

Tree Canopy Action Plan 2023 - 2027



Adopted by Council 25/07/2023

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DEFINITIONS

Green cover:	Tree plus shrub cover
Shrub cover:	Typically vegetation less than 3 metres in height (excluding grass)
Tree / canopy cover:	Combined area of trees greater than 3 metres in height as a percentage of the total land area, measured from an aerial view

The R-Codes provide the following definitions for tree sizes:

Table 3.3b Tree sizes

Tree size	Indicative canopy diameter at maturity	Nominal height at maturity	Required DSA per tree	Recommended minimum DSA width	Minimum DSA width where additional rootable soil zone (RSZ) width provided ¹ (min 1m depth)	Indicative pot size at planting
Small	2-6m	3-8m	9m ²	2m	1m (DSA) + 1m (RSZ)	100L
Medium	6-9m	8-12m	36m ²	3m	2m (DSA) + 1m (RSZ)	200L
Large	>9m	>12m	64m ²	6m	4.5m (DSA) + 1.5m (RSZ)	500L

¹ Rootable areas are for the purposes of determining minimum width only and do not have the effect of reducing the required DSA.

EXECUTIVE SUMMARY

The Town of Bassendean recognises the increasing importance of retaining trees due to their amenity, environmental and health benefits, and maximising canopy cover. A thriving urban forest assists in mitigating the impacts of the urban heat island effect, reduces air pollution, improves groundwater quality and provides important habitat for wildlife.



Figure 1. Benefits of urban forests/ tree canopy

The most recent mapping from 2020 shows that the Town of Bassendean has a relatively low tree canopy cover, with a total canopy area of 26.75 ha or 15% of total land area (CSIRO, 2020). 36% of the existing tree canopy is located on private land (residential, industrial and Town Centre/ local shopping areas), over which the Town has limited control. Maintaining or increasing canopy cover will be a challenge into the future, given the requirement for the Town to accommodate 4150 new dwellings by 2050, and the predicted impacts of a changing climate on tree health and survival.

The Town of Bassendean Tree Canopy Action Plan outlines the strategic approach and actions to be taken over the next four years to protect and enhance our urban forest and green cover, on both public and private land.

The overall objective is to meet an aspirational tree canopy cover target of 30% by 2040.

BACKGROUND

Context

Protection and enhancement of tree canopy has been identified by the local community as a priority and is supported by the Strategic Community Plan and several Council Policies and Planning documents.

BassenDream Our Future and Strategic Community Plan

The 2019 *BassenDream Our Future* consultation, undertaken in development of the Strategic Community Plan 2020-2030 found that our community highly values a beautiful natural environment with an abundance of vegetation, trees, green open space and connection to the Swan River.

The Town of Bassendean's Strategic Community Plan 2020-2030 includes a direction to *support the creation of a more green and shaded Town*, under Priority Area 2: Leading environmental sustainability.

The strategies identified in the Corporate Business Plan 2022-2026 to achieve this include:

- Create an urban forest throughout reserves, gardens and streets
- Protect existing trees and green spaces

Development of a Tree Canopy Action Plan is identified as an action to be completed in 2022/23, with the following projects/ actions also of relevance:

- Develop longer term tree planting and biodiversity corridors program
- Assess and map our existing trees to better plan for the future –
 - our verge trees
 - our reserve trees.

Biodiversity Corridors

Wildlife or biodiversity corridors are connections across the landscape that link up areas of habitat, allowing wildlife movement. The Collective Local Biodiversity Strategy (EMRC, 2008) identified ecological linkages (biodiversity corridors) across the Town of Bassendean and Cities of Bayswater and Belmont. Three local linkages were identified within the Town of Bassendean, as shown in Figure 2, with the Swan River a Regional Ecological Linkage. The Strategy included a target to enhance natural values within these linkages, including within local natural areas, streetscapes and reserves with remnant natural values. The reserves and other public facilities found within these linkages are listed in Table 1 overleaf.

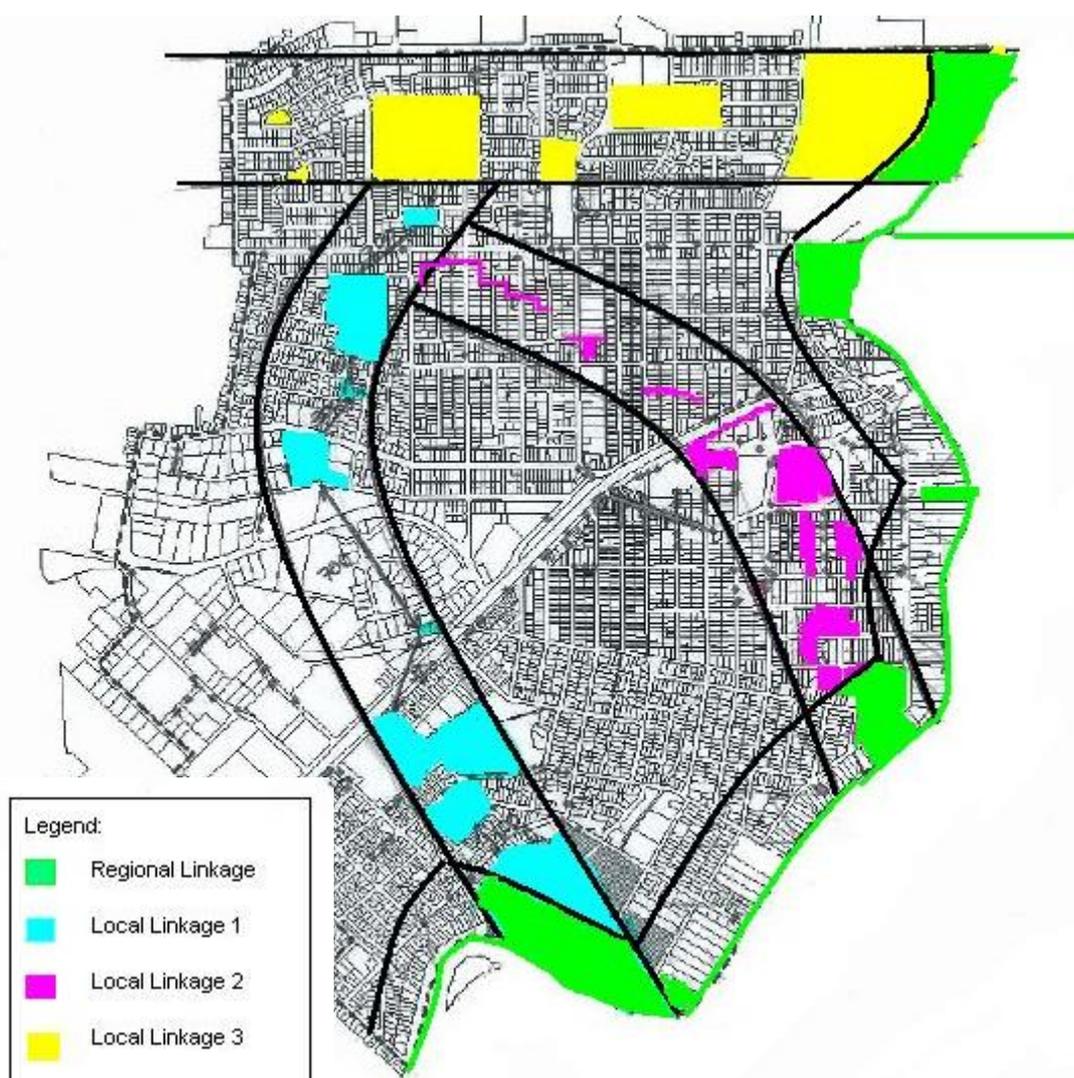


Figure 2. Regional and local biodiversity corridor linkages within Town of Bassendean (EMRC, 2008)

