

AVENUE AND BOULEVARD REPLACEMENT - CITY OF MELBOURNE

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The City of Melbourne is internationally renowned for its tree-lined boulevards and parks and gardens characterised by avenue plantings along formal path networks. Melbourne's community is protective of its trees, and actively aware and interested in their health and maintenance. Consequently, any issue relating to Melbourne's trees have a high profile and generate considerable public debate.

The City of Melbourne manages approximately 52,000 trees including about 17,000 street trees. Using the City's 'tree amenity valuation formula' the total value of Melbourne's trees is estimated to be over \$520 million. This asset is irreplaceable in the short term and the tree population requires close monitoring and management to ensure its continued good health.

Melbourne has some of the most significant stands of mature elm trees remaining in the world following the destruction of many of the elm populations in the Northern Hemisphere by Dutch Elm Disease. The elms lining the major boulevards of Victoria Parade, and Royal Parade, along with the avenues of trees in the Fitzroy Gardens are registered as significant by the National Trust of Australia (Victoria). A number of the City's gardens including their trees are also registered as significant by the National Trust Australia (Victoria). Fitzroy and Carlton Gardens are listed on the State Heritage Register. Treasury and Flagstaff Gardens are currently also being considered for listing. Carlton Gardens has recently been given World Heritage listing.

Trees like all living things grow, age and eventually die. The overall age distribution of Melbourne's tree stock is skewed to older-aged trees, leading to potential loss of large numbers of trees over the next 10-15 years. Loss of such large numbers of trees would have a devastating effect on the amenity of parks and streetscapes. Most of the boulevard and avenue trees were planted between the late 1800s and early 1900s and are nearing the end of their lives. As trees age they become more vulnerable to pest and disease and other environmental pressures such as drought, compaction, pollution and traffic, all of which cause tree decline and contribute to premature death. Pests and diseases pose an enormous threat to the tree population, including the Elm Leaf Beetle and Fig Psyllid, which currently impact on elm and fig trees and require extensive treatment each year. The recent emergence of Pine Nematode, Palm Fusarium Wilt and Mundulla Yellows are also of concern. The possible arrival of Dutch Elm Disease to Melbourne is a constant threat to our ageing elm population. Council has developed, in conjunction with the State Government a Dutch Elm Disease contingency plan which sets out a comprehensive management plan to deal with possible occurrences of Dutch Elm Disease.

It has been estimated that 30 per cent of the existing tree population will require replacement over the next 10 years as a result of declining health due to ageing, drought or other factors. The following table, 'Trees Requiring Replacement Over the Next Ten Years', provides a breakdown of the numbers of trees in parks, streets and boulevards and the replacement that will be required.

Trees Requiring Replacement over the Next 10 Years

Location	Total	Avenues	Boulevard	Park	Street	Total Requiring Replacement
Major Parks & Gardens	32,092	3,308	-	28,784		10,254
Other Reserves	1,071	107	-	964		226
Boulevards	1,302	-	1,302	-		269
Streets	17,030	-	-	-	17,030	3,541
TOTAL	51,495	3,415	1,302	29,748	17,030	14,290

Neither landscape managers nor the public in Melbourne have previously witnessed the decline of the first generation of exotic plantings to such an extent. This provides many challenges: although the horticultural decisions for replacement are relatively straight forward, the community generally seems to prefer postponing replacement decisions to future generations - a view that is also appealing to short term political perspectives. The nature of boulevards and avenues in particular brings into focus the challenges of providing for the future against loss of amenity and radical change in the short term. Where there is a variety of specimen trees of varying ages planted randomly or at wide spacings, removal and replacement may be achieved without significant loss of amenity, however this is not the case with evenly aged and spaced plantings.

The replacement of boulevards and avenues is of particular importance. These are landscape features that contribute significantly to the aesthetic and cultural values of Melbourne. They are formed by trees planted on both sides of roads or pathways in two (avenues) or four (boulevards) parallel rows. Typically they are formed by one or two species with overlapping canopies and uniform tree spacing, age and height, canopy spread and trunk diameter. The significance and value of the overall boulevard or avenue as a collective unit is far greater than the value of single trees.

