

City of Charles Sturt

Grange and Seaton (West) LATM

Final Report

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Document History and Status

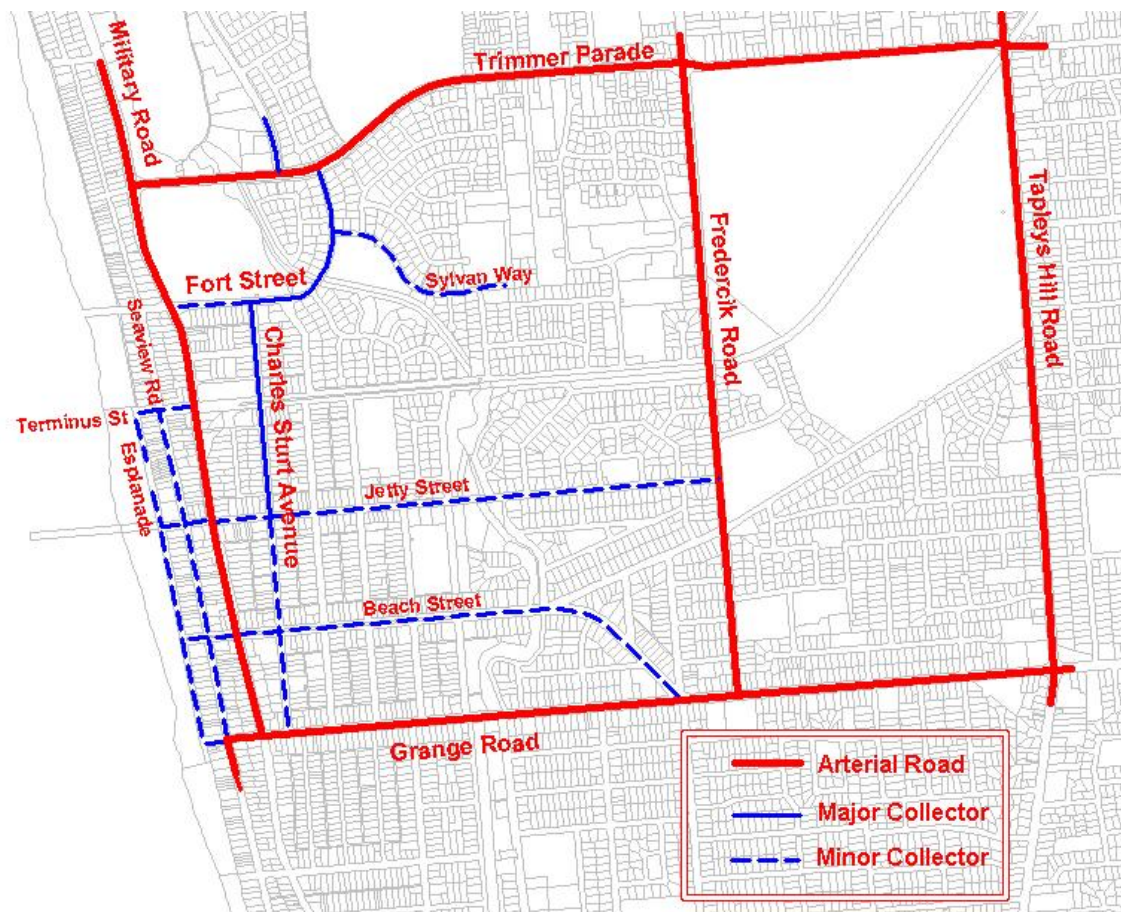
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B	Revised Final	PCS	As instructed by client	PCS	8/10/07
C	Final	PCS	Executive Summary added	PCS	18/10/07

Executive Summary

In August 2006 Council engaged Tonkin Consulting to prepare a Local Area Traffic Management (LATM) plan for the Grange area bounded by Trimmer Parade, Tapleys Hill Road, Grange Road and the foreshore. The recommendations have been developed through community consultation and the involvement of an informal residents group. This final report is submitted for to guide future traffic management within the Grange LATM precinct, set within the broader Traffic Management Strategy for Charles Sturt.

BASIS OF RECOMMENDATIONS

1. The practical road hierarchy shown below be adopted as the basis for developing short term traffic management options for the Study Area.



HIGH PRIORITY

2. Council approach DTEI requesting the development of an overall corridor management plan for Military Road, between Terminus Street and Grange Road. As part of this investigation, plans be developed for the intersections of Jetty Street, Beach Street and Military Road.
3. Council consider the installation of a No Stopping zone along the western side of Fort Street between Trimmer Parade and the river. Refer also to Recommendation 8).
4. Council initiate discussions with DTEI with regard to upgrading the intersection of Grange Road and Beach Street, to complement the proposed median strip concept plan for Beach Street.
5. Council discuss the intersection of Trimmer Parade and Sportsman Drive with DTEI.

MODERATE PRIORITY

6. Council mark parking lanes along the wider sections of Charles Sturt Avenue between Grange Road and Beach Street, and between Jetty Street and the railway line, to better define traffic and parking lanes.
7. Council consider the prohibition of parking on one side of Charles Sturt Avenue between Beach Street and Jetty Street, and similarly between railway line and Fort Street, through discussion with the affected residents. Consideration could be given to a part time parking restriction to cover "peak times".
8. A traffic and parking plan be developed for Fort Street in consultation with stakeholders to address ongoing safety concerns, taking into account other recommendations within this report.
9. Council approach DTEI requesting the development of a corridor management plan for Grange Road between Frederick Road and Seaview Road.
10. Community concerns over Frederick Road be referred to DTEI for investigation.
11. Council install additional line marking and signage at the junction of Adare Court and Clayton Drive to improve definition of the junction give way requirement.

LOW PRIORITY

- 12. In the longer term, and subject to improved capacity and safety along Military Road, consideration be given to adopting an alternative road hierarchy for the area.*
- 13. Further consideration be given to specific consultation concerning the installation of a 40 km/h precinct speed limit for the Grange LATM.*
- 14. Council continue to monitor traffic conditions in Seaview Road as part of other changes in the area (associated with the Grange Jetty Precinct).*
- 15. Council continue to monitor traffic volumes and speeds in Sylvan Way.*
- 16. That traffic volumes in Derby Street coinciding with a major event at AAMI stadium be monitored to quantify the volume of traffic using the road.*
- 17. Traffic conditions in Willcocks Avenue be monitored to identify any changes as early as possible.*

1. Introduction

In August 2006 Council engaged Tonkin Consulting to prepare a Local Area Traffic Management (LATM) plan for the Grange area bounded by Trimmer Parade, Tapleys Hill Road, Grange Road and the foreshore, as shown in the following photograph.



The area is identified as Study Area 21 in Council's overarching Traffic Management Strategy. The purpose of the review was to identify local traffic and road safety concerns within the area and develop alternative solutions through consultation with the community.

This report presents the findings and recommendations for the Grange area based on the Draft Report for Consultation (endorsed by Council in May 2007), together with responses from the subsequent community feedback process.

This final report is submitted for Councils' approval to guide future traffic management within the Grange LATM precinct.

2. Method

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.

2.1 Call for Public Submissions

Leaflets were distributed to every letterbox in the area by hand in August 2006. 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.

A copy of the community circular is included in Appendix A.

2.2 Review of Traffic Data

Traffic classifier surveys were undertaken at a number of locations throughout the area, based on issues identified by a review of resident responses, and through knowledge of the traffic environment in certain streets.

This data has been summarised in Appendix B.

2.3 Collision Data

Details of the road collision incidents reported to the SA Police during the period 2000 – 2005, were obtained from DTEI. The data was analysed to an extent to validate the site-specific concerns of residents. Sites were checked for 'black-spots' or areas with a consistently high number of crash occurrences.

Collision data has been presented in Appendix C.

2.4 Review of Background Documents

2.4.1 Traffic Management Strategy

The 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.

2.4.2 Grange Jetty Precinct

Council has previously prepared a report covering the Grange Jetty Precinct that establishes an Urban Design Framework for the area bounded by :

- Jetty Street between Seaview Road and Military Road
- Military Road north of Jetty Street
- The Grange Hotel car park and foreshore precinct, between Seaview Road and the beach.

The report outlines various traffic management initiative that have a relationship to the preparation of the Grange LATM, including the following suggestions :

- The installation of traffic signals at the intersection of Jetty Street and Military Road
- Converting Jetty Street (west of the hotel bottle shop and car park) into a one-way street (westbound)
- Upgrading of Military Road streetscape.

2.5 Austroads

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.

2.6 Site Investigations

All roads in the area were reviewed and driven 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 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.

2.7 Residents Committee

As part of the Community Circular (refer Appendix A), a Registration of Interest was also sought for residents to represent the local community in the area. The purpose of the Residents' Committee was to assist the consultant team in the process of identifying key issues, possible treatments and possible priorities.

The committee met on three occasions and their input was valuable in verifying the main traffic issues as well as broadly discussing possible solutions.

2.8 Community Feedback

The Draft Plan was subsequently released for community feedback. All residents that responded to the initial community consultation phase (issues identification) received a copy of the draft recommendations and a pro forma response sheet. A public notice was also placed in the Weekly Times and Portside Messengers 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 A.

3. Findings

3.1 Summary or Concerns

Approximately 2,500 community circulars were distributed throughout the Grange area in August 2006. 260 comments were received, representing a response rate of 10.4%. This response rate is considered reasonably good (in comparison to LATM's undertaken in other areas), and provides a good basis of information about the predominant concerns within the Grange. A complete summary of the responses received is included in Appendix D.

There were numerous separate concerns over speeds in particular streets, or through particular intersections. Driver behaviour issues such as "hoon" driving were also nominated by numerous respondents as a significant concern. As it is simply not practical for Council to treat every nominated location, nor is it always appropriate to address behavioural issues with physical traffic engineering solutions, **the Residents' Committee initially established the following list of priority issues for further investigation.**

3.1.1 Road Sections

- Beach Street – speeds at eastern end
- Charles Sturt Avenue (with particular reference to the rail crossing)
- Fort Street – traffic volumes, speeds and narrow width
- Grange Road – speeds and road environment
- Jetty Street – speeds at eastern end
- Military Road – traffic volumes, speed and equity relative to Seaview Road
- Willcocks Avenue – traffic volumes

3.1.2 Intersections

- Beach Street / Grange Road / Mitton Ave
- Grange Road / Frederick Road (NB – under DTEI control)
- Military Road / Beach Street
- Military Road / Jetty Street
- Military Road / Grange Road
- Trimmer Parade / Frederick Road (NB – under DTEI control)
- Trimmer Parade / Sportsman Drive (outside of study area)

3.2 Speed and Volume Data

Traffic data has been collected at 23 sites throughout Grange. The data was useful in verifying the key issues identified by the community and resident's committee, and to assess the extent of any reported problems. A summary of the data is presented in Appendix B.

3.3 Collision Data

Maps showing the location, type and severity of crashes in the precinct are included in Appendix C. The data presented is based on DTEI geo-coded crash information for the period 2000-2005.

Not surprisingly, the vast majority of crashes have occurred along the arterial roads. Excluding crashes at intersection between arterial roads, locations with more than 3 reported collisions are:

Trimmer Parade / Sportsman Drive	32
Trimmer Parade / Fort Street	5
Frederick Road / Nash Street	6
Frederick Road / Sunset Crescent	3
Frederick Road / Jetty Street	7
Frederick Road / Meakin Terrace	7
Grange Road / Beach Street	39
Grange Road / Military Road	36
Grange Road / Seaview Road	6
Military Road / Beach Street	12
Military Road / Jetty Street	7
Military Road / Terminus Street	13
Military Road / Fort Street	5
Jetty Street / Seaview Road	3
Jetty Street / Charles Sturt Avenue	6
Charles Sturt Avenue / Terminus Street	11
Charles Sturt Avenue / Fort Street	3
Beach Street / Westmoreland Road	4
High Street / Terminus Street	3

The following tables summarise the 172 crashes that have occurred **within** the Grange area - excluding crashes that occurred on Trimmer Parade, Tapleys Hill Road, Frederick Road or Grange Road, but including crashes along Military Road.

