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Cover photo: Magnificent stand of *Elmus campestris* in Anson Street, Orange. Photo by Helen Armstrong.
PREFACE

In recent years, greater public awareness of environmental issues in general has led to increased interest in the value of trees in both natural and urban environments.

With this increasing community concern for trees has come a corresponding advance in the amount of research work carried out in this area. In 1981, Helen Armstrong from the University of NSW, School of Landscape Architecture received a grant from the Sydney County Council to carry out a survey of Sydney street trees. In 1983, the Energy Authority of NSW produced a publication titled *Tree Trimming and Planting in New South Wales*. In 1984, the Department of Environment and Planning held a highly successful seminar called "Tree Preservation in NSW". In 1986, Helen Armstrong and Craig Burton carried out original research for a street tree survey of NSW country towns, funded by a National Estate grant. In 1987, the Traffic Authority of NSW also produced a publication on trees entitled *Guidelines for Tree Planting and Maintenance on Urban Roads*.

Local government has also taken a significant interest in street trees. In 1986, the Blue Mountains City Council took a major step in extending its documentation of the region’s environmental heritage by being the first council to establish a register of significant trees. Since then, many other councils in both rural areas of New South Wales and the suburbs of Sydney have carried out, or are presently in the process of preparing, street tree surveys.

These advances in knowledge and concern for the important resource of street trees were major considerations in the Department of Planning's decision to produce a technical paper on the conservation of street trees in NSW.
ACKNOWLEDGMENTS

This technical paper, *Street Trees in New South Wales*,
depended heavily on original research by Helen
Armstrong and Craig Burton of the University of NSW
School of Landscape Architecture, who carried out a
survey of street trees in New South Wales country towns
funded under the National Estate’s grant scheme in
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developing the original concept and the assistance of
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INTRODUCTION

Street trees are an important natural resource of the community and can often be an integral part of urban landscapes. They greatly contribute to the landscape quality of the Sydney metropolitan area as well as in the country towns and cities of New South Wales. However, conflicts between the value of street trees, the current state of these plantings in NSW and the need to carry out work programs can often present complex issues to resolve.

The importance of street trees is sometimes undervalued. This is exemplified by the removal of large trees or significant stands to make way for power lines, road widenings, driveways, kerbing and other utility installations. Sometimes large or mature trees are replaced by small shrubs. In most situations, viable design alternatives to removal of street trees exist, but the importance of such plantings is not often recognised.

The objective of this technical paper is to present practical advisory guidelines for local and state authorities in order to assist them in assessing the values of street trees and to encourage better management and conservation of significant street plantings in NSW. These guidelines should be considered in the design stage of all proposed work programs which are to be carried out in streets, as well as those in parks, malls and reserves that are visually part of the streetscape.

The guidelines propose that all local and state authorities carrying out work programs in public places should carefully consider the significance of trees and the degree to which they constitute important components in the surrounding environment before embarking upon any public works that involve street tree removal or mutilation. To assist in this assessment, four criteria for assessing the significance of street trees have been established — cultural, historical, scientific and aesthetic.

Where trees are found to contain significant values, it is suggested that alternatives to the removal of these significant plantings be examined and that the need for their removal be carefully weighed against their particular value. The preparation of management plans and action plans to conserve significant trees or stands may be appropriate in some cases. Guidelines for the contents of such plans are also included as part of this document. These guidelines will assist relevant authorities and community groups in the preparation of management and action plans.

A more detailed explanation of the criteria for street tree values is provided in appendix 1.

Appendices 2 and 3 provide additional information regarding the historical relationship of street trees to specific town features, eras and individual species.

Plate 1: Anzac Parade, Moore Park, is heavily planted with ligs and poplars. It is an excellent example of a memorial avenue. Photo by Peter Hughes.
DEFINITION

Plate 2: *Eucalyptus cladocalyx* (sugar gum) line the approach to Hay, in the western Riverina. They are a locally indigenous species which have been used as street trees throughout the region. Photo by Helen Armstrong.

Plate 3: These Norfolk pines lining the promenade are one of Manly's identifying features. Photograph by Peter Hughes.

