

City of Charles Sturt

Woodville West LATM

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1. Introduction

In March 2005 Council engaged Tonkin Consulting, in conjunction with Dorrestyn and Co., to undertake a review of traffic and road safety conditions in each of the following five areas :

- **Athol Park**
bounded by Hanson Road, Ninth Avenue, Grand Junction Road and Glenroy Street
- **Royal Park**
bounded by West Lakes Boulevard, Frederick Road, Old Port Road and Tapleys Hill Road
- **Croydon / West Croydon / Kilkenny**
bounded by David Terrace, Torrens Road, South Road and Port Road
- **Woodville West**
bounded by Findon Road, Trimmer Parade, and Alma Terrace
- **Woodville South**
bounded by Ledger Road, Port Road, Crittenden Road and Findon Road

This report specifically addresses the WOODVILLE WEST area. Separate reports have been prepared for each of the other areas.

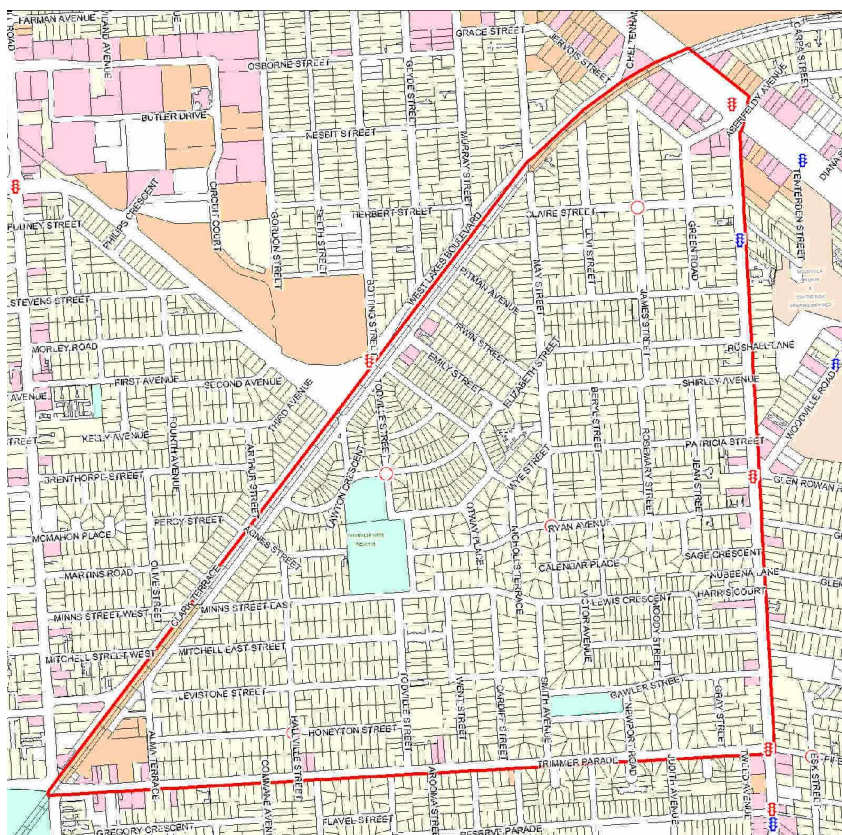
The processes adopted in undertaking each of the reviews has been similar to ensure a consistency of approach and assessment within each precinct. The processes have varied through the involvement of the community in some areas (notably Athol Park and Woodville South).

This report presents the findings and recommendations for the precinct. The recommendations are submitted for Council's consideration and endorsement for further community consultation.

2. Study Area

2.1 General

The Woodville West precinct subject to this review is shown below. Arterial roads (Port Road, Findon Road and Trimmer Road) were excluded from the study which was focussed on traffic conditions within the local area. Notwithstanding, consideration has been given to traffic management along the arterial roads where safety or accessibility to the local streets is adversely influenced.



The area is predominantly comprised of residential development. The Woodville West Reserve and Soccer Club exist centrally within the area. Another reserve exists adjacent Gawler Street. Shops or similar, are located at various locations around the perimeter of the area. A neighbourhood shopping centre exists along Alma Terrace, north of Nicholls Terrace, and Balfours are located adjacent the intersection of Alma Terrace and Trimmer Parade. The Queen Elizabeth Hospital (QEH) is located in close proximity to the area, just east of Woodville Road.

The Henley Beach railway provides a significant barrier to pedestrian access along the west side of the area, and this was the subject of some responses by residents (refer Sect. 4.1). However, a limited number of pedestrian crossing points do exist in various locations along the railway.

2.2 Existing Traffic Controls of Note

The area has been the subject of previous Local Area Traffic Management (LATM) plans. Most notably, a 40 km/h Local Area Speed Limit was approved on 12 August 2001, and implemented on 19 October 2001.

With reference to the figure in Appendix D, road humps (Plateaux) exist along Todville Street outside the Woodville West Reserve. There are a number of roundabouts at the four-way intersections along Hallville Street, the southern section of Alma Terrace, in addition to others elsewhere in the area. Otherwise, substantial use is made of basic give way controls at the majority of the other four-way intersections in the area.

Bus routes in the area exist along Trimmer Parade, Findon Road south of Woodville Road, and along the east section of West Lakes Boulevard north of Clark Terrace. In addition, a bus route is located centrally within the area along Todville Street.

Under the Councils' Local Strategic Bike Plan (1998), the following routes were nominated:

- a north south route along Smith Avenue and May Street, and meets a Shared Path which extends along the east side of the rail corridor between May Street and Port Road;
- a north south route along Hallville Street from Trimmer Parade to Alma Terrace;
- a route that follows the railway, generally along Alma Terrace;
- an east west route along Nicholls Terrace, Wye Street and Patricia Street.

No special or dedicated bicycle road treatments were nominated along these routes. However, any LATM proposals along these routes must facilitate bicycle access.

3. Method

3.1 Overview

A number of steps have been followed in order to qualify and quantify factors affecting the road networks within the study area, including public consultation, site reviews and assessment of available traffic and crash data. This generic approach to the LATM process was adopted in each of the five precincts reviewed.

- Community identification of issues
- Collection and review of traffic data
- Review of available collision data
- Review of background documentation
- Site inspections
- Scheme development with Residents' Committee
- Review by Council administration
- Community feedback process

3.2 Call for Public Submissions

Leaflets were distributed to every letterbox in the area by hand during the period 20 – 25 June 2005. The leaflets invited submissions by residents in relation to traffic management and road safety issues in the respective local areas. They were drafted and formatted in accordance with Council's requirements for public consultation.

In each of the other four LATM precincts, a Registrations of Interest was also sought for residents to represent the local community in each area. The purpose of the proposed Residents' Committees was to assist the consultant team in the process of identifying key issues, possible treatments and possible priorities. A copy of the community circular is included in Appendix A.

3.3 Review of Traffic Data

Traffic classifier surveys were commissioned for locations identified by a review of resident responses, and through a knowledge of the traffic environment in certain

streets. Surveys were carried out at 46 sites throughout the five LATM precincts. Mapinfo (GIS) was used to present the results graphically (refer Section 4.2).

To supplement these surveys, the results of intersection turning count surveys carried out previously by the Department for Transport, Energy & Infrastructure (DTEI) were obtained and examined.

In a few instances, traffic surveys previously carried out by the Council were also considered.

3.4 Collision Data

Details of the road collision incidents reported to the SA Police during the period 1999 – 2004, were obtained from DTEI. The data was analysed to an extent to validate the site-specific concerns of residents. Sites were checked for ‘blackspots’ or areas with a consistently high number of crash occurrences.

3.5 Review of Background Documents

The draft Traffic Management Strategy prepared by QED provides weighted criteria for the prioritisation of the precincts for treatment, within the City of Charles Sturt.

The QED strategy provides a Classical Road Hierarchy and various intervention thresholds, based on traffic speeds, volumes, crash statistics, activity generators and others.

The directions set by the strategy have been taken into account in the preparation of our recommendations for the five areas.

The revised Austroads Part 10, Local Area Traffic Management, provides important theory and philosophy behind a range of traffic management devices, and the implications of their use. For example the use of a certain treatment in one street can lead to a displacement of traffic to another adjacent untreated street. Measures as simple as painted parking lanes can narrow the effective carriageway width of a street and hence slow traffic. Part 10 is useful as an overall guide to the effectiveness of traffic devices, and when and when not to use them.

3.6 Site Investigations

The areas were thoroughly reviewed by vehicle. Some road widths have been checked with a pedometer to confirm that certain devices can be implemented should the consultation process lead Council to that stage.

The locations of existing traffic management devices have been documented, with a view to forming treatment recommendations which compliment existing devices such as roundabouts, indented parking and plateaux.

The site inspections, undertaken from the perspective of a motorist, are important in forming an overall ‘feel’ for each site, and where speeding is likely to occur.

The principals applicable to Network Road Safety Auditing were used to some extent at the sites, for example:

- Noting friction 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
- A check on land use conflicts, for example abutting residential and industrial zones.

3.7 Scheme Development

Based on the information obtained through the above processes, a traffic management plan was developed and subsequently reviewed by the Council's administration. The draft Traffic Management plan and associated report was endorsed by Council for community review on 23 October 2006.

3.8 Community Feedback

All residents who responded to the initial community consultation phase (issues identification) were sent a copy of the draft recommendations and a pro forma response sheet. A public notice was also placed in the Messenger paper notifying the broader community of the Draft Plan, available at Council's office and on the Council Web site. A copy of the community questionnaire is also included in Appendix F.

4. Findings

4.1 Summary & Residents Concerns

Approximately 1235 community circulars were distributed throughout Woodville West in June 2005. 137 submissions were received, representing a response rate of 11.1%.

The following table summaries these responses. Locations that were identified by more than one resident are emboldened, and those identified by 5 or more residents are underlined.

4.1.1 Streets

Alma Terrace
<ul style="list-style-type: none"> <u>Congestion at rail crossing - Inadequate for volume of traffic – inadequate green time - causing much red light running – westbound right turners not waiting for eastbound traffic to clear – wrong side travel (around queued vehicles)</u> Railway is a major source of through traffic (e.g. Trimmer - West Lakes) in the area Minns east – light fitting missing Vision obscured by parked cars when right turning at Trimmer Parade
Claire Street
<ul style="list-style-type: none"> High speed entry to street at Findon Used as part of a thoroughfare (Findon/Claire/Green) to avoid Findon / Port signals
Emily Street
<ul style="list-style-type: none"> noise
Elizabeth Street
<ul style="list-style-type: none"> Emily intersection – unsafe May intersection – source of much through traffic in neighbourhood Through traffic (to kindy, Boulevard, Alma, Todville) noise
Gawler Street
<ul style="list-style-type: none"> Gray intersection – unsafe parking by truck (north side)
Green Avenue
<ul style="list-style-type: none"> drive through Claire give-way signs at speed (nights, weekends) traffic travels north from Claire as a means of bypassing Port/Findon signals (e.g. though route)
Holden Avenue
<ul style="list-style-type: none"> all day parking on south side made driveway manoeuvres difficult through traffic (Findon – railway)

<ul style="list-style-type: none"> combination of parking both sides on weekends, and speeds make street high speed slalom course volumes since closure of May Street railway crossing and opening of Alma/West Lakes Boulevard crossing
<p>Jervois</p> <ul style="list-style-type: none"> safety due to speed into James night time 'activities' whilst parked in street
<p>Levistone Street</p> <ul style="list-style-type: none"> noise through traffic (west am, east pm)
<p>May Street</p> <ul style="list-style-type: none"> drag strip from Ryan – Claire limit parking at #57 (on rubbish pick up days) speed restrictions inappropriate (Trimmer resident) through road from Trimmer - Port
<p>Mitchell Street East</p> <ul style="list-style-type: none"> Speed – 40 km/h less than effective Parking – resident driveways blocked during soccer games at W/West reserve noise
<p>Nicholls Terrace</p> <ul style="list-style-type: none"> truck parked often in front of #20 – street too narrow people not slowing / giving way at Elizabeth intersection
<p>Patricia Street</p> <ul style="list-style-type: none"> road surface poor volumes – shortcut to AAMI shopfront parking at Findon makes entry / exit to street hazardous through traffic to West Lakes noise
<p>Pitman Avenue</p> <ul style="list-style-type: none"> noise volumes safety through traffic
<p>Rosemary Street</p> <ul style="list-style-type: none"> angry drivers finding street a dead end service vehicles (nursing home) reversing out into Ryan Avenue
<p>Ryan Avenue</p> <ul style="list-style-type: none"> near misses at May Street roundabout impact of football traffic after matches truck/trailer parked at intersection of Todville noisy loose manhole cover at cnr of Rosemary through traffic Findon – Trimmer, and via Todville, Alma to West Lakes Blvd missing no u-turn sign at Findon/Glengarry causes through traffic in Ryan

Shirley Avenue
▪ though traffic from Findon - Clarke
Todville Street
▪ Henderson intersection – corner cutting
▪ Trimmer intersection - corner cutting
Trimmer Parade
▪ unsafe where 2 lanes merge to 1 towards Findon, for unfamiliar road users
▪ parked cars obstruct driveway during football matches (#76)
▪ bus stops obscure vision
Wye Street
▪ through route traffic between West lakes Boulevard – Findon (along Nicholls also)

4.1.2 General Comments

Hooning
▪ Alma Terrace
▪ Cardiff Street
▪ Elizabeth Street
▪ Gawler Street
▪ Green Avenue
▪ Holden Avenue
▪ Irwin Street
▪ Jervois Street (night)
▪ James Street at Jervois Street
▪ Lawton
▪ Lewis Crescent
▪ May Street (e.g. May Street intersection etc)
▪ May / Pitman intersection
▪ Moody Street
▪ Nicholls Terrace
▪ Patricia Street
▪ <u>Ryan Avenue (e.g. Nicholls intersection)</u>
▪ Todville Street
▪ Victor Avenue (e.g. at Lewis Crescent intersection)
▪ General

Speed – 40 km/h less than effective

- **Alma Terrace**
- Cardiff Street
- Claire Street
- **Holden Street**
- **Gawler Street**
- Irwin Street
- James Street
- **Patricia Street**
- **Ryan Avenue (mainly night) - 14 such complaints received**
- Lachlan Avenue
- Lawton Crescent
- **Lewis Crescent**
- **May Street**
- Moody Street
- Shirley Avenue
- **Pitman Avenue**
- Hallville (peaks)
- **Minns East (peaks, night)**
- Sage Crescent (at bend)
- Smith Avenue
- **Todville – at Alma intersection; Trimmer – Minns East; Alma-Elizabeth**
- **Emily Street**
- **Victor Avenue (night)**
- **Nicholls Terrace**
- Levistone
- **Elizabeth Street**
- Wye Street
- **General / lack of enforcement - 17 such complaints received**

Hospital Parking – generally relates to all day parking, nowhere for visitors to park; nowhere for put bins (leave them in driveway only to have to move them when leaving / arriving etc

- Patricia Street - nowhere for visitors
- Jean Street
- Patricia Street – at Findon Road (due to QEH)

Parking

- Woodville West Reserve on football days
- Trimmer - Across driveway (56)
- Lawton Crescent – kindy traffic
- Nicholls Terrace Across driveway (9, 28)
- Minns East – parking both sides during soccer matches
- Patricia Street at Findon Road -vision obscured as a result, unsafe
- Pitman/Alma intersection
- Rosemary Street – due to nursing home
- Ryan Street (ifo new houses, hospital parking; too narrow for parking both sides; makes driveway access difficult)
- Todville Street (Alma – Lewis), and elsewhere around W/West Reserve on football days
- Victor Avenue (#8) – difficult to reverse from driveway
- On verges generally

