STREET TREE MASTERPLAN

Town of Cottesloe

WHAT IS A STREET TREE MASTER PLAN?

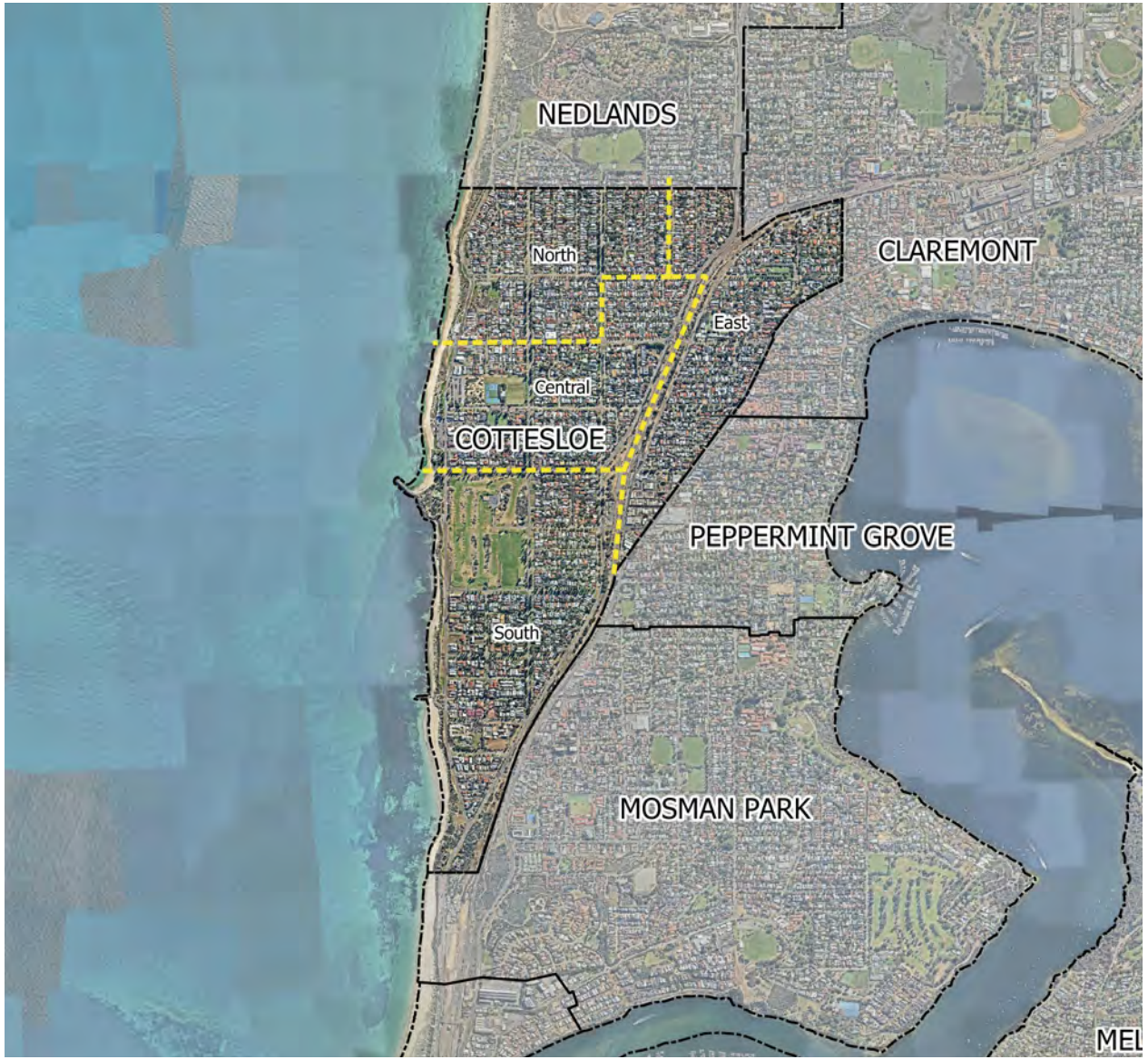
THE STREET TREE MASTERPLAN IS A TOOL DESIGNED TO HELP IMPLEMENT THE TOWN OF COTTESLOE'S STREET TREE POLICY, BY PRESCRIBING A SUITABLE TREE SPECIES FOR PLANTING WITHIN EACH STREET.

The plan identifies a cohesive palate of trees to plant on residential verges within the town, fulfilling the Town's objectives to:

- Select and maintain street trees, which enhance both existing and future streetscapes;
- Create a setting in sympathy with the function and appearance of the adjacent land uses, a safe and comfortable pedestrian environment, and cater for vehicular traffic;
- Promote the use of indigenous trees, to extend the habitat of native birds and animals in urban areas.

Town of Cottesloe

ArborCarbon



HOW DO WE DECIDE WHAT SPECIES TO USE?