Table 1: Reserves and other public facilities within the Regional and Local Linkages of the Town of Bassendean	
Reserve/ Public Facility	Linkage
Bennett Brook	Regional Linkage, Local Linkage 3
Success Hill	Regional Linkage
Point Reserve	Regional Linkage
Swan River Foreshore	Regional Linkage
Pickering Park	Regional Linkage, Local Linkage 2
Bindaring Park	Regional Linkage, Local Linkage 2
Sandy Beach Reserve	Regional Linkage, Local Linkage 1
Ashfield Flats	Regional Linkage, Local Linkage 1
Ashfield Parade Reserve	Regional Linkage
Kelly Park	Regional Linkage
Padbury Way Reserve	Local Linkage 1
Anzac Terrace Primary	Local Linkage 1
Mickleton Terrace Reserve	Local Linkage 1
Troy St Reserve	Local Linkage 1
Broadway Arboretum	Local Linkage 1

Ashfield Reserve	Local Linkage 1
Ashfield Primary School	Local Linkage 1
Cyril Jackson Senior Campus	Local Linkage 1
Drainage Line (Railway Pde)	Local Linkage 1
Drainage Line (Fourth Ave)	Local Linkage 2
Drainage Line (Anzac Tce)	Local Linkage 2
Drainage Line (Ida St)	Local Linkage 2
Drainage Line (Carmen Way)	Local Linkage 2
Drainage Line (Iolanthe St)	Local Linkage 2
Anzac Terrace Reserve	Local Linkage 2
Steel Blue Oval (Bassendean Oval)	Local Linkage 2
Bassendean Primary School	Local Linkage 2
Casa Mia Montessori	Local Linkage 2
St Michaels	Local Linkage 2
Pyrton Site	Local Linkage 3
Mary Crescent Reserve	Local Linkage 3
Eden Hill Primary School	Local Linkage 3
Jubilee Reserve	Local Linkage 3
Colin Smith Reserve	Local Linkage 3
Freeland Square Reserve	Local Linkage 3

Urban Heat Islands

The term ‘Urban Heat Island Effect’ refers to an increase in atmospheric and surface temperatures in areas where paved and dark surfaces dominate the landscape, in comparison to rural areas. The structures and hard surfaces absorb the sun’s heat during the day but do not cool down significantly at night (Switch your thinking, 2022). Contributing factors include dark surfaces that absorb significantly more solar radiation, use of materials such as concrete and asphalt, lack of evapotranspiration due to limited vegetation cover and geometric effects of tall buildings.

The urban heat island effect can increase local temperatures by 4°C which can result in an increase in heat-related health issues, water use, energy use and greenhouse gas emissions. Increasing trees and other vegetation in urban areas assists in reducing the urban heat island effect, benefitting the health and wellbeing of the community (Switch your thinking, 2022).

The land surface temperature over the Town of Bassendean, averaged over a two year period is shown in Figure 3 below, with the overall average in comparison to other Perth Metropolitan local government areas shown in Figure 4. Hotter areas include hard surfaces, areas with low vegetation cover, non-irrigated grass and bare ground.

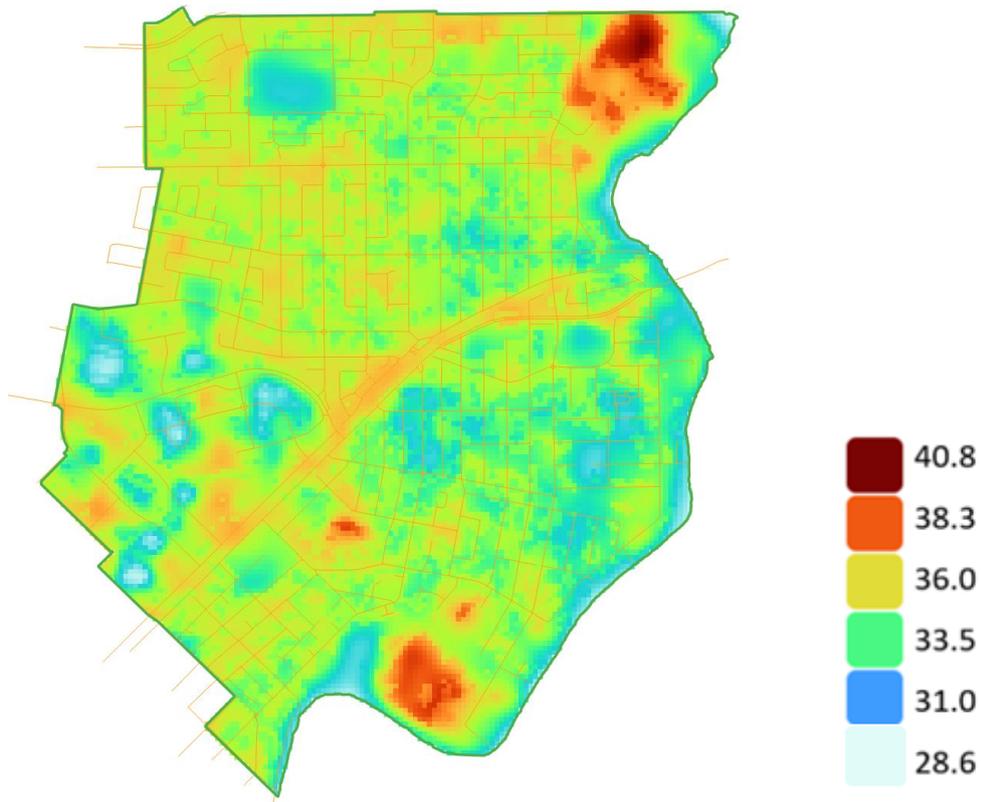


Figure 3. Land surface temperature averaged across 2020 and 2021: Source CSIRO

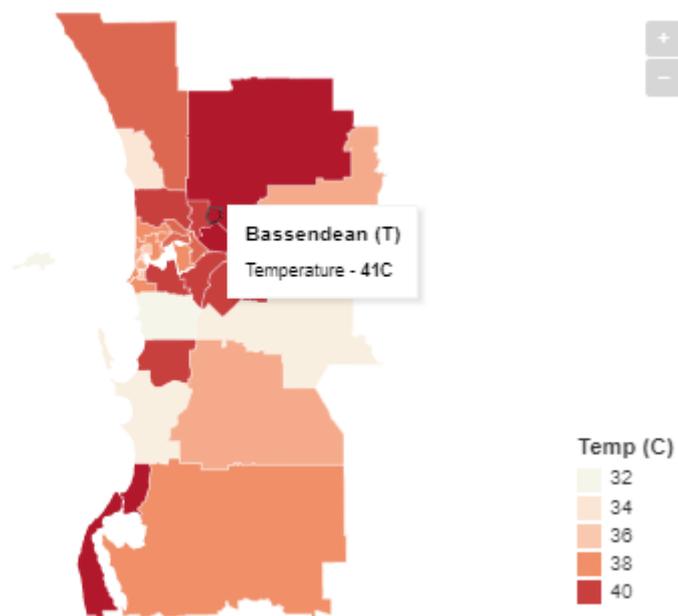


Figure 4. Average land surface temperature by Local Government Area: Source CSIRO (ABC News, 2018)

Legislative and Policy Framework

This part provides a summary of the relevant State and local planning and policy contexts and their implications for the Tree Canopy Action Plan.

