City of Charles Sturt

Croydon / West Croydon / Kilkenny LATM

Final Report

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DORRESTYN & CO PTY LTD
TRAFFIC & TRANSPORT

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City of Charles Sturt
Croydon / West Croydon / Kilkenny LATM
Findings and Recommendations

Document History and Status

Rev	Description	Author	Rev'd	App'd	Date
A	Draft for review by Council	BJV	PCS	PCS	16/01/06
B	Final Report for Community Consultation	BJV	PCS	PCS	06/02/06
C	Final Report for Council Review	BJV	PCS	PCS	28/04/06
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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 CROYDON / WEST CROYDON / KILKENNY areas (amalgamated into one LATM area for convenience, and to ensure consistency in the recommendations for treatment). Separate reports have been prepared for each of the other areas.

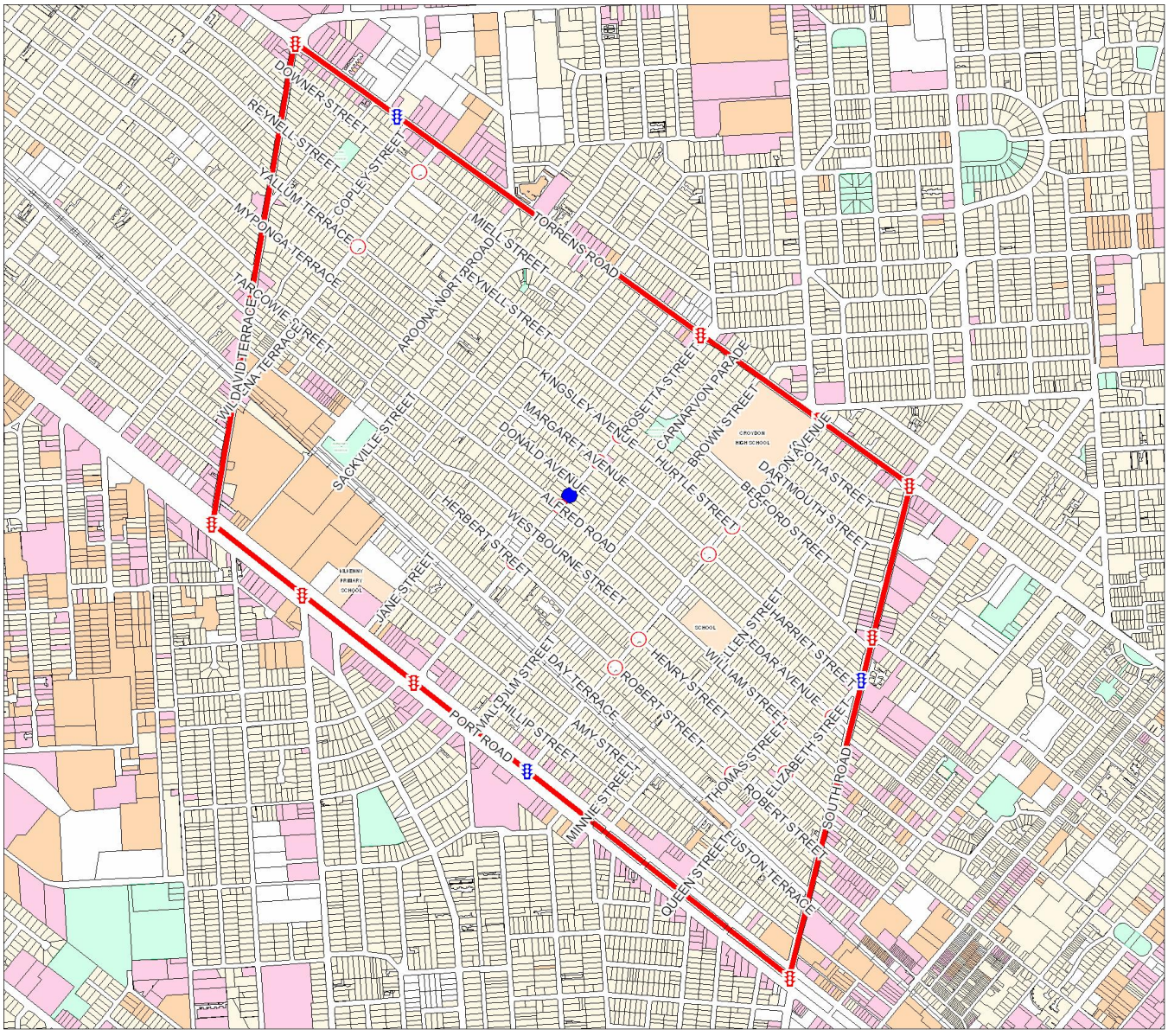
The processes adopted in undertaking each of the reviews have been similar to ensure a consistency of approach and assessment within each precinct. The processes have varied through the involvement of Residents' Committees in some areas (Athol Park and Woodville South).

This report presents the findings and recommendations for the Croydon / West Croydon / Kilkenny precinct based on the Draft Report for Consultation (endorsed by Council in February 2006), together with responses from the subsequent community feedback process.

This final report is submitted for Council approval to guide future traffic management within the Croydon / West Croydon / Kilkenny area.

2. Study Area

The Croydon / West Croydon / Kilkenny precinct subject to this review is shown below. Arterial boundary roads (Torrens Road, South Road, Port Road and Kilkenny Road / David Terrace) were excluded from the study which focused on traffic conditions within the local area. Notwithstanding, consideration has been given to traffic management along the arterial roads where safety or accessibility on the local streets is adversely influenced.



3. Method

3.1 General

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 the assessment of available traffic and crash data. This generic approach to the LATM process was adopted in each of the five precincts reviewed.

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.

Registrations of Interest were also sought for residents to represent the local community in each area, with the exception of Athol Park where a Residents Association already exists. 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**. A minimum of five registrations from each area were sought for the formation of committees.

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 40 sites throughout the five LATM precincts. Mapinfo (GIS) was used to present the results graphically (refer Section 4).

To supplement these surveys, the results of intersection turning count surveys carried out previously by the Department of 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 (Draft Traffic Management Strategy, QED P/L, July 2005) 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 plateaus.

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 principles 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 Development of Concept Options

Based on the information collated from the initial community consultation process, a draft traffic management plan was developed through consultation with Council's administration. The Draft Plan was endorsed by Council for community review in February 2006.

3.8 Community Feedback

The Draft Plan was subsequently released for community feedback. All residents who responded to the initial community consultation phase received 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.

Overall, the plan was well received and the majority of responses were in favour of the recommendations contained within the report.

Further analysis of the responses is contained within Section 6 below.

A copy of the community questionnaire is also included in **Appendix A,** along with the initial letter to residents.

4. Findings

4.1 General

The road network in the east of Croydon / West Croydon / Kilkenny comprises straight sections of road, arranged in a grid pattern to varying degrees. In some cases speeds are naturally regulated through the presence of intersections under 'Stop / Give Way' control, or by 90 degree bends, or simply by the narrowness of the streets.

Existing traffic control devices include 18 roundabouts, employed throughout the precinct as an effective means of traffic calming and control at 4-way intersections. The remaining 4-way intersections are mostly under Give Way control, with some 10 intersections deemed to require Stop Sign control due to restricted sight triangles on their approaches.

Parking is controlled along part of Rosetta Street with 30 minute restriction plates and indented parking bays. The arrangement seems to work effectively by maintaining parking turnover near shops and by narrowing the carriageway and slowing general traffic.

There are parking bans in other narrower streets in the area (for example Margaret Street) consisting of yellow lines and signage. In roads such as the southern half of Aroona Road, which is very narrow (approximately 6m), road users seem to use discretion as to where to park in the absence of restrictions. Traffic flow appears to be unaffected in the narrow section of Aroona Road.

There is indented / angle parking along Wilpena Terrace, which functions to slightly slow traffic through the street in the absence of Give Way controls. Three roundabouts also serve to control speeds at the intersections with Downer Street, Yallum Terrace and Penola Street.

At the western end of Wilpena Terrace right turns are restricted onto Kilkenny Road, and there is no access into this road. Access into the precinct is via Pinda Street.

There is a half road closure on Hurtle Road at its intersection with South Road, restricting movements to left turn in only from South Road, and preventing right turners from South Road holding up following traffic.

A number of streets in the area have been nominated as bicycle routes (Refer to Section 5.4 for further discussion). There are currently no bus routes within the area.

4.2 Factors Outside LATM

Issues relating to lighting levels, drainage and footpaths were frequently identified, and relate more to maintenance than to LATM. Such issues can mostly be addressed through municipal maintenance cycles, but are included in this report for Council's benefit.

Some issues, frequently identified, relate to driver behaviour which is beyond the scope of traffic engineering, and which should be addressed from a social or law enforcement perspective. Burnouts, or driving over medians, or excessive speeds greater than 100km/hr are more indicative of demographic / socio-economic / social issues and are not symptoms of deficient traffic control planning.

An avenue open to Council to address these types of issues is Crime Prevention Through Environmental Design (CPTED), for example better lighting, tree trimming and the operation of Neighbourhood Watch.

