MUNICIPAL WIDE TREE STUDY

DISCUSSION PAPER

WHITEHORSE CITY COUNCIL

MARCH 2016

planisphere

PLANNING + DESIGN + PEOPLE

PROJECT CONTROL

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Preliminary Draft	1	KW	LR	15/01/16
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INTRODUCTION

1.1 INTRODUCTION

Trees are the most significant determinant of the character of the various areas within the City of Whitehorse, with upper tree canopy covering a significant proportion of the city.

BACKGROUND

Trees are the most significant determinant of the character of various areas within the Melbourne's eastern suburbs, with upper tree canopy covering a significant proportion of this part of the city. The trees throughout and the bush garden character in parts of Whitehorse is also a major contributor to the liveability of the municipality.

Tree preservation and regeneration is vitally important within the City, not only for aesthetic reasons, but also for its role in reducing the urban heat island effect, providing habitat for wildlife and generally its positive effects on community health and wellbeing.

Whitehorse City Council is undertaking this Study to review, analyse and document the importance of the vegetation and especially tree canopy cover to the municipality and the region. It will investigate ways in which this important aspect of the City can be protected and enhanced, as development and future growth inevitably occurs. The project will be focussed on trees on private land, rather than on Council and other public land which is managed in a variety of other ways.

PROJECT OBJECTIVES

The Tree Study will ultimately provide options and recommendations for policy and planning controls and other (non-policy) mechanisms that will aim to ensure the future retention and regeneration of tree canopy. This may include planning scheme changes to both protect existing trees and encourage the planting of new ones. It may also involve broader Council policy, advocacy and educational aspects to tackle the issue of tree retention on private land in a number of ways.

The Study will determine the types of trees that are most important as well as where in the City existing tree cover is lacking. While there will be research and survey work involved in the Study, the community's views will also be very important in determining the recommendations.

METHODOLOGY

The method used to determine the importance of tree cover within Whitehorse and the effectiveness of the overlay tools being used to protect tree cover, has incorporated a detailed background review, desktop analysis and fieldwork survey.

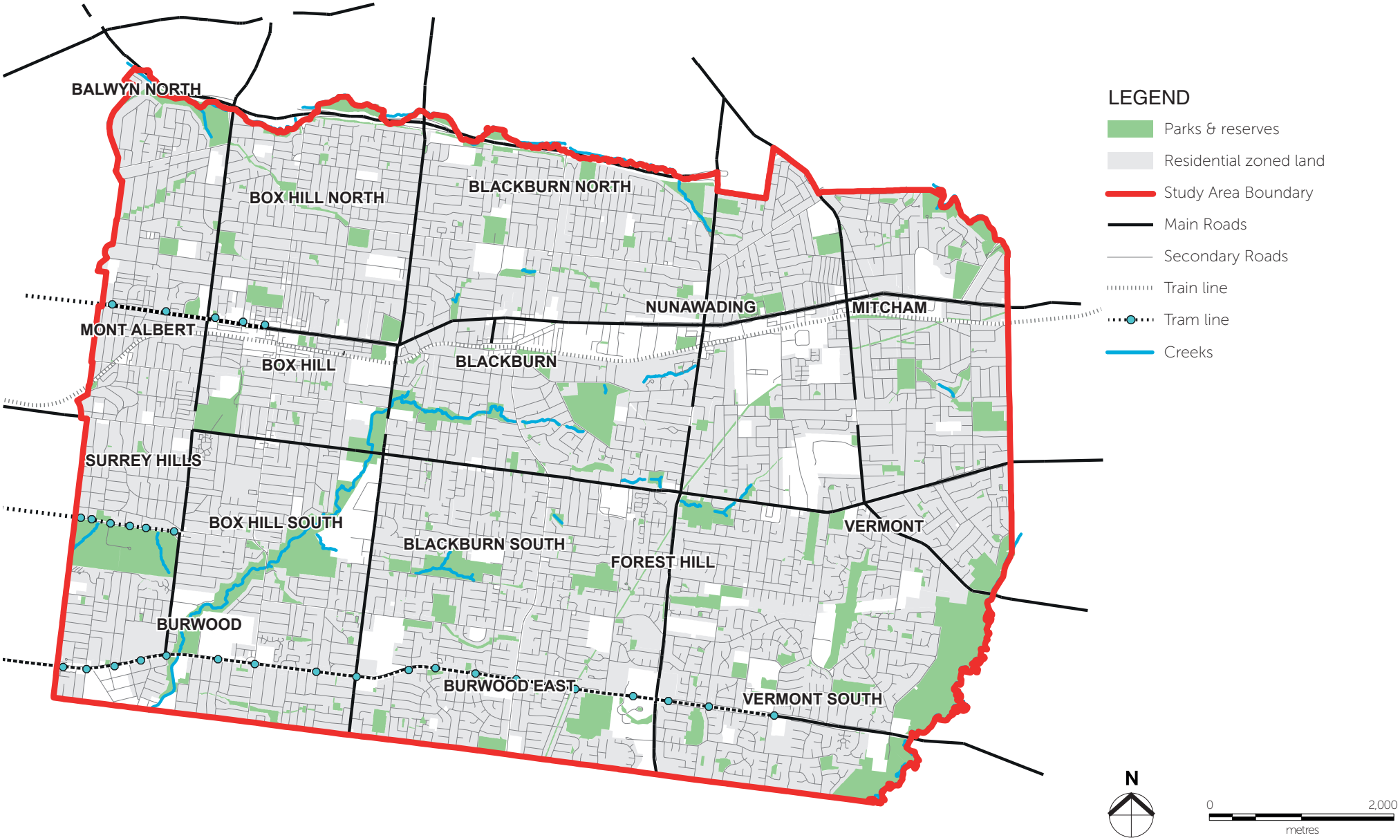
POLICY AND BACKGROUND

A detailed review of Council's policies and plans, the SPPF, the LPPF and relevant overlays, provide a complete picture of how the protection and management of tree cover is currently occurring in Whitehorse. This exercise not only provides the project team with a strong basis for analysis work, but it will be revisited in determining whether (and where) further controls are required to strengthen the protection of tree coverage.

NEIGHBOURHOOD CHARACTER

Understanding the importance and benefits of tree cover within the context of Melbourne, Whitehorse

FIGURE 1. STUDY AREA MAP



and individual neighbourhood character precincts, will provide the knowledge and direction to assist in 'filling the gaps' in policy.

An investigation of other similar councils and their approach to tree protection within the context of neighbourhood character will provide benchmarking and direction for using neighbourhood character in Whitehorse to guide the development of options for revised tree protection policies.

ITREE SURVEY AND FIELDWORK

This methodology uses i-Tree software as the basis for the data analysis. i-Tree is a widely accepted tool (developed by USDA Forest Service) used to give a statistically robust indication of the tree cover across a study area, with the use of sufficient survey points in the analysis. It produces a statistically valid estimate of land cover types (e.g. tree cover) using aerial images available in Google Maps or through GIS.

A desktop survey, which classifies each survey point as either 'tree' or 'non tree', by using a large number of survey points, provides a statistically robust picture of the canopy cover across the municipality.

For the purposes of this study, the tree canopy cover will be disaggregated and categorised into:

- Private land canopy cover
- Public land canopy cover
- Road reserve (street tree) canopy cover.

This approach seeks to capture the percentage of canopy cover, which will assist in comparing and benchmarking the figures consistently.

The i-Tree analysis exercise gathers figures on the following categories:

- Tree
- Other vegetation - grass, scrub, bushes, etc
- Buildings - any building or roofed area, not covered by tree canopies
- Hard surface - roads, patios, paved areas, driveways, swimming pools, etc

CASE STUDY INVESTIGATIONS

The five case study investigations build off the information gathered through i-Tree, site survey and development data, to look at developments within different neighbourhood character areas that are currently subject to vegetation controls versus no controls to identify any variations in tree coverage and the rate of change.

The case study exercise will start to identify the effectiveness of the existing SLO's and VPO's, as well as explore the relative contribution to character of street trees or other trees.

FINDINGS AND RECOMMENDATIONS

Key findings of all of the above analysis and background work were summarised and presented to internal and external Council stakeholders for discussion.

The key findings were used to update this Discussion Paper where appropriate and will feed into the options to be explored when developing tree protection controls.

The Draft Options Report will be presented to the broader Whitehorse community for comment and feedback.

PURPOSE OF THIS PAPER

The purpose of this Discussion Paper is to document and discuss all of the background information gathered, the analysis work undertaken and the case studies prepared.

It will be used to further discussion around the importance of tree protection controls and other mechanisms with Council, internal/ external stakeholders and the broader community. It will also provide the basis for determining the options available to implement revised tree protection controls into the Whitehorse Planning Scheme or through other measures.

1.2 CONSULTATION

ISSUES AND DISCUSSION

Consultation to gather information, identify issues and discuss the project has been undertaken in the following format:

- A community bulletin
- A community and stakeholders workshop

COMMUNITY BULLETIN

The community bulletin was prepared to inform the broader community of the project purpose and to invite residents/stakeholders to the community workshop.

The bulletin included a survey of 3 questions to gauge the level of interest from respondents. Thirteen (13) responses were received. The responses included:

1. Why are you interested in the project?

Respondents highlighted that tree cover in Whitehorse is important to the character and visual amenity of the neighbourhoods. They acknowledged that moonscaping is an issue and the high rate of tree removal is having an impact on the City.

2. Are there particular issues you think this project should address?

Respondents were clear on a need to prioritise the protection of canopy trees, indigenous trees and middle storey trees.

Respondents suggested introducing greater controls or developer incentives to assist in retaining trees. However, it was also noted that a blanket ban may not be the best approach and we should balance home owner rights with exemptions.

It was noted that a better process should be considered to monitor the planting of new developments, including the type and size of trees.

3. Are you a member of a relevant community or interest group? (If so, please name)

Respondents included representatives from various advisory and resident groups.

The full summary of survey responses is provided at Appendix 2.

COMMUNITY WORKSHOP

A community and stakeholder workshop was held on the 4th February 2016 (4.30-6pm) at the Council offices.

Twenty-five (25) attendees participated in the workshop, all of whom were residents of Whitehorse. Two (2) Councillors also participated in the workshop.

A presentation on the background findings (as provided in this Discussion Paper) was given to the group and then a discussion allowed participants to consider three questions in small groups, before coming together and having a whole group discussion.

A brief summary of the workshop notes is provided below and a full summary of the workshop notes is attached at Appendix 2.

1. Where are most trees being lost on Private Land? Are there particular types of trees or areas where this is more evident?

Workshop participants noted that there was an over-development of residential blocks in Box Hill, Surrey Hills and Mont Albert North, as well as a significant amount of tree loss in Blackburn North.

Participants agreed that new developments were not leaving a sufficient amount of space for replanting, with high site coverages and increased hard surfaces.

Commercial development was also seen to be growing quickly in activity centres likes Box Hill and along Whitehorse Road, with no space provided for the planting of trees in private spaces.

Issues also included insufficient space being provided to allow new trees to grow, and old trees not being replaced.

Areas immediately surrounding the SLO were identified as experiencing greater tree loss.

2. Where is tree retention or replanting successful? Why is this working?

In general participants felt that there were many areas where tree retention was working. They highlighted that retention is mostly seen on public land, e.g.

street trees and bushland parks. However, streets where residents have established their own informal controls have more success, e.g. Jeffery Street and Linum Street.

Community enforced action and education of new residents has helped to retain trees in some areas.

3. How can we encourage developers and other parts of the community to retain and increase large canopy trees?

Participants agreed that community education is key to tree retention by promoting the benefits of trees. They noted that this could be done through 'welcome packs', education in schools, through real estate agents and by educating developers.

Introducing incentives for developers to retain trees and for residents to plant new trees was also considered, such as using vouchers or free tree schemes.

Lastly, participants discussed the need for better compliance and enforcement of tree protection controls. This included possibly greater planning controls, better assessment and follow-up of landscape plans and the trees proposed to be planted in new development, and lobbying state government for increased fines (removing protected trees without a permit).

NEXT STAGE - DRAFT OPTIONS

The broader Whitehorse community will have another opportunity to comment on the project and provide feedback on the draft options for increasing tree protection controls or introducing other mechanisms/tools to retain trees.

The Draft Options report will be presented to the Council for sign-off in April 2016 before being made available for public comment in April/May 2016.

Community 'drop-in' sessions will be advertised to the community via a second community bulletin.

2

BACKGROUND REVIEW

2.1 TREES IN MELBOURNE AND WHITEHORSE

"The generous green landscapes throughout our metropolitan area are a fundamental part of the city's identity and a much-valued community resource that contributes to the liveability of our neighbourhoods."

(Plan Melbourne, 2014)

2.1.1 MELBOURNE'S CHARACTER

Plan Melbourne highlights the importance of vegetation and the natural environment to the liveability and amenity of the metropolitan area as a whole. This is especially true when viewing the eastern and north-eastern suburbs of Melbourne, between the city and the Yarra Valley.

The lush garden and bushy character of Melbourne's eastern subregion, with dwellings predominantly nestled within tree canopies, can be viewed from many high points throughout Melbourne. This tree dominated vista does not exist in any of Melbourne's other four subregions.

The treed character of areas such as Whitehorse, Manningham and Maroondah provides an important 'green' link between Melbourne and the Yarra Valley.

Within the broader regional context, large areas of landscape and vegetation protection controls have been applied across municipalities that lie in the northern and eastern parts of metropolitan Melbourne, at the foothills of the Dandenong Ranges and across the Yarra Valley. This includes the municipalities of Yarra Ranges, Manningham, Boroondara, Cardinia, Knox and Whitehorse, with controls applied to Green Wedge areas, as well as parts of established residential areas with strong tree coverage.

View to Melbourne from Wattle Park Golf Course, on the western boundary of the City of Whitehorse . Sourced: Google images

2.1.2 WHITEHORSE'S CHARACTER

Residential areas in Whitehorse have qualities that distinguish them from other residential neighbourhoods across the State and metropolitan Melbourne.

Although the municipality contains patches of urban development such as in central Box Hill, and other areas of quite bushy low density settlement such as around Blackburn Lake, the area is overwhelmingly suburban development in a garden setting. The essence of the Whitehorse's character derives from this established garden environment. Typically subdivision is low density, with 1/5th of an acre blocks around a simple rectilinear street pattern built out with single storey freestanding dwellings of varied style and age. The topography is gently rolling and the gardens are well established with a mix of exotic and native plants.

Trees are integral to the neighbourhood character in the City. Local people place a high value on the treed environment and this was highlighted through the neighbourhood character work undertaken in 2003 and reviewed in 2013.

The species and dominance varies across the City and this contributes significantly to the broad character types found across the municipality. From the garden suburbs of the west with exotic tree lined streets and a predominance of exotic species in gardens, the vegetation develops a more native dominance as one moves across the City to the east. In some areas the vegetation becomes the dominant feature in the streetscape rather than the dwellings. The Blackburn Lake area, in the centre of the municipality, provides a significant native and indigenous core and a unique bushland area in the middle of the suburbs. Other bushland areas can be found in those areas of the municipality where the topography is steeper and creek valleys are often found. This is particularly so along the northern and eastern borders of the City.

Around the City's parks and creeks, there is a strong relationship between the vegetation of these public recreational spaces and the residential environment. This goes beyond just forming a backdrop of vegetation for dwellings. The parks and creeks are usually heavily vegetated and this vegetation often extends into the dwelling grounds surrounding these spaces.

Unfortunately, this vegetated character is increasingly becoming more threatened as sites are being moonscaped for development and newly planted vegetation not always being left to mature.

2.2 BENEFITS OF TREE COVER

Trees provide numerous environmental, social and economic benefits to the City of Whitehorse.

There is a broad body of research that details the benefits of continuous tree canopy in urban environments.

While some of the benefits of tree cover such as beautification and shade are well understood, there are many other benefits such as greater climate change resilience, improved health and wellbeing and higher property values, which are less widely known.

Importantly, tree cover is multifunctional as it achieves multiple aims and simultaneously delivers multiple benefits to the community. The positive impacts of tree cover link with housing, streets and other open spaces to improve the wider performance of existing infrastructure.

Policies and programs to protect and enhance tree cover generally enjoy broad community support. This support stems from the many benefits of tree cover. However, despite the obvious benefits of tree cover, issues relating to safety, maintenance and amenity of trees are often identified by residents. These concerns need to be appropriately managed to ensure the confidence in and support of tree related provisions.

CHARACTER AND VISUAL AMENITY

The aesthetic appeal of tree cover in urban areas is one of the best understood benefits of trees and can be appreciated with a limited understanding of the complexity of character and visual amenity issues. A deeper investigation of the contribution of tree cover in urban areas finds that trees can form a significant part of the image and character of urban areas.

Tree cover provides various amenity benefits such as offering shade and reducing the prominence of the built form. Further to this consistent canopy cover can act as a unifying element across streetscapes and suburbs and help distinguish one place from another. In many areas of metropolitan Melbourne vegetation forms a major part of the character suburbs. This is particularly relevant to the City of Whitehorse where trees in the public and private realm have been identified as major components of the character of the area.

URBAN HEAT ISLAND

Tree cover can play a major role in countering the negative impacts of the urban heat island effect in metropolitan areas. An urban heat island is an urban area that is markedly warmer than surrounding areas. The existence of an Urban Heat Island is as a result of the replacement of vegetated landscapes comprised of trees, shrubs and grass with non-natural landscapes such as pavement, buildings and roads.