Footpath & Other Pavement Condition Poor

- Alma Terrace – gutter uneven and difficult to negotiate (#133A)
- Beryl Street
- Findon Road - under trees, kerb/gutter at Pitman intersection
- Holden Avenue
- **Honeyton Street**
- Irwin Street
- James Street
- Jean Street – east side Patricia – Ryan
- Levi Street e.g. 2-4, 18
- **Levistone Street – kerb near #27**
- Patricia Street – east end (road and footpath)
- **May Street (55A, 57,); pavement bars at Patricia intersection**
- Moody Street – footpath required west side
- Shirley Avenue (21)
- **Trimmer (56)**
- **Ryan Avenue (#18A-20, cnr Rosemary, 48A, 22, 37A)**
- **Victor Avenue – footpath required**
- Emily Street (#11 etc)
- **Pitman Avenue**
- **Lachlan Avenue (kerb & gutter)**
- Claire Street (northern side near May, near Levi)
- **Area from Gray Street -Todville Street**
- Mitchell Street East – unpaved section boggy ??, 32
- **Went Street**

Footpath / Pedestrian Hazards due to Trees

- Green / Claire intersection – trees obstruct traffic vision
- Levistone – overhanging branches north side
- Patricia Street – overhanging branches
- Ryan (18A-20)
- General

Lighting Poor

- Levi Street
- Emily Street
- James Street (Pitman – Holden, near Shirley)
- **Alma Terrace - Lawton intersection; Minns intersection; roundabouts**
- Patricia (Findon Road end)
- Jervois Street
- **Ryan Avenue; cnr Rosemary**
- Victor Avenue (west end)

Other / General

- Devices make area an obstacle course (Trimmer resident)
- **Concerned that new service to be built on Green Road (Jervois – Port), introducing greater traffic volumes to area**
- **Too many 40 km/h signs / 50 km/h speed zone would be fine / change in SL confusing**
- **Need No Through Road signs for dead end streets (e.g. leading to train line)**
- Uneven concrete footpaths in area
- Clear sign posting needed – often obscured by trees
- Street identification poor
- Elderly people should be able to cycle on footpaths
- Lack of bike facilities in area

4.1.3 Summary – Resident Submissions

The principal issues listed in the submissions were considered to be:

- Alma Terrace / railway crossing intersection – in association with this there were various reports of hazardous driving and through traffic, with this location nominated as a principal source / destination;
- lack of effectiveness and enforcement, of the 40 km/h Local Area Speed Limit (Ryan Avenue, Patricia Street, Pitman Avenue and Todville Street were the primary locations of concern);
- inappropriate driving / hooning.

There was also some concern regarding parking in the vicinity of the Woodville West Reserve, during soccer matches.

4.2 Traffic Survey Data

Speed and traffic volume data was collected during September 2005 in the following streets to quantify the usage of the streets by different types of vehicles and to get a general appreciation of traffic conditions in the precinct. A summary of the data obtained from the surveys is included in Appendix B.

- | | |
|---|------------------------------------|
| • Patricia Street | • Gawler Street |
| • Pitman Avenue | • Holden Avenue |
| • Nicholls Terrace | • Victor Avenue |
| • Alma Terrace (Emily - Irwin) | • Alma Terrace (Lawton – Lawton) |
| • Ryan Avenue (east section) | • Claire Street |
| • Gawler Street | • Todville Street (Alma – Sweeney) |
| • Todville Street (Mitchell East – Levistone) | |

Traffic volumes along streets in the area are generally low and are generally at a level which is consistent with the local function of the streets. Although no traffic survey data is available, some locally significant volumes are likely to exist along Alma Terrace, and possibly Todville Street, in the vicinity of the rail crossing at the West Lakes Boulevard / Clark Terrace intersection.

The recorded 85th percentile speeds varied up to 57 km/h. Ideally, 85th percentile speeds should not exceed 50 km/h in local streets. However, the recorded speeds were lower than expected in some instances, possibly as a result of the existence of the 40 km/h Local Area Speed Limit.

The most concerning aspect in terms of traffic speeds, was the numerous recordings of excessive speeds. Speeds in excess of 120 km/h were recorded in the following streets, during the course of the 7 day surveys:

- Ryan Avenue (east section)
- Alma Terrace (north section)
- Minns Street East
- Patricia Street
- Todville Street

Such speeding 'incidents' are regarded as malicious and a threat to the safety of local residents. They do affect the amenity of local streets. Whilst these incidents are limited in number and certainly indicative of social rather than general traffic problems, LATM can be effective in eliminating such incidents.

The extent of heavy or commercial traffic in the area was found to be at a moderate level for local streets, and not overly concerning. Also, it is of interest to note that this aspect was not a concern of residents (refer Sect. 4.1).

4.3 Collision Data

4.3.1 General

Figures showing the location, type and severity of collisions in the precinct are included in Appendix C. A data listing of details on the various incidents has also been provided. This includes a comparison with similar data for the adjoining area of Woodville South for the same period (1999 – 2004).

The Woodville South data was provided primarily in relation to the introduction of the 40 km/h local area speed zone in 2001. However it is highlighted that Woodville South and Woodville West have remarkably different characteristics in some respects and while comparisons are generally helpful, care needs to be exercised to avoid overstating any conclusions drawn as a result.

The reported incidents for Woodville West indicate that collisions have occurred largely on a random basis, which is typical of local traffic precincts, where the degree of 'exposure' is limited. The records also indicate there have been very few incidents which have resulted in injuries, and none which have resulted in fatal injuries.

The main locations of some concern are:

- Green Street - where 3 of the 4 collisions reported during the period at the Claire intersection resulted in injuries.

The Green / Claire collisions were all right angle incidents. Each of the injury crashes involved an elderly driver who was at fault (74 y.o., 79 y.o. and an 86 y.o.). This is of some interest and will assist in determining what

(if anything) can be done at this intersection, to avoid such incidents from occurring in future.

- Ryan Avenue, where 6 injury and 5 'property damage only' incidents occurred.

There are no obvious aspects in regard to the Ryan Avenue incidents, other than some having been caused by a failure to give way.

The following aspects are also of interest:

- 1 hit pedestrian collision occurred (on roads) at the intersection of Ryan Avenue and Sage Crescent. The collision occurred due to inattention on the part of pedestrian and resulted in minor injuries only, but otherwise there were no aspects of note;
- another 'Hit Pedestrian' incident occurred adjacent the Green / Jervois intersection, but is reported to have occurred in a car park, and hence likely to be outside of the Council's influence;
- it is evident particularly when comparing the Woodville South data, that the proportion of 'Hit Fixed Object' and 'Hit Parked Vehicle' crashes is high;
- both 'Hit Fixed Object' and 'Hit Parked Vehicle' collisions are widely distributed through the area;
- the 'Hit Fixed Object' incidents were mostly single vehicle incidents, occurred at night, and involved a young driver which are common characteristics;
- the 'Hit Parked Vehicle' collisions are not particularly concerning with 8 of the 21 incidents due to 'reversing without due care';
- it is encouraging that only 6 (6) of the reported 21 (18) 'Hit Parked Vehicle' ('Hit Fixed Object') incidents which occurred during the period, occurred after the introduction of the 40 km/h Local Area Speed Zone.

4.3.2 Alma Terrace / Clark Terrace / West Lakes Boulevard Intersection

With reference to Section 4.1, there was substantial interest and concern in relation to this intersection.

The interaction of traffic on Clark Terrace and West Lakes Boulevard is not a concern of this project. However, incidents between vehicles crossing the railway and Clark / West Lakes traffic is of some interest in the light of the resident submissions, as are crashes at the intersection of Alma Terrace and the section of road crossing the railway.

In order to identify those incidents which were of interest from others it was necessary to obtain collision diagrams (prepared by DTEI). These are also shown in

Appendix C. They indicate that during the period of interest (1999 – 2004), there were:

- 3 Right Angle incidents between traffic leaving the railway crossing road and south west bound traffic on West Lakes Boulevard;
- 1 Rear End incident involving traffic leaving the railway crossing road;
- 1 Rear End incident involving south west bound traffic on Alma Terrace.

None of these incidents involved injuries. Two of the incidents occurred at night and one occurred during the morning peak traffic, but generally there were no apparent trends in relation to the timing of these incidents.

In general, given the complaints as well as observations and experiences at intersection, the collision history is not overly concerning.

4.3.3 Collision Costs

To provide an indication of the cost of collisions in Woodville West to the community, a general assessment was made which is summarised in the table below.

Severity	#	%	Rate (\$)	Cost (\$)
Property Damage Only	53	72	5,808	307,824
Minor Injury	16	22	13,776	220,416
Severe Injury	5	7	408,000	2,040,000
Fatal	0	0	1,700,000	-
Total	74	100		2,568,240

The rates used to calculate the overall costs were derived from average collision costs from an authoritative reference¹. These average costs include an allowance for such aspects as property damage, hospitalisation, pain and suffering, and lost productivity in the case of serious or fatal injuries. However, they do not consider the nature of individual incidents and this can have a significant influence on costs.

4.4 Summary of Conditions and Key Issues

The results of the resident submissions indicate that some consideration needs to be given to the maintenance or operation of the 40 km/h Local Area Speed Limit. Obviously community expectations are not being met but that does not mean conditions are unacceptable, or that the lower speed limit should be removed. In fact, with the exception of some isolated and malicious speeding and hooning incidents throughout the area, traffic conditions would appear to be reasonable for the most part.

¹ Bureau of Transport Economics (BTE), 'Road Crash Costs in Australia' – Report 102 (2000), Commonwealth Government of Australia.

In addition to the road safety and speeding concerns in relation to Ryan Avenue, there were also claims of through traffic routes in the street. The presence of non-local through traffic, which can be particularly aggravating to residents, cannot be verified due to the enormous cost of performing Origin and Destination surveys.

However, the route comprising Ryan Avenue / Todville Street would seem to be a logical route for say, traffic from Woodville South travelling to the West Lakes Shopping Centre. The reverse route is likely to be different due to the median closure on Findon Road, and might comprise Todville Street / Minns East street / Victor Avenue, or Todville Street / Smith Avenue.

There were a number of other claims of 'through routes', particularly amongst the east west streets intersecting with Findon Road. In addition to the possible through routes listed above, the 'lines' of collisions, road alignments and the like, indicate internal traffic routes may exist along Elizabeth Street / Holden Avenue, and Alma Terrace / Claire Street.

However, it is quite likely these are in fact the routes of Woodville West residents as much as any other drivers. There are no obvious or particularly good collector route candidates in the area in terms of attractions, or road alignment and construction. The outstanding traffic generator on the west side of the area is the railway crossing to West Lakes Boulevard but in general the routes leading to this point could best be described as disjointed, indirect and certainly less than obvious to non-local traffic. To some extent they would not be particularly attractive to non-local drivers.

Specific concerns which need to be considered or addressed include the following:

- road safety and the operation of the Alma Terrace / Clark Terrace intersection;
- road safety along Green Street and Ryan Avenue;
- traffic speeds in Ryan Avenue (east section), Alma Terrace (north section), Minns Street East and Patricia Street.

5. Discussion and Recommendations

The following discussion and draft recommendations were prepared and released for community feedback.

5.1 Traffic Management Strategy

The Traffic Management Strategy (Sect. 3.5) nominated Ryan Avenue and Todville Street north of Ryan Avenue, as collector roads in the area, which represents a relatively indirect route. There is no doubt the dimensions of the area suggest the need for collector roads. Given the bus route and consideration of the different route choices that traffic has, it may be reasonable to designate the entire length of Todville Street as a collector road.

However, the disjointed and indirect layout of streets in the area and the lack of obvious route choices are helpful features. It is relatively inefficient for non-local traffic. It is also the reason that traffic routes are widely dispersed and why traffic volumes are 'balanced' and generally low, across the area.

The layout of surrounding arterial road network is also noteworthy. Woodville West is located in the place of a 'missing arterial road link' between West Lakes Boulevard and Crittenden Road, and this is potentially a source of significant traffic demands on Woodville West. That is, for traffic travelling between the inner west suburbs (and possibly the Adelaide CBD), and West Lakes, the arterial road choices are reasonably poor and certainly would give rise to the use of Woodville West streets if convenient route choices existed.

It is important that the qualities of Woodville West streets are recognised, to avoid generating new traffic problems through concentrating traffic along one route or another, given the surrounding road network in the region and major traffic generators, which include the QEH to the east and the various West Lakes attractions to the west.

Similarly, in considering any changes or 'improvements' to the roads in the area it is important to recognise the disjointed nature of Woodville West streets, the 40 km/h Local Area Speed Limit and the single railway crossing in the west, do discourage non-local through traffic, so that the consequences of diluting these 'qualities' is also appreciated.

5.2 Traffic Management Scheme

5.2.1 General

In recognising the qualities of the area, in general it is proposed to promote treatments that represent isolated refinements within the area, rather than risk wholesale change. Therefore, it is proposed to avoid 'restrictive' (e.g. road closures) or 'discouraging' (e.g. speed humps, driveway links) treatments in favour of 'control' (e.g. roundabouts, centre blisters) treatments.

Similarly, it is proposed to avoid the promotion of collector roads nominated in Council's Traffic Management Strategy, through treatments that may increase the efficiency or speed of traffic that use those roads.

A summary of the proposed treatments is provided in Appendix D.

An example of each type of traffic control device proposed as part of the traffic management scheme is shown in Appendix E. These have been provided either as an indication of what is proposed, or were prepared to confirm whether or not a specific device was likely to fit etc.

Further details are provided in the subsections below, in relation to individual proposals, and other recommendations.

Recommendation

That the Traffic Management Scheme shown in Appendix D, is adopted as the local area traffic management plan for the area.

5.2.2 Ryan Avenue

A large number of concerns were received from residents regarding traffic conditions in Ryan Avenue, and particularly traffic speeds. The maximum recorded speeds in the street were excessive for a residential area. There were a greater number of collisions resulting in injuries than along any other street in the area.

A roundabout is proposed at the intersection of Rosemary Street. The provision of an effective speed control device in this location will ensure tolerable speeds over the length of the eastern section of the street.

Also, there were three injury collisions at the four-way intersection with Nicholls Terrace. In the light of this it would be desirable to improve conditions at the intersection. However the skew arrangement of roads makes it difficult to improve conditions. Consequently it is proposed to install Pavement Bar (formerly known as Safety Bar) medians on the north and east approaches to better control movements along what is likely to be the principal route of access at the intersection.

5.2.3 Alma Terrace

After Ryan Avenue, the highest number of concerns for traffic speeds, was received from residents of Alma Terrace. Of the traffic surveys carried out as part of this project, the highest 'maximum speed' recorded along any street was in the north section of Alma Terrace.

Whilst the collision history along this section of street was not overly concerning, there is a slight bend where some incidents have occurred. A railway station exists along this section of Alma Terrace as well as a neighbourhood shopping centre. Pedestrian crossing movements are common. Also, pedestrians crossing the road in the vicinity of the railway station are obscured by trees to some extent prior to stepping on to the carriageway.

For these reasons additional speed control along the north section of Alma Terrace is considered to be necessary. Ideally speed control devices would be located at regular intervals along the streets as is the case along the southern section of Alma Terrace. However there are numerous constraints and the only location where the installation of a (mini) roundabout or similar device was considered to be a reasonable proposition, was at the intersection of Emily Street.

Also, a pavement bar median and additional delineation is proposed at the bend north of Pitman Avenue to better control traffic movements in that location.

5.2.4 Minns East Street

Of the streets where traffic surveys were carried out, the equal highest 85th percentile speeds were recorded in Minns East Street. The route formed by Minns East Street and Lewis Crescent is one of the longest uncontrolled continuous lengths of street in the area. Again additional speed control is considered to be necessary.