In general, the engineering and non-engineering issues have been separated, and only the former has been addressed in this report.

4.3 Summary of Residents Responses

Approximately 2343 community circulars were distributed throughout the Croydon / West Croydon / Kilkenny area in June 2005. 170 leaflets were returned, representing a response rate of 7.3%. The community has responded well to the consultation process. The response rate is considered excellent in relation to the typical 4 - 5% response rate for a public consultation of this type.

There were insufficient Registrations of Interest for a Residents Committee in Croydon / West Croydon / Kilkenny, given that less than five registrations were received.

The following table summarises resident's responses, including all the issues raised. ***Locations that were identified by more than one resident have been highlighted.***

4.3.1 Up-front summary

Excessive speed:	**Alfred Road, Aroona Road (north), Reynell Street, Margaret Avenue, Brown Street, Ellen Street.**
Non-local through traffic:	**Day Terrace, Aroona Road, Blanford Street, Ellen Street, Reynell Street, Tarcowie Street, Alfred Road.**

Lack of regulatory control:	**Herbert Road, Malcolm Street / Blanford Street, Ellen Street / William Street, Euston Terrace, Princes Street.**
Parking congestion:	**Margaret Avenue, Aroona Road, Cedar Avenue, Margaret Avenue / Harriett Street corner, St Lawrence Avenue, Herbert Road / Rosetta Street, Robert Street / Elizabeth Street, Margaret Avenue / Rosetta Street, Tarcowie Street, Croydon Avenue, Cedar Avenue adjacent school, Croydon Avenue / Robert Street.**

4.3.2 Streets

Alfred Road

- **Speeding between Rosetta Street and Aroona Road**
- **Constant speeding causes danger for pedestrians**
- **High traffic volumes and speeds at night**
- **Close road**

Aroona Road

- **Speed danger for children and animals**
- **Speeding during early hours of the morning**
- **Truck parking restricts sight distance**
- **Car and truck parking narrow effective carriageway width so why not make one way**
- **Shortcut between Torrens Road and David Terrace**
- **Narrow and can be dangerous for cyclists**
- **Mid-block closure of Aroona Road**

Bedford Street

- Speeding
- Speed humps

Blanford Street

- **Used as a rat run from Port Road to avoid the lights on Rosetta Street**
- **Speeding and cornering at excessive speeds**
- **Noise of bikes and cars, cyclists without helmets**
- **Parking restrictions are not policed**
- **More landscaping required to block out view of factory**
- **Restrict street to local traffic only**

Brown Street

- **Speeding problem**
- **Install plateaus**
- **Traffic displaced to Brown Street since roundabouts went in on Rosetta Street**

Carnavon Parade

- **Speeding and burnouts**
- **Housing subdivisions will create higher traffic volumes**

Castle Street

- **Narrow carriageway means congestion when other residents in area park here**
- **Speed and parking**

Cedar Avenue

- **Congestion due to parked cars adjacent a school**
- **Speeding and burnouts**
- **Loud motor bikes**

Chenoweth Avenue

- Speeding, install roundabouts

Copley Street

- Traffic volumes increasing, speeding

Croydon Avenue

- **Cars parked in Croydon Street close to Robert Street roundabout**
- **Street too narrow for parking on both sides**
- **Cars parked across footpaths**
- **Refuse trucks finding it difficult to get through**

Dartmouth Street

- Burnout marks, reckless driving

David Terrace (Kilkenny Road)- DTEI jurisdiction

- **Noise, speed, traffic volumes**
- **Trucks speeding, using street inappropriately, using air brakes in residential area**
- **Difficulty turning right from Leslie Street east into David Terrace**
- **Reduce speed limit from 60km/hr to 50km/hr**
- **Mark lane lines and ban parking to either side**
- **Dangerous using pedestrian crossing on David Terrace**
- **Consider closing Leslie Street east**

Day Terrace

- **Rat run for vehicles travelling between Rosetta Street and Elizabeth Street**
- **Speeding**
- **Install Chicanes**

Donald Avenue

- Speeding, shortcut to Alfred Road from Rosetta Street

Downer Street

- Speeding

Ellen Street

- **Speeding issue – introduce traffic controls**
- **Should be no parking in front of 23 Ellen Street**
- **Used as a rat run between Torrens Road to Henry Street, some displacement from other roads with roundabouts to this one**
- **Bring intersections under stop sign control**

Elizabeth Street

- **Speeding**
- **Semi trailers using street as a rat run to reach South Road**
- **Roundabouts do not deter speeding traffic**

Euston Terrace

- **Some drivers disobeying one way conditions**
- **Speeding**
- **Make no-through road to South Road**

Heading Street

- Speeds increasing

Herbert Road

- **Noise, speeding and congestion associated with Church in street**
- **Do something to slow speeds past retirement village eg speed humps**
- **Install plateaus as per Glen Avon Street Woodville South**

Hurtle Street

- Too many roundabouts in the area causing difficulty for small delivery vehicles
- Ban parking to one side of street because of narrowness

Kingsley Avenue

- **Rat run between Rosetta and Brown to avoid traffic lights at Rosetta / Torrens**

Margaret Avenue

- **Speeding through 2 right angle bends on Rosetta / Clarence**
- **Speeding and on street parking near Aroona Terrace causing congestion**
- **Road is narrow, ban parking on one side and implement one way flow**

Miell Street

- Speeding at Miell / Rowell

Myponga Terrace

- **Too narrow to allow on-street parking**
- **Should have stop sign control at Alfred /Aroona and Myponga / Aroona**

Para Street

- Recently reconstructed but does not carry much traffic

Pinda Street

- Hoon driving

Port Road

- Peak hour queues from South Road to Rosetta Street

Princes Street

- **Redundant loading bays need no standing restriction removed at 55 Princes Street**
- **Used as a shortcut between South Road to Port Road to avoid lights**
- **Speeding occurring during rush hours**
- **Stop signs not obeyed**

Reynell Street

- **Forms a rat run between Rosetta Street and Kilkenny Road with speeding traffic, concerns over safety of children and animals**
- **Excessive speeds between Rosetta Street and Aroona Road**
- **Fast cornering at Gardiner Avenue and Chenoweth Avenue**
- **Used as a drag strip**
- **Long and straight and invites high speeds – implement 40km/hr zone**
- **Implement some form of traffic calming**

Rosetta Street

- **General noise and volume concerns**
- **Seems to be carrying undue through traffic**
- **Roundabouts have slowed traffic**
- **Roundabouts do not slow traffic**

Rowell Crescent

- Parking – motorists disobey yellow lines near RSL reserve

South Road

- **Speeding**
- **Poorly coordinated PAC's on South Road**
- **When will work be undertaken to widen South Road, underground the power, remove stobie poles**
- **Install turn lanes on South Road between Port and Torrens Roads**
- **Poor footpath condition**
- **General noise and road safety concerns**

St. Lawrence Avenue

- **Used as rat run through to Torrens Road during peak times**
- **Speeding and burnouts**
- **Footpath in some sections poor**

Tarcowie Street

- **Rat running during peak times using Tarcowie Street / Alfred Road between the arterials**
- **Speeding traffic, hoons, high volumes**
- **Parking near hall causes congestion**

Thomas Street

- Excessive speeds on road

Westbourne Street

- Some speeding

William Street

- Speeding between Thomas Street and Ellen Street

Wilpena Terrace

- Hoons doing donuts

4.3.3 Intersections

Cedar Avenue / Ellen Street

- Tree obstructing sight lines

Cedar Avenue / Croydon Street
- Dangerous due to speeding traffic

Day Street / Croydon Street
- Flooding on corner

Donald Street / Cavendish Street
- Install Roundabout

Elizabeth Street / Day Street
- Install roundabout

Ellen Street / William Street
- Stop sign not visible on Ellen Street approach

Harriet Street / Thomas Street
- Speeding through intersection

Harriet Street / Elizabeth Street
- Cars parked on blind bend on both sides of road – put in parking controls

Herbert Street / Rosetta Street
- Cars parked too close to roundabout during RSL functions causing congestion, suggest further yellow lining

Kilkenny Road at its intersections with Reynell / Grayson / Myponga Streets
- lacks safe pedestrian crossings

Malcolm Street / Blanford Street
- consider signing T-junction as near misses observed

Margaret Street / Rosetta Street
- Parking on corner causes congestion

Mundulla Terrace / David Terrace
- Bad dip at intersection

Port Road / Elizabeth Street
- Congestion, difficult to cross Port Road

Princes Street / Elizabeth Street
- Install roundabout to reduce speeding

Robert Street / Elizabeth Street
- Install roundabout
- Parking outside shops restricts sightlines

Robert Street / Thomas Street

- Install roundabout as the train station is at the end of Thomas Street hence more ped activity

Torrens Road / Gardiner Avenue

- Trees obscure sight distances

Torrens Road / Humphries Road

- Congestion during school pickup
- Trucks and buses attempting to negotiate intersection when busy

William Street / Croydon Street

- Dangerous due to speeding

4.3.4 Street Lighting

- Insufficient along Princes Street
- Poor lighting in Elizabeth Street
- More lighting required at Woodville Train Station
- Lighting could be improved at Clarence Street, Reynell Street, Rosetta Street
- Improve lighting at Miell Street and Rowell Street corner
- Poor lighting along Copley Street allows hoons to operate
- More lighting at Scotia Street and Ellen Street
- Improve lighting in Grayson Street to reduce vandalism

4.3.5 Footpaths and Pavements

- Deteriorating in Brown Street, surface breaking up
- Cracked and undulating near 9 Westbourne Street
- Brown Street potholes and cracks in carriageway, especially from Torrens Road to Cedar Road
- Hurtle and Carnavon – tree roots lifting kerbing
- Tree roots lifting pavement in Margaret Street
- Princes Street cracked and lifting
- Cracks at 63 Cedar Avenue
- Messy leaf litter in Euston Terrace
- Unfinished footpath in Lincoln Street
- Potholing on Croydon Avenue near High School
- Potholing in Goodman Avenue
- Surface of Day Terrace poor, check in front of no's 34, 41, 49, footpath between Brown and Croydon Streets uneven
- Footpath lifting in front of 22A Reynell Street
- Uneven in David Terrace (eastern side)
- No footpath on Hilda Street
- Raised footpath at 29 Princes Street.

