

Draft Concept Design report for

## Bartley Terrace Streetscape - Concept Design

For: the City of Charles Sturt

# FINAL Streetscape Plan Report



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## 1. INTRODUCTION

The City of Charles Sturt requires functional planning and cross section determination and staging options in relation to its upgrading of the Bartley Terrace. The Asset Management Plans (AMP) for infrastructure in this area show some of the assets will need renewal within the next 5-years with the roadway needing reseal shortly. There have been a number of issues about drivers speeding, parking availability and obstruction of travelling vehicles, cyclist safety, few street crossing points and poor street lighting.

The road is well suited to a streetscape plan to address these issues and determine cross-sections for each longitudinal section of road, with a staging plan based on safety, economic benefit, demand and optimal asset renewal.

This is a road safety initiative.

### Objectives

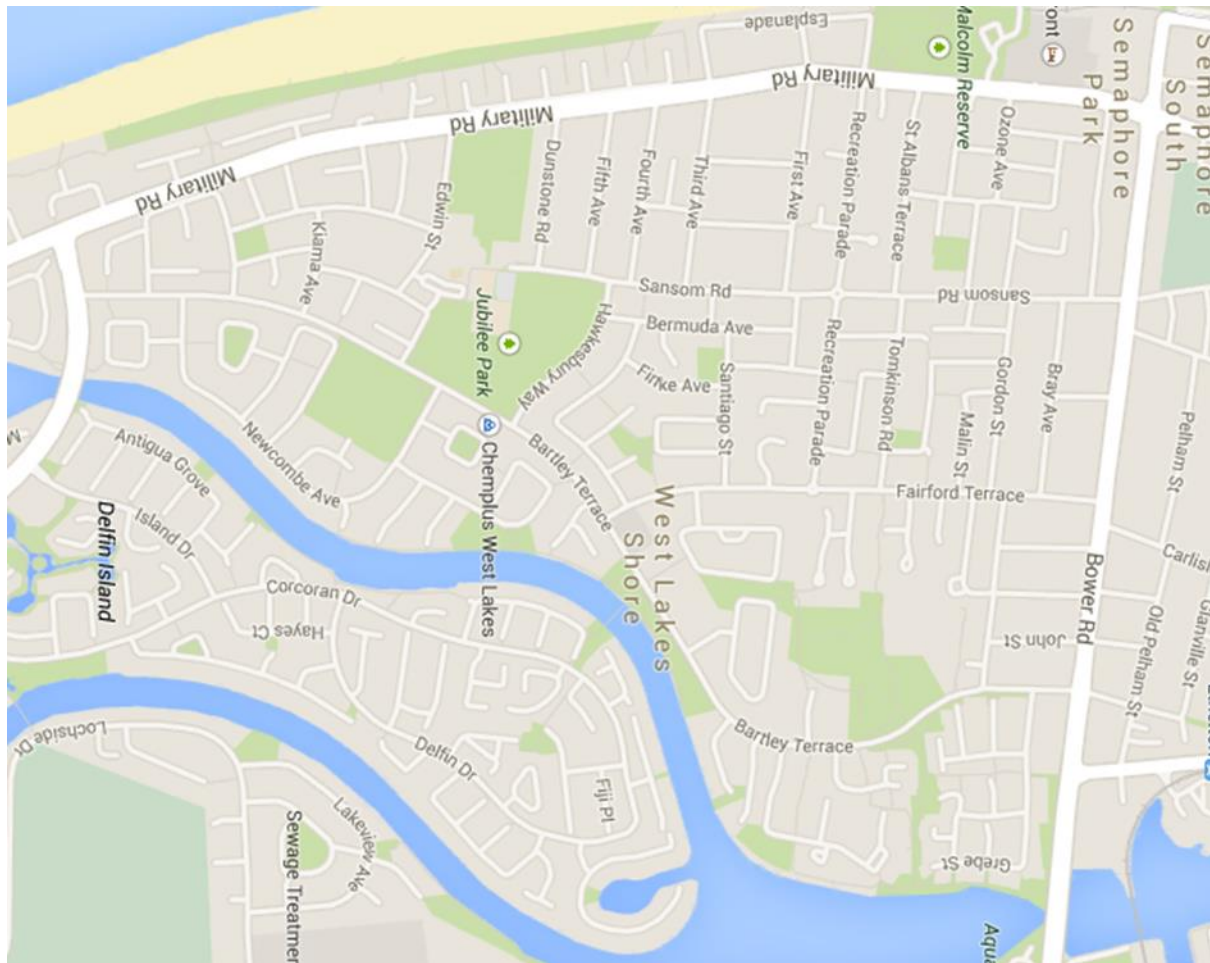
The project is being undertaken to assist The City of Charles Sturt to understand limitations of Bartley Terrace and how it may be changed for:

1. Improved road safety, capacity and access
2. Opportunities to align amenity with Council's policy to create places for people
3. Improved facilities and connection for walking and cycling
4. Improved access to public transport
5. Improved personal safety

### Key Deliverables

The project shall deliver

- a concept plan for each distinctive section of Bartley Terrace and
- a staging schedule based on improving public (road and personal) safety,
- asset condition and strategic opportunity.



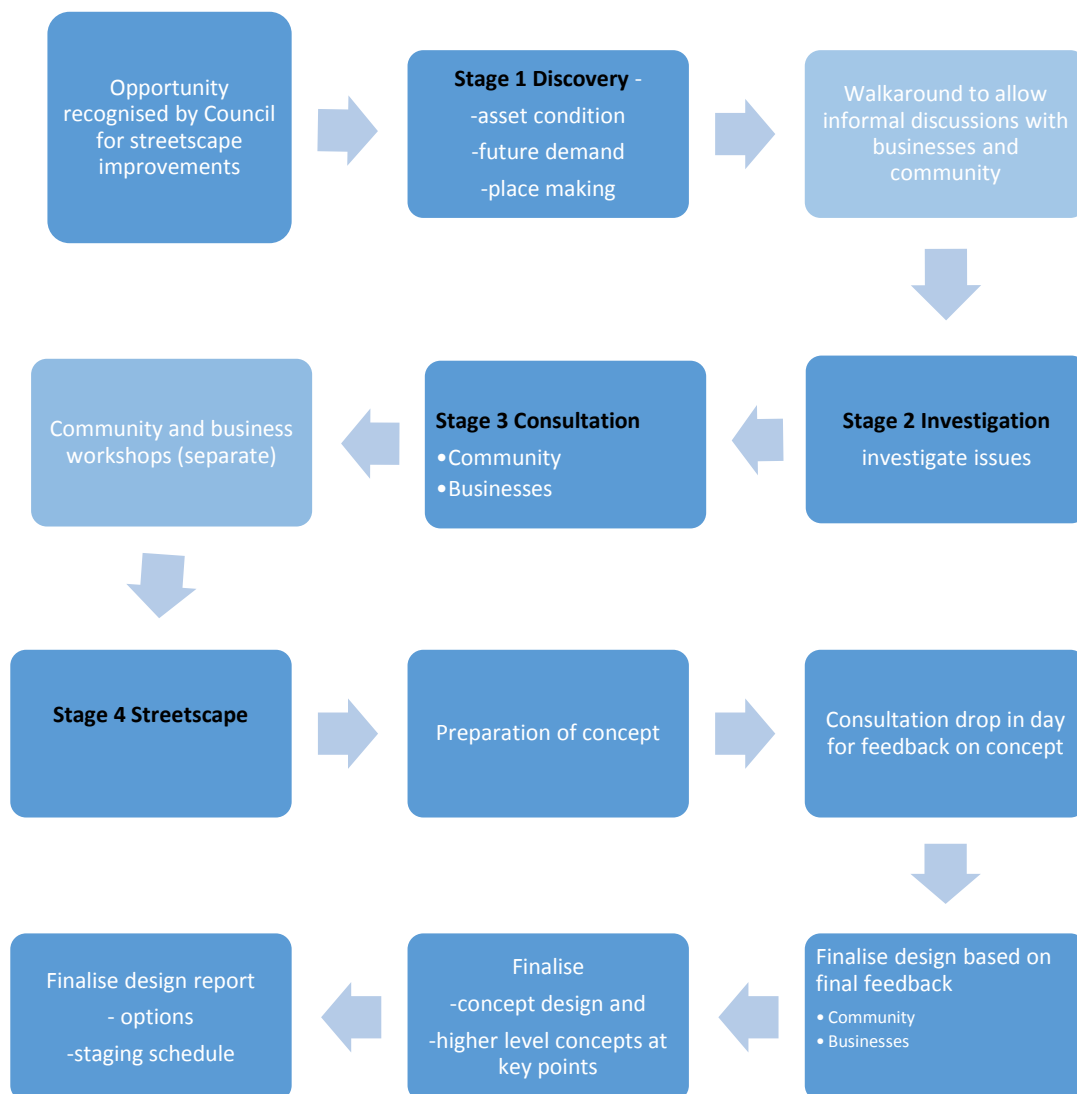
PLAN

The concept plan shall identify future configuration of the road, including typical cross sections, and long section to which they apply, traffic volumes and speed data, plus utilisation of various mixed business and sporting facilities.

The final concept design of the Bartley Terrace Streetscape has been developed after an iterative consultation process with the community and through ongoing engagement with Council.

## 2. PROJECT PROCESS

A summary of the key steps to project are shown below



## 3. PROJECT DISCOVERY

### DISCOVERY PHASE

To identify and report on:

- asset condition
- future demand and changes to existing conditions
- place making and strategic opportunities

#### *The Location*

Bartley Terrace is situated in West Lakes running from Bower Road in the North to West Lakes Boulevard in the South a distance of 2.7 km. The road is bounded by residential properties on both sides of the road, in the Northern and Southern areas. The central area has mixed business (shops) and sporting facilities. The aerial photography is attached for your reference. A series of photos with chainages is included with discussions in the appendix. Chainage 00 starts at intersection of Bartley Terrace and West Lakes Boulevard.

### Asset Condition

A review of key assets as follows

#### *Road Pavement & Kerb & Gutter*

The road pavement between Greenfield Crescent and Bower Road appears to have a SAMI spray surface overlay which is displaying crocodile cracking with no major rutting or pumping of fines evident, indicating the pavement surfacing and SAMI has failed and a pavement rehabilitation or resheet is required.

The pavement elsewhere comprises a dense graded asphalt surfacing and appears in good condition with few visual defects. The asphalt surfacing does not appear to be oxidized indicating it may have been resurfaced in recent years.

The kerb & gutter appears in good condition with little evidence of displacement.

Council Asset Management register describes the pavement south of Greenfield Crescent as having a 30mm AC seal on a 200mm thick crushed rock base and north of Greenfield a 50mm AC surfacing with a SAMI overlay.

With buses and commercial vehicles using the road, the pavement thickness based on Council's Asset register would appear to have insufficient thickness for the likely design traffic loading and the actual pavement composition would need to be confirmed and Subgrade CBR's and deflection testing undertaken to inform any pavement upgrade strategy.

#### *Footpath Pavement*

Footpath pavements typically comprise 1.2m wide in-situ concrete construction with joints at 3-4m intervals.

There is evidence of grinding of trip hazards at joints and replacement of individual bays, and some isolated displacement adjacent to trees, otherwise no structural cracking is evident.

### **Lighting**

The existing street lighting consists of 7 lights mounted on the cross arms of 7 "stobie" poles immediately adjacent to the Bower Road intersection and the remainder of Bartley Terrace is illuminated utilising SAPN standard traffic route public lighting columns with a single outreach and primarily HPS Roadster luminaires. There are a few different luminaires on some of the columns and generally the fittings need cleaning and maintenance. The columns are in good condition.

### **Landscaping**

The existing landscaping consists of

## **Future demand and changes to existing conditions**

### **Future demand**

#### **Council Strategies**

#### **Integrated Strategy for Walking and Cycling**

There are several key strategies under Sections 11.2 and 11.3 Action Plan which have direct relevance to the upgrade of facilities on Bartley Terrace in particular:

"Develop guidelines for pedestrian and cyclist access and end of trip facilities for all Council owned and operated assets and a program for identified upgrades to meet guidelines and link to outcomes of the City of Charles Sturt Open Space Strategy including the recreation path around the lake"

"Develop a program to upgrade pedestrian and cyclist facilities at local street and arterial road Activity Centres and implement the highest priorities"

"Revise Council Road and Path Design Guidelines to provide national and international best practice for vehicle separation, width, surface treatments, linemarkings, signage, crossings and warrant assessments for pedestrian , cyclists and shared path environments and facilities"

Other priority actions include to Investigate a shared use (walking and cycling) path, linking to Hawkesbury Way with West Lakes Boulevard, and ultimately Military Road and Coast Park.

#### **Active Living Plan for Cycling: Local Area Strategic Bicycle Plan Report (2008)**

The Bike Plan recommends the following facilities:

- Retention of the existing Secondary Road bicycle routes for Bartley Terrace and Fairford Terrace;
- Provision of dedicated bike lanes on Military Road and West Lakes Boulevard. Lanes provided on Military Road but not West Lakes Boulevard ;
- An off-road bicycle path through open space areas linking the northern pedestrian underpass network with Neighbourhood Park and the existing West Lakes Shores Shopping Centre including a crossing point between the Church and the Tavern-Path exists but no dedicated bicycle crossing other than refuge 83m to the west.

## Existing Conditions

### Existing Transport Network

#### *Bartley Terrace Carriageway & Alignment & Traffic Control*

##### *West Lakes Boulevard-Varram Way*

Based on engineering survey the carriageway typically comprises a 9.9m wide single carriageway with a painted centre line and two wide kerbside lanes with controlled access from side roads to abutting residential land use with one large bend adjacent to Kiama Avenue.

No parking applies on the west side north of Nambour Cres during Football days which is no longer relevant.

##### *Varram Way- Hawkesbury Way*

Based on engineering survey the carriageway typically comprises a 9.9m wide single carriageway with a painted centerline and two wide kerbside lanes with controlled access from side roads to abutting sports facilities and residential land use with one large bend adjacent.

The horizontal alignment is straight with a constrained vertical alignment over the pedestrian underpass south of Newcombe Avenue.