For the purposes of these guidelines, street trees are defined as including the following:

a) remnant tree species (usually indigenous) left over from clearing for agricultural, mining or pastoral pursuits by the early settlers of this country;

b) trees originally planted in parks and reserves which eventually became part of the streetscape;

c) trees planted to commemorate important community structures or events such as town halls and war memorials;

d) trees planted as commemorative avenues;

e) trees planted for purely aesthetic considerations;

f) trees plants for purely functional considerations such as for shade or windbreaks.
CRITERIA FOR ASSESSING THE VALUE OF STREET TREES

Trees should be retained wherever feasible. Local and State authorities should give due consideration to the value of street trees before destroying, removing or lopping them.

Although the evaluation or assessment of street trees involves a degree of subjective interpretation, the establishment of some criteria of significance greatly assists in the systematic determination of the value of plantings. Criteria for the assessment of the value of street trees fall into four broad categories:

- cultural
- historical
- scientific
- aesthetic.

It is suggested that these criteria be used to determine the values of street trees. Appendix 1 provides further explanation for each of these criteria.

Cultural Value

Trees that are culturally significant play an important role in elements of towns and cities such as approach roads, showgrounds, transport links, residential areas, important buildings, access roads, parks and coastal strips. In assessing the cultural value of street trees, variations between country towns and metropolitan Sydney must be accounted for. Accordingly, the criteria of assessment for country towns and Sydney are different. Despite these variations between country and city, there has been a consistent use of rainforest species throughout the State.

Country Towns

Trees in country towns may be culturally significant if they:

- line approach roads and therefore mark the entrance to a town and represent important cultural patterns (see plate 2);
- mark important cultural town features such as reserves, showgrounds and stockyards (see plate 4);
- are associated with transport links, especially railway lines and ports;
- mark important buildings and landmarks in towns such as town halls, post offices, churches and courthouses (see plate 11). Appendix 2 illustrates a chronology of town features and their relationship to street plantings;
- reflect the character of regional plantings.

Metropolitan Sydney

In metropolitan Sydney, the cultural significance of trees may be assessed on the following basis:

- trees in parks and reserves, and those leading to parks, which are associated with significant cultural activities;
- plantings in Sydney's coastal beach and traditional 'resort' areas which are strongly associated with cultural activities (see plate 3);
- trees that mark important landmarks or buildings which reflect our customs or way of life.

Historical Value

Street trees are often of historical significance when associated with important eras, buildings, events or people, and fall within the following categories:

- trees that reflect a specific era of landscape design. Appendix 3 illustrates a chronology of eras of street planting and the extent of species used;
- trees that are associated with historic buildings (see plate 8);
- trees that were planted to commemorate an important historical event (see plate 1);
- trees that were planted due to an important or famous person (see plate 5). For example, different directors of the Sydney Royal Botanic Gardens often favoured particular species selection and locations (see plate 9).

Scientific Value

Trees are often valuable for a range of scientific reasons. Consideration should be given to retaining trees on scientific grounds where they meet any of the following categories:

- plantings that are listed as poorly known, rare, vulnerable or endangered species in the publication by J. Briggs and J. Leigh, Rare or Threatened Australian Plants (1988);
- trees which are of great age or are species rarely used as street trees;
- trees lining roads if they provide important habitat for wildlife, especially birds and arboreal (tree-dwelling) mammals.

**Aesthetic Value**

Street trees are of aesthetic value if they reflect important features in the townscape, screen unattractive buildings or are exceptionally beautiful. Trees of significant aesthetic value include:

- trees with exceptional qualities of shade, colour, shape, fragrance, texture, habit, floristics and seasonality (see plate 10 and cover photo);
- trees that perform an important role in streetscape continuity or the establishment of local character (see plate 6).
STREET TREE MANAGEMENT AND ACTION PLANS

The preparation of management and action plans is recommended in order to provide improved management and conservation of existing street tree resources. Such plans are appropriate in two situations. The first is in the planning of ongoing management in streets or precincts of exceptional significance. The second situation is where work programs by government authorities are required and impact mitigation strategies are necessary. The first type are termed management plans, the second are called action plans.

Management Plans

Preparation of a management plan is appropriate where significant plantings require ongoing maintenance and/or replacement of old or diseased individual trees. The following methodology is provided to assist in the preparation of management plans for street trees.

Part 1: Resource Inventory

a) Prepare species list/vegetation map.

b) Assess:
   - cultural values
   - historic values
   - scientific values
   - aesthetic values.

c) Provide a clear statement of values of individual streets and precincts.

