



Greening Gosnells: Our Urban Forest Plan 2022 – 2030



Making the City of Gosnells a great place

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Front cover: Gosnells Town Square
This Image: National Tree Day 2020,
Katrine Parade Reserve

The Benefits of Trees

Trees provide significant amenity in the urban environment and contribute to the health and wellbeing of the community. They are generally viewed as attractive features and make outdoor activities such as walking and cycling more pleasant.

Trees also provide shade, which makes trips by foot or bicycle more comfortable and they help to cool suburbs. In doing this, they reduce what is known as the 'urban heat island effect'. This is a phenomenon which occurs when natural land cover is replaced with dense concentrations of pavement, buildings and other surfaces that absorb and retain heat. By shading streets and buildings, trees reduce the amount of heat absorbed by artificial materials. This shading can reduce temperatures by up to 10°C which, in turn, can reduce incidences of heat related illness and the need for air conditioning. This is particularly important as temperature records in Perth have regularly been broken over recent years.

Trees can also provide a range of environmental benefits, including acting as carbon sinks by absorbing carbon from the atmosphere, improving air quality and absorbing nutrients that can pollute waterways. Trees can reduce problems caused by stormwater run-off, by storing water and increasing infiltration. They can also enhance biodiversity and support a wide range of animal species.



Alexandria Boulevard Reserve

The Changing Nature of Trees in Gosnells

Prior to European settlement, vegetation in the City of Gosnells was defined by geology, landforms, hydrology and river systems. Indeed, the City's location, which covers both the Swan Coastal Plain and the Darling Scarp, means the City contained a diverse range of tree species. The Canning and Southern Rivers were (and still are) lined with Flooded Gums that were once surrounded by distinct woodlands of Banksia, Marri and Jarrah trees commonly intertwined with Melaleuca. Much of this land has now been adapted for settlement. The Darling Scarp represents 25% of the City's land area and is still dominated by Marri and Jarrah while supporting patches of Wandoo in alluvial soils.

Pre-European settlement, canopy cover in the City would have come from mature stands of trees in open woodland, with denser vegetation in wetlands and river valleys of the Swan Coastal Plain. Following European settlement in Perth in 1829, farms were established along the Swan and Canning Rivers, significantly changing the landscape and terrain. Market gardens, orchards and poultry farms were established and now less than 16% of the original vegetation remains.

As Gosnells has developed, with ever increasing amounts of land being subdivided for urban purposes, both tree numbers and the tree canopy has reduced. This change has been ongoing for decades. However, Gosnells has been fortunate. As urbanisation has progressed, agriculture in the area has been in decline and tree numbers and canopy cover have been growing in the City's river parks and conservation reserves on the Darling Scarp. These areas have been protected from urbanisation, and the river parks have created green arteries through many suburbs. They also ensure that in most parts of the City, trees are visible on the horizon.

Our trees currently include native and exotic species which are both deciduous and evergreen.

Trees: Our Current Situation

Trees can be measured either according to actual number or the area of tree canopy cover. In 2021, the City planted 2,800 trees (including 500 tree tube stock) and removed 650. While the City has good information on the number of trees it plants each year, there has been no census on the total number of trees within the District, a task that would be costly and time consuming. However, the City is using a new app to collect data on trees that are planted or require inspection or maintenance. As the data capture progresses, this will result in an inventory of City trees.

Tree canopy, on the other hand, considers the branches and leaves of a tree (the canopy cover) and is measured from the air. In many senses, canopy cover is a more useful measure as a small number of trees with large canopies will provide greater benefits than a larger number of trees with small canopies.

