For this reason the modelling in this report has included a sensitivity assessment of the following three growth rate scenarios:

> 1.5% per annum.
> 3.0 % per annum.
> 4.4 % per annum.

The above mentioned growth rates are broadly consistent with the growth rates calculated in various other studies. These growth rates were applied to through traffic along Camden Valley Way and Denham Court Road to assess future scenarios for 5 year staged intervals between 2021 and 2036.

It is noted that the growth rate is approximate and largely dependent on assumptions of future employment and population distributions. This data used in developing the growth rates is obtained from the Australian Bureau of Statistics and may not necessarily align with government policies or commitments. Additionally, future growth volumes in the Leppington area will be sensitive to future land releases associated with the South West Growth Centre.

5.3.1 2021 Intersection Analysis

A summary of the results is presented in **Table 5.7**. The results show that the intersections will generally operate satisfactorily in the 2021 AM peak period, however, it is noted that the approaches on Camden Valley Way will be approaching capacity, operating with Degrees of Saturation above or approaching 0.95 at most intersections. This suggests that an additional lane in each direction along Camden Valley Way will be required with the expected growth and development after 2021.

The results show that in the 2021 PM peak the intersections will generally operate satisfactorily. Similar to the AM peak period, the approaches on Camden Valley Way will be approaching capacity, operating with Degrees of Saturation approaching 0.95 suggesting additional capacity is required on those approaches in the future.

Table 5.7 Intersection Level of Service- 2021 Analysis

Intersection	2021 AM Peak			2021 PM Peak		
	DoS	Delay (s)	LoS	DoS	Delay (s)	LoS
Camden Valley Way / Cowpasture Rd	1.016	56.2	D	0.851	10.3	A
Camden Valley Way / Denham Court Rd	0.950	28.5	B	1.016	56.2	D
Camden Valley Way / Heath Rd	0.844	10.9	A	0.847	9.6	A
Camden Valley Way / St Andrews Rd	0.952	15.8	B	0.924	10.9	A
Denham Court Rd / Precinct Access	0.489	6.2	A	0.512	12.4	A

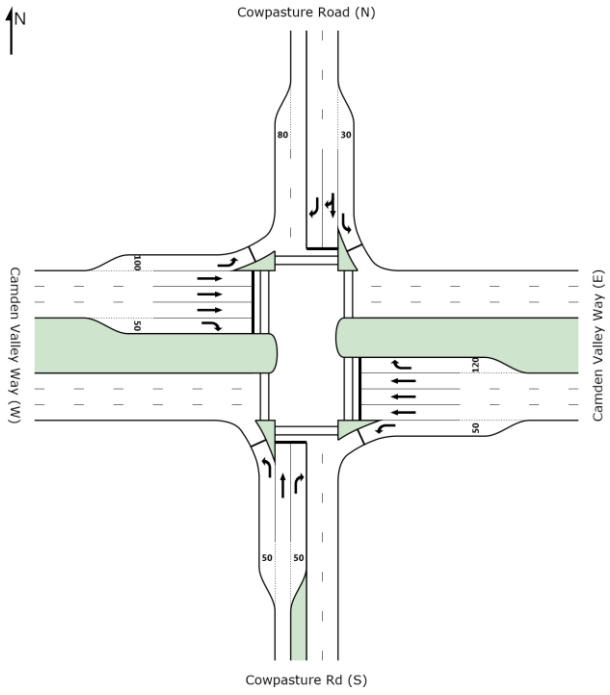
It should be noted that the intersection modelling detailed in the *Camden Valley Way - Strategic and Intersection Modelling Report* shows the Camden Valley Way approaches will operate at capacity with Degrees of Saturation of above 0.9. Additionally, the report states Camden Valley Way, between Cowpasture Road and St Andrews Road will operate at capacity by 2026 and that the 'effective life of a four lane Camden Valley Way carriageway is very sensitive to any change' (*Camden Valley Way - Strategic and Intersection Modelling Report* - Section 3.1). The additional capacity recommended in this assessment is in accordance with previous modelling and highlights the need for six lanes along Camden Valley Way.

5.3.2 2026 Intersection Analysis

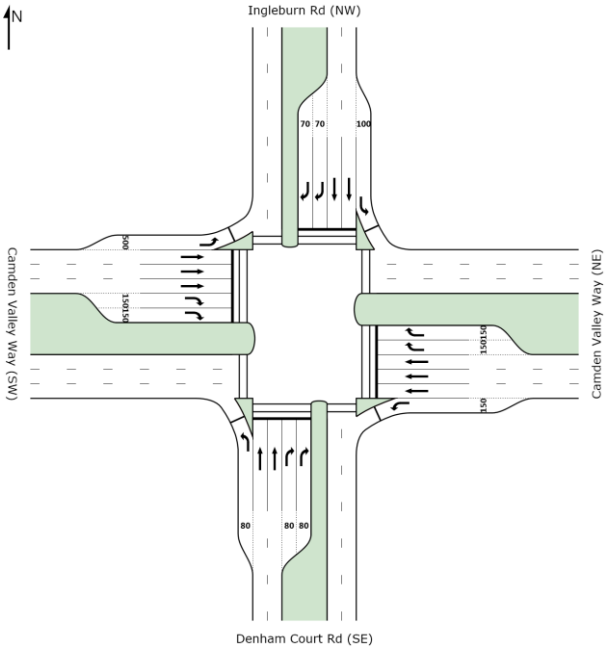
As suggested in the *Camden Valley Way - Strategic and Intersection Modelling Report*, additional capacity on Camden Valley Way will be required by 2026. It is noted that RMS concept designs plan for six lanes on Camden Valley Way and therefore for the purposes of this assessment, an additional travel lane along Camden Valley Way has been included in both directions on all the intersections.

The intersection forms assessed in this study with the upgrade of Camden Valley Way by 2026 are shown in **Figure 5.5.**

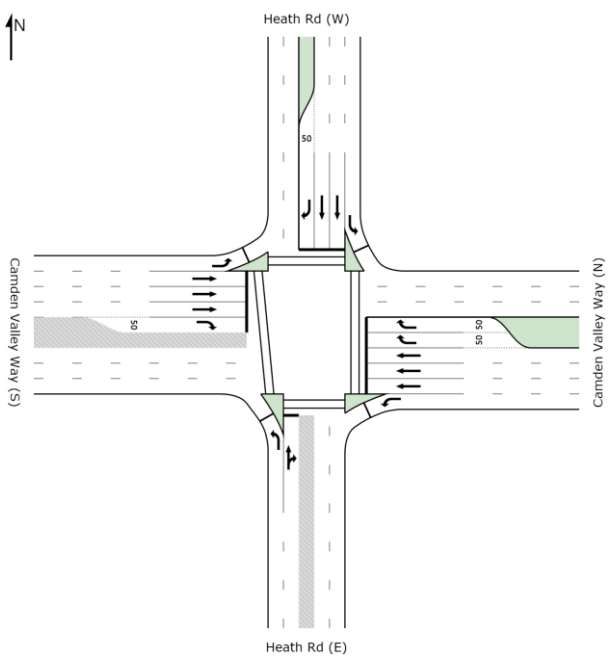
Figure 5.6 Upgraded Camden Valley Way SIDRA Intersection Layouts



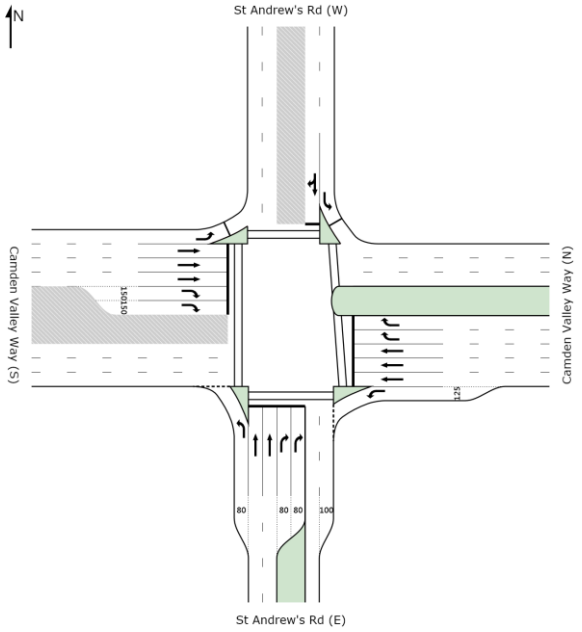
Camden Valley Way / Cowpasture Road



Camden Valley Way / Denham Court Road



Camden Valley Way / Heath Road



Camden Valley Way / St Andrew's Road

The results for the 2026 assessment are shown in **Table 5.9**. The results show that when applying a 1.5% and 3.0% growth rates, the intersections will operate within capacity in the AM and PM peak periods, experiencing acceptable levels of delay. However, the results of the analysis of higher growth rates show that the intersection of Camden Valley Way with Cowpasture Road will experience more significant delays in the PM peak period and operate at unsatisfactory levels of service. It is evident from the analysis undertaken that small increases in background traffic on Camden Valley Way result in significant impacts.

Table 5.8 Intersection Level of Service – 2026 Analysis

Intersection	1.5% Growth p.a			3.0% Growth p.a			4.4% Growth p.a		
	DoS	Delay (s)	LoS	DoS	Delay (s)	LoS	DoS	Delay (s)	LoS
AM Peak									
Camden Valley Way / Cowpasture Rd	1.000	30.4	C	1.000	31.4	C	1.000	32	C
Camden Valley Way / Denham Court Rd	0.832	28.9	C	0.881	29.6	C	0.918	32.2	C
Camden Valley Way / Heath Rd	0.767	13.7	A	0.801	12.8	A	0.837	11.9	A
Camden Valley Way / St Andrews Rd	0.756	10	A	0.798	9.8	A	0.836	9.8	A
Denham Court Rd / Precinct Access*	0.089	13.3	A	0.089	13.3	A	0.818	13.3	A
PM Peak									
Camden Valley Way / Cowpasture Rd	0.954	22.800	B	1.024	52.2	D	1.064	87.8	F
Camden Valley Way / Denham Court Rd	0.888	29.100	C	0.942	33.9	C	0.979	43.4	D
Camden Valley Way / Heath Rd	0.817	14.600	B	0.85	12.9	A	0.875	11.9	A
Camden Valley Way / St Andrews Rd	0.736	10.200	A	0.777	10.0	A	0.823	9.8	A
Denham Court Rd / Precinct Access*	0.838	18.8	B	0.857	19.7	B	0.875	20.7	B

**The intersection of Denham Court Rd / Precinct Access was assessed as a dual lane roundabout; however it is noted that this intersection operates satisfactorily in 2026 as a single lane roundabout.*

It is noted that as part of the traffic modelling conducted as part of the Camden Valley Way upgrade, no assessment of the intersection forms at design years beyond 2026 was undertaken, with RMS reliant in the three travel lanes in each direction on Camden Valley Way to cater for future traffic growth.

5.3.3 2031 Intersection Analysis

Analysis of forecast traffic volumes in 2031 considering the three growth rate scenarios was undertaken and the results are shown in **Table 5.10.**

The results show that when applying a 1.5% growth rate, the intersections will operate within capacity in the AM and PM peak periods, experiencing acceptable levels of delay. However, the results of the analysis of higher growth rates show that the intersections of Camden Valley Way with Cowpasture Road and Denham Court Road will experience more significant delays and operate at unsatisfactory levels of service. It is evident from the analysis undertaken that small increases in background traffic on Camden Valley Way result in significant impacts.

Table 5.9 Intersection Level of Service – 2031 Analysis

Intersection	1.5% Growth p.a			3.0% Growth p.a			4.4% Growth p.a		
	DoS	Delay (s)	LoS	DoS	Delay (s)	LoS	DoS	Delay (s)	LoS
AM Peak									
Camden Valley Way / Cowpasture Rd	1.000	31.4	C	1.000	36.6	C	1.060	93.2	F
Camden Valley Way / Denham Court Rd	0.881	29.6	C	0.959	37.6	C	1.038	72.5	F
Camden Valley Way / Heath Rd	0.801	12.8	A	0.871	11.7	A	0.932	16.3	B
Camden Valley Way / St Andrews Rd	0.798	9.8	A	0.889	10.4	A	0.962	20.2	B
Denham Court Rd / Precinct Access*	0.089	13.3	A	0.861	15.3	B	0.936	23.2	B
PM Peak									
Camden Valley Way / Cowpasture Rd	1.024	52.2	D	1.112	160.6	F	1.225	293	F
Camden Valley Way / Denham Court Rd	0.942	34.3	C	1.023	68.1	E	1.120	147.6	F
Camden Valley Way / Heath Rd	0.850	12.9	A	0.904	12.4	A	0.955	18.3	B
Camden Valley Way / St Andrews Rd	0.777	10	A	0.867	9.7	A	0.948	15.8	B
Denham Court Rd / Precinct Access*	0.857	19.7	B	0.894	22.1	B	0.928	25.9	B

**The intersection of Denham Court Rd / Precinct Access was assessed as a dual lane roundabout; however it is noted that this intersection operates satisfactorily in 2031 as a single lane roundabout.*

The assessment of the 2031 scenario suggests that with consideration of higher growth rates additional capacity is required on Camden Valley Way beyond the six lanes on approach to the intersections with Cowpasture Road and Denham Court Road.

The provision of additional capacity above the three lanes in each direction would be unlikely due to the geometric constraints of constructing a fourth lane within the road corridor. Additionally, it would result in significant intersection footprints and would be undesirable from a pedestrian safety perspective.

It is noted that this occurs only with the application of higher background traffic growth rates for the region and as the forecasts extend into the longer term horizon, some uncertainty exists regarding the timing and delivery of the adjacent development that will cause this growth. Travel demand along Camden Valley Way will need to be managed in a strategic context, with consideration to growth in the region, through integrated land use planning, public transport mode share and other measures.

5.3.4 2036 Intersection Analysis

The analysis of forecast traffic volumes in 2036 considering the three growth rate scenarios was undertaken and the results are shown in **Table 5.11**. It is noted that the intersection forms used in the assessment correspond to those shown in **Figure 5.5**.

The results show that when applying a 1.5% per annum growth rate the intersections will generally operate within capacity in the AM and PM peak periods, experiencing acceptable levels of delay. However, it is noted that the intersection of Camden Valley Way with Cowpasture Road will experience more significant delays in the PM peak period and operate at unsatisfactory levels of service.

The results of the analysis of 3.0% per annum growth rates in background traffic volumes show that the intersections of Camden Valley Way with Cowpasture Road and Denham Court Road will experience more significant delays and operate at unsatisfactory levels of service.

Further analysis of growth rates of 4.4% per annum show that all the intersections of Camden Valley Way will experience significant delays in both peak periods.

Table 5.10 Intersection Level of Service – 2036 Analysis

Intersection	1.5% Growth p.a			3.0% Growth p.a			4.4% Growth p.a		
	DoS	Delay (s)	LoS	DoS	Delay (s)	LoS	DoS	Delay (s)	LoS
AM Peak									
Camden Valley Way / Cowpasture Rd	1.000	33.2	C	1.066	98.9	F	1.192	228.3	F
Camden Valley Way / Denham Court Rd	0.922	32.5	C	1.045	76.9	F	1.113	126.7	F
Camden Valley Way / Heath Rd	0.837	11.9	A	0.938	16.3	B	1.028	62.3	E
Camden Valley Way / St Andrews Rd	0.839	9.8	A	0.969	22.3	B	1.094	127.2	F
Denham Court Rd / Precinct Access*	0.82	13.4	A	0.942	24.4	B	1.016	66.6	E
PM Peak									
Camden Valley Way / Cowpasture Rd	1.084	106.1	F	1.232	302	F	1.381	493.6	F
Camden Valley Way / Denham Court Rd	0.983	45.4	D	1.127	153.5	F	1.228	250.1	F
Camden Valley Way / Heath Rd	0.875	12.1	A	0.961	19.9	B	1.010	43.1	D
Camden Valley Way / St Andrews Rd	0.826	9.8	A	0.955	17.2	B	1.079	110.7	F
Denham Court Rd / Precinct Access*	0.875	20.8	B	0.931	26.3	B	0.983	42.8	D

**The intersection of Denham Court Rd / Precinct Access was assessed as a dual lane roundabout; however it is noted that this intersection operates satisfactorily in 2036 as a single lane roundabout for the 1.5% and 3.0% growth scenarios.*

Again, provision of additional capacity above the three lanes in each direction along Camden Valley Way contains significant constraints and is contingent on the realisation of higher background traffic growth rates for the region. Travel demand along Camden Valley Way will need to be managed in a strategic context, with consideration to growth in the region, through integrated land use planning, public transport mode share and other measures.

5.4 Summary of Results and Recommendations

The results of the modelling undertaken for the key intersections associated with the East Leppington precinct shows that they will generally operate with satisfactory delays in all three background traffic growth scenarios up to 2026 (the year of development completion). Subsequent modelling of future years shows that:

> With consideration of 1.5% per annum background traffic rates, which correspond to those used in RMS strategic modelling in the vicinity of the development, the key intersections generally operate satisfactorily at all design horizons. The intersection of Camden Valley Way with Cowpasture Road a will operate with significant delays in the PM peak in 2036.
> With consideration of 3.0% and 4.4% per annum background traffic rates the intersections of Camden Valley Way with Cowpasture Road and Denham Court Road will operate with significant delays in 2031.
> With consideration of 4.4% per annum background traffic rates all the intersections along Camden Valley Way will operate with significant delays in 2036.
> The intersection of Denham Court Road / Precinct access will require a dual roundabout at the same time Denham Court Road is duplicated between Camden Valley Way and the precinct boundary in 2026.
> Duplicate Denham Court Road to be two lanes in each direction between Camden Valley Way and the precinct boundary in 2026.

Table 5.12 shows which background traffic growth scenarios result in upgrades to key intersections as well as the approximate timing of when capacity will be reached.

Table 5.11 Required upgrades and timing

Intersection	1.5% Growth p.a	3.0% Growth p.a	4.4% Growth p.a	Timing
Camden Valley Way / Cowpasture Rd	×	1		2031
Camden Valley Way / Denham Court Rd	×			2031
Camden Valley Way / Heath Rd	×	×	1	2036
Camden Valley Way / St Andrews Rd	×	×		2036
Denham Court Rd / Precinct Access	2	2	2	2026

1. Requires upgrade in addition to upgrade of Camden Valley Way upgrade to six lanes.

2. Requires upgrade to dual lane roundabout when Denham Court Road is duplicated.

As previously discussed, the higher growth scenarios are approximate and largely dependent on assumptions of future employment, population distributions and government policies. Additionally, future growth volumes in the Leppington area will be sensitive to future land releases associated with the Southwest Growth Centre. Based on the findings of this study it will be important for RMS to monitor growth along Camden Valley Way and manage travel demand in a strategic context, with consideration to growth in the region, through integrated land use planning, public transport mode share and other measures.

6 PUBLIC TRANSPORT

6.1 Background

The East Leppington precinct is currently not well serviced by existing public transport networks due to its undeveloped nature. The current and future networks are assessed herein.

6.1.1 Growth Centres Development Code

The Growth Centres Development Code (2006) provides direction when planning and designing the growth centre precincts.

The Development Code outlines a number of policies to specifically address sustainable transport principles and the connectivity of the precincts:

> Improve access to public transport, including links to railway lines • encourage reduction of the reliance on private vehicles.
> Improve walking and cycling pathways, especially between residential areas and shops and schools.
> Provide a network of transport corridors to disperse traffic.
> Improve environmental benefits.

The Development Code also outlines a number of objectives related to both public transport and walking and cycling. The objectives of the Development Code related to public transport include:

> To maximise the use of public transport
> To provide a user-friendly, safe and convenient public transport network that is accessible by foot from most dwellings.
> To provide an interconnected public transport network that services the precinct as well as the regional context.
> To facilitate public transport infrastructure investment to underpin the ILP to maximise accessibility, support higher densities, employment and patronage.

6.2 EXISTING PUBLIC TRANSPORT NETWORK

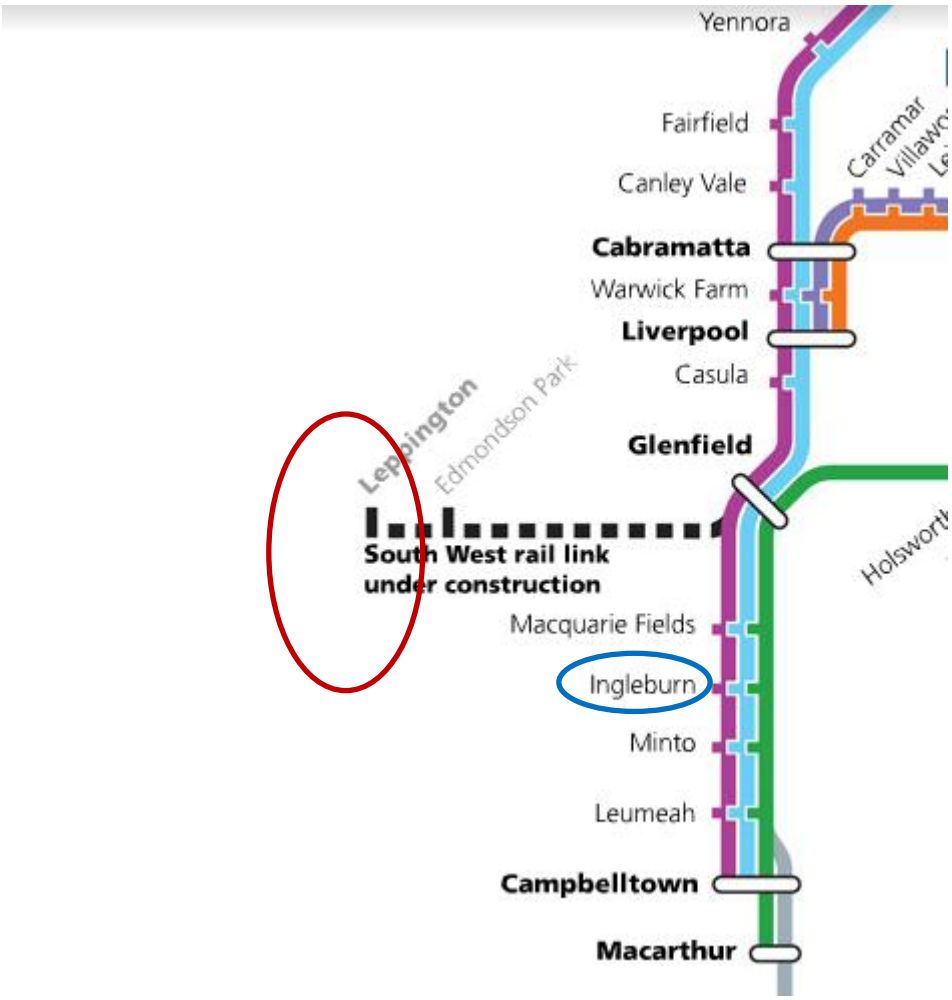
6.2.1 Trains

The closest railway station to East Leppington is Ingleburn; located 5.5km from site. It is serviced by three CityRail lines:

> Airport & East Hills Line.
> South Line.
> Cumberland Line.

The Ingleburn Railway Station is circled in blue in **Figure 6.1** along with the new Leppington Railway Station currently under construction in red. Once constructed, Leppington will be the closest railway station to the site.

Figure 6.1 Current and future rail network



Services to and from Ingleburn Railway Station are outlined in **Table 6.1** below

Table 6.1 Existing bus routes

Railway lines	Direction	Period	Service frequency	Destinations	Park & Ride facilities	Taxi Rank	Bike facilities	Bus stop nearby
Airport & East Hills Line South Line Cumberland Line	City-bound	Mon – Fri AM	10 - 15 minutes	City, Airport, Macarthur, Campbelltown	Yes	Yes	Yes	Yes
		Mon – Fri PM	15 minutes					
		Saturday	10 - 15 minutes					
		Sunday	10 - 15 minutes					
	South-bound	Mon – Fri AM	10 - 20 minutes					
		Mon – Fri PM	10 -15 minutes					
		Saturday	10 - 15 minutes					
		Sunday	10 - 15 minutes					

6.2.2 Buses

The East Leppington site is currently serviced by two bus routes; the routes, bus stops, frequency of services and destinations for each service are provided in **Table 6.2**.

Table 6.2 Existing bus routes

Routes	Period	Service frequency	Number of bus stops within 400m	Destinations
857, 856 (Busabout)	Mon – Fri AM	5:56, 6:52, 7:37, 7:40, 9:00, 9:17, 10.22,11.20	1 (Corner of Camden Valley Way and Ingleburn Rd, adjacent to the Leppington Hotel)	Liverpool Railway Station
	Mon – Fri PM	1.22, 2.34, 4.32, 5.36		
	Saturday	7.42,8.35,10.37 11.35, 1.37 2.35, 4.37, 5.37		
	Sunday	8.08, 10.06, 11.04, 1.06, 4.06		
857, 856 (Busabout)	Mon – Fri AM	6.58, 7.50 , 8.42, 9.43, 10.43, 12.43		Narellan Town Centre
	Mon – Fri PM	1.43, 2.43, 3.53 4.17 5.02, 6.03, 6.31		
	Saturday	7.59, 9.58 10.58, 12.58, 1.58, 3.58, 4.58		
	Sunday	9.41, 12.41, 1.41, 3.41, 4.41		

**Only the northern tip of the site is within 400 metres of this bus stop*

6.3 PROPOSED PUBLIC TRANSPORT NETWORK

6.3.1 Future rail services

To support the population growth planned for south-west Sydney, the NSW Government announced a new rail line, the South West Rail Link, in 2009 connecting the South West Growth Centre precincts with Glenfield Railway Station. The new South West Rail Link is nominated as major project by the 2010 Metropolitan Plan Sydney.

The works include a major upgrade of Glenfield Station and bus/rail interchange, a new twin track passenger rail line from Glenfield to Leppington via Edmondson Park and a train stabling facility at Rossmore. Construction of the South West Rail Link commenced at Glenfield in August 2009.

It will incorporate the following features and is expected to commence operations in 2016.

> A new 11.4-kilometre rail line from Glenfield to Leppington.
> Two new stations located at Edmonson Park and Leppington, including 400 and 850 commuter car parking spaces respectively.
> Access to Penrith, the City and Campbelltown.

Leppington Railway Station will be located around 1.5 kilometres from the northern tip of the East Leppington site and will initially be served by 4 trains per hour with the potential for more in peak periods.

6.3.2 Future bus routes

The *South West Sector Bus Servicing Plan Technical Paper, 2009 (AECOM)* proposes a 'long-term' bus network that consists of seven regional, six district and three peak hour only routes and is designed to demonstrates how new bus routes can link the proposed major centres and increase accessibility throughout each of the South West Growth Centre precincts. Of the seven regional routes proposed, only Regional Route 4 will service the site, along Camden Valley Way; this route has the following characteristics:

Regional Route 4

> (Liverpool to Campbelltown): Liverpool-Lurnea-Prestons-Leppington-Currans Hill-Macarthur-Campbelltown.
> Connection with Casula and Liverpool railway stations, however some sections of the route are in-direct.

The proposed long term bus network is shown in **Figure 6.2** with the East Leppington precinct shown in red. The proposed service frequency for Route 4 is provided in **Table 6.3** following the bus network map.

Of the six district routes proposed in the South West Sector Bus Servicing Plan Technical Paper, 2009 (AECOM), none will service the East Leppington precinct.

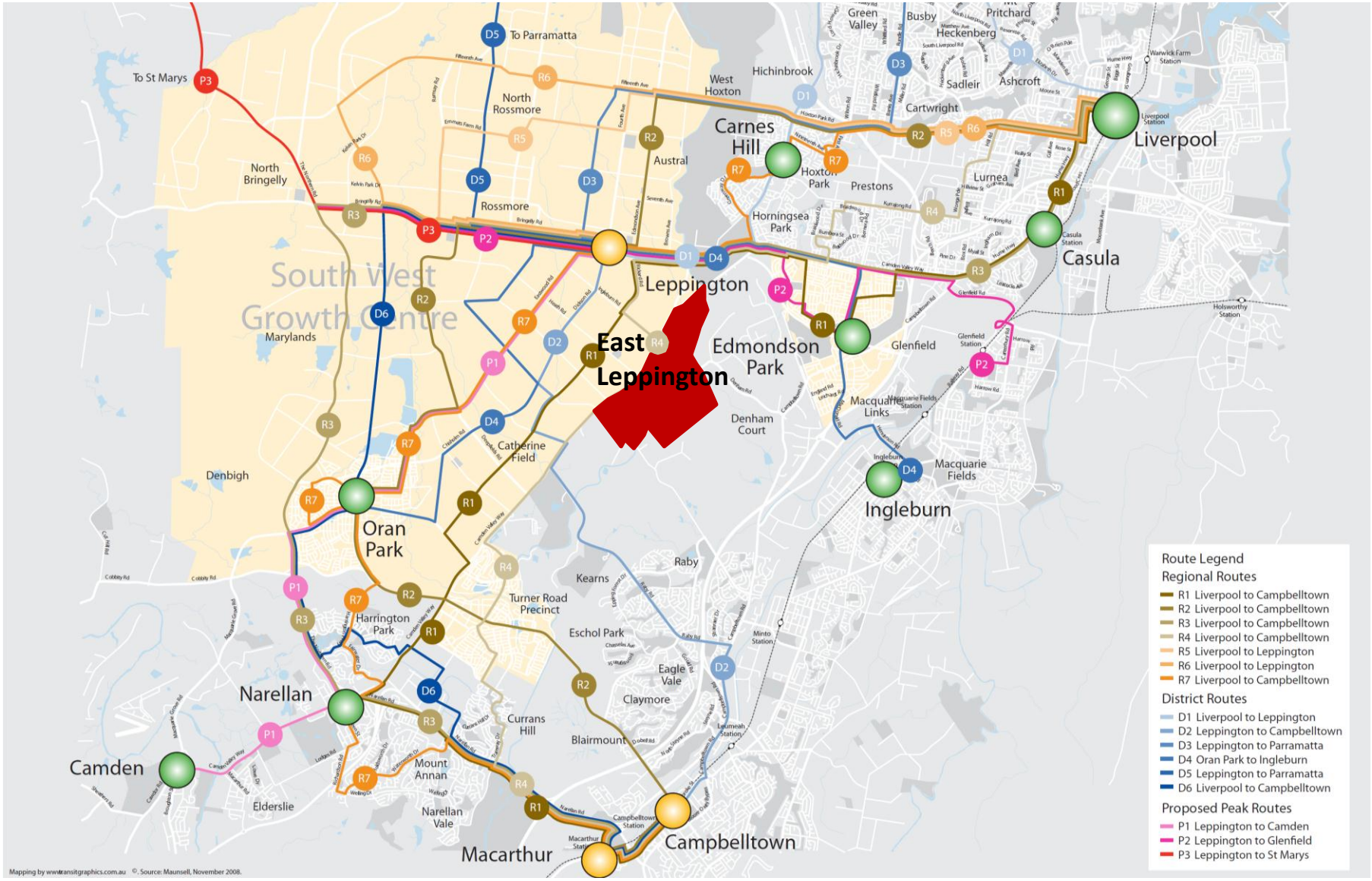
The technical paper also recommends a short-term bus network that is not proposed to service the East Leppington precinct.