Severity	Count
Fatal	0
Casualty	34
Property Damage Only	138
TOTAL	172

Accident Type	Count
Other	1
Roll Over	1
Head On	2
Hit Pedestrian	2
Right Turn	8
Side Swipe	16
Rear End	22
Hit Parked Vehicle	29
Right Angle	43
Hit Fixed Object	48
TOTAL	172

Accident Type	Severity	Count
Head On	Injury	1
Head On	PDO	1
Hit Fixed Object	PDO	40
Hit Fixed Object	Injury	8
Hit Parked Vehicle	Injury	5
Hit Parked Vehicle	PDO	24
Hit Pedestrian	Injury	2
Other	Injury	1
Rear End	Injury	4
Rear End	PDO	18
Right Angle	Injury	4
Right Angle	PDO	39
Right Turn	Injury	4
Right Turn	PDO	4
Roll Over	Injury	1
Side Swipe	PDO	12
Side Swipe	Injury	4
TOTAL		172

The data and pattern of crashes is not dissimilar to that which could be found in other local street networks. The predominance of right angle crashes reflects the number of cross road intersections throughout the area.

The number of collisions that occur throughout the week is reasonably consistent although there is a peak occurrence of collisions on Saturdays. This may reflect increased traffic flows through the area associated with the beach activities and events at AAMI Stadium. Most collisions occurred during daylight hours with the peak number of crashes occurring between mid afternoon through to the early evening period.

DAY	Count
Wednesday	14
Thursday	18
Monday	20
Tuesday	22
Sunday	25
Friday	30
Saturday	43
TOTAL	172

Accident HOUR	Count
0	5
1	8
2	3
3	3
4	3
5	1
6	2
8	9
9	4
10	4
11	9
12	10
13	7
14	11
15	13
16	11
17	11
18	11
19	13
20	10
21	9
22	6
23	9
TOTAL	172

4. Discussion and Recommendations

4.1 Road Hierarchy

4.1.1 Existing Road Hierarchy

Council's overarching Traffic Management Strategy identifies the following ideal road hierarchy for the Grange area :

Arterial Roads

- Trimmer Parade
- Grange Road
- Frederick Road
- Tapleys Hill Road
- Military Road

Collector Roads

- Jetty Street
- Beach Street
- Esplanade

The Traffic Management Strategy identifies all other roads within the area (including Seaview Road, Fort Street and Charles Sturt Avenue) as local streets.

However, in a practical sense, the existing road network is operating somewhat differently than this model. Charles Sturt Avenue and Fort Street are serving a collector function, while Seaview Road provides a supplementary role for north-south traffic.

The following diagram reflects the existing practical road hierarchy within the area.

The diagram highlights that there are 3-4 north-south roads that are providing a traffic distribution function to greater or lesser degrees. These roads include Military Road, Seaview Road, Charles Sturt Avenue and Fort Street. This reflects the lack of an obvious arterial route through the area. While Military Road is identified as the arterial road this largely reflects ownership by DTEI, rather than the standard of the road. The limited capacity of Military Road results in drivers finding alternative routes, particularly under peak loads such as major events at AAMI stadium.

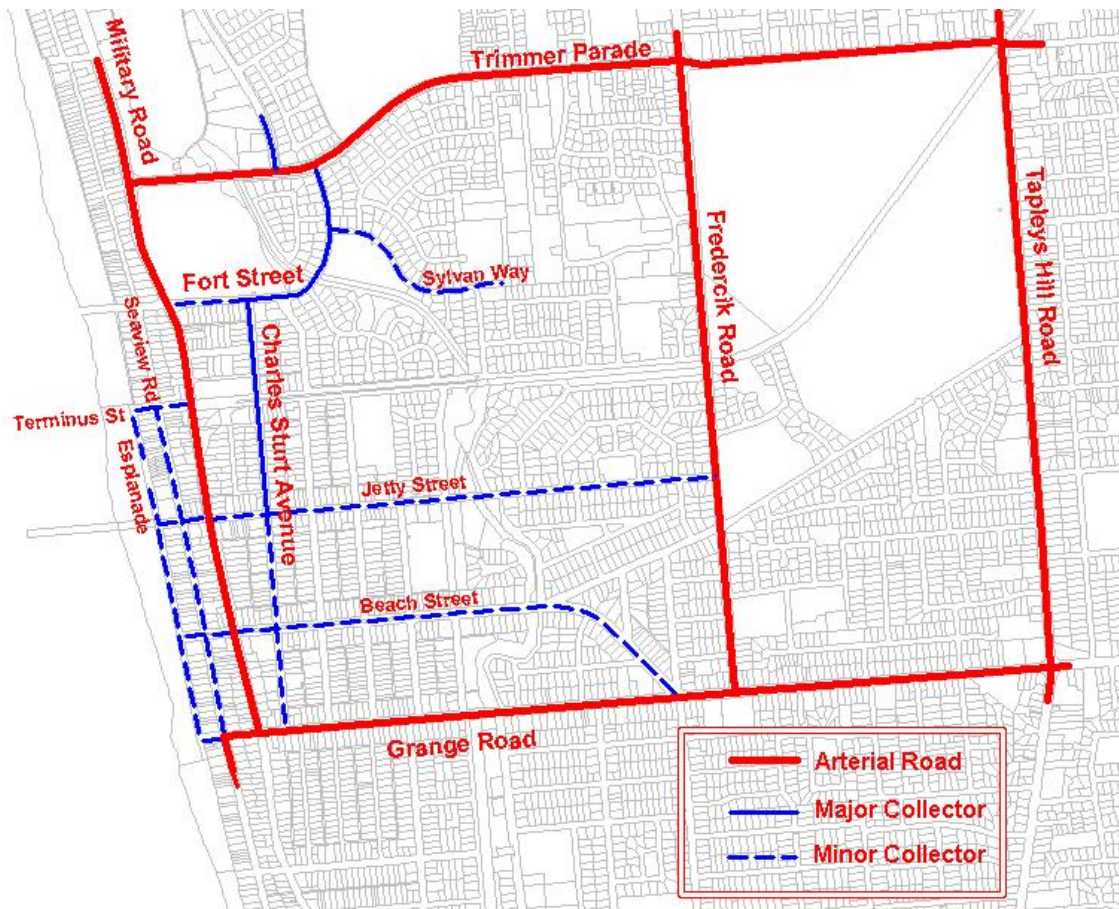


Figure 1 – Existing Practical Road Hierarchy

Charles Sturt Avenue and Fort Street are increasingly providing an alternative collector route through the northern end of the precinct. Without intervention strategies the role of these roads will increase as the aged care precinct continues to be developed, placing additional traffic volumes in the northern end of Fort Street and the junction with Trimmer Parade.

Whether Council and the community accept the existing road hierarchy will largely guide the development of traffic control plans for the area.

In the absence of a clear and continuous arterial route through this area it is inevitable that traffic pressure will force more vehicles into the local street network, particularly under peak loads associated with the AAMI stadium.

In the short term, Council should focus on managing traffic volumes and traffic patterns. Road closures or other restrictive traffic control devices within the local street network will simply result in additional traffic loads on Military Road. This is considered inappropriate until such time as the route is upgraded to an appropriate standard.

The Residents' Committee was adverse to the introduction of restrictive traffic controls within the local area that would displace traffic into Military Road, in its current form and condition.

Recommendation

The practical road hierarchy shown in Figure 1 be accepted as the basis for developing short term traffic management options for the Grange and Seaton (West) Study Area.

4.1.2 Future Road Hierarchy

It is important for Council to initiate discussions with DTEI with regard to the function and performance of Military Road, before considering longer term traffic management. Resolution of this matter is fundamental to addressing broader issues of "through traffic" using the local street network.

On the assumption that Military Road could be adequately upgraded at some time in the future, there is scope to subsequently rationalise the function of the location street network. For example, it may be possible to reduce the status of Charles Sturt Avenue and Fort Street from that of a collector route to a local street. This could be practically achieved through road closures or very restrictive traffic controls (e.g. humps that are often unpopular with the community).

The following diagrams show alternative road hierarchy that could be introduced through the closure of either Fort Street on the river, or Charles Sturt Avenue on the railway crossing.

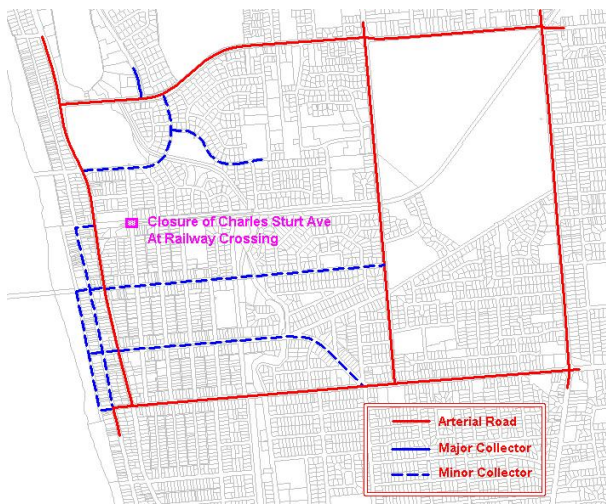


Figure 2 – Alternative Road Hierarchy – Closure of Charles Sturt Avenue

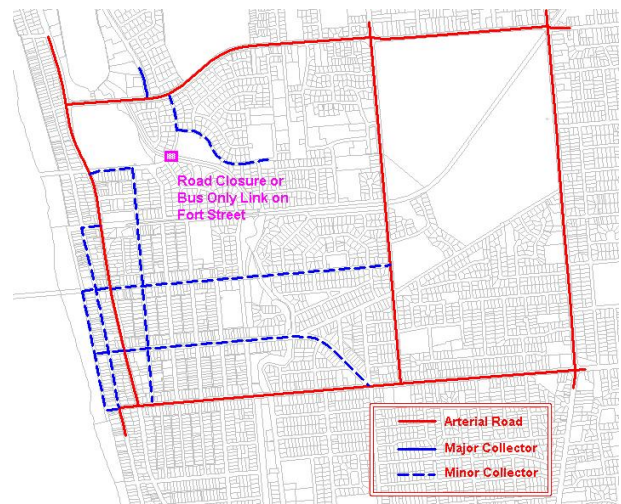


Figure 3 – Alternative Road Hierarchy – Closure of Fort Street

These alternative road hierarchies are presented as possible options once the function of Military Road is addressed. It is important to reiterate that Council should not consider substantial changes to either Charles Sturt Avenue or Fort Street until the capacity and safety of Military Road is improved.

The need for road closures or other very restrictive traffic controls should be reconsidered after Military Road and other initiatives are implemented. If the arterial route is better defined, and other recommendations are successful in discouraging through traffic from the local streets, it may transpire that road closures become unnecessary.

Recommendation

In the longer term and subject to improved capacity and safety along Military Road, and the effect of other recommendations contained in this report, consideration be given to adopting an alternative road hierarchy.

4.2 Road Sections – Priority Locations

4.2.1 Military Road

The following comments were received from the community circular. The table also shows the number of people that made the same comment.

Comment	Number of Responses
Traffic volumes and noise between Terminus Street and Grange Road - relationship to Seaview Road (equity)	9
Funnelling effect from 2 into 1 lane and 60 to 50 km/h	1
Crossing road can be difficult due to footy traffic	2
Bumper to bumper traffic when football - too dangerous to ride bike	1
Eye sore between Terminus Street and Beach Street	1
Difficult to cross road	3
Speeds	9
Rear end collisions as units use road as second car park	1
Hazardous parking and compounds narrowing and traffic flows	2
Unsafe for cyclists	2
Speed through roundabouts	1

The relative function and share of traffic volumes between Seaview Road and Military Road was identified as an (ongoing) issue of concern to respondents to the community survey. Historically, it is understood that Seaview Road and Military Road virtually shared the north-south arterial road function between Terminus Street and Grange Road. However, in recent years Council has changed the road environment of Seaview Road on the basis of a local street, including kerb realignment and the introduction of a 40 km/h speed limit.