A roundabout is proposed at the May Street intersection which is a desirable location in the event of speed control being sought elsewhere along the Minns / Lewis route in the future. Also, there were three crashes recorded at the May Street intersection.

5.2.5 Todville Street

In relation to the bus route along Todville Street, road humps (Plateaux) exist between Henderson Avenue and Minns East Street. A relatively small / tight roundabout exists at the Elizabeth Street intersection, which is unlikely to accommodate standard size rigid buses. In the past bus companies were not prepared to use routes where such circumstances existed.

Torrens Transit operates the bus route. Whilst it has tolerated the existing conditions they were regarded as less than ideal.

There were a number of complaints received from residents regarding traffic speeds in Todville Street. In addition, amongst the highest speeds in the area were recorded in the south section of the street. The only appropriate and feasible treatment in this

section was a Centre Blister located immediately south of Levistone Street. However this would not be able to accommodate standard rigid buses and consequently no proposal is made.

5.2.6 May Street

The longest uncontrolled length of street in the area was May Street, north of Ryan Avenue. Relatively high traffic speeds were recorded in May Street. However the traffic volume between Patricia Street and Shirley Avenue was recorded at just 372 vehicles per day.

Whilst it would be most desirable to implement new speed control measures along the street, there was insufficient justification, given the low traffic volumes and the lack of a demonstrable safety problem in the street.

However, a streetscape scheme that enhances the residential nature and 'sense of enclosure' of the street, would be desirable. In this case landscape features would be used to achieve this.

5.2.7 Green Street / Claire Street Intersection

With reference to Section 4.3.1, there have been a number of collisions involving (and caused by) elderly drivers, resulting in injuries at the intersection. An inspection of the site indicated one possible contributor was trees obscuring the give way signs are. Consequently it is recommended the existing Give Way signs are duplicated, so that an additional Give Way sign is installed at a new central median on both Green Street approaches.

5.2.8 Nicholls Terrace / Elizabeth Street Intersection

Concerns have been expressed for safety and driver behaviour at the intersection. Black tyres marks have been a common feature. Through traffic and associated operational issues have also been a concern along Elizabeth Street and streets connecting to Elizabeth Street and Nicholls Terrace e.g. Holden Avenue, Ryan Street.

A roundabout at this intersection is considered to be an appropriate treatment for the intersection that will provide speed and intersection control benefits.

5.2.9 Pitman Avenue & Holden Avenue

Complaints of through traffic, hooning, and traffic speeds were received for these streets.

Whilst significant reductions in traffic speeds have occurred in Holden Avenue since the introduction of the 40 km/h Local Area Speed Limit in the area, the highest growth in traffic was recorded in this street (refer Sect. 5.3.2), whereas significant reductions in traffic generally occurred elsewhere.

Whilst Holden Avenue was a greater concern, particularly in relation to through routes in the area, given that these streets are parallel and serve a similar function, the treatment of each of the two streets should be consistent to prevent undue impacts on the other.

With reference to Section 5.3, it is evident that roundabouts can have a modest impact on traffic volumes which is appropriate to avoid significant redirection of traffic within the area. In this instance mini-roundabouts would be used.

5.2.10 Peculiar Junctions

An assessment of the local road network, and inspections of streets in the area, indicated there are numerous intersections with an unusual e.g. 'Y' shaped layout with limited or no delineation, and where the Give Way requirements were potentially confusing. The following intersections generally displayed these characteristics:

- Jervois Street / Green Road
- Elizabeth Street / Emily Street
- Nicholls Terrace / Wye Street
- Nicholls Terrace / Henderson Avenue
- Henderson Avenue / Otway Place

However crashes have only been reported at the first two of these five intersections. This is not surprising. The uncertainty of Give Way requirements and the lack of guidance often result in an appropriate level of care by non-local traffic whereas Woodville West residents would be well aware of conditions.

Appropriate treatments in these circumstances are better delineation and channelisation. Given both these features lead to greater certainty for drivers, they can cause traffic speeds to increase. Consequently it is proposed only to consider any alterations at the first two of these five intersections.

An example of the proposed adjustments for the intersection of Elizabeth Street and Emily Street is provided in Appendix E. Note, whilst a Paved Threshold is proposed in this location, despite being a helpful delineation feature, they are not necessarily required in every case.

5.3 40 km/h Local Area Speed Zone

5.3.1 General

The extent of criticism of the 40 km/h Local Area Speed Limit (Sect. 4.1) was substantial and hence it was necessary to assess the performance of the lower speed limit in detail.

In this assessment collisions before and after the introduction of the 40 km/h Local Area Speed Limit (LASL) were compared. Also recent traffic surveys have been

compared with previous traffic survey data obtained just prior to the introduction of the 40 km/h LASL.

5.3.2 Traffic Volumes

With reference to the table below, it was appropriate to only compare conditions at those locations where surveys were carried out in 2001 and recently.

Street	Length	Date	Volume (vpd, 5-day, 2-way)		
			Before	After	%
Gawler Street	Gray - Findon	2001 / Aug 06	545	462	-15.2
Holden Avenue	James - Findon	2001 / Aug 06	577	609	5.5
Nicholls Street	Alma - Sweeney	2001 / Sep 05	494	457	-7.5
Patricia Street	Jean - Rosemary	2001 / Sep 05	761	681	-10.5
Pitman Avenue	James – Green	2001 / Sep 05	475	466	-1.9
Todville Street	Mitchell East – Levistone	2001 / Sep 05	968	830	-14.3
Victor Avenue	Lewis - Findon	2001 / Aug 06	530	538	1.5
Alma Terrace	Lawton - Lawton	2001 / Aug 06	1608	984	-38.8
Claire Street	Levi - James	2001 / Aug 06	925	703	-24.0
Todville Street	Alma – Sweeney	2001 / Aug 06	1143	874	-23.5
<i>Average Change</i>					-12.9
<i>Total</i>			8026	6604	-17.7
Pitman Avenue	James – Green	2001 / Aug 06	475	538	13.3

The table demonstrates a significant overall reduction in traffic volumes which is consistent with reductions obtained in other areas where a 40 km/h Local Area Speed Limit was introduced. This is indirect but welcome result of the LASL.

Note because the recent surveys were carried out during different periods i.e. September 2005 and August 2006, one survey was repeated at Pitman Avenue, which indicated a recent increase in traffic volumes but very consistent traffic speed results (see below). The recent traffic volume change was expected and has been attributed to the redevelopment of the Queen Elizabeth Hospital (QEH). Accordingly, the August 2006 surveys, in the vicinity of Findon Road in particular, may understate the reduction in traffic volumes attributable to the 40 km/h Local Area Speed Limit.

The largest reductions occurred in Alma Terrace, Claire Street and Todville Street. These surveys were near the locations where roundabouts were introduced with the LASL. Whilst local redirection of traffic is likely to have occurred, the other results generally provide good evidence that traffic has chosen to avoid Woodville West.

5.3.3 Traffic Speeds

In this instance mean traffic speeds have been used to review the performance of the LASL.

Street	Length	Date	Average Speed (km/h)		
			Before	After	%
Gawler Street	Gray - Findon	2001 / Aug 06	37.5	39.4	5.1
Holden Avenue	James - Findon	2001 / Aug 06	50	39.7	-20.6
Nicholls Street	Alma - Sweeney	2001 / Sep 05	43.5	42.7	-1.8
Patricia Street	Jean - Rosemary	2001 / Sep 05	51	43.6	-14.5
Pitman Avenue	James – Green	2001 / Sep 05	46	40.4	-12.2
Todville Street	Mitchell East – Levistone	2001 / Sep 05	51.8	44.8	-13.5
Victor Avenue	Lewis - Findon	2001 / Aug 06	40.8	41	0.5
Alma Terrace	Lawton - Lawton	2001 / Aug 06	59	45.9	-22.2
Claire Street	Levi - James	2001 / Aug 06	50	41.6	-16.8
Todville Street	Alma – Sweeney	2001 / Aug 06	46	39.3	-14.6
<i>Average Change</i>					-11.1
Pitman Avenue	James – Green	2001 / Aug 06	46	40.6	-11.7

The results indicate generally, that significant reductions in traffic speeds have occurred between 2001 and 2006. Whilst there are numerous influences on traffic speeds, there is little doubt the LASL has had a beneficial impact in relation to traffic speeds.

The results were also similar when comparing 85th percentile speeds, where the average change was –9.3 percent.

In this instance, whilst significant reductions in traffic speeds also occurred where roundabouts were implemented, equally significant reductions in speeds occurred elsewhere e.g. Holden Avenue and Patricia Street.

5.3.4 Collision Data

It is highlighted that whilst the introduction of the lower speed limit is likely to have had a significant impact on safety, there were other positive influences in relation to road safety in the area e.g. roundabouts on Alma Terrace. Obviously vehicle safety improvements are on-going, as are Government road safety programs.

With reference to Appendix C, a comparison of the number of crashes that occurred during each year of the period under review, in Woodville West and in the adjacent area of Woodville South, has been provided.

Not only were there no severe injury collisions in the area from 2002 to 2004, which may be a statistical aberration, but the number of collisions almost halved in Woodville West from 2001 onwards. In comparison, the number of collisions in the

adjoining area of Woodville South, generally increased during the period from 1999 – 2004.

The fact that the downward trend in Woodville West started in 2001, whereas the 40 km/h zone was not implemented until October that year can possibly be explained by the experience that South Australia had with the introduction of Random Breath Testing. It is well known that the lowest rates of drink driving in South Australia occurred in the period leading up to the introduction of Random Breath Testing, due to the publicity surrounding its introduction. The same affect is possible with the introduction of 40 km/h speed zones, particularly given that resident surveys are required prior to the introduction of such schemes, and the fact that there was a substantial amount of publicity regarding the introduction of the lower speed limit.

The comparison of Woodville West and Woodville South provides reasonably robust support for the benefits of the 40 km/h Local Area Speed Zone. Whilst road safety improvements in Woodville West are still a complicating factor statistically (i.e. there were no crashes in Alma Terrace throughout the period), other influencing variables such as government programs and vehicle safety improvements are equal and hence of no relevance.

Whilst it is likely the 40 km/h Speed Zone was a principal contributor to the reduction in collisions in Woodville West, the following statement made in a report² documenting a comprehensive investigation of Australia's largest 40 km/h area scheme may put the benefits in perspective:

“the 40k scheme has resulted in markedly reduced total crash numbers, by around 17%, in absolute terms, on roads whose limit has been reduced”

5.3.5 Summary

Experience indicates it is unrealistic to expect all traffic to travel below the speed limit and generally that does not occur elsewhere. The fact that average speeds remain near or even exceed 40 km/h does not mean the LASL has not been a success. A reduction in speeds was the specific objective of the LASL and that has been achieved.

Whilst traffic speeds can be influenced by many factors, the comparison of collisions in Woodville West and Woodville South provides a strong indication of the benefits of the 40 km/h Local Area Speed Limit. The results of this review provide an indication that speed control can reduce both the incidence and severity of collisions.

Given the reductions in traffic volumes, traffic speeds and in the incidence of collisions along Woodville West streets, the removal of the 40 km/h Local Area Speed Limit would appear to be inappropriate.

² Transport System Centre (2003), 'Impact of the Unley Citywide 40 km/h Limit on Crash Outcomes', University of South Australia for City of Unley.

Recommendation

That the 40 km/h Local Area Speed Limit in Woodville West be retained.

That Council request SA Police, from time to time, to undertake enforcement activities in relation to the 40 km/h Local Area Speed Limit in Woodville West streets.

5.4 Alma Terrace / Clark Terrace / West Lakes Boulevard Intersection

5.4.1 General

With reference to Sections 4.1 and 4.3.2, a substantial number of concerns were received from residents in relation to this intersection, but from a road safety perspective there have been few incidents of concern.

The resident submissions highlighted numerous claims of hazardous incidents and at times desperate driving practices. In a number of instances it was reported the cause of these was related to the inefficiency of the intersection. There were several claims of drivers crossing the railway on the wrong side of the carriageway in order to clear the railway crossing.

The railway crossing is relatively well used with a traffic volume of approximately 3000 vehicles per day. There are 2 westbound and (basically) 1 eastbound lane over the railway crossing. In relation to the exit movements at the West Lakes / Clark intersection, there are two lanes on West Lakes Boulevard to the West, one lane on Clark Terrace and one lane on West Lakes Boulevard to the north.

The queue length for traffic leaving Woodville West, waiting at the intersection, is little more than 1 vehicle although 2 and even 3 vehicles attempt to queue, but obviously obstruct Alma Terrace as a result. It is also evident that when vehicles are queuing to cross the railway, that vision of eastbound traffic at the railway crossing is very poor for northbound traffic on Alma Terrace.

The layout of the intersection also promotes conflicts between vehicles, although those conflicts may not necessarily involve collisions. For instance traffic from the north approach on Alma Terrace, wishing to proceed south on Clark Terrace during peak periods, will no doubt be in conflict with all other traffic, and particularly with traffic from the south approach on Alma Terrace, wanting to proceed north on West Lakes Boulevard. It is the type of location where conditions are likely to generate 'road rage' incidents on a regular basis.

5.4.2 Options Under Existing Conditions

In respect of the options relating to the physical layout of the intersection, which might improve its capacity:

- it would not be possible to provide additional westbound lanes over the railway without reconstructing the entire intersection, due to the number of lanes on the road sections to which railway crossing traffic is directed;
- there would be little benefit in providing additional eastbound lanes over the railway;
- slip lanes at the railway crossing, for traffic travelling in either direction, would allow uncontrolled movements over the crossing and hence would be inappropriate.

Given the limited options for physically improving the capacity of the intersection under existing conditions, the only other option is to adjust intersection timing to ensure a greater amount of 'green time' is afforded to traffic leaving Woodville West. With reference to Section 0, potentially, the limited capacity of the intersection is both helpful and a possible hindrance. However it is expected the additional 'green time' that could be provided would only be limited and is not expected to promote the use of the intersection unduly.

Recommendation

That Council write to the Department for Transport, Energy & Infrastructure requesting the Department to review traffic signal phasing and phase times, with a view to providing additional capacity for westbound movements over the railway at the Alma Terrace / Clark Terrace / West Lakes Boulevard intersection.

5.4.3 Option for Reconstruction

Consideration could be given to an alternative approach to the intersection from within Woodville West. The primary objectives of such an option would be to increase capacity for westbound traffic and to provide drivers with better approach conditions prior to entering the intersection.

This would represent a significant proposal, which could require the acquisition of residential properties in the vicinity of the intersection. In addition, movements through Woodville West may well be improved for non-local traffic (refer Sect. 0), as a result of an improvement in the capacity / operation of the intersection.

In view of these factors, it would be appropriate to fully investigate the available options and to consult with all of the relevant stakeholders.

Recommendation

That Council further investigate and develop options for the reconstruction of the Alma Terrace / Clark Terrace / West Lakes Boulevard intersection.

5.5 Other Issues

5.5.1 Lighting

Several residents expressed concern over the adequacy of lighting throughout the precinct and with particular reference to:

- Alma Terrace - Lawton intersection; Minns intersection; roundabouts
- Emily Street
- James Street (Pitman – Holden, near Shirley)
- Jervois Street
- Levi Street
- Patricia (Findon Road end)
- Ryan Avenue; cnr Rosemary
- Victor Avenue (west end)

Council should review these locations relevant to the normal standard of lighting accepted in residential areas.