Despite being one of the South West Growth Centre precincts earmarked for earliest release (2010-2020), the East Leppington area is one of the most poorly provided for in the South West Bus Sector Servicing Plan. Key land uses within the East Leppington precinct including neighbourhood and local centres, the primary school and sporting grounds will not be serviced by any proposed bus routes.

The new regional bus route R4 will not provide East Leppington residents with additional bus routes, it will instead run along already existing bus route paths. The current Busasbout services 856 and 857 already travel along Camden Valley Way and Ingleburn Road where the proposed R4 route will service East Leppington.

Although two new bus stops adjacent to the East Leppington precinct are proposed on Camden Valley Way as part of the road upgrade, combined with the existing bus stop on the corner of Ingleburn Road and Camden Valley Way they will only service a small number of residents within that acceptable walking distance of 400m, demonstrated in **Figure 6.3**.The proposed regional bus route R4 that will run adjacent to the East Leppington site will not provide access to the new Leppington Railway Station on the South West Rail Link, passengers will instead be connected to Casula and Liverpool railway stations.

Figure 6.2 Proposed long term bus network: Regional, district and peak hour routes



Source: South West Sector Bus Servicing Plan

Table 6.3 Long term bus network: Route 4 indicative service frequency

Route	Description	Minutes between services									
		Sun (6:30-18:00)	Sun Evening (18:00-21:00)	Early AM (before 6:00)	AM Peak (0:00-9:30)	Midday (9:30-15:00)	Shoulder PM Peak (15:00-17:00)	PM Peak (17:00-19:00)	Evening (19:00-24:00)	Saturday (5:30-18:00)	Sat Evening (18:00-24:30)
Route 4	Liverpool to Campbelltown	30		30	15	30	15	15	60	30	60
	Leppington to Campbelltown				15		15	15			
	Leppington to Liverpool				15		15	15			

6.4 RECOMMENDATIONS FOR PUBLIC TRANSPORT

The NSW Government's vision for transport, as outlined in the NSW Long Term Transport Master Plan 2012 includes an intention to grow patronage on public transport by making it a more attractive choice. This will need to be achieved through efficient, convenient and accessible public transport services for all Sydney residents.

Over the next 20 to 30 years, the South West Growth Centre will be home to more than 300,000 people, around 12,000 of which will live in East Leppington. It is important to provide these residents with sustainable transport alternatives to private vehicles to address a number of growing problems associated with car travel including the rising cost of fuel, road congestion, air pollution, poor health and climate change.

Objectives for successful provision of public transport to service the East Leppington precinct need to widely include integration of transport modes and timeliness to ensure the precinct's first residents have immediate access to transport options beyond private car travel. The NSW Service Planning Guidelines for Sydney Metropolitan Regions states that 90% of households should be within 400 metres (as the crow flies) of a rail line and/or a regional or district bus route during peak, inter-peak and daytimes.

The new public transport service proposed to service the East Leppington precinct, an additional regional bus route along Camden Valley Way, will not provide all East Leppington residents with a viable public transport option when deciding upon transport modes. Furthermore, there is no public transport connection proposed for access to the planned East Leppington local centre on Heath Road and the existing and planned bus stops on Camden Valley Way are well outside of the acceptable 400m walking distance for the majority of future East Leppington residents.

To ensure public transport is a viable travel option for East Leppington residents, the following range of measures should be considered as part of the precinct planning.

6.4.1 Integrated transport services

The NSW Government recognises the importance of providing integrated and coordinated public transport services at all stages of decision making. To encourage East Leppington residents to take advantage of the new rail service on the South West Rail Link, they will need to be provided with convenient access options and good interchange facilities.

Direct bus service

Frequent and direct bus services linking East Leppington to the Leppington Railway Station are required, proposed services are discussed in **Sections 6.4.2** and **6.4.3**.

Pedestrian path

Although the Leppington Railway Station will be located outside of the generally accepted 800 metres walking catchment for railway stations, a safe and direct pedestrian route to the Leppington Town Centre will encourage some residents to access the train station by foot. The footpath should be generally aligned with the road network and include signalised crossings where required to facilitate safe crossing movements for pedestrians and cyclists. **Figure 8.1** indicates the proposed locations of these paths

Cycling route

A safe and direct cycling route from the site to Leppington Railway Station will provide another healthy alternative transport mode that East Leppington residents can use to access rail services. The cycle route should have coherence, directness, safety, attractiveness and comfort to adhere to the principles outlined in the *NSW Bicycle Guidelines*. Well-located and weather-protected cycling storage facilities should be provided at Leppington Railway Station.

Interchange facilities

The Leppington Railway Station should facilitate easy transfer between transport modes, with facilities for cyclists, arriving and departing bus passengers, taxi customers, kiss & ride and park & ride users.

6.4.2 District bus route servicing East Leppington

The South West Sector Bus Servicing Plan (SWS Bus Plan) defines district routes as ones that "link residential area with the nearest district centre and other modes operating to the nearest regional centre (e.g. train station or ferry wharf), or the nearest regional centre". A district route servicing the East Leppington precinct is necessary to provide residents with a link to the Leppington Town Centre, Leppington Railway Station and other district and regional destinations. Potential routes and bus stops within the precinct for such a service are identified in **Figure 6.3**, generally along collector roads.

6.4.3 Local bus route servicing East Leppington

The SWS Bus Plan defines local routes as typically 'shopper hopper' services which only operate at very low frequencies, generally two-hourly or less, during off-peak periods to meet a specific need. A local route providing services within the East Leppington precinct with connection to the precinct's local neighbourhood retail facilities is an important service to provide a viable alternative to private vehicles. The local route could also connect to local schools and the Leppington Town Centre. Potential routes and bus stops within the precinct for such a service are identified in **Figure 6.3**.

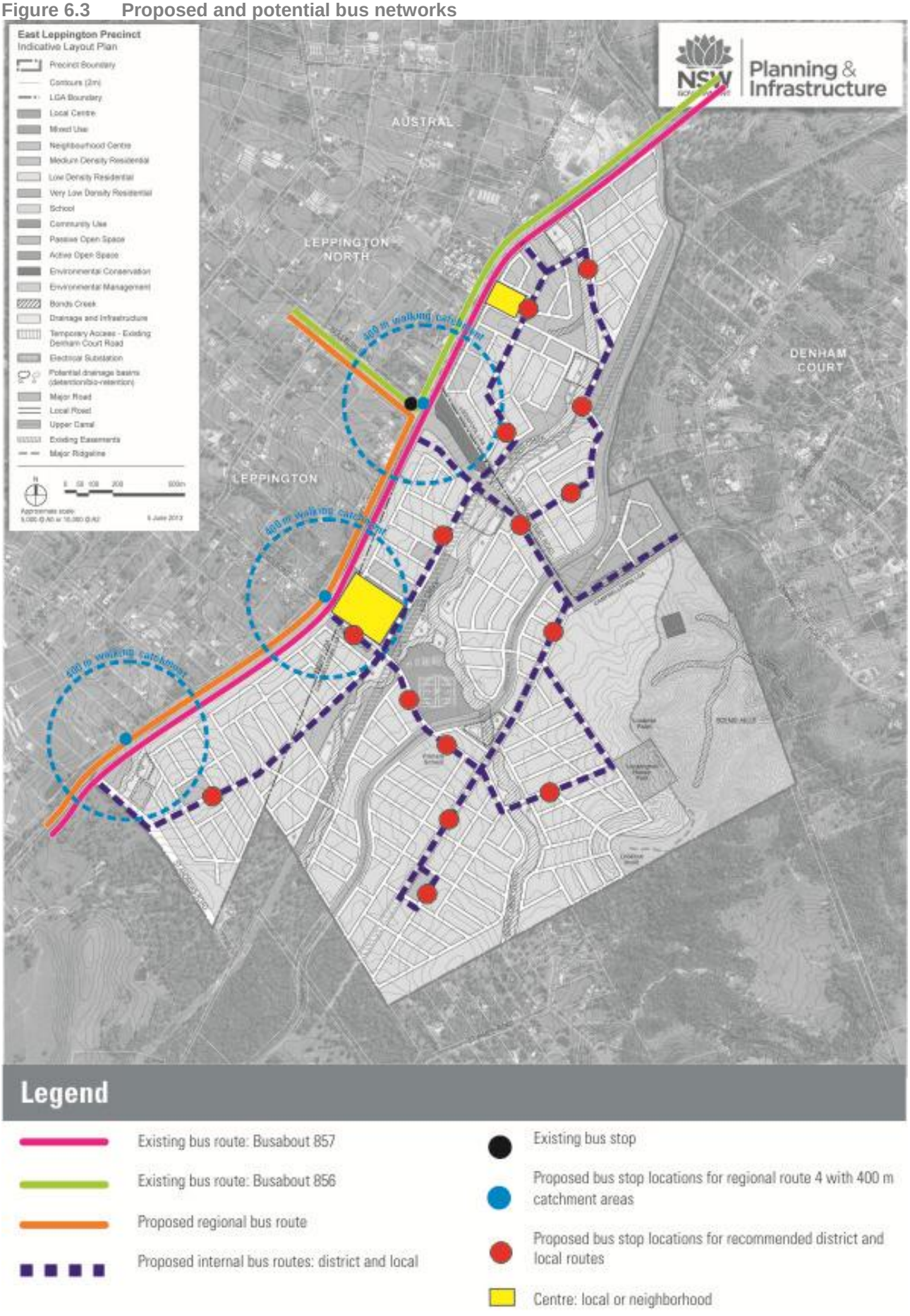
6.4.4 School bus route servicing East Leppington

As the majority of the East Leppington precinct is outside of the primary school's 400m walking catchment, a school bus route is recommended to reduce reliance on cars for dropping and collecting children from the school.

6.4.5 Green Travel Plans

A Green Travel Plan should be developed for residents of East Leppington to inform them of the alternative transport options and encourage them to catch public transport, walk or cycle for trips. The Green Travel Plan needs to commence implementation before residents move into the area to help establish sustainable transport habits from the start. See the accompanying East Leppington Green Travel Strategy for details on the proposed objectives, mode share target and sustainable transport measures for the precinct.

Figure 6.3 Proposed and potential bus networks



7 PEDESTRIAN NETWORKS

7.1 Background

7.1.1 Growth Centres Development Code

The Growth Centres Development Code (2006) provides direction when planning and designing the growth centre precincts.

The Development Code outlines a number of objectives related to both public transport and walking and cycling. The objectives of the Development Code related to walking and cycling include:

> To establish a non-vehicular (pedestrian and cyclist) system which connects major activities and open spaces in a direct and legible manner, incorporating a variety of spaces, and exhibiting high levels of amenity by its relationship to adjoining activities.
> To establish streets and lanes as shared spaces, providing for the needs of pedestrians, cyclists and vehicles.

7.1.2 Local Council Transport Strategies

Campbelltown and Camden Councils' *Integrated Transport Strategy Final Report September 2006 (GHD)* outlines the objectives for walking and cycling in the Campbelltown and Camden local government areas and proposes a walking and cycling framework be developed to achieve the sustainable transport goals. The Integrated Transport Strategy specifically identifies 'new development areas' as needing appropriate plans and paths to support new residential areas. The Integrated Transport Strategy recognises that if walking and cycling paths are not included upfront in the design of new developments, residents will be forced to make travel choices, and ultimately develop travel habits, based on limited options. The strategy acknowledges that appropriate cycle and pedestrian paths will be an incentive to home buyers.

Liverpool Council does not have a publically available Transport Strategy.

7.2 EXISTING PEDESTRIAN NETWORK

There is no connected pedestrian network provided for the East Leppington precinct. Currently, there are no existing pedestrian footpaths on Camden Valley Way or Denham Court Road. There are no signalised pedestrian crossings along the length of Camden Valley Way or Denham Court Road bordering the site.

7.3 PROPOSED PEDESTRIAN NETWORK

7.3.1.1 Internal

The *Growth Centres Development Code, GCC (2006)* details guidelines for the provision of pedestrian infrastructure in the Growth Centre precincts. A summary of the planned pedestrian infrastructure for the East Leppington precinct is detailed in **Table 7.1**.

Table 7.1 Road hierarchy and pedestrian infrastructure

Road type	Role & character	Pedestrian infrastructure	East Leppington roads
Arterial	A high-capacity road that carrying large volumes of traffic (35k+ vehicles per day) between urban areas. Vehicle speed of up to 80km/hr.	Wider off-street footpath	Camden Valley Way
Sub-arterial road	Mediation between regional traffic and local traffic routes and link arterial roads with town centres. Traffic loads are 10k-35k vehicles per day. Vehicle speed of up to 70km/hr.	Footpaths with a minimum width of 1.8 metres.	Denham Court Road, shown in purple on **Figure 5.2**
Collector	Service and link neighbourhoods and towns. Collector streets are 'connecting' streets and neighbourhood 'arrival' streets. Traffic loads are 3k-10k vehicles per day. Vehicle speed of up to 60km/hr.	Separate multi use paths.	Shown in blue on **Figure 5.2**
Local	Give priority to pedestrians and cyclists. Traffic loads are 1k-3k vehicles per day Designed for a vehicle speed of up to 50km/hr.	Shared pedestrian and bike and vehicular uses with continuous pedestrian and cycle paths.	All other roads shown on the Indicative Layout Plan v6.1

Source: Growth Centres Development Code, GCC, 2006

The cross sections internal to site include provision for pedestrians with a 1.2m footpath on one side of local streets and a 1.2m footpath and shared 2.5m pedestrian/cycleway on either side of the collector road network. Off street pedestrian links are provided within the ILP linking recreational facilities to the on street network.

7.3.1.2 External

A key destination for East Leppington residents will be the Leppington town centre and railway station. Pedestrian access will be through Leppington precinct and/or North Leppington precinct for East Leppington residents.

A pedestrian connection along Camden Valley Way is proposed as part of the road's upgrade. It will be a shared pedestrian/cyclist off-road path on the western side of Camden Valley Way.

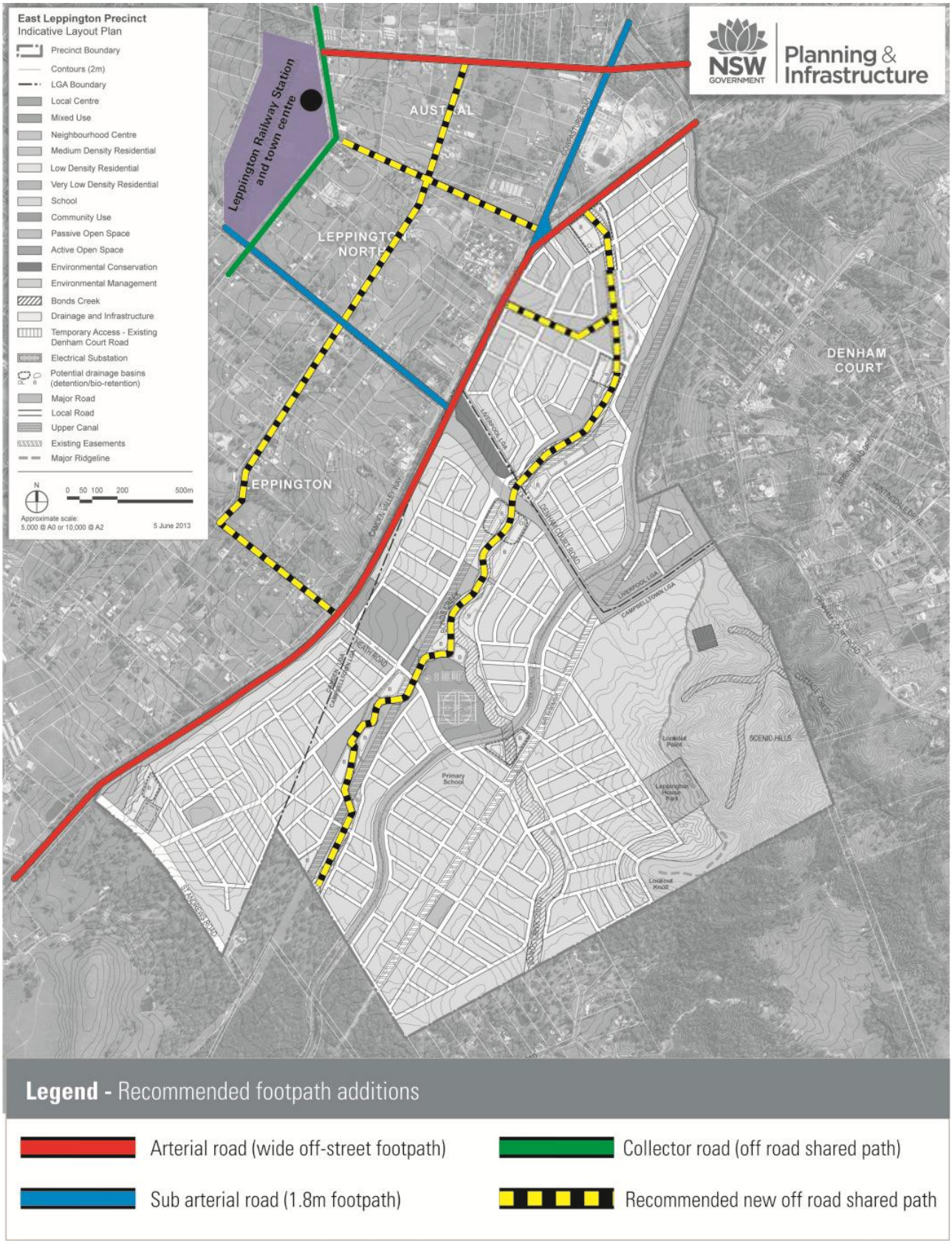
The pedestrian connections proposed for North Leppington and Austral on arterial, transit boulevard and sub-arterial roads in the 2010 North Leppington and Austral Traffic and Transport Assessment are shown on **Figure 7.1** along with the proposed pedestrian footpath as part of the Camden Valley Way upgrade. The Traffic & Transport Assessment also indicated a sub-arterial connection through the Leppington precinct which is illustrated as well. The Growth Centres Development Code stipulates that all Growth Centre precinct roads should provide pedestrian facilities; it can be assumed that the pedestrian network for Leppington and Leppington North will include appropriate pedestrian infrastructure in line with the Growth Centres Development Code, including all collector and local roads as detailed in **Table 7.1**.

7.3.2 Recommendations for further walking infrastructure improvements

The northern tip of the East Leppington precinct is around 1500 metres from the new Leppington Railway Station and town centre, providing an opportunity for people to walk if appropriate pedestrian infrastructure is provided. To ensure that East Leppington residents can connect easily and safely with these destinations on foot, additional pedestrian connections are recommended as shown in **Figure 7.1** in yellow and black, in addition to the already proposed key pedestrian infrastructure.

Safe and direct crossing of Camden Valley Way will be key to providing East Leppington residents with pedestrian access to destinations further afield. This can be achieved via the planned signalised pedestrian crossings of Camden Valley Way upgrade being constructed by RMS.

Figure 7.1 Recommended additions to the proposed external pedestrian infrastructure



8 CYCLE NETWORK

8.1 BACKGROUND

8.1.1 Growth Centres Development Code

As discussed in **Section 7.1.1**, The Growth Centres Development Code (2006) provides direction when planning and designing the growth centre precincts, including a number of objectives related to walking and cycling.

8.1.2 Local Council Transport Strategies

As discussed in **Section 7.1.2**. Campbelltown and Camden Councils' Integrated Transport Strategy Final Report September 2006 (GHD) outlines the objectives for walking and cycling in the Campbelltown and Camden local government areas and proposes a walking and cycling framework be developed to achieve the sustainable transport goals.

8.2 EXISTING CYCLE NETWORK

No cycle network or facilities are currently provided for the East Leppington precinct.

8.3 PROPOSED CYCLE NETWORK

The Growth Centres Development Code stipulates the different types of cycle facilities required for all Growth Centre precincts by road type. It can be assumed that the cycle network for Leppington will include appropriate cyclist infrastructure in line with the Growth Centres Development Code.

A cycling route along Camden Valley Way is proposed as part of the road's upgrade. It is a shared pedestrian/cyclist off-road path on the western side of Camden Valley Way.

8.3.1.1 Internal

The *Growth Centres Development Code, GCC (2006)* details guidelines for the provision of pedestrian infrastructure in the Growth Centre precincts. A summary of the planned pedestrian infrastructure for the East Leppington precinct is detailed in **Table 7.1**.

Table 8.1 Road hierarchy and cycling infrastructure

Road type	Role & character	Cycle infrastructure	East Leppington roads
Arterial	A high-capacity road that carrying large volumes of traffic (35k+ vehicles per day) between urban areas. Vehicle speed of up to 80km/hr.	Off-street cycle path	Camden Valley Way
Sub-arterial Road	Mediation between Regional traffic and local traffic routes and link arterial roads with town centres. Traffic loads are 10k-35k vehicles per day. Vehicle speed of up to 70km/hr.	On street cycle path of 1.8 metres width in each direction	Denham Court Road, shown in purple on **Figure 5.2**

Road type	Role & character	Cycle infrastructure	East Leppington roads
Collector	Service and link neighbourhoods and towns. Collector Streets are 'connecting' streets and neighbourhood 'arrival' streets. Traffic loads are 3k-10k vehicles per day. Vehicle speed of up to 60km/hr.	On street bike lanes or separate multi use paths	Shown in blue on **Figure 5.2**
Local	Give priority to pedestrians and cyclists. Traffic loads are 1k-3k vehicles per day Designed for a vehicle speed of up to 50km/hr.	Shared pedestrian and bike and vehicular uses with continuous pedestrian and cycle paths.	All other roads shown on the Indicative Layout Plan v6.1

Source: Growth Centres Development Code, GCC, 2006

8.3.1.2 External

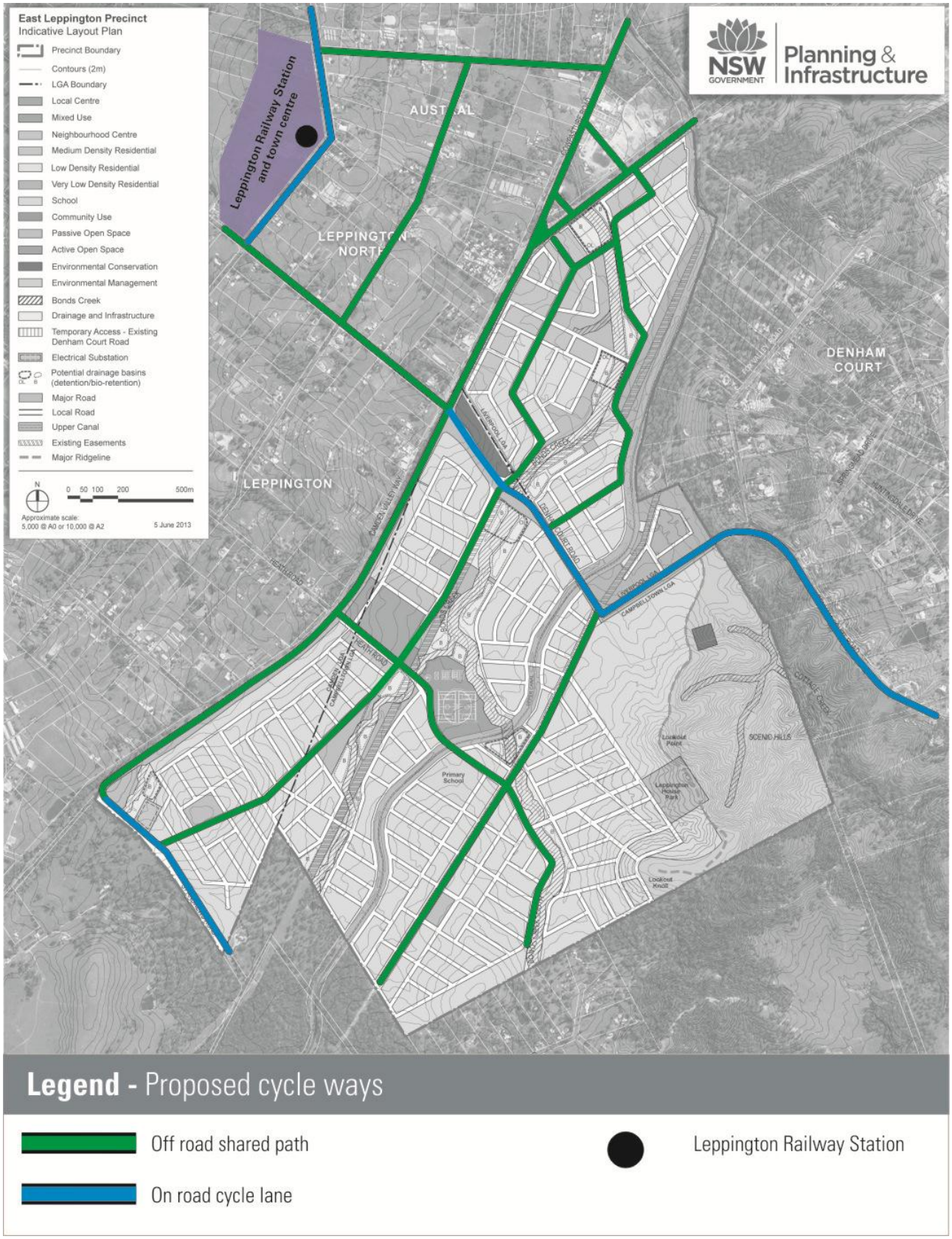
As with pedestrians, a key destination for East Leppington cyclists will be the Leppington town centre and railway station. Cycle access will be through Leppington precinct and/or North Leppington precinct for East Leppington residents.

The Growth Centres Development Code stipulates the different types of cycle facilities required for all Growth Centre precincts by road type. It can be assumed that the cycle network for Leppington will include appropriate cyclist infrastructure in line with the Growth Centres Development Code.

A cycling route along Camden Valley Way is proposed as part of the road's upgrade. It is a shared pedestrian/cyclist off-road path on the western side of Camden Valley Way.

The Draft Austral and Leppington North (ALN) Precincts Transport Assessment details the cycle routes proposed for the development of those precincts, shown in **Figure 8.1**, along with the Camden Valley Way share path.

Figure 8.1 Proposed future cycle ways



Note: Refer **Section 9.4** for description of proposed final infrastructure requirements.

8.3.2 Recommendations for further cycling improvements

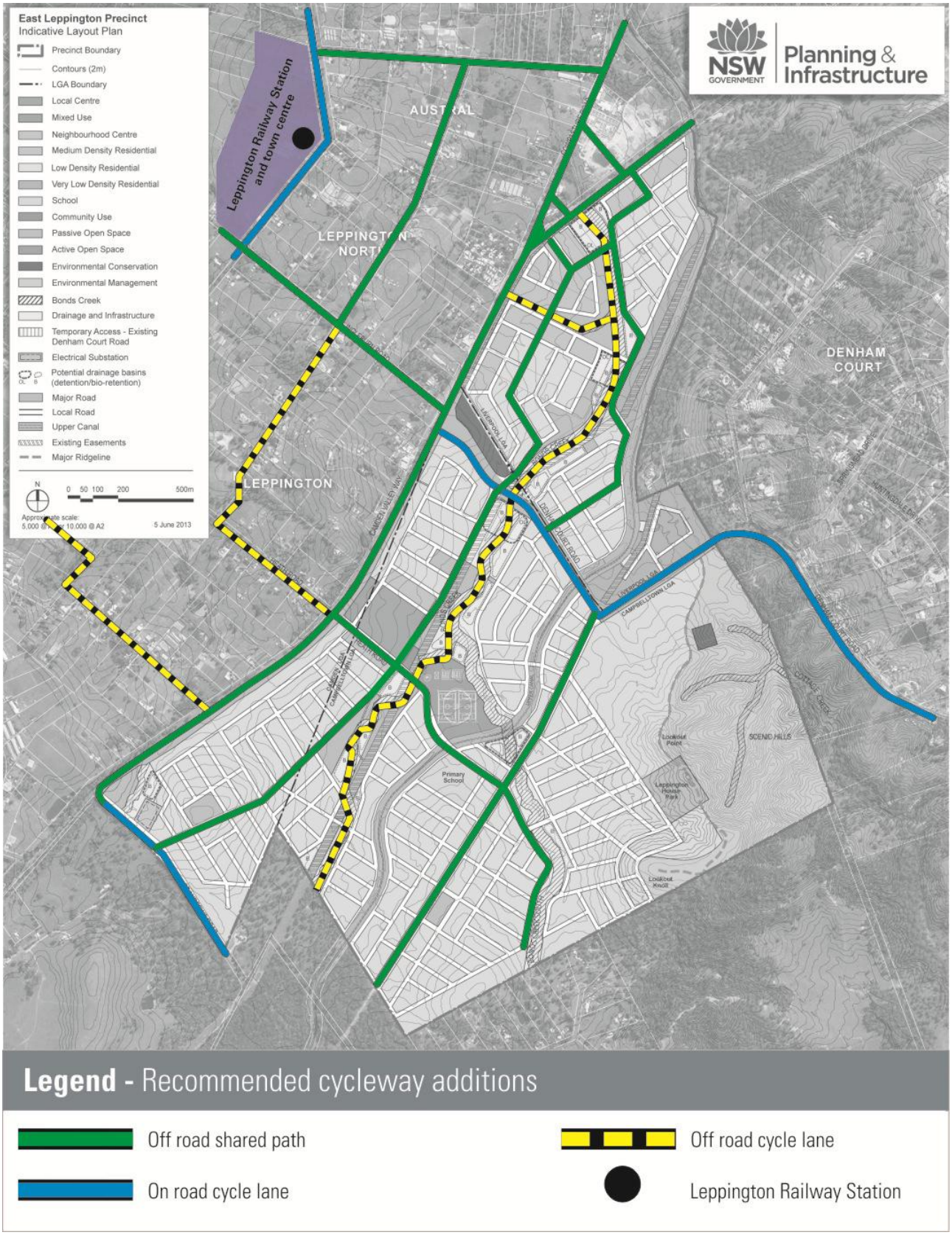
The northern tip of the East Leppington precinct is around 1500 metres from the new Leppington Railway Station and town centre, translating to a short cycle trip of around five minutes if well-connected and accessible cycling infrastructure is provided.

To ensure that appropriate cycling connections and facilities are provided to connect East Leppington with the Leppington town centre and railway station by bike, additional cycle ways are recommended to provide connection with the planned and proposed cycle ways that will be provided as part of the Camden Valley Way upgrade and the development of Austral and North Leppington.

Figure 8.2 demonstrates the recommended cycle links that should be provided between East Leppington and the Leppington town centre and train station. These new connections have been added to the already planned routes as part of the Austral and North Leppington development.

The location and length of these routes has been determined with reference to the estimated demand and in conjunction with the urban design process.

