

City of Charles Sturt

Bowden, Brompton, Ridleyton & Ovingham Local Area Traffic Management Plan

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Table of Contents

City of Charles Sturt Bowden, Brompton, Ridleyton & Ovingham Local Area Traffic Management

Executive Summary

1.	Introduction	1
2.	Method	2
2.1	Background Documents	2
2.2	Site Investigations	6
2.2.1	Trip Generators	7
2.2.2	Existing Traffic Controls	8
2.3	Traffic Data	12
2.4	Collision Data	12
2.5	Consultation	12
2.6	Design Standards	13
3.	Findings	14
3.1	Traffic Data	14
3.2	Collision Data	15
3.3	Road Hierarchy	17
3.4	Land Use Considerations	19
3.5	Vulnerable Road Users	19
3.6	Consultation	22
3.7	Summary of Key Issues	23
4.	Discussion and Recommendations	25
4.1	Wood Avenue Precinct	26
4.2	Southern Industrial-Precinct	27
4.3	Residential Precinct 1	29
4.4	Residential Precinct 2	31
4.5	Mixed Use Precinct	32
4.6	Hawker Street	34
4.7	Chief Street	35
4.8	Clipsal Site Precinct	36
5.	Summary of Recommendations	38

Figures

Figure 3.1 Road Hierarchy	18
Figure 3.2 Precinct Locations	21
Figure 4.1 Precinct Locations	25

Appendices

Appendix A	LATM Study Area
Appendix B	Traffic Data – Speed and Volume
Appendix C	Collision Data
Appendix D	Consultation Summary
Appendix D2	Draft Report Consultation Summary
Appendix E	Traffic Management Plan
Appendix F	Conceptual Plans – Traffic Management Measures

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Executive Summary

The City of Charles Sturt has engaged Tonkin Consulting to prepare a Local Area Traffic Management (LATM) Plan for the broader area of Bowden and Brompton. This plan is required by the City of Charles Sturt to consider local traffic issues raised by residents and Council, and to develop a conceptual plan that addresses the concerns and issues identified during the study process.

The area bordered by Port Road, South Road, Torrens Road and Park Terrace was considered for this LATM study. These boundary roads were not included within the study as they fall under the care and control of the State Government Department for Transport, Energy and Infrastructure. The form and scale of redevelopment for the area covered by the current Clipsal site, in the southern corner of the study area, is currently unknown. This site was sold during the development of this draft plan, and has been 'earmarked' by the State Government for development as a Transit Orientated Development (TOD).

A LATM study is a formal way of investigating traffic, pedestrian and cyclist related issues within the local streets of the study area. A number of stages have been followed in order to qualify and quantify factors affecting the road network within the study area. These stages include; the review of related background documents, site reviews, assessment of available traffic and collision data, and community consultation.

The findings of this LATM study are as follows:

Traffic Data

The majority of roads within the study area have daily traffic volumes of less than 1,500 vpd. The exceptions to this are Hawker Street, Chief Street, Coglin Street and Wood Avenue.

Coglin Street has traffic volumes ranging from 1,700 vpd at the southern end to 1,800 vpd at the northern extent. These volumes are above the normal limit of 1,500 vpd for local streets.

Wood Avenue has a volume of around 1,800 vpd which is well within the acceptable limits for a collector street.

Chief Street has volumes ranging from 4,000 to 5,000 vpd and Hawker Street has volumes in the order of 5,000 vpd. These volumes are within the acceptable limits for the current hierarchical classifications (distributor road) of these roads.

The recorded mean speeds ranged from 25 to 45 km/h with the majority of sites tested having a mean speed of below 40 km/h. This shows generally good compliance with the 40 km/h speed limit that applies to all of the streets within the study area.

Collision Data

The recorded crashes not including those on the boundary arterial roads totalled 125 collisions. While there were no recorded fatalities, around 30% of collisions resulted in personal injury and the remaining 70% resulted in property damage only.

The most common types of collision were right angle (50.4%), hitting a fixed object (18.4%), hitting a parked vehicle (14.4%) and side swipe (5.6%). The number and type of crashes experienced within this study area is similar to that of other metropolitan areas of similar size and density.

Within the study area there were 8 locations where 3 or more collisions were reported within the 5 year period. Of these 8 locations, 3 experienced 3 or more collisions resulting in an injury.

Location	Rear End	Right Angle	Side Swipe	Hit Pedestrian	Hit Fixed Object
Hawker Street/Chief Street	1 injury	5 PDO	1 injury	1 injury	1 PDO
Hawker Street/Blight Street		2 injury 4 PDO			
Hawker Street/Coglin Street		4 injury			1 PDO
First Street/Coglin Street		3 injury 2 PDO			
West Street/Third Street		5 PDO			
Second Street/Gibson Street		4 PDO			
Hawker Street/West Street		3 PDO			
Hawker Street/East Street		1 injury			1 injury, 1 PDO

PDO is Property Damage Only

Road Hierarchy

The road hierarchy classifications as defined in Council's Traffic Management Strategy are as follows:

Distributor (Road)

A road that provides for the distribution of traffic from, within and through a local area.

This type of road would comprise a single lane in each direction with no median (depending on abutting activity) with the travelling lanes free of

parking. Traffic volumes would generally be less than 6,000 to 8,000 vehicles per day.

Collector (Street)

A road that provides connection to distributor and arterial roads from local streets within and through a local area.

This type of road is generally wide enough to provide two directions of travel with parking on one side of the road only. Traffic volumes would be generally less than 3,000 vehicles per day.

Local (Street)

Roads that primarily provide access to abutting properties.

These roads are likely to be wide enough to allow parking on one or both sides and for a single vehicle to pass through. Traffic volumes would be generally less than 1,500 vehicles per day.

Within the LATM study area Hawker Street and Chief Street are classified as distributor roads. Blight Street (from Torrens Road to Hawker Street) and Wood Avenue are classified as collector streets. All other streets are currently classified as local.

The current hierarchical classifications are adequate for the existing road network in terms of volume with only Coglin Street above the desirable volume for its classification. There are however a lack of appropriate streets to perform the collector street function within the local network. It is proposed that additional collector streets be included within the road hierarchy as follows:

- *Sixth Street*
- *Second Street (Drayton Street to Chief Street)*

First Street (Coglin Street to Wood Avenue) and Coglin Street (First Street to Port Road) each play an important access role within the local network. Whilst these streets should not be upgraded to collector streets, the connection between Wood Avenue and Port Road should be preserved.

Land Use Considerations

Whilst this LATM plan addresses the current state of traffic movement within the study area, it is recognised that there are a number of sites within the area which may change land use. Notwithstanding, it is important to provide some guidance on the current issues and the possible impacts of changes to land uses within the study area.

Currently the study area consists of a mix of land uses from industrial and mixed use zones to residential and historic residential zones. These varied land uses create a complicated environment for traffic management through the desire for varied (and often opposing) outcomes from the road environment.

The traffic mix creates one such issue where industrial uses require access for large vehicles and residential land uses would prefer to have traffic controls or restrictions to reduce speeds and through traffic.

Traffic volumes are another issue both for current and possible future land uses. The intended use and function of roads within the study area should be carefully considered when development of large sites within the study area occurs. The traffic generated by these sites should be directed to the surrounding arterial road network and the distributor roads, being Chief Street and Hawker Street.

Vulnerable Road Users

The study area is very old with many of the roads being established in the 1840s. Because of this many of the roadways and verges are narrow with footpaths placed at the back of kerb, right next to travelling vehicles. This is not desirable and could be addressed through redevelopment of parts of the study area.

Given the generally flat terrain and the proximity to shops, services and the Adelaide CBD, walking and cycling should be embraced within the LATM study area. There are however a number of obstacles which need to be overcome in order to provide a safe and enjoyable environment for vulnerable road users.

The safety of both pedestrians and cyclists is reduced due to the narrow road reserve widths available within the precinct. There are a number of locations where footpaths are not provided or are impassable due to age, lack of maintenance or obstacles such as trees, stobie poles or road signs placed within the footpath (for example along Gibson Street).

KEY RECOMMENDATIONS

The following key recommendations are proposed with priority treatment considerations provided. These recommendations are subject to future detailed consultation with affected residents/property owners and funding. The detailed design of each proposed device will need to consider provision for pedestrians and cyclists in order to encourage these alternate means of transportation.

Short Term

- Install single lane slow points on:
 - Wood Avenue (at locations as specified within the Wood Avenue Petition report).

- *Blight Street.*
- *Coglin Street (between Torrens Road and Hawker Street).*
- *Wright Street.*
- *Drayton Street (between Torrens Road and Hawker Street).*
- *Relocate the entry treatment at the Torrens Road end of Blight Street to accommodate the queue of vehicles which currently forms entering Blight Street from Torrens Road.*
- *Convert streets to one way operation on:*
 - *First Street between Coglin Street and Pickering Street or Coglin Street to West Street, and Second Streets between Coglin Street and West Street. The one way control on First Street is subject to further consultation and reporting of outcomes to Council.*
 - *Hayman Lane and Picton Street.*
- *Install parking restrictions on one side of the road on:*
 - *West Street between First and Second Streets, Hawker and Fifth Streets and Hawker and Third Streets.*
 - *Coglin Street between Fifth Street and Torrens Road.*
 - *Guthrie Street.*
 - *Wood Avenue.*
- *Install parking restrictions on both sides of the road on:*
 - *Hayman Lane.*
 - *Picton Street.*
- *Upgrade the road hierarchy classification of Sixth Street and Second Street (between Drayton Street and Chief Street) to collector streets.*
- *Develop a road management plan, in line with the Bowden Village Masterplan recommendations, for:*
 - *Chief Street.*
 - *Sixth Street and Second Street.*
- *Provide access through existing road closures for pedestrians and cyclists.*

Medium Term

- *Install single lane slow points on:*
 - *Paget Street.*
 - *Hythe Street.*
- *Investigate restricting access to South Road to left in and left out only on Paget Street, Hythe Street, Monmouth Street and Forster Street.*
- *Investigation, including consultation with property owner/occupiers, should be undertaken for options to restrict access at the Hawker Street and East Street junction to allow access from Hawker onto East but not East onto Hawker. Note that sight distance is restricted at this location making safety an issue.*
- *Investigate the installation of roundabouts at:*
 - *Hawker Street and Gibson Street.*

- *Hawker Street and Green Street.*
- *Hawker Street and Blight Street.*
- *Investigation should be undertaken into the provision of right turn arrows and associated turn lanes at the Chief Street/Hawker Street signalised intersection. An alternative action would be to investigate the replacement of the signalised intersection with a roundabout.*
- *Investigate building kerb protuberances along Hawker Street to aid in the reduction of right angle collisions at all junctions in particular Blight Street (if no roundabout is possible), West Street and Coglein Street.*
- *Investigate measures such as vegetation pruning and building kerb protuberances at junctions to aid in the reduction of right angle collisions particular attention should be paid to Hawker Street.*
- *Investigate provision of contra-flow bicycle lanes on all existing and proposed one way streets.*

Longer Term

- *Undertake concept design for the intersection of Coglein Street and First Street. Line marking and protuberances should be provided along Coglein Street to better define the intersection and to move the holding line forwards so that sight distance from First Street along Coglein Street is improved.*
- *Undertake concept design and feasibility analysis for an upgrade to combine the junctions of Drayton Street and Second Street, and Drayton Street and Sixth Street.*
- *Undertake concept design and feasibility analysis for augmenting parking with trees within the road pavement (subject to services – both overhead and underground) on West, Green, Seventh, Eighth, Tenth and Eleventh Streets. Note that conceptual design is already underway for Green, West and Third Streets.*

Further Monitoring

Traffic volumes and speeds should be monitored within the LATM study area and assessed against the road hierarchy to determine if the traffic controls placed within the local road network are operating as intended. The impacts of traffic controls, including any changes in traffic behaviour should be monitored to determine the effectiveness of the traffic controls. In addition, key locations to monitor include:

- *Hawker Street.*
- *Chief Street.*
- *Wood Avenue.*
- *Sixth Street.*
- *Second Street.*
- *Coglein Street (South of Second Street).*

1. Introduction

The City of Charles Sturt has engaged Tonkin Consulting to prepare a Local Area Traffic Management (LATM) Plan for the area of Bowden and Brompton. This plan is required by the City of Charles Sturt to consider local traffic issues raised by residents and Council, and to develop a conceptual plan that addresses the concerns and issues identified during the study process.

The City of Charles Sturt Traffic Management Strategy (2006) defined local areas across the council and recommended progressive investigation of these local areas. This plan investigates Area 33.

The Bowden and Brompton local area is located at the eastern extent of the City of Charles Sturt. The study area includes the suburbs of Bowden, Brompton, Ovingham and Ridleyton and is bounded by Torrens Road, Park Terrace, Port Road and South Road. These roads fall under the care and control of the Department for Transport, Energy and Infrastructure (DTEI) and are beyond the scope of this study. A map of the study area is provided in Appendix A.

The areas of Bowden and Brompton were initially developed in the 1840s and still have large portions of historic housing. The area retains a mix of land uses dominated by residential and industrial uses with more varied land uses on the fringes of the arterial road network.

Although the area has traditionally incorporated a significant industrial presence, the potential for residential and mixed use development is now being fully explored. There are a number of large sites within this LATM precinct which are now, or may in future be investigated for suitability as mixed use developments. One such site is the Clipsal site in the southern corner of the precinct. This report has considered the (limited) available information on the Clipsal site development and offers some general principles and strategies to ensure safe and efficient traffic flows to, from and around the site. Any recommendations proposed within this plan should be reconsidered once the Bowden Village Master Plan is complete.

The plan has been prepared through consultation with the community. The final plan is intended to provide Council and the community with a clear direction for traffic management within the precinct.

2. Method

A LATM study is a formal way of investigating traffic, pedestrian and cyclist related issues within the local streets of the study area. This study consists of the following stages; taking into account a range of data, including background documents, on-site investigations, a review of speed, volume and collision data, and consultation with the community and relevant stakeholders to better determine the issues, concerns and opportunities in the area.

A number of stages have been followed in order to qualify and quantify factors affecting the road network within the study area. These stages include; the review of related background documents, site reviews, assessment of available traffic and collision data, and community consultation.

2.1 Background Documents

Documents considered relevant to the form and function of roads within the LATM study area were reviewed. A brief summary of the main points relevant to this investigation follows.

1998 Local Area Traffic Management Plan

The 1998 LATM plan was undertaken as a response to submissions received following implementation of a LATM scheme implemented in 1996. The 1996 LATM scheme involved the implementation of 5 road closures.

The April 1998 LATM plan was the result of a thorough analysis of traffic volumes across the whole precinct, targeted origin-destination surveys, collision data, existing conditions and community consultation.

