

Tree Valuation

All green cover provides benefit, but trees provide the greatest scope for lasting impact. Trees are valued by the community for their beauty, shade, and characters. They provide a range of benefits including improved mental and physical health, wellbeing, increased property values and reduced cooling costs. They also reduce air pollution, store carbon, slow and filter storm water run-off and provide habitat for wildlife. Trees help the community adapt to a changing climate by cooling the air on hot summer days. Trees have a role to play both in connecting communities within liveable neighbourhoods and in our response to changing climate conditions.

Our Greening Whittlesea City Forests Strategy 2020-2040 aims to increase tree canopy cover by 20% in the municipality by 2040. Complementing this, the Street Tree Management Plan provides the framework for protecting existing trees within the municipality. The tree valuation formula forms an integral part of this policy, providing a consistent process for quantifying the value of a tree.

While the policy seeks to retain all trees, in exceptional circumstances, tree removal is unavoidable and the tree valuation formula is used to calculate a monetary value of a tree to determine the compensation that must be paid by the applicant. The revenue generated from tree removal is allocated to greening projects. The valuation method is also used to calculate the value of bonds that are held against tree protection plans for public trees that may be impacted by development works.

The value of a tree as stipulated in the policy includes*:

- A Tree removal costs
- B Amenity Value (where Value = Base Value x Species x Aesthetics x Locality x Condition)
- C Reinstatement costs
- *Full details available at https://www.whittlesea.vic.gov.au/Environment/Trees-and-plants/Nature-strips-and-street-trees/Street-tree-management-plan

How was the tree valuation method developed?

The City of Whittlesea uses the same methodology as many other local governments including the City of Melbourne's methodology. The Tree Amenity Value formula used by the City of Melbourne was derived (by Dr. Peter Yau, 1990) from the Maurer-Hoffman Formula. The method has been peer-reviewed and benchmarked against other approaches for tree valuation used around the world. Modifications have been made to reflect the unique contribution of the River Red Gums to Whittlesea's character.

How is the tree valuation method applied?

The Tree Valuation Method must only be applied by a suitably qualified and competent Arborist. It is provided here as a guide and to highlight the amenity value of trees to the community.



Definitions

Arborist

A minimum AQF Level 5 Arborist or equivalent with relevant qualification or experience to undertake tree valuation assessment.

Council Arborist

The Council Arborist is the appointed representative of Council in all matters related to tree management and protection. The Council Arborist will be suitably qualified and competent as defined above. The Council Arborist is responsible for implementing all tree related policies and procedures.

Street segment

A street segment is an area that represents all or part of a street in a spatial database, enabling different areas of land to be uniquely identified and analysed. A street segment is typically the area between two intersections, or as otherwise defined by the relevant local authority.

Diameter at Standard Height (DSH)

DSH is a standard Arboricultural measurement of the diameter of a tree trunk as defined in Australian Standard AS4970-2025 *Protection of trees on development sites*. This term is synonymous with DBH, Diameter at Breast Height through an update to the Australian Standard. Both DBH and DSH are measured at 1.4m above ground level.



Calculating tree value

The formula for calculating tree value is as follows:

Tree value =

Tree removal

+

Tree amenity value (where value = base value x species x aesthetics x locality x condition)

+

Reinstatement costs

Details about each component of the value are provided below.

Tree Removal Costs

This portion of the value covers the cost of:

- Removal and disposing of the tree and its stump
- Only council's approved contractors are permitted to remove council assets
- Soil and site reinstatement if required to make site safe

An indicative cost for the removal of a tree of 5m in height in 2025 is \$675 including stump grinding. Larger trees and factors such as traffic management requirements will increase this cost.

Tree Amenity Value

The amenity value of a tree represents the contribution the tree makes to its local environment. The amenity value is calculated by taking the base value of the tree and multiplying it by several factors that can increase or decrease the base value. For example, poor condition may detract from the amenity value of a tree, while habitat features may increase its amenity value. These multipliers are explained in more detail below.

Base Value

The base value of a tree represents the value of the tree itself as a commodity in a market economy, primarily influenced by its size. The basic monetary value of a tree is determined by matching the trunk diameter at standard height (DSH) with its corresponding value, as listed in Table 1.

The base values are derived from the internationally accepted table of values devised by the Council of Tree and Landscape Appraisers and the International Society of Arboriculture. A value is determined for 1 cm² of trunk area and multiplied by the trunk area at DSH. The value of growing a tree increases over time, so correspondingly the base value of a tree will also increase.



Table 1. Base values as at 2025/26 (based on \$13 per cm² of trunk area at DBH).

