

City of Cockburn

# **Playground Shade Sail Strategy 2013–2023 (5 Year Review)**



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## Executive Summary

The City currently manages 204 playgrounds with the majority located on parks and a small percentage adjacent to or within the surrounding environment of a community facility. Playgrounds are typically located in close proximity or under the shade of mature trees to mitigate the requirement for shade sails and create an environment conducive for play activities during the summer periods. Where playgrounds are not positioned to this requirement the provision of a shade structure is required to offset the UV radiation and heat particularly through the summer months.

The City receives numerous requests from community members and groups for the provision of shade sails over playground equipment. Requests frequently infer that shade sails over playgrounds should be a “standard” piece of park infrastructure, similar to bins, seats, shelters and so on. The community also expresses views around shade sails should be installed with all new playground equipment. The demand for shade over playgrounds has increased through the embellishment of public open space in new subdivisions within the City in addition to the Cancer Council of Australia promotion that skin cancers be prevented if sun protection measures are adopted.

With this increasing community expectation to have every playground within the City shaded a strategy is required by which it can prioritise spending and most effectively target its resources. The strategy needs to address the demand, existing and future provision based on the City’s open space framework along with the design and materials of the shade. Furthermore the strategy assists in achieving the aims of the Strategic Community Plan 2016-2026, Public Open Space Strategy 2014-2024 and Long Term Financial Plan 2016-2026.

This document is a five year review of the strategy which contains the achievements to date and an implementation schedule to deliver the provision of shade to playgrounds.



*Image: Peregrine Park*

## 1 Achievements to Date

The Playground Shade Sail Strategy 2013 – 2023 was adopted by Council in December 2012 with a commitment of \$100,000 per annum. However as the demand to deliver to program within a shorter period an additional \$20,000 was allocated from the 2016/17 financial year. In addition to this municipal allocation, the Expenditure of Public Open Space Cash-In-Lieu (CIL) Funds Strategy 2014-2016 provided an additional funding source along with the developer through the subdivision process. The provision of shade based on the public open space classification framework at the commencement of the strategy is outlined in Table 1.

Classification	Playgrounds	Shade Sails	Percentage
District POS	26	7	27%
Regional POS	10	3	30%
Neighbourhood POS	60	8	13%
Local POS	73	8	11%
Community Facilities	18	12	66%
<b>Total</b>	<b>187</b>	<b>38</b>	<b>20%</b>

*Table 1 Shade Sails per POS Classification 2013*

Over the past 5 years 37 playgrounds have received shade sails resulting in an increase in coverage to 40%. Table 2 outlines the increase in provision of playground shade as per the open space classification framework.

Classification	Playgrounds	Shade Sails	Percentage
District POS	26	18	69%
Regional POS	10	5	50%
Neighbourhood POS	60	23	38%
Local POS	73	17	23%
Community Facilities	18	12	66%
<b>Total</b>	<b>187</b>	<b>75</b>	<b>40%</b>

*Table 2 Shade Sails per POS Classification 2018*

The list below outlines the number and location of each shade sail installed over the past five years.

Year	No	Funding Source	Location	Suburb
<b>2013/14</b>	1	Muni	Bakers Square	Hamilton Hill
	2	Muni	Anning Park	South Lake
	3	Muni	Beeliar Reserve	Beeliar
	4	Muni	Edwards Park	Spearwood
	5	Muni	Beale Oval	Spearwood
<b>2014/15</b>	1	CIL	Solta Park	Munster
	2	CIL	Tapper Reserve	Atwell
	3	CIL	Goodwill Park	Atwell
	4	CIL	Enright Reserve	Hamilton Hill
	5	CIL	Goodchild Reserve	Hamilton Hill
	6	CIL	Turnberry Park	Jandakot
	7	CIL	Albion Park	Munster
	8	CIL	Kurrajong Reserve	Atwell
	9	Muni	Santich Park (1)	Munster
	11	Muni	Hop Bush Park	South Lake
	12	Muni	Versailles Park	Aubin Grove
	<b>2015/16</b>	1	Muni	Watsons Oval
2		Muni	Santich Park (2)	Munster
3		Muni	Meller Park	Bibra lake
4		Muni	Chorus Park	Atwell
5		Muni	Horse Hire Park	Success
<b>2016/17</b>	1	Muni	Adventure Playground	Bibra Lake
	2	Muni	Evelyn Massey	Success
	3	Muni	Cheshunt Park	North Lake
	4	Muni	Brandwood Reserve	Leeming
	5	Muni	Peregrine Park	Beeliar
	6	Muni	Tempest Park	Coolbellup
	7	Muni	Isted Reserve	Hamilton Hill
	8	Developer	Ravello Reserve	Yangebup
<b>2017/18</b>	1	Muni	Bloodwood Reserve	South Lake
	2	Muni	Freshwater Reserve	Atwell
	3	Muni	Glen Mia Park	South Lake
	4	Muni	Habitat Park	Beeliar
	5	Muni	Banjup Community Centre	Banjup
	6	Muni	Botany Reserve	Hammond Park
	7	Muni	Rinaldo Reserve	Coolbellup