<p><i>Planning and Development Act 2005</i></p>	<p>The Act defines “<i>development</i>”, however, the definition does not include the pruning, cutting or removal of a tree. As such, the removal of trees is generally unregulated.</p>
<p>Local Planning Scheme No. 10</p>	<p>Provides statutory provisions relating to the retention of significant trees through Tree Preservation Orders. As of May 2023, 28 trees subject to a Tree Preservation Order.</p>
<p>Draft Local Planning Scheme No. 11</p>	<p>Provides statutory provisions relating to the retention of significant trees through a Significant Tree Register. Will supersede Local Planning Scheme No. 10.</p>
<p>State Planning Policy 7.3 – Residential Design Codes (Vol 1)</p>	<p>Part B – Low Density Code</p> <ul style="list-style-type: none"> • Part B: includes provisions applicable to single houses, grouped dwellings and multiple dwellings (including the dwelling component of mixed use development) in areas coded R25 and below. • Requires 1 ‘small tree’ (9m² deep soil zone and 1.5m deep soil dimension) for single houses and grouped dwellings. <p>Future Part C – Medium Density Code</p> <ul style="list-style-type: none"> • Part C: includes provisions applicable to single houses and grouped dwellings in areas coded R30 and above, R100-SL and R-AC; and multiple dwellings (including the dwelling component of mixed use development) in areas coded R30 to R60 inclusive. <p>Requires 1 small tree per single house; For grouped dwellings - 1 small tree or 2 small trees where primary garden area is reduced in accordance with codes; or sliding scale based on site area for multiple dwellings.</p>
<p>State Planning Policy 7.3 – Residential Design Codes (Vol 2 – Apartments)</p>	<ul style="list-style-type: none"> • Provides planning and design standards for residential apartments (multiple dwellings) in areas coded R40 and above, within mixed use development and activity centres. • Requires deep soil areas to be co-located with existing trees for retention and/or adjoining trees, or alternatively provided in a location that is conducive to tree growth and suitable for communal open space.

	<p>Minimum deep soil area and requirement for trees is based on site area, with varying minimum widths of deep soils areas based on tree size.</p>
<p>Local Planning Policy No. 13 - Tree Retention and Provision (June 2020)</p>	<p>The Policy applies to:</p> <ul style="list-style-type: none"> • Any assessment of whether a tree(s) should be subject to a Tree Preservation Order. • All applications for subdivision involving residential-zoned land and/or residential development. • All applications for development approval involving Single Houses and Grouped Dwellings, where the estimated cost of development is \$100,000 or more. <p>It requires the planting of one tree per 350m² of land area which can be offset via the retention of existing significant trees.</p>
<p>Council Policy - Street and Reserve Trees (June 2022)</p>	<p>Aims to provide consistent and effective management in relation to the promotion and protection of trees located on land vested with or managed by the Town</p>
<p>Town Centre Masterplan (November 2021)</p>	<p>Includes a <i>green and shaded town centre</i> as a guiding principle, with:</p> <ul style="list-style-type: none"> • No net loss of green space across the town centre • Net increase in tree cover across the town centre
<p>WA Local Government Association's Advocacy Position 4.6 Urban Forest</p>	<p>Advocacy to State Government to promote the growth of Western Australia's urban forest, with key points including:</p> <ul style="list-style-type: none"> • Identification of a lead agency with responsibility for setting the strategic direction and oversight of urban forest initiatives. • Development of a state-wide Urban Forest Strategy with a minimum tree canopy target of 30% by 2040 for the Perth and Peel regions. • Development of contemporary legislative and policy mechanisms to enable the protection and growth of urban forest. • Work with Local Government and other stakeholders to increase community awareness and promote behaviour change. • Provide recurrent funding for an Urban Greening Grant Program for Local Government.

Markyt Community Scorecard

In the 2022 Markyt Community Scorecard survey, *Sustainable practices and climate change* was identified as one of the five priority areas for the community, with the following Community Driven Actions relating to tree canopy identified:

1. Plant more trees, in particular native species, to develop the urban canopy, reduce heat and support local fauna.
2. Introduce tighter development controls to retain existing trees and green space.
3. Continue to convert to underground power to improve tree canopies.

Defining and Measuring Tree Canopy

Tree or canopy cover refers to the combined area of trees greater than 3 metres in height as a percentage of the total land area, measured from an aerial view. Shrub cover is typically vegetation less than 3 metres in height (excluding grass), with tree and shrub cover together making up green cover.

Mapping of vegetation cover (for different vegetation types/ heights) has been undertaken for the Perth Metropolitan region every two years since 2014, through CSIRO's Urban Monitor (DPLH, 2020).

The Urban Monitor data is published on the Department of Planning, Lands and Heritage's Tree Canopy Dashboard, providing information on the change in canopy cover for each local government area for different land use types (parks, roads and street blocks). The dashboard also provides canopy cover over each suburb and Local Planning Scheme zone.

Additional analysis has been undertaken by the Town to identify the 2020 canopy cover over each of the land use zones/ reservations under the Metropolitan Region Scheme and Local Planning Scheme No. 10.

The 2022 Urban Monitor canopy data is expected to be available in 2023.

Our Canopy over Time

In 2014, the University of Technology Sydney completed the first ever benchmarking of urban tree canopy cover in Australia using the i-Tree methodology (Jacobs et al, 2014). In this report, Town of Bassendean was identified as having a relatively low canopy cover of 15.7% based on 2011 aerial imagery.

In the subsequent *Greener Spaces Better Places* 2020 benchmark, Bassendean ranked 16th out of 20 Australian local government areas in its category, with 22.6% green cover (trees plus shrubs).

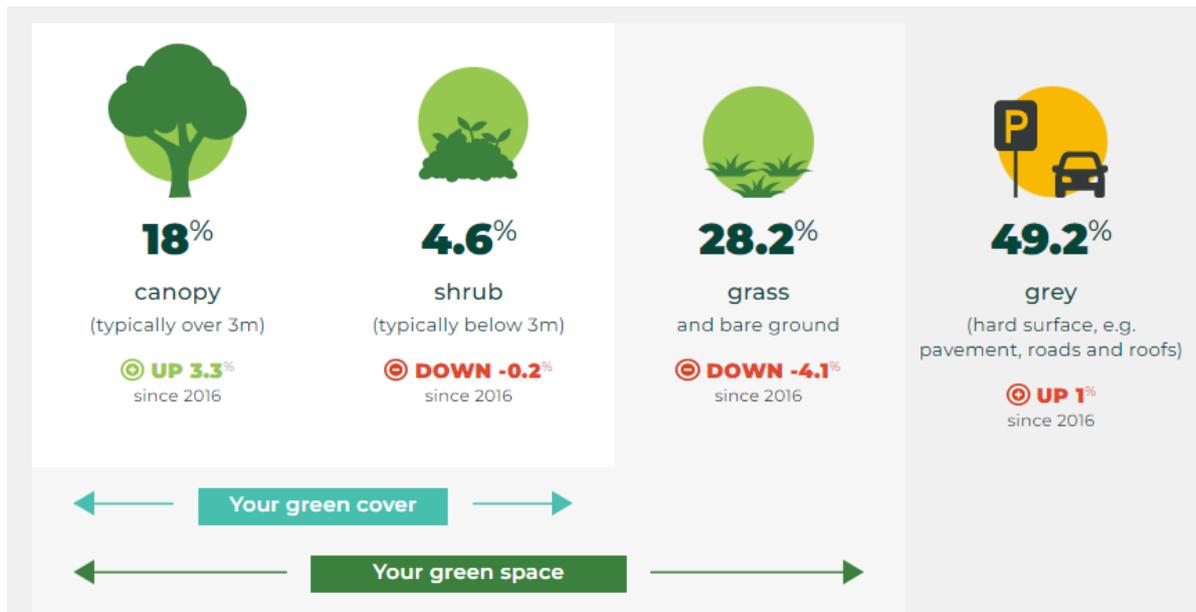


Figure 5. Town of Bassendean green space (Greener Spaces Better Places 2020)