DSH	Value	DSH	Value	DSH	Value	DSH	Value
2	\$40.82	46	\$21,593.78	90	\$82,660.50	134	\$183,240.98
3	\$91.85	47	\$22,542.85	91	\$84,507.61	135	\$185,986.13
4	\$163.28	48	\$23,512.32	92	\$86,375.12	136	\$188,751.68
5	\$255.13	49	\$24,502.21	93	\$88,263.05	137	\$191,537.65
6	\$367.38	50	\$25,512.50	94	\$90,171.38	138	\$194,344.02
7	\$500.05	51	\$26,543.21	95	\$92,100.13	139	\$197,170.81
8	\$653.12	52	\$27,594.32	96	\$94,049.28	140	\$200,018.00
9	\$826.61	53	\$28,665.85	97	\$96,018.85	141	\$202,885.61
10	\$1,020.50	54	\$29,757.78	98	\$98,008.82	142	\$205,773.62
11	\$1,234.81	55	\$30,870.13	99	\$100,019.21	143	\$208,682.05
12	\$1,469.52	56	\$32,002.88	100	\$102,050.00	144	\$211,610.88
13	\$1,724.65	57	\$33,156.05	101	\$104,101.21	145	\$214,560.13
14	\$2,000.18	58	\$34,329.62	102	\$106,172.82	146	\$217,529.78
15	\$2,296.13	59	\$35,523.61	103	\$108,264.85	147	\$220,519.85
16	\$2,612.48	60	\$36,738.00	104	\$110,377.28	148	\$223,530.32
17	\$2,949.25	61	\$37,972.81	105	\$112,510.13	149	\$226,561.21
18	\$3,306.42	62	\$39,228.02	106	\$114,663.38	150	\$229,612.50
19	\$3,684.01	63	\$40,503.65	107	\$116,837.05	151	\$232,684.21
20	\$4,082.00	64	\$41,799.68	108	\$119,031.12	152	\$235,776.32
21	\$4,500.41	65	\$43,116.13	109	\$121,245.61	153	\$238,888.85
22	\$4,939.22	66	\$44,452.98	110	\$123,480.50	154	\$242,021.78
23	\$5,398.45	67	\$45,810.25	111	\$125,735.81	155	\$245,175.13
24	\$5,878.08	68	\$47,187.92	112	\$128,011.52	156	\$248,348.88
25	\$6,378.13	69	\$48,586.01	113	\$130,307.65	157	\$251,543.05



26	\$6,898.58	70	\$50,004.50	114	\$132,624.18	158	\$254,757.62
27	\$7,439.45	71	\$51,443.41	115	\$134,961.13	159	\$257,992.61
28	\$8,000.72	72	\$52,902.72	116	\$137,318.48	160	\$261,248.00
29	\$8,582.41	73	\$54,382.45	117	\$139,696.25	161	\$264,523.81
30	\$9,184.50	74	\$55,882.58	118	\$142,094.42	162	\$267,820.02
31	\$9,807.01	75	\$57,403.13	119	\$144,513.01	163	\$271,136.65
32	\$10,449.92	76	\$58,944.08	120	\$146,952.00	164	\$274,473.68
33	\$11,113.25	77	\$60,505.45	121	\$149,411.41	165	\$277,831.13
34	\$11,796.98	78	\$62,087.22	122	\$151,891.22	166	\$281,208.98
35	\$12,501.13	79	\$63,689.41	123	\$154,391.45	167	\$284,607.25
36	\$13,225.68	80	\$65,312.00	124	\$156,912.08	168	\$288,025.92
37	\$13,970.65	81	\$66,955.01	125	\$159,453.13	169	\$291,465.01
38	\$14,736.02	82	\$68,618.42	126	\$162,014.58	170	\$294,924.50
39	\$15,521.81	83	\$70,302.25	127	\$164,596.45	171	\$298,404.41
40	\$16,328.00	84	\$72,006.48	128	\$167,198.72	172	\$301,904.72
41	\$17,154.61	85	\$73,731.13	129	\$169,821.41	173	\$305,425.45
42	\$18,001.62	86	\$75,476.18	130	\$172,464.50	174	\$308,966.58
43	\$18,869.05	87	\$77,241.65	131	\$175,128.01	175	\$312,528.13
44	\$19,756.88	88	\$79,027.52	132	\$177,811.92	176	\$316,110.08
45	\$20,665.13	89	\$80,833.81	133	\$180,516.25	177	\$319,712.45



Species Multiplier

The Species Multiplier accounts for particular features of different species that make them more or less valuable, such as lifespan or habitat features. Based on assessment by an Arborist, each tree is given a score that relates to its attributes using Table 1. Other factors (below) are used to modify the species multiplier.

Declared Noxious Weeds

The Declared Noxious Weeds modifier deducts points from the species multiplier score.