Figure 8.2 Recommended additional future cycleways



9 CONCLUSIONS

9.1 ROAD NETWORK

Cardno has undertaken a traffic assessment for the East Leppington precinct to assess its impact on the surrounding road network, as well as to provide advice on the precinct layout, the road hierarchy and the provision of public and active transport connections. The proposed East Leppington precinct will comprise of approximately 4,380 dwellings (mix of low and medium density), as well as a local centre, neighbourhood retail facilities, primary school, community facilities and recreational land uses. Modelling was undertaken using the ILP current at the time of reporting, which included 4,386 dwellings. The infrastructure proposed in this report is generally based on function rather than capacity, specifically the internal road network and intersection treatments.

The following outlines the findings from this assessment:

> The East Leppington precinct will front Camden Valley Way and will include accesses via three signalised intersections.
> Further access is available from Denham Court Road via a series of connections, the primary connection being a roundabout approximately 800 metres south of Camden Valley Way, providing access between the precinct and Campbelltown Road.
> The findings of a sensitivity assessment indicated that one internal north-south connection across the creek provided the best balance of connectivity and traffic impact.
> The proposed East Leppington precinct will generate 38,168 daily trips / 3,817 peak hour trips. It was assumed the 2,863 trips will be external to the development in the peak periods.
> A sensitivity assessment of background traffic growth rates of 1.5%, 3.0% and 4.4 % per annum was undertaken to determine the impact of various background growth rates.
> Denham Court Road will carry approximately 18,000 vehicles daily within the boundaries of the East Leppington Precinct north of the roundabout. Based on the expected traffic volumes in 2026, Denham Court Road will need to be duplicated to two lanes in each direction within the boundaries of the East Leppington precinct.
> Constraints exist with the construction of two lanes in each direction along Denham Court Road, including a high pressure gas pipeline and heritage bridge over the creek.
> Denham Court Road will carry approximately 21,000 vehicles daily east of the roundabout within the East Leppington precinct. Beyond the precinct boundary, the performance and geometry of Denham Court Road has not been assessed in detail, however it is likely that upgrades will be required to cater for the forecast traffic volumes. This will need to be addressed in a strategic context with consideration to the growth in the region and the resulting travel demands.
> Analysis showed that in 2021 the intersections will generally operate satisfactorily, however:
  - It was noted that the intersections are all approaching capacity largely due to the expected growth along Camden Valley Way.
> Camden Valley Way, between Cowpasture Road and St Andrews Road will operate at capacity by 2026 and additional capacity in the form of an additional lane in each direction will be required. This is in accordance with previous modelling undertaken by RMS.
> Intersection analysis showed that the key intersections along Camden Valley Way will operate with satisfactory delays in all traffic growth scenarios up to 2026 with six lanes on Camden Valley Way.
> Analysis showed that the key intersections along Camden Valley Way in 2031 will operate as follows:
  - With 1.5% background traffic growth rates the intersections will perform satisfactorily.
  - With 3.0% and 4.4% background traffic growth rates the intersection of Camden Valley Way with Cowpasture Road and Denham Court Road will operate with significant delays. Additional capacity will be required on the Camden Valley Way approaches beyond the six lanes.
> Analysis showed that the key intersections along Camden Valley Way in 2036 will operate as follows:
  - With 1.5% background traffic growth rates the intersections will generally perform satisfactorily, except for the intersection with Cowpasture Road, which will operate with significant delays in the PM peak period. Additional capacity will be required on the Camden Valley Way approaches beyond the six lanes.

- With 3.0% and 4.4% background traffic growth rates the intersection of Camden Valley Way with Cowpasture Road and Denham Court Road will operate with significant delays. Additional capacity will be required on the Camden Valley Way approaches beyond the six lanes.
- With 4.4% background traffic growth rates the intersection of Camden Valley Way with Heath Road and St Andrews Road will operate with significant delays. Additional capacity will be required on the Camden Valley Way approaches beyond the six lanes.
- The intersection of Denham Court Road / Precinct access will require a dual roundabout at the same time Denham Court Road us duplicated between Camden Valley Way and the precinct boundary in 2026.

> Duplicate Denham Court Road to be two lanes in each direction between Camden Valley Way and the precinct boundary in 2026.

> Based on the findings of this study it will be important for RMS to monitor growth along Camden Valley Way and manage travel demand in a strategic context, with consideration to growth in the region, through integrated land use planning, public transport mode share and other measures.

Table 9.1 shows which background traffic growth scenarios result in upgrades to key intersections, as well as the approximate timing of when capacity will be reached.

Table 9.1 Required upgrades and timing

Intersection	1.5% Growth p.a	3.0% Growth p.a	4.4% Growth p.a	Timing
Camden Valley Way / Cowpasture Rd	×	1		2031
Camden Valley Way / Denham Court Rd	×			2031
Camden Valley Way / Heath Rd	×	×	1	2036
Camden Valley Way / St Andrews Rd	×	×		2036
Denham Court Rd / Precinct Access	2	2	2	2026

1. Requires upgrade in addition to upgrade of Camden Valley Way upgrade to six lanes.

2. Requires upgrade to dual lane roundabout when Denham Court Road is duplicated.

9.2 PUBLIC TRANSPORT

The Growth Centres Development Code (2006) provides direction when planning and designing the growth centre precincts and outlines a number of policies to specifically address sustainable transport principles and the connectivity of the precincts.

The only new public transport service proposed to service the East Leppington precinct, which includes an additional regional bus route along Camden Valley Way, will not provide all East Leppington residents with a viable public transport option when deciding upon transport modes. The existing and planned bus stops on Camden Valley Way are well outside of the acceptable 400 metres distance for the majority of future East Leppington residents. Furthermore, the proposed regional bus route R4 that will run adjacent to the East Leppington site will not provide access to the new Leppington Railway Station on the South West Rail Link, passengers will instead be connected to further away Casula and Liverpool railway stations.

To ensure public transport is a viable travel option for East Leppington residents, a range of measures should be considered as part of the precinct planning including integrated transport services to connect East Leppington residents to the Leppington town centre and railway station, a district bus route service operating on collector roads throughout the precinct ensuring 90% or more of residents are within a 400 metre walking catchment of public transport and a local bus route to connect residents with the precinct's local and neighbourhood centres.

9.3 WALKING AND CYCLING NETWORK

To deliver on the Growth Centres Development Code sustainable transport policies, appropriate pedestrian and cycling connections and facilities are recommended to allow access both within the East Leppington precinct and also with the Leppington town centre and railway station. Adherence to the development code when planning the East Leppington precinct will result in appropriate pedestrian connections and infrastructure.

The northern tip of the East Leppington precinct is around 1500 metres from the new Leppington Railway Station and town centre, translating to a short cycle trip of around five minutes if well-connected and accessible cycling infrastructure is provided. To ensure that appropriate cycling connections and facilities are provided to connect East Leppington with the Leppington town centre and railway station by bike, additional cycle ways are recommended to provide connection with the planned and proposed cycle ways that will be provided as part of the Camden Valley Way upgrade and the development of Austral and North Leppington.

An accompanying Green Travel Strategy has been developed for the East Leppington precinct to ensure sustainable transport options are prioritised and public transport; walking and cycling facilities are provided and promoted. This strategy should be supported by development of a Green Travel Plan which is implemented as residents move into the area to help establish sustainable transport habits from the start.

9.4 WORKS ITEMS REQUIRED

This report has informed the schedule of works required to ensure a safe and efficient transport network within the East Leppington precinct. The schedule of works associated with transport infrastructure costed in the Section 94 plans, which is in accordance with the recommendations of this report, is shown in **Table 9.2**.

Table 9.2 Schedule of works – Transport infrastructure

	Camden LGA			Campbelltown LGA			Liverpool LGA		
	Area (m^2)	Length (m)	Items	Area (m^2)	Length (m)	Items	Area (m^2)	Length (m)	Items
Roads									
Collector Road	21,536	1,091		73,557	4,295		51,993	3,171	
Denham Court Rd - Half Road Widening					544				
Denham Court Rd - North Ck Realignment					506				
Denham Court Rd - Sth of Gas Easement					665				
Local Road	105,838	6,689		408,660	28,982		153,040	12,392	
Local Road with shared path				10,874	1,008		5,509	391	
Roads Total	***127,374***	***7,770***		***493,091***	***36,000***		***210,542***	***15,954***	
Bridges									
Local Road - Crossing - Creek				2,774	50	2	1,174	25	1
Local Road - Crossing - Canal				773	20	1			
Denham Court Rd - North Ck Realignment - Bridge					25	1			
Denham Court Rd - Half Road Widening - Culvert					20	1			
Collector Road - Crossing - Creek				3,907	50	2	1,338	25	1
Collector Road - Crossing - Canal				1,250	20	1			
Bridge Total				***8,704***	***185***	***8***	***2,511***	***50***	***2***
Intersection									
Intersections (50 m^2 each)	1,850		37	8,400		168	2,950		59

	Camden LGA			Campbelltown LGA			Liverpool LGA		
	Area (m^2)	Length (m)	Items	Area (m^2)	Length (m)	Items	Area (m^2)	Length (m)	Items
Roundabouts (288 m^2 each)	576		2	1,728		6	1,440		5
Traffic Signals				288		1	288		1
Denham Court Rd - Roundabout				288		1			
Intersection Total	***2,426***		***39***	***10,704***		***176***	***4,678***		***65***
Pedestrian									
Pedestrian - Crossing								40	1
Pedestrian - Crossing - Creek					80	2			
Pedestrian - Crossing - Canal					30	1			
Pedestrian Total					***110***	***3***		***40***	***1***
Cycle									
Recommended Off Road Cycleway								649	
Recommended Off Road Shared Path					2,119			4,158	
Cycleway Total					***2,119***			***4,806***	
Grand Total	**129,800**	**8,870**	**39**	**512,499**	**42,711**	**187**	**217,731**	**24,021**	**68**

This strategy identifies various infrastructure requirements for the development and land acquisition of the East Leppington Precinct. These requirements have been incorporated into the planning of the adopted ILP.

9.5 SECTION 94 COSTINGS – RETAIL

For the purposes of the Section 94 costing associated with the retail land uses

Table 9.3 was prepared outlining the forecast trip generation of the retail centres. The forecasts were based on the following assumptions:

> The retail land uses are completely serviced by the East Leppington Precinct i.e. all retail trips are to/from East Leppington dwellings.
> Retail trips consist of trips contained within East Leppington and linked trips to/from external locations.
> No trips from the Camden precincts use the Campbelltown or Liverpool retail land uses.
> A trip containment factor of 25% of the total trips generation for the development.
> Retail trips make up 15% of the trip containment for Campbelltown and Liverpool precincts. Other uses such as school, recreational etc. make up the remaining 10% of contained trips.
> No allowance for non-vehicle trips has been made for contained trips

Table 9.3 Retail trip generation breakdown for Section 94 costing

	Trip Type	Trips
Total daily trips	Total	3,817
Total retail trips	Total	1,372
	Contained	491
	Linked external	881
Total retail trips to Campbelltown retail centre	Contained	390
	Linked external	674
Total retail trips to Liverpool retail centre	Contained	101
	Linked external	207

East Leppington Precinct

APPENDIX A

GROWTH CENTRE DEVELOPMENT CODE – ROAD CROSS SECTIONS

Cardno
Shaping the Future

STREETS

Street design contributes to the urban character of a neighbourhood and influences how people use the street and interact with each other on it. The street network contributes to the overall sense of place.

The siting of the street network and the route selection process should consider existing site features and dwellings.

Components within the Street Network are defined as follows:

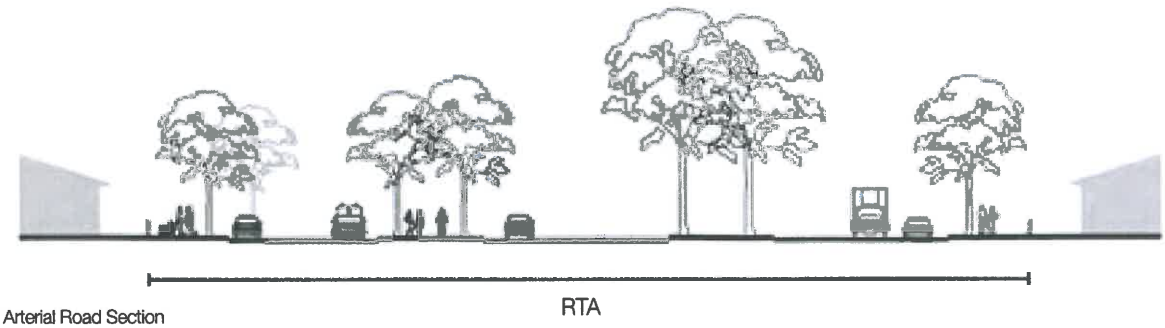
- **Carriageway** is the area of a street that is provided for the movement or parking of vehicles measured from kerb to opposite kerb.
- **Travel-way** is a single lane of the carriageway that is used for vehicle travel and does not include the area normally used for parking.
- **Street Reserve** is the land set aside for a carriageway and verge incorporating the full width from property line to opposite property line and usually vested in a public authority.
- **Verge** is the part of the street reserve between the road and the boundary of adjacent lots.
- **Multi Purpose Pathway** is a pathway that accommodates cycles and pedestrians.

The Development Code defines particular road cross sections and dimensions to be used in the Precinct planning process.

Source: Thirroul Village Centre DCP, Wollongong City Council

street hierarchy: arterial roads

STREET TYPE/ROLE AND FUNCTION	URBAN DESIGN CHARACTER	TYPICAL REQUIREMENTS
ARTERIAL ROADS An arterial road is a high-capacity road that carries large volumes of traffic between urban areas. Arterial Roads are designed and managed by the Road and Traffic Authority (RTA). Traffic loads are 35,000+ vehicles / day. Designed for a vehicle speed of up to 80km/hr.	**Landscape** In residential areas, alternatives to noise walls should be used, such as significant landscaped areas and service roads. **Uses** There is an opportunity to locate employment uses and services, such as business parks and petrol stations, along Arterial Roads. **Profile** Arterial Streets should provide off street cycle ways and wider footpaths. Parking should be limited to service roads.	Determined by the RTA



Arterial Road Section

Source: Edmondson Park Locality DCP Template, Liverpool City Council

street hierarchy: transit boulevard

STREET TYPE/ROLE AND FUNCTION	URBAN DESIGN CHARACTER	TYPICAL REQUIREMENTS
TRANSIT BOULEVARD Transit Boulevards are four lane Arterial Roads with landscaped medians that are designed to maximise efficiency of flow and / or allow for long term upgrades should dedicated bus ways be required in the future. Transit Boulevards are supported by service roads. Traffic loads are 30,000-35,000 vehicles / day. Designed for a vehicle speed of 60- 80km/hr.	**Landscape** Transit Boulevards maintain pedestrian amenity and safety standards, particularly for people wishing to cross the major Arterial Road. **Uses** Transit Boulevards are located close to centres and typically intersect with main streets. They are pedestrian friendly Arterial Roads. **Profile** These streets provide a reduced speed of 60km/hr within walkable distances of centres, 800 metres for the larger centres and 400 metres for the smaller centres.	Street Reserve: 41 metres Travel-way: • 2 travel lanes each way • median: 13 metres • car: 3.5 metres each way • on street shared path (x2): 2.5 metres • service roads: 5.5 metre carriageway Service roads: • access from Transit Boulevard or Collector Street

Transit Boulevard Section

Source: Edmondson Park Locality DCP Template, Liverpool City Council

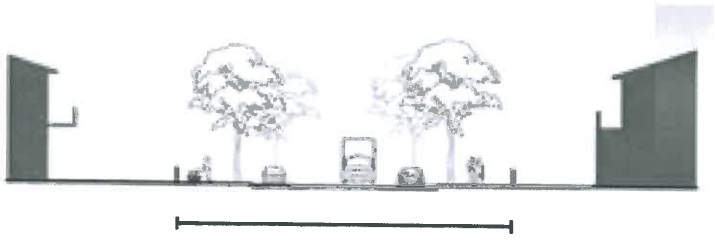
street hierarchy: sub-arterial roads

STREET TYPE/ROLE AND FUNCTION	URBAN DESIGN CHARACTER	TYPICAL REQUIREMENTS
SUB-ARTERIAL ROADS Sub-Arterial Roads mediate between Regional traffic and local traffic routes. Link arterial roads with mixed used town centres. Major Bus Routes should be located along these roads. Traffic loads are 10,000-35,000 vehicles / day. Designed for a vehicle speed of up to 70km/hr.	**Landscape** The character of Sub-Arterial Streets provides the opportunity to have landscaped median strip. Footpaths with a minimum width of 1.8 metres should be provided. The verge should be landscaped with trees. **Uses** Retail, employment, community facilities and residential uses are encouraged along sub arterial roads. Access for parking and servicing should be provided through rear lanes. **Profile** Buildings abutting sub-arterial roads may have a 3 to 4 storey street wall. Residential uses fronting a sub- arterial road should be setback a minimum of 4.5 metres and have direct access from the street.	Travel-way: • street reserve: 35 metres • 2 travel lanes each way • cars: 3.5 metres • median 7.2 metres • on street cycle: 1.8 metres each way • outer separator: 5 metres each way

Sub-Arterial Roads
Source: Edmondson Park Locality DCP Template, Liverpool City Council

street hierarchy: local streets

STREET TYPE/ROLE AND FUNCTION	URBAN DESIGN CHARACTER	TYPICAL REQUIREMENTS
LOCAL STREETS Give priority to pedestrians and cyclists. Traffic loads are 1,000-3,000 vehicles / day Designed for a vehicle speed of up to 50km/hr.	**Uses** Local Streets should accommodate shared pedestrian and bike and vehicular uses. Local Streets should provide continuous pedestrian and cycle paths. **Profile** These streets are designed to slow residential traffic. The width of these streets may vary when accommodating buses or where there is a low demand for on-street parking.	Street Reserve: 16 metres Travel-way: • 3.0 metres each way

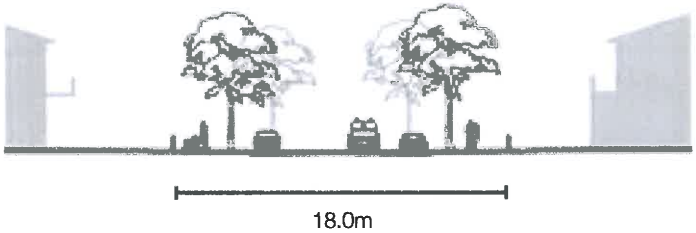


Local Street Section

Source: Edmondson Park Locality DCP Template, Liverpool City Council

street hierarchy: collector streets

STREET TYPE/ROLE AND FUNCTION	URBAN DESIGN CHARACTER	TYPICAL REQUIREMENTS
COLLECTOR STREETS Collector Streets should service and link neighbourhoods and towns. Collector Streets are 'connecting' streets and neighbourhood 'arrival' streets. Traffic loads are 3,000-10,000 vehicles / day. Designed for a vehicle speed of up to 60km/hr.	**Landscape** Collector Streets provide an opportunity to design with particular focus on context, function and adjacent land uses. **Uses** Collector Streets are predominantly residential, and service the residential community with small local retail centres. **Profile** These streets provide on street bike lanes or separate multi use paths and should accommodate public transport. Rear or direct access should be provided to properties fronting Collector Streets.	Street Reserve: 18 metres Travel-way: • car: 3.0 metres each way • if a bus route is located along a Collector Street the lane width is 3.5 metres each way

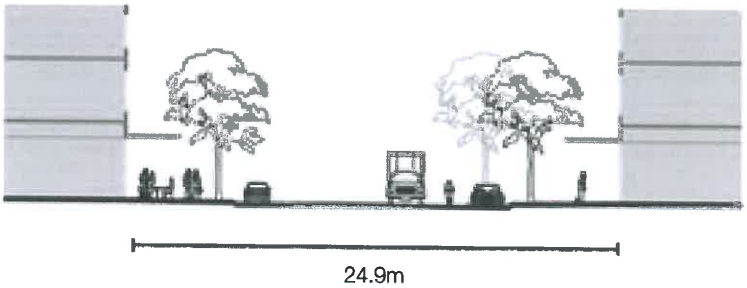


Collector Street Section

Source: Edmondson Park Locality DCP Template, Liverpool City Council

street hierarchy: town centre streets

STREET TYPE/ROLE AND FUNCTION	URBAN DESIGN CHARACTER	TYPICAL REQUIREMENTS
TOWN CENTRE STREETS Traffic loads of 20,000 vehicles / day.	**Landscape** These streets are pedestrian-orientated streets with wider footpaths and have on-street parking and cycle lanes. **Uses** Town Centre Streets have active retail frontages with opportunities for commercial and residential uses on other levels. **Profile** Streets within the Town Centre will be characterised by zero lot setback where retail and / or commercial uses front the street.	Street Reserve: 24.9 metres Carriageway: 14.4 metres Travel-way: • car: 3.0 metres each way • if a bus route is located along a Town Centre Street the width of lane is 3.5 metres each way • parking: 2.5 metres each way • on street cycle: 1.7 metres each way



Town Centre Streets

Source: Edmondson Park Locality DCP Template, Liverpool City Council

street hierarchy: minor streets

STREET TYPE/ROLE AND FUNCTION	URBAN DESIGN CHARACTER	TYPICAL REQUIREMENTS
MINOR STREETS Designed to provide greater access in residential and town centre areas. Traffic loads are under 1,000 vehicles / day. They are designed for a vehicle speed of up to 50km/hr.	**Uses** Minor Streets include laneways, culs-de-sac and accessways. These streets provide service and access, as well as alternative pedestrian routes, in residential areas and town centres.	To be determined through the DCP

Residential Laneway Section

Source: Edmondson Park Locality DCP Template, Liverpool City Council

street hierarchy: special streets

STREET TYPE/ROLE AND FUNCTION	URBAN DESIGN CHARACTER	TYPICAL REQUIREMENTS
SPECIAL STREETS	**Uses** These streets are necessary to accommodate various context, function and adjacent land uses such as waterfront streets and asset protection streets.	To be determined through the DCP

Special Streets
Source: Edmondson Park Locality DCP Template, Liverpool City Council

East Leppington Precinct

APPENDIX B

SIDRA SUMMARIES

Cardno
Shaping the Future

1.5% Annual Growth

2026 AM Peak

Camden Valley Way/Cowpasture Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Cowpasture Rd (S)											
1	L	28	3.5	0.155	54.4	LOS D	1.6	11.6	0.78	0.70	24.3
2	T	51	3.5	0.143	58.1	LOS E	3.3	23.7	0.87	0.67	22.4
3	R	155	3.5	1.000 [3]	75.5	LOS F	11.3	81.6	0.97	0.80	19.7
Approach		234	3.5	1.000	69.2	LOS E	11.3	81.6	0.93	0.76	20.7
East: Camden Valley Way (E)											
24	L	8	3.5	0.007	9.1	LOS A	0.0	0.2	0.05	0.61	48.3
25	T	1543	3.5	0.578	13.5	LOS A	15.7	113.3	0.43	0.39	42.5
26	R	9	3.5	0.133	90.2	LOS F	0.7	5.1	0.97	0.67	17.4
Approach		1560	3.5	0.578	13.9	LOS A	15.7	113.3	0.43	0.39	42.2
North: Cowpasture Road (N)											
7	L	9	3.5	0.080	53.6	LOS D	0.5	3.7	0.77	0.66	24.5
8	T	11	3.5	0.611	84.7	LOS F	4.6	32.8	1.00	0.78	17.1
9	R	217	3.5	0.611	79.6	LOS F	12.7	91.4	0.99	0.81	19.1
Approach		237	3.5	0.611	78.8	LOS F	12.7	91.4	0.98	0.80	19.1
West: Camden Valley Way (W)											
30	L	238	3.5	0.199	9.3	LOS A	1.1	8.0	0.07	0.62	48.0
31	T	2542	3.5	0.953	34.3	LOS C	66.3	477.9	0.93	0.96	29.5
32	R	2	3.5	0.030	88.4	LOS F	0.2	1.1	0.96	0.61	17.6
Approach		2782	3.5	0.953	32.2	LOS C	66.3	477.9	0.86	0.93	30.5
All Vehicles		4813	3.5	1.000	30.4	LOS C	66.3	477.9	0.73	0.74	31.7

Camden Valley Way/Denham Court Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Denham Court Rd (E)											
1	L	180	3.5	0.547	40.0	LOS C	9.0	64.8	0.69	0.76	28.8
2	T	207	3.5	0.208	48.9	LOS D	6.2	44.9	0.82	0.66	24.7
3	R	372	3.5	0.826	88.2	LOS F	15.3	110.2	1.00	0.92	17.8
Approach		759	3.5	0.826	66.1	LOS E	15.3	110.2	0.88	0.81	21.3
East: Camden Valley Way (N)											
4	L	416	3.5	0.401	10.0	LOS A	2.6	18.5	0.09	0.63	47.3
5	T	1288	3.5	0.549	20.1	LOS B	16.5	119.2	0.54	0.48	37.4
6	R	86	3.5	0.636	93.6	LOS F	3.5	25.5	1.00	0.76	17.0
Approach		1790	3.5	0.636	21.3	LOS B	16.5	119.2	0.46	0.52	37.1
North: Ingleburn Rd (W)											
7	L	85	3.5	0.257	54.6	LOS D	5.0	35.9	0.80	0.75	24.2
8	T	204	3.5	0.269	58.0	LOS E	6.7	48.4	0.89	0.71	22.4
9	R	90	3.5	0.399	88.5	LOS F	3.5	25.4	1.00	0.74	17.7
Approach		379	3.5	0.399	64.5	LOS E	6.7	48.4	0.90	0.73	21.4
West: Camden Valley Way (S)											
10	L	149	3.5	0.141	9.6	LOS A	0.7	4.7	0.06	0.62	47.8
11	T	2309	3.5	0.832	13.7	LOS A	34.2	246.3	0.63	0.58	41.8
12	R	216	3.5	0.533	75.1	LOS F	7.8	56.1	0.95	0.78	19.8
Approach		2674	3.5	0.832	18.4	LOS B	34.2	246.3	0.62	0.60	38.5
All Vehicles		5602	3.5	0.832	28.9	LOS C	34.2	246.3	0.62	0.61	32.7

Camden Valley Way/Heath Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Heath Rd (E)											
1	L	186	3.5	0.266	43.1	LOS D	9.7	70.2	0.73	0.78	27.7
2	T	80	3.5	0.767	55.8	LOS D	25.0	180.5	0.97	0.87	22.2
3	R	266	3.5	0.767	63.7	LOS E	25.0	180.5	0.97	0.89	22.1
Approach		532	3.5	0.767	55.3	LOS D	25.0	180.5	0.89	0.84	23.8
East: Camden Valley Way (N)											
4	L	64	3.5	0.066	11.8	LOS A	0.5	3.9	0.12	0.62	45.5
5	T	1484	3.5	0.485	5.5	LOS A	6.9	50.1	0.20	0.18	51.3
6	R	34	3.5	0.252	91.4	LOS F	1.3	9.7	0.98	0.69	17.2
Approach		1582	3.5	0.485	7.6	LOS A	6.9	50.1	0.21	0.21	48.9
North: Heath Rd (W)											
7	L	15	3.5	0.022	39.9	LOS C	0.7	5.1	0.65	0.68	28.8
8	T	22	3.5	0.019	40.5	LOS C	0.6	4.2	0.72	0.51	27.5
9	R	43	3.5	0.263	60.1	LOS E	2.7	19.2	0.83	0.74	22.7
Approach		80	3.5	0.263	51.0	LOS D	2.7	19.2	0.76	0.67	24.9
West: Camden Valley Way (S)											
10	L	94	3.5	0.096	11.4	LOS A	0.7	5.3	0.11	0.62	45.9
11	T	2370	3.5	0.766	6.2	LOS A	18.5	133.3	0.33	0.31	49.9
12	R	37	3.5	0.469	91.1	LOS F	2.9	21.3	0.99	0.73	17.1
Approach		2501	3.5	0.766	7.6	LOS A	18.5	133.3	0.33	0.32	48.4
All Vehicles		4695	3.5	0.767	13.7	LOS A	25.0	180.5	0.36	0.35	42.8

Camden Valley Way/St Andrews Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: St Andrew's Rd (E)											
1	L	110	3.5	0.270	8.4	LOS A	1.1	8.1	0.17	0.65	48.8
2	T	1	0.0	0.001	53.4	LOS D	0.0	0.2	0.81	0.47	23.6
3	R	30	3.5	0.060	66.8	LOS E	1.0	7.0	0.86	0.70	21.4
Approach		141	3.5	0.270	21.2	LOS B	1.1	8.1	0.32	0.66	38.1
East: Camden Valley Way (N)											
4	L	3	3.5	0.002	7.8	LOS A	0.0	0.0	0.05	0.60	49.5
5	T	1401	3.5	0.428	2.4	LOS A	3.0	21.6	0.09	0.08	55.9
6	R	309	0.0	0.743	78.2	LOS F	11.8	82.6	0.99	0.83	19.1
Approach		1713	2.9	0.743	16.1	LOS B	11.8	82.6	0.25	0.22	41.4
North: St Andrew's Rd (W)											
7	L	75	0.0	0.115	44.7	LOS D	3.9	27.2	0.71	0.74	27.1
8	T	1	0.0	0.006	54.0	LOS D	0.1	0.9	0.82	0.52	23.0
9	R	1	0.0	0.006	61.7	LOS E	0.1	0.9	0.82	0.65	22.7
Approach		77	0.0	0.115	45.0	LOS D	3.9	27.2	0.72	0.74	27.0
West: Camden Valley Way (S)											
10	L	1	0.0	0.001	9.3	LOS A	0.0	0.0	0.05	0.60	47.9
11	T	2472	3.5	0.756	3.2	LOS A	11.1	80.4	0.19	0.18	54.3
12	R	34	3.5	0.105	71.0	LOS F	1.4	10.0	0.85	0.70	20.4
Approach		2507	3.5	0.756	4.1	LOS A	11.1	80.4	0.20	0.19	53.1
All Vehicles		4438	3.2	0.756	10.0	LOS A	11.8	82.6	0.23	0.22	46.6

Denham Court Rd/Precinct Access

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
East: Denham Court Road (E)											
5	T	155	3.5	0.191	3.6	LOS A	1.1	7.8	0.23	0.30	52.4
6	R	209	3.5	0.191	11.5	LOS A	1.1	7.8	0.23	0.74	46.5
Approach		364	3.5	0.191	8.1	LOS A	1.1	7.8	0.23	0.55	48.7
North: Denham Court Road (N)											
7	L	930	3.5	0.740	11.1	LOS A	9.6	68.9	0.75	0.88	46.1
9	R	112	3.5	0.089	13.3	LOS A	0.5	3.6	0.52	0.69	44.6
Approach		1042	3.5	0.740	11.3	LOS A	9.6	68.9	0.73	0.86	45.9
West: Precinct (W)											
10	L	404	3.5	0.567	5.5	LOS A	4.1	29.6	0.42	0.49	50.4
11	T	620	3.5	0.567	4.1	LOS A	4.1	29.6	0.42	0.39	51.0
Approach		1024	3.5	0.567	4.6	LOS A	4.1	29.6	0.42	0.43	50.7
All Vehicles		2430	3.5	0.740	8.0	LOS A	9.6	68.9	0.52	0.63	48.3