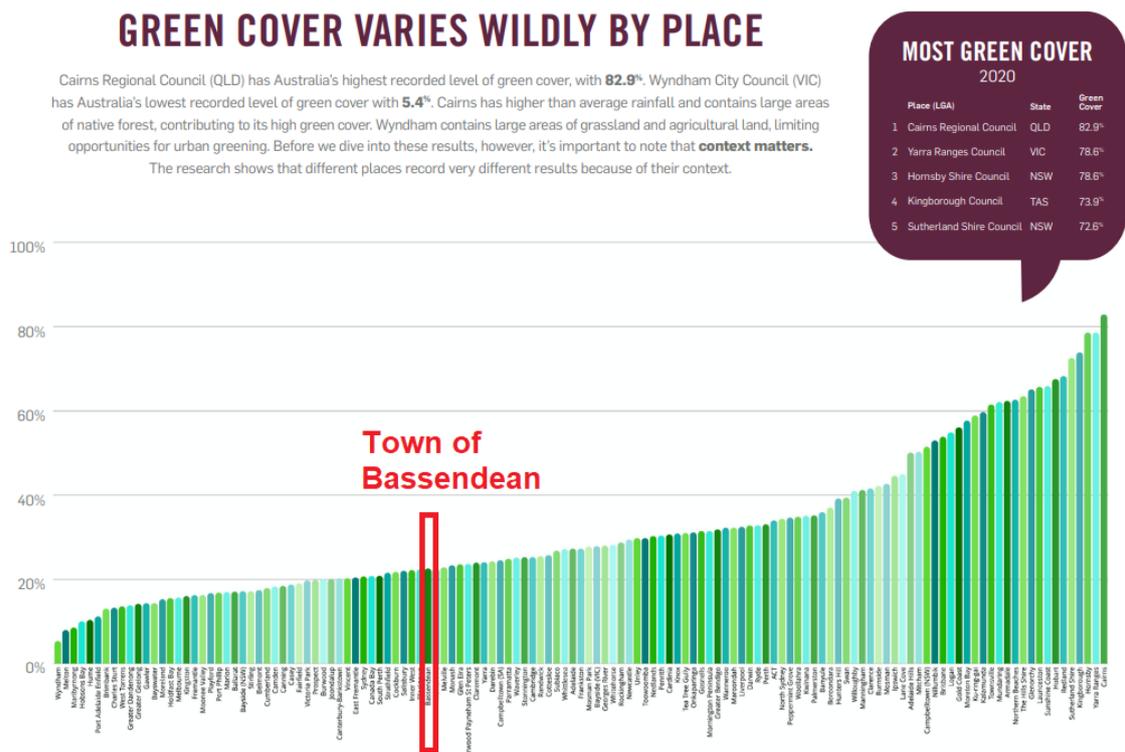


Figure 6. Town of Bassendean green cover (Greener Spaces Better Places 2020)

As mapped by CSIRO's Urban Monitor (utilising a different methodology), tree canopy cover over Bassendean increased between 2014 and 2020, from 12% to 15%. An increase was observed over all land types with street blocks increasing from 11 to 13%, roads from 11 to 15% and parks from 19 to 25% (DPLH, 2020).

2020 canopy cover over each land use zone is shown in the table below, with the highest percentage cover over land reserved for Parks & Recreation and Public Purposes. The extent of each land use zone is shown in Figure 7.

Land use	% tree canopy cover over MRS/ LPS 10 zone	Tree cover area (ha)	Total land area (ha)
LPS10 Parks and Recreation	27%	4.69	17.18
MRS Parks and Recreation	24%	4.80	20.03
Combined Parks and Recreation	26%	9.49	37.21
MRS Public Purposes	24%	2.59	10.69
LPS10 Public Purposes	24%	1.16	4.91
Combined Public Purposes	24%	3.75	15.6
LPS10 Residential	14%	9.54	67.2
Road and Rail Corridors	13%	3.85	28.73
LPS10 Town Centre and Local Shopping	7%	0.06	0.85
LPS10 Industry	2%	0.06	2.69

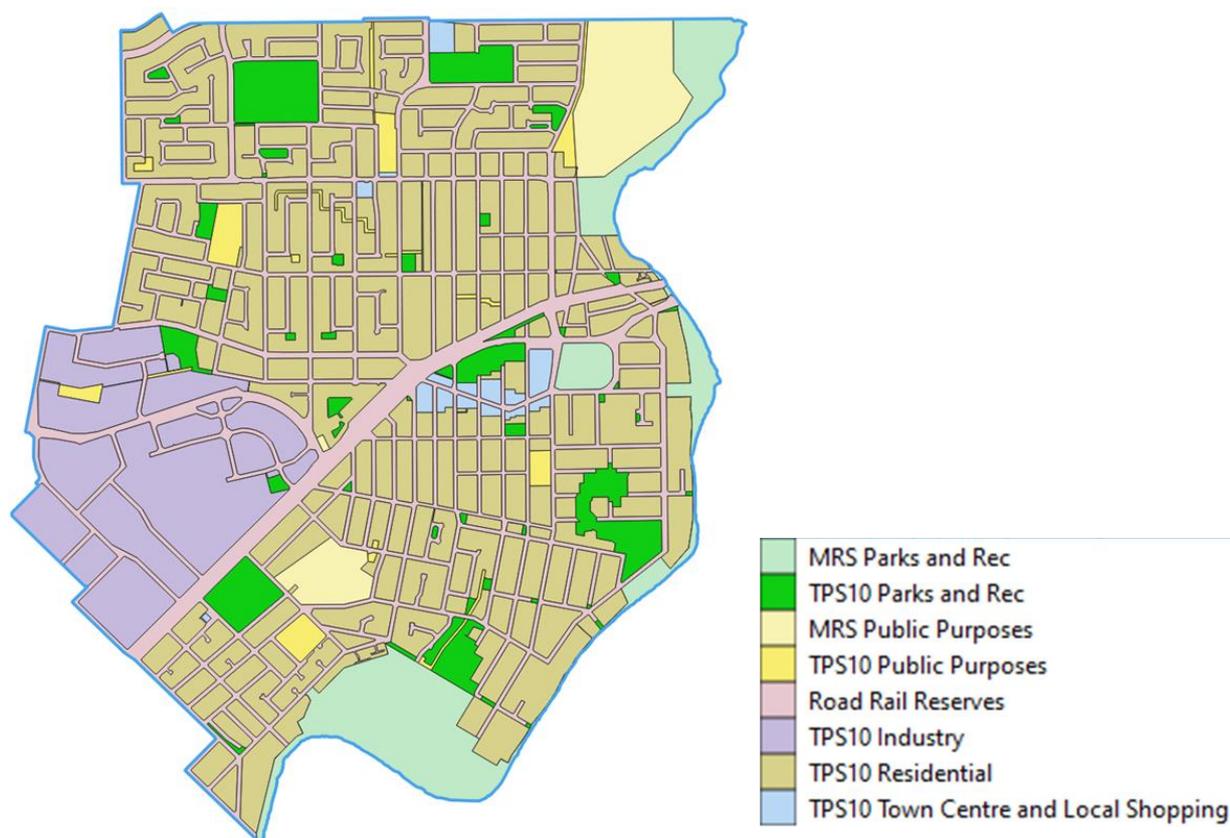


Figure 7. Land use zones (MRS and LPS)

When considering the Town’s total 2020 canopy cover (by area), the majority is located within Parks & Recreation reserves (36%) and Residential zones (36%), followed by Road and Rail Corridors (14%) and Public Purposes (14%). The Town Centre and Local Shopping and Industry Zones contain a very low proportion of the Town’s canopy (<1%). This is shown visually in Figures 9 and 10 below, for a subset of the residential zone and the industry zone respectively.