A 10% increase in vegetation cover can reduce air and surface temperatures, which could reduce average surface temperatures of urban areas by 1 degree (Coutts and Harris, 2013). It is estimated that 80% of the cooling effects of trees result directly from shading (Shashua-Bar et al. 2010).

Countering the impacts of the urban heat island can make everyday activities more pleasurable and healthier and facilitate enjoyable streets and backyards in warm weather.

HYDROLOGY

Trees play a significant role in urban stormwater management and help to reduce potential for damage from stormwater flows. The upper canopy of a tree intercepts rainfall and reduces the volume of rainwater that makes it way to non-permeable surfaces. This reduces the volume of stormwater flows in peak periods such as storms.

Further to this, consistent canopy cover can delay the flow of rainwater into stormwater systems and assist in decreasing the likelihood of flooding.

Mature deciduous trees can intercept between 1.89 and 2.65 kL of water per year, while evergreen trees such can intercept more than 15.41kL per year.

AIR QUALITY/ENERGY EFFICIENCY

Trees provide a number of environmental benefits at a local and broader scale. Trees in urban areas improve air quality by filtering the air and removing fine particulate matter, such as metals produced from combustion and brake wear from vehicles. This can help reduce smog and improve the air quality for pedestrians and cyclists in particular.

In addition to this, trees act as a carbon sink by converting carbon dioxide from the atmosphere into oxygen and sinking the carbon in its leaves, branches and surrounding soil. When positioned correctly trees can improve the energy efficiency of buildings and structures by providing shade.

BIO-DIVERSITY & CONSERVATION

Trees provide vital habitat and are critical in maintaining populations of native fauna and flora in urban settlements. Continuous tree canopy can assist in creating habitat corridors between areas of larger established habitat. In built up areas, urban habitat is generally comprised of scattered remnant trees and planted exotic trees that support indigenous fauna.

The majority of these assets are located on private land on streets or gardens, this highlights the need to appropriately manage biodiversity assets on private land to ensure the conservation of native flora and fauna.

ECONOMIC

Tree cover has been found to have a positive relationship with property values, with various research indicating that trees add value to property. Research has found that properties in tree-lined streets can be valued up to 30% more than streets without trees (City of Melbourne, 2012).

The 'Valuing Trees: What is Nature Worth?' (Planet Ark, 2014) report, highlights that nature can boost business districts. Research has shown the shoppers were willing to spend 9-12% more for goods in shopping districts that had high quality tree canopy.

In addition, consistent and well placed tree cover that provides shade to buildings in warmer months can help lower temperatures and in turn reduce energy consumption, providing individual economic benefits to occupants. Energy consumption can be lowered by as much as 30% and assist with lowering energy costs.

INFRASTRUCTURE

Dr. Gregory Moore states, in his article titled 'People, Trees, Landscapes and Climate Change' (2009), that 'shade trees can increase the lifespan for asphalt road pavement by more than 30%, which is of great benefit in Australia's hot climate, where asphalt degrades quickly.'

Trees also provide significant value by way of carbon sequestration. This can be lost due to pruning regimes, which is particularly relevant to the study area, given the extensive power line clearance which impacts street tree canopies. Analysing cost benefit analysis for the value of this carbon sequestration, together with other aspects, such as the increase in road pavement lifespan, could provide justification for under-grounding of utilities cables. This would allow considerable improvements to street tree canopy cover, and would allow more space for additional planting.

HEALTH AND WELLBEING

While the aesthetic and environmental benefits of tree cover are well understood the benefits of tree cover for the health and wellbeing of people are less widely known. Connection to nature, including open space and vegetation has been found to have various positive impacts on physical and mental health and wellbeing.

Research suggests that interaction with natural environments can improve concentration, lower stress levels, reduced blood pressure and increase self-reported health. Further to this, tree cover can provide for a pleasant and comfortable environment for people to undertake physical activities such as walking, cycling and running.

Programs such as the Heart Foundation's 'Healthy by Design' and 'Healthy Active Communities' initiatives seek to promote the design of public places such that they encourage people to use active modes of transport, and to support planning decisions based on human health and wellbeing. The increased use of large canopy trees for shade, aesthetics and promoting active living, is a vital aspect of the design considerations.

A report, 'Valuing Trees: What is Nature Worth?' (Planet Ark, 2014), provides a comprehensive summary of the health, wellbeing, and economic values of trees. It discusses the value of trees at home, work, and school, providing evidence of increased productivity. Utilising house plants, green walls, and green roofs as part of new office developments is well established as best practice, and further promotion of this and school education of the importance of trees could impact on current and future generations' decisions regarding trees on private land.

SOCIAL

Overall, trees promote a pleasant environment for people to live in and thus encourage people to use streets and get active in their community. They are an important part of place making and can contribute to a greater sense of enclosure in Melbourne's traditionally wide streets. In addition, they can assist in diluting noise pollution.

Street trees have also been found to enhance perceptions of safety in areas where there is consistent planting. Protecting and extending tree cover engages the local community as it requires the utilisation of local effort in the planting, maintenance and upkeep of trees.

Source: Whitehorse Tree Education Program - Ten Reasons to Plan More Trees

2.3 POLICY CONTEXT

2.3.1 COUNCIL POLICIES AND PLANS

COUNCIL VISION (2013-2023)

The Vision sets out Council's goals and aspirations for the future of Whitehorse.

It commits Council to a set of priorities for future action, these priorities cover the four key elements of: the environment, the community, the economy and local governance.

The Council Vision identifies the opportunity to enhance Council's goals around tree protection.

COUNCIL PLAN (2015-2019)

The Whitehorse Council Plan outlines Council's aims and vision for the future of the City of Whitehorse.

The strategy aims to achieve this by developing a municipality which retains, enhances and increases open space and sustainable streetscapes, identifies environmental priorities that preserve biodiversity and considers and plans for climate change impacts on our natural environment.

Specifically, it identifies opportunities for "community education and awareness programs to raise awareness of the benefits of trees and vegetation in an urban environment".

CLIMATE CHANGE ADAPTION PLAN (2011)

This plan identifies possible climate change risks for the City of Whitehorse and details adaptation measures to be taken in response.

The Plan sets the key direction for Council to minimise risks from a changing climate on our people and infrastructure. The Plan aims to do this by to adapting standards, regulations and guidance to include the consideration of impacts from the changing climate.

The report notes that the community should be informed about potential climate change impacts and encouraged to participate in appropriate responses. It encourage the community to take steps to become more resilient.

The plan specifically identifies that the planting of additional trees as an adaption action can reduce heat island effects whilst simultaneously improving the amenity of neighbourhoods.

HEALTH AND WELLBEING IN WHITEHORSE (2013-2017)

The Healthy and Wellbeing Plan sets a key strategic direction to maintain and enhance our built environment to ensure a liveable and sustainable city. With priorities for action including creating safe environments, increasing active living, promoting mental wellbeing.

The plan specifically identifies the positive association between green space and improved health and wellbeing. This includes higher levels of physical activity, the promotion of mental wellbeing, reduced stress levels and blood pressure and increased self-reported health.

The plans greater focus is on active transport to increase physical activity levels and recommends improvements to the built environment to create a bicycle and walking friendly environment.

STREET TREE POLICY (2009)

This Policy details Whitehorse's approach to the retention and regeneration of trees across all land within the municipality.

It includes objectives to assist in the management of the City's tree canopy to minimise the loss of trees. It aims to ensure that new development does not detract from the natural environment and assists with the co-existence of trees and new buildings and works.

It is policy that trees should be retained wherever possible, except in exceptional circumstances.

WHITEHORSE SUSTAINABILITY STRATEGY 2008-2013 (2008)

Whitehorse's Sustainability Strategy for 2008-2013 sets the direction for Council to improve the sustainability of the community and the environment.

The strategy sets a key objective to facilitate sustainable behaviour change across the Whitehorse community. The strategy aims to ensure the Whitehorse community has the capacity to be a sustainable, vibrant and socially connected community.

Council views sustainability in terms of achieving a triple bottom line with actions aimed at improving the environment, the health and wellbeing of the community and promoting a sustainable local economy.

It seeks protection and enhancement of our natural environment in the parks, suburbs and landscape within the City of Whitehorse.

It also identifies that Council needs the support and participation of the local community to address this issue.

Delivery of programs to empower, engage and inform the community and Council staff to improve the environmental sustainability of their homes, townships, schools workplaces, communities and public spaces. Empowering the community to collaborate with the Council to plan, develop and protect healthy, thriving ecosystems.

Increase the use of sustainable forms of transport.

Maintain and enhance areas of bushland thought the municipality to improve quality and habitat.

The Sustainability Study is currently being reviewed and community consultation on this project will be in late 2016.

WHITEHORSE URBAN BIODIVERSITY STRATEGY (2014)

The Whitehorse Urban Biodiversity Strategy sets a core principal to conserve and maintain existing Whitehorse biodiversity, focusing on indigenous species, whilst recognising the importance of native and exotic vegetation to habitat.

It states that Whitehorse can be viewed as two generally distinctive suburban areas, the more formal exotic landscape character in the west and the native character in the east of the municipality.

The strategy acknowledges that urban habitat is critical in maintaining indigenous fauna species and vegetation communities in suburban modified landscapes.

Further to this the strategy notes that much of Whitehorse's biodiversity assets are located on private land, such as in resident's gardens. These assets and urban habitat are identified as being essential to maintaining and managing the remaining biodiversity within Whitehorse.

Protection of Whitehorse's valued biodiversity assets on private land to contribute to the greater habitat and 'greening' of the city come out as clear messages in this Strategy. This will be carried through into the Tree Protection Study. The Urban Biodiversity Strategy will continue to provide important inputs into the Study.

WHITEHORSE CITY COUNCIL LANDSCAPE GUIDELINES

This document sets out guidelines for the development of landscape concept plans that are consistent with Council's current policies, strategies and programs.

The guidelines set a core objective to encourage well designed and high quality landscapes associated with new developments. Further to this the guidelines aim to encourage landscapes that complement the topography, natural features, street layout, open spaces and architecture.

The guidelines apply to all developments that require a landscape concept plan, however can also be used more generally to encourage well designed and sustainable landscapes.

The guidelines detail a number of requirements for landscape concept plans. A concept plan must include a plan of the proposed vegetation drawn at mature size, and a plant schedule that includes the names of proposed plants, their size and the height of trees.

The guidelines recommend that deciduous trees are planted to north and west-facing glazed areas to allow direct sunlight during the winter months yet providing effective shading during summer.

It seeks to retain and protect existing quality trees wherever possible, especially native and indigenous trees. Where trees cannot be retained, the guidelines seek to ensure that suitable replacement trees are incorporated in the proposed development.

The guidelines also detail the requirements of arborist reports that should be submitted alongside planning permit applications. The report should assess/show:

- All existing trees on the site, adjacent nature strip and on surrounding lots.
- The trees to be retained and removed.
- A description of the safe useful life expectancy of each tree, the diameter of the tree at breast height (1.4m) and an outline of how retained and protected trees will remain viable under the proposed plans.

2.4 PLANNING SCHEME

2.4.1 STATE POLICY (SPPF)

The State Planning Policy Framework (SPPF) comprises a statement of general principles for land use and development planning, and specific policies dealing with sectoral issues. Planning and responsible authorities must take into account and give effect to both the general principles and the specific policies applicable to issues before them to ensure integrated decision-making.

Biodiversity and tree protection is a common theme all throughout Plan Melbourne and the SPPF. It is clear that it is State Policy that planning considers the long term cumulative effects of development on the natural environment and landscape value.

ENVIRONMENTAL AND LANDSCAPE VALUES (CLAUSE 12)

Clause 12 Environmental and Landscape Values aims to protect the health of ecological systems and the biodiversity they support and conserve areas with identified environmental landscape values.

PROTECTION OF BIODIVERSITY (12.01-1):

Objective: To assist with the protection and conservation of Victoria's biodiversity, including important habitat for Victoria's flora and fauna and other strategically valuable biodiversity sites.

This clauses aims to ensure strategic planning decisions avoid significant impacts on Victoria's biodiversity and aims to assist in the re-establishment of links between isolated habitat remnants.

NATIVE VEGETATION MANAGEMENT (12.01-2):

The objective of this clause is to avoid a net loss of native vegetation where it contributes to Victoria's biodiversity. It requires that in the case where native vegetation is removed it is appropriately offset.

BUILT ENVIRONMENT AND HERITAGE (CLAUSE 15)

Clause 15 Built Environment and Heritage aims to ensure that all new land use and development appropriately responds to its landscape, valued built form and cultural context and protect places and sites with significant heritage, architectural, aesthetic, scientific and cultural value. Clause 15 supports development that contributes positively to local urban character and sense of place, and enhances liveability, diversity, amenity and safety of the public realm.

URBAN DESIGN (15.01-1):

Urban design strategies recognise the importance of trees.

This clause encourages all development to retain existing vegetation or incorporate revegetation as part of subdivision and development proposals.

NEIGHBOURHOOD AND SUBDIVISION DESIGN (15.01-3):

Objective: to ensure that the design of subdivisions achieves attractive, liveable , walkable, cyclable, diverse and sustainable neighbourhoods.

Strategies highlight the importance of tree protection throughout the subdivision design process by requiring open spaces to meet a variety of needs with links to open space networks, by emphasising landscape values and character and by protecting and enhancing native habitat.

CULTURAL IDENTITY AND NEIGHBOURHOOD CHARACTER (15.01-5):

This clause seeks to ensure the development relates well to the natural environmental and landscape character, where it exists.

It aims to ensure that development responds to its context and reinforces special characteristics of local environment and place by emphasizing the underlying natural landscape character.

2.4.2 LOCAL POLICY (LPPF)

The Local Planning Policy Framework (LPPF) comprises of a Municipal Strategic Statement (MSS) and supporting local policies, which are specific to Whitehorse. Planners and applicants must take into account and give effect to the vision, objectives, strategies and actions outlined in the MSS.

The LPPF aims to guide the future direction of the municipality. Local policies provide more specific guidance and consideration to particular topics or locations.

MUNICIPAL STRATEGIC STATEMENT (CLAUSE 21)

A central theme to Council's Municipal Strategic Statement (MSS) is the importance of protecting trees and extending tree cover in the City of Whitehorse. This is covered across a range of clauses predominantly relating to the neighbourhood character, sustainability and biodiversity of Whitehorse.

MUNICIPAL PROFILE (CLAUSE 21.01):

The MSS recognises that the topography of the City of Whitehorse is enhanced by a range of native and exotic landscapes. Further to this it notes that trees are an 'integral aspect of the City and are a key determinant of the character of the residential areas of the city'.

Parts of the municipality are dominated by an upper tree canopy which covers a significant proportion of the city, ranging from the exotic tree lined streets of Mont Albert to the native trees in areas of Blackburn, Blackburn North, Vermont and Mitcham. There is a bushland appearance in parts of the City that is uncommon in middle ring suburbs of the metropolitan area. Significant natural environmental assets are evident in the City including areas of remnant vegetation. In these areas, the tree canopy cover is extensive and large mature trees dominate.

VISION (CLAUSE 21.03):

The Whitehorse vision is: 'we aspire to be an inclusive, vibrant, prosperous and sustainable community'

Strategic objectives aim to: Promote, protect, enhance and respect the quality of our natural and built environment and to support a prosperous, diverse and healthy local economy that contributes to the wellbeing of our community.

ENVIRONMENT (CLAUSE 21.05):

Overview (21.05-1):

There are issues relating to the natural environment, visual environment and the built environment which are important to the City of Whitehorse.

The City contains many major thoroughfares of metropolitan significance. The visual amenity of these routes is critical in determining the overall sense of identity and character of the city.

Council wants to ensure that the

streetscape is improved by way of street tree planting and landscaping among other things. It is also essential that all new development provide for appropriate landscaping and high quality design to reinforce the regeneration process and add to the neighbourhood character.

Objectives (21.05-3)

Relevant objectives include:

To protect and enhance areas with special natural, environmental, cultural or historic significance for the future enjoyment of the community.

To facilitate environmental protection and improvements to known assets including water, flora, fauna, and biodiversity assets.

Strategies (21.05-4)

Relevant strategies outlined within the Environment clause include:

Providing controls to protect and enhance areas of environmental significance.

Ensuring that tree removal within significant areas requires permission.

Ensuring that the replanting of tall trees and indigenous vegetation is appropriate to the type of vegetation in the area and enhances biodiversity.

Providing adequate open space and landscaping for new development.

Requiring the planting of upper canopy trees and other vegetation that enhances the character of the area.

ENVIRONMENTALLY SUSTAINABLE DEVELOPMENT POLICY (CLAUSE 22.10):

This policy seeks to provide a framework for early consideration of environmental sustainability principles into land-use planning, new developments and redevelopment of existing infrastructure.

The policy is particularly aimed at built form and site management, however at Clause 22.10-2 Objectives, it states under the heading Urban Ecology, the following relevant objectives:

To protect and enhance biodiversity within the municipality.

To provide environmentally sustainable landscapes and natural habitats, and minimise the urban heat island effect.

To encourage the retention of significant trees.

To encourage the planting of indigenous vegetation.

To encourage the provision of space for productive gardens, particularly in larger residential developments.