- Henry Street uneven footpath between Henry and Thomas and Elizabeth and Thomas
- Footpaths along Port Road from South Road to Welland Shopping Centre, both sides
- Footpaths racked and lifting at 2/59 Rowell Crescent, and trees obstructing footpath
- Broken footpath at 9 Heading Street

4.3.6 Rosetta Street Subway

- Poorly lit and vandalised
- Don't feel safe walking through
- Floods in rain
- Enclose top of overpass to prevent items being thrown at cars
- Would like to see subway closed
- Widen underpass

4.3.7 Bicycle facilities

- Lack of facilities on Donald Street
- Investigate cycle path alongside rail corridor
- Important to provide safe bike paths for families
- Where are the bike paths for South Road, Port Road, Torrens Road
- Council area lacks bike facilities
- Safety of bike users compromised by fast traffic in the Brown Street area
- Bikes ridden on Blanford Street footpaths to detriment of kids and elderly

4.3.8 Drainage

- Flooding in Kinglsey Avenue near corner of Rosetta Street
- Flooding near 61 Day Terrace when Rosetta Street subway is also flooded
- Drainage slow on Day Terrace
- Flooding of Thomas Street between William Street and Henry Street

4.3.9 Bus facilities

- No bus shelter at Bus Stop 15 South Road

4.3.10 General Comments

- PAC required for David Terrace for Whitefriars Catholic School
- Trim trees, as some obstruct footpaths

- ACI Factory must go
- PAC's on David Terrace / Kilkenny Road
- Signage in general should be more visible
- Streets are narrow around McInerney Reserve, consider one way system

4.4 Speed and Volume Data

Speed and classified 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 obtain a general appreciation of traffic patterns in the precinct.

- Ellen Street
- Brown Street
- Rosetta Street
- Jane Street
- Day Terrace
- Alfred Road
- Margaret Street
- Reynell Street
- Aroona Road North
- Aroona Road South
- Tarcowie Street

Speed data for Tarcowie Street was initially collected between Wilpena Street and Arkaba Road, and the readings may have been affected by the presence of the junction with Wilpena Terrace, which is under Give Way control. Further speed data was collected for Tarcowie Street between Arkaba and Aroona Roads in April 2006, to ensure that the speed readings were not affected by traffic slowing at any junctions.

85th%ile speeds of up to 56km/hr were recorded at the new location, as opposed to original readings of 40km/hr. This is similar to Reynell, Ellen and Brown Streets, and a treatment similar to that recommended for Ellen Street could be considered.

A summary of the data is included in **Appendix B**.

There are few instances of excessive speeding in Croydon / West Croydon / Kilkenny. Speeds are generally at or slightly above the general urban speed limit of 50km/hr. There are however instances of isolated excessive speeds, an issue which has been frequently raised by residents.

The volume figures recorded for the streets should not warrant physical measures or other deterrents at this stage, however the traffic levels should be monitored by Council and further investigation undertaken should volumes exceed 1500 VPD in any local street (refer to Section 5.1 below).

4.5 Crash Data

Maps showing the location, type and severity of crashes in the precinct are included at **Appendix C**.

The main conflict points occur at 4-way intersections, and crashes are distributed evenly at these points across the area. Crashes within the area are generally minor, resulting in property damage only, because of the factors controlling speed, outlined above. There have been no recorded fatalities within the study area.

Crashes on the boundary roads are higher in number and severity, as would be expected, and are generally clustered at signalised intersections and pedestrian actuated traffic signal crossings (PAC's). Boundary road crashes have limited implications for the LATM, are generally on DTEI roads, and are mostly not factored into our recommendations.

Listed below are locations within Croydon / West Croydon / Kilkenny with three or more reported collisions, between 1999 - 2004. This analysis is useful in determining locations where further investigation into accident causes may be warranted.

- Wilpena Street / Mundulla Street (7 crashes)
- Rosetta Street at the southern side of the subway (5 crashes)
- Rosetta Street / Blanford Street (4 crashes)
- Wilpena Street / Tarcowie Street (4 crashes)
- Cedar Avenue / Ellen Street (4 crashes)
- Reynell Street/ Grayson Street (3 crashes)
- Reynell Street / Wilpena Terrace (3 crashes)
- Reynell Street / Aroona Road north (3 crashes)
- Aroona Road north / Tarcowie Street (3 crashes)
- Clarence Street / Carlyle Avenue (3 crashes)
- Rosetta Street / Alfred Road (3 crashes)
- Rosetta Street between Euston Terrace and Blanford Street (3 crashes)
- Ellen Street / Hurtle Street (3 crashes)
- Ellen Street / Harriet Street (3 crashes)
- Thomas Street / Henry Street (3 crashes)

The following tables summarise the 178 collisions that have occurred within the Croydon / West Croydon / Kilkenny area **between 1999 – 2004 (excluding crashes which occurred on the boundary arterial roads).**

The collision cost rates used to calculate overall costs were derived from average collision costs from what is regarded as the most authoritative reference [Bureau of

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

4.5.1 Croydon / West Croydon / Kilkenny Crash Summaries

Severity	Count	Rate	Cost
Severe Injury	10	$408,000	$4,080,000
Injury	28	$13,776	$385,728
PDO	140	$5,805	$812,700
TOTAL	**178**		**$5,278,428**

Severity	Accident Type	Count
Injury	Hit Parked Vehicle	1
Injury	Side Swipe	1
Injury	Right Angle	1
Injury	Hit Fixed Object	1
Injury	Side Swipe	1
Injury	Hit Pedestrian	1
Injury	Hit Pedestrian	1
Injury	Hit Parked Vehicle	1
Injury	Roll Over	1
Injury	Head On	2
PDO	Right Turn	2
Injury	Rear End	3
PDO	Other	4
Injury	Right Angle	5
Injury	Hit Fixed Object	5
PDO	Head On	7
PDO	Side Swipe	8
PDO	Rear End	13
Injury	Right Angle	14
PDO	Hit Fixed Object	31
PDO	Hit Parked Vehicle	32
PDO	Right Angle	43
TOTAL		**178**

Accident Type	Count
Roll Over	1
Hit Pedestrian	2
Right Turn	2
Other	4
Head On	9
Side Swipe	10
Rear End	16
Hit Parked Vehicle	34

Hit Fixed Object	37
Right Angle	63
TOTAL	**178**

Accident Year	Count
1999	45
2000	31
2001	29
2002	26
2003	33
2004	14
TOTAL	**178**

Day	Count
Friday	34
Monday	24
Saturday	33
Sunday	14
Thursday	24
Tuesday	23
Wednesday	26
TOTAL	**178**

Accident Hour	Count
00	3
01	1
03	2
04	4
05	2
07	5
08	11
09	6
10	8
11	7
12	8
13	13
14	14
15	19
16	11
17	19
18	8
19	6
20	9
21	4
22	10
23	8
TOTAL	**178**

Approximately 79% of the recorded accident types have resulted in property damage only, which may indicate that the crashes have taken place at low speed.

The number of 'right angle crashes' is proportionately high, and may be because of the number of 4-way intersections in the area. This type of accident is common at 4-way intersections under Give Way control.

The high number of 'hit parked vehicle' type crashes may reflect the narrowness of a number of the roads in the precinct. There is an increased risk of this type of crash on roads with narrow carriageways as there is a smaller margin for error when negotiating between parked vehicles. Such roads in the area include a section of Aroona Road, Myponga Terrace and Margaret Street.

4.6 Summary of Key Issues

The key factors identified by residents for the precinct were as follows, in order of frequency:

- Speeding and anti-social behaviour
- Inappropriate parking
- Poor footpaths and pedestrian access
- Poor sightlines at intersections
- Lighting
- Lack of general cycle facilities
- Drainage

The key issue raised by residents overwhelmingly relates to speeding traffic, particularly on the long straight north-south streets within the area. A secondary concern relates to burnouts and other forms of anti-social behaviour (refer to Section 4.2 for further discussion).

