



2012

Final Report 5 of 5

SERPENTINE

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Crime Risk Assessment, CPTED-Lighting Audit &
CCTV Potential Camera Locations



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1. Serpentine Overview

1.1. Area Description

The existing Town Centre is located on Wellard Street bordered by Lefroy Street and Richardson Street. Wellard Street contains a mixture of public and private space. Private space consists of a mix of commercial premises and shopfronts with residential properties. Public space includes roads and pathways, community areas, public parks and facilities.

The Clem Kentish Recreational Centre and Memorial Gardens is located at the corner of Wellard Street and Lefroy Street and contains a demountable Police and Community Youth Club (PCYC) facility in the car park. An ablution block and 'Good Sammy' bins are located adjacent the car park. The ablution block was open at the time of the audit during the hours of darkness. A playground and sporting oval is located at the Recreation Centre. The Memorial Gardens border the perimeter of the car park with a dedication plaque situated in the gardens.

Wellard Street contains a number of commercial premises and facilities including the Post Office, petrol pumps, bottle shop, rubbish bins and the Olde Serpentine Tavern. A public phone box is located at the Southern side of the street adjacent the Olde Serpentine Tavern. The Tavern experiences busy periods on Friday nights, until approximately 9:00pm, and Saturdays, between 1:00pm and 4:00pm, due to provided entertainment.

Wellard Street contains roadside parking and two (2) bus stops, numbered 22416 and 22413. Trees are located between parking bays with pedestrian pathways recessed from the main street enhancing safety and perceptions of safety for the community.

2. Serpentine Crime Risk Assessment

2.1. WA Police Crime Statistics

Annual crime rates for Serpentine between September 2009 and September 2011, as shown in Figure 1, indicate that 11 offences of assault, 36 offences of burglary, 2 offences of graffiti, 0 offences of robbery and 13 offences of steal motor vehicle were reported. Burglary (Dwelling) and Steal Motor Vehicle were the most prevalent types of crime occurring in the area, representing 40 per cent and 21 per cent of reported offences respectively.

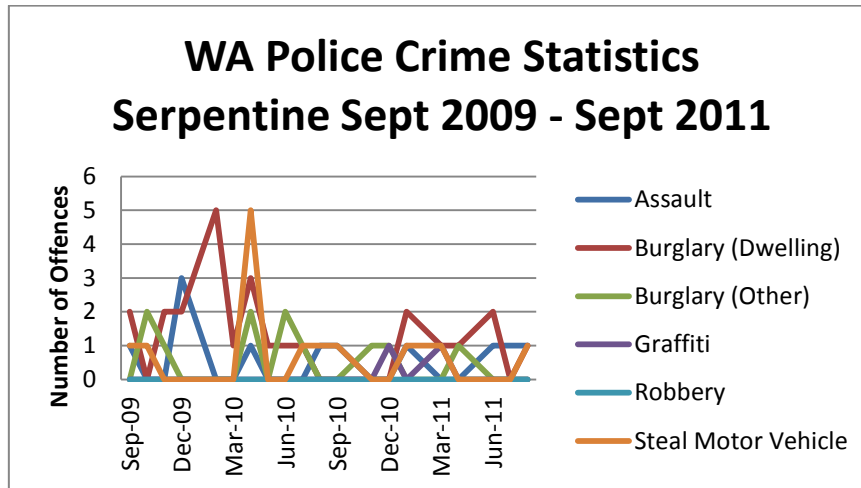


Figure 1: WA Police Crime Statistics for Serpentine Sept 2009 - Sept 2011

2.2. Mundijong Police Crime Statistics

Mundijong Police crime statistics for Serpentine between December 2010 and August 2011, as shown in Figure 2, indicate theft and burglary as the most prevalent crimes occurring, representing 50 per cent and 31 per cent of recorded offences respectively. Mundijong Police crime statistics are consistent with WA Police crime statistics over the previous two (2) years indicating limited issues of motor vehicle theft have been experience since December 2010.