Street trees are often subject to extremely hostile environments in which they must survive and grow. When selecting trees for the urban environment it is critical to identify species that can grow into healthy, long lived trees while minimizing conflicts between trees and the surrounding urban infrastructure, residents and road users.
The key principles considered when selecting species for this street tree master plan included:

- Provision of safe and attractive street trees that enhance the amenity of residents, pedestrians and buildings plus are sensitive to the landscape, infrastructure and environmental conditions;
- Provision of shade for street users in summer months and streetscape appeal;
- Contribute to a recognizable identity or 'sense of place' for streets and the town, by implementing and maintaining street tree themes. For example, the Norfolk Island Pines on Broome Street;
- Expand and contribute to the overall urban forest and canopy coverage for the Town;
- Contribute to the long-term sustainability and efficient environmental management for the Town.

The range of criteria used to evaluate the tree species master list is outlined in the following:

Deciduous or evergreen

Both deciduous and evergreen species have been provided in the master list. Deciduous species offer numerous benefits in urban streetscapes, such as shade during summer and sun during the winter. However, deciduous species are generally less tolerant of harsh heat and drought conditions. They are also commonly exotic species, therefore lack many of the ecosystem benefits provided by native trees.

Proven track record

Track record is an important criteria for tree selection. Management and replacement of street trees is a significant cost to the town and trees are important to local residents. Therefore it is important that the selected species has a track record of performance in the local area. However, it is important to trial new species in some areas in order to identify previously unused species that are more suitable to the local conditions and requirements, particularly in the event of changing environmental conditions and the possibility of future introduction of new pests and pathogens (i.e. improved resilience).

Speed of growth

Ideally fast growing trees will be selected to quickly reach maturity and form the desired canopy coverage. However, speed of growth is generally inversely related to species longevity. Therefore, a compromise needs to be reached.

Damage to infrastructure

Trees are often blamed for damaging infrastructure due to the expansion of roots under roads and pathways as well as disturbance of underground services. In many cases this is the result of poor species selection for the location. In this plan careful consideration has been given to matching tree species to the size of verge within a street, as well as avoiding species which are known to have problematic root systems.

Drought tolerance

Soils within the Town of Cottesloe are predominantly coastal sands with low water holding capacity. Across much of the area, there is only a shallow soil layer above limestone bedrock, making these soils very prone to rapid drying of the soil profile and subsequent water-stress of existing trees. Furthermore, many of the street trees in the Cottesloe area are reliant on a limited reserve of fresh groundwater. As a result, drought tolerance is a key criteria used for tree selection in this plan.

Pollution tolerance

Urban trees must deal with a range of pollutants, particularly from vehicle exhausts. Pollutant chemicals can often cause damage to leaves and shoots, species with a demonstrated tolerance to urban conditions in the Perth metropolitan region have been selected.

Figure 1: Declining Melaleuca quinquenervia showing extensive leaf yellowing.

Coastal exposure

Strong winds and saline aerosols coming from the ocean severely restrict the ability for many tree species to thrive in the coastal location of the Town of Cottesloe. Proximity to the coastline and the degree of shelter on each street has been considered when determining an appropriate species.

Figure 2: Melaleuca quinquenervia causing damage to road and curbing on Jarrad St.

Pest and disease tolerance

A successful street tree requires little management intervention post-establishment, therefore tree species must be free from common pest and disease problems encountered within Perth.

Diversity

Diversity of species within the town is important from a number of perspectives. Street trees play an important role in the overall biodiversity of the town and a wide range of tree species provides habitat for a diverse range of fauna such as insects and birds. Furthermore diverse landscapes are more resilient to pest and disease outbreaks and present a sensible risk mitigation strategy in the event of changing climatic conditions.

Structural integrity

Some tree species are more prone to limb failure than others. Trees susceptible to frequent limb failure are not suitable to street tree planting.

Shedding characteristics

All trees shed leaves, flower and fruit at certain times of year. In certain species, however, shedding can cause environmental and public safety concerns.

Tolerance to pruning

Urban trees frequently require pruning to allow clearance from pedestrians, vehicles and other infrastructure. Therefore selected species must be tolerant to regular pruning without adversely impacting tree aesthetics or longevity.

Form

Form and scale of tree species is an important consideration. Trees forming a strong single trunk with a uniform canopy are generally preferred in the urban setting. This is important to allow free movement for vehicles and pedestrians at ground level. The tree canopy should give enough shade to provide a comfortable pedestrian environment without feeling claustrophobic and damp during the winter.

Scale

Matching the size of tree to the scale of the street and planting area is important. A tree which is too large is likely to cause damage to road and pavement surfaces as the tree grows and cause conflict with adjacent residents. Trees which are too small for a verge area may look out of place and may not provide the desired canopy and shading characteristics to the streetscape.