Military Road certainly has the highest traffic volumes in this area (12,800 – 14,000 vehicles per day) in comparison to Seaview Road (1700-2600 vpd), Charles Sturt Avenue (1600-2400 vpd) and Fort Street (3000-3600 vpd).

The 40 km/h speed limit was introduced on Seaview Road north of Grange Road in August 1998, and subsequently extended north of Terminus Street in May 2001.

Historic traffic data provided by DTEI shows that traffic volumes on Military Road north of Grange Road increased from 8,000 vpd (September 1996) to 13,600 vpd (2001). During the same period, traffic volumes in Military Road near Trimmer Parade remained reasonable constant. This data strongly suggests the 40 km/h speed limit and other changes along Seaview Road have significantly reduced volumes in this road, and resulted in a proportional increase in volumes in Military Road.

While some respondents to the community survey sought the removal of the 40 km/h speed limit from Seaview Road, in order to provide “equity” with Military Road, this would potentially increase traffic volumes in Seaview Road. This is considered fundamentally at odds with the recent works undertaken along Seaview Road by Council that were undertaken on the basis of reinforcing the local street function of the road.

Military Road is the responsibility of the Department of Transport Energy and Infrastructure (DTEI), and as such, Council has no direct control over the standard of the road. **Notwithstanding, the upgrading of this road between Terminus Street and Grange Road is fundamental to the overall success of the plan.**

The Grange Jetty Precinct report also notes the need to upgrade and improve the streetscape of Military Road.

Consideration should be given to :

- Better defining the travel lanes, parking provisions and space for cyclists.
- The provision of footpaths on both sides of the road
- Increased safety at intersections (particularly Jetty Street)
- Improved definition of the arterial route
- Management of speeds along the road, recognising the adjacent residential land uses and pedestrian / cycling activity through the area

Recommendation

That Council approach DTEI requesting the development of an overall corridor management plan for Military Road between Terminus Street and Grange Road.

HIGH PRIORITY

4.2.2 Charles Sturt Ave

The following comments were received from the community circular. The table also shows the number of people that made the same comment.

Comment	Number of Responses
Traffic volumes and speeds (usually with reference to Footy traffic)	10
Speeding over railway crossing	3
Narrow width / parking / wide verges could have parking	9
Don't restrict traffic on Charles Sturt Ave that might increase volumes in Military Road	1
Excessive speeds through childrens crossing	1
Illegal parking near crossing and a/h adjacent #4 Community centre	1
Lack of parking near Kindergarten	1

The Resident's Committee acknowledged that Charles Sturt Avenue is currently acting as a collector route as it provides a supplementary access into the residential precinct. Charles Sturt Avenue – Fort Street was seen as the logical route to West Lakes and areas east along Trimmer Parade, while Military Road is the logical route to the Port Adelaide region.

Accordingly, the focus of treatments should be the management of speeds rather than the reduction of traffic (in the short term). In the longer term, consideration should be given to reducing volumes on Charles Sturt Avenue commensurate with its function as a local street.

Traffic volumes generally increase along the northern sections of the road as summarised below:

- | | |
|---|----------|
| • Between Fort Street and Railway Crossing | 2400 vpd |
| • Between Railway Crossing and Jetty Street | 2250 vpd |
| • Between Jetty Street and Beach Street | 2100 vpd |
| • Between Beach Street and Grange Road | 1600 vpd |

Speeds also vary along the road. Average speeds are between 44-49 km/h while 15% of traffic exceeds 53-55 km/h. Approximately 28-46% of vehicles exceed the 50 km/h speed limit.

The installation of road humps or chicanes was not supported by the Residents' Committee. The varying widths of Charles Sturt Avenue also present some difficulty in developing a uniform treatment for the road.

- Between Grange Road and Beach Street the road is 12.7 metres wide which allows for traffic to pass parked cars
- Between Beach Street and Jetty Street the road is only 8.0 metres wide which creates some friction between traffic and parked vehicles
- Between Jetty Street and the railway the road is 11.4 metres wide, which allows for traffic to pass parked cars
- Between the railway line and Fort Street, Charles Sturt Avenue is only 8.0 metres wide, which creates some friction between traffic and parked vehicles

Various residents expressed concern over the friction between parked cars and through traffic along the narrow sections of the road.

Three alternatives can be considered to address this issue :

- Formalise indented parking bays along these narrow sections of road utilising the wide verge area
- Simply legally permit parking on the grassed road verges
- Prohibit parking on one side of the road.

The construction of indented parking bays is considered unwarranted at this stage, while there remains some uncertainty with the longer term function of the road. If Charles Sturt Avenue is closed at some time in the future, traffic volumes will reduce and the extent of traffic-parking conflicts will obviously diminish.

Various residents suggested parking be permitted on the road verges through the narrow sections of Charles Sturt Avenue. This would provide a relatively easy solution to existing concerns, although would result in degradation of the verge areas.

The prohibition of parking from one side of the road should enable opposing vehicles to pass with less friction. However, the loss of parking from one side of the road may not be supported by affected residents.

It is important to note that reducing the parking friction along the narrowed sections of Charles Sturt Avenue (through either parking restrictions or allowance of verge parking) may result in speeds increasing through these sections.

Recommendations

In the short term, consideration be given to the prohibition of parking on one side of Charles Sturt Avenue between Beach Street and Jetty Street, and similarly between the railway line and Fort Street.

In the short term consideration be given to mark parking lanes in the wider sections of Charles Sturt Avenue, between Grange Road and Beach Street, and between Jetty Street and the railway line, to better define traffic and parking lanes.

MODERATE PRIORITY

In the longer term, together with any improvements made along Military Road, consideration could be given to a full closure of Charles Sturt Avenue over the railway crossing. This would be undertaken to establish a road hierarchy shown in Figure 2 – Section 4.1.

LOW PRIORITY

4.2.3 Fort Street

Fort Street received the most number of complaints from the community circular, with most responses referring to the narrow width of the road, high traffic volumes, and difficulty passing oncoming traffic and particularly buses.

Comment	Number of Responses
Parking on both sides limits road width	32
Parking on both sides limits property access (entry and exit)	3
Need for landscaping between Creek and Trimmer Parade	1
Traffic volumes	5
Axle weight of buses too heavy for road	1
Curve and bus stops compound limited width	7
Pedestrian crossing needed	1
50km/h too fast - should be 40 km/h (speed concern)	7
Mail box - not cut away for parking - change of location	3
Too narrow / hazardous for cyclists	1
Traffic at night enter/leave Grange Oval	1
Speeds in laneway	1

The road is a collector as it provides access to the broader area to the east via Sylvan Way and south via Charles Sturt Avenue. Associated concerns were also made in relation to the intersections with Trimmer Parade and Sylvan Way.

While longer term consideration might be given to reducing volumes along the road through reducing the function of Charles Sturt Avenue, the northern end of Fort Street will continue to serve as a collector route to the aged care precinct, which continues to develop along Sylvan Way.

The implementation of speed controls is difficult as the road is a bus route, which limits the use of traditional traffic control devices.

Notwithstanding, consideration could be given to the use of speed cushions at regular intervals along the road. Speed cushions are similar to road humps but have been designed for bus routes. The following photograph refers (source : Saferoads website).

Recommendation

That a No Stopping zone along the western side of Fort Street between Trimmer Parade and the river be considered.

HIGH PRIORITY

That subject to DTEI approval, consideration could be given to the installation of speed cushions along Fort Street as a way of discouraging some unnecessary through traffic and reducing speeds.

MODERATE PRIORITY



4.2.4 Beach Street and Jetty Street

The following comments were received in regard to Beach Street and Jetty Street.

Beach Street

Comment	Number of Responses
Traffic volumes between Grange Road and Military Road (reference to footy park traffic)	12
High speeds – particularly between Grange Road and Surrey Street	20
Need to improve pedestrian safety by Primary School	1
Parking is a hazard on bend	1
School bus can't negotiate roundabouts (damage to kerbs)	1
Parking in wrong direction and on verges	1
Crossing road can be difficult	2

Jetty Street

Comment	Number of Responses
Speeds at eastern end	8
Speeds at jnc with Kentdale St	1
Poor road lighting (east end) - No 77	2
Need for bike lanes	1
Parking adjacent to bridge restricts traffic flow close to schools	1
Poor condition between Searange (Kentdale) and Frederick	2

The Resident's Committee accepted that both Beach Street and Jetty Street are collector roads within the overall hierarchy as they are only east-west connections over the creek and connect arterial roads. Both roads are also important for social access (schools, churches, shops, sporting facilities, etc). The form of treatment on Jetty Street and Beach Street needs to be similar, so that problems are not just shifted to the other street. The focus of treatment (for both roads) should therefore be the control of speeds, rather than restrictive measures that also aim to reduce through traffic volumes.

Following the initial round of community consultation, Council commenced separate consultation with residents in Beach Street and Jetty Street to identify the preferred treatment options.

Beach Street consultation concluded with strong support for the installation of a median strip and landscaping between Surrey Street and Grange Road. The preferred option is shown in Appendix E and construction has since commenced.

Consultation with regard to Jetty Street has also concluded with support for a similar median treatment to that proposed for Beach Street. Detailed design and construction will be scheduled subject to Council's budgetary processes.

4.2.5 Grange Road

The following comments were received from the community circular. The table also shows the number of people that made the same comment.

Comment	Number of Responses
Concern over 50 km/h limit at western end (ie too low)	3
Difficult to cross road at western end (with bikes)	1
Speeds at west end (disregard of 50)	4
Speeds between Cudmore and Frederick	1
Speeds through 'gully' between Military Road and Wright St	1
Street scaping to change road environment	1
Insufficient room for buses (cars drive around)	1
Speed near Tapleys Hill Road	1

Grange Road is an arterial road under the control of DTEI. The western end of the road is very wide and there is a need to improve definition of the road space (parking lanes, traffic lanes, etc) to improve amenity of the area and re-enforce the 50 km/h speed limit and change in road and land uses. Traffic surveys highlight that 44% of vehicles are exceeding the 50 km/h speed limit. The road is approximately 14.0 metres wide between Military Road and Surrey Street, which should allow for the provision of parking lanes as shown in Appendix F.

Recommendation

That Council approach DTEI requesting the development of a corridor management plan for Grange Road between Frederick Road and Seaview Road.

MODERATE PRIORITY**4.2.6 Willcocks Avenue**

Several residents raised concern over traffic volumes in Willcocks Avenue and apparent "rat-running" through the area.

In comparison to other precincts, the general road layout in this area is relatively closed and not naturally conducive to through traffic. Traffic data was obtained at two locations along Willcocks Avenue :

- Between Clarice Avenue and Corio Avenue
- Between Corio Avenue and Milvera Avenue

In both cases, traffic volumes are less than 1000 vpd. While some level of rat-running can not be discounted the overall size of the problem is not considered significant.

Willcocks Avenue is relatively long and straight and potentially conducive to some higher speeds. Compared with other roads throughout Grange, actual speeds in Willcocks Ave are not unduly high. While some high speeds probably occur, it is difficult to treat these instances in isolation. Treatment options include the provision or slow points (e.g. road humps / chicanes) at regular intervals along the road. However, this treatment is not considered warranted based on existing speeds and volumes.

Recommendation

Traffic conditions be monitored to identify any changes as early as possible.

LOW PRIORITY

4.3 Intersections – Priority Locations

4.3.1 Beach Street / Grange Road / Mitton Ave

Crash data shows that 39 reported crashes occurred at this intersection between 2000-2005. The intersection layout is considered potentially hazardous on the basis of :

- The wide acute angle between Grange Road and Beach Street encourages high speed left and right turn movements out / into Beach Street
- The four way intersection allows direct cross movements between two collector roads over an arterial road

Any alternations to this intersection must be undertaken through consultation with DTEI (as the responsible authority for Grange Road).