*Table 3 Shade Sails Installed over 5 Years*

## 2 Strategic Alignment



### Strategic Community Plan 2016 - 2026

Council's overarching document. Identifies the community's aspiration for more trees, streetscape and public open space improvements.



### Long Term Financial Plan 2016 - 2026

Allocation of resources and establishment of annual budgets



### Public Open Space Strategy 2014 - 2024

Guiding document for the management and public open space and streetscapes



### Public Health Plan 2013 - 2018

Outlines actions to ensure the community of Cockburn have an acceptable level of health today and into the future



### Workforce Plan 2016 - 2020

The Workforce Plan informs both the Strategic Community Plan and Corporate Business Plan. Allows the City to set priorities within its resourcing capacity



### Parks and Environment Asset Management Plan 2018

The Asset Management Plan provides a framework that promotes and establishes a sustainable financial management although with a continuous improvement process for the City's infrastructure assets.

### 3 Open Space Classification

The delivery of shade sails to playgrounds prior to the adoption of this strategy identified an inconsistent delivery methodology. The delivery of shade sails had no recognition of the Public Open Space park classifications and community facilities which highlighted the requirement for a set of criteria to guide the future provision of shade sails. The criterion has been developed based on the POS classification framework, whether the location is multi use i.e. provide recreational and social interaction, the existing level of park infrastructure i.e. BBQ's and shade shelters and the potential for high patronage by the local and wider community.

#### 3.1 District Open Space

District Parks are accessed all year round with a majority of events running during daylight hours including summer periods when the UVR is very high. Attendance to these events and activities include members of sporting clubs or groups, family members, opposition teams and the general public. Due to the high patronage levels and the existing level of park infrastructure, the provision of shade to the playground is paramount, to ensure the equipment can be utilised during high periods of UVR when patronage to events are at a peak level.

#### 3.2 Regional Open Space

The City currently has a number Regional Parks which are in essence large open spaces with significant environmental features, have historical value and possess a large range of recreational equipment. These Parks attract large community groups for structured or non-structured events, promote "friends of the park" groups, provide annual concerts in the park and are considered a tourist attraction for the wider Perth metropolitan region. Attendance to these parks is predominately during day light hours and are frequented by the families during school holidays summer periods when sun is at its highest UVR concentration. Shade provision for playgrounds located in these Parks is paramount in ensuring the equipment can be utilised during the peak periods of UVR and create a functional and attractive Park that is a destination point within the City of Cockburn.

#### 3.3 Neighbourhood and Local Open Space

A number of Local/ Neighbourhood Parks provide a large range of park infrastructure that attracts community members to engage in social events and general recreational activities. The amenities located within these parks include playgrounds, BBQ's, shelters, seating and have irrigated grass for general recreational pursuits. These parks are distributed throughout the City and are accessed by the local community all year round including periods of high UVR. It is considered that



playgrounds located on Parks with this range of infrastructures which has the potential to attract large groups including children have shade provision.

### 3.4 Community Facilities

Community Facilities provide a location for numerous community groups i.e. mothers groups, after school care, senior groups, education programs, etc. to conduct activities and events within the confines of a building envelop. A large proportion of Community Facilities have a playground located within the building environment and are accessed by all the various groups throughout the year. The provision of shade to these playgrounds will benefit the groups which facilitate child care programs and education programs during school holidays and ensure the area is utilised to its maximum potential.



*Image: Botany Park*

## 4 Priority

District (Sporting Ovals), Regional Parks and Community Facilities will be initially given priority for shade provision due to the high patronage level facilities and the existing range of facilities that are provided. Local/Neighbourhood Parks which have the level of infrastructure that support community interaction but do not have the high level of patronage will be considered a lower priority.

The table below will guide the future implementation of the shade sail program and provide the evaluation mechanism for requests for shade sails by residents within the community. Where existing shade sails have been installed on Local POS that do not comply with the categories outlined, removal will be carried out at the end of the shade sails useful life.