2026 PM Peak

Camden Valley Way/Cowpasture Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Cowpasture Rd (S)											
1	L	7	3.5	0.039	53.5	LOS D	0.4	2.8	0.76	0.66	24.5
2	T	12	3.5	0.034	56.4	LOS D	0.8	5.4	0.85	0.59	22.8
3	R	39	3.5	0.577	95.6	LOS F	3.2	23.3	1.00	0.75	16.7
Approach		58	3.5	0.577	82.4	LOS F	3.2	23.3	0.94	0.71	18.4
East: Camden Valley Way (E)											
24	L	34	3.5	0.030	9.3	LOS A	0.1	1.0	0.05	0.61	48.0
25	T	2953	3.5	0.954	22.9	LOS B	63.9	460.7	0.76	0.79	35.2
26	R	9	3.5	0.133	90.2	LOS F	0.7	5.1	0.97	0.67	17.4
Approach		2996	3.5	0.954	22.9	LOS B	63.9	460.7	0.75	0.79	35.2
North: Cowpasture Road (N)											
7	L	9	3.5	0.075	48.2	LOS D	0.5	3.4	0.72	0.66	26.0
8	T	43	3.5	0.946	107.5	LOS F	6.5	46.6	1.00	1.06	14.7
9	R	164	3.5	0.946	113.3	LOS F	13.2	94.9	1.00	1.11	14.8
Approach		216	3.5	0.946	109.4	LOS F	13.2	94.9	0.99	1.08	15.0
West: Camden Valley Way (W)											
30	L	159	3.5	0.133	9.2	LOS A	0.7	5.0	0.06	0.62	48.1
31	T	1147	3.5	0.371	4.5	LOS A	4.1	29.6	0.15	0.13	52.7
32	R	8	3.5	0.118	90.1	LOS F	0.6	4.5	0.97	0.66	17.4
Approach		1314	3.5	0.371	5.6	LOS A	4.1	29.6	0.15	0.20	51.5
All Vehicles		4584	3.5	0.954	22.8	LOS B	63.9	460.7	0.59	0.63	35.8

Camden Valley Way/Denham Court Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Denham Court Rd (E)											
1	L	119	3.5	0.414	50.6	LOS D	6.7	48.6	0.78	0.76	25.3
2	T	192	3.5	0.253	57.8	LOS E	6.3	45.4	0.89	0.71	22.4
3	R	237	3.5	0.877	98.6	LOS F	10.3	74.0	1.00	0.98	16.4
Approach		548	3.5	0.877	73.9	LOS F	10.3	74.0	0.91	0.84	19.8
East: Camden Valley Way (N)											
4	L	406	3.5	0.368	9.8	LOS A	2.4	17.1	0.08	0.63	47.5
5	T	2527	3.5	0.888	15.6	LOS B	43.6	314.1	0.70	0.66	40.1
6	R	177	3.5	0.655	84.2	LOS F	6.9	49.6	1.00	0.79	18.3
Approach		3110	3.5	0.888	18.7	LOS B	43.6	314.1	0.63	0.67	38.3
North: Ingleburn Rd (W)											
7	L	91	3.5	0.263	49.9	LOS D	5.1	36.5	0.76	0.75	25.5
8	T	293	3.5	0.386	59.7	LOS E	9.9	71.4	0.92	0.75	22.0
9	R	88	3.5	0.325	85.6	LOS F	3.4	24.3	0.99	0.74	18.2
Approach		472	3.5	0.386	62.6	LOS E	9.9	71.4	0.90	0.75	21.7
West: Camden Valley Way (S)											
10	L	83	3.5	0.075	9.4	LOS A	0.3	2.4	0.06	0.61	48.0
11	T	987	3.5	0.347	8.5	LOS A	5.9	42.4	0.25	0.22	47.7
12	R	232	3.5	0.858	89.0	LOS F	9.6	68.9	1.00	0.88	17.6
Approach		1302	3.5	0.858	22.9	LOS B	9.6	68.9	0.37	0.36	36.5
All Vehicles		5432	3.5	0.888	29.1	LOS C	43.6	314.1	0.62	0.62	32.6

Camden Valley Way/Heath Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Heath Rd (E)											
1	L	47	3.5	0.065	38.7	LOS C	2.2	15.9	0.65	0.71	29.3
2	T	20	3.5	0.397	67.4	LOS E	6.3	45.1	0.95	0.75	19.9
3	R	67	3.5	0.397	75.2	LOS F	6.3	45.1	0.95	0.79	19.8
Approach		134	3.5	0.397	61.3	LOS E	6.3	45.1	0.84	0.76	22.4
East: Camden Valley Way (N)											
4	L	255	3.5	0.269	13.5	LOS A	3.2	22.9	0.17	0.65	44.0
5	T	2441	3.5	0.817	8.8	LOS A	27.3	196.7	0.48	0.44	46.6
6	R	24	3.5	0.061	53.6	LOS D	0.6	4.5	0.70	0.68	24.4
Approach		2720	3.5	0.817	9.6	LOS A	27.3	196.7	0.45	0.46	46.0
North: Heath Rd (W)											
7	L	26	3.5	0.036	38.2	LOS C	1.2	8.7	0.63	0.69	29.5
8	T	86	3.5	0.140	61.7	LOS E	2.9	20.7	0.89	0.68	21.6
9	R	90	3.5	0.605	77.0	LOS F	6.6	47.4	0.96	0.79	19.3
Approach		202	3.5	0.605	65.5	LOS E	6.6	47.4	0.89	0.73	21.2
West: Camden Valley Way (S)											
10	L	75	3.5	0.079	12.8	LOS A	0.8	5.5	0.14	0.63	44.6
11	T	1223	3.5	0.409	6.4	LOS A	6.0	43.6	0.21	0.19	50.2
12	R	149	3.5	0.813	62.9	LOS E	9.5	68.7	0.82	0.83	22.0
Approach		1447	3.5	0.813	12.5	LOS A	9.5	68.7	0.27	0.27	44.1
All Vehicles		4503	3.5	0.817	14.6	LOS B	27.3	196.7	0.42	0.42	41.9

Camden Valley Way/St Andrews Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: St Andrew's Rd (E)											
1	L	27	3.5	0.073	9.3	LOS A	0.3	2.4	0.19	0.64	47.9
2	T	1	0.0	0.001	53.4	LOS D	0.0	0.2	0.81	0.47	23.6
3	R	7	3.5	0.035	84.3	LOS F	0.3	1.9	0.96	0.64	18.3
Approach		35	3.4	0.073	25.6	LOS B	0.3	2.4	0.36	0.64	35.4
East: Camden Valley Way (N)											
4	L	12	3.5	0.009	8.0	LOS A	0.0	0.2	0.05	0.61	49.4
5	T	2590	3.5	0.736	2.9	LOS A	10.9	78.8	0.18	0.17	54.6
6	R	77	0.0	0.303	82.9	LOS F	2.9	20.0	0.95	0.73	18.4
Approach		2679	3.4	0.736	5.3	LOS A	10.9	78.8	0.20	0.19	51.7
North: St Andrew's Rd (W)											
7	L	298	0.0	0.524	56.5	LOS D	19.0	133.3	0.88	0.83	23.7
8	T	1	0.0	0.006	54.0	LOS D	0.1	0.9	0.82	0.52	23.0
9	R	1	0.0	0.006	61.7	LOS E	0.1	0.9	0.82	0.65	22.7
Approach		300	0.0	0.524	56.5	LOS D	19.0	133.3	0.88	0.83	23.7
West: Camden Valley Way (S)											
10	L	1	0.0	0.001	9.1	LOS A	0.0	0.0	0.05	0.60	48.1
11	T	1432	3.5	0.407	2.1	LOS A	3.0	21.3	0.09	0.08	56.2
12	R	136	3.5	0.685	85.4	LOS F	6.7	48.3	0.99	0.78	18.0
Approach		1569	3.5	0.685	9.4	LOS A	6.7	48.3	0.17	0.14	47.4
All Vehicles		4583	3.2	0.736	10.2	LOS A	19.0	133.3	0.24	0.22	46.4

Denham Court Rd/Precinct Access

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
East: Denham Court Road (E)											
5	T	620	3.5	0.838	10.9	LOS A	18.0	129.8	0.92	0.87	45.0
6	R	644	3.5	0.838	18.8	LOS B	18.0	129.8	0.92	0.92	41.9
Approach		1264	3.5	0.838	14.9	LOS B	18.0	129.8	0.92	0.89	43.3
North: Denham Court Road (N)											
7	L	309	3.5	0.169	5.2	LOS A	0.8	6.0	0.24	0.45	51.1
9	R	450	3.5	0.246	11.6	LOS A	1.3	9.3	0.26	0.64	45.8
Approach		759	3.5	0.246	9.0	LOS A	1.3	9.3	0.25	0.56	47.7
West: Precinct (W)											
10	L	101	3.5	0.234	7.1	LOS A	1.8	13.3	0.77	0.62	48.1
11	T	155	3.5	0.234	5.7	LOS A	1.8	13.3	0.77	0.55	47.9
Approach		256	3.5	0.234	6.2	LOS A	1.8	13.3	0.77	0.58	48.0
All Vehicles		2279	3.5	0.838	12.0	LOS A	18.0	129.8	0.68	0.75	45.2

2031 AM Peak

Camden Valley Way/Cowpasture Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	95% Back of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Cowpasture Rd (S)											
1	L	28	3.5	0.155	54.4	LOS D	1.6	11.6	0.78	0.70	24.3
2	T	55	3.5	0.154	58.2	LOS E	3.5	25.6	0.87	0.67	22.3
3	R	151	3.5	1.000 [3]	78.7	LOS F	11.3	81.6	0.99	0.80	19.2
Approach		234	3.5	1.000	71.0	LOS F	11.3	81.6	0.94	0.76	20.3
East: Camden Valley Way (E)											
24	L	8	3.5	0.007	9.1	LOS A	0.0	0.2	0.05	0.61	48.3
25	T	1616	3.5	0.583	11.3	LOS A	14.7	105.7	0.38	0.35	44.5
26	R	9	3.5	0.133	90.2	LOS F	0.7	5.1	0.97	0.67	17.4
Approach		1633	3.5	0.583	11.7	LOS A	14.7	105.7	0.39	0.35	44.1
North: Cowpasture Road (N)											
7	L	9	3.5	0.080	53.6	LOS D	0.5	3.7	0.77	0.66	24.5
8	T	11	3.5	0.673	83.3	LOS F	6.2	44.5	1.00	0.82	17.3
9	R	232	3.5	0.673	82.9	LOS F	12.6	91.2	1.00	0.82	18.5
Approach		252	3.5	0.673	81.9	LOS F	12.6	91.2	0.99	0.82	18.6
West: Camden Valley Way (W)											
30	L	254	3.5	0.213	9.3	LOS A	1.2	8.7	0.07	0.62	48.0
31	T	2678	3.5	0.965	37.1	LOS C	73.6	530.4	0.95	1.00	28.4
32	R	2	3.5	0.030	88.4	LOS F	0.2	1.1	0.96	0.61	17.6
Approach		2934	3.5	0.965	34.8	LOS C	73.6	530.4	0.87	0.97	29.4
All Vehicles		5053	3.5	1.000	31.4	LOS C	73.6	530.4	0.72	0.75	31.2

Camden Valley Way/Denham Court Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	95% Back of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Denham Court Rd (E)											
1	L	182	3.5	0.563	41.5	LOS C	9.3	67.1	0.71	0.76	28.3
2	T	209	3.5	0.220	50.7	LOS D	6.4	46.2	0.84	0.67	24.2
3	R	377	3.5	0.881	94.7	LOS F	16.3	117.3	1.00	0.99	16.9
Approach		768	3.5	0.881	70.1	LOS E	16.3	117.3	0.89	0.85	20.5
East: Camden Valley Way (N)											
4	L	440	3.5	0.425	10.0	LOS A	2.8	20.3	0.09	0.63	47.3
5	T	1346	3.5	0.565	19.5	LOS B	17.2	123.8	0.54	0.48	37.8
6	R	91	3.5	0.673	93.9	LOS F	3.8	27.1	1.00	0.76	17.0
Approach		1877	3.5	0.673	20.9	LOS B	17.2	123.8	0.45	0.52	37.3
North: Ingleburn Rd (W)											
7	L	91	3.5	0.275	54.8	LOS D	5.4	38.6	0.80	0.76	24.2
8	T	214	3.5	0.282	58.2	LOS E	7.1	50.9	0.89	0.71	22.3
9	R	96	3.5	0.387	87.2	LOS F	3.7	26.9	1.00	0.75	17.9
Approach		401	3.5	0.387	64.4	LOS E	7.1	50.9	0.90	0.73	21.4
West: Camden Valley Way (S)											
10	L	157	3.5	0.145	9.5	LOS A	0.7	5.0	0.06	0.62	47.8
11	T	2449	3.5	0.872	14.9	LOS B	40.4	291.3	0.68	0.64	40.6
12	R	228	3.5	0.562	75.4	LOS F	8.3	59.6	0.95	0.79	19.8
Approach		2834	3.5	0.872	19.5	LOS B	40.4	291.3	0.67	0.65	37.7
All Vehicles		5880	3.5	0.881	29.6	LOS C	40.4	291.3	0.64	0.64	32.3

Camden Valley Way/Heath Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Heath Rd (E)											
1	L	186	3.5	0.275	44.5	LOS D	9.9	71.7	0.74	0.78	27.2
2	T	80	3.5	0.801	60.1	LOS E	26.2	188.7	0.99	0.90	21.2
3	R	266	3.5	0.801	68.0	LOS E	26.2	188.7	0.99	0.91	21.2
Approach		532	3.5	0.801	58.6	LOS E	26.2	188.7	0.90	0.86	23.0
East: Camden Valley Way (N)											
4	L	64	3.5	0.065	10.9	LOS A	0.4	3.1	0.09	0.62	46.4
5	T	1551	3.5	0.496	4.3	LOS A	6.0	43.3	0.16	0.15	52.9
6	R	35	3.5	0.259	91.5	LOS F	1.4	10.0	0.98	0.70	17.1
Approach		1650	3.5	0.496	6.4	LOS A	6.0	43.3	0.18	0.18	50.4
North: Heath Rd (W)											
7	L	16	3.5	0.024	41.3	LOS C	0.8	5.6	0.66	0.68	28.3
8	T	22	3.5	0.020	42.1	LOS C	0.6	4.3	0.73	0.52	26.9
9	R	46	3.5	0.286	62.1	LOS E	2.9	21.0	0.84	0.75	22.3
Approach		84	3.5	0.286	52.9	LOS D	2.9	21.0	0.78	0.68	24.4
West: Camden Valley Way (S)											
10	L	100	3.5	0.100	10.5	LOS A	0.6	4.4	0.08	0.62	46.8
11	T	2530	3.5	0.799	4.9	LOS A	18.1	130.6	0.31	0.28	51.5
12	R	37	3.5	0.469	91.1	LOS F	2.9	21.3	0.99	0.73	17.1
Approach		2667	3.5	0.799	6.3	LOS A	18.1	130.6	0.31	0.30	49.9
All Vehicles		4933	3.5	0.801	12.8	LOS A	26.2	188.7	0.34	0.33	43.7

Camden Valley Way/St Andrews Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: St Andrew's Rd (E)											
1	L	110	3.5	0.273	8.4	LOS A	1.1	8.1	0.17	0.65	48.8
2	T	1	0.0	0.001	53.4	LOS D	0.0	0.2	0.81	0.47	23.6
3	R	30	3.5	0.061	66.8	LOS E	1.0	7.0	0.86	0.70	21.4
Approach		141	3.5	0.273	21.2	LOS B	1.1	8.1	0.32	0.66	38.1
East: Camden Valley Way (N)											
4	L	3	3.5	0.002	7.8	LOS A	0.0	0.0	0.05	0.60	49.5
5	T	1474	3.5	0.446	2.4	LOS A	3.2	23.4	0.09	0.08	55.8
6	R	309	0.0	0.787	80.5	LOS F	12.1	84.4	1.00	0.85	18.8
Approach		1786	2.9	0.787	15.9	LOS B	12.1	84.4	0.25	0.22	41.5
North: St Andrew's Rd (W)											
7	L	75	0.0	0.117	45.4	LOS D	3.9	27.5	0.72	0.74	26.9
8	T	1	0.0	0.006	54.0	LOS D	0.1	0.9	0.82	0.52	23.0
9	R	1	0.0	0.006	61.7	LOS E	0.1	0.9	0.82	0.65	22.7
Approach		77	0.0	0.117	45.8	LOS D	3.9	27.5	0.72	0.74	26.8
West: Camden Valley Way (S)											
10	L	1	0.0	0.001	9.3	LOS A	0.0	0.0	0.05	0.60	47.9
11	T	2639	3.5	0.798	3.3	LOS A	13.9	100.1	0.22	0.21	53.9
12	R	34	3.5	0.111	72.5	LOS F	1.4	10.1	0.87	0.70	20.2
Approach		2674	3.5	0.798	4.2	LOS A	13.9	100.1	0.23	0.22	52.8
All Vehicles		4678	3.2	0.798	9.8	LOS A	13.9	100.1	0.25	0.24	46.7

Denham Court Rd/Precinct Access

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	95% Back of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	v/c	sec		veh	m		per veh	km/h
East: Denham Court Road (E)											
5	T	155	3.5	0.197	3.6	LOS A	1.1	8.1	0.23	0.30	52.4
6	R	220	3.5	0.197	11.5	LOS A	1.1	8.1	0.23	0.73	46.5
Approach		375	3.5	0.197	8.2	LOS A	1.1	8.1	0.23	0.56	48.6
North: Denham Court Road (N)											
7	L	978	3.5	0.781	12.1	LOS A	11.3	81.4	0.77	0.93	45.2
9	R	112	3.5	0.089	13.3	LOS A	0.5	3.6	0.52	0.69	44.6
Approach		1090	3.5	0.781	12.2	LOS A	11.3	81.4	0.75	0.90	45.1
West: Precinct (W)											
10	L	404	3.5	0.571	5.5	LOS A	4.2	30.1	0.43	0.50	50.3
11	T	620	3.5	0.571	4.2	LOS A	4.2	30.1	0.43	0.39	50.9
Approach		1024	3.5	0.571	4.7	LOS A	4.2	30.1	0.43	0.43	50.6
All Vehicles		2489	3.5	0.781	8.5	LOS A	11.3	81.4	0.54	0.66	47.8

2031 PM Peak

Camden Valley Way/Cowpasture Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	95% Back of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Cowpasture Rd (S)											
1	L	7	3.5	0.039	53.5	LOS D	0.4	2.8	0.76	0.66	24.5
2	T	12	3.5	0.034	56.4	LOS D	0.8	5.4	0.85	0.59	22.8
3	R	39	3.5	0.577	95.6	LOS F	3.2	23.3	1.00	0.75	16.7
Approach		58	3.5	0.577	82.4	LOS F	3.2	23.3	0.94	0.71	18.4
East: Camden Valley Way (E)											
24	L	34	3.5	0.030	9.3	LOS A	0.1	1.0	0.05	0.61	48.0
25	T	3116	3.5	1.007	64.3	LOS E	113.5	818.6	1.00	1.21	20.9
26	R	9	3.5	0.133	90.2	LOS F	0.7	5.1	0.97	0.67	17.4
Approach		3159	3.5	1.007	63.8	LOS E	113.5	818.6	0.99	1.21	21.1
North: Cowpasture Road (N)											
7	L	9	3.5	0.075	48.2	LOS D	0.5	3.4	0.72	0.66	26.0
8	T	43	3.5	1.024	168.9	LOS F	8.2	58.9	1.00	1.21	10.4
9	R	174	3.5	1.024	175.9	LOS F	18.5	133.1	1.00	1.32	10.4
Approach		226	3.5	1.024	169.5	LOS F	18.5	133.1	0.99	1.28	10.7
West: Camden Valley Way (W)											
30	L	170	3.5	0.142	9.2	LOS A	0.7	5.4	0.06	0.62	48.1
31	T	1217	3.5	0.393	4.6	LOS A	4.5	32.4	0.16	0.14	52.6
32	R	8	3.5	0.118	90.1	LOS F	0.6	4.5	0.97	0.66	17.4
Approach		1395	3.5	0.393	5.6	LOS A	4.5	32.4	0.15	0.20	51.4
All Vehicles		4838	3.5	1.024	52.2	LOS D	113.5	818.6	0.75	0.91	24.0

Camden Valley Way/Denham Court Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	95% Back of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Denham Court Rd (E)											
1	L	124	3.5	0.431	50.8	LOS D	7.0	50.8	0.78	0.76	25.3
2	T	202	3.5	0.266	58.0	LOS E	6.6	47.9	0.89	0.71	22.4
3	R	245	3.5	0.906	102.8	LOS F	10.9	78.7	1.00	1.03	15.9
Approach		571	3.5	0.906	75.6	LOS F	10.9	78.7	0.91	0.86	19.5
East: Camden Valley Way (N)											
4	L	415	3.5	0.376	9.8	LOS A	2.5	17.7	0.08	0.63	47.5
5	T	2679	3.5	0.942	25.3	LOS B	61.5	443.4	0.84	0.85	33.7
6	R	190	3.5	0.422	71.6	LOS F	6.5	47.2	0.91	0.77	20.5
Approach		3284	3.5	0.942	26.1	LOS B	61.5	443.4	0.75	0.82	33.7
North: Ingleburn Rd (W)											
7	L	97	3.5	0.263	43.9	LOS D	5.0	36.1	0.71	0.74	27.4
8	T	300	3.5	0.395	59.8	LOS E	10.2	73.3	0.92	0.75	22.0
9	R	93	3.5	0.344	85.7	LOS F	3.6	25.7	0.99	0.75	18.1
Approach		490	3.5	0.395	61.6	LOS E	10.2	73.3	0.89	0.75	21.9
West: Camden Valley Way (S)											
10	L	89	3.5	0.088	10.1	LOS A	0.5	3.3	0.07	0.62	47.2
11	T	1050	3.5	0.410	14.2	LOS A	9.7	69.7	0.39	0.34	42.0
12	R	237	3.5	0.877	90.0	LOS F	9.9	71.0	1.00	0.90	17.5
Approach		1376	3.5	0.877	27.0	LOS B	9.9	71.0	0.47	0.45	33.9
All Vehicles		5721	3.5	0.942	34.3	LOS C	61.5	443.4	0.71	0.73	30.1

Camden Valley Way/Heath Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	95% Back of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Heath Rd (E)											
1	L	47	3.5	0.068	40.7	LOS C	2.3	16.4	0.67	0.72	28.6
2	T	20	3.5	0.397	67.4	LOS E	6.3	45.1	0.95	0.75	19.9
3	R	67	3.5	0.397	75.2	LOS F	6.3	45.1	0.95	0.79	19.8
Approach		134	3.5	0.397	62.0	LOS E	6.3	45.1	0.85	0.76	22.2
East: Camden Valley Way (N)											
4	L	255	3.5	0.260	11.8	LOS A	2.4	17.1	0.13	0.64	45.5
5	T	2602	3.5	0.841	6.6	LOS A	26.1	188.3	0.43	0.40	49.0
6	R	25	3.5	0.067	57.0	LOS E	0.7	4.9	0.73	0.68	23.5
Approach		2882	3.5	0.841	7.5	LOS A	26.1	188.3	0.40	0.42	48.2
North: Heath Rd (W)											
7	L	26	3.5	0.038	40.2	LOS C	1.2	8.9	0.65	0.70	28.7
8	T	86	3.5	0.140	61.7	LOS E	2.9	20.7	0.89	0.68	21.6
9	R	97	3.5	0.653	78.2	LOS F	7.2	51.9	0.96	0.81	19.2
Approach		209	3.5	0.653	66.7	LOS E	7.2	51.9	0.90	0.74	21.0
West: Camden Valley Way (S)											
10	L	81	3.5	0.083	11.4	LOS A	0.6	4.5	0.11	0.62	45.9
11	T	1296	3.5	0.419	4.6	LOS A	5.0	35.8	0.16	0.14	52.5
12	R	149	3.5	0.850	68.6	LOS E	10.2	73.3	0.85	0.85	20.8
Approach		1526	3.5	0.850	11.3	LOS A	10.2	73.3	0.23	0.24	45.4
All Vehicles		4751	3.5	0.850	12.9	LOS A	26.1	188.3	0.38	0.39	43.4

Camden Valley Way/St Andrews Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: St Andrew's Rd (E)											
1	L	27	3.5	0.074	9.7	LOS A	0.4	2.7	0.21	0.65	47.6
2	T	1	0.0	0.001	53.4	LOS D	0.0	0.2	0.81	0.47	23.6
3	R	7	3.5	0.035	84.4	LOS F	0.3	1.9	0.96	0.64	18.3
Approach		35	3.4	0.074	25.9	LOS B	0.4	2.7	0.37	0.64	35.2
East: Camden Valley Way (N)											
4	L	12	3.5	0.009	8.0	LOS A	0.0	0.2	0.05	0.61	49.4
5	T	2765	3.5	0.777	3.1	LOS A	13.4	96.9	0.21	0.19	54.3
6	R	77	0.0	0.333	84.7	LOS F	2.9	20.3	0.96	0.73	18.1
Approach		2854	3.4	0.777	5.3	LOS A	13.4	96.9	0.23	0.21	51.5
North: St Andrew's Rd (W)											
7	L	298	0.0	0.535	57.4	LOS E	19.2	134.6	0.89	0.83	23.5
8	T	1	0.0	0.006	54.0	LOS D	0.1	0.9	0.82	0.52	23.0
9	R	1	0.0	0.006	61.7	LOS E	0.1	0.9	0.82	0.65	22.7
Approach		300	0.0	0.535	57.4	LOS E	19.2	134.6	0.89	0.83	23.5
West: Camden Valley Way (S)											
10	L	1	0.0	0.001	9.1	LOS A	0.0	0.0	0.05	0.60	48.1
11	T	1510	3.5	0.425	2.1	LOS A	3.2	23.1	0.09	0.08	56.2
12	R	136	3.5	0.754	87.6	LOS F	6.9	49.4	0.99	0.79	17.7
Approach		1647	3.5	0.754	9.2	LOS A	6.9	49.4	0.16	0.14	47.6
All Vehicles		4836	3.2	0.777	10.0	LOS A	19.2	134.6	0.25	0.23	46.6

Denham Court Rd/Precinct Access

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
East: Denham Court Road (E)											
5	T	620	3.5	0.857	11.8	LOS A	20.1	144.8	0.94	0.91	44.1
6	R	672	3.5	0.857	19.7	LOS B	20.1	144.8	0.94	0.94	41.2
Approach		1292	3.5	0.857	15.9	LOS B	20.1	144.8	0.94	0.93	42.5
North: Denham Court Road (N)											
7	L	330	3.5	0.180	5.2	LOS A	0.9	6.5	0.25	0.45	51.1
9	R	450	3.5	0.246	11.6	LOS A	1.3	9.4	0.26	0.64	45.8
Approach		780	3.5	0.246	8.9	LOS A	1.3	9.4	0.25	0.56	47.8
West: Precinct (W)											
10	L	101	3.5	0.245	7.3	LOS A	2.0	14.2	0.80	0.64	48.0
11	T	155	3.5	0.245	5.9	LOS A	2.0	14.2	0.80	0.57	47.7
Approach		256	3.5	0.245	6.4	LOS A	2.0	14.2	0.80	0.60	47.8
All Vehicles		2328	3.5	0.857	12.5	LOS A	20.1	144.8	0.69	0.77	44.7

2036 AM Peak

Camden Valley Way/Cowpasture Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	95% Back of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Cowpasture Rd (S)											
1	L	28	3.5	0.155	54.4	LOS D	1.6	11.6	0.78	0.70	24.3
2	T	58	3.5	0.165	58.4	LOS E	3.8	27.4	0.88	0.68	22.2
3	R	148	3.5	1.000 [3]	82.2	LOS F	11.3	81.6	1.00	0.80	18.6
Approach		234	3.5	1.000	72.9	LOS F	11.3	81.6	0.94	0.76	20.0
East: Camden Valley Way (E)											
24	L	8	3.5	0.007	9.1	LOS A	0.0	0.2	0.05	0.61	48.3
25	T	1690	3.5	0.587	9.2	LOS A	13.3	96.0	0.33	0.30	46.6
26	R	10	3.5	0.148	90.4	LOS F	0.8	5.6	0.97	0.67	17.3
Approach		1708	3.5	0.587	9.7	LOS A	13.3	96.0	0.34	0.30	46.2
North: Cowpasture Road (N)											
7	L	10	3.5	0.088	53.7	LOS D	0.6	4.1	0.77	0.66	24.5
8	T	11	3.5	0.773	85.3	LOS F	7.7	55.3	1.00	0.88	17.0
9	R	247	3.5	0.773	88.3	LOS F	13.2	95.3	1.00	0.88	17.7
Approach		268	3.5	0.773	86.8	LOS F	13.2	95.3	0.99	0.87	17.9
West: Camden Valley Way (W)											
30	L	269	3.5	0.225	9.3	LOS A	1.3	9.4	0.07	0.62	48.0
31	T	2814	3.5	0.977	41.2	LOS C	82.1	592.0	0.97	1.05	26.9
32	R	2	3.5	0.030	88.4	LOS F	0.2	1.1	0.96	0.61	17.6
Approach		3085	3.5	0.977	38.5	LOS C	82.1	592.0	0.89	1.01	28.0
All Vehicles		5295	3.5	1.000	33.2	LOS C	82.1	592.0	0.72	0.77	30.4

Camden Valley Way/Denham Court Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	95% Back of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Denham Court Rd (E)											
1	L	185	3.5	0.593	44.5	LOS D	9.9	71.3	0.74	0.77	27.2
2	T	211	3.5	0.247	54.4	LOS D	6.7	48.4	0.86	0.69	23.3
3	R	382	3.5	0.892	96.5	LOS F	16.7	120.4	1.00	1.00	16.7
Approach		778	3.5	0.892	72.7	LOS F	16.7	120.4	0.90	0.86	20.0
East: Camden Valley Way (N)											
4	L	465	3.5	0.449	10.1	LOS A	3.1	22.3	0.09	0.63	47.2
5	T	1405	3.5	0.590	19.7	LOS B	18.5	133.0	0.55	0.49	37.6
6	R	97	3.5	0.718	94.4	LOS F	4.0	29.1	1.00	0.78	16.9
Approach		1967	3.5	0.718	21.1	LOS B	18.5	133.0	0.47	0.54	37.1
North: Ingleburn Rd (W)											
7	L	97	3.5	0.294	54.9	LOS D	5.7	41.3	0.81	0.76	24.1
8	T	225	3.5	0.297	58.4	LOS E	7.4	53.7	0.90	0.72	22.3
9	R	102	3.5	0.302	82.0	LOS F	3.8	27.4	0.97	0.75	18.7
Approach		424	3.5	0.302	63.3	LOS E	7.4	53.7	0.89	0.74	21.7
West: Camden Valley Way (S)											
10	L	166	3.5	0.147	9.4	LOS A	0.7	5.3	0.06	0.62	47.9
11	T	2589	3.5	0.922	21.4	LOS B	53.8	388.2	0.80	0.78	36.0
12	R	241	3.5	0.594	75.7	LOS F	8.8	63.5	0.96	0.79	19.7
Approach		2996	3.5	0.922	25.1	LOS B	53.8	388.2	0.77	0.77	34.2
All Vehicles		6165	3.5	0.922	32.5	LOS C	53.8	388.2	0.70	0.71	31.0

