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# Local Area Traffic Management Plan for the Suburb of Campbelltown



Prepared by

**infraPlan**  
InfraPlan (Aust) Pty Ltd



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# 1. Executive Summary

This Local Area Traffic Management Plan (LATMP) has been developed to consider all Council owned roads within the Suburb of Campbelltown. The primary function of this LATMP is to identify specific roads and networks which require improvement, either by moderating vehicle speeds, improving safety or discouraging through traffic on local roads. The site visits and desktop review of the local road network determined there are no serious network deficiencies.

The Functional Road Hierarchy (within the Transport Plan 2006 – 2016) outlines the target functions and maximum thresholds (speed profiles and traffic volumes) for the road network, and has been used to ensure that the actual traffic volumes and speeds are compliant with the target thresholds. Recommendations have been made to address instances where the actual traffic volumes and/or speeds are noncompliant with the road hierarchy.

This report has been considered in the context of dwelling and population growth and although no immediate/serious impacts from growth have been identified, it will be necessary to review the suburb in the future as growth (and traffic generation) continues. As well as this any significant development sites (e.g Centro Newton, Campbelltown Leisure Centre Development, Campbelltown Urban Village Master Plan etc) will require traffic impact and management plans.

The LATMP has also been guided by community feedback. Issues identified in the community feedback can be broadly classified in to following two categories:

1. Noncompliance by drivers to Australian Road Rules (either through disobedience or lack of awareness of the rules such as – not abiding by the existing parking & speed restrictions, intersection control devices (stop/give way signs), double parking, parking near junctions & driveways, parking on footpath etc;
2. Engineering issues and maintenance related issues – sightline obstructions, improper alignment/design of intersections, streetscaping etc.

All recommendations are conceptual and require detailed design at the specified locations. Site visits and desktop investigations have been carried out to ensure that the recommendations are implementable with regards to:

- Austroads Guide to Traffic Management Part 8: Local Area Traffic Management
- Department of Planning Transport and Infrastructure (DPTI). Pavement Marking Manual
- Manual of Legal Responsibilities and Technical Requirements for Traffic Control Devices

However Council is responsible for the implementation of the recommendations within this report and for detailed design in accordance with Australian Standards, Austroads Guides and DPTI codes.

## 2. Introduction

InfraPlan have been engaged by Council to prepare this *Local Area Traffic Management Plan (LATMP) for the Suburb of Campbelltown, SA*.

This report makes recommendations for measures to manage traffic to/from/through the suburb of Campbelltown with changes to the local street environment (with the use of physical devices, streetscape treatments and regulatory changes). There is a specific focus on safety improvements, speed reduction measures and traffic volume reduction. The recommendations are intended to improve community space, amenity and safety within the predominantly residential suburb of Campbelltown. Considerations have been given to the policy, development and unique context of Campbelltown.

The suburb of Campbelltown is serviced by an efficient and effective local road network. There are aspects of the local street network which require improvement (which are detailed in the recommendations of this report), however in general the local street networks operates in an efficient manner.

It is important to note that land uses and transport services and infrastructure do not remain unchanged overtime which highlights the importance of planning. Given the local road network was developed overtime, it is important to review its role and function, and to ensure it is still fit-for-purpose in the current and future context.

### Local Context Summary

The suburb of Campbelltown is part of the Campbelltown City Council (referred hereinafter as Council) area. The suburb is situated part in the River Ward and part in the Newton Ward. The suburb is bound by the River Torrens to the west, Church Road/Gorge Road to the north, Newton Road to the east and Montacute Road/Wicks Ave to the south. The area spans approximately 350<sup>1</sup> hectares and has approximately 3,500 houses accommodating 7,600 people<sup>2</sup>.

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<sup>1</sup> Location and Boundary, profile.id

<sup>2</sup> 2011 Census QuickStats: Campbelltown (SA)





**Figure 1 Aerial of the suburb of Campbelltown**

## **Specific traffic considerations**

The suburb of Campbelltown and adjacent areas have several traffic generating developments which attract significant vehicular movements originating/terminating and passing through the study area; such as several schools (including East Marden School and Charles Campbell Secondary School), shopping centres and precincts (including Campbelltown Shopping Centre), as well as recreational and social facilities (including Campbelltown Leisure Centre). Understanding the current and future role of these land uses and the traffic they generate have been considered in how traffic uses the local road network.

Below are some of the key factors which influence traffic movements across the local (and arterial) road network.

### **River Torrens and O'Bahn**

The River Torrens along the north-east boundary of the suburb creates an impermeable physical barrier, with crossing points only at Darley Road (to the North of the suburb) and OG Road (to the south of the LGA). This is also accentuated by the O'Bahn passing through the suburb of Campbelltown, with route options being limited to Church Road and Hill Street for Lochiel Park and the section of the suburb bound by Victor Road and Greendale Drive. The geographical barrier of the Torrens River has led to traffic originating from the eastern part of the suburb using internal roads (specifically the McShane St, Shepherds Lane, James Street and Sycamore Tce route to OG Road). This route is used to reach the points of cross over but also to avoid exiting onto Lower North East Road due to turning delays. Delays at

intersections with Lower North East Rd are exacerbated in the AM-peak hour for right-hand turning movements by the O’Bahn/Torrens River as they limit route options.

However the ‘barriers’ of the Torrens River and O’Bahn have the advantage of reducing ‘through traffic’ (vehicles from outside the location who do not have an origin or destination within the suburb) and encourages traffic from outside the suburb to remain on the arterial road network. The potential increase in traffic generation on the arterial road network from outside the suburb (predominantly ‘upstream’ in Paradise, Dernancourt, Athelstone, Highbury and Hope Valley) will also require on-going consideration of the impact to the adjacent local street network.

### Ann Street Signals

The Ann Street and Lower North East Road intersection is controlled by traffic signals and provides the only signalised turning movements onto/from Lower North East Road for the local road network of Campbelltown (suburb).

The signals at this intersection favour movement north/south along Lower North East Road, and have been phased to give priority to these movements: This is position of DPTI. As Lower North East Road and the signals are under the jurisdiction of the State, any changes to the phasing are at the discretion of DPTI.

As a result, this limits the amount of motorised traffic being allowed to travel to/from the local road network (i.e. using Ann Street). This in turn has resulted in motorists favouring the local road network, specifically the McShane St, Shepherds Lane, James Street and Sycamore Tce route to OG Road to avoid the intersection (and the length of the congested Lower North East Road from Gorge Rd through the Glynde Intersection to O.G. Road).

### Walking and Cycling, Streets for People

The presence of O’Bahn Paradise Interchange and River Torrens Linear Park in immediate vicinity can be seen as an advantage to explore options for increasing alternative modes of transport such as public transport, cycling and walking. These features can be promoted as a advantage of the suburb, which already has high public transport use in comparison to the rest of Metropolitan Adelaide (12.4% of people from Campbelltown travel to work via public transport, in comparison to 8.5% for the rest of metropolitan Adelaide).

Local area traffic management should consider beyond just the provision for cars. Understanding or even influencing the future transport scenarios for a location or precinct through integrated transport considerations is important to achieving the best outcomes. At areas where there is a high pedestrian/cyclist activity. Design and could consider the *Streets for People Compendium* (released in 2012). This document provides information and guidance toward providing pedestrian and cycle friendly environments, which unite and support elements of health, social equity, environmental sustainability and planning principles for supplying active transport alternatives. The Compendium:

- identifies the importance of integrating best practice principles in street design to facilitate pedestrian and cyclist friendly streets;
- brings together South Australian, national and international best practice examples; and



- collates relevant Australian standards and guidelines and how they apply strategically.

### 3. Strategic Context and Policy Review

Several state and local government strategies and policies have been reviewed to ensure the policy framework aligns with the recommendations for this Local Area Traffic Management Plan.

#### Local Policies

##### Campbelltown City Council Development Plan

Development Plans are the key on-the-ground development assessment documents in South Australia. They contain the rules that set out what can be done on any piece of land across the state, and the detailed criteria against which development applications will be assessed.

Development within the City is controlled by the Development Plan, which offers a range of housing options. Most housing is individual residential dwellings with infill development being common, increasing the housing density.

The Campbelltown Development Plan identifies the suburb of Campbelltown as consisting of mostly Residential Zones, with commercial, local centres and neighbourhood centres along Lower North East Road. Metropolitan Open Space is located along the River Torrens (linear Trail) and adjacent Lochiel Park. There is also a small local centre zone on Clareville Street/Acacia Ave intersection.

It is important to note that objectives 2 and 3 of Residential Development (General Section) guides development for:

- An increased mix in the range and number of dwelling types available within urban boundaries to cater for changing demographics, particularly smaller household sizes and supported accommodation.
- Higher dwelling densities in areas close to centres, public and community transport and public open spaces.

##### Towards 2020: Campbelltown City Council Strategic Plan 2010-2020

The six goal areas of the Strategic Plan (Community Life, Economic Development, Natural Environment, Urban Design and Built Environment, and Governance and Organisation) have a number of objectives, opportunities and challenges relevant to the suburb of Campbelltown LATMP.

The role of the Council Strategic Plan is to consider and plan for the economic, social and environmental future of the City. The Plan has a 10 year outlook which identifies the Council's Vision, Mission, Values, Goals, Objectives and Strategies. The Strategic Plan also references the intention for infill development, which has had an influence on traffic generation in the suburb of Campbelltown: *"Denser level of development in areas would result in higher population growth within the Council area and reduce the City's environmental footprint through increased demand and usage of public transport and more effective use of energy and resources by the City's population. Conversely, higher density development within the area may lead to increased traffic on Council's roads, higher*

*demands on businesses and industry, create demand for more functional and higher quality public spaces, and generate greater demand for local employment". Although infill development is planned throughout the Council area, it is important to recognise the impact this will have on local streets and infrastructure assets.*

Objectives within the Strategic Plan which are of significance to the LATMP include:

1.3 City infrastructure that provides a range of welcoming, attractive and safe facilities that encourage social interaction and an active community

3.2 Effective Infrastructure and Asset Management that allows for growth

### **City of Campbelltown Transport Plan 2006-2016**

The vision for transport within the Campbelltown City Council has been developed from the goals and outcomes of Council's Strategic Plan. The vision that best meets these criteria is: *"A variety of cohesive transport systems to contribute to the safety, accessibility and quality of life of the citizens of the City of Campbelltown while minimising adverse impacts on the natural environment."*

Of specific consequence to this LATMP, Issue 2 (Traffic congestion and use of local streets) is the most relevant, and the key consideration for this plan. The Plan quotes: *"Traffic congestion largely results from the inability of arterial roads to manage the travel demand. Actions to improve the efficiency of arterial roads and discourage the use of local roads for through traffic are necessary to address this issue."*

*Action 2.1 - Maintain and/or improve the capacity of arterial roads.*

*Action 2.2 - Reduce the availability of local streets to through traffic.*

*These actions require close co-operation with State agencies and adjacent councils to move more people and goods more efficiently".*

The Campbelltown Transport Plan guides the functional road hierarchy in defining arterial, secondary arterial, major collector and minor collector roads.

## **State Policies:**

### **Integrated Transport and Land Use Policy (ITLUP)**

The *Integrated Transport and Land Use (Draft) Plan* aims to facilitate the creation of a more vibrant Adelaide and a better connected South Australia through building on the state's strengths while remaining aware of future challenges. The strategy focuses on public transport, roads and cycling/walking solutions and actions. No specific actions for the suburb of Campbelltown are detailed in the Plan, however *Figure 5-7 Middle Adelaide Solutions* highlights the intersections of Glynde Corner and Newton/Montacute, as well as the road sections of Lower North East Road and Newton Road (north of Montacute) for Road Improvements. Specified actions for these sections are not detailed, however will follow the principles of the area-wide road solutions detailed in the Plan:



### 30 Year Plan for Greater Adelaide

The 30 Year Plan is the broad vision for Greater Adelaide over the next 30 years, and reflects broad policies for development, land use, housing, population, employment and transport. The suburb of Campbelltown is earmarked as a 'regeneration area' which is considered an ideal location for mixed use development and increased residential densities. The level of infill development within the suburb of Campbelltown since the release of the 30 Year Plan (2009) reflects its appropriateness as an area for 'regeneration', however this must be considered in context and the impact of additional traffic and its impact on the local and arterial road network.

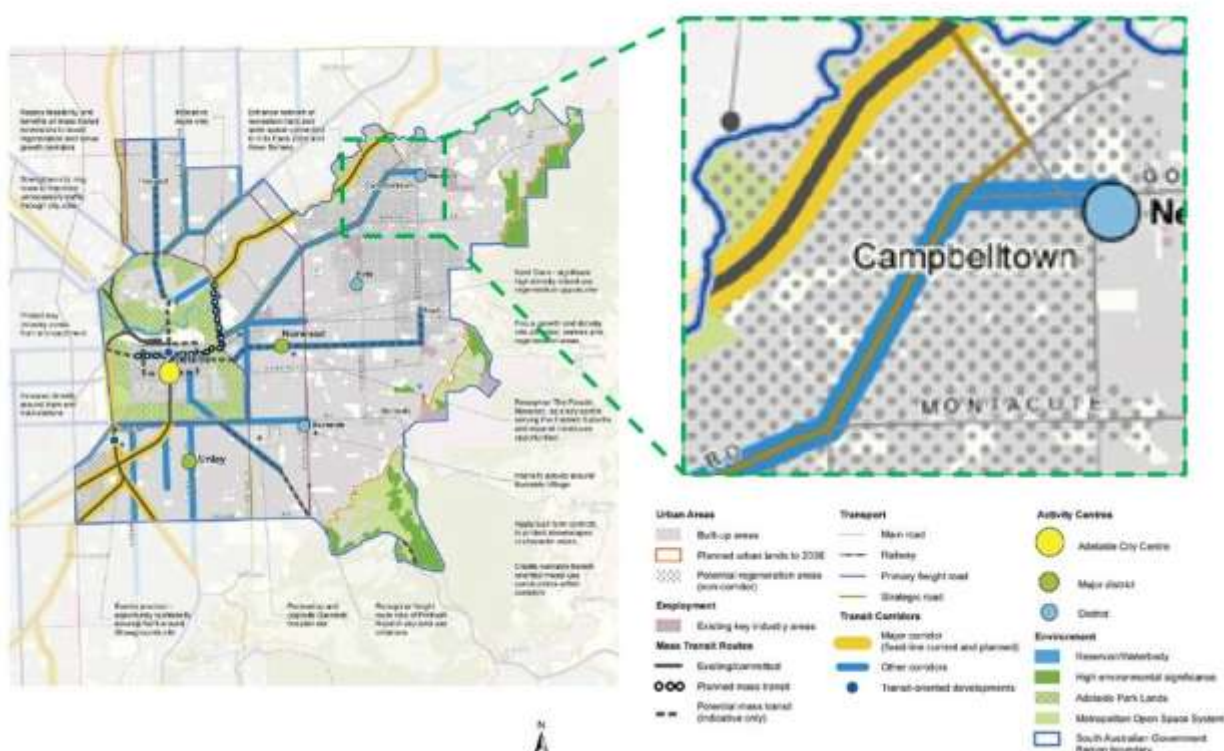


Figure 3 30 Year Plan for Greater Adelaide: Map E2 Eastern Adelaide directions

A supplementary report by Connor Holmes for the Campbelltown City Council based on the policy implications of the 30 year Plan identifies possible growth scenarios. The paper identifies that to accommodate population growth and demographic change, more dwellings will need to be developed within existing areas. Given the lack of broadacre land available in Campbelltown, infill development and growth is required to meet the intended policies of the 30 Year Plan. The scenarios are:

1. All growth into corridors and higher order centres identified in the 30 Year Plan;
2. All growth into regeneration areas identified in the 30 Year Plan; and
3. All growth dispersed across entire area.

Since the release of the 30 Year Plan the type of development occurring throughout the suburb of Campbelltown is more reflective of Scenario 3. This is seen in the 2-for-1 dwelling development, and is an effect of the age of housing stock and fragmented land ownership (which is usual in residential areas).



## 4. Campbelltown: Context and Considerations

Understanding the local context for the suburb of Campbelltown is an important aspect of ensuring the recommendations in this Local Area Traffic Management Study are justifiable and robust.

### Functional Road Hierarchy

Campbelltown City Council has had in place a functional road hierarchy since 1999. The target functions and characteristics of the hierarchy (detailed below) have been used to determine the role and function of the local road network, and have been considered in the recommendations of this report.