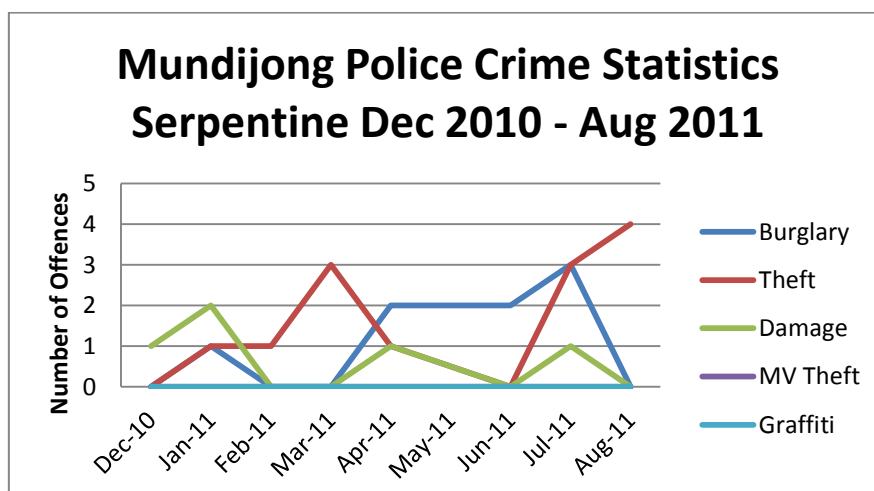


Figure 2: Mundijong Police Crime Statistics for Serpentine Dec 2010 - Aug 2011

3. Serpentine Lighting Audit

3.1. Area Lighting

The Serpentine lighting systems consist of Shire of Serpentine Jarrahdale owned assets and Western Power owned roadway assets.

We conducted a site visit during the hours of darkness and observed a variety of lamps in operation. Some lamps in the area were not operating, as identified in Table 1. Inconsistencies were observed between Western Power records for Wellard Street and lighting systems observed at the time of the audit.

Wellard Street appears adequately illuminated; however illumination of areas surrounding licensed premises requires improvement to enhance natural surveillance and crime prevention and community safety perceptions. Lamps are recessed from the edge of the street reducing area illumination.

In our view, a majority of operational street and area lighting systems within the audit area will be in compliance with minimum Australian Standards Category P lighting. A lighting upgrade to Category P6 lighting (21 Lux) using Compact Fluorescent or MH lamps to emit a brighter white light will significantly enhance any future CCTV surveillance capability and image quality, in addition to providing for enhanced crime prevention and community safety perceptions. We refer to Table 1 for recorded light readings and Figures 3-16 as an example of lighting contrasts.

Lighting information and specifications provided in lighting tables is sourced where possible.

Table 1: Lighting Systems for Serpentine

Lamp Number	Wattage	Type	Lux Level	Install Date	Comment
Clem Kentish Recreation Centre					
			48 Lux		Reading taken in male toilets adjacent Clem Kentish Recreation Centre
			37 Lux		Reading taken in female toilets adjacent Recreational Centre
			56 Lux		Reading taken in disabled toilets adjacent Recreational Centre
		Spotlight	0 Lux		Lamp located in Recreational Centre car park. Lamp not operating
			0 Lux		Reading taken in centre of car park adjacent Recreational Centre
		Spotlight	0 Lux		Lamp located in foliage adjacent Recreational Centre. Lamp not operating. Tree pruning required
		Halogen	9 Lux		Sample wall mounted lamp on Recreational Centre
		Halogen	9 Lux		Sample wall mounted lamp on Recreational Centre
			0 Lux		Reading taken at playground located adjacent ablution block