Environmental weeds may not be declared as noxious but are reduced in value by the modifier to reflect the negative impact that they may have on nearby bushland. The proximity of the individual trees to ecologically significant sites will be considered.

Positive Attributes

The Positive Attributes modifier applies 'bonus points' to the species multiplier score for positive attributes such as: a rare species in the locality; a special, precious or cultivated variety; a 'significant tree' registered by the National Trust; special historical or other significance, such as Aboriginal heritage value; or a tree that is being evaluated as a trial species or is the subject of specific research

Climate Suitability

The Climate Suitability modifier applies 'bonus points' to the species multiplier score.

Acknowledging Melbourne's warming climate, trees that are likely to grow well in warmer temperatures are valued more highly because they are more likely to perform well in the landscape into the future. This score applies positive values to suitable trees but does not devalue trees that are less suitable. This is because less suitable trees may still grow well in certain microclimates.

Habitat

The Habitat modifier applies 'bonus points' to the species multiplier score.

Trees play a critical role in supporting urban fauna in many ways. For example, indigenous and native trees provide greater nutritional resources for animals, whist some non-native trees may provide habitat opportunities for a range of fauna by being more likely to develop hollows.



Table 2. Species groups, modifiers and scores

Group	Characteristics	Example Genera*	Score
1	Trees of short life span (less than 40 years)	Prunus, Acacia, Hakea, Pyrus	
2	Trees of medium life span (40 -100 years)	Populus, Liquidambar, Grevillea, Melaleuca, Casuarina, Pinus, Syzygium, Melia,	
3	Trees of long life span (more than 100 years)	Hesperocyparis, Platanus, Acer, Eucalyptus, Corymbia, Angophora, Schinus, Celtis, Ulmus, Quercus, Brachychiton, Olea	1.0
		Modifiers	
	Declared Noxious Weeds	Note that Declared Noxious Weeds should be identified according to the list provided by Agriculture Victoria at Invasive plant classifications Weeds Biosecurity Agriculture Victoria, or by the relevant local authority	-0.8
	Positive attributes	If the tree has one or more of the following attributes: A rare species in the locality A special, precious or cultivated variety A 'significant tree' registered by the National Trust Has special historical or other significance, such as Aboriginal heritage value A tree that is being evaluated as a trial species or is the subject of specific research	+0.1
Modifiers		A Eucalyptus camaldulensis with a DBH over 60cm	0.2
		A Eucalyptus camaldulensis with a DBH over 100cm	0.4
	Climate suitability**	Tree species not well suited to current or future climates, or species without climate suitability rating	0.0
		Tree species suitable to the current climate as described by the Which Plant Where Tool Home Which Plant Where	+0.1
		Tree species suited to moderate climate scenario as described by the Which Plant Where Tool	+0.2
		Tree species suited to extreme climate scenario as described by the Which Plant Where Tool	+0.3
		Tree species indigenous to the local region or ecosystem***	+0.2
	Habitat characteristics	Tree species native to Australia (but not locally indigenous)	+0.1
	nabitat tharacteristics	The individual tree is a host to native mistletoe	+0.1
		Tree bearing visible hollow/s wider than 5 cm	+0.2
		Total Species Factor (S)	

^{*}Genera listed are examples only and user discretion may be applied by the Arborist on a case-by case basis. The inclusion of the River Red Gum as a species specific multiplier reflects their unique value to the municipality. River Red Gum hybrids should be included in this.

Victorian mistletoe species can be identified at https://vicflora.rbg.vic.gov.au/flora/search?q=*:*&fq=family%3ALoranthaceae The Habitat modifier is the only one for which multiple selections can be made (e.g. indigenous and hollow-bearing).

^{**} To determine climate suitability the use the Which Plant Where tool which is supported by research from Macquarie University.

Home | Which Plant Where

^{***} To determine if a species is classed as indigenous visit Council's website at <u>Whittlesea's native vegetation | City of Whittlesea</u> or Vic Flora at <u>VicFlora: Home page</u>



Aesthetics Multiplier

The aesthetic value of a tree is determined by the impact on the landscape if the tree were removed. This category is closely tied to the locality factor (L).

Table 3. Aesthetics multiplier and scores

Aesthetic Multiplier	Score
Contributes little to the landscape	0.5
One of a group of close plantings	0.6
One of a group planted widely apart	0.7
Irregular spacing between trees and/or regular spacing one side of street or pathway only	0.8
Street or pathway plantings with regular uniform spacing both sides forming avenue effect	1.2
Solitary feature specimen tree	1.2
Total Aesthetics Valu	ıe (A)

Locality Multiplier

The locality multiplier is determined by the tree's geographical location. For example, trees in highly urbanised areas experience tougher growing conditions, and are generally seen by more people, so are valued more highly.