TREE CONSERVATION POLICY (CLAUSE 22.04)

The basis for the Tree Conservation Policy is to build on the MSS where it identifies trees as being integral to the Whitehorse character, and its key strategies to retain existing trees and provide space for regeneration to enhance the amenity of the City.

The objectives of the policy include:

To assist in the management of the City's tree canopy by ensuring that new development minimises the loss of significant trees.

To ensure that new development does not detract from the natural environment and ecological systems.

To promote the regeneration of all trees through the provision of adequate open space and landscaping areas in new development.

2.4.3 PARTICULAR PROVISIONS

Particular Provisions comprises of standard state-wide requirements that apply to a range of specified uses and developments. This includes the residential development provisions of ResCode. Particular Provisions apply in addition to any requirements set out in the applicable zone or overlay. Additionally the Particular Provisions may specify that that a permit is required for a particular use or development, even if the zone or overlay does not require it.

NATIVE VEGETATION PRECINCT PLAN (CLAUSE 52.16)

Provides for the protection, management and removal of native vegetation in accordance with a native vegetation precinct plan.

The clause aims to ensure that clearing of native vegetation results in no net loss in the contribution made by native vegetation to Victoria's biodiversity. In addition to this the clause seeks to ensure that the impact of vegetation removal is minimised and that appropriate offsets for vegetation removal are provided.

Under the clause a permit is required to remove or lop any native vegetation on land where a Native Vegetation Precinct Plan applies.

NATIVE VEGETATION (CLAUSE 52.17)

Seeks to ensure that clearing of native vegetation results in no net loss in the contribution of native vegetation to Victoria's biodiversity.

The clause aims to avoid the removal of native vegetation, and attempts to minimise and mitigate the impacts of native vegetation removal. Further to this, the clause provides for the management of native vegetation to minimise land and water degradation and to manage native vegetation in bushfire environments.

Under the clause a permit is required to remove or lop a native tree in certain circumstances, however most domestic gardens, planted trees and trees near dwellings are exempt. The clause does not apply if a Native Vegetation Precinct Plan corresponding to the land is incorporated into the planning scheme.

RESCODE (CLAUSES 54-56)

Neighbourhood and Site Description and Design Response (Clause 54.01 and 55.01)

Details that applications for single dwellings must include a neighbourhood and site description, including details of the location of significant trees existing on the site and any significant trees removed from the site within the 12 months prior to an application being made.

Neighbourhood Character (Clause 54.02 and 55.02)

Aims to ensure that the design of development respects existing or preferred neighbourhood character and responds to the features of a site. The clause sets out decision guidelines relating to relevant neighbourhood character policy in the Planning Scheme for responsible authorities to consider before deciding on an application.

Landscaping (Clause 55.03-8)

Aims to encourage development that respects the landscape character of the neighbourhood and encourages the retention of mature vegetation on the site. The clause sets out standards for landscape layout and design including protecting the prominent features of the neighbourhood and providing for the retention or planting of trees.

Open space objective (Clause 55.03-6)

Aims to integrate the layout of development with and public and communal open space provided in or adjacent to the development. The clause sets out a number of standards for the layout of development if public or communal open space is provided on site. The clause sets out decision guidelines for responsible authorities to consider before deciding on an application.

Subdivision Site and Context Description and Design Response (Clause 56.01)

Aims to ensure that the design of subdivision respects the existing neighbourhood character or contributes to a preferred neighbourhood character. This clause sets the standard that the design response must be appropriate to the neighbourhood or site. Under the clause the responsible authority must consider any relevant neighbourhood character objective, policy or statement set out in the Planning Scheme before deciding an application.

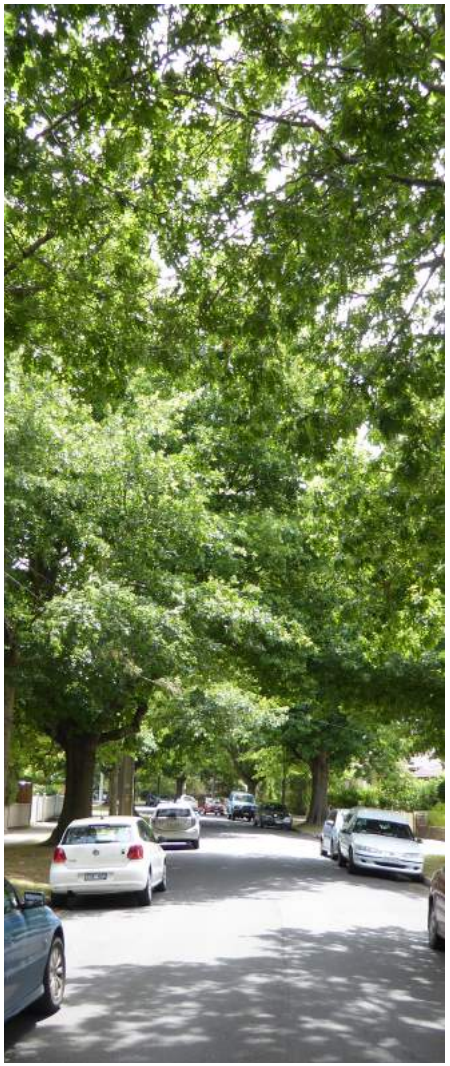
Subdivision Design Response (Clause 56.01-2)

Details that applications for a subdivision must include a subdivision site and context description and design response, including details of the location of trees existing on the site and site features such as street trees.

Integrated urban landscape objectives (Clause 56.05)

Aims to provide for continuous landscaping in streets that contribute to the character and identity of new neighbourhoods and urban places.

Specifies that an application for a subdivision that creates streets or public open space should be accompanied by a landscape design. The landscape design should implement aspects of relevant policies and plans for the area, maintain significant vegetation where possible and provide shade in streets, parks and public open space.



2.4.4 OVERLAYS

Whitehorse applies three environmental overlays to various residential neighbourhoods, for the protection of trees and/or significant vegetation and features. No blanket overlays are present and generally the existing overlays apply to a specific site or small precinct.

They include:

- Significant Landscape Overlay - 8 Schedules
- Vegetation Protection Overlay - 4 Schedules
- Environmental Significance Overlay - 2 Schedules

This section outlines the existing purpose and function of each of the overlays/schedules.

The effectiveness of these overlays will be further explored in chapters 3 and 4 of this report and subsequently in the next stages of work.

SIGNIFICANT LANDSCAPE OVERLAY

The Significant Landscape Overlay (SLO) aims to identify significant landscapes and conserve and enhance the character of these significant landscapes. Schedules to this overlay must contain a statement of the nature and key elements of the landscape and the landscape character objective to be achieved. There are eight schedules to the SLO in the City of Whitehorse Planning Scheme.

SLO1 – BLACKBURN AREA 1

Schedule 1 to the Significant Landscape Overlay applies to areas adjacent to the Blackburn and Gardiners Creeks and the Blackburn Lake Sanctuary in Blackburn. The significance of this area is attributed to the quality of the environment, which includes vegetation notable for its height density, maturity and high proportion of Australian native trees.

The schedule aims to retain the dominance of vegetation cover in keeping with the bush character of the environment.

A permit is required to remove, destroy or lop a tree. This doesn't apply to a tree with a circumference of 0.5 metres or less at a height of one metre above ground level or a tree which is dead or dying to the satisfaction of the responsible authority.

A permit is also required to construct a building, carry out works or construct a front fence within 4 metres of any vegetation that requires a permit to remove, destroy or lop.

SLO2 – BLACKBURN AREA 2

Schedule 2 to the Significant Landscape Overlay applies to various areas within and around the Blackburn neighbourhood. The significance of this area is attributed to the quality of the environment, which includes vegetation notable for its height density, maturity and high proportion of Australian native trees.

The schedule aims to retain the dominance of vegetation cover in keeping with the bush character of the environment.

A permit is required to remove, destroy or lop a tree. This doesn't apply to a tree with a circumference of 0.5 metres or less at a height of one metre above ground level or a tree which is dead or dying to the satisfaction of the responsible authority.

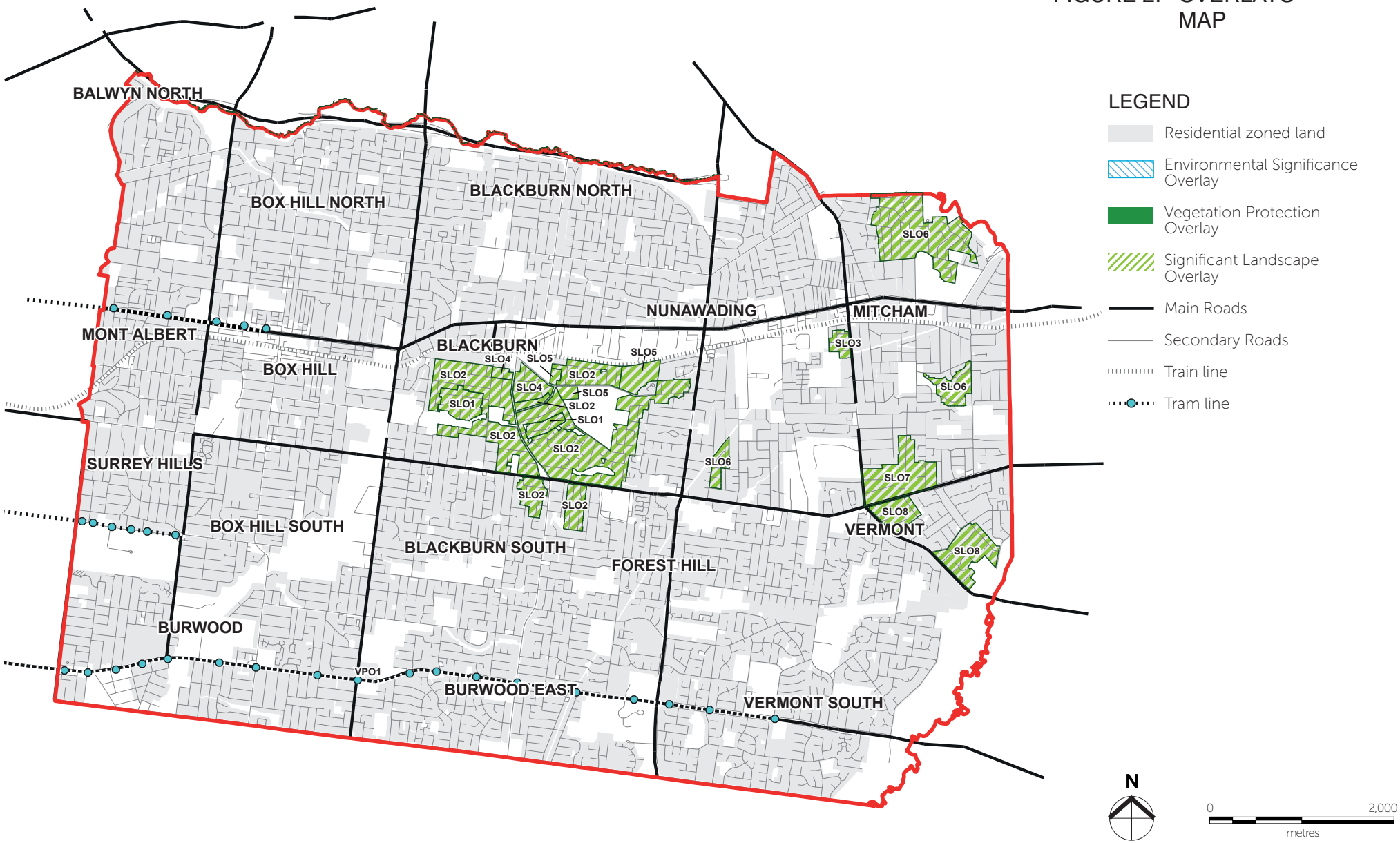
A permit is also required to construct a building, carry out works or construct a front fence within 4 metres of any vegetation that requires a permit to remove, destroy or lop.

SLO3 – WALKER ESTATE

Schedule 3 to the Significant Landscape Overlay applies to the residential area known as the Walker Estate in Mitcham. The significance of this area is attributed to its garden character, which includes vegetation notable for its height density, maturity and mix of native and exotic trees.

The schedule aims to retain the dominance of vegetation cover in keeping with the garden character of the environment.

FIGURE 2. OVERLAYS MAP



A permit is required to remove, destroy or lop a tree. This does not apply to a tree with a circumference of 0.5 metres or less at a height of one metre above ground level or a tree which is dead or dying to the satisfaction of the responsible authority.

A permit is also required to construct a building, carry out works or construct a front fence within 4 metres of any vegetation that requires a permit to remove, destroy or lop.

SLO4 – BLACKBURN EARLY SETTLEMENT NEIGHBOURHOOD CHARACTER – VEGETATION RETENTION

Schedule 4 to the Significant Landscape Overlay applies to areas of Blackburn. The significance of this area is attributed to the consistency of built form and sitting. The prevalence of large trees and garden settings form part of a suite of valued neighbourhood characteristics of the area.

The schedule aims to retain the vegetation dominated vistas and streetscapes and provide for the retention and planting of tall trees in a natural garden setting.

A permit is required to remove, destroy or lop a tree. This doesn't apply to a tree with a circumference of 0.5 metres or less at a height of one metre above ground level or a tree which is dead or dying to the satisfaction of the responsible authority.

A permit is also required to construct a building, carry out works or construct a front fence within 4 metres of any vegetation that requires a permit to remove, destroy or lop.

SLO5 – NOMINATED LARGE SITES: 1 LAKE ROAD, BLACKBURN, 57-67 CENTRAL ROAD, BLACKBURN AND 131-173 CENTRAL ROAD, NUNAWADING.

Schedule 5 to the Significant Landscape Overlay applies to three large sites within the Blackburn Lake environs. The significance of this area is attributed to the quality of the environment, which includes vegetation notable for its height, density, maturity and high proportion of indigenous trees. The preservation and enhancement of the area is dependent upon ensuring that built features are subservient to vegetation and sufficient open space is provided to sustain large mature trees.

The schedule aims:

- To retain the vegetation dominated vistas and streetscapes and sites, through ensuring the dominance of native vegetation cover; and
- To provide for the retention and planting of tall trees in keeping with the bush environment and habitat values.

A permit is required to remove, destroy or lop a tree. This doesn't apply to a tree with a circumference of 0.5 metres or less at a height of one metre above ground level or a tree which is dead or dying to the satisfaction of the responsible authority.

A permit is also required to construct a fence which is along the boundary of land to Central Road or Lake Road or is within 4 metres of any vegetation that requires a permit to remove, destroy or lop.

A permit is also required to construct a building, carry out works or construct a fence within 4 metres of any vegetation that requires a permit to remove, destroy or lop.

SLO6 – YARRAN DHERAN, SOMERS TRAIL, COLLINA DELL AND MENIN ROAD

Schedule 6 to the Significant Landscape Overlay applies to four areas in Mitcham and Forest Hill. These areas are distinctive for the presence and frequency of remnant indigenous Stringybark Eucalypts and its overall tree density among the surrounding areas of lesser vegetation dominance.

The schedule aims:

- To retain and enhance the bush vegetation dominated vistas and streetscapes, through ensuring the dominance of native vegetation cover.
- To ensure that a reasonable proportion of a lot is free of

buildings to provide for the retention and planting of tall trees in an informal bush setting.

A permit is required to remove, destroy or lop a tree. This doesn't apply to a tree with a circumference of 0.5 metres or less at a height of one metre above ground level or a tree which is dead or dying to the satisfaction of the responsible authority.

A permit is also required to construct a building, carry out works or construct a front fence within 4 metres of any vegetation that requires a permit to remove, destroy or lop.

SLO7 – VERMONT (GLENBURNIE ROAD AND ENVIRONS)

Schedule 7 to the Significant Landscape Overlay applies to the landscape of the southern area of Glenburnie Road in Vermont and the adjacent streets and properties. The area is distinctive for the presence of dense remnant indigenous and native trees and understory vegetation.

The schedule aims:

- To retain dominance of vegetation cover in keeping with the bush character environment.
- To ensure that a reasonable proportion of a lot is free of buildings to provide for the retention and planting of tall trees in a natural garden setting.

A permit is required to remove, destroy or lop a tree. This doesn't apply to a tree with a circumference of 0.5 metres or less at a height of one metre above ground level or a tree which is dead or dying to the satisfaction of the responsible authority.

A permit is also required to construct a building, carry out works or construct a front fence within 4 metres of any vegetation that requires a permit to remove, destroy or lop.

SLO8 – VERMONT (SOUTH OF CANTERBURY ROAD)

Schedule 8 to the Significant Landscape Overlay applies to areas in Vermont south of Canterbury Road. The area is distinctive for the presence of large native trees that form a backdrop and occasionally are planted within the frontage.

The schedule aims:

- To retain and protect large trees, maintain the dominance of exotic and native vegetation cover and encourage the planting of native trees and vegetation that will contribute to the tree canopy.
- To ensure that front and side setbacks are consistent with the streetscape and provide for existing and proposed vegetation.

A permit is required to remove, destroy or lop a tree. This doesn't apply to a tree with a circumference of 0.5 metres or less at a height of one metre above ground level or a tree which is dead or dying to the satisfaction of the responsible authority.

A permit is also required to construct a building, carry out works or construct a front fence within 4 metres of any vegetation that requires a permit to remove, destroy or lop.

