



knox urban design framework 2020

the preferred vision for the future form and design
of the City of Knoxville 2003



Foreword

The Knox Urban Design Framework sets out an urban design vision, framework and policy for the future of Knox. It has been tailored to meet the needs of an outer suburb, and is founded in the values of Knox, the place and its people.

The Vision is founded on the key structuring elements of the landscape and urban form of Knox: Dandenong Creek Valley, The Edge of the Suburbs, Creek Corridors, Activity Centres and Working Environments, Transport Corridors and Residential Environments. Objectives, strategies, actions and design guidelines are then set out for each of these Framework components, with some examples of case studies illustrating their application.

The resulting Urban Design Framework provides a sound basis for continuing action, one that responds to and embodies the views and values of the local community.



Acknowledgments

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Funding:

The Department of Sustainability and Environment provided fifty percent of the funding towards this project through the 'Pride of Place' program.

Study Team

The team was formed and led by Planisphere urban strategy planners, with Mike Scott as team leader, assisted by strategic planners, Lisa Riddle and Karen Leeder. The two principal sub-consultants were Ron Jones of Jones and Whitehead and John Curtis of John Curtis Pty Ltd, providing urban and landscape design input. Specialist input was provided on social and cultural assessment by Collaborations (Michelle Howard), on development facilitation by Property Dynamics (Milton Cations), on transport and traffic by Connell Wagner (Stephen Pelosi), design and illustrations by The Small Hours Studio (Dominique Falla) and architectural renderings by Geoffrey Falk Architect.

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Introduction

The City of Knox has seen massive change over the last 30 years, changing from a municipality of townships within semi-rural landscapes and settlements in the hills, to a busy fully developed series of suburbs stretching into the Dandenong foothills. As the municipality nears the limit of its development, the Council wants to take a moment to assess the best and worst results of the activity in terms of the area's image, identity and appearance. These factors have significant bearing on the economic, social and environmental health of the City. It is important to develop a complete vision for the future of Knox and develop the mechanisms to achieve the vision.

Project Aims

The aim of the project is to develop an urban design framework and policy for Knox to inform development and activity for the foreseeable future, enhance the environmental, social and economic profile of Knox and engender a greater sense of place and community. The objectives are to:

- Translate the objectives of the Municipal Strategic Statement (MSS) and Corporate Plan into the urban design framework.
- Provide visual concepts that engender a greater sense of place, community and identity in a city of distinct neighbourhoods, activity centres and socio-economic groups.
- Encourage high quality built form that functions efficiently and increases public safety and comfort.
- Differentiate between suburban, urban and rural image and character.
- Identify key actions and priorities.

- Add confidence to decision making and encourage private investment.
- Introduce urban design values and methodology into the development approval process.

What is an Urban Design Framework?

Urban design frameworks are design tools that provide physical interpretations of local visions and strategies. They focus on managing change and setting new directions for integrated development of the urban environment.

Urban design is essentially about creating a vision for an area, to facilitate the creation and maintenance of livable and sustainable environments. It takes an interdisciplinary design-based approach to shaping urban environments, complementing other disciplines such as strategic and cultural planning and regional development and economics. They translate the broad aims of the MSS and Corporate Plan to practical urban design action at the local level.

The Knox Urban Design Framework demands a 'whole of city' perspective. It must be emphasised that an urban design framework, rather than a strategy or master plan, is the most effective strategic means by which to achieve these aims. Urban design techniques, due to their specificity, three dimensional character, and often site specific nature, are better suited to creating such outcomes as civic pride and enhanced environmental and economic profiles. The urban design framework for Knox is one of the first in Victoria to address the environmental, social and economic issues faced by an outer suburban municipality.

The predominant community benefits of the Framework envisaged by Council include:

- Having a clear understanding of the shared outcomes sought for the City.

- The delivery of better outcomes that achieve the objectives in the MSS and Corporate Plan.
- Better integration of Council and other projects, and the efficiencies achieved as a result.
- A greater sense of place, identity and pride in the community centres of Knox.
- Better interface between private and public space.
- Better use of Knox's competitive strengths to promote the local economy and enhance its environmental qualities.

Specifically, Knox requires strategies to improve streetscape design and functionality of key intersections, activity centres, public spaces and roads. The Framework provides detailed concepts and options for three key areas, that we have termed 'case studies'. These case studies illustrate how the principles of the urban design framework will apply in specific situations.

Extensive community consultation was undertaken to ensure the design vision for Knox achieves a stronger identity, embodies community values and gives serious and overdue attention to issues of sustainability throughout the City.

Methodology

This Urban Design Framework is the result of a structured process of preparation and consultation and typically contains sections on analysis, options considered, a framework plan, visualisations of key design concepts, action plans and an implementation strategy.

The project was undertaken according to the Department of Sustainability and Environment's Urban Design Planning Note 3. The process involved the following steps:

- Review of background material, including Council and State Government strategies.

- Assessment of the Knox community values and the local development market (refer to Chapter 2 - Analysis).
- Comparison of community values and opinions with an urban designer's perspective of the opportunities for Knox.
- Development of the framework elements, and the accompanying objectives, strategies, actions and design guidelines.
- Preparation of case studies that test the objectives and strategies.
- Development of an implementation plan.
- Production of a complete draft report, including the communication and presentation of issues.

A multi-disciplinary study team was formed and led by strategic town planners from Planisphere Urban Strategy Planners. The two principal sub-consultants were urban designers. Specialist input was provided on social and cultural assessment, development facilitation, transport and traffic, design and illustration and architectural renderings.

Consultation and Communication

A Technical Group provided input into the Framework process and comprised of Council officers and officers from the Department of Sustainability and Environment (DSE).

A Reference Group participated in the development of the urban design framework and comprised the Mayor of the City of Knox, Council officers, local citizens and representatives of agencies such as VicRoads and DSE. The Group met on four separate occasions and its role was to assist the Technical Group and the project consortium responsible for delivering the Project by:

- Ensuring the Project aims and objectives were met.
- Identifying gaps in the work and providing advice for better ways of doing things.

- Ensuring stakeholder issues were appropriately addressed.
- Identifying priorities and by providing advice on the best means for implementing the outcomes of the Project.

Three briefing meetings were held in August 2001, to expose the ideas developing within the project team to wider scrutiny. Government, infrastructure and development industry representatives participated in the briefing meetings. A peer review session was held in September 2001, to provide an independent review of the Framework. Many of the comments and ideas put forward have been embodied in the proposals contained in this report.

State Policy Context

The primary source of State Policy context for the Knox Urban Design Framework is the State Planning Policy Framework (SPPF) contained in the State section of all Victorian planning schemes. The State section promotes urban design through the ten principles of good urban design. Changes to the SPPF are proposed with the implementation of the new Melbourne Metropolitan Strategy (Melbourne 2030 - Planning for Sustainable Growth).

The Department of Sustainability and Environment also promotes good urban design and provides supplementary advice about preparing urban design frameworks through a number of other mechanisms. A good example is the 'Pride of Place' Program, which partly funded this project.

The Ten Principles of Good Urban Design

Clause 19.03 of the Victoria Planning Provisions ('Design and Built Form') contains ten urban design principles, that was introduced following an advisory committee process initiated by the Minister that aimed to improve the quality of urban design across the state. The ten principles appear under the following headings:

1. Context
2. The Public Realm
3. Landmarks, Views and Vistas
4. Pedestrian Spaces
5. Heritage
6. Consolidation of Sites and Empty Sites
7. Light and Shade
8. Energy and Resource Efficiency
9. Architectural Quality
10. Landscape Architecture.

This Framework is intended to provide a model of the way that municipalities, particularly outer suburban municipalities, can respond to the challenges laid down in Clause 19.03.

The objective of the clause is to achieve high quality urban design and architecture that:

- Reflects the particular characteristics, aspirations and cultural identity of the community.
- Enhances livability, diversity, amenity and safety of the public realm.
- Promotes attractiveness of towns and cities within broader strategic contexts.

Metropolitan Strategy

The Metropolitan Strategy (Melbourne 2030 - Planning for Sustainable Growth) is a 30-year plan to manage growth and change across metropolitan Melbourne and the surrounding region.

The main thrust is to continue to protect the liveability of the established areas and to increasingly concentrate major change in strategic redevelopment sites, particularly in activity centres.

It includes a vision statement and key initiatives which are based around nine directions whose achievement over time depends on putting into effect a specific series of policies. Urban design is a fundamental means for ensuring that future urban environments maintain a sense of place. The directions that have the most implication for the Knox Urban Design Framework include:

- A more compact city
- Better management of metropolitan growth
- A more prosperous city
- A great place to be
- A fairer city
- A greener city
- Better transport links

A more compact city

As the population grows, development must respond to changing housing needs, including a wider range of housing types.

Employment, business or entertainment is in either Central Melbourne or in activity centres widely scattered around the suburbs. The urban environment must be designed to enable better movement around the suburbs. Activity centres are the focal points of the local community. They are places where local services are concentrated and as such this is where development should be concentrated. This has implications for the design of Knox's activity centres.

Better management of metropolitan growth

Clear limits must be set for Melbourne's growth at the fringe. The establishment of an urban growth boundary indicates the long term

limits of urban development and where non-urban values and land uses should prevail in metropolitan Melbourne. New fringe development must be confined to specified growth areas that are well serviced by public transport, which will help protect green areas around the city that are important to the urban area.

The advantages of establishing a metropolitan boundary include:

- Providing certainty to landowners and developers.
- Allowing longer-term investment in non-urban activities near the fringe.
- Limiting land speculation and ad hoc re-zoning requests.
- Safeguarding areas of environmental significance and productive farmland.
- Encouraging compact and efficient cities.
- Preserving features such as rural landscapes and historic locations.
- Conserving features, which contribute to bio-diversity.

The creation of a strong, long-term urban edge is particularly relevant to the City of Knox, which is situated at the foothills of the Dandenong Ranges and Lysterfield Valley. Managing development that occurs inside of the defined urban/non-urban boundary is also important to protecting adjacent non-urban areas.

A more prosperous city

The Victorian Planning System aims to support competitiveness in the global economy. This means designing quality cities with increased amenity and functionality in order to attract business from global markets.

A great place to be

Melbourne has a reputation as one of the world's most livable cities. There are opportunities to enhance the appearance and function of Knox's built environment through good urban design. Urban design is

the means to create a greater sense of place in neighbourhoods, improve safety, protect historic buildings and landscapes and connect more people to more open space.

A fairer city

Access to well-located affordable housing is important and Melbourne must be planned to enable maximum benefit from local community services and a vibrant cultural environment. The Knox Urban Design Framework provides an opportunity to improve the design of Knox's urban environment such as improving connections to community services, sporting and cultural facilities.

A greener city

New development must be carried out in an environmentally sustainable way. Environmental values can be protected by manipulating the urban form of metropolitan Melbourne, including the shape, size, density and land uses. Urban areas can be revitalised through development of mixed-use areas around existing activity centres and within proximity of public transport stops. The creation of a more environmentally sustainable urban area is relevant to Knox, which is particularly dominated by the car.

Better transport links

An important part of Melbourne 2030 is an efficient, co-ordinated public transport network connecting activity centres around the city, and providing new cross-town links (usually by bus) as well as fast connections to regional cities. The Strategy supports the concept of transit oriented development, which is to design and develop urban precincts around key transport nodes to improve the interaction between land use and transport. Priority is being given to railway station precincts in regional centres that are the proposed destinations for fast rail projects and also for key activity centres in the Melbourne metropolitan region. There are opportunities to achieve a better balance between public and private transport in Knox.