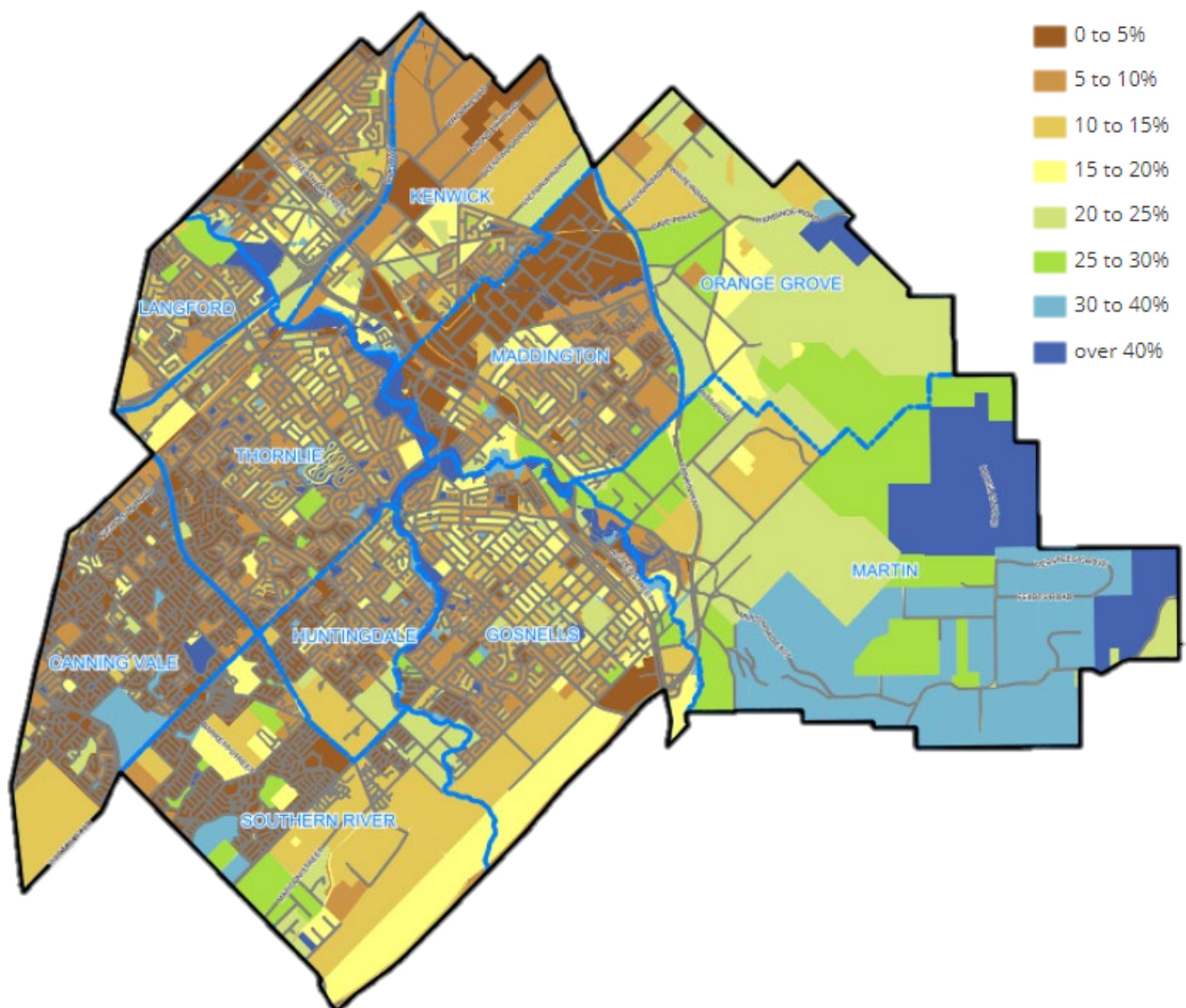
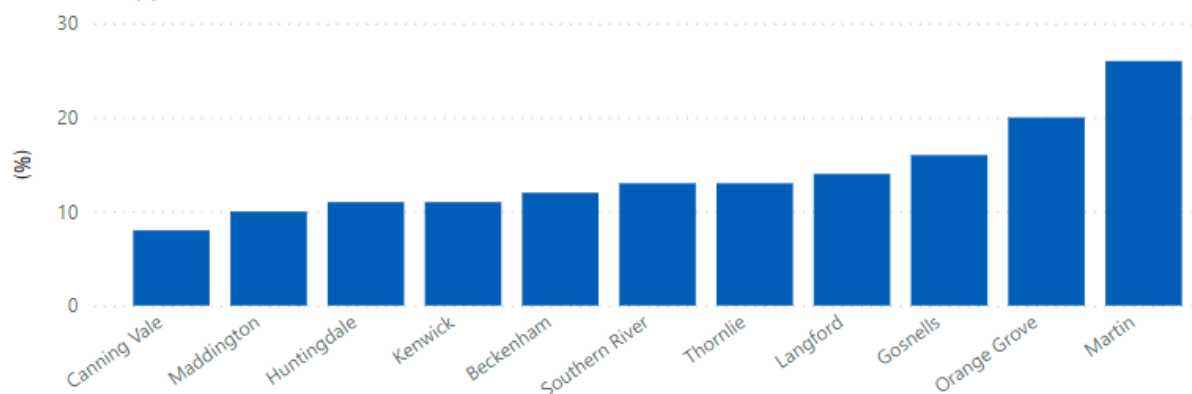