VEGETATION PROTECTION OVERLAY

The Vegetation Protection Overlay (VPO) aims to protect areas of significant vegetation, preserve existing trees and other vegetation, ensure that development minimises loss of vegetation and to recognise vegetation protection areas as locations of special significance, natural beauty, interest and importance. Schedules to this overlay must contain a statement of the nature and key elements of the landscape and the vegetation protection objective to be achieved. There are four schedules to the VPO in the City of Whitehorse Planning Scheme.

VPO1 AND VPO3 – SIGNIFICANT EXOTIC, NATIVE AND INDIGENOUS TREES

Schedules 1 and 3 to the Vegetation Protection Overlay applies to individual properties across the municipality with trees that have been identified as being significant for either their contribution to the landscape/streetscape or because the vegetation is of local provenance. Alternatively, trees are significant due to their age, size and interest they bring to the neighbourhood.

A permit is required to remove, destroy or lop a tree that is identified in the City of Whitehorse Statements of Tree Significance. This doesn't apply to a tree which is dead, dying or dangerous to the satisfaction of the responsible authority.

VPO2 – SIGNIFICANT EXOTIC, NATIVE AND INDIGENOUS TREES (MONT ALBERT NORTH (NORTH OF BELMORE ROAD)

Schedule 2 to the Vegetation Protection Overlay applies to areas of Mont Albert North that are north of Belmore Road. The area is distinctive for its possession of established exotic gardens with large native trees forming a backdrop and occasionally planted within the frontage. Alternatively, trees are significant due to their age, size and interest they bring to the neighbourhood.

The schedule aims to retain and protect large trees and maintain the dominance of exotic and native vegetation cover, to encourage the planting of native trees and vegetation that will contribute to the tree canopy.

A permit is required to remove, destroy or lop vegetation with a single trunk circumference of 1 m or more at a height of 1 m above ground level. This does not apply to any vegetation that is dead, dying or dangerous to the satisfaction of the responsible authority.

VPO4 – SIGNIFICANT EXOTIC, NATIVE AND INDIGENOUS TREES – MITCHAM SOUTH AREA

Schedule 4 to the Vegetation Protection Overlay applies to areas of the Mitcham South. The area is distinctive for its dwellings in leafy garden settings and established canopy trees. The combined visual effect of the canopy trees make a significant contribution to the neighbourhood character of the area, with larger street trees particularly contributing to the locality.

The schedule aims to retain and protect large trees and maintain the dominance of exotic and native vegetation cover, to encourage the planting of native trees and vegetation that will contribute to the tree canopy .

A permit is required to remove, destroy or lop vegetation having a single trunk circumference of 1 m or more at a height of 1 m above ground level. This does not apply to any vegetation that is dead, dying or dangerous to the satisfaction of the responsible authority.

ENVIRONMENTAL SIGNIFICANCE OVERLAY

The Environmental Significant Overlay (ESO) aims to identify areas where the development of land may be affected by environmental constraints and to ensure that development is compatible with identified environmental values. Schedules to this overlay must contain a statement of the nature and key elements of the landscape and the landscape character objective to be achieved. There are two schedules to the ESO in the City of Whitehorse Planning Scheme.

ESO1 – 131-173 CENTRAL ROAD, NUNAWADING

Schedule 1 to the Environmental Significant Overlay applies to a site within Nunawading that contains remnant native vegetation of very high local conservation significance. The significance of this area is attributed to the remnant of the endangered Ecological Vegetation Class (EVC) Valley Heathy Forest with very high conservation significance ratings, large hollow bearing trees and 15 plant species of bioregional conservation significance.

The schedule aims to ensure the long term protection of the very high conservation values of this site and recognise the importance of the site as a key habitat area for the Valley Heathy Forest endangered EVC.

A permit is not required to remove, destroy or lop any vegetation that is dead or dying, non-native or in the City of Whitehorse Environmental Weed List 2007.

ESO2 – 15 VIRGILLIA STREET, BLACKBURN NORTH

Schedule 2 to the Environmental Significant Overlay applies to a site within Blackburn North that contains remnant native vegetation of very high local conservation significance. The significance of this area is attributed to the remnant of the endangered Ecological Vegetation Class (EVC) Valley Heathy Forest with very high conservation significance ratings, eight plant species of bioregional conservation significance and presence of a population of old hollow-bearing trees.

The schedule aims to ensure the long term protection of the very high conservation values of this site and recognise the importance of the site as a key habitat area for the Valley Heathy Forest endangered EVC.

A permit is not required to remove, destroy or lop any vegetation that is dead, dying or dangerous or has a trunk diameter less than 40cm at a height of 1.3m above ground level, is non-native or in the City of Whitehorse Environmental Weed List 2007.

2.4.5 RESIDENTIAL ZONES

Residential zones apply to the majority of the City and while the main purpose of the residential zones is not to protect trees, the schedule to the GRZ, NRZ and RGZ allow variations to landscape requirements.

Five out of six NRZ schedules and four out of six GRZ schedules within the Whitehorse Planning Scheme require all new developments to provide at least two canopy trees per dwelling that have the potential to reach 8 or 12 metres, with one tree being provided within the secluded private open space. The Schedules 1, 2, 3 and 4 to the NRZ require those trees to be native or more preferably indigenous, this is not a requirement of Schedule 5 to the NRZ which predominantly applies to Vermont South. Two out of three RGZ schedules require new development to provide at least one canopy tree that has the potential to reach 8m.

Additionally, a number of residential schedules in the Whitehorse Planning Scheme vary site coverage, site permeability, setbacks, landscaping and private open space. These new controls, come together to create greater space for trees in new developments.

This section outlines the purpose and location of each of the three zones.

GENERAL RESIDENTIAL ZONE

The General Residential Zone (GRZ) aims to encourage development that respects the neighbourhood character of areas and implements neighbourhood character policy and adopted neighbourhood character guidelines. There are six schedules to the GRZ in the City of Whitehorse Planning Scheme. A permit is required to subdivide land, construct or extend a dwelling or construct or extend a front fence within three metres of a street.

As shown on the map opposite, the GRZ applies to much of the municipality, especially to the north of Whitehorse Road and in the Burwood, Burwood East and Forest Hill areas.

GRZ1 – ESTABLISHED GARDEN SUBURBAN AREAS

Schedule 1 to the General Residential Zone requires the provision of at least two canopy trees with a minimum mature height of 8 metres, with at least one of those trees to be planted in the secluded private open space of the dwelling. The schedule sets the maximum building coverage at 50% of a site and requires a minimum of 30% site permeability.

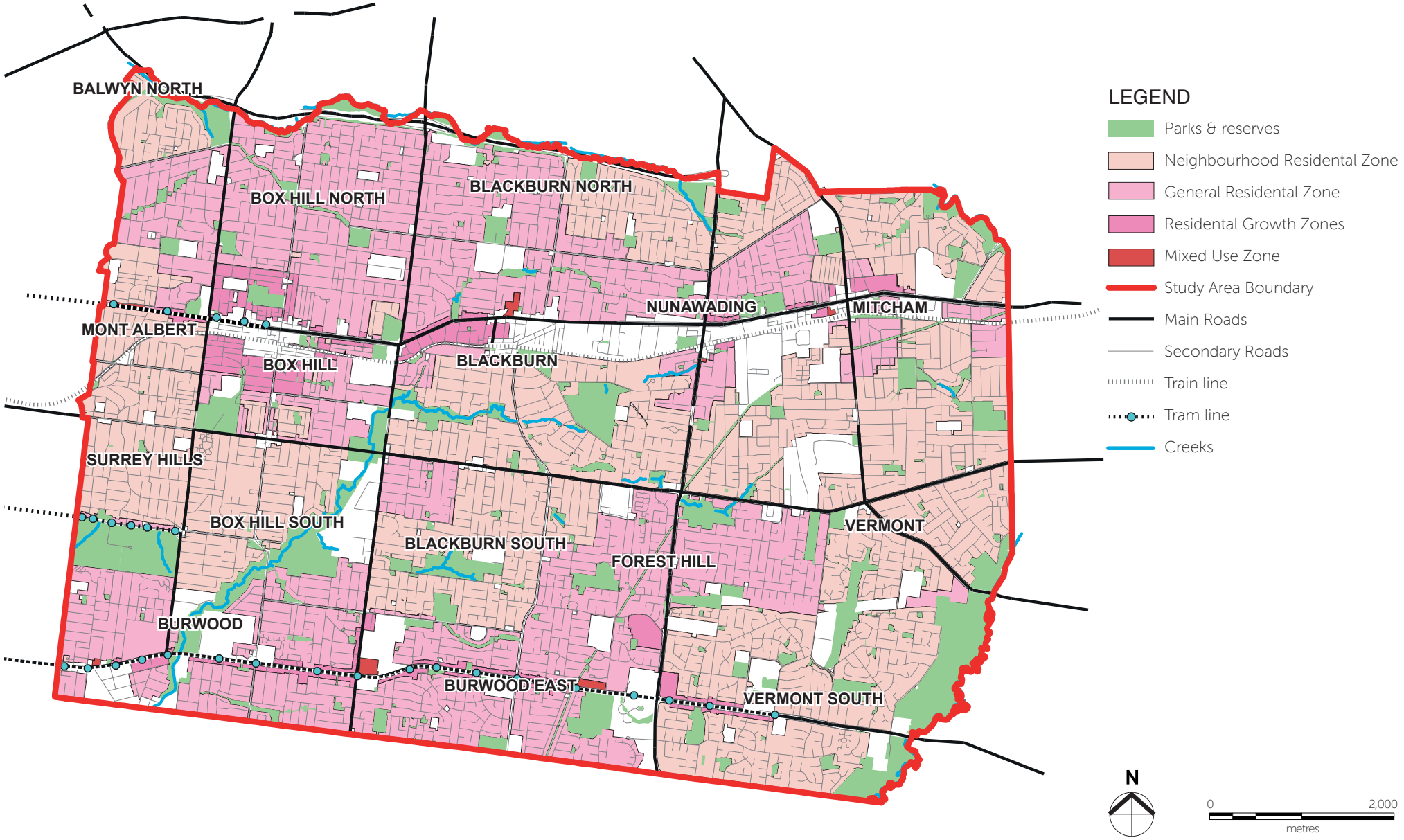
The schedule also requires the provision of private open space with a minimum area of 35 square metres and a minimum dimension of 5 metres. The Schedule does not set a requirement for minimum street, side or rear setbacks.

GRZ2 – BUSH SUBURBAN PRECINCT 2

Schedule 2 to the General Residential Zone requires the provision of at least two canopy trees with a minimum mature height of 12 metres, with at least one of those trees to be planted in the secluded private open space of the dwelling.

The schedule sets the maximum building coverage at 40% of a site and requires a minimum of 40% site permeability. The schedule requires the provision of private open space with a minimum area of 35 square metres and a minimum dimension of 5 metres.

FIGURE 3. RESIDENTAL ZONES MAP



The Schedule requires carport, garage and/or outbuildings to be set back a minimum of 1 metre from the front façade of the building. Under the schedule a minimum 2 metre side and rear setback applies, with an additional 0.3 metres for every metre of height over 3.6 meters. The minimum setback increases 1 metre for every metre of height over 6.9 metres.

GRZ3 – CLASSIC GARDEN SUBURBAN AREAS

Schedule 3 to the General Residential Zone requires the provision of at least two canopy trees with a minimum mature height of 8 metres, with at least one of those trees to be planted in the secluded private open space of the dwelling.

The schedule sets the maximum building coverage at 50% of a site and requires a minimum of 30% site permeability.

The schedule requires the provision of private open space with a minimum area of 35 square metres and a minimum dimension of 5 metres. The Schedule does not set a requirement for minimum street, side or rear setbacks.

GRZ4 – GARDEN SUBURBAN PRECINCT 8

Schedule 4 to the General Residential Zone requires the provision of at least two canopy trees with a minimum mature height of 8 metres, with at least one of those trees to be planted in the secluded private open space of the dwelling.

The schedule sets the maximum building coverage at 50% of a site and requires a minimum of 30% site permeability.

The schedule requires the provision of private open space with a minimum area of 35 square metres and a minimum dimension of 5 metres.

Under the schedule a minimum 3 metre side and rear setback applies, with an additional 0.3 metres for every metre of height over 3.6 meters. The minimum setback increases 1 metre for every metre of height over 6.9 metres.

GRZ5 – GENERAL RESIDENTIAL

Schedule 5 to the General Residential Zone does not vary any controls.

GRZ6

Schedule 6 to the General Residential Zone applies a maximum building height requirement only. It does not vary controls for site coverage, permeability, private open space or setbacks

NEIGHBOURHOOD RESIDENTIAL ZONE

The Neighbourhood Residential Zone (NRZ) recognises an area for its special neighbourhood character and to limit opportunities for increased residential development. No more than 2 dwellings on a lot is allowed. It ensures that development respects the identified neighbourhood character, heritage, environmental or landscape characteristics of the area.

The zone also implements neighbourhood character policy and adopted guidelines. There are six schedules to the NRZ in the City of Whitehorse. A permit is required to subdivide, construct or extend a dwelling or a front fence within three metres of a street.

As shown on the map on page 33, the NRZ also applies to a large portion of the municipality, especially in the Mont Albert, Surrey Hills, Blackburn South, Blackburn and Vermont areas.

NRZ1 – BUSH ENVIRONMENT AREAS

Schedule 1 to the Neighbourhood Residential Zone requires the provision of at least two canopy trees with a minimum mature height of 12 metres, with at least one of those trees to be planted in the secluded private open space of the dwelling.

The schedule sets the maximum building coverage at 40% of a site

and requires a minimum of 40% site permeability.

The schedule requires the provision of private open space with a minimum area of 35 square metres and a minimum dimension of 5 metres. The Schedule does not set a requirement for minimum street setbacks. Under the schedule a minimum 1.2 metre side and rear setback applies, with an additional 0.3 metres for every metre of height over 3.6 meters. The minimum setback increases 1 metre for every metre of height over 6.9 metres.

NRZ2 – FORMAL BUSH SUBURBAN AREAS

Schedule 2 to the Neighbourhood Residential Zone requires the provision of at least two canopy trees with a minimum mature height of 12 metres, with at least one of those trees to be planted in the secluded private open space of the dwelling.

The schedule sets the maximum building coverage at 40% of a site and requires a minimum of 40% site permeability.

The schedule requires the provision of private open space with a minimum area of 80 square metres or 20% of the lot, whichever is the lesser (but not less than 40 metres) at least one part of the private open space should consist of secluded private open space with a minimum area of 35 square metres and a minimum dimension of 5 metres.

The Schedule does not set a requirement for minimum street setbacks. Under the schedule a minimum 1 metre side and setback and 5 metre rear setback applies, with an additional 0.3 metres for every metre of height over 3.6 meters. The minimum setback increases 1 metre for every metre of height over 6.9 metres.

NRZ3 – TRADITIONAL BUSH SUBURBAN AREAS

Schedule 3 to the Neighbourhood Residential Zone requires the provision of at least two canopy trees with a minimum mature height of 12 metres, with at least one of those trees to be planted in the secluded private open space of the dwelling.

The schedule sets the maximum building coverage at 40% of a site and requires a minimum of 40% site permeability.

The schedule requires the provision of private open space with a minimum area of 80 square metres or 20% of the lot, whichever is the lesser (but not less than 40 metres) at least one part of the private open space should consist of secluded private open space with a minimum area of 35 square metres and a minimum dimension of 5 metres.

The Schedule does not set a requirement for minimum street setbacks. Under the schedule buildings should be set back a minimum of 1 metre from one side and a minimum of 3 metres from the other side boundary. Additionally, a 5 metre rear setback applies. The minimum side and rear setbacks increase with an additional 0.3 metres for every metre of height over 3.6 metres. The minimum setback increases 1 metre for every metre of height over 6.9 metres.

NRZ4 – INFORMAL BUSH SUBURBAN AREAS

Schedule 4 to the Neighbourhood Residential Zone requires the provision of at least two canopy trees with a minimum mature height of 12 metres, with at least one of those trees to be planted in the secluded private open space of the dwelling.

The schedule sets the maximum building coverage at 40% of a site and requires a minimum of 40% site permeability.

The schedule requires the provision of private open space with a minimum area of 80 square metres or 20% of the lot, whichever is the lesser (but not less than 40 metres) at least one part of the private open space should consist of secluded private open space with a minimum area of 35 square metres and a minimum dimension of 5 metres.

The Schedule requires carport, garage and/or outbuildings to be set back a minimum of 10 metres from the front boundary or 1 metre further than the average setback of buildings on adjoining allotments.

Under the schedule buildings should be set back a minimum of 2 metres from one side boundary with an additional 0.6 metres for every metre of height over 3.6 metres and an additional 1 metre for every metre of height over 6.9 metres.

NRZ5 – TRADITIONAL GARDEN SUBURBAN AREAS

Schedule 5 to the Neighbourhood Residential Zone requires the provision of at least two canopy trees with a minimum mature height of 8 metres, with at least one of those trees to be planted in the secluded private open space of the dwelling.

The schedule sets the maximum building coverage at 50% of a site and requires a minimum of 30% site permeability.

The schedule requires the provision of private open space with a minimum area of 80 square metres or 20% of the lot, whichever is the lesser (but not less than 40 metres) at least one part of the private open space should consist of secluded private open space with a minimum area of 35 square metres and a minimum dimension of 5 metres.