Pride of Place Program

The Pride of Place Program is a \$9 million grants program that enables the State Government to work together with councils, residents and traders to develop urban design solutions that assist individual communities to prosper. The Program encourages communities to strive for excellence in urban design, working with skilled designers to build on local character and heritage, attract further investment and activity and contribute to a greater sense of local pride.

Urban Design Planning Note 3

This Planning Note is produced by the DSE and guides the preparation and use of urban design frameworks. It defines what urban design frameworks are and discusses their policy context including how frameworks work under the planning system and how they differ from strategic plans and master plans. The Planning Note describes the key characteristics of an urban design framework, the steps to be taken in the study process, the desired outputs and the skills required for undertaking a Framework. Overall the Planning Note is a brief but concise and thorough guide to producing and utilising urban design frameworks.

Urban Design Project Assessment Framework

The Urban Design Project Assessment Framework (1998) provides guidance on preparing urban design frameworks that apply on either a local, regional or state scale. The Assessment Framework is designed to operate as a comprehensive model for the assessment of urban design projects that the DSE contributes funding towards.

The Assessment Framework describes how urban design frameworks can be accurately categorised according to their characteristics and outputs.

Urban design framework characteristics include the following:

- Sphere of influence: Local, regional or state.
- Policy level: Low, medium or high.
- Economic benefits: Low, medium or high.
- Social benefits: Low, medium or high.
- Project funding: < \$500,000, < \$2 million or unlimited.

An urban design framework is more likely to succeed and receive greater funding levels if it demonstrates an ability to satisfy these criteria to a high degree.

Once an urban design framework has been categorised, the Assessment Framework sets out a complete set of indicators to measure the financial and non-financial value of each urban design project. The five indicator groups include activity levels, sector indicators, efficiency, spatial/locational indicators and marketing indicators.

The defining and assessment of projects according to those characteristics and indicators mentioned above enable the Urban Design Unit to benchmark projects against each other and develop standards for urban design frameworks over time.

Implications for this Framework

The Knox Urban Design Framework is founded on an assessment of the natural, cultural and strategic context of Knox, including an assessment of the City's location at a regional and metropolitan level. This is particularly important in supporting the issues and outcomes that the Melbourne Metropolitan Strategy proposes to address and achieve respectively. It is also important in achieving the existing state based policies located in the State Planning Policy Framework of the Victoria Planning Provisions. More efficient use of energy and resources and greater responsiveness to local landscape were also

incorporated into the Framework in response to the Metropolitan Strategy and existing state based policies.

By taking into consideration 'The Ten Principles of Good Urban Design' and the Urban Design Planning Note 3, most of the recommendations of this Framework relate to improvement of the City's public realm and particular attention has been devoted to the pedestrian perspective. Landmarks, views and vistas have been explored and protected where necessary and while heritage has been taken into account, it is not a major focus of the Framework.

Rhythm and complexity of urban form have been considered in recommendations about consolidation or redevelopment of larger sites. Specifically, the objectives of the transit-orientated development are incorporated into this Framework where transport and activity centres issues are explored.

Local Policy Context

Corporate Plan

The vision statement of the Knox City Council Corporate Plan (2002-2005) envisages for Council and the community: 'a partnership in progress, creating safe, healthy and caring communities with unique character, committed to protecting the environment and economic sustainability for future generations'. To make the vision happen Council must face challenges posed by changes in demographics, housing, community aspirations and diversity, business investment and social issues. Council must provide a pro-active and strategic approach to city planning and development that enhances the quality and sustainability of the City's natural and urban environment, social fabric and economic vitality.

To ensure that the City is well placed to manage change, its actions and programs today must continue to support long term sustainability. In consultation with the community, Council strategic planning should

focus on enhancing the City's high quality, living, working and leisure environment for current and future generations.

City planning and development will continue to have high priority with particular emphasis on the management of new residential development including medium-density housing, re-investment in local activity centres, and the contribution of urban design to the City's public spaces. Transport, conservation and environment continues to be a high priority with Council.

Municipal Strategic Statement (MSS)

Knox City Council's Municipal Strategic Statement (MSS) sets out a land use vision to develop and support the community of Knox by:

- Maintaining, enhancing and protecting the key natural, cultural and lifestyle features of the City, both economically and environmentally.
- Capitalising on opportunities for sustainable development which add to the economic prosperity of the City.
- Encouraging a greater diversity in new development which can adapt to the needs of a changing population structure.
- Ensuring all development promotes public spaces which are safe and well-used.
- Promoting a long term sustainable population base through greater opportunities for new housing within existing urban areas.

To achieve this vision the following land use themes have been identified:

- Promoting the identity and image of Knox.
- Facilitating and maintaining local employment.
- Making better use of urban facilities and services.

- Recognising and protecting significant natural features and cultural heritage.
- Enhancing the potential for lifestyle and cultural activities in the community.
- Facilitating effective transportation and movement in and through the municipality.
- Facilitating effective retail networks.

Details of the objectives for each of these themes and measures to achieve the objectives are provided under each theme and are illustrated on the Strategic Framework Plan of the Knox Planning Scheme (Clause 21.04).

Local Planning Policies

The following local planning policy directions have been taken into consideration in preparing the Knox Urban Design Framework.

Dandenong Foothills

This policy identifies the importance of the foothills and the need to ensure the significant characteristics are retained.

Council recognises that the foothills of the Dandenong Ranges and valley areas are key contributors to the physical identity and image of Knox as they have important landscape qualities. The area is environmentally significant because it contains a variety of remnant vegetation and native fauna that forms part of the water catchment of the Dandenong Ranges area.

The planning controls that apply to the foothills of the Dandenong Ranges are being reviewed by Council in consultation with the community. This will ensure that the type and use of development occurring in the foothills protects the identity, amenity, character and environmental values of the area.

Knox Central Activity Centre

Knox Central Activity Centre is a retail centre of regional significance. This policy establishes objectives for the Centre, provides decision guidelines to be addressed as the Centre is comprehensively developed.

With funding from the State Government's Pride of Place Program an Urban Design Framework is being prepared for the Knox Central Precinct. The Precinct includes land along Burwood Highway from Stud Road to Scoresby Road, areas south of Blind Creek and also includes Lewis Park, the adjacent retarding basin and the Swinburne University of Technology.

A unique opportunity exists to create an activity centre that is a thriving, lively focal point for the outer eastern suburbs, with safe, convenient and attractive public environments, distinct identity, and diverse and sustainable living and working environments. Delay in achieving an agreed framework for the future development of this precinct will see further ad hoc development in the area. This would compromise the integration of a mix of uses in the area, and fail to realise benefits possible from large scale private and public investment currently occurring or planned in the area.

Development of an urban design framework for the Knox Central Activity Centre will help achieve the urban design objectives of the State Planning Policy Framework, and demonstrate the principles derived in the Knox Urban Design Framework. Significant opportunities also exist to achieve integration with existing and proposed public transport, furthering transit oriented development objectives being developed through the Metropolitan Strategy.

The Knox Urban Design Framework also identifies opportunities for improving the urban design of other activity centres in Knox.

Neighbourhood Character

The Knox Planning Scheme will be amended to incorporate the recommendations of the City of Knox Neighbourhood Character Study (1999) into a local planning policy. This policy will ensure that development complements and respects the desired future character of the area and that the identified components that contribute to the character of the area will be retained and enhanced.

The recommendations of the City of Knox Neighbourhood Character Study (1999) will be incorporated into the Knox Urban Design Framework for residential areas.

Other Strategic Work

Place Management for Activity Centres in Knox: Bayswater Pilot

Knox City Council has adopted a 'place management' approach to the strategic planning of activity centres to ensure that they are the hubs of community life and identity. The Bayswater Urban Renewal Local Plan is a pilot project aimed at reinvigorating the Bayswater activity centres as a commercial and social hub by:

- Facilitating development on either private or public land.
- Improving the streetscape and traffic circulation.
- Establishing new commercial or social initiatives to aid the performance of the centre as a community hub.

The Framework builds on this place management approach using Bayswater as an example of opportunities to revive centres throughout the City.

Water Sensitive Urban Design (WSUD)

Water Sensitive Urban Design (WSUD) aims to optimise and integrate urban planning with the management of the urban water systems. WSUD incorporates water related social and ecological objectives into designs, that optimise the urban water balance and

improve the quality of stormwater entering waterways. Clear policy direction is required to encourage innovation in technology and practices for implementation.

The Knox Urban Design Framework supports the principles of WSUD. The waterways of the City are a valuable resource for the community.

Scoresby/Rowville Employment Precinct

The Scoresby/Rowville Employment Precinct, located north west of Rowville on land bounded by Stud, Wellington and Ferntree Gully Roads and the proposed Scoresby Freeway, is an area where high amenity 'production economy' related activities are being encouraged to locate and develop. Changes in the global economy have enabled the production process to be distributed across the globe and not necessarily concentrated in one place. This has led to an increasingly blurred distinction between production and service work, and an increase in 'places' specialising in one or more roles in the production chain. A manufacturer today may generate more work in services than production.

Council proposes to change the Knox Planning Scheme to enable further 'production economy' business uses to locate in the precinct. The precinct is currently successful in attracting business with global reach in manufacturing, administration and distribution activity and vacant land is available for further development. The success of the area is attributed to a combination of its location to markets and workforce, and site factors such as its high amenity setting for a competitive price. Image is important to firms seeking to locate in the area and as such a controlled environment that ensures consistency in landscaping, materials, colours, and design of construction is being encouraged. Production economy related activities have no significant off site impacts and apply high environmental and operational standards.

A variety of businesses are proposed to be located within the Precinct to service the needs of the businesses and employees working in the area. Uses such as cafes, restaurants, financial services and gymnasiums would be allowed subject to planning approval. Shops and other retail uses would be discouraged from the area because of its proximity to Stud Park Shopping Centre.

The construction of the Mitcham to Frankston Freeway will add to the appeal of the area. The Freeway will connect the Precinct to Victoria's freight highway system and other transport infrastructure, which will improve access to other high technology parks, thereby improving efficiency and competitiveness of businesses on the global market.

Building on these factors will assist in creating employment opportunities within the Precinct and broadening the City of Knox's employment base. Economic research undertaken by MacroPlan Pty Ltd has indicated that approximately 4,800 additional jobs could be created in the next ten years if the Precinct was created.

Knox Bicycle Plan Review

The principal bicycle network (PBN) throughout Knox consists of a range of existing and proposed facilities. Council can seek funding from VicRoads for all bicycle facilities nominated to be part of the PBN.

Many of the paths abutting the municipal boundary are under the control of Parks Victoria. Melbourne Water have pathways adjacent to their waterways and retarding basin areas and it is proposed that links to existing paths be made through these areas. Parks Victoria has supported improved access to Jells Park from the Ferntree Gully and Rowville areas, however not through Chesterfield Farm. They suggest a path system along Ferntree Gully Road.

Knox 2001/2010—Sustainable City Strategy

Outlines what Council and the community can do to protect and enhance the environment to meet the needs of the present population, without compromising the ability of future generations to meet their own needs. An extensive action plan is included for Council and the wider community to achieve sustainable development practices. The Plan will be formally reviewed every three years.

The most relevant parts of the Plan to the Knox Urban Design Framework are 'Sustainable Planning and Development' and 'Integrated Transport Planning'.

The Knox Urban Design Framework will help to achieve the following Knox 2001/2010 Sustainable City Strategy objectives and strategies:

- A balance of residential, commercial and industrial development to provide local employment and reduce car use.
- Development which incorporates resource efficiency including energy and water.
- Provision of community and recreation facilities to meet local needs.
- Improved road safety.
- Ensure public transport is provided as a part of the development of the Scoresby Transport Corridor.
- Ensure that the principles of sustainability underpin all new development in Knox.
- Enhance the neighbourhood character of Knox through high quality street tree planting.
- Active promotion of sustainability to locally based businesses.
- Increase the use of public transport.