Public concerns, such as speeding, were raised repeatedly, and hence our findings are grouped under particular sub-headings rather than addressing the areas street by street.

Only the more notable issues relating to speeding and intersection geometry in certain streets have been addressed within this report.

Site investigations were mainly informed by residents' comments, and speed and volume data. ***In many cases, complaints of speeding and high volumes could not be substantiated with the data collected by traffic classifiers.***

It should therefore be recognised that residents' responses are in some cases subjective and based on anecdotal evidence.

5. Discussion and Draft Recommendations

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

5.1 General

The precinct constitutes three suburbs, however in order to maintain a consistency through the recommendations for treatment, has been investigated as one area.

Similarly to Royal Park, the speed and volume data does not indicate any obvious problem areas. 85th percentile speeds are in the range of 50 – 55km/hr, and volumes in the streets are all at or below 1400 VPD, with most around 700 VPD, with the exception of Rosetta Street (6916 VPD), which is defined as a distributor road.

Speeds are governed by the grid layout of the streets. In the long straight streets such as Day Terrace, Alfred Road, Aroona Road and Harriett Street, speeds are naturally limited due to some or all of the factors below;

- Narrow carriageway widths;
- 4-way intersections under 'give way' control;
- There are 18 roundabouts throughout the area which serve to break up the long straights, particularly along Elizabeth and Thomas Streets, Croydon Avenue, Rosetta Street and Wilpena Terrace.

Rosetta Street has been effectively treated with roundabouts and indented parking bays, and has 85th percentile speeds of 51km/hr. This lends the distributor road a 'local' feel even though volumes are over 6000 VPD.

Speeding has emerged as the main concern, however the speed surveys indicate isolated instances of excessive top speeds, rather than consistently high 85th%ile speeds. Typical 85th%ile speeds are within the 45 – 55 Km/hr range.

Excessive top speeds are in the 100 – 120km/hr range, and are indicative of some of the factors discussed previously in Section 4.2.

Speeding is generally seen as an issue on the north-south streets of the area, such as Alfred Road, Aroona Street north, Reynell, Margaret and Brown Streets. 85th percentile speeds are generally 5km/hr above the speed limit on these roads indicating that low key measures, such as treed kerb build-outs to create indented

parking, may be more appropriate than the introduction of speed humps and further roundabouts.

The draft QED Traffic Management Strategy (Refer to Section 3.5) specifies appropriate speeds of 40-50km/hr for local streets, however given that speeds are generally close to this range, treatments of a minimal nature may be appropriate, as opposed to the traditional high impact measures of speeds humps, plateaus and slow points.

The QED Study does not specify appropriate volumes for local roads, however 1200 – 1500 VPD is considered to be the upper limit for preserving residential amenity. Alternatively, a traffic volume of 3000 VPD is regarded as the 'environmental capacity' of a residential street, beyond which traffic conditions are generally regarded as unacceptable for residents.

Traffic volumes are generally considered to be within acceptable limits on the streets in the precinct, with figures recorded up to 1400 VPD.

Recommendation

High impact treatments for the precinct, for example speed humps and plateaus are not considered necessary, as reasonably low 85th%ile speeds and volumes were recorded.

Low impact treatments, such as streetscape improvements, for example further trees, in conjunction with indented parking (for example Rosetta Street), to create the appearance of narrower streets, may bring about slight speed reductions, in line with the recommendations in the draft QED Traffic Management Strategy.

Although very little was observed, either on site or through data analysis, which could be considered problematic in terms of LATM, certain potential safety issues were noted at specific sites.

These are discussed in detail below, and should be subject to further review. Initial recommendations for treatment are provided as a guide.

5.2 Streets

5.2.1 Rosetta Street

Rosetta Street is the principal north-south connector road through the precinct and links Port Road to Torrens Road. Rosetta Street contains a small underpass at its southern end under the railway line at West Croydon Station. The street is mainly residential in nature.

The streetscape, including trees, roundabouts and indented parking, appears to function well to reduce traffic speeds back to approximately 50km/hr, however some of the roundabouts contain rocks which are potentially hazardous and should be removed.

Overhanging tree limbs on some of the roundabouts should also be trimmed as these may pose a hazard particularly to high sided vehicles such as vans.

Rosetta Street facing north-east

Rosetta Street detail of rock in roundabout

Several resident comments relate to 'undue' volumes of through traffic on Rosetta Street. Rosetta Street is an important north-south connecting road through the area, and the only north-south route in the area, aside from Kilkenny Road / David Terrace and South Road.

It is felt that any measures to reduce volumes in the street are inappropriate as traffic may then be displaced to local streets as well as to the adjacent arterial road network which is already near capacity.

Recommendation

Remove all rocks from roundabouts along Rosetta Street and reinstate the paving on the annulus of the roundabouts. Lop low tree limbs (lower than 3m) on trees growing within the roundabout.

5.2.2 Rosetta Street underpass

Rosetta Street contains an underpass at the railway line adjacent Port Road. The underpass is fairly narrow, contains sub-standard guard railing, and is prone to flooding.

Guard railing on the approaches to the underpass may cause spearing type injuries in the event of passenger vehicle collisions. The guard railing should be upgraded to 'w-beam' or similar with appropriate end treatments.

Resident comments indicate that there is reckless driving, insufficient lighting, vandalism and other forms of anti-social behaviour occurring in the vicinity of the underpass. Measures to reduce speeds near and through the underpass should be considered in conjunction with the measures outlined in Section 4.2.

One resident has also suggested the closure of the underpass, implying the closure of Rosetta Street. This is not considered feasible due to the importance of Rosetta Street in the overall road hierarchy. The QED draft Traffic Management Strategy identifies Rosetta Street as a road with distributor status, and traffic volumes (6000 VPD) bear out this assessment.

The overpass could still be closed however, with Rosetta Street raised to form an at-grade crossing of the railway. Such a change should only be considered in light of detailed traffic modelling (considering queue lengths) and public consultation.

Council would need to review the factors which led to the implementation of the underpass in the first instance. The removal of the underpass may improve issues such as flooding, vandalism and lighting, but would then create traffic queues during train crossings, particularly during peak hours. The effects on Day Terrace and Euston Terrace would also require consideration in terms of queue lengths.

Recommendation

It is recommended that Council consider short term improvements to the underpass and its approaches, including an upgrade to the guard railing, signage and other measures to reduce approach speeds.

In the longer term the removal of the underpass, and the provision of an at-grade crossing of the railway could be considered, subject to detailed stakeholder consultation and traffic modelling.

5.2.3 Aroona Road North (wide section)

The northern section of Aroona Road comprises a straight section of road, of approximately 300m in length, and with a carriageway width of 9m. The speed and volume data does not bear out the perception of residents that there is excessive traffic speed and volume, although it is acknowledged that there is the potential for excessive speed.

The recorded data indicates an 85th%ile speed of 52km/hr, and a daily volume of 756 vehicles. The maximum recorded speed was 82km/hr. Low key measures, such as further street trees and shallow kerb protuberances, are therefore seen as a more appropriate approach to traffic management in the street than speed humps, plateaus or chicanes.

It has been noted that the two roads running parallel to Aroona Road, Wilpena Terrace and Rosetta Street, have been treated with roundabouts. It is unlikely that this has displaced traffic to Aroona Road, given the volume figure of 756 VPD. It is also considered that roundabouts are more appropriate to Wilpena Terrace and Rosetta Street, which are more significant north-south routes through the precinct.

Recommendation

The speed and volume data for Aroona Road is well within acceptable limits (refer to section 5.1), therefore consider implementing low impact measures along the street rather than traditional traffic control devices.

5.2.4 Aroona Road North (narrow section)

Aroona Road narrows considerably at a point approximately 300m south of its intersection with Torrens Road. The carriageway in the narrow section is approximately 6m in width. There are few parking controls along the 720m of narrower carriageway.

Aroona Road facing south

Aroona Road facing south - detail of carriageway narrowing

There are comments to suggest that there is a degree of parking congestion and speeding. Again the data indicates acceptable levels of speed and volume. Peak hour parking restrictions, for example sections of yellow line, could be considered to maintain traffic flow during peak periods, however these are unlikely to be required during the off-peak as there is no apparent congestion at this time.

Recommendation

Consider banning of parking along certain sections of the road on alternating sides, to preserve traffic flow during peak periods and to reduce speeds.

5.2.5 Brown Street

Brown Street is wide and straight and lends itself to high speeds (maximum recorded speed was 101km/hr), and carries 1394 VPD. This may be due to traffic travelling to and from the Adelaide Secondary School of English situated on Torrens Road, and may also be because the road takes some of the traffic which would otherwise use Rosetta Street as a north-south route through the precinct.

Brown Street has been nominated as a collector road in the QED draft Traffic Management Strategy. This is due to the number of residential side streets which feed into Brown Street (over 10).

Any alterations to Brown Street should ideally function to lower speeds at the school, and the main aim of further traffic control devices should be to lower the percentage of motorists exceeding the speed limit (currently at 27%). There is a roundabout at the Brown Street / Harriett Street intersection which is 250m from the commencement of the school zone. The roundabout may therefore not function to lower speeds outside the school.