The Schedule requires any new wall on a boundary to be set back a minimum of 10 metres from the front boundary or 1 metre further than the average setback of buildings on adjoining allotments. Under the schedule, garage walls constructed on or within 200mm of a side or rear boundary or a carport constructed within 1 metre of a side or rear boundary should not abut the boundary for a length of more than 7 metres.

NRZ7 – TRADITIONAL GARDEN SUBURBAN AREAS

Schedule 7 to the Neighbourhood Residential Zone does not apply variations to the zone.

RESIDENTIAL GROWTH ZONE

The Residential Growth Zone (RGZ) aims to provide for housing at increased densities in buildings up to and including four stories, to encourage a scale of development that provides a transition between areas of more intensive development and areas of restricted housing growth. The RGZ also aims to improve housing diversity in locations with good access to services and transport.

There are three schedules to the RGZ in the City of Whitehorse Planning Scheme. A permit is required to subdivide land, construct or extend a dwelling or construct or extend a front fence within three metres of a street.

As shown on the map on page 33, the RGZ predominantly applies around larger Activity Centres and along the Burwood Highway.

RGZ1 – SUBSTANTIAL CHANGE A

Schedule 1 to the Residential Growth Zone requires the provision of at least one canopy trees with a minimum mature height of 8 metres, specifying development should provide for the retention and/or planting of trees where part of the character of the neighbourhood.

The schedule requires the provision of private open space with a minimum area of 35 square metres and a minimum dimension of 5

metres.

Does not set a minimum front setback, minimum side and rear setback, maximum site coverage or permeability variation.

RGZ2 – SUBSTANTIAL CHANGE B

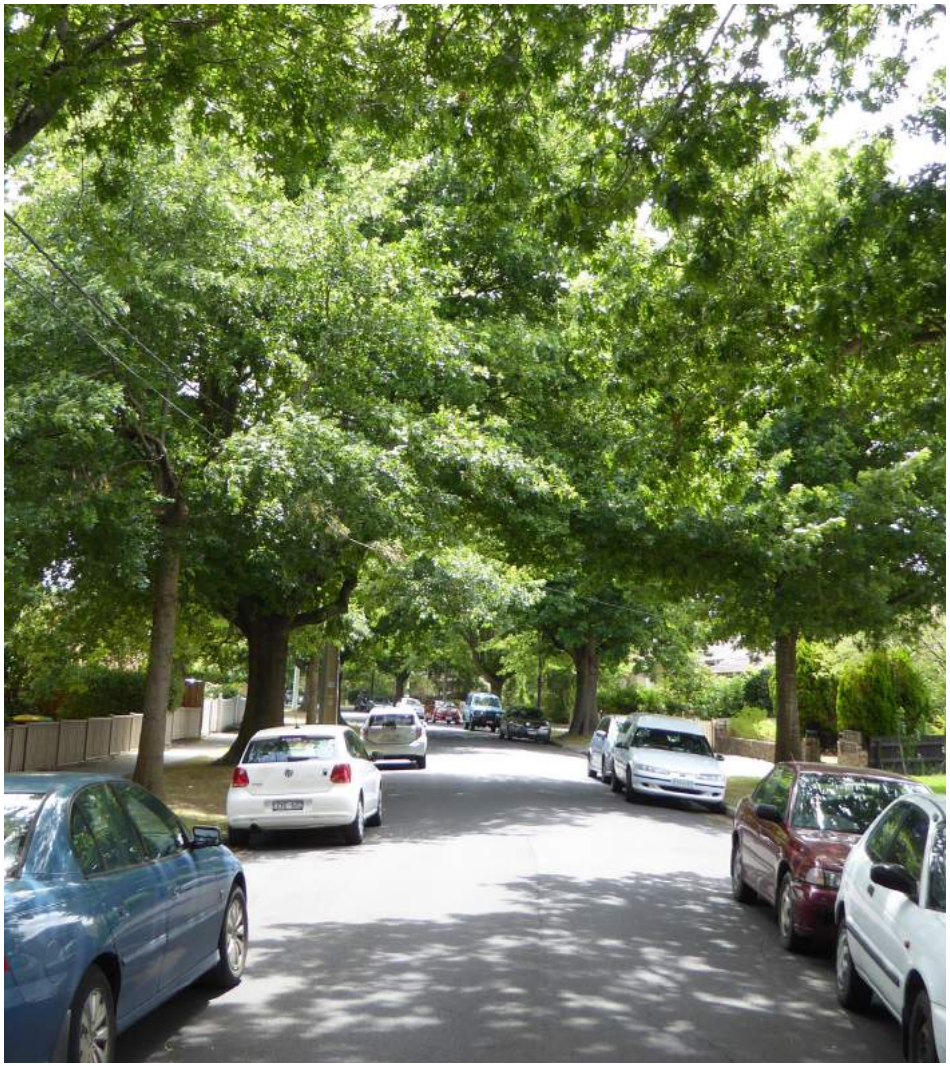
Schedule 2 to the Residential Growth Zone requires the provision of at least one canopy tree with a minimum mature height of 8 metres, specifying development should provide for the retention and/or planting of trees where part of the character of the neighbourhood.

The schedule requires the provision of private open space with a minimum area of 35 square metres and a minimum dimension of 5 metres.

It does not set a minimum front setback, minimum side and rear setback, maximum site coverage or permeability variation.

RGZ3 – SUBSTANTIAL CHANGE C

Schedule 2 to the Residential Growth Zone does not apply variations to the zone.



2.5 PANEL REPORTS

SUMMARY OF PANEL REPORTS

This section provides a summary of a selection of relevant Victorian Planning Panel reports. Broadly, the Panels investigated relate to applying the VPO and SLO to various areas around Whitehorse.

This exercise provides insight into how and when tree protection overlays are being approved or denied. It will assist in determining options for further tree protection that are robust and more likely to be supported through a Panel process.

AMENDMENT C51 (MAY 2006)

Amendment C51 applied two new schedules to the Significant Landscape Overlay in areas of Whitehorse identified as having predominantly landscape dominated character, located in Mitcham and Vermont. The Panel supported the application of the SLO as there was considerable conceptual and strategic basis for the amendment as a result of Whitehorse's substantial engagement with neighbourhood character studies.

The SLO was deemed to be the appropriate mechanism as the Neighbourhood Character Study identified that for most areas of Whitehorse it was vegetation that primarily encapsulated the neighbourhood character.

The Panel noted that the amendment and earlier studies have not always established a coherent approach to the designation of boundaries for proposed areas of special control. It was stated that future boundaries should be applied on the basis of preferred neighbourhood character.

The Panel also recommended that dead or dying trees across all schedules (except SLO5) be exempt from the need for a planning permit.

Outcome

Council adopted the amendment based on the changes recommended by the Panel. A review of further areas with the potential for a SLO was considered for the 2006-2007 budget.

AMENDMENT C50 PART 2 AND C54

Amendments C50 and C54 were considered together, as they both represent 3 institutional sites in the immediate vicinity of the Blackburn Lakes Sanctuary, which attempt to protect and enhance the important environmental characteristics of the Blackburn Lakes Surrounds.

Amendment C50 proposed to include the Blackburn Lakes Surround Study (BLSS) as a reference document in the LPPF and identification of the three sites as minimal changes areas with statements of desired future character in the Residential

Development Policy at Clause 22.03.

Amendment C54 proposed to replaced the interim SLO5 with a permanent SLO5 to require a planning permit for buildings and works, construction of a fence and to remove, destroy or lop a tree.

The Panel agreed that the SLO was an appropriate tool for the sites and that key design responses should be outlined in the schedule overlay rather than the Residential Development Policy. It recommended that a number of changes be made to the SLO schedule to strengthen the built form controls. It recommended retaining proposed vegetation removal controls with minor changes.

Outcome

Council amended the SLO5 and Residential Development Policy based on Panel recommendations and the amendment was adopted.

AMENDMENT C57 (JUNE 2006, MARCH/JULY 2007 AND MARCH 2008)

Amendment C57 implemented recommendations contained in a 2004 review of the Whitehorse Neighbourhood Character Study. The Amendment applied a new schedule to the Neighbourhood Character Overlay in Box Hill and proposed to introduce a new schedule to the Significant Landscape Overlay (SLO8) and apply this overlay to areas of Mont Albert North and Vermont. The amendment also extended the SLO2 to two areas in Blackburn/ Nunawading.

The Panel did not support the application of the SLO8 in a number of areas of Mont Albert North. The Panel noted whilst the areas of Mont Albert North had a leafy character the area was not unusual and was similar in character to other areas that were not proposed to be covered by a SLO. Similarly the application of the SLO8 was not supported in areas of Vermont as the Panel deemed that the area does not have a special landscape character and protection was not warranted.

Outcome

Amendment C57 was adopted in part. Areas of Vermont, south of Canterbury Road, were included in a new SLO8 and SLO2 was amended to include areas in Blackburn/ Nunawading. The area of Mont Albert North was included with VPO2.

AMENDMENT C60 (AUGUST 2006)

Amendment C60 implemented the Whitehorse Significant Tree Study (2005) and sought to apply a VPO (Schedule 1) to individual properties within the municipality. The Panel found that there was strategic justification for the amendment through the current and proposed provisions of the Municipal Strategic Statement and the Planning Scheme in general.

The Panel noted that the VPO mechanism when applied to R1Z land does not require a permit for building and works even if that has a significant impact on the associated trees on a property.

Outcome

Council adopted the amendment generally as recommended by the panel, with minor changes, namely to retain a Bristle Tipped Oak tree on Mitcham Road.

AMENDMENT C73

Amendments C73 applied an Environmental Significance Overlay Schedule 1 to the site at 131-173 Central Road, Nunawading. The native vegetation on the site was determined to be endangered with a very high conservation significance.

The Panel determined that the existing controls were not adequate to protect the ecological values and conservation significance of the site. In general the Panel recommended that the Amendment should be adopted to introduce the Environmental Significance Overlay on to the site.

The Panel believed that the preparation of the amendment was primarily in response to a

preceding VCAT decision rather than a response to a piece of strategic work. However the Panel accepted that there is sufficient policy within Council's Planning Scheme indicating the importance of environmental values.

The Panel noted that the Environmental Significance Overlay was the most appropriate tool to improve management of the site. Additionally, the Panel noted that whilst some duplication of controls within the Significant Landscape Overlay and Environmental Significance Overlay may exist, they shouldn't be of an onerous nature to Whitehorse City Council or the owner.

Outcome

Council accepted the recommendation of the Panel and adopted amendment V73 with minor changes as recommended.

AMENDMENT C83 (SEPTEMBER 2009)

Amendment C83 implemented the second stage of the Whitehorse Significant Tree Study (2006) and introduced a new schedule to the VPO(3) to 548 properties and deleted certain properties from the existing VPO(1).

In general the Panel found that the proposed Amendment was in accordance with policy directions, had sound strategic justification and was an appropriate mechanism to achieve its aims.

The Panel noted the absence of clear thresholds for criteria identifying tree significance. The Panel considered that the criteria was only generally expressed and that thresholds for the criteria were not specified at all. Concern was expressed that if the criteria and thresholds for tree selection were not made more explicit that if permission to remove a tree was denied and the matter was reviewed by VCAT that the reasons for identification of the tree may be insufficiently robust.

Outcome

Council consequently elaborated on the assessment criteria and holistic assessment approach in the *Statements of Tree Significance 2006*, which as part of the adopted Amendment C83, became an Incorporated Document to the Scheme.

AMENDMENT C96 (SEPTEMBER 2009)

Amendment C96 to the Whitehorse Planning Scheme applied the Environmental Significance Overlay Schedule 2 (ESO2) on a permanent basis to land at 15 Virgillia Street, Blackburn North. The amendment sought to protect remnant native vegetation found on the land, which has been identified as an endangered Ecological Vegetation Class classified as Valley Heathy Forest. The vegetation is considered to have a high conservation significance, which warrants the application of the ESO2.

The application of the ESO2 was considered to be strategically justified. Whilst the subject site had been granted permission for subdivision with conditions requiring the ongoing protection of large mature trees on some of the lots, the Panel noted the need to apply the ESO2 to protection of all the remnant native vegetation on the site.

Outcome

Council adopted the amendment with editorial changes as recommended by the Panel. However, Council amended the proposed ESO boundary to apply to whole lots, rather than just patches of remnant vegetation as suggested by the Panel.

AMENDMENT C106 (NOVEMBER 2009)

Amendment C106 applied SLO Schedule 6 to the Menin Road Area in Forest Hill to replace the interim SLO10 and VPOs 1 and 3. It also applied the VPO Schedule 4 to the areas known as Mitcham South Area

The amendment implemented the recommendations of the Whitehorse Neighbourhood Character Study (2003).

The Panel found that the Whitehorse Neighbourhood Character Study provided sound strategic justification for the amendment. The Panel also found that the SLO6 provided a clear statement of the established and preferred character of the area.

The Panel also recognised that the use of the SLO is the most appropriate mechanism to identify and protect the Menin Road Area. This is because the significant tree coverage and landscape character are the main contributors to the bushy garden character of the area. It was noted that the SLO provides the ability to ensure that development provides sufficient land to protect and retain the tree canopy of the area.

Outcome

The amendment was adopted by Council subject to some minor wording changes as suggested by the Panel.

AMENDMENT C133

Amendment C133 proposed a number of changes to the existing Significant Landscape Overlay Schedules. Changes included: insert aborists' definitions of pruning and lopping in the 'Permit Requirements'; triggering a requirement for a front fence within 4m of vegetation controlled by the SLO; and, amending SLOs 1, 2, 3, 5 and 8 to be more consistent in their Permit Requirement exemptions relating to the need for a permit for buildings and works.

The main issues addressed by submissions related to the proposed controls being too restrictive, setback and building height triggers and the proposed front fence trigger.

The Panel recommended that the amendment be adopted with some minor changes in relation to permits for front fences and the definitions of pruning and loping.

Outcome

Council accepted the recommendation of the Panel and adopted Amendment C133 with changes as recommended.

2.6 NEIGHBOURHOOD CHARACTER

WHITEHORSE NEIGHBOURHOOD CHARACTER STUDY REVIEW (APRIL 2014)

The purpose of the Neighbourhood Character Study is to describe the valued characteristics of each residential neighbourhood in Whitehorse. These areas are known as character precincts. The strategy also details the preferred future character for each area. The preferred character statements, contained within the document provides policy direction for each of the character precincts. Proposed guidelines and controls are designed to be incorporated into the planning scheme.

Three character types have been identified to encapsulate the landscape and built form elements considered important in the municipality. The three character types are as follows:

Garden Suburban Areas: Established exotic gardens with canopy trees, lawn areas, garden beds and shrubs.

Bush Suburban Areas: Gardens are less formal, consisting of many canopy trees.

Bush Environment Areas: Informal native gardens comprising established canopy trees and vegetation.

Across each of the character precincts the accompanying guidelines broadly set objectives to: maintain and strengthen the garden setting of the dwellings and the tree canopy of the neighbourhood, retain established tall trees and encourage the planting of new trees and avoid the removal of large established trees.

Across the sixteen Garden Suburban character areas the guidelines require that developers "plant at least two canopy trees with a minimum mature height of 8 metres per dwelling".

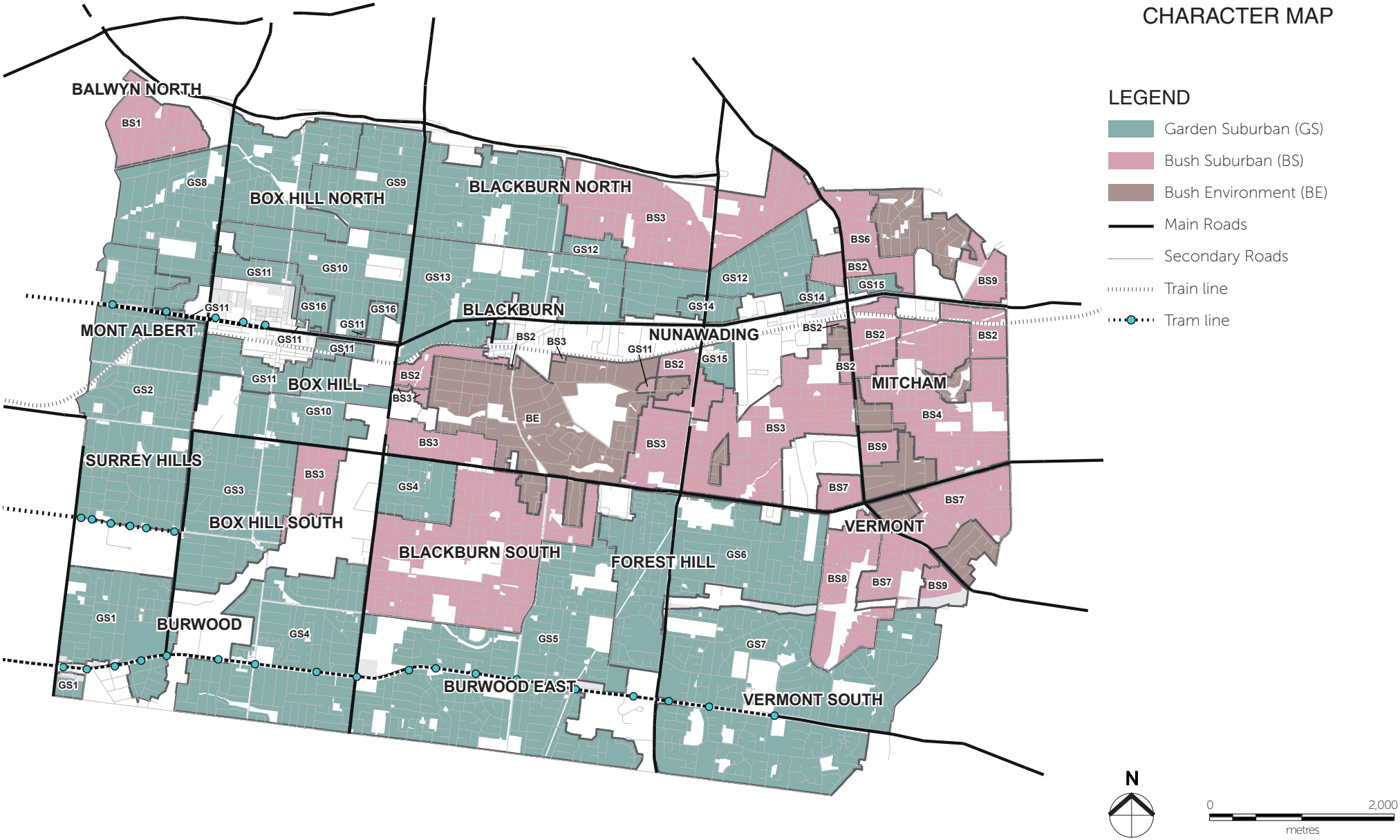
Across the Bush Suburban 1-6 character areas the guidelines state that development design responses should "plant at least two canopy trees with a minimum mature height of 12 metres per dwelling". For the Bush Suburban 7, 8 and 9 character areas the guidelines recommend that design responses should "plant at least two canopy trees with a minimum mature height of 8 metres per dwelling".