Classification	Multi -use	BBQ	Picnic Shelter	High Patronage	Retention of Shade Sail
District POS	✓	✓	✓	✓	✓
Regional POS	✓	✓	✓	✓	✓
Community Facility	✓	x	x	✓	✓
Neighbourhood POS	✓	✓	✓	✓	✓
Local POS	✓	x	✓	x	x

*Table 4 Shade sail evaluation framework*



*Image: Spinnaker Park*

## 5 Design

Shade sail designs are paramount to ensuring the playground area has the maximum area covered by shade during the peak of Ultra Violet light. The amounts of UVR people are subject to will vary with the season, the weather and the time of day. Maximum UVR exposure typically occurs between 10am and 3pm with playgrounds commonly accessed during and outside of these times. Assessment is completed by qualified designers to ensure compliance with Australian Standards and maximizing the shade provision. Crime Prevention Through Environmental Design (CPTED) principles will be applied where possible.

### 5.1 Design Considerations

The designs of shade sails are determined by the shaped and size of the play equipment. Shade sail designs must also consider the surroundings and potential for future alterations to the equipment. The shape and form of each shade sail design responds to the following:

- Complement the appearance of the play equipment
- Comply with playground design standards
- Shade more than 90% of UVR in high activity areas between 10am and 2pm
- Reduce the potential for vandalism
- Incorporate a “quick release” mechanism to enable removal in winter
- Enable ease of future maintenance.

### 5.2 Materials

The shade sails are generally shade cloth which is knitted fabric with hems containing steel cabling or reinforced material attached to steel upright poles. The knitted fabric stretches to create static hyperboloid shapes. The shade cloth has UV inhibitors added during manufacturing and generally comes with a multi – year UV degradation warranty. The steel pole supports are fabricated and located in accordance with the existing playground design or coordinated through the design phase of new equipment. The shade cloth and poles are coloured coded to complement the playground design. Material assessment will consider the following:

- Local materials and products
- Recyclable materials where feasible
- Metals and plastics that can be recycled at the end of their useful life
- Finishes / treatment are environmentally sensitive
- Flame retardant materials
- Corrosion resistant particularly on the coast
- Readily available parts and or replacement materials

### 5.3 Anti-Vandal Materials

Anti-vandal materials are considered where opportunity exists for anti-social behavior or there has been a demonstrated need for this installation. Anti-vandal cones or spikes are fitted to the steel posts on order to mitigate the potential for climbing by unauthorised individuals. Anti-vandal materials are to be attached at a point which will restrict access whilst minimising the impact to maintenance schedule and design parameters.

### 5.4 Safety Standards

Shade sails are required to comply with Australian Standards for playground design in particular AS4685 – 2004. This covers aspects such as the height of the sails above the play equipment, and where the poles may be located relative to the play structures.

Under the 2012 Regulations of the Building Act (2011) shade sails are required to be provided with a Certificate of Design Compliance as a class 10a Structure greater than 10m<sup>2</sup> in area This ensures the shade sails are structurally safe. The manufacturer of the shade sail secures this Certificate from a Private Building Surveyor. After submission of the Certificate, a Building Permit is issued enabling the shade structure to be installed.

### 5.5 Integration of Trees

The incorporation of trees within new playgrounds and the associated shade provision will be a component of the design process. The design must allow for the tree's canopy size and shape at maturity along with potential tree root invasion. Shade sail designs for existing playgrounds will take advantage of any existing tree canopy to reduce the size and material requirements. The location of the trees is paramount in ensuring the developed canopy will provide sufficient and suitable shade to the equipment. Landscape designs outlining tree locations will be required to identify the following items:

- Proximity to play equipment
- Future/existing canopy spread
- Prevailing environmental conditions

Trees selection is an important aspect to the future shade provisions of the play equipment. Native or evergreen trees have foliage all year round and drop leaves continuously, whilst deciduous trees predominately lose their leaves in the winter months. The planting of deciduous trees allow the mild winter sun to fall over the equipment and then provide the shade required in the summer period. As all tree species will provide the required shade over a playground once their canopy is fully developed. Tree selection and retention will be considered on the follow:

- Tree species in proximity to new playground shall be assessed to ensure suitability, proximity and impacts on future maintenance
- Select species tolerant of the local conditions and soil structure
- Procurement quality tree species
- Tree selection to consider proximity to natural areas and water bodies / drainage basins
- Consideration of existing tree roots through the design phase and construction

## 5.6 Asset Management & Maintenance

The management and maintenance of shade sails is important for continued public health and safety, and for prolonging the lifespan of the equipment below it. Shade Sails are an asset owned and managed by the City and will be renewed in accordance with the “useful life” allocation set out in the Parks and Environment Asset Management Plan. Shade sail maintenance requirements include the following assessments;

- The structural competency of the poles
- The condition of the fabric (UV blocking performance and strength/wear)
- Condition assessment of the sail hem wiring
- Retightening of sails
- Smoking within 15m stickers

Graffiti and vandalism are variables that the City is unable to mitigate and are managed on a reactive basis. The round nature of the steel upright poles provide a difficult approach for vandals to climb, but does not completely eliminate the potential for scaling. The flexibility of the knitted fabric of the sail provides an opportunity for vandals to jump up and down on, if they are able to climb the steel pole.