Part 2: Conservation Capability

Assess the conservation capability of the trees by determining their:
- age
- health
- existence of disease
- pathogens, pests
- prospects for survival with and without active maintenance.

Part 3: Maintenance Program

Prepare an ongoing maintenance program, if any is required, including the need for:
- fertilising
- watering
- fencing
- pruning
- surgery
- labour
- plant equipment
- annual cost.

Part 4: Rehabilitation Program

Where assessment of conservation capability in part 2 indicates poor prospects for long-term survival of the trees, a rehabilitation program should be developed to maintain their existing values. Such programs may include:
- assessment of existing values provided by the plantings
- replanting of new trees of the same species to replace old or dying individual trees
- landscaping
- fertilising
- watering
- fencing
- pruning
- surgery
- labour
- plant equipment
- annual cost.

Action Plans

Action plans operate within the context of management plans (see previous section), where it is necessary to carry out a work program in the vicinity of trees of significant value. If no management plan for the street or precinct exists, then this should be carried out as a necessary prerequisite for the action plan. In the following breakdown therefore, it is assumed that parts 1 to 4 have been completed, with the action plan beginning at part 5.

Part 5: Assessment of Impact on Streetscape

Assessment of the impact of any work program should include the following steps:

a) Describe the objective of the required work program in the short and long term.

b) Describe the desired objective of conserving the trees in the short and long term.
c) Consider all economically feasible design options in terms of their:
   • relative cost
   • performance in meeting the engineering objective
   • performance in meeting the conservation objective
   • likely environmental impact on the plantings.

d) Develop a statement of policies and priorities that pursue the objectives of the work program and the conservation of the street trees simultaneously.

Part 6: Impact Mitigation and Environmental Safeguards

a) Consider all viable design options which minimise environmental impact on the trees.
b) Incorporate chosen environmental impact mitigation safeguards into the preferred design option. Such measures may include:
   • elective pruning of trees rather than lopping of the complete tree crown or total removal;
   • use of buffer zones where appropriate to minimise disturbance to root systems;
   • close supervision and effective communication with gangs who are constructing the works to ensure the action plan is carried out as intended.

g) Pressures for tree removal in order to provide more car parking spaces must be assessed in the context of the value of the streetscape rather than the specific location.

h) The particular species which are characteristic of the street plantings in different regions of NSW should be maintained.

i) The tree species used to denote particular town elements should be repeated and used where appropriate.

j) Pruning methods are recommended as an alternative to complete tree removal, where some form of clearing is necessary. This is particularly the case where tree growth obscures the field of vision for road users, endangering road safety.

The Traffic Authority of NSW has issued Guidelines for Tree Planting and Maintenance on Urban Roads, which is a useful reference. It lists recommended species that may be used alongside roads that do not interfere with power lines and traffic safety.

Plate 6: COOTAMUNDRA is an ‘elm town’. The presence of elms throughout the town unifies its streets and contributes to its attractive appearance. Photo by Helen Armstrong.

Plate 7: This fine stand of mountain ash at Shipley Plateau was retained when bundled aerial power lines were used by Prospect County Council and Telecom. Photo by Peter Hughes.

Inset: The bundled aerial cables share a common easement and common poles. Photo by Peter Hughes.
APPENDIX 1: THE SIGNIFICANCE OF STREET TREES

This appendix provides a general discussion of street tree values to assist in identifying and assessing the criteria listed in the body of this document.

Cultural Significance

Street trees form an important part of the cultural landscape, for example, marking distinctive town features, a way of life or signifying a particular response of people to place. For the purposes of this technical paper, the criterion of cultural significance has been divided into:

a) Country Towns
b) Sydney

since the settlement histories and urban layouts of each vary sufficiently to require separate treatment.

Street trees can be important features in exhibiting the distinctive characteristics of a way of life, custom, process, land use, function, design or technique no longer in use, in danger of being lost or of exceptional interest. They may also be important in representing the range of activities in the Australian environment such as industry, way of life, customs, land use or for cultural or social associations.

Cultural landscapes are important in that they represent the response of people to place, and street trees are often the cumulative record of human activities and land use in the surrounding environment. For example, there are various elements of the town format which may be identified as bearing an influence upon the development of street trees. Street trees may fall into the category of cultural significance where such links can be readily seen as either a reflection of the past or the present townscape.