FUNCTIONS	TRAFFIC VOLUME	SPEED LIMIT	MAX 85th %ILE SPEED	MAX MEAN SPEED	PRIMARY FUNCTION
Arterial Road (TSD)	Main roads controlled by Transport Services Division of the Department of Planning Transport and Infrastructure				
Arterial Road (Council)	< 10,000 vpd	60 km/h	< 65 km/h	<60 km/h	Traffic movement with controlled property access
Secondary Arterial Road	< 10,000 vpd	50 km/h	<55 km/h	<50 km/h	Traffic movement with property access
Major Collector Road	<4,000 vpd	50 km/h	<55 km/h	<50 km/h	Property access with through movement
Minor Collector Road	<2,000 vpd	50 km/h	<50 km/h	<45 km/h	Property access with minor through movement
Local Road	<750 vpd	50 km/h	<45 km/h	<40 km/h	Property access only

**Figure 4: Functional Road Hierarchy from the Campbelltown City Council Transport Plan 2006 – 2016**

An important part of this LATMP was to review that the roads within Campbelltown are operating as per their attributed classification in the hierarchy. There are no arterial or sub-arterial roads in the suburb of Campbelltown under the jurisdiction of Council, however there are several major collectors and minor collectors.

### Major collectors

SUBURB	STREET	SECTION
Campbelltown	Church Road	
	Clairville Road	Trafford Street to Hambledon Road only
	Hambledon Road	
	Hill Street	Lower North East Road to Victor Road only
	James Street	Sycamore Terrace to Shepherd Lane only
	McShane Street	Mines Road to Hill Street only
	Mines Road	Shepherd Lane to McShane Street only

	Shepherd Lane	
	Sycamore Terrace	
	Victor Road	

### Minor Collector Roads

SUBURB	STREET	SECTION
Campbelltown	Ann Street	McShane Street to Lower North East Road only
	Clairville Road	Piccadilly Crescent to Trafford Street only
	Cresdee Road	Newton Road to Reserve Road only
	Heading Avenue	
	James Street	Shepherd Lane to Lower North East Road only
	Kapoola Avenue	
	McShane Street	Hill Street to Ann Street only
	Meadow Avenue	
	Mines Road	Shepherd Lane to Lower North East Road only
	Piccadilly Crescent	
	Trafford Street	
	Reserve Road	

## Current Local Area Traffic Management and Traffic Calming Devices

The local road network has continued to develop in recent years, with the continued implementation of traffic calming devices (such as the 'slow-points' on Morris and Shinnick Streets), T-intersection rearrangements (such as at McShane and Ann St) and give-way priority considerations to improve traffic flow. These device/measures all have an influence on how traffic moves to and through the suburb of Campbelltown, and have been implemented in response to creating a safe and efficient local road network. However implementing these devices and traffic calming measures has been ad-hoc, whereas this LATMP aims to provide an on-going and holistic approach to local area traffic management. Figure 5 identifies the current traffic control devices for the suburb of Campbelltown considered in the recommendations of this report.

NOTE: no road humps (Watt's profile of Flat top) or road cushions have been implemented within the Suburb of Campbelltown, and (based on community feedback across the Council area) have not been considered in this Local Area Traffic Management Plan.

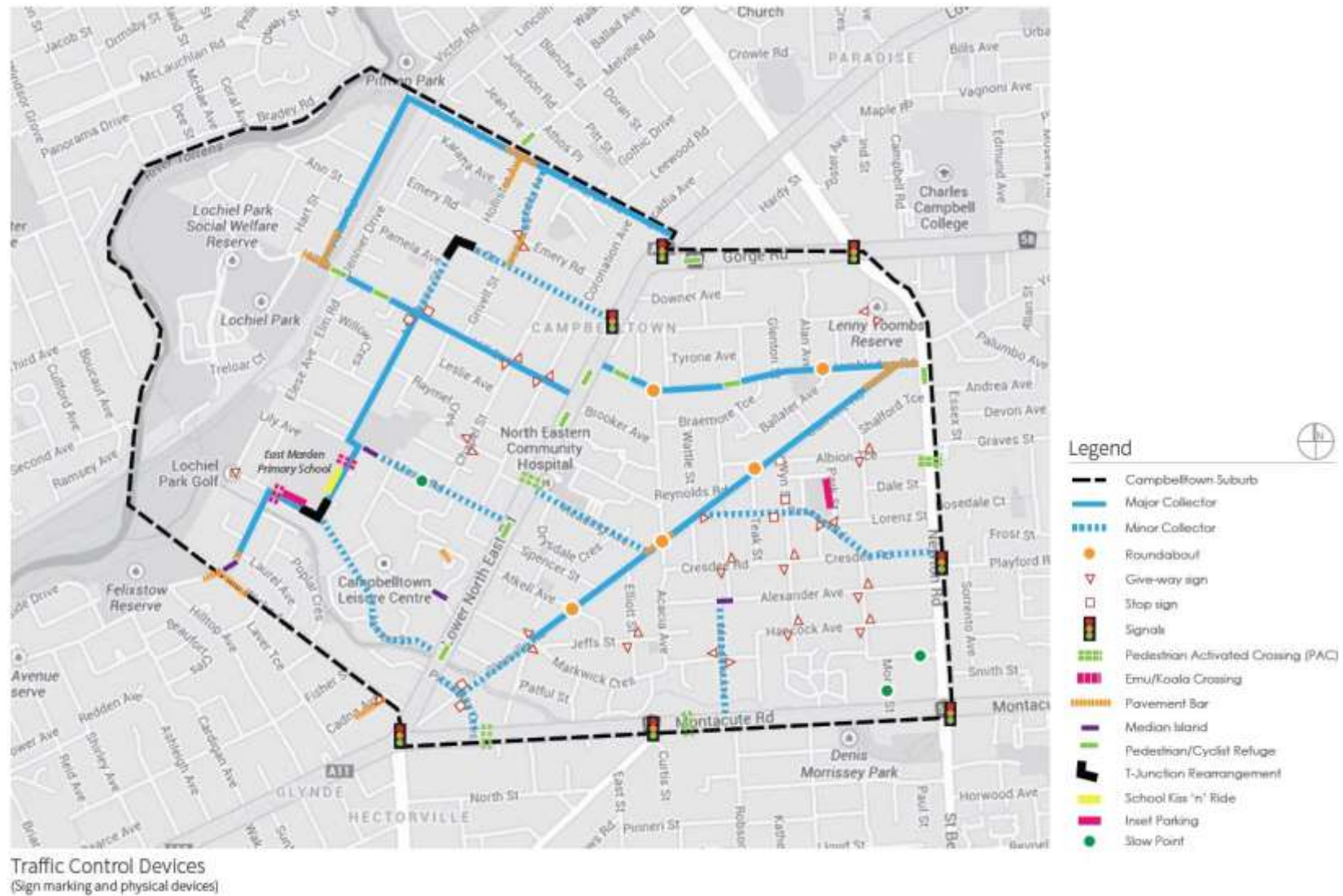


Figure 5 Suburb of Campbelltown: Traffic Control Devices

## **Traffic Volumes and Speed Data**

Traffic volumes and speed data provide insight into the role and function of a particular road, how a network is operating, and whether or not the road asset is fit for its defined/identified purpose. Council often records traffic and speed data to ascertain the role and function of the road is suitable. Traffic and speed data dating back to 2004 was provided by Council for the suburb of Campbelltown. While most of the data was considered relevant, some of the streets/roads were identified to have undergone changes in functioning and traffic patterns. More recent (2014) traffic counts were undertaken at some locations. Identified locations for recent traffic counts have been discussed in detail in Section 6 of this report. Where relevant these figures have been referenced in the recommendations.





## Crash History

Crash data for the suburb of Campbelltown was obtained from the Department of Planning, Transport and Infrastructure (DPTI). 5 year crash data (2008 to 2012) indicates there are no 'casualty crash clusters' sites (sites with three or more casualty crashes) on local roads within the suburb of Campbelltown. However the Hambledon Road and Roma Grove intersection has had two casualty collisions over the 2008-2012 period, with the apparent error being failure to stand and failure to give way.

There are significant crash clusters along the arterial roads bounding the suburb, notably at the arterial road intersections of Glynde corner (23 crashes), Montacute/Newton intersection (18 crashes), Newton/Gorge intersection (17 crashes) and Lower North East/Gorge intersection (10 crashes). The intersection of Ann Street and Lower North East Road also has 10 casualty crashes over the same period. Lower North East Road also account for more than 55% (56 of 97) crashes within the Suburb of Campbelltown.

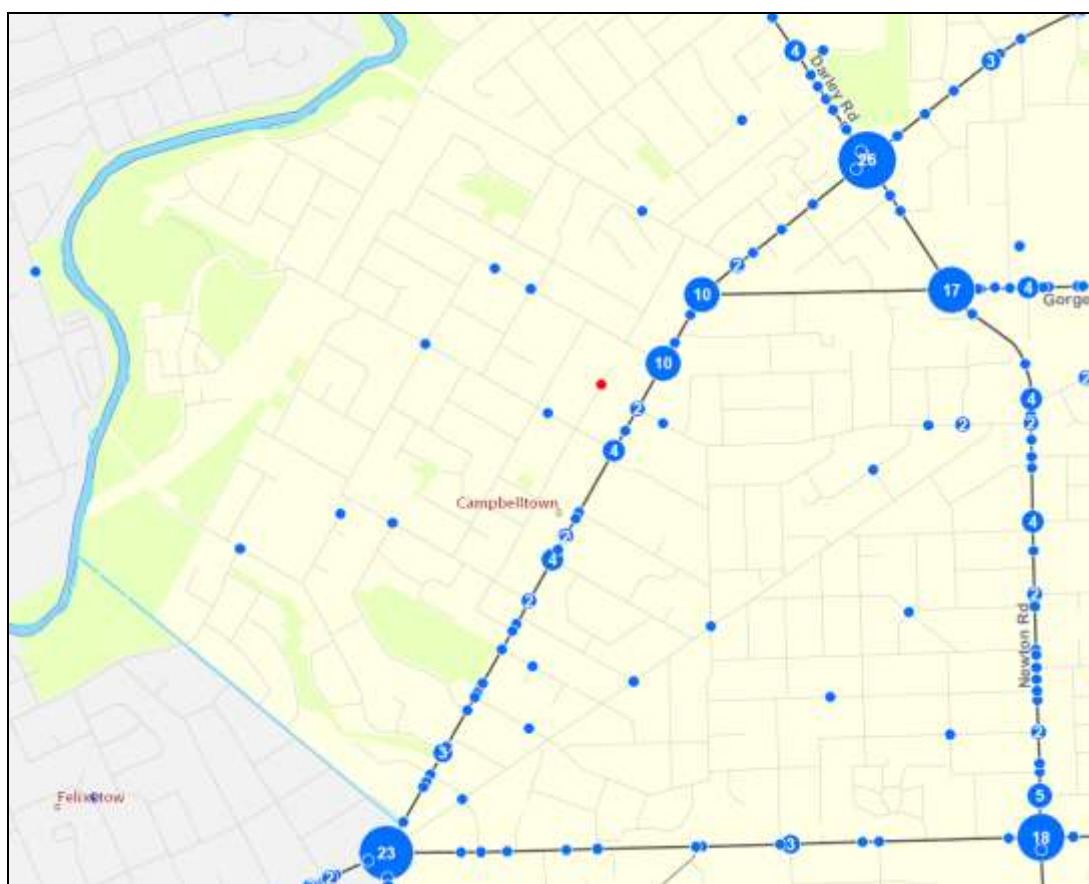
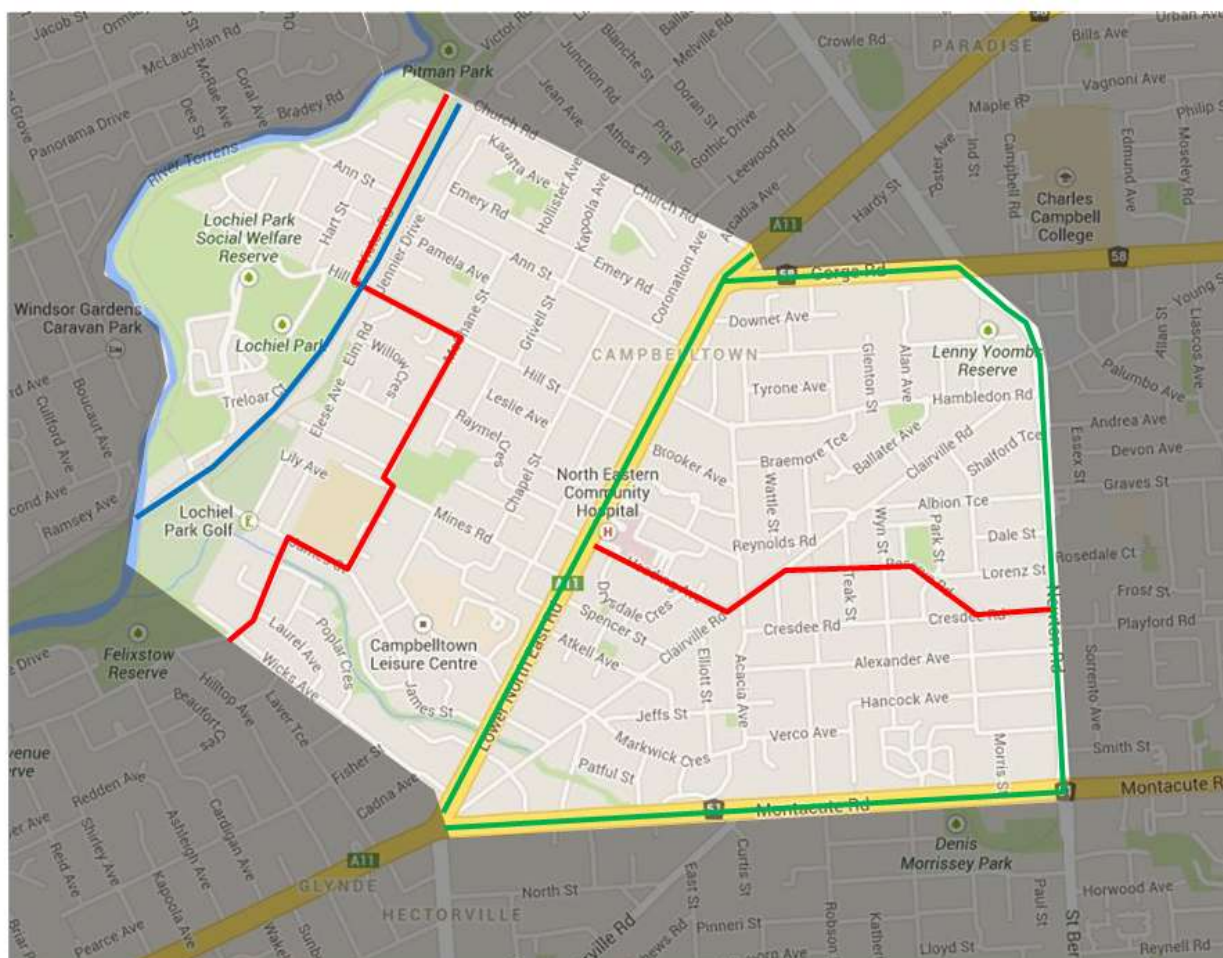


Figure 6 Campbelltown crash locations and clusters.



## Local Street Bus Routes

There are two bus routes within the local street network. Bus routes required specific consideration given the dimensions of the vehicle; therefore some traffic control devices and other LATM modifications should not be applied. The DPTI *Manual of Legal Responsibilities and Technical Requirements for Traffic Control Devices Part 2 - Code of Technical Requirements* states: “Where an LATM device is proposed on an existing or intended bus route, consultation shall take place with the DPTI Public Transport Services Division (PTSD) and bus service operators. The needs of heavy vehicle operators should also be considered”. The DPTI PTSD has been consulted as part of this LATMP.



— Bus routes on local streets      — Bus routes on DPTI roads      — O'Bahn

## 5. Population, Urban Development and Traffic Generation

Urban areas, although seemingly static, are subject to change, growth and development. The development of urban areas will often result in different transport outcomes which need to be considered. The development (predominantly residential) of the suburb of Campbelltown has been considered in this chapter in terms of traffic generation and network impact. The outputs of the traffic generation have been considered in the recommendations of this LATMP.

### Demographic Comparison and suburban growth

Campbelltown is a popular inner-middle suburb. A comparison of the 2001, 2006 and 2011 Census data reflects its popularity as a desirable suburb. Between 2001 and 2011 (over the past two Census periods), there has been a population increase of 673 persons and 281 dwellings. Given the locational advantages the suburb enjoys (close proximity to the city and residential suburban neighbourhoods which are close to services and amenities) Campbelltown has experienced dwelling and population growth over the past 10 years, with significant growth over the past 5 years. The growth rate between 2006 and 2011 for the suburb of Campbelltown (8.15%) is nearly twice that of the Council area of Campbelltown (4.34%).