A further roundabout at the Brown Street / Bedford Street intersection was considered, and although a small complying roundabout is achievable, it would be necessary to narrow adjacent footpaths to approximately 1.6m. This is not desirable due to the number of school students using the footpaths, and a width of at least 2m is preferable.

The pavement of Brown Street exhibits signs of failure (crocodile cracking) and is shortly to be reconstructed by Council. Measures have therefore been designed by Council so that they can be included in the reconstruction work. These include the following;

- An at-grade perimeter threshold treatment at the intersection of Brown Street and Torrens Road including a raised central median in Brown Street;
- Several mid-block at-grade pavement treatments along Brown Street between Torrens Road and Harriet Street;
- Kerb protuberances at every road intersecting with Brown Street between Torrens Road and Alfred Street.

These measures are considered fairly low impact and should serve to lower general speeds without resorting to traditional devices such as speed humps which induce vertical deflection in vehicles.

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Brown Street facing north

Brown Street pavement adjacent school

Recommendation

Council is to construct kerb build-outs, a perimeter threshold, and mid-block pavement treatments along Brown Street. Coordinate these designs with the street reconstruction so that the improvements can be incorporated into the reconstruction works.

5.2.6 Day Terrace

Day Terrace is a potential environment for high speeds, and there is anecdotal evidence to suggest that there are isolated instances of excessive speed, although these have not been recorded as part of the speed and volume data.

An holistic approach should be taken when considering treatments for Day Terrace, as the road forms only a small part of the thoroughfares running parallel to the railway corridor, which are all of a similar long straight nature.

The use of speed humps at this time, given the current 85th%ile speed of 49km/hr, is not justifiable, and would set a precedent for treatment which may not be suitable for other similar streets along the railway corridor, for example Belmore Terrace in Woodville Park. A suitable means of controlling isolated excessive speeds may simply be through passive management, for example the intermittent presence of police vehicles.

Day Terrace (south) adjacent the Rosetta Street underpass

Day Terrace facing south-east

Recommendation

It is suggested that physical measures are not implemented at this time, and that Council contact SAPOL with a view to increasing a general police presence.

5.2.7 Ellen Street

Ellen Street is long and straight, with no features to reduce forward sight distance, and is the priority road at seven 4-way intersections. There is a school adjacent Ellen Street, with a school zone between Cedar and William Streets.

As with many similar streets in the precinct, the 85th%ile speed is 56km/hr, which is over the 50km/hr general urban speed limit, but not to the extent which would warrant typical 'vertical deflection' type features. Additionally there may be school buses using the street from time to time. Conditions are such that kerb buildouts and landscaping may be appropriate.

Recommendation

Consider landscaping and kerb buildouts along Ellen Street to reduce 85th%ile speeds, particularly in view of the school zone in the street.

5.2.8 Reynell Street

Reynell Street is a straight road with a carriageway width of approximately 8m. The length of the road (1300m), and the long unbroken forward sight distance along the road, may contribute to instances of excessive speed. Residents comments received as part of the consultation indicate that the road is being used as a 'drag strip'.

Residents comments also indicate that the street may be carrying a degree of non-local through traffic, between Kilkenny Road and Rosetta Street.

Although Reynell Street does link these two roads, volume figures are well within acceptable limits for a residential road at 657 VPD. There are several intersections along the road under Give Way control, which serve as a de-facto form of speed control. The recommendation for Ellen Street may also be valid in Reynell Street. 85th%ile speeds are currently 57km/hr. Council should monitor these speeds with a view to introducing higher impact treatments, for example plateaus, if 85th%ile speeds increase beyond 60km/hr.

Recommendation

Consider landscaping and kerb buildouts as interim measures, with measures such as speed humps to be implemented if 85th%ile speeds in Reynell Street increase beyond 60km/hr.

5.2.9 David Terrace (DTEI road)

David Terrace forms the western boundary of the LATM area, and although under DTEI control, exerts an influence over the LATM area in terms of general amenity. Comments relate to the lack of a safe pedestrian crossing point, and to ambiguous line marking between traffic lanes and parking lanes.

Although there is an existing pedestrian refuge on David Terrace near Brooker Court, there is a perception of high traffic volumes and percentage of commercial vehicle content, and that a pedestrian actuated crossing may be appropriate.

The road width, depending on how space is allocated, could allow for two traffic lanes in either direction, or one lane in either direction, with parking and cycle lanes. There may be scope to formalise these allocations as the extent of existing line marking is limited.

Recommendation

Council may wish to liaise with DTEI over the formulation of a corridor management plan so that the needs of pedestrians, cyclists and general traffic can be better accommodated along David Terrace.

5.3 Intersections

5.3.1 Torrens Road / Days Road / Lamont Street

Council and DTEI are collaborating to improve conditions at the intersection, in particular to improve traffic flow along Torrens Road by rationalising the signal phasing. One phase which could be eliminated is the right turn from Torrens Road into Lamont Street. This phase delays other phases in the sequence and is seemingly under-used.

As a general principal access into local streets should be maintained as far as possible, however in this instance there are satisfactory alternative routes into Lamont Street which do not affect the traffic flow on Torrens Road, for example via South Road and Tait Road.

Council has endorsed the banning of the right turn, subject to consultation with affected residents in Lamont Street. This is also subject to a crash analysis to weigh up the benefits of making the right turn ban operational during peak hours only.

Recommendation

Consider further liaison with DTEI, and consultation with affected residents, over the rationalisation of the signal phasing at this intersection.

5.3.2 William Street / Ellen Street

The intersection is currently under Give Way control. The Give Way sign on the southern approach on William Street is obscured by a street tree, which should be trimmed back.

5.3.3 Malcolm Street / Blanford Street

A fence restricts sight distance from Blanford Street into Malcolm Street. The fence should be cut back or lowered slightly to preserve sight distance into Malcolm Street.

5.4 Bicycle Routes

Various streets in the precinct have been nominated as strategic bicycle routes in a previous study (Dorrestyn and Co). In general the routes form viable north-south or east-west alternatives to the nearby arterial roads, and are located approximately mid-way between arterials.

The main north-south route is via Rosetta Street, with a second north-south route along Garnet Street and Croydon Avenue.

There are two east-west routes as follows;

- Myponga Terrace – Margaret Avenue – Carlyle Avenue – Kingsley Avenue – Hurtle Street, and then along Hawker Street to Brompton, then to the city.
- Pinda Street - through the McInerney Reserve - Day Terrace – South Road, and then to the city. This route is part of an overall route along the railway corridor.

Due to the low traffic volumes in these roads no formal treatment for the cycle routes is recommended at this stage. However, it would be beneficial for Council and the

community if the routes were at least demarcated with a minimal treatment, consisting of the cycle logo on the pavement, and signs at appropriate intervals.

Comments received as part of the consultation would tend to indicate a lack of public awareness of the cycle routes nominated within the area (refer to Section 4.3.7).

Pavement markings and signage would serve to better highlight the presence of the routes and to promote them.

Recommendation

Consider the application of the cycle logo and signage on nominated cycle routes within the precinct.

6. Community Feedback

The following section outlines the draft recommendations issued for community review together with the results of the community feedback. Where appropriate, responses are offered to comments made by the community, however in light of the generally high levels of support received, few amendments to the recommendations are considered necessary.

6.1 Levels of Treatment

Draft Recommendation
High impact treatments for Croydon / West Croydon / Kilkenny, for example speed humps and plateaus, are not currently recommended, as reasonably low 85th%ile speeds and volumes were recorded. Low impact treatments are recommended, such as streetscape improvements, for example further trees, in conjunction with indented parking (see Rosetta Street, West Croydon), which may bring about further speed reductions in line with the recommendations in the draft QED Traffic Management Strategy.

Level of Community Support
67% of respondents supported this recommendation. Some respondents again raised concerns with speeding traffic in the area, and issues of isolated high speeds and hooning, which low impact measures may not adequately address. On the basis of current traffic data collected, the concerns cannot be substantiated, and high impact treatments are still not considered to be justifiable (refer to Section 4.6).

As a matter of course Council should continue to monitor speeds with a view to considering further measures if necessary. The recommendation could be amended to emphasise an appropriate level for intervention, or warrant, at which time higher impact devices, such as plateaus, would be considered.

Suggested Amendment to Recommendation
High impact treatments for Croydon / West Croydon / Kilkenny, for example speed humps and plateaus, are not currently recommended, as reasonably low 85th%ile speeds and volumes were recorded. Low impact treatments are recommended, such as streetscape improvements, for example further trees, in conjunction with indented parking.

Council should continue to monitor speeds in the area with a view to the introduction of higher impact traffic control devices, such as raised plateaus, should 85ht%ile speeds exceed 60km/hr.

6.2 Rosetta Street

Draft Recommendation
It is recommended that Council remove all rocks from roundabouts along Rosetta Street and reinstate the paving on the annulus of the roundabouts. Lop low tree limbs (lower than 3m) on trees growing within the roundabouts.

Level of Community Support
79% of respondents supported this recommendation.