Wellard Street					
367876 (104169)	150 Watt	Sodium	15 Lux		
367877 (104149)	250 Watt	Sodium	24 Lux		Lamp located 50m from previous lamp. Lamp located at the corner of Wellard Street and Lefroy Street
367878 (104164)	150 Watt	Sodium	6 Lux		Lamp located 50m from previous lamp
367879 (104164)	250 Watt	Mercury	29 Lux	1996	Lamp located 50m from previous lamp. Western Power data shows Sodium lamp
367869 (104155)	250 Watt	Sodium	43 Lux		Lamp located 50m from previous lamp. Lamp located at intersection
367867 (104154)	250 Watt	Mercury	7 Lux		Lamp located 50m from previous lamp. Western Power data shows Sodium lamp
367866	125 Watt	Mercury	4 Lux	2005	Lamp located 42m from previous lamp. Western Power data shows 250 Watt lamp
			95 Lux		Reading taken at public phone box located adjacent Olde Serpentine Tavern
367863	250 Watt	Sodium	52 Lux	1993	Lamp located 42m from previous lamp at the corner of Wellard Street and Richardson Street. Lamp facing away from intersection. Western Power data shows 125 Watt Mercury lamp
			3 Lux		Reading taken at intersection of Wellard Street and Richardson Street
Richardson Street					
3457190	125 Watt	Mercury	20 Lux	2004	Lamp ignited at 5:50pm
367862	125 Watt	Mercury	14 Lux	1999	
			0 Lux		Reading taken on Western side of Richardson Street



Figure 3: View East Clem Kentish Recreation Centre - Day



Figure 4: View East Clem Kentish Recreation Centre - Night



Figure 5: View West Female Entrance to Ablution Block - Day



Figure 6: View West Female Entrance to Ablution Block - Night



Figure 7: View West Wellard Street - Day



Figure 8: View West Wellard Street - Night



Figure 9: View West Shop Awnings - Day

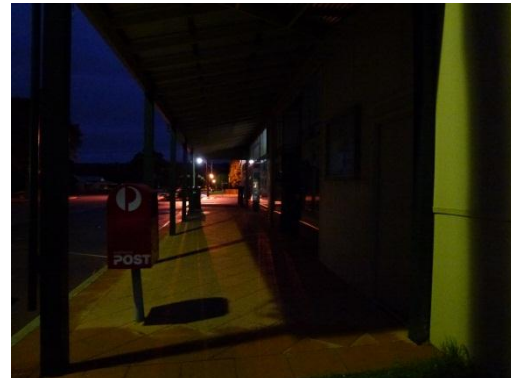


Figure 10: View East Shop Awnings - Night



Figure 11: View North West Bottle Shop - Day



Figure 12: View North Bottle Shop - Night



Figure 13: View East Wellard Street - Day



Figure 14: View East Wellard Street - Night



Figure 15: View North East Olde Serpentine Tavern - Day



Figure 16: View North East Olde Serpentine Tavern - Night

4. Serpentine CPTED Audit

4.1. CPTED Observations

Positive

- A dedication plaque is located in the Memorial Gardens adjacent the Recreation Centre enhancing a sense of ownership for the community and encouraging community pride.
- The ablution block located adjacent the Clem Kentish Recreation Centre is situated to provide positive natural surveillance and community safety perceptions at the female entrance, as the entrance is located adjacent the Recreation Centre.
- The parking bay lines located in the car park adjacent the Recreation Centre appear freshly painted and increase vehicle safety in the area.
- The playground located adjacent the Recreation Centre appears well maintained enhancing a sense of ownership for the community and encouraging activity in the area.
- Clear sightlines adjacent the petrol pumps provides good natural surveillance and community safety perceptions when using the facility.
- Foliage canopy heights and limited visual obstructions adjacent the bottle shop provide good natural surveillance and community safety perceptions.
- Clear sightlines adjacent egress routes from the Olde Serpentine Tavern enhance natural surveillance and community safety perceptions.
- Bins located in the Town Centre are of sufficient design and number to deter litter and damage and support frequency of use.

Negative

- The car park located adjacent the Recreation Centre appears dated and uneven and requires resurfacing.
- Foliage and vegetation located adjacent the Recreation Centre restricts sightlines and reduces natural surveillance.
- The Memorial Gardens sign and dedication plaque situated in the Memorial Gardens are poorly located, reducing the opportunity for the community to view the signs.
- The entrance to the Recreation Centre is recessed from the car park and receives limited natural surveillance from surrounding areas.
- The width of the pedestrian pathway located adjacent the Recreation Centre on Wellard Street is not conducive to natural surveillance and community safety perceptions.
- Climbing debris is located adjacent fencing at the petrol pumps providing natural ladders for offenders to scale the fence.
- Brick paving located adjacent Wellard Street appears uneven and dated, and requires rectification to enhance aesthetics on the main street
- Pedestrian crossings throughout the Town Centre appear poorly designed and do not utilise consistent materials, reducing connection through the area.
- The bus stop numbered 22413 appears faded and requires rectification.
- Maintenance of car park areas adjacent Wellard Street is required to enhance a sense of ownership for the community and improve area aesthetics. Unmaintained areas can provide congregation points for bored youths and offenders, and increase the risk of damage and other illegitimate activity occurring.
- The brick wall surrounding the garden bed adjacent the bottle shop appears damaged and requires rectification to reduce the opportunity for vandalism and other illegitimate activity.