During the Beach Street consultation process, residents supported measures to improve the safety of the intersection, and at the same time, reinforce the look and feel of Beach Street as a local street. Through this consultation, consideration was given to the following concept for the intersection.



While there was general support for this concept, it was recognised that the concept would reduce accessibility to / from Mitton Avenue. Further consultation would be required with regard to this option.

The installation of traffic signals was not favoured by the Residents' Committee, nor was the installation of a roundabout due to the likely difficulty in design.

Recommendation

Council initiate discussions with DTEI with regard to upgrading the Beach Street / Grange Road intersection, to complement the proposed median strip concept plan for Beach Street (refer Appendix E).

HIGH PRIORITY

4.3.2 Military Road / Jetty Street

Numerous responses to the community survey raised concern over safety at this intersection, particularly for pedestrians crossing Military Road at the intersection. There were 7 reported collisions at the intersection between 2000-2005.

The two most practical solutions would be the installation of a roundabout (similar to several other roundabouts throughout the area) or the installation of traffic signals. The installation of signals would provide a better level of protection for pedestrians.

The Grange Jetty Precinct Study recommends the installation of traffic signals at the intersection.

Recommendation

Council initiate discussions with DTEI to upgrade this intersection as part of the overall review of Military Road (refer Recommendation 4.2.1)

HIGH PRIORITY

4.3.3 Military Road / Beach Street

Conditions at this intersection should be considered as part of the recommended overall review of Military Road (refer Recommendation 4.2.1)

4.3.4 Military Road / Grange Road

Conditions at this intersection should be considered as part of the recommended overall review of Military Road (refer Recommendation 4.2.1)

4.3.5 Grange Road / Frederick Road

Both roads are under the control of DTEI. Council will refer the community concerns onto the Department for review.

4.3.6 Trimmer Parade / Frederick Road

Several responses to the community survey suggested that right turn arrows should be provided at the intersection, and two through lanes for northbound traffic in Frederick Road. Both roads are under the control of DTEI.

Recommendation

That the residents' concerns be referred onto DTEI for review.

HIGH PRIORITY

4.3.7 Trimmer Parade / Sportsman Drive

This intersection is outside of the scope of the current review. Notwithstanding, Council will consider the need for improvements to the intersection through discussion with DTEI (as the authority responsible for Trimmer Parade). Note that any changes to the function of Fort Street may influence the need for alterations to the Sportsman Drive intersection, as it may result in less demand for turning movements at the junction.

Recommendation

Council discuss these concerns with DTEI for review.

HIGH PRIORITY

4.4 Speed Complaints (Various Locations) – 40 km/h Speed Limit

Numerous residents expressed concern over the speed of vehicles in their street. In addition to already roads discussed, the following roads were nominated with reference to a speed concern :

- | | |
|-------------------------------------|-------------------------|
| • Clarice Avenue | • Nash Street |
| • Elaine Ave | • Old Post Office Place |
| • Esplanade (vehicles and bicycles) | • Parkview |
| • Fairway Drive | • Rapson Street |
| • High Street | • Shandon Parade |
| • Kirkcadly Ave | • Sturt Street |
| • Lambros Avenue | • Swan Street |
| • Lines Street | • Sylvan Way |
| • Meakin Terrace | • Westmoreland Road |
| • Napier Street | |

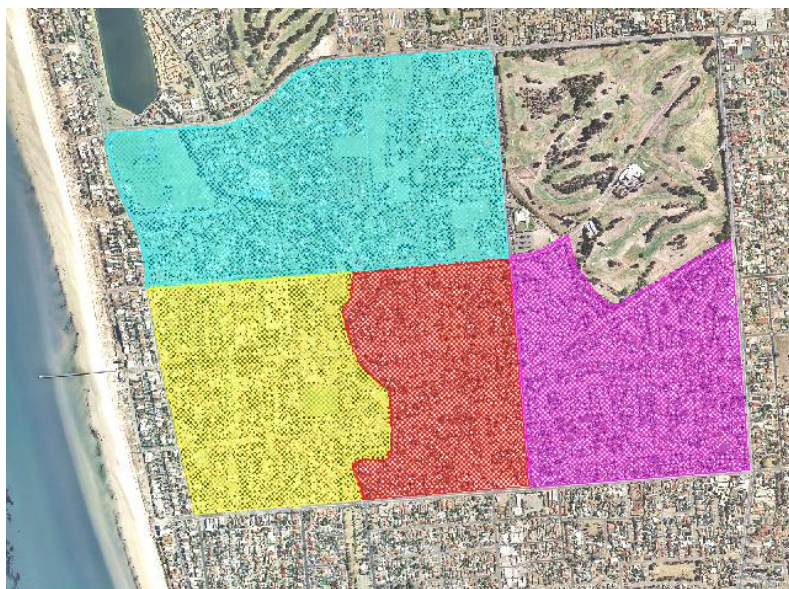
The Resident's Committee acknowledged that it is not practical to treat all of these locations with physical traffic management devices to address the speed concerns. It was also noted that, in most situations, traffic speeds are probably typical of most residential streets, and that the problem is most likely a minority of users travelling at excessive speeds. The behaviour of these drivers can often be difficult to influence.

Notwithstanding, with such a widespread concern over traffic speeds, consideration has been given to the installation of a 40 km/h precinct speed limit.

The use of 40 km/h precinct speed limits was first introduced when the General Urban Speed Limit (GUSL) in Adelaide was 60 km/h. Since that time, the GUSL has been reduced to 50 km/h, potentially reducing the possible benefits that might be gained from a 40 km/h precinct speed limit.

Notwithstanding, the key requirements for the installation of a 40 km/h precinct speed limit are as follows :

- The average speed within all relevant streets (over 200m in length) must be less than 50 km/h
- The precincts must be logical and bounded by arterial roads or natural features. With regard to Grange the following precincts are considered appropriate (as shown below)
 - Military Road – Trimmer Parade – Frederick Road – railway line
 - Military Road – Railway Line – River – Grange Road
 - River – Railway Line – Frederick Road – Grange Road
 - Frederick Road – Golf Course – Tapleys Hill Road – Grange Road
- The proposed installation of a 40 km/h precinct speed limit must be supported by at least 66% of the community
- Council must commit to an ongoing process of monitoring speeds and community attitudes with regard to the lower speed limits.



Recommendation

Further community consultation be undertaken to determine whether there is sufficient support for the installation of 40 km/h precinct speed limits.

Subject to the above, additional speed surveys throughout the area (on relevant streets) to determine whether the average speed would suit the installation of a 40 km/h precinct speed limit.

MODERATE PRIORITY

4.5 Other Locations

In response to the initial community circular, numerous other locations (intersections and road sections) were nominated as potential concerns. A full summary of the responses is included in Appendix D).

In many cases, the Residents Committee did not consider specific treatment warranted as the reported concerns reflected the overall community concern over traffic behaviour throughout Grange (e.g. "speeds through the corner of two streets").

In a practical sense, it is not possible to address every location in isolation. This is not meant to belittle the concerns raised, but simply acknowledge that in most cases, poor driver behaviour cannot be blamed on the road network. The Residents Committee also acknowledged that the possible introduction of a 40 km/h precinct speed limit could offer some benefit to these other locations.

Concerns over the condition or lack of footpaths will be addressed by Council as part of its ongoing footpath management program.

The following comments are offered in regard to locations nominated by more than two or three respondents to the circular.

4.5.1 Frederick Road

Form one lane sign ignored between Grange and Trimmer	1
Need for line (lane) marking	3
Difficult to enter private property	1
Traffic travelling two abreast	4
Speeds	4
Traffic noise between Adare and Thompson (Council removed hedge)	1
Need for pedestrian refuge adjacent Retirement Village	3
No pedestrian facilities between Meakin and Glen Eagles	1
No pedestrian facilities near Jetty Street	1
Overuse of road by heavy vehicles/noisy brakes	1
Poor condition	2
Signs on rail pedestrian crossing limit vision of northbound traffic at Nash Street	1
Difficult to enter from side roads when peak flows	1
Traffic queues through side road junctions	1

Many of the comments relate to the width of the road, need for lane marking and lack of pedestrian facilities. As Frederick Road is under the control of DTEI these matters must be addressed by the Department.

Recommendation

Council discuss traffic and pedestrian concerns in Frederick Road with DTEI.

MODERATE PRIORITY

4.5.2 Derby Street

Three respondents commented on the increase in traffic volumes associated with football traffic, and over speeds / safety through the junctions of Beach Street and Westmoreland Avenue.

While traffic volumes are not available for this Derby Street, it is not clear how traffic would be influenced by events at AAMI stadium, as the road does not form an obvious cut-through for traffic.

Speeds through the junction of Derby Street and Beach Street should be addressed by the proposed upgrading of Beach Street.

Recommendation

That traffic volumes in Derby Street coinciding with a major event at AAMI stadium be monitored to quantify the volume of traffic using the road.

LOW PRIORITY

4.5.3 Seaview Road

Cars parked on west side impede traffic flow between Jetty Street and Terminus Street	4
High number of cyclists but no bike lanes between Grange Road and Burbridge Road	1
Need to upgrade vegetation in verges between Terminus Street to Fort Street (to match other area)	1
Right turn into Grange Hotel Car Park (south of Jetty St) - potential for rear end	1
Dividing line is a joke	1
Consider under grounding power lines	1
Dangerous for cyclists	1
Parking arrangements associated with Star of Sea school	1
Tight when cars are parked on both sides of the road	1
Not enough off street parking at #447 and 447a	1

Recent changes along Seaview Road have sought to restrict the carriageway width, reduce traffic volumes, reduce travel speeds and reinforce the lower function of the road. Some compromises have therefore been required between the availability of parking, road width and availability of a dedicated space for cyclists.

Road widening or the prohibition of parking on one side of the road to ease traffic flow, will potentially increase traffic speeds on the road and reduce the effectiveness of the treatment in lowering the functionality of the road.

With regard to the need for cycle lanes, national standards generally only require a dedicated cycle lane on roads with traffic volumes in excess of 3,000 vpd (which is not the case in Seaview Road).

Recommendation

As other treatments are proposed in this general area (as part of the Grange Jetty Precinct Plan), Council continue to monitor traffic conditions in Seaview Road.

LOW PRIORITY

4.5.4 Sylvan Way

Concerns were expressed over truck noise and the safety of pedestrians due to trucks using the road, and general concern over vehicle speeds. Similarly, several responses commented on the likely increase in traffic on Sylvan Way as the aged care precinct is developed.

Existing speeds (near Fort Street) are not considered unduly excessive. Traffic volumes reflect the collector status of the road. Unfortunately truck traffic is inevitable in the road as it provides the primary connection into the developing area.

Numerous responses cited concern over the lack of an alternative access from the new area onto Trimmer Parade. However, it is understood that the development application for this area has already been approved by Council and that it is no longer practicable to establish another access to/from the precinct.

Under these circumstances, it is inevitable that traffic volumes in Sylvan Way will increase as the area is developed and populated. It is important that these increases be monitored, particularly in regard to the future function of Fort Street, and the junction of Fort Street and Trimmer Parade.

Recommendation

Traffic volumes and speeds in Sylvan Way be monitored.

LOW PRIORITY

4.5.5 Adare Court / Clayton Drive

It was reported that the drivers cut the corner through the junction of Adare Court and Clayton Drive, despite the installation of yellow pavement bars (rumble strips) through the junction. The close proximity of Adare Court / Clayton Drive to Frederick Road was also reported as a concern.

While the junction is slightly skewed the T-junction rule should be reasonably obvious, with drivers approaching from the east (Frederick Road) required to give way. Notwithstanding, the angle and width of the left turn into Adare Court is reasonably generous and may encourage higher speed left turns, and similarly higher speed right turns from the southern leg of Adare Court.

Recommendation

Definition of the Adare Court and Clayton Drive junction and give way requirement be improved through line marking as shown in the following sketch.