5.5.2 Footpaths & Road Construction

The following locations should be reviewed by Council for early intervention and remediation as part of its ongoing footpath and road management strategies:

- Alma Terrace – gutter uneven and difficult to negotiate (#133A)
- Beryl Street
- Findon Road - under trees, kerb/gutter at Pitman intersection
- Holden Avenue
- Honeyton Street
- Irwin Street
- James Street
- Jean Street – east side Patricia – Ryan
- Levi Street e.g. #2-4, 18
- Levistone Street – kerb near #27
- Patricia Street – east end (road and footpath)
- May Street (55A, 57); pavement bars at Patricia intersection
- Moody Street – footpath required west side
- Shirley Avenue (21)
- Trimmer (56)
- Ryan Avenue (#18A-20, cnr Rosemary, #48A, 22, 37A)
- Victor Avenue – footpath required
- Emily Street (#11 etc)

- Pitman Avenue
- Lachlan Avenue (kerb & gutter)
- Claire Street (northern side near May, near Levi)
- Area from Gray Street - Todville Street
- Mitchell Street East – unpaved section 'boggy', #32
- Went Street.

Similarly, hazards to pedestrians due to trees, were reported at the following locations, which should be assessed as part of Council's maintenance activities program:

- Green / Claire intersection – trees obstruct traffic vision
- Levistone – overhanging branches north side
- Patricia Street – overhanging branches
- Ryan (18A-20).

5.5.3 Parking

Problems related to car parking were reported in relation to the following locations:

- Trimmer Parade - Across driveway (56)
- Lawton Crescent – kindy traffic
- Nicholls Terrace - across driveways (9, 28)
- Minns East Street – parking both sides during soccer matches
- Patricia Street at Findon Road - vision obscured
- Pitman Avenue / Alma Terrace intersection
- Rosemary Street – due to nursing home
- Ryan Street (in front of new houses, adjacent driveways)
- Todville Street (Alma – Lewis), and elsewhere around Woodville West Reserve on football days
- Victor Avenue (#8) – difficult to reverse from driveway

It would be appropriate for Council parking inspectors to review these locations from time to time, for any illegal parking practices.

6. Community Feedback

Further to the endorsement of the draft Traffic Management Scheme by Council for community review in October 2006, community feedback was sought (refer Section 3.8). Overall, responses were received from a total of 79 residents / ratepayers (accounting also for joint submissions). The questions and summarised responses are listed in Appendix F.

This section reviews the feedback received from the community. Where necessary, the comments made have been discussed.

It is noted that in seeking community feedback:

- respondents were asked to assess the traffic management scheme in general, and the primary physical proposals;
- respondents were not asked to consider other recommendations specifically but had every opportunity to comment on them;
- responses were not necessarily provided to every question.

The listing of remarks in the responses is included in Appendix F. This is a summary only due to the extensive nature of many responses, which are not only limited to local traffic management issues. For more detailed information the actual responses can be reviewed.

6.1 Traffic Management Scheme - Overall

Draft Recommendation

That the Traffic Management Scheme shown in Appendix D, is adopted as the local area traffic management plan for the area.

Level of Community Support

88% support was received in the community feedback.

60% of respondents indicated that the plan generally addressed all of their concerns. This is in fact a very supportive result. Members of the community will obviously have numerous desires in relation to traffic management. Also, a wide cross-section of issues was raised in the responses received during the initial call for comment (refer Section 4.1). As such, an affirmative result to such a question would not always be expected.

Suggested Amendment to Recommendation

No change to the scheme or the approach, of a general or strategic nature, is considered to be necessary.

6.2 Traffic Management Scheme – Individual Treatments

Draft Recommendation

Within the scheme there were a number of individual proposals and these were the main focus of the community feedback questionnaire.

Level of Community Support

With reference to the details in Appendix F, support for individual treatments was generally strong, ranging from 80% to 99%.

The highest response rates to individual questions were in relation to the 40 km/h Local Area Speed Limit, the Elizabeth Street / Nicholls Terrace intersection and the Alma / Clark / West Lakes intersection, which generally reflects the highest levels of interest and concern.

Patricia Street and Shirley Avenue

Concerns were expressed for the redirection of traffic to Patricia Street, and to Shirley Avenue.

Previous traffic surveys in the area indicate Shirley Avenue has approximately half the volume of traffic of the other streets intersecting with Findon Road, mainly because the street does not form a convenient route for through traffic, due to conditions at the west end of the street.

Whilst there is very little justification for treatment in Shirley Avenue, the concerns of a number of respondents in relation to Patricia Street were considered to be reasonable. Accordingly a roundabout has now been recommended in that street, at the Rosemary Street intersection, to balance future conditions along parallel streets that intersect with Findon Road.

Intersection Control

Respondents reiterated some previously raised concerns, and raised some new concerns, relating to intersection control issues.

Considering the merits of the traffic management scheme, which has now been substantially endorsed by the community, it was considered to be appropriate to add the following median / channelisation treatments to the scheme in the following locations:

- Jervois Street / Green Street;
- Pitman Avenue, at May Street – to prevent corner cutting by Pitman Avenue traffic;
- Victor Avenue, at Findon Road;
- Todville Street, at Trimmer Parade.

Suggested Amendment to Scheme

The following amendments are recommended in the light of the responses by residents:

- Additional roundabout at the Patricia St / Rosemary St intersection
- Additional Median / Channelisation treatments in the following locations:
 - Jervois Street / Green Street;
 - Pitman Avenue, at May Street;
 - Victor Avenue, at Findon Road;
 - Todville Street, at Trimmer Parade.

The owners / occupiers of properties adjacent all locations where traffic controls devices are proposed, should be consulted early in the design process. This is particularly so in the case of these treatments where consultation is obviously yet to occur in relation to these treatments.

The Public Transport Division of the Department for Transport, Energy & Infrastructure, should be consulted in relation to the proposed treatment in Todville Street.

6.3 Other Recommendations

It is noted that respondents were not asked specifically to comment on other draft recommendations, including.

- Statutory Obligations
- Concept Designs
- Design Issues
- Staging

6.4 Other Issues

The following issues were raised and considered to be important to address, either as issues, or as a result of the number of respondents who raised them.

6.4.1 Parking

Consultation on the draft LATM report, has indicated new or additional concerns for parking generated by the redevelopment of the QEH (initiated during the course of this LATM project). Parking has been displaced from the site as a result of the development. Specifically complaints were made in relation to Ryan Avenue, Patricia Street, Shirley Avenue, Jean Street and Rosemary Street.

In view of the responses to the draft report it was appropriate to give more detailed consideration to parking issues.

Recommendation

That Council review the concerns of residents and seek changes in parking management where appropriate, in relation to the following:

- ***Parking generated by the redevelopment of the QEH;***
- ***Intersections of Woodville West streets and Findon Road;***
- ***Rosemary Street associated with the Nursing Home south of Ryan Avenue.***

6.4.2 Child Care Centre

The new Child Care Centre proposed along Victor Avenue was the source of a number of concerns.

It is understood that at this time, the Child Care Centre is subject to development approval processes and accordingly it would not be appropriate for this report to consider the issue.

6.5 Summary

Overall, there was strong support for the recommendations, which is often not a straightforward achievement in LATM work.

Significantly, there was strong support to retain the 40 km/h speed limit despite concerns that it is not being observed by drivers or enforced by SAPOL.

The Alma / West Lakes / Clark intersection and rail crossing remains a significant issue and the local community certainly seeks improvement there. However, some respondents had highlighted the advice in this report, that any improvement should not result in additional traffic being generated within or through Woodville West.

As a result of the responses:

- An additional roundabout has been proposed in Patricia Street and additional median / channelisation treatments have been proposed in several other locations;
- A new recommendation to investigate further some of the parking issues in the area, predominantly as a result of the recent start in the redevelopment of the QEH.

7. Implementation

7.1 Statutory Obligations

The Council is obliged under the Road Traffic Act, to abide by specific requirements in relation to the implementation of traffic control devices. These are listed under the Minister for Transport Notice to Councils in relation to Traffic Control Devices, Road Closures and Events, under the Road Traffic Act 1961 (17 June 2006). Parallel requirements also exist in relation to such devices as parking control signs.

In general terms, the Minister's notice delegates the authority to install certain traffic control devices to Councils, provided the design conforms to the Code of Technical Requirements for the Legal Use of Traffic Control Devices.

However, there are numerous other traffic control devices which are used from time to time which the Council does not have authority to install, such as Mini Roundabouts, which are proposed as part of the traffic management proposals herein. In this case the Council needs to apply for approval to the Commissioner of Highways, to install these 'excluded' devices.

A traffic impact statement also needs to be prepared for any traffic control device that is to be installed, altered or removed.

Recommendation

That Council meets its statutory obligations in relation to the implementation of any actions arising as a result of this project.

7.2 Concept Designs

Basic concept designs were prepared in some cases:

- to indicate the intended design layout;
- to confirm whether or not a treatment was likely to be feasible in a specific location; or
- to highlight any likely design or approval issues.

These are shown in Appendix E.

In terms of feasibility, the intention was to identify obvious problems. However, whilst prepared (but not presented) to scale and generally to the rules for the design of the

respective devices, it is stressed that the concepts are not definite proof that the devices are feasible.

In general, only surface features have been considered. The impact of underground (hidden) utility services can present significant obstructions and the cost of relocation can be insurmountable. It is also worth noting that an accurate survey base was not available at the time of this report.

Recommendation

That following consultation, detailed designs are prepared in accordance with relevant standards and Codes of Practice, to confirm the feasibility of the proposals and as a basis for construction.

7.3 Design Issues

The process of preparing concepts did highlight some possible issues that will need to be considered at the implementation stage:

1. Roundabout at the Alma Terrace / Emily Street Intersection

Despite the fact that a mini roundabout is proposed, as for the (standard) roundabouts along the southern section of Alma Terrace, there is likely to be a need to encroach on to the railway corridor.

Recommendation

Consult railway authorities during the detailed design of the Alma Terrace / Emily Street roundabout, to ensure encroachment on to the railway reserve is possible.

7.4 Staging

It is proposed the implementation of the traffic management scheme shown in Appendix D is carried out in the order of staging also proposed in the appendix. These were mainly influenced by the crash history, measured speeds and residents concerns. However the proposed treatments are not interdependent, and therefore may be implemented in any order considered to be appropriate by the Council.

Recommendation

That the implementation of the proposed scheme shown in Appendix D, be constructed in accordance with the proposed staging recommendations.

8. Summary of Recommendations

8.1 Traffic Management Scheme

That the Traffic Management Scheme shown in Appendix D, is adopted as the local area traffic management plan for the area.

8.2 40 km/h Local Area Speed Zone

That the 40 km/h Local Area Speed Limit in Woodville West be retained.

That Council request SA Police, from time to time, to undertake enforcement activities in relation to the 40 km/h Local Area Speed Limit in Woodville West streets.

8.3 Alma Terrace / Clark Terrace / West Lakes Boulevard Intersection

That Council write to the Department for Transport, Energy & Infrastructure requesting the Department to review traffic signal phasing and phase times, with a view to providing additional capacity for westbound movements over the railway at the Alma Terrace / Clark Terrace / West Lakes Boulevard intersection.

That Council further investigate and develop options for the reconstruction of the Alma Terrace / Clark Terrace / West Lakes Boulevard intersection.

8.4 Parking Management

That Council review the concerns of residents and seek changes in parking management where appropriate, in relation to the following:

- Parking generated by the redevelopment of the QEH;
- Intersections of Woodville West streets and Findon Road;
- Rosemary Street associated with the Nursing Home south of Ryan Avenue.

8.5 Statutory Obligations

That Council meets its statutory obligations in relation to the implementation of any actions arising as a result of this project.

8.6 Concept Designs

That following consultation, detailed designs are prepared in accordance with relevant standards and Codes of Practice, to confirm the feasibility of the proposals and as a basis for construction.

8.7 Design Issues

Consult railway authorities during the detailed design of the Alma Terrace / Emily Street roundabout, to ensure encroachment on to the railway reserve is possible.

8.8 Staging

That the implementation of the proposed scheme shown in Appendix D, be constructed in accordance with the proposed staging recommendations.

Appendix A

Community Circular



Local Area Traffic Management Review

Woodville West

Council is reviewing traffic and road safety in the **Woodville West** area bounded by:

- Port Road
- Findon Road
- West Lakes Boulevard-Clark Terrace
- Trimmer Parade

A Local Area Traffic Management (LATM) Plan will be developed to address a range of factors including management of the road network for all users including, pedestrians, cyclists, public and community transport, commercial transport, and private vehicles. The LATM plan has to balance the needs of the community that live in the area with the transport uses of the roads within the precinct. Sometimes this is not easy as legitimate traffic movements can affect the residential amenity and safety within the area.

Council has engaged Tonkin Consulting to develop the LATM Plan in consultation with the community. The first stage of the process will be to identify the existing traffic and road safety issues within the precinct. While Tonkin Consulting will examine traffic data and crash records, and undertake their own independent review of the road network, they would also value your comments regarding these matters.

Your comments can be provided by returning the attached response form in the enclosed reply paid envelope.

Once all data has been collected and comments have been received, Tonkin Consulting will develop options for road engineering measures to address the problems. These options will be discussed and refined through liaison with Council and a Woodville West Resident Committee (see the enclosed attachment for further details). A draft LATM plan will subsequently be prepared for broader consultation with all residents and businesses in Woodville West.

Ultimately, Council requires a concise LATM plan for the **Woodville West** precinct that:

- identifies existing and future traffic related problems
- determines if road engineering solutions are warranted, and if so,
- the most appropriate and acceptable solutions to the community.

Residents Committee

Community Representative Selection Process

Development of the Local Area Traffic Management Plan will be assisted by a Residents' Committee, made up of 4-6 community representatives, Ward Councillors, Council's technical staff and Tonkin Consulting.

The role of the Committee will be to:

- clarify and confirm the current and future traffic and road safety concerns in the area
- assist Tonkin Consulting in preparing the draft LATM by considering and selecting the most appropriate road engineering treatments.

The Committee will convene as required, depending on the availability of the members. At this stage, 3-4 meetings are expected as follows:

- project start up – overview and time frames
- confirmation of the issues and concerns identified by the community and data analysis
- consider options and priorities for road engineering treatments
- review draft LATM plan before wider community consultation.

If you are interested in representing the community on this Committee, we invite you to submit a written application. Your registration of interest should include a brief background of yourself, your interest in road safety and traffic management in the area, and your availability for meetings either during working hours or after hours. The Residents' Committee member selection will be based on the above criteria to ensure a cross section of residents are represented (eg. not every one living in the same street).

Please submit your registration of interest in representing the community on the **Woodville West** Residents' Committee to:

Mr Paul Simons

c/- Tonkin Consulting

Registrations of interest can also be inserted in the enclosed reply paid envelope.

For further information contact Paul Simons on 8273 3100.



C I T Y O F

C H A R L E S S T U R T

Woodville West LATM

Community Survey

Name: _____ Address: _____

Please identify any traffic and road safety concerns you have in the area.

- ☐ Speed of vehicles ☐ Parking Arrangements ☐ Bicycle Facilities ☐ Footpaths ☐ Road Lighting ☐ Road Safety ☐ Other
- ☐ Traffic Noise ☐ Traffic Volumes ☐ Street Environment ☐ Property ☐ Activities associated with land use

Locations and Issues: *(eg. cracked footpath on the corner of Findon Road and Patricia Street)*

What solutions or opportunities do you think could be considered to resolve the issues you have identified?