Climate change tolerance

Our best predictions for the future climate of the region is for increasing temperatures and reducing rainfall. The precise magnitude and timing of the changes are not known, however it is important to plan for the lifespan of the tree and select species which are still likely to thrive under changing environmental conditions. Selection of a diverse mix of species is important as it creates a more resilient tree population and reduces the level of risk of the population to such factors.

Availability

It is important the species selected are readily available in large quantities from nurseries so that replacement trees can be easily sourced when required. Care should be exercised to only select quality nursery stock to maximise the chances of successful tree establishment.

FAQ

How will the masterplan be implemented?

The masterplan will be used to guide the Town's standard tree replacement and planting program. Proposed changes to streetscape themes will occur gradually as trees die naturally over time. There is no intention to remove healthy, structurally sound trees.

What about potential conflict with solar panels on houses?

The proposed tree species includes a range of deciduous options which allow increased solar access during the winter when solar radiation is at its lowest. Also care has been taken to match the scale of trees selected to the scale of each street to minimise potential impacts on residential properties.

Does the Masterplan consider existing street tree themes?

Yes, in most cases the existing street tree theme will be maintained. New themes are generally proposed where there are; few established trees, no cohesive theme, or existing trees are not thriving.

Does the masterplan include trees that support native fauna?

Yes a range of native and local species have been selected in keeping with the Town's Street Tree Policy, which aims to promote indigenous flora and fauna.

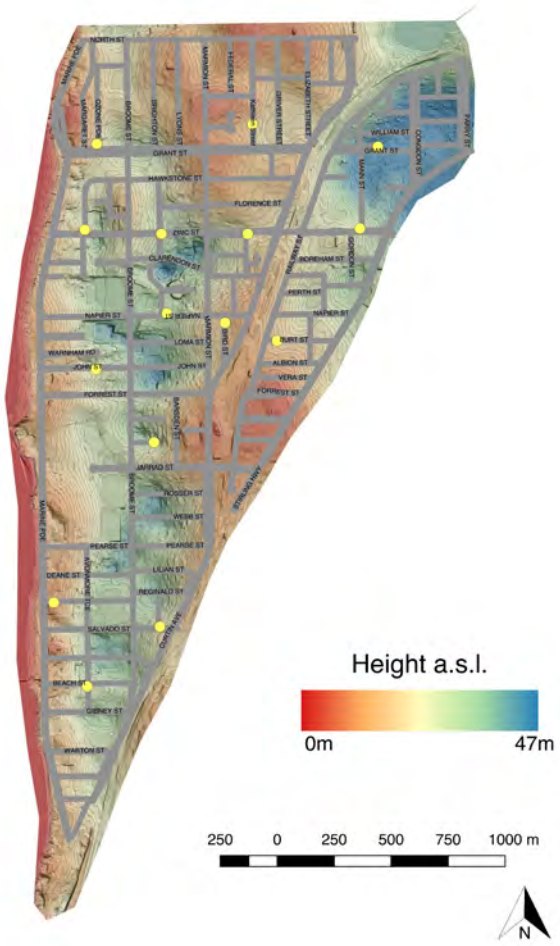


Figure 3: Map of the Town of Cottesloe showing land elevation. Yellow circles indicate the location of soil sampling points

Soil Characteristics

Surface soil (0-10cm) and sub-soil (30-40cm) samples were collected at a range of location throughout the Town of Cottesloe to help inform the tree selection process.

pH

Soil pH levels were in the alkaline and highly-alkaline range throughout the Town of Cottesloe. Surface soil pH ranged from 6.7 to 8.6 and subsoils ranged from 7.1 to 9.0. Alkaline soils restrict the availability of a range of key plant nutrients such as Phosphorous, Iron, Manganese and Zinc. Street trees must be highly adapted to live in alkaline soil conditions if they are to thrive within the Town of Cottesloe.

Salinity

Despite being close to the coast, soil salinity levels are low throughout the Town of Cottesloe. This is likely the result of the sandy soils which allow salt imported by ocean winds to quickly leach below the root zone.

Nutrient content

Sandy soils within the Town of Cottesloe contain very low levels of organic matter and all plant nutrients. Very low levels of Iron and Manganese were observed which is typical of alkaline soils and consistent with a range of leaf nutrient deficiency symptoms observed in some tree species.

Organic carbon

Organic carbon content of soils was very low, ranging from 0.23% to 3.02%. Higher organic carbon levels were associated with higher levels of availability of most essential nutrients.

Soil organic matter is very important, especially in sandy soils, because it increases water and nutrient retention properties of the soil and activity of beneficial soil organisms.