**Table 1 Campbelltown (Suburb) Population and Dwelling growth (2001 – 2011)**

Census Year	Population (persons)	% change from previous Census	Dwellings	% change from previous Census
<b>2011</b>	7,573	8.15%	3,513	6.7%
<b>2006</b>	7,003	1.5%	3,292	1.9%
<b>2001</b>	6,900	-	3,231	-

For the purpose of calculating traffic generation, it has been assumed that population (and dwelling) growth has occurred at a rate of 1.2% per annum – this aligns with the Estimated Resident Population (ERP) for the City of Campbelltown for Australian Bureau of Statistics, Regional Population Growth, Australia (3218.0). Compiled and presented in profile.id (<http://profile.id.com.au/campbelltown-sa/population-estimate>)

**Table 2 Assumed Campbelltown (Suburb) Population and Dwelling growth (2011 – 2013)**

Year	Population (persons)	% change from previous year	Dwellings	% change from previous Census
<b>2013</b>	7,756	1.2%	3,598	1.2%
<b>2012</b>	7,664	1.2%	3,555	1.2%
<b>2011 (census)</b>	7,573	-	3,513	-

## 2011 Census QuickStats

All people - usual residents



Australia | South Australia | State Suburbs

### Campbelltown (SA)

Code SSC40091 (SSC)



<b>People</b>	<b>7,573</b>
Male	3,595
Female	3,978
Median age	40



<b>Families</b>	<b>1,994</b>
Average children per family	1.8



<b>All private dwellings</b>	<b>3,512</b>
Average people per household	2.3
Median weekly household income	\$859
Median monthly mortgage repayments	\$1,523
Median weekly rent	\$240
Average motor vehicles per dwelling	1.4



Figure 7 Campbelltown 2011 Census QuickStats

## 2006 Census QuickStats

All people - usual residents



Australia | South Australia | State Suburbs

### Campbelltown

Code SSC41221 (SSC)



<b>People</b>	<b>7,003</b>
Male	3,305
Female	3,698
Median age	42
Australian citizenship	5,940
People born overseas	2,249
Overseas visitors (excluded from people counts)	49



<b>Families</b>	<b>1,835</b>
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<b>All private dwellings (including unoccupied)</b>	<b>3,292</b>
Average people per household	2.2
Median weekly household income	\$641
Median monthly mortgage repayment	\$1,083
Median weekly rent	\$160



Figure 8 Campbelltown 2006 Census QuickStats



## 2001 Census QuickStats

All people - location on Census Night



Australia | South Australia | State Suburbs

### Campbelltown

Code SSC41211 (SSC)



<b>People</b>	<b>6,900</b>
Male	3,265
Female	3,635
Australian citizenship	6,097
People born overseas	2,184
Overseas visitors (excluded from people counts)	23



<b>Families</b>	<b>1,890</b>
-----------------	--------------



<b>All private dwellings (including unoccupied)</b>	<b>3,231</b>
-----------------------------------------------------	--------------



Figure 9 Campbelltown 2001 Census QuickStats

Much of the population growth has occurred from sub-division development (demolition, subdivision and redevelopment of existing suburban blocks) throughout the suburb. The *Residential Land Development Activity Report* (June 2013) released by the Department of Planning, Transport and Infrastructure also provides a summary of activity levels for the various stages of the land development and subdivision process in the local government area of Campbelltown. Although not specific to the suburb of Campbelltown, the LGA of Campbelltown has had a high level of subdivision applications (with 246 proposed lots in subdivision plans lodged for the 5 quarters from June 2012 to June 2013) and dwelling approvals (with 348 dwelling approvals for the 5 quarters from June 2012 to June 2013).

The recent *30-Year Plan for Greater Adelaide* indicated that the suburb of Campbelltown (along with surrounding Hectorville, north-east Felixstow) for potential regeneration. The extent and timing of this regeneration will directly influence the number of vehicle movements from and within the area. About 48,200 live in the council area while about 73% of its working residents (total of 16,300 or about 25-32,000 daily work trips not accounting for occupancy and trip chaining) work outside of the council meaning a significant outflow of trips in the AM 'journey to work' period (ABS, 2011). The upstream impacts from residents in the Tea Tree Gully Council are also significant: 33,200 residents or 68% work outside of the Council area of which a large percentage work downstream of the study area location (thus 'through' trips). Recent infill analysis (undertaken by InfraPlan) uncovered potentially 34,000 infill opportunities in Tea Tree Gully (of which 11,000 are likely, at 2.5 persons per household that would equate to 27,500 'upstream' population, and at 3 trips per person 9all trip types) the impact may become significant. Campbelltown itself could potentially accommodate 8,750 new houses, of which 3,200 are likely or about 8,000 additional residents. This is likely to generate approximately 24,000 additional trips over the next 30 years (all modes, all trip types). The arterial roads network will cater for a large component

of these trips, however pressure on local roads is foreseeable, especially give the interface of local roads throughout the suburb of Campbelltown and Lower North East Road and Montague Road This has been considered in discussions with DPTI and have informed the considerations/recommendations within this LATMP. Given that Council is not able to implement infrastructure or changes on State Maintained Roads (i.e. Lower North East Road, Gorge Rd and Montacute Rd) the recommendations in this report are limited to the Council road network.

## Lochiel Park



Lochiel Park is a predominantly residential development located to the west of the suburb of Campbelltown between the O'Bahn and Torrens River. Consisting of 81 dwellings, an urban forest, open space and wetlands the development is intended to be a eco-friendly urban environment. Given the location of Lochiel Park being to the east of The River Torrens and west of the O'Bahn, access to Lochiel Park is restricted to Hill Street and Church/Victor Road.

## Campbelltown Leisure Centre



Council is committed to redeveloping the Campbelltown Leisure Centre as a key regional facility. While servicing many sports the centre will also be key to delivering a variety of community programs and services using the spaces provided:

The redeveloped centre will feature:

- more and safer court space for Basketball, Volleyball, Futsal, Netball and other sports
- swimming pool for learn to swim and other programs, as well as community use
- competition squash courts with retractable walls to accommodate other uses such as yoga
- show court & spectator areas
- shared meeting and function rooms for sports and various community uses
- multifunctional spaces to cater for more sports and community activities simultaneously
- environmentally efficient design, featuring water and energy saving technologies
- studio spaces for gym and dance groups
- changes rooms
- café
- crèche

Managing the expected traffic generated once the Centre is redeveloped is an important consideration. Access to the existing Centre is restricted to Botanic Grove. The recommendation associated with Botanic Grove contained within this report is intended to address current traffic issues/concerns, and future considerations to the road network will be given upon approval/development of the Leisure Centre. Given the interface of the property and Botanic Grove with Lower North East Road Council is committed to working with the Department of Planning, Transport and Infrastructure to implement a traffic management scheme which will retain the role and function of the road network.



## MasterPlan for Campbelltown Village



The following is an excerpt from the Campbelltown Urban Village Master Pan (Dec 2010):

*Vehicle Access + Car Parking: Traffic flow (Lower North East Rd)*

*Lower North East Road is controlled by DTEI (now DPTI) with particular requirements for access and traffic flow. To assist traffic flow, the Master Plan proposes to:*

- *maintain three access points to the main shopping area car park and improve internal vehicle circulation, access and stacking arrangements with the Ann Street intersection;*
- *relocate the bus stop in front of the main shops to the south side of the Ann Street intersection (subject to DTEI approval); and*
- *consolidate car parking associated with the west side shops to reduce the number of access points to Lower North East Road.*

Council (and the consultants developing this report) met with Department representatives to discuss the Campbelltown LATMP. The Campbelltown Urban Village Master Plan was discussed, specifically in the context of the Ann Street Signals. The comments contained on Page 4 of this report provide the departments position on the signalised intersection, only to add that any modifications to improve capacity for access to/from the shopping centre (i.e. Ann St signals) is a meter for Council and the shopping centre owners during redevelopment.

## Traffic generation Rates

The MASTEM model used by DPTI assumes a daily trip generation rate of 7.3 for residential houses. This is lower than some other commonly used trip generation calculations (such as RTA Guide to Traffic Generating Development which assumes 9 daily trips, and ITE Trip Generation 9<sup>th</sup> Edition which assumes 9.63 daily trips.). Although the MASTEM assumptions are lower, they are considered appropriate in this instance as a considerable amount of the development in the suburb of Campbelltown is sub-division development which have dwellings that are smaller and with less bedrooms, therefore generate slightly less traffic. This rate is also deemed relevant given the connectivity of the suburb to public transport with the O’Bahn (at Paradise Interchange), and bus services on Lower North East Road, Montacute Road and bus services 177, H21 and W90 which service local streets.

Based on the MASTEM assumption of 7.3 daily trips per dwelling, it is possible to calculate the additional traffic that has been generated between 2001 and 2013 from residential development. MASTEM also calculates the peak hour traffic generation for residential dwellings to be 0.7 trips.

Year	Dwellings	increase from previous year	Additional traffic generated from dwelling increase	Peak hour traffic increase
<b>2013 (indicative)</b>	3,598	85	620	60
<b>2011 (Census)</b>	3,513	221	1613	155
<b>2006 (Census)</b>	3,292	61	445	43
<b>2001 (Census)</b>	3,231	-		

The additional generated trips are attributed across the local road network at different times of the day. Also given that the infill development across the suburb is generally spread across the area the impact of the additional traffic is minimised as it is not localised to any specific road/intersection. The exception to this is the additional traffic generated on Hill Street as a result of Lochiel Park. Using the MASTEM traffic generation rates, the 81 new dwellings in Lochiel Park have resulted in an additional 591 trips, most of which would be using McShane St (south to OG Road), Hill Street (to Lower North East Road) or Victor Rd (north to Darley Rd). This also equates to 57 additional trips in the peak hour, or less than one additional vehicle per minute.

*Given that the Campbelltown Strategic Plan encourages and the Development Plan enables infill development, the resultant additional traffic is considered acceptable if the asset condition and capacity is not compromised.*

### Testing Traffic Generating Impact

Despite the calculated (assumed) impact of traffic generation from infill development, 'spot-testing' has demonstrated that there has been minimal (if no) impact on traffic generation. To test whether the recent development in Campbelltown has had an impact on the local road network, a comparison of historical and current traffic volumes at spot locations was undertaken. Although this does not illustrate the network (suburb) wide implications, it tests the assumptions on traffic generation in the suburb. The traffic count comparison suggests there has not been an impact on local road traffic volumes as a result of infill development in Campbelltown (however only for the following locations):

Road/Street	Historical Count (vehicles per day)	Recent Count (vehicles per day)
<b>Mines Road</b>	665 vpd (Dec 2005)	660 vpd (Feb 2014)
<b>Ann Street</b>	1,465 vpd (Feb 2005)	1,358 vpd (Feb 2014)
<b>Hambeldon Road</b>	2,170 vpd (March 2005)	1,987 vpd (Feb 2014)

This suggests that if additional traffic is being generated by infill development, it may be having more of an impact on major collector and arterial road network rather than the local traffic network. It may also suggest that people have changed their travel habits over the 2001-2013 period and may be using more sustainable/active forms of transport such as public transport, cycling and walking, or relying on vehicles less by 'trip-chaining' (i.e. combining multiple trips into one).

## 6. Consultation outcomes: Issue identification

Community feedback helps in understanding traffic related issues, whether perceived or real, over a larger area that would otherwise be extremely difficult and time consuming to survey and assess. Council had initiated a two stage *Community Engagement* program to receive feedback during the preparation of the Local Area Traffic Management Plan for the suburb of Campbelltown. Reports on the feedback received from the community during both stages were provided by Council for consideration.

A review of community feedback (108 in total) received during Stage 1 of the consultation process was undertaken to understand issues identified by the residents. This review along with the knowledge of the existing road infrastructure, major traffic generators within and surrounding the study area, and professional experience formed the basis for finalizing 'hot-spots' for detailed assessment.

Issues identified in the community feedback (Stage 1) can be broadly classified in to following three categories:

1. Noncompliance by drivers to Australian Road Rules (either through disobedience or lack of awareness of the rules such as – not abiding by the existing parking & speed restrictions, intersection control devices (stop/give way signs), double parking, parking near junctions & driveways, parking on footpath etc;
2. Engineering issues and maintenance related issues – sightline obstructions, improper alignment/design of intersections, streetscaping etc.

In total 22 locations were selected for a detailed assessment for these issues. Traffic counts and speed data readily available with Council was referred where applicable. Where traffic data was not available additional counts were requested to be undertaken by Council. Locations where traffic data was not required site visit observations were referred to for assessment. Identified locations are listed below and detailed recommendations have been included in **Section 7** of this report.

1. Alexander Avenue
2. Ann Street
3. Botanic Grove
4. Brooker Avenue/Acacia Avenue
5. Brooker Avenue
6. Clairville Road
7. Clairville Road/Albion Terrace
8. Victor Road
9. Coronation Avenue

10. Hancock Avenue
11. Hill Street
12. East Marden Primary – Kiss and Ride
13. Mines Road/Lower North East road
14. Mines Road/McShane Street/Shepherds Lane
15. Piccadilly Crescent
16. Wicks Avenue/Sycamore Terrace
17. Other locations

A site visit covering most of the local road network within the study area was undertaken to verify/assess the issues raised by the residents. This site visit concluded that some of the issues raised by the residents were not engineering issues or related to network deficiencies and but rather driver/parking behaviour. For example, parking too close to intersections was a common issue, for which a public awareness initiative to educate/remind motorists on rules on how to use road space may be required.

Stage 2 of the Community Engagement process sought feedback from the community on the draft LATMP for the suburb of Campbelltown. A review of the feedback (20 suggestions in total) found concerns at some additional locations and, similar to feedback received during Stage 1, issues with driver/parking behaviour rather than issues with the engineering of the physical infrastructure or network deficiencies.

From the review of the feedback additional recommendations have been included in **Section 8 Summary of Recommendations** (p.75 of this Plan) at the following locations:

- Munchenberg Avenue and Markwick Crescent junction
- Dale Street

## 7. LATMP and TCD recommendations


### Recommendations and justification

This section describes the traffic management strategies which have been developed to address the issues identified at the site visit, from consultation and in on-going discussions with Council: reflects the required local area traffic management plan and the traffic calming devices required for the suburb of Campbelltown

As discussed with Council, the traffic management plan is aimed primarily at moderating vehicle speeds, improve safety where required and influence through traffic impacts. Council has indicated its preference for treatments which do not include vertical deflection devices.




## Location 1: Alexander Ave

Location	<p>Alexander Ave (length of)</p> 
Issues reported in Public Consultation	<ul style="list-style-type: none"> <li>- Speeding</li> <li>- Increased traffic</li> <li>- Used as short cut to avoid lights on main roads</li> </ul>
Define role and function of road (hierarchy)	<p>Alexander Ave is classified as a Local Street</p>
Additional Considerations (speed, AADT, bus route, etc)	<ul style="list-style-type: none"> <li>- Traffic counts = 452 vpd (Feb 2014): within threshold of &lt;750 for a local road</li> <li>- Mean Speed = 45.3 km/h (above the acceptable threshold of 40km/h for a local road)</li> <li>- 85<sup>th</sup>ile Speed = 55.4 km/h (above the acceptable threshold of 50km/h for a local road)</li> </ul>
Site Visit Notes & Other Observations	<ul style="list-style-type: none"> <li>- Morning peak rat running → Newton – Cresdee – Shinnick – Alexander – Meadows – Montacute to avoid signals at Montacute Rd/Newton Rd and Newton Rd/Playford Rd</li> <li>- Negligible on-street parking was observed</li> <li>- Clear sightlines, wide road (7.5m) with negligible on-street parking <u>may potentially encourage speeding</u></li> </ul>

<p>Recommended Action</p>	<ul style="list-style-type: none"> <li>- Re-install Giveway lines on repaved Shinnick St</li> </ul> <p><b><u>Option 1:</u></b></p> <ul style="list-style-type: none"> <li>- Install Single Lane Slow points/driveway links between Cedar Ave and Newton Road at the following locations (approx.) <ul style="list-style-type: none"> <li>○ 2 slow points between Newton Rd and Shinnick St</li> <li>○ 2 slow points between Shinnick St and Wyn St</li> <li>○ 2 slow points between Wyn St and Cedar Ave</li> </ul> </li> </ul> <div data-bbox="485 631 1008 994" data-label="Image"> </div> <div data-bbox="1008 604 1337 994" data-label="Image"> </div> <p>Note: slow points and kerb extensions should consider the safety of cyclists. When designing these devices careful consideration should be given to the need for bicycles to pass clear taking into account the likely risk to cyclists, the demand for cycling at the treatment location, and issues related to site constraints.</p> <p><b><u>Option 2:</u></b></p> <ul style="list-style-type: none"> <li>- Install Single Lane Slow points/driveway links between Cedar Ave and Newton Road at the following three locations (approx.): <ul style="list-style-type: none"> <li>○ #5 Alexander Ave</li> <li>○ #29 Alexander Ave</li> <li>○ #58 Alexander Ave</li> </ul> </li> <li>- Change priority – install Giveway signs on Alexander Ave at Shinnick St and Wyn St</li> </ul>
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Intended Outcome	<ul style="list-style-type: none"> <li>- Reduced speed</li> <li>- Improved safety for motorist, pedestrians and cyclists</li> <li>- Reduced through traffic volumes (although traffic volumes do not exceed that of the allowable threshold for local streets, there is evidence of through traffic using Alexander Ave to avoid signalised intersections, therefore exploiting the streets primary function of property access only).</li> </ul>				
Use of LATM Device (Austroads)	Reduce Speeds	Reduce traffic volume	Reduce crash risk	Increase pedestrian safety	Increase bicycle safety
	✓	✓	-	-	-
Potential Network Implications	<ul style="list-style-type: none"> <li>- Potential shift in travel routes from Alexander to Hancock may occur.</li> <li>- Minor inconvenience to residents for having to negotiate slow point when using Alexander Ave</li> <li>- Would potentially divert traffic to Cresdee Rd via Cedar Ave; however Cresdee Rd is classified as Minor Collector, therefore acceptable traffic shift</li> <li>- Small increase in traffic levels on Cedar Ave</li> </ul>				
Importance	Medium				