Camden Valley Way/Heath Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Heath Rd (E)											
1	L	186	3.5	0.285	46.1	LOS D	10.2	73.2	0.76	0.78	26.7
2	T	80	3.5	0.837	65.7	LOS E	27.6	198.8	1.00	0.94	20.1
3	R	266	3.5	0.837	73.5	LOS F	27.6	198.8	1.00	0.94	20.1
Approach		532	3.5	0.837	62.7	LOS E	27.6	198.8	0.91	0.89	22.0
East: Camden Valley Way (N)											
4	L	64	3.5	0.063	10.0	LOS A	0.3	2.3	0.07	0.62	47.3
5	T	1618	3.5	0.506	3.2	LOS A	4.9	35.1	0.13	0.12	54.5
6	R	36	3.5	0.266	91.5	LOS F	1.4	10.3	0.98	0.70	17.1
Approach		1718	3.5	0.506	5.3	LOS A	4.9	35.1	0.14	0.15	51.8
North: Heath Rd (W)											
7	L	17	3.5	0.026	42.7	LOS D	0.8	6.0	0.67	0.69	27.8
8	T	22	3.5	0.021	43.6	LOS D	0.6	4.4	0.75	0.53	26.4
9	R	49	3.5	0.310	64.2	LOS E	3.2	22.9	0.86	0.75	21.8
Approach		88	3.5	0.310	54.9	LOS D	3.2	22.9	0.80	0.68	23.8
West: Camden Valley Way (S)											
10	L	107	3.5	0.104	9.7	LOS A	0.5	3.4	0.06	0.62	47.7
11	T	2691	3.5	0.832	3.6	LOS A	16.8	121.2	0.27	0.25	53.4
12	R	37	3.5	0.469	91.1	LOS F	2.9	21.3	0.99	0.73	17.1
Approach		2835	3.5	0.832	5.0	LOS A	16.8	121.2	0.27	0.27	51.7
All Vehicles		5173	3.5	0.837	11.9	LOS A	27.6	198.8	0.30	0.30	44.6

Camden Valley Way/St Andrews Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: St Andrew's Rd (E)											
1	L	110	3.5	0.275	8.4	LOS A	1.1	8.2	0.17	0.65	48.8
2	T	1	0.0	0.001	53.4	LOS D	0.0	0.2	0.81	0.47	23.6
3	R	30	3.5	0.061	66.8	LOS E	1.0	7.0	0.86	0.70	21.4
Approach		141	3.5	0.275	21.2	LOS B	1.1	8.2	0.32	0.66	38.1
East: Camden Valley Way (N)											
4	L	3	3.5	0.002	7.8	LOS A	0.0	0.0	0.05	0.60	49.5
5	T	1547	3.5	0.463	2.4	LOS A	3.5	25.3	0.10	0.09	55.8
6	R	309	0.0	0.836	83.4	LOS F	12.4	86.6	1.00	0.87	18.3
Approach		1859	2.9	0.836	15.9	LOS B	12.4	86.6	0.25	0.22	41.6
North: St Andrew's Rd (W)											
7	L	75	0.0	0.120	46.2	LOS D	4.0	27.7	0.73	0.74	26.7
8	T	1	0.0	0.006	54.0	LOS D	0.1	0.9	0.82	0.52	23.0
9	R	1	0.0	0.006	61.7	LOS E	0.1	0.9	0.82	0.65	22.7
Approach		77	0.0	0.120	46.5	LOS D	4.0	27.7	0.73	0.74	26.5
West: Camden Valley Way (S)											
10	L	1	0.0	0.001	9.3	LOS A	0.0	0.0	0.05	0.60	48.0
11	T	2806	3.5	0.839	3.4	LOS A	17.6	127.1	0.27	0.25	53.5
12	R	34	3.5	0.118	73.9	LOS F	1.4	10.3	0.88	0.70	19.9
Approach		2841	3.5	0.839	4.3	LOS A	17.6	127.1	0.28	0.26	52.5
All Vehicles		4918	3.2	0.839	9.8	LOS A	17.6	127.1	0.27	0.26	46.6

Denham Court Rd/Precinct Access

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
East: Denham Court Road (E)											
5	T	155	3.5	0.202	3.6	LOS A	1.2	8.3	0.23	0.30	52.3
6	R	230	3.5	0.202	11.5	LOS A	1.2	8.3	0.23	0.73	46.5
Approach		385	3.5	0.202	8.3	LOS A	1.2	8.3	0.23	0.56	48.5
North: Denham Court Road (N)											
7	L	1025	3.5	0.820	13.4	LOS A	13.5	97.0	0.80	0.99	44.0
9	R	112	3.5	0.090	13.3	LOS A	0.5	3.6	0.52	0.69	44.6
Approach		1137	3.5	0.820	13.4	LOS A	13.5	97.0	0.77	0.96	44.1
West: Precinct (W)											
10	L	404	3.5	0.575	5.6	LOS A	4.2	30.6	0.44	0.50	50.2
11	T	620	3.5	0.575	4.2	LOS A	4.2	30.6	0.44	0.40	50.7
Approach		1024	3.5	0.575	4.7	LOS A	4.2	30.6	0.44	0.44	50.5
All Vehicles		2546	3.5	0.820	9.1	LOS A	13.5	97.0	0.56	0.69	47.1

2036 PM Peak

Camden Valley Way/Cowpasture Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Cowpasture Rd (S)											
1	L	7	3.5	0.039	53.5	LOS D	0.4	2.8	0.76	0.66	24.5
2	T	12	3.5	0.034	56.4	LOS D	0.8	5.4	0.85	0.59	22.8
3	R	39	3.5	0.577	95.6	LOS F	3.2	23.3	1.00	0.75	16.7
Approach		58	3.5	0.577	82.4	LOS F	3.2	23.3	0.94	0.71	18.4
East: Camden Valley Way (E)											
24	L	34	3.5	0.030	9.3	LOS A	0.1	1.0	0.05	0.61	48.0
25	T	3279	3.5	1.060	141.8	LOS F	153.5	1106.8	1.00	1.56	12.0
26	R	10	3.5	0.148	90.4	LOS F	0.8	5.6	0.97	0.67	17.3
Approach		3323	3.5	1.060	140.2	LOS F	153.5	1106.8	0.99	1.55	12.1
North: Cowpasture Road (N)											
7	L	10	3.5	0.083	48.3	LOS D	0.5	3.8	0.72	0.66	26.0
8	T	43	3.5	1.084	261.6	LOS F	10.9	78.9	1.00	1.35	7.2
9	R	185	3.5	1.084	267.1	LOS F	25.1	181.0	1.00	1.52	7.3
Approach		238	3.5	1.084	256.9	LOS F	25.1	181.0	0.99	1.46	7.5
West: Camden Valley Way (W)											
30	L	180	3.5	0.151	9.2	LOS A	0.8	5.7	0.06	0.62	48.1
31	T	1287	3.5	0.416	4.6	LOS A	4.9	35.4	0.16	0.14	52.5
32	R	8	3.5	0.118	90.1	LOS F	0.6	4.5	0.97	0.66	17.4
Approach		1475	3.5	0.416	5.7	LOS A	4.9	35.4	0.15	0.20	51.3
All Vehicles		5094	3.5	1.084	106.1	LOS F	153.5	1106.8	0.75	1.15	15.1

Camden Valley Way/Denham Court Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	95% Back of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Denham Court Rd (E)											
1	L	130	3.5	0.456	51.7	LOS D	7.5	54.0	0.79	0.77	25.0
2	T	213	3.5	0.281	58.2	LOS E	7.0	50.7	0.89	0.71	22.3
3	R	260	3.5	0.962	119.5	LOS F	12.8	92.0	1.00	1.15	14.2
Approach		603	3.5	0.962	83.3	LOS F	12.8	92.0	0.92	0.91	18.2
East: Camden Valley Way (N)											
4	L	425	3.5	0.381	9.8	LOS A	2.5	18.3	0.08	0.63	47.5
5	T	2831	3.5	0.983	45.7	LOS D	86.6	624.7	1.00	1.10	25.5
6	R	202	3.5	0.448	71.9	LOS F	7.0	50.5	0.92	0.78	20.4
Approach		3458	3.5	0.983	42.8	LOS D	86.6	624.7	0.88	1.02	26.6
North: Ingleburn Rd (W)											
7	L	103	3.5	0.279	44.1	LOS D	5.3	38.5	0.71	0.74	27.4
8	T	307	3.5	0.405	59.9	LOS E	10.4	75.2	0.92	0.75	21.9
9	R	97	3.5	0.359	85.9	LOS F	3.7	26.9	0.99	0.75	18.1
Approach		507	3.5	0.405	61.7	LOS E	10.4	75.2	0.89	0.75	21.9
West: Camden Valley Way (S)											
10	L	94	3.5	0.093	10.1	LOS A	0.5	3.5	0.07	0.62	47.2
11	T	1113	3.5	0.435	14.4	LOS A	10.5	75.9	0.40	0.35	41.8
12	R	242	3.5	0.976	109.7	LOS F	11.4	82.2	1.00	1.05	15.1
Approach		1449	3.5	0.976	30.1	LOS C	11.4	82.2	0.48	0.48	32.4
All Vehicles		6017	3.5	0.983	45.4	LOS D	86.6	624.7	0.79	0.86	26.1

Camden Valley Way/Heath Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	95% Back of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Heath Rd (E)											
1	L	47	3.5	0.071	42.1	LOS C	2.3	16.7	0.68	0.72	28.1
2	T	20	3.5	0.397	67.4	LOS E	6.3	45.1	0.95	0.75	19.9
3	R	67	3.5	0.397	75.2	LOS F	6.3	45.1	0.95	0.79	19.8
Approach		134	3.5	0.397	62.4	LOS E	6.3	45.1	0.85	0.76	22.1
East: Camden Valley Way (N)											
4	L	255	3.5	0.254	10.8	LOS A	1.8	13.3	0.10	0.63	46.5
5	T	2763	3.5	0.873	5.9	LOS A	27.4	197.5	0.42	0.39	49.9
6	R	27	3.5	0.074	59.4	LOS E	0.8	5.5	0.75	0.68	22.9
Approach		3045	3.5	0.873	6.8	LOS A	27.4	197.5	0.39	0.41	49.1
North: Heath Rd (W)											
7	L	27	3.5	0.041	41.6	LOS C	1.3	9.5	0.67	0.70	28.2
8	T	86	3.5	0.140	61.7	LOS E	2.9	20.7	0.89	0.68	21.6
9	R	103	3.5	0.694	79.4	LOS F	7.8	55.9	0.97	0.83	18.9
Approach		216	3.5	0.694	67.6	LOS E	7.8	55.9	0.90	0.75	20.8
West: Camden Valley Way (S)											
10	L	86	3.5	0.086	10.5	LOS A	0.5	3.7	0.08	0.62	46.8
11	T	1369	3.5	0.433	3.6	LOS A	4.2	30.4	0.13	0.12	54.0
12	R	149	3.5	0.875	73.0	LOS F	10.6	76.6	0.88	0.88	20.0
Approach		1604	3.5	0.875	10.4	LOS A	10.6	76.6	0.20	0.21	46.3
All Vehicles		4999	3.5	0.875	12.1	LOS A	27.4	197.5	0.36	0.37	44.2

Camden Valley Way/St Andrews Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: St Andrew's Rd (E)											
1	L	27	3.5	0.074	10.7	LOS A	0.5	3.3	0.25	0.66	46.5
2	T	1	0.0	0.001	53.4	LOS D	0.0	0.2	0.81	0.47	23.6
3	R	7	3.5	0.035	84.4	LOS F	0.3	1.9	0.96	0.64	18.3
Approach		35	3.4	0.074	26.7	LOS B	0.5	3.3	0.40	0.65	34.8
East: Camden Valley Way (N)											
4	L	12	3.5	0.009	8.0	LOS A	0.0	0.2	0.05	0.61	49.4
5	T	2939	3.5	0.826	3.3	LOS A	17.4	125.3	0.25	0.24	53.8
6	R	77	0.0	0.333	84.7	LOS F	2.9	20.3	0.96	0.73	18.1
Approach		3028	3.4	0.826	5.4	LOS A	17.4	125.3	0.27	0.25	51.2
North: St Andrew's Rd (W)											
7	L	298	0.0	0.535	57.4	LOS E	19.2	134.6	0.89	0.83	23.5
8	T	1	0.0	0.006	54.0	LOS D	0.1	0.9	0.82	0.52	23.0
9	R	1	0.0	0.006	61.7	LOS E	0.1	0.9	0.82	0.65	22.7
Approach		300	0.0	0.535	57.4	LOS E	19.2	134.6	0.89	0.83	23.5
West: Camden Valley Way (S)											
10	L	1	0.0	0.001	9.1	LOS A	0.0	0.0	0.05	0.60	48.1
11	T	1588	3.5	0.447	2.2	LOS A	3.5	25.2	0.09	0.08	56.1
12	R	136	3.5	0.754	87.6	LOS F	6.9	49.4	0.99	0.79	17.7
Approach		1725	3.5	0.754	8.9	LOS A	6.9	49.4	0.16	0.14	47.9
All Vehicles		5088	3.2	0.826	9.8	LOS A	19.2	134.6	0.27	0.25	46.7

Denham Court Rd/Precinct Access

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
East: Denham Court Road (E)											
5	T	620	3.5	0.875	12.8	LOS A	22.5	162.0	0.95	0.95	43.1
6	R	699	3.5	0.875	20.8	LOS B	22.5	162.0	0.95	0.98	40.5
Approach		1319	3.5	0.875	17.0	LOS B	22.5	162.0	0.95	0.97	41.7
North: Denham Court Road (N)											
7	L	352	3.5	0.193	5.2	LOS A	1.0	7.1	0.25	0.45	51.1
9	R	450	3.5	0.246	11.6	LOS A	1.3	9.5	0.26	0.63	45.8
Approach		802	3.5	0.246	8.8	LOS A	1.3	9.5	0.26	0.55	47.8
West: Precinct (W)											
10	L	101	3.5	0.256	7.5	LOS A	2.1	15.2	0.83	0.66	47.8
11	T	155	3.5	0.256	6.1	LOS A	2.1	15.2	0.83	0.59	47.5
Approach		256	3.5	0.256	6.7	LOS A	2.1	15.2	0.83	0.62	47.6
All Vehicles		2377	3.5	0.875	13.1	LOS A	22.5	162.0	0.71	0.79	44.2

3.0% Annual Growth

2026 AM Peak

Camden Valley Way/Cowpasture Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Cowpasture Rd (S)											
1	L	28	3.5	0.155	54.4	LOS D	1.6	11.6	0.78	0.70	24.3
2	T	55	3.5	0.154	58.2	LOS E	3.5	25.6	0.87	0.67	22.3
3	R	151	3.5	1.000 [3]	78.7	LOS F	11.3	81.6	0.99	0.80	19.2
Approach		234	3.5	1.000	71.0	LOS F	11.3	81.6	0.94	0.76	20.3
East: Camden Valley Way (E)											
24	L	8	3.5	0.007	9.1	LOS A	0.0	0.2	0.05	0.61	48.3
25	T	1616	3.5	0.583	11.3	LOS A	14.7	105.7	0.38	0.35	44.5
26	R	9	3.5	0.133	90.2	LOS F	0.7	5.1	0.97	0.67	17.4
Approach		1633	3.5	0.583	11.7	LOS A	14.7	105.7	0.39	0.35	44.1
North: Cowpasture Road (N)											
7	L	9	3.5	0.080	53.6	LOS D	0.5	3.7	0.77	0.66	24.5
8	T	11	3.5	0.673	83.3	LOS F	6.2	44.5	1.00	0.82	17.3
9	R	232	3.5	0.673	82.9	LOS F	12.6	91.2	1.00	0.82	18.5
Approach		252	3.5	0.673	81.9	LOS F	12.6	91.2	0.99	0.82	18.6
West: Camden Valley Way (W)											
30	L	254	3.5	0.213	9.3	LOS A	1.2	8.7	0.07	0.62	48.0
31	T	2678	3.5	0.965	37.1	LOS C	73.6	530.4	0.95	1.00	28.4
32	R	2	3.5	0.030	88.4	LOS F	0.2	1.1	0.96	0.61	17.6
Approach		2934	3.5	0.965	34.8	LOS C	73.6	530.4	0.87	0.97	29.4
All Vehicles		5053	3.5	1.000	31.4	LOS C	73.6	530.4	0.72	0.75	31.2

Camden Valley Way/Denham Court Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Denham Court Rd (E)											
1	L	182	3.5	0.563	41.5	LOS C	9.3	67.1	0.71	0.76	28.3
2	T	209	3.5	0.220	50.7	LOS D	6.4	46.2	0.84	0.67	24.2
3	R	377	3.5	0.881	94.7	LOS F	16.3	117.3	1.00	0.99	16.9
Approach		768	3.5	0.881	70.1	LOS E	16.3	117.3	0.89	0.85	20.5
East: Camden Valley Way (N)											
4	L	440	3.5	0.425	10.0	LOS A	2.8	20.3	0.09	0.63	47.3
5	T	1346	3.5	0.565	19.5	LOS B	17.2	123.8	0.54	0.48	37.8
6	R	91	3.5	0.673	93.9	LOS F	3.8	27.1	1.00	0.76	17.0
Approach		1877	3.5	0.673	20.9	LOS B	17.2	123.8	0.45	0.52	37.3

North: Ingleburn Rd (W)											
7	L	91	3.5	0.275	54.8	LOS D	5.4	38.6	0.80	0.76	24.2
8	T	214	3.5	0.282	58.2	LOS E	7.1	50.9	0.89	0.71	22.3
9	R	96	3.5	0.387	87.2	LOS F	3.7	26.9	1.00	0.75	17.9
Approach		401	3.5	0.387	64.4	LOS E	7.1	50.9	0.90	0.73	21.4
West: Camden Valley Way (S)											
10	L	157	3.5	0.145	9.5	LOS A	0.7	5.0	0.06	0.62	47.8
11	T	2449	3.5	0.872	14.9	LOS B	40.4	291.3	0.68	0.64	40.6
12	R	228	3.5	0.562	75.4	LOS F	8.3	59.6	0.95	0.79	19.8
Approach		2834	3.5	0.872	19.5	LOS B	40.4	291.3	0.67	0.65	37.7
All Vehicles		5880	3.5	0.881	29.6	LOS C	40.4	291.3	0.64	0.64	32.3

Camden Valley Way/Heath Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	95% Back of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Heath Rd (E)											
1	L	186	3.5	0.275	44.5	LOS D	9.9	71.7	0.74	0.78	27.2
2	T	80	3.5	0.801	60.1	LOS E	26.2	188.7	0.99	0.90	21.2
3	R	266	3.5	0.801	68.0	LOS E	26.2	188.7	0.99	0.91	21.2
Approach		532	3.5	0.801	58.6	LOS E	26.2	188.7	0.90	0.86	23.0
East: Camden Valley Way (N)											
4	L	64	3.5	0.065	10.9	LOS A	0.4	3.1	0.09	0.62	46.4
5	T	1551	3.5	0.496	4.3	LOS A	6.0	43.3	0.16	0.15	52.9
6	R	35	3.5	0.259	91.5	LOS F	1.4	10.0	0.98	0.70	17.1
Approach		1650	3.5	0.496	6.4	LOS A	6.0	43.3	0.18	0.18	50.4
North: Heath Rd (W)											
7	L	16	3.5	0.024	41.3	LOS C	0.8	5.6	0.66	0.68	28.3
8	T	22	3.5	0.020	42.1	LOS C	0.6	4.3	0.73	0.52	26.9
9	R	46	3.5	0.286	62.1	LOS E	2.9	21.0	0.84	0.75	22.3
Approach		84	3.5	0.286	52.9	LOS D	2.9	21.0	0.78	0.68	24.4
West: Camden Valley Way (S)											
10	L	100	3.5	0.100	10.5	LOS A	0.6	4.4	0.08	0.62	46.8
11	T	2530	3.5	0.799	4.9	LOS A	18.1	130.6	0.31	0.28	51.5
12	R	37	3.5	0.469	91.1	LOS F	2.9	21.3	0.99	0.73	17.1
Approach		2667	3.5	0.799	6.3	LOS A	18.1	130.6	0.31	0.30	49.9
All Vehicles		4933	3.5	0.801	12.8	LOS A	26.2	188.7	0.34	0.33	43.7

Camden Valley Way/St Andrews Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	95% Back of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: St Andrew's Rd (E)											
1	L	110	3.5	0.273	8.4	LOS A	1.1	8.1	0.17	0.65	48.8
2	T	1	0.0	0.001	53.4	LOS D	0.0	0.2	0.81	0.47	23.6
3	R	30	3.5	0.061	66.8	LOS E	1.0	7.0	0.86	0.70	21.4
Approach		141	3.5	0.273	21.2	LOS B	1.1	8.1	0.32	0.66	38.1
East: Camden Valley Way (N)											
4	L	3	3.5	0.002	7.8	LOS A	0.0	0.0	0.05	0.60	49.5
5	T	1474	3.5	0.446	2.4	LOS A	3.2	23.4	0.09	0.08	55.8
6	R	309	0.0	0.787	80.5	LOS F	12.1	84.4	1.00	0.85	18.8
Approach		1786	2.9	0.787	15.9	LOS B	12.1	84.4	0.25	0.22	41.5
North: St Andrew's Rd (W)											

7	L	75	0.0	0.117	45.4	LOS D	3.9	27.5	0.72	0.74	26.9
8	T	1	0.0	0.006	54.0	LOS D	0.1	0.9	0.82	0.52	23.0
9	R	1	0.0	0.006	61.7	LOS E	0.1	0.9	0.82	0.65	22.7
Approach		77	0.0	0.117	45.8	LOS D	3.9	27.5	0.72	0.74	26.8
West: Camden Valley Way (S)											
10	L	1	0.0	0.001	9.3	LOS A	0.0	0.0	0.05	0.60	47.9
11	T	2639	3.5	0.798	3.3	LOS A	13.9	100.1	0.22	0.21	53.9
12	R	34	3.5	0.111	72.5	LOS F	1.4	10.1	0.87	0.70	20.2
Approach		2674	3.5	0.798	4.2	LOS A	13.9	100.1	0.23	0.22	52.8
All Vehicles		4678	3.2	0.798	9.8	LOS A	13.9	100.1	0.25	0.24	46.7

Denham Court Rd/Precinct Access

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
East: Denham Court Road (E)											
5	T	155	3.5	0.197	3.6	LOS A	1.1	8.1	0.23	0.30	52.4
6	R	220	3.5	0.197	11.5	LOS A	1.1	8.1	0.23	0.73	46.5
Approach		375	3.5	0.197	8.2	LOS A	1.1	8.1	0.23	0.56	48.6
North: Denham Court Road (N)											
7	L	978	3.5	0.781	12.1	LOS A	11.3	81.4	0.77	0.93	45.2
9	R	112	3.5	0.089	13.3	LOS A	0.5	3.6	0.52	0.69	44.6
Approach		1090	3.5	0.781	12.2	LOS A	11.3	81.4	0.75	0.90	45.1
West: Precinct (W)											
10	L	404	3.5	0.571	5.5	LOS A	4.2	30.1	0.43	0.50	50.3
11	T	620	3.5	0.571	4.2	LOS A	4.2	30.1	0.43	0.39	50.9
Approach		1024	3.5	0.571	4.7	LOS A	4.2	30.1	0.43	0.43	50.6
All Vehicles		2489	3.5	0.781	8.5	LOS A	11.3	81.4	0.54	0.66	47.8

2026 PM Peak

Camden Valley Way/Cowpasture Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Cowpasture Rd (S)											
1	L	7	3.5	0.039	53.5	LOS D	0.4	2.8	0.76	0.66	24.5
2	T	12	3.5	0.034	56.4	LOS D	0.8	5.4	0.85	0.59	22.8
3	R	39	3.5	0.577	95.6	LOS F	3.2	23.3	1.00	0.75	16.7
Approach		58	3.5	0.577	82.4	LOS F	3.2	23.3	0.94	0.71	18.4
East: Camden Valley Way (E)											
24	L	34	3.5	0.030	9.3	LOS A	0.1	1.0	0.05	0.61	48.0
25	T	3116	3.5	1.007	64.3	LOS E	113.5	818.6	1.00	1.21	20.9
26	R	9	3.5	0.133	90.2	LOS F	0.7	5.1	0.97	0.67	17.4

Approach		3159	3.5	1.007	63.8	LOS E	113.5	818.6	0.99	1.21	21.1
North: Cowpasture Road (N)											
7	L	9	3.5	0.075	48.2	LOS D	0.5	3.4	0.72	0.66	26.0
8	T	43	3.5	1.024	168.9	LOS F	8.2	58.9	1.00	1.21	10.4
9	R	174	3.5	1.024	175.9	LOS F	18.5	133.1	1.00	1.32	10.4
Approach		226	3.5	1.024	169.5	LOS F	18.5	133.1	0.99	1.28	10.7
West: Camden Valley Way (W)											
30	L	170	3.5	0.142	9.2	LOS A	0.7	5.4	0.06	0.62	48.1
31	T	1217	3.5	0.393	4.6	LOS A	4.5	32.4	0.16	0.14	52.6
32	R	8	3.5	0.118	90.1	LOS F	0.6	4.5	0.97	0.66	17.4
Approach		1395	3.5	0.393	5.6	LOS A	4.5	32.4	0.15	0.20	51.4
All Vehicles		4838	3.5	1.024	52.2	LOS D	113.5	818.6	0.75	0.91	24.0

Camden Valley Way/Denham Court Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Denham Court Rd (E)											
1	L	124	3.5	0.431	50.8	LOS D	7.0	50.8	0.78	0.76	25.3
2	T	202	3.5	0.266	58.0	LOS E	6.6	47.9	0.89	0.71	22.4
3	R	248	3.5	0.917	104.9	LOS F	11.2	80.7	1.00	1.05	15.7
Approach		574	3.5	0.917	76.7	LOS F	11.2	80.7	0.91	0.87	19.3
East: Camden Valley Way (N)											
4	L	415	3.5	0.376	9.8	LOS A	2.5	17.7	0.08	0.63	47.5
5	T	2679	3.5	0.942	25.3	LOS B	61.5	443.4	0.84	0.85	33.7
6	R	190	3.5	0.703	84.9	LOS F	7.5	53.8	1.00	0.81	18.2
Approach		3284	3.5	0.942	26.8	LOS B	61.5	443.4	0.76	0.82	33.3
North: Ingleburn Rd (W)											
7	L	97	3.5	0.280	50.0	LOS D	5.4	39.1	0.77	0.75	25.5
8	T	300	3.5	0.395	59.8	LOS E	10.2	73.3	0.92	0.75	22.0
9	R	93	3.5	0.344	85.7	LOS F	3.6	25.7	0.99	0.75	18.1
Approach		490	3.5	0.395	62.8	LOS E	10.2	73.3	0.90	0.75	21.7
West: Camden Valley Way (S)											
10	L	89	3.5	0.081	9.4	LOS A	0.4	2.6	0.06	0.61	47.9
11	T	1050	3.5	0.369	8.6	LOS A	6.4	46.3	0.26	0.23	47.6
12	R	237	3.5	0.877	90.0	LOS F	9.9	71.0	1.00	0.90	17.5
Approach		1376	3.5	0.877	22.7	LOS B	9.9	71.0	0.37	0.37	36.6
All Vehicles		5724	3.5	0.942	33.9	LOS C	61.5	443.4	0.69	0.71	30.3

Camden Valley Way/Heath Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Heath Rd (E)											
1	L	47	3.5	0.068	40.7	LOS C	2.3	16.4	0.67	0.72	28.6
2	T	20	3.5	0.397	67.4	LOS E	6.3	45.1	0.95	0.75	19.9
3	R	67	3.5	0.397	75.2	LOS F	6.3	45.1	0.95	0.79	19.8
Approach		134	3.5	0.397	62.0	LOS E	6.3	45.1	0.85	0.76	22.2
East: Camden Valley Way (N)											

4	L	255	3.5	0.260	11.8	LOS A	2.4	17.1	0.13	0.64	45.5
5	T	2602	3.5	0.841	6.6	LOS A	26.1	188.3	0.43	0.40	49.0
6	R	25	3.5	0.067	57.0	LOS E	0.7	4.9	0.73	0.68	23.5
Approach		2882	3.5	0.841	7.5	LOS A	26.1	188.3	0.40	0.42	48.2
North: Heath Rd (W)											
7	L	26	3.5	0.038	40.2	LOS C	1.2	8.9	0.65	0.70	28.7
8	T	86	3.5	0.140	61.7	LOS E	2.9	20.7	0.89	0.68	21.6
9	R	97	3.5	0.653	78.2	LOS F	7.2	51.9	0.96	0.81	19.2
Approach		209	3.5	0.653	66.7	LOS E	7.2	51.9	0.90	0.74	21.0
West: Camden Valley Way (S)											
10	L	81	3.5	0.083	11.4	LOS A	0.6	4.5	0.11	0.62	45.9
11	T	1296	3.5	0.419	4.6	LOS A	5.0	35.8	0.16	0.14	52.5
12	R	149	3.5	0.850	68.6	LOS E	10.2	73.3	0.85	0.85	20.8
Approach		1526	3.5	0.850	11.3	LOS A	10.2	73.3	0.23	0.24	45.4
All Vehicles		4751	3.5	0.850	12.9	LOS A	26.1	188.3	0.38	0.39	43.4

Camden Valley Way/St Andrews Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	95% Back of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: St Andrew's Rd (E)											
1	L	27	3.5	0.074	9.7	LOS A	0.4	2.7	0.21	0.65	47.6
2	T	1	0.0	0.001	53.4	LOS D	0.0	0.2	0.81	0.47	23.6
3	R	7	3.5	0.035	84.4	LOS F	0.3	1.9	0.96	0.64	18.3
Approach		35	3.4	0.074	25.9	LOS B	0.4	2.7	0.37	0.64	35.2
East: Camden Valley Way (N)											
4	L	12	3.5	0.009	8.0	LOS A	0.0	0.2	0.05	0.61	49.4
5	T	2765	3.5	0.777	3.1	LOS A	13.4	96.9	0.21	0.19	54.3
6	R	77	0.0	0.333	84.7	LOS F	2.9	20.3	0.96	0.73	18.1
Approach		2854	3.4	0.777	5.3	LOS A	13.4	96.9	0.23	0.21	51.5
North: St Andrew's Rd (W)											
7	L	298	0.0	0.535	57.4	LOS E	19.2	134.6	0.89	0.83	23.5
8	T	1	0.0	0.006	54.0	LOS D	0.1	0.9	0.82	0.52	23.0
9	R	1	0.0	0.006	61.7	LOS E	0.1	0.9	0.82	0.65	22.7
Approach		300	0.0	0.535	57.4	LOS E	19.2	134.6	0.89	0.83	23.5
West: Camden Valley Way (S)											
10	L	1	0.0	0.001	9.1	LOS A	0.0	0.0	0.05	0.60	48.1
11	T	1510	3.5	0.425	2.1	LOS A	3.2	23.1	0.09	0.08	56.2
12	R	136	3.5	0.754	87.6	LOS F	6.9	49.4	0.99	0.79	17.7
Approach		1647	3.5	0.754	9.2	LOS A	6.9	49.4	0.16	0.14	47.6
All Vehicles		4836	3.2	0.777	10.0	LOS A	19.2	134.6	0.25	0.23	46.6