This report put forward a number of possible solutions to improve the amenity of the study area. The treatments suggested and their implementation status are as follows:

- 40 km/h precinct across entire study area (implemented);
- Install 6 roundabouts across Hawker and Chief Streets (only one roundabout, at Chief Street and Fifth Street, implemented to date);
- Modify Ethelbert Square to form a roundabout (not implemented);
- Install entry thresholds at both ends of Wright Street and Blight Street between Torrens Road and Hawker Street (implemented with the exception of the Torrens Road end of Wright Street);

- Install entry thresholds in Gibson Street south of Hawker Street and north of Seventh Street (only the treatment north of Seventh Street was implemented); and
- Consider installing entry thresholds on all roads leading into the precinct with the exception of Hawker and Chief Streets (not implemented).

City of Charles Sturt Development Plan (consolidated September 2008)

The City of Charles Sturt Development Plan (consolidated September 2008) defines policy areas along with the principles and characteristics which should be applied to these policy areas. The policy areas specific to the study area include; residential, residential historic (conservation), district centre (Hindmarsh), mixed use, local shopping, local centre and industry.

General principles of traffic control applying to transportation across the City of Charles Sturt include:

- A comprehensive, integrated, and efficient, public and private transport system which will:
 - provide access to adequate transport services for all people, at an acceptable cost;
 - effectively support the economic development of metropolitan Adelaide and the State;
 - ensure a high level of safety; and
 - maintain the options for the introduction of suitable new transport technologies.
- A road hierarchy to form the basis of development controls and serve as a guide to the investment of road funds in order to ensure a safe and efficient traffic flow and to promote the saving of fuel and time. Arterial roads will provide for major traffic movements.
- A network of roads, paths and tracks, to accommodate satisfactorily a variety of vehicular, cycle and pedestrian, traffic.
- Safe and convenient pedestrian and cycle ways, particularly to link residential areas with centres and to provide a link to adjoining public open space.
- A road system which separates industrial traffic from predominantly residential areas.
- A compatible arrangement between land uses and the transport system which will:
 - ensure minimal noise and air pollution;
 - protect amenity of existing and future land uses;
 - provide adequate access; and
 - ensure maximum safety.

Specific principles of development control which apply to this area include:

- Development should reinforce the established rectilinear street and allotment pattern.
- Additional public open space should be provided in one substantial area south of Third Street between West and Brown Streets of proportions not exceeding 2:1 to ensure that the reserve is of a suitable shape, and with convenient pedestrian access from the above streets.
- The utilisation of arterial roads and an authorised transport network for primary vehicle access to development within the Zone and conversely a reduction in the use of residential streets for site access.
- Industrial traffic should be restricted from using adjoining residential roads.
- Land uses serviced by heavy vehicles or which are high traffic generators are appropriate in:
 - Park Terrace and Gibson, East, Second and Sixth Streets.
- The main focus for industrial traffic and heavy vehicles should be:
 - Park Terrace and Sixth, Gibson, East and Second Streets;
- Land uses serviced by heavy vehicles or which are high traffic generators are inappropriate on the following roads:
 - Coglin, Forster and Second Streets.
- Land uses which are high traffic generators are inappropriate in the following locations:
 - Coglin, Forster and Second Streets.
- The main focus for industrial traffic and heavy vehicles should be:
 - Coglin, Gibson, East, Second and Sixth Streets; Park Terrace and Monmouth Street

City of Charles Sturt Transport Strategy 2005 – 2025

The objectives of the Transport Strategy are as follows:

- Maximise the land use - transport integration;
- Preserve and enhance the quality of the local environment;
- Maximise accessibility across the municipality;
- Retain jobs and economic competitiveness;
- Promote an environmentally sustainable transport system; and
- Increase patronage of public transport.

The strategy also sets out a range of short and medium term actions to achieve these objectives.

City of Charles Sturt Traffic Management Strategy, 2006

The Traffic Management Strategy sets out the road hierarchy at both functional and classical levels. This document also details the LATM precincts and areas and the prioritisation of these areas for the undertaking of LATM plans. The road hierarchy classifications as defined in the Traffic Management Strategy are as follows:

Distributor (Road)

A road that provides for the distribution of traffic from, within and through a local area.

This type of road would comprise a single lane in each direction with no median (depending on abutting activity) with the travelling lanes free of parking. Traffic volumes would generally be less than 6,000 to 8,000 vehicles per day.

Collector (Street)

A road that provides connection to distributor and arterial roads from local streets within and through a local area.

This type of road is generally wide enough to provide two directions of travel with parking on one side of the road only. Traffic volumes would be generally less than 3,000 vehicles per day.

Local (Street)

Roads that primarily provide access to abutting properties.

These roads are likely to be wide enough to allow parking on one or both sides and for a single vehicle to pass through. Traffic volumes would be generally less than 1,500 vehicles per day.

Specific requirements for the provision of infrastructure including road widths, provision of pedestrian and bicycle facilities and appropriate LATM treatments are provided for each road hierarchy classification for both the classical road hierarchy and the functional road hierarchy.

Charles Sturt Industrial Land Study – April 2008

The Industrial Land Study provides an overview of the planning context for all industrial areas within the City of Charles Sturt. Observations and recommendations relevant to this LATM precinct are as follows:

- The underlying land use within this area requires review particularly with the impending departure of Clipsal;
- Traffic management is a problem with large vehicles needing to access narrow streets;
- Access impacts from the west and the future role of Chief Street need to be considered;
- The overall standard as a high level industrial precinct is sub-optimal;

- The area has potential for rezoning with a high latent demand for non-industrial land uses; and
- The area could be rezoned residential or mixed use.

2007 Petition Response – Traffic Management, Wood Avenue

A petition was made in relation to Wood Avenue at Ridleyton. This petition was presented to Council; major issues raised were traffic speeds, heavy vehicle volumes and parking for heavy vehicles. It should be noted that the parking issue related to a specific business, council has taken measures to rectify this issue.

The petition response report found that over half of the vehicles using Wood Avenue were exceeding the 40km/h speed limit. It was also found that the heavy vehicle volumes were within reasonable levels for the type and function of the road.

Bowden Village Transport Summary – February 2009

The State Government is currently drafting a Development Plan Amendment (DPA) for the Bowden area. The DPA will examine an area within an 800m radius of the Bowden railway station for suitability for a range of land uses including medium-high density, mixed use, and transit oriented development. The City of Charles Sturt is a principal stakeholder in this process.

The Bowden Village Transport Summary was produced by Council as a guiding document for the DPA and Bowden Village master plan. The document provides a summary of key issues and possible solutions for current and future transport issues within the area immediately surrounding the Clipsal site.

2.2 Site Investigations

All roads in the study area were reviewed and driven by vehicle with specific locations investigated further on foot. The locations of existing traffic management measures have been documented, with a view to forming treatment recommendations that are consistent with existing measures.

The site inspections, undertaken from the perspective of a motorist, are important in forming an overall 'feel' for the study area and where speeding, and safety conflicts may occur.

The principles applicable to Network Road Safety Auditing were used to some extent during the inspections, for example:

- Noting conflict between parked vehicles/travelling vehicles in particular streets;
- Noting the environments which are conducive to high speeds, for example, long straight streets with no interruptions to the forward sight distance;
- The provisions for vulnerable road users such as cyclists and pedestrians;

- The traffic mix; and
- A check on land use conflicts, for example abutting residential and commercial zones.

2.2.1 Trip Generators

Major trip generators within and adjacent the study area were identified through the site investigations and also through comments raised within the community consultation processes. The identification of trip generators assists in developing an understanding of the likely traffic movements within the precinct and the issues which may arise surrounding these traffic movements.

Outside of the study area, the main trip generators which have an effect on the precinct are the Adelaide Entertainment Centre and the Hindmarsh Stadium. Both of these facilities draw traffic through the area and create a demand for parking particularly in the streets south of the railway line.

Within the study area there are a number of different trip generators, each with differing vehicle compositions and peak generation times. A number of trip generators were identified within the study precinct including:

- Residential allotments.
- Industrial premises.
- Shopping centres and commercial premises.
- Hotels.
- Primary schools.
- Churches.
- Bowden rail station.
- Bowling club.
- Library.
- Gym.
- Community centre.
- Childcare centres.
- Croatian club.
- Cirkidz.

As the peak generation times for the listed trip generators do not all fall within the same timeframes, not all generators were able to be observed at their peak level of operation.

The site inspections showed that there was a high demand for both on and off street parking generated by the industrial land uses throughout the precinct as well as for the primary schools and gym. At the times of the site inspections, little or no parking demand was observed for some locations such as the hotels, the Croatian Club and

the Adelaide Entertainment Centre as these locations have a peak operational timeframe outside of the site inspection observation hours.

The difference in peak parking demand times could present an opportunity for shared parking areas within mixed use areas.

2.2.2 Existing Traffic Controls

The LATM precinct contains a number of existing traffic controls. These traffic controls have been implemented over a long period of time to satisfy different objectives. The traffic control devices observed are listed below with an indication of their compliance to current standards, their appropriateness and their likely effectiveness given the road environment. Traffic controls on the arterial roads were only considered where access to the precinct is restricted or enhanced due to these devices.

Speed Restrictions

The entire LATM study area is a 40km/h speed zone. This is considered appropriate for the area given the generally narrow road widths. Although Hawker Street and Chief Street both act as distributor roads, the 40km/h limit is considered appropriate as it provides consistency throughout the precinct. Altering the speed limits on Hawker Street or Chief Street creates an inconsistency which could cause confusion and is likely to lead to lower levels of compliance throughout the precinct.

Traffic Signals

Traffic signals are in place at the intersection of Hawker Street and Chief Street. The crash statistics show that even with these signals in place there is a high number of right angle crashes at this location. Right turn lanes and arrows are not provided at these signals.

External to the area there are traffic signals at each end of Hawker Street (at the junctions with South Road and Park Terrace) and Chief Street (at the junctions with Port Road and Torrens Road). Although these signals fall outside the scope of this study, they are important to identify as these locations form safe points of access to the arterial network and safe crossing points for pedestrians.

Pedestrian Actuated Crossings

Although there are no pedestrian actuated crossings (PAC) within the study area, the PACs on Port Road (at West Street and Station Place) and Torrens Roads (between West Street and Wattle Street) provide important links into the study area for pedestrians.

Railway Level Crossings

There are currently 4 level crossings within the LATM study area on Hawker Street, Gibson Street, East Street and Coglein Street. It is our understanding that all level crossings within the study area have been reviewed by the Department for Transport, Energy and Infrastructure (DTEI) Level Crossing Unit and by Council

The safety of rail crossings within the area was not a high rating issue in the community consultation undertaken and the crash record database showed no collisions at the level crossings (for the period 2003-2007).

Based on the crash records, the low level of community concern, the prior analysis of these locations by DTEI and Council and the already limited access along Port Road, no closures of these crossings were considered within this local area traffic management plan.

Roundabouts

There are roundabouts at the intersections of Chief Street and Fifth Street, and Wood Avenue and Second Street.

From a safety viewpoint, these locations are performing reasonably well. Neither roundabout would have any significant impact on traffic speeds as they are isolated devices.

Road Closures

A total of six full road closures have been implemented within the LATM study area. Two of these road closures, on West and Drayton Streets, are closures either side of the rail line. The remaining closures are on Drayton street (immediately north of Hawker Street), Ranelagh Street (immediately north of Hawker Street), Coglein Street (immediately south of Third Street), and Second Street (immediately east of West Street).

Pedestrian access has been maintained at all closures, however access for cyclists is only provided at the Drayton Street rail closure (providing access to the train station).

The number of parallel streets within the area allow for these road closures to create minimal delays to traffic.

There is a half road closure at McInnes Street to stop traffic entering from South Road. A similar half road closure is located on Station Place at Port Road and allows for left in traffic only.

One Way Streets

The parallel streets of Hocking Street, Taylor Street and Pickering Street each have a limited road width and are ideal locations for single direction traffic flow. These one way streets have parking banned on one side to allow safe travel even with the restricted road width available.

Ethelbert Square has retained its circular 1-way flow even with Chief Street bisecting the square.

Single Lane Slow Points

A number of single lane slow points were installed as part of a previous LATM scheme. The construction of these slow points is adequate however this traffic control device, in isolation, is unlikely to be effective at reducing speeds or volumes.

In total, four slow points were installed with these being located on Gibson Street, north of Seventh Street, on Wright Street, north of Hawker Street and on Blight Street, north of Hawker Street and south of Torrens Road.

The slow point on Gibson Street is in isolation and was possibly installed to discourage traffic from the Clipsal site from using Gibson Street. However, it is unlikely that a single slow point would have any measurable impact on traffic speeds or volumes.

Gibson Street is identified within Council's Development Plan as being appropriate for industrial and heavy vehicle traffic, the current slow point is straight and flat which is appropriate for heavy vehicles to negotiate.

The slow point on Wright Street is also isolated. It is however, located appropriately to be the first in a series of devices.

The slow point on Blight Street at the Torrens Road end is located too close to the junction and causes queuing onto Torrens Road. This slow point should be relocated to allow for the likely queue length at this location.

Traffic speeds on Blight Street are reasonably high for the area. The current slow points are located approximately 350 m apart. This distance is too far to effectively control vehicle speeds (desirable spacing is 80 – 120m).

Raised Single Lane Slow Points

There are a total of three raised single lane slow points which have been installed on Monmouth Street. These traffic control devices have been located at a spacing of approximately 80m, this is within the recommended spacing for devices of this type.

The slow points at each end of Monmouth Street are each within 50m of the start of the road which also complies with the Code of Technical Requirements.

As the slow points are raised, it is likely that some through traffic will use another route.

Monmouth Street is identified within Council's Development Plan as being one of the roads for the main focus of industrial traffic within the precinct. The raised single lane slow points do not encourage heavy vehicle use and may force industrial traffic from Monmouth onto other local streets.

Median Islands

Median islands have been used sporadically throughout the precinct. There are a number of these devices installed along Chief Street, anecdotal evidence suggests vehicles are not adequately channelled by these devices and often straddle or pass on the wrong side of the island.

Indented Parking

Generally on Chief Street, Hawker Street and those streets which have had some level of recent redevelopment. This type of treatment is appropriate on the distributor roads and could be applied to collector streets. It allows safe parking along the roads whilst not interfering with the flow of traffic.

The practice of indenting parking and banning parking on the opposite side of the road allows a smoother flow of traffic in narrow streets. By alternating the side of the road parking is allowed, a degree of side friction is developed and the gun barrel straight roads are effectively made to meander – this is likely to have the effect of reducing traffic speeds and through traffic volumes. A secondary benefit of indenting parking is that an opportunity for tree planting may be created.

Distinctive Pavements

Distinctive pavements (generally block paving) has been used primarily along Hawker Street and within some of the newer residential developments.

The treatment is applied inconsistently along Hawker Street with 10 of the 18 junctions and 1 midblock section having some sort of distinctive pavement treatment. Seven of the junctions are provided with a strip of distinctive pavement on Hawker Street either side of the junction, two junctions were provided with a strip of distinctive pavement on the intersecting road and the remaining junction was provided with one strip of distinctive pavement on Hawker Street.