Design responses for development in Bush Environment character areas should "plant at least two canopy trees with a minimum mature height of 12 metres per dwelling".

In all character areas the guidelines stipulate that design responses should "provide for two ground level areas with minimum dimensions of 5m x 5m, for open space to accommodate substantial canopy trees".

Overall, the Whitehorse Neighbourhood Character Study highlights the importance that canopy trees and vegetation have to neighbourhood character. The importance and benefits of tree canopy cover in Whitehorse and the greater Melbourne area are detailed and discussed in Section 2.1 of this report.

FIGURE 4. NEIGHBOURHOOD CHARACTER MAP



NEIGHBOURHOOD CHARACTER IN OTHER MUNICIPALITIES

This section details the approach that other comparable councils have taken in determining neighbourhood character and tree protection.

Neighbourhood character and tree controls that have been reviewed, include:

- Banyule
- Maroondah
- Bayside
- Melbourne
- Knox

BANYULE

The Banyule Neighbourhood Character Strategy (2012) provides a strategic policy framework for supporting housing change in residential areas within a desired future neighbourhood character in the City of Banyule. It provides strategic precinct statements that describe the future character and objectives for each of the 13 neighbourhood character precincts. It makes various references to the contribution of significant trees, substantial trees and other vegetation to contributing to the desired future character of residential neighbourhoods.

Similar to Whitehorse, character types have been identified to encapsulate the landscape and built form elements considered important in Banyule.

Overall, the strategy makes clear that continuous tree canopy cover and large native trees are the most valued characteristic of the municipality and should always be retained wherever possible. It requires dwellings to sit beneath the canopy cover and long views of vegetated dominated streets and neighbourhoods retained.

Banyule's Residential Neighbourhood Character Policy (Clause 22.02) implements the Neighbourhood Character Strategy by including the preferred future character objectives and design responses for each character precinct. This approach ensures that tree canopy cover and neighbourhood character are consistently being considered and applied throughout the municipality.

In addition, Banyule City Council has applied blanket VPO's, in the form of 5 separate schedules.

In most areas of the municipality, a permit is required to remove destroy or lop any native vegetation under a VPO. In some areas a permit is also required for buildings and works that are within the drip line or within the significant tree root zone of substantial trees.

Banyule's (council Approved) Draft Strategy for Substantial Trees in Banyule's Garden Court and Garden Suburban Neighbourhoods (2013), provides further guidance on protecting large trees in residential areas with a height of 12m or more and a trunk diameter measured at 1.4m or more.

Ongoing tree protection objectives and the vision of a highly vegetated municipality forms a key component of most Banyule plans, policies and guidelines.

BAYSIDE

The City of Bayside has undertaken a variety of strategic work to inform the protection and enhancement of vegetation and trees within the municipality. Clause 21.04 'Environmental and Landscape Values' recognises the wide range of significant habitats within Bayside and seeks to protect them through minimising the impact of land use and development in these areas. Bayside does not set any requirements for additional landscaping or private open space in the residential zone schedules.

The VPO is the most commonly applied environmental overlay, with VPO3 applying most extensively around the Beaumaris and Black Rock native vegetation areas. A permit is required to remove, destroy or lop any vegetation native to Australia.

The ESO and SLO only apply to small areas within the southern part of the municipality. Both overlays generally seek permits for the removal of vegetation.

In 2011 the City of Bayside undertook a review of their vegetation related provisions and developed a number of options for increasing tree canopy coverage and enhancing tree protection on private land. Broadly the options included;

- Amending the MSS to strengthen the discussion, role and values of vegetation;
- Preparation of a vegetation retention and enhancement local policy (including defining what a 'canopy tree' was);
- Amending the Residential Zone schedules;
- Undertaking further strategic work to determine further application of the VPO;
- Amending existing overlays to standardise decision guidelines; and
- Advocating for an Amendment to ResCode.

Since the review was undertaken, the Bayside MSS has been revised to have a greater focus on tree protection.

MAROONDAH

The Maroondah Neighbourhood Character Study was prepared in 2004 and provides the basis for preferred future character and vegetation controls in the municipality.

It details 24 'neighbourhood areas' that have been translated into the Residential Neighbourhood Character Policy (Clause 22.02).

This Policy requires that developments make provision for the planting of at least one canopy tree in the private open space to each dwelling, with a canopy height that exceeds the roof height of the dwelling.

It also requires front yards to allow for the planting and retention of canopy trees that grow to a height that exceeds the height of the roof of the dwelling and provide for a framing of the buildings on the site.

Maroondah takes a municipal-wide approach to vegetation protection by applying blanket SLO's, in the form of 4 schedules. However, the majority of Maroondah is covered by SLO3 and SLO4.

The SLO3 requires a permit for development over:

- 40% site cover
- 20% slope
- 2.5m of cut or fill
- 2 storeys or 8m

It also requires a permit for most vegetation removal. This does not apply to trees that are less than 5m tall and less than 0.5m circumference at 1m.

The SLO4 requires a permit for most vegetation removal. This also does not apply to trees that are less than 5m tall and less than 0.5m circumference at 1m, or trees within 3m of a dwelling.

It is clear that Maroondah values a vegetation dominated character and seeks to protect an overall tree canopy cover that exceeds built form heights. It also can be concluded that heights of at least 5 metres contribute significantly to the neighbourhood character of most areas of the City.

MELBOURNE

The City of Melbourne has produced an Urban Forest Strategy to promote a greener city in the future. It aims to protect and enhance the existing trees, soils, and other vegetation, which makes up the forest.

Much of the focus is on trees in the public realm, however there is a wealth of information on the benefits of trees and the historic development of Melbourne's tree planting strategy.

The strategy states that research has found that the most effective protection for trees in the private realm is via significant tree registers.

The strategy also discusses the importance of engaging with the community and other stakeholders to promote the benefits and importance of trees.

KNOX

The City of Knox is similar to Whitehorse in that some areas of special significance are protected by an ESO or SLO, while the VPO is applied to specific sites or smaller precincts across the municipality.

The Knox MSS is focussed on the environmental significance of the Dandenong foothills, including the areas east of Dorset Road (The Basin) and down to Lysterfield. This is further supported by the Foothills Policy. Blanket SLOs and ESOs are applied to these areas.

The SLO requires a permit to remove, destroy or lop a tree that has a height of 5 metres or more and a trunk girth of 0.5 metres. A number of exemptions apply to particular species (listed) and dead trees etc.

The ESO applies to sites of biological significance and within the 'Dandenong Ranges Buffer' area. Tree removal is permitted if the species is exotic, however trees indigenous to Knox require a permit.

With the exception of many individual sites dotted around the municipality and a few small precincts that are protected by VPOs, much of Knox does not have any vegetation protection controls.

The General Residential Zone does not set any additional requirements for landscaping or site coverage. However, General Residential Areas B (the majority of Knox's residential areas) requires increased private open space: 80sqm or 20%, whichever is lesser but not less than 40sqm and including a 5 metre side or rear setback. A large canopy tree is not required to be provided in these spaces.

3

ANALYSIS

3.1 DESKTOP ANALYSIS

3.1.1 METHOD

The canopy cover of Whitehorse was assessed using iTree software. This software provides a statistically robust method of assessing the canopy cover across a wide area.

The software picks points at random across a user defined study area, in this case the Whitehorse municipality. The user then categorises that point in terms of its ground cover.

The categories used for this study were:

TREE

All trees, whether within the road reserve, within private gardens, or in parks.

OTHER VEGETATION

Grass, shrubs, and other low vegetation.

HARD SURFACE

Roads, patios, footpaths, parking areas, driveways, and swimming pools.

BUILDINGS

Housing, commercial, garages, car ports, and other structures.

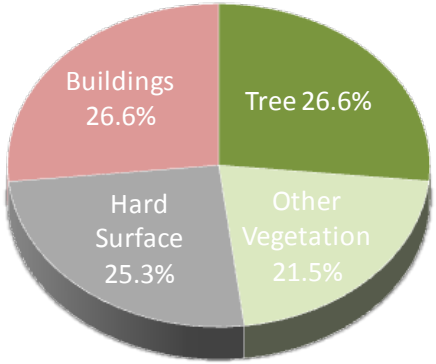
Examples of the different types of ground cover are presented in Appendix 3.

The main focus is understanding the level of canopy cover provided by trees across the study area, however the other categories provide good context for the amount of impervious surfaces and built form across the municipality. When looking at historic data it will also provide additional insight into how the area is changing over time.

Over 1800 points were surveyed in this manner, and these points were then categorised by Neighbourhood Character Area and Overlay status.

3.1.2 MUNICIPAL-WIDE TREE COVER

The analysis estimates a tree canopy cover of 26.6% across the Whitehorse LGA. The following chart shows the proportions of each ground cover.



Overall Whitehorse municipality ground cover

The overall cover has been benchmarked across all Melbourne LGAs by using the Institute for Sustainable Futures, 2014, study *Benchmarking Australia's Urban Tree Canopy: An i-Tree Assessment, Final Report*.

The table, right, shows, in ascending order, the relative tree cover across LGAs. Whitehorse is relatively high up in the overall rankings when considering the whole of Melbourne. When examining its relative position against other nearby municipalities within the east, such as Boroondara, Maroondah, Manningham, Stonnington, and Knox its relative position is much lower.

COVER CLASS	% COVER
Wyndham, City of	3.1
Brimbank, City of	6.2
Melton, City of	6.3
Maribyrnong, City of	7.4
Hobsons Bay, City	7.6
Hume, City of	7.9
Moonee Valley, City of	11.9
Greater Dandenong, City of	8.2
Casey, City of	12.6
Melbourne, City of	12.9
Moreland, City of	13.3
Kingston, City of	14.2
Port Phillip, City	16.2
Darebin, City of	17.3
Yarra, City of	18.5
Whittlesea, City of	18.8
Monash, City of	19.4
Glen Eira, City	20
Bayside, City of	21
Frankston, City of	22.3
WHITEHORSE (Sustainable Futures)	22.9
Knox, City of	24.2
Stonnington, City of	25
WHITEHORSE (Planisphere)	26.6
Boroondara, City of	28.1
Mornington Peninsula, Shire of	28.1
Banyule, City of	29.6
Cardinia, Shire of	32.2
Maroondah, City of	32.5
Manningham, City of	40.1
Nillumbik, Shire of	49.1
Yarra Ranges, Shire of	77.2

Relative Metropolitan municipality tree cover

3.1.3 NEIGHBOURHOOD CHARACTER AREAS

Across Whitehorse there is considerable variation in terms of tree cover depending on the neighbourhood character area. The area with the highest canopy cover is the Bush Environment character type, where tree cover is approximately 50%. Areas not covered by the neighbourhood character study, for example town centres and industrial areas are the least treed. Together with Garden Suburban these areas have a canopy cover of just 23%. The remaining character type, Bush Suburban, has 29% tree cover.

Although these figures suggest that the overall average for Whitehorse should be higher than 26% it is due to the Garden Suburban character type being the most widespread across the municipality and the Bush Environment type being a very small proportion. The relative dominance of the low treed character types means the average canopy cover is lower than might be expected.

CHARACTER TYPE	% TREE COVER
Bush Environment	51.8%
Bush Suburban	29.2%
Garden Suburban	23.6%
Other Areas	23.4%
Average (All Areas)	26.6%

Whitehorse character area tree cover

COMPARISON STUDY

The Institute for Sustainable Futures' (SF) study estimates a tree cover of 22.9% across Whitehorse LGA. Although both studies are carried out using iTree, the SF study shows slightly lower coverage than our findings. Potential reasons for this could include:

- Study dates differ by at least 18 months, which means they will use different underlying map data from Google. As well as differences over time it is possible the aerial photography may be from different times of the year; this could mean that deciduous tree foliage could differ in its extent, depending on the season.
- Difference in categories, where shrubs (understory) has been considered a different category. This could lead to some trees being categorised as shrubs where shadows are difficult to see.

Whichever result is used Whitehorse still achieves a high relative position to other LGAs in terms of its tree cover. It is significantly better than average across Melbourne, and many areas in the same suburban ring, but is lower than some of the traditionally well treed outer eastern suburbs.

3.1.4 TREE CONTROLS

As well as the variation of tree cover according to neighbourhood character there is also a considerable difference across areas with and without tree controls.

The tree overlay controls considered in this analysis are:

- Significant Landscape Overlays (SLO)
- Vegetation Protection Overlays (VPO)
- Heritage Overlays (HO)

All of the above provide a differing degree of protection for trees, but they have been considered collectively due to the relatively small proportion of the study area covered by them.

TREE CONTROLS	GROUND COVER
Tree	41%
Other Vegetation	17%
Hard Surface	18%
Buildings	24%

NO CONTROLS	GROUND COVER
Tree	25%
Other Vegetation	22%
Hard Surface	26%
Buildings	27.%

Whitehorse overlay and non-overlay area tree cover

The above results show that there is only a slightly lower ground cover of buildings within tree control areas, but a much greater increase in tree cover.

The case study section will cover the differences between overlays in more detail.

3.1.5 CHANGE OVER TIME

As well as assessing ground cover from current aerial Google imagery we have also compared the random survey points to aerial imagery from 2005. This comparison shows change over time for approximately a 10 year period.

CURRENT IMAGERY	GROUND COVER
Tree	27%
Other Vegetation	21%
Hard Surface	25%
Buildings	27%

2005 IMAGERY	GROUND COVER
Tree	28%
Other Vegetation	23%
Hard Surface	24%
Buildings	25%

Whitehorse ground cover comparison over time

The above data shows a trend of a reduction in canopy cover over time by 1% for trees and 2% for other vegetation. The increase in buildings is equivalent to the decrease in tree canopy, with the increase in hard surfaces equivalent to the reduction in other vegetation.

These trends are to be expected with increased infill development within the suburbs. Increased subdivision will generally increase the site coverage significantly as well as often resulting in a loss of mature trees. Where trees are replaced they will take a significant amount of time to reach maturity if their location allows it.

The data was also compared across time periods for each Character Type.

CHARACTER TYPE (CURRENT IMAGERY)	% TREE COVER
Bush Environment	52%
Bush Suburban	29%
Garden Suburban	24%
Other Areas	23%
Average (All Areas)	27%

CHARACTER TYPE (2005 IMAGERY)	% TREE COVER
Bush Environment	54%
Bush Suburban	31%
Garden Suburban	25%
Other Areas	23%
Average (All Areas)	28%

Whitehorse tree cover comparison by character type over time

The historic data analysis shows a decline in tree canopy across all character types.

Interestingly areas not covered by the neighbourhood character study (non-residential areas) show as remaining steady. As development is likely to have increased in those areas also it would be expected to see a net loss here as well. Reasons for this could include increases to the tree canopy levels provided within surface car parking and additional planting in the public realm. This could offset losses from new development.

3.1.6 CONCLUSION

The analysis of tree cover over the City indicates that the municipality has a high level of tree cover when compared with most metropolitan areas, and even within the middle ring suburban municipalities. However the analysis confirms anecdotal reports that tree cover is decreasing over the City, while building site coverage and other hard surfaces are increasing.