Figure 4: Top: Leaves from the declining tree pictured in Figure 1, showing distinct yellowing (left), particularly prominent between the leaf veins when compared to healthy leaves (right). This is typical of Iron and Manganese deficiency, consistent with the leaf nutrient analysis. Bottom: Relative leaf nutrient content from healthy (right) and declining (left) Melaleuca quinquenervia.

EASTERN WARD

ROAD NAME	EXISTING TREE	PROPOSED TREE	COMMENT
Albion St	*Triadica sebiferum*	*Eucalyptus torquata*	Secondary Eucalyptus torquata
Alexandra Ave	*Erythrina indica*	*Erythrina indica*	Good canopy cover
Balfour St	*Lophostemon confertus*	***Agonis flexuosa***	
Boreham St	*Mixed*	***Agonis flexuosa***	mixed Lophostemon confertus, Agonis flexuosa, Callistemon
Brixton St	*Platanus x acerifolia*	*Platanus x acerifolia*	Good looking planes, embayed trees
Burt St	*Triadica sebiferum*	*Triadica sebiferum*	Several recently established trees in poor condition
Clive Rd	*No trees*	*nil*	no verge
Congdon St	*Ficus sp.*	*Corymbia maculata, Araucaria heterophylla* **on median**	Large median containing Araucaria heterophylla, with diverse mix of native trees below. Very wide avenue would suit a tall framing tree on verge. Existing Ficus poorly suited
Curtin Road Service Road	*Mixed*	*Quercus suber*	
Dalgety St	*Triadica sebiferum*	*Pyrus usseriensis*	Pyrus better adapted to alkaline conditions
Edward St	***Agonis flexuosa***	***Agonis flexuosa***	
Elizabeth St	*Lophostemon confertus*	*Allocasuarina fraseriana*	Several box trees is poor condition
Eric St	*Araucaria heterophylla*	*Araucaria heterophylla*	
Forrest St	***Agonis flexuosa, and Araucaria heterophylla***	***Agonis flexuosa, and Araucaria heterophylla***	Verge gives way top median containing Araucaria heterophylla half way up street
Gordon St	***Agonis flexuosa***	*Melaleuca quinquenervia*	Melaleuca quinquenervia theme emerging
Grant St	***Agonis flexuosa, Erythrina indica***	***Agonis lexuosa , Araucaria heterophylla*** **on median**	Araucaria heterophylla on median
Greenham St	***Agonis flexuosa***	***Agonis flexuosa***	Southern verge has a mix of Norfolk Island Pine, Melaleuca and sheoak
Hillside Ave	***Agonis flexuosa***	***Agonis flexuosa***	
Jarrad St	*Melaleuca quinquenervia*	*Melaleuca quinquenervia*	Few trees, opportunity for improvement of busy road
Knowles St	***Agonis flexuosa***	*Eucalyptus nicholii*	Some older trees in poor condition
Lane St	*No trees*	*No trees*	No verge
Mann St	*Melaleuca quinquenervia*	*Melaleuca quinquenervia*	
Melville St	*Mixed*	*Pyrus usseriensis*	Mixed exotic jacaranda, tallow, Callistemon
Napier St	*Eucalyptus cladocalyx*	*Eucalyptus cladocalyx*	
Napoleon St	*Fraxinus angustifolia*		Embayed trees Commercial street. Pending council decision
North St	***Agonis flexuosa***	*Casuarina equisetifolia*	Isolated trees in moderate to poor condition
Parry St	***Agonis flexuosa, Araucaria heterophylla on median***	*Corymbia maculata, Araucaria heterophylla* **on median**	Very large median with Araucaria heterophylla and a range of other secondary species including Agonis flexuosa. Large avenue, would suit tall framing tree on verge
Perth St	*Lophostemon confertus*	*Eucalyptus torquata*	Secondary mix of Agonis flexuosa, Callistemon, Triadica sebiferum. Narrow verge will suit Coral Gum
Railway St, South of Albion	*No trees*	*No trees*	No verge
Railway St, Eric to Grant	*Araucaria heterophylla*	*Araucaria heterophylla*	
Railway St, Albion to Eric	*Araucaria heterophylla with callistemon secondary,*	*Araucaria heterophylla* **with** *callistemon* **secondary**	
Railway St, Congdon to Parry	*Prunus cerasifera*	*Prunus cerasifera*	Commercial area containing Prunus cerasifera as a feature
Railway St, Grant to Congdon	*Mixed*	*Mixed*	Mixed Allocasuarina fraseriana, Eucalyptus leucoxylon and others
Salisbury St	*Lophostemon confertus*	***Agonis flexuosa***	Some Lophostemon confertus in moderate to poor condition, existing Agonis look healthy
Seaview Tce	*Araucaria heterophylla*	*Araucaria heterophylla*	
Stirling Hwy	*No trees*	*nil*	No verge space currently available for planting
Vera St	*Triadica sebiferum*	*Ulmus parvifolia*	Mixed species on southern verge
Wentworth St	***Agonis flexuosa***	***Agonis flexuosa***	
West Coast Hwy	*No trees*	*No trees*	
William St	***Agonis flexuosa***	***Agonis flexuosa***	No verge on west
Windsor St	*Lophostemon confertus*	*Melaleuca quinquenervia*	Some trees in moderate condition