One concern raised within the Code of Technical Requirements is that pedestrians may mistake the distinctive pavement for a safe crossing point. This idea is

reinforced by the midblock treatment used on Hawker Street which has an area of distinctive paving with a pedestrian refuge.

Parking Restrictions

Parking restrictions seem to be well applied throughout the study area. With the limited road (and road reserve) widths available, parking restrictions are well used to allow two way traffic flow.

School Zones

There are two schools within the LATM study area, each school has a corresponding school zone.

Fifth Street does not have a school zone and possibly should have as the school sits with boundaries on Drayton Street, East Street and Fifth Street.

All other school zones provided are appropriate to the location of the school

2.3 Traffic Data

Traffic surveys were undertaken by Council at a number of locations throughout the area. The data provided information on speed, volume and peak hour volumes over a minimum 24 hour period. This information has been summarised on the plan shown in Appendix B.

2.4 Collision Data

The collision data for the area was obtained from the DTEI geo-coded collision information for the 5 year period 2003-2007. Plans showing the approximate location, type and severity of crashes in the study area are provided in Appendix C.

2.5 Consultation

A number of consultation methods have been used in developing this LATM, to ascertain community, stakeholder and Council staff views, in an attempt to identify the significant concerns and issues within the study area.

The community consultation process for this study consisted of the following:

- Letter and survey to residents, businesses and major stakeholders within the LATM area, August 2008;
- Resident Steering Group, October/November 2008;
- Online Resident Panel, October/November 2008;
- Draft report and survey to residents, businesses and major stakeholders within the LATM area, June/July 2009.

The consultation survey sent to residents along with a summary of the consultation results are provided in Appendix D.

An informal residents group was established to assist the consultant team in the process of identifying key issues, possible treatments and priorities. The Group met on three occasions and included a general representation of residents from within the area.

The draft LATM was put back to the community for review and comment in June 2009. The community was specifically asked to indicate their level of support for each of the proposed treatments. This information has been contained in within this final report (and Appendix D2).

2.6 Design Standards

Recommendations for alternative traffic control devices have been developed in accordance with the South Australian Code for the Installation of Traffic Control Devices, and associated Australian Standards and Guidelines.

3. Findings

A review of background information and an assessment of the road network data has been summarised and listed below. The findings identified that there are a number of key issues to be addressed including:

- High speeds;
- Constrictive road widths;
- Right angle collisions at intersections;
- Cut-through (rat running) traffic; and
- Heavy vehicle movements.

3.1 Traffic Data

The speed and volume data over a 24 hour period including the AM and PM peak period volumes has been summarised on the plan shown in Appendix B.

The majority of roads within the study area have daily traffic volumes of less than 1,500 vpd. The only exceptions to this are Hawker Street, Chief Street, Coglin Street and Wood Avenue.

A number of roads have a volume of less than 500 vpd. These roads include Burley Griffin Boulevard, Fifth Street, Mais Street, Pickering Street, Ridley Street and Second Street.

Coglin Street has a volume above the normal limit of 1,500 vpd for local streets.

Wood Avenue has a volume of around 1,800 vpd which is well within the acceptable limits for a collector street.

Chief Street has volumes ranging from 4,000 to 5,000 vpd and Hawker Street has volumes in the order of 5,000 vpd. These volumes are within the acceptable limits for the hierarchical classification (distributor road) of these roads.

There is a 40 km/h speed limit on all roads within the study area. The recorded 85th percentile speeds are generally between 40 and 50 km/h, this is considered acceptable for the 40 km/h speed limit. Note that the 85th percentile speed is the speed at which 85% of the motorists travel at or below.

The recorded mean speeds ranged from 25 to 45 km/h with the majority of sites tested having a mean speed of below 40 km/h.

3.2 Collision Data

A plan showing the location, type and severity of crashes in the study area is shown in Appendix C. The data presented is based on DTEI geo-coded collision information for the 5 year period 2003-2007.

There were 1,151 recorded collisions within the overall precinct – including crashes along the arterial roads bordering the study area. The recorded crashes not including those on the arterial roads totalled 125 collisions.

While there were no recorded fatalities, around 25% of collisions resulted in personal injury and the remaining 75% resulted in property damage only (PDO). When excluding collisions on the arterial roads, this increased to approximately 30% personal injury and 70% PDO.

The most common types of collision were right angle (50.4%), hitting a fixed object (18.4%), hitting a parked vehicle (14.4%) and side swipe (5.6%).

Whilst the overall crash rate is similar to that experienced in other areas of similar density and traffic volumes, there are a number of locations which appear to have a higher than usual accumulation of collisions.

Within the study area there were 8 locations where 3 or more collisions were reported within the 5 year period. These locations are summarised in the following:

Hawker Street and Chief Street Intersection

9 crashes

- 3 Injury
 - 1 x Rear End
 - 1 x Side Swipe
 - 1 x Hit Pedestrian
- 6 PDO
 - 5 x Right Angle
 - 1 x Hit Fixed Object

Hawker Street and Blight Street Intersection

6 crashes

- 2 Injury
 - 2 x Right Angle
- 4 PDO
 - 4 x Right Angle

Hawker Street and Coglin Street Intersection

5 crashes

- 4 Injury
 - 4 x Right Angle
- 1 PDO
 - 1 x Hit Fixed Object

First Street and Coglin Street Intersection

5 crashes

- 3 Injury
 - 3 x Right Angle
- 2 PDO
 - 2 x Right Angle

West Street and Third Street Intersection

5 crashes

- 5 PDO
 - 5 x Right Angle

Sixth Street and Gibson Street Intersection

4 crashes

- 4 PDO
 - 4 x Right Angle

Hawker Street and West Street Intersection

3 crashes

- 3 PDO
 - 3 x Right Angle

Hawker Street and East Street Intersection

3 crashes

- 2 Injury
 - 1 x Right Angle
 - 1 x Hit Fixed Object
- 1 PDO
 - 1 x Hit Fixed Object

Of these eight locations, three experienced three or more collisions resulting in an injury. These locations were the intersections of Hawker Street and Chief Street, Hawker Street and Coglin Street, and First Street and Coglin Street. Each of these three locations satisfies the minimum eligibility criterion for black spot funding.

Further investigation should be undertaken to secure black spot funding for these locations.

3.3 Road Hierarchy

The City of Charles Sturt Traffic Management Strategy defines the road hierarchy classification for all streets within the Council area.

All roads within the study area are currently classified as local streets with the exception of Hawker Street, Chief Street, Wood Avenue and Blight Street (North of Hawker Street).

Hawker Street runs east west across the study area, this road forms part of a bus route and is classified as a distributor road. Chief Street runs north south through the study area and is also classified as a distributor road.

Wood Avenue and Blight Street (north of Hawker Street) are both classified as collector streets. Blight Street enters the precinct at Torrens Road, it runs south to Hawker Street as a collector street then continues south to Paget Street as a local street. Wood Avenue also runs north south, it connects Wood Avenue to First Street.

The current hierarchical classifications are adequate for the existing road network in terms of volume with only Coglin Street above the desirable volume for its classification. There are however a lack of appropriate streets to perform the collector street function within the local network. It is proposed that additional collector streets be included within the road hierarchy as follows:

- Sixth Street.
- Second Street (Drayton Street to Chief Street).

First Street (Coglin to Wood Avenue) and Coglin Street (First Street to Port Road) each play an important access role within the local network. Whilst these streets should not be upgraded to collector streets, the connection between Wood Avenue and Port Road should be preserved.

The traffic data shows that any traffic controls should be aimed at speeds and additional safety in preference to reductions in volumes.

Figure 3.1 Road Hierarchy



3.4 Land Use Considerations

Whilst this LATM plan addresses the current state of traffic movement within the study area, it is recognised that there are a number of sites within the area which may change land use. Notwithstanding, it is important to provide some guidance on the current issues and the possible impacts of changes to land uses within the study area.

Currently the study area consists of a mix of land uses from industrial and mixed use zones to residential and historic residential zones. These varied land uses create a complicated environment for traffic management through the desire for varied (and often opposing) outcomes from the road environment.

The traffic mix creates one such issue where industrial uses require access for large vehicles and residential land uses would prefer to have traffic controls or restrictions to reduce speeds and through traffic.

Traffic volumes are another issue both for current and possible future land uses. The intended use and function of roads within the study area should be carefully considered when development of large sites within the study area occurs. The traffic generated by these sites should be directed to the surrounding arterial road network and the distributor roads, being Chief Street and Hawker Street.

There are a number of large sites (for example Clipsal) which are earmarked for future development. The intended use and function of roads within the study area should be carefully considered when development of these sites occurs. In addition, development should, wherever possible, provide direct access to the arterial road network thus reducing the impact on the local road network.

The February 2009 Bowden Village Transport Summary gives further guidance on specific considerations for the development of land surrounding the Bowden railway station.

Development within the area was a key concern raised within the steering group. Whilst change from industrial to more residential land uses was embraced, there was concern about the possibility for increased traffic volumes on the local network. More specifically, there was concern that volumes on Chief Street would increase significantly if development on the current Clipsal site were granted access to this distributor road.

3.5 Vulnerable Road Users

The study area is very old with many of the roads being established in the 1840s. Because of this many of the roadways and verges are narrow with footpaths placed at the back of kerb, right next to travelling vehicles. This is not desirable and could be addressed through redevelopment of parts of the study area.

Given the generally flat terrain and the proximity to shops, services and the Adelaide CBD, walking and cycling should be embraced within the LATM study area. There are however a number of obstacles which need to be overcome in order to provide a safe and enjoyable environment for vulnerable road users.

The safety of both pedestrians and cyclists is reduced due to the narrow road reserve widths available within the precinct. There are a number of locations where footpaths are not provided or are impassable due to age, lack of maintenance or obstacles such as trees, stobie poles or road signs placed within the footpath (for example along Gibson Street).

Where footpaths are provided, they are generally placed at the back of the kerb due to a lack of available space. This forces pedestrians to walk right alongside vehicles which are themselves travelling along narrow roadways.

The Traffic Management Strategy sets out desirable levels of pedestrian facilities for each road classification. In the absence of a strategic pedestrian plan, these desirable standards should be applied to any future road upgrades.

Key routes need to be identified linking pedestrian generators such as schools, parks, sporting grounds and shopping centres. Other routes such as the Brompton Heritage Walk should also be developed. Once these routes have been established, funding should be allocated to update not only the footpaths but also appropriate lighting and signage. Key routes need to be identifiable on the ground as well as within Council's planning documents.

The City of Charles Sturt Local Area Strategic Bicycle Plan 2008 (Active Living: Plan to Cycle) provides a framework for the development of cycling routes within the City of Charles Sturt. A number of routes are identified within this LATM study area. All on road routes within the area are classified as secondary road routes and are provided in Figure 3.1.

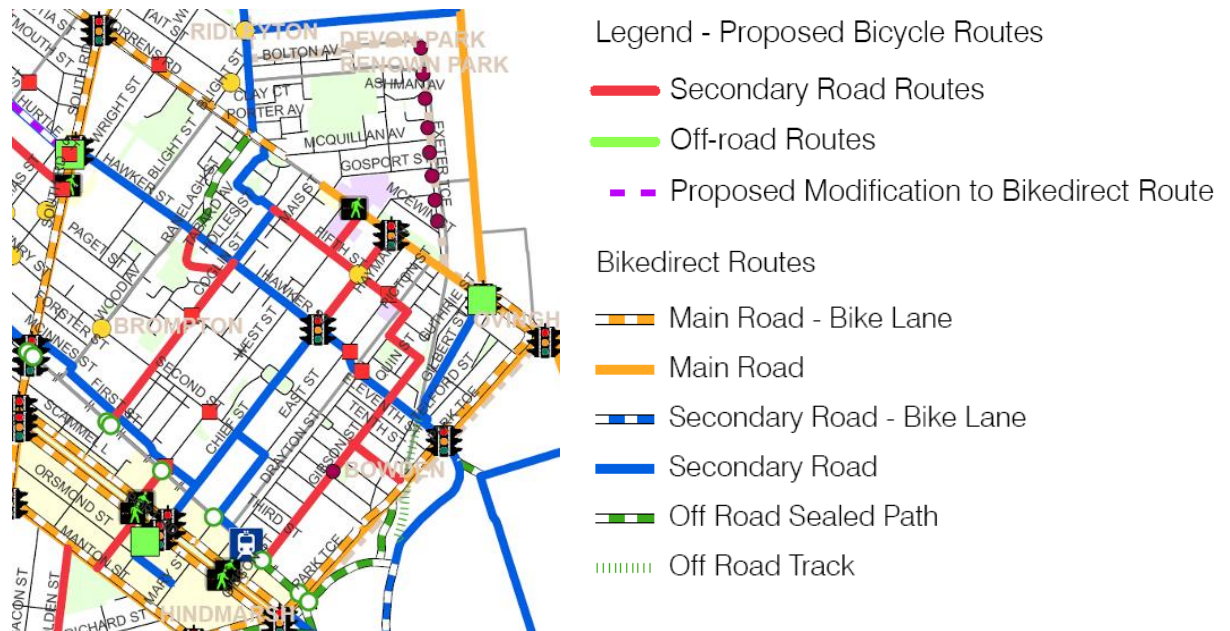
Cyclists are continually squeezed by parked cars and the narrow road widths provided.

There are limited on road facilities for cyclists and there are a number of squeeze points which can make cycling difficult. Although there is generally not the space for dedicated cycle lanes within the area, their implementation, or the implementation of cycle logos should be considered in any road upgrade.

The potential for the creation of squeeze points when designing traffic management measures should be recognised and the needs of cyclists should be incorporated into any traffic control device installed.

Figure 3.2 Precinct Locations

(Source: Active Living: Plan to Cycle 2008)



3.6 Consultation

The community has raised various concerns, issues and opportunities regarding traffic management from the consultation process, which have formed the basis for the recommended plan for the LATM.

Appendix D contains a summary which identifies the main concerns and issues raised throughout the consultation process. The number of respondents who raised the issue is provided alongside the issue.

Throughout the whole area, common concerns included:

- Speeding;
- Rat running;
- Hoon driving;
- Narrow roads;
- Commercial vehicles (especially on narrow roads) and;
- Traffic volumes.

Other concerns included:

- Lack of bicycle lanes;
- Condition (or lack) of footpaths;
- Lighting; and
- Parking concerns.

Through consultation with the residents group, further discussion refined the list into the following key issues. This summary does not infer that conditions in other streets should not be addressed, rather that these locations represent the worst cases that justify particular attention.

In response to the draft LATM circulated in June 2009, there were approximately 40 responses received. This information has been included in Appendix D2.

3.7 Summary of Key Issues

Chief Street

- Community concerns over traffic speeds.
- Average speeds are 40-42 km/h while the 85th percentile speeds are 46-48 km/h. This speed is considered acceptable for a distributor road.
- Traffic volumes are in the order of 5,000 vpd. This is an acceptable volume for a distributor road.
- Proportionately high number of crashes at the intersection with Hawker Street.