MODERATE PRIORITY

Mark Give Way
line and chevron
markings



5. Community Feedback

The following section outlines the draft recommendations issued for community review together with the results of the community feedback.

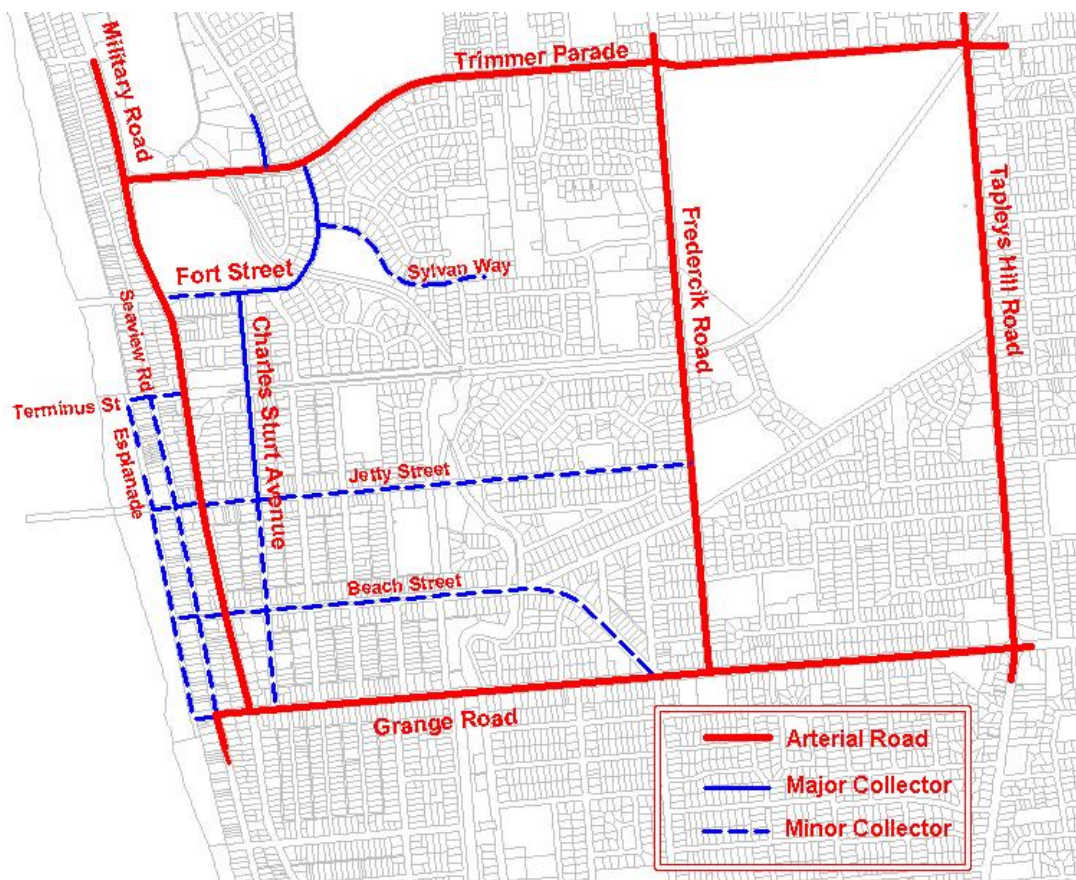
There were 95 responses to the community survey. Not everybody answered every question, although at least 64 responses were obtained for individual recommendations. The following sections summarise the response rate for each question / recommendation.

Where appropriate, responses are offered to comments made by the community, and the draft recommendations have been amended.

5.1 Road Hierarchy – Basis of Recommendations

Draft Recommendation

Council accept the practical road hierarchy shown below as the basis for developing short term traffic management options for the Study Area.



Level of Community Support

Number of responses to this question	73 / 95
Supportive	85%
Against	15%

Discussion

There was general acceptance of the proposed road hierarchy. Issues raised included the function of Charles Sturt Avenue and Fort Street. There was general opposition to the suggested long term closure of Charles Street (discussed below).

Suggested Amendment to Recommendation

Retain the recommendation as circulated to the community.

5.2 Military Road

Draft Recommendation

Council approach the Department of Transport Energy and Infrastructure (DTEI) requesting the development of an overall corridor management plan for Military Road. As part of this investigation, plans be developed for the intersections of Jetty Street, Beach Street and Military Road.

Level of Community Support

Number of responses to this question	85 / 95
Supportive	94%
Against	6%

Discussion

There was strong support for the recommendation. We maintain that developing an overarching corridor management plan for Military Road is one of the more important recommendations of this report. It is essential that the capacity and safety issues associated with Military Road be addressed before detailed consideration is given to traffic management treatments within the local road network. The community reiterated the need to upgrade the Jetty Street intersection – possibly with the installation of traffic signals.

Suggested Amendment to Recommendation

Retain the recommendation as circulated to the community.

5.3 Fort Street – Parking Restriction

Draft Recommendation

Consider the installation of a No Stopping zone along the western side of Fort Street between Trimmer Parade and the river.

Level of Community Support

Number of responses to this question	83 / 95
Supportive	89%
Against	11%

Discussion

The narrow width of Fort Street was identified as a significant concern in the initial community feedback. The road is serving a collector function and is a bus route. Parking is already restricted on one side of the road during events at AAMI stadium.

Suggested Amendment to Recommendation

Retain the recommendation as circulated to the community.

5.4 Grange Road / Beach Street

Draft Recommendation

Council initiate discussions with DTEI with regard to upgrading this intersection of Grange Road and Beach Street, to complement the proposed median strip concept plan for Beach Street.

Level of Community Support

Number of responses to this question	85 / 95
Supportive	89%
Against	11%

Discussion

Since the initiation of this Grange LATM project, Council has concurrently progressed plans for the installation of a median strip along Beach Street. The need to upgrade this intersection remains important to address the fundamental road safety concerns with existing conditions and to complement the other programmed works along Beach Street to discourage speeds and unnecessary through traffic.

Suggested Amendment to Recommendation

Retain the recommendation as circulated to the community.

5.5 Charles Sturt Avenue

Draft Recommendations

Consideration be given to the prohibition of parking on one side of Charles Sturt Avenue between Beach Street and Jetty Street, and similarly between railway line and Fort Street.

Council mark parking lanes along the wider sections of Charles Sturt Avenue between Grange Road and Beach Street, and between Jetty Street and the railway line, to better define traffic and parking lanes.

Level of Community Support

Prohibit Parking on One Side

Number of responses to this question 83 / 95

Supportive 67%

Against 33%

Mark Parking Lanes

Number of responses to this question 85 / 95

Supportive 80%

Against 20%

Discussion

While the marking of parking lanes along the wider sections of Charles Sturt Avenue was supported by 80% of responses, prohibiting parking along one side of the narrow sections of the road was only supported by 67%.

The suggestion to prohibit parking on one side of the narrow sections of the road arose from concerns over passing oncoming traffic and squeezing past parked cars. Some residents suggested Council permit verge parking in these areas given the wide verge areas.

The provision of parking restrictions is likely to be opposed by the majority of residents that live along Charles Sturt Avenue.

Suggested Amendment to Recommendation

Council mark parking lanes along the wider sections of Charles Sturt Avenue between Grange Road and Beach Street, and between Jetty Street and the railway line, to better define traffic and parking lanes.

Council consider the prohibition of parking on one side of Charles Sturt Avenue between Beach Street and Jetty Street, and similarly between railway line and Fort Street, through discussion with the affected residents. Consideration could be given to a part time parking restriction to cover "peak times".

5.6 Fort Street – Speed Cushions

Draft Recommendations

Consideration be given to the installation of speed cushions along the length of Fort Street as a way of discouraging some unnecessary through traffic and reducing speeds.

Level of Community Support

Number of responses to this question	85 / 95
Supportive	41%
Against	59%

Discussion

While speeding along Fort Street was identified as a significant concern by the community, the installation of speed cushions was opposed by 59% of responses. The installation of other traffic control measures to control speeds along this street is difficult as the road is a bus route. The proposed banning of parking along one side of the street (refer section 5.3) may result in an increase in average speeds unless other traffic control measures are implemented.

Suggested Amendment to Recommendation

A traffic and parking plan be developed in consultation with stakeholders to address ongoing safety concerns in Fort Street, taking into account other recommendations within this report.

5.7 Grange Road

Draft Recommendations

Council approach DTEI requesting the development of a corridor management plan for Grange Road.

Level of Community Support

Number of responses to this question	74 / 95
Supportive	84%
Against	16%

Discussion

Grange Road is largely the responsibility of DTEI and Council has no control on the existing traffic arrangements. Notwithstanding, there is scope to rationalise the road space through the provision of a marked parking lane and narrowing the traffic lanes.

Suggested Amendment to Recommendation

Retain the recommendation as circulated to the community.

5.8 40 km/h Precinct Speed Limit

Draft Recommendations

Council undertake the further community consultation to determine whether there is sufficient support for the installation of 40 km/h precinct speed limits.

Level of Community Support

Number of responses to this question	86 / 95
Supportive	41%
Against	59%

Discussion

The installation of 40 km/h precinct speed limits must be supported by at least two thirds of the community. However, only 41% of responses supported further consideration be given to the lower speed limit, albeit that the response rate to the survey may not be representative of the whole community.

Suggested Amendment to Recommendation

Further consideration be given to specific consultation concerning the installation of a 40 km/h precinct speed limit for the Grange LATM.

5.9 Adare Court / Clayton Drive

Draft Recommendations

Council install additional line marking at the junction of Adare Court and Clayton Drive to improve definition of the junction give way requirement.

Level of Community Support

Number of responses to this question	64 / 95
Supportive	94%
Against	6%

Discussion

This treatment will better define turning movements and give way obligations at the junction, and was supported by 94% of responses.

Suggested Amendment to Recommendation

Retain the recommendation as circulated to the community.

5.10 Charles Sturt Avenue – Long Term Closure

Draft Recommendations

In the longer term, together with any improvements made along Military Road, consideration could be given to a full closure of Charles Sturt Avenue over the railway crossing.

Level of Community Support

Number of responses to this question	84 / 95
Supportive	15%
Against	85%

Discussion

The possible closure of Charles Sturt Avenue was put forward as a potential long term option – subject to the upgrading of Military Road in the first instance. The suggestion was strongly opposed by 85% of responses.

Suggested Amendment to Recommendation

Council not consider the closure of Charles Sturt Avenue at this time.

5.11 Derby Street

Draft Recommendations

Council monitor traffic volumes in Derby Street coinciding with a major event at AAMI stadium to quantify the volume of traffic using the road.

Level of Community Support

Number of responses to this question	66 / 95
Supportive	76%
Against	24%

Discussion

There remains some uncertainty over the extent of any problems associated with Derby Street. Some residents sought immediate action rather than the monitoring of conditions.

Suggested Amendment to Recommendation

Council undertake detailed traffic volume and speeds surveys in Derby Street, coinciding with a major event at AAMI stadium to quantify the volume of traffic using the road, and further consideration be given to the need for remedial treatment subject to this data.

5.12 Seaview Road

Draft Recommendations

Council continue to monitor traffic conditions in Seaview Road as part of other changes in the area (associated with the Grange Jetty Precinct).

Level of Community Support

Number of responses to this question	76 / 95
Supportive	88%
Against	12%

Discussion

Support for this recommendation reflects a general acceptance by the community over the function of Seaview Road, relatively to Military Road.

Suggested Amendment to Recommendation

Retain the recommendation as circulated to the community.

5.13 Sylvan Way

Draft Recommendations

Council continue to monitor traffic volumes and speeds in Sylvan Way

Level of Community Support

Number of responses to this question	68 / 95
Supportive	84%
Against	16%

Discussion

As traffic volumes in Sylvan Way will almost certainly increase as the aged care precinct is developed, it is important that Council closely monitor traffic volumes and speeds along the road, and that remedial measures are implemented if needed.