Plate 8: This mixture of Melaleuca azederach, Schinus atrocarpa and Ficus macrophylla in Reid Street, Wilcannia, was planted in the 1880s. Photo by Helen Armstrong.

Plate 9: J.H. Maiden encouraged the planting of palms in Macquarie Street, Sydney. Photo by Peter Hughes.

Plate 10: These old plantings of Phoenix canariensis in Rosebery Avenue, Rosebery, have been retained as new commercial/industrial developments have been built. Photo by Peter Hughes.

Plate 11: This stand of Platanus hybridus surrounds the old courthouse in Sempill Street, Matildah. Photo by Helen Armstrong.

a) Country Towns

Elements of towns where street trees may play an important role include approach roads, showgrounds, transport links and important buildings.

Approach Roads

Many old approach roads have now become incorporated into the urban fabric and often represent important patterns of the past. The Moreton Bay figs along Meilaw Road, Newcastle, for example, represent the old approach road to the city. Approach roads may be considered as important where they mark the entrance to a town and the early resort towns, such as Medlow Bath and Bowral, were often characterised by approach road pines. Further examples occur in the Western Riverina where the approaches are commonly lined with sugar gums, while on the Western Plains, coral gums are strong cultural features marking the towns in a relatively treeless setting.

Showgrounds

Town features such as showgrounds, stockyards and reserves are often surrounded by trees which sometimes continue on from streets, such as at Mudgee and Blayney. In these situations, trees form part of the cultural landscape of the town.

Transport Links

Street trees may also be a reflection of past transport links, especially those associated with coastal areas and railway lines. Where ports are lined with Norfolk Island pines, as at Newcastle and Port Macquarie for example, an earlier important period of the coastal movement of people and goods is indicated. At early railheads, such as at Goulburn, the station and railway are often integrated into the town fabric and are marked by avenue planting. At the turn of the century, the species Washington robusta was indicative of streets leading up to the station.

Important Buildings

Street trees are often significant in that they mark important urban buildings such as the town hall (especially in the 1870s and 1880s), early post offices, churches and courthouses. The trees planted outside the town hall in Argent Street, Broken Hill, and in William Street, Bathurst, are good examples of this.
b) Metropolitan Sydney

For the metropolitan area of Sydney, similar sorts of categories may be identified as those chosen for the country towns with the important exception that the settlement histories of different areas within Sydney have been one of the main factors contributing to the cultural significance of roadside plantings. The elements of the city where street trees may play an important role include access roads, parks, coastal strips and important buildings.

Access Roads

Many of the main roads in Sydney are lined with trees which serve to mark routeways. The brush boxes in Hunters Hill are an example. Many of the older main roads are lined with trees that led to early fortifications, such as along Bradleys Head Road and Belmore Road in Mosman.

Parks

In Sydney, Moreton Bay figs serve as important delimiters of parks. Macquarie Street and its visual extension of these trees to Hyde Park are an excellent example. The Moreton Bay figs are particularly significant because the early explorers were plant collectors and particularly looked to rainforest trees as appropriate shade trees within towns. The Moreton Bay figs replaced the early British oak plantings undertaken by Governor Macquarie and were the first public avenue plantings marking the importance of the directors of the Royal Botanic Gardens in the choice of street trees.

Coastal Strips

The coastal areas of Sydney and the traditional ‘resort’ areas are commonly marked by the consistent planting of Norfolk Island pines. A good example is at Manly where the pines not only define the character of Manly at street level, but the consistency of planting also defines and integrates the area from a distance. As a comparison, further inland in Manly, the street plantings reinforce the bushland character through the use of native species.

Important Buildings

Street trees also serve to mark important landmarks in Sydney, such as the stone pines leading up to Old Government House.

Historical Significance

Closely associated with cultural significance, street trees are often of considerable historical interest, marking important eras, events and people.

Eras

The type and formation of street trees planted usually reflect a particular era and therefore, through time, the fashions for such activities have altered. In consequence, specific patterns can be related to specific time periods. Some broad generations may be identified for NSW, including the following periods:

1870 - 1900
- Canary Island palms
- Moreton Bay figs
- Norfolk Island pines
- plane trees

1900 - 1930
- brush boxes
- camphor laurels
- acarandas

1940 - 1961
- brush boxes
- deciduous exotics (e.g. jacarandas and weeping hill figs)

1960 +
- exotics
- brush boxes
- natives (e.g. eucalypts)

It should also be noted that as well as illustrating important patterns through time, there are distinct phases in planting in different regions. For the period up to the 1880s, for example, street tree planting was particularly concentrated in Sydney. From the 1880s to the early 1900s, however, plantings in country towns became more important due to concern about rural land degradation as a result of tree loss.