NORTHERN WARD

ROAD NAME	EXISTING TREE	PROPOSED TREE	COMMENT
Ackland Wy	***Agonis flexuosa***	*Allocasuarina fraseriana*	Agonis in moderate condition
Andrews Pl	***Agonis flexuosa***	***Agonis flexuosa***	Secondary mixed exotic species in variable condition
Brighton St	***Agonis flexuosa***	***Agonis flexuosa***	
Broome St	*Araucaria heterophylla*	*Araucaria heterophylla*	
Chamberlain St	***Agonis flexuosa***	***Agonis flexuosa***	
Federal St	***Agonis flexuosa***	*Eucalyptus nicholii*	Agonis in poor condition. E.nicholii will provide more open feel at ground level
Florence St	***Agonis flexuosa***	***Agonis flexuosa***	Several agonis in poor condition with some recent deaths
Grant St	*Araucaria heterophylla*	*Melaleuca lanceolata* **on verge,** *Araucaria heterophylla* **on median**	Mixed species on side verges, lack of trees near coast
Griver St	*Mixed*	*Eucalyptus gomphocephala*	Existing mix mainly Araucaria heterophylla , Lophostemon confertus, Agonis flexuosa. Large verge suited to Tuart
Hamersley St	***Agonis flexuosa***	*Casuarina equisetifolia*	Secondary Araucaria heterophylla. Casuarina better suited to street size and coastal proximity
Hawkstone St	***Agonis flexuosa***	***Agonis flexuosa***	
Kathleen St	*Lophostemon confertus*	***Agonis flexuosa***	Lophostemon confertus pruned under powerline
Knowles St	***Agonis flexuosa***	*Eucalyptus nicholii*	Some older trees in poor condition
Little Marine Pde	*No trees*	*nil*	Costal scrub, no trees
Lyons St	***Agonis flexuosa***	***Agonis flexuosa***	
Margaret St	*Melaleuca lanceolata*	*Melaleuca lanceolata*	Mix of other species including olive
Marine Pde	*Araucaria heterophylla*	*Araucaria heterophylla*	Isolated areas with Araucaria heterophylla
Marmion St	*Araucaria heterophylla*	*Araucaria heterophylla*	
North St	***Agonis flexuosa, Araucaria columnaris on*** *median*	*Casuarina equisetifolia, Araucaria heterophylla* **on median**	Isolated trees in moderate to poor condition
Ozone Pde	*Melaleuca lanceolata*	*Melaleuca lanceolata*	Occasional Araucaria heterophylla and metrosideros excelsa
Torrens Ct	*Erythrina indica*	***Agonis flexuosa***	
Torrens St	***Agonis flexuosa***	***Agonis flexuosa***	