Figure 1: Canopy Cover 2020 - Department of Planning, Lands and Heritage

In 2020, the last year of available data, the City’s tree canopy covered 15% of the Gosnells land area. Of the three main land use categories, the greatest contributor to the City’s 15% canopy coverage was private land, or ‘street blocks’, (47%), followed by parks (45%) and road reserves (8%). The suburb of Martin, which encompasses large parts of the Darling Scarp, has by far the greatest area of tree canopy, while the suburb of Langford has the least. This is proportionate to the area of the suburb (Langford is the smallest suburb in the City and Martin is the largest, by area). In terms of percent coverage, Canning Vale (8%), has the smallest ratio of canopy to land.

On land owned or managed by the City, canopy coverage was 25%.

Total Canopy (%)



Coverage in Parks (%)

Suburb	2014	2016	2018	2020
Kenwick	8%	8%	10%	10%
Huntingdale	17%	17%	20%	19%
Orange Grove	25%	25%	25%	21%
Southern River	14%	14%	20%	22%
Beckenham	18%	20%	29%	25%
Langford	19%	22%	27%	25%
Maddington	25%	29%	32%	29%
Martin	30%	32%	30%	29%
Canning Vale	27%	25%	28%	31%
Thornlie	25%	29%	32%	32%
Gosnells	34%	37%	40%	38%

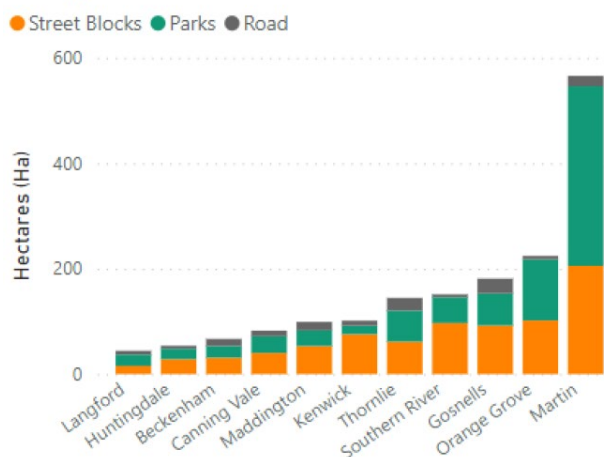
Coverage in Roads (%)

Suburb	2014	2016	2018	2020
Southern River	3%	3%	4%	4%
Canning Vale	3%	4%	4%	5%
Huntingdale	5%	6%	6%	6%
Maddington	8%	9%	9%	8%
Beckenham	7%	7%	9%	9%
Kenwick	8%	8%	9%	9%
Langford	7%	9%	9%	9%
Thornlie	7%	8%	9%	9%
Gosnells	10%	11%	12%	11%
Martin	14%	16%	17%	16%
Orange Grove	16%	18%	19%	16%