- Ensure the Scoresby Transport Corridor is designed and developed in accordance to recommendations from the Environmental Effects Statement Panel Report including public transport recommendations.

Knox Integrated Transport Plan (2000 Draft)

The Strategy outlines the transport needs of the City of Knox and the infrastructure requirements for facilitating public transport nodes and the road and bicycle networks. The objectives for Knox's road network are to provide an efficient and safe principal road network that minimises traffic in local streets and to maintain existing road assets. It also considers environmental issues such as support for integrated land use and transport planning, encouragement of increased walking and cycling and advocacy of fuel efficient vehicles.

Major challenges are to:

- Address traffic load demands.
- Upgrade road and bicycle networks.
- Provide a rail link to Rowville and tram extension along Burwood Highway to Knox City Shopping Centre.
- Commence the Scoresby Integrated Transport Corridor.

The Knox Urban Design Framework contains transport, creek corridor and activity centre guidelines that support and encourage greater efficiency of and access to road, cycle and public transport networks. The objectives of the Knox Integrated Transport Plan have been considered, and where possible supported by the objectives contained in the Urban Design Framework.

Knox Public Transport Strategy 1998

Developed in 1998 through an extensive community consultation process, this strategy reflects the community's concerns and needs for local public transport services. The plan sets out development of local public transport and advocacy issues to:

- Ensure that all members of the community have suitable access to public transport.
- Provide frequent, well integrated services thus making public transport operate more fluently and be easy to use.
- Ensure that members of the community can use and access timetable and service information.
- Provide safe and sheltered locations for passengers to wait for public transport services.
- Consistently mediate and respond to community concerns and suggestions for improved services.

Access, frequency and connectivity are particularly relevant to the activity centres and transport corridors sections of the Knox Urban Design Framework.

Recreation and Reserves Development Guidelines 2000

This Strategy provides a framework for the development of sporting infrastructure in the City of Knox over the next five to ten years. With the exception of bowling greens, it encompasses all outdoor sports grounds and courts plus their associated facilities that are located at Council managed recreation reserves.

The Strategy proposes a hierarchy for sports grounds and pavilions. It establishes a set of design standards and costs that illustrate the nature and scope of development for any new sporting facilities developed in Knox.

The Urban Design Framework considers the objectives of this Strategy in its Dandenong Creek Valley guidelines.

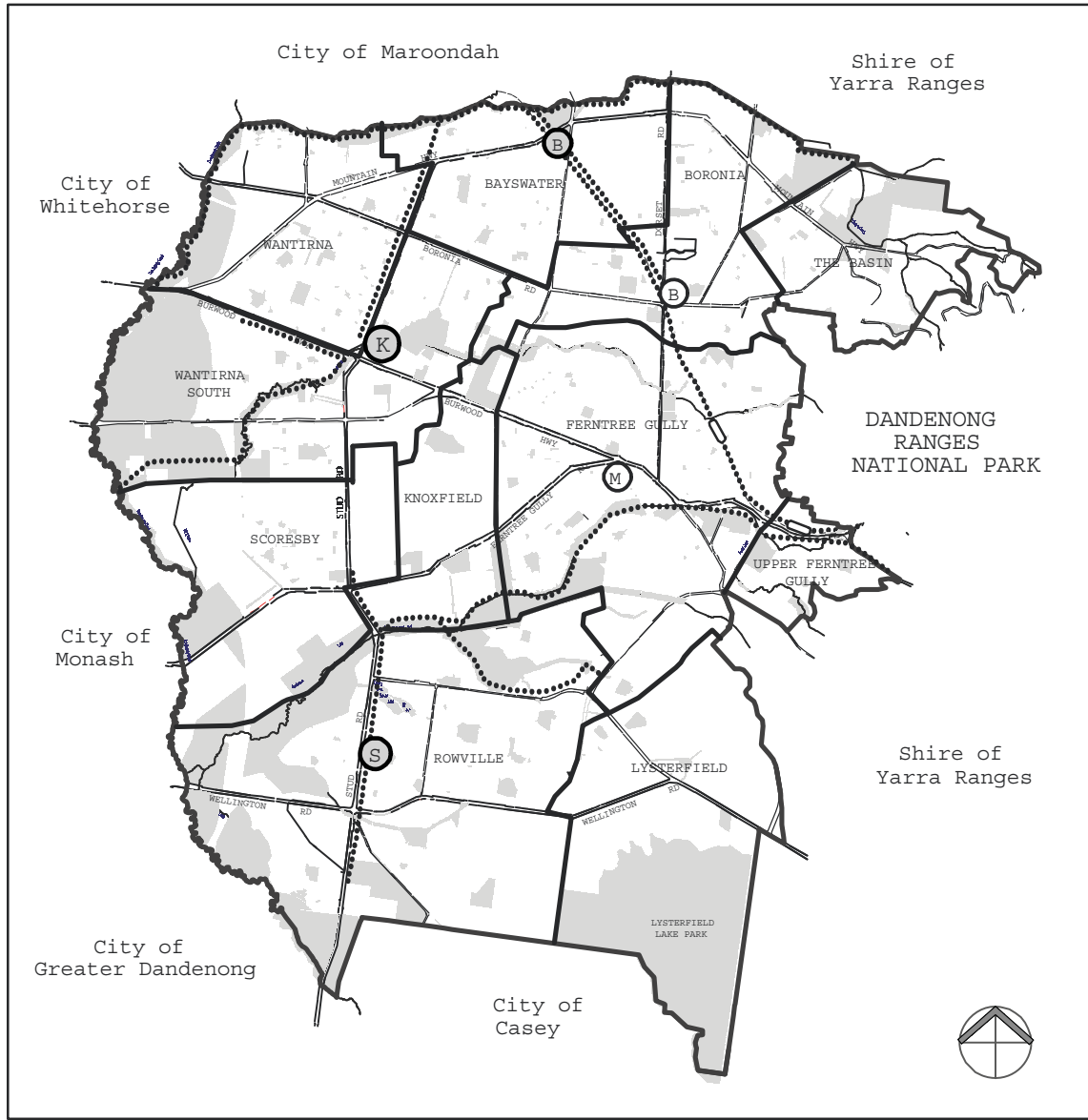
Knox Open Space Plan

Council is preparing a municipal-wide Open Space Strategy that aims to ensure that public open space in the City meets the current and future needs of local residents, key users/stakeholders (e.g. sporting groups) and that environmental and biological values are protected. It

includes goals and criteria for acquiring new and enhancing existing public open space in Knox.

Implications for this Framework

The Knox Urban Design Framework provides a pro-active and strategic approach to city planning and development called for in the Corporate Plan. It aims to show how the quality of the City's natural and urban environment can be enhanced and made more sustainable. The Framework adopts a long-term perspective that builds upon policies and strategies that currently guide development in the City.



Knox Profile

Legend	
	Network of Parks
	Bike Network
	Knox City
	Stud Park Shopping Centre
	Bayswater Village
	Boronia Shopping Centre
	Mountain Gate Shopping Centre
	Suburb (Postcode) Boundaries

Knox Past, Present and Future

The City of Knox is located in Melbourne's eastern suburbs approximately 25 kilometres east of the Melbourne GPO. Knox is bounded by the municipalities of Monash, Whitehorse and Greater Dandenong to the west, Maroondah to the north, Yarra Ranges to the east and Casey to the south. The City includes the suburbs of Bayswater, Boronia, Sassafra, Ferntree Gully, Knoxfield, Lysterfield, Rowville, Scoresby, The Basin, Upper Ferntree Gully, Wantirna, Wantirna South, Studfield and Mountain Gate.

The City of Knox has been largely built over the past 30 years, as part of an urban growth corridor of metropolitan Melbourne. Much of Knox is now developed, changing the profile of the municipality from a developing to a maturing community. Residential densities in Knox are lower than those of inner municipalities. Detached dwellings constitute the majority of the municipal housing stock. Knox provides 15.3 hectares of open space per 1,000 people compared to a metropolitan average of 9.3 hectares per 1,000 people. The demographic profile of Knox highlights two main groups in the community: young families, residing predominantly in the more recently developed areas to the south and mature families and retirees residing predominantly in the north of the municipality.

Knox has a wide range of high quality recreation and sporting facilities that service a broader regional community. There exists an extensive network of linear parks and bicycle links and some entertainment and cultural activities.

Knox is most recognised for the Knox Central Activity Centre and to a lesser degree Bayswater, Boronia, Mountain Gate and Stud Park shopping centres, which provide a regional retail and commercial focus for the municipality. These characteristics of Knox help to define the municipality's identity and image to outsiders however,

such characteristics can not differentiate Knox from other outer metropolitan municipalities.

The key drivers of change affecting the development of Knox are discussed in the following sections. Influencing factors are landscape features, population, housing, environment, economy and transport.

Knox in its Landscape Setting

The City of Knox is set in a distinct location in metropolitan Melbourne. It is sited on land undulating gently among creek valleys, between the broad expanse of the Dandenong Creek valley and the Dandenong Ranges foothills, which provides a distinct landscape break in the easterly spread of the suburbs. The Dandenong Ranges provide a backdrop to many highly valued views not only across Knox but also across much of metropolitan Melbourne.

The suburbs of Knox originally developed around the railway stations along the Belgrave line. They then spread rapidly westward, back towards the Dandenong Creek valley, in the second half of the twentieth century. The eastern and south-eastern extremities of the municipality represent the 'urban-rural' edge of the metropolis. The way this edge is defined and expressed has become an important issue of metropolitan planning policy, because it abuts forested and pastoral land of high landscape value. Protecting and enhancing the distinctive character of its landscape setting is one of the main themes of this plan.

Population

The estimated resident population of the City of Knox in 2001* was 141,408. This is anticipated to grow to 145,813 by 2015, and then decline with the maturing of the population. Current estimates indicate that one third of the population is over forty-five years of age. Population projections suggest that this proportion will increase by fifty per cent over the next fifteen years. This maturing of the

population will have a significant impact on local economic development opportunities, and the provision of community services and social activities within Knox. Based on Knox population projections it could be assumed that the majority of the population decline would occur in the established northern areas of the municipality in the short to medium term.

The impacts of an ageing population are already evident in some parts of the City, with household size declining from 2.9 persons in 2001 to an estimated 2.5 in 2015. The increase in the City's population in conjunction with the decreasing household size, creates an increase in the number of households. The established suburbs of Bayswater, Boronia and Wantirna are the primary areas in Knox where the population is ageing.

Population projections until 2015 indicate minimal population growth in the municipality's north. While southern areas such as Rowville and Lysterfield will experience an immediate, short-term increase in population size, due to the influx of young families, population will decrease significantly by 2015. This is due to 'empty nesting', that occurs when children mature and leave home, consequently causing household size and population to decrease. Appropriate and desirable planning and development of this land is therefore necessary to satisfy the concerns and social needs of both existing and future residents.

*Australian Bureau of Statistics, 2001 Census of Population and Housing - population figures represent where people were counted on the night of the census.

Housing

Construction trends across metropolitan Melbourne indicate a continuing demand for medium-density housing, which is also paralleled in Knox. Demographic changes such as the ageing of the population, the continued diversity of households, and the decreasing frequency of the nuclear family may influence changes occurring in

the real estate market. These changes which equate to more single person, childless couple and sole parent households, effect the means by which Knox provides housing and infrastructure in the future.