Denham Court Rd/Precinct Access

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	95% Back of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	v/c	sec		veh	m		per veh	km/h
East: Denham Court Road (E)											
5	T	620	3.5	0.857	11.8	LOS A	20.1	144.8	0.94	0.91	44.1
6	R	672	3.5	0.857	19.7	LOS B	20.1	144.8	0.94	0.94	41.2
Approach		1292	3.5	0.857	15.9	LOS B	20.1	144.8	0.94	0.93	42.5
North: Denham Court Road (N)											
7	L	330	3.5	0.180	5.2	LOS A	0.9	6.5	0.25	0.45	51.1

9	R	450	3.5	0.246	11.6	LOS A	1.3	9.4	0.26	0.64	45.8
Approach		780	3.5	0.246	8.9	LOS A	1.3	9.4	0.25	0.56	47.8
West: Precinct (W)											
10	L	101	3.5	0.245	7.3	LOS A	2.0	14.2	0.80	0.64	48.0
11	T	155	3.5	0.245	5.9	LOS A	2.0	14.2	0.80	0.57	47.7
Approach		256	3.5	0.245	6.4	LOS A	2.0	14.2	0.80	0.60	47.8
All Vehicles		2328	3.5	0.857	12.5	LOS A	20.1	144.8	0.69	0.77	44.7

2031 AM Peak

Camden Valley Way/Cowpasture Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Cowpasture Rd (S)											
1	L	28	3.5	0.155	54.4	LOS D	1.6	11.6	0.78	0.70	24.3
2	T	62	3.5	0.177	58.6	LOS E	4.1	29.3	0.88	0.68	22.1
3	R	144	3.5	1.000[3]	85.8	LOS F	11.3	81.6	1.00	0.80	18.1
Approach		234	3.5	1.000	74.8	LOS F	11.3	81.6	0.94	0.76	19.6
East: Camden Valley Way (E)											
24	L	8	3.5	0.007	9.1	LOS A	0.0	0.2	0.05	0.61	48.3
25	T	1764	3.5	0.590	7.2	LOS A	11.6	83.7	0.28	0.25	48.9
26	R	10	3.5	0.148	90.4	LOS F	0.8	5.6	0.97	0.67	17.3
Approach		1782	3.5	0.590	7.7	LOS A	11.6	83.7	0.28	0.26	48.4
North: Cowpasture Road (N)											
7	L	10	3.5	0.088	53.7	LOS D	0.6	4.1	0.77	0.66	24.5
8	T	11	3.5	0.917	99.1	LOS F	9.8	70.4	1.00	1.05	15.4
9	R	261	3.5	0.917	104.4	LOS F	14.9	107.7	1.00	1.05	15.7
Approach		282	3.5	0.917	102.4	LOS F	14.9	107.7	0.99	1.03	15.9
West: Camden Valley Way (W)											
30	L	284	3.5	0.238	9.3	LOS A	1.4	10.0	0.07	0.62	48.0
31	T	2950	3.5	0.988	46.7	LOS D	92.4	665.9	1.00	1.12	25.2
32	R	2	3.5	0.030	88.4	LOS F	0.2	1.1	0.96	0.61	17.6
Approach		3236	3.5	0.988	43.4	LOS D	92.4	665.9	0.92	1.08	26.3
All Vehicles		5534	3.5	1.000	36.3	LOS C	92.4	665.9	0.72	0.80	29.2

Camden Valley Way/Denham Court Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			

		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Denham Court Rd (E)											
1	L	188	3.5	0.613	46.1	LOS D	10.3	74.1	0.76	0.77	26.7
2	T	213	3.5	0.272	57.2	LOS E	7.0	50.2	0.89	0.71	22.6
3	R	388	3.5	0.957	107.8	LOS F	18.1	130.6	1.00	1.05	15.4
Approach		789	3.5	0.957	79.5	LOS F	18.1	130.6	0.91	0.89	18.9
East: Camden Valley Way (N)											
4	L	489	3.5	0.477	10.4	LOS A	3.5	25.5	0.11	0.63	46.9
5	T	1464	3.5	0.614	20.0	LOS B	19.8	142.9	0.57	0.51	37.4
6	R	102	3.5	0.755	94.9	LOS F	4.3	30.7	1.00	0.79	16.8
Approach		2055	3.5	0.755	21.4	LOS B	19.8	142.9	0.48	0.55	36.9
North: Ingleburn Rd (W)											
7	L	103	3.5	0.312	55.1	LOS D	6.1	44.1	0.81	0.76	24.1
8	T	236	3.5	0.311	58.6	LOS E	7.8	56.5	0.90	0.72	22.2
9	R	108	3.5	0.282	79.8	LOS F	4.0	28.5	0.96	0.75	19.1
Approach		447	3.5	0.312	62.9	LOS E	7.8	56.5	0.89	0.74	21.7
West: Camden Valley Way (S)											
10	L	175	3.5	0.151	9.3	LOS A	0.8	5.6	0.06	0.62	48.0
11	T	2729	3.5	0.959	32.0	LOS C	70.4	507.7	0.90	0.94	30.5
12	R	253	3.5	0.591	74.5	LOS F	9.2	66.1	0.96	0.79	19.9
Approach		3157	3.5	0.959	34.1	LOS C	70.4	507.7	0.86	0.91	29.8
All Vehicles		6448	3.5	0.959	37.6	LOS C	70.4	507.7	0.75	0.78	28.8

Camden Valley Way/Heath Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	95% Back of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Heath Rd (E)											
1	L	186	3.5	0.295	47.6	LOS D	10.4	74.7	0.77	0.78	26.2
2	T	80	3.5	0.853	68.6	LOS E	28.3	203.9	1.00	0.96	19.6
3	R	266	3.5	0.853	76.5	LOS F	28.3	203.9	1.00	0.96	19.6
Approach		532	3.5	0.853	65.2	LOS E	28.3	203.9	0.92	0.90	21.5
East: Camden Valley Way (N)											
4	L	64	3.5	0.062	9.5	LOS A	0.3	1.9	0.06	0.61	47.8
5	T	1685	3.5	0.515	2.5	LOS A	4.2	30.2	0.11	0.10	55.6
6	R	36	3.5	0.266	91.5	LOS F	1.4	10.3	0.98	0.70	17.1
Approach		1785	3.5	0.515	4.6	LOS A	4.2	30.2	0.12	0.13	52.8
North: Heath Rd (W)											
7	L	18	3.5	0.029	43.4	LOS D	0.9	6.5	0.68	0.69	27.6
8	T	22	3.5	0.021	44.4	LOS D	0.6	4.4	0.75	0.53	26.2
9	R	52	3.5	0.332	65.4	LOS E	3.4	24.6	0.87	0.76	21.6
Approach		92	3.5	0.332	56.1	LOS D	3.4	24.6	0.81	0.69	23.6
West: Camden Valley Way (S)											
10	L	113	3.5	0.109	9.6	LOS A	0.5	3.4	0.06	0.62	47.7
11	T	2851	3.5	0.871	3.7	LOS A	21.2	152.9	0.32	0.30	52.9
12	R	37	3.5	0.547	93.5	LOS F	3.0	21.7	1.00	0.74	16.8
Approach		3001	3.5	0.871	5.1	LOS A	21.2	152.9	0.32	0.31	51.4
All Vehicles		5410	3.5	0.871	11.7	LOS A	28.3	203.9	0.32	0.32	44.7

Camden Valley Way/St Andrews Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	95% Back of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: St Andrew's Rd (E)											

1	L	110	3.5	0.275	8.6	LOS A	1.2	9.0	0.19	0.65	48.7
2	T	1	0.0	0.001	53.4	LOS D	0.0	0.2	0.81	0.47	23.6
3	R	30	3.5	0.061	66.8	LOS E	1.0	7.0	0.86	0.70	21.4
Approach		141	3.5	0.275	21.3	LOS B	1.2	9.0	0.33	0.66	38.1
East: Camden Valley Way (N)											
4	L	3	3.5	0.002	7.8	LOS A	0.0	0.0	0.05	0.60	49.5
5	T	1620	3.5	0.485	2.4	LOS A	3.8	27.5	0.10	0.09	55.7
6	R	309	0.0	0.836	83.4	LOS F	12.4	86.6	1.00	0.87	18.3
Approach		1932	2.9	0.836	15.4	LOS B	12.4	86.6	0.24	0.22	41.9
North: St Andrew's Rd (W)											
7	L	75	0.0	0.120	46.2	LOS D	4.0	27.7	0.73	0.74	26.7
8	T	1	0.0	0.006	54.0	LOS D	0.1	0.9	0.82	0.52	23.0
9	R	1	0.0	0.006	61.7	LOS E	0.1	0.9	0.82	0.65	22.7
Approach		77	0.0	0.120	46.5	LOS D	4.0	27.7	0.73	0.74	26.5
West: Camden Valley Way (S)											
10	L	1	0.0	0.001	9.3	LOS A	0.0	0.0	0.05	0.60	48.0
11	T	2973	3.5	0.889	4.9	LOS A	25.5	184.2	0.35	0.34	51.3
12	R	34	3.5	0.118	73.9	LOS F	1.4	10.3	0.88	0.70	19.9
Approach		3008	3.5	0.889	5.7	LOS A	25.5	184.2	0.36	0.34	50.4
All Vehicles		5158	3.2	0.889	10.4	LOS A	25.5	184.2	0.32	0.31	45.9

Denham Court Rd/Precinct Access

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
East: Denham Court Road (E)											
5	T	155	3.5	0.207	3.6	LOS A	1.2	8.6	0.23	0.30	52.3
6	R	240	3.5	0.207	11.5	LOS A	1.2	8.6	0.23	0.73	46.5
Approach		395	3.5	0.207	8.4	LOS A	1.2	8.6	0.23	0.56	48.5
North: Denham Court Road (N)											
7	L	1073	3.5	0.861	15.3	LOS B	16.5	119.0	0.82	1.07	42.4
9	R	112	3.5	0.090	13.3	LOS A	0.5	3.6	0.53	0.69	44.6
Approach		1185	3.5	0.861	15.1	LOS B	16.5	119.0	0.80	1.03	42.6
West: Precinct (W)											
10	L	404	3.5	0.579	5.6	LOS A	4.3	31.0	0.46	0.50	50.1
11	T	620	3.5	0.579	4.3	LOS A	4.3	31.0	0.46	0.40	50.6
Approach		1024	3.5	0.579	4.8	LOS A	4.3	31.0	0.46	0.44	50.4
All Vehicles		2604	3.5	0.861	10.0	LOS A	16.5	119.0	0.58	0.73	46.3

2031 PM Peak

Camden Valley Way/Cowpasture Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Cowpasture Rd (S)											
1	L	7	3.5	0.039	53.5	LOS D	0.4	2.8	0.76	0.66	24.5
2	T	12	3.5	0.034	56.4	LOS D	0.8	5.4	0.85	0.59	22.8
3	R	39	3.5	0.346	88.3	LOS F	3.0	21.9	0.99	0.74	17.7
Approach		58	3.5	0.346	77.5	LOS F	3.0	21.9	0.94	0.70	19.2

East: Camden Valley Way (E)											
24	L	34	3.5	0.030	9.2	LOS A	0.1	0.9	0.05	0.61	48.1
25	T	3442	3.5	1.112	231.2	LOS F	198.8	1433.2	1.00	1.93	8.1
26	R	10	3.5	0.148	90.4	LOS F	0.8	5.6	0.97	0.67	17.3
Approach		3486	3.5	1.112	228.6	LOS F	198.8	1433.2	0.99	1.92	8.1
North: Cowpasture Road (N)											
7	L	10	3.5	0.086	51.3	LOS D	0.6	4.0	0.75	0.66	25.1
8	T	43	3.5	1.043	194.0	LOS F	11.3	81.2	1.00	1.29	9.3
9	R	195	3.5	1.043	201.5	LOS F	20.4	146.8	1.00	1.38	9.3
Approach		248	3.5	1.043	194.2	LOS F	20.4	146.8	0.99	1.34	9.5
West: Camden Valley Way (W)											
30	L	191	3.5	0.160	9.2	LOS A	0.9	6.1	0.06	0.62	48.1
31	T	1356	3.5	0.438	4.7	LOS A	5.3	38.6	0.17	0.15	52.4
32	R	8	3.5	0.118	90.1	LOS F	0.6	4.5	0.97	0.66	17.4
Approach		1555	3.5	0.438	5.7	LOS A	5.3	38.6	0.16	0.21	51.3
All Vehicles		5347	3.5	1.112	160.6	LOS F	198.8	1433.2	0.75	1.38	11.0

Camden Valley Way/Denham Court Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Denham Court Rd (E)											
1	L	136	3.5	0.473	51.1	LOS D	7.8	56.2	0.79	0.77	25.2
2	T	223	3.5	0.285	57.4	LOS E	7.3	52.7	0.89	0.71	22.5
3	R	271	3.5	1.002	150.2	LOS F	15.2	109.6	1.00	1.26	11.9
Approach		630	3.5	1.002	96.0	LOS F	15.2	109.6	0.91	0.96	16.5
East: Camden Valley Way (N)											
4	L	434	3.5	0.385	9.7	LOS A	2.6	18.8	0.09	0.63	47.6
5	T	2983	3.5	1.023	89.8	LOS F	117.6	847.8	1.00	1.31	16.8
6	R	214	3.5	0.452	70.7	LOS F	7.4	53.0	0.91	0.78	20.6
Approach		3631	3.5	1.023	79.1	LOS F	117.6	847.8	0.89	1.20	18.5
North: Ingleburn Rd (W)											
7	L	110	3.5	0.298	44.2	LOS D	5.7	41.2	0.72	0.75	27.3
8	T	314	3.5	0.427	61.1	LOS E	10.8	77.7	0.93	0.76	21.7
9	R	101	3.5	0.448	88.9	LOS F	4.0	28.7	1.00	0.75	17.7
Approach		525	3.5	0.448	62.9	LOS E	10.8	77.7	0.90	0.76	21.7
West: Camden Valley Way (S)											
10	L	99	3.5	0.100	11.0	LOS A	0.7	5.0	0.10	0.62	46.3
11	T	1177	3.5	0.460	14.6	LOS B	11.5	82.6	0.41	0.36	41.6
12	R	247	3.5	0.997	123.9	LOS F	12.5	89.8	1.00	1.10	13.8
Approach		1523	3.5	0.997	32.1	LOS C	12.5	89.8	0.48	0.50	31.4
All Vehicles		6309	3.5	1.023	68.1	LOS E	117.6	847.8	0.79	0.97	20.5

Camden Valley Way/Heath Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Heath Rd (E)											
1	L	47	3.5	0.073	43.5	LOS D	2.4	17.1	0.69	0.72	27.6
2	T	20	3.5	0.398	67.4	LOS E	6.3	45.1	0.95	0.75	19.9
3	R	67	3.5	0.398	75.3	LOS F	6.3	45.1	0.95	0.79	19.8
Approach		134	3.5	0.398	62.9	LOS E	6.3	45.1	0.86	0.76	22.0
East: Camden Valley Way (N)											
4	L	255	3.5	0.249	9.9	LOS A	1.3	9.5	0.07	0.62	47.4
5	T	2925	3.5	0.904	7.1	LOS A	29.8	214.8	0.40	0.39	48.7
6	R	28	3.5	0.079	61.8	LOS E	0.8	5.9	0.77	0.69	22.3
Approach		3208	3.5	0.904	7.8	LOS A	29.8	214.8	0.37	0.41	48.1
North: Heath Rd (W)											
7	L	28	3.5	0.044	43.0	LOS D	1.4	10.0	0.68	0.70	27.7
8	T	86	3.5	0.140	61.7	LOS E	2.9	20.7	0.89	0.68	21.6
9	R	109	3.5	0.734	81.1	LOS F	8.4	60.2	0.97	0.86	18.7
Approach		223	3.5	0.734	68.8	LOS E	8.4	60.2	0.91	0.77	20.6
West: Camden Valley Way (S)											
10	L	91	3.5	0.089	9.6	LOS A	0.4	2.8	0.06	0.61	47.7
11	T	1442	3.5	0.446	2.5	LOS A	3.3	23.7	0.10	0.09	55.6
12	R	149	3.5	0.900	78.2	LOS F	11.2	80.5	0.90	0.90	19.1
Approach		1682	3.5	0.900	9.6	LOS A	11.2	80.5	0.17	0.19	47.2
All Vehicles		5247	3.5	0.904	12.4	LOS A	29.8	214.8	0.34	0.36	44.0

Camden Valley Way/St Andrews Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: St Andrew's Rd (E)											
1	L	27	3.5	0.075	11.9	LOS A	0.5	3.9	0.28	0.66	45.4
2	T	1	0.0	0.001	53.4	LOS D	0.0	0.2	0.81	0.47	23.6
3	R	7	3.5	0.036	84.5	LOS F	0.3	1.9	0.96	0.64	18.3
Approach		35	3.4	0.075	27.6	LOS B	0.5	3.9	0.43	0.65	34.3
East: Camden Valley Way (N)											
4	L	12	3.5	0.009	7.9	LOS A	0.0	0.2	0.05	0.61	49.4
5	T	3114	3.5	0.867	3.4	LOS A	22.4	161.8	0.31	0.29	53.4
6	R	77	0.0	0.370	86.5	LOS F	3.0	20.7	0.97	0.73	17.8
Approach		3203	3.4	0.867	5.4	LOS A	22.4	161.8	0.32	0.30	50.9
North: St Andrew's Rd (W)											
7	L	298	0.0	0.546	58.3	LOS E	19.4	135.9	0.90	0.83	23.3
8	T	1	0.0	0.006	54.0	LOS D	0.1	0.9	0.82	0.52	23.0
9	R	1	0.0	0.006	61.7	LOS E	0.1	0.9	0.82	0.65	22.7
Approach		300	0.0	0.546	58.3	LOS E	19.4	135.9	0.90	0.83	23.2
West: Camden Valley Way (S)											
10	L	1	0.0	0.001	9.1	LOS A	0.0	0.0	0.05	0.60	48.1
11	T	1666	3.5	0.464	2.2	LOS A	3.8	27.2	0.10	0.09	56.1
12	R	136	3.5	0.838	90.5	LOS F	7.0	50.8	1.00	0.81	17.3
Approach		1803	3.5	0.838	8.9	LOS A	7.0	50.8	0.16	0.14	47.9
All Vehicles		5341	3.3	0.867	9.7	LOS A	22.4	161.8	0.30	0.28	46.6

Denham Court Rd/Precinct Access

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
East: Denham Court Road (E)											
5	T	620	3.5	0.894	14.2	LOS A	25.5	183.8	0.98	1.01	42.0
6	R	727	3.5	0.894	22.1	LOS B	25.5	183.8	0.98	1.02	39.6
Approach		1347	3.5	0.894	18.5	LOS B	25.5	183.8	0.98	1.02	40.6
North: Denham Court Road (N)											
7	L	373	3.5	0.204	5.2	LOS A	1.1	7.7	0.26	0.45	51.0
9	R	450	3.5	0.246	11.6	LOS A	1.3	9.6	0.26	0.63	45.7
Approach		823	3.5	0.246	8.7	LOS A	1.3	9.6	0.26	0.55	47.9
West: Precinct (W)											
10	L	101	3.5	0.269	7.7	LOS A	2.3	16.3	0.86	0.68	47.6
11	T	155	3.5	0.269	6.3	LOS A	2.3	16.3	0.86	0.62	47.2
Approach		256	3.5	0.269	6.9	LOS A	2.3	16.3	0.86	0.64	47.4
All Vehicles		2426	3.5	0.894	13.9	LOS A	25.5	183.8	0.72	0.82	43.5

2036 AM Peak

Camden Valley Way/Cowpasture Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Cowpasture Rd (S)											
1	L	28	3.5	0.155	54.4	LOS D	1.6	11.6	0.78	0.70	24.3
2	T	65	3.5	0.185	58.7	LOS E	4.2	30.6	0.88	0.68	22.1
3	R	141	3.5	1.000[3]	88.4	LOS F	11.3	81.6	1.00	0.80	17.7
Approach		234	3.5	1.000	76.1	LOS F	11.3	81.6	0.94	0.76	19.4
East: Camden Valley Way (E)											
24	L	8	3.5	0.007	9.1	LOS A	0.0	0.2	0.05	0.61	48.2
25	T	1911	3.5	0.632	6.8	LOS A	12.7	91.2	0.28	0.26	49.4
26	R	12	3.5	0.178	90.7	LOS F	0.9	6.8	0.98	0.68	17.3
Approach		1931	3.5	0.632	7.3	LOS A	12.7	91.2	0.28	0.26	48.8
North: Cowpasture Road (N)											
7	L	12	3.5	0.105	53.0	LOS D	0.7	4.9	0.76	0.67	24.7
8	T	11	3.5	1.051	208.1	LOS F	17.3	124.6	1.00	1.40	8.7
9	R	291	3.5	1.051	214.7	LOS F	24.7	177.8	1.00	1.42	8.8
Approach		314	3.5	1.051	208.2	LOS F	24.7	177.8	0.99	1.39	9.0
West: Camden Valley Way (W)											
30	L	315	3.5	0.264	9.4	LOS A	1.6	11.5	0.07	0.62	47.9
31	T	3222	3.5	1.066	153.6	LOS F	154.9	1117.1	1.00	1.61	11.3
32	R	2	3.5	0.030	88.4	LOS F	0.2	1.1	0.96	0.61	17.6
Approach		3539	3.5	1.066	140.7	LOS F	154.9	1117.1	0.92	1.52	12.1
All Vehicles		6018	3.5	1.066	98.9	LOS F	154.9	1117.1	0.72	1.08	15.9

Camden Valley Way/Denham Court Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Denham Court Rd (E)											
1	L	194	3.5	0.638	47.1	LOS D	10.8	77.6	0.77	0.78	26.4
2	T	233	3.5	0.308	58.6	LOS E	7.8	56.0	0.90	0.72	22.2
3	R	383	3.5	1.000[3]	113.3	LOS F	18.1	130.6	1.00	1.01	14.8
Approach		810	3.5	1.000	81.7	LOS F	18.1	130.6	0.91	0.87	18.5
East: Camden Valley Way (N)											
4	L	538	3.5	0.525	10.8	LOS A	4.2	30.6	0.13	0.64	46.5
5	T	1581	3.5	0.654	19.7	LOS B	22.0	158.5	0.59	0.52	37.6
6	R	114	3.5	0.843	96.6	LOS F	4.8	34.9	1.00	0.83	16.6
Approach		2233	3.5	0.843	21.4	LOS B	22.0	158.5	0.50	0.57	36.9
North: Ingleburn Rd (W)											
7	L	114	3.5	0.345	55.5	LOS D	6.8	49.1	0.82	0.77	24.0
8	T	258	3.5	0.340	59.0	LOS E	8.6	62.2	0.90	0.73	22.1
9	R	120	3.5	0.313	80.1	LOS F	4.4	31.8	0.97	0.76	19.0
Approach		492	3.5	0.345	63.3	LOS E	8.6	62.2	0.90	0.75	21.6
West: Camden Valley Way (S)											
10	L	192	3.5	0.164	9.3	LOS A	0.9	6.2	0.06	0.62	48.0
11	T	3010	3.5	1.045	123.4	LOS F	131.8	950.0	1.00	1.46	13.4
12	R	278	3.5	0.649	75.1	LOS F	10.2	73.7	0.97	0.80	19.8
Approach		3480	3.5	1.045	113.3	LOS F	131.8	950.0	0.95	1.36	14.3
All Vehicles		7015	3.5	1.045	76.9	LOS F	131.8	950.0	0.80	1.01	19.0

Camden Valley Way/Heath Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Heath Rd (E)											
1	L	186	3.5	0.318	50.9	LOS D	10.8	77.8	0.80	0.79	25.3
2	T	80	3.5	0.938	94.7	LOS F	33.9	244.6	1.00	1.09	15.9
3	R	266	3.5	0.938	102.6	LOS F	33.9	244.6	1.00	1.09	15.9
Approach		532	3.5	0.938	83.3	LOS F	33.9	244.6	0.93	0.99	18.3
East: Camden Valley Way (N)											
4	L	64	3.5	0.059	9.4	LOS A	0.3	1.8	0.06	0.61	47.9
5	T	1819	3.5	0.533	2.5	LOS A	4.7	33.7	0.11	0.10	55.6
6	R	37	3.5	0.274	91.6	LOS F	1.5	10.6	0.98	0.70	17.1
Approach		1920	3.5	0.533	4.4	LOS A	4.7	33.7	0.12	0.13	53.0
North: Heath Rd (W)											
7	L	19	3.5	0.032	46.3	LOS D	1.0	7.1	0.71	0.69	26.6
8	T	22	3.5	0.023	47.6	LOS D	0.6	4.6	0.78	0.55	25.2
9	R	58	3.5	0.383	70.6	LOS F	4.0	28.8	0.91	0.76	20.5
Approach		99	3.5	0.383	60.8	LOS E	4.0	28.8	0.84	0.70	22.4
West: Camden Valley Way (S)											
10	L	126	3.5	0.117	9.5	LOS A	0.5	3.9	0.06	0.62	47.8
11	T	3172	3.5	0.929	10.3	LOS A	40.2	289.9	0.47	0.47	45.2
12	R	37	3.5	0.547	93.5	LOS F	3.0	21.7	1.00	0.74	16.8
Approach		3335	3.5	0.929	11.2	LOS A	40.2	289.9	0.46	0.48	44.5

All Vehicles	5886	3.5	0.938	16.3	LOS B	40.2	289.9	0.40	0.41	40.6

Camden Valley Way/St Andrews Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: St Andrew's Rd (E)											
1	L	110	3.5	0.281	8.6	LOS A	1.3	9.1	0.19	0.65	48.7
2	T	1	0.0	0.001	53.4	LOS D	0.0	0.2	0.81	0.47	23.6
3	R	30	3.5	0.061	66.8	LOS E	1.0	7.0	0.86	0.70	21.4
Approach		141	3.5	0.281	21.3	LOS B	1.3	9.1	0.34	0.66	38.1
East: Camden Valley Way (N)											
4	L	3	3.5	0.002	7.8	LOS A	0.0	0.0	0.05	0.60	49.5
5	T	1766	3.5	0.517	2.4	LOS A	4.4	31.8	0.11	0.10	55.7
6	R	309	0.0	0.956	99.2	LOS F	13.9	97.1	1.00	0.99	16.2
Approach		2078	3.0	0.956	16.8	LOS B	13.9	97.1	0.24	0.23	40.8
North: St Andrew's Rd (W)											
7	L	75	0.0	0.124	47.7	LOS D	4.0	28.3	0.74	0.74	26.2
8	T	1	0.0	0.006	54.0	LOS D	0.1	0.9	0.82	0.52	23.0
9	R	1	0.0	0.006	61.7	LOS E	0.1	0.9	0.82	0.65	22.7
Approach		77	0.0	0.124	48.0	LOS D	4.0	28.3	0.74	0.74	26.1
West: Camden Valley Way (S)											
10	L	1	0.0	0.001	9.2	LOS A	0.0	0.0	0.05	0.60	48.0
11	T	3307	3.5	0.969	24.6	LOS B	69.4	500.3	0.68	0.75	34.4
12	R	34	3.5	0.135	76.9	LOS F	1.5	10.6	0.90	0.70	19.4
Approach		3342	3.5	0.969	25.1	LOS B	69.4	500.3	0.69	0.74	34.1
All Vehicles		5638	3.3	0.969	22.3	LOS B	69.4	500.3	0.51	0.55	36.3

Denham Court Rd/Precinct Access

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
East: Denham Court Road (E)											
5	T	155	3.5	0.218	3.6	LOS A	1.3	9.1	0.24	0.30	52.3
6	R	260	3.5	0.218	11.5	LOS A	1.3	9.1	0.24	0.72	46.4
Approach		415	3.5	0.218	8.6	LOS A	1.3	9.1	0.24	0.57	48.3
North: Denham Court Road (N)											
7	L	1168	3.5	0.942	24.4	LOS B	29.3	211.1	0.92	1.44	36.0
9	R	112	3.5	0.090	13.3	LOS A	0.5	3.7	0.53	0.69	44.6
Approach		1280	3.5	0.942	23.5	LOS B	29.3	211.1	0.89	1.38	36.7
West: Precinct (W)											
10	L	404	3.5	0.587	5.7	LOS A	4.4	31.9	0.48	0.51	49.9
11	T	620	3.5	0.587	4.4	LOS A	4.4	31.9	0.48	0.42	50.4
Approach		1024	3.5	0.587	4.9	LOS A	4.4	31.9	0.48	0.45	50.2
All Vehicles		2719	3.5	0.942	14.2	LOS A	29.3	211.1	0.63	0.91	42.6

2036 PM Peak

Camden Valley Way/Cowpasture Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Cowpasture Rd (S)											
1	L	7	3.5	0.039	53.5	LOS D	0.4	2.8	0.76	0.66	24.5
2	T	12	3.5	0.034	56.4	LOS D	0.8	5.4	0.85	0.59	22.8
3	R	39	3.5	0.385	89.8	LOS F	3.1	22.2	1.00	0.74	17.5
Approach		58	3.5	0.385	78.5	LOS F	3.1	22.2	0.94	0.70	19.1
East: Camden Valley Way (E)											
24	L	34	3.5	0.030	9.2	LOS A	0.1	0.9	0.05	0.61	48.1
25	T	3768	3.5	1.232	443.8	LOS F	303.0	2184.8	1.00	2.69	4.5
26	R	12	3.5	0.178	90.7	LOS F	0.9	6.8	0.98	0.68	17.3
Approach		3814	3.5	1.232	438.8	LOS F	303.0	2184.8	0.99	2.67	4.6
North: Cowpasture Road (N)											
7	L	12	3.5	0.102	49.8	LOS D	0.6	4.7	0.74	0.67	25.6
8	T	43	3.5	1.111	304.1	LOS F	14.3	103.4	1.00	1.45	6.3
9	R	215	3.5	1.111	311.0	LOS F	30.5	220.1	1.00	1.61	6.4
Approach		270	3.5	1.111	298.3	LOS F	30.5	220.1	0.99	1.54	6.6
West: Camden Valley Way (W)											
30	L	213	3.5	0.178	9.3	LOS A	1.0	7.0	0.06	0.62	48.1
31	T	1496	3.5	0.489	5.5	LOS A	7.0	50.8	0.20	0.18	51.3
32	R	8	3.5	0.118	90.1	LOS F	0.6	4.5	0.97	0.66	17.4
Approach		1717	3.5	0.489	6.4	LOS A	7.0	50.8	0.19	0.24	50.4
All Vehicles		5859	3.5	1.232	302.0	LOS F	303.0	2184.8	0.75	1.88	6.4