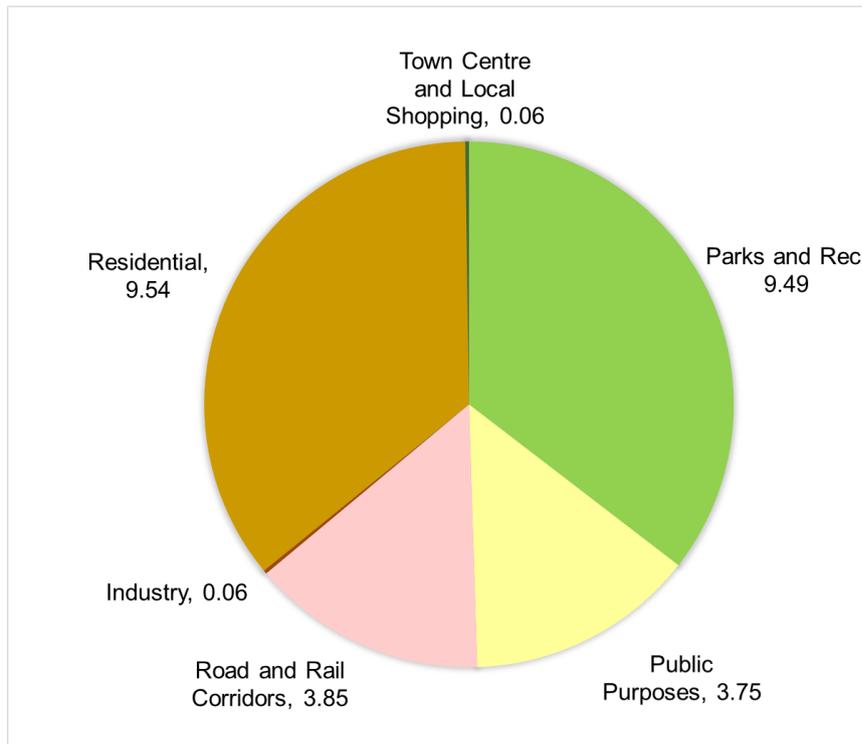


Figure 8. Total canopy area (ha) categorised by land use zone



Figure 9. 14% canopy cover (purple) over the LPS 10. Residential zone

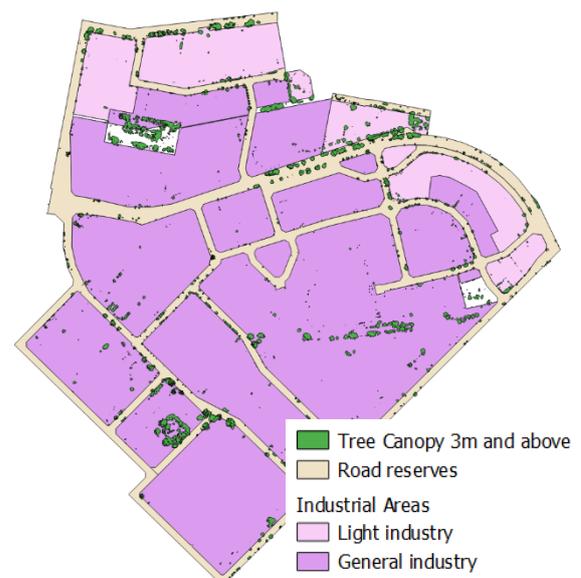


Figure 10. 2% canopy cover over the LPS 10. Industry zone and road reserves

When considering the total land area, the Residential zone is by far the largest proportion of the Town, followed by Parks and Recreation, Road and Rail Corridors and Public Purposes. There may therefore be greater benefits in targeting our efforts in the residential zone, due to the larger potential land area for canopy protection/ provision.

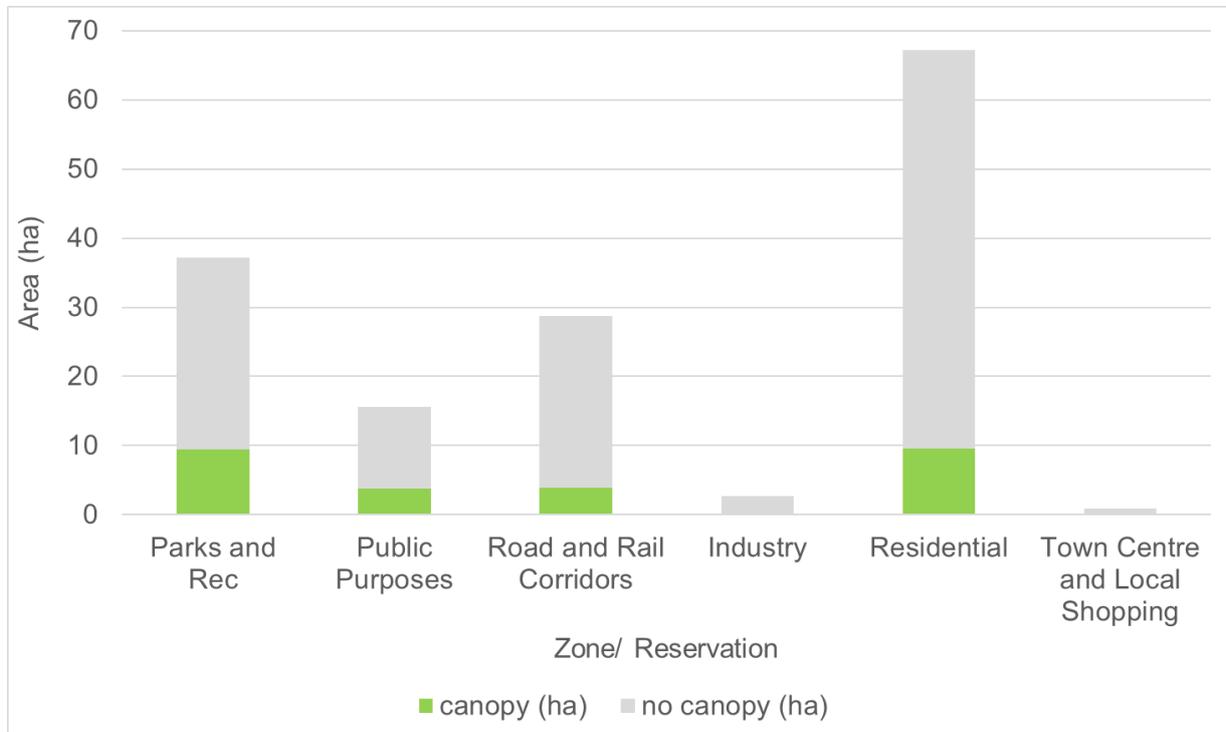


Figure 11. Total land area for each land use zone (with/ without canopy)

Achievements to date

The Town has implemented several projects to increase canopy cover, with the availability of grant funding increasing the Town's capacity to undertake greening.

Street Tree Inventory

In early 2020, the Town embarked on a project to update its existing street tree database. The inspection took approximately two years to complete, resulting in a database with 10,200 recorded trees with details including a photograph, spatial location; botanical name; common name; height (m); canopy width (m); trunk diameter (mm); condition; location suitability; estimated life range; and presence/absence power lines. The database also includes some trees in parks and reserves.