With the projected maturing of the population and reduction in household size there is likely to be demand for housing with less maintenance. For example, housing with smaller gardens that is accessible to facilities and services by public transport. With the ageing population there will also be an increased demand for assisted living by the elderly such as nursing homes, special accommodation and retirement villages.

State and national policies on urban consolidation suggest that opportunities for more consolidated development and the revitalisation of older areas through higher density development, are important for maintaining physical services and community interaction.

Economy

Knox has a strong business base, with particularly strong contributions from the manufacturing sector. Council has a responsibility to help facilitate business investment and urban design is a tool for attracting more businesses to the municipality.

Recent trends indicate that there is a demand for 'production economy' based business to be located in the City. These businesses include both production and service work, which may have global reach, and they are attracted to sites with high amenity settings. The establishment of the Scoresby/Rowville Employment Precinct, within an attractive landscaped setting, provides the means for facilitating the changing employment and business needs of the City and the metropolitan region.

There are also other opportunities to improve the appearance of the City particularly at gateway and major strategic sites and along rail and road corridors. An attractive image portrayed can have spin-off effects in encouraging businesses to locate in the municipality. Views

to the Dandenong Ranges and Lysterfield Valley are also a draw card for locating businesses in the City.

Environment

Many identified global environmental issues affect Knox at the local scale. These issues include urban air quality; greenhouse gas emissions and energy efficiency; noise; water quality and catchment management; land development and the loss of habitat and biodiversity; and industrial and household wastes. The City of Knox has many environmentally significant areas throughout the municipality including the foothills of the Dandenong Ranges, Dandenong Creek valley, Ferny, Corhanwarrabul, and Monbulk creeks and Lysterfield and Churchill National Parks. While all of these natural features provide an attractive and distinctive landscape setting for the City, the full potential of some of these resources is either not realised or inadequately protected. The creek corridors, for example, are often no more than open drains behind back fences, while the backdrop of the Dandenong Ranges, a feature valued throughout the metropolis and beyond, is at risk, in parts, of losing much of its canopy tree cover due to over-intensive residential development. Development in such significant areas must be prevented in the future. Existing development should be monitored to ensure the important environmental and landscape qualities are retained.

Transport

With mounting environmental and social equity problems, urban development must be planned and designed to allow for alternatives to car-based travel. The number of community members needing public transport to access facilities and services is expected to increase in the near future, which is linked to the aging of the population. However, the low-density nature of urban development in Knox reduces the potential viability of fixed transport systems such as new train lines or major extensions to existing tram lines. More intensive housing

development around major public transport nodes, such as railway stations, would increase the number of people able to access these transport services.

Despite efforts to reduce the need for car travel for environmental and equity reasons, the road network (including the Scoresby Integrated Transport Corridor) will remain the key regional freight and commuter link for private and public transport. They are vital to the City's economic vitality and development and enhancing them visually is important in developing a positive image of Knox.

Implications for this Framework

There are many opportunities to enhance the City's social, economic and environmental resources. There is potential for Knox's activity centres to accommodate more mixed uses, in a manner that contributes to the economic and cultural vitality of the centres. The Framework includes urban design techniques that enable Council to reorient activity centre development in such a way. The distinctive landscape setting of the City and in particular its closeness to the Dandenong Ranges provides long term potential for attracting growing numbers of tourists, visitors, businesses and residents to the municipality. The City could play a much stronger role in developing and presenting an image to the outside world that fully reflects its green and leafy setting.

It will be important to maintain the existing level of infrastructure in the future as the population matures and declines. If ways can be found of stabilising the population numbers, and renewing the attraction of Knox to younger families, young couples and other population segments, then this anticipated problem can be turned into an opportunity, such as developing new forms of housing within activity centres.

The Community's Perspective

The key values and concerns of the Knox community have been distilled from existing research and policy documents. Community values that relate to the preferred urban form and physical development of the City have been extracted from existing research and policy documents.

Neighbourhoods and People

The community values:

- ‘The strength of local neighbourhoods’
- ‘The things that give my area its own local identity’
- ‘Opportunities to be involved with others in the community’
- ‘Safe places within the community’

As residents of a large municipality, people within Knox strongly identify with their local neighbourhoods. There is clear support for the creation and strengthening of neighbourhood gathering points and local hubs. For some people this is associated with revitalising local strip shopping centres such as Bayswater Village and Boronia Shopping Centre and revitalising local services such as hospitals, train stations and bus stops. In other areas strengthening ‘neighbourhood character’ plays an important role in building local identity.

There is also support for initiatives that will build a sense of community, particularly in the public domain. Opportunities need to be identified for promoting community life and social interaction. In one public workshop there was discussion of ‘lowering our fences’ to encourage greater interaction in local neighbourhoods.

Community safety, including feeling safe and creating safer environments, was also identified as being important to neighbourhood quality of life. Little usage and activity in areas can

create a sense of isolation and be perceived as unsafe. This perception can lead to a further reduction in the use of an area, thereby reducing the informal surveillance and maintenance of the facility. A combination of factors can lead to the decline of an area and create the perception that an area is unsafe. These issues need to be addressed for the future design of activity centres.

The demographic profile shows that Knox has a higher than average proportion of older and younger families, suggesting that the needs of these groups should be reflected in design outcomes. For example, access and opportunities in public environments or open space requirements in relation to private developments. Like most communities, the population of the municipality will age over time and there is strong support for improving the transport, mobility and access issues to maintain the quality of life for the ageing population.

The Natural Environment

The community values:

- ‘Green leafy environments’
- ‘Taking care of the environment for the future’
- ‘Design that is in harmony with the natural environment’

There is a strong appreciation of Knox’s ‘green environment’. Although, it is difficult to define whether people are referring to the preservation of indigenous vegetation, the lushness of private gardens or support for planting of street trees. The image of the foothills has a strong influence on people’s perceptions of Knox as a ‘green’ area. In particular, the community supports the protection of the distinct bush character of the foothills of the Dandenongs. There is also support for the enhancement and protection of habitats, bio-diversity and important local environmental values.

The Built Environment

The community values:

- ‘Interesting public places that express the character of the area’
- ‘Clever design solutions that respond to community needs’

The Knox community requires an improvement in the quality of urban design in local centres to better reflect the particular qualities of each locality. The City of Knox Neighbourhood Character Study (1999) identifies some of these qualities in relation to the residential environment. In the public realm improving the design of local retail areas means ensuring that the larger retail complexes better respond to their setting. For example, improved landscaping and treatment of the scale of some developments.

In relation to public facilities, community concern relates to providing more flexible community infrastructure to respond to changing community needs over time. The Study Team emphasise the importance of community involvement in the design of public facilities and environments. The issue of improving access to facilities in the layout of neighbourhoods has been raised in a number of forums. It is acknowledged that greater attention should be given to public transport linkages, pedestrian and bicycle access.

The community also values view lines to the hills as one of the defining qualities of Knox. There is strong support for maintaining these view lines and enhancing them along the east-west corridors.

In relation to the development process, the community perceives an overall lack of flexibility and imagination. Applicants are concerned that the permit approval process is initially made difficult by unclear policy expectations and lack of direct communication between parties. This problem could be alleviated if the development approval process was more open to consultation, which could increase productivity and encourage appropriate market-responsive development.

Looking towards the Future

The community values:

- ‘New approaches to design that are more sustainable’
- ‘Consideration of the relationships between social, environmental and economic issues’

In thinking about the future, people in Knox are concerned about the sustainability of existing urban form and lifestyle choices. There is support for Council to show stronger leadership towards sustainable development. This could include housing design, supporting alternative transport to the private car, safe and stimulating public environments, new entertainment and cultural facilities. The Knox community aspire to a more appropriate balance between development opportunities and the natural environment. The community has given Council the mandate to exercise creativity and leadership, in demonstrating the benefits of a more holistic approach to future planning and design in the municipality.

Implications for this Framework

The values expressed by the Knox community pose a number of significant challenges for an urban design framework. There are opportunities to make the City greener and leafier. The physical form of the City could be adjusted to provide increased opportunities for social interaction and neighbourhood focus. Sustainability needs to be defined in a way that provides realistic goals in the specific context of Knox.

These community values reflect a desire for new and creative approaches to design and urban form, rather than a simple replication or protection of what exists. Community aspirations for a more sustainable future, emphasise the importance of neighbourhood connections. Council will need to lead by example and reward good

design to demonstrate the value of alternative approaches to urban development.

The Developers' Perspective

Knox is an outer suburb of Melbourne that developed rapidly in the post World War II years. Development of the suburban area is almost complete and the Knox population is ageing. Limited greenfield residential development continues only in the southern part of the City. Elsewhere there is pressure to redevelop single house blocks with multi-dwellings, and these are the main focus of residential development interest in Knox at present.

Knox Central Activity Centre continues to be the City's principal activity centre. At the same time, some of the more traditional local centres like Bayswater Village and Boronia Shopping Centre struggle to maintain their position as healthy local centres. They contain many empty or under-performing shops and appear to be suffering from under-investment. Sites along main highways continue to attract interest in relatively low value, road transport based uses.

The comments below come from development industry representatives, and do not necessarily reflect points of view held by the Study Team.

The Council Development Approval Process

Developers understand that the main factors inhibiting the development process are the sometimes lengthy approval process when objections are involved.

Multi-dwelling developments are the most frequent source of contention with the public. Developers say they are generally accepted by the purchasers and sell. They advocate that more attention should be given to new prospective resident attitudes and needs, rather than focusing solely on the views of

existing residents.

Developers say they would appreciate a greater feeling of collaboration and partnership with Council over the development of the City. A greater understanding of economic considerations regarding development and the feasibility of particular uses would assist developers in deciding to invest in the City of Knox.

The Development Industry

There is a wide range of developers operating from small players to larger corporations. Some small developers specialise in industrial developments while others develop small blocks of multi-dwellings each year.

Developers have a keen sense of the market. Even the smaller developers of small unit sites are generally very familiar with the marketplace and the underlying strength of market demand because they undertake regular market research. Developments in Knox are low profit margin operations. Higher profit margin developments can be sourced in the inner metropolitan city. If the planning process is too long and difficult in Knox, developers may rather pursue higher return development opportunities in the inner city where higher prices and margins can be obtained.

The Real Estate Marketplace

There are many possible development opportunities but few suitable sites that can be immediately developed. Developers must meet buyer requirements for take up and successful sales programs. There is limited demand for office space, but strong demand for industrial (including office space) and residential development. The market value of new residential development in Knox is generally lower than that occurring in municipalities closer to central Melbourne.

What Developers want

Planning Leadership

Developers want the Council to take a more active role in facilitating the right sort of development. This partly relates to the way development applications are processed, but it also includes Council providing clear expectations about intended outcomes in its planning policies. Co-operation and shared understanding is required between the development participants including Council, developers and the community. The Council should communicate to all parties the type of development that is desirable for Knox and where it should be located.

Short Term Strategies

The existing and emerging markets require a variety of real estate solutions:

- Explore the real estate needs and desires of existing residents for their community.
- Explore new buyers' needs, desires and attraction for the municipality.
- Investigate and examine new development trends in other municipal areas both intrastate and interstate in order to support appropriate innovative development.
- Encourage developers who provide creative solutions in response to community needs.
- Encourage those development proposals that respond to the perceived future needs.

Urban Consolidation

Developers believe that the real estate market warrants a higher intensity of land use in appropriate locations. Council needs to ensure appropriate developments are supported and encouraged. In the next

10 years there will be considerable growth in the 'empty-nesters' age group (50 + years) as the 'baby-boomers' age. Developers argue that Council should direct an affordable diversity of development to suitable locations within the municipality while assisting developers to develop suitable land sites that are accessible to facilities and services.