Camden Valley Way/Denham Court Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Denham Court Rd (E)											
1	L	148	3.5	0.519	52.3	LOS D	8.6	62.2	0.80	0.77	24.9
2	T	277	3.5	0.368	59.4	LOS E	9.4	67.7	0.91	0.74	22.0
3	R	261	3.5	1.053	215.9	LOS F	18.0	130.1	1.00	1.40	8.8
Approach		686	3.5	1.053	117.4	LOS F	18.0	130.1	0.92	1.00	14.2
East: Camden Valley Way (N)											
4	L	452	3.5	0.405	9.8	LOS A	2.8	20.2	0.09	0.63	47.5
5	T	3286	3.5	1.127	260.5	LOS F	199.2	1436.4	1.00	2.03	7.3
6	R	239	3.5	0.505	71.2	LOS F	8.3	60.0	0.92	0.79	20.5
Approach		3977	3.5	1.127	220.6	LOS F	199.2	1436.4	0.89	1.80	8.4
North: Ingleburn Rd (W)											
7	L	122	3.5	0.328	43.8	LOS D	6.3	45.6	0.72	0.75	27.5
8	T	329	3.5	0.434	60.3	LOS E	11.2	81.1	0.93	0.76	21.8

9	R	110	3.5	0.444	87.7	LOS F	4.3	30.9	1.00	0.76	17.8
Approach		561	3.5	0.444	62.1	LOS E	11.2	81.1	0.89	0.76	21.8
West: Camden Valley Way (S)											
10	L	110	3.5	0.110	10.5	LOS A	0.7	4.9	0.09	0.62	46.8
11	T	1303	3.5	0.509	15.1	LOS B	13.4	96.9	0.43	0.38	41.2
12	R	257	3.5	1.037	174.4	LOS F	15.7	112.9	1.00	1.22	10.5
Approach		1670	3.5	1.037	39.3	LOS C	15.7	112.9	0.50	0.53	28.5
All Vehicles		6894	3.5	1.127	153.5	LOS F	199.2	1436.4	0.80	1.32	11.4

Camden Valley Way/Heath Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Heath Rd (E)											
1	L	47	3.5	0.079	46.4	LOS D	2.5	17.8	0.72	0.72	26.6
2	T	20	3.5	0.398	67.4	LOS E	6.3	45.1	0.95	0.75	19.9
3	R	67	3.5	0.398	75.3	LOS F	6.3	45.1	0.95	0.79	19.8
Approach		134	3.5	0.398	64.0	LOS E	6.3	45.1	0.87	0.76	21.8
East: Camden Valley Way (N)											
4	L	255	3.5	0.238	9.7	LOS A	1.3	9.0	0.07	0.62	47.7
5	T	3247	3.5	0.961	20.8	LOS B	61.4	442.5	0.63	0.67	36.7
6	R	30	3.5	0.090	66.9	LOS E	0.9	6.7	0.82	0.69	21.2
Approach		3532	3.5	0.961	20.4	LOS B	61.4	442.5	0.59	0.67	37.1
North: Heath Rd (W)											
7	L	29	3.5	0.049	45.9	LOS D	1.5	10.8	0.71	0.71	26.8
8	T	86	3.5	0.140	61.7	LOS E	2.9	20.7	0.89	0.68	21.6
9	R	122	3.5	0.823	87.1	LOS F	9.9	71.2	0.98	0.93	17.8
Approach		237	3.5	0.823	72.8	LOS F	9.9	71.2	0.92	0.81	19.9
West: Camden Valley Way (S)											
10	L	102	3.5	0.095	9.5	LOS A	0.4	3.1	0.06	0.61	47.8
11	T	1589	3.5	0.470	2.4	LOS A	3.6	26.3	0.10	0.09	55.8
12	R	149	3.5	0.953	79.6	LOS F	11.3	81.6	0.95	0.85	18.8
Approach		1840	3.5	0.953	9.0	LOS A	11.3	81.6	0.16	0.18	47.8
All Vehicles		5743	3.5	0.961	19.9	LOS B	61.4	442.5	0.47	0.52	37.8

Camden Valley Way/St Andrews Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: St Andrew's Rd (E)											
1	L	27	3.5	0.077	22.2	LOS B	1.0	7.0	0.48	0.70	37.4
2	T	1	0.0	0.001	53.4	LOS D	0.0	0.2	0.81	0.47	23.6
3	R	7	3.5	0.036	84.5	LOS F	0.3	1.9	0.96	0.64	18.3
Approach		35	3.4	0.077	35.6	LOS C	1.0	7.0	0.58	0.68	30.5
East: Camden Valley Way (N)											
4	L	12	3.5	0.009	7.9	LOS A	0.0	0.2	0.05	0.61	49.5
5	T	3463	3.5	0.955	16.6	LOS B	58.9	424.8	0.59	0.62	39.6
6	R	77	0.0	0.417	88.5	LOS F	3.0	21.1	0.98	0.73	17.6
Approach		3552	3.4	0.955	18.1	LOS B	58.9	424.8	0.59	0.62	38.6

North: St Andrew's Rd (W)											
7	L	298	0.0	0.558	59.3	LOS E	19.6	137.2	0.91	0.83	23.0
8	T	1	0.0	0.006	54.0	LOS D	0.1	0.9	0.82	0.52	23.0
9	R	1	0.0	0.006	61.7	LOS E	0.1	0.9	0.82	0.65	22.7
Approach		300	0.0	0.558	59.2	LOS E	19.6	137.2	0.90	0.83	23.0
West: Camden Valley Way (S)											
10	L	1	0.0	0.001	9.1	LOS A	0.0	0.0	0.05	0.60	48.2
11	T	1821	3.5	0.502	2.2	LOS A	4.4	31.8	0.10	0.09	56.0
12	R	136	3.5	0.943	97.0	LOS F	7.5	54.1	1.00	0.88	16.5
Approach		1958	3.5	0.943	8.8	LOS A	7.5	54.1	0.17	0.15	47.9
All Vehicles		5845	3.3	0.955	17.2	LOS B	58.9	424.8	0.47	0.47	39.7

Denham Court Rd/Precinct Access

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	95% Back of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	v/c	sec		veh	m		per veh	km/h
East: Denham Court Road (E)											
5	T	620	3.5	0.931	18.4	LOS B	34.1	245.8	1.00	1.17	38.8
6	R	782	3.5	0.931	26.3	LOS B	34.1	245.8	1.00	1.17	37.1
Approach		1402	3.5	0.931	22.8	LOS B	34.1	245.8	1.00	1.17	37.8
North: Denham Court Road (N)											
7	L	416	3.5	0.228	5.2	LOS A	1.2	8.9	0.26	0.45	51.0
9	R	450	3.5	0.247	11.6	LOS A	1.4	9.8	0.27	0.63	45.7
Approach		866	3.5	0.247	8.5	LOS A	1.4	9.8	0.27	0.55	48.0
West: Precinct (W)											
10	L	101	3.5	0.297	8.3	LOS A	2.6	18.7	0.92	0.74	47.3
11	T	155	3.5	0.297	7.0	LOS A	2.6	18.7	0.92	0.68	46.8
Approach		256	3.5	0.297	7.5	LOS A	2.6	18.7	0.92	0.70	47.0
All Vehicles		2524	3.5	0.931	16.4	LOS B	34.1	245.8	0.74	0.91	41.6

4.4% Annual Growth

2026 AM Peak

Camden Valley Way/Cowpasture Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	95% Back of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Cowpasture Rd (S)											

1	L	28	3.5	0.155	54.4	LOS D	1.6	11.6	0.78	0.70	24.3
2	T	58	3.5	0.165	58.4	LOS E	3.8	27.4	0.88	0.68	22.2
3	R	148	3.5	1.000 [3]	82.2	LOS F	11.3	81.6	1.00	0.80	18.6
Approach		234	3.5	1.000	72.9	LOS F	11.3	81.6	0.94	0.76	20.0
East: Camden Valley Way (E)											
24	L	8	3.5	0.007	9.1	LOS A	0.0	0.2	0.05	0.61	48.3
25	T	1685	3.5	0.585	9.2	LOS A	13.2	95.4	0.33	0.30	46.6
26	R	10	3.5	0.148	90.4	LOS F	0.8	5.6	0.97	0.67	17.3
Approach		1703	3.5	0.585	9.7	LOS A	13.2	95.4	0.34	0.30	46.2
North: Cowpasture Road (N)											
7	L	10	3.5	0.088	53.7	LOS D	0.6	4.1	0.77	0.66	24.5
8	T	11	3.5	0.771	85.2	LOS F	7.6	55.0	1.00	0.88	17.0
9	R	246	3.5	0.771	88.2	LOS F	13.2	95.0	1.00	0.88	17.7
Approach		267	3.5	0.771	86.7	LOS F	13.2	95.0	0.99	0.87	17.9
West: Camden Valley Way (W)											
30	L	268	3.5	0.224	9.3	LOS A	1.3	9.3	0.07	0.62	48.0
31	T	2805	3.5	0.974	39.1	LOS C	79.8	575.6	0.95	1.03	27.7
32	R	2	3.5	0.030	88.4	LOS F	0.2	1.1	0.96	0.61	17.6
Approach		3075	3.5	0.974	36.5	LOS C	79.8	575.6	0.88	0.99	28.7
All Vehicles		5279	3.5	1.000	32.0	LOS C	79.8	575.6	0.71	0.75	30.9

Camden Valley Way/Denham Court Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Denham Court Rd (E)											
1	L	185	3.5	0.588	43.8	LOS D	9.8	70.6	0.73	0.77	27.5
2	T	211	3.5	0.241	53.5	LOS D	6.7	48.0	0.86	0.69	23.5
3	R	382	3.5	0.892	96.5	LOS F	16.7	120.4	1.00	1.00	16.7
Approach		778	3.5	0.892	72.3	LOS F	16.7	120.4	0.90	0.86	20.1
East: Camden Valley Way (N)											
4	L	463	3.5	0.447	10.1	LOS A	3.1	22.1	0.09	0.63	47.2
5	T	1401	3.5	0.588	19.7	LOS B	18.4	132.4	0.55	0.49	37.6
6	R	96	3.5	0.710	94.3	LOS F	4.0	28.7	1.00	0.78	16.9
Approach		1960	3.5	0.710	21.1	LOS B	18.4	132.4	0.46	0.54	37.2
North: Ingleburn Rd (W)											
7	L	96	3.5	0.290	54.9	LOS D	5.7	40.9	0.81	0.76	24.1
8	T	225	3.5	0.297	58.4	LOS E	7.4	53.7	0.90	0.72	22.3
9	R	102	3.5	0.323	83.3	LOS F	3.8	27.7	0.98	0.75	18.5
Approach		423	3.5	0.323	63.6	LOS E	7.4	53.7	0.90	0.74	21.6
West: Camden Valley Way (S)											
10	L	165	3.5	0.148	9.4	LOS A	0.7	5.2	0.06	0.62	47.9
11	T	2580	3.5	0.918	20.8	LOS B	52.8	380.4	0.79	0.77	36.4
12	R	240	3.5	0.592	75.7	LOS F	8.8	63.2	0.96	0.79	19.7
Approach		2985	3.5	0.918	24.5	LOS B	52.8	380.4	0.76	0.76	34.5
All Vehicles		6146	3.5	0.918	32.2	LOS C	52.8	380.4	0.69	0.70	31.1

Camden Valley Way/Heath Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Heath Rd (E)											
1	L	186	3.5	0.285	46.1	LOS D	10.2	73.2	0.76	0.78	26.7
2	T	80	3.5	0.837	65.7	LOS E	27.6	198.8	1.00	0.94	20.1
3	R	266	3.5	0.837	73.5	LOS F	27.6	198.8	1.00	0.94	20.1
Approach		532	3.5	0.837	62.7	LOS E	27.6	198.8	0.91	0.89	22.0

East: Camden Valley Way (N)											
4	L	64	3.5	0.063	10.0	LOS A	0.3	2.3	0.07	0.62	47.3
5	T	1613	3.5	0.504	3.2	LOS A	4.8	34.9	0.13	0.12	54.5
6	R	36	3.5	0.266	91.5	LOS F	1.4	10.3	0.98	0.70	17.1
Approach		1713	3.5	0.504	5.3	LOS A	4.8	34.9	0.14	0.15	51.8
North: Heath Rd (W)											
7	L	17	3.5	0.026	42.7	LOS D	0.8	6.0	0.67	0.69	27.8
8	T	22	3.5	0.021	43.6	LOS D	0.6	4.4	0.75	0.53	26.4
9	R	49	3.5	0.310	64.2	LOS E	3.2	22.9	0.86	0.75	21.8
Approach		88	3.5	0.310	54.9	LOS D	3.2	22.9	0.80	0.68	23.8
West: Camden Valley Way (S)											
10	L	106	3.5	0.103	9.7	LOS A	0.5	3.3	0.06	0.62	47.7
11	T	2680	3.5	0.828	3.6	LOS A	16.5	118.9	0.26	0.24	53.4
12	R	37	3.5	0.469	91.1	LOS F	2.9	21.3	0.99	0.73	17.1
Approach		2823	3.5	0.828	4.9	LOS A	16.5	118.9	0.26	0.26	51.7
All Vehicles		5156	3.5	0.837	11.9	LOS A	27.6	198.8	0.30	0.30	44.6

Camden Valley Way/St Andrews Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: St Andrew's Rd (E)											
1	L	110	3.5	0.275	8.4	LOS A	1.1	8.2	0.17	0.65	48.8
2	T	1	0.0	0.001	53.4	LOS D	0.0	0.2	0.81	0.47	23.6
3	R	30	3.5	0.061	66.8	LOS E	1.0	7.0	0.86	0.70	21.4
Approach		141	3.5	0.275	21.2	LOS B	1.1	8.2	0.32	0.66	38.1
East: Camden Valley Way (N)											
4	L	3	3.5	0.002	7.8	LOS A	0.0	0.0	0.05	0.60	49.5
5	T	1542	3.5	0.461	2.4	LOS A	3.5	25.1	0.10	0.09	55.8
6	R	309	0.0	0.836	83.4	LOS F	12.4	86.6	1.00	0.87	18.3
Approach		1854	2.9	0.836	15.9	LOS B	12.4	86.6	0.25	0.22	41.5
North: St Andrew's Rd (W)											
7	L	75	0.0	0.120	46.2	LOS D	4.0	27.7	0.73	0.74	26.7
8	T	1	0.0	0.006	54.0	LOS D	0.1	0.9	0.82	0.52	23.0
9	R	1	0.0	0.006	61.7	LOS E	0.1	0.9	0.82	0.65	22.7
Approach		77	0.0	0.120	46.5	LOS D	4.0	27.7	0.73	0.74	26.5
West: Camden Valley Way (S)											
10	L	1	0.0	0.001	9.3	LOS A	0.0	0.0	0.05	0.60	48.0
11	T	2795	3.5	0.836	3.4	LOS A	17.3	124.7	0.26	0.25	53.6
12	R	34	3.5	0.118	73.9	LOS F	1.4	10.3	0.88	0.70	19.9
Approach		2830	3.5	0.836	4.3	LOS A	17.3	124.7	0.27	0.25	52.5
All Vehicles		4902	3.2	0.836	9.8	LOS A	17.3	124.7	0.27	0.26	46.6

Denham Court Rd/Precinct Access

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
East: Denham Court Road (E)											
5	T	155	3.5	0.202	3.6	LOS A	1.1	8.3	0.23	0.30	52.3
6	R	229	3.5	0.202	11.5	LOS A	1.1	8.3	0.23	0.73	46.5
Approach		384	3.5	0.202	8.3	LOS A	1.1	8.3	0.23	0.56	48.5

North: Denham Court Road (N)											
7	L	1022	3.5	0.818	13.3	LOS A	13.3	95.9	0.80	0.98	44.1
9	R	112	3.5	0.090	13.3	LOS A	0.5	3.6	0.52	0.69	44.6
Approach		1134	3.5	0.818	13.3	LOS A	13.3	95.9	0.77	0.95	44.1
West: Precinct (W)											
10	L	404	3.5	0.575	5.6	LOS A	4.2	30.5	0.44	0.50	50.2
11	T	620	3.5	0.575	4.2	LOS A	4.2	30.5	0.44	0.40	50.7
Approach		1024	3.5	0.575	4.7	LOS A	4.2	30.5	0.44	0.44	50.5
All Vehicles		2542	3.5	0.818	9.1	LOS A	13.3	95.9	0.56	0.69	47.2

2026 PM Peak

Camden Valley Way/Cowpasture Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Cowpasture Rd (S)											
1	L	7	3.5	0.039	53.5	LOS D	0.4	2.8	0.76	0.66	24.5
2	T	12	3.5	0.034	56.4	LOS D	0.8	5.4	0.85	0.59	22.8
3	R	39	3.5	0.577	95.6	LOS F	3.2	23.3	1.00	0.75	16.7
Approach		58	3.5	0.577	82.4	LOS F	3.2	23.3	0.94	0.71	18.4
East: Camden Valley Way (E)											
24	L	34	3.5	0.030	9.3	LOS A	0.1	1.0	0.05	0.61	48.1
25	T	3268	3.5	1.044	115.9	LOS F	142.5	1027.2	1.00	1.45	14.0
26	R	10	3.5	0.148	90.4	LOS F	0.8	5.6	0.97	0.67	17.3
Approach		3312	3.5	1.044	114.7	LOS F	142.5	1027.2	0.99	1.44	14.1
North: Cowpasture Road (N)											
7	L	10	3.5	0.084	49.0	LOS D	0.5	3.9	0.73	0.66	25.8
8	T	43	3.5	1.064	225.7	LOS F	12.0	86.3	1.00	1.33	8.2
9	R	184	3.5	1.064	234.0	LOS F	20.9	151.0	1.00	1.43	8.2
Approach		237	3.5	1.064	224.7	LOS F	20.9	151.0	0.99	1.38	8.4
West: Camden Valley Way (W)											
30	L	180	3.5	0.151	9.2	LOS A	0.8	5.7	0.06	0.62	48.1
31	T	1282	3.5	0.410	4.1	LOS A	4.3	31.3	0.14	0.13	53.3
32	R	8	3.5	0.118	90.1	LOS F	0.6	4.5	0.97	0.66	17.4
Approach		1470	3.5	0.410	5.2	LOS A	4.3	31.3	0.14	0.19	52.0
All Vehicles		5077	3.5	1.064	87.8	LOS F	142.5	1027.2	0.74	1.07	17.3

Camden Valley Way/Denham Court Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand	HV	Deg. Satn	Average	Level of	95% Back of Queue	Prop.	Effective	Average

		Flow			Delay	Service	Vehicles	Distance	Queued		
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Denham Court Rd (E)											
1	L	130	3.5	0.456	51.7	LOS D	7.5	54.0	0.79	0.77	25.0
2	T	212	3.5	0.279	58.2	LOS E	7.0	50.4	0.89	0.71	22.3
3	R	259	3.5	0.958	117.7	LOS F	12.6	90.8	1.00	1.14	14.4
Approach		601	3.5	0.958	82.5	LOS F	12.6	90.8	0.92	0.91	18.3
East: Camden Valley Way (N)											
4	L	424	3.5	0.380	9.8	LOS A	2.5	18.2	0.08	0.63	47.5
5	T	2821	3.5	0.979	43.0	LOS D	83.9	605.1	0.98	1.07	26.3
6	R	201	3.5	0.811	88.5	LOS F	8.2	58.9	1.00	0.85	17.7
Approach		3446	3.5	0.979	41.6	LOS C	83.9	605.1	0.87	1.00	27.1
North: Ingleburn Rd (W)											
7	L	103	3.5	0.300	51.0	LOS D	5.8	42.0	0.78	0.76	25.2
8	T	307	3.5	0.405	59.9	LOS E	10.4	75.2	0.92	0.75	21.9
9	R	97	3.5	0.359	85.9	LOS F	3.7	26.9	0.99	0.75	18.1
Approach		507	3.5	0.405	63.1	LOS E	10.4	75.2	0.90	0.75	21.6
West: Camden Valley Way (S)											
10	L	94	3.5	0.084	9.3	LOS A	0.4	2.8	0.06	0.61	48.0
11	T	1109	3.5	0.385	8.1	LOS A	6.5	47.0	0.25	0.22	48.2
12	R	241	3.5	0.972	107.7	LOS F	11.2	80.9	1.00	1.04	15.3
Approach		1444	3.5	0.972	24.8	LOS B	11.2	80.9	0.36	0.38	35.4
All Vehicles		5998	3.5	0.979	43.4	LOS D	83.9	605.1	0.76	0.82	26.7

Camden Valley Way/Heath Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Heath Rd (E)											
1	L	47	3.5	0.071	42.1	LOS C	2.3	16.7	0.68	0.72	28.1
2	T	20	3.5	0.397	67.4	LOS E	6.3	45.1	0.95	0.75	19.9
3	R	67	3.5	0.397	75.2	LOS F	6.3	45.1	0.95	0.79	19.8
Approach		134	3.5	0.397	62.4	LOS E	6.3	45.1	0.85	0.76	22.1
East: Camden Valley Way (N)											
4	L	255	3.5	0.254	10.8	LOS A	1.8	13.3	0.10	0.63	46.5
5	T	2753	3.5	0.870	5.7	LOS A	26.7	192.6	0.41	0.38	50.2
6	R	27	3.5	0.074	59.4	LOS E	0.8	5.5	0.75	0.68	22.9
Approach		3035	3.5	0.870	6.6	LOS A	26.7	192.6	0.39	0.41	49.3
North: Heath Rd (W)											
7	L	27	3.5	0.041	41.6	LOS C	1.3	9.5	0.67	0.70	28.2
8	T	86	3.5	0.140	61.7	LOS E	2.9	20.7	0.89	0.68	21.6
9	R	102	3.5	0.687	79.2	LOS F	7.7	55.2	0.97	0.83	19.0
Approach		215	3.5	0.687	67.5	LOS E	7.7	55.2	0.90	0.75	20.8
West: Camden Valley Way (S)											
10	L	85	3.5	0.085	10.5	LOS A	0.5	3.7	0.08	0.62	46.8
11	T	1365	3.5	0.431	3.6	LOS A	4.2	30.3	0.13	0.12	54.0
12	R	149	3.5	0.875	73.0	LOS F	10.6	76.6	0.88	0.88	20.0
Approach		1599	3.5	0.875	10.4	LOS A	10.6	76.6	0.20	0.21	46.3
All Vehicles		4983	3.5	0.875	11.9	LOS A	26.7	192.6	0.36	0.37	44.3

Camden Valley Way/St Andrews Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: St Andrew's Rd (E)											
1	L	27	3.5	0.074	10.5	LOS A	0.4	3.2	0.24	0.65	46.8
2	T	1	0.0	0.001	53.4	LOS D	0.0	0.2	0.81	0.47	23.6
3	R	7	3.5	0.035	84.4	LOS F	0.3	1.9	0.96	0.64	18.3
Approach		35	3.4	0.074	26.5	LOS B	0.4	3.2	0.40	0.65	34.9
East: Camden Valley Way (N)											
4	L	12	3.5	0.009	8.0	LOS A	0.0	0.2	0.05	0.61	49.4
5	T	2927	3.5	0.823	3.2	LOS A	17.1	123.0	0.25	0.23	53.9
6	R	77	0.0	0.333	84.7	LOS F	2.9	20.3	0.96	0.73	18.1
Approach		3016	3.4	0.823	5.3	LOS A	17.1	123.0	0.27	0.25	51.3
North: St Andrew's Rd (W)											
7	L	298	0.0	0.535	57.4	LOS E	19.2	134.6	0.89	0.83	23.5
8	T	1	0.0	0.006	54.0	LOS D	0.1	0.9	0.82	0.52	23.0
9	R	1	0.0	0.006	61.7	LOS E	0.1	0.9	0.82	0.65	22.7
Approach		300	0.0	0.535	57.4	LOS E	19.2	134.6	0.89	0.83	23.5
West: Camden Valley Way (S)											
10	L	1	0.0	0.001	9.1	LOS A	0.0	0.0	0.05	0.60	48.1
11	T	1583	3.5	0.445	2.2	LOS A	3.5	25.1	0.09	0.08	56.1
12	R	136	3.5	0.754	87.6	LOS F	6.9	49.4	0.99	0.79	17.7
Approach		1720	3.5	0.754	8.9	LOS A	6.9	49.4	0.16	0.14	47.9
All Vehicles		5071	3.2	0.823	9.8	LOS A	19.2	134.6	0.27	0.25	46.7

Denham Court Rd/Precinct Access

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
East: Denham Court Road (E)											
5	T	620	3.5	0.875	12.8	LOS A	22.4	161.4	0.95	0.95	43.2
6	R	698	3.5	0.875	20.7	LOS B	22.4	161.4	0.95	0.98	40.6
Approach		1318	3.5	0.875	17.0	LOS B	22.4	161.4	0.95	0.96	41.7
North: Denham Court Road (N)											
7	L	350	3.5	0.191	5.2	LOS A	1.0	7.0	0.25	0.45	51.1
9	R	450	3.5	0.246	11.6	LOS A	1.3	9.5	0.26	0.63	45.8
Approach		800	3.5	0.246	8.8	LOS A	1.3	9.5	0.26	0.55	47.8
West: Precinct (W)											
10	L	101	3.5	0.256	7.5	LOS A	2.1	15.1	0.83	0.66	47.8
11	T	155	3.5	0.256	6.1	LOS A	2.1	15.1	0.83	0.59	47.5
Approach		256	3.5	0.256	6.6	LOS A	2.1	15.1	0.83	0.62	47.6
All Vehicles		2374	3.5	0.875	13.1	LOS A	22.4	161.4	0.71	0.79	44.2

2031 AM Peak

Camden Valley Way/Cowpasture Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Cowpasture Rd (S)											
1	L	28	3.5	0.155	54.4	LOS D	1.6	11.6	0.78	0.70	24.3
2	T	65	3.5	0.185	58.7	LOS E	4.2	30.6	0.88	0.68	22.1
3	R	141	3.5	1.000[3]	88.4	LOS F	11.3	81.6	1.00	0.80	17.7
Approach		234	3.5	1.000	76.1	LOS F	11.3	81.6	0.94	0.76	19.4
East: Camden Valley Way (E)											
24	L	8	3.5	0.007	9.1	LOS A	0.0	0.2	0.05	0.61	48.2
25	T	1902	3.5	0.629	6.8	LOS A	12.5	90.3	0.28	0.25	49.4
26	R	12	3.5	0.178	90.7	LOS F	0.9	6.8	0.98	0.68	17.3
Approach		1922	3.5	0.629	7.3	LOS A	12.5	90.3	0.28	0.26	48.9
North: Cowpasture Road (N)											
7	L	12	3.5	0.105	53.0	LOS D	0.7	4.9	0.76	0.67	24.7
8	T	11	3.5	1.045	199.7	LOS F	16.7	120.7	1.00	1.38	9.0
9	R	289	3.5	1.045	206.2	LOS F	23.9	172.6	1.00	1.40	9.1
Approach		312	3.5	1.045	200.1	LOS F	23.9	172.6	0.99	1.37	9.3
West: Camden Valley Way (W)											
30	L	313	3.5	0.262	9.4	LOS A	1.6	11.4	0.07	0.62	47.9
31	T	3204	3.5	1.060	143.8	LOS F	150.1	1082.3	1.00	1.56	11.9
32	R	2	3.5	0.030	88.4	LOS F	0.2	1.1	0.96	0.61	17.6
Approach		3519	3.5	1.060	131.8	LOS F	150.1	1082.3	0.92	1.48	12.8
All Vehicles		5987	3.5	1.060	93.2	LOS F	150.1	1082.3	0.72	1.05	16.6

Camden Valley Way/Denham Court Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Denham Court Rd (E)											
1	L	193	3.5	0.635	47.0	LOS D	10.7	77.1	0.77	0.78	26.4
2	T	232	3.5	0.307	58.6	LOS E	7.7	55.7	0.90	0.72	22.2
3	R	383	3.5	1.000[3]	113.3	LOS F	18.1	130.6	1.00	1.01	14.8
Approach		808	3.5	1.000	81.8	LOS F	18.1	130.6	0.91	0.87	18.5
East: Camden Valley Way (N)											
4	L	534	3.5	0.521	10.7	LOS A	4.2	30.1	0.13	0.64	46.6
5	T	1573	3.5	0.650	19.6	LOS B	21.8	157.0	0.58	0.52	37.6
6	R	113	3.5	0.836	96.4	LOS F	4.8	34.6	1.00	0.83	16.6
Approach		2220	3.5	0.836	21.4	LOS B	21.8	157.0	0.49	0.57	36.9
North: Ingleburn Rd (W)											
7	L	114	3.5	0.345	55.5	LOS D	6.8	49.1	0.82	0.77	24.0
8	T	257	3.5	0.339	59.0	LOS E	8.6	62.0	0.90	0.73	22.1
9	R	119	3.5	0.311	80.0	LOS F	4.4	31.6	0.96	0.76	19.0
Approach		490	3.5	0.345	63.3	LOS E	8.6	62.0	0.90	0.75	21.7
West: Camden Valley Way (S)											
10	L	191	3.5	0.163	9.3	LOS A	0.9	6.2	0.06	0.62	48.0
11	T	2991	3.5	1.038	113.2	LOS F	127.0	915.3	1.00	1.42	14.3
12	R	276	3.5	0.645	75.1	LOS F	10.1	73.1	0.97	0.80	19.8
Approach		3458	3.5	1.038	104.5	LOS F	127.0	915.3	0.95	1.32	15.2
All Vehicles		6976	3.5	1.038	72.5	LOS F	127.0	915.3	0.80	0.99	19.7

Camden Valley Way/Heath Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Heath Rd (E)											
1	L	186	3.5	0.312	50.0	LOS D	10.7	77.0	0.79	0.79	25.5
2	T	80	3.5	0.916	85.1	LOS F	32.0	230.7	1.00	1.05	17.1
3	R	266	3.5	0.916	93.0	LOS F	32.0	230.7	1.00	1.05	17.1
Approach		532	3.5	0.916	76.8	LOS F	32.0	230.7	0.93	0.96	19.3
East: Camden Valley Way (N)											
4	L	64	3.5	0.060	9.4	LOS A	0.3	1.8	0.06	0.61	47.9
5	T	1810	3.5	0.536	2.5	LOS A	4.7	33.7	0.11	0.10	55.6
6	R	37	3.5	0.274	91.6	LOS F	1.5	10.6	0.98	0.70	17.1
Approach		1911	3.5	0.536	4.5	LOS A	4.7	33.7	0.13	0.13	53.0
North: Heath Rd (W)											
7	L	19	3.5	0.032	45.6	LOS D	1.0	7.0	0.70	0.69	26.9
8	T	22	3.5	0.023	46.8	LOS D	0.6	4.5	0.77	0.54	25.4
9	R	58	3.5	0.380	69.5	LOS E	4.0	28.5	0.90	0.76	20.7
Approach		99	3.5	0.380	59.9	LOS E	4.0	28.5	0.83	0.70	22.6
West: Camden Valley Way (S)											
10	L	125	3.5	0.117	9.5	LOS A	0.5	3.8	0.06	0.62	47.8
11	T	3150	3.5	0.932	11.2	LOS A	41.6	299.8	0.48	0.49	44.3
12	R	37	3.5	0.547	93.5	LOS F	3.0	21.7	1.00	0.74	16.8
Approach		3312	3.5	0.932	12.0	LOS A	41.6	299.8	0.47	0.49	43.6
All Vehicles		5854	3.5	0.932	16.3	LOS B	41.6	299.8	0.40	0.42	40.7