Approximately 233 different tree species were recorded, with the top 10 most common as follows:

Species Name	Common Name	Number (Sept 2022)	Percentage
<i>Callistemon</i> sp (71% <i>Callistemon viminalis</i>)	Bottlebrush	1,276	13%
<i>Jacaranda mimosifolia</i>	Jacaranda	730	7%
<i>Melaleuca quinquenervia</i>	Broadleaved Paperbark	671	7%
<i>Agonis flexuosa</i>	West Australian Peppermint	530	5%
<i>Lophostemon confertus</i>	Queensland Box	522	5%
<i>Corymbia ficifolia</i>	Red Flowering Gum	508	5%
<i>Eucalyptus rudis</i>	Flooded Gum	357	4%
<i>Eucalyptus leucoxylon</i>	South Australian Yellow Gum	342	3%
<i>Corymbia maculata</i>	Spotted Gum	323	3%
<i>Eucalyptus sideroxylon</i> 'rosea'	Red Flowered Ironbark	259	3%

Verge Rebate and Street Verge Transformation Program

Launched in 2021, these programs incentivise and assist residents to transform grassed or paved/ hardstand verges to native, waterwise gardens. Verge rebates are available to residents across the Town (subject to eligibility criteria), whilst the Street Verge Transformation Program is targeted in certain areas to concentrate benefits (cooling, habitat connection) and to maximise the visual impact with the intention of promoting others to consider their own verge transformations.

In 2021 the transformation program targeted the area around Mary Crescent Reserve, to expand on the cooling benefits of the Greening Australia 'Our Parks Our Place' project and create habitat linking Pyrton and Mary Crescent Reserve (Local

Linkage 3, Figure 2). In 2022 the program targeted properties along the Whitfield Safe Active Street, to provide cooling benefits and increase the walkability/cyclability of the link between Palmerston Reserve and Sandy Beach Reserve/Ashfield Flats.

Outcomes of the programs have included:

- 17 verges participating in the 2021 Street Verge Transformation Program around Mary Crescent Reserve, including the installation of 4 street trees.
- 12 verges participating in the 2022 Street Verge Transformation Program along Whitfield Safe Active Street (all verges had existing trees)
- 10 residents receiving verge rebates in 2021, and 867 waterwise plants being installed by residents.
- 13 residents receiving verge rebates in 2022, and 389 waterwise plants being installed by residents.

Plants to Residents Program / Foreshore Plants to Residents

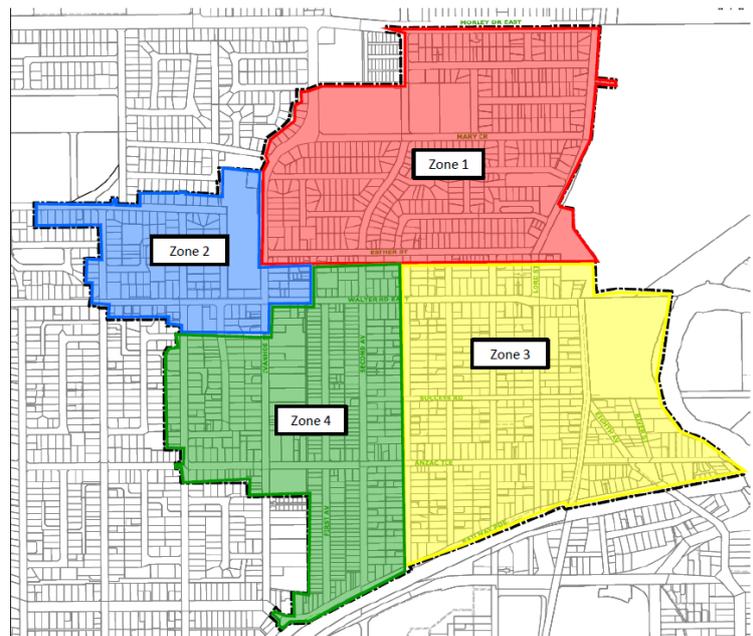
This Program has been ongoing since at least 2011, with subsidised native seedlings available to residents. Through the 2022 Plants to Residents Program, 7200 local, native seedlings were planted in residential gardens, of which 742 were trees. In 2023 funding was increased to allow the provision of 8,690 native seedlings.

In 2023, the Foreshore Plants to Residents Program was launched in partnership with the Bassendean Preservation Group GroCentre, with the aim of providing riverside properties plants to increase habitat within the Swan River Regional Linkage, and aid in reducing erosion of the shoreline.

Underground Power Projects

The Eden Hill Underground Power Project (Zones 1 and 2) was completed in 2022 and was the priority area for street tree planting in that year. Zones 3 and 4 are the priority for planting in 2023.

Many of the remaining trees that were located under the overhead power lines have been pruned for many years to manage Western Power infrastructure vegetation clearance requirements. Unfortunately, these trees will not often reach their full canopy development and suffer from structural integrity and form issues. As such, undertaking succession planting and replacing these trees will ensure the Town continues to maximise its urban canopy.



Tree Planting

To increase tree canopy cover, the Town has planted 2500 street and reserve trees between 2020- 2022, generally using 35L size pots. The newly planted trees are maintained and watered twice weekly from October – April for 2 – 3 years after planting.

Urban Canopy Grant Program

The Urban Canopy Grant Program was provided by Water Corporation and administered by WALGA with the intent of expanding the tree canopy in high urban heat risk areas in the Perth and Peel region. The Town of Bassendean successfully applied for the co-funding scheme in 2021 and used the funds to install 174 trees across areas experiencing high urban heat with low existing canopy in the 2022 planting season.

Tree Planting for The Queen's Jubilee

In 2022 the Town was successful in an application to the *Planting Trees for the Queen's Jubilee* grant, for the planting of 46 native trees at Jubilee Reserve in winter 2023.

Green Trail

In 2020, the State Government began construction on a principal shared pathway (PSP) next to the Success Hill Train Station, closing the final gap in the Perth to Midland PSP. As part of the project, the Department of Transport, Main Roads WA and Town of Bassendean developed the Green Trail initiative to add native landscaping to the area along the new path, and broader route. The State Government-funded initiative is the second of its kind in WA, and aimed to create a shaded and scenic route for walkers and riders alike.

On ground works for the Green Trail initiative started in 2021 with a community tree planting day, where residents assisted in the installation of 39 street trees along the PSP, from the river end of Railway Parade to the railway underpass. Planting works in the same stretch of the PSP started in June 2021, with students from La Salle College participating in planting days to work towards their Certificate II Active Volunteering Course. Over 6,000 waterwise native plants were installed along the PSP, with infill planting works to be undertaken in 2023 and 2024.

Natural Area Restoration

Significant planting is undertaken in the Town's natural areas, as outlined in the 10 year management plans for each location. In 2022, nearly 25,000 seedlings established of which 2070 were trees.

Future Changes

Perth is growing, and by 2050 the State Government predicts that an additional 800,000 homes will be needed to accommodate the population. To minimise urban sprawl and the negative environmental, economic and social impacts that come with it, roughly 47% of these additional homes will be built in existing suburbs.

The State Government has allocated the Town of Bassendean a target of an additional 4,150 homes by 2050. The Draft Local Planning Scheme 11 and Local Planning Strategy proposes much of this development to occur around the Town Centre.

In catering for an increased population, it is important that this infill development does not come at the detriment of the Town's urban forest and canopy.

An additional pressure on the Town's existing trees is the changing climate. Under a high emissions scenario, in 2050 the climate of Perth will be more like the current climate of Jurien Bay. The predicted impacts of climate change for the South-western Flatlands Region (which Perth is within), relevant to tree health includes:

- Drought/ reduced winter and spring rainfall
- Higher temperatures/ evaporation/ solar radiation and extreme heat events
- Increased frequency of storms/ extreme rainfall events
- Higher sea levels and more frequent sea level extremes
- Changing climate resulting in vector borne disease changes
- Increased bushfire risk

The above changes will potentially negatively impact plant species that previously were well suited to Perth's climate, and a change to climate resilient options in new tree planting may be required.

Tree pests and diseases currently impacting or with the potential to impact trees within the Town include the European House Borer, *Phytophthora* dieback and potentially Polyphagous Shot Hole Borer. A review of the Street and Reserve Trees Planting list may be required, to avoid planting species known to be susceptible reproductive hosts for the PSHB.