Hawker Street

- Community concerns over traffic speeds.
- Average speeds are 41 km/h while the 85th percentile speeds are 46 km/h. This speed is considered acceptable for a distributor road.
- Traffic volumes are in the order of 5,000 vpd. This is an acceptable volume for a distributor road.
- There was concern that the junction of East Street and Hawker Street provides poor sight distance for vehicles exiting East Street.
- Proportionately high number of crashes at the intersections with Chief Street, Blight Street, Coglein Street, West Street and East Street.

Wood Avenue

- Concerns were raised over cut through (rat running) traffic between South Road and Port Road.
- Traffic volumes are in the order of 1,800 vpd, this volume is acceptable for a collector street (although unacceptable on the basis of a residential street).
- Average speeds are 35-42 km/h while the 85th percentile speeds are 44-50 km/h.

Coglein Street

- Traffic volumes are in the order of 1,800 vpd, this volume is unacceptable for a local street.
- Concern over constricted road widths which barely allow a vehicle to pass between two parked vehicles.
- High number of crashes at the intersection with First Street.

Wright and Blight Streets

- Concerns over cut through (rat running) traffic.
- Concerns that the entry threshold treatment at the Torrens Road end of Blight Street is causing queues back onto Torrens Road.

Drayton Street

- Concerns over cut through (rat running) traffic.
- Community concerns over traffic speeds.

Second Street

- Concerns were raised over cut through (rat running) traffic between Wood Avenue and Cogle Street.
- There were also concerns raised about the use of Second Street by heavy vehicles.
- High number of Crashes at the intersection with Gibson Street.

First, Hayman & Picton Streets

- Concern over constricted road widths which barely allow a vehicle to pass between two parked vehicles.

West Street

- There was community concern about traffic speeds on this long, straight road.
- Recorded traffic volumes were varied with average speeds ranging from 33-40 km/h and 80th percentile speeds ranging from 42-47 km/h.
- Concern over constricted road widths which barely allow a vehicle to pass between two parked vehicles.
- High number of crashes at the intersections with Hawker Street and Third Street.

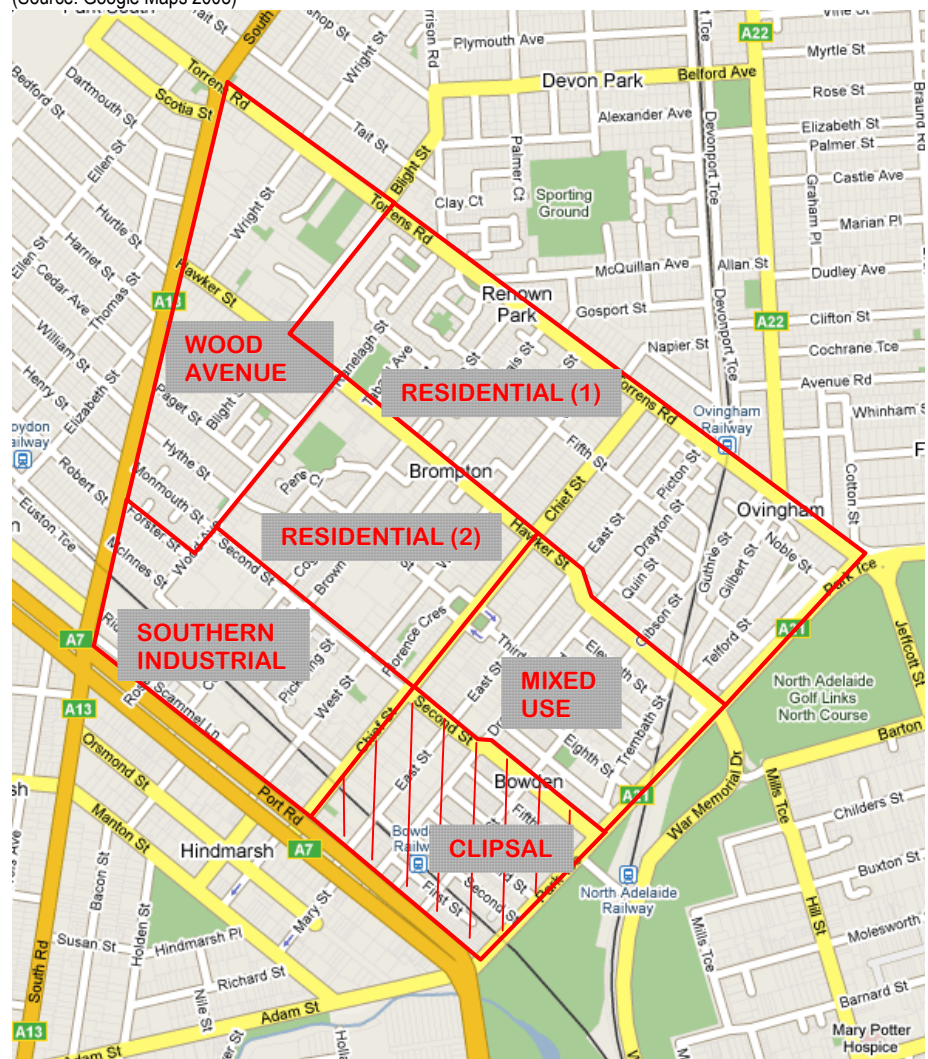
4. Discussion and Recommendations

In evaluating proposed improvement measures within the study area more detailed investigations were undertaken to ascertain the suitability of options available to address specific issues experienced within localised areas. Whilst the full range of current LATM measures were considered, the available treatments are limited due to the narrow road pavement and road reserve widths.

For the purposes of these investigations, the study area has been divided into smaller precincts. These precincts are areas which have similar traffic issues and hence are likely to benefit from similar traffic management approaches.

Figure 4.1 Precinct Locations

(Source: Google Maps 2008)



4.1 Wood Avenue Precinct

Discussion

This precinct contains Wood Avenue and those streets between Wood Avenue and South Road from Torrens Road through to Forster Street. The area includes both Wright Street and Blight Street.

The major issues identified within this precinct include rat running, speeding and excessive volumes. Rat running vehicles were identified as using Wood Avenue, then First or Second Street to access Coglin Street and Port Road in the morning and the reverse in the evening.

Existing traffic controls include raised 1-way slow points on Monmouth Street and entry treatments on both Wright and Blight Streets.

Initial Proposal

- Install single lane slow points on Wood Avenue (at locations as specified within the Wood Avenue Petition report), Blight Street, Wright Street, Paget Street and Hythe Street.
- Relocate the entry treatment at the Torrens Road end of Blight Street to accommodate the queue of vehicles which currently forms entering Blight Street from Torrens Road. Further investigation and queue modelling may be required to determine the appropriate distance to relocate the treatment from Torrens Road.
- Investigate restricting access to South Road to left in and left out only on Paget Street, Hythe Street, Monmouth Street and Forster Street.
- Monitor volumes on Coglin Street south of Second Street after installation of slow points on Wood Avenue. No specific treatments have been nominated for this section of Coglin Street due to the requirement for access to the industrial areas. However it is likely that the proposed treatments on Wood Avenue will also reduce traffic volumes on Coglin Street.

Level of Community Support

As part of consultation on the draft LATM report and recommendations carried out in June/July 2009, specific consultation was undertaken on the following issues:

“Do you support the installation of single lane slow points on Wood Avenue?”

Agree	29	72.5%
Undecided/No Opinion	9	22.5%
Disagree	2	5%

"Do you support the installation of single lane slow points on Blight Street?"

Agree	29	72.5%
Undecided/No Opinion	7	17.5%
Disagree	4	10%

"Do you support the installation of single lane slow points on Wright Street?"

Agree	28	70%
Undecided/No Opinion	8	20%
Disagree	4	10%

"Do you support the relocation of the entry treatment at the Torrens Road end of Blight Street?"

Agree	28	70%
Undecided/No Opinion	11	27.5%
Disagree	1	2.5%

"Do you support parking restrictions (no parking) on one side of Wood Avenue?"

Agree	24	60%
Undecided/No Opinion	11	27.5%
Disagree	5	12.5%

The survey questions and additional comments provided by respondents indicated that there was strong support for the installation of single lane slow points, relocation of the entry treatment on Blight Street and parking restrictions on Wood Avenue.

Recommendation

Retain the initial proposal.

4.2 Southern Industrial-Precinct

Discussion

The Southern Industrial precinct is located along the south west boundary of the site, bordered by Forster Street, Wood Avenue, Second Street, Chief Street, Port Road and South Road. The precinct contains a mixture of land uses including, mixed use, industrial, commercial and residential.

Major issues within this precinct include heavy vehicles, narrow roads and rat running. The number of collisions at Coglein Street and First Street is of concern.

There are already a number of one-way streets operating successfully within this precinct including Hocking, Taylor and Pickering Streets. Other traffic controls include a half road closure on McInnes Street at South Road and full road closures on Second Street at West Street and West Street at the railway line.

South of the railway line the road environment is quite different to other areas within the precinct. There are a number of short, dead end streets which provide access generally to parking areas. Turn around areas are generally not provided at the ends of these streets however it appears that

Initial Proposal

- Install single lane slow points on Wood Avenue (at locations as specified within the Wood Avenue Petition report).
- Convert First and Second Streets between Coglein Street and West Street to one-way operation only.
- Install parking restrictions on one side of West Street between First and Second Streets.
- Undertake concept design and feasibility analysis for augmenting parking with trees within the road pavement (subject to services – both overhead and underground) on West Street.
- Undertake concept design for the intersection of Coglein Street and First Street to provide linemarking and protuberances along Coglein Street to better define the intersection and to move the holding line forwards so that sight distance from First Street along Coglein Street is improved.

Level of Community Support

As part of consultation on the draft LATM report and recommendations carried out in June/July 2009, specific consultation was undertaken on the following issues:

"Do you support conversion of First Street (between Coglein Street and West Street) to one way operation?"

Agree	22	55%
Undecided/No Opinion	8	20%
Disagree	10	25%

"Do you support conversion of Second Street (between Coglein Street and West Street) to one way operation?"

Agree	21	52.5%
Undecided/No Opinion	8	20%
Disagree	11	27.5%

"Do you support parking restrictions (no parking) on one side of West Street (between First and Second Streets)?"

Agree	27	67.5%
Undecided/No Opinion	10	25%
Disagree	3	7.5%

The conversion of First and Second Streets to one way operation was less strongly supported. Comments received in regards to the one way proposals included difficulty of access to the Brompton Hotel and difficulty for delivery drivers accessing the area. It was also noted that the proposed one way streets should cater for cyclists to travel two ways.

Due to the concerns raised and the level of community support for this recommendation, it is recommended that the one way treatment on First Street be implemented from Coglin Street to Pickering Street or Coglin Street to West Street. It is also considered vital that further consultation be undertaken specific to this proposal and the outcomes reported to Council.

The proposed parking restrictions on West Street received strong support.

Recommendation

Retain the existing proposal with the addition of the following:

- Investigate provision of contra-flow bicycle lanes on existing and proposed one way streets.
- Provide access through existing road closures for pedestrians and cyclists.

4.3 Residential Precinct 1

Discussion

This precinct includes the area north of Hawker Street bounded by Hawker Street, Blight Street, Park Terrace and Torrens Road. The area is primarily residential.

Issues include school traffic, parking, narrow roads and speeding.

Specific issues were raised relating to the narrow widths of Hayman Lane and Picton Street.

Existing treatments include a roundabout at the intersection of Chief and Fifth Streets, indented parking and centre blisters.

Initial Proposal

- Install parking restrictions on one side of West Street between Hawker and Fifth Streets.
- Install parking restrictions on one side of Coglin Street between Torrens Road and Fifth Street.
- Install parking restrictions on one side of the length of Guthrie Street.
- Install parking restrictions on both sides of Hayman Lane and Picton Street.
- Convert Hayman Lane and Picton Street to one way operation only, this could occur as part of a scheduled road reconstruction.

- Undertake concept design and feasibility analysis for augmenting parking with trees within the road pavement (subject to services – both overhead and underground) on West Street. (This is currently being undertaken as part of an Integrated Streetscape project).
- Install single lane slow points along Coglin Street between Torrens Road and Hawker Street.

Level of Community Support

As part of consultation on the draft LATM report and recommendations carried out in June/July 2009, specific consultation was undertaken on the following issues:

"Do you support the installation of single lane slow points on Coglin Street (between Torrens Road and Hawker Street)?"

Agree	31	77.5%
Undecided/No Opinion	4	10%
Disagree	5	12.5%

"Do you support parking restrictions (no parking) on one side of West Street (between Hawker and Fifth Streets)?"

Agree	25	62.5%
Undecided/No Opinion	12	30%
Disagree	3	7.5%

"Do you support parking restrictions (no parking) on one side of Coglin Street (between Fifth Street and Torrens Road)?"

Agree	29	72.5%
Undecided/No Opinion	7	17.5%
Disagree	4	10%

"Do you support parking restrictions (no parking) on one side of Guthrie Street?"

Agree	25	62.5%
Undecided/No Opinion	12	30%
Disagree	3	7.5%

"Do you support parking restrictions (no parking) on both sides of Hayman Lane?"

Agree	25	62.5%
Undecided/No Opinion	12	30%
Disagree	3	7.5%

"Do you support parking restrictions (no parking) on both sides of Picton Street?"

Agree	25	62.5%
Undecided/No Opinion	12	30%
Disagree	3	7.5%

"Do you support conversion of Hayman Lane to one way operation?"

Agree	20	50%
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Undecided/No Opinion	15	37.5%
Disagree	5	12.5%

"Do you support conversion of Picton Street to one way operation?"

Agree	19	47.5%
Undecided/No Opinion	15	37.5%
Disagree	6	15%

"Do you support the one way directions proposed in Appendix E of the draft LATM report?"

Agree	20	50%
Undecided/No Opinion	10	25%
Disagree	10	25%

The installation of single lane slow points and the proposal to restrict parking to one side of the road each received strong support.

The proposed one way operation of Hayman Lane and Picton Street was generally supported however there were a large number of respondents in the undecided/no opinion category.

The direction of one way travel proposed in the report was supported by half the respondents with 25% undecided and 25% against the proposed directions. As with all the proposed treatments it is recommended that specific consultation should be undertaken before implementing the one way directions as proposed in this report.

A large number of respondents commented that Drayton Street already has a large number of rat running vehicles and has the potential to become the preferred 'rat run' route if the proposed traffic controls are put in place.

Recommendation

Adopt the initial proposal with the addition of:

- Install single lane slow points on Drayton Street (between Torrens Road and Hawker Street).

4.4 Residential Precinct 2

Discussion

The second of the residential precincts is bordered by Hawker Street, Chief Street, Second Street and Wood Avenue. Large areas of this precinct are currently being redeveloped for residential living.

There are currently few specific issues with this precinct. West Street has been noted as having a tight cross section and also high speeds. The intersection of West Street and Third Street has a higher than average crash rates for the area. This location had a total of 5 crashes, all of which were right angle collisions.