Reward Quality Design

Developers advocate that Council should engender an atmosphere of trust with developers that have proven themselves through creating superior developments. They suggest that incentives such as preferred development status and fast tracking of the developer's permit applications would encourage and ensure quality design proposals are promoted.

The Development Potential of Knox

The potential of the City to attract different types of development that might contribute to the aims of an urban design framework is limited by the current perceptions of the developer community. In 2001, development of new, stand-alone office complexes was not perceived to be viable on any significant scale. Similarly there is a perception that the Knox market is not ready for residential to become a significant use within activity centres, in the form of mixed use or even single use developments. Knox is viewed by most in the development industry as a typical low land value, car-based outer suburb, but over time this situation may change.

Over time this situation may change. The proposed Scoresby Integrated Transport Corridor, which includes the Mitcham to Frankston Freeway and Burwood Highway tram extension, may impact on development patterns. Positional development, such as locating near a railway station with a view of the Dandenong foothills or proximity to a metropolitan park, become scarcer as the urban area continues growing. Land values in Knox can be expected to gradually rise as the population of Metropolitan Melbourne grows. As land

values rise, development options broaden. Knox is entering into a prolonged period of consolidation of its suburban area, a period in which development options are also likely to increase.

Opportunities

Preparation of an urban design framework provides an opportunity to think beyond the current perceptions of the development industry, and to provide a clearer sense of direction for the future. The main opportunities appear to be to build:

- A more positive image of the City to attract the type of investment and development the City needs and wants.
- A clearer vision of the meaning of ‘sustainable development’ for Knox, and how the development industry can contribute to its realisation.
- A more positive, plan-led approach to responding to community needs.

Implications for this Framework

The Council needs to attract investment that will maintain and enhance its economic and social sustainability. It can only achieve this by working with the development industry. In the short term, the Council can work with developers who are prepared to engage with its policy directions and to deliver design quality. It can also take steps to broaden the perceptions about the types of development that are viable in the City over a longer time span. Successful planning in Knox requires effective long term development management. The Urban Design Framework can facilitate this by creating a positive image of the City, by offering a clearer vision of the meaning of ‘sustainable development’, and a more positive approach to responding to community needs.

The Urban Designers' Perspective

An urban design framework needs to deal with the most important, municipality-wide issues. It is not always possible to encompass all aspects of urban design, nor is it a substitute for a land use strategy plan.

Urban design can mean different things, but in the context of this Framework it focuses on concern for the qualities of the public environment of an entire urbanised area. The public environment is something that can be regarded and planned as an inter-related whole, not merely an aggregation of separate buildings, streetscapes or parks.

Socially and politically, the public environment is the shared ground of the City. It supports commercial and private activities and, more significantly, sustains the community as a whole. Physically, the public environment includes parts of the City that all people are free to use: land, buildings and institutions that are in collective ownership and/or made available despite private-ownership. The factors that make a ‘good’ public environment are often debated, but some broadly accepted principles are outlined below, along with particular issues for Knox.

An effective framework should therefore respond to:

- The strongest and most distinctive characteristics of Knox that provide context to the future design and development of features and elements in the City.
- The most extreme problems or shortcomings of Knox with respect to general qualities of ‘good urban design’ that can realistically be addressed through the mechanisms that might follow from an urban design framework (such as amendments to the planning scheme).

Clear Structure

The public environment should be clearly organised to support a diverse range of activities, public and private. Ad hoc development in some areas of Knox has resulted in relatively poor legibility of the urban structure. The strong topography of the area provides a clear structure through the distinction of foothills, creek valleys and other areas.

Distinct Character

Places are valued because of their individual qualities. Diversity in urban areas supports diverse communities, and helps to express their different needs and aspirations. Destruction of bushland and rural settings, and undistinguished new suburban development (residential and commercial, landscapes and buildings) is gradually eroding the distinctive local character of Knox. Commonplace architecture was less of a 'problem' in earlier suburban development of Knox as it was dominated by bush and rural settings.

City Image

Closely related to character is the City's image. It is possible to distinguish an 'external' image (how people from outside the area perceive the City of Knox) and an 'internal' image (how local people perceive it). The external image of Knox is often associated with its position as the last outer suburb before the Dandenongs. The Dandenong Creek Valley, which provides a semi-rural break in the suburban development, marks the entrance point to the City.

Many people only experience the City from its main roads, and this viewpoint presents a typical post war suburban image, with undistinguished low density development and commercial strip development. The internal image, described in Community Values, is more discriminating and more aspirational. The Knox living environment is highly valued for a number of reasons, but the City's

activity centres fall short in terms of image and function. Local people want a greener, more sustainable city, with a much stronger community focus. An urban design framework is the mechanism for responding to these aspirations, and for defining and delivering a desired future City image.

Easy Access and a Choice of Connections

As the public environment is available to everyone, it provides the major routes for movement to access other places, facilities and people. The ease and flexibility of this access can vary immensely. Physical accessibility is complicated by factors such as psychological accessibility and visual access. Issues pertaining to access in Knox include:

- Mobility by car is supported, but other means of getting around are severely limited.
- Public transport services are limited in some locations.
- The pattern of settlement generally does not support public transport, walking or cycling as serious means of transport. Even access to railway stations is typically set out to favour motorists, and environments around stations are unattractive and hostile to pedestrians.
- Most neighbourhoods are poorly connected to public transport, 'local' shops, community facilities or to other neighbourhoods except via busy highways.

Good Fit with People's Intentions

The extent to which a physical setting helps people feel comfortable and achieve their objectives can be called 'fit', as in 'fit for purpose'. In public environments, any one space typically needs to accommodate a variety of uses. The ability to accommodate the demands of a particular range of uses, while also having the capacity

to accommodate other uses that may or may not be foreseen is called ‘robustness’, and is also a valuable characteristic of Knox. For example:

- There is a substantial oversupply of retail floor space, and as a result many shopping precincts are degraded (due to the poor strength of retail activity, rather than specifically because of treatments of the public realm).
- There is a lack of places that give a sense of community focus.

Sustainability

Issues affecting the balance between the built and natural environments of Knox include:

- The dependence on cars for mobility results in extravagant use of resources, air pollution, and erodes (directly and indirectly) the attractiveness of all other means of travel.
- Knox on the whole provides an extremely poor walking environment
- Land, an important natural resource, is used extravagantly and wasted.
- Natural habitats in the foothills and other areas are being gradually destroyed, and others are threatened.

The Distinctive Character of Knox

The most distinct characteristics of Knox result from its underlying topography and large-scale landscape setting. Despite the importance of its natural setting, Knox is predominantly an urbanised area. The character, distribution and densities of the built environment, and the pattern of transport infrastructure, are important to the legibility of the public environment. Connections, accessibility, and the fit of development with community expectations are equally important.

Implications for this Framework

The Knox Urban Design Framework offers the opportunity to define the image and functionality of the City the community aspire to. From an urban designer’s perspective, this can be facilitated in part by building on and making clearer the structure of the City, strengthening its various character components, improving access and connections, and ensuring that this framework is responsive to changing needs. These factors, planned for in a cohesive, holistic manner, will also help ensure a more sustainable City.

Values and Directions

The Knox Urban Design Framework has been tailored to meet the needs of an outer suburb and is explicitly founded in the values of Knox—the place and its people. The Council has listened to the views of local people, the development industry, urban designers, community service providers, transport operators and other government representatives in preparing an urban design vision for the City of Knox.

In this section, a number of key questions are posed in response to the Background and Analysis. The answers to these questions give good reason for the Framework components and provide the basis for the vision for the future of Knox.

What opportunities exist to make Knox greener and leafier?

‘Greener and leafier’ has been a common aspiration of Knox citizens for their environment for many years. The community values the natural environment and wishes to see it cared for and enhanced, and development to be designed in harmony. The development industry believes that with appropriate direction and encouragement, development can respond to these needs.

There are numerous parts of the municipality where a green and leafy character already prevails. The backdrop of the Dandenong Ranges extends the perception of Knox as a ‘green’ area throughout the municipality. There are also several parts of the City where this green and leafy image is not strong, and in some areas where it is difficult to see at all. The urban design framework therefore needs to build on the strengths to create a stronger image for the City, one that supports strategies to protect the environment and encourage investment in the local economy.

The City is fortunate to have a strong landscape setting, with the backdrop of the foothills to the east and the Dandenong Creek valley to the west. At the same time there are threats to the vegetated character of the hills arising from denser development, and the Dandenong Creek valley is the proposed route of a freeway. These threats suggest the need for:

- A strong and consistently applied policy for enhancing the rural and natural qualities of the City’s setting.
- Delineating the boundary between ‘suburb’ and ‘rural’ or ‘developed’ and ‘undeveloped’ more firmly.

Within the developed area of Knox, there are significant opportunities to accentuate the green and leafy character of the suburban environment:

- There is a network of creek corridors that interlace the suburb, the landscape potential of which is yet to be fully realised.
- Some residential areas are already well vegetated, and most neighbourhoods are sufficiently spacious to accommodate more intensive planting, provided development is not allowed to become too intense.
- Protecting the heavily vegetated areas along the eastern boundary from development that threatens this quality.
- Many road and rail reservations are sufficiently wide to accommodate more planting.

The spaciousness of an outer suburb provides many opportunities to strengthen the landscape qualities of the suburban city form. This in turn reduces somewhat the importance of the built form as a component of the urban scene. Enhancing the City’s strong landscape character is an effective means of ‘re-positioning’ Knox as a desirable location for employment and economic activity.



How can we provide more opportunities for social interaction and neighbourhood activity?

The review of community social and cultural values established that people in Knox are interested in focussing on neighbourhood, strengthening local identity and supporting community life and opportunities to be involved with others. Many residents of Knox would like the form of the City to be more conducive to social interaction.

While urban form alone does not determine the amount and quality of interaction between people, it can enhance or discourage social interaction. Activity centres often act as neighbourhood focal points, attracting people with shops, cafes, community centres and other facilities and spaces where people like to gather. With better planning and design, activity centres offer the most potential for increasing social interaction across the City. The environmentally sustainable way to achieve this is likely to require, in future, a more 'urban', less car-oriented approach to activity centre layout and residential street design. In residential areas, encouraging the growth of pedestrianism, access to public transport and cycling can help to improve 'street level' social encounters.

How can we strengthen the image of our City and neighbourhoods to enable the City to function better?

The urban designer's priorities, as discussed in the previous report volume, are to build on and make clearer the structure or 'legibility' of the City and strengthen its various character components. In addition, people need more choices and better vehicular and pedestrian access, particularly to centres of community activity and public recreation, like the activity centres and creek corridors. The Framework must also enable changes to the urban form to respond to changing community needs.

A clearer or more 'legible' structure means an urban form that is more readily understood, easier to find your way around, and provides a strong image of the City of Knox. An urban structure can be made more legible by strengthening the distinctive identity or character of transport corridors, edges (such as interfaces between urban and non-urban), areas (such as residential neighbourhoods), nodes (such as activity centres or major intersections) and landmarks. Generally this is best achieved by devising a structure that builds on the existing attributes of a locality, rather than introducing new features that have no history in the area. Such a structure can then accommodate change and diversity without losing the overall cohesiveness of an area.

As discussed above, some of the attributes of Knox derive from its landscape setting, with the backdrop of the Dandenong Ranges, and the extensive creek networks. Emphasising these features will assist the legibility of the structure of Knox. Elements of the built environment that can be emphasised to achieve a more clear structure include:

- The major road network intersecting the suburb, with its common distinction between the wide east-west routes and the narrower north-south roads.
- The activity centres, which exist in a number of types, from indoor malls to traditional strips, each with their own character.
- The different types of residential area, ranging from the heavily vegetated foothills to the garden suburbs and garden courts that make up much of the municipality.