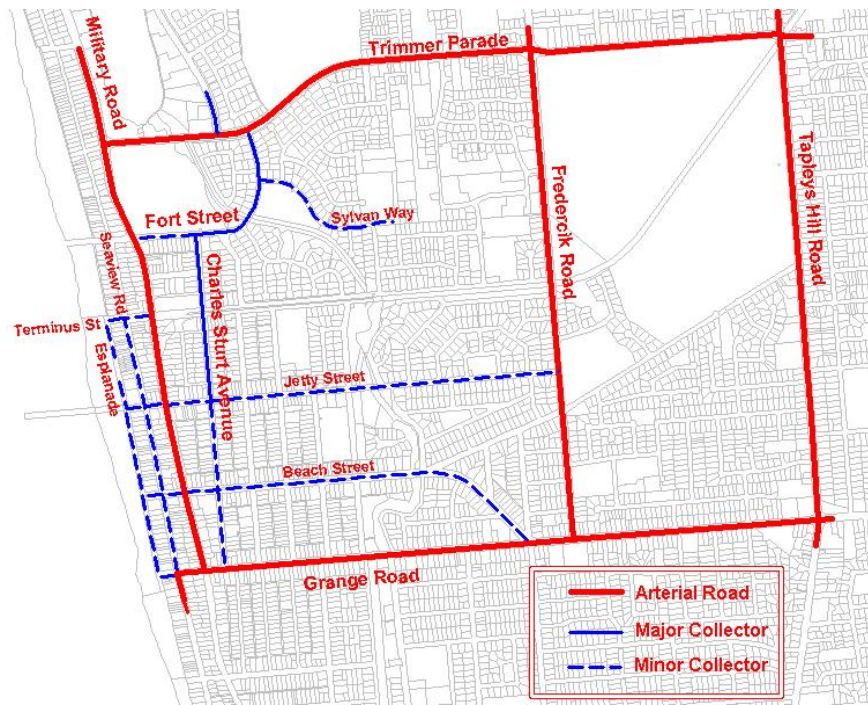
Suggested Amendment to Recommendation

Retain the recommendation as circulated to the community.

6. Summary of Recommendations

BASIS OF RECOMMENDATIONS

1. The practical road hierarchy shown below be adopted as the basis for developing short term traffic management options for the Study Area.



HIGH PRIORITY

2. Council approach DTEI requesting the development of an overall corridor management plan for Military Road, between Terminus Street and Grange Road. As part of this investigation, plans be developed for the intersections of Jetty Street, Beach Street and Military Road.
3. Council consider the installation of a No Stopping zone along the western side of Fort Street between Trimmer Parade and the river. Refer also to Recommendation 8).
4. Council initiate discussions with DTEI with regard to upgrading the intersection of Grange Road and Beach Street, to complement the proposed median strip concept plan for Beach Street.
5. Council discuss the intersection of Trimmer Parade and Sportsman Drive with DTEI.

MODERATE PRIORITY

6. Council mark parking lanes along the wider sections of Charles Sturt Avenue between Grange Road and Beach Street, and between Jetty Street and the railway line, to better define traffic and parking lanes.
7. Council consider the prohibition of parking on one side of Charles Sturt Avenue between Beach Street and Jetty Street, and similarly between railway line and Fort Street, through discussion with the affected residents. Consideration could be given to a part time parking restriction to cover “peak times”.
8. A traffic and parking plan be developed for Fort Street in consultation with stakeholders to address ongoing safety concerns, taking into account other recommendations within this report.
9. Council approach DTEI requesting the development of a corridor management plan for Grange Road between Frederick Road and Seaview Road.
10. Community concerns over Frederick Road be referred to DTEI for investigation.
11. Council install additional line marking and signage at the junction of Adare Court and Clayton Drive to improve definition of the junction give way requirement.

LOW PRIORITY

12. In the longer term, and subject to improved capacity and safety along Military Road, consideration be given to adopting an alternative road hierarchy for the area.
13. Further consideration be given to specific consultation concerning the installation of a 40 km/h precinct speed limit for the Grange LATM.
14. Council continue to monitor traffic conditions in Seaview Road as part of other changes in the area (associated with the Grange Jetty Precinct).
15. Council continue to monitor traffic volumes and speeds in Sylvan Way.
16. That traffic volumes in Derby Street coinciding with a major event at AAMI stadium be monitored to quantify the volume of traffic using the road.
17. Traffic conditions in Willcocks Avenue be monitored to identify any changes as early as possible.

Appendix A

Community Circulars



Local Area Traffic Management Review

GRANGE

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

- Trimmer Parade
- Tapleys Hill Road
- Grange Road
- The foreshore / beach

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 Grange 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 Grange.

Ultimately, Council requires a concise LATM plan that gives a priority for the *Grange* 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.

PLEASE RETURN THE ATTACHED QUESTIONNAIRE BY 31st AUGUST 2006

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, only 2-3 meetings are expected as follows:

- 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 ***Grange*** 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.



Grange 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:

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 to:
City of Charles Sturt, PO Box 1, Woodville SA 5011.

PLEASE RETURN THE QUESTIONNAIRE BY 31st AUGUST 2006



GRANGE AND SEATON (WEST) LOCAL AREA TRAFFIC MANAGEMENT (LATM) PLAN

Dear Sir / Madam

Our records show that in October last year you responded to a request for comments about traffic issues in your local area. Since that time we have prepared a draft traffic management for the area through consultation with an informal resident's committee.

Council has recently endorsed the draft report for community consultation, and we have enclosed a summary of the recommendations for your information and consideration. We have also enclosed a response form for you to complete.

Full copies of the draft LATM report are available to read at the Council offices at 72 Woodville Road, Woodville, Council libraries and on the Council's website at www.charlessturt.sa.gov.au. The response form is also available from the website.

I invite you to review the recommendations for traffic improvements in Grange and Seaton (West) and send your response to:

GRANGE and SEATON (WEST) LATM Consultation Feedback,
PO Box 1
WOODVILLE SA 5011

Or e-mail to charlessturt@sa.gov.au

Consultation closes on Thursday 31 May 2007.

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

Thank you for your interest.

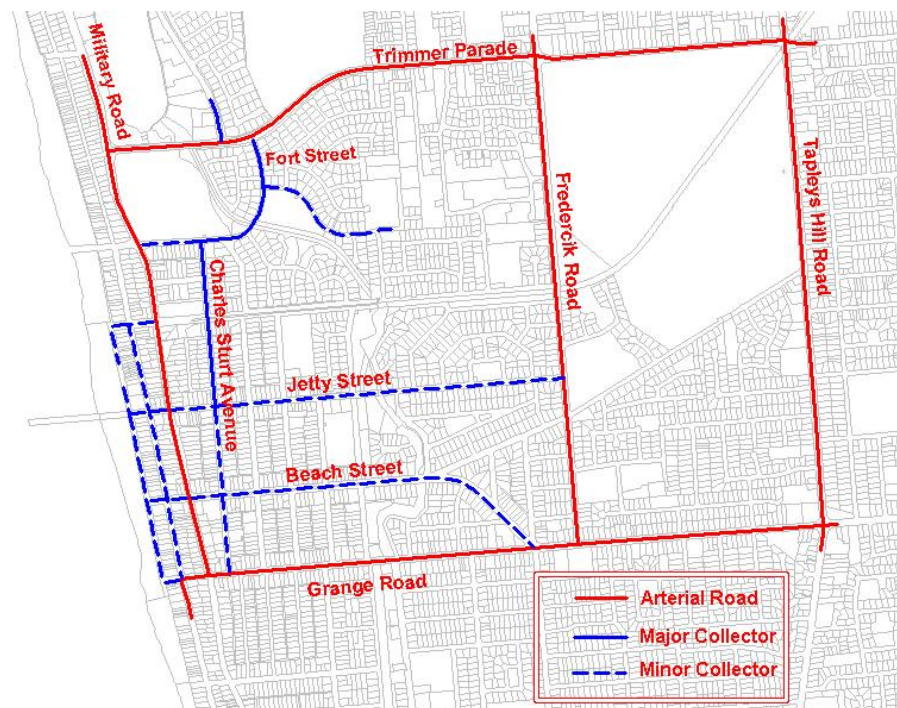
A handwritten signature in black ink, appearing to read "Paul Simons".

Paul Simons
Project Manager
On Behalf of City of Charles Sturt

GRANGE AND SEATON WEST LATM SUMMARY OF RECOMMENDATIONS

BASIS OF RECOMMENDATIONS

1. Council accept the practical road hierarchy shown below as the basis for developing short term traffic management options for the Study Area.



HIGH PRIORITY

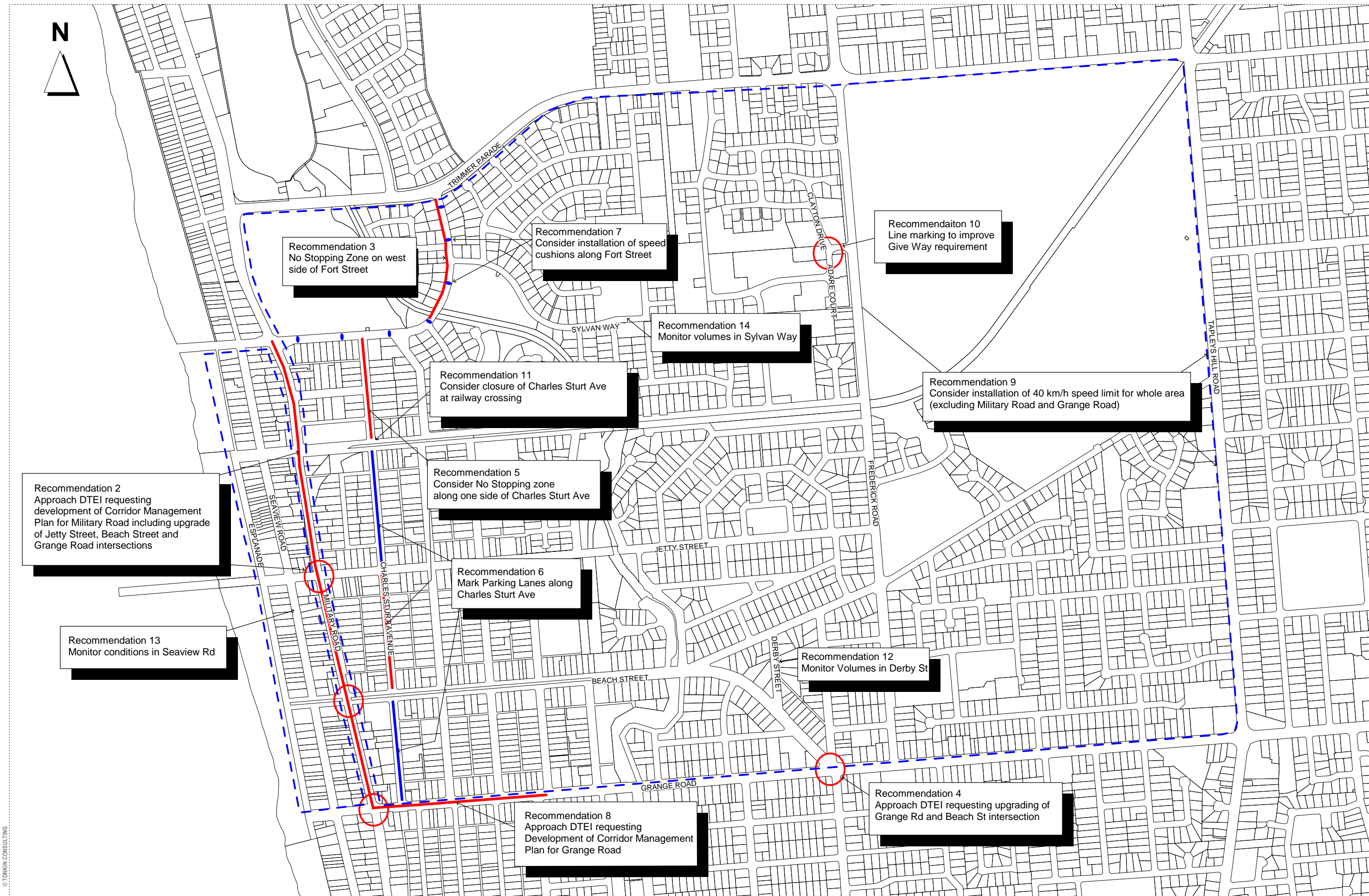
2. Council approach the Department of Transport Energy and Infrastructure (DTEI) requesting the development of an overall corridor management plan for Military Road. As part of this investigation, plans be developed for the intersections of Jetty Street, Beach Street and Military Road.
3. Consider the installation of a No Stopping zone along the western side of Fort Street between Trimmer Parade and the river.
4. Council initiate discussions with DTEI with regard to upgrading this intersection of Grange Road and Beach Street, to complement the proposed median strip concept plan for Beach Street.