Solutions/Opportunities

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

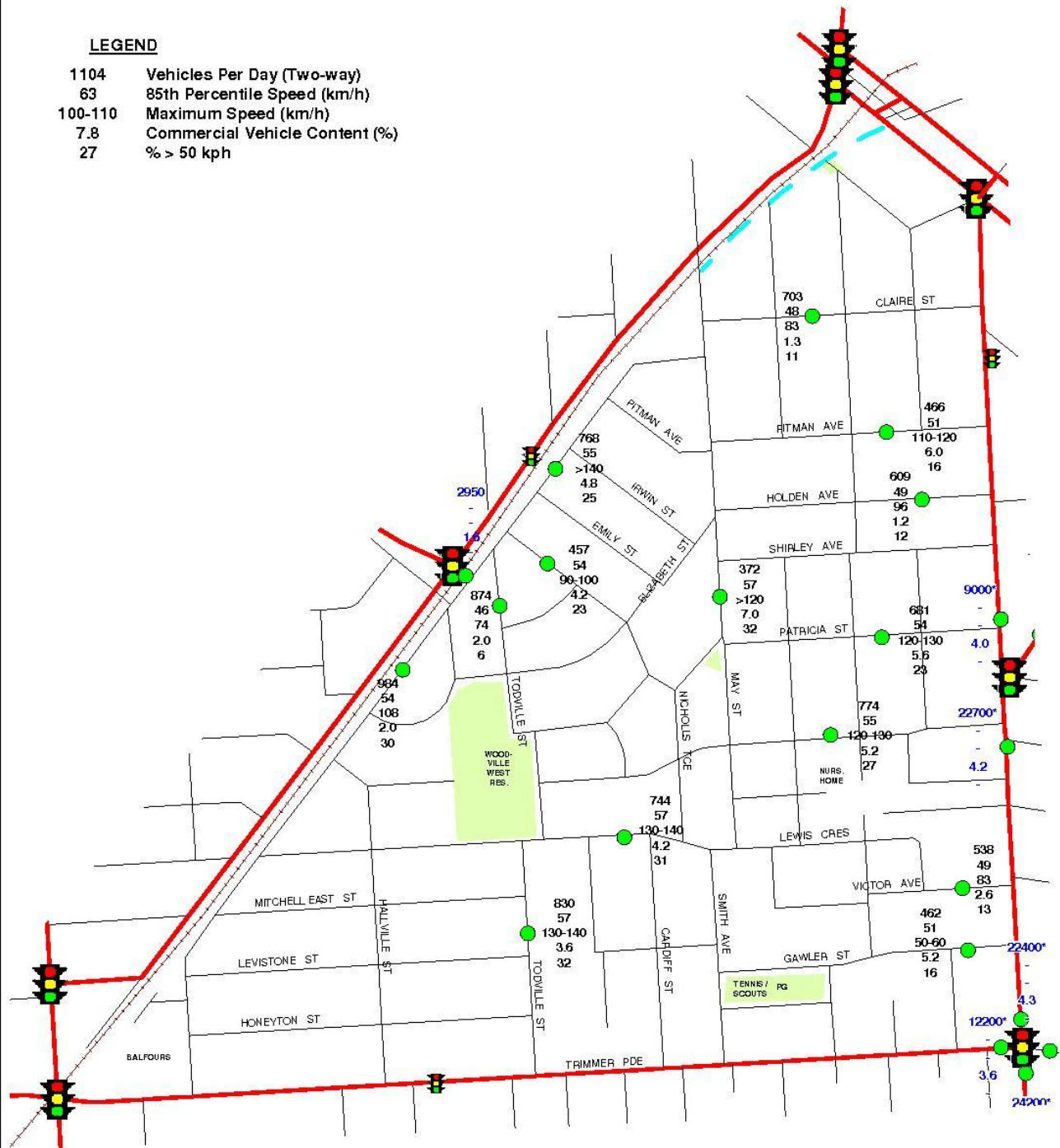
Thank you for taking the time to complete the questionnaire. Please return it in the reply paid envelope marked City of Charles Sturt, 72 Woodville Road, Woodville SA 5052.

Appendix B

Speed and Volume Data

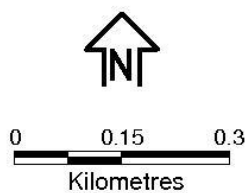
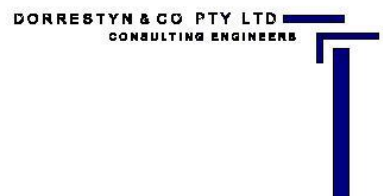
LEGEND

1104	Vehicles Per Day (Two-way)
63	85th Percentile Speed (km/h)
100-110	Maximum Speed (km/h)
7.8	Commercial Vehicle Content (%)
27	% > 50 kph



CITY OF CHARLES STURT WOODVILLE WEST LOCAL AREA TRAFFIC MANAGEMENT

TRAFFIC SURVEY DATA



Appendix C

Collision Data

	Involved		(Woodville South)		Responsible		(Woodville South)
	#	%			#	%	
Cars & Station Wagons	105	76%	74%				
Motorcycle	2	1%	2%				
Motor Vehicle - type unknown	5	4%	6%				
Other	0	0%	0%				
Other Fixed Obstruction	11	8%	8%				
Panel Van	3	2%	4%				
Pedestrian on Road	1	1%	0%				
Pedestrian in Carpark	1	1%	0%				
Pedal Cycle	1	1%	1%				
Pole (not stobie)	1	1%	1%				
Semi Trailer	0	0%	0%				
Sign Post	1	1%	0%				
Tree	3	2%	0%				
Truck	2	1%	1%				
Utility	3	2%	4%				
Wild Animal	0	0%	0%				
Total	139	100%	100%				
Crossing Without Control	1	1%	0%	1	1%	0%	
Entering Private Driveway	3	2%	2%	3	3%	1%	
Leaving Private Driveway	9	6%	4%	9	10%	8%	
Left Turn	3	2%	1%	2	2%	1%	
Overtaking - On Right	1	1%	3%	1	1%	5%	
Overtaking - On Left	0	0%	0%	0	0%	0%	
Parked	22	15%	13%	0	0%	0%	
Reversing	1	1%	1%	1	1%	1%	
Right Turn	14	10%	8%	11	12%	12%	
Stopped on Carriageway	1	1%	4%	0	0%	0%	
Straight Ahead	65	45%	52%	40	43%	52%	
Swerving	3	2%	1%	3	3%	1%	
Unknown	21	15%	10%	21	23%	17%	
Unparking - Angle	0	0%	0%	0	0%	0%	
U-Turn	0	0%	1%	0	0%	2%	
Total	144	100%	100%	92	100%	100%	
Head On	2	3%	8%				
Hit Animal	0	0%	0%				
Hit Fixed Object	18	24%	18%				
Hit Object on Road	0	0%	0%				
Hit Parked Vehicle	21	28%	20%				
Hit Pedestrian	2	3%	0%				
Left Road - Out of Control	1	1%	0%				
Other	1	1%	1%				
Rear End	1	1%	8%				
Right Angle	22	30%	30%				
Right Turn	2	3%	4%				
Roll Over	0	0%	0%				
Side Swipe	4	5%	11%				
Total	74	100%	100%				

	Involved		(Woodville South)		Responsible		(Woodville South)
	#	%			#	%	
No Errors	53	48%	54%				
Inattention	31	28%	23%				
Fail to Give Way	12	11%	12%				
Disobey Traffic Signals	0	0%	0%				
Overtake without Due Care	1	1%	4%				
Fail to Keep Left	2	2%	5%				
Change Lanes to Endanger	0	0%	0%				
Incorrect Turn	0	0%	0%				
Insecure Load	0	0%	0%				
Disobey - Give Way Sign	10	9%	1%				
Excessive Speed	0	0%	1%				
Fail to Give Way Right	1	1%	1%				
Vehicle Fault	1	1%	0%				
Total	111	100%	100%				
				Cost (W'ville West)			
Property Damage Only	53	72%	87%	\$ 307,824			
Minor Injury	16	22%	11%	\$ 220,416			
Severe Injury	5	7%	1%	\$2,040,000			
Fatal	0	0%	0%	\$ -			
Total	74	100%	100%	\$2,568,240			
Sealed	74	100%	100%				
Unsealed	0	0%	0%				
Total	74	100%	100%				
Wet	7	9%	9%				
Dry	67	91%	91%				
Total	74	100%	100%				
Raining	5	7%	4%				
Not Raining	69	93%	96%				
Total	74	100%	100%				
Daylight	50	68%	66%				
Night	24	32%	32%				
Dawn/Dusk	0	0%	3%				
Total	74	100%	100%				
Multiple	0	0%	0%				
Cross Road	24	60%	49%				
T-Junction	16	40%	47%				
Y-Junction	0	0%	4%				
Total	40	100%	100%				
Divided Road	0	0%	0%				
Not Divided	34	100%	100%				
Pedestrian Crossing	0	0%	0%				
Other	0	0%	0%				
Total	34	100%	100%				
Roundabout	3	4%	10%				
No Control	57	77%	72%				
Give Way Sign	14	19%	4%				
Stop Sign	0	0%	14%				
Traffic Signals	0	0%	0%				
Total	74	100%	100%				

	Involved		(Woodville South)		Responsible		(Woodville South)
	#	%			#	%	
000 - 100	0	0%	5%				
100 - 200	2	3%	1%				
200 - 300	1	1%	0%				
300 - 400	0	0%	0%				
400 - 500	0	0%	1%				
500 - 600	0	0%	0%				
600 - 700	0	0%	3%				
700 - 800	3	4%	3%				
800 - 900	4	5%	5%				
900 - 1000	2	3%	6%				
1000 - 1100	5	7%	5%				
1100 - 1200	3	4%	6%				
1200 - 1300	4	5%	4%				
1300 - 1400	5	7%	10%				
1400 - 1500	5	7%	8%				
1500 - 1600	4	5%	5%				
1600 - 1700	9	12%	5%				
1700 - 1800	4	5%	6%				
1800 - 1900	3	4%	3%				
1900 - 2000	5	7%	5%				
2000 - 2100	5	7%	3%				
2100 - 2200	6	8%	4%				
2200 - 2300	3	4%	5%				
2300 - 2400	1	1%	8%				
Total	74	100%	100%				
Monday	12	16%	13%				
Tuesday	11	15%	19%				
Wednesday	18	24%	16%				
Thursday	15	20%	18%				
Friday	5	7%	11%				
Saturday	5	7%	13%				
Sunday	8	11%	10%				
Total	74	100%	100%				
January	3	4%	8%				
February	6	8%	3%				
March	2	3%	14%				
April	10	14%	10%				
May	10	14%	9%				
June	7	9%	8%				
July	10	14%	4%				
August	4	5%	13%				
September	4	5%	6%				
October	7	9%	9%				
November	6	8%	9%				
December	5	7%	9%				
Total	74	100%	100%				
1999	21	25%	10%				
2000	20	24%	15%				
2001	11	13%	19%				
2002	11	13%	19%				
2003	11	13%	19%				
2004	11	13%	19%				
Total	85	100%	100%				

	Involved		(Woodville South)		Responsible		(Woodville South)
	#	%			#	%	
<5	0	0%	0%		0	0%	0%
5-9	0	0%	0%		0	0%	0%
10-14	0	0%	1%		0	0%	2%
15-19	17	19%	11%		13	24%	13%
20-29	18	20%	28%		8	15%	29%
30-39	17	19%	21%		9	16%	19%
40-49	13	15%	13%		6	11%	11%
50-59	6	7%	7%		4	7%	5%
60+	18	20%	19%		15	27%	22%
Total	89	100%	100%		55	100%	100%
Male	55	57%	61%		39	62%	63%
Female	42	43%	39%		24	38%	37%
Total	97	100%	100%		63	100%	100%

CRASH DIAGRAM

MUNICIPALITY
INTERSECTION

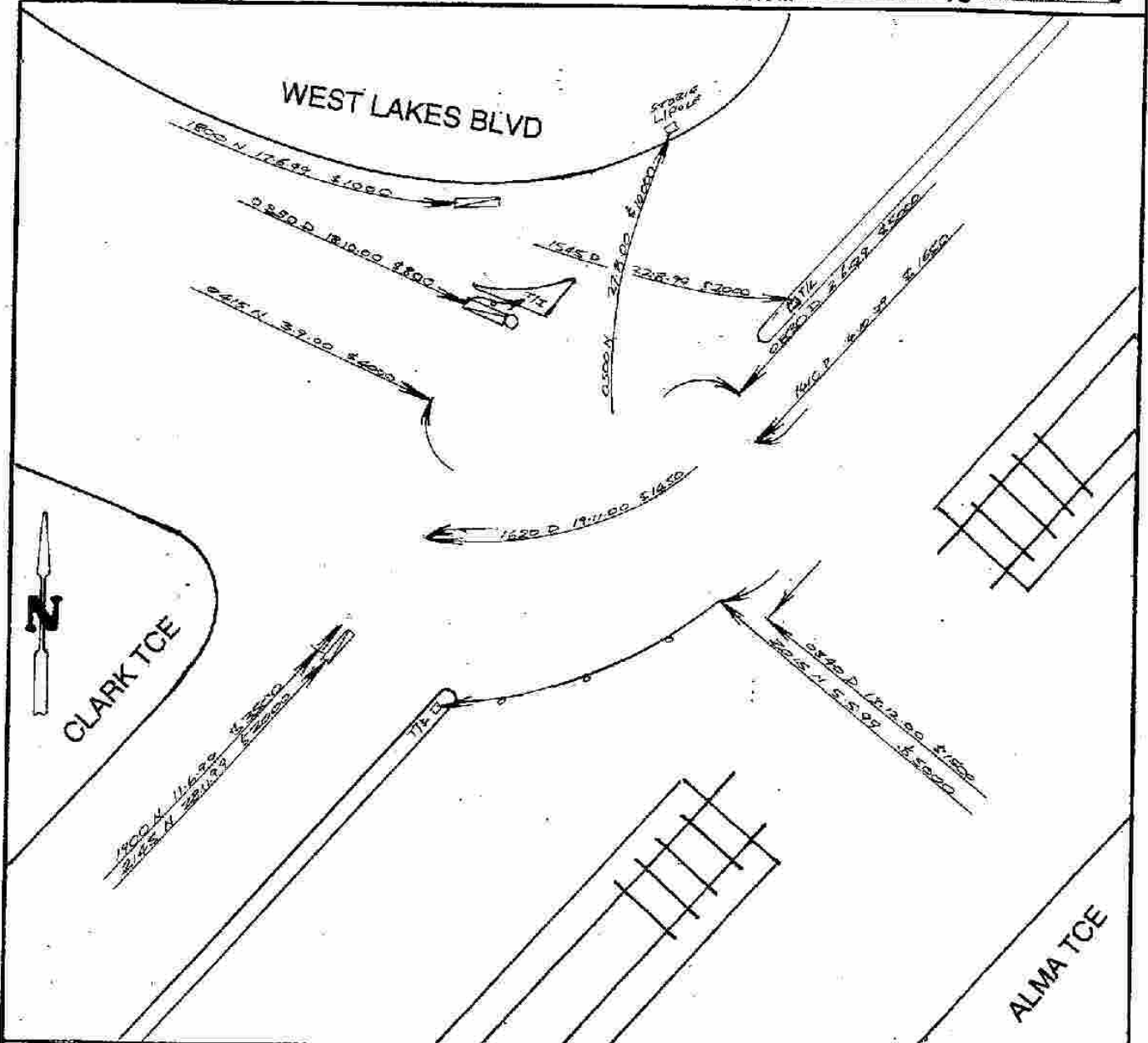
CITY OF CHARLES STURT
WEST LAKES BOULEVARD & CLARK TERRACE

CODE NO

0005836A

0005654C

FROM 1.01.99 TO 31.12.00



LEGEND

- ○ ← MINOR INJURY
- ● ← SERIOUS INJURY
- ●● ← FATALITY
- ○ ○ ← PROPERTY DAMAGE ONLY
- ← ○ → REAR END
- ← ○ ○ → SIDE SWIPE
- ← ○ ○ → OUT OF CONTROL
- ← ○ ○ → REVERSING VEHICLE
- ← ○ ○ → MOVING VEHICLE
- ← ○ ○ → PEDESTRIAN
- FIXED OBJECT
- ▬ STATIONARY VEHICLE
- ▬ PARKED VEHICLE