A central 0.75m wide rumble strip median and associated No stopping anytime linemarking is provided between Varram Way and Newcombe Avenue

##### *Hawkesbury Way- Fairford Terrace*

Based on engineering survey the carriageway typically comprises a 9.9m wide single carriageway with a painted centerline and two wide kerbside lanes with controlled access from side roads to abutting residential land use with one large radius bend between Hawkesbury Way and Anglers Court. Between Anglers Court and Fairford Terrace the carriageway width widens to 11.7m.

A Pedestrian refuge and associated No Stopping anytime linemarking is provided on all approaches to Hawkesbury Way.

##### *Fairford Terrace- Greenfield Crescent*

The carriageway comprises a 12.35m wide single carriageway with a painted centerline and two wide kerbside lanes with controlled access from driveways located on the north side to abutting commercial premises including the Shopping Centre, Church and Tavern and associated off-street carparks. The east bound lane transitions from 6.5m at the bottle shop entrance to 5.1m at the Greenfield Crescent west radial.

An additional 217m long x2.65m wide indented parking area abuts Neighborhood Reserve north of the church. A pedestrian refuge is located outside the shopping Centre adjacent to the south boundary of Neighborhood Reserve.

##### *Greenfield Crescent-Lower Street*

Based on engineering survey the carriageway typically comprises a 9.9m wide single carriageway with a 0.75m wide central rumble strip median and two wide kerbside lanes with associated No Stopping anytime linemarking both sides, controlled access from side

roads to abutting residential land use with a curvilinear alignment comprising three tighter radius bends.

A constrained vertical alignment exists over the pedestrian underpass north of Eagle Court.

#### **Lower Street -Bower Road**

Based on engineering survey the carriageway typically comprises a 9.9m wide single carriageway with a painted centerline and two wide kerbside lanes with direct access to abutting residential premises.

The alignment is straight with a gentle vertical alignment.

#### **Road Classification& Function**

The road is currently classified as a distributor road under Council's hierarchy and is also a Bike Direct route and bus route.

#### **Traffic Volumes & Speeds**

Current AADT & Weekday Peak Volumes

Based on recent DPTI 12 hour turning movement counts at Bower Road and West Lakes Boulevard and mid-block 7 day classified counts undertaken by Council current daily and weekday peak one way volumes on Bower Road, Bartley Terrace, West Lakes Boulevard and key collector roads are as shown in Table 1 and Figure 1.

**Table 1: Existing Traffic volumes and speeds**

Road section	AADT vpd	AM peak North bound vph	AM peak South bound vph	PM peak north bound vph	PM peak south bound vph	85% L speeds km/hr
Bower Road east of Bartley Terrace	17900	1130 East bound	585 west bound	610 East bound	1150 West bound	
Bower Road west of Bartley Terrace	12700	820 East bound	410 West bound	435 East bound	880 West bound	
Bartley Terrace at Bower Road	7100	360	245	295	400	
Bartley Terrace south of Lower Street	6775	285	255	245	350	57
Lower Street at Bartley Terrace	660	65 East bound	40 west bound	22 East bound0	22 West bound	
Bartley Terrace south of Eagle Court	6885	315	265	245	340	54
Bartley Terrace south of Greenfield Crescent outside Shopping Centre	6500	240	270	300	310	53.5

Bartley Terrace south of Varram Ave	7650	220	330	360	290	57.5
Bartley Terrace south of Kiama Ave	8450	315	385	410	295	57
Bartley Terrace at West Lakes Boulevard	8900	330	445	510	390	
Fairford Terrace at Bartley Terrace	3055	100	130	160	115	32
Hawkesbury Way at Bartley Terrace	745	40	65	95	70	57
Varram Way at Bartley Terrace	1235	122 East bound	112 West bound	42 East bound	55 West bound	
West Lakes Boulevard east of Bartley Terrace	17200	735 East Bound	400 West bound	700 East bound	815 West bound	
West Lakes Boulevard west of Bartley Terrace	8800	415 East bound	225 West bound	410 Est bound	400 West bound	

The analysis indicates that the section of Bartley Terrace south of Hawkesbury Way receives more daily traffic than the northern section and also that the 85% L speed along the entire length is above the 50km/hr speed zone, with the section abutting Neighborhood Park and the shopping Centre the lowest at 53.5km/hr.

The analysis also confirms that Varram Way, Hawkesbury Way, Fairford Terrace, Sanson Road and Lower Street all receive school traffic in the am peak and at the 3pm weekday peak where the volumes are up to 100% higher than the 5pm peak.

Also of note is that peak period one way volumes on Bartley Terrace are higher on Saturdays between 10am and 12noon than weekday am and pm peaks consistent with shopping trips.

The analysis also indicates a consistent 3% Class 3 vehicles in the traffic mix consistent with bus route and small service vehicles with no articulated vehicles observed.

### 2036 Projected Traffic Volumes

Based on MASTEM modeling undertaken by DPTI, AADT traffic volumes on Bartley Terrace at Bower Road and West Lakes Boulevard are projected to increase by 13% and 19% respectively to 8000 vpd and 10,600vpd, with AM and PM one way peak volumes increasing by 25% and 21% respectively as shown in Figure 1 with a peak one way flow of 570vph northbound.

### Traffic Distribution

Based on DPTI turning movement counts the current estimated traffic distribution to and from Bartley Terrace at Bower Road and West Lakes Boulevard during morning and evening peak periods are as shown in Table 2 and Figure 2.

**Table 2: Existing Bartley Terrace Traffic Distribution**

Location	North bound AM peak Destination	South Bound AM peak destination	North bound PM peak	South bound PM peak
At Bower Road	87% to east/11% to west	82% from east/13% from west	77% to east/20% to west	85% from east/13% from west
At West Lakes Boulevard	76% from east/24% from west	87% to east/13% to west	91% from east/9% from west	89% to east/11% to west

The above table indicates a significant number of internal and external generated journey to work and school related trips into and from the study area on Bartley Terrace in peak periods accessed from Bower Road and West Lakes Boulevard.

### Speed Zone

The road has a 50km/hr speed zone for its full length

### Crash History

An examination of crash statistics provided by DPTI for the period April 2009 -20 June 2014 (5.2 years) was undertaken which confirms the following crash rate over the period.

Total recorded accidents along 2.7km road length 31 (7 personal injury, 1 fatal) 6 per annum (1.35 personal injury/pa). Of these total accidents 18 were recorded at local road junctions with failing to give way stated as the main cause and a further 7 at mid-block locations recorded as hitting fixed object side swipe or hitting parked vehicle due to inattention and 5 rear end at the junctions at Varram, Newcombe and Nambour. Only one head on accident involving 3 injuries was recorded just south of Fairford Terrace related to alcohol and one pedestrian fatality at Kingfisher related to an intoxicated pedestrian.

No accidents involving cyclists were recorded.

This equates to 11.5 total accidents/km and 2.6 personal injury accidents per km for the 5.2 year period.

The distribution and location of these accidents are shown in Figure 3 however it is worth noting that 16 or 52 % of these accidents occurred on the section between Anglers Court and Greenfield Crescent.

Also of note is that personal injury accidents were recorded at the junction of Newcombe Ave and on the sweeping bend near Dottoral Drive where sight distance is restricted.

By comparison the accidents recorded at the Bower Road intersection and West Lakes Boulevard junction for the same period were 14 (8 personal injury) and 10 (3 personal injury) respectively.

The above accident rates confirms that Bartley Terrace and the junctions with Bower Road and West Lakes Boulevard are blackspots and meet the criteria for Black spot funding under the State and Federal Black spot programs.

#### **Public Transport**

A regular bus service Route 117 operates on West Lakes Boulevard east/Bartley Terrace/ Bower Road east in both directions with bus stops typically provided on average every 400m on both sides (Stops 34,35,35A 35B, 35B,36A, 36B).

An additional bus service Route 157 operates on West Lakes Boulevard/ Military Road, First Avenue, Samson Road north/Bower Road west with stops at regular intervals.

The residential areas of Semaphore Park abutting either side of Bartley Terrace generally fall within the recommended 400-500m walking distance guideline from a bus stop with the exception of the central and northern section 150m either side of Fairford Terrace north of Recreation Parade and an area north of Hawkesbury Way. Refer Figure 6

There is an inconsistent provision of tactile surface indicators (TSI's) at bus stops along Bartley Terrace with only 6 of the 14 stops having TSI's at the stop. There is also an inconsistent provision of pedestrian crossing points adjacent to bus stops with some stops having no crossing points across Bartley Terrace and others having crossing points and associated pram ramps some 20-38m away with no TSI's.

Shelters are provided at all bus stops along Bartley Terrace except at Stops 34, 35 & 35A north bound.

Remnants of former bus stop slabs exist in the verge in some locations and should be removed to avoid confusion.

#### **Bicycle and Pedestrian Facilities & Linkages**

1.2m wide continuous concrete footpaths are typically provided on both sides of Bartley Terrace for the full length except for a short section on the west side south of Lower Street.

Pedestrian linkages from facilities and residential areas located to the west of Bartley Terrace to the Lake edge are provided at several locations including south of Lower Street, Eagle Court, Neighbourhood Reserve, Newcombe Avenue, Heysen Crescent and Boyd Crescent. Pedestrian underpasses are provided south of Lower Street and north of Varram Way.

Bartley and Fairford Terraces and Sanson Road are Bike Direct routes and are signed with bicycle symbols on poles and the carriageway at regular intervals with cyclists sharing the road space via wide kerbside lanes.

A 3.0m off road shared path is provided on the south side of Hawkesbury Way with connectivity to the Sports precinct and school via Sanson Road and marked bike lanes are provided on Military Road

There is no direct connectivity across Bartley Terrace between the off road path leading from Windsor School and Neighborhood Reserve despite there being a path between the church and the tavern.

Existing facilities and linkages are shown in Figure 4.

### **Road Safety Observations**

An initial Network Road Safety audit was undertaken along Bartley Terrace by Doug Bowers an Accredited Road Safety Auditor on the afternoon of 21 January 2015.

A summary of observations are outlined below.

### **Road geometry and alignment**

The horizontal radius on the reverse curves north of Greenfield Avenue (nominally 190m radius) appear appropriate for the current speed zone and can be safely driven at 50km/hr.

The vertical alignment adjacent to the northern pedestrian underpass where a short vertical curve is provided, combined with the curvilinear back to back horizontal curve alignment fencing and vegetation, has restricted sight distance to less than 100m for oncoming vehicles.

The vertical alignment adjacent to the southern pedestrian underpass south of Newcombe Avenue where a short vertical curve is provided, has restricted sight distance for oncoming vehicles and vehicles exiting side roads to less than 50m.

### **Road Surface and crossfall**

The pavement surface shape crossfall and surface texture appears reasonable for the current speed zone and alignment however the seal between Greenfield Crescent and Lower Street is displaying crocodile cracking which may lead to the formation of pot holes in the near future which could potential impact on driver and cyclist control.

### **Traffic Control, Barriers & Linemarking**

Existing pedestrian refuges appear to be signed constructed and delineated in accordance with current standards.

Linemarking raised pavement bar medians and signage appears to be well delineated and accord with current standards.

Curve alignment markers are provided on the outside of the southern bend adjacent to Crowle Grove for south bound vehicles but not on any other bends with a similar radius. Such signs are normally provided where the safe speed is less than the posted speed limit. This may need reviewing in the context of the 50km/hr speed zone.

The use and standard of pedestrian warning signs is inconsistent along the road with some newer signs and older faded signs.

Spear end W beam barriers are provided over the northern underpass bridge which are hazardous to road users and should be upgraded to current standards.

A short section of spear end W Beam guardrail is installed on the west verge south of Lower Street which is hazardous to road users and does not appear to be shielding any roadside hazard.

1m high pine log fencing is provided less than 1m from the kerb line on the approaches to the northern underpass which is within the clear zone and deemed a hazard to road users.

### **Sight Distance**

Horizontal sight distance is restricted to less than 50m at the following locations due to road geometry and vegetation.

- Northern pedestrian refuge at Hawkesbury Way looking north bound from east pedestrian ramp;
- Newcombe Avenue looking south bound;
- Varram Way looking north;
- Bartley Terrace between Newcombe avenue and Varram Way
- Driveway from units at Eagle Court west side looking north

### **Footpaths**

#### **Trip hazards**

There are occasional trip hazards up to 10-30mm where tree roots have caused displacement at joints which are trip hazards.

#### **DDA Compliance**

Pram ramps appear to be provided at all side roads however there is an inconsistent provision of surface tactile indicators at pram ramps.

There are no pram ramps or tactile surface indicators at major driveway and carpark entrances at the shopping Centre church and tavern.

#### **Width & Continuous Access path of travel**

Continuous 1.2m wide footpaths are provided on both sides except for a short 110m section on the west side between Lower Street and the pedestrian underpass where no path is provided. This would be a hazard to visually and mobility impaired pedestrians and also may encourage south bound pedestrians to use the narrow unpaved verge adjacent to the main carriageway which may present an unexpected hazard to motorists. These footpath widths meet the minimum requirement under Part 6A Austroads Guide to Road design: Pedestrian and Cycle paths for a wheelchair and pedestrian to safely pass one another but not for two wheel chairs to pass without traversing the verge.

The footpath along Bartley Terrace changes horizontal and vertical alignment adjacent to the northern pedestrian underpass to provide connectivity with the lower path under the underpass yet there is no tactile surface indicators (TCI's) to provide a cue for visually impaired pedestrians.

#### **Vulnerable Road user observations**

Some adult cyclists were observed using the existing footpaths during off-peak periods whereas some commuter cyclists were observed using the on road facilities during the evening commuter peak period.

Both footpaths receive moderate pedestrian use.

Major pedestrian crossing points appeared to be at bus stops and at the refuge east of Fairford Terrace. The footbridge leading from Neighbourhood Reserve received some use.

#### **Parking Supply and Demand**

An assessment of available public parking supply vs parking demand was undertaken on Saturday 8 February between 10am-1pm at key sections of the road and is summarised in Table 4 and Figure 5.

**Table 4: Parking supply and demand**

Section	Off-street spaces available	Bartley Terrace on street spaces	Total spaces available	Off-street demand #	On-Street demand #	Total Demand #
Fairford-Greenfield	375(87 West Lakes Shore Shopping Centre)	71	446	129 (84 West Lakes Shore Shopping Centre, 20 Church carpark Op shop, 25 Tavern)	6 (3 shopping Centre)	135
Lower-Bower	-	30	30			0
Fairford-Hawkesbury	-	68	68			0
Hawkesbury -Varram	200*	30	230	10**	3	13
Kiama - Varram	59(West Lakes sports Club/ RAMS Baseball Club)	63	122	27		27
Total	634	262	896	166	9	175

\*Jubilee Park sports facility Off-street spaces accessed from Varram Way and Sanson Road.