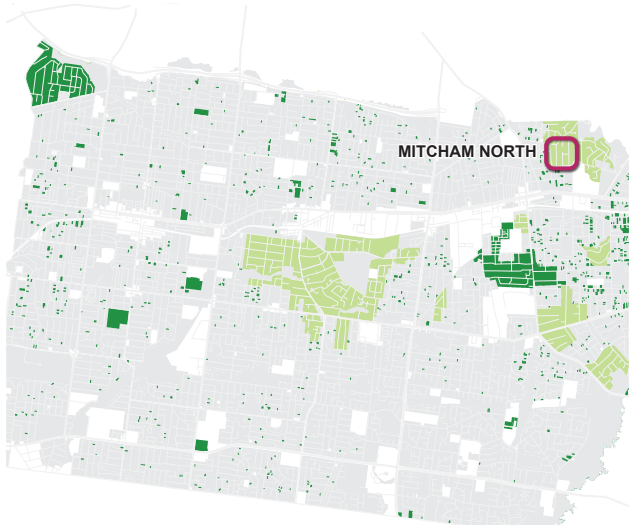
Areas with tree protection controls have a significantly higher proportion of ground covered by trees, as do areas identified as 'Bush Environment' and 'Bush Suburban' in the neighbourhood character study.

3.1.7 NOTE: AERIAL PHOTOGRAPHY ANALYSIS

Determining the different ground cover for the study area on i-Tree is generally a straightforward task, however there are occasions when a 'best guess' approach must be taken. These are points where the photography is not detailed enough or there is some uncertainty over what the point relates to. Some examples are provided in Appendix 3, by way of explanation of the general approach taken.

3.2 CASE STUDIES

3.2.1 MITCHAM NORTH



VEGETATION CONTROLS?	NC AREA	STREET TREES / PUBLIC LAND	TREES & VEGETATION ON PRIVATE LAND	NEW DEVELOPMENT
SLO6 Occasional VPO1 and VPO3 protecting significant trees on individual properties.	Bush Environment	Informal street tree plantings of predominantly native (melaleuca, flowering gums and eucalypts), with some occasional exotic species. Strong avenue of liquidambars and melaleucas on Burnett Avenue. Tall, dense vegetation in Collina Glen Reserve forms backdrop to some streets.	Dense, low vegetation in front gardens. Tall trees (12m+) are present in backyards which contributes to a bush dominant character.	Casella Street: Double story single dwelling built out to side boundaries. Tall trees remain at back. Vegetation in front yard has not had time to establish. Two tall, mature eucalypts remain in the front setback.

SUMMARY

This area has a hilly topography that is covered by the SLO6.

Informal street plantings create a blending of vegetation on public and private land where the characteristic is not easily attributed to one or the other, but both provide a heavily treed environment.

The native vegetation in Collina Glen Reserve and native influences in the garden and street tree platings give the area a bush-dominated feel.

There are few new developments within the area, although one example development had retained native trees in the front setback. Where new developments occur they tend to be redevelopment of single dwellings, rather than subdivision creating additional lots.

Moorakyne Place provides an example of a street with very few large trees and no street tree planting. This gives the street an open, neat and formal character that contrasts with the adjacent bush character.

The rolling topography gives views to vegetated backdrops towards Collina Glen Reserve.

CONCLUSION

Remnant trees in the front setbacks of new development show that the SLO has been effective in retaining large canopy or significant trees, however there are very few new developments in this area for comparison purposes.

Continued support for vegetation and trees in front and rear gardens, including the provision of space for planting of new trees, will retain and enhance the bush dominated character of this area.

Better provision may be made for site coverage that supports canopy trees, such as in side setbacks.

Strong avenue of liquidambars and melaleucas on Burnett Avenue.

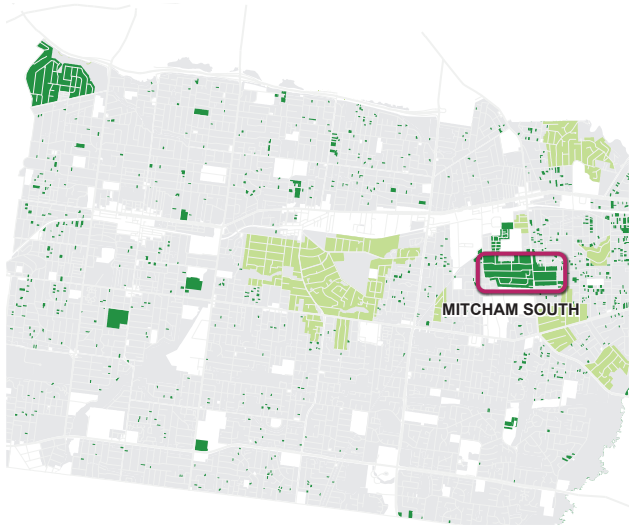
The topography allows for views with a vegetated character accumulated by strong canopy tree coverage.

Informal street planting means vegetated character is often borrowed from plantings in private gardens.

Exposed streetscape, with Collina Dell Reserve forming a backdrop.

Trees remain in the front setback of a recent development, but additional vegetation is yet to establish

3.2.2 MITCHAM SOUTH



VEGETATION CONTROLS?	NC AREA	STREET TREES / PUBLIC LAND	TREES & VEGETATION ON PRIVATE LAND	NEW DEVELOPMENT
VPO4 VPO1 and VPO3 protects significant trees on individual properties.	Bush Suburban 3	A mixture of exotic and native street trees, often alternating liquidambers, melaleucas and eucalypts.	Very few significant trees present in front and rear gardens, the strong vegetated character of the streetscape is attributed to the street trees. Many front gardens are of a low, formally planted style. Some substantial trees remain in back yards.	All new developments are built out to the side boundaries. Many lots have been moonscaped to make way for new development. Occasionally trees remain on perimeter fence lines. Where trees have been retained they are often located right on the property boundaries where they are likely to have minimal impact on the building footprint.

SUMMARY

This area has a reasonably flat topography and is largely covered by the VPO4 which seeks to protect exotic, native and indigenous trees that contribute to the leafy characteristic of the area.

The vegetated characteristic is reasonably balanced between public and private land. All of the streets have strong avenues of healthy, mature trees (native and exotic species) which make the biggest contribution to the leafy character. Large trees on private land supports this.

Older housing stock allows for a greater amount of space for the retention of trees in front and back gardens, and to the sides of houses. Most of the larger trees on private property are located to the rear of houses.

Most newer development sites have been completely moonscaped with the occasional exception of trees located on property boundaries. There is little planting of new canopy tree evidenced in the gardens of new developments.

CONCLUSION

Given the high number of moonscaped development sites and new developments with minimal space remaining to support future significant trees, it appears the precinct based VPO is having a minimal impact on the retention of canopy trees on private land and large building envelopes are leaving little space for the planting of new large canopy trees.

Some large trees remain to the rear of dwellings.

Potentially moonscaped lot for development.

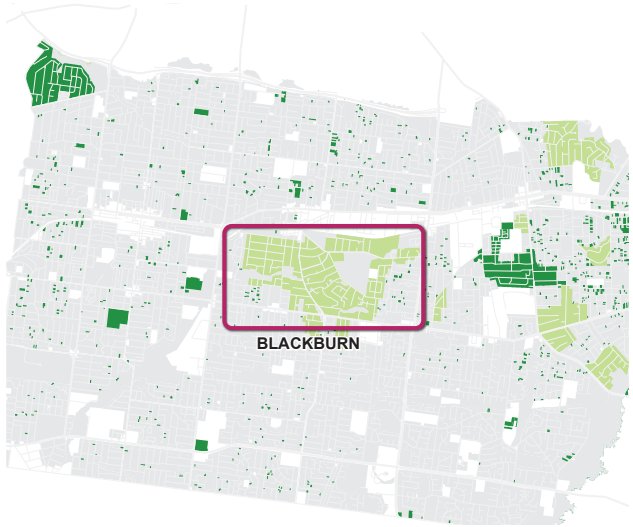
Development site, one large tree remains in the front corner in the right hand side of the image.

Strong avenue of liquidambars and melaleucas on Carween Avenue.

Moonscaped lot primed to be developed.

New development built out to side boundaries, no new tree plantings in front yard.

3.2.3 BLACKBURN



VEGETATION CONTROLS?	NC AREA	STREET TREES / PUBLIC LAND	TREES & VEGETATION ON PRIVATE LAND	NEW DEVELOPMENT
SLO1, SLO2, SLO4 and SLO5. VPO1 and VPO3 protects significant trees on individual properties.	Bush Environment	Formal street trees are lacking, rather the character of the area is driven by large native trees on private property. Where trees do grow in nature strips they are mostly native and informally planted.	Trees on private land make significant contributions to the bushy character of this area with many substantial trees remaining in front and rear gardens.	Most sites with new development have older trees remaining in front yards. New dwellings are built out to side boundaries. Front gardens have open and informal planting styles that assist to blend the public and private realms.

SUMMARY

This area has numerous SLO controls that seek to ensure that vegetation remains a dominant characteristic of the streets, and that built form is subservient to vegetation.

There is little delineation between public and private spaces, with low front fences and vegetation and canopy trees providing visual cohesion across the realms.

The Jeffery Street and Lindum Street area is recognised by the National Trust for its landscape qualities. The road edges remain unsealed, there are no footpaths or nature strips and the vegetation forms a contiguous canopy over the road.

Often, in areas with a more formal street layout, nature strips are planted out which contributes to the bush character, as do mature trees to the rear of houses and in areas of public open space.

New developments immediately outside SLO areas show little evidence of the retention of canopy trees, or the planting replacement trees.

CONCLUSION

This area is recognised for its landscape and vegetation qualities and there is evidence that vegetation has been retained to respect this.

Retention of mature trees in front gardens is pivotal to retaining and strengthening the character of this area, particularly where formal street tree planting is lacking.

The provision of site coverage controls and guidance on the character to be achieved in the controls is evident in the siting and design of new developments within SLO areas.

Planting of canopy trees in setback spaces of new developments seems to be very minimal.

Jeffery Street and the surrounding area is recognised by the National Trust for it's streetscape and landscape qualities

Recent dwelling with tree retained in front yard

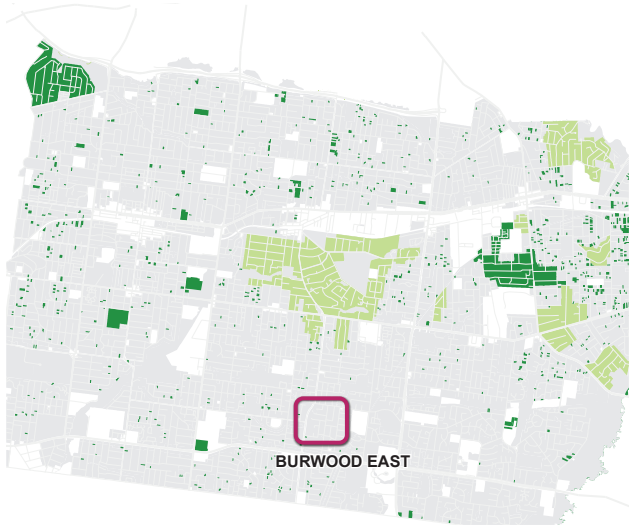
Retention of trees in front yards is not evident in recent development on lots outside (but adjacent to) SLO areas.

'Moonscaped' lot with evidence of tree removal at the front. This is a rare occurrence in this area.

Recent dwelling with trees retained in front yard that retains informal bush character.

Vegetation in private land is the primary contributor to the character of this area

3.2.4 BURWOOD EAST



VEGETATION CONTROLS?	NC AREA	STREET TREES / PUBLIC LAND	TREES & VEGETATION ON PRIVATE LAND	NEW DEVELOPMENT
No blanket controls, VPO1 and VPO3 protects significant trees on individual properties.	Garden Suburban 5	No consistent street tree planting. A lack of planting makes line clearing of what trees do exist very obvious, and in some cases brutal.	Shrubby mix of native and exotic, semi formal garden styles. Very few large canopy trees in the private realm, where they do they are often located to the rear of houses.	A few new developments are present, predominantly large scale single dwellings.

SUMMARY

This area has an open character with low and informal vegetation and scattered mature trees.

Street tree planting is sparse and irregular and contains a mix of native and exotic species. Some mature canopy trees remain in the street and to the rear of houses.

Development seems to pay little regard to existing trees, with moonscaping and no evidence of retained trees on development sites observed.

CONCLUSION

Aesthetically, this area would benefit from more consistent tree cover, both in the private and public realm. Due to the sparse tree coverage canopy trees affected by line clearing are particularly evident.

The area would benefit from additional planning controls to increase new tree planting as well as a program of street tree planting. There is sufficient space for trees within nature strips in the road reserve, however existing planting is limited.

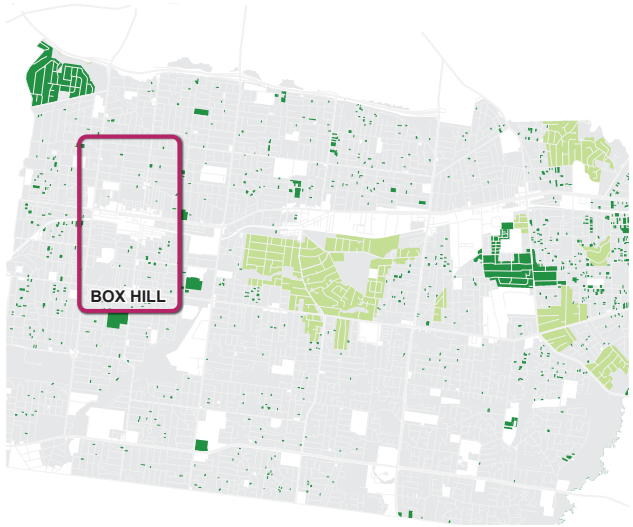
New development site with high site coverage on a 'moonscaped' lot.

Streets have an open characteristic with inconsistent vegetation cover in public and private realms

A number of mature trees on one property is an exception to the norm in this sparsely treed area.

Inconsistent street tree planting highlights the misshapen appearance of trees that results from line clearing.

3.2.5 BOX HILL



VEGETATION CONTROLS?	NC AREAS	STREET TREES / PUBLIC LAND	TREES & VEGETATION ON PRIVATE LAND	NEW DEVELOPMENT
No blanket controls, VPO1 and VPO3 protects significant trees on individual properties.	Garden Suburban 8, 10, 11, and 16	Strong, mature avenues of exotic species (liquidambers, plane trees) along some streets. Some recent avenue plantings using consistent species. Some informal street plantings with a mix of native (melaleucas) and exotic species. The Victoria - Glenmore linear park contains number of significant trees.	Few large trees are evident in front and rear garden spaces. There are occasional canopy trees. Front garden vegetation is low and tucked behind fences.	Evidence of moonscaping, some contain saplings which may well grow into canopy trees. High site coverage, built to boundaries. Multi-unit townhouse developments are common.

SUMMARY

The strength of the vegetated character here is dependent on the quality of street trees in this area. Some streets have well formed, mature avenues of street trees, however very few properties contain canopy trees in front or rear gardens. Kintore Avenue has an exceptional stand of liquidambers lining the street though adjacent properties contain very few mature trees.

In parts a more vegetated character is borrowed from areas of open space, such as along Victoria Glenmore linear park that runs perpendicular to Rose and William Streets.

Mature trees (8-12m) remain visible mostly to the rear of dwellings, however these are more of an exception than a common occurrence.

Lots containing recent development appear to have been completely moonscaped. Where trees have been retained they are mostly located on property boundaries where they are unlikely to impede built form.

A number of new dwellings have saplings planted in front gardens which may well grow into mature canopy trees,

CONCLUSION

Large canopy trees are not dominant in this area, unless the street is planted with substantial street trees. New developments especially do not incorporate the planting of canopy trees and very little space is provided in any setback to do so.

The provision of greater site coverage and side setback controls may assist in providing space for future canopy trees.

New development with saplings planted in front yard.

Victoria Glenmore Park.

Informal street trees, mix of native and exotic species

Liquidambers along Kintore Avenue

Few canopy trees are evident beyond the street planting, Kintore Avenue

New development with high site coverage, recent street tree plantings.

3.3 ANALYSIS CONCLUSION

When trees reach a mature height of approximately 6-8m they start to have a significant effect on the character of an area, as they begin to dominate built form and reach a height that may exceed that of a dwelling. Exotic species tend to have a greater effect at a lower height due to their wider canopies, with native species tending to be taller and skinnier, and thus tending to contribute similarly when at a greater height than exotics.

Street trees tend to contribute more to the treed nature of streets, as often areas with strong street tree planting can appear to be exceptionally well treed, even with limited planting in the private realm. The opposite is not true however as if street trees are lacking then other trees are usually too far apart to create a feeling of enclosure to the street.

The site visits and case studies confirm the iTree analysis results. The Bush Suburban character area is by far the most treed area of Whitehorse. Observation of development sites in this area also confirm that the SLO status is delivering its objective of protecting trees, and therefore the strong native vegetation character of the area.

Of greatest concern are the two precincts covered by VPO 2 and 4. While site visits confirm that these areas are also relatively well treed, the controls in place do not seem to be having the desired effect of protecting trees. Very few subdivisions within VPO areas have evidence of mature trees being maintained, in fact the opposite is true, as observations make it clear that significant trees have been removed in preparation for building works.

Moonscaping is clearly occurring in areas of no tree controls and has also been seen to occur in VPO controlled areas. The tree controls do not expressly prohibit the removal of trees, they merely require that a permit is obtained. They do however encourage the retention of trees, and it is this element of the controls that seems to be having little effect on development.