How can we improve accessibility and connections to neighbourhoods within our City and beyond?

There is potential to improve accessibility within local neighbourhoods by encouraging more intense concentration of

development in activity centres. This includes promoting mixed use (residential and commercial) development in these centres, which are generally located at public transport hubs such as railway stations.

Other opportunities include improving the walkability of neighbourhoods by improving the network of shared use pedestrian and bicycle paths and providing on road bicycle lanes. Because development on green-field sites in the City is virtually complete, the challenge would be to improve connections within an established street pattern over a longer time period. It is difficult to improve connections within an established street pattern. Nevertheless it is worth attempting, gradually over a long period, so that a more robust and flexible urban structure results.

The Mitcham to Frankston Freeway provides a good opportunity for improving movement through the City. However, it would need to be designed to fit in with the landscape character of the area and protect the environmental attributes of the Dandenong Creek Valley.

Improving accessibility and connections within Knox requires a concerted effort at many levels of government. The urban design framework needs to provide a vision and identify areas within the urban area where improvements could be made to accessibility so that opportunities can be taken as they arise.

How can the City function more sustainably?

In considering the future vision of Knox, the concept of ‘sustainability’, which applies a ‘triple bottom line’ approach, is a desirable goal from both community and urban designer perspectives. Sustainability has important implications not only for the design and function of the City’s urban form, but also in relation to the sustained economic development of the City, and in helping to create a more sustainable social community.

A holistic approach to planning and urban design is necessary in striving towards greater sustainability. Sustainability is not a simple

concept when applied to complex urban, economic and social systems. It is not an absolute, objective concept: there is no such thing as a fully ‘sustainable city’. Rather, the goal is to move towards greater sustainability, in relation to any particular issue.

In thinking about the future, previously conducted public consultation suggests that people in Knox are concerned about the sustainability of existing urban form and lifestyle choices, and from the urban designer’s perspective there is much about the existing form of Knox that requires improvement to sustainability objectives. There is support for Council to show stronger leadership towards sustainable urban form and lifestyles. This could include housing design, supporting alternative transport to the private car, safe and stimulating public environments, new types of employment and industry. In determining the economic drivers for Knox in the future, the community seem to aspire to a ‘better fit between economic development opportunities and sustainability’, which could pave the way for alternatives to the types of industry and commercial development that have impacted on the Knox landscape.

The Council has developed a Sustainable City Plan (2001–2010) that addresses many aspects of promoting and improving the sustainability of Knox. There is also opportunity for good urban design and planning to make better use of land, resources and infrastructure. There is debate about how far this needs to go, and other factors, such as community attitudes to change and the quality of the suburban landscape, need to be balanced against the calls for more intense development.

This means targeting areas with good accessibility that will ensure jobs, shops and other facilities are close to home. To favour social interaction, they should be located in concentrated hubs, rather than dispersed. This provides a fundamental justification for favouring a more ‘urban’ approach to activity centre layout and design, a strong theme of this study. Other examples of urban design-led initiatives that could improve sustainability of Knox’s urban form are:

- Increasing the connectivity of street and path systems.
- Improving the quality and quantity of locally accessible public space.
- Improving the environment for pedestrians and cyclists.

Sustainability also means continued economic vitality of Knox. The City needs to maintain and improve its attractiveness as a living and working environment over the long term. Enhancing the City's landscape character is an effective means of 're-positioning' Knox as a desirable location for employment and economic activity. It would also be beneficial to create opportunities for a more diverse base of economic activity and employment structure. For example, small businesses in activity centres and working from home are alternatives to the large factories in segregated estates that currently provide much of the City's employment base. The urban design framework can highlight opportunities to consolidate emerging types of employment within activity centres.

The question of a more sustainable social community is more subjective, and is perhaps best addressed by examining the opinions and values expressed by local people. Many residents of Knox would like the form of the City to be more conducive to social interaction. They want a stronger community life with a greater focus on the neighbourhood.

As previously discussed, better planning and design of activity centres offer the most potential for increasing social interaction across the City. The sustainable way to achieve this is likely to require, in future, a more 'urban', less car-oriented approach to activity centre layout and design. Improving the connectedness of residential areas to parkland, shopping and community facilities would also support a more sustainable social community. Considering the particular needs of people at different life cycle stages, such as children and the elderly, is also important.

What should remain as rural, become urban and stay as suburban?

The urban form of an outer municipality like Knox, and the issues associated with urban design, differ from other urban areas.

Development in the residentially zoned areas of Knox is virtually complete. The majority of development so far can be categorised as 'suburban' in character: low density and car-oriented. It is necessary to determine where development should stop, and what qualities of landscape character to plan for in the rural or semi-rural fringe. It is necessary to determine whether the suburban style of development should be adjusted to become more urban, now that Knox is entering a period of consolidation, and now that sustainability of urban form is important.

As noted previously, there is widespread support among the citizens of Knox for a City that is greener and leafier. If development is allowed to gradually erode the vegetated foothills, and no regard is given to the natural qualities of the Dandenong Creek valley in planning for the freeway, the landscape setting could be lost. This suggests the need for a policy of strengthening the rural and natural qualities of the City's setting, and for delineating the boundary between 'suburb' and 'rural' more firmly.

Within the suburban or developed area of Knox, there are significant opportunities to accentuate the green and leafy character of the suburban environment, and to improve the functioning of the suburban form of the City. The heavily vegetated areas along the eastern boundary should be protected and in general the character of suburban areas should be strengthened. In some cases this will allow for consolidation within the suburbs and sometimes it may limit the extent of this potential.

Activity centres are the locations where Knox should become more urban, particularly those located along the rail corridor. This can be achieved by consolidating land use activity and improving the quality

of the public realm. Activities that people need to access—not just shops, but also community facilities such as libraries and community centres, and business services—should be concentrated within activity centres as far as possible. Within the centres themselves, active frontages can be concentrated into a compact core that facilitates walking. A safe and pleasant walking environment is needed, as is good access by public transport. All of these attributes amount to a push for a more compact, urban type of form for the city’s activity centres. Having people live within various forms of higher density accommodation, could add to a lively and attractive urban character.

How can we encourage good urban design?

The development industry and other key players need to have a clear idea of the kind of development the Council and the community aspire to, if the urban design framework is to be successfully implemented. The urban design framework can facilitate this by defining the qualities of development that will contribute to a more positive image of the City, and a clear plan of action.

In the future, development needs to look beyond the potential of the current development market, as discussed in ‘The Developer’s Perspective’. The purpose of this Framework is to establish and communicate a vision for the future, in the likelihood that the development market will change over time. The steps by which the vision and framework can be realised are outlined in the remainder of this report. These steps comprise objectives, strategies and actions, and implementation of planning scheme policies. Recommendations on priorities and the structuring of programs are also included.

To be able to encourage good design, the Council first needs to define what it is, and then communicate that message effectively. Taken as a whole, the policies contained in this report provide a comprehensive view of the nature and meaning of good urban design, at the City-wide level in Knox. The Council will need to inform the development community about this, and discuss ways of achieving this. It is already

starting to assist by identifying and promoting specific development opportunities. It could go further and introduce means of expediting approvals of development proposals that conform with the vision.

Implications for this Framework

The questions posed and answered above establish the main challenges for the urban design framework. The Framework itself needs to present a clear picture of the key structuring elements of the landscape and urban form of Knox. Considering all of the analyses described up to this point, the following components have been identified.

Framework Components

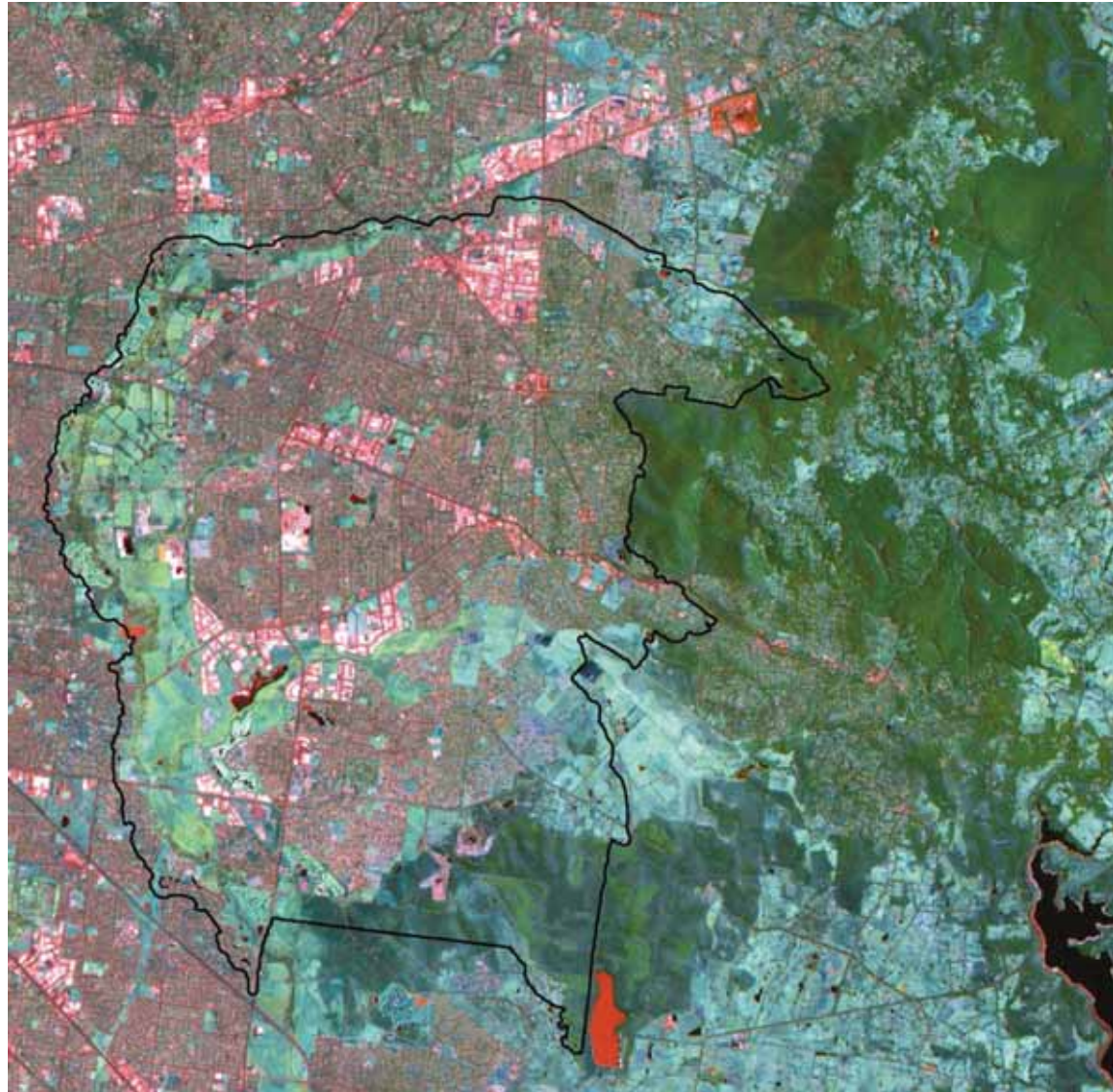
Knox in its Metropolitan Landscape Setting	Dandenong Creek Valley The Edge of the Suburbs
The Framework Within the Suburb	Creek Corridors Activity Centres and Working Environments Transport Corridors Residential Environments

Knox in its metropolitan landscape setting

The structure of Knox in its surrounding context is evident from this satellite photograph.