Residential areas are mostly planted with species which reflect the time of settlement. For example, in Sydney, the older areas of Manly, such as Griffith Street, are lined with camphor laurels, brush boxes and peppercorns, trees traditionally associated with the 1930s and 1940s. In contrast, the outer suburbs of Sydney tend to be lined with more native species, such as jacarandas and eucalypts, in accordance with planting trends of the last twenty years. Important here is the fact that many of Sydney’s streets were always considered to be too narrow and unsuitable for tree plantings. Therefore, many of the oldest streets in central Sydney have only been lined in recent years and usually
with native species. For example, Bartlett Street in Summer Hill lacked any trees due to its narrowness until the 1970s when it was lined with mixed plantings of paperbarks and prunus.

In country towns, the pattern of street plantings often illustrates the older rectilinear grids of tree-lined streets. In contrast, the more recent trend towards curvilinear plans is associated with native trees and shrubs, and small deciduous trees.

Events

Street trees may also be important relics standing in testimony to particular events, such as the Centennial, Federation or the World Wars. For example, World War I memorial avenues are often lined with kurrajong trees. The Queen’s coronation was also marked by the planting of nearly 25,000 trees along NSW roads. In Sydney, memorial avenues include Anzac Parade and Entfield’s Coronation Parade.

People

Some street trees may also be regarded as significant because of the individual people who advanced their planting. People such as Governor Macquarie, John Ednie Brown and J.H. Maiden can be associated with particular towns and suburbs of Sydney. J.H. Maiden (1859-1925), for example, had an especially important role in street plantings in Sydney. He gave advice on species selection, planting layouts and particularly encouraged the use of palms (e.g. in Macquarie Street).

Scientific Significance

Trees may further be significant for scientific reasons in terms of their age, rarity and/or if they are threatened species. The very old side plantings of peppers in Adelaide Street, Wentworth, fall into this category. Also, some street trees may be significant simply because they are unusual in a particular region. For example, the Flindersia spp. in Tincogan Street, Mullumbimby, are a unique illustration of these species planted in an avenue.

Plantings may be a reflection of particular physical conditions, such as a specific combination of soil, geology and climate. In the Sydney region, the ridges and slopes of Earlwood have streets planted continuously with garden trees, such as the cape chestnuts in Roslyn Street, Ashbury. In contrast are the alluvial flats of Punchbowl which have more recent housing and are planted with native tree species.

Street trees may provide important habitat corridors for wildlife, especially birds, and therefore be significant in terms of the local ecology. Street vegetation may also be important in microclimatic terms by creating a windbreak or helping to absorb pollutants.

Aesthetic Significance

Most street trees may be classified as having important aesthetic qualities such as shade, colour, texture, shape, fragrance and seasonality. Furthermore, trees can increase residential property values in their immediate vicinity. This is especially true in recent years, with greater social values being placed on plants and the pleasant habitats that they create.

However, whilst most street trees have aesthetic significance, some are also important features in the landscape. Aesthetic significance incorporates trees which perform an important role in townscape continuity, the reinforcement of local character, a complete street lining or those of particular local importance in the immediate surroundings.

For example, some country towns have such unified street trees that the individual town elements, such as coastal areas or important buildings, in themselves are not significant, yet in the towns as a whole the trees are of prime importance in providing townscape continuity and having a strong unifying effect. Cootamundra may be considered an “elm town”, Harden a “kurrajong town” and Yass a “eucalypt town”, and the trees in each town respectively provide unifying effects. In Sydney, the brush boxes of Hunters Hill and Strathfield perform similar roles.

Other street trees may be of particular local importance, such as the weeping hill figs of Waverton Avenue, North Sydney. The large trees here create a heavily canopied avenue and a strong sense of seclusion in a relatively dense residential area. Other trees, such as the Phoenix canariensis and Metrosideros excelsa of the Terrace, Newcastle, are of local significance due to their unusual species mixture.