Camden Valley Way/St Andrews Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: St Andrew's Rd (E)											
1	L	110	3.5	0.281	8.6	LOS A	1.3	9.1	0.19	0.65	48.7
2	T	1	0.0	0.001	53.4	LOS D	0.0	0.2	0.81	0.47	23.6
3	R	30	3.5	0.061	66.8	LOS E	1.0	7.0	0.86	0.70	21.4
Approach		141	3.5	0.281	21.3	LOS B	1.3	9.1	0.34	0.66	38.1
East: Camden Valley Way (N)											
4	L	3	3.5	0.002	7.8	LOS A	0.0	0.0	0.05	0.60	49.5
5	T	1756	3.5	0.514	2.4	LOS A	4.4	31.4	0.11	0.10	55.7
6	R	309	0.0	0.956	99.2	LOS F	13.9	97.1	1.00	0.99	16.2
Approach		2068	3.0	0.956	16.9	LOS B	13.9	97.1	0.24	0.23	40.7
North: St Andrew's Rd (W)											
7	L	75	0.0	0.124	47.7	LOS D	4.0	28.3	0.74	0.74	26.2
8	T	1	0.0	0.006	54.0	LOS D	0.1	0.9	0.82	0.52	23.0
9	R	1	0.0	0.006	61.7	LOS E	0.1	0.9	0.82	0.65	22.7
Approach		77	0.0	0.124	48.0	LOS D	4.0	28.3	0.74	0.74	26.1
West: Camden Valley Way (S)											
10	L	1	0.0	0.001	9.2	LOS A	0.0	0.0	0.05	0.60	48.0
11	T	3284	3.5	0.962	21.0	LOS B	62.6	451.7	0.63	0.68	36.6
12	R	34	3.5	0.135	76.9	LOS F	1.5	10.6	0.90	0.70	19.4
Approach		3319	3.5	0.962	21.6	LOS B	62.6	451.7	0.64	0.68	36.3
All Vehicles		5605	3.3	0.962	20.2	LOS B	62.6	451.7	0.48	0.52	37.6

Denham Court Rd/Precinct Access

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
East: Denham Court Road (E)											
5	T	155	3.5	0.217	3.6	LOS A	1.3	9.1	0.23	0.30	52.3
6	R	259	3.5	0.217	11.5	LOS A	1.3	9.1	0.23	0.72	46.4
Approach		414	3.5	0.217	8.6	LOS A	1.3	9.1	0.23	0.57	48.3
North: Denham Court Road (N)											
7	L	1161	3.5	0.936	23.2	LOS B	27.7	199.8	0.91	1.40	36.7
9	R	112	3.5	0.090	13.3	LOS A	0.5	3.7	0.53	0.69	44.6
Approach		1273	3.5	0.936	22.3	LOS B	27.7	199.8	0.88	1.33	37.4
West: Precinct (W)											
10	L	404	3.5	0.586	5.7	LOS A	4.4	31.9	0.48	0.51	49.9
11	T	620	3.5	0.586	4.4	LOS A	4.4	31.9	0.48	0.41	50.4
Approach		1024	3.5	0.586	4.9	LOS A	4.4	31.9	0.48	0.45	50.2
All Vehicles		2711	3.5	0.936	13.6	LOS A	27.7	199.8	0.63	0.88	43.0

2031 PM Peak

Camden Valley Way/Cowpasture Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Cowpasture Rd (S)											
1	L	7	3.5	0.039	53.5	LOS D	0.4	2.8	0.76	0.66	24.5
2	T	12	3.5	0.034	56.4	LOS D	0.8	5.4	0.85	0.59	22.8
3	R	39	3.5	0.385	89.8	LOS F	3.1	22.2	1.00	0.74	17.5
Approach		58	3.5	0.385	78.5	LOS F	3.1	22.2	0.94	0.70	19.1
East: Camden Valley Way (E)											
24	L	34	3.5	0.030	9.2	LOS A	0.1	0.9	0.05	0.61	48.1
25	T	3746	3.5	1.225	430.9	LOS F	296.5	2138.0	1.00	2.65	4.6
26	R	12	3.5	0.178	90.7	LOS F	0.9	6.8	0.98	0.68	17.3
Approach		3792	3.5	1.225	426.1	LOS F	296.5	2138.0	0.99	2.62	4.7
North: Cowpasture Road (N)											
7	L	12	3.5	0.102	49.8	LOS D	0.6	4.7	0.74	0.67	25.6
8	T	43	3.5	1.101	286.4	LOS F	13.9	100.3	1.00	1.42	6.7
9	R	214	3.5	1.101	293.7	LOS F	29.2	210.4	1.00	1.57	6.7
Approach		269	3.5	1.101	281.7	LOS F	29.2	210.4	0.99	1.51	6.9
West: Camden Valley Way (W)											
30	L	211	3.5	0.177	9.3	LOS A	1.0	6.9	0.06	0.62	48.1
31	T	1487	3.5	0.486	5.5	LOS A	7.0	50.2	0.20	0.18	51.3
32	R	8	3.5	0.118	90.1	LOS F	0.6	4.5	0.97	0.66	17.4
Approach		1706	3.5	0.486	6.3	LOS A	7.0	50.2	0.19	0.23	50.4
All Vehicles		5825	3.5	1.225	293.0	LOS F	296.5	2138.0	0.75	1.85	6.6

Camden Valley Way/Denham Court Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Denham Court Rd (E)											
1	L	147	3.5	0.516	52.2	LOS D	8.6	61.7	0.80	0.77	24.9
2	T	273	3.5	0.362	59.3	LOS E	9.2	66.6	0.91	0.74	22.0
3	R	261	3.5	1.053	215.8	LOS F	18.0	130.0	1.00	1.40	8.8
Approach		681	3.5	1.053	117.7	LOS F	18.0	130.0	0.92	1.00	14.2
East: Camden Valley Way (N)											
4	L	451	3.5	0.404	9.8	LOS A	2.8	20.1	0.09	0.63	47.5
5	T	3266	3.5	1.120	248.5	LOS F	193.5	1395.1	1.00	1.98	7.6
6	R	237	3.5	0.501	71.2	LOS F	8.2	59.5	0.92	0.79	20.5
Approach		3954	3.5	1.120	210.7	LOS F	193.5	1395.1	0.89	1.76	8.8
North: Ingleburn Rd (W)											
7	L	121	3.5	0.326	43.8	LOS D	6.3	45.2	0.72	0.75	27.5
8	T	328	3.5	0.432	60.3	LOS E	11.2	80.8	0.93	0.76	21.8
9	R	110	3.5	0.444	87.7	LOS F	4.3	30.9	1.00	0.76	17.8
Approach		559	3.5	0.444	62.1	LOS E	11.2	80.8	0.89	0.76	21.8
West: Camden Valley Way (S)											
10	L	109	3.5	0.109	10.5	LOS A	0.7	4.8	0.09	0.62	46.8
11	T	1294	3.5	0.505	15.0	LOS B	13.3	95.9	0.43	0.38	41.2
12	R	256	3.5	1.033	168.4	LOS F	15.3	110.3	1.00	1.21	10.8
Approach		1659	3.5	1.033	38.4	LOS C	15.3	110.3	0.50	0.53	28.8
All Vehicles		6853	3.5	1.120	147.6	LOS F	193.5	1395.1	0.80	1.30	11.8

Camden Valley Way/Heath Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Heath Rd (E)											
1	L	47	3.5	0.079	46.4	LOS D	2.5	17.8	0.72	0.72	26.6
2	T	20	3.5	0.398	67.4	LOS E	6.3	45.1	0.95	0.75	19.9
3	R	67	3.5	0.398	75.3	LOS F	6.3	45.1	0.95	0.79	19.8
Approach		134	3.5	0.398	64.0	LOS E	6.3	45.1	0.87	0.76	21.8
East: Camden Valley Way (N)											
4	L	255	3.5	0.238	9.7	LOS A	1.3	9.0	0.07	0.62	47.7
5	T	3225	3.5	0.955	18.0	LOS B	55.9	402.7	0.59	0.62	38.7
6	R	30	3.5	0.090	66.9	LOS E	0.9	6.7	0.82	0.69	21.2
Approach		3510	3.5	0.955	17.8	LOS B	55.9	402.7	0.55	0.62	38.9
North: Heath Rd (W)											
7	L	29	3.5	0.049	45.9	LOS D	1.5	10.8	0.71	0.71	26.8
8	T	86	3.5	0.140	61.7	LOS E	2.9	20.7	0.89	0.68	21.6
9	R	121	3.5	0.816	86.5	LOS F	9.7	70.3	0.98	0.92	17.9
Approach		236	3.5	0.816	72.4	LOS F	9.7	70.3	0.92	0.81	19.9

West: Camden Valley Way (S)											
10	L	101	3.5	0.094	9.5	LOS A	0.4	3.0	0.06	0.61	47.8
11	T	1579	3.5	0.467	2.4	LOS A	3.6	26.0	0.10	0.09	55.8
12	R	149	3.5	0.953	79.6	LOS F	11.3	81.6	0.95	0.85	18.8
Approach		1829	3.5	0.953	9.0	LOS A	11.3	81.6	0.16	0.18	47.8
All Vehicles		5709	3.5	0.955	18.3	LOS B	55.9	402.7	0.45	0.49	39.0

Camden Valley Way/St Andrews Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: St Andrew's Rd (E)											
1	L	27	3.5	0.077	20.5	LOS B	0.9	6.6	0.45	0.70	38.6
2	T	1	0.0	0.001	53.4	LOS D	0.0	0.2	0.81	0.47	23.6
3	R	7	3.5	0.036	84.5	LOS F	0.3	1.9	0.96	0.64	18.3
Approach		35	3.4	0.077	34.2	LOS C	0.9	6.6	0.56	0.68	31.1
East: Camden Valley Way (N)											
4	L	12	3.5	0.009	7.9	LOS A	0.0	0.2	0.05	0.61	49.5
5	T	3439	3.5	0.948	14.2	LOS A	53.6	386.7	0.55	0.57	41.6
6	R	77	0.0	0.417	88.5	LOS F	3.0	21.1	0.98	0.73	17.6
Approach		3528	3.4	0.948	15.8	LOS B	53.6	386.7	0.56	0.57	40.4
North: St Andrew's Rd (W)											
7	L	298	0.0	0.558	59.3	LOS E	19.6	137.2	0.91	0.83	23.0
8	T	1	0.0	0.006	54.0	LOS D	0.1	0.9	0.82	0.52	23.0
9	R	1	0.0	0.006	61.7	LOS E	0.1	0.9	0.82	0.65	22.7
Approach		300	0.0	0.558	59.2	LOS E	19.6	137.2	0.90	0.83	23.0
West: Camden Valley Way (S)											
10	L	1	0.0	0.001	9.1	LOS A	0.0	0.0	0.05	0.60	48.2
11	T	1811	3.5	0.499	2.2	LOS A	4.4	31.5	0.10	0.09	56.0
12	R	136	3.5	0.943	97.0	LOS F	7.5	54.1	1.00	0.88	16.5
Approach		1948	3.5	0.943	8.9	LOS A	7.5	54.1	0.17	0.15	47.9
All Vehicles		5811	3.3	0.948	15.8	LOS B	53.6	386.7	0.44	0.45	40.8

Denham Court Rd/Precinct Access

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
East: Denham Court Road (E)											
5	T	620	3.5	0.928	18.0	LOS B	33.3	240.1	1.00	1.15	39.1
6	R	778	3.5	0.928	25.9	LOS B	33.3	240.1	1.00	1.15	37.3
Approach		1398	3.5	0.928	22.4	LOS B	33.3	240.1	1.00	1.15	38.0
North: Denham Court Road (N)											
7	L	413	3.5	0.227	5.2	LOS A	1.2	8.8	0.26	0.45	51.0
9	R	450	3.5	0.247	11.6	LOS A	1.4	9.8	0.27	0.63	45.7
Approach		863	3.5	0.247	8.6	LOS A	1.4	9.8	0.27	0.55	48.0
West: Precinct (W)											
10	L	101	3.5	0.295	8.3	LOS A	2.6	18.5	0.91	0.73	47.3
11	T	155	3.5	0.295	6.9	LOS A	2.6	18.5	0.91	0.67	46.9
Approach		256	3.5	0.295	7.5	LOS A	2.6	18.5	0.91	0.70	47.0
All Vehicles		2517	3.5	0.928	16.1	LOS B	33.3	240.1	0.74	0.90	41.8

2036 AM Peak

Camden Valley Way/Cowpasture Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Cowpasture Rd (S)											
1	L	28	3.5	0.155	54.4	LOS D	1.6	11.6	0.78	0.70	24.3
2	T	82	3.5	0.236	59.4	LOS E	5.4	39.2	0.89	0.70	21.8
3	R	124	3.5	1.000 [3]	110.0	LOS F	11.3	81.6	1.00	0.94	15.1
Approach		234	3.5	1.000	85.6	LOS F	11.3	81.6	0.94	0.83	17.8
East: Camden Valley Way (E)											
24	L	8	3.5	0.007	9.2	LOS A	0.0	0.2	0.05	0.61	48.2
25	T	2118	3.5	0.701	7.2	LOS A	16.3	117.3	0.33	0.30	48.8
26	R	13	3.5	0.192	90.8	LOS F	1.0	7.4	0.98	0.68	17.3
Approach		2139	3.5	0.701	7.7	LOS A	16.3	117.3	0.33	0.30	48.2
North: Cowpasture Road (N)											
7	L	13	3.5	0.111	50.7	LOS D	0.7	5.1	0.74	0.67	25.3
8	T	11	3.5	1.172	409.5	LOS F	30.7	221.0	1.00	1.81	4.8
9	R	333	3.5	1.172	416.3	LOS F	41.5	299.5	1.00	1.84	4.9
Approach		357	3.5	1.172	402.8	LOS F	41.5	299.5	0.99	1.80	5.0
West: Camden Valley Way (W)											
30	L	358	3.5	0.300	9.7	LOS A	1.9	13.7	0.09	0.63	47.6
31	T	3603	3.5	1.192	373.0	LOS F	263.8	1901.9	1.00	2.45	5.3
32	R	2	3.5	0.030	88.4	LOS F	0.2	1.1	0.96	0.61	17.6
Approach		3963	3.5	1.192	340.1	LOS F	263.8	1901.9	0.92	2.28	5.8
All Vehicles		6693	3.5	1.192	228.3	LOS F	263.8	1901.9	0.73	1.57	8.2

Camden Valley Way/Denham Court Rd

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Denham Court Rd (E)											
1	L	201	3.5	0.650	45.7	LOS D	11.0	79.1	0.76	0.78	26.8
2	T	357	3.5	0.480	61.0	LOS E	12.6	90.7	0.94	0.77	21.4
3	R	280	3.5	1.036	191.3	LOS F	18.1	130.3	1.00	1.37	9.7
Approach		838	3.5	1.036	100.9	LOS F	18.1	130.3	0.91	0.97	15.8
East: Camden Valley Way (N)											
4	L	606	3.5	0.604	13.0	LOS A	7.7	55.3	0.23	0.67	44.5

5	T	1746	3.5	0.691	17.7	LOS B	23.8	171.6	0.58	0.52	38.9
6	R	129	3.5	0.954	105.4	LOS F	5.8	41.9	1.00	0.95	15.6
Approach		2481	3.5	0.954	21.1	LOS B	23.8	171.6	0.51	0.58	37.1
North: Ingleburn Rd (W)											
7	L	131	3.5	0.397	56.0	LOS D	7.9	57.1	0.83	0.77	23.9
8	T	289	3.5	0.381	59.6	LOS E	9.8	70.4	0.91	0.75	22.0
9	R	136	3.5	0.503	87.0	LOS F	5.3	38.2	1.00	0.77	17.9
Approach		556	3.5	0.503	65.5	LOS E	9.8	70.4	0.91	0.76	21.2
West: Camden Valley Way (S)											
10	L	216	3.5	0.184	9.3	LOS A	1.0	7.2	0.06	0.62	48.0
11	T	3403	3.5	1.113	232.4	LOS F	196.6	1417.8	1.00	1.93	8.0
12	R	312	3.5	0.659	72.9	LOS F	11.3	81.8	0.96	0.81	20.2
Approach		3931	3.5	1.113	207.5	LOS F	196.6	1417.8	0.95	1.77	8.9
All Vehicles		7806	3.5	1.113	126.7	LOS F	196.6	1417.8	0.80	1.23	13.2

Camden Valley Way/Heath Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Heath Rd (E)											
1	L	186	3.5	0.337	53.4	LOS D	11.1	80.1	0.82	0.80	24.6
2	T	80	3.5	1.017	162.0	LOS F	44.7	322.2	1.00	1.34	10.7
3	R	266	3.5	1.017	169.8	LOS F	44.7	322.2	1.00	1.34	10.7
Approach		532	3.5	1.017	127.9	LOS F	44.7	322.2	0.94	1.15	13.3
East: Camden Valley Way (N)											
4	L	64	3.5	0.057	9.3	LOS A	0.3	1.8	0.06	0.61	48.0
5	T	2007	3.5	0.570	2.5	LOS A	5.6	40.1	0.12	0.11	55.6
6	R	39	3.5	0.289	91.7	LOS F	1.5	11.2	0.98	0.70	17.1
Approach		2110	3.5	0.570	4.3	LOS A	5.6	40.1	0.13	0.13	53.1
North: Heath Rd (W)											
7	L	21	3.5	0.038	48.6	LOS D	1.1	8.1	0.73	0.70	25.9
8	T	22	3.5	0.025	50.1	LOS D	0.7	4.7	0.80	0.56	24.4
9	R	66	3.5	0.447	74.3	LOS F	4.7	33.9	0.93	0.77	19.8
Approach		109	3.5	0.447	64.5	LOS E	4.7	33.9	0.87	0.72	21.6
West: Camden Valley Way (S)											
10	L	144	3.5	0.129	9.4	LOS A	0.6	4.5	0.06	0.62	47.9
11	T	3621	3.5	1.028	88.2	LOS F	145.7	1050.5	1.00	1.34	17.0
12	R	37	3.5	0.547	93.5	LOS F	3.0	21.7	1.00	0.74	16.8
Approach		3802	3.5	1.028	85.2	LOS F	145.7	1050.5	0.96	1.30	17.5
All Vehicles		6553	3.5	1.028	62.3	LOS E	145.7	1050.5	0.69	0.91	21.7

Camden Valley Way/St Andrews Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: St Andrew's Rd (E)											
1	L	110	3.5	0.284	8.9	LOS A	1.5	10.8	0.22	0.66	48.3
2	T	1	0.0	0.001	53.4	LOS D	0.0	0.2	0.81	0.47	23.6
3	R	30	3.5	0.061	66.8	LOS E	1.0	7.0	0.86	0.70	21.4
Approach		141	3.5	0.284	21.6	LOS B	1.5	10.8	0.36	0.67	37.9
East: Camden Valley Way (N)											
4	L	3	3.5	0.002	7.8	LOS A	0.0	0.0	0.05	0.60	49.5

5	T	1971	3.5	0.571	2.5	LOS A	5.5	39.5	0.12	0.11	55.5
6	R	309	0.0	1.029	161.9	LOS F	18.2	127.1	1.00	1.19	11.1
Approach		2283	3.0	1.029	24.1	LOS B	18.2	127.1	0.24	0.26	35.9
North: St Andrew's Rd (W)											
7	L	75	0.0	0.127	48.5	LOS D	4.1	28.6	0.75	0.74	25.9
8	T	1	0.0	0.006	54.0	LOS D	0.1	0.9	0.82	0.52	23.0
9	R	1	0.0	0.006	61.7	LOS E	0.1	0.9	0.82	0.65	22.7
Approach		77	0.0	0.127	48.7	LOS D	4.1	28.6	0.75	0.74	25.8
West: Camden Valley Way (S)											
10	L	1	0.0	0.001	9.2	LOS A	0.0	0.0	0.05	0.60	48.0
11	T	3774	3.5	1.094	195.6	LOS F	203.6	1468.2	1.00	1.80	9.3
12	R	34	3.5	0.145	78.4	LOS F	1.5	10.8	0.91	0.70	19.1
Approach		3809	3.5	1.094	194.5	LOS F	203.6	1468.2	1.00	1.79	9.3
All Vehicles		6310	3.3	1.094	127.2	LOS F	203.6	1468.2	0.71	1.20	13.2

Denham Court Rd/Precinct Access

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	95% Back of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	v/c	sec		veh	m		per veh	km/h
East: Denham Court Road (E)											
5	T	155	3.5	0.231	3.6	LOS A	1.2	8.9	0.22	0.30	52.5
6	R	289	3.5	0.231	11.5	LOS A	1.2	8.9	0.22	0.72	46.4
Approach		444	3.5	0.231	8.7	LOS A	1.2	8.9	0.22	0.57	48.2
North: Denham Court Road (N)											
7	L	1301	3.5	1.016	66.6	LOS E	72.9	525.3	1.00	2.86	21.3
9	R	112	3.5	0.087	13.1	LOS A	0.5	3.4	0.50	0.69	44.7
Approach		1413	3.5	1.016	62.4	LOS E	72.9	525.3	0.96	2.69	22.3
West: Precinct (W)											
10	L	404	3.5	0.588	5.7	LOS A	4.1	29.8	0.47	0.51	50.0
11	T	620	3.5	0.588	4.4	LOS A	4.1	29.8	0.47	0.42	50.5
Approach		1024	3.5	0.588	4.9	LOS A	4.1	29.8	0.47	0.45	50.3
All Vehicles		2881	3.5	1.016	33.7	LOS C	72.9	525.3	0.67	1.57	31.1

2036 PM Peak

Camden Valley Way/Cowpasture Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	95% Back of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Cowpasture Rd (S)											
1	L	7	3.5	0.039	53.5	LOS D	0.4	2.8	0.76	0.66	24.5
2	T	12	3.5	0.034	56.4	LOS D	0.8	5.4	0.85	0.59	22.8
3	R	39	3.5	0.433	91.5	LOS F	3.1	22.5	1.00	0.74	17.3
Approach		58	3.5	0.433	79.7	LOS F	3.1	22.5	0.94	0.70	18.9
East: Camden Valley Way (E)											

24	L	34	3.5	0.030	9.3	LOS A	0.1	1.0	0.05	0.61	48.1
25	T	4224	3.5	1.381	711.6	LOS F	438.4	3161.1	1.00	3.47	2.9
26	R	13	3.5	0.192	90.8	LOS F	1.0	7.4	0.98	0.68	17.3
Approach		4271	3.5	1.381	704.1	LOS F	438.4	3161.1	0.99	3.44	2.9
North: Cowpasture Road (N)											
7	L	13	3.5	0.109	49.1	LOS D	0.7	5.0	0.73	0.67	25.8
8	T	43	3.5	1.365	757.1	LOS F	22.1	159.1	1.00	1.89	2.7
9	R	244	3.5	1.365	760.1	LOS F	65.7	473.7	1.00	2.43	2.8
Approach		300	3.5	1.365	728.9	LOS F	65.7	473.7	0.99	2.27	2.9
West: Camden Valley Way (W)											
30	L	243	3.5	0.203	9.3	LOS A	1.1	8.2	0.07	0.62	48.0
31	T	1691	3.5	0.553	5.8	LOS A	8.9	63.9	0.22	0.20	50.8
32	R	8	3.5	0.118	90.1	LOS F	0.6	4.5	0.97	0.66	17.4
Approach		1942	3.5	0.553	6.6	LOS A	8.9	63.9	0.21	0.26	50.1
All Vehicles		6571	3.5	1.381	493.6	LOS F	438.4	3161.1	0.76	2.42	4.1

Camden Valley Way/Denham Court Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Denham Court Rd (E)											
1	L	164	3.5	0.580	53.6	LOS D	9.7	70.3	0.82	0.78	24.5
2	T	377	3.5	0.504	61.4	LOS E	13.3	95.9	0.94	0.78	21.4
3	R	222	3.5	1.095	283.4	LOS F	18.1	130.6	1.00	1.48	6.9
Approach		763	3.5	1.095	124.3	LOS F	18.1	130.6	0.93	0.99	13.5
East: Camden Valley Way (N)											
4	L	478	3.5	0.424	9.9	LOS A	3.0	22.0	0.09	0.63	47.4
5	T	3712	3.5	1.228	437.4	LOS F	295.9	2133.2	1.00	2.67	4.6
6	R	273	3.5	0.551	70.5	LOS E	9.5	68.8	0.93	0.79	20.7
Approach		4463	3.5	1.228	369.2	LOS F	295.9	2133.2	0.90	2.33	5.4
North: Ingleburn Rd (W)											
7	L	139	3.5	0.371	43.4	LOS D	7.2	52.0	0.72	0.76	27.6
8	T	349	3.5	0.460	60.7	LOS E	12.0	86.6	0.93	0.77	21.7
9	R	123	3.5	0.607	91.5	LOS F	5.0	35.8	1.00	0.78	17.3
Approach		611	3.5	0.607	63.0	LOS E	12.0	86.6	0.90	0.77	21.7
West: Camden Valley Way (S)											
10	L	125	3.5	0.126	11.0	LOS A	0.9	6.4	0.10	0.62	46.3
11	T	1480	3.5	0.570	14.9	LOS B	16.0	115.2	0.46	0.41	41.3
12	R	271	3.5	1.203	461.0	LOS F	30.3	218.1	1.00	1.77	4.5
Approach		1876	3.5	1.203	79.1	LOS F	30.3	218.1	0.51	0.62	18.7
All Vehicles		7713	3.5	1.228	250.1	LOS F	295.9	2133.2	0.81	1.66	7.6

Camden Valley Way/Heath Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h

South: Heath Rd (E)											
1	L	47	3.5	0.093	52.6	LOS D	2.7	19.2	0.77	0.73	24.8
2	T	20	3.5	0.398	67.4	LOS E	6.3	45.1	0.95	0.75	19.9
3	R	67	3.5	0.398	75.3	LOS F	6.3	45.1	0.95	0.79	19.8
Approach		134	3.5	0.398	66.1	LOS E	6.3	45.1	0.89	0.76	21.3
East: Camden Valley Way (N)											
4	L	255	3.5	0.220	9.4	LOS A	1.2	8.8	0.07	0.62	47.9
5	T	3698	3.5	1.010	61.4	LOS E	134.8	972.0	1.00	1.21	21.6
6	R	34	3.5	0.116	78.5	LOS F	1.2	8.6	0.91	0.70	19.1
Approach		3987	3.5	1.010	58.2	LOS E	134.8	972.0	0.94	1.17	22.3
North: Heath Rd (W)											
7	L	31	3.5	0.061	52.1	LOS D	1.7	12.5	0.76	0.72	24.9
8	T	86	3.5	0.140	61.7	LOS E	2.9	20.7	0.89	0.68	21.6
9	R	139	3.5	0.938	88.8	LOS F	11.3	81.6	1.00	0.89	17.5
Approach		256	3.5	0.938	75.2	LOS F	11.3	81.6	0.93	0.80	19.5
West: Camden Valley Way (S)											
10	L	116	3.5	0.100	9.3	LOS A	0.5	3.5	0.06	0.62	48.1
11	T	1796	3.5	0.490	2.2	LOS A	4.3	30.7	0.10	0.09	56.1
12	R	146	3.5	1.000 [3]	85.8	LOS F	11.9	85.9	1.00	0.80	17.9
Approach		2058	3.5	1.000	8.5	LOS A	11.9	85.9	0.16	0.17	48.3
All Vehicles		6435	3.5	1.010	43.1	LOS D	134.8	972.0	0.69	0.83	26.7

Camden Valley Way/St Andrews Rd

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: St Andrew's Rd (E)											
1	L	27	3.5	0.080	48.8	LOS D	1.5	10.9	0.73	0.67	25.8
2	T	1	0.0	0.001	53.4	LOS D	0.0	0.2	0.81	0.47	23.6
3	R	7	3.5	0.037	84.6	LOS F	0.3	1.9	0.96	0.64	18.3
Approach		35	3.4	0.080	56.1	LOS D	1.5	10.9	0.78	0.66	23.8
East: Camden Valley Way (N)											
4	L	12	3.5	0.009	7.9	LOS A	0.0	0.2	0.05	0.61	49.5
5	T	3951	3.5	1.079	169.0	LOS F	200.3	1444.0	1.00	1.69	10.4
6	R	77	0.0	0.476	90.6	LOS F	3.1	21.5	1.00	0.73	17.3
Approach		4040	3.4	1.079	167.0	LOS F	200.3	1444.0	1.00	1.67	10.6
North: St Andrew's Rd (W)											
7	L	298	0.0	0.571	60.2	LOS E	19.8	138.5	0.91	0.84	22.8
8	T	1	0.0	0.006	54.0	LOS D	0.1	0.9	0.82	0.52	23.0
9	R	1	0.0	0.006	61.7	LOS E	0.1	0.9	0.82	0.65	22.7
Approach		300	0.0	0.571	60.2	LOS E	19.8	138.5	0.91	0.83	22.8
West: Camden Valley Way (S)											
10	L	1	0.0	0.001	9.0	LOS A	0.0	0.0	0.05	0.60	48.2
11	T	2039	3.5	0.557	2.3	LOS A	5.5	39.6	0.12	0.11	55.8
12	R	136	3.5	1.077	186.3	LOS F	12.5	90.3	1.00	1.07	9.9
Approach		2176	3.5	1.077	13.8	LOS A	12.5	90.3	0.17	0.17	43.2
All Vehicles		6551	3.3	1.079	110.7	LOS F	200.3	1444.0	0.72	1.13	14.6

Denham Court Rd/Precinct Access

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			

		veh/h	%	v/c	sec		veh	m		per veh	km/h
East: Denham Court Road (E)											
5	T	620	3.5	0.983	34.9	LOS C	60.1	433.5	1.00	1.70	30.0
6	R	859	3.5	0.983	42.8	LOS D	60.1	433.5	1.00	1.70	29.6
Approach		1479	3.5	0.983	39.5	LOS C	60.1	433.5	1.00	1.70	29.8
North: Denham Court Road (N)											
7	L	476	3.5	0.262	5.2	LOS A	1.5	10.7	0.28	0.45	50.9
9	R	450	3.5	0.248	11.6	LOS A	1.4	10.0	0.27	0.63	45.7
Approach		926	3.5	0.262	8.3	LOS A	1.5	10.7	0.27	0.54	48.1
West: Precinct (W)											
10	L	101	3.5	0.341	9.4	LOS A	3.1	22.1	0.98	0.84	46.9
11	T	155	3.5	0.341	8.1	LOS A	3.1	22.1	0.98	0.78	46.4
Approach		256	3.5	0.341	8.6	LOS A	3.1	22.1	0.98	0.80	46.6
All Vehicles		2661	3.5	0.983	25.7	LOS B	60.1	433.5	0.75	1.21	35.7