The risk and potential for litigation associated with not providing shade sails is minimal as children and parents should be following the Cancer Council of WA guidelines for conducting activities in periods of UV. The City of Cockburn has a “Duty of Care” to ensure the playground equipment complies with Australian Standards but is not required to provide the provision of shade to each playground.

## 5.7 Storage

The storage of shade sails is a key management element during the winter period. Their removal and reinstatement is currently facilitated by contractors with a percentage of the sails being stored at their premises. This is primarily due to the current storage capacity in the City’s Operations Centre, however with the future upgrades of the Operations Centre, subject to approval, there will be the ability to store an increased number of sails.

## 6 Resourcing

The Long Term Financial Plan 2016-2026 has identified an annual expenditure of \$120,000 to deliver the objectives of the strategy. Currently 6 playgrounds can be covered with these funds; however as materials costs and contract labour increase with CPI, or even higher, the capacity to maintain this commitment will be challenged.

Supplementing this investment is the opportunity to access Cash-In-Lieu Funds, subject to conformance with the conditions outlined in the Planning and Development Act 2005. The current Public Open Space Cash-In-Lieu Expenditure Plan (Jan 2018 – December 2020) lists 9 sites for shade sails installation. The next plan will further explore additional sites for cover.

Delivery of the playground shade sail program is currently a function of the Parks Project Officer ensuring the annual expenditure is achieved.

The integration of tree planting with the shade sail installation will be facilitated through annual individual park operating budgets or any savings received through the capital works program.



*Image:Banjup Community Centre*

## 7 Performance Measures

The key objective of the Shade Sail Strategy is to implement a delivery program based on the public open space classification framework. The delivery schedule for the remaining five years of the strategy is outlined in Table 5

Park Name	Classification	2020	2021	2022	2023	2024
<b>Jan Hammond</b>	Neighbourhood	\$20,000				
<b>Bourbon</b>	Local	\$20,000				
<b>Dixon</b>	Active	\$20,000				
<b>Broadwater</b>	Neighbourhood	\$20,000				
<b>Zodiac</b>	Local	\$20,000				
<b>Steiner</b>	Local	\$20,000				
<b>Bibra Lake C.C</b>	Comm Facility		\$20,000			
<b>Orlando</b>	Neighbourhood		\$20,000			
<b>Blackthorn</b>	Local		\$20,000			
<b>Capricorn</b>	Local		\$20,000			
<b>Duffield</b>	Local		\$20,000			
<b>Meares</b>	Local		\$20,000			
<b>Hakea</b>	Local			\$20,000		
<b>Hargreaves</b>	Neighbourhood			\$20,000		
<b>Katich</b>	Local			\$20,000		
<b>Market Garden (Skate)</b>	Regional			\$20,000		
<b>Radonich</b>	Neighbourhood			\$20,000		
<b>Smart</b>	Neighbourhood			\$20,000		
<b>Reeves</b>	Local				\$20,000	
<b>Touchell</b>	Local				\$20,000	
<b>Tozer</b>	Local				\$20,000	
<b>Richmond</b>	Local				\$20,000	
<b>Warthwyke</b>	Neighbourhood				\$20,000	
<b>Balboa</b>	Local				\$20,000	
<b>Hobbs</b>	Neighbourhood					\$20,000
<b>Heatherlea</b>	Neighbourhood					\$20,000
<b>Riverina</b>	Neighbourhood					\$20,000
<b>Sycamore</b>	Neighbourhood					\$20,000
<b>Bavich</b>	Local					\$20,000
<b>Vela Luka</b>	Neighbourhood					\$20,000

*Table 5 Shade sail implementation schedule*

## 8 Reporting and Review

The key objectives associated with this strategy will be reported each year in the Annual Report.

The Shade Sail Strategy will be reviewed at the conclusion of the 10 year plan by the Parks and Environment Business Unit, due in 2023.

Currently 12 playgrounds will not have the provision of shade at the conclusion of the strategy and will be incorporated into the Public Open Space Strategy 2014-2024, due for renewal in 2024.



*Image: Bibra Lake Adventure Playground*



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