## Location 2: Ann Street (length of)

Location	<p>Ann St (length of) and junctions with McShane St and Chapel St</p> 
Issues reported in Public Consultation	<ul style="list-style-type: none"> <li>- Unsafe intersection – McShane St/Ann St</li> <li>- Insufficient sight distance</li> <li>- On-street parking close to Chapel St</li> <li>- Speeding</li> </ul>
Define role and function of road (hierarchy)	<p>Ann St is classified as Minor Collector, secondary Bikedirect cycling route</p> <p>McShane St is classified as Minor Collector (between Ann St and Hill St), secondary Bikedirect cycling route</p>
Additional Considerations (speed, AADT, bus route, etc)	<ul style="list-style-type: none"> <li>- Traffic Counts = 1465 vpd (Dec-2005 counts) and 1358 (Feb 2014). A percentage decrease of over 7% from 2005 to 2013</li> <li>- Mean Speed = 45.2km/h; marginally above acceptable threshold of 45km/h for Minor Collector</li> <li>- 85th %ile speed = 52.2km/h; marginally above acceptable threshold of 50km/h for Minor Collector</li> <li>- 2 accidents have been reported along Ann St during past 5 year period; apparent error – inattention and failure to Give way</li> <li>- No causality crashes were reported at Ann St/McShane St junction</li> <li>- No causality crashes were reported at Ann St/Chapel St junction</li> </ul>

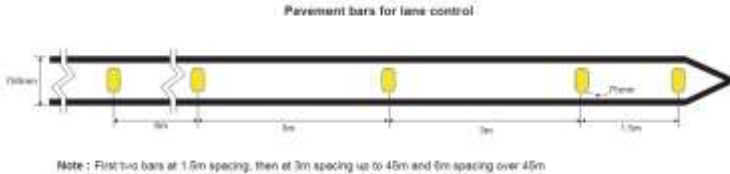
Site Visit Notes & Other Observations	<u>Ann Street (length of)</u> <ul style="list-style-type: none"><li>- Negligible number of cars (less than 5) were observed to have been parked along Ann St</li><li>- No parking control in place along majority of Ann St – this may encourage speeding</li></ul> <u>McShane St/Ann St junction</u> <ul style="list-style-type: none"><li>- No issues relating to sight distance at were observed</li><li>- Sight distance on all three approaches were deemed sufficient</li><li>- It should also be noted that this is a Modified T-junction hence traffic along Ann St - west of McShane St <i>shall</i> Give way to traffic on Ann St and McShane St</li></ul> <u>Chapel St/Ann St junction</u> <ul style="list-style-type: none"><li>- No issues relating to sight distance at were observed</li><li>- No cars were observed to have been parked near the junction obstructing flow of traffic or sightlines</li></ul> No issues with parking or sightline obstructions were observed at other junctions (Kapoola Ave and Grivell St)					
	Recommended Action <ul style="list-style-type: none"><li>- Install parking control – staggered parking as Traffic Calming device (through horizontal displacement)</li><li>- Also, offset parking along a cycle route should only be considered in low traffic/speed environments</li><li>- Ann St/ McShane St T-junction – no action required</li><li>- Ann St/Chapel St T-junction – no action required</li><li>- Ann St/Kapoola Ave/Grivell St – no action required</li></ul>					
	Intended Outcome <ul style="list-style-type: none"><li>- Improved safety for motorists</li><li>- Reduced speeds</li></ul>					
	Use of LATM Device (Austroads)	Reduce Speeds	Reduce traffic volume	Reduce crash risk	Increase pedestrian safety	Increase bicycle safety
		✓	-	-	-	-
Potential Network Implications	<ul style="list-style-type: none"><li>- No impact on traffic volumes envisaged</li><li>- Reduced speed along Ann St</li><li>- No impact on McShane St</li></ul>					
Priority	Medium					






### Location 3: Botanic Grove (near bend in alignment)

Location	<p>Botanic Grove – between LNE and Mines Road</p> 
Issues reported in public consultation	<ul style="list-style-type: none"> <li>- Speeding (along length and at bend)</li> <li>- Short cut for through traffic</li> </ul>
Define role and function of road (hierarchy)	<p>Botanic Grove is classified as Local street</p> <p>Local street – indirect route discourages through traffic</p>

<p>Additional Considerations (speed, AADT, bus route, etc)</p>	<p>Traffic Counts = 328 vpd (Mar 2014); below acceptable threshold of &lt;750 vpd for <i>Local Road</i></p> <p>Mean Speed = 38 km/h; below acceptable threshold of 40km/h for <i>Local Road</i></p> <p>85<sup>th</sup> %ile Speed = 49.7 km/h; above the acceptable threshold of 45km/h for <i>Local Road</i></p> <p>One crash has been reported at Botanic Grove junction with Mines Road; however no crash has been reported along the length of Botanic Grove in past 5 year duration.</p> <p><u>Leisure Centre Redevelopment:</u></p> <p>This recommendation is intended to address current traffic issues/concerns: Future considerations will be given to the road network upon approval/development of the Leisure Centre Managing the expected traffic generated once the Centre is redeveloped is an important consideration. Access to the existing Centre is restricted to Botanic Grove. Given the interface of the property and Botanic Grove with Lower North East Road Council is committed to working with DPTI to implement a traffic management scheme which will retain the role and function of the road network</p>
<p>Site Visit Notes &amp; Other Observations</p>	<ul style="list-style-type: none"> <li>- Curve advisory sign without advisory speed at the bend in road</li> <li>- Vehicles parked at the bend – reducing available travel lane width</li> <li>- Reduced safety due to parked vehicle potentially blocking sight lines</li> <li>- Parking allowed on west side (south of the bend and east of the bend)</li> <li>- Clear sightlines may potentially encourage speeding</li> </ul>

Recommended Action	<ul style="list-style-type: none"><li>- Install Pavement bars along the bend (road width 7.5m)</li></ul> <div><p>Pavement bars for lane control</p><p>Note: First two bars at 1.5m spacing, then at 3m spacing up to 45m and 6m spacing over 45m</p></div> <p>Source: image for pavement bars for lane control – DPTI pavement Marking Manual (Dec 2010)</p> <ul style="list-style-type: none"><li>- ‘No Stopping’ Lines (Yellow lines) near bend – yellow lines would typically extend for the extent of the pavement bar median</li><li>- Install Speed advisory sign – curve sign (W1-3) on both approaches</li><li>- Remove non-standard ‘Reduce Speed’ sign</li></ul>				
Intended Outcome	Improve motorist safety along the bend  Reduced travel speed				
Use of LATM Device (Austroads)	Reduce Speeds	Reduce traffic volume	Reduce crash risk	Increase pedestrian safety	Increase bicycle safety
	✓	-	✓	-	-
Potential Network Implications	No implications on road network envisaged				
Priority	Medium to low				

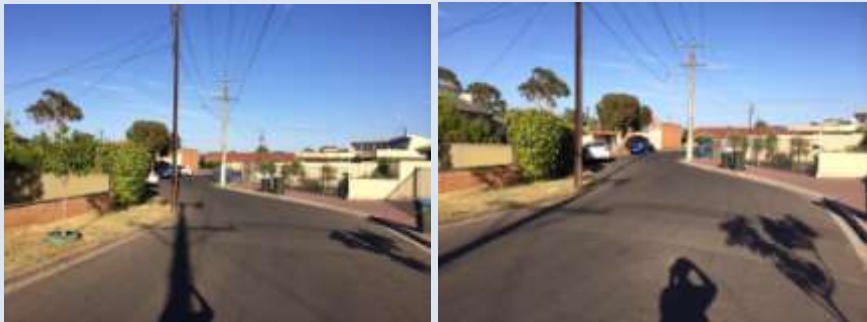
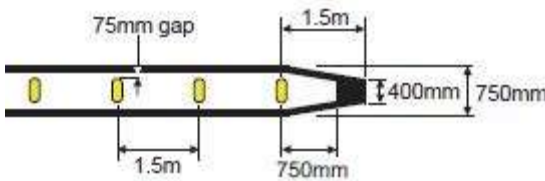
## Location 4: Brooker Avenue and Acacia Avenue intersection

Location	  
Issues reported in Public Consultation	Unsafe to enter road as cars speeding on Acacia Ave
Define role and function of road (hierarchy)	Both Brooker Ave and Acacia Ave North are classified as local streets
Additional Considerations (speed, AADT, bus route, etc)	<p>Brooker Ave is a Local Road providing access to residences – there is commercial business (along Lower North East Road) with direct access to Brooker Ave</p> <p>Acacia Ave North is a <i>Bikedirect</i> secondary cycling route</p>
Site Visit Notes & Other Observations	<p>Obstructed site lines from approach to Acacia Ave on Brooker Ave by fencing and vegetation (exacerbated by angled approach for Brooker into Acacia Nth)</p> <p>Vehicles parked near the junction along Acacia Ave (east side) forces cars to be in the centre of the road through the junction</p>

Recommended Action	<ul style="list-style-type: none"> <li>- Booker Ave - Install line marking to delineate curved centre of road approach</li> <li>- Brooker Ave – Install Giveway line marking and a Giveway sign</li> <li>- Acacia Ave install yellow line along eastern kerb line to prevent parking at the junction</li> <li>- Prune trees/landscaping along Acacia Avenue – on both south and north of Brooker Avenue</li> </ul>				
Intended Outcome	Improve safety at intersection through site-line improvements. Safe intersection sight distance to meet Australian Standards				
Use of LATM Device (Austroads)	Reduce Speeds	Reduce traffic volume	Reduce crash risk	Increase pedestrian safety	Increase bicycle safety
	-	-	✓	-	-
Potential Network Implications	No impact on traffic using Acacia Ave and Brooker Ave envisaged. No impact on network operations envisaged.				
Priority	Medium				




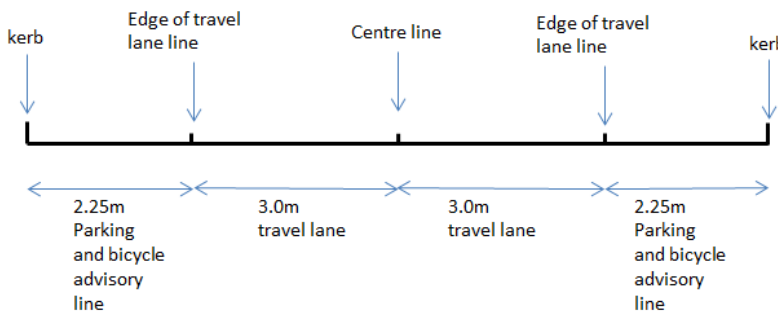
## Location 5: Brooker Ave (bend in alignment near Lower North East)

Location	<p>Brooker Ave (bend in road approx.50m from Lower North East Road)</p> 
Issues identified in Public Consultation	<p>Parking near bend reduces travel width – one lane road</p> <p>Speeding through the bend</p>
Define role and function of road (hierarchy)	<p>Brooker Avenue is classified as Local street</p>
Additional Considerations (speed, AADT, bus route, etc)	<p>Close to Health Alliance medical centre, with consideration to parking 'over-flow'.</p> <p>No crashes were reported during past 5 year period</p>
Site Visit Notes & Other Observations	<ul style="list-style-type: none"> <li>- Poor approach sight distance at bend, especially if cars parked at hidden section of bend</li> <li>- Safety concern is further exacerbated by closeness of stobie pole to kerb edge and overgrown hedge fencing along south side</li> <li>- The issue was also reported during consultation, therefore justified community concern.</li> </ul>
Recommended Action	<ul style="list-style-type: none"> <li>- Trim southern boundary vegetation</li> <li>- Install median pavement bars to stop approaching vehicles from encroaching on the opposite travel lane (6.8m road width required).</li> </ul>  <ul style="list-style-type: none"> <li>- Install 'No Stopping' lines at the bend to discourage motorists from parking at the bend.</li> </ul>
Intended Outcome	<ul style="list-style-type: none"> <li>- Improved sight lines and safety when negotiating the bend</li> </ul>

	<ul style="list-style-type: none"> <li>- Reduce approach speeds</li> <li>- Reduced travel speed through the bend</li> </ul>				
Use of LATM Device (Austroads)	Reduce Speeds	Reduce traffic volume	Reduce crash risk	Increase pedestrian safety	Increase bicycle safety
	✓	-	✓	-	-
Potential Network Implications	<p>Parking restrictions may potentially reduce available parking near medical centre.</p> <p>No implications on traffic volumes and movement are envisaged</p>				
Priority	high (for Sight Distance and safety concerns)				

## Location 6: Clairville Road (length of)



Location	<p>Clairville Road</p> 
Issues identified in Public Consultation	<p>Speeding</p> <p>Increased traffic</p>
Define role and function of road (hierarchy)	<p>Classified as a Major Collector – between Trafford Rd and Hambeldon Rd</p> <p>Classified as a Minor Collector – between Trafford Rd and Piccadilly Cres</p> <p><i>Blkedirect</i> secondary cycling route – between southern end and Albion Tce</p>
Additional Considerations (speed, AADT, bus route, etc.)	<ul style="list-style-type: none"> <li>- Traffic Counts = 1,297 vpd (Feb 2014)</li> <li>- Mean Speed = 50.2km/h (above acceptable threshold of 50km/h for Major Collector)</li> <li>- 85th %ile speed = 58.3km/h (above acceptable threshold of 55km/h for Major Collector)</li> <li>- 3 accidents have been reported along Clairville Rd during past 5 year period; apparent error – disobey and failure to Give way. No fatalities were reported.</li> </ul>
Site Visit Notes & Other Observations	<p>There are three roundabouts along Clairville Rd at intersections with Atkell Ave, Acacia North Ave and Albion Tce. Roundabouts can act as traffic calming device however, the spacing between the roundabouts is in excess of 350m.</p> <p>For roundabouts to act as traffic calming device minimum spacing of 120m is recommended between two roundabouts.</p> <p>Adelaide Metro's bur routes 177 and H21 serve along Clairville Road between Heading Ave and Reserve Rd.</p>

<p>Recommended Action</p>	<p>Clairville Rd with current pavement width in excess of 10.5m creates perception of wide, higher-speed environment. This is further exacerbated by lack of any on-street parking.</p> <p>As per most recent traffic data, 85<sup>th</sup> %ile speed was measured 58.3km/h – significantly above the acceptable threshold. Excessive speed indicates strong need measures to reduce the speed without affecting functioning as a Major Collector.</p> <p>Better use of the road space would be to delineate a parking lane along both sides of the road and thereby narrowing the street environment and if feasible provide for cyclists with advisory shared car/bike lane. However, negligible on-street parking was observed during site visit indicating low parking demand.</p> <p><b><u>Centre line with edge of travel lane line</u></b></p> <p>Combination of centreline pavement marking and edge of travel lane marking is proposed for length of Clairville Avenue.</p> <p>The proposed combination would create visual narrowing by clearly defining the road width available for traffic movement.</p> <p>Consideration of pavement bars at key feeder intersections (such as Reserve Rd, Albion Tce, Mundon St, Marwick Cres) to direct turning movements into and out of Clairville Rd (discourage ‘cutting’ of corners).</p> <p>Recording of 85% speeds <u>post implementation</u> will measure the success in reducing traffic speeds (85%ile). If not achieving the objective of speed reduction, then physical measures should be considered – such as kerb extensions, which may also create opportunities for landscape improvements.</p>  <p><b>Figure 10 - cross section demonstrating possible configuration on lane narrowing and edge of travel lane placement</b></p>
<p>Intended Outcome</p>	<p>Reduce traffic speeds, improve public amenity/environment and increase pedestrian/cyclist safety.</p>

Use of LATM Device (Austroads)	Reduce Speeds	Reduce traffic volume	Reduce crash risk	Increase pedestrian safety	Increase bicycle safety
NOTE: use of LATM would change depending on adopted option 1 or 2	✓	-	✓	-	✓
Potential Network Implications	<p>No network-wide impacts are envisaged.</p> <p>Traffic volumes on Clairville Rd (1,297 vpd) are significantly lower than traffic volumes for a Major collector road as per the City of Campbelltown Transport Plan (&lt; 4,000 vpd) therefore traffic diversion to/from Clairville Rd is not considered as a significant concern.</p>				
Priority	High				