SUMMARY

YEAR	CASUALTY CRASHES	FATALITIES	INJURIES	DAY	NIGHT	TOTAL NUMBER OF CRASHES	TOTAL DAMAGE
1999				3	4	7	20150
2000	1		1	3	2	5	16300

Compiled By P.T Date 6.2.06

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Government
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Department for Transport,
Energy and Infrastructure

CRASH DIAGRAM

MUNICIPALITY
INTERSECTION

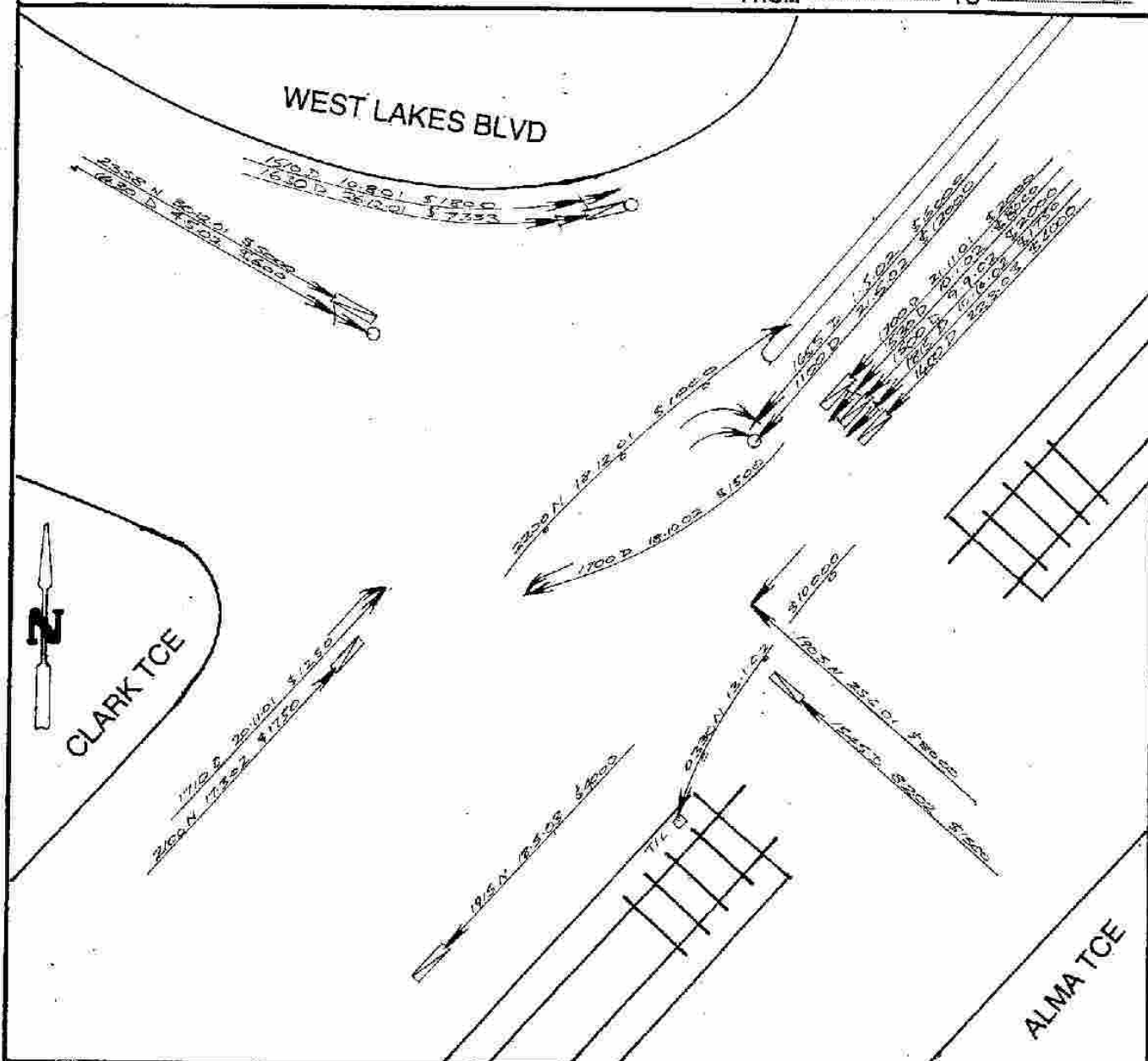
CITY OF CHARLES STURT
WEST LAKES BOULEVARD & CLARK TERRACE

CODE NO

0005836A

0005654C

FROM 1.01.01 TO 31.12.03



LEGEND

- ← MINOR INJURY
- ← SERIOUS INJURY
- ← FATALITY
- ← PROPERTY DAMAGE ONLY
- ←I→ REAR END
- ←S→ SIDE SWIPE
- ←O→ OUT OF CONTROL
- ←R→ REVERSING VEHICLE
- ←M→ MOVING VEHICLE
- ←P→ PEDESTRIAN
- FIXED OBJECT
- ▨ STATIONARY VEHICLE
- ▨ PARKED VEHICLE

SUMMARY

YEAR	CASUALTY CRASHES	FATALITIES	INJURIES	DAY	NIGHT	TOTAL NUMBER OF CRASHES	TOTAL DAMAGE
2001	1		2	4	3	7	21383
2002	2		5	8	2	10	27100
2003				1	1	2	8000

Compiled By P.T.

Date 6.2.06

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CRASH DIAGRAM

MUNICIPALITY
INTERSECTION

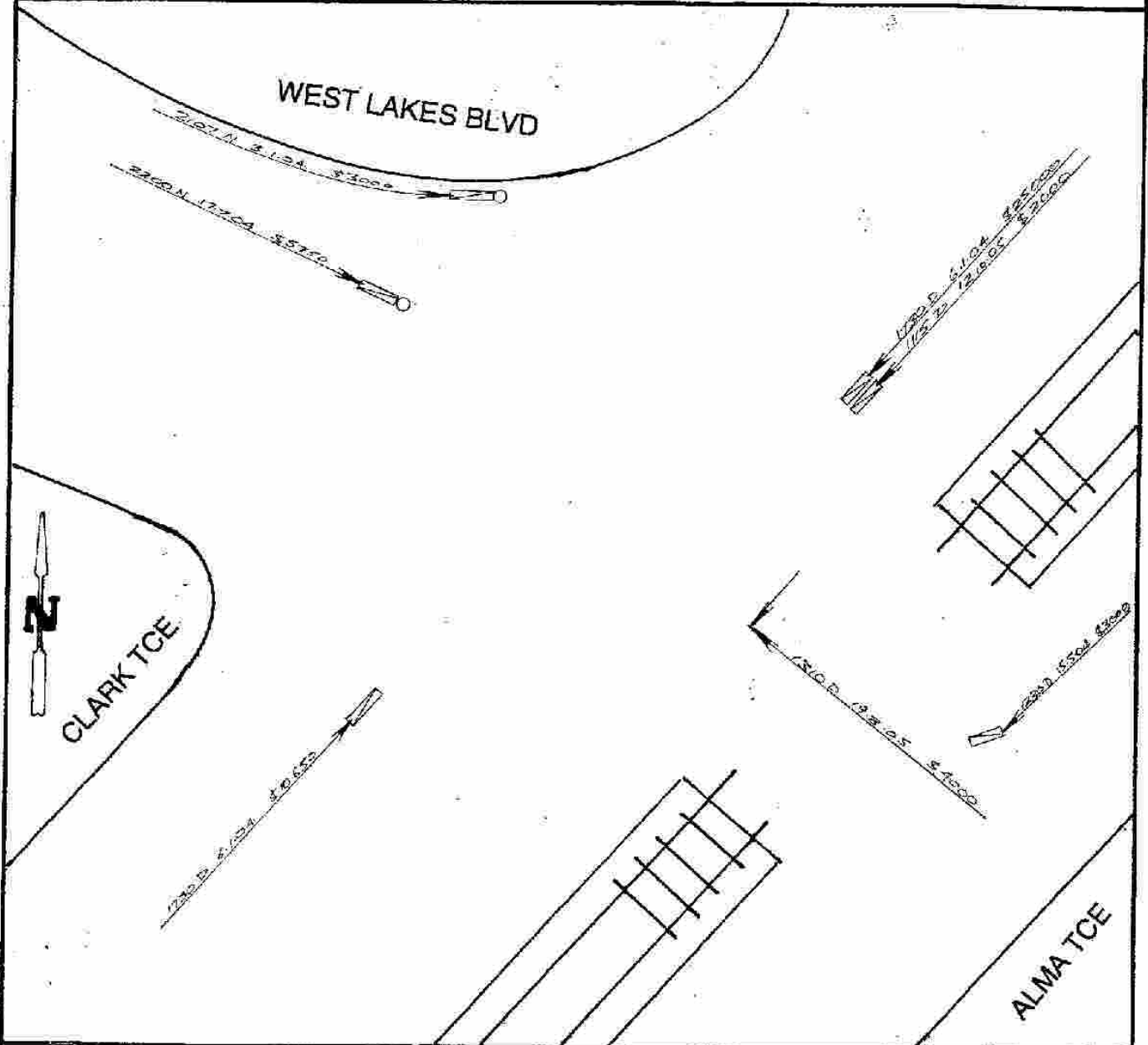
CITY OF CHARLES STURT
WEST LAKES BOULEVARD & CLARK TERRACE

CODE NO

0005836A

0005654C

FROM 1.01.04 TO . . . 05



LEGEND

- MINOR INJURY
- SERIOUS INJURY
- FATALITY
- PROPERTY DAMAGE ONLY
- ← REAR END
- SIDE SWIPE
- ← OUT OF CONTROL
- ↔ REVERSING VEHICLE
- ← MOVING VEHICLE
- PEDESTRIAN
- FIXED OBJECT
- ▨ STATIONARY VEHICLE
- ▭ PARKED VEHICLE

SUMMARY

YEAR	CASUALTY CRASHES	FATALITIES	INJURIES	DAY	NIGHT	TOTAL NUMBER OF CRASHES	TOTAL DAMAGE
2004	2		2	3	2	5	47400
2005				2		2	6000

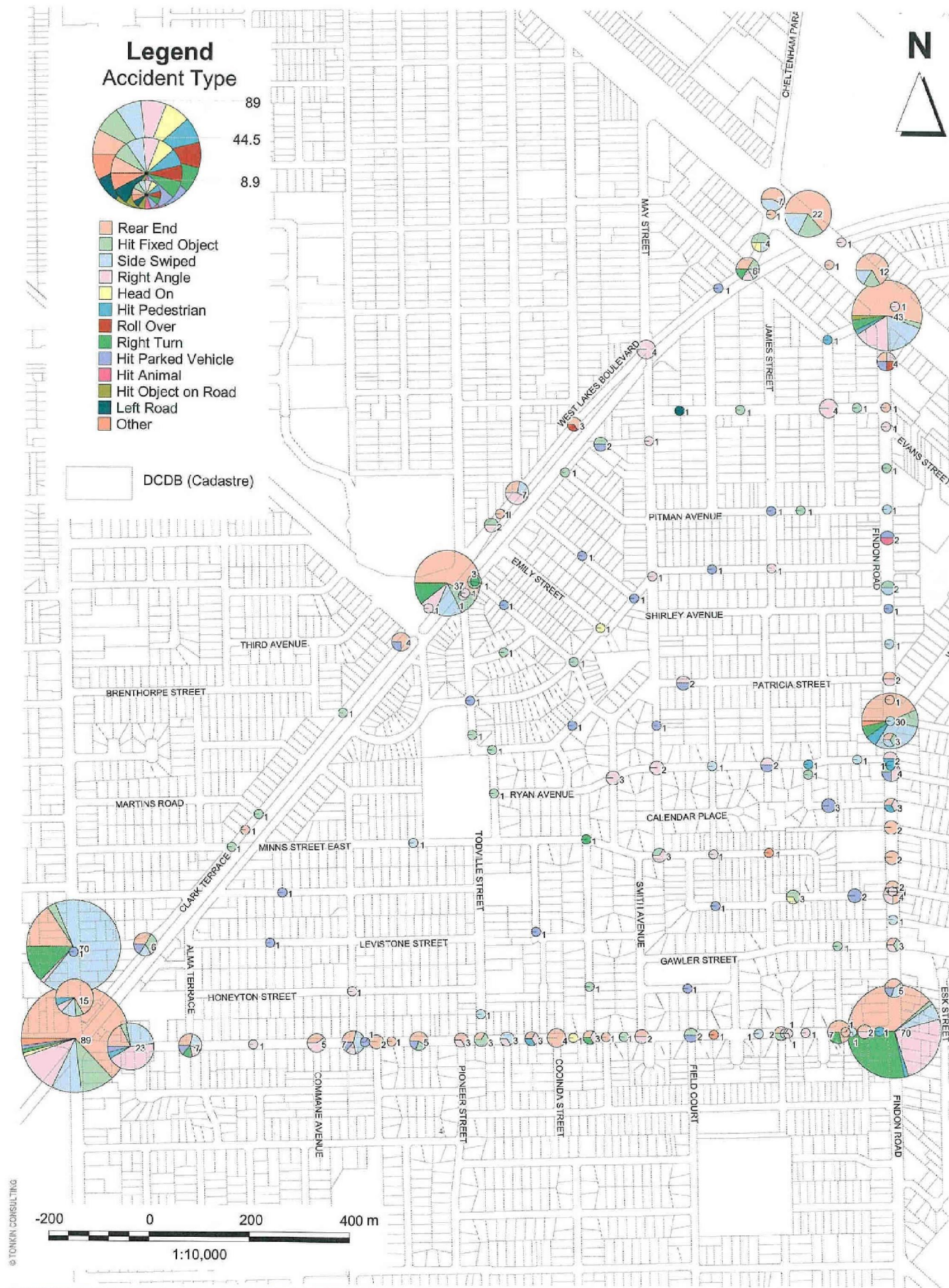
Compiled By R.T.