Coverage in Street Blocks (%)

Suburb	2014	2016	2018	2020
Canning Vale	5%	5%	6%	6%
Maddington	9%	9%	9%	7%
Thornlie	8%	9%	9%	9%
Beckenham	11%	11%	11%	10%
Huntingdale	9%	9%	10%	10%
Langford	9%	10%	10%	10%
Kenwick	12%	11%	13%	11%
Gosnells	12%	13%	13%	12%
Southern River	9%	9%	11%	12%
Orange Grove	18%	20%	22%	19%
Martin	24%	26%	26%	24%

Canopy Area (Ha)



Data sourced from Department of Planning, Lands and Heritage (2020)

The Challenges Faced by Our Trees

Trees face a range of natural challenges including a drying climate; more variable and irregular rainfall patterns; fluctuating ground water tables; heatwaves; and extreme weather events such as storms. Urban trees can also be vulnerable to more pests and diseases.

As if these natural challenges weren't enough, our trees also face significant pressure from human activity. For instance, the State's planning system has allowed road reserves to become much smaller which limits the capacity for large tree to be planted or for canopies to expand. However, much more significantly, urban infill on large residential lots (as shown in the aerial photo below) or greenfield subdivision at the urban fringe has had a major impact on tree numbers historically; and this impact is continuing.



Further, human activity such as importing sand and soil associated with subdivisional works can increase the acidity or alkalinity of soils which places pressure on nearby trees. Much of the Swan Coastal Plain consists of low lying areas which means that there is often a requirement to raise the ground level during subdivision, resulting in the loss of existing trees.

Additionally, the policies of agencies such as Western Power and Main Roads have required increased vegetation clearances from their assets for improved safety and protection. This further decreases the area available for planting and space for canopy growth.

Since the introduction of State Planning Policy 3.7, Planning in Bushfire Prone Areas, there has been an increase in clearing for developments in order to achieve an acceptable level of risk management. Yet, the ever increasing frequency and intensity of bushfires continue to threaten trees and canopy retention.

Finally, street trees can face challenges from neighbouring landowners who are unable to deal with leaf drop; are impacted by root or branch growth; or are affected by pollen or flowers. As more residents seek lower maintenance homes, nearby trees can be seen as an imposition rather than the amenity benefit that they are.

Planning for Action

The City's Strategic Community Plan identifies several strategies, goals and actions relevant to trees. These include:

Strategic Priority 1 – Places within the City are attractive and vibrant

Goal 1.1 Make the City a clean and attractive place.

Strategic Priority 3 – The environment is protected and enhanced

Goal 3.2 Protect and improve our natural assets and, where possible, integrate them with community activity.

Council has also adopted three policies in relation to trees. One, CP 2.3.9 Street Trees, deals with street trees with the objective of increasing the number of trees in the public realm. The second, CP 2.3.19 Trees and Urban Canopy, deals with trees and the urban canopy and articulates the City's position on tree planting and retention to expand the tree canopy. Thirdly, CP 6.2.2 Retention, Rehabilitation and Revegetation of Natural Areas (and the associated guidelines), formalises the City's position in regards to natural areas that are or will be managed by the City.

The following actions, grouped under five headings, are designed to support these priorities, goals and policies and further 'green' Gosnells.



Ellis Brook Valley

Action Plan

PLANNING FOR TREES

Plan	Timeline	Budget Implications
Advocate for the Western Australian Planning Commission (WAPC) to increase the minimum width of road reserves to facilitate increased tree planting.	Year 1 and onwards as necessary.	Staff time
Focus tree planting in locations with the greatest likelihood of survival, such as wide road reserves and public parks.	Year 1 and until minimum road reserve widths are increased.	Staff time
Develop a plan which identifies biodiversity corridors within the City.	Year 1	Staff time
Prioritise tree planting within biodiversity corridors.	Year 2 to Year 8	Staff time
Identify specific sites across the City suitable for planting trees which provide opportunities for Black Cockatoo foraging, roosting and breeding (such as Marri trees).	Year 2	Staff time
Plan to plant appropriate tree species under power lines and in other constrained urban environments.	Year 1 to Year 8	Staff time
Develop a five-year program to increase the number of trees adjacent to walkways and paths to increase shade.	Year 1	Staff time
Implement Local Planning Policy 4.7 which requires developers to provide new street trees (or pay a levy for the City to plant trees) for all new lots created.	Year 1 to Year 8	Staff time