CENTRAL WARD

ROAD NAME	EXISTING TREE	PROPOSED TREE	COMMENT
Athelstan St	*Agonis flexuosa*	*Agonis flexuosa*	Secondary Melaleuca quinquenervia, and Callistemon
Bird St	*Agonis flexuosa*	*Agonis flexuosa*	
Birkbeck Ave	*Agonis flexuosa*	*Agonis flexuosa*	Some Agonis showing stress, death of recent replant
Broome St	*Araucaria heterophylla*	*Araucaria heterophylla*	
Bryan Wy	*No trees*	*nil*	
Chamberlain St	*Agonis flexuosa*	*Melaleuca lanceolata*	Agonis in moderate condition. tea tree better suited to coastal conditions
Charles St	*Araucaria heterophylla*	*Araucaria heterophylla on West verge*	Triadica sebiferum and Lophostemon confertus on eastern verge
Charles St Service Rd			Shared verge with Eric St
Clarendon St	*Agonis flexuosa*	*Agonis flexuosa*	Agonis in poor condition, tea tree better site close to the coast
Curtin Ave, North of Jarrad	*Araucaria heterophylla*	*Araucaria heterophylla*	Erythrina indica and Lophostemon confertus on western verge where space permits. Opportunity to develop area around train station as a Natural Area.
Eileen St	*Araucaria heterophylla*	*Melaleuca lanceolata*	Small verge for Araucaria heterophylla, canopy thinning.
Eric St	*Araucaria heterophylla*	*Araucaria heterophylla*	Recently establish Norfolk pine theme, trees ca. <10 years
Florence St	*Erythrina indica*	*Erythrina indica*	Range of other mixed species present
Gadsdon St	*Araucaria heterophylla*	*Allocasuarina fraseriana*	Exposed position
Geraldine St	*Agonis flexuosa*	*Allocasuarina fraseriana*	Sheoak better suited closer to the coast
Haining Ave	*Agonis flexuosa*	*Agonis flexuosa*	
Hawkstone St	*Agonis flexuosa*	*Agonis flexuosa*	Some canopy thinning present
Henry Rd	*Agonis flexuosa*	*Agonis flexuosa*	Some older trees in poor condition
John St	*Araucaria heterophylla*	*Araucaria heterophylla*	Araucaria heterophylla planted between parking bays
John St	*Araucaria heterophylla*	*Araucaria heterophylla*	
Kiln Lane	*Metrosideros excelsa*	*Callistemon 'Kings Park Special'*	New development, recent landscaping. Araucaria heterophylla as a feature tree. Metrosideros excelsa generally performing poorly in the area
Loma St	*Araucaria heterophylla*	*Araucaria heterophylla*	Mix of Erythrina, callistemon and Agonis also present
Marine Pde	*Araucaria heterophylla*	*Araucaria heterophylla,* **as feature tree.**	Secondary Allocasuarina equisetifolia and Metrosideros excelsa
Marmion St	*Araucaria heterophylla*	*Araucaria heterophylla*	A mix of other species present
Millers Ct	*Mixed*	*Ulmus parvifolia*	Cul-de-sac, resident maintained verges
Nailsworth St	*Melaleuca lanceolata*	*Melaleuca lanceolata*	Verge variable in width
Napier St	*Agonis flexuosa*	*Eucalyptus gomphocephala*	Large verge, Araucaria heterophylla near coast. Tuart a better match than Peppermints for the street size. Well suited to conditions
Overton Gdns	*Melaleuca lanceolata*	*Melaleuca lanceolata*	No verge, median only. Metrosideros excelsa also present in in poor condition
Warnham Rd	*Melaleuca lanceolata*	*Melaleuca lanceolata*	

SOUTHERN WARD

ROAD NAME	EXISTING TREE	PROPOSED TREE	COMMENT
Avonmore Tce (Verges >8m)	*Melaleuca lanceolata*	*Melaleuca lanceolata*	Avonmore Terrace <8m - Proposed tree Hakea laurina
Barsden St	***Agonis flexuosa***	***Agonis flexuosa***	10m verge on east only
Beach St	*Melaleuca lanceolata*	*Melaleuca lanceolata*	Norfolk on north-western verges. Emerging tea tree theme
Broome St	*No Trees*	*Araucaria heterophylla*	
Broome St	*Araucaria heterophylla*	*Araucaria heterophylla*	
Curtin Ave, North of Jarrad	*Araucaria heterophylla*	*Araucaria heterophylla*	Erythrina indica and Lophostemon confertus on western verge where space permits. Opportunity to develop area around train station as a Natural Area.
Curtin Ave, South of Jarrad	*mixed*	*Melaleuca lanceolata, Eucalyptus nicholii, Allocasuarina* ***fraseriana, Melaleuca quinquenervia, Agonis flexuosa,*** *Eucalyptus erythrocorys, Melaleuca huegelii, Eucalyptus foecunda, Eucalyptus lehmannii, Callitris pressii, Eucalyptus utilis, Callistemon vimiallis*	Good stand of tuart along rail corridor. Mix of dense tree and shrub species on western verge as a visual and audio barrier
Deane St	*Araucaria heterophylla*	*Araucaria heterophylla*	
Finey St	***Agonis flexuosa***	***Agonis flexuosa***	
Forrest St	*Araucaria heterophylla*	*Araucaria heterophylla*	
George St	*Lophostemon confertus*	***Agonis flexuosa***	
Gibney St	*Araucaria heterophylla*	*Araucaria heterophylla*	
Graham Ct	*Melaleuca quinquenervia*	*Melaleuca quinquenervia*	
Jarrad St, West of Broome St	*No trees*	*No trees*	Golf course entrance road
Jarrad St, Curtin ave to Broome	*Melaleuca quinquenervia*	*Melaleuca quinquenervia*	
Lilian St	*Lophostemon confertus*	*Pyrus usseriensis*	Recent planting of Triadica sebiferum in moderate condition, verge too small for Lophostermon
Lilian St Service Rd	*Mixed*	***Agonis flexuosa***	
Macarthur St	*Melaleuca quinquenervia*	*Olea europaea*	More trees required
Macarthur St Service Rd	*Melaleuca quinquenervia*	*Olea europaea*	
Marine Pde, South of life saving club	*No trees*	*No trees*	No verge residential side
Marine Pde, North of life saving club	*Araucaria heterophylla*	*Araucaria heterophylla*	Secondary Allocasuarina equisetifolia and Metrosideros excelsa
Pearse St	*Araucaria heterophylla*	*Araucaria heterophylla*	
Princes St - West of Avonmore Tce	*Melaleuca lanceolata*	*Hakea laurina*	Tea tree is well adapted to the coast and low lying to avoid obstructing views
Princes St, East of Broome	*Triadica sebiferum*	*Triadica sebiferum*	Princes St between Avonmore Tce and Broome St - Proposed Melaleuca lanceolata
Princes St Service Rd	*Mixed*	*Eucalyptus sargentii*	
Reginald St	***Agonis flexuosa***	***Agonis flexuosa***	
Rosendo St	*Melaleuca lanceolata*	*Melaleuca lanceolata*	Some Araucaria heterophylla in moderate condition
Rosser St	***Agonis flexuosa***	***Agonis flexuosa***	
Salvado St	*Araucaria heterophylla*	*Araucaria heterophylla*	Some mixed eucalypt species towards Curtin ave.
Stanhope St	***Agonis flexuosa***	***Agonis flexuosa***	
Sydney St	*Araucaria heterophylla*	*Melaleuca lanceolata*	5m verge on north. Tea tree better match for size and conditions
Sydney St Service Rd	*Erythrina indica*	*Melaleuca lanceolata*	Tea tree is a good match for the conditions and better noise dampening
Warton St	*Araucaria heterophylla*	*Araucaria heterophylla*	Young Araucaria heterophylla on southern verge. mixed shrub on northern side
Webb St	***Agonis flexuosa***	***Agonis flexuosa***	Isolated specimens in poor condition
Webb St Service Rd	*Mixed*	*Callistemon 'Kings Park Special'*	