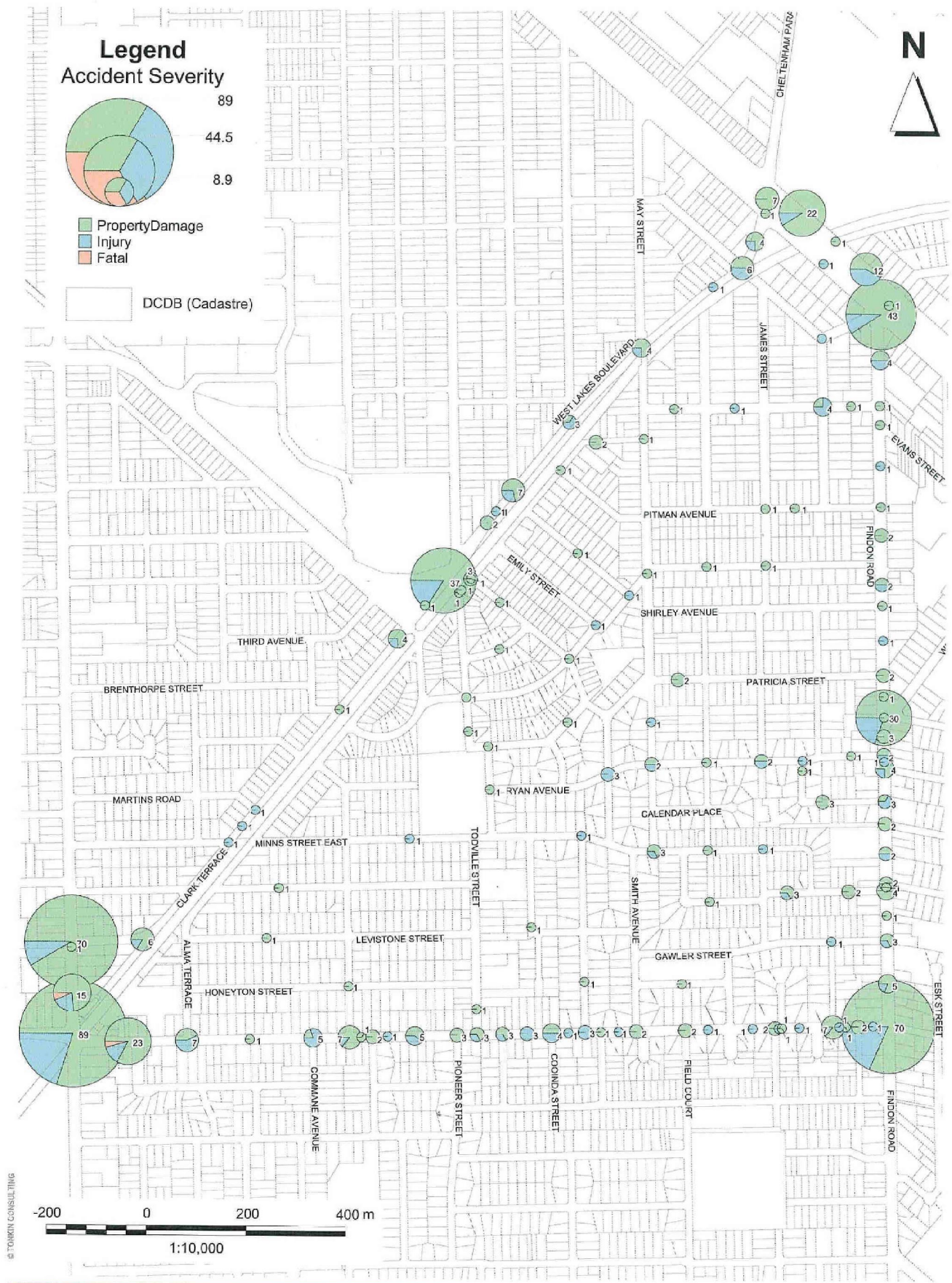
Date 6.2.06

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Appendix D

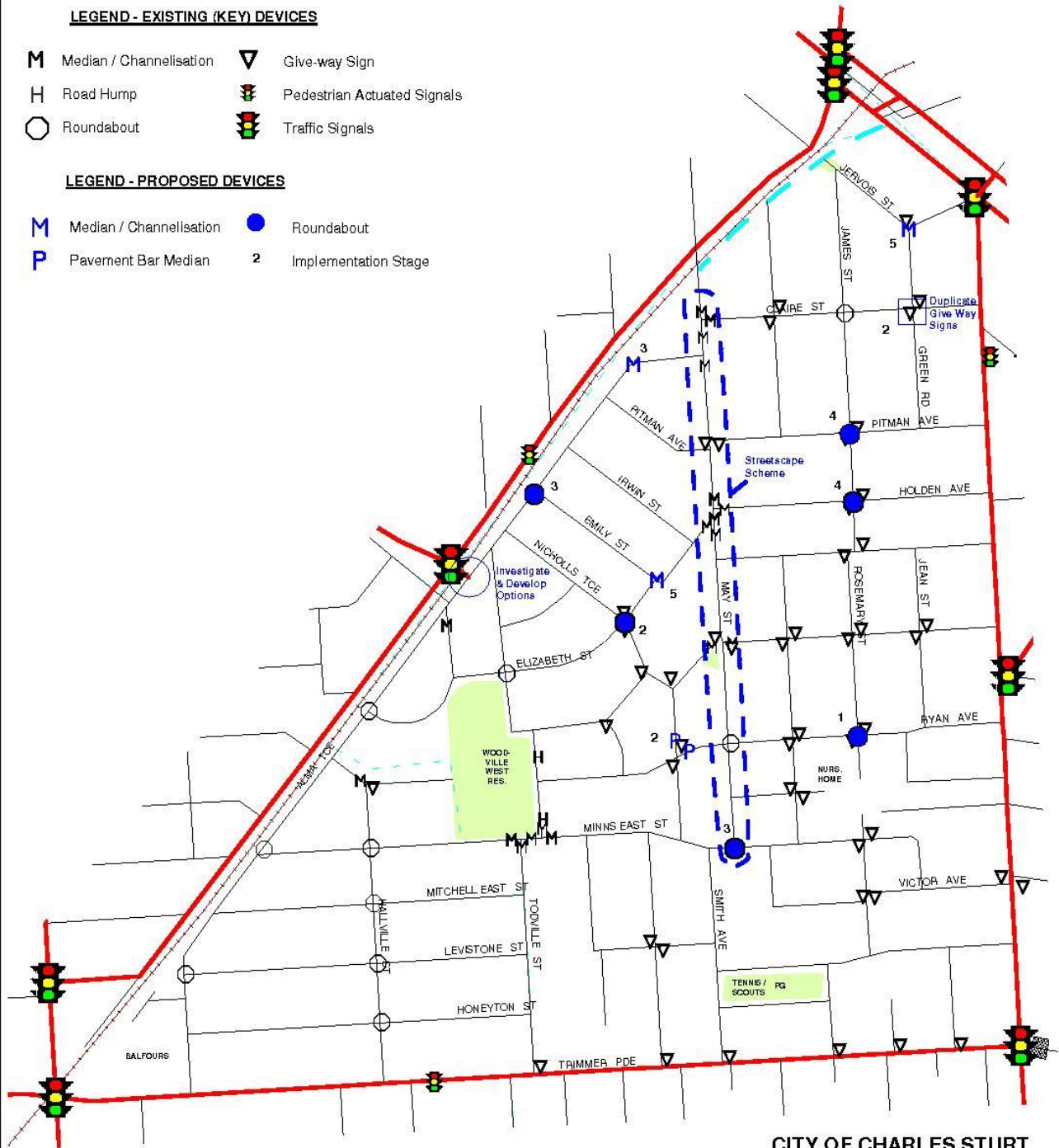
Traffic Management Scheme

LEGEND - EXISTING (KEY) DEVICES

- | | | | |
|---|-------------------------|---|-----------------------------|
| M | Median / Channelisation | ▽ | Give-way Sign |
| H | Road Hump | 🚦 | Pedestrian Actuated Signals |
| ○ | Roundabout | 🚦 | Traffic Signals |

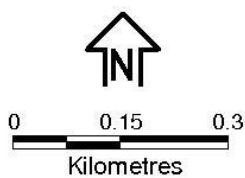
LEGEND - PROPOSED DEVICES

- | | | | |
|---|-------------------------|---|----------------------|
| M | Median / Channelisation | ● | Roundabout |
| P | Pavement Bar Median | 2 | Implementation Stage |



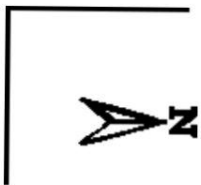
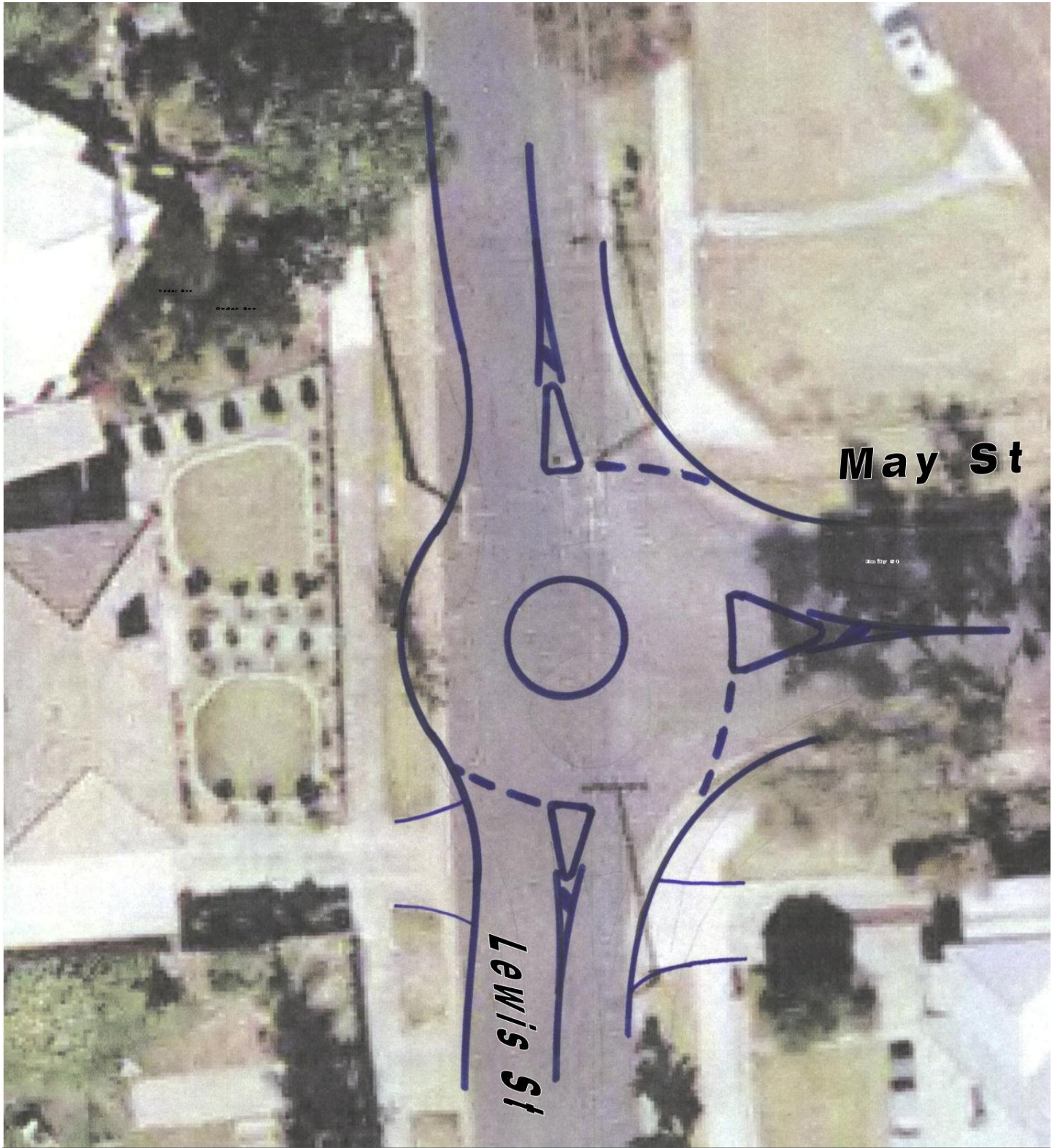
CITY OF CHARLES STURT WOODVILLE WEST LOCAL AREA TRAFFIC MANAGEMENT

PROPOSED TRAFFIC MANAGEMENT SCHEME



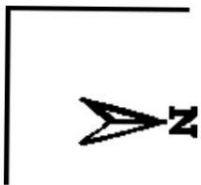
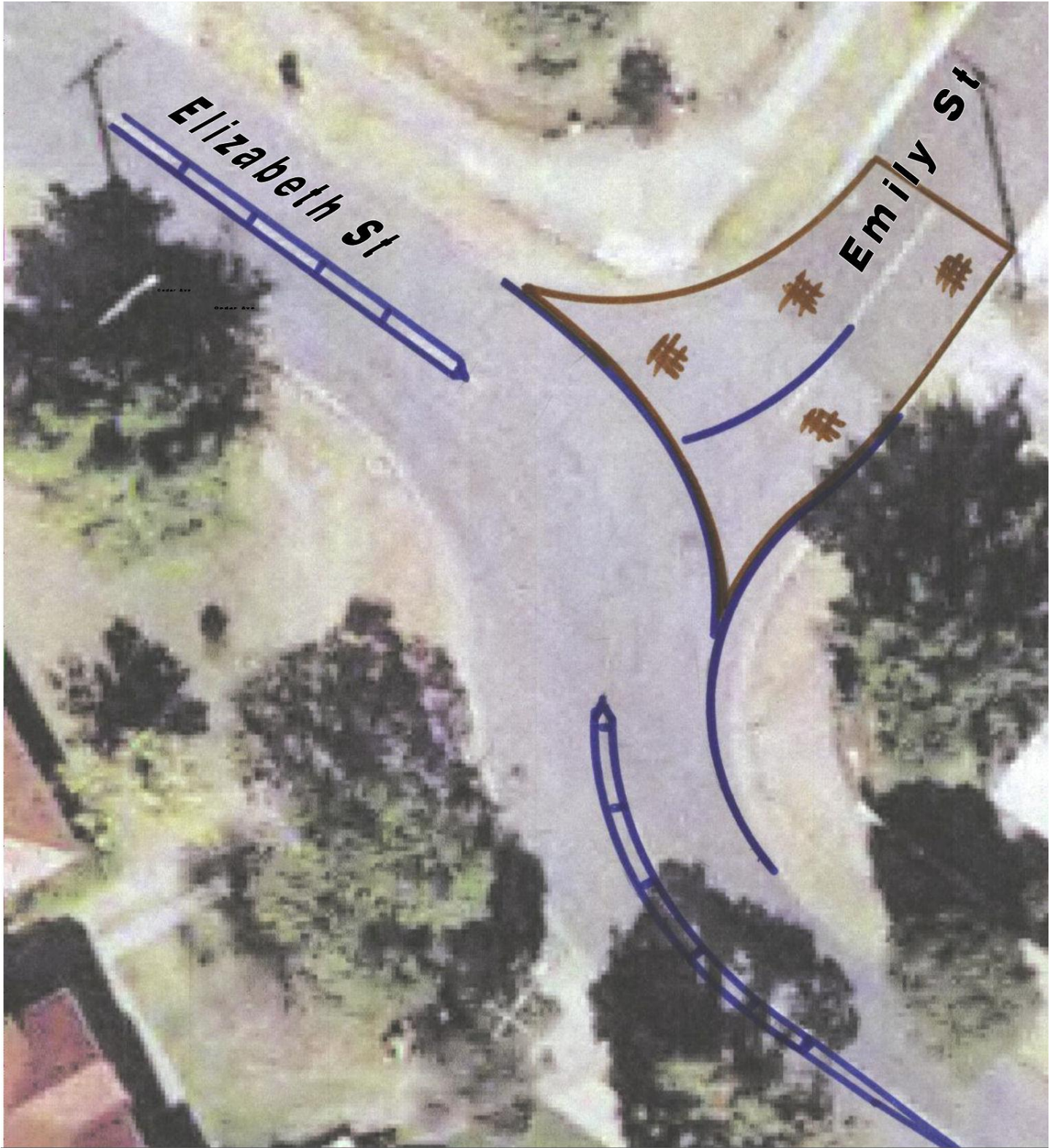
Appendix E

Key Devices



DORRESTYN & CO PTY LTD
TRAFFIC & TRANSPORT





DORRESTYN & CO PTY LTD
TRAFFIC & TRANSPORT



Appendix F

Community Feedback Questions & Responses

	Q1	Q2	Q3	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	Comments
#	Do you support draft LATM plan (Y/N)	Does draft LATM plan address your concerns (Y/N)	If (draft plan does) not address your concerns, why not?	How strongly do you agree/disagree with the Report Recommendations?														
				40 km/h	Emily / Alma	Elizabeth / Nicholls	Emily / Elizabeth	Nicholls / Ryan	Ryan / Rosemary	Minns East / May	James / Pitman	James / Holden	May Streetscape	Alma / Clark / West lakes	Alma (Pitman - May)	Claire / Green	Jervois / Green	
1	Yes	Yes		Strongly Agree	Disagree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree		Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Reconstruct or relocate Alma / Clark / West to channel non residents away from area
2	No	No	Against 40 km/h LASL being retained	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree		Disagree				Strongly Agree	Strongly Agree		Strongly Agree		Highlighted need to improve conditions at Emily / Elizabeth and at Alma / Clark / West
3	Yes	No	Giveaway controls will not solve issues along Victor Avenue. Street used as a speedway. Speed humps required.	Strongly Agree	Agree	Agree	Agree	Agree		Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	40 km/h is completely ignored
4	Yes	No	Speeding on May Street.	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	
5	No	No		Agree	Agree	Agree	Agree											Concerned about traffic to/from proposed Child Care Centre, and the affect on parking. Make Gawler St access point one-way in and Victor access point one-way out.
6	Yes	No	Motorist non-compliance with speed limit and lack of enforcement. Parking congestion in Patricia Street.	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Agree	Strongly Agree	Agree	Patricia Street speed and through traffic problems likely to grow.
7	Yes	No	Motorist non-compliance with speed limit and lack of enforcement. Parking congestion in Patricia Street.	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Agree	Strongly Agree	Agree	Patricia Street speed and through traffic problems likely to grow.
8	No	No		Agree	Agree	Agree			Agree	Agree	Agree	Agree						Concerned about traffic to/from proposed Child Care Centre, and congestion in general. Suggested road humps near access points, but preferred one-way controls in Victor Avenue and on Gawler St.