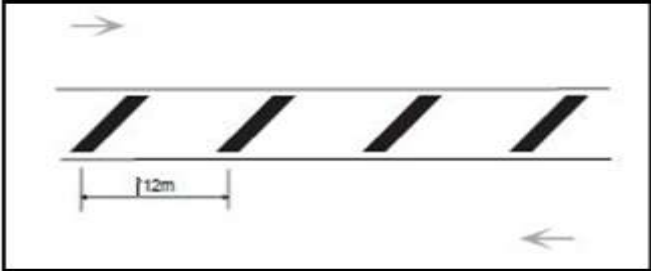
## Location 7: Clairville Road and Albion Tce intersection

Location	<p>Clairville Road and Albion Tce</p>  <p>Panorama standing Clairville Rd (west) opposite Albion Tce</p>  <p>Looking at Albion Tce</p>
Issue reported in Public Consultation	<ul style="list-style-type: none"> <li>- Unsafe intersection</li> <li>- Speeding through intersection</li> </ul>
Define role and function of road (hierarchy)	<p>Albion Tce is a Local Street</p> <p>Clairville Rd is classified as a Major Collector</p> <p>Both streets are <i>Bikedirect</i> secondary cycling routes</p>
Additional Considerations (speed, AADT, bus route, etc.)	<p>No AADT, turning movement or speed data available for Albion Tce</p> <p>No crashes were reported at this junction during past 5 year period</p>
Site Visit Notes & Other Observations	<ul style="list-style-type: none"> <li>- Intersection angle (between Clairville and Albion ) <math>&lt;70^\circ</math></li> <li>- Intersection alignment encourages speeding from Albion to Clairville south</li> <li>- Stop bar not installed after re-paving – confusing for motorists where to STOP</li> <li>- Driveway access at junction on southern side (on Clairville Rd)</li> </ul>
Recommended Action	<ul style="list-style-type: none"> <li>- Realign Albion Tce such that it forms a standard T-junction with Clairville Rd</li> <li>- Install landscaped kerb extension on southern side, integrate driveway access (on Albion Tce) and provide pedestrian crossing point</li> <li>- Consideration should be given to cyclist movements along/through the intersection</li> </ul>


Intended Outcome	<ul style="list-style-type: none"> <li>- Reduced speed while entering Clairville Rd</li> <li>- Improved safety for all road users</li> <li>- Reduced crossing width for pedestrians at the junction</li> </ul>				
Use of LATM Device (Austroads)	Reduce Speeds	Reduce traffic volume	Reduce crash risk	Increase pedestrian safety	Increase bicycle safety
✓ or -	✓	✓	✓	✓	✓
Potential Network Implications	No impact on traffic volumes or traffic diversion envisaged				
Priority	high				

## Location 8: Victor Road (length of)


Location	<p>Victor Road (length of)</p> 
Issues reported in Public Consultation	Speeding along length
Define role and function of road (hierarchy)	<p>Classified as a Major Collector (length of)</p> <p>Bus routes W90 &amp; W90M service along Victor Road</p> <p>Listed in <i>Bikedirect Network</i> as secondary road cycling route</p>
Additional Considerations (speed, AADT, bus route, etc.)	<p>No crashes have been reported in past 5 year period</p> <p>Traffic Counts = 1,574 vpd (Mar 2014); below acceptable threshold of &lt;4,000 vpd for <i>Major Collector</i></p> <p>Mean Speed = 51.4 km/h; marginally above the acceptable threshold of 50km/h for <i>Major Collector</i></p> <p>85<sup>th</sup> %ile Speed = 58.7 km/h; significantly above the acceptable threshold of 55km/h for <i>Major Collector</i></p>
Site visit Observations and assessment	<p>7.3m wide road</p> <p>Residential urban speed limit of 50km/h applies</p> <p>When traveling southbound on Victor Rd - no driveways/intersecting roads along left hand side (Victor Rd runs parallel to O-Bahn). Clear sightlines may potentially encourage speeding (540m unobstructed length of road)</p>

Recommended Action	<p><b><u>Flush Median</u></b></p> <p>Provision of painted flush medians to create narrower travel environment.</p> <p>Road width (7.3m) is not wide enough to install and allow parking.</p> <p>Australian Road Rules (6) states that - If the road has a continuous dividing line or a dividing strip, the driver must position the vehicle at least 3 metres from the continuous dividing line or dividing strip, unless otherwise indicated by information on or with a parking control sign.</p>  <p>Victor Rd is listed as <i>secondary road bike route</i> in <i>Bikedirect network</i> – considerations should be given to installing Bike symbols.</p> <p>Additional considerations for streetscaping at junctions (Kerb extensions) to reduce long sight lines be considered.</p>					
Intended Outcome	<p>Reduced traffic speeds</p> <p>Improved visual amenity along the road</p>					
Use of LATM Device (Austroads)	Reduce Speeds	Reduce traffic volume	Reduce crash risk	Increase pedestrian safety	Increase bicycle safety	
✓ or -	✓	-	-	-	-	
Potential Street Implications	<p>Reduced traffic speeds</p> <p>No impact on traffic levels envisaged</p>					
Priority Level	Medium - high					

## Location 9: Coronation Ave (length of)


Location	
Issues reported in Public Consultation	<ul style="list-style-type: none"> <li>- High proportion of through traffic</li> <li>- Speeding – rat run to/from Paradise IC</li> </ul>
Define role and function of road (hierarchy)	Coronation Ave is classified as a Local Road
Additional Considerations (speed, AADT, bus route, etc)	<ul style="list-style-type: none"> <li>- Traffic counts = 979 vpd (Oct 2013); above acceptable threshold of 750vpd for <i>local road</i></li> <li>- Mean Speed = 43km/h; above acceptable threshold of 40km/h</li> <li>- 85<sup>th</sup> %ile speed = 52km/h; above acceptable threshold of 45km/h</li> </ul>
Site Visit Notes & Other Observations	<ul style="list-style-type: none"> <li>- Potential cut-through route for traffic from Paradise Interchange wanting to enter Lower North East Road (at Ann St signalized intersection) during peak hours.</li> <li>- High traffic volumes (traffic volumes for local streets should not exceed 750 vpd, however traffic volumes in 2013 were recorded at 979 vpd.</li> <li>- Consultation comments mention speeding traffic: supported by classification counters which returned median speed of 43km/h and 85%ile speed of 52km/h above the</li> </ul>



	<p>recommended thresholds of 40km/h and 45km/h for local streets.</p> <ul style="list-style-type: none"> <li>- Vehicle speeds are considered excessive</li> </ul>
Recommended Action	<p><b><u>Option 1: Slow Points</u></b></p> <p>Install two, Single Lane Slow points at the following locations:</p> <ol style="list-style-type: none"> <li>1. approximately 120m from Ann St</li> <li>2. approximately 80m from Church Rd</li> </ol> <p>Slow points are considered better deterrent of through traffic by creating squeeze points. Recommended spacing between two slow points shall be between 80 to 120m.</p> <p>Traffic volume is under threshold of 1,000 vpd therefore limited risk of congestion and low crash risk (as per Austroads Part 8).</p>  <p>Note: slow points and kerb extensions should consider the safety of cyclists. When designing these devices careful consideration should be given to the need for bicycles to pass clear taking into account the likely risk to cyclists, the demand for cycling at the treatment location, and issues related to site constraints.</p> <p><b><u>Option 2: Slow point and modified T junction at Emery Rd</u></b></p> <p>Install a Single Lane Slow Point approximately 100m from Church Road.</p> <p>Modify Emery Road/Coronation Avenue junction to give priority to Emery Road-Coronation Avenue movement by installing Giveway sign on Coronation Avenue north approach (north of Emery Road)</p> <p>The combined effect of slow point and modified T junction would be slower travel speeds along Coronation Avenue.</p>
Intended Outcome	<ul style="list-style-type: none"> <li>- Reduced travel speed</li> <li>- Reduce through traffic on Coronation Ave</li> </ul>

Use of LATM Device (Austroads)	Reduce Speeds	Reduce traffic volume	Reduce crash risk	Increase pedestrian safety	Increase bicycle safety
✓ or -	✓	✓	-	-	-
Potential Network Implications	<p>Slow points on Coronation Ave would most likely discourage <i>through traffic</i> from using Coronation Ave and would potentially divert vehicles to Kapoola Ave.</p> <p>It should be noted that Kapoola Ave is classified as a <i>Minor Collector</i> in the City of Campbelltown road hierarchy. No adverse impacts on Kapoola Ave are envisaged as a result of potential traffic diversion.</p> <p>Minor inconvenience to residents of Coronation Ave for having to negotiate slow points/modified T junction while travelling on Coronation Ave.</p>				
Priority	medium				


## Location 10: Hancock Ave (length of)

Location	<p>Hancock Avenue – between Newton Rd and Meadow Ave</p> 
Issues reported in Public Consultation	<ul style="list-style-type: none"> <li>- Speeding</li> <li>- On-street Parking on either side of the road</li> <li>- Parking on kerbs/footpaths</li> <li>- Parking near bend</li> <li>- Sight lines obstructed by corner house at the bend</li> <li>- Footpaths on one side only</li> </ul>
Define role and function of road (hierarchy)	<p>Hancock Ave is a <u>Local road</u> providing residential access with default speed of 50km/h</p>
Additional Considerations (speed, AADT, bus route, etc.)	<ul style="list-style-type: none"> <li>- Traffic volume = 344 vpd; below acceptable threshold of 750vpd for a <i>local street</i></li> <li>- Median Speed = 41.3km/h; marginally above the acceptable threshold of 40km/h for local street.</li> <li>- 85<sup>th</sup> %ile Speed = 51.8km/h; significantly above the acceptable threshold of 45km/h for local street.</li> <li>- One crash has been reported at Hancock Ave/Shinnick St junction during past 5 year period; no fatalities were reported</li> </ul>
Site Visit Notes & other observations	<ul style="list-style-type: none"> <li>- No issues with visibility/sight lines were identified at the corner house</li> <li>- A car was observed illegally parked at the bend on Hancock Ave</li> <li>- Possible cut through route during evening peak hour to avoid lights at Montacute/Newton and Newton/Playford</li> <li>- Traffic volumes are low however 85<sup>th</sup> %ile and mean speeds</li> </ul>

	<p>indicate excessive speeding by motorists.</p> <ul style="list-style-type: none"> <li>- Measured road width 7.5m</li> </ul>
Recommended Action	<ul style="list-style-type: none"> <li>- Install 'No-stopping' lines near driveways, junctions</li> <li>- Consider Staggered on-street parking – traffic calming by horizontal deflection of travel path</li> <li>- Install 'No-stopping' lines along the bend to discourage parking</li> </ul> <p><b>Option 1:</b> Install four, Single Lane Slow Points/driveway links at the following locations:</p> <ol style="list-style-type: none"> <li>1. 2 slow points between Newton Rd and Shinnick St</li> <li>2. 2 slow points between Shinnick St and Wyn St</li> </ol> <div data-bbox="485 770 874 1055" data-label="Image"> </div> <div data-bbox="879 757 1362 1055" data-label="Image"> </div> <div data-bbox="485 1122 1085 1464" data-label="Image"> </div> <p>Example of Driveway link</p> <div data-bbox="485 1532 807 1921" data-label="Image"> </div> <p><b>Option 2:</b></p>

	<p>The geometric locations of intersecting roads (Shinnick St and Wyn St) along Hancock Ave provide for alternative (and less expensive) traffic calming measure.</p> <p>Install two, Single Lane Slow Points/driveway links at the following locations:</p> <ol style="list-style-type: none"> <li>1. One slow point/driveway link between Newton Rd and Shinnick St</li> <li>2. One slow point/driveway link between Shinnick St and Wyn St</li> </ol> <p>Change priority – install Giveaway signs on Hancock Ave at intersection with Shinnick St and Wyn St.</p> <p>The combined effect of Slow points (along Hancock Ave) and Give way signs at Shinnick St and Wyn St would slow down traffic along Hancock Ave thereby discouraging <i>through traffic</i> from using Hancock Ave. This combination of alternate Slow points and Giveaway signs would also reduce the travel speeds along Hancock Ave.</p> <p>Note: slow points and kerb extensions should consider the safety of cyclists. When designing these devices careful consideration should be given to the need for bicycles to pass clear taking into account the likely risk to cyclists, the demand for cycling at the treatment location, and issues related to site constraints.</p>				
Intended Outcome	<p>Reduced through traffic</p> <p>Reduced travel speeds</p> <p>Staggered on-street parking that would provide passing location for two vehicles traveling in opposite direction</p>				
Use of LATM Device (Austroads)	Reduce Speeds	Reduce traffic volume	Reduce crash risk	Increase pedestrian safety	Increase bicycle safety
	✓	✓	-	-	-
Potential Network Implications	<ul style="list-style-type: none"> <li>- Should discourage traffic using Hancock as short-cut</li> <li>- Minor inconvenience to residents of Hancock Ave as they will have to negotiate slow point</li> </ul>				
Priority	medium				

## Location 11: Hill St (length of and intersection with LNE Rd)


Location	<p>Hill St (length of)</p> 
Issues reported in Public Consultation	<ul style="list-style-type: none"> <li>- Speeding</li> <li>- Increased traffic</li> <li>- Parking near driveway and intersections</li> <li>- Sightlines obstructed by vehicles parked near intersection</li> <li>- Failure to give way at intersection (Victor Rd/Hill St)</li> <li>- Queuing at Hills Street/Lower North East Road intersection</li> </ul>
Define role and function of road (hierarchy)	<p>Hill St is classified as Major Collector (between Victor Road and Lower North East Road)</p>
Additional Considerations (speed, AADT, bus route, etc)	<ul style="list-style-type: none"> <li>- AADT = 1,149 vpd</li> <li>- 85<sup>th</sup> %ile speed = 55 km/h</li> <li>- Two crashes have been reported along Hill St in past 5 year period; one crash at intersection of McShane St and Hill St</li> <li>- Hill St (between Victor Rd &amp; McShane St) is served by Bus Route W90</li> </ul>
Site Visit Notes & Other Observations	<ul style="list-style-type: none"> <li>- Some parking on both sides of road was observed during site visit; although observed traffic volumes not deemed high enough to warrant significant safety concerns.</li> <li>- On-street parking can also deemed to be a useful traffic calming measure; however available road width should be sufficient for two cars to pass.</li> <li>- Hill St was measured 8.5m wide. With parking on either side available width for traffic reduces to below 5m thus potentially impeding traffic flow.</li> </ul>



	<ul style="list-style-type: none"> <li>- Cars that were observed to have been parked during the peak hour are likely to have been parked by nearby/adjacent residents as they had moved after peak hour – this suggests the cars would be parked there when residents are home, (or overnight). Near new subdivision houses, with off-street spaces free of cars, indicating that parking is local but they have the opportunity to park off-street but do not (therefore parking requirements in Development Plan are sufficient).</li> </ul>				
Recommended Action	<ul style="list-style-type: none"> <li>- Staggered parking along the length of Hill Street between Victor Rd and Lower North East Road</li> <li>- 'no stopping' lines near driveways and intersections</li> </ul> <p>After implementing staggered parking and 'no stopping' line marking to enable Hill Street to operate with at the level which a Major Collector should, monitoring of speed will be required. If the 85<sup>th</sup> percentile speed exceed 55km/h (as per the Campbelltown Transport Plan 2006-2016) then consideration should be given to installing speed limit signs and/or lane narrowing and kerb extensions.</p> <p>Given the role of Hill Street as a major collector, consideration has also been given to providing dedicated right-turn and left-turn lanes onto Lower North East Road. The intention is to improve queuing delays at the intersection. However this action is predicated on the undergrounding of power lines which has been considered as part of the Campbelltown Village Masterplan (includes removal of Stobie poles at the north-west corner of the Hills Street and Lower North East Rd intersection which limit the potential width of the intersection). Consideration also needs to be given to the telecommunication services to the south of the intersection within the road reserve. The recommended action is to investigate the possibility of right and left out turning lanes once the powerlines are undergrounded. Consultation with DPTI will also be required given the interface of the intersection with Lower North East Road (which is under Departmental jurisdiction).</p>				
Intended Outcome	<ul style="list-style-type: none"> <li>- Assist traffic flow (as per major collector status)</li> <li>- Improved sight lines when entering/exiting side streets and property driveways</li> <li>- Streetscaped road – neighbourhood amenity</li> <li>- Improve queuing delays at Hill Street Lower North East Road intersection (through right turning lane at intersection)</li> </ul>				
Use of LATM Device (Austroads)	Reduce Speeds	Reduce traffic volume	Reduce crash risk	Increase pedestrian safety	Increase bicycle safety