# based on observations between 10.30am and 11.30am Sat 7 Feb 2015

\*\* Potentially influenced by hot weather

The observation indicates that in the central retail segment the total demand on a Saturday morning is 30% of available spaces, noting that an estimated 100 vehicles are considered to be related to the West Lakes Shore Shopping Centre and Medical Centre of which some park in the church carpark and on street.

### Services

- SAPN above ground power services and feed for lighting.
- Department of Planning, Transport and Infrastructure (DPTI) signalised intersection at Bower Road

### Lighting

Generally the installation is up to date with a few odd light fittings in amongst the standard SAPN HPS traffic route light fittings. There were about 6 lights not working and these have been reported on the SAPN website.

AS1158 - Lighting for roads and public spaces modelling has shown 4 areas of concern along Bartley Terrace where pole spacing exceeds the recommended distances.

There is no lighting in the tunnel section of the underpasses but there is 1 pole either side approximately 18 metres from the tunnel. There was very little evidence of vandalism due to poor illumination.

The illumination of the intersections at West Lakes Boulevard, Bower Road and Fairford Terrace all complied with the requirements of AS1158 - Lighting for roads and public spaces.

The shared Bike/Pedestrian path on Hawkesbury Way does not comply with the recommendations of AS1158 - Lighting for roads and public spaces as the lights are on the other side of Hawkesbury Way and are at a low mounting height.

## Place making and strategic opportunities

### Place making

Place making is about identifying opportunities to make precincts more active, desirable and vibrant; and involves the integration of strategic planning, urban design and physical development processes through the master planning approach.

In relation to Bartley Terrace the approach not only involves recognition of the roads role in the road hierarchy, but the way in which adjoining development relates to the road and the way in which the road is perceived by those people using it as a pedestrian/cycling route.

Bartley Terrace is essentially designed as a transport corridor; a major connector road linking West Lakes Boulevard with Bower Road. As a function of that use, much of the development adjoining the road (and in particular residential development) takes its access from secondary roads, thus presenting the rear of the dwelling and fencing to the road. Whilst this provides landscape opportunities along the road reserve, which is largely free of crossovers; it creates a rather sterile environment devoid of opportunity for inter-reaction and the security provided by observation from private properties adjoining the road.

At present the landscaping opportunities afforded along the road reserve tend to re-inforce the dry sterile character of the road, as created by native trees with sparse canopies, dry, dead or sparsely grassed road reserves and patches of dense landscaping intended to screen fences, but which also creates hiding places that reinforce a lack of security which must be felt by those using the footpaths, especially at night time.

Street furniture similarly is lacking and generally clustered around bus shelters, which themselves are (to a large extent) exposed to the elements.

Whilst the project is not intended to review the street landscape, I consider that the project affords an opportunity to consider the wider relationship of the road with adjoining development.

From both a strategic planning perspective and in terms of looking at opportunities for place making Bartley Terrace could be broken down into 6 inter-related precincts, viz

- Bower Road to Lower Street;
- Lower Street to Dotterel Drive;
- Dotterel Drive to the Lakefront;
- Lakefront to Jubilee Park/West Lakes Shore Oval
- Jubilee Park/West Lakes Shore Oval to West Lakes Boulevard.

Each Precinct is to be considered on the basis of assessing each of the following attributes;

- existing land uses/zoning,
- potential future land uses,
- built form character and relationship to the road,
- community assets,
- public open space,
- pedestrian movement,
- streetscaping,
- linkages to adjoining land uses,
- traffic characteristics,
- constraints, and
- opportunities

Consideration also be given to adopting water sensitive urban design principles (WSUD) in any future works to be undertaken on the road/and or involving works on the road verge.

## Strategic opportunities

### Planning

Current Development Plan policies provide little opportunity for more intense development to occur in the residential zones and policy areas adjacent to Bartley Terrace. Existing higher density development is possible in Policy Area 19 (West Lakes Medium Density Policy Area) although this is likely to involve wholesale redevelopment of the existing development that occurs in this area. Recent State Government Policy aimed at increasing both the mix of housing and population in areas owned by the Housing Trust may well result in some longer term redevelopment that will assist in revitalising the area.

Policy applicable the West Lakes Policy Area does encourage higher density development than exists at the moment, but allotment sizes do not accord with the quantitative provisions in the Development Plan for higher density which has precluded any significant redevelopment at higher density in the zone.

Land otherwise in the West Lakes General Policy Area is likely to stay as low density housing with an ageing population and limited opportunity for gentrification unless there are plans to review the zoning of the land. There are no plans at Council to review the zoning of land along Bartley Terrace to increase housing density to an extent that would influence the volume of traffic, pedestrian and bike movement on Bartley Terrace.

Other significant land uses that will be investigated include the West Lakes Schools complex and its relationship with Bartley Terrace, especially in terms of pedestrian/bike linkages.

Sporting clubs adjoining the road and the existing/future development of the Local Centre zone also need to be reviewed to consider their impact on the road network and relevant linkages to the local community.

As an aside, development in the Local Centre zone needs to give consideration to improved landscaping, shade and pedestrian spaces to improve its attractiveness and its impact of the streetscape, and an improved public realm in the vicinity of the centre may encourage its upgrading. This will be one issue for exploration.

#### **Road safety traffic management and connectivity**

Opportunities for improving road safety traffic management and connectivity along the corridor include:

- Provision of 1.5m wide on road marked bicycle lanes on Bartley Terrace in both directions full length;
- Improved carriageway definition between Fairford Terrace and Greenfield Crescent by provision of formal marked road parking bays on the north side of Bartley and/or moving kerb lines to create indented bays;
- Create pram ramps at both kerb lines and an additional refuge of Bartley Terrace at the interface of the existing off road path between the Tavern and the church to provide a direct link with Neighbourhood Park;
- Create a raised interlocking pavement surface between Fairford Terrace and Greenfield Crescent in conjunction with a 40km/hr speed zone to provide visual cues and road user awareness of increased pedestrian and side friction activity;
- Provide on road marked bicycle lanes on West Lakes Boulevard west to link to the existing lanes on Military Road;
- Widen the existing western footpath on Bartley Terrace south of Hawkesbury Way to 3m and upgrade to a shared use path and extend path along north side of West Lakes Boulevard to link with signalised Pedestrian crossing at Military Road Shore Court and Coast Park;
- Complete the missing footpath link on the western verge of Bartley Terrace south of Lower Street;
- Upgrade all pram ramps to include tactile surface indicators;
- Upgrade all bus stops to include shelters and tactile surface indicators;
- Consider relocating Bus stop No 36 to the east side of Greenfield Crescent

### **Road safety, traffic management and connectivity opportunities**

Opportunities for improving road safety traffic management and connectivity along the corridor include:

- Provision of 1.5m wide on road marked bicycle lanes on Bartley Terrace in both directions full length;
- Improved carriageway definition between Fairford Terrace and Greenfield Crescent by provision of formal marked road parking bays on the north side of Bartley and/or moving kerb lines to create indented bays;
- Create pram ramps at both kerb lines and an additional refuge of Bartley Terrace at the interface of the existing off road path between the Tavern and the church to provide a direct link with Neighbourhood Park;
- Create a raised interlocking pavement surface between Fairford Terrace and Greenfield Crescent in conjunction with a 40km/hr speed zone to provide visual cues and road user awareness of increased pedestrian and side friction activity;
- Provide on road marked bicycle lanes on West Lakes Boulevard west to link to the existing lanes on Military Road;
- Widen the existing western footpath on Bartley Terrace south of Hawkesbury Way to 3m and upgrade to a shared use path and extend path along north side of West Lakes Boulevard to link with signalised Pedestrian crossing at Military Road Shore Court and Coast Park;
- Complete the missing footpath link on the western verge of Bartley Terrace south of Lower Street;
- Upgrade all pram ramps to include Tactile surface indicators;
- Upgrade all bus stops to include shelters and Tactile surface indicators;
- Consider relocating Bus stop No 36 to the east side of Greenfield Crescent

## **Community**

### **Early findings**

The first stage of understanding the community involved spending two days walking around the Bartley Terrace area and having informal discussions with people who live, work and play in the region. This was done by Liz Ampt on Tuesday February 3<sup>rd</sup> and Sunday February 8<sup>th</sup>. The first day focussed on businesses and organisations in the area and the second on residents.

The process involved letting people know that the Council is considering some form of upgrade to Bartley Terrace and that it (Council) is keen to get input from local users. This was met with considerable interest and enthusiasm – as much because the process involved including their thoughts and ideas as because the road needed attention.

Some early thoughts from the c.30 people with whom we had discussions include:

- People like living and working in the area. Many people working there have lived in the general area all their lives, and others have come back there to live.
- Overall there appears to be a moderately good community spirit – not particularly fostered by Bartley Terrace itself which is not set up as a ‘meeting place’ since houses are generally facing away from it and the footpaths are not particularly conducive to walking.
- Bartley Terrace itself is not seen by many (other than several who actually live on it) as a major influencer of their lives, though road safety issues were raised by some and noise by others (residents)

- The enthusiasm for participation in a small workshop was ubiquitous – with managers of almost all major land-uses keen to attend (e.g. tavern, Foodland, Chemplus, church, sporting facilities).
- To date, the main specific areas of concern have been:
  - o Speed on Bartley Terrace. ‘When you drive along it, it feels like being a more than 50k zone’
  - o Conflict at the corner of Fairford Terrace and Bartley.
    - cars travelling north on Bartley Terrace indicate to turn into the shopping centre early and cars turning onto Bartley from Fairford assume they will turn into Fairford.

The early findings have led us to recommend that the workshops take place slightly earlier than planned to capitalise on the willingness of people to participate.

## 4. PROJECT INVESTIGATION

### INVESTIGATION PHASE

The brief indicated the following matters needed investigation:

- Increased demand and use of the Local Neighbourhood Centre (parking and connectivity).
- Increased community use of Neighbourhood Reserve and bridge connecting over West Lakes to Keppel Reserve (Walking and Cycling).
- Ongoing and more frequent use of Jubilee Park (Sport use and Parking, plus crossing of Bartley Terrace).
- Improved supply and safety for kerbside parking (Parking around activity centres).
- Improved walking facilities along and across Bartley Terrace in accordance with the Walking & Cycling Strategy and its importance to a recreational route around the lake (Connectivity to other areas such as West lakes shopping centre and Coast Park).
- Improved cycling facilities along and across Bartley Terrace in accordance with the Walking & Cycling Strategy and its importance to a recreational route around the lake (Connectivity to other areas such as West lakes shopping centre and Coast Park).
- Ongoing complaints about drivers speeding and having insufficient care at road intersections (wide shallow curves encourage speed. A School and Sport facility, with interaction of vehicles and children has a road safety issue).
- Insufficient capacity and poor levels of safety of the connections with the Arterial Road network at each end (Intersections of Bartley Terrace with Arterial Road network has insufficient turning capacity and site distance).
- Insufficient capacity and poor levels of safety for Collector Roads distribution traffic into the surrounding area (Intersections with Bartley Terrace and other collectors have insufficient turning capacity at certain times).
- Clearer delineation of road hierarchy at intersections and the access they provide into surrounding streets and areas that Bartley Terrace services (Delineation of roads at intersections with better line marking and signage).
- Level of public lighting (possible upgrade or change to LED lighting).
- Condition of assets and timing for renewal (How do we make this work from an asset renewal perspective to obtain best value from network).

## Network Analysis

### Mid-Block Capacity & Level of Service

The available mid-block one-way peak period lane capacity on Bartley Terrace and key collector roads based on the current carriageway and parking configuration and associated Level of Service using current and 2036 projected peak period volumes are summarised in the following table.

**Table : Mid-block capacity and Level of Services**

Road section	Existing peak one way flow vph	One way Lane capacity vph	Level of Service	2036 projected peak one way flow vph	Level of Service
Bower Road east of Bartley Terrace	1150	1900	D*	1290	D*
Bower Road west of Bartley Terrace	880	900	D*	930	E*
Bartley Terrace south of Bower Road	450	600	C	500	C
Bartley Terrace south of Lower Street	350	900	B	385	B
Lower Street west of Bartley Terrace	65	600	A	70	A
Bartley Terrace south of Eagle Court	340	900	B	375	B
Bartley Terrace south of Greenfield Crescent outside Shopping Centre	310	900	B	340	B
Bartley Terrace south of Varram Ave	360	900	B	395	C

Bartley Terrace south of Kiama Ave	410	900	C	450	C
Bartley Terrace south of Nambour south	520	900	C	570	C
Fairford Terrace north of Bartley Terrace	160	600	A	170	A
Hawkesbury Way at Bartley Terrace	95	600	A	105	A
Varram Way at Bartley Terrace	122	600	A	135	A
West Lakes Boulevard east of Bartley Terrace	815	1900	A	960	B
West Lakes Boulevard west of Bartley Terrace	415	1900	A	530	A

\*Intersection Level of service will govern.

The analysis indicates that Bartley Terrace and the major local and collector roads connecting with it will perform satisfactorily with generally free flowing traffic conditions expected for the next 20-30 years with the provision of one traffic lane in each direction however speeds may reduce marginally due to closer headways between vehicles.

Retention of a minimum carriageway width of 9.9m is considered adequate for two through traffic lanes and bicycle lanes or two through lanes and a central median at all mid-block locations, with localised widening provided for indented kerbside parallel parking where demand warrants.

## Intersection Capacity & Level of Service

The intersection degree of saturation and Level of service and delays at key junctions using SIDRA 6.1 based on current and 2036 projected peak period volumes and retaining current traffic control and junction layout are shown in the following table.