The image clearly shows:

- Dandenong Creek Valley, which is largely undeveloped, along the western border of the City.
- The green covered Dandenong Ranges along the eastern boundary.
- The suburban development, with varying degrees of vegetation, extending between the two.



Framework Components

Knox has two important landscape features that differentiate it from other outer municipalities, which warrant recognition in State and metropolitan planning policy. These are the Dandenong Creek Valley along the western border and the foothills of the Dandenong Ranges and Lysterfield Valley on the eastern border of the City.

Dandenong Creek Valley

The Dandenong Creek Valley extends across the western side of Knox, setting the City apart from adjoining suburbs and creating a dramatic sense of entry. Its semi-rural landscape forms the basis of a linear park network stretching almost fifteen kilometres across the eastern suburbs, from Dandenong to the north west tip of Knox. This park network is of metropolitan significance, because of its size and continuity, and because of the large population catchment that it serves. A freeway will be constructed along one edge of the system. Construction of the freeway will present a major opportunity to consolidate the many disjointed component parklands and reserves, to rehabilitate and develop the landscape, and to improve access. It may also represent a threat to the park's success as a natural habitat and its openness, due to the potential created for development along the edge of the freeway. This emphasises the need to manage the development of the park and the freeway carefully, with the aims for both in mind.

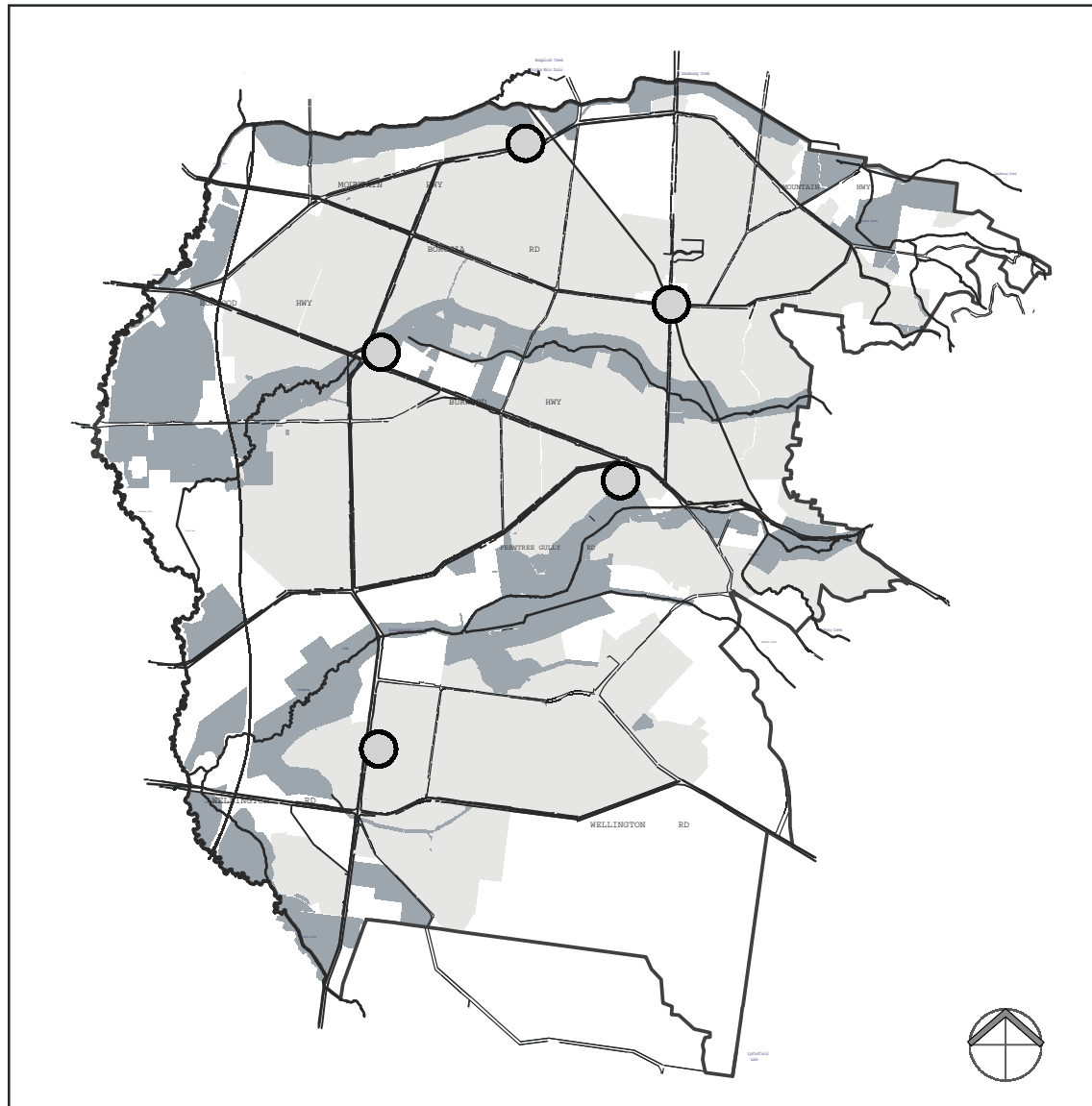
Edge of the Suburbs

One of the most significant characteristics of Knox is its appearance as a suburban area set in a larger natural and rural landscape. The City's eastern side forms an important edge to Melbourne's expanding suburbs. Here the continuous built form of the suburbs meets the vegetated hillsides of the Dandenong Ranges, and stops among the folds of the Lysterfield Valley. Defining the edge of the metropolitan

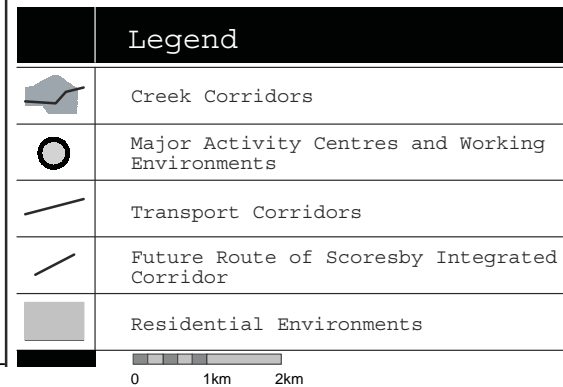
area has become a serious agenda item for the Melbourne Metropolitan Strategy. The landscapes that start along the eastern edge of Knox are highly significant. The Dandenong Ranges National Park and the Lysterfield Park provide hard edges to the suburbs to the east. However other parts of the eastern edge are less well defined.

The Lysterfield Valley is classified by the National Trust as "an attractive pastoral landscape which forms part of a 'green wedge' between the suburban areas of Rowville and Dandenong North, and the urbanised Ferntree Gully-Belgrave ridge of the Dandenongs." It is considered to form a 'gateway' to the Dandenongs, and provide an important buffer between urban and rural areas. The valley's significance is also recognised through the Knox Planning Scheme where a Significant Landscape Overlay applies to the area. Parts of The Basin are also recognised in the Knox Planning Scheme for landscape and remnant vegetation significance. A vision for Knox needs to resolve the principles that should define this boundary, to control development at and beyond this interface.

Views of the Dandenong Ranges and their foothills are valued very highly by the citizens of Knox. The Ranges also form a backdrop to countless views across the eastern suburbs of Melbourne, including long range views from central city office buildings and other high points throughout the metropolitan area, such as Northcote Hill and even the Calder Highway. The important characteristic of the hills in these views is their heavily vegetated, apparently natural environment. Only occasional clearings or roofs interrupt the dominating tree canopy. Maintaining this balance of tree cover and development is a matter of metropolitan significance, and an essential component of an urban design vision for Knox.



The framework within the City



Within Knox there are four aspects of the City's landscape and built form that provide a strong basis for developing an urban design framework: the creek corridors, activity centres, transport corridors and residential environments.

Creek Corridors

Knox is subdivided by a series of small creeks, generally running east to west, whose corridors present opportunities for an important system of public space. These corridors include drainage easements, floodways, parks and other public reserves. Because of the large land areas involved, their relatively uninterrupted extent through the municipality, and their unimproved state, these spaces have the potential to contribute much more effectively to the City's landscape and recreation resources. For example, they have the potential to become accessible and integrated path systems, for public space networks, and as natural environment. There are opportunities also to turn development around to face the creek corridors, rather than turning its back on them, as is commonly the case at present.

Activity Centres and Working Environments

Knox contains a mix of activity centres. The traditional 'town centres', often established beside a railway station, have been struggling to maintain their role and standards. The major internalised 'mall' centres such as Knox City Shopping Centre fail to integrate with their surroundings and to contribute positively to the public environment of the City. Some smaller centres no longer serve local shopper needs. The citizens of Knox are keen to have their activity centres function more effectively as focal points for social interaction, and to enhance them as identifying features of the suburb. Their vision is for thriving and lively centres of activity, with safe, convenient and attractive public environments.

Transport Corridors

The view from the car or train is often the only way people who neither live nor work in the City will experience it. In defining the municipal image, enhancing entry or gateway routes is particularly important. Road and rail corridors can be used to improve the image of a place by exposing and accentuating its underlying landscape character. In the case of Knox, this includes the creek floodplains, the gently rolling country of the middle ground and the foothills to the Dandenong Ranges. A vision for Knox must include an effective landscape treatment of the major transport corridors.

Residential Environments

The people of Knox are proud and protective of their residential environments. The spacious, green qualities of the City are guarded from 'inappropriate' development, in the face of pressures to diversify and intensify the housing stock. As identified in the City of Knox Neighbourhood Character Study (1999), there are distinct types of residential character found in different parts of the City. The character types range from garden suburbs to court style developments and the recent villa developments on smaller lots. In the foothills the dwellings nestle among the trees, and in the adjoining neighbourhoods there is a 'bush garden' character. There is even a small subdivision with rural parkland qualities. This urban design vision encompasses the enhancement of the characteristics valued by local people.

Challenges for the Vision

Knox in its metropolitan landscape setting

The urban design vision for Knox includes the following challenges of metropolitan significance:

- Definition of a clear, attractive and stable interface between the urban development of the eastern suburbs and the foothills of the ranges.

- Maintenance of the wooded slopes of the foothills as a scenic backdrop of metropolitan significance.
- Management of the Dandenong Creek Valley metropolitan park as a major landscape and recreation resource for the people of the eastern suburbs, while retaining its special landscape and environmental qualities.

The framework within the city

The urban design vision for Knox therefore includes the following City-wide challenges:

- Development of the creek corridors as a key landscape and recreation resource within Knox.
- Transformation of activity centres into the neighbourhood focus of the Knox community.
- Realisation of the potential of main road and rail reserves to contribute to a positive landscape identity for Knox.
- Implementation of a clear identity and character for each of Knox's residential communities.

Dandenong Creek Valley

The Dandenong Creek Valley is a continuous network of natural landscapes, native habitats and public parklands that are easily accessible.

The valley corridor forms a broad, continuous swathe of green, separating Knox from the adjoining suburbs, easily accessible on foot and by bike, visited by thousands for its naturalistic landscape and recreation facilities, and a haven for wildlife.

The Edge of the Suburbs

A clear, attractive and stable interface exists between urban development and the rural hinterland. The wooded slopes of the foothills continue to be dominated by close canopy native vegetation.

In the Lysterfield area and The Basin, there is a definite distinction between the end of urban development and the beginning of the rural landscape. The foothills continue to appear, when viewed from the west, as treed slopes rising above the suburbs, despite the residential development nestled below the canopy. They are recognised as a scenic backdrop of metropolitan significance.