SPECIES USED IN MASTERPLAN

EXISTING

Native

Peppermint, Wonnil *Agonis flexuosa*
Coral tree *Erythrina indica*
Rottnest Island Tea Tree, Moonah *Melaleuca lanceolata*
Queensland Box *Lophostemon confertus*
Broad-leaved paperbark *Melaleuca quinquenervia*
Sugar Gum *Eucalyptus cladocalyx*

Exotic

Chinese Tallow *Triadica sebiferum*
Purple-leaved plum *Prunus cerasifera*
Norfolk Island Pine *Araucaria heterophylla*
London Plane *Platanus x acerifolia*

NEW

Native

Western Sheoak, Condil Allocasuarina fraseriana
Coral Gum *Eucalyptus torquata*
Spotted Gum *Corymbia maculata*
Narrow Leaf Black Peppermint *Eucalyptus nicholii*
Coastal Sheoak *Casuarina equisetifolia*
Salt River Gum *Eucalyptus sargentii*

Exotic

Olive *Olea europaea*
Chinese Elm *Ulmus parvifolia*
Cork Oak *Quercus suber*
Manchurian Pear *Pyrus usseriensis*

Peppermint, Wonnil

Agonis flexuosa

NATIVE: Endemic to Cottesloe area

HEIGHT: 10m

BARK: Rough grey/brown bark. Trunk can become think and gnarled in older trees

FLOWERS: Small white flowers produced in late winter and autumn

FOLIAGE: Slender soft foliage

Western Sheoak

Allocasuarina fraseriana

Origin: Western Australia

Height: 15m

Bark: Rough brown bark

Flowers: Insignificant brown flowers, forming small cone-like fruits

Foliage: 'Leaves' consists of slender green branchlets called cladodes

Norfolk Island Pine

Araucaria heterophylla

Origin: Endemic to Norfolk Island

Height: up to 50m

Bark: Grey/black flaking bark

Flowers: nil

Foliage: distinct uniform branching pattern, with short needle-like leaves

Bottlebrush

Callistemon 'Kings Park Special'

Origin: Australia

Height: 6m

Bark: Stringy grey

Flowers: Spectacular deep-red 'bottlebrush' shaped flower spikes in spring and early summer

Foliage: Slender dark green leaves.

Coastal Sheoak

Casuarina equisetifolia

Origin: Native to coastal areas of northern and eastern Australia as well as southern Asia

Height: up to 15m

Bark: Rough grey bark

Flowers: Insignificant flowers, forming small cone-like fruits

Foliage: Pendulous green-grey foliage

Spotted Gum

Corymbia maculata

Origin: South eastern Australia

Height: 30m

BARK: Tall straight trunk with smooth white/grey/pink bark shedding in irregular patches to produce a 'spotted' appearance

FLOWERS: White flowers produced in winter

FOLIAGE: Long dark green leaves forming an open canopy

Coral Tree

Erythrina indica

Origin: Northern Australia and Southern Asia

Height: 15m

Bark: Smooth grey/brown bark

Flowers: Crimson pea-shaped flowers occurring in clusters in late winter and spring