Construction for Western Power's Underground Power Project NRUPP T2 is planned to commence in late 2023/ early 2024 and be complete by mid 2025, with the removal of overhead wires resulting in additional spaces for new trees/ tree canopy but also requiring succession planning for existing trees under powerlines.

Several regional roads located within the Town are proposed for future widening/ upgrade, which will inevitably result in tree loss. The Town will seek design outcomes that maximise tree retention where possible.

VISION / OBJECTIVES

A beautiful natural environment with an abundance of vegetation, trees, green open space and connection to the Swan River are highly valued by our community.

Through the Strategic Community Plan 2020-2030, we have set a Direction to support the creation of a more green and shaded Town, by creating an urban forest throughout reserves, gardens and streets and protecting existing trees and green spaces.

The Street and Reserve Trees Council Policy (June 2022) identifies the overarching aim to achieve a continuous tree canopy throughout the Town with the planting of biodiversity corridors comprising different tree species, tree sizes, food sources for wildlife and the promotion of biodiverse vegetation.

The Policy outlines that to increase the overall canopy coverage within the Town, all tree planting opportunities will be identified and planted where practicable.

The objectives of the Tree Canopy Action Plan are to increase the overall canopy coverage within the Town to meet an aspirational tree canopy cover target of 30% by 2040, by:

- **Protecting** the Town's existing trees and, through available planning mechanisms, trees on private land
- **Management** of the Town's trees to optimise resilience and canopy cover, including succession planning
- **Strategic planting** in streetscapes, parks and reserves and on private property through planning mechanisms
- **Partnership and advocacy opportunities** with WALGA and other Government land managers (e.g. schools, Department of Transport, Water Corporation)
- **Community awareness and programs** to promote tree protection and establishment of tree and shrub canopy cover on private property (residential and businesses)

ACTION PLAN

1. Tree Protection

Direction		Action	New (N) or Existing (E)	Cost	Year of implementation
1.1	Investigate incidents of tree vandalism and take action against any person who interferes with, removes, prunes or damages a tree without approval on Town-managed land	All known incidents are investigated and actioned, as a deterrent for future vandalism	E	Officer time Legal fees Signage costs	Ongoing
1.2	Requirement for verge permit as a condition of Demolition/ Building Permit approval	Tree protection requirements are imposed where works are undertaken on the verge and/or are likely to impact trees on the verge	E	Officer time	Ongoing
1.3	Apply Local Planning Policy No. 13 Tree Retention and Provision (provision for Tree Protection Orders and a reduction in number of new trees required for applicable residential subdivision and development, where a medium or large tree is retained on site).	Greater number of medium or large trees retained in perpetuity on private land through Tree Protection Orders/ notification on Title	E	Officer time	Ongoing, Policy to be reviewed following gazettal of LPS 11.
1.4	Apply standard planning conditions where development is likely to impact trees on the verge	Tree protection requirements are imposed as per Street and Reserve Trees Council Policy	E	Officer time	Ongoing
1.5	Tree retention and protection to be incorporated into all Town projects as per AS4970–2009 – Protection of trees on development sites	Consideration at early stage to ensure adequate protection of existing trees including: <ul style="list-style-type: none"> • Preliminary Arboricultural Report • Arboricultural Impact Assessment • Report (including Arboricultural Method Statement) • Monitoring and certification 	N	Arborist costs: dependent on project scope Individual tree: \$350	Ongoing

2. Tree Management

Direction		Action	New (N) or Existing (E)	Cost	Year of implementation
2.1	Maintain a street and reserve tree planting list	<i>Street and Reserve Tree Planting List</i> reviewed annually with species informed by the Street and Reserve Tree Criteria within the Council Policy (avoiding planting of borer susceptible reproductive hosts)	E	Officer time	Ongoing
2.2	Develop and implement a tree management plan as per the LGIS Tree Risk Mitigation Guide	Manage liability risks associated with trees, including limb/ tree failure and damage to infrastructure through tree root encroachment	N	Officer time (AQF Level 5 Urban Forest Officer) OR Arborist costs: \$30,000 to assess all parks, then \$15,000 per year	2023/24, then every 1 – 2 years, depending on risk
2.3	Manage and monitor tree pests and diseases, including European House Borer (EHB) and Phytophthora dieback and comply with the Polyphagous Shot Hole Borer (PSHB) Quarantine Area restrictions for movement of wood	Deadwooding of EHB susceptible species in Town managed areas Phosphite treatment in affected natural areas (Jubilee and Success Hill Reserves) Dieback hygiene practices followed Reporting any signs of Polyphagous Shot Hole Borer to DPIRD	E	EHB: \$12,000 per annum Phosphite: \$1,100 per foliar application \$1,125 stem injection, per application	EHB: Annually as part of a rolling program Phosphite: Foliar application in Jubilee every 2 years, stem injection at Jubilee and Success Hill Reserve every 5 years.
2.4	Undertake regular Powerline and uplift tree pruning	Provide safe clearance distances from powerlines and for pedestrian/ vehicle sight lines and access.	E	\$320,000 per annum	Ongoing
2.5	Review trees within Eden Hill Underground Power Zones 1 - 4 previously under powerlines to determine suitability for retention or strategic removal and replacement	All trees assessed to determine suitability for retention and if unsuitable schedule removal and replacement	N	Officer time (review)	2023/24

Direction		Action	New (N) or Existing (E)	Cost	Year of implementation
2.6	Review trees under powerlines within Underground Power Project NRUPP T2 to determine suitability for retention following project completion	All trees assessed to determine suitability for retention following removal of overhead wires due to commence in late 2023/ early 2024 and be complete by mid 2025	N	Officer time (review)	2024/25
2.7	Prepare a tree management plan for Old Perth Road	Achieve maximum canopy potential of existing trees within the streetscape through improved management regime e.g. fertiliser, mulching, soil improvements	N	Arborist: \$1000	2022/23 (Plan)

3. Strategic Planting

Direction		Action	New (N) or Existing (E)	Cost	Year of implementation
3.1	Review Transport Works Programme to determine potential to incorporate tree planting or water sensitive urban design features that support trees e.g. deep soil zones, underground storage cells, permeable paving, swales, planted medians etc.	New / re-constructed roads and carparks incorporate deep soil zones and tree infrastructure in design stage, maximising canopy potential	N	Officer time (review) Design/ construction costs included in Annual Budgets	Ongoing (annually in February)
3.2	Undertake annual winter street and reserve tree planting program (May-October), with new trees to be watered 2-3 years after establishment	Minimum of 500 advanced trees (≥35L) planted annually within road reserves and parks, and watered twice weekly November– April (weather dependent)	E	Tree supply (including incidentals): \$37,500 per annum Planting and watering: staff time (2 person crew)	Commenced 2020 (2,500 trees planted between 2020-2022)
3.3	Identify areas within reserves (sporting, recreation and nature	Assess all POS for potential planting and ecozoning locations.	E	Officer time	Annually