Note: application of staggered parking, line marking and lane narrowing/kerb extensions required to achieve reduces speeds and increased pedestrian safety.	✓	-	-	✓	-
Potential Network Implications	<p>No implication on road network envisaged.</p> <p>The intersection improvement (i.e. right turn/left turn lanes at the LNE Rd intersection) has the potential to marginally increase traffic volumes at on Hills Street, although the current traffic volumes are well below those of a major collector and will remain well under the acceptable threshold of 4,000 vpd.</p>				
Priority	medium				

## Location 12: East Marden Primary 'Kiss and Ride'

Location image (with image)	East Marden Primary 'Kiss and Ride' locations 
Issues reported in Public Consultation	<ul style="list-style-type: none"> <li>- double parking on Shepherds Lane 'Kiss and Ride', blocking traffic travelling north on Shepherds Lane (Blue line in figure above)</li> <li>- creates blind spots for drivers close to school crossing</li> <li>- potential to block bus movements</li> <li>-</li> </ul>
Define role and function of road (hierarchy)	<p>Shepherds Ln is classified as Major Collector</p> <p>James St is classified as Major Collector</p>
Additional Considerations (speed, AADT, bus route, etc)	<ul style="list-style-type: none"> <li>- Traffic counts (AADT) = 1,104 (Feb 2005); below acceptable threshold of 4,000vpd for a Major Collector</li> <li>- 85<sup>th</sup> %ile Speed = 54km/h; below acceptable threshold of 55km/h for a Major Collector</li> <li>- Posted Speed limit = 50 km/h</li> <li>- Bus route (W90) along Shepherds Ln and James St</li> <li>- One accident reported in past 5 year period; no casualties reported</li> <li>- Apparent error – failure to keep left (mid-block)</li> </ul>
Site Visit Notes & Other Observations	<ul style="list-style-type: none"> <li>- Some cases of 'double parking' - which blocks flow of traffic and creates sight-clearance concerns were observed during site visit; however none of them resulted in unacceptable queuing on Shepherds Lane.</li> <li>- No safety concerns were observed as the traffic movement was slow; Koala crossing on Shepherds Ln and James St were observed to reduce traffic speeds which would further</li> </ul>

	<p>improve safety.</p> <ul style="list-style-type: none"> <li>- Long term parking on James St – adjacent to school boundary was underutilised as only 2 cars were observed to have been parked for more than 15 minutes</li> </ul>				
Recommended Action	<ul style="list-style-type: none"> <li>- Convert the unrestricted parking (shown in Yellow line) on James St to a 'Kiss and Ride' to alleviate pressure on Shepherds Lane kiss and ride.</li> <li>- Motorist awareness on concerns related to double parking, kids alighting from right side of vehicle</li> </ul>				
Intended Outcome	<ul style="list-style-type: none"> <li>- Converting the unrestricted parking on James St to a 'Kiss and Ride' will allow for more short term child drop-offs, and to provide an alternate drop-off location before reaching Shepherds Lane therefore reducing the likelihood of double parking.</li> <li>- Ease parking congestion in local surrounding streets (particularly on James St and Mines Rd).</li> <li>- Improved pedestrian/school children safety.</li> </ul>				
Use of LATM Device (Austroads)	Reduce Speeds	Reduce traffic volume	Reduce crash risk	Increase pedestrian safety	Increase bicycle safety
	-	-	-	✓	-
Potential Network Implications	<p>No implications to road network are envisaged</p> <p>Additional kiss and ride location available for parents to drop-off kids would further improve safety and traffic movement through the area</p>				
Priority	Medium to high				




## Location 13: Mines Rd and Lower North East Road junction

Location	<p>Mines Road and LNE</p> 
Issues reported in Public Consultation	<ul style="list-style-type: none"> <li>- Parking near the junction on north side results in reduced travel width</li> </ul>
Define role and function of road (hierarchy)	<p>LNE is Major Arterial (maintained by DPTI)</p> <p>Mines Road is classified as a Minor Collector</p>
Additional Considerations (speed, AADT, bus route, etc)	<p>LNE is Major Arterial (maintained by DPTI)</p> <ul style="list-style-type: none"> <li>- AADT = 37,300 vpd (Jan 2014 estimates)</li> </ul> <p>Mines Road is a Minor Collector</p> <ul style="list-style-type: none"> <li>- Traffic counts (AADT) = 660 vpd (Feb 2014); below acceptable threshold of 2,000vpd for a minor collector</li> <li>- 85<sup>th</sup> %ile speed = 48.6km/h</li> </ul> <p>Two crashes have been reported at Mines Rd/LNE Junction in past 5 year period.</p> <p>Apparent errors were recorded as failure to Giveaway and overtake without care – indicating that there are no engineering issues that require attention.</p>
Site visit observations and assessment	<ul style="list-style-type: none"> <li>- No cars were seen parked on north side of Mines Rd</li> <li>- Sightline obstruction to the north (looking north on LNE) due to Stobie pole and overgrown trees was observed</li> </ul>

	<ul style="list-style-type: none"> <li>- 25-30 vehicles were observed to enter Mines Rd from LNE with majority turning Right (SB Traffic on LNE)</li> <li>- About 5-7 vehicles were observed to exit Heading Ave onto LNE and then turn Right into Mines St – possible school drop-off traffic</li> </ul>				
Recommended Action	<ul style="list-style-type: none"> <li>- Install 'no-stopping' line on Mines Road (on north side) close to LNE</li> <li>- Prune trees obstructing sight lines</li> <li>- Review DPTI plans on undergrounding of utilities</li> </ul>				
Intended Outcome	<p>Mines Rd was measured to be 6.6m (approx.) wide. Vehicles parked close to LNE (along north of Mines Rd) would reduce available travel width. This would in-turn impact on traffic movement while entering/exiting Mines Rd.</p> <p>Proposed recommendation will restrict parking close to junction and will improved safety for exiting/entering vehicles.</p>				
Use of LATM Device (Austroads)	Reduce Speeds	Reduce traffic volume	Reduce crash risk	Increase pedestrian safety	Increase bicycle safety
✓ or -	-	-	✓	-	-
Potential Network Implications	No implications on the surrounding network are envisaged.				
Priority	medium				





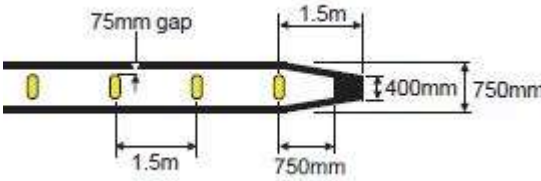
## Location 14: Mines Road/McShane Street/Shepherds Lane intersection


Location (with image)	<p>Mines Road – McShane St – Shepherds Ln</p>   <p>Bus from McShane St entering Mines Rd    Shepherds Ln – looking east on Mines Rd (on-street parking)</p>  <p>Bus entering McShane St from Mines Rd</p>
Issues reported in Public Consultation	<ul style="list-style-type: none"> <li>- T-junction very tight to negotiate particularly when Bus coming in opposite direction</li> <li>- cars parked on either side on Mines Rd (east of Shepherds Ln) reduce available travel width significantly</li> </ul>
Define role and function of road (hierarchy)	<p>Mines Road is classified as a Minor Collector</p> <p>McShane St is classified as a Major Collector</p> <p>Shepherds Ln is classified as a Major Collector</p>
Additional Considerations (speed, AADT, bus route, etc)	<p>Mines Road</p> <ul style="list-style-type: none"> <li>- AADT = 660 (Feb 2014); below acceptable threshold of 2,000vpd for a minor collector</li> <li>- 85<sup>th</sup> %ile speed = 48.6 km/h; below acceptable threshold of 50km/h for a minor collector</li> </ul>

	<p>McShane St - updated traffic counts to be obtained at some future time</p> <p>Shepherds Ln</p> <ul style="list-style-type: none"> <li>- AADT = 1,104 (Feb 2005) ; below acceptable threshold of 4,000vpd for a minor collector</li> <li>- 85<sup>th</sup> %ile speed = 54 km/h; below acceptable threshold of 55km/h for a major collector</li> </ul>
Site observations and assessment	<ul style="list-style-type: none"> <li>- Complex alignment with T-junction and a bend - less than 25m spacing</li> <li>- Buses seen encroaching opposite travel lane to negotiate back to back 90° turns</li> <li>- Traffic during morning peak coupled with school start time was observed to move at a slower speed; however congestion levels were not considered significantly high that would require detailed assessment.</li> <li>- Courtesy amongst road users (bus driver &amp; motorists) has resulted in efficient movement through the junction during peak hours; however this may not happen every time and would require future considerations for improving the junction alignment.</li> <li>- Traffic volumes and speeds do not indicate high safety concerns.</li> <li>- W90 bus service operates at 30minutes frequency; thus no more than 4 movements (2 in each direction) can be expected during peak hours.</li> <li>- A combination of low traffic volumes and limited bus movements are not expected to impact adversely on traffic movement through this junction.</li> </ul>
Recommended Action	<ul style="list-style-type: none"> <li>- Council in past has reviewed options to align McShane Street and Shepherds Lane to improve the intersection; however due to issues including geometric restrictions (limited right of way), adjoining property ownership and government opposition has stalled the progress of a comprehensive solution.</li> <li>- Council will continue to pursue possible (minimal) acquisition of land from the Department for Education and Child Development (DECD) with the view of improving the geometry/alignment of the intersection for vehicle and bus movements. This would allow for a thorough investigation and recommended intersection improvements.</li> </ul>


## Location 15: Piccadilly Crescent (length of)

Location	<p>Piccadilly Cres/Clairville St</p>  
Issues reported in Public Consultation	<ul style="list-style-type: none"> <li>- Speeding</li> <li>- Parking too close to the intersection.</li> <li>- Used as short-cut to avoid lights at Glynde Corner</li> </ul>
Define role and function of road (hierarchy)	<p>Piccadilly Crescent is classified as a <i>minor collector</i></p>
Additional Considerations (speed, AADT, bus route, etc)	<p>Traffic Counts = 1,145 vpd (Mar 2014); below acceptable threshold of &lt;2,000 vpd for <i>Minor Collector</i></p> <p>Mean Speed = 38 km/h; well below acceptable threshold of 45km/h for <i>Minor Collector</i></p> <p>85<sup>th</sup> %ile Speed = 45km/h; well above the acceptable threshold of 50km/h for <i>Minor Collector</i></p> <p>Near St Joseph's Primary, therefore morning and afternoon peak hours need consideration.</p> <p>Potential cut-through to avoid traffic light at Glynde Corner.</p>
Site Visit Notes & Other Observations	<ul style="list-style-type: none"> <li>- Vehicle observed to have been parked illegally – very close to intersection</li> </ul>



	<ul style="list-style-type: none"> <li>- parking either by local residents or employees/visitors to the near-by businesses (on LNE Rd)</li> <li>- Vehicles not staying to the left of the road (driving in middle at approach to intersections) and therefore 'cutting corners' while turning.</li> <li>- Queues resulting due to traffic signal at Glynde Corner – particularly in left most lane (towards Glynburn Rd and Montacute Rd) were seen to extend beyond 100m during morning peak hours.</li> <li>- There is no left turn lane on north approach (LNE) at Glynde Corner signal. Thus traffic from LNE to Montacute Rd were observed to use Piccadilly Cres as a cut-through to avoid Glynde Corner signal.</li> </ul>
<p>Recommended Action(s)</p>	<ul style="list-style-type: none"> <li>- Yellow pavement bars on Piccadilly approaches to Clairville for control of turning movements at intersections.</li> </ul>  <ul style="list-style-type: none"> <li>- Install 'no-stopping' line markings close to intersection to free intersection of cars illegally parked.</li> <li>- Existing yellow line marking faded and requires reapplication</li> <li>- Change priority of Piccadilly Crescent – install Giveaway line marking and signs on Piccadilly Crescent at Clairville Road intersection.</li> <li>- Changing priority will force traffic on Piccadilly Crescent to slow down at intersection with Clairville; traffic on Clairville is expected to slow down to negotiates 90° turn.</li> <li>- The proposed pavement bars, parking restrictions near intersection and changes to priority are expected to result in lower travel speeds along Piccadilly Crescent.</li> </ul> <p><b>Future Option:</b> Kerb extension may be required to slow traffic at Piccadilly between Montacute and Clairville to slow traffic, however consideration needs to be given to morning peak parking requirements of St Joseph's Primary.</p>

	 <p>An example of Kerb extension at junction – city of Prospect, SA</p>				
Intended Outcome	Improve safety of Clairville/Piccadilly intersection. Reduce through-traffic. Improve speed condition.				
Use of LATM Device (Austroads)	Reduce Speeds	Reduce traffic volume	Reduce crash risk	Increase pedestrian safety	Increase bicycle safety
	✓	✓	✓	-	-
Potential Network Implications	Potential for limited through traffic to be diverted to Munchenberg Ave to avoid Glynde signalised intersection (very limited due to distance and convoluted and indirect street network).				
Priority	Low to medium (to be reviewed after traffic counts are received)				

## Location 16: Wicks Avenue and Sycamore Terrace junction

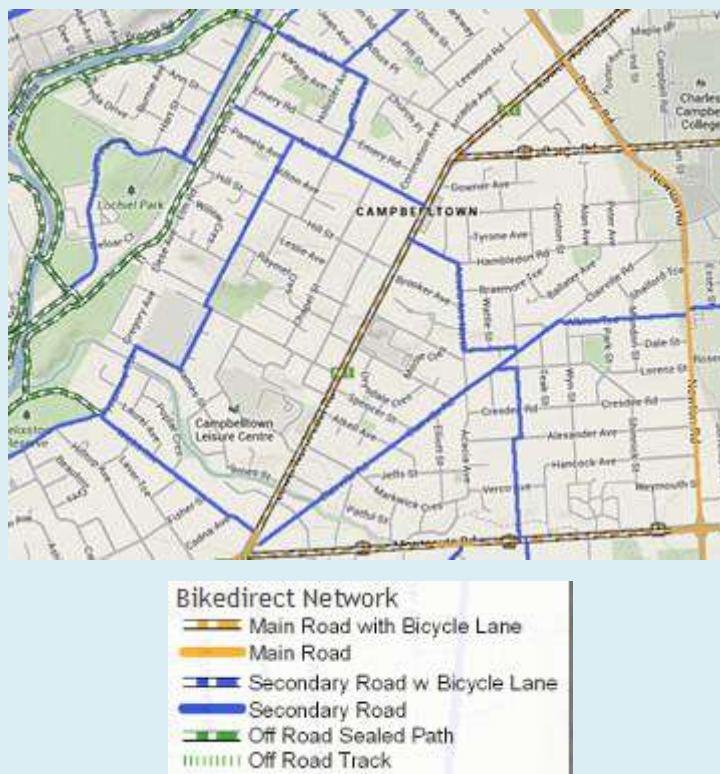
Location	
Public Consultation Issues reported	<ul style="list-style-type: none"> <li>- Speeding</li> <li>- Wicks Avenue used as short-cut/rat run</li> </ul>
Define role and function of road (hierarchy)	<p>Sycamore Tce is classified as a Major Collector</p> <p>Wicks Ave is classified as a Local Street</p>
Additional Considerations (speed, AADT, bus route, etc)	<p>Sycamore Tce</p> <ul style="list-style-type: none"> <li>- Traffic counts (AADT) = 2,425 (Aug 2006); below acceptable threshold of 4,000vpd for a major collector</li> <li>- 85<sup>th</sup> %ile speed = 44 km/h; below acceptable threshold of 55km/h for a major collector.</li> </ul> <p>Wicks Ave</p> <ul style="list-style-type: none"> <li>- No AADT or speed data available</li> </ul> <p>No crashes have been reported at this junction in past 5 year period</p>
Site Visit Notes & Other Observations	<ul style="list-style-type: none"> <li>- Non-standard cyclist crossing sign posted on north approach (Sycamore Terrace)</li> <li>- Speed advisory sign (25km/h) on Sycamore Tce posted just north of Wicks Avenue</li> <li>- Median island at the intersection of Sycamore Tce and Wicks Ave/Felixstow Reserve carpark entrance was observed to be of</li> </ul>



	<p>non-standard shape. However after discussions with Council, it is understood that the said island has been designed to facilitate right turns from/on to Sycamore Tce.</p> <ul style="list-style-type: none"> <li>- Wicks Ave approach was seen to have been repaved recently. However Giveaway line (post repaving) was not reinstalled.</li> <li>- Site observations indicated sight lines are sufficient for road users, however were not checked from the perspective of exiting vehicles from 3 Sycamore Terrace. It was also noted that the property is close to Council's boundary and if an issue is verified, treatments may require follow up with and cooperation from the Council of Norwood, Payneham and St Peters.</li> </ul>
Recommended Action	<ul style="list-style-type: none"> <li>- Reinstall Giveaway line on Wicks Avenue approach</li> <li>- Install standard cyclist crossing (sign no. W6-7) on Sycamore Tce – both north and south approaches</li> </ul>  <ul style="list-style-type: none"> <li>- Considerations should be given to installing Chevron marking on north approach (Sycamore Tce) to separate through lane and left turn.</li> <li>- Move Giveaway line forward by 1.8m (approx.) – align with edge of travel lane on Sycamore Terrace</li> </ul> 
Intended Outcome	<ul style="list-style-type: none"> <li>- Channelized turning lane on Sycamore Tce north approach will improve travel path through the intersection</li> </ul>