Junction	Degree of Saturation -current	Level of Service - Current	Average Delay (Secs)-current	Degree of Saturation -2036	Level of Service - 2036	Average Intersection Delay( Secs)-2036
Bartley/Fairford AM Peak	0.14 Fairford	A Fairford	2.0 Inter/ 6.3 Fairford	0.20 Fairford	A Fairford	2.6 Inters/ 7.2 Fairford
Bartley/Fairford PM Peak	0.20 Bartley south	A Fairford	2.3 Inter/7 Fairford	0.21 Bartley south and north	A Fairford	2.4 Inters/7.6 Fairford
Bartley/West Lakes AM Peak	0.59 Bartley approach	B Bartley approach	6.8 Inter/14 Bartley approach	0.91 Bartley approach	E Bartley approach	14.2 Inter /35.9 Bartley approach
Bartley/West Lakes PM Peak	0.66 Bartley approach	C Bartley approach	7.0 Inter/16.9 Bartley approach	1.08 Bartley approach / 0.66 West Lakes Boulevard right turn lane	F Bartley approach	40.6 Inter /159 Bartley approach

The SIDRA analysis confirms that delays degrees of saturation and Levels of Service at both junctions are acceptable based on **current peak period** volumes, however right turn vehicles from Bartley experience up to 1 minute delays in the evening peak.

The SIDRA analysis confirms that the delays at the Bartley Fairford junction would still be at acceptable levels in **2036** in both peaks and no additional lane capacity is required on any approach from capacity perspective.

Levels of service delays and degree of saturation at the Bartley Terrace/ West Lakes Boulevard junction will be at unacceptable levels in **2036** with Bartley Terrace traffic on the northern approach facing considerable delays in both peaks due to the increase in peak volumes on West Lakes Boulevard with the PM peak being worse (up to 2.5 Minutes average delay).

Given the majority of movements from Bartley Terrace are east bound, northern approach delays could be reduced by providing additional lane capacity.

This can be achieved without any major widening by a rearrangement of the linemarking to include a 3.5m exclusive high entry left turn slip lane and a 3m wide x 60m long right turn lane with a 3.5m north bound lane.

A SIDRA analysis of this option indicates a LOS C, Degree of saturation 0.69 on the northern approach and an average intersection delay of 7.4 Seconds based on 2036 PM peak volumes with the average delay on the northern approach reducing to 15.6 seconds.

Some lengthening of the right turn lane on the eastern approach would also assist in storing the additional right turn vehicles.

This could also potentially reduce rear end accidents on the Bartley Terrace approach due to reduced delays on the approach however delays to right turn vehicles would still be up to 100 seconds due to the increased peak volumes on West Lakes Boulevard.

There is insufficient weaving length between the Bartley Road and Military Road junctions to permit the extension of the storage lane length of the seagull island western departure lane.

Alternative junction upgrade treatments might be to:

- Convert the junction to a roundabout, subject to DPTI approval and an assessment of impacts on the Military Road junction, however it is likely to be a very expensive option with a low BCR with only three minor injury accidents recorded and is unlikely to be as suitable for cyclists and pedestrians as other treatments;
- Modify the West Beach Road western approach to one through lane with a short left turn lane and convert the western departure to a merge lane and through lane-moderate cost ;
- Signalise the junction but only 112m from Military Road signals so potential double queuing delays on West Lakes Boulevard -high cost and suited to pedestrians and cyclists.

The Bower Road junction currently comprises a four-way 3 phase signalised intersection with a 4.5m single lane and a signalised right turn phase on the southern approach and a signalised left turn slip lane on the eastern approach.

Any additional delays arising from the projected 2036 11% increase in peak period movements in Bartley Terrace to and from Bower Road could be accommodated relatively inexpensively by providing additional lane capacity by rearranging the southern approach linemarking to a 3.0 kerbside lane a 3.0m right turn lane and a 4m departure lane and modifying cycle times.

## Junction Geometry & Safety

### *Road Safety Audit Observations*

#### **Bartley/ Bower**

Sight lines from Bartley Terrace looking west into Bower Road and from Bower Road west looking right into Bartley Terrace are restricted due to existing vegetation on the south west corner of the signalised intersection.



### **Photos 1&2 Left hand sight lines from Bartley looking west**

50% of recorded accidents in the past 5 years were vehicles turning right from Bower Road failing to give way to oncoming traffic and 30% due to disobeying the traffic signals so the majority relate to errant driver behaviour on Bower Road rather than geometry or sight distance issues.

### **Bartley/Fairford & West Lakes Shore Shopping Centre**

Sight lines from Fairford Terrace into Bartley Terrace in both directions are in excess of 100m however left hand sight lines are slightly impeded by sandwich board signs on the verge and when buses are standing at the bus stop. Refer Photo 3.



**Photo 3 Left Hand sight line from Fairford Terrace**

All recorded accidents in the past five years were vehicles from Fairford Terrace failing to give way to vehicles on Bartley Terrace with only one injury recorded indicating drivers in Fairford are misjudging oncoming or turning vehicles in Bartley Terrace.

Right hand sight lines from the Shopping Centre carpark entrance would be impeded when buses are standing at the existing bus stop and also from the shelter and post box. Refer Photo 4

Similarly sight lines from the church carpark can be impeded by parked cars. Refer photo 5



**Photo 4- Right hand sight lines from shopping centre carpark entrance/exit driveway**



**Photo 5-Left hand sight line from church driveway obscured by a parked car**

It is noted that eight accidents have been recorded adjacent to this retail/commercial area in the past five years (none involving injuries), of which five appear to be related to vehicles entering and existing driveways including rear end collisions and one due to overtaking a turning vehicle.

Installing protuberances within the parking lane and extending the northern kerb south either side of the main carpark driveways would improve sight lines for vehicles exiting the carparks. Installing a central median in Bartley Terrace with turn slots may also assist in defining turning paths and through traffic lanes and affect a slight reduction in speed assisting in reducing rear end accidents.

#### **Bartley/ West Lakes Boulevard**

Sight lines in all directions are not impeded by any vegetation poles or street furniture and are considered acceptable for the 60Km/hr speed zone in West Lakes Boulevard.

40% of the ten reported accidents in the past five years were west bound vehicles exiting Bartley failing to give way to east bound vehicles on West Lakes Boulevard, 30% rear end involving right turning vehicles from Bartley Terrace, 10% involving west bound vehicles exiting Bartley colliding with a west bound bicycle in West Lakes Boulevard, 10% an east bound vehicle exiting Bartley failing to give way to an east bound vehicle on West Lakes Boulevard and 10% a west bound vehicle on West Lakes Boulevard colliding with stalled west bound vehicle.

This would indicate the 70% of accidents (7 in 5 years) relate to driver error in relation to vehicles exiting Bartley Terrace perhaps misjudging the speed and/or intent of east bound vehicles, however the Military Road signalised intersection is only located 113m to the west so potentially east bound vehicles from Military Road north are existing the left turn slip lane at excessive speed some of which may still have their left hand indicators still on.

It is noted from observations and SIDRA modelling that short term queueing does occur on Bartley Terrace due to the high peak exiting volumes particularly left turn movements and the resulting delays may lead to impatience contributing to the right turn and rear end accidents on Bartley Terrace.

The available lane width on the northern approach allowing for the rumble strip island is 4.6m which is not allows adequate for two lanes of traffic particularly when buses are present.

Given the 87% of movements from Bartley Terrace are east bound, consideration could be given to a high entry left turn slip lane from Bartley Terrace onto West Lakes Boulevard and modifying the western approach as stated above or a large roundabout to reduce delays and potential accidents.

The junction is not pedestrian friendly for pedestrians seeking to cross West Lakes Boulevard particularly given the wide unprotected dual carriageway.

In addition there is an inappropriately located pram ramp on the south side of West Lakes Boulevard which directs pedestrians into the path of right turning vehicles exiting from Bartley Terrace Refer Photo 6.



**Photo 6- Poorly located pedestrian ramps**

#### **Other local roads**

The majority of local and collector road junctions along Bartley Terrace have acceptable sight lines with the exception of the following.

Right hand sight distance from Eagle Court which is located on the inside of a bend is estimated at 50m-60m due to street trees and the road alignment. Similarly left hand sight distance from the driveway to the housing trust units located to the north of Eagle court is restricted. Refer photo 7



**Photo 7-poor left hand sight line from Housing Trust driveway**

More appropriate positioning of these direct access driveways could be addressed in any State Government urban renewal proposals for this Housing Trust land.

Left hand sight distance from Newcombe Avenue north and Varram Way is restricted due to the short vertical curve over the pedestrian underpass. Refer photos 7 & 8.



**Photo 7-Left hand sight line from Newcombe Ave north**



**Photo 8-Left hand sight lines from Varram Way**

Rear end accidents have occurred on Bartley Terrace at both these junctions where vehicles have impacted with stopped vehicles which could potentially be related to restricted vertical sight distance.

Given both roads effectively operate as sub-collector roads and have reasonable volumes in peak periods it may be prudent to widen the carriageway to provide an additional 3.0m wide back to back right turn slot over the crest however the pedestrian underpass would need to be extended.

Some of the T junctions north of Greenfield Terrace have generous radius on left turn radials which may encourage left turning vehicles to not slow down sufficiently even though the give way rule applies.

An opportunity exists to review radials as part of an upgrade to Bartley Terrace.

### **Speed Environment & Corridor Speed Reduction Traffic Control Options**

As identified in the discovery phase the 85% tile speeds along Bartley Terrace range from 53.5km/hr abutting the shopping centre to 57.5Km/h, with speeds on the straighter sections north of Lower Street and south of Varram Way being the highest.

The corridor has 17 side junctions along its 2.7Km length ranging in spacing from 55m to 340m with two protuberances 360m apart in the central road segment being the only traffic control devices to potentially effect a marginal speed reduction.

It would appear that the straight alignment limited side friction and limited provision of traffic control devices may be a contributing factor to the higher speeds encountered particularly in the southern and northern segments of the road.

The road classification and function and traffic volumes coupled with bicycle service vehicle and bus access requirements limits the type of speed reduction traffic control devices that could be effectively used along the corridor to provide a safer environment for all road users including vulnerable road users such as pedestrians and cyclists without encouraging traffic

diversions onto other roads. Accordingly schemes that narrow the carriageway and better define the traffic lanes are considered worthy of consideration.

Retaining the pedestrian refuges outside the shopping centre and at Hawkesbury Way coupled with the two pedestrian underpasses afford reasonable pedestrian crossing opportunities and pedestrian safety in areas of highest pedestrian demand.

Current research by ARRB funded by AustRoads on Best Practice speed control treatments on Urban Arterial Roads indicates that a safe speed environment for an arterial road or distributor road involving possible conflict with pedestrians or cyclists is 30Km/hr, 50Km/hr involving possible conflict with cars.

The Best practice treatments researched by ARRB and their effectiveness in corridor speed and accident reduction are summarised below.

Treatment	Speed reduction	Accident reduction	Impacts on cyclists and pedestrians
Normal roundabouts	Good reduction through junction to 30-40km/hr. Moderate mid-block reduction if closely spaced	30-76% reduction in casualty crashes at junctions	Not good for cyclists or pedestrians
Mini roundabout	Not as effective due to vehicles driving over device but effective adjacent to Activity Centres	30% crash reduction at junctions	As above
Raised intersections	10Km/hr speed reduction at junctions. Reduces speeds at junctions to < 50km/hr.	30-50% reduction in casualty accidents	Minimal if ramps 1 in 30
Central medians with turning lanes	10km/h speed reduction if kerbed. Less with a painted median	Not reported	Good for pedestrians
40km/hr speed limit	2.5Km/hr driver speed change with every 10km/hr posted speed reduction	8% reduction in casualty crashes/ 17% reduction in pedestrian casualties	Safer but still above tolerance level
Transverse rumble strips	Marginal	Not reported	Minimal

### Options

#### Linemarked right turn lanes and painted median

The carriageway width throughout is sufficient to accommodate two traffic lanes and a 3m wide line marked right turn lane at junctions and a 3m painted chevron island at selected

locations in combination with an off- road shared path on one side and could assist in better delineating the traffic and turning space on the road and affording additional pedestrian crossing opportunities.

#### Benefits

- Reasonably low cost
- Improved delineation of turning and traffic lanes
- Vehicles can cross chevron to access driveways (more suited to section north of Lower Street and abutting Neighbourhood Centre)
- Reduced hazard for drivers
- Limited lighting upgrade required

#### Dis-benefits

- Not as safe for pedestrians as drivers can travel on chevron islands
- Drivers may not slow down as much

#### **Solid median with right turn lanes at junctions**

The carriageway width throughout is sufficient to accommodate two traffic lanes and a 3m wide solid median and right turn lanes at selected junctions in combination with an off- road shared path on one side and could assist in better delineating the traffic and turning space on the road and affording additional pedestrian crossing opportunities.

#### Benefits

- Improved delineation of turning and traffic lanes
- Suitable for majority of corridor due to spacing of junctions and limited direct access
- More effective in slowing traffic
- Safer refuge for pedestrian
- Affords landscaping opportunities and hence improved streetscape/amenity

#### Dis-benefits

- Possible hazard for drivers from hitting median kerb particularly through the windy sections
- Moderate cost
- Potentially additional lighting required hence additional cost
- Not so suitable for section north of Lower Street.

#### **Roundabouts at selected junctions**

Provision of roundabouts with a mountable annulus at key collector road junctions such as Fairford Terrace, Hawkesbury Way, Lower Street, Newcombe Avenue South in conjunction with an off-road shared path could provide a marginal slowing of traffic speeds.

#### Benefits

- Reduced accidents at junctions
- Marginal reduction in corridor speed
- Slower for buses and service vehicles
- Affords landscaping opportunities and hence improved streetscape/amenity

#### Dis-benefits

- Possible hazard for drivers from hitting median kerb
- High cost and possible services impacts
- Additional lighting required hence additional cost
- Not so suitable for pedestrians and cyclists.

#### **Raised Intersection with contrasting pavement at selected junctions**

Provision of raised pavements with 1 in 12 ramps at key collector road junctions such as Fairford Terrace, Hawkesbury Way, Lower Street, Newcombe Avenue South could provide a marginal slowing of traffic speeds.

#### **Benefits**

- Reduced accidents at junctions
- Marginal reduction in corridor speed
- Affords landscaping opportunities and hence improved streetscape/amenity
- Suitable for cyclists on road and buses/ heavy vehicles

#### **Dis-benefits**

- Stop start vehicle noise from slowing and accelerating
- Moderate cost
- Additional lighting required hence additional cost
- Marginally slower for buses and service vehicles

#### **Introduce 40km/hr speed zone between Greenfield Crescent and Varram Way**

Introducing a localised 40km/hr speed zone would be a low cost road safety option for the benefit of all road users.