Suggested Amendment to Recommendation
No change is considered necessary to the recommendation.

6.3 Rosetta Street underpass

Draft Recommendation
It is recommended that Council consider short term improvements to the underpass and its approaches, including an upgrade to the guard railing, signage and other measures to reduce approach speeds. In the longer term the removal of the underpass, and the provision of an at-grade crossing of the railway, could be considered, subject to detailed stakeholder consultation and traffic modelling.

Level of Community Support
67% of respondents supported this recommendation. Those who did not support the recommendation cited the efficiency of the underpass and questioned the effects on traffic of closing the facility. However, the recommendation has come about in part due to the level of concern raised in the initial consultation with lighting, vandalism, speeding, flooding and general anti-social behaviour at the facility.

The recommendation could be changed to emphasise that the underpass would not be closed without a thorough feasibility study and community / stakeholder consultation.

Suggested Amendment to Recommendation
It is recommended that Council consider short term improvements to the underpass and its approaches, including an upgrade to the guard railing, signage and other measures to reduce approach speeds

In the longer term a comprehensive feasibility study and community consultation could be undertaken to investigate ways of improving safety in the area, for example, a closure of the Rosetta Street underpass.

6.4 Aroona Road North (wide section)

Draft Recommendation
The speed and volume data for Aroona Road is well within acceptable limits (refer to section 5.1), therefore low impact measures are recommended along the street rather than traditional traffic control devices.

Level of Community Support
83% of respondents supported this recommendation.

Suggested Amendment to Recommendation
No change is considered necessary to the recommendation.

6.5 Aroona Road North (narrow section)

Draft Recommendation
Consider banning of parking along certain sections of the road on alternating sides, to preserve traffic flow during peak periods and to reduce speeds.

Level of Community Support
85% of respondents supported this recommendation.

Suggested Amendment to Recommendation
No change is considered necessary to the recommendation.

6.6 Brown Street

Draft Recommendation
Council is to design and construct kerb build-outs, a perimeter threshold, and mid-block pavement treatments along Brown Street. Coordinate these designs with the street reconstruction so that the improvements can be incorporated into the reconstruction works.

Level of Community Support
87% of respondents supported this recommendation.

Suggested Amendment to Recommendation
No change is considered necessary to the recommendation.

6.7 Day Terrace

Draft Recommendation
It is recommended that physical measures are not implemented at this time, and that Council contact SAPOL with a view to increasing a general police presence around Day Terrace.

Level of Community Support
86% of respondents supported this recommendation. One respondent expressed that SAPOL are already stretched for resources, however even an occasional patrol in Day Street and the surrounding streets, particularly at night, will serve to reinforce a police presence.

Suggested Amendment to Recommendation
No change is considered necessary to the recommendation.

6.8 Ellen Street

Draft Recommendation
Consider landscaping and kerb buildouts along Ellen Street to reduce 85th%ile speeds, particularly in view of the school zone in the street.

Level of Community Support
85% of respondents supported this recommendation.

Suggested Amendment to Recommendation
No change is considered necessary to the recommendation.

6.9 Reynell Street

Draft Recommendation
Consider landscaping and kerb buildouts as interim measures, with measures such as speed humps to be implemented if 85th%ile speeds in Reynell Street increase beyond 60km/hr.

Level of Community Support
80% of respondents supported this recommendation. Residents who did not support the recommendation cited high isolated instances of speeding, and the need to implement devices such as speed humps or plateaus to control speeds. Council should continue to monitor speeds, however at this stage, with 85th%ile speeds at 57km/hr, softer treatments such as those recommended are still considered appropriate (also refer to Recommendation 6.1).

Suggested Amendment to Recommendation
No change is considered necessary to the recommendation.

6.10 David Terrace (DTEI)

Draft Recommendation
It is recommended that Council liaise with DTEI over the formulation of a corridor management plan so that the needs of pedestrians, cyclists and general traffic can be better accommodated along David Terrace.

Level of Community Support
93% of respondents supported this recommendation. A resident raised the need for a pedestrian crossing to be provided adjacent Whitefriars Catholic School.

Suggested Amendment to Recommendation
No change is considered necessary to the recommendation.

6.11 Bicycle routes

Draft Recommendation
Consider the application of the cycle logo and signage on nominated cycle routes within the precinct.

Level of Community Support
88% of respondents supported this recommendation.

Suggested Amendment to Recommendation
No change is considered necessary to the recommendation.

6.12 Torrens Road / Days Road / Lamont Street

Draft Recommendation
Consider further liaison with DTEI, and consultation with affected residents, over the rationalisation of the signal phasing at this intersection.

Level of Community Support
Although this recommendation appears on the list of recommendations circulated for resident feedback, the option to 'strongly agree/agree/disagree/strongly disagree' was omitted from the response sheet.

The recommendation is not considered to be contentious and any significant opposition is highly unlikely. A reasonable course of action would be to retain the current recommendation, which recommends further consultation on the intersection in any case.

Suggested Amendment to Recommendation
No change is considered necessary to the recommendation at this stage.

6.13 Summary

In summary the clear majority of respondents supported each of the recommendations which were circulated.

Key issues which were raised include the following;

- **Speeding and hoon driving are still seen as having a major impact on residential amenity in the area.** In some instances residents were concerned that low impact measures, such as protuberances and further street trees, may not be adequate to address the issue. Council may wish to emphasise an intervention level, which if exceeded, may lead to the application of higher impact traffic control devices.

- **The Rosetta Street underpass, although seen as problematic by many respondents, is also seen by some as an efficient means of negotiating the railway line above.** It should therefore be emphasised that the removal of the underpass would only occur in light of a detailed feasibility study and consultation.

The following table summarises the level of support for each recommendation;

	6.1	6.2	6.3	6.4	6.5	6.6	6.7	6.8	6.9	6.10	6.11
STRONGLY AGREE	11	9	16	7	16	13	14	11	14	8	12
AGREE	20	28	15	27	19	26	24	29	22	32	30
DISAGREE	6	4	5	2	2	4	3	6	6	2	5
STRONGLY DISAGREE	9	6	10	5	4	2	3	1	3	1	1
% Support	67%	79%	67%	83%	85%	87%	86%	85%	80%	93%	88%
% Non-Support	33%	21%	33%	17%	15%	13%	14%	15%	20%	7%	12%

7. Final Recommendations

This summary consists of 12 final recommendations and an A3 map which summarises the recommendations graphically.

7.1 Levels of Treatment

High impact treatments for Croydon / West Croydon / Kilkenny, for example speed humps and plateaus, are not currently recommended, as reasonably low 85th%ile speeds and volumes were recorded. Low impact treatments are recommended, such as streetscape improvements, for example further trees, in conjunction with indented parking.

Council should continue to monitor speeds in the area with a view to the introduction of higher impact traffic control devices, such as raised plateaus, should 85th%ile speeds exceed 60km/hr.

7.2 Rosetta Street

It is recommended that Council remove all rocks from roundabouts along Rosetta Street and reinstate the paving on the annulus of the roundabouts. Lop low tree limbs (lower than 3m) on trees growing within the roundabouts.

7.3 Rosetta Street underpass

It is recommended that Council consider short term improvements to the underpass and its approaches, including an upgrade to the guard railing, signage and other measures to reduce approach speeds

In the longer term a comprehensive feasibility study and community consultation could be undertaken to investigate ways of improving safety in the area, for example, a closure of the Rosetta Street underpass.

7.4 Aroona Road North (wide section)

The speed and volume data for Aroona Road is well within acceptable limits (refer to section 5.1), therefore low impact measures are recommended along the street rather than traditional traffic control devices.

7.5 Aroona Road North (narrow section)

Consider banning of parking along certain sections of the road on alternating sides, to preserve traffic flow during peak periods and to reduce speeds.

7.6 Brown Street

Council is to design and construct kerb build-outs, a perimeter threshold, and mid-block pavement treatments along Brown Street. Coordinate these designs with the street reconstruction so that the improvements can be incorporated into the reconstruction works.

7.7 Day Terrace

It is recommended that physical measures are not implemented at this time, and that Council contact SAPOL with a view to increasing a general police presence around Day Terrace.

7.8 Ellen Street

Consider landscaping and kerb buildouts along Ellen Street to reduce 85th%ile speeds, particularly in view of the school zone in the street.

7.9 Reynell Street

Consider landscaping and kerb buildouts as interim measures, with measures such as speed humps to be implemented if 85th%ile speeds in Reynell Street increase beyond 60km/hr.