Direction		Action	New (N) or Existing (E)	Cost	Year of implementation
	spaces) for ecozoning and/or additional tree planting	Species selection to be in accordance with 10 Year Management Plans for natural areas/ the Town's <i>Street and Reserve Tree Planting List</i> informed by the Street and Reserve Tree Criteria within the policy.			
3.4	Identify infrastructure within POS surplus to requirements and develop a programme for conversion to canopy areas	Plan developed based on needs assessment with incorporation into Asset Management Plans/ LTFFP	N	Officer time (plan) Implementation: LTFFP	Plan: 2025/26-2026/27
3.5	Identify available verge space for future tree planting through annual audits, with priority given to completed Underground Power Zones	Assess all potential planting locations, with focus on planting in Underground Power Zones: <ul style="list-style-type: none"> • Eden Hill Zones 1 – 4 (2023 & 2024 planting) • Eden Hill NRUPP T2 (2025 & 2026 planting) Species selection to be in accordance with the Town's <i>Street and Reserve Tree Planting List</i> informed by the Street and Reserve Tree Criteria within the policy.	E	Officer time	Annually
3.6	Apply Local Planning Policy No. 13 Tree Retention and Provision (requiring all applicable residential development to incorporate a least one medium tree (or equivalent) for every 350m2 of site area)	The provision of a greater number of trees on private land.	E	Officer time	Ongoing, Policy to be reviewed following gazettal of LPS 11.
3.7	Apply Local Planning Policies No. 6 - Industrial Development and No. 7 - Commercial and Mixed Use Development	All applicable development required to include landscaping (including shade trees) and ratio of shade trees of 1 per 4 car parking bays	E	Officer time	Ongoing, Policy to be reviewed following gazettal of LPS 11.
3.8	Undertake succession replacement planting for trees reaching the end of life and remove and replace trees in decline	Regularly assess and schedule removal and replacement of trees in decline and programme replacement planting for trees with low remaining life expectancy	E	\$21,000 tree removal costs in 21/22	Ongoing

4. Partnerships and Advocacy

Direction		Action	New (N) or Existing (E)	Cost	Year of implementation
4.1	Continue to participate in the WALGA Urban Forest Working Group	Contribute to sector wide outcomes for canopy protection and provision: <ul style="list-style-type: none"> • Sector-wide advocacy position on Urban Forest in WA • Tree stock quality framework • Advocacy for changes to the <i>Planning and Development Act 2005</i> so as to enable appropriate regulation of tree removal. 	E	Officer time	Ongoing
4.2	Identify partnership opportunities for tree provision with other Government land managers (e.g. schools, Department of Transport, DPLH, Water Corporation)	Review undertaken of potential partnership projects/ sites annually	E	Officer time Project costs considered through Annual Budget	Annually
4.3	Identify potential tree planting locations on leased premises owned by the Town	Sites reviewed and meetings held with clubs/ lessees to discuss potential tree planting opportunities	N	Officer time Project cost: utilise tree planting budget	2023/24

5. Community Awareness and Programs

* \$10,000 Waterwise Greening funding received annually towards these actions

Direction		Action	New (N) or Existing (E)	Cost	Year of implementation
5.1	Provide subsidised native, waterwise seedlings (including trees) to residents through the Plants to Residents Program	>6000 plants provided to residents at subsidised cost of \$1 per plant, through an annual Plants to Residents Program	E	*\$15,000 per year	Ongoing
5.2	Develop a Trees to Residents Program	Program for provision of free/ subsidised trees to residents developed for consideration in a future budget	N	To be considered in the 2024/25 Annual Budget	2024/25
5.3	Provide support for debris management of trees included on the Significant Tree Register	Application and approvals process developed for provision of an additional FOGO bin at no charge to residents/ businesses with a Significant Tree on their property	N	Included in Waste Services budget (\$181 per additional FOGO bin)	Ongoing
5.4	Provide rebates to assist residents to transform their verge from grass/ hardstand to a waterwise garden (Verge Rebate Program)	Residents eligible to receive a rebate of up to \$200 (subject to pre-approval/ until funding allocation is exhausted), in an annual Verge Rebate Program.	E	*\$5,000 per year	Ongoing
5.5	Provide in kind support to transform grassed/ paved verges within target area to waterwise gardens (Street Verge Transformation Program)	New target area identified annually based on biodiversity corridors or other criteria such as Urban heat or walking/cycling routes, with residents invited to submit EOI to participate: <ul style="list-style-type: none"> 2023: Success Hill Reserve to Railway Parade (Swan River Regional Linkage) 	E	\$15,000 per year	Ongoing
5.6	Participate in the WA Tree Festival	Activities/ workshops/ events with a tree related theme organised as part of the WA Tree Festival from April – May annually	E	BAU plus \$5000 per year allocated in Arts, Culture & Events Strategy from 2023/24	Ongoing

Direction		Action	New (N) or Existing (E)	Cost	Year of implementation
5.7	Promote Adopt a Verge Tree and Request a Verge Tree to residents	Adopt a Verge Tree and Request a Verge Tree information published on the Town's website and once annually through Thrive	E	Officer time	Ongoing
5.8	Promote the Waterwise Verge Guidelines	Waterwise Verge Guidelines published on the Town's website and cross-promoted as part of Plants to Residents/ Verge Programs	E	Officer time	Ongoing
5.9	Provide Community Funding opportunities through the Environment and Sustainability Grant	Grants available to support community projects, programs, events and other initiatives that have direct and ongoing benefits to the natural environment (which may include tree/ canopy provision)	E	BAU (up to \$2000 funding per application)	Ongoing
5.10	Provide advice and incentives for tree planting within Industrial properties	Increased tree planting within industrial properties, with interest sought through EOI process e.g. Trees to Businesses	N	Officer time Project cost: utilise tree planting budget	EOI: 2023/24
5.11	Develop a Tree Planting Guideline	Guideline developed to provide information to the community on tree species planted in streetscapes and reserves.	N	Officer time	2024/25

6. Monitoring and Review

Direction		Action	New (N) or Existing (E)	Cost	Year of implementation
6.1	Report on canopy outcomes in Annual Report (number of trees planted, changes to canopy cover)	Community is well informed of tree/ canopy cover over different land use types over time and action taken by the Town	E	Officer time	Ongoing
6.2	Review CSIRO Urban Monitor canopy data when released and update internal Intramaps GIS	Spatial information on tree/ canopy cover available to assist with review of previous programs and future strategic planting	E	Officer time	Biannually (2023, 2025, 2027)
6.3	Maintain the street tree inventory (new and removed trees and proposed planting locations) and publish on internal Intramaps GIS	Accurate data available to assist with tree management	E	Officer time	Ongoing: new and removed trees
6.4	Re-assess condition and attributes of trees in street tree inventory (photograph, spatial location; botanical name; common name; height (m); canopy width (m); trunk diameter (mm); condition; location suitability; estimated life range; and presence/ absence power lines)	Information used to inform future strategic planting/ succession planning	N	Officer time	Within 5 years (2027)
6.5	Monitor and report survival rates of newly planted street and reserve trees (species, location etc), for 3 years after planting	Data reviewed to guide future planting programs including species lists	E	Officer time	Annually
6.6	Review number, species and size of trees removed annually and reason for removal	Data recorded and reviewed to inform future tree protection/ strategic planting/ succession planning	N	Officer time	Annually
6.7	Review 2022 Urban Monitor data and consider likely future trends to set realistic canopy targets for specific land use zones/ reservations	Canopy targets included in 2024 review of the Street and Reserve Tree Council Policy	N	Officer time	2023/24

REFERENCES

ABC News (2018) How hot is your neighbourhood? Areas of Perth feel the heat as tree canopies dwindle, Accessed April 2023 [How hot is your neighbourhood? Areas of Perth feel the heat as tree canopies dwindle - ABC News](#)

Department of Planning, Lands and Heritage (2020) CSIRO Urban Monitor

EMRC (2008) Collective Local Biodiversity Strategy – Town of Bassendean, City of Bayswater and City of Belmont, Accessed April 2023 [BBB-Biodiversity-Strategy.pdf \(bayswater.wa.gov.au\)](#)

Jacobs, B., Mikhailovich, N., and Delaney, C. (2014) Benchmarking Australia's Urban Tree Canopy: An i-Tree Assessment, prepared for Horticulture Australia Limited by the Institute for Sustainable Futures, University of Technology Sydney

Greener Spaces Better Places (2020), Where should all the trees go?, Accessed April 2023 [wsattg.pdf \(greenerspacesbetterplaces.com.au\)](#)

Switch your thinking (2022), The many benefits of urban greening, Accessed April 2023 [The many benefits of urban greening - Switch Your Thinking](#)