#### **Benefits**

- Reduced local speed and reduced vehicle damage costs
- Safer for pedestrians

#### **Dis-benefits**

- Would require other physical treatments to be more effective

#### **Contrasting Pavement Greenfield Crescent to Anglers Court**

A contrasting pavement such as block pavers or a banded pavement could be considered as a means of slowing traffic on this road segment and providing visual and audible cues to drivers and vulnerable road users of the changed road environment.

#### **Preferred Corridor Treatment**

Based on the above analysis the preferred traffic and safety treatment for each road segment is as follows:

## **Walking Facilities**

The existing 1.2m wide footpaths along both sides of Bartley Terrace are not considered adequate for the current road function classification and level of pedestrian and cycling activity and should be widened or upgraded to a minimum 1.8m width with DDA compliant

pram ramps at all junctions and carpark driveways in accordance with Table 6.1 Austroads Guide to Road Design Part 6A (2.4m on the north side between Fairford Terrace and Greenfield Crescent where pedestrian volumes are higher due to the existing retail activity and Neighbourhood Park use).

Alternatively a 3m wide continuous shared path could be installed on either verge, which could also satisfy cycling needs for both experienced and novice cyclists.

The existing paths leading down from road level to the underpass north of Eagle Court should be reviewed from a DDA perspective (alignment, grade, provision of TSCI's and landings) and a new 1.8m wide DDA compliant footpath should be provided on the west side to link with the path under the underpass and the path south of Lower Street.

The existing paths within Neighbourhood Reserve leading to the footbridge and the lake edge path also are only 1.2m wide and could be upgraded to 1.8m width to meet DDA standards and also the number of paths within the reserve are limited.

An opportunity exists to provide a 1.8m wide footpath on the south verge of Nelson Court to provide safe connectivity between the lake edge path north of the lake side dwellings and Neighbourhood Reserve.

The current poor disconnect between the 3.0m wide path running between the church and the tavern carparks and Neighbourhood Reserve could be addressed by relocating the existing pedestrian refuge outside the shopping centre 50m east along Bartley Terrace to mid-way between the church driveways and relocating Bus Stop 35B west bound 12m further west and Bus stop 35B east bound 65m east. This would also reduce walking distances from the bus stops to the refuge and to the main shopping centre entrance, and improve sight lines for vehicles exiting the shopping centre and church carparks.

Some of the footpaths and pram ramps leading to local road paths at T junctions are poorly aligned leading pedestrians into traffic lanes which should be corrected with any upgrade of Bartley Terrace. Refer Photo 9.



**Photo 9- Poorly aligned pram crossing and path**

## Cycling Facilities

There is sufficient verge width on either the western or eastern verge of Bartley Terrace south of Hawkesbury Way and the north verge of West Lakes Boulevard to provide a 3m shared path to link between the existing Hawkesbury Way shared path and the signalised pedestrian crossing at the Military Road/West Lakes Boulevard signalised intersection and on-road bike lanes on Military Road and Coast Park via Shore and Dune Courts. This could be undertaken in conjunction with localised road widening between Newcombe Avenue North and Varram Way. This could replace the existing 1.2m wide footpath.

It would also be prudent to provide on-road bicycle lanes on West Lakes Boulevard extending through to West Lakes Shopping Centre in accordance with the recommendations contained in the Active Living Plan for Cycling: Local Area Strategic Bicycle Plan Report (2008).

1.5m wide on-road marked bicycle lanes could be provided in both directions the full length of Bartley Terrace operating either at all times or during peak periods affording 3.5m traffic lanes south of Fairford Terrace and north of Lower Street, 3.2m lanes Greenfield to Lower Street if the rubble strip island is retained.

Alternatively a 3m wide shared path could be provided the entire length on one verge as the sole longitudinal bicycle facility.

It is noted that the western and eastern verges are quite wide south of Kingfisher Road > 9m and the eastern and western verge between Kingfisher Drive and Bower Road are 4.5m and 5m respectively, however the eastern verge is typically wider than the western verge.

The relocated refuge between the church driveways could provide safe cyclist access and connectivity between the housing commission area and Westford Primary School to the footbridge in Neighbourhood Reserve and the on-road bicycle lanes in Bartley Terrace via the existing off-road path.

## Kerbside Parking

### ***Shopping Centre Medical Centre Church and Tavern and Neighbourhood Reserve Precinct Demands***

There are currently 440 off- street and on-street spaces available within a 200m walking distance of the shopping centre pedestrian entrance and Neighbourhood Reserve compared to an observed peak demand of 97 space during the Saturday morning shopping peak. Prior research and customer surveys undertaken by Doug Bowers indicates that shoppers are prepared to walk up to 150m with trolleys and bags. None of the off street carpark appear to be regulated by Private parking legislation or time restricted, however seven spaces are reserved for the medical centre.

Peak demand for the church is 10am Sundays and the Tavern Saturday and Friday nights and Neighborhood Reserve Sundays which do not coincide with peak demand times for the shopping Centre and the medical centre, according there appears no warrant for increasing on street parking in this precinct.

### ***Jubilee Reserve Sports Precinct & R8 School***

Land uses at this precinct include croquet, lawn bowls, tennis, cricket and softball as well as the Club West Lakes bistro which serves meals on Friday nights and the R8 school which includes its own kiss and drop parking area accessed off Edwin Street.

It is considered that peak usage for the sporting facilities and hence peak sports parking demand would be Saturdays and Sundays whereas the peak parking demand for the school would be weekdays 8-9am and 3-4pm, which is backed up by traffic counts in Varram Way and Sanson Road.

There are 200 off-street spaces available within Jubilee Reserve and a further 106 on-street spaces on Bartley Terrace/ Hawkesbury Way and Sanson Road abutting the reserve ( 17 west side of Bartley/60 south side of Hawksbury / 29 east side of Sanson) which would appear adequate for normal usage events.

#### **West Lakes Sports Club/ Rams Baseball Club**

Land uses at this facility includes football (Semaphore Park football club) during winter, cricket and Baseball summer.

There are 59 off-street spaces available and a further 119 on-street spaces on Bartley Terrace/ Newcombe Avenue and Lambert Avenue abutting the reserve which would appear adequate for most events. If additional demand is derived from AFL and cricket games consideration could also be given to extending the existing off-street carpark along the southern side of the existing oval.

The demand for a recent RAMS Saturday morning baseball game was 27 spaces.

The parking demand for the AFL events at AAMI stadium has dissipated since the relocation of games to Adelaide oval and hence existing event parking restrictions on the south end of Bartley Terrace can be removed.

### **Pavement Upgrade**

The road pavement north of Greenfield Crescent needs rehabilitation within the next 2-3 years and geotechnical and deflectograph testing should be undertaken to inform the rehabilitation strategy for the entire length of the corridor. The balance of the pavement upgrade could be undertaken commensurate with streetscape upgrade works.

## 5. CONSULTATION

Community engagement exceeded the IAP2 model of community engagement using the “involve” level. This process encouraged discussion by those attending and assisting them work through the issues and concern to develop road sections that address community desires for Bartley Terrace for the coming 50 years.

As part of the design process, Adelaide Civil Design and Council met and communicated with numerous times during the development of the project.

To close the consultation loop an information Day was held to inform the residents of the final plans.

The consultation report is attached in the Appendix.

## 6. STREETSCAPE PLAN AND SCHEDULE

### CONCEPT ROAD DESIGN

#### Design Criteria

Bartley Terrace is to remain sign posted at 50kph with a section to be considered for 40 kph at the shopping precinct. Bartley Terrace connects into two 60 kph DPTI roads at it's extremities and connects to 50 kph roads for all side entry roads entering onto Bartley Terrace.

The proposed cross sectional design arrangements are as follows:

#### Southern segment

- Traffic lane widths – 3.15m typical
- Bicycle lane width – 1.8m
- Parallel parking bay – 2.1m
  - o Safety zone within bicycle lane next to parallel parking - 400mm minimum
- Footpath width
  - o Combined with shared path - 2.0m minimum
- Protected right turn lane widths – 3.0m
- Indented Bus bays
  - o 900mm indent

#### Northern segment

- Traffic lane widths – 3.1m typical
- Bicycle lane width – 1.8m
- Central rumble strip – 0.8m
- Footpath width
  - o Combined with shared path - 2.0m minimum
- Protected right turn lane widths – 3.0m
- Indented Bus bays
  - o 900mm indent

#### Shopping precinct

- Traffic lane widths – 3.15m typical
- 1.8m bicycle lanes both sides
- Safety zone next to parallel parking - 400mm minimum
- Kerb type – Council standard kerb and gutter to match existing
- Footpath width
  - o Combined with shared path
  - o 2.0m minimum
- Protected right turn lane widths – 3.0m
- Indented Bus bays
  - o 900mm indent
- Parallel parking bays south side – 2.1m

## Road Alignment

### Horizontal Alignment

#### General

In general the Bartley Terrace concept consists of a single lane two way carriageway with full time on-road bicycle lanes.

It is proposed for the installation of indented parallel parking near the sporting precinct and shopping precinct. Protected right hand turns are to be provided at key locations.

#### Southern segment

For the section south of Anglers Court and north of Lower Street the existing 9.9m carriageway width and alignment and kerb & gutter will remain comprising 2 x 1.8m bicycle lanes plus 2 x 3.15m traffic lanes, with the exception of localised widening at junctions and indented parking and bus stops.

#### Shopping precinct

For the section between Anglers Court and Greenfield Crescent the carriageway alignment will be modified as outlined below.

At the shopping precinct the Bartley Terrace concept is proposed for a 40kph section with a single lane two way carriageway with 1.8m wide bicycle lanes on both sides and indented parallel parking on the south side only.

The removal of kerbside parking on the north side will remove the current sight distance constraints at driveway exits caused by occasional parked vehicles.

It is proposed for the installation of two mini roundabouts, one at each end of the precinct. This will define the 40 kph zone. The provision of roundabouts at the Fairford Terrace and Greenfield Crescent junctions 340m apart would have the following benefits and dis-benefits for the this segment of Bartley Terrace:

#### Benefits

- Reduces traffic speeds to 30-35Km/hr at the junctions-less likelihood of casualty accidents;
- Reduces right angle accidents;
- Provides greater clarity on intentions of turning vehicles;
- Provides a gateway to the Shopping Centre/Tavern precinct;
- Provides greater awareness of drivers to cyclists at the entry to the roundabout;
- When in combination with the pedestrian refuge, parking on the east side bicycled lanes and driveway entrances to the shopping centre church and tavern and contrasting pavement, has the potential to create the impression of a shared road space consistent with the objectives of a Bicycle Boulevard;
- Reduced delays for right turning vehicles exiting Fairford Tce and Greenfield Cres.

#### Dis-Benefits

- Expensive to construct depending on size of roundabout and services impacts;
- Not bicycle friendly due to squeeze point but reduces speeds to a level that cyclists can survive a fatality;
- Slight inconvenience to buses and service vehicles;

## Northern Segment

For the section between Greenfield Crescent and Lower Street the carriageway will be widened to 10.6m comprising 2 x 1.8m bicycle lanes plus two x 3.1m traffic lanes and a 0.8m wide central rumble strip median or solid concrete median.

The widening would be undertaken equally about the existing centreline to allow replacement of the existing kerb & gutter in conjunction with the pavement upgrade required along this section.

## Vertical Alignment

The existing vertical alignment of the carriageway pavement surface was not altered in the design except where widening is undertaken.

## Pedestrians

Footpaths will be converted to wider shared paths to cater for pedestrians along both sides of Bartley Terrace. The addition of a shared path is proposed full length both sides.

Improved pedestrian crossing points have been provided along Bartley Terrace.

## Cyclists

Currently there are no formal cycle lanes along this length of Bartley Terrace.

The design proposes 1.8m wide full time cycle lanes for the length of the project to comply with the DPTI publication Greenways and Bicycle Boulevards-Performance Measures-11 May 2015 for roads carrying > 5000vpd and the Austroads Publication Cycling Aspects of Austroads Guides AP-88-14. This is also consistent with recommendations provided by the Bicycle Institute of South Australia (BISA).

Where the proposed cycle lane is adjacent to parallel car parking a minimum 400mm safety zone has been provided to allow manoeuvring around potential car door openings in accordance with AP-88-14.

## Car parking

Currently parallel parking is permitted along the majority of Bartley Terrace except for the central segment between Greenfield Crescent and Lower Street and between Varram Way and Newcombe Ave, with the peak on-street demand areas typically confined to the shopping centre and sporting precinct.

### **Indented parking**

The concept design proposes indented parallel parking on the south side along the length of the shopping precinct and on the west side abutting the sporting precinct.

It is proposed to provide a 400mm safety zone along side any indented parallel car parking. This is to allow additional space for cyclists including to reduce the clash with potential car door openings.

### Off road parking options – sports precinct

Due to the installation of full time cycle lanes there is an approximated loss of 66 on road car parks near the sporting precinct. A review has shown that the sporting complexes who generate the parking demand can accommodate in excess of these numbers by the provision of parking off road. They provide easy access parking options. See figure below.



Figure - Off road parking options – sports precinct

## Key intersection higher level concepts

Higher level detail of the following key intersections to allow possible detailed design and construction in 2015/16:

- Intersection of Bartley Terrace with West Lakes Boulevard
- Intersection of Bartley Terrace with Fairford Terrace
- Shared use (walking and cycling) path, linking to Hawkesbury Way with West Lakes Boulevard, and ultimately Military Road and Coast Park.

## Side road exit requirements

The design vehicles for entry exit of the side roads off of Bartley Terrace is as follows

- Design vehicle 12.5m allowed for at West Lakes Boulevard, Bower Road and Fairford Terrace
- Design vehicle to be 9.9m garbage truck for all other (smaller) side streets

## Traffic Control

A concept traffic control layout for has been designed to AS1742 and relevant Council standards and guidelines. The layout includes line marking and regulatory and warning signage. Excluded on the plans for this submission is the directional signage and speed control signage.