	<ul style="list-style-type: none"> <li>- Enhance sight lines for motorist on Wicks Ave and Sycamore Tce</li> <li>- Improved cyclist/pedestrian safety</li> </ul>				
Use of LATM Device (Austroads)	Reduce Speeds	Reduce traffic volume	Reduce crash risk	Increase pedestrian safety	Increase bicycle safety
	✓	-	✓	-	-
Potential Network Implications	No implications on surrounding street network envisaged				
Priority	medium				

## Location 17: Suburb-wide Cycling Network

Location	<p>Suburb of Campbelltown</p>  <p><b>Bikedirect Network</b></p> <ul style="list-style-type: none"> <li>Main Road with Bicycle Lane</li> <li>Main Road</li> <li>Secondary Road w Bicycle Lane</li> <li>Secondary Road</li> <li>Off Road Sealed Path</li> <li>Off Road Track</li> </ul>
Issues reported in public consultation	<ul style="list-style-type: none"> <li>- none</li> </ul>
Define role and function of road (hierarchy)	<ul style="list-style-type: none"> <li>- The identified local streets in Campbelltown (suburb) are Secondary Road bike routes (without bike lanes). These include Acacia Avenue, Albion Tce east of Clairville Road to Newton Road, Ann Street, Clairville Road, McShane Street, Sycamore Tce, Victor Road, Wicks Ave</li> <li>- Lower North East Road and Montacute Road are main roads with bicycle lanes</li> <li>- Newton Road is Main road (without bike lanes)</li> </ul>

Additional Considerations (speed, AADT, bus route, etc)	<p>Recommendations for bicycle infrastructure and treatments have not been included for specific locations in this report as a City-wide cycling plan is planned to be drafted in the near future.</p> <p>Many roads do not have sufficient width to consider treatments other than installing logos without impacting parking. Most are low traffic volume routes.</p>				
Site Visit Notes & Other Observations	<ul style="list-style-type: none"> <li>- Logos not implemented (or reinstated after maintenance/resealing) on identified bicycle routes</li> </ul>				
Recommended Action	<p>Review the routes and recommended treatments (predominantly installation of bicycle logos) of the Campbelltown City Council Strategic Bicycle Plan (2007) and the recommended BikeDirect routes with the view of developing a detailed and implemented council-wide cycling plan.</p>				
Intended Outcome	<p>Development of council-wide cycling plan.</p>				
Use of LATM Device (Austroads)	Reduce Speeds	Reduce traffic volume	Reduce crash risk	Increase pedestrian safety	Increase bicycle safety
					✓
Potential Network Implications	<p>Potential network improvements for cyclists – no impact on vehicle network envisioned</p>				
Priority	<p>Priority is dependent on review of 2007 Campbelltown Cycling Plan, with the view of drafting new council-wide cycling plan.</p>				





## 8. Appendices

### Definitions and Abbreviations

TCD = Traffic Calming Device

LATMP = Local Area Traffic Management Plan

VPD = Vehicles per Day

Council = Campbelltown City Council

DPTI = Department of Planning, Transport and Infrastructure

PTSD = Public Transport Services Division (of DPTI)

LNE = Lower North East Road

ITLUP = Integrated Transport and Land Use Plan (of DPTI)



## Summary of Recommendations (by prioritisation)

No	Location	Priority	Recommendations	
			Option 1	Option 2
1	Clairville Road (length of )	High	Centreline and edge of travel lane marking	Monitor speed post installing traffic calming measures, install Landscaped Kerb extensions to create squeeze points if excessive speeds are measured
2	Clairville Road and Albion Terrace junction	High	Install solid Centre line and Stop bar on Albion terrace; align Albion Terrace approach to intersect Clairville Rd between 70 to 90°	
3	Brooker Avenue (bend in alignment near Lower North East Road)	High	Install Pavement bars along centreline at the bend	
4	Victor Road (length of)	High - Medium	Flush Median pavement marking	
5	East Marden Primary 'Kiss and Ride'	Medium - High	Convert unrestricted parking along James St (along school boundary) to a 'Kiss and Ride'	
6	Hill Street (length of and intersection with LNE Rd)	Medium	Parking control - Staggered parking to reduce traffic speeds  Investigate potential for dedicated right-turn and left-turn lanes onto LNE Rd (predicated on undergrounding of powerlines).	
7	Ann Street (length of)	Medium	Parking control - Staggered parking to reduce traffic speeds	
8	Coronation Avenue (length of)	Medium	Two Single-lane Slow points	One Single-lane Slow point + changes to priority at Emery Road junction

No	Location	Priority	Recommendations	
			Option 1	Option 2
9	Mines Road and Lower North East Road junction	Medium	Install 'No Stopping' lines along north side of Mines Road near junction with Lower North East Road	
10	Botanic Grove (near bend in alignment)	Medium - Low	Install Pavement bars along centreline at the bend	
11	Brooker Avenue and Acacia Avenue junction	Medium	Install solid centre line marking and Giveway sign marking on Brooker Avenue	
12	Alexander Avenue	Medium	Four Single-lane Slow points	Two Single-lane slow points + changes to priority at intersections @ Shinnick St & Wyn St
13	Hancock Avenue (length of)	Medium	1. No stopping line along bend; parking control along length 2. Four Single-lane Slow points	1. No stopping line along bend; parking control along length 2. Two Single-lane Slow points + changes to priority at intersections @ Shinnick St & Wyn St
14	Piccadilly Crescent (length of)	Low - Medium	Install Pavement bars along centreline on Piccadilly Cres; Install Giveway signs on Piccadilly Cres - give priority to traffic on Clairville Road	
15	Wicks Avenue and Sycamore Terrace junction	Low - Medium	Install Giveway pavement marking on Wicks Avenue; install Chevron marking on Sycamore Tce (north approach) to segregate through and left turning traffic	Review sight lines relevant to driveway at 3 Sycamore Terrace Campbelltown.

No	Location	Priority	Recommendations	
			Option 1	Option 2
16	Munchenberg Avenue and Marwick Crescent junction	Low - Medium	Conduct further investigation at the Munchenberg Ave and Marwick Cres intersection and implement appropriate treatments to safely guide traffic turning into Munchenberg Ave.	
17	Dale Street	Low - Medium	Review speed and traffic volumes on Dale Street and if speed deemed inappropriate, consider installation of kerb extension or single lane slow point.	Review parking on Dale Street, and if required recommend extension of yellow line marking at Newton Rd/Dale St intersection (to improve sight-lines, improving safety for school children/pedestrians).
18	Suburb-wide Cycling Network	variable	to be reviewed in line with 2007 Campbelltown Cycling Plan	
19	Mines Road/McShane Street/Shepherds Lane junction	-	Options to be explored for realigning McShane St & Shepherds Lane.  Council will continue to pursue possible (minimal) acquisition of land from the Department for Education and Child Development (DECD).	

## DPTI Traffic Volumes and turning movements

Traffic volumes for arterial roads and intersections under the control of the State Government (DPTI) have also been provided.

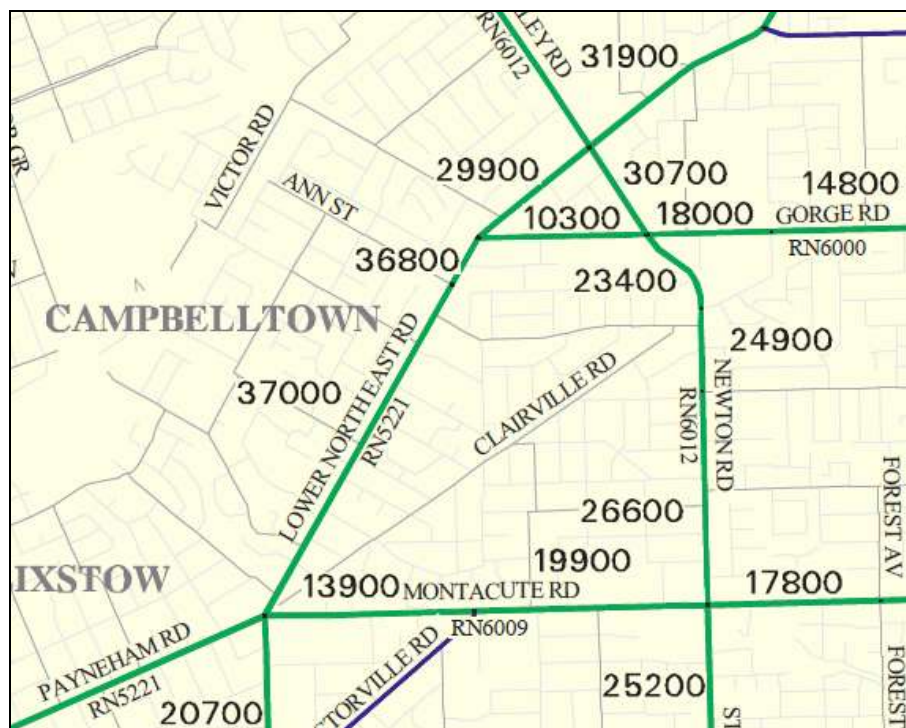


Figure 11 Average Annual Daily Traffic volumes on DPTI roads in the suburb of Campbelltown.

Turning movements for the following key intersections that have been used to provide context and information for this report:

- Lower North East Rd/Glynburn/Montacute/Payneham
- Hectorville Rd/Montacute Rd
- Newton Rd/Montacute Rd/St Bernards Rd
- Albion Tce/Newton Rd/Graves St
- Clairville Rd/Newton Rd/Hambledon Rd
- Newton/Darley Rd
- Gorge Rd/Lower North East Road
- Anne St/Lower North East Road

These turning movements have been reviewed, and seemingly follow the normal patterns/movements expected from the origin/destination assumptions and normal peak hours flows (abnormalities may have an impact on the local street network).

## LATM measures and relative effectiveness

The following table has been sourced from the Austroads Guide to traffic Management Part 8: Local Area Traffic Management and has been used to inform the recommendations of this report.

Table 7.1: Description and use of LATM devices

MEASURE		Reduce speeds	Reduce traffic volume	Reduce crash risk	Increase pedestrian safety	Increase bicycle safety
Vertical deflection devices (Section 7.2)	Road humps	✓	✓	✓	-	-
	Road cushions	✓	✓	✓	-	✓
	Flat top road humps	✓	✓	✓	-	✓
	Wombat crossings	✓	✓	✓	✓	✓
	Raised pavements	✓	✓	✓	-	✓
Horizontal deflection devices (Section 7.3)	Lane narrowings/kerb extensions	✓	-	-	✓	-
	Slow points	✓	✓	-	-	-
	Centre blister islands	✓	✓	-	✓	-
	Driveway links	✓	✓	-	✓	✓
	Mid-block median treatments	✓	-	✓	✓	✓
	Roundabouts	✓	✓	✓	-	-
Diversion devices (Section 7.4)	Full road closure	-	✓	✓	✓	✓
	Half road closure	-	✓	✓	✓	✓
	Diagonal road closure	-	✓	✓	✓	✓
	Modified 'T' intersection	✓	✓	✓	✓	✓
	Left-in/left-out islands	-	✓	✓	✓	-
Signs, linemarking and other treatments (Section 7.5)	Speed limit signs	✓	-	✓	✓	✓
	Prohibited traffic movement signs	-	✓	✓	-	✓
	One-way (street) signs	-	✓	✓	✓	-
	Give Way signs	✓	✓	✓	✓	✓
	Stop signs	✓	✓	✓	✓	✓
	Marked pedestrian crossings	-	-	✓	✓	✓
	Shared zones	✓	✓	-	✓	✓
	School zones	✓	-	✓	✓	✓
	Threshold treatments	✓	✓	✓	-	✓
	Tactile surface treatments	✓	-	-	-	-
	Bicycle facilities	-	-	✓	-	✓
	Bus facilities	-	✓	-	-	-
Combination devices (Section 7.6)	Integrated road treatments	✓	✓	✓	✓	✓

## Through Traffic: Supply and Demand

The transport needs of Campbelltown can be understood in terms of supply and demand (most policies, whether they be aimed at influencing travel modes, travel behaviour or car parking requirements are understood in supply or demand)

	Through-Travel	To/From Corridor Travel (travel originates or is destined for the precinct)
Demand	<ul style="list-style-type: none"> <li>• Demand for through-travel is generated from factors outside of a precinct. Demand is often generated by taking the path of 'least-resistance' – in the local transport network this is usually linked to congestion on arterial roads.</li> <li>• Traffic volumes can be influenced through supply-based solutions; however, the demand would remain, but shifted to other areas on the network.</li> </ul>	<ul style="list-style-type: none"> <li>• Demand increases in a precinct with increases/changes to land use.</li> <li>• If demand is not managed there can be negative implications on the function of the corridor and its associated land uses.</li> <li>• Demand can be managed in a number of ways, such as encouraging alternative transport (i.e. mode shifts) and parking policy (such as increasing/decreasing parking requirements)</li> </ul>
Supply	<ul style="list-style-type: none"> <li>• The capacity of the corridor (such as number of trafficable lanes) directly influences supply. Lane capacity is not only influenced by physical width, but can also be influenced by parking policy such as clearways.</li> <li>• Lane capacity does not only relate to private vehicle traffic and should be considered in multi-modal terms to include cycle lanes, pedestrians, and bus and public transport frequency.</li> </ul>	<ul style="list-style-type: none"> <li>• Supply can be associated with how people move around when they are in a corridor/precinct</li> <li>• Alternative modes of transport, such as walking/cycling should be significant considerations</li> <li>• The capacity and need for appropriate policy and infrastructure provisions has implications of supply.</li> </ul>



## Casualty Crash History (2008-2012)

Year	KeyRd	Rd2	Crash Type	App Error	Traffic Ctrl	Location Desc
2011	ALEXANDER	WYN	Hit Fixed Object	Inattention	No Control	
2009	ANN	MCSHANE	Hit Parked Vehicle	Inattention	No Control	O/S NO. 41
2008	BRENDAN	ATKELL	Hit Fixed Object	Died Sick or Asleep At Wheel	No Control	OPPOSITE BRENDAN CRT
2009	CLAIRVILLE	ACACIA	Right Angle	Fail to Give Way	Roundabout	
2011	HAMBLEDON	LOWER NORTH EAST	Right Angle	Fail to Give Way	No Control	CAMPBELLTOWN SHOPPING CENTRE
2011	HEADING	MOORE	Right Angle	Fail to Give Way	No Control	NORTH EASTERN COMMUNITY HOSPITAL
2010	HILL	ROWNEY	Hit Parked Vehicle	Inattention	No Control	30 METRES EAST OF CHAPEL ST
2010	KAPOOLA	ANN	Right Angle	Fail to Give Way Right	No Control	
2008	LOWER NORTH EAST	HILL	Head On	Fail to Keep Left	Give Way Sign	
2008	LOWER NORTH EAST	ANN	Rear End	Inattention	Traffic Signals	
2008	LOWER NORTH EAST	Uncoded Road in LGA 313	Rear End	Inattention	No Control	UNK LOC - LOWER NORTH EAST RD
2008	LOWER NORTH EAST	MINES	Side Swipe	Overtake Without Due Care	No Control	
2008	LOWER NORTH EAST	ATKELL	Rear End	Inattention	No Control	
2008	LOWER NORTH EAST	PICCADILLY	Rear End		No Control	20 M SOUTH OF PICCADILLY CR
2008	LOWER NORTH EAST	ANN	Right Angle	Disobey - Traffic Lights	Traffic Signals	
2008	LOWER NORTH EAST	HILL	Right Angle	Fail to Give Way	No Control	OUTSIDE OF 605A
2008	LOWER NORTH EAST	Uncoded Road in LGA 313	Rear End	Follow Too Closely	No Control	U/K LOC NR. ATKELL AV
2008	LOWER NORTH EAST	GARDEN	Hit Fixed Object	Inattention	No Control	ABOUT 5 M SOUTH WEST OF GARDEN AVENUE
2008	LOWER NORTH EAST	ANN	Side Swipe	Change Lanes to Endanger	Traffic Signals	ABOUT 20 M SOUTH-WEST OF ANN STREET
2009	LOWER NORTH EAST	ANN	Right Angle	Disobey - Traffic Lights	Traffic Signals	INTERSECTION OF
2009	LOWER NORTH EAST	TRAFFORD	Side Swipe	Overtake Without Due Care	No Control	ABOUT 40 M NORTH EAST OF TRAFFORD ROAD