- The public phone box located adjacent Wellard Street appears isolated and is situated in a low traffic area, reducing natural surveillance and community safety perceptions.
- Signage located at the corner of Wellard Street and Richardson Street appears damaged and requires rectification.
- Area illumination throughout the Town Centre appears poor, specifically adjacent the licensed premises and car parks, reducing natural surveillance and community safety perceptions.



Figure 17: Dedication plaque enhancing a sense of ownership for the community



Figure 18: Car park appears dated and requires resurfacing



Figure 19: Foliage and vegetation restrict natural surveillance of car park from main street



Figure 20: Signage appears dated and difficult to view



Figure 21: Foliage reduces natural surveillance adjacent Recreation Centre



Figure 22: Entrance to Recreation Centre receives poor natural surveillance from car park and surrounding areas



Figure 23: Female entrance to ablation block facing Recreation Centre enhancing natural surveillance and community safety perceptions



Figure 24: Playground appears well maintained enhancing a sense of ownership for the community and encouraging activity in the area



Figure 25: Foliage located adjacent spotlight requires pruning to enhance area illumination



Figure 26: Pathway width not conducive to natural surveillance and community safety perceptions



Figure 27: Climbing debris and natural ladders located adjacent fencing providing opportunity for offenders. Good natural surveillance adjacent petrol pumps



Figure 28: Brick paving appears dated and requires rectification to enhance a sense of ownership for the community



Figure 29: Pedestrian crossings appear poorly designed reducing connection throughout Wellard Street



Figure 30: The grass area adjacent the pathway requires maintenance to improve aesthetic in the area



Figure 31: The brick wall surrounding the garden bed appears damaged and requires rectification



Figure 32: Foliage canopy heights and pathway width provides good natural surveillance and community safety perceptions



Figure 33: Limited visual obstructions provide good natural surveillance at bottle shop entrance



Figure 34: Public phone box appears isolated reducing natural surveillance and community safety perceptions



Figure 35: Area requires maintenance to enhance a sense of ownership for the community and deter potential offenders from congregating in the area



Figure 36: Clear sightlines at entrance to licensed premises enhance natural surveillance and community safety perceptions



Figure 37: Bins are of sufficient design and number to deter litter and damage and support frequency of use



Figure 38: Signage appears damaged and requires rectification

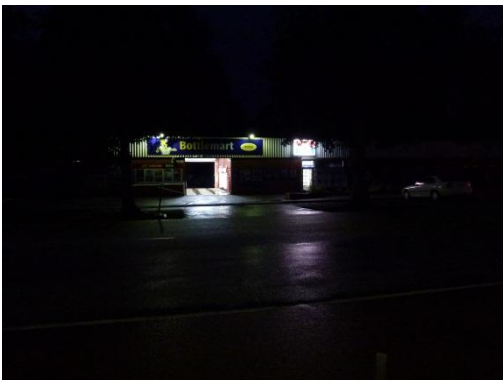


Figure 39: Poor area illumination adjacent bottle shop reduces natural surveillance and community safety perceptions

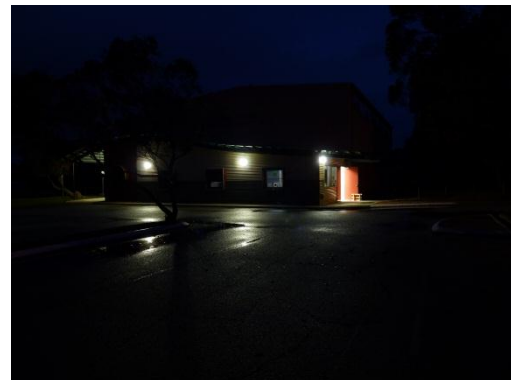


Figure 40: Car park lighting appears poor reducing natural surveillance and community safety perceptions