A trend of the last twenty years has been the screening of industrial areas by the extensive planting of street trees. Trees often serve to beautify industrial areas.
APPENDIX 2: CHRONOLOGY OF TOWN FEATURES AND STREET TREES

<table>
<thead>
<tr>
<th>Year</th>
<th>Influence</th>
<th>Town Type</th>
<th>Town Features</th>
<th>Street Trees</th>
</tr>
</thead>
<tbody>
<tr>
<td>1788</td>
<td>Phillip</td>
<td>Port city (Sydney)</td>
<td>Modelled on 18th century port cities</td>
<td>Avenues to Government House</td>
</tr>
<tr>
<td>1800</td>
<td></td>
<td>Government centre (Rose Hill)</td>
<td>18th century formality</td>
<td></td>
</tr>
<tr>
<td>1810</td>
<td>Macquarie</td>
<td>Macquarie towns</td>
<td>Domination of Church of England</td>
<td>Avenues in town fabric</td>
</tr>
<tr>
<td>1820</td>
<td></td>
<td>Government towns</td>
<td>Grid, wide streets, church on hill</td>
<td>Shade trees in streets</td>
</tr>
<tr>
<td>1829</td>
<td>Darling</td>
<td>Private towns</td>
<td>All churches have equal status in towns</td>
<td>Trees outside important buildings</td>
</tr>
<tr>
<td>1836</td>
<td>Church Act</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>1840</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1850</td>
<td>Gold</td>
<td>Gold towns</td>
<td>Miner tracks form linear streets</td>
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<tr>
<td>1860</td>
<td>Transportation</td>
<td>Stock movement towns, Riverboat towns</td>
<td>Grid towns, towns with jetties</td>
<td>Trees in reserves Avenue to jetty</td>
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<tr>
<td>1870</td>
<td>Rural</td>
<td>Railway towns, Pastoral towns</td>
<td>Focus on station banks, hospital</td>
<td>Avenue to station MUNICIPAL</td>
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<tr>
<td>1880</td>
<td>Consolidation</td>
<td>Wheat towns, Mountain resort towns</td>
<td>Showgrounds scenic locations</td>
<td>STREET TREES Pine avenues</td>
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<td>1890</td>
<td>Mining</td>
<td>Mining towns</td>
<td>Grid around mine</td>
<td>Amenity street planting</td>
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<td>1890</td>
<td>Town</td>
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<td>MUNICIPAL STREET TREES Commemorative</td>
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<td>1900</td>
<td>Consolidation</td>
<td>Federation towns</td>
<td>Diagonal avenues</td>
<td>Avenues</td>
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<td>1920</td>
<td>WWI</td>
<td>New regional centres</td>
<td>Garden-city concept</td>
<td>Avenues</td>
</tr>
<tr>
<td>1930</td>
<td></td>
<td></td>
<td></td>
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<td>1940</td>
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<td>1960</td>
<td>Consolidation</td>
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<td>1970</td>
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<td>New subdivisions within towns</td>
<td>Roadburn plan curvilinear layout</td>
<td>Avenues</td>
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<td>1980</td>
<td>Decentralisation centres</td>
<td>Cluster housing English new town layouts</td>
<td>Indigenous trees in woodland setting</td>
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(Source: H. Armstrong, 1986)
## APPENDIX 3: CHRONOLOGY OF STREET TREE ERAS AND THE EXTENT OF SPECIES USED IN NSW

<table>
<thead>
<tr>
<th>ERA</th>
<th>PERIOD</th>
<th>AVENUE/STREET TREES</th>
<th>PERIOD OF SPECIES</th>
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<td>1788</td>
<td>PRIVATE AVENUES</td>
<td>GUMS</td>
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<td>1830</td>
<td>Trees outside important buildings</td>
<td>OLIVE</td>
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<tr>
<td></td>
<td>1850</td>
<td>PUBLIC AVENUES</td>
<td>CITRUS</td>
</tr>
<tr>
<td></td>
<td>1870</td>
<td>Shade trees</td>
<td></td>
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<td></td>
<td>1870</td>
<td>IN TOWNS</td>
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<tr>
<td></td>
<td>1870</td>
<td>Stock reserves</td>
<td></td>
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<td></td>
<td>1870</td>
<td>Jetties, inns, markets</td>
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<td></td>
<td>1880</td>
<td>FIRST MUNICIPAL STREET TREE PERIOD</td>
<td></td>
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<td></td>
<td>1880</td>
<td></td>
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(Source: H. Armstrong, 1986)
BIBLIOGRAPHY