2009	LOWER NORTH EAST	HILL	Right Angle	Disobey - Give Way Sign	Give Way Sign	
2009	LOWER NORTH EAST	DOWNER	Hit Pedestrian	Fail to Give Way	No Control	
2009	LOWER NORTH EAST	HEADING	Right Angle	Fail to Give Way	No Control	
2009	LOWER NORTH EAST	LENNOX	Hit Pedestrian	Inattention	No Control	FRONT OF PHONETECH BUSINESS PREMS
2009	LOWER NORTH EAST	LENNOX	Right Angle	Fail to Give Way	No Control	
2009	LOWER NORTH EAST	Uncoded Road in LGA 313	Rear End	Inattention	No Control	U/K LOC LWR NE RD
2009	LOWER NORTH EAST	ANN	Right Angle	Disobey - Traffic Lights	Traffic Signals	CAMPBELLTOWN SHOPPING CENTRE CARPARK
2010	LOWER NORTH EAST	HEADING	Side Swipe	Fail to Give Way	No Control	
2010	LOWER NORTH EAST	LENNOX	Rear End	Inattention	No Control	NORTH EASTERN NURSING HOME
2010	LOWER NORTH EAST	PICCADILLY	Hit Pedestrian	Inattention	No Control	10 M S/W OF JAMES ST
2010	LOWER NORTH EAST	HAMBLEDON	Right Angle	Fail to Give Way	No Control	
2010	LOWER NORTH EAST	ANN	Right Turn	Fail to Stand	Traffic Signals	
2010	LOWER NORTH EAST	SEYMOUR	Rear End	Inattention	No Control	O/S NO. 519
2010	LOWER NORTH EAST	LENNOX	Rear End	Inattention	No Control	NORTH EASTERN COMM HOSPITAL
2010	LOWER NORTH EAST	ANN	Right Angle	Disobey - Traffic Lights	Traffic Signals	
2010	LOWER NORTH EAST	HEADING	Rear End	Change Lanes to Endanger	No Control	
2010	LOWER NORTH EAST	TRAFFORD	Side Swipe	Fail to Give Way	No Control	
2010	LOWER NORTH EAST	Uncoded Road in LGA 313	Hit Fixed Object	Inattention	No Control	U/K LOC. LOWER NORTH EAST RD
2010	LOWER NORTH EAST	GORGE	Rear End	Inattention	No Control	
2010	LOWER NORTH EAST	JAMES	Rear End	Follow Too Closely	No Control	
2011	LOWER NORTH EAST	SEYMOUR	Head On	Fail to Keep Left	No Control	SEYMOUR GROVE

2011	LOWER NORTH EAST	TRAFFORD	Rear End	Inattention	No Control	NTH TRAFFORD RD AT FRONT OF CALTEX SERVO
2011	LOWER NORTH EAST	Uncoded Road in LGA 313	Rear End	Inattention	No Control	U/K LOC. LOWER NTH EAST RD, CAMPBELLTOWN
2011	LOWER NORTH EAST	Uncoded Road in LGA 313	Rear End	Follow Too Closely	No Control	U/K LOC
2011	LOWER NORTH EAST	Uncoded Road in LGA 313	Hit Pedestrian	Reverse Without Due Care	No Control	UNK LOC - LOWER NORTH EAST RD
2011	LOWER NORTH EAST	JAMES	Rear End	Follow Too Closely	No Control	
2011	LOWER NORTH EAST	Uncoded Road in LGA 313	Rear End	Inattention	No Control	UNK LOC - LOWER NORTH EAST RD
2011	LOWER NORTH EAST	LENNOX	Rear End	Follow Too Closely	No Control	APPROX 30 METRES NE FROM HEADING AVE
2011	LOWER NORTH EAST	HAMBLEDON	Right Angle	Fail to Give Way	No Control	
2011	LOWER NORTH EAST	JAMES	Right Turn	Fail to Stand	No Control	
2011	LOWER NORTH EAST	MINES	Right Angle	Fail to Give Way	No Control	
2012	LOWER NORTH EAST	ANN	Right Angle	Incorrect Turn	Traffic Signals	CAMPBELLTOWN SHOPPING CENTRE
2012	LOWER NORTH EAST	HILL	Right Angle	Fail to Give Way	No Control	
2012	LOWER NORTH EAST	HEADING	Right Turn	Fail to Stand	No Control	
2012	LOWER NORTH EAST	Uncoded Road in LGA 313	Rear End	Inattention	No Control	UNK LOC - LOWER NTH EAST RD
2012	LOWER NORTH EAST	HILL	Side Swipe	Fail to Give Way	No Control	
2012	LOWER NORTH EAST	LENNOX	Rear End	Inattention	Traffic Signals	O/S HOSPITAL
2012	LOWER NORTH EAST	ANN	Right Angle	Disobey - Traffic Lights	Traffic Signals	IGA CARPARK ENTRANCE/EXIT
2012	LOWER NORTH EAST	PICCADILLY	Rear End	D.U.I.	No Control	OUTSIDE 514 LOWER NORTH EAST RD
2012	LOWER NORTH EAST	ANN	Hit Fixed Object	Inattention	Traffic Signals	
2012	LOWER NORTH EAST	TRAFFORD	Rear End	Inattention	No Control	OUTSIDE CALTEX SERVICE STATION
2012	LOWER NORTH EAST	SPENCER	Rear End	Inattention	No Control	O/S 551

2012	LOWER NORTH EAST	BOTANIC	Rear End	Overtake Without Due Care	No Control	
2008	MCSHANE	HILL	Right Angle	Disobey - Stop Sign	Stop Sign	
2009	MINES	BOTANIC	Right Angle	Incorrect Turn	No Control	
2009	MONTACUTE	NEW CUT	Rear End	Follow Too Closely	No Control	OUTSIDE NUMBER 46
2009	MONTACUTE	MOORLANDS	Roll Over	Excessive Speed	No Control	OPPOSITE 118
2009	MONTACUTE	ST BERNARD'S	Hit Parked Vehicle	Inattention	No Control	OUTSIDE NO 144
2010	MONTACUTE	PICCADILLY	Hit Pedestrian	Disobey - Traffic Lights	Traffic Signals	100 METRES EAST OF LOWER NORTH EAST
2010	MONTACUTE	PICCADILLY	Side Swipe	Fail to Give Way	No Control	200 MTS EAST OF GLYNDE CORNER
2012	MONTACUTE	MEADOW	Right Angle	Fail to Give Way	No Control	
2012	MONTACUTE	MUNCHENBERG	Right Angle	Fail to Give Way	No Control	
2012	MONTACUTE	GLYNBURN	Side Swipe	Fail to Give Way	No Control	OUTSIDE BUS STOP 18
2008	NEWTON	Uncoded Road in LGA 313	Head On	Fail to Keep Left	No Control	U/K LOC NR. ALBION ST
2008	NEWTON	WEYMOUTH	Side Swipe	Overtake Without Due Care	No Control	
2008	NEWTON	CRESDEE	Rear End	Inattention	No Control	
2008	NEWTON	ALEXANDER	Rear End	Inattention	No Control	
2010	NEWTON	HAMBLEDON	Right Angle	Fail to Give Way	No Control	
2010	NEWTON	LORENZ	Rear End	Inattention	No Control	
2011	NEWTON	WEYMOUTH	Rear End	Inattention	No Control	OUTSIDE # 10
2012	NEWTON	HANCOCK	Rear End	Follow Too Closely	No Control	HANCOCK AVENUE
2012	NEWTON	HANCOCK	Hit Fixed Object	Died Sick or Asleep At Wheel	No Control	
2012	NEWTON	HAMBLEDON	Right Turn	Fail to Stand	No Control	
2010	PETER	HAMBLEDON	Right Angle	Fail to Give Way	No Control	
2009	PICCADILLY	CLAIRVILLE	Right Angle	Disobey - Stop Sign	Stop Sign	
2011	RESERVE	PARK	Right Angle	Disobey - Give Way Sign	Give Way Sign	
2008	ROMA	HAMBLEDON	Right Turn	Fail to Stand	No Control	
2011	ROMA	HAMBLEDON	Hit Pedestrian	Fail to Give Way	No Control	
2009	ROWNEY	HILL	Hit Fixed Object	Inattention	No Control	OPPOSITE NUMBER 9
2009	SHEPHERDS	MINES	Head On	Fail to Keep Left	No Control	
2008	SHINNICK	HANCOCK	Right Angle	Disobey - Give Way Sign	Give Way Sign	

2008	SPENCER	CLAIRVILLE	Right Angle	Fail to Give Way	No Control	
2009	SYCAMORE	JAMES	Side Swipe	Overtake Without Due Care	No Control	
2009	TRAFFORD	LOWER NORTH EAST	Right Angle	Reverse Without Due Care	No Control	DIRECTLY OUTSIDE NO. 11 TRAFFORD ROAD
2009	Uncoded Road in LGA 313	CLAIRVILLE	Rear End	Inattention	Give Way Sign	UNK INT - CLAIRVILLE RD
2009	WEMYSS	BALLATER	Hit Fixed Object	Inattention	No Control	

## Community Consultation Summary: Reported and Site Visit Observation

No.	Location	Reported Issues in Community Feedback	No of feedback	Road Classification	Site Visit Observations	Recommended Action
1	Albion Tce	request for no speed humps	1	Local Street		Council has indicated non-preference towards installation of vertical deflection devices (humps). Thus no speed humps have been proposed in the LATMP
2	Amadio Cres	difficult turning right onto LNE	1	Local Street		Road-locked street;
3	Hills St	delays turning into LNE	1	Major Collector		Problem persistent throughout Metropolitan Adelaide. DPTI has indicated potential improvements to LNE (in the ITLUP) however specifics were unknown at the time of writing this LATMP
4	Ballater	Speed of cars dangerous; blind corner and people drive very fast around it	1	Local Street	Low traffic movement was observed during site visit. Negligible on-street parking was observed No vehicles were observed to have been parked in such a way that would obstruct sightlines	No engineering issues relating to alignment were identified. Residential neighbourhood, local street hence lower speed limits are expected.
5	Church Rd	Excessive travel speeds; >100km/h	1	Major Collector		Increased traffic could be from Paradise Interchange. Higher traffic speeds (85 <sup>th</sup> %ile speed = 58.7km/h; Mar 2014) recorded in most recent count. Recommended action from Paradise LATMP includes installing parking bays and painted median to reduce travel speed by horizontal deflection.
6	Church and LNE	surface creates skidding	1	Major Collector		No such issues identified during site visit



No.	Location	Reported Issues in Community Feedback	No of feedback	Road Classification	Site Visit Observations	Recommended Action
7	Cypress Street	parking, driveway access blocked	1	Local Street		additional Kiss and Ride parking has been recommended; this should help alleviate any parking issues on surrounding street network due to school drop-off
8	Downer Avenue	width @ Gorge St, possible cut thru to avoid lights Gorge ST/LNE	1	Local Street	Road width measured to be 5.4m possible use as cut-through to avoid traffic lights at Gorge Rd/LNE	Physical constraints - Stobie pole located on east corner restricts widening of the approach; needs to be reviewed with departments plans for undergrounding the utilities
9	Drysdale Cres	parking near junction blocks sightlines, parking on either sides	1	Local Street	Parking on either side was observed during site visit along Drysdale Crescent close to Heading Avenue Junction (opposite to the hospital);	Staggered parking be implemented to provide intermittent passing areas
10	Emery Road	on-street Parking from tennis club - blocking driveway access	2	Local Street	No on-street parking was observed near the tennis club during site visit: as reported parking is problem on Fridays/weekends when number of visitors to the facility increase.	seasonal event; Council has already revised lease terms with the leasee (Campbelltown Tennis and Netball Club)
11	Garden Ave	REMOVE Yellow lines - visitors cannot park	1	Local Street		visitors should be allowed to park in the driveways
12	Hambledon Rd	speeding, kids playing, lighting	4	Major Collector	Unity park	measured speed (55km/h) is within the acceptable threshold of 55km/h for a Major Collector
13	Hambledon Rd	RT from Hambledon to Newton - difficult during peak hours	1	Major Collector		some delays are expected when crossing a Major Arterial
14	Hill St and Chapel St	speeding, failure to give way	1	Major Collector	Hill St is a Major Collector hence traffic on Chapel St shall give way to traffic on Hill St	Awareness about Australian Road Rules
15	Hill St at LNE	Sight line blocked by stobie pole, RT difficult	2	Major Collector		Dependent on department's plan on undergrounding utilities along LNE

No.	Location	Reported Issues in Community Feedback	No of feedback	Road Classification	Site Visit Observations	Recommended Action
16	Hill St and Victor Rd	failure to Give way	1	Major Collector		Hill St east of Victor Road is a Major Collector thus traffic on Hill St (west of Victor Road shall give way to traffic on Hill St/Victor Rd
17	James St - Sycamore Tce to Shepherds Ln	increased traffic	1	Minor Collector		James St is classified as a Major Collector between Shepherds Ln and Sycamore Tce. Traffic Volumes on Sycamore Tce (1,100vpd) are well below acceptable threshold of 4,000vpd for a Major Collector
18	James St	on-street Parking on either side - north of Hawthorn Cres	1	Minor Collector		parking observed around school start time; negligible parking observed after 10am
19	James St and Hawthorn Cres	on-street parking on either side at the bend in road, speeding	1	Minor Collector		No-stopping (Yellow lines) near junction: awareness regarding Australian Road Rules
20	James St and LNE	U turns on southbound LNE - blocking exiting vehicles from James St	1	Minor Collector		Occasional U-turns; problem persistent throughout Metropolitan Adelaide. DPTI has indicated potential improvements to LNE however specifics were unknown at the time of writing this LATMP
21	James St and Sycamore Tce	failure to Give way	1	Minor Collector		James St between Shepherds Ln and Sycamore Tce is classified as a Major Collector; thus Giveaway line and Sign should be installed on James St west of Sycamore Tce
22	Karratta Ave and Hollister St	on-street parking on either side - on netball game days (Fri/Sat)	2	Local Street	inputs from council on parking plan for tennis court	seasonal event; Council has already revised lease terms with the leasee (Campbelltown Tennis and Netball Club)
23	Campbelltown Shopping Centre	safety and traffic flow within the carpark	1			Please refer to Campbelltown Shopping Centre Redevelopment plan; proposed revised car park layout would improve car movements within the car park
24	Lochiel Park	pedestrian safety, speeding	2		need speed and volume data	

No.	Location	Reported Issues in Community Feedback	No of feedback	Road Classification	Site Visit Observations	Recommended Action
25	Markwick Cres and Munchenberg Ave	short cut, corner cutting, Munchenberg Ave slopes away from Markwick - negotiating turn dangerous	2	Local Street	T-junction situated on a sloping road; trees along Markwick Cres needs pruning to improve sightlines	Speeds are expected to be lower when negotiating a T-junction;
26	Meadow Ave	short cut, speeding,	1	Minor Collector	Potential afternoon peak hour rat-run.	Classified as Minor Collector; recorded speed (53km/h) is below acceptable threshold of 55km/h
27	Mines Rd - slow point	dangerous to enter, close to junction with Chapel Street	3	Minor Collector	No such difficulties were observed during site visit.	the slow point is designed according to applicable standards and is spaced 25m west of Chapel St junction; sufficient road length is available for a vehicle to turn right from Chapel St on to Mines Road and then enter Slow point
28	Mines Rd at LNE	difficult turning right onto LNE	1	Minor Collector	car were observed to wait less than one minute while waiting to turn right from Mines Road to LNE	Sightlines obstructed by Stobie Pole on north side; needs to be reviewed with department's plan for undergrounding the utilities
29	Shinnick St	speeding, increased traffic due to new housing, parking at bend w/ Weymouth St	2	Local Street	potential cut-through route to avoid traffic signals at Montacute Rd/Newton Rd	Proposed slow points on Alexander Avenue and Hancock Avenue are expected to divert traffic using these roads as cut-through routes; reduction in traffic volumes is expected to improve situation along Shinnick Street.
30	Spencer St	speeding, short cut	1	Local Street	Extremely low traffic was observed to use spencer street during morning peak hours.	observed speed of 52km/h is marginally above acceptable threshold of 50km/h for a minor collector; traffic volumes of 186vpd are way below acceptable threshold of 2000vpd for a minor collector monitoring of speed is recommended in future
31	Tyron Ave	on-street parking on both sides - for longer duration	1	Local Street	some on-street parking on both sides of the road was observed during site visit	Staggered parking be implemented to provide intermittent passing areas

No.	Location	Reported Issues in Community Feedback	No of feedback	Road Classification	Site Visit Observations	Recommended Action
32	Vincent Ct	sight line issues, cars parked on Sycamore block vision	1	Local Street	sight line obstructions due to bend in road alignment of Sycamore Tce, a stobie pole and a small tree (located north of Vincent Ct)	landscape maintenance required to improve sightlines;