7.10 David Terrace (DTEI)

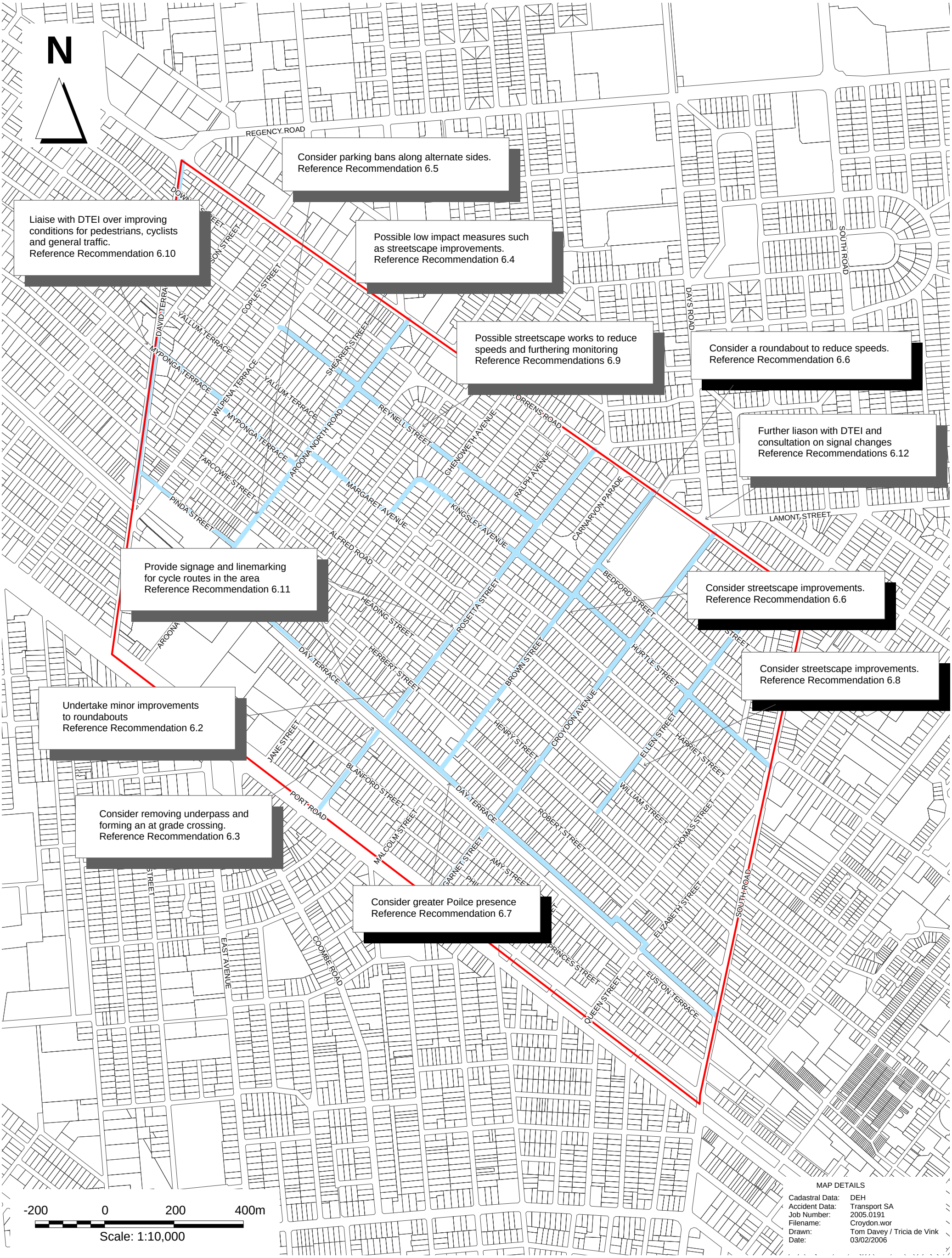
It is recommended that Council liaise with DTEI over the formulation of a corridor management plan so that the needs of pedestrians, cyclists and general traffic can be better accommodated along David Terrace.

7.11 Bicycle routes

Consider the application of the cycle logo and signage on nominated cycle routes within the precinct.

7.12 Torrens Road / Days Road / Lamont Street

Consider further liaison with DTEI, and consultation with affected residents, over the rationalisation of the signal phasing at this intersection.



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City of Charles Sturt

Croydon & West Croydon LATM

SUMMARY OF RECOMMENDATIONS

Appendix A

Community Circulars

CITY OF
CHARLES STURT

Local Area Traffic Management Review
Croydon – West Croydon - Kilkenny

Council is reviewing traffic and road safety in the ***Croydon, West Croydon and Kilkenny*** areas bounded by:

- Port Road
- Torrens Road
- Kilkenny Road
- South Road

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 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 Croydon, West Croydon and Kilkenny.

Ultimately, Council requires a concise LATM plan for the ***Croydon, West Croydon and Kilkenny*** 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.

City of Charles Sturt, 72 Woodville Road, Woodville, SA 5011 Phone 08 8408 1111 Facsimile 08 8408 1122

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 ***Croydon, West Croydon and Kilkenny*** 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.

CITY OF CHARLES STURT

Croydon, West Croydon and Kilkenny 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 Rosetta Street and Day Terrace*)

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

Solutions/Opportunities

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.

WEST CROYDON – CROYDON – KILKENNY
LOCAL AREA TRAFFIC MANAGEMENT (LATM) PLAN

Dear Sir / Madam

Our records show that in June last year you responded to a request for comments about traffic issues in your local area. Your comments were used to develop a draft LATM Plan for the West Croydon-Croydon-Kilkenny areas.

Council has recently endorsed the "Findings and Recommendations for Consultation" report, prepared by Tonkin Consulting, and is now finalising the LATM Plan for West Croydon-Croydon-Kilkenny (and three other areas in Council – Athol Park, Royal Park and Woodville South).

The Plans will help the Council to make traffic planning decisions in these areas and will improve the amenity of these local areas. The traffic control devices recommended in the Plans will be constructed over the next few years (as funds are made available).

Council is now seeking your feedback on the recommendations in the reports. We have enclosed a summary of the recommendations for the West Croydon-Croydon-Kilkenny LATM area. Full copies of the report are available to read at the Council offices at 72 Woodville Road, Woodville, or on the Council's website at www.charlessturt.sa.gov.au

We have also enclosed a response form for you to complete. The response form is also available on the website. I invite you to review the recommendations for traffic improvements in West Croydon-Croydon-Kilkenny and send your response to :

WEST CROYDON LATM Consultation Feedback,
PO Box 1
WOODVILLE SA 5011.

Consultation closes on Friday 31 March 2006.

Thank you for your interest.

Paul Simons
Project Manager
On Behalf of City of Charles Sturt

WEST CROYDON-CROYDON-KILKENNY LATM
RESPONSE FORM

Name: ……

Address: ……

Telephone: ……

General Questions:

1. Do you support the draft LATM plan in the West Croydon Report?
   Yes / No (delete as appropriate)

2. Does the draft LATM plan address your concern about traffic in West Croydon?
   Yes / No (delete as appropriate)

3. If not, why not?

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Specific Questions:

How strongly do you agree/disagree with the Report Recommendations (circle as appropriate)?

6.1: Levels of Treatment
Strongly agree / Agree / Disagree / Strongly disagree

6.2: Rosetta Street
Strongly agree / Agree / Disagree / Strongly disagree

6.3: Rosetta Street Underpass
Strongly agree / Agree / Disagree / Strongly disagree

6.4: Aroona Road North (wide section)
Strongly agree / Agree / Disagree / Strongly disagree

6.5: Aroona Road North (narrow section)
Strongly agree / Agree / Disagree / Strongly disagree

6.6: Brown Street
Strongly agree / Agree / Disagree / Strongly disagree

6.7: Day Terrace
Strongly agree / Agree / Disagree / Strongly disagree

6.8: Ellen Street
Strongly agree / Agree / Disagree / Strongly disagree

Continued Over Page

6.9: Reynell Street
Strongly agree / Agree / Disagree / Strongly disagree

6.10: David Terrace (DTEI)
Strongly agree / Agree / Disagree / Strongly disagree

6.11: Bicycle Routes
Strongly agree / Agree / Disagree / Strongly disagree

Comments:

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Thank you for your interest

Please return to :

WEST CROYDON LATM Consultation Feedback
PO Box 1
WOODVILLE SA 5011.

Consultation closes on Friday 31 March 2006.