MODERATE PRIORITY

5. Consideration be given to the prohibition of parking on one side of Charles Sturt Avenue between Beach Street and Jetty Street, and similarly between railway line and Fort Street.
6. Council mark parking lanes along the wider sections of Charles Sturt Avenue between Grange Road and Beach Street, and between Jetty Street and the railway line, to better define traffic and parking lanes.
7. Consideration be given to the installation of speed cushions along the length of Fort Street as a way of discouraging some unnecessary through traffic and reducing speeds.
8. Council approach DTEI requesting the development of a corridor management plan for Grange Road.
9. Council undertake the further community consultation to determine whether there is sufficient support for the installation of 40 km/h precinct speed limits.
10. Council install additional line marking at the junction of Adare Court and Clayton Drive to improve definition of the junction give way requirement.

LOW PRIORITY

11. In the longer term, together with any improvements made along Military Road, consideration could be given to a full closure of Charles Sturt Avenue over the railway crossing.
12. Council monitor traffic volumes in Derby Street coinciding with a major event at AAMI stadium to quantify the volume of traffic using the road.
13. Council continue to monitor traffic conditions in Seaview Road as part of other changes in the area (associated with the Grange Jetty Precinct).
14. Council continue to monitor traffic volumes and speeds in Sylvan Way

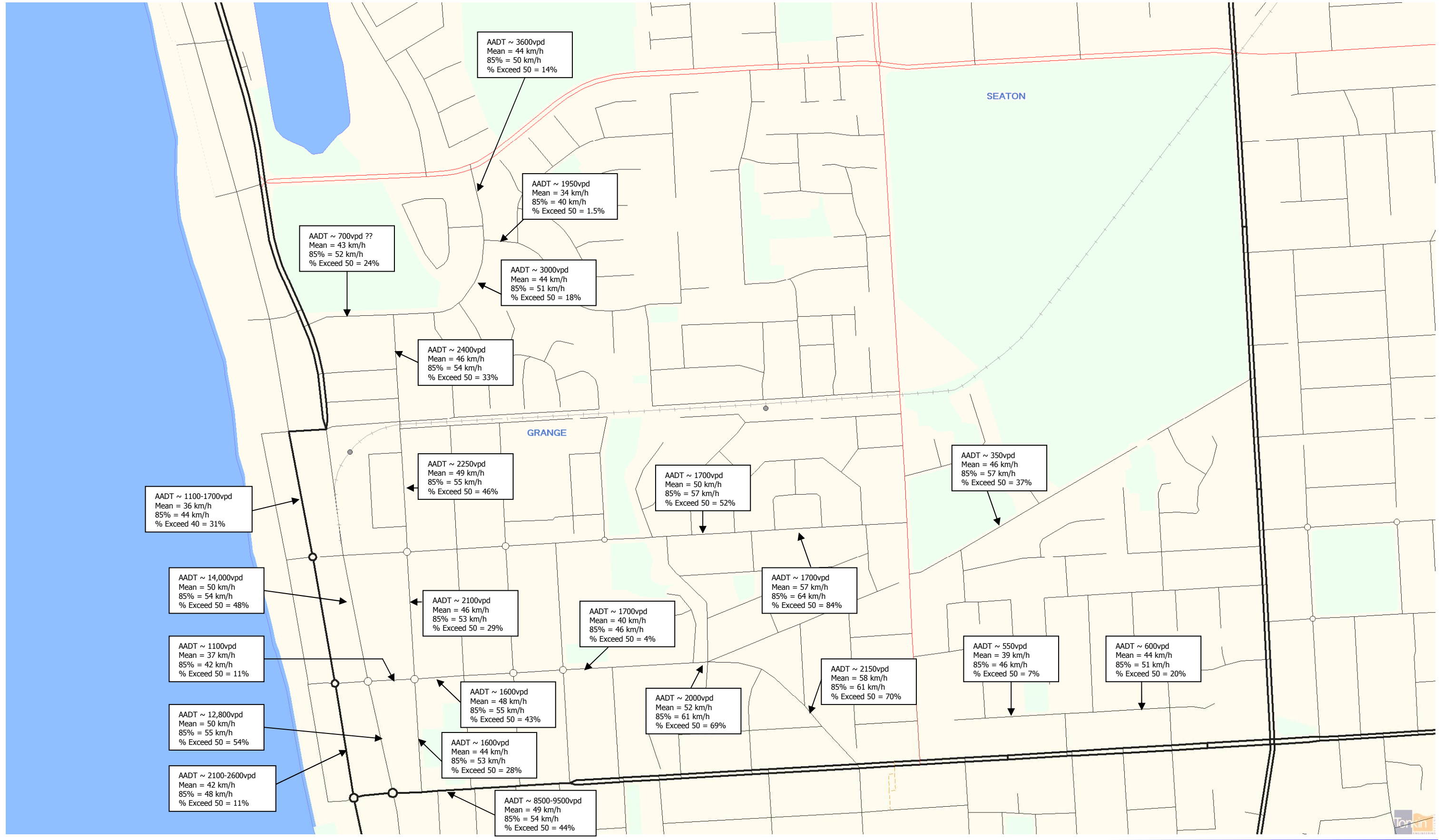


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MAP DETAILS

Appendix B

Traffic Data



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 adelaide@tonkin.com.au

Map Details

Cadastral Data:
 StreetPro Data:
 Work Context:
 Job No:
 Date:
 MapInfo
 MapInfo
 StreetPro
 Monday, 14 August 2006



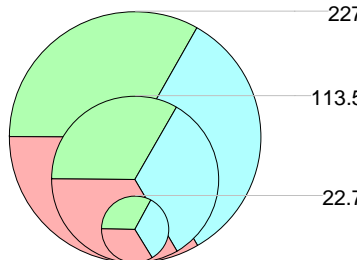
www.tonkin.com.au

Appendix C

Collision Data



Legend Accident Severity

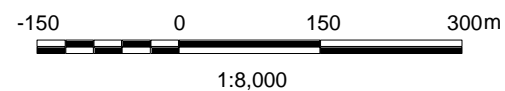


Property Damage
Injury
Fatal

DCDB (Cadastre)

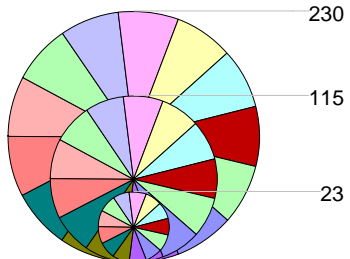
MAP DETAILS

Cadastral Data: DEH
Accident Data: Transport SA
Job Number: 2006.0500
Filename: Acc Severity.wor
Drawn: Tricia de Vink
Date: 24/08/2006



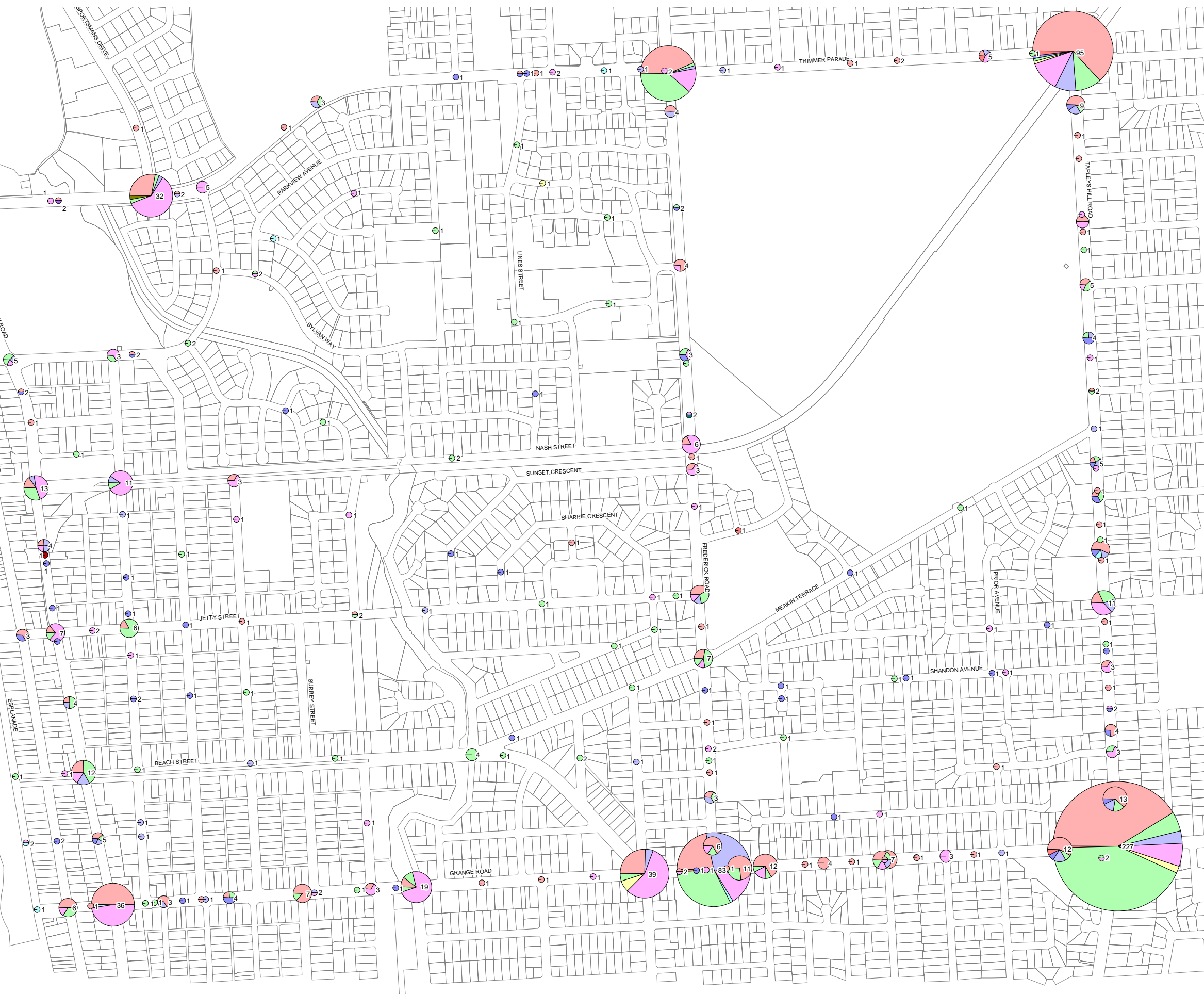


Legend Accident Type



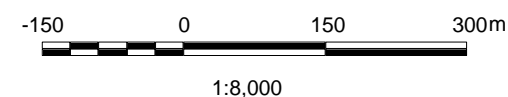
- Rear End
- Hit Fixed Object
- Side Swiped
- Right Angle
- Head On
- Hit Pedestrian
- Roll Over
- Right Turn
- Hit Parked Vehicle
- Hit Animal
- Hit Object on Road
- Left Road
- Other

DCDB (Cadastre)



MAP DETAILS

Cadastral Data: DEH
Accident Data: Transport SA
Job Number: 2006.0500
Filename: Acc Type.wor
Drawn: Tricia de Vink
Date: 24/08/2006