## Construction staging

The concept has been designed as a master plan document that could be progressively implemented over time. Construction staging is proposed over a long period and can be designed to align with Council's financial capacity, asset renewal plans and external funding opportunities. Priority works highlighted are shown below

### **Priority work - road reconstruction**

The pavement in the northern segment between Greenfield Crescent and Lower Street requires reconstruction immediately. Based on this the opportunistic widening of the carriageway is recommended for this section of road as a priority

### **Priority work - Blackspot projects**

The project has identified to Blackspot projects at the following Intersections

- West Lakes Boulevard
- Bower Road

These projects should be submitted for Blackspot funding and implemented as priorities.

## Road Safety Audit

An initial Network Road Safety audit and Staged 5 junction road audit was undertaken along Bartley Terrace by Doug Bowers an Accredited Road Safety Auditor on the afternoon of 21 January 2015 and morning of 14 February 2015. The findings are presented in the earlier part of the report.

No road safety audit was planned to be completed at the completion of the concept design stage.

### **Summary**

The Bartley Terrace streetscape concept design has been designed in accordance with Council requirements and will provide an effective arrangement to deliver the project goals.

## **7. LIGHTING**

### **Concept lighting design**

A concept lighting design has been prepared for the streetscape concept plan. It is proposed to provide additional lighting (in accordance with AS1158) at the refuges and roundabouts adjacent:

- Varram Way
- Hawkesbury Way
- Fairford Terrace including the roundabout
- Pedestrian refuge opposite the Hotel
- Avenues of trees for public safety
- Greenfield Crescent roundabout
- Lower Street
- Diverging and merging lanes

The design has been provided on the CAD drawings

## **8. SERVICES**

Existing Services were not located as part of the project. The Council survey highlighted a number of services which could be identified above the ground.

## **9. GEOTECHNICAL**

No geotechnical testing or analysis was undertaken as part of the project.

## **10. PAVEMENT DESIGN**

Road pavement has not been designed as part of the project.

## **11. STORMWATER DESIGN**

The scope of the project did not require stormwater analysis.

## **12. LANDSCAPING DESIGN**

The landscape design has not been designed as part of the project. The Council standard streetscape plan for Bartley Terrace is to be applied for any landscape works. This design represents the community desires and helps deliver the project aims.

## 13. STAGING SCHEDULE

### Prioritise and stage works

The staging plan and priorities were based on the following

- Safety
- Pavement upgrade requirements as per Council Asset Management Plan
- Ease of construction
- Continuity
- Separability
- External funding opportunities
  - Blackspot funding
  - Open space
  - Cycling fund
- Assume build over many years
- Early impact (bang for your buck)
  - To allow continued community support
  - To provide

### Possible program

portion	cost	Importance based on safety	Importance based on pavement upgrade	External funding	Ranking
Intersections					
- West Lakes Boulevard	high	Very high		Yes	Highest
- Bower Road	high	Very high		Yes	Highest
- Hawkesbury	high	high			Highest
- Protected right turns	medium	high			High
Change carriageway					
- Indented parking - Needs to occur before linemarking	medium	medium			High
- Linemarking Full length	low	medium			High
- Lighting					High
- Protected right turns	medium	medium			High

- Widening and road reconstruction (Greenfield-Lower)	medium	medium	Very high		Highest
Verges					
- Shared path	medium	low			Medium
- Path lighting	medium	low			Medium
- landscaping		low		Internal	Medium
- pedestrian crossings	low	medium			Medium
- bridge widening	medium	medium			Medium
Sports precinct					
- off road parking in conjunction with road cycle lanes	Medium	Medium			High
- alternative school parking	Medium	low			High
Shopping precinct					
- Roundabouts	medium	medium			High
- New kerb and WSUD landscape	medium	medium			Medium
- Reserve upgrade and facilities	high	medium		Possible SG funding	Low
- GPT area - treatment	high	medium		Possible SG funding	Low
- resurface	medium	low			Low
Placemaking	medium	low			low

## Attachment A – Traffic Impact Statement

The streetscape concept plan outlined in this report and Appendix B accords with relevant Australian Standards and AustRoads publications.

Road safety concerns and hazards identified in the network and stage 5 audits have been addressed in the design.

The proposed carriageway, traffic control and parking configuration junction upgrades and provision for cyclists and pedestrians affords a safer road environment for all road users and caters for current and future transport network demands to the year 2036.

## Attachment B – Consultation Report

# **Bartley Terrace Streetscape project**

## **Community Engagement Report – Final**

Concepts of Change

November, 2015

Prepared for:

Adelaide Civil Design  
PO Box 44  
Henley Beach SA 5022

and

City of Charles Sturt  
72 Woodville Road  
Woodville SA 5011

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## Executive Summary

### Background

The City of Charles Sturt identified a need to upgrade the traffic, parking and pedestrian links along Bartley Terrace in West Lakes. Council's plans showed that some of the components of the streetscape will need renewal with the next 5 years with the roadway needing resealing shortly. In addition there had been a number of safety issues that needed attention – drivers speeding, parking availability and obstruction of travelling vehicles, cyclist safety and few street crossing points and poor street lighting. Council therefore commissioned a Concept Plan for the next 20 years with an associated community engagement program.

The overarching aim of the project was to increase road safety.

### Process

The project began with getting feedback from people in the area surrounding Bartley Terrace – in the first instance by recruiting about 10 people to take part in two workshops/focus groups. These workshops allowed participants to view maps of the street and make unprompted comments about their perception of the current state of the Terrace. The groups represented both residents and businesses/organisations in the Shopping Precinct and operating along Bartley Terrace.

A Concept Plan was then developed by the consulting team incorporating this feedback as well as the requirements specified by the Council.

As part of the consultation phase this was published on the YourSay part of Council's website. At the same time letters were sent to just over 2,800 residents and owners in the surrounding area alerting them to the Open Day to be held at the West Lakes Church on Saturday May 9 from 10am to 2pm.

The Open Day was attended by about 150 interested residents and extensive feedback catalogued and considered in a subsequent update of the Concept Plans.

During the project it was decided that, in order to close the loop, there would be an Information Day to provide feedback to the community after the input from the Open Day and other technical considerations had been included into the Concept Plans. Letters were sent to residents and owners in the surrounding area and the Information Day took place again in the West Lakes Church on Saturday October 31 from 10am to 2pm.

## 1. Background

The City of Charles Sturt identified a need to upgrade the traffic, parking and pedestrian links along Bartley Terrace in West Lakes. Council's plans showed that some of the components of the streetscape will need renewal with the next 5 years with the roadway needing resealing shortly. In addition there had been a number of safety issues that needed attention – drivers speeding, parking availability and obstruction of travelling vehicles, cyclist safety and few street crossing points and poor street lighting.

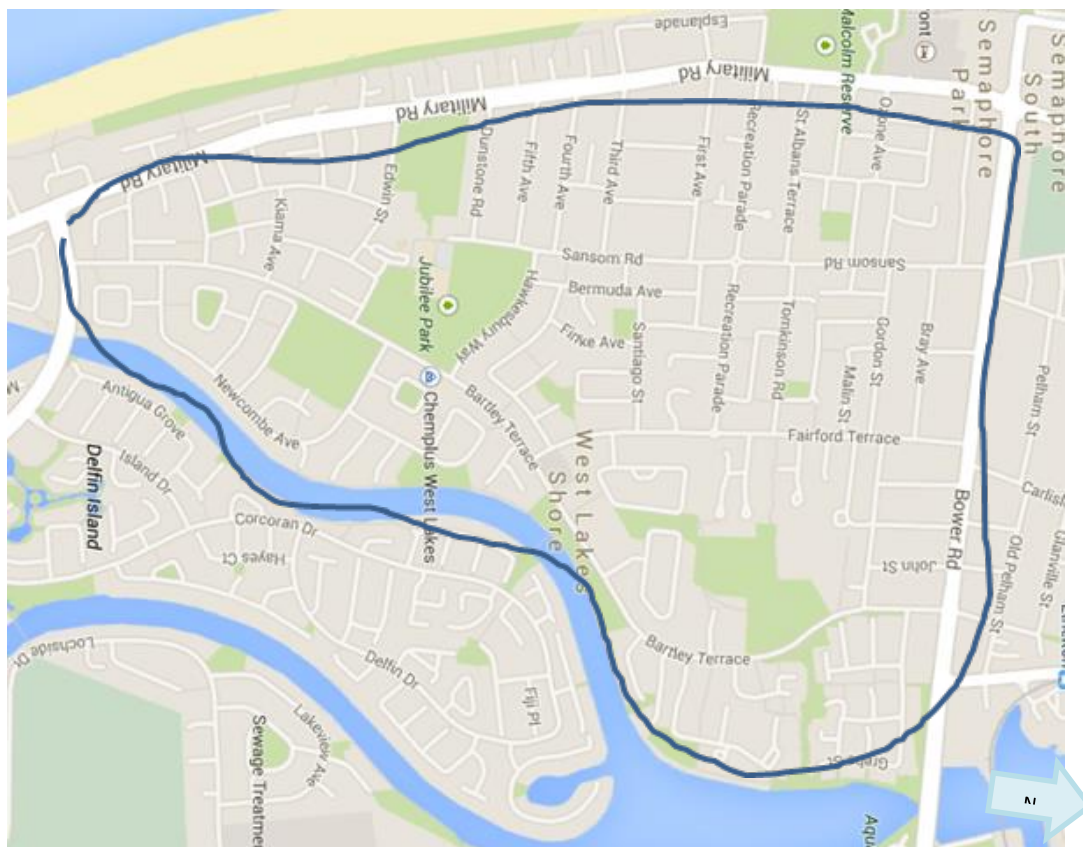
Council was keen to have a robust level of consultation in the preparation of a streetscape plan to addresses these issues. Concepts of Change's Liz Ampt was responsible for most of the community engagement component of the work. This document reports on the way in which people in the community participated in assisting the concept design.

### 1.1 Aims of the project

The aim of this component of the project was to engage with the community in a way that involved understanding their responses – at the same time informing them in more detail of the background to the proposed streetscape changes.

### 1.2 Consultation area

The consultation area is shown below. It covered about 2800 addresses of residents and absent owners.



■ **Figure 1: Nominal consultation area**

It extended from Bower Road in the north along the lake to West Lakes Drive and along Military Road.

## 2. Methodology

There were six key steps to the consultation process – described here in chronological order:

1. A discovery phase of understanding the local residents and businesses and gathering a local reference group of champions and leaders by spending time in the community.
2. Two workshops/focus groups with champions and leaders – one mostly businesses (from the Bartley Terrace Shopping Centre) and organisations (e.g. schools and clubs) to gather ideas
3. Offer to the public to contribute through Charles Sturt City Council's Your Say website
4. Hold an Open Day at which the Concept Plans could be viewed and discussed
5. After revisions to the Plans, hold another Open Day
6. Presentation of the final concept design

Each is documented below.

### 2.1 Discovery Phase: gathering a local reference group

The approach to gathering the local group of champions was for Liz Ampt to spend about 6 hours on each of two days (Tuesday February 3<sup>rd</sup> and Sunday February 8<sup>th</sup>) along and in streets adjoining Bartley Terrace and having conversations with people using the area.

The format of the conversations was informal, but always had the following elements:

- Asking them what it's like to live/work/visit this area?
- Establishing the way they use the area and the people networks they have in the area
- Discussing their thoughts on Bartley Terrace – what they liked and didn't like
- When relevant (i.e. they were considered to be a potential champion) they were invited to attend a workshop later in the month of February to contribute their ideas to the planning of the design.

Using Malcolm Gladwell's *Tipping Point* philosophy<sup>1</sup>, we were able to find 8-10 key people in each of businesses and organisations invite them to a focus group/ workshop as described below.

At the end of this time we had two groups of champions with the following characteristics (see Appendix B):

Male *	Part owner of Shopping Centre business, lives in area
Male*	Manager Shopping Centre business, lived in area all his life
Female*	Church Leader, West Lakes Uniting Church
Female*	West Lakes Club representative, lives in area
Male*	Manager Shopping Centre business; also responsible for Henley/Grange baseball club
Female*	West Lakes Shore Kindergarten, lives on Bartley Terrace
Female*	Bartley Medical Centre
Male	Bartley Tavern, lives in area

■ **Table 1 Champions with Businesses/Organisation Focus**

\*Attended workshop

<sup>1</sup> Gladwell, M. (2000) *The Tipping Point* identifies the key people who can support and bring about change as connectors (those people who 'know everyone'), mavens (those people who know about technical things and are willing to share) and salespeople (those people who people respect and believe). He argues (and gives evidence) that if these 2-3% of the population are involved in promoting a project, the reasons for its existence will be promoted widely and supported by word of mouth.

Female*	Lives in the Housing Trust area
Female*	Lives in Fifth Avenue
Male *	Lives in Fairford
Female*	Lives in area, West Lake Shores
Male*	Lives in area, Keppel Grove
Male*	Lives and works in area, Manly Cct, Bartley Terrace
Male*	Lives in area, Thiele Cresc
Male*	Lives in are, Ashburton
Male*	Lives and works in area, Thiele Cresc and Edwin Street

■ **Table 2 Champions with a Residents' Focus**

\*Attended workshop

Already at this stage some issues were raised including 'it looks like a 60k street' and the danger and uncertainty experienced at the intersection of Fairford and Bartley Terrace. All issues and responses are summarised in Appendix D.

## 2.2 Workshops/focus groups

The workshops took place as follows:

West Lakes Uniting Church, Bartley Terrace:      Focus on businesses/organisations  
 Monday February 16, 2015, 3-4.30pm

Focus on residents  
 Wednesday February 18, 2015: 7-8.30pm

The workshops were attended by Michael Blythe of the City of Charles Sturt and Charles Sheffield from the Project Team as well as Liz Ampt, Facilitator. The format was highly interactive, designed to encourage thoughtful participation based on the experiences of participants and their families, friends and colleagues. The Discussion Guide is shown in Appendix A and details of the discussions are provided in Section 2.2.1. The following steps were loosely followed led by the facilitator.

**Written task:** Before the introductions people were asked to 'describe the way you feel about the area I'm pointing to on the map in a few sentences or dot points'. The aim of this task was to let people articulate feelings and ideas that they might feel constrained to express once others had communicated their views.

**Introductions:** Each person gave a short introduction of themselves and their situation and a description of how they use the area along Bartley Terrace.

**What's it like to live, work or play here?** Next, participants were asked to refer to their written notes or add other ideas in an interactive short discussion/conversation. The aim was to gain ideas on people's values and expectations about the area. The project team jotted key points on a board so that they could be used later in the discussion.