Appendix B

Speed and Volume Data

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Legend

- Survey Locations
- Traffic Lights
- Pedestrian Activated Traffic Lights
- Roundabout
- **VPD** Vehicles per day
- **CV** Commercial Vehicles
- Areas for Further Consideration
- Rail

Landuse

- Commercial
- Industrial
- Residential
- Parks
- Study Area Boundary
- DCDB (Cadastre)

VPD: 756
85% Speed: 52 Kph
Max Speed: 82 Kph
CV%:1
% > 50 Kph:20.3

VPD: 468
85% Speed: 40 Kph
Max Speed: 58 Kph
CV%:1.5
% > 50 Kph:0.5

VPD: 693
85% Speed: 49 Kph
Max Speed: 78 Kph
CV%:2
% > 50 Kph:13.4

VPD: 657
85% Speed: 57 Kph
Max Speed: 116 Kph
CV%:1
% > 50 Kph:43

VPD: 255
85% Speed: 47 Kph
Max Speed: 65 Kph
CV%:2.4
% > 50 Kph:9.6

VPD: 412
85% Speed: 56 Kph
Max Speed: 80 Kph
CV%:0.2
% > 50 Kph:24.3

VPD: 1400
85% Speed: 54 Kph
Max Speed: 91 Kph
CV%:1.2
% > 50 Kph:33.3

VPD: 118
85% Speed: 49 Kph
Max Speed: Kph
CV%:1
% > 50 Kph:13.6

VPD: 1394
85% Speed: 53 Kph
Max Speed: 101 Kph
CV%:2
% > 50 Kph:26.7

VPD: 1039
85% Speed: 56 Kph
Max Speed: 106 Kph
CV%:3
% > 50 Kph:38.7

VPD: 6916
85% Speed: 51 Kph
Max Speed: 77 Kph
CV%:1
% > 50 Kph:19

VPD: 820
85% Speed: 45 Kph
Max Speed: Kph
CV%:2.4
% > 50 Kph:6.3

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W www.tonkin.com.au

MAP DETAILS

Cadastral Data:	DEH
Traffic Data:	Transport SA
Job Number:	2005.0191
Filename:	Figure_3.wor
Drawn:	Tricia de Vink
Date:	02/11/2005

0 200 400 600 m

1:10,000

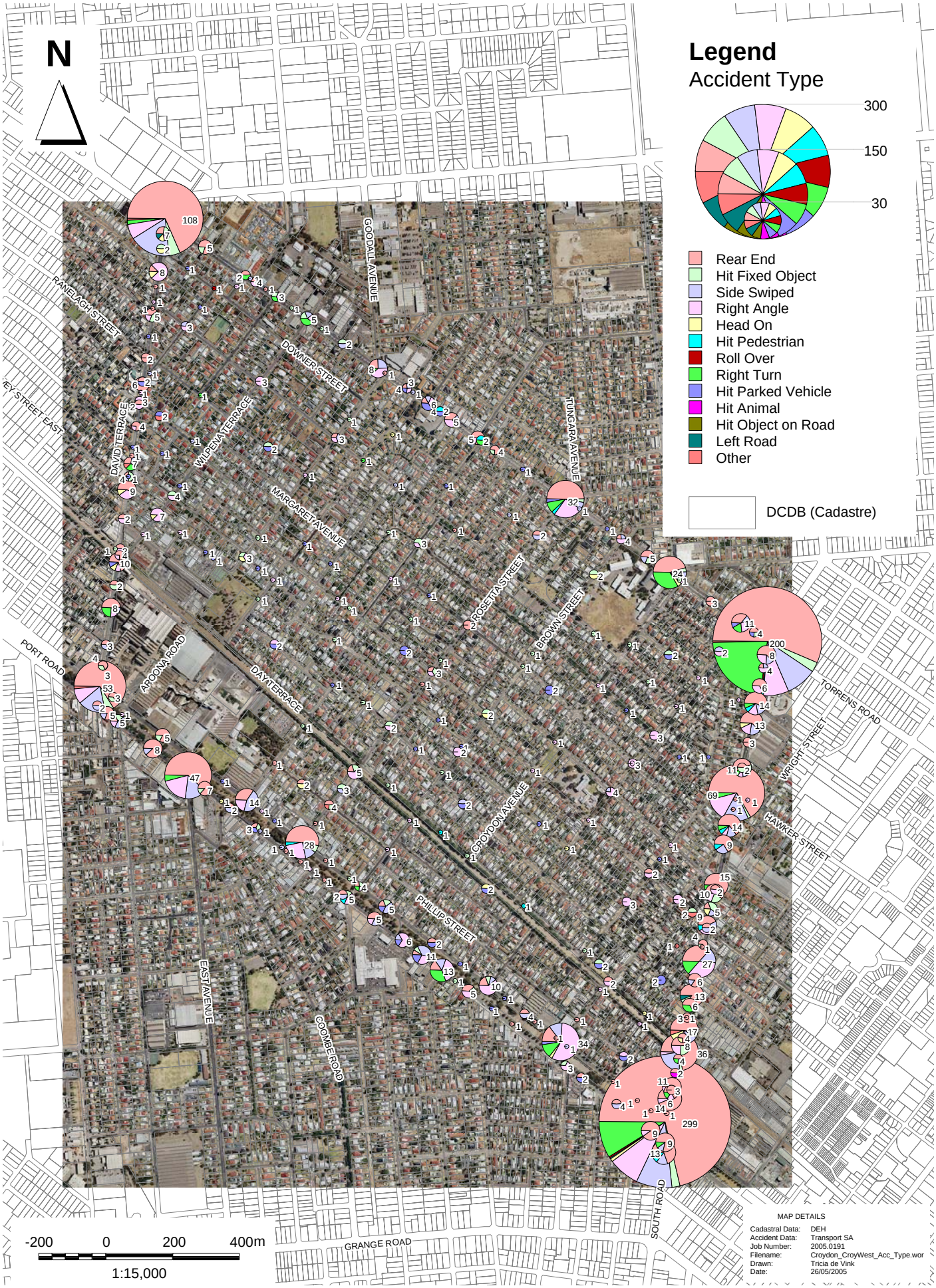
City of Charles Sturt
Croydon, West Croydon & Kilkenny Traffic Study

CROYDON, WEST CROYDON & KILKENNY

Figure 3

Appendix C

Collision Maps



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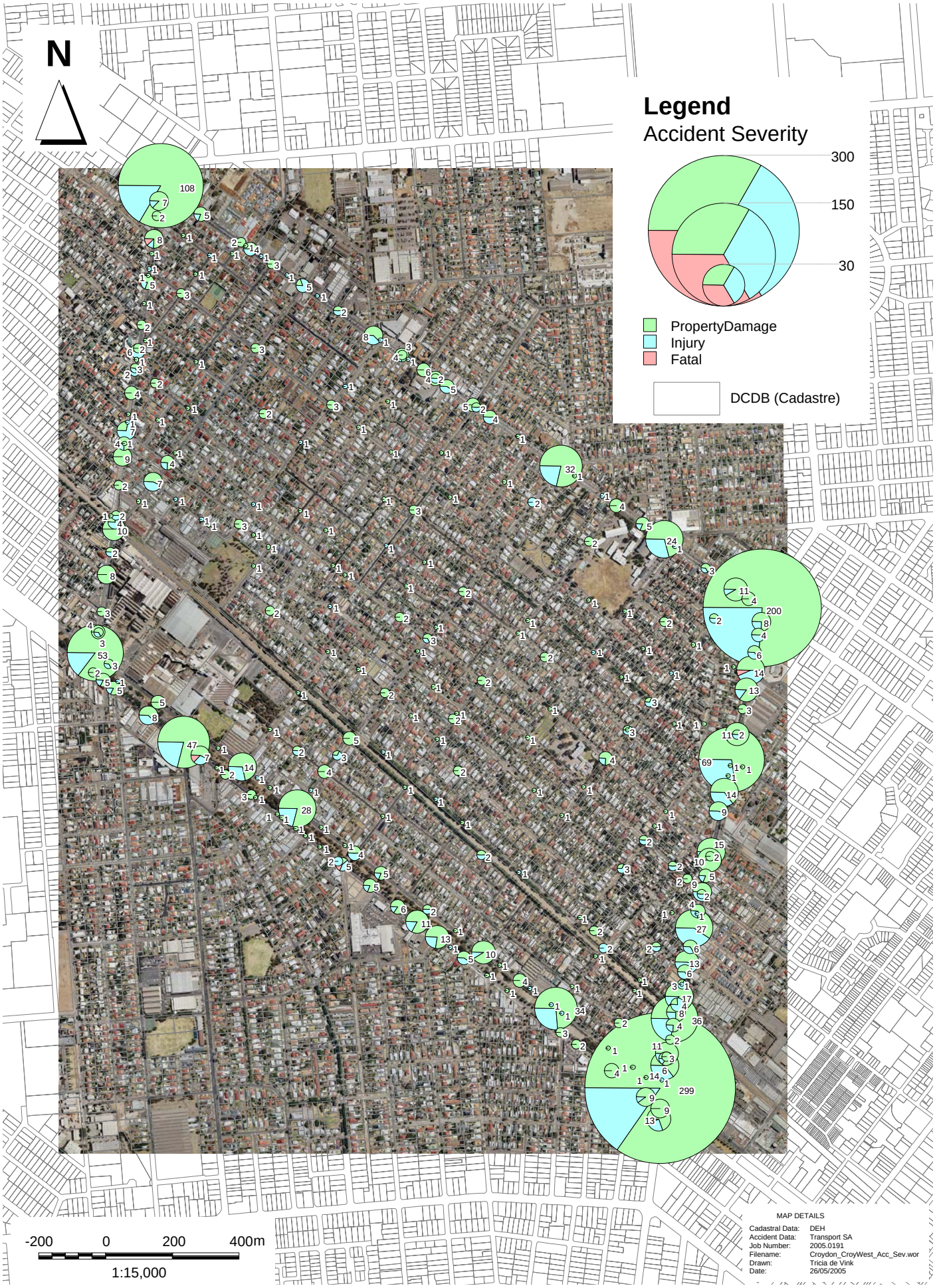
City of Charles Sturt

Croydon & West Croydon Traffic Study

1999 - 2004

Accident Type



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City of Charles Sturt

Croydon & West Croydon Traffic Study
1999 - 2004

Accident Severity