Current traffic control devices already employed within this precinct include a road closure on Cogle Street (just south of Third Street) and parking restrictions on West and Brown Streets.

Initial Proposal

- Install parking restrictions on one side of West Street between Hawker and Third Streets.
- Undertake concept design and feasibility analysis for augmenting parking with trees within the road pavement (subject to services – both overhead and underground) on West Street and Green Street. (This is currently being undertaken as part of an Integrated Streetscape project).

The intersection of West Street and Third Street has a higher than average crash rates for the area. This is the intersection of two narrow (6-6.5m) roadways with the issue being sight distance due to large walls placed extremely close to the roadway.

Stop signs are already installed at the intersection. It is difficult to treat this location due to the limited size of the geometry. Consideration could be given to marking the 10m no stopping distance around the corners with yellow lines.

Level of Community Support

As part of consultation on the draft LATM report and recommendations carried out in June/July 2009, specific consultation was undertaken on the following issues:

"Do you support parking restrictions (no parking) on one side of West Street (between Hawker and Third Streets)?"

Agree	26	65%
Undecided/No Opinion	11	27.5%
Disagree	3	17.5%

Parking restrictions on one side of West Street were well supported by respondents.

Recommendation

Retain the initial proposal.

4.5 Mixed Use Precinct

Discussion

This precinct is bordered by Hawker Street, Chief Street, Sixth Street and Park Terrace. There are a number of land uses within this area which is characterised by narrow streets.

Issues include traffic volumes using the local road network to access large sites such as Clipsal, traffic speeds and the number of commercial vehicles. The intersection of Sixth Street and Gibson Street (on the border of this precinct) has recorded 4 right angle crashes.

This area has a number of traffic controls already in place including, parking bans and parking lanes with tree plantings in the roadway.

Initial Proposal

- Investigation, including consultation with property owner/occupiers, should be undertaken for options to restrict access at the Hawker Street and East Street junction. Note that sight distance is restricted at this location making safety an issue. It is recommended that access into East Street be retained but access onto Hawker from East Street should be removed.
- Upgrade Sixth Street and Second Street to collector streets.
- Prepare a road management plan for Sixth and Second Streets to investigate options for widening (possibly as part of the Clipsal site DPA), creating a boulevard and increasing sight distance at intersections, particularly at Sixth Street and Gibson Street. These road management plans should reflect the recommendations of the Bowden Village Masterplan.
- Undertake concept design and feasibility analysis for an upgrade to combine the junctions of Drayton Street and Second Street, and Drayton Street and Sixth Street.
- Undertake concept design and feasibility analysis for augmenting parking with trees within the road pavement (subject to services – both overhead and underground) on Seventh, Eighth, Tenth and Eleventh Streets.

Level of Community Support

As part of consultation on the draft LATM report and recommendations carried out in June/July 2009, specific consultation was undertaken on the following issues:

"Do you support the upgrade of Sixth Street and Second Street (between Drayton Street and Chief Street) from Local Streets to Collector Streets?"

Agree	19	42.5%
Undecided/No Opinion	9	22.5%
Disagree	14	35%

Responses to the proposal for the East Street/Hawker Street junction were generally opposed to a full closure but supportive of restricted access at the junction to improve safety.

The proposed status change of Sixth and Second Streets to collector streets was supported however respondents raised concerns regarding to blind corners along

these streets, the current (limited) width of Sixth and Second Streets, the possible impacts of the redeveloped Clipsal site and the possibility for this upgrade to encourage further traffic to cut through from Park Terrace to Chief Street.

The proposal to combine the junctions of Drayton Street and Second Street, and Drayton Street and Sixth Street was commented on by a number of people as being essential to any plans to upgrade the status of Sixth Street and Second Street. The safety of pedestrians at this location was raised and would need to be improved along with any junction upgrades.

Several comments were received supporting augmenting parking with trees within the road pavement. A number of these responses called for the priority of this recommendation to be raised.

Recommendation

It is recommended that the initial proposal is retained, Sixth and Second Streets should be upgraded to collector street status to provide a connection to the arterial road network from the Clipsal site. It is important that any upgrades which would allow greater traffic volumes to use these streets only be implemented after necessary upgrades to safety are undertaken.

4.6 Hawker Street

Discussion

Hawker Street runs east to west across the study area from Park Terrace to South Road. Hawker Street is a bus route and is classified as a distributor road. As such its traffic function should be protected to allow it to safely and efficiently carry through traffic and collect traffic from surrounding streets within the area.

Installation of safety and efficiency improvements will reduce the likelihood of drivers using the local access streets generating traffic impacts and reduced amenity in those streets.

Issues raised in relation to Hawker Street include speeding, traffic volumes and the number of heavy vehicles. The number of right angle collisions recorded on Hawker Street is also of concern. A total of 5 locations along Hawker Street recorded 3 or more crashes.

Existing traffic controls in place along Hawker Street include; signals at the intersections with South Road, Chief Street and Park Terrace, protuberances, indented parking and street scaping.

Initial Proposal

- Undertake concept design and feasibility analysis for the installation of roundabouts on Hawker Street at Gibson Street, Green Street and Blight Street.
- Investigation should be undertaken into the provision of right turn arrows and associated turn lanes at the Chief Street signalised intersection. An alternative action would be to investigate the replacement of the signalised intersection with a roundabout.
- Investigate building kerb protuberances along Hawker Street to aid in the reduction of right angle collisions at all junctions in particular Blight Street (if no roundabout is possible), West Street and Coglein Street.
- Investigation, including consultation with property owner/occupiers, should be undertaken for options to restrict access at the Hawker Street and East Street junction. Note that sight distance is restricted at this location making safety an issue. It is recommended that access into East Street be retained but access onto Hawker from East Street should be removed.

Comments received regarding the initial proposals for Hawker Street include that roundabouts should only be installed if provision for cyclists and buses can be provided and that any closure at East Street should only be partial to maintain some access for residents.

Recommendation

Retain the initial proposal.

4.7 Chief Street

Discussion

Chief Street is the only remaining street within the study area with continuous access from Torrens Road to Port Road. As such its traffic function should be protected to allow it to reach its potential for carrying through traffic and collecting traffic from surrounding streets within the area. Installation of safety and efficiency improvements will reduce the likelihood of drivers using the local access streets generating traffic impacts and reduced amenity in those streets.

The primary issues raised in regards to Chief Street include speeding, rat running, the number of heavy vehicles and the overall volume. Other issues included the behaviour of some vehicles (hoon driving) and the public perception of Chief Street being a higher class of road than it is defined by Council (possibly due to the ample cross section).

Existing traffic controls in place on Chief Street include; traffic signals at the intersections with Torrens Road, Hawker Street and Port Road, a roundabout at the intersection with Fifth Street, protuberances and small central medians.

Initial Proposal

A road management plan should be developed for Chief Street to provide a strong framework for the development of Chief Street alongside of the future redevelopment of the land at the southern extent of Chief Street. This road management plan should reflect the recommendations of the Bowden Village Masterplan.

Options to consider within this plan could include:

- Install line marking including bicycle lanes and a painted central median on Chief Street between Hawker Street and Port Road. This would effectively reduce the width of the roadway without impacting access.
- A bicycle advisory treatment should be investigated along the northern section of Chief Street from Hawker Street to Torrens Road.
- Undertake a review of Ethelbert Square to determine whether the traffic movements through the square should be altered.

Comments received in regards to the initial proposals for Chief Street include that more traffic controls should be considered and that more underpass signs are required to alert traffic to the height restrictions of the underpass.

Recommendation

Retain the initial proposal to develop a comprehensive road management plan for Chief Street.

4.8 Clipsal Site Precinct

This precinct is located in the southern corner of the study area between Sixth Street, Chief Street, Port Road and Park Terrace. The precinct includes the Clipsal site and Origin Energy site.

No specific treatments for this precinct have been included within this study due to the uncertainty regarding the specifics of the exact uses for the site. Some general principles with which the TOD should be developed include:

- Minimal vehicular access should be provided into the local network;
- Pedestrian and cyclist access should be provided/encouraged through the site; and
- Commercial vehicle access should be restricted to the arterial network.

South of the railway line there are a number of narrow streets which provide access to businesses, the Bowden train station and Hindmarsh Library. Station Place has a half road closure which forces all traffic to leave the area via Gibson Street. Traffic

speeds are generally controlled by the tight alignment of the roads and volumes are limited by the limited number of traffic generators in these locations.

5. Summary of Recommendations

The recommendations include traffic management measures for the road network and specific locations, comprising treatments, investigations and/or further monitoring. Many of the recommended actions will require further detailed investigation, consultation with the immediately affected property owners and detailed design before implementation should be considered.

Refer to Appendix F for conceptual plans of the proposed traffic management measures.

The priority for each of the traffic management recommendations is a comparative ranking based on a number of factors including, ease of construction, likely cost, treatment effectiveness and the severity of the issue the treatment is attempting to ameliorate.

These recommendations are subject to future detailed consultation with affected residents/property owners and funding. The detailed design of each proposed device will need to consider provision for pedestrians and cyclists in order to encourage these alternate means of transportation.

Short Term

- Install single lane slow points on:
 - Wood Avenue (at locations as specified within the Wood Avenue Petition report).
 - Blight Street.
 - Coglin Street (between Torrens Road and Hawker Street).
 - Wright Street.
 - Drayton Street (between Torrens Road and Hawker Street).
- Relocate the entry treatment at the Torrens Road end of Blight Street to accommodate the queue of vehicles which currently forms entering Blight Street from Torrens Road.
- Convert streets to one way operation on:
 - First Street between Coglin Street and Pickering Street or Coglin Street to West Street, and Second Streets between Coglin Street and West Street. The one way control on First Street is subject to further consultation and reporting of outcomes to Council.
 - Hayman Lane and Picton Street.
- Install parking restrictions on one side of the road on:

- West Street between First and Second Streets, Hawker and Fifth Streets and Hawker and Third Streets.
- Coglein Street between Fifth Street and Torrens Road.
- Guthrie Street.
- Wood Avenue.
- Install parking restrictions on both sides of the road on:
 - Hayman Lane.
 - Picton Street.
- Upgrade the road hierarchy classification of Sixth Street and Second Street (between Drayton Street and Chief Street) to collector streets.
- Develop a road management plan, in line with the Bowden Village Masterplan recommendations, for:
 - Chief Street.
 - Sixth Street and Second Street.
- Provide access through existing road closures for pedestrians and cyclists.

Medium Term

- Install single lane slow points on:
 - Paget Street.
 - Hythe Street.
- Investigate restricting access to South Road to left in and left out only on Paget Street, Hythe Street, Monmouth Street and Forster Street.
- Investigation, including consultation with property owner/occupiers, should be undertaken for options to restrict access at the Hawker Street and East Street junction to allow access from Hawker onto East but not East onto Hawker. Note that sight distance is restricted at this location making safety an issue.
- Investigate the installation of roundabouts at:
 - Hawker Street and Gibson Street.
 - Hawker Street and Green Street.
 - Hawker Street and Blight Street.
- Investigation should be undertaken into the provision of right turn arrows and associated turn lanes at the Chief Street/Hawker Street signalised intersection. An alternative action would be to investigate the replacement of the signalised intersection with a roundabout.
- Investigate building kerb protuberances along Hawker Street to aid in the reduction of right angle collisions at all junctions in particular Blight Street (if no roundabout is possible), West Street and Coglein Street.
- Investigate measures such as vegetation pruning and building kerb protuberances at junctions to aid in the reduction of right angle collisions particular attention should be paid to Hawker Street.
- Investigate provision of contra-flow bicycle lanes on all existing and proposed one way streets.

Longer Term

- Undertake concept design for the intersection of Cogle Street and First Street. Line marking and protuberances should be provided along Cogle Street to better define the intersection and to move the holding line forwards so that sight distance from First Street along Cogle Street is improved.
- Undertake concept design and feasibility analysis for an upgrade to combine the junctions of Drayton Street and Second Street, and Drayton Street and Sixth Street.
- Undertake concept design and feasibility analysis for augmenting parking with trees within the road pavement (subject to services – both overhead and underground) on West, Green, Seventh, Eighth, Tenth and Eleventh Streets. Note that conceptual design is already underway for Green, West and Third Streets.

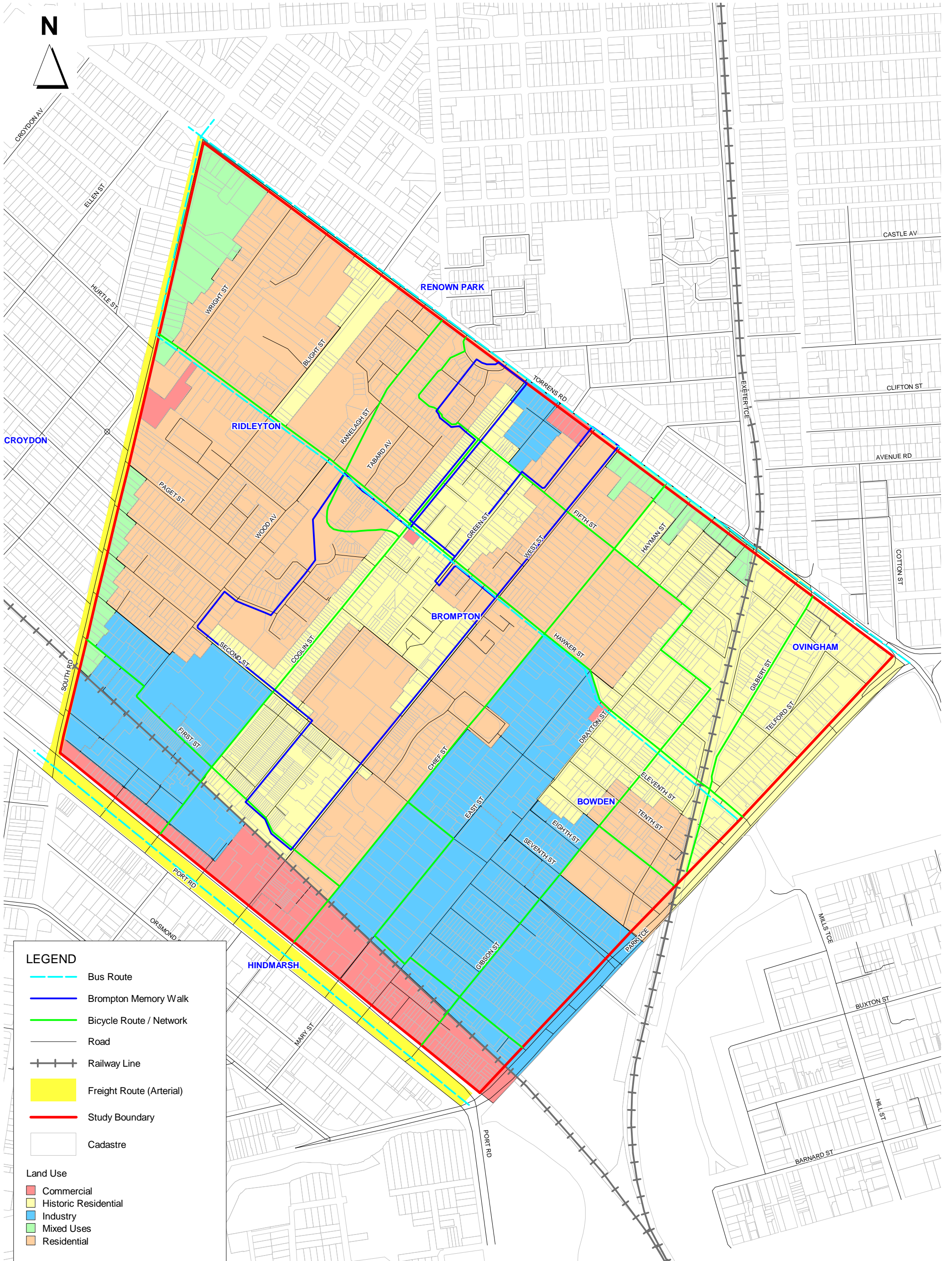
Further Monitoring

Traffic volumes and speeds should be monitored within the LATM study area and assessed against the road hierarchy to determine if the traffic controls placed within the local road network are operating as intended. The impacts of traffic controls, including any changes in traffic behaviour should be monitored to determine the effectiveness of the traffic controls. In addition, key locations to monitor include:

- Hawker Street.
- Chief Street.
- Wood Avenue.
- Sixth Street.
- Second Street.
- Cogle Street (South of Second Street).