**Introducing the issues of Bartley Terrace:** Charles Sheffield described the role of Bartley Terrace as a movement channel at the same time as being a place for people. He also noted the opportunity for the community to shape aspects of change. Michael Blythe added the importance of the result being part of a long term plan – and stressed the staging nature of the plan.

**Understanding your role in the workshop:** Getting each person to think about their friends, neighbours, customers etc that they represent – and asking them to think of these people as their ‘constituents’ in the next part of the workshop.

**Ideas for Bartley Terrace:** The next phase was for all participants to look at the detailed maps provided to work out key issues and present ideas for change. Topics included:

- Key activities on Bartley Terrace (how do participants ‘group’ different areas along the road?)
- What is stopping you (and people you know) using it as much as they would like?
- Innovative ways of change, e.g. integrating cars/bikes/people

People were encouraged to sketch, draw, mark up maps and be as innovative as possible.

There was also a **concluding exercise** in which people were encouraged to recognise that the planning process needs to take ideas into account – but also regulations etc. (i.e. not all ideas will be able to be used – but the essence of their place will be included).

**Next steps:** Finally, each person was asked to take the messages from the workshop to their friends/neighbours etc. We told them that there would be an Open Day in the next weeks and that we would send them a personal email or phone them prior to the Day even though they would receive an invitation in the mail.

## *2.2.1 Key feedback from the workshops*

This section amalgamates the thoughts and ideas of people from both the residents’ and businesses/organisations’ workshops.

### **Initial thoughts written on paper**

- Important road/thoroughfare – tension: some thought too slow (not residential) some thought too fast and dangerous for crossing
- Important shopping facilities – friendly atmosphere created here
- Important recreation facilities – school, SMOSH, soccer, tennis, school; yet creates congestion and parking problems
- Dangerous for turning in many places (especially RH turns)
- Easy for kids to get to ovals/schools safely
- Paths cracked and not easy to walk/push prams-walkers on
- Tired/untidy – e.g. fences, paths, planting needs improving

### **Key issues and suggested solutions**

There were many issues raised and also many suggested solutions – sometimes innovative, sometimes conflicting. They are summarised here and described in detail in **Appendix D** along with the response by the Council.

## 2.3 Offer public to contribute to YourSay website

On Monday 20<sup>th</sup> April the concept plans were put onto the YourSay website for comment on specially allocated Bartley Terrace link.

Several emails were received in response. In addition several people used this website to look at or download the plans before the Open Day and came to the Day with detailed comments based on the site.

## 2.4 Hold an Open Day to display and explain Concept Plans

The initial Open Day was held

Saturday May 9<sup>th</sup>, 10-2pm  
West Lakes United Church, Bartley Terrace

All households in the target area (Figure 1) were sent a leaflet on April 17 (for receipt on April 20), inviting them to the Open Day (see Appendix C)

The format was as follows:

- 3 versions of the Concept Plan were presented in different positions (7 x A0 maps on a 7 m length of wall), 7 x A1 maps on a low table, and 7 x A3 sheets on a pin up board) to allow people to choose their way of reviewing the plans
- A Powerpoint presentation of the planting strategy and images of examples was planting available for viewing
- Participants were encouraged to ask questions and to note their comments on sticky notes or on the plans
- Participants could also write comments on paper provided at various places in the room

One hundred and fifty three (153) members of the public participated during the course of the day and questions were answered by Michael Blythe and Kath Mardon from the Council and Charles Sheffield, Bill Loechel, and Liz Ampt on behalf of the consultant. The large numbers were undoubtedly assisted by the champions from workshops telling others about it (particularly those in the shopping centre who could reach the general public) as well as the numerous banners placed by City of Charles Sturt.

Of interest was the fact that many participants had lived in the area upwards of 20 years and had lived through many changes – from the original 60kph thoroughfare with the excitement of a new development, through the changes to 50kph and a more vibrant shopping centre, but now tired look of the street. Again many commented that **the look of the street did not match the feel of the community.**

The views of the participants are summarised below and in detail in Appendix D moving along the street 'geographically' from north.

### 1. **Parking**

- Sport-affected part of Bartley has insufficient parking for the Saturday sports. Many solutions offered including parking on one side only, creation of parking spaces in oval
- Opposite Bartley Tavern – strong support for 45 degrees
- Many people favoured indented parking where possible – for safety (also for bicycles)

## **2. Safety**

- Bartley/West Lakes Boulevard tricky. Suggestions - dedicated turn lanes; roundabout; lights.
- Road appears faster than 50k – suggestions included more 40k zones (e.g. near sport area), use of bike lanes to make it appear slower, and more 50k signs
- Fairford Rd intersection – as previously - because people heading north indicate for the shopping centre before reaching Fairford. Numerous ideas from roundabouts to dedicated LHT lane.
- Some other perceived dangerous intersections were mentioned (e.g. Varrum Way)
- Personal safety due to overhanging bushes at specific points was noted.

## **3. Reserve**

- Generally felt to be underutilised and not aesthetically pleasing. There were many suggestions including facilities (e.g. toilet, barbeque, benches, family area, bins, playground etc.) and activities (e.g. pop-up events) and landscaping.

## **4. Foodland area**

- Some specific issues such as the tension between the bus stop and the post box were mentioned.
- Some felt that the pedestrian crossing was dangerous and suggested various solutions
- 40k zone – comments ranged from dislike to suggesting that it should start before Fairford

## **5. Aesthetics**

- Several areas for landscaping were highlighted – some people drawing specific diagrams and noting specific trees.
- More lighting was mentioned by many people for aesthetics and safety
- There was a strong feeling that the fences near the southern end of the street were unsightly with suggestions from removal to landscaping.

## **6. Ease of movement**

- Some felt that the uneven footpaths are dangerous for gophers, pedestrians and prams
- Several suggested a cycle lane beside the footpath and a footpath over the northern tunnel

## **7. Bicycle issues**

- Some felt that the lanes on the road meant that bikes would come too close to cars
- Many could not see or imagine the lanes on the road from the Concept Plan

## **8. Bus stops and bays**

- Many people mentioned a preference for bus bays all along the road

## **9. General comments**

- Some people asked the question of how the success of the project would be measured.
- Several suggested that Council's representatives from Open Space should also have been there.

All issues and responses are summarised in detail in Appendix D.

## **2.5 Prepare a presentation of the recommendations for detailed design**

This was based on the consultation feedback and was presented to Council on Tuesday June 2.

## 2.6 Information Day

The Information Day was held

Saturday October 31st, 10-2pm  
West Lakes United Church, Bartley Terrace

All households in the target area (Figure 1) were sent a leaflet inviting them to the Information Day (see Appendix E)

The format was as follows:

- 3 versions of the Concept Plan were presented in different positions (8 x A0 maps on a 7 m length of wall) ,8x A1 maps on a low table, and 8 x A3 sheets on a pin up board) to allow people to choose their way of reviewing the plans
- Although it was primarily an information session, people were encouraged to write any thoughts or comments on paper provided at various places in the room

One hundred and fourteen (114) members of the public participated during the course of the day and questions were answered by Michael Blythe and Kath Mardon from the Council and Charles Sheffield, Bill Loechel, and Liz Ampt on behalf of the consultant.

The relevant reactions of the participants are summarised below. *Note that some comments related to areas that Council does not have jurisdiction over.*

### 1. Positive Comments

Overall the comments gave confidence that the implementation of the plans will be well accepted with a substantial number of people giving positive comments either verbally or written. We have summarised the written ones here.

- Love the idea – lots of planning. Well thought out, well explained. I came with some doubt but walked away very pleased. I love this area but was always so worried about driving down Bartley Terrace on weekends. Thanks for the good work!
- Good that the 50k is remaining
- Congratulations – you guys did good!
- I like the bike paths, relocation of PO Box and bus stops.
- Indenting the bus stops is good as motorists can pass a stopped bus
- Leaving the car parks on Bartley opposite the pub is also good.
- *Some suggestions, then 'Overall however – well done! This is a wonderful plan and we're very pleased to be engaged.'*
- Overall, well done and I look forward to its implementation
- The roundabouts are an excellent idea
- Moving the crossing in front of Foodland to in front of the pub/church will be so much better
- Seems all good to us – some good and necessary changes
- Very positive progress in the planning. All issues that we were aware of have been addressed.
- Round about on Fairford/Greenfield good – about time!
- Pedestrian crossings on Bartley Terrace are good – as long as they are well signed.

## 2. Negative Comments

- 40 kph not required – a cash cow. The 1 death was caused by excessive speed so this won't help
- The Bartley Terrace strip next to Hanson Road and Crowle Grove has yellow dividing bumps. When trucks hit these bumps it makes a loud noise and is affecting our health
- Would be good to have a build-up of soil along our strip (near Crowle Gr) as it would help with the noise
- Need more lighting as it is fairly dim
- Consider diverting the bike tracks onto the footpath at the roundabouts – rather than just ending them.

## 3. Other suggestions

- There were some further/ repeated suggestions to those from the previous consultations for use of the park opposite Foodland:
  - o gazebos for shade
  - o a pop-up coffee shop
  - o a communal help-yourself herb garden or plot
  - o playground, barbeque, fencing
- Before the roundabouts at Fairford go in, there should be an impact study of cars turning into Fairford Terrace. I think it is a great idea to put a roundabout at the end of Fairford, but traffic needs to be slowed down in Fairford.
- Please consider opening Military Road both ways. Also suggest having a pedestrian activated crossing here.
- Traffic lights would be good at Military Road

## 2.7 Conclusion and recommendations

Community engagement exceeded the IAP2 model of community engagement using the “involve” level. This process encouraged discussion by those attending and assisting them work through the issues and concern to develop road sections that address community desires for Bartley Terrace for the coming 50 years.

As part of the design process, Adelaide Civil Design and Council met and communicated with numerous times during the development of the project.

In response to the feedback from the workshops and the first Open Day, Council (in coordination with ACD) addressed the comments. These are shown in detail in Appendix D.

The response to the Information Session was very positive and gave confidence that the final concept plans would be able to be implemented over time with minimum pushback from the community.

## **Appendix A**

### **Discussion Guide for Workshops**

## Format for Workshops

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### Aim

The aim of this workshop is to gather valuable information from businesses on perceptions, benefits and barriers likely changes to Bartley Terrace. The workshop also provides an opportunity to explain the goals of the proposed streetscape upgrade.

### Discussion Guide

#### 1 Before introductions

On arrival – take/write first name on nametag, fill in sheet with name, phone and email.

Written task: *"describe the way you feel about your business/organisation on Bartley Terrace"* – 5 mins

#### 2 Introductions – 10 mins

Identify business/organisation types. Get 1-2 comments for each participant from the written task for each. *Reason: So that we understand the perspectives people are bringing to the concept design.*

#### 3 Initial thoughts on Bartley Terrace – 10 mins

- Who uses it, why my business/organisation is there. Write notes on board.

#### 4 Explain reasons for change – 5 minutes

*Charles? – 5 minutes. E.g. to improve safety, make it feel more like a place/precinct for businesses and community, encourage community to use it more (businesses, cycling, walking, interactions etc.)*

#### 5 Spend time looking at maps - 25 minutes

Use yellow post-it notes to write positives, negatives and new ideas.

#### 6 Discussion – 20 minutes

Allow for time to mark on plans. Record comments and ideas on butcher's paper.

#### 7 Next steps

*Charles/Mike*

*Remind them to write name, email, phone for ongoing information*

**Need:** 1 Sheets for completing name/email/phone. Pens  
Labels to create name tags  
A4 sheets – say 15 – for writing notes on what they think about the area  
Maps – at least 1 x A1 plus 3 x A3  
Pencils, rubbers for marking up maps  
Check there is butcher's paper + pens + Post-It notes

## **Appendix B**

### **Participants at Initial Workshops**

Part owner of Shopping Centre Coffee Shop, lives in area *
Manager West Lakes Chemplus, lived in area all his life *
Church Leader, West Lakes Uniting Church *
West Lakes Club President, lives in area *
Manager, Foodland; also responsible for Henley & Grange baseball club *
West Lakes Shore Kindergarten, lives on Bartley Terrace *
Bartley Medical Centre*
Manager Bartley Tavern, lives in area

■ **Table 3 Champions with Businesses/Organisation Focus**

\*Attended workshop

Lives in the Housing Trust area *
Lives in Fifth Avenue *
Lives in Fairford *
Lives in area, West Lake Shores *
Lives in area, Keppel Grove *
Lives and works in area, Manly Cct, Bartley Terrace *
Lives in area, Thiele Cres
Lives in are, Ashburton *
Lives and works in area, Thiele Cresc and Edwin Street *

■ **Table 4 Champions with a Residents' Focus**

\*Attended workshop

## **Appendix C**

### **Invitation to the Community**

# Have your Say!



## Bartley Terrace Streetscape Concept Plan Community Open Day

A draft Concept Plan for the Bartley Terrace Streetscape upgrade has been prepared with input from locals and the consulting team and we want to hear your comments!

**Date:** Saturday 9 May 2015

**Time:** Drop in anytime  
Between 10.00am and 2.00pm

**Where:** West Lakes Church  
Bartley Terrace, West Lakes

*Car parking and entry from Tavern side.*



The City of Charles Sturt has developed a Concept Plan for the Bartley Terrace Streetscape upgrade together with input from local residents and businesses.

The project is a road safety initiative and the City of Charles Sturt considers it vital that an upgrade plan is prepared to address road safety concerns along the length of the road. It is planned to become a master plan that will be delivered over the next 20 years, with the highest priorities designated for quicker action. In particular there have been issues of

- drivers speeding
- parking availability
- parking obstruction of travelling vehicles
- blind spots
- cyclist safety
- pedestrian safety
- few street crossing points
- noise
- poor street lighting

For this reason a consultant has worked with the Council to develop a draft Concept Plan.

## **We want to hear your thoughts on the Concept Plan for Bartley Terrace!**

There is also an opportunity to see more information and to ask questions and get answers through Council's website - [www.yoursaycharlessturt.com.au](http://www.yoursaycharlessturt.com.au)

Drop in at the Community Open Day to talk to staff involved in the plan and locals who have provided their ideas and share your feedback on the Bartley Terrace Streetscape upgrade.