Urban forest planning identifies areas where tree planting should be prioritised, such as areas with extreme heat, vulnerable residents or minimal tree canopy cover. Trees in identified priority planting areas are valued more highly. Similarly, trees that support habitat connectivity through the urban landscape are also valued more highly.

Table 4. Locality multiplier and scores

Locality Multiplier	Score
In isolated area where little ecosystem benefits are provided	0.8
Residential streets	1.2
In activity hubs/ town centres/ kinders	1.5
In park or reserve but not indigenous	1.0
Centre main street, avenue or boulevard	1.5
Tree contributing to a known ecological biodiversity corridor*	1.2
Total	Locality Factor (L)

^{*} Based on the City of Whittlesea's, <u>Biodiversity Strategy 2019-2029 | City of Whittlesea</u> or NEROC Report 1997 or other relevant information as determined by the local authority.



Tree Condition Multiplier

The tree condition multiplier is determined by an arborist who must consider typical attributes of the species.

Table 5. Tree Condition Multiplier

Assessment Criteria	Condition Criteria	Score
	Crown and/or shoot-tip extension growth/live bud density	
Crown vitality	80 – 100%	5
Crown vitality relates to		
the health of the tree	80 – 60%	4
and is measured in		
density of foliage and/or	60 – 40%	3
live buds, with respect to		
what is typical of the	40 – 20%	2
species in the location		
	20 – 0%	1
	Percentage crown missing	
	0 – 20%	5
Crown form	20 – 40%	4
Crown form relates to		
the shape and form of	40 – 60%	3
the tree canopy*		
	60 – 80%	2
	80 – 100%	1
	Good	5
	No obvious damage, disease, decay or structural defect. Stable in ground,	
	obvious basal flare and no history of branch failure.	
	<u>Fair</u>	
	Tree may display evidence of previous branch failure but has generally well-	4
	attached, spaced and tapered branches. Tree displays at least one of the	
	following:	
	Minor damage, decay or structural deficiencies.	
	Minor end-weight or over-extension.	
	<u>Poor</u>	
	Tree displays one or more of the following conditions:	
_	Major damage, disease or decay, exceeding recognised thresholds	2
<u>Structure</u>	Numerous fungal fruiting bodies present	
Structure relates to the	Lean placing pressure on root plate	
completeness and	Stump re-sprout	
stability of the tree's	Acute branch attachments with included bark	
root collar, trunk and	Excessive compression flaring	
branches	Foreseeable limb failure	
	Major branch end-weight or over-extension	
	Evidence of major branch failure.	
	Very Poor	
	Tree displays one or more of the following:	1
	Excessive damage, disease or decay	1
	Unstable or loose in the ground	
	Excessive lean	
	Altered exposure	
	Branch or trunk failure probable/imminent	
	Branch attachments with active split	
	Excessive branch end-weight or over-extension	
	History of major limb / stem failure with loss of holding wood	



Table 5. Tree Condition Multiplier (Continued)

Assessment Criteria	Condition Criteria	Score
	20+ years	5
<u>Useful Life Expectancy (ULE)</u>	11 – 20 years	4
The useful life expectancy of a tree is an estimate of how long a tree is	6 – 10 years	3
likely to be retained safely in the landscape based on health, amenity	1 – 5 years	2
and risk	Less than 1 year	1
	Total Condition Score	

^{*}To determine the percentage crown missing, the tree should be compared to a typical tree of the species grown in an unencumbered park setting. Crown missing will include the impact of pruning, health related decline, competition from neighbouring trees and loss of growing space due to infrastructure (such as nearby buildings). Normal canopy lift pruning to achieve pedestrian clearance should not be included in percentage crown missing.

Each tree's Condition Multiplier is derived from the tree condition score from Table 5.

Table 6. Condition Multiplier from Tree Condition Score

Score (crown vitality + crown form + structure + ULE)	Tree Condition Factor (C)
4	0.1
5	0.2
6-7	0.3
8-9	0.4
10-11	0.5
12-13	0.6
14-15	0.7
16-17	0.8
18-19	0.9
20	1.0

Amenity Value = Base Value \$ x Species Factor (S) x Aesthetics (A) x Locality (L) x Condition (C)

Reinstatement greening costs

As of 2025, tree purchase, planting, staking, mulching, irrigation, formative pruning and ongoing management for two years during tree establishment has a minimum value of \$455 per new tree. More advanced trees, grafted species and hard to propagate species increase that cost.

In most cases, one tree will be planted to replace a removed tree however in some circumstances two smaller trees may be required to offset the loss of an established nature strip tree. If modifications to the nature strip or hard surface removal is required to create a plantable space, this will also increase the cost or reinstatement.

Total Cost

Amenity Value	
Removal Cost	
Reinstatement Cost	
Total	