Appendix A

LATM Study Area



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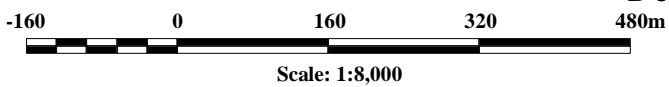


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W www.tonkin.com.au

MAP DETAILS

Streetpro Data:
Job Number:
Filename:
Drawn:
Date:

MapInfo
2008.0443
study area.wor
Matt Brown
13/08/2008



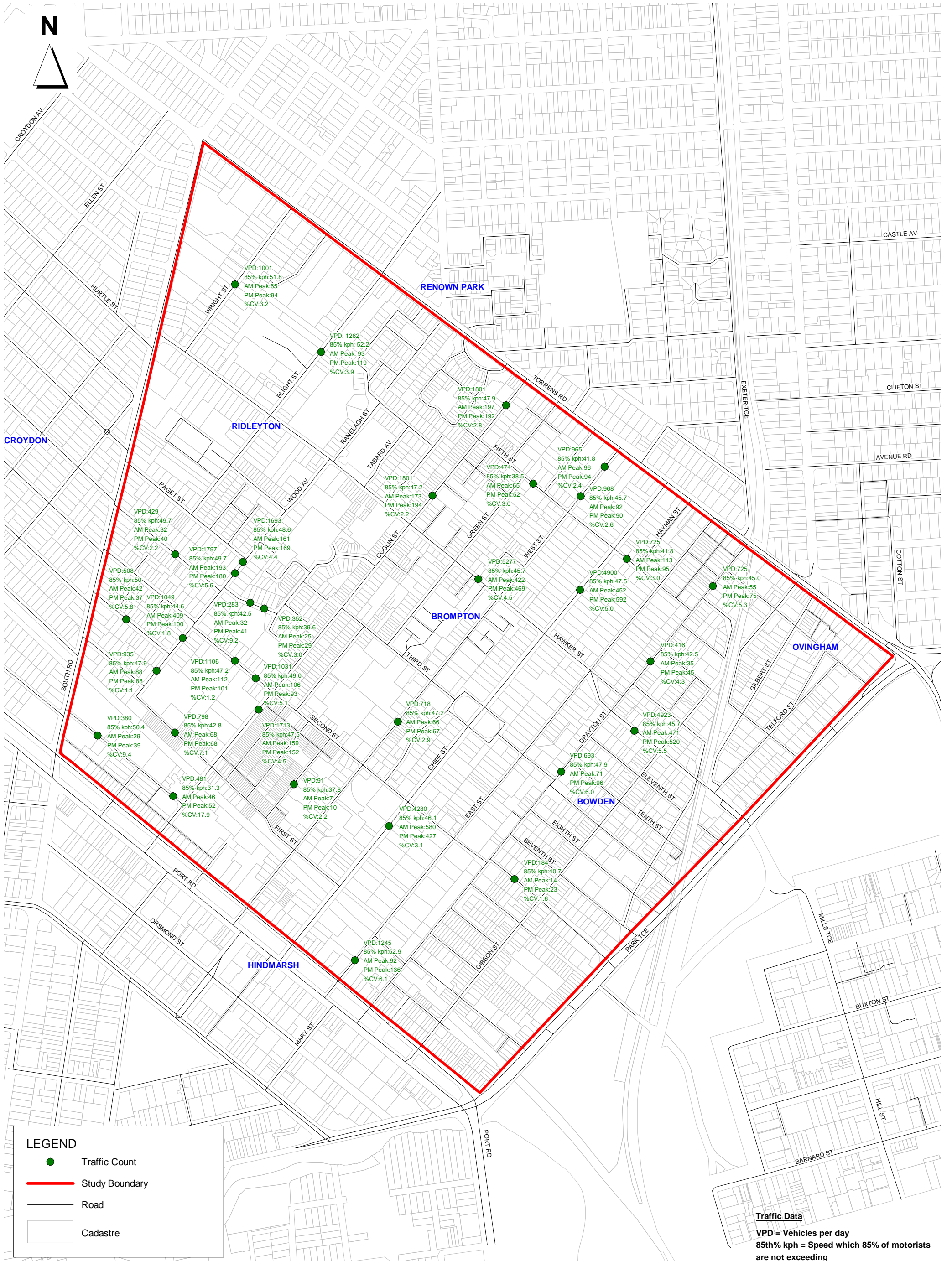
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City of Charles Sturt
Bowden & Brompton Precinct
LOCAL AREA TRAFFIC
MANAGEMENT PLAN

Study Area

Appendix B

Traffic Data – Speed and Volume



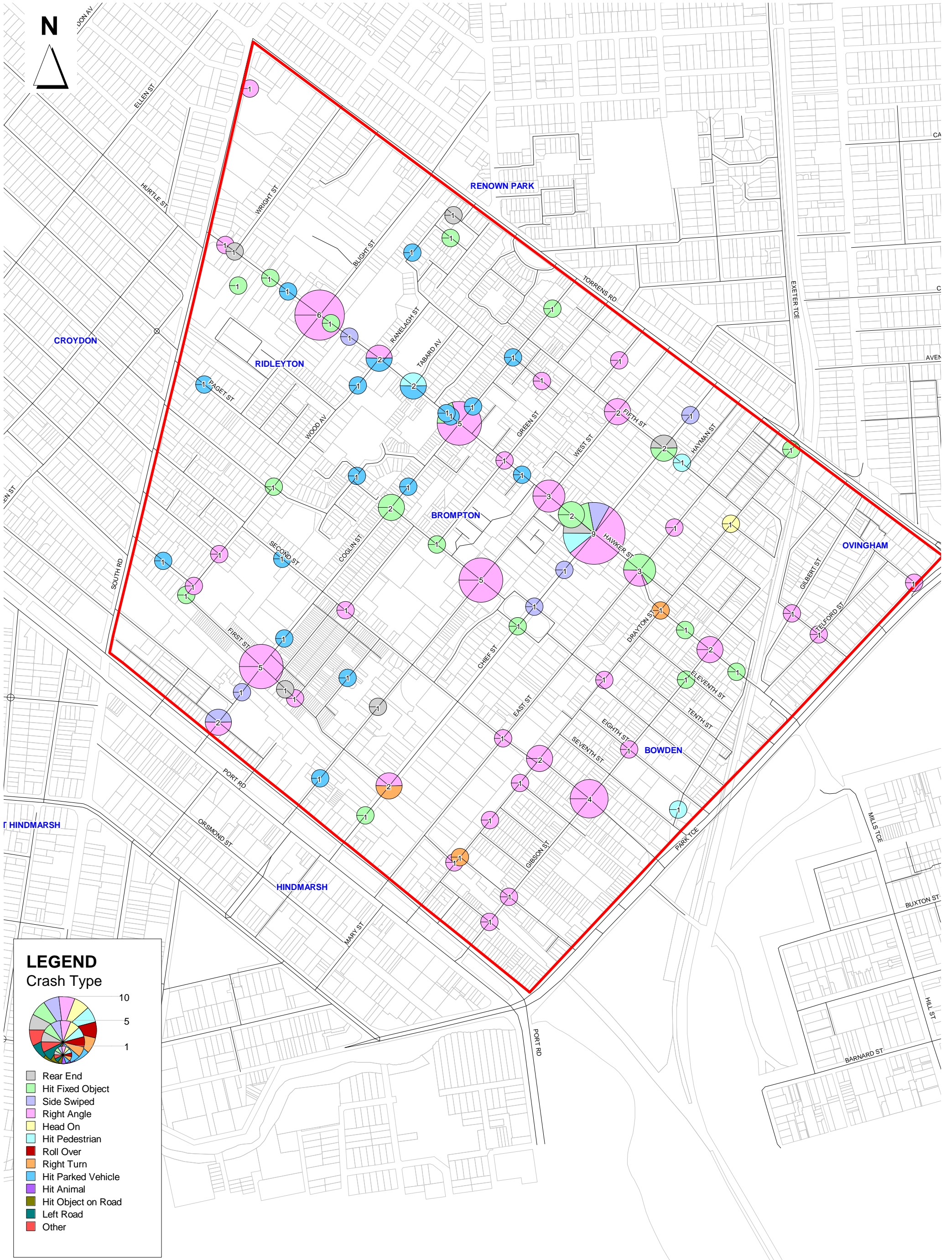
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Appendix C

Collision Data



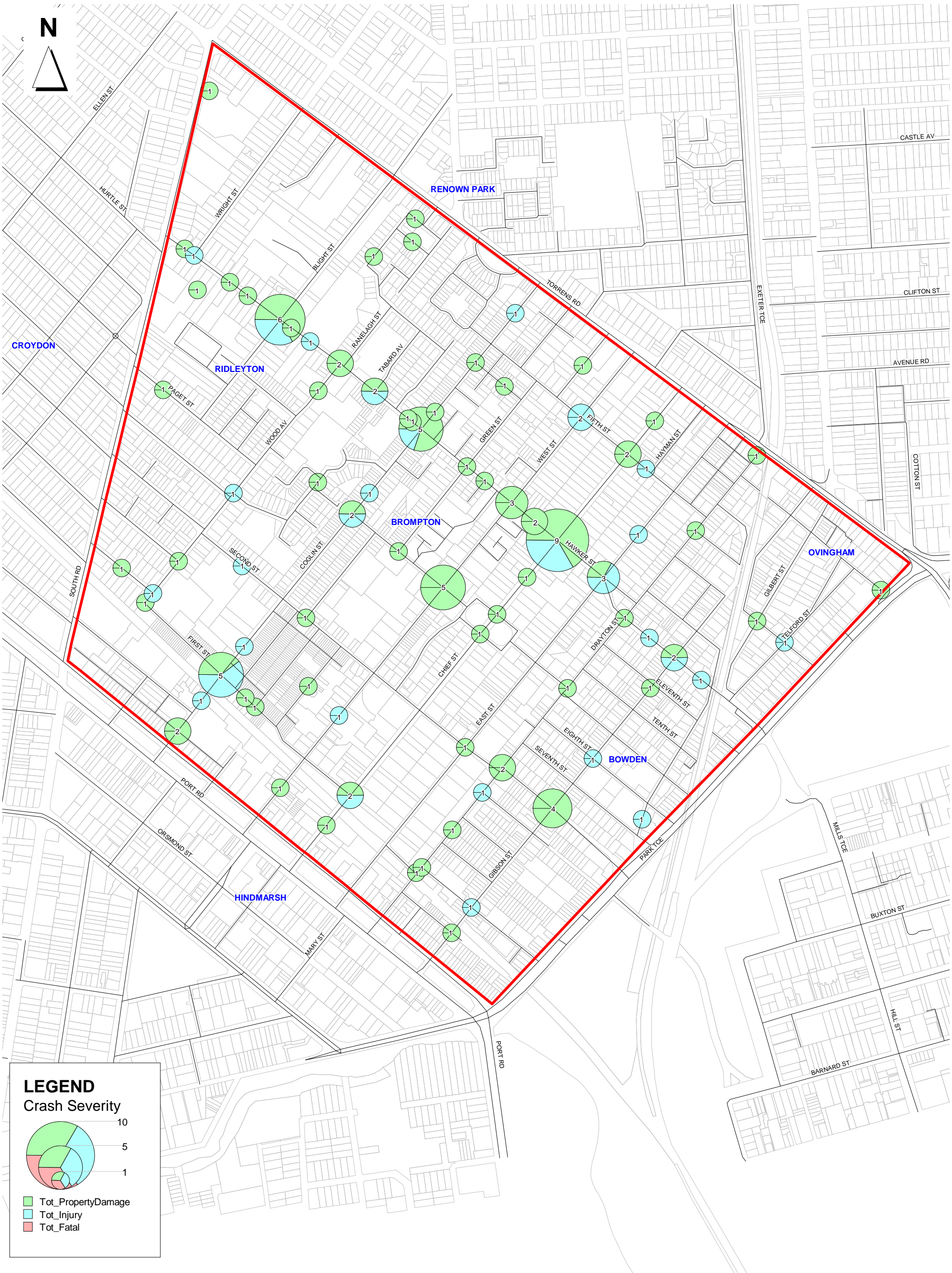
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Accident Data:
Job Number:
Filename:
Date:

MapInfo
Transport SA
2008.0443
crash type.wor
Matt Brown
30/07/2008

-160 0 160 320 480m

Scale: 1:8,000



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MAP DETAILS

Streetpro Data:
Accident Data:
Job Number:
Filename:
Drawn:
Date:

MapInfo
Transport SA
2008.0443
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Matt Brown
30/07/2008

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Appendix D

Consultation Summary



Bowden & Brompton

Local Area Traffic Management (LATM) Plan

The City of Charles Sturt is reviewing traffic and road safety in the Bowden and Brompton area and seeks your input to produce a Local Area Traffic Management plan.

What is Local Area Traffic Management?

As the name suggests, Local Area Traffic Management (LATM) is about managing traffic in local streets. The objective of a LATM plan is to consider the current and future needs of the community that live and work in the area by balancing transport uses. A LATM plan considers all users of the road network including, pedestrians, cyclists, public and community transport, commercial transport, and private vehicles.

LATM can include simple, low cost treatments (e.g. line markings and signs) through to more substantial treatments (e.g. road humps, roundabouts, road closures or driveway links). Treatments are tailored to address problems such as high traffic volumes, high traffic speeds or dangerous intersections.