	Q1	Q2	Q3	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	Comments
9	No	No		Agree	Agree	Agree			Agree	Agree	Agree	Agree						Concerned about traffic to/from proposed Child Care Centre, and congestion in general. Suggested road humps near access points, but preferred one-way controls in Victor Avenue and on Gawler St.
10	Yes	Yes		Strongly Agree	Agree	Strongly Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Strongly Agree	Agree	Strongly Agree	Agree	Roundabout also needed at Patricia / Rosemary to prevent Patricia becoming a speed track
11				Strongly Disagree	Strongly Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Disagree		Strongly Disagree	Strongly Agree		Agree	Disagree	Streets should be for free flow of traffic and not obstacle courses. Differing speed limits in the area is a problem. (Has not seen report).
12	Yes	Yes		Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Strongly Agree	Agree	Agree	Agree	
13	Yes	Yes		Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Strongly Agree	Agree	Agree	Agree	
14	Yes	Yes		Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Seek to be notified in relation to Q11.
15	Yes	No	Does not consider of parking on both sides of Minns St during soccer games.	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Strongly Agree	Strongly Agree	Agree	Agree	
16	No	No	Alma / Emily roundabout will only add to congestion. 40 km/h too slow. Roundabout required in May St.	Strongly Disagree	Strongly Disagree	Agree	Agree	Agree	Agree	Agree	Agree	Disagree	Agree	Agree	Agree	Agree	Agree	Parking on side roads and on Findon Road makes it hard to see traffic on Findon Road.
17	Partly	Partly		Agree	Agree	Strongly Agree	Agree	Strongly Disagree	Strongly Agree	Strongly Disagree	Strongly Disagree	Strongly Disagree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Agree	Concerned at redirection to streets without measures. Hoons do burnouts in Calendar Place all night. Proposed controls may exacerbate this problem. Want controls at Beryl intersections of Ryan, Calender or Lewis.
18	No	No	Extra controls required at Pitman / May due to hoons.	Strongly Agree	Strongly Disagree	Agree	Agree	Agree	Agree	Agree	Agree	Agree		Strongly Agree	Agree	Agree	Agree	
19	Partly	No		Strongly Agree	Disagree	Disagree	Agree	Agree	Disagree	Disagree	Strongly Disagree	Strongly Disagree	Agree	Strongly Agree	Agree	Agree	Strongly Agree	Like road humps in Holden Avenue.
20	Yes	Yes		Agree	Disagree	Disagree	Agree	Agree	Agree	Disagree	Agree	Agree	Agree	Strongly Agree				

	Q1	Q2	Q3	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	Comments
21			Speed limit being ignored in Todville (Trimmer - Minns) and plan does not address that.	Strongly Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	
22	Yes	Yes		Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	
23	Yes	Yes		Agree	Agree	Agree	Disagree	Disagree	Agree	Agree	Agree	Agree	Agree	Strongly Agree	Agree	Agree		
24	Yes	Yes		Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Requested additional consideration at the Pitman / May intersection
25	No	No	Claire / Green and Levi / Claire intersections should have roundabouts.	Strongly Agree							Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree		Strongly Disagree		
26	Yes	Yes		Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	
27	Yes	Yes		Strongly Agree	Strongly Agree	Strongly Agree	Agree	Agree	Strongly Agree	Agree	Strongly Agree	Agree	Agree	Strongly Agree	Strongly Agree	Agree	Agree	
28			Corner cutting at Trimmer/Todville still a concern	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Strongly Agree	Strongly Agree	Strongly Agree	Agree	Agree	
29	Partly	Partly	Giveway controls are needed at the ends of all streets leading to Alma Terrace (where no roundabout).	Strongly Disagree	Agree	Strongly Agree	Agree	Agree	Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	With new controls speed limit could go back to 50 km/h. Consider traffic signals on Alma at Alma / Clark intersection - further details provided on conditions here.
30	Yes	Yes		Strongly Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	
31	Yes	Yes		Disagree	Disagree	Disagree	Disagree	Disagree	Disagree		Disagree	Disagree	Disagree	Agree	Agree	Agree	Disagree	
32	Yes	No	Speeding has not been addressed	Strongly Agree	Agree	Agree	Agree	Agree	Disagree	Agree	Disagree	Disagree	Agree	Strongly Agree	Agree	Agree	Agree	Prefer speed humps to roundabouts for effectiveness
33	Yes	Yes		Strongly Agree	Agree	Strongly Agree	Agree	Strongly Agree	Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Agree	Agree	Hope a 12 months review is carried out. Treatment of Patricia Street is needed to prevent redirection to that street.
34	Yes	Yes		Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Agree	Strongly Agree	Agree	Agree	Agree	Desire speeds humps in Victor Street also due to hooners.
35				Strongly Agree					Agree									Would like to maintain access along May / Ryan, and through rail crossing at Alma / Clark

	Q1	Q2	Q3	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	Comments
36	Yes	Yes		Strongly Disagree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Prefer 50 km/h speed limit. Provide roundabouts at all cross street.
37		No	Roundabouts cause noise pollution. Treatments are band aids and a waste of taxpayers money.	Strongly Agree										Strongly Agree				
38	Yes	No	Vehicle speeds entering Victor Avenue from Findon Road, especially with new Child Care Centre entrance.	Strongly Agree	Agree	Agree	Agree	Disagree	Strongly Agree	Strongly Agree	Agree	Agree	Strongly Agree	Strongly Agree	Disagree	Agree	Agree	
39	Yes	Yes		Strongly Agree		Strongly Agree	Strongly Agree											
40	Yes	Yes			Strongly Disagree	Strongly Agree	Strongly Disagree	Agree	Agree	Agree	Strongly Disagree	Strongly Disagree		Strongly Agree	Strongly Agree	Agree		Desire road humps on Todville (Alma - Elizabeth)
41	Yes	Yes		Strongly Disagree	Agree	Agree	Disagree	Agree	Agree	Agree	Agree	Agree	Strongly Disagree	Agree	Agree	Agree	Disagree	
42				Strongly Disagree	Strongly Agree	Agree	Disagree		Agree	Disagree	Strongly Agree	Disagree	Agree	Strongly Agree	Agree	Strongly Agree	Strongly Disagree	Felt insufficient information given to residents. Suggested proposal for Minns East would be preferable at Nicholls intersection.
43	Yes	No	Prefer more effective proposals for May St. Suggest median / channelisation treatment at Minns East / Smith intersection.	Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	
44	Yes	No	Prefer more effective proposals for May St. Suggest median / channelisation treatment at Minns East / Smith intersection.	Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	
45	Yes	No	Median / channelisation treatment needed at Jervois / James.	Strongly Agree	Disagree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	
46	Yes	Yes	Could go further	Agree		Disagree	Disagree	Agree	Strongly Disagree	Agree	Agree	Disagree	Agree	Strongly Agree	Agree	Agree	Agree	
47	Yes	Yes		Strongly Agree	Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Agree	Agree	Strongly Agree	Strongly Agree	Disagree	Agree	Agree	Agree	Is concerned that improvements at Alma / Clark could generate additional through traffic (as per report).
48	No	No												Strongly Agree				

	Q1	Q2	Q3	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	Comments
49	Yes	Yes		Strongly Agree	Disagree	Strongly Agree	Strongly Agree	Strongly Agree	Agree	Strongly Agree	Agree	Agree	Strongly Agree	Strongly Agree	Agree	Agree	Disagree	Care is needed to ensure changes at Alma/ Clark does not promote cut through traffic.
50	Yes	Yes		Strongly Agree	Agree	Strongly Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Strongly Agree	Agree	Disagree	Agree	
51	Yes	Yes		Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Restore No U-turn sign on Findon at Ryan St.
52	Yes	Yes		Strongly Agree	Strongly Agree	Strongly Agree	Agree	Disagree	Agree	Disagree	Agree	Agree	Agree	Strongly Agree	Agree		Strongly Agree	Speed humps preferred rather than Give-way signs at Claire / Green intersection, and asked consideration be given to roundabout at Nicholls / Wye intersection. Also expressed concern for parking adj. W/West reserve.
53	Yes	Yes		Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	
54	Yes	Yes		Strongly Agree		Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Agree	Strongly Agree	Strongly Agree	Strongly Agree	
55	Yes	Yes		Strongly Agree		Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Agree	Strongly Agree	Strongly Agree	Strongly Agree	
56				Strongly Agree	Strongly Agree	Strongly Agree			Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree		Strongly Agree		Agree		Generally supportive but was concerned that the meaning of treatment descriptions was not explained in some cases.
57	Yes	Partly	50 km/h speed limit more appropriate.	Disagree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Strongly Agree	Agree	Agree	Agree	
58		No	Speeding will still be a concern. Consider road humps and a roundabout at the Levi-Claire intersection.	Strongly Agree	Strongly Agree	Strongly Agree			Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree		Strongly Agree		Strongly Agree		Felt more information on why some issues were ignored should have been provided.
59	Yes	No	Speeding at James/Jervois should be considered.	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Disagree	
60	Yes	Yes																Lack of enforcement of 40 km/h LASL a great concern.
61	Yes	Yes			Strongly Agree	Strongly Agree	Strongly Agree	Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	
62	Yes	Yes		Strongly Agree	Strongly Agree	Strongly Agree	Agree	Agree	Strongly Agree	Strongly Agree	Agree	Agree	Strongly Agree	Strongly Agree	Strongly Agree	Agree	Agree	Monitoring of treatments also needed, particularly in relation to hoons.
63	Yes	Yes		Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Agree	Agree	Strongly Agree	Strongly Agree	Strongly Agree	Greater speed limit enforcement required.

	Q1	Q2	Q3	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	Comments
64	Yes	No	Prefer 50 km/h speed limit and parking on one side of Ryan Avenue (Rosemary - Findon)	Disagree	Agree	Strongly Agree	Agree	Strongly Disagree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Agree	Strongly Agree	Strongly Agree	Reopen May St railway crossing at West Lakes Boulevard to limit congestion at Alma / Clark intersection.
65	Yes	No	Prefer 50 km/h speed limit and parking on one side of Ryan Avenue (Rosemary - Findon), and on Sage Crst.	Strongly Disagree	Agree		Agree	Disagree	Strongly Agree	Agree	Agree	Agree	Strongly Agree	Strongly Agree	Disagree	Agree	Disagree	Reopen May St railway crossing at West Lakes Boulevard to limit congestion at Alma / Clark intersection.
66	Yes	No	Roundabout (and otherwise speed humps in Shirley) also needed at Shirley / Rosemary intersection. 40 km/h speed limit does nothing. Parking on one side of road only (Shirley?)	Strongly Disagree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Agree	Agree	Agree	
67	Yes	No		Agree	Disagree	Strongly Agree	Agree	Agree	Agree					Strongly Agree				
68				Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree					Strongly Agree				
69	Yes	Yes		Strongly Agree	Strongly Agree	Strongly Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Strongly Agree	Agree	Agree	Parking in Patricia and Shirley is a problem since start of hospital renovations.
70	Yes	Yes		Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Strongly Agree	Strongly Agree	Strongly Agree	Disagree	Temporary parking problems in Patricia, Jean, Rosemary, Shirley needs policing. Perhaps reopen May St at West lakes Boulevard.
71	Yes	No	Close Alma / Clark rail crossing and reopen that at May / West Lakes	Strongly Disagree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Disagree	Strongly Agree	Disagree	Agree	Disagree	
72	Yes	No	Close Alma / Clark rail crossing and reopen that at May / West Lakes	Strongly Disagree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Disagree	Strongly Agree	Disagree	Agree	Disagree	
73	Yes	Yes		Strongly Agree	Agree	Agree	Agree	Agree	Disagree	Disagree	Agree	Strongly Agree	Agree	Strongly Agree	Strongly Agree	Agree	Disagree	More policing of speed limit required
74	Yes	Yes		Strongly Agree	Agree	Agree	Agree	Agree	Disagree	Disagree	Agree	Strongly Agree	Agree	Strongly Agree	Strongly Agree	Agree	Disagree	More policing of speed limit required
75		Partly	No consideration given to through traffic and speeding in Levistone Street. Alma Terrace easily missed when travelling along Trimmer Parade.															
76	Yes	Yes		Agree	Agree	Agree	Agree	Agree	Agree	Strongly Agree	Agree	Agree	Agree	Strongly Agree	Agree	Strongly Agree	Agree	Concerned at safe and convenient access to residence on Trimmer Parade.

	Q1	Q2	Q3	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	Comments
77	Yes	Yes		Agree	Agree	Agree	Agree	Agree	Agree	Strongly Agree	Agree	Agree	Agree	Strongly Agree	Agree	Strongly Agree	Agree	Concerned at safe and convenient access to residence on Trimmer Parade.
78	Yes	Yes		Strongly Agree	Agree	Agree	Disagree	Agree	Strongly Agree	Agree	Agree	Agree	Agree	Strongly Agree	Agree	Agree	Agree	Requested No Through Road sign on Ryan Avenue / Rosemary St intersection in relation to Rosemary St Nursing Home.
79	Yes	Yes		Agree	Strongly Agree	Strongly Agree	Agree	Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Agree	Strongly Agree	Agree	Agree	Agree	Want roundabouts given a high priority particularly at the James / Pitman intersection.
80		No	Much speeding / hoon traffic uses Claire / Green / Jervois route to avoid Findon / Port traffic signals. Roundabout desirable at Claire / Green intersection.	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Strongly Agree				Give way signs at Claire / Green intersection do not slow speeding traffic from Findon Road. Many children live in the area.
No. of Responses	69	73	No. of Responses	75	70	73	70	66	72	68	70	69	64	73	62	66	61	
Yes	58	40	Strongly Agree	42	26	39	24	20	29	30	28	29	26	62	29	29	20	
Partly	3	4	Agree	19	32	28	37	37	34	29	35	31	32	10	29	35	29	
No	8	29	Disagree	3	7	5	7	7	8	8	4	6	4	1	4	1	10	
			Strongly Disagree	11	5	1	2	2	1	1	3	3	2	0	0	1	2	
Positive*	88%	60%	Positive	81%	83%	92%	87%	86%	87.5%	87%	90%	87%	91%	99%	94%	97%	80%	
Negative	12%	40%	Negative	19%	17%	8%	13%	14%	12.5%	13%	10%	13%	9%	1%	6%	3%	20%	
			Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	

* Fully or partly supportive.