## **Bartley Terrace Streetscape Concept Plan Community Open Day**

DATE: Saturday 9 May 2015

TIME: Drop in anytime  
Between 10.00am and 2.00pm

WHERE: West Lakes Church  
Bartley Terrace, West Lakes

*Car parking and entry from Tavern side.*

For any enquires please contact Liz Ampt – 0438 554 197 or email [lizampt@conceptsofchange.com.au](mailto:lizampt@conceptsofchange.com.au) or Kath Mardon - 8408 1270 or email [kmardon@charlessturt.sa.gov.au](mailto:kmardon@charlessturt.sa.gov.au)



## **Appendix D**

### **Summary of Issues raised throughout the Community Consultation**

Item	Community Comment	Consultant Response	Charles Sturt Response
<b>Community and business feedback – letter drop – March 2015</b>			
3.1	No feedback		
<b>YourSay website April 20 – May 15, 2015</b>			
4.1	<b>Pedestrian Refuge</b> South of BT and Fairford unnecessary and adds to danger. Also sent photo	Addressed 5.30 – 5.35	
<b>Community and Open Day – May 9, 2015</b>			
<b>Map 7</b>			
5.1	<b>Bower Rd intersection</b>  Large 50k sign  Widen lane for L and RHT lanes at end of BT – dangerous if bus there	Problem: people travelling >50k. Solution: street treatments to show it is as 50k street, possible entrance statement, solid central median, extra line-marking. Streetscape works could also assist.  Out of scope. Possible black spot funded project.	Ask Doug if we can put in 50k sign on other side
5.2	<b>Btwn Bower &amp; Kingfisher</b>  Footpaths particularly bad here	To be improved through maintenance in the short term. To be widened and upgraded as part of Master Plan (full length)	
5.3	<b>Lower St. treatment</b>  Liked A lot of mature trees removed? Little opportunity for landscaping	Designed to optimise areas for landscaping and use CCS landscaping plan	
5.4	<b>Sth of Lower St</b>  Indented parking (marked on map)	Consider indented parking near reserve	Check line of sight
5.5	<b>Overpass</b>  Pavement/path over bridge	As per Concept Plan	
<b>Map 6</b>			
5.6	<b>Landscape potential at F-F</b>  Should be – as drawn on map	Limited opportunities due to width of verge, but will show on new Concept Plan	
<b>Map 5</b>			
5.7	<b>Hansen St</b>  Is actually Hansen Court	Will change on Concept Plan	
5.8	<b>Hansen Ct end of park</b>  Not used now – needs landscaping Improve watering Could be a playground Family area/seats/bins	Recommend a Master Plan to be developed to consider – Path layout (DDA access) Furniture (seats, bins, shelter, barbeque) Toilet Landscaping GPT – more transparent edges, less intrusive More lighting Placemaking (e.g. themed banners, colour scheme, artwork, entry statement, community signs; link residents to shops, reserve, Delfin Island and lake)	
5.9	<b>GPTrap on 5</b>  Colourbond should be removed +black fence like Bower/Bartley. Shrubs inside fence to screen.	Consider a part of Reserve Master Plan to make this area more transparent and link the 2 reserves	
5.10	<b>Reserve in General</b>  Playground with trees Coffee shop/pop up coffee shop Barbeque facilities, bins More seating	Consider as part of Reserve Master Plan	

## Bartley Terrace Streetscape – Input from Community Engagement

20/5/15

Item	Community Comment	Consultant Response	Charles Sturt Response
<b>Community and business walk around – 2 and 8 February 2015</b>			
1.1 BT in general	Great that something is being done	Support noted	
1.2 Fairford/BT intersection	Danger because people indicate for shopping centre early	Addressed in 5.30 – 5.35	
1.3 North end	Don't forget it	Improvements addressed 5.1-5.5	
1.4 School and childcare's participation	Keen to participate in change	Future opportunity for Council	
<b>Community and business workshops – 16 February 2015</b>			
2.1 <b>Parking</b> – sport affected area	Only a Saturday problem – yet most solutions permanent	Addressed 5.43	
2.1	Use football area which is dirt covered and focus on underpass	Addressed 5.48	
2.3	Maybe parking only 1 side	Addressed 5.46	
2.4 <b>Safety</b> – BT/WLB	RHT and LHT into WB tricky. - Suggest widening BT for LHT - Lights	Addressed 5.68-5.73	
2.5 - RHT off BT in general	Fairford (exacerbated by bus stop location) - Suggested roundabout, signage, dedicated LHT to Fairford Hawkesbury/Newcombe also roundabouts - Protected RHT for these 2	Addressed 5.30-5.35  Addressed 5.39/5.66	
2.6 - Shopping Centre	Move car park entry north Move bus and PO box which clash Put patterned paving in front to slow drivers	Addressed 5.16-5.21	
2.7 - Line of sight at overpasses	RHT into Newcombe – protected as above	Addressed 5.66	
2.8 - Road appears faster than 50km	More 50 km signs Marked cycle path might narrow the feel Painted slow-down markings	Intention of concept plan	
2.9 <b>Ease of Movement</b>	Footpaths are dangerous for gophers, peds, prams - Need upgrade, widening, cut trees/buses - Possible cycle lane beside footpath – like Coast path - Needs footpath over tunnel at northern end	Intention of Concept Plan	
2.10 <b>Aesthetics</b>	Nice area to live, work and play, but BT doesn't reflect this	Support for improvements noted	
2.11 General ideas	Cultural boulevard - Artworks on poles - Artworks/painted bus shelters - Banners along street for diff. zones (sport, shopping, residential, reserve) - Entry statements both ends - Bower pump station needs tidying	Reserve Park Master Plan 5.10 Shopping Precinct Layout 5.17-5.23 5.88	
2.12 Fences and vegetation	- Disliked untidy fences. Vegetation next to fence (close so not a hiding place) o Important that it attracts birds - Northern end needs greening of green spaces	Addressed 5.82-5.83 +5.85  5.1-5.5	
2.13 <b>Reserve</b>	Underutilised. Ideas were - Exciting special playground like WLS school - Barbeque, shelter, benches, seats - Occasional kiosk or coffee shop - Pop ups – chapel, food vans - Fenced dog park	Addressed 5.10	
2.14	Remove boat-ramp opposite shops or improve presentation	Addressed 5.10	

## Bartley Terrace Streetscape – Input from Community Engagement

20/5/15

Item	Community Comment	Consultant Response	Charles Sturt Response
5.10	Local indigenous plants for lower storey- keep swamp pines for upper storey Landscaping across from Foodland urgent Toilet More lighting See placemaking suggestions diagram	Consider as part of Reserve Master Plan	
5.11	<b>Parking opp Bartley Tavern</b> People feel it is for hotel – and they have enough parking Attract wrong type of people – use money for soccer parking Strong support for 45 degrees Remove bike lane at this section ; widen shared path on E side to 3 m for length of activity centre	Aim is to keep same amount of parking before and after project in this area  Recommend remove 90 deg. Consider 45 deg or indented parallel parking possible removal of bike lanes in 40k zone  Shared path already proposed	
5.12	<b>Greenfields Cresc</b> Central median and pedestrian refuge for safety – similar to Hawkesbury	Not required due to traffic volumes	
5.13	<b>Sth of Greenfields on W side</b> Replace trees to avoid damage to footpath	Part of landscape plan- new footpaths proposed	
<b>Map 4</b>			
5.14	<b>Near church</b> Replace trees – too scrappy, not shady	Consider in landscape plan	
5.15	Dirt area at back of church could have turf, benches and seats	Out of scope – advise Church	
5.16	<b>Foodland area (W side)</b> More cycle parking -> reduce car spaces	Out of scope –advise Foodland	
5.17	Fix tension between bus stop/letter box – mail box to shopping area	Consider as part of Shopping Precinct layout	
5.18	Remove ped island so people with wheelchairs and prams can move directly into car park	Consider as part of Shopping Precinct layout	
5.19	Have a 1 way entry/exit with filtered RT lane	Consider as part of Shopping Precinct layout	
5.20	Entrance on Fairfield, close sthn entry	Consider as part of Shopping Precinct layout	
5.21	Need pedestrian lights here	Not recommended due to traffic impacts	
5.22	<b>Pedestrian crossing opp Foodland</b> Leads to nowhere – dangerous spot	Consider as part of Shopping Precinct layout	
5.23	Should link with bridge as access from Delfin Island	Consider as part of Shopping Precinct layout and Reserve Masterplan	
5.25	<b>40 kph zone</b> Against - many with no explanation	Recommend to keep to reinforce safety and the presence of people	
5.26	- Adding another zone makes it confusing	Raised area (slow down point) reinforces difference.	
5.27	Some suggested starting the 40k zone before Fairfield	Consider starting at Anglers Court	
5.28	Don't like ramp onto 40k zone. Acts as a speed hump	Gentle ramp proposed	
5.29	Will make it difficult to pass racing bike doing 35-40	40 k in any case	

Item	Community Comment	Consultant Response	Charles Sturt Response
<b>Map 2</b>			
5.57	Speed limit	Should be 60 here	Not recommended
5.58		Should be 40 from here past shopping centre (some said even 20!)	Not recommended
5.59	Parking here	Should be indented on E side (not west) to avoid kids crossing road	Consider
5.60	Fences	Replace dilapidated fences	Needs action by residents. Policy has changed to allow it.
5.61		More shrubs to block ugly fences	Part of CCS landscaping plan
5.62	Footpath	Some mature trees being removed? W side N of Kiama?	Detailed design will attempt retain trees where possible
<b>Map 1</b>			
5.63	Nambour Cresc. Nth	Blind spot when turning right from BT. Separate RHT lane?	Leave intersection as is. New BT line marking should assist.
5.64		Pathways need repair	Short term maintenance, long term replacement
5.65		Needs smaller trees	Refer CCS landscape plan
5.66	Newcombe	Lots of RH traffic. Separate RHT lane from BT?	Not recommended, traffic volumes low
5.67	Nambour Cresc. Sth	Bus stop to sth is too close to WLB corner.	Indented bus bay proposed
5.68	BT/WLB intersection	Roundabout	Not recommended
5.69		Lights (too close to Military?)	Not recommended
5.70		Liked LHT lane – should be similar to Island Drive	Noted
5.71		Cut bushes back on Boulevard – cause blind spots	Out of scope. CCS maintenance
5.72		LHT from WLB to BT is difficult	New design to improve this
5.73		Create a nice entrance	Agree
<b>General</b>			
5.74	Bikes	Bike lanes on road means bikes will come in too close contact with cars	Designed to meet Australian standards
5.75		There is plenty of room to widen footpath to 2 lanes (see diagram)	Shared path recommended
5.76		Ensure bike lanes are continuous over refuge areas	Dashed line marking provides this to AS
5.77		Most didn't see lane marked on road	Noted
5.78	Pedestrians	More safe pedestrian crossings	Agree
5.79	Bus stops and bays	Needs bays all along, particularly Bower Rd end	Indented bays proposed
5.80		Should be near pedestrian crossings	Noted
5.81		Should not be near overpasses or pedestrian crossings - dangerous	Noted
5.82	Aesthetics	Get rid of ugly fences	Refer above
5.83		Get rid of brush fences	Refer above
5.84		Put artificial lawn or asphalt on verges	Refer CCS landscaping
5.85	Trees/Landscaping	Create a boulevard effect	CCS to consider
		- All trees should be plane trees	
		- Other said use trees suitable for coastal conditions	
		- Consider Manchurian pears	
5.86		Keep trees recently planted – e.g. Cnr Thiele Cresc.	CCS to consider
5.87	Street lighting	Needs improvement everywhere – too dark	Part of project

Bartley Terrace Streetscape – Input from Community Engagement

20/5/15

Item	Community Comment	Consultant Response	Charles Sturt Response
5.88 Speed	Feels like 60k. Need signs to remind of 50k	40 K zone allows additional signage which will remind	
5.89 Success of project	How will it be measured?	Accident rates, speed counts and people presence	
5.90 Council reps at Open Day	Should have been some from Open Space as well as Transport	Recommended for next Open Day	
	BT a main road	Intent of the design	

## Appendix E

### Invitation to Information Session

# Have your Say!



## Bartley Terrace Streetscape Upgrade Concept Plan

### *Community Open Day*

Thankyou for your help in developing the Concept Plan for the Bartley Terrace Streetscape at the Open Day in May

We now want to show you the revised concept plan!

You are invited to come along to a Community Open Day and speak with the project team about the plans

**Date:** Saturday 31 October 2015

**Time:** Drop in anytime  
Between 10am and 2pm

**Where:** West Lakes Church  
Bartley Terrace, West Lakes Shore

Car parking and entry from Tavern side



## Project Background

The project is a road safety initiative and the City of Charles Sturt considers it vital that an upgrade plan is prepared to address road safety concerns along the length of the road. It is planned to become a master plan that will be delivered over the next 20 years, with the highest priorities designated for quicker action. In particular there have been issues of

- drivers speeding
- parking availability
- parking obstruction of travelling vehicles
- blind spots
- cyclist safety
- pedestrian safety
- few street crossing points
- noise
- poor street lighting



## Concept Plan Development

The City of Charles Sturt has used the community input from local residents and businesses together with consultants to develop a Concept Plan for the Bartley Terrace Streetscape upgrade.

Council would now like to present the revised Concept Plan for Bartley Terrace and seek your comments!

There is also an opportunity to view the plans, ask questions, make a written submission and get answers through Council's website [www.yoursaycharlessturt.com.au](http://www.yoursaycharlessturt.com.au)

*Consultation closes **Friday 6 November 2015***

## Community Open Day

A Community Open Day is now planned to provide an opportunity to talk to staff involved in the plan and locals who have provided their ideas and share your feedback on the revised Bartley Terrace Streetscape upgrade.

DATE: Saturday 31 October 2015

TIME: Drop in anytime  
Between 10am and 2pm

WHERE: West Lakes Church  
Bartley Terrace, West Lakes Shore

*Tea & Coffee and light refreshments available*

For any enquires please contact:

Liz Ampt on 0438 554 197 or email [lizampt@conceptsofchange.com.au](mailto:lizampt@conceptsofchange.com.au)

Kath Mardon on 8408 1270 or email [kmardon@charlessturt.sa.gov.au](mailto:kmardon@charlessturt.sa.gov.au)