City of Charles Sturt
Local Area Traffic
Management Plan 2000 - 2005
ACCIDENT TYPE

Appendix D

Community Responses

ROAD SECTIONS

No.	Remarks
1	Adare Crt
1	Close proximity of Clayton Dve and Frederick Road jncs. Adare traffic corner cutting over pavement bars x
1	Alexandra Ave
1	Curvey street - cars parked - must cross centre line x
38	Beach Street
12	Traffic volumes between Grange Road and Military Road (reference to footy park traffic) High speeds x x x x x x x x x x x x x
20	(particularly between Grange Road and Surrey Street)
1	Need to improve pedestrian safety by Primary School x
1	Parking is a hazard on bend x
1	School bus can't negotiate roundabouts (damage to kerbs) x
1	Parking in wrong direction and on verges x
2	Crossing road can be difficult x x
1	Clarice Avenue
1	Speeds x
26	Charles Sturt Avenue
	Traffic volumes and speeds
10	(usually with reference to Footy traffic) x x x x x x x x x x
3	Speeding over railway crossing x x x
9	Narrow width / parking / wide verges could have parking x x x x x x x x
	Don't restrict traffic on Charles Sturt Ave that might increase
1	volumes in Military Road x
1	Excessive speeds through childrens crossing x
	Illegal parking near crossing and a/h adjacent #4 Community
1	centre x
1	Lack of parking near Kindergarten x
4	Derby Street
3	Increase in traffic volumes (footy traffic and to Jetty Street) x x x
1	Refer to Derby / Beach Street and Derby / Westmoreland x
3	Elaine Ave
1	Speeds and rat running x
1	Parked cars adjacent flats (also refer Elaine / Milvera) x
1	Pedestrians use road rather than footpath x
2	Esplanade
1	Speed of bicycles x
1	Speeds x
1	Fairway Drive
1	Speeds x

[illegible]

15	Jetty Street									
8	Speeds at eastern end	x	x	x	x	x	x	x	x	
1	Speeds at jnc with Kentdale St	x								
2	Poor road lighting (east end) - No 77	x	x							
1	Need for bike lanes	x								
1	Parking adjacent to bridge restricts traffic flow close to schools	x								
2	Poor condition between Searange (Kentdale) and Frederick	x	x							
1	Kentdale Street									
1	Parking both sides of road near Tennis Club	x								
1	Kirkcadly Ave									
1	Speeds	x								
1	Lambros Avenue									
1	Speeds	x								
1	Lines Street									
1	Speeds	x								
1	Meakin Terrace									
1	Speeds	x								
32	Military Road									
	Traffic volumes and noise between Terminus and Grange -									
9	Relationship to Seaview Road (equity)	x	x	x	x	x	x	x	x	x
1	Funnelling effect from 2 into 1 lane and 60 to 50 km/h	x								
2	Crossing road can be difficult due to footy traffic	x	x							
	Bumper to bumper traffic when football - too dangerous to ride									
1	bike	x								
1	Eye sore between Terminus Street and Beach Street	x								
3	Difficult to cross road	x	x	x						
9	Speeds	x	x	x	x	x	x	x	x	x
1	Rear end collisions as units use road as second car park	x								
2	Hazardous parking and compounds narrowing and traffic flows	x	x							
2	Unsafe for cyclists	x	x							
1	Speed through roundabouts	x								
1	Napier Street									
1	Speeds entering from Beach Street	x								
3	Nash Street									
3	Speeds	x	x	x						
1	Old Post Office Place									
1	Speeds	x								
1	Parkview									
1	Speeds	x								
2	Rapson Street									
1	Volumes and speeds	x								
1	Parking congestion near units	x								

14	Seaview Road					
	Cars parked on west side impede traffic flow between Jetty					
4	Street and Terminus Street (road too narrow)	x	x	x	x	
	High number of cyclists but no bike lanes between Grange					
1	Road and Burbridge Road	x				
	Need to upgrade vegetation in verges between Terminus Street					
1	to Fort Street (to match other area)	x				
1	Why is road only 40 km/h limit in whole area ?	x				
	Right turn into Grange Hotel Car Park (south of Jetty St) -					
1	potential for rear end	x				
1	Dividing line is a joke	x				
1	Consider under grounding power lines	x				
1	Dangerous for cyclists	x				
1	Parking arrangements associated with Star of Sea school	x				
1	Tight when cars are parked on both sides of the road	x				
1	Not enough off street parking at #447 and 447a	x				
1	Shandon Parade					
1	Drivers ignore speed humps and still exceed 50	x				
1	Sturt Street					
1	Speeds	x				
1	Sturt Close					
	Drivers don't use parking area and park in other less convenient					
1	areas	x				
2	Swan Street					
1	Excessive isolated speeds	x				
1	Parking / congestions	x				
5	Sylvan Way					
2	Speeds	x	x			
2	Truck noise	x	x			
1	Trucks / safety of pedestrians	x				
3	Terminus Street					
	Parked cars on south side between Seaview Road and Military					
2	Road	x	x			
	2 hour park restrictions between Military Road and Charles					
1	Sturt Avenue should be removed to facilitate use of public	x				
5	Trimmer Parade					
2	Speeding between Frederick Road and Military Road	x	x			
	Need for pedestrian crossing opposite bus stop and vacant					
1	block (near Lines Street)	x				
2	Parked cars near Fort limit width of kerbside lane	x	x			
2	Westmoreland Road					
2	Speeds	x	x			
3	Wilson Court					
1	Local arrangements for residential parking	x				
1	Parking congestion on bowls days	x				
1	Parking near Grange Road (congestion)	x				
10	Willcocks Avenue					
6	Speeds (since opening of road in mid 1990's)	x	x	x	x	x
4	Traffic volumes/shortcuts	x	x	x	x	

INTERSECTIONS									
No.	Remarks								
	1 Adare Court / Grady Way								
	1	Speeds through corner - loss of control collisions	x						
	2 Beach Street / Derby Street								
	1	Collisions involving loss of control	x						
	1	Limited sight lines due to curve	x						
	6 Beach Street / Grange Road / Mitton Ave								
	Some drivers enter Grange Road without due care because of								
	1	angle of road	x						
	5	Dangerous intersection	x	x	x	x	x	x	
	1 Beach Street / Mathew Street								
	1	Concern over U-turners	x						
	4 Beach Street / Military Road								
	1	Landscaping in roundabout obscures visibility	x						
	1	Speed through roundabout	x						
	Northern side of roundabout does not have pedestrian refuge -								
	1	difficult crossing when footy traffic	x						
	1	Drivers in Military don't look for traffic in Beach	x						
	1 Beach Street / Surrey Street								
	1	Landscaping in roundabout obscures visibility	x						
	6 Beach Street / Westmoreland Road								
	2	Recent collisions involving loss of control	x	x					
	2	Dangerous intersection	x	x					
	1	Parking around intersection	x						
	1	Speeds entering Westmoreland	x						
	1 Derby Street / Westmoreland Road								
	1	Two collisions in recent monthts	x						
	1 Elaine Ave / Milvera Street								
	1	Speeds through junction and along Elaine Ave	x						
	1 Esplanade / Terminus Street								
	1	Speeds through corner	x						
	4 Fort Street / Charles Sturt								
	1	Broken kerb as radii to tight	x						
	1	Cars encroach into Fort causing traffic to swerve	x						
	2	Need Stop sign as drivers do not give way	x	x					
	5 Fort Street / Sylvan Way								
	1	Unclear concern - paint white lines to define junction	x						
	2	Parking of community bus in Sylvan Way	x	x					
	1	Junction is a nightmare	x						
	1	Traffic volumes increasing due to Grange View Estate	x						

[illegible]

[illegible]

18 Lighting

1 Only one light at corner of Jetty Street and the Esplanade	x		
1 Frederick Road / Gleneagles Court	x		
2 Grange Road / Wilson Crt	x	x	
3 Fort Street	x	x	x
2 Frederick Road (Grange to Trimmer)	x	x	
1 Derby Street / Beach Street	x		
1 Charles Sturt Avenue railway crossing	x		
2 Swan Street	x	x	
1 Frederick Road / Jetty St	x		
1 Sharpie Cres near train laneway	x		
1 Wilson Court	x		
1 Dora Avenue	x		
1 Iris Court	x		

37 Footpaths

3 High Street between Beach St and Jetty St	x	x	x
1 Frederick Road either side of Middleton Drive	x		
2 Tandanya Street has no footpath (to/from Grange School)	x	x	
1 Charlotte Street	x		
1 Day Street	x		
1 Fort Street between Military Road and Seaview Road	x		
1 Fort Street #11	x		
1 42 Sunset Cres	x		
1 Westmoreland Road	x		
Trimmer Parade			
1 (south side between Grange and Tapleys Hill)	x		
1 Connaught Street	x		
1 Newton Street	x		
1 Beach Street (north side between Westmoreland and Derby)	x		
1 Rapson Street (eastern side)	x		
1 Need more sensible footpath around Silver Crescent	x		
1 Baker Street (no formed footpaths and uneven unkept verges)	x		
1 Military Road near bus stop #30a	x		
1 Military Road (west side) Beach Street - Jetty Road	x		
1 Charles Sturt Avenue	x		
1 McMurray Avenue	x		
1 Swan Street	x		
1 Grady Way	x		
1 Trimmer Parade (south side) Military Road to Grange oval	x		
Council should use alternative colour to red pavers which get			
1 hot in summer	x		
1 Esplanade between #471-473	x		
2 Jetty Street (south side) Surrey to High St	x	x	
1 Terminus Street (Charles Sturt to Military Road)	x		
1 cnr of Rapson and Nash needs to be fixed following repairs	x		
1 Wilson Court	x		
1 Frederick Road #211	x		
1 Silver Crt	x		
1 Seabreeze St	x		
1 Yorkshire St	x		

10 School Traffic					
1	People park for long periods	x			
1	Irresponsible and illegal parking	x			
1	Dangerous to ride bike to school - no bikeways	x			
2	Congestion on Jetty Street near primary school	x	x		
1	Poor position of traffic lights	x			
1	Insufficient drop off area (Jetty and Surrey St)	x			
1	Roundabout inappropriate	x			
	Suggested use of car park in Charles Sturt House for school				
1	pick-up and drop-off	x			
1	Pedestrian crossing too close to Jetty St	x			
1 Rat Running					
	Beach St-Derby St-Ian St-Westmoreland-Tandanya-Charlotte-				
1	Jetty St	x			
11 Cycling					
5	Need for increased cycling facilities throughout area	x	x	x	x
1	Bicycle parking along foreshore	x			
1	Bicycle storage facilities throughout area	x			
	Need bike path along Esplanade Reserve due to limited access				
1	between Grange Road and Marlborough Road	x			
	Path on the Esplanade (beach side) is not adequate width for				
1	peds and cyclists	x			
	No bike tracks so cyclists use footpaths - hazard near				
1	Retirement Home	x			
1	Consider car free bike tracks in local streets	x			
4 Grange Jetty Precinct					
3	Insufficient parking in precinct	x	x	x	
1	Don't increase parking and detract from area	x			
10 Bicycle access along Foreshore					
5	Road	x	x	x	x
5	Need for coastal path	x	x	x	x

Appendix E

Beach Street Preferred Concept

Beach Street Grange: Preferred Streetscape Concept

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F +61 8 8723 5004
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- Drawing: WORKINGPLAN3.dwg
Date: DEC 06
Drawn: AM/RM
Job No: 2006.0778
Scale: 1:1250

Drawing: WORKINGPLAN3.dwg
Date: DEC 06
Drawn: AM/RM
Job No: 2006.0778
Scale: 1:1250

FILES STURT Grange Concept Layout



red Streetscape Concept

Drawing: WORKINGPLAN3.dwg
Date: DEC 06
Drawn: AM/RM
Job No: 2006/0778
Scale: 1:1250

CITY OF CHARLES STURT
Grange
Concept Layout

Appendix F

Grange Road Concept Plan