Examples of LATM plans are available for viewing at www.charlessturt.sa.gov.au

How can I be involved?

Comments can be provided by returning the attached questionnaire in the reply paid envelope or by submitting it via email to council@charlessturt.sa.gov.au.

We are also seeking residents of the area to be involved in a Resident Steering Group that will discuss and refine options for the area based on the data and comments collected.

All feedback must be received by 5 September 2008.



Who can I contact for more information?

Project Coordinator

> Jo Moreau
Tonkin Consulting
T 08 8273 3100

Council Contact

> Sam Adams
City of Charles Sturt
T 08 8408 1281



What happens next?

Council has engaged Tonkin Consulting to develop the LATM plan for your area. Once all data has been collected and comments have been received, options will be developed to address any problems.

These options will be discussed and refined through liaison with the Resident Steering Group and a draft LATM plan will be prepared.

The draft LATM plan will be made available to all residents and businesses in the area for further consultation before a final plan is presented to Council for endorsement.

Once adopted by Council the LATM plan will be implemented over the next 5-10 years. Implementation will be based on priority and subject to available funding.

Photos Front Page

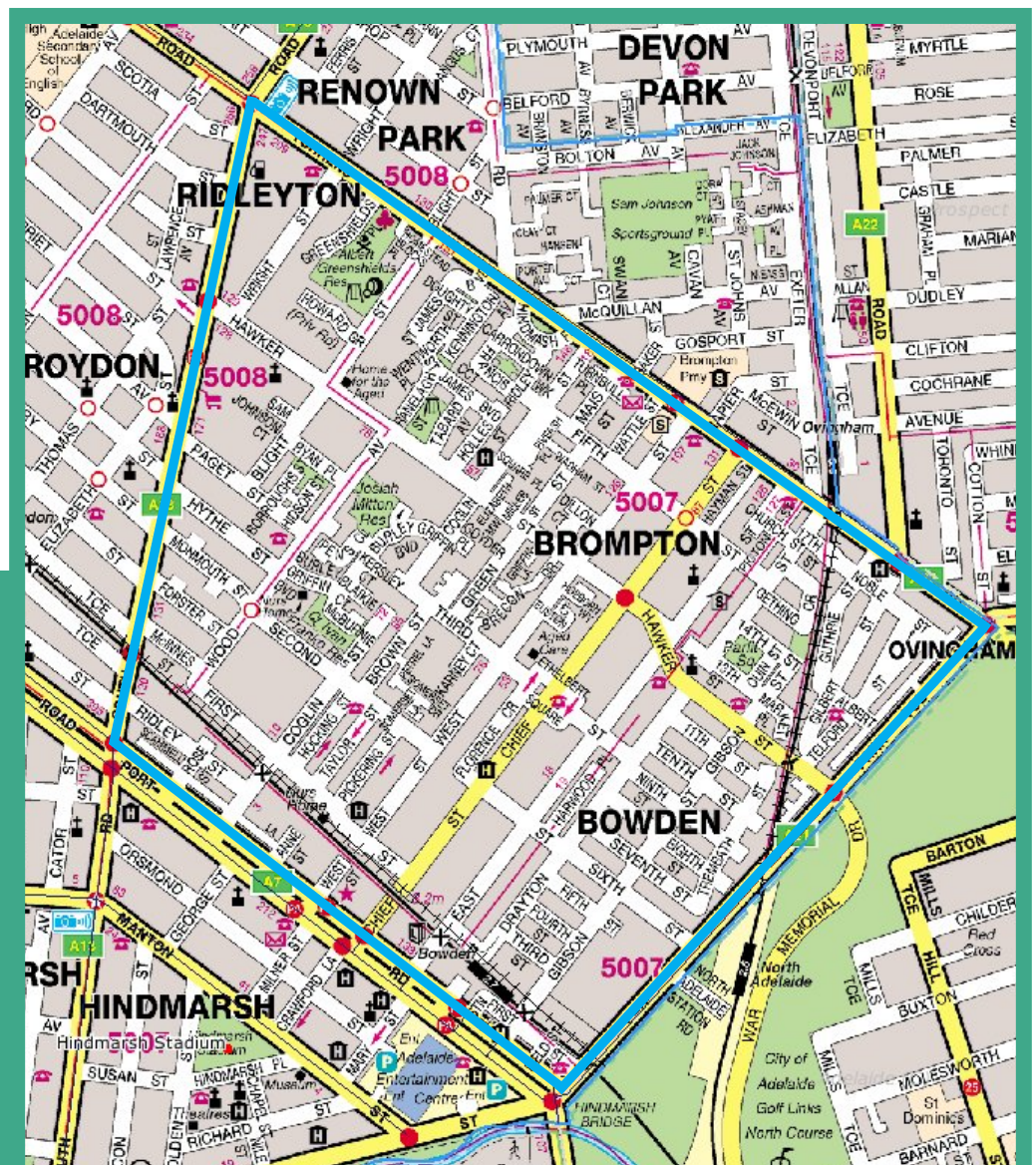
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Road Plateaus
- Top Right
Entry Statement

Photos This Page

- Top Left
Contra-flow bicycle lane
- Top Right
Median islands and indented parking bays

What area will be studied?

This LATM plan includes the suburbs of Bowden, Brompton, Ridleyton and a section of Ovingham, bounded by Port Road, South Road, Torrens Road and Park Terrace. (The boundary roads are excluded from the study).





Bowden & Brompton (LATM) Area 33

Please restrict your comments to the study area as defined in the attached information sheet.

Please return this questionnaire in the replay paid envelope or submit it via email to council@charlessturt.sa.gov.au before 5 September 2008.

Road Safety

1. Are traffic volumes (the amount and type of vehicles) a problem in your area?

☐ Yes ☐ No ☐ Unsure / no opinion

Why/why not and in what locations: _____

2. Are speeding vehicles an issue in your local area?

☐ Yes ☐ No ☐ Unsure / no opinion

Where in particular: _____

3. Do you think cyclists/pedestrians are able to travel safely in your area?

☐ Yes ☐ No ☐ Unsure / no opinion

Why/where in particular is this an issue: _____

4. Do you think on street parking arrangements are appropriate?

☐ Yes ☐ No ☐ Unsure / no opinion

Why/why not and in what locations: _____

5. Do you think other improvements could be made to the street environment?

☐ Yes ☐ No ☐ Unsure / no opinion

Please describe: _____

About You

1. Street you live/work in within the study area: _____
2. Would you like to be part of a Resident Steering Group to work on the next stages of the LATM plan?
☐ Yes ☐ No ☐ Please contact me, I would like further information

Thank You For Your Comments And Feedback

If you would like a copy of the collated community feedback and/or to be involved in the Resident Steering Group, please provide your postal or email address below. Note: This information is confidential and will not be linked to your comments, your comments will be treated anonymously.

Name: _____

Contact Number: _____

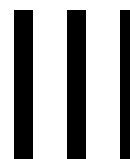
Postal/email address: _____

Fold here first



Delivery Address:
PO Box 1
WOODVILLE SA 5011

No stamp required
if posted in Australia



City of Charles Sturt
Reply Paid 1
WOODVILLE SA 5011

Fold here second

Affix with tape on all open sides - do not staple

Brompton and Bowden LATMP Community Responses

Number of Remarks	Street
1	Ashley Street Speeding
7	Blight Street Speeding
3	Brown Street Rat Running
3	Speeding
2	Chief Street On street Parking issues
27	Speeding
3	Heavy Vehicles
3	rat running
31	Coglin Street Speeding
6	Heavy Vehicles
2	Traffic volumes
5	rat running
1	Drayton Street Heavy Vehicles
2	Limited Parking
20	Speeding
3	rat running
7	East Avenue Speeding
3	rat running
1	Eight Street Speeding
1	Parking on Yellow Line
5	Fifith Street Speeding
2	Francis Ridley Cres Speeding
11	First Street Speeding
4	Heavy Vehicles
1	Foster Street Speeding

	Green Street
2	Too narrow
2	Hoon Driving
4	Speeding
	Gething Crescent
1	Hoond driving
1	Speeding
	Gibson Street
9	Speeding
2	Rat runniong
3	Heavy Vehicles
	Goyder Place
1	Parking issues
1	Difficult to access properties
	Haymen Lane
1	Rat running
	Hawker Street
8	Heavy Vehicles(Trucks)
66	Speeding
3	Ratrunning
	Hythe Street
3	Speeding
2	busy
1	Parking Issues
	Mais Street
1	Limited parking
	Noble Street
2	Speeding
	Paget Street
8	Speeding
	Saint James Blvd
1	rat running
5	Speeding
	Second Street
10	Speeding
6	Heavy Vehicles (Trucks)
1	Rat Running
	Third Street
1	Narrow Street
1	On street parking issues
	Thirteen Street
1	Speeding

Telford Street
2 Hoon Driving
7 Speeding

Quin Street
1 Speeding

Wattle Street
1 Speeding

West Street
6 Speeding

Wood Avenue
29 Speeding
2 On street parking Issues
3 Heavy vehicles
7 Rat running

Wright Street
7 Speeding
1 Heavy vehicles
3 Rat running

Bowden & Brompton LATM - Summary of Community Responses

Number Intersection

- | | |
|---|-------------------------------------|
| | Brown Street/Second Street |
| 2 | Speeding |
| | Coglin Street/Second Street |
| 4 | Speeding |
| | Drayton Street/Hawker Street |
| 2 | Speeding |
| 2 | Blind spot at the corner |
| | East Street/Fifith Street |
| 1 | Speeding |
| | Hawker Street/Gibson Street |
| 2 | Speeding |
| | Wood Avenue/Foster Street |
| 1 | Speeding |
| 1 | Unsafe driving |
| | Wright Street/Hawker Street |
| 1 | Unsafe |
| | Hawker St/Sth Rd |
| 1 | Speeding |
| | East Street/Hawker Street |
| 1 | Speeding |
| | Green Street/Fifth Street |
| 1 | Parking |

Number	Comment
24	Poor footpaths
6	Rail Crossing at Hawker Street (Improve)
9	introduction of Speed humps at certain locations
	One way
1	Green St and Brown Street
18	Better bike lanes and facilities required
4	40 kmph zone
1	School peaks
5	Parked cars
1	Include the Commercial Zone in Survey
1	Taylor St - Bropton More Signs for Oneway St
1	Con's lane - managing

Renown Park

McQuilln Avenue

Parking issues

Traffic during football Matches

Speeding

Ovingham

Gilbert Street

Speeding

Appendix D2

Draft Report Consultation Summary

High Priority Recommendations:

Do you support the installation of single lane slow points on the following streets?

	Yes		No		Undecided/No opinion	
Wood Avenue	29	72.5%	2	5.0%	9	22.5%
Blight Street	29	72.5%	4	10.0%	7	17.5%
Coglin Street (between Torrens Rd and Hawker St)	31	77.5%	5	12.5%	4	10.0%
Wright Street	28	70.0%	4	10.0%	8	20.0%

Do you support the relocation of the entry treatment at the Torrens Road end of Blight Street? The relocation is aimed at reducing the queue of vehicles which currently forms when entering Blight Street from Torrens Road.

28	70.0%	1	2.5%	11	27.5%
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Do you support the conversion of the following streets to one way operation?

First Street (between Coglin Street and West Street)	22	55.0%	10	25.0%	8	20.0%
Second Street (between Coglin Street and West Street)	21	52.5%	11	27.5%	8	20.0%
Hayman Lane	20	50.0%	5	12.5%	15	37.5%
Picton Street	19	47.5%	6	15.0%	15	37.5%

Do you support the one way directions proposed in **Appendix E** of the draft LATM report?

20	50.0%	10	25.0%	10	25.0%
----	-------	----	-------	----	-------

Do you support the installation of parking restrictions (no parking) on one side of the road on the following streets?

West Street (between First and Second Streets)	27	67.5%	3	7.5%	10	25.0%
West Street (between Hawker and Fifth Streets)	25	62.5%	3	7.5%	12	30.0%
West Street (between Hawker and Third Streets)	26	65.0%	3	7.5%	11	27.5%
Coglin Street (between Fifth Street and Torrens Road)	29	72.5%	4	10.0%	7	17.5%
Guthrie Street	25	62.5%	3	7.5%	12	30.0%
Wood Avenue	24	60.0%	5	12.5%	11	27.5%

Do you support the installation of parking restrictions (no parking) on both sides of the road on the following streets?

Hayman Lane	25	62.5%	3	7.5%	12	30.0%
Picton Street	25	62.5%	3	7.5%	12	30.0%

Do you support the upgrade of Sixth Street and Second Street (between Drayton Street and Chief Street) from Local streets to Collector streets?

17	42.5%	14	35.0%	9	22.5%
----	-------	----	-------	---	-------

Moderate Priority Recommendations:

Do you have any comments on the medium term recommendations discussed on page 33 of the report?

Comments:	20	50.0%	10	25.0%	10	25.0%
-----------	----	-------	----	-------	----	-------

Low Priority/Ongoing Review Recommendations:

Do you have any comments on the longer term recommendations discussed on pages 33-34 of the report?