Foliage: Deciduous. Broad, wedge shaped leaves

Sugar Gum

Eucalyptus cladocalyx

Origin: South Australia

Height: 30m

Bark: Mottled, colourful yellow to orange smooth bark

Flowers: Cream/white coloured flowers in the summer

Foliage: Dark glossy green leaves

Napier st, East of Railway Parade

Tuart

Eucalyptus gomphocephala

Origin: Endemic to Cottesloe and the Swan Coastal Plain

Height: up to 25m

Bark: Rough, fibrous grey bark

Flowers: White flowers appear in mid-summer to mid-autumn

Foliage: Glossy thin light-green leaves

Narrow Leaf Black Peppermint

Eucalyptus nicholii

Origin: New South Wales

Height: 15m

Bark: Distinctive dark furrowed bark

Flowers: White flowers occurring in late summer and autumn

Foliage: Dull blue-green leaves

Salt River Gum

Eucalyptus sargentii

Origin: Western Australia

Height: 15m

Bark: Persistent on the main trunk, but smooth, glossy, grey to copper coloured on the upper branches

Flowers: Cream coloured flowers in the spring

Foliage: Narrow leaves, up to 15mm wide

Coral Gum

Eucalyptus torquata

Origin: Western Australia

Height: 10m

Bark: Persistent, rough, grey bark

Flowers: Ornamental buds and fruit, red/cream flower August to December

Foliage: Blue/green leaves

Queensland Box

Lophostemon confertus

Origin: Queensland and New South Wales

Height: 15m

Bark: Smooth beige coloured bark

Flowers: Small white flowers in autumn and winter

Foliage: Thick glossy leaves

Rottnest Island Teatree, Moonah

Melaleuca lanceolata

Origin: Endemic to Cottesloe area, but common to costal area of Australia

Height: up to 8m

Bark: Grey/black stringy bark

Flowers: Small white brush-shaped flowers occurring in summer

Foliage: Small, slender, dark-green leaves

Broad Leaved Paperbark

Melaleuca quinquenervia

Origin: Eastern Australia

Height: 15m

Bark: Soft, white/beige, papery bark

Flowers: Attractive white/cream colours flowers in autumn and winter

Foliage: Leathery, lance shaped leaves

Olive

Olea europaea

Origin: Mediterranean Basin

Height: 10m

Bark: Rough grey bark

Flowers: Low fruiting varieties available suited to street planting

Foliage: Dark silvery leaves

London Plane

Platanus x acerifolia

Origin: A hybrid of Platanus orientalis (oriental plane) and Platanus occidentalis (American sycamore)

Height: up to 30m

Bark: Smooth cream coloured bark shedding in flakes, producing a mottled appearance

Flowers: Insignificant flowers develop in to spherical seed-ball hanging from pendulous stems

Foliage: Broad maple-shaped leaves

Purple Leaved Plum

Prunus cerasifera

Origin: Asia and Europe

Height: 5m

Bark: Smooth dark

Flowers: Pink-white flowers emerge in spring before foliage

Foliage: Dark-purple deciduous leaves

Manchurian Pear

Pyrus usseriensis

Origin: Western China

Height: up to 10m

Bark: Smooth brown bark

Flowers: Masses of small white flowers in spring

Foliage: Compact rounded canopy. Rounded green leaves, turning reds and yellow in the autumn

Cork Oak

Quercus suber

Origin: Mediterranean Basin

Height: 18m

Bark: Known for its deeply furrowed cream/brown bark, used to make cork

Flowers: Insignificant

Foliage: Small dark green leaves

Chinese Tallow

Triadica sebifera

Origin: Warm temperate area of China and Japan

Height: up to 12m

Bark: Smooth grey bark

Flowers: Inconspicuous green/yellow flowers

Foliage: Deciduous. Heart shaped green leaves, becoming yellow and red during autumn

Chinese Elm

Ulmus parvifolia

Origin: Eastern Asia

Height: 12m

Bark: Mottled grey, red and cream coloured bark

Flowers: Inconspicuous green flowers

Foliage: Semi-deciduous, small oval shaped dark-green leaves with serrated edges

Peppermint, Wonnil

Agonis flexuosa

Western Sheoak, Condil

Allocasuarina fraseriana

Norfolk Island Pine

Araucaria heterophylla

BottleBrush

Callistemon

Coastal Sheoak

Casuarina equisetifolia

Spotted Gum

Corymbia maculata

Coral Tree

Erythrina indica

Sugar Gum

Eucalyptus cladocalyx

Tuart

Agonis flexuosa

Narrow Leaf Black Peppermint

Eucalyptus nicholii

Salt River Gum

Eucalyptus sargentii

Coral Gum

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Olive

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London Plane

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Purple Leaved Plum

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Manchurian Pear

Pyrus usseriensis

Cork Oak

Quercus suber

Chinese Tallow

Triadica sebiferum

Chinese Elm

Ulmus parvifolia

Mixed

No Tree