A workshop with Council staff provided a discussion around tree removal and why the controls are failing to maintain significant mature trees on development sites. Some observations included:

- The VPO has no replanting requirements.
- Tree retention is often missed through subdivision applications, which ultimately allow removal of many trees without a permit before construction.
- Works associated with servicing are impacting on trees.
- Development within the TPZ (such as neighbouring properties) are affecting the health of trees.
- Many trees protected by a VPO 1 or 3 are nearing the end of their life or have structure issues.

Increasing density and housing numbers within existing residential areas is a more sustainable solution to housing delivery than continued outward growth, and so must be supported. This growth however must not be at the expense of neighbourhood character and resilience to climate change.

In addition to the findings that the existing VPO controls are having limited effects in terms of protecting significant trees, there is the issue of the canopy trees of the future. Existing controls do not protect trees which could become significant in the future, it only covers existing mature trees (VPO 2 and 4: trunk circumference of 1m, at 1m above ground). This will be a greater concern as existing mature trees reach the end of their useful life. A variety of trees of varying ages are needed to ensure good succession of the canopy. If sufficient succession planting is not provided for them there may be a drastic reduction in canopy cover in the future, which will take many years to rectify.

The provision of greater site coverage and side setback controls may assist in providing space for future canopy trees to help address these issues.

The planting of new trees on development sites needs to be encouraged and enforced otherwise the vegetated characteristic is at risk of relying on street trees alone,

particularly as much of the older housing stock is likely to be replaced with dual occupancies and multi-unit townhouse developments.

4

FINDINGS

4.1.1 SUMMARY OF KEY FINDINGS

This Discussion Paper outlines the existing conditions within Whitehorse, in relation to neighbourhood character, policy context, planning scheme controls, Planning Panel decisions and the existing level of tree coverage within the City. It investigates the tree controls used in neighbouring municipalities and how the existing controls are being implemented or affecting development sites in various areas of the City.

A number of key findings can be derived from this research and analysis. Including:

- Tree coverage is a vital characteristic of the greater eastern Melbourne region.
- Tree coverage is essential to the Whitehorse established garden character.
- Community education of the benefits of tree coverage is important to avoid the issue of moonscaping and to encourage tree planting.
- Council policies and plans demonstrate an awareness of the importance of tree coverage, however there is an opportunity to strengthen council's position on retaining substantial trees.
- Tree protection is clearly identified as being a priority in the SPPF. This is filtered down through the LPPF and planning scheme controls, however there is the opportunity to present a stronger stance on the importance of tree coverage to the City within the LPPF and through revised tree controls.
- New residential zone schedules have recently been introduced that will provide greater space for tree planting within development sites.
- Vegetation protection controls exist in some parts of the City, however they usually apply to specific sites or small precincts.
- SLOs have been applied to areas of special character, due to significant tree coverage. However, Planning Panels Victoria has determined that SLOs have been inappropriate in some locations where a leafy character is not unique.
- VPOs exist on specific sites to assist in implementing the significant tree register and in two precincts. However, based on the case studies, it seems that the precinct VPOs are not effective as trees are being removed in these areas.
- Other councils have applied blanket VPOs or SLOs that require a permit to remove substantial trees and to develop land over a certain site coverage.
- i-Tree analysis shows that the City has a high level of tree coverage, which is decreasing over time with the increase of hard surfacing.
- Areas with tree protection controls have a significantly higher proportion of ground covered by trees.
- Moonscaping is a continued threat in any areas with no controls and individual sites protected by the existing VPOs.
- There are no controls that protect the retention of newly planted/smaller trees that have the potential to be large canopy trees at maturity.

4.1.2 TREE CONTROL OPTIONS

A number of options for tree protection controls will be investigated as part of this study. The options to be investigated will include:

- Blanket SLO controls
- Blanket VPO controls
- A mixture of VPO and SLO controls on various sites depending on neighbourhood character and areas of greater significance
- Changing the size of trees that trigger a permit requirement under the SLO and VPO controls for removal.
- ESOs where appropriate
- Effective application of new residential zone schedules.
- Local Laws

The options will also consider strengthening the Whitehorse LPPF. This could be undertaken through a revision to the MSS, the review of the local policy for tree protection, or a combination of the two.

Banyule City Council is an example of a municipality that provides a very strong emphasis on ensuring tree protection is a key theme throughout the planning scheme and in all council policies and plans. As a result, the community seems highly aware of the importance of trees in the municipality, thus resulting in less moonscaping. Examples such as this provide an opportunity to examine the effectiveness of a variety of tools.

Other tools and mechanisms to raise awareness off the importance of trees will be an important consideration, including: education, advocacy, enforcement, initiatives/ encouragement options etc.

4.1.3 TREE PROTECTION

In addition to the tree control options, details on how to appropriately protect trees will also be investigated to ensure that correct information is being used to inform setbacks, tree protection zones etc.

This investigation will include a brief analysis of soil volume requirements, drip lines and arborist standards.

Appendix 4 provides an outline of the soil volume requirements.

4.1.4 VPO VERSUS SLO

The benefits, capabilities and restrictions of the Vegetation Protection Overlay and Significant Landscape Overlay will be closely considered in the next stage of work.

It is interesting to discover that two areas within Whitehorse with a VPO are not being protected from tree removal as well as those with a SLO. A blanket approach to a VPO may be more readily accepted by a Planning Panel than that of an SLO, especially in areas that are not characterised by the typical 'bush suburban' streets. However, councils such as Maroondah, have proven that this approach can be effective.

The existing VPO and SLO schedules will be scrutinised in detail to understand how to better protect large canopy trees in a revised set of overlays.

4.1.5 NEXT STEPS

The next stage of the project will be to use the findings of the Discussion Paper to examine the various tree protection controls available to Whitehorse and other non-planning control measures to detail a number of different options.

The draft options will be developed using the feedback received through internal Council officer discussions and by undertaking some further analysis around VCAT findings for tree removal under the SLO and by teasing out the benefits of planning controls versus local law options.

These options will be further discussed with internal and external stakeholders, including developers and DELWP, to determine which option or combination of options will best provide long term tree protection coverage for the City.

5

APPENDICES

5.1 APPENDIX 1: REFERENCES

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5.2 APPENDIX 2: CONSULTATION SUMMARIES

5.2.1 STAGE 1 COMMUNITY SURVEY RESPONSES

13 responses were received to the questions provided on the first community bulletin. This is a summary of responses broken down by question.

1.1 WHY ARE YOU INTERESTED IN THIS PROJECT?

Concern with the impacts of development on trees:

- Moonscaping of blocks when new houses or units are built.
- Developers do not seem to retain healthy mature trees and shrubs when building medium-density development, even though sometimes development could've been planned to retain trees.
- Long time residents note they have witnessed the 'thoughtless removal of vegetation to accommodate developments'.
- Lack of tree guards for street trees during development
- Amenity and neighbourhood character concerns relating to the loss of trees.
- The treed environment is what makes suburbs like Blackburn, Vermont etc uniquely liveable.
- Retaining and improving the tree canopy in the Mitcham area is important.
- Amenity of residential areas is important.
- Long time residents are disappointed to see so much of the tree canopy in the Mitcham area being destroyed – especially in the last 5 years.
- Overall reduction of tree cover in suburbs.
- A high rate of removal of beautiful trees and a lack of replacement trees.
- The current treed environment is under pressure from developers, development and climate change.
- Environmental/economic/social benefits of trees.
- The economic advantages of having a treed environment.
- Importance of parks as an ecological system.
- Contribution of individual trees that warrant special monitoring, protection and propagation.
- Importance of historic trees, street trees, large canopy trees & wildlife.
- The many benefits of trees, such as climate, environmental, health and wildlife habitat.

1.2 ARE THERE PARTICULAR ISSUES YOU THINK THIS PROJECT SHOULD ADDRESS?

Prioritising the protection of different types of trees:

- Protecting indigenous trees should be the highest priority.
- Extend the current focus in the planning controls on canopy trees to middle storey trees.
- Protecting appropriate older canopy trees.
- Introduction of policies/programs to protect tree coverage.
- Need to balance the 'rights' of home owners with the overall need to retain tree cover, i.e.: not a blanket ban on tree removal – need a good compromise.
- Incentives scheme for developers of private land, e.g: deposit or rebate or reduced rates to retain healthy trees.
- Establishing a significant tree register within the SLOs and parks and apply VPOs where needed.
- Compensation for rate payers who host significant trees.
- Linking street trees, private trees and public parks.
- The development of an integrated park system with vegetation cover on residential allotments.
- Linking street trees with public parks.
- Addressing issues relating

to developers and new development.

- Moonscaping allotments prior to applying to council for permits to build.
- Need to introduce guidelines to minimise the impact of tree removal on the natural habitat.
- Total site clearing should not be permitted.
- 34 mature trees have been cut down in Edinburgh Road Blackburn South, 30 native over 25 years. Subsequently the amenity of the area has changed.
- Programs/policies to extend tree canopy and encourage new planting:
- Require the planting of new canopy trees, carefully considering what the requirements of new planting will be.
- New home builders should have to include large trees in their landscaping.
- Address issues such as the number of trees, type and size of trees in new developments, with the goal to plant trees of a reasonable size that provide habitat, food, shade in summer etc, that won't cause problems in the future.
- Recognition of all of the benefits of trees:
- Trees have an economic as well as environmental value and therefore should be treated as assets to our city like any other asset.

1.3 ARE YOU A MEMBER OF A RELEVANT COMMUNITY OR INTEREST GROUP? (IF SO, PLEASE NAME)

- Halliday Park Advisory Committee
- Blackburn Creeklands Advisory Committee
- Bolton Park Neighborhood Residents Group
- Whitehorse Community Indigenous Plant Project
- Heatherdale Creek Parklands Advisory Committee

5.2.2 EXTERNAL WORKSHOP RESPONSES

25 people attended an external workshop held on the 4th February 2016 at the Council offices. This is a summary of responses broken down by question.

2.1 WHERE ARE MOST TREES BEING LOST ON PRIVATE LAND? ARE THERE PARTICULAR TYPES OF TREES OR AREAS WHERE THIS IS MORE EVIDENT?

Loss of trees due to development:

- New residents removing trees is an issue.
- Loss of trees due to construction or damage.
- Overdevelopment of sites, no check of planting or plans.
- Infill development, including dual-dwellings and multi-units.
- Residents developing single dwellings with no space for planting (McMansions).
- Over-development of blocks in Box Hill, Surrey Hills and Mont Albert North.
- Renovations, extensions, more use of paving.
- 'Every 2nd house' in Blackburn North.

Commercial development:

- Commercial development on Whitehorse Rd has not incorporated any planting, e.g. tax office.
- Box Hill activity centre.

Particular areas or types of trees:

- Areas immediately surrounding SLO boundaries – Bush Suburban areas.
- Trees in the middle of lots.
- Loss of protected trees (with minimal sanctions).
- Inappropriate planting and overcrowding of trees are leading to loss.
- More treed areas are experiencing a greater loss (more to lose), including in the Bush Environment character areas.
- Institutional sites (buildings with larger footprints).
- Trees that die and are not replaced.
- Trees that impact on neighbour's property.
- Age of trees and falling branches.

2.2 WHERE IS TREE RETENTION OR REPLANTING SUCCESSFUL? WHY IS THIS WORKING?

Where is it working:

- Street trees.
- Bushland parks.
- Streets where resident have established controls eg Jeffery Street, Linum Street.
- Only where individuals want to.

Why is it working:

- Community enforced action.
- Educating new residents.

Other comments:

- Nowhere – even in SLO areas, developers remove trees but do not replant them.
- Rezoning/overlay controls has emphasised the value of the bush at the expense of garden area and exotic trees.
- Not working because there is no follow-up. Developer sells and no obligation on new owners.

2.3 HOW CAN WE ENCOURAGE DEVELOPERS AND OTHER PARTS OF THE COMMUNITY TO RETAIN AND INCREASE LARGE CANOPY TREES?

Educating the community about planning controls and benefits of trees:

- Translating planning requirements and informing new residents.
- Welcome Packs to new residents in several languages.
- Active education with the community and real estate agents – to communicate benefits.
- Tree Education Unit.
- Education in schools.
- Education of developers.

- Information provided in different languages.
- Benefits of cooling are not being recognised and also need to be communicated to the community.
- Research on ambient air temperature to be promoted.
- Floating foundations could be promoted to protect trees.

Council interventions:

- Council to re-plant in baron areas to set an example.
- Better/more compliance/ enforcement.
- Better and more consistent advice up front from Council.
- Independent arborists advice.
- Being proactive before removal.
- Better follow-up and monitoring of planting/landscape plans.
- Pro-active before the damage happens.
- Lobby state government re increased fines for illegal tree removal (amenity value as a measure).

Providing incentives for retaining trees:

- Banyule have incentives, e.g. free plants for new residents.
- Introduce incentives for developers to retain/plant trees.
- Use incentives or vouchers.
- Free tree scheme for residents

Introducing planning controls:

- Setback and site coverage controls to require space for tree planting in new developments.
- Extend the SLO to all of Whitehorse.

Monitoring and data collection:

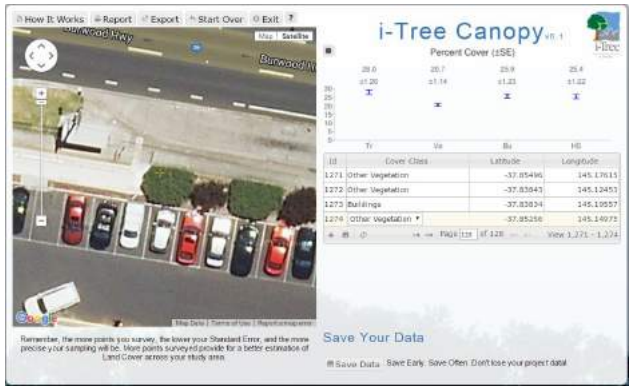
- Need for more monitoring and data of trees in non-protection areas.

Other

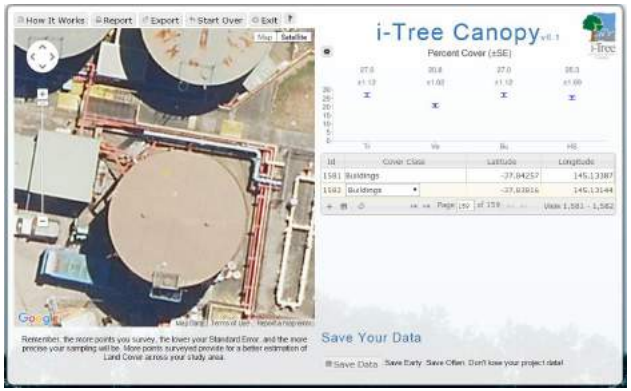
- More flexibility – individual case by case – more control in hands of land owners.
- Like for like replacement dead and removed trees.

5.3 APPENDIX 3: AERIAL PHOTOGRAPHY ANALYSIS

Determining the different ground cover for the study area on i-Tree is generally a straightforward task, however there are occasions when a 'best guess' approach must be taken. These are points where the photography is not detailed enough or there is some uncertainty over what the point relates to. Some examples are provided below, by way of explanation of the general approach taken.



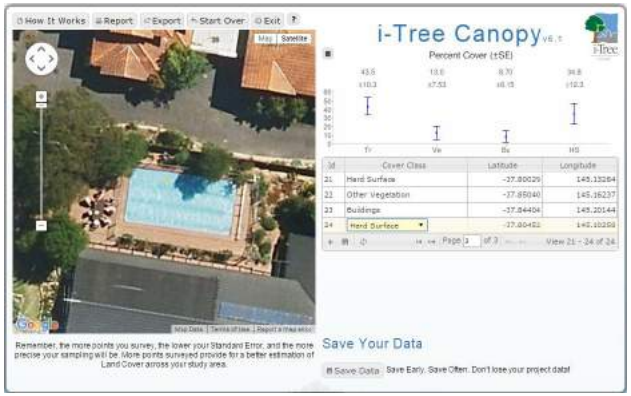
This point is clearly vegetation, but it is uncertain if it is a tree or low shrubs. The sun appears to be overhead, so shadows do not provide additional clues. The vegetation has been neatly trimmed at the edges of the parking spaces and footpaths, so it is likely to be a shrub, and so is categorised as 'Other Vegetation'.



The building category is generally the most straightforward to determine. The only cases of potential uncertainty is where canopy cover and shadows cover building roofs. Above is an example of a point categorised as 'Building'.

This point is clearly over the road pavement, but it is uncertain if there is foliage from the street tree at this point or if it is just the shadow from the tree. In this case it was categorised as 'Hard Surface'.

This point could potentially be a tree or just its shadow, it is very close to the tree canopy however and so is likely to be lower canopy vegetation that is shaded by the upper branches. It is categorised as 'Tree'.



There are some anomalies across the study area, one of which is a swimming pool, shown above. This is categorised as 'Hard Surface' as even when filled it acts in a similar way to other hard surfaces, such as absorbing sunlight and discharging rainwater to the sewerage system via overflow.

5.4 APPENDIX 4: SOIL VOLUME REQUIREMENTS

A report on Soil for Urban Tree Planting by Bartlett Tree Research Laboratories provides a table for the volume of soil required for different scales of trees. Assuming a maximum root depth of 1m for urban trees this table can be considered as an area guide for the requirements for planting zones within residential setbacks.

This table can be utilised to determine the requirements for delivering canopy trees in private gardens, and also to protect existing trees to be retained.

Table 2.4.1. Tree size to soil volume relationships *(Urban 1992)*.