4.2. Recommendations

1. Resurface uneven and damaged car parks and driveways located in the Town Centre to increase vehicle and pedestrian safety.
2. Ensure consistent maintenance of foliage and vegetation throughout the Town Centre to enhance natural surveillance, community safety and perceptions of safety. Canopy heights should be raised to a minimum of 3.0 meters and vegetation kept to a maximum of 0.5 meters, in pedestrian areas, to maintain clear sightlines.
3. Relocated Memorial Gardens sign and dedication plaque to a higher traffic area and ensure consistent maintenance of adjacent foliage to provide a clear entrance statement for the community. Rectify Memorial Gardens signage to enhance a sense of ownership for the community and encourage community pride.
4. Widen and repave pedestrian pathway located adjacent Recreation Centre car park and ensure consistent maintenance of adjacent foliage to enhance natural surveillance, community safety and perceptions of safety.
5. Remove climbing debris located adjacent fencing to deter potential offenders from scaling the fence.
6. Repave pedestrian pathways and brick paving located adjacent Wellard Street to improve aesthetics in the area and enhance a sense of ownership and pride for the community. Utilising consistent materials and straight pedestrian movement lines at pedestrian crossings will increase connection throughout the Town Centre.
7. Rectify bus stop, numbered 22413, to enhance a sense of ownership for the community and encourage community pride.
8. Ensure consistent maintenance of car park areas adjacent Wellard Street. Well maintained areas can enhance a sense of ownership for the community and increase crime prevention and community safety perceptions.
9. Rectify brick wall surrounding the garden bed adjacent the bottle shop to reduce the opportunity for vandalism and other illegitimate activity.
10. Relocated public phone box to a higher traffic area to increase natural surveillance and community safety perceptions.
11. Rectify damaged street signage located at the corner of Wellard Street and Richardson Street to enhance a sense of ownership for the community and encourage community pride.
12. Rectify lamps not operating in the Town Centre. Refer Section 3.1 Table 1 Lighting Systems for Serpentine. In our view, a lighting upgrade to Category P6 lighting (21 Lux) using Compact Fluorescent or MH lamps to emit a brighter white light will significantly enhance any future CCTV surveillance capability and image quality, in addition to providing for enhanced crime prevention and community safety perceptions.
13. Lighting in car parks should be balanced to a minimum of 20 lux and to 60 lux preferred, to ensure all car parks are sufficiently and consistently illuminated, in particular to reduce crime displacement.

5. Serpentine CCTV Potential Camera Locations

5.1. Proposed Camera Locations

The CCTV Study was tasked with evaluating Wellard Street, between Lefroy Street and Richardson Street namely the Clem Kentish Recreational Centre and the Olde Serpentine Tavern as shown in Figure 41.

In our view, Serpentine Town Centre would benefit from the use of non-permanent portable CCTV camera units; however lighting is deficient. Portable units would assist with special events and spiked activity in the area.



Figure 41: Wellard Street – Nominated Surveillance Areas

Table 2: Potential Camera Installations - Serpentine

Camera Location	Camera Type	Mounting & Height	FOVs	Area Activity
1. CNR Wellard Street and Richardson Street	PTZ/Fixed	6 - 8m	Main vehicle/pedestrian intersection. Tavern perimeter and car park.	Assault, Burglary, Drug Offences, Stealing, Alarm, Disturbance, Traffic.
2. Wellard Street - Town Centre	PTZ/Fixed	6 - 8m	Bottle Shop, Car Park.	Assault, Burglary, Drug Offences, Stealing, Alarm, Disturbance, Traffic.
3. Recreation Centre car park	PTZ/Fixed	6 - 8m	Car Park, Public Toilets, Recreation Centre.	Assault, Burglary, Drug Offences, Stealing, Alarm, Disturbance, Traffic.

Refer to Related

Crime Risk Assessment, CPTED-Lighting Audit & CCTV Potential Camera Locations

Part 1 of 5 Overview & Findings

Part 2 of 5 Byford

Part 3 of 5 Mundijong

Part 4 of 5 Jarrahdale