Replacing trees in the major boulevards such as St Kilda Road, Victoria Parade and Royal Parade, and the major avenues in gardens such as Fitzroy, Treasury, and Carlton Gardens and Fawkner Park presents particular challenges. As individual trees die in these boulevards or avenues they cannot generally be effectively replanted with new individual trees, as the new trees are not able to compete adequately for light and water from their neighbouring mature trees. Therefore interposed plantings seldom develop into healthy, fully developed mature trees in keeping with the overall character of an avenue. The surrounding infrastructure of roadways and pathways is also most likely to be in need of upgrading. Irrigation systems, kerbs and channels, and underground and above ground services will ideally be rebuilt or renewed before new trees are planted. In addition, the profile and layout of roads designed and constructed over 100 hundred years ago for limited traffic volumes is not necessarily the most appropriate layout for current uses.

The technically effective way to achieve a satisfactory avenue or boulevard of trees in the long term is to remove and replant entire sections or groups of trees. However this technically preferred solution causes community concern as some of the trees that need to be removed may appear to be healthy. The approach of replacing whole street sections of elms was recently undertaken in Swan Street, Richmond with support of the Friends of the Elms. Wholesale avenue replacements are being undertaken this year in Swanston Street, Birdwood Avenue and also in Fitzroy Gardens and Carlton Gardens.

Eventually all boulevard trees will need to be replaced, generally by trees of the same species as existing trees in order to maintain the heritage and aesthetic significance of the boulevards. This would best be achieved by the section by section approach. However, an essential part of the replacement strategy involves engaging with the community and stakeholder groups to ensure support for this approach. There is therefore an obvious need to develop and implement sound strategies of tree removal and replacement that are adequately resourced and have community support.

The potential concerns of such significant replacement programs are reduced to an extent by trees for replacement being on-grown off site to a height of about 5-6 metres, thus enabling larger trees to be planted immediately to replace the avenue trees removed. This approach has a cost premium per tree but provides for a significantly improved amenity and presentation within the first three years. Council is currently engaged in growing advanced stock which will be available when the major boulevard replacements are commenced.

In order to create a healthy diverse tree population into the future the City of Melbourne has developed a series of strategic planting programs. These programs enable adequate resourcing over time and enable consultation with key stakeholders and the community. It comprises the following key components:

- ◆ implementing a progressive planting and replacement program for trees in boulevards, streets and parks;
- ◆ increasing the robustness, diversity and viability of tree species with selection responding to local climate conditions, urban setting and community views;
- ◆ ensuring that tree species are selected and managed to minimise resource inputs; and
- ◆ ensuring that tree species are selected to preserve the heritage values of Melbourne's parks, gardens and streetscapes.

Progressive implementation will require the replacement of up to 1,500 trees per year for the next 10-15 years, requiring an annual commitment of adequate levels of ongoing funding to maintain this program.

Community support for these strategies is of paramount importance. The removal of trees is invariably unpopular and especially so in high profile landscapes. While landscape professionals can clearly see the immediate need to remove hazardous or declining trees, the public will often respond strongly against removing trees that are still alive. Balancing the long-term needs of tree management, in particular risk, against the short-term perspective of the public is the greatest challenge for tree managers. Education of the community about tree decline can play an important role in creating acceptance of the need for removal earlier in the decline phase of trees.

Council has embarked on the implementation of the strategies with a view to engendering support and gathering momentum with the community. Projects have

been selected that will either require minimal tree removal or are in locations where tree removals are least likely to raise objections. The projects are developed in conjunction with key stakeholders such as Heritage Victoria, the National Trust, Australian Garden History Society, Friends of the Elms and residents associations.

An important part of these strategies is the preservation of heritage values, with the significance of plantings in major parks established through Conservation Analysis and Master Planning. Determining what was previously planted however, often requires research of literature, anecdotal accounts and council records. This research is essential to ensure that replanting is in line with the period of significance of the particular landscape.

In order to maintain a viable and dynamic tree population into the future it is vital to plant new trees and to replant declining trees in a planned and competently managed way with support of the community.