19	47.5%	10	25.0%	11	27.5%
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Comments:

If you have other comments about the draft LATM plan, please provide them here:

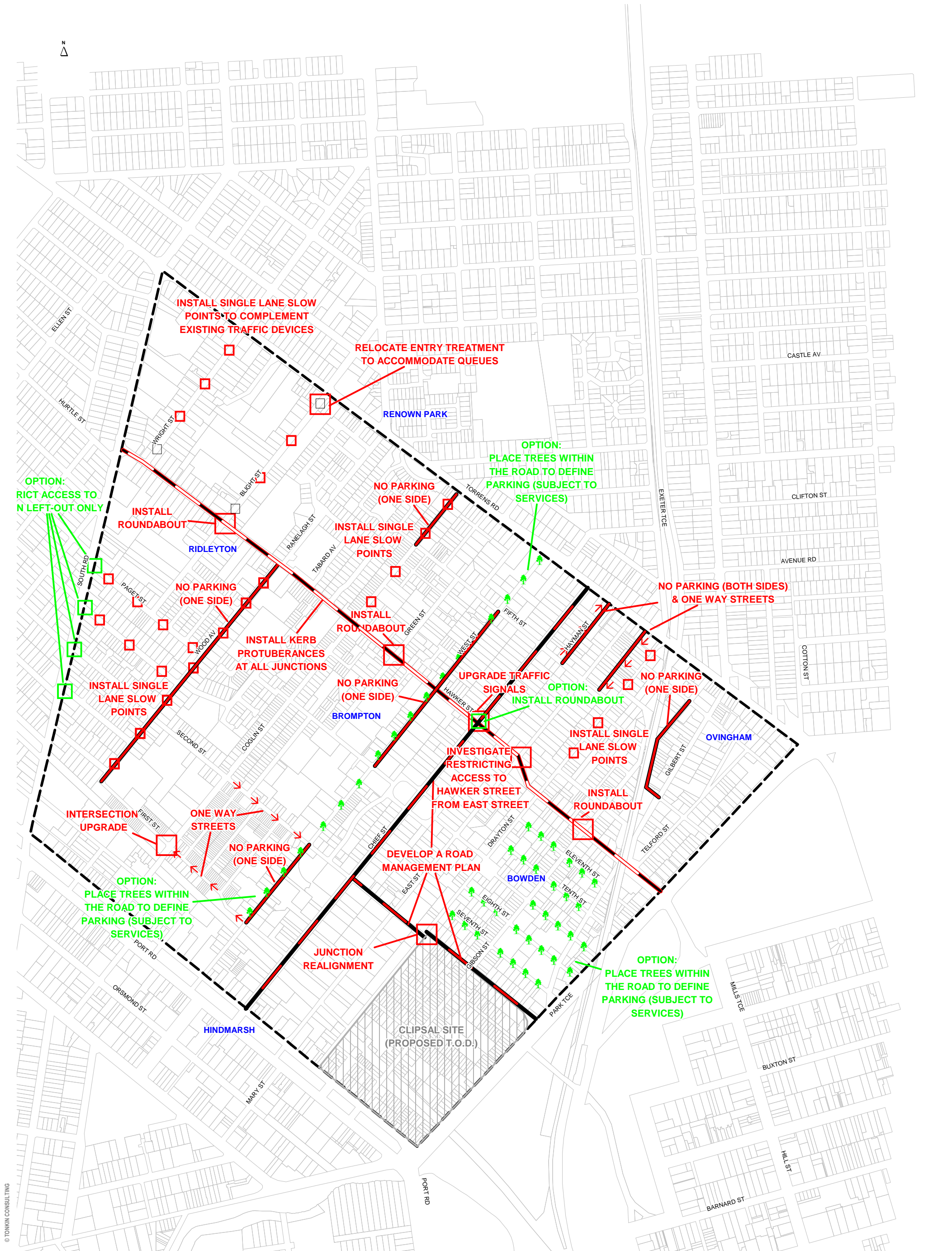
Comments:

Do you wish to make a representation at a Council meeting about this draft LATM plan?

8	20.0%	31	77.5%	1	2.5%
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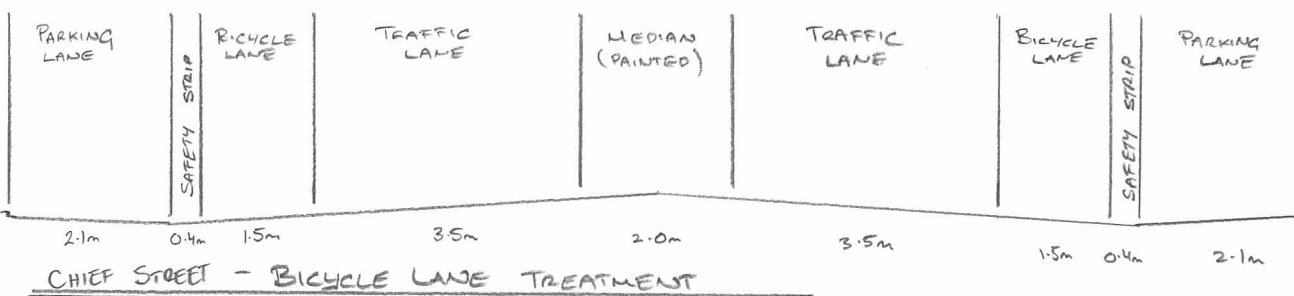
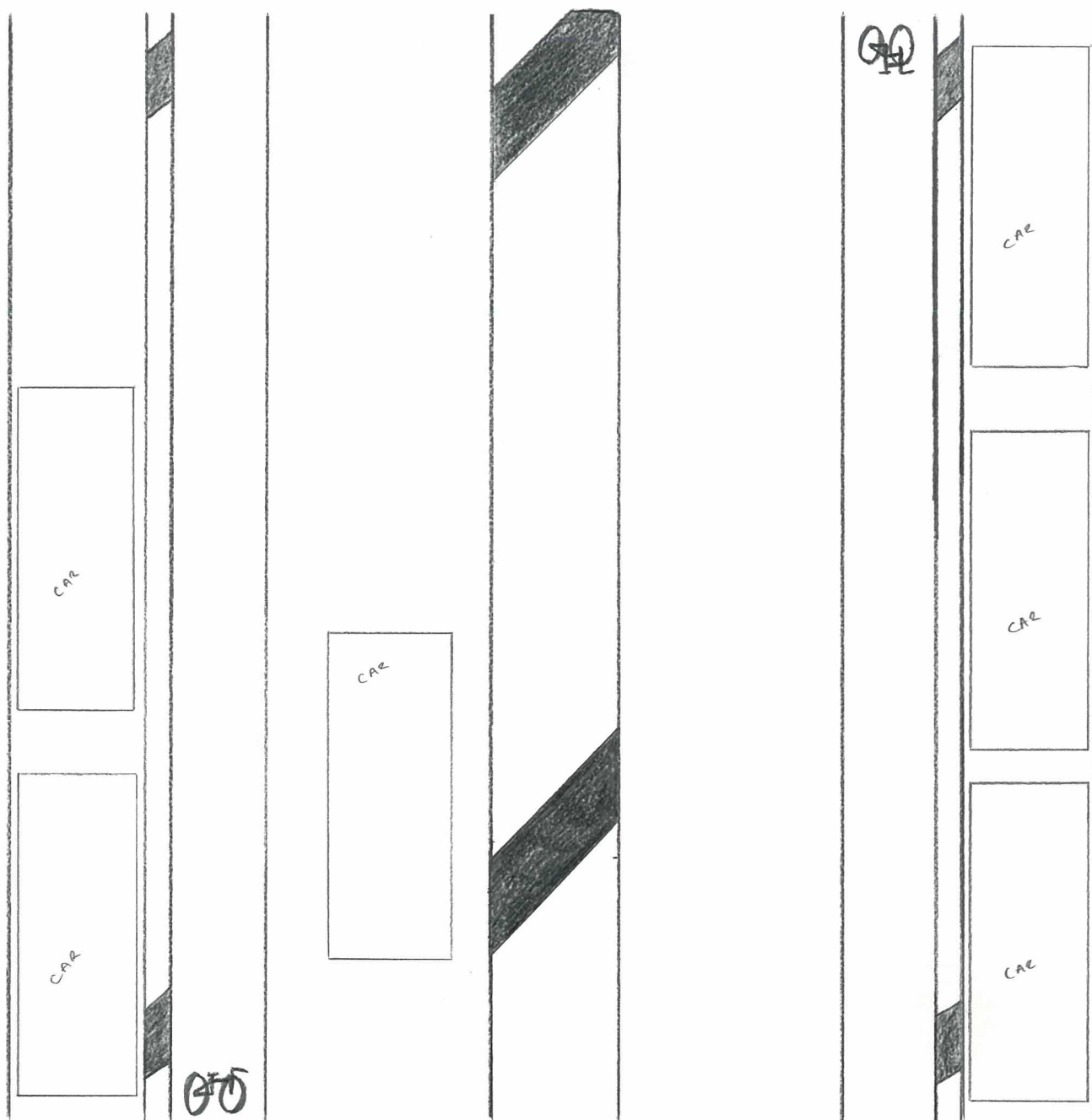
Appendix E

Traffic Management Plan

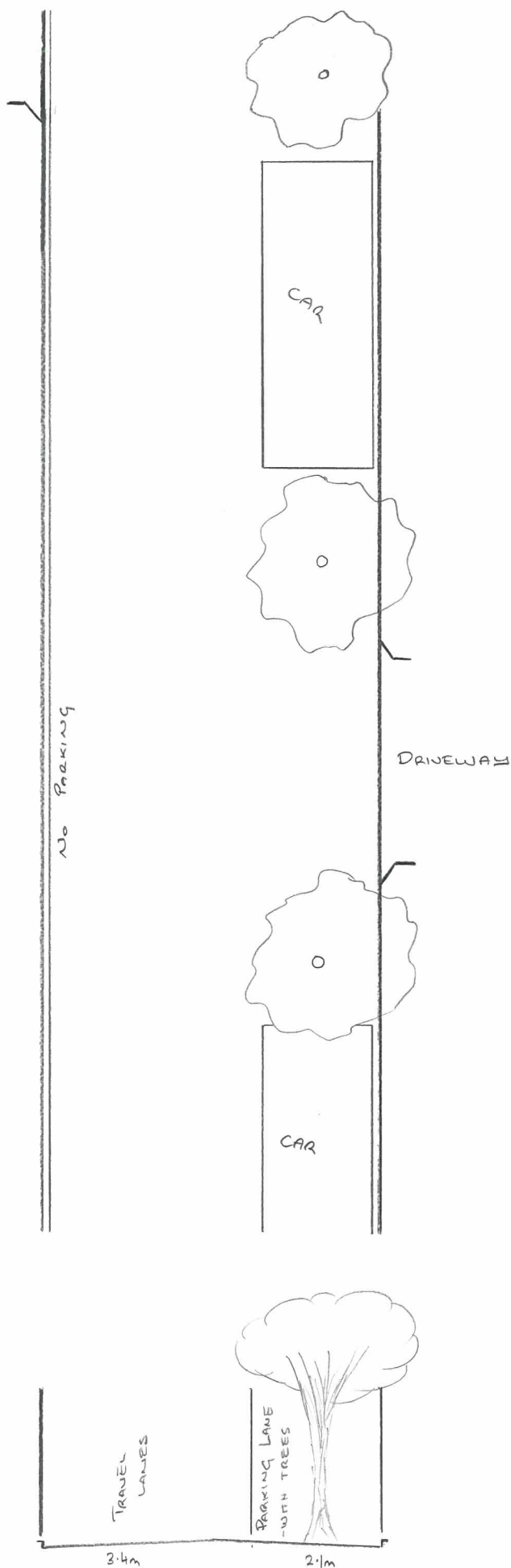


Appendix F

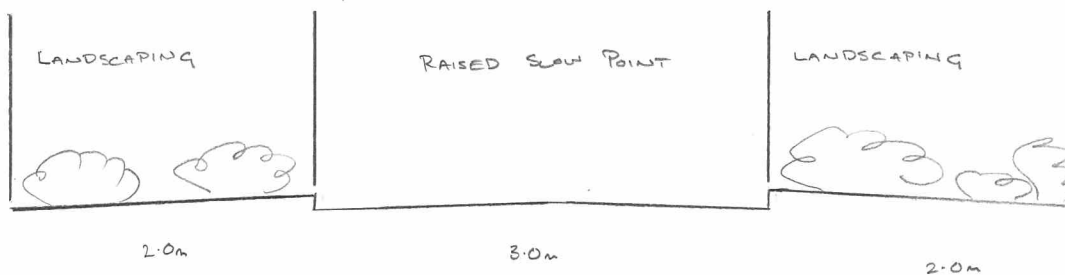
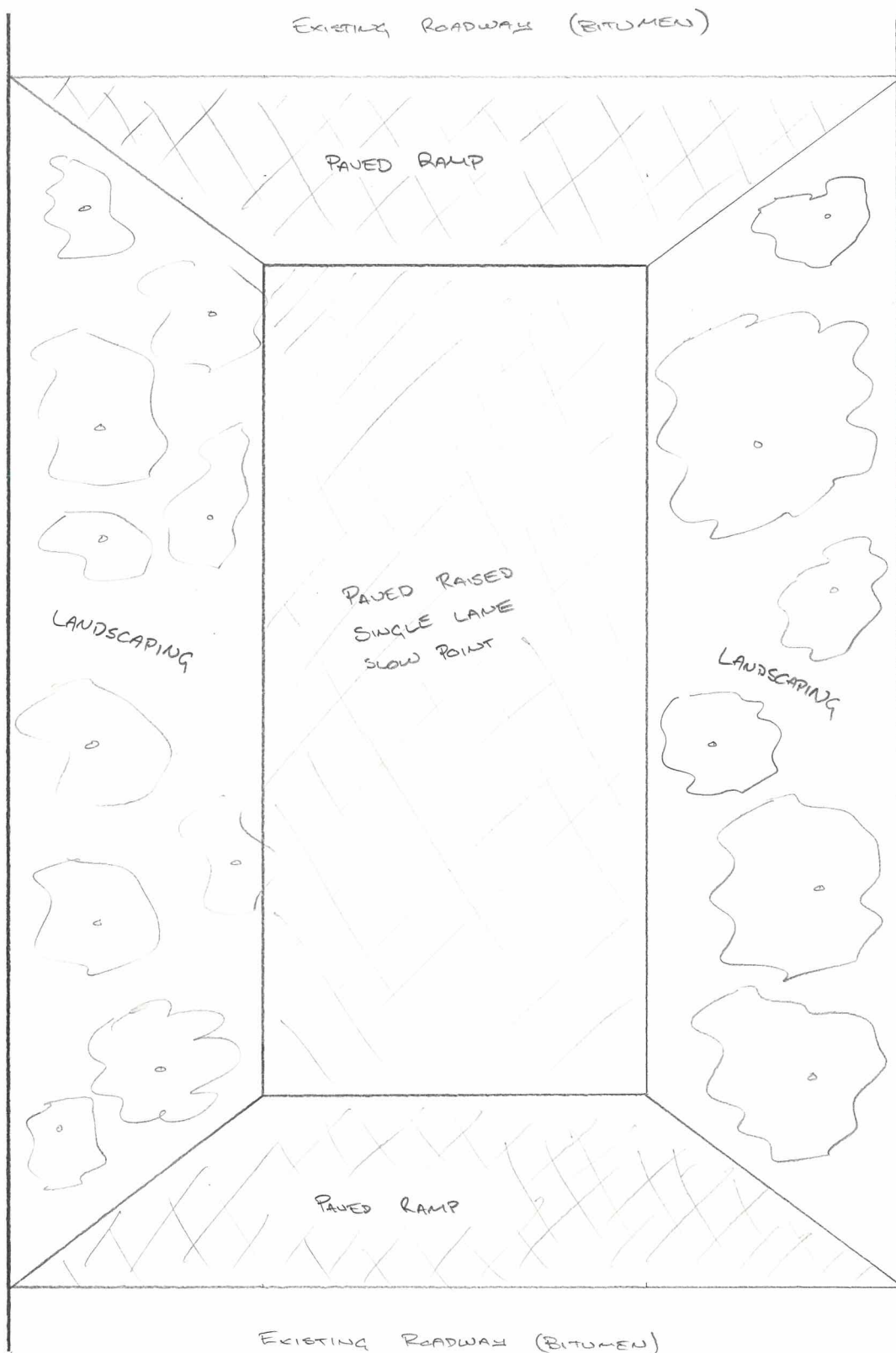
Conceptual Plans – Traffic Management Measures



DRIVEWAY



PARKING BAN AUGMENTED WITH TREES
IN PAVEMENT ON PARKING SIDE (INDICATIVE)



SINGLE LANE RAISED SLOW POINT (INDICATIVE)