TREES IN PARKS, RESERVES AND NATURAL AREAS

Plan	Timeline	Budget Implications
Develop a five-year program to replace lines of bollards around parks with trees where practicable.	Year 1	Staff time
Implement the bollard replacement program.	Year 2 to Year 6	Provision in operating budget.
Plant trees in place of kerbside bollards, where practical, in the future.	Year 1 to Year 8	Provision in operating budget.
Implement the program to increase trees adjacent to walkways with appropriate orientation to provide shade.	Year 2 to Year 6	Provision in operating budget.
Ensure all park redevelopments increase tree numbers and canopy coverage, with a preference for local tree species that provide habitat for native fauna.	Year 1 to Year 8	Variable, depending on park size.
Identify two parks each year where additional tree planting will occur.	*Year 1 to Year 8	Staff time
Continue to plant trees in Charles Hook Park to offset the loss of some trees associated with subdivisional development and increase canopy coverage within the redeveloped park.	Year 1 + Year 2	Provision in operating budget.
Plant trees suitable for Black Cockatoo foraging, roosting and breeding in identified sites.	Year 3 to Year 8	Provision in operating budget.

** Note that in Year 1 these two parks are proposed to be John Okey Davis Park and Nile Park.*

TREES IN STREETS AND ROAD RESERVES

Plan	Timeline	Budget Implications
Encourage residents to request free street trees through increased promotion of the scheme.	Year 1 to Year 8	Staff time
Identify streets with comparatively few street trees and write directly to their residents offering them free street trees alongside the targeted planting program.	Year 1 to Year 8	Staff time
Replace street trees which die unless there are exceptional circumstances which prevent this.	Year 1 to Year 8	Provision in operating budget.
Target unkempt and neglected side verges for tree planting.	Year 1 to Year 8	Staff time



Garden Street tree planting

TREE MANAGEMENT

Plan	Timeline	Budget Implications
Adopt high quality planting practices when planting new trees (which considers elements such as soil type and amendments, spacing and water availability) to minimise losses.	Year 1 to Year 8	Provision in operating budget.
Monitor tree pests and pathogens and develop management plans to address these as required.	Year 1 to Year 8	Staff time
Review the City's preferred tree list biennially so that it remains current and contemporary.	Years 1,3,5 & 7	Staff time
Review the City's arboriculture practices biennially so that they remain at industry best practice standard.	Years 2, 4, 6 & 8	Staff time
Implement a three year maintenance cycle for all trees on public land over 8m in height.	Year 1 to Year 8	Staff time
Undertake programmed watering and fertilising of newly planted street trees to maximise survival rates.	Year 1 to Year 8	Provision in operating budget.
Only remove healthy trees as a last resort under exceptional circumstances.	Year 1 to Year 8	Limited cost



National Tree Day 2021, Shreeve Park

PLANTING TARGETS AND PARTNERSHIPS

Plan	Timeline	Budget Implications
Ensure that at least 2,500 trees are planted in the public realm each year.	Year 1 to Year 8	Provision in operating budget.
Seek to maintain the tree canopy in Gosnells at 15% in 2030.	Year 1 to Year 8	Policy decisions and planting costs.
Continue to support the Armadale Gosnells Landcare Group (AGLG) in its tree planting efforts.	Year 1 to Year 8	Provision in operating budget.
Seek opportunities to support community tree planting.	Year 1 to Year 8	Provision in operating budget.



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