Creek Corridors

The creek corridors provide a complete network of natural landscapes, native habitats and public open space within Knox.

Every citizen of Knox regularly uses some part of the creek corridor system, for walking and cycling, enjoyment of the public space, recreation, and for appreciating the natural environment and wildlife.



Activity Centres and Working Environments

Activity centres have been transformed into the neighbourhood focal points of the Knox community.

Many of Knox's activity centres have become thriving, lively focal points for the surrounding community, with safe, convenient and attractive public environments and distinctive local identities. Other local community facilities help facilitate social interaction. Working environments are more diverse and sustainable.

Transport Corridors

Travelling through Knox presents a 'green, leafy' outlook.

Main road and rail reserves contribute to a positive landscape identity for Knox, with attractive tree-lined avenues and bush landscapes.

Residential Environments

Knox's residential communities each embody a clear identity and character.

The residential suburbs have continued to evolve and change, but in a way that has strengthened the distinctive characteristics of each neighbourhood.



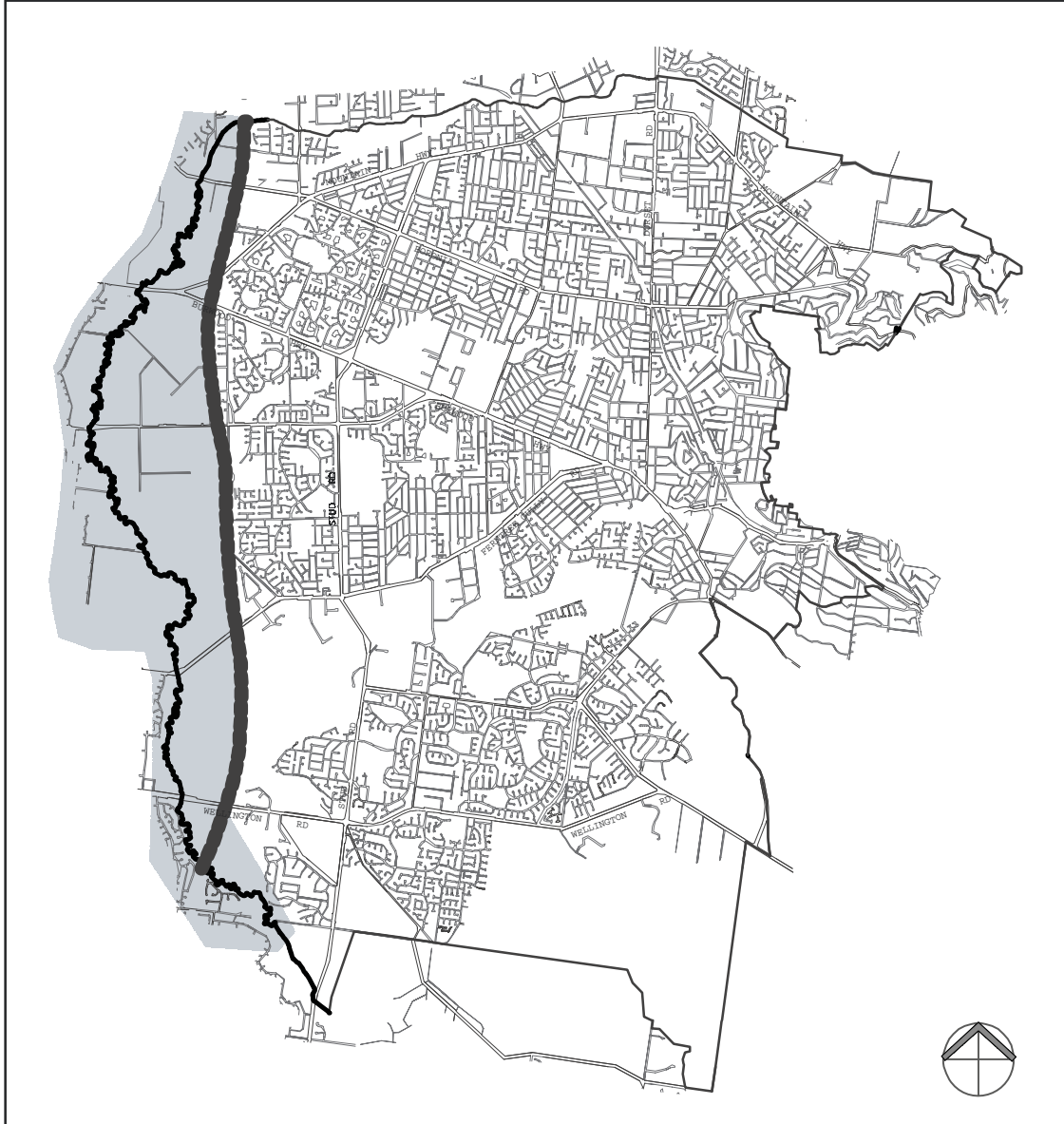
Dandenong Creek Valley

Vision 2020...

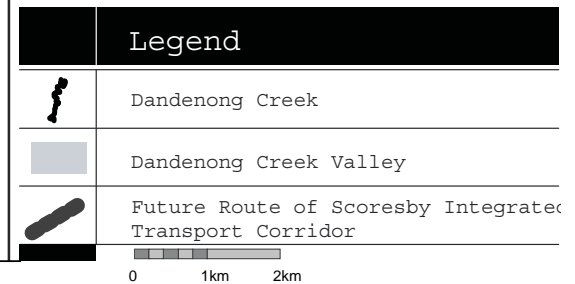
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Dandenong Creek Valley



Existing Conditions

The semi-rural floodplain of the Dandenong Creek Valley extends across the western side of Knox, setting Knox apart from adjoining suburbs and creating a dramatic sense of place when one travels across the Valley. Parts have been used for horse agistment and other semi-rural uses, providing a clear break from the suburban development extending on both sides. The Valley is an important native habitat for flora and fauna. The open spaces have a natural landscape quality. Suburban slopes across the municipal boundary contain the Valley on its west side, and on its east the Scoresby Integrated Transport Corridor reserve marks the edge of suburban Knox. Over a length of nearly 15 km the Valley is crossed by only six roads. Much of the land is held as parkland or other reserves, and consolidating these into a major park has been mooted for some time.

Key Issues

The formalised parks in the Dandenong Creek Valley have relatively low levels of infrastructure development but feature wetlands and walking and cycle paths. Development on the floodplain is minimal, but includes high voltage transmission lines and pockets of strip development. These open spaces are sensitive to new development as any structures are conspicuous, and natural limits on development due to flooding may not preclude some uses from gaining a permit. The size, placement and design of buildings as well as the treatment of roads and public space are all important to the character of the area. The Scoresby Integrated Transport Corridor will reduce the extent of the rural area and create a major barrier between the parklands and developed areas of Knox, and road-oriented development associated with freeways could further undermine the character of the area. In many ways the valley has been 'on hold' pending a decision about the freeway construction or otherwise. The freeway development represents both a threat and an opportunity to the Valley, and requires

careful management. The primary issue is how to maintain and improve the natural landscape and environmental qualities of the valley, while accommodating a freeway and development of a major park resource.

Key issues relating to achievement of the vision for the Dandenong Creek Valley are therefore:

- Consolidating and improving the Dandenong Valley Park as an open space resource, while maintaining and enhancing its natural landscape characteristics.
- Ensuring that the design of the Scoresby Integrated Transport Corridor minimises potential negative impacts on the Creek Valley, and maximises opportunities to improve the qualities and maintenance of the Valley.

These issues are developed in the following pages into objectives, strategies, actions and design guidelines for the Dandenong Creek Valley.

Dandenong Creek Valley



Large tracts of the Dandenong Creek Valley are yet to realise their landscape and recreation potential.

Jells Park in Wheelers Hill shows the potential of the Dandenong Creek Valley to provide attractive recreation, environmental and landscape experiences.

1.1 Objectives

- 1.1.1 To protect the Dandenong Creek Valley as a natural landscape between the Scoresby Integrated Transport Corridor and Knox, and the adjoining suburbs to the west.
- 1.1.2 To improve the environmental qualities of the Dandenong Creek Valley while consolidating the area as a major open space resource.
- 1.1.3 To protect the cultural values of the Dandenong Valley.
- 1.1.4 To reinforce opportunities for the integration of environmental, social and economic aspects within the Dandenong Valley.

1.2 Strategies

- 1.2.1 To continue to consolidate the entire area between Dandenong Creek and the Scoresby Integrated Transport Corridor reserve along the length of the western side of Knox as a metropolitan park. In areas that cannot be acquired as parkland, use development controls (e.g. planning agreements or covenants) to minimise the visual dominance of development and protect environmental values of the area, in areas that cannot be acquired as parkland. (Refer to regional open space development priorities determined in ‘Linking People and Spaces – A Strategy for Melbourne’s Open Space Network.’)
- 1.2.2 Minimise the negative impacts of major infrastructure including the freeway, other roads and high voltage transmission facilities.

- 1.2.3 Protect indigenous vegetation and encourage the planting of indigenous vegetation wherever possible and protect and improve water quality of the creek. (Refer to native vegetation and restoration priorities defined in the ‘Draft Port Phillip and Western Port Native Vegetation Plan’.)

1.3 Actions

- 1.3.1 Work with the State Government and its agencies to acquire, lease or license land and rationalise existing crown land reserves, so as to extend existing park areas and provide a consistent set of principles and priorities to co-ordinate the activities of all private and government interests.
- 1.3.2 Liaise with Parks Victoria in developing and implementing a development strategy and master plan for the metropolitan park. Taking into account interface issues between parkland and urban development (e.g. protection from fire hazards, control of pest plants and animals).
- 1.3.3 Liaise with Monash, Whitehorse and Greater Dandenong councils regarding adjoining development and the proposed planning controls.
- 1.3.4 Incorporate strategies, design guidelines and standards into the Knox Planning Scheme (see relevant guidelines under Road Corridors) for landscape works in roadways and other public spaces in the Valley.
- 1.3.5 Work with power supply agencies to develop complementary design standards for fencing and other treatments around their infrastructure.
- 1.3.6 Review zoning in the area to ensure consistency with these objectives for development of a park.

1.4 Design Guidelines

1.4.1 Minimise development on the floodplain by:

- Eliminating ‘as of right’ development.
- Subjecting all development to a review process that considers its design and environmental impacts.
- Discouraging subdivision.
- Discouraging any net increase in the ground area covered by buildings.

1.4.2 Minimise visual intrusion of development by:

- Siting buildings to minimise their visual impact by providing generous planted setbacks from roads and clustering buildings to maintain large open spaces.
- Limiting building heights so they will not be visible beyond the immediate locality.
- Prohibiting advertising signs in the area between the Scoresby Integrated Transport Corridor and Dandenong Creek.
- Avoiding any increase of paved areas (roads, driveways, car parks, etc).
- Minimising fencing, and design necessary fences or other barriers to minimise their visual impact.

1.4.3 Minimise the impacts of outdoor lighting by:

- Minimising the visibility of light poles and other infrastructure and ensure light sources (lamps) are baffled to control glare and light spill.
- Placing power and communications cables underground.

1.4.4 Protect and enhance vegetation by:

- Retaining and protect indigenous trees and plant new indigenous vegetation including canopy trees and understorey species.
- Removing and avoiding the further introduction of noxious and environmental weeds and avoid use of invasive exotics and non-indigenous native species.
- Identifying and protecting habitat for native fauna including wildlife corridors.

1.4.5 Ensure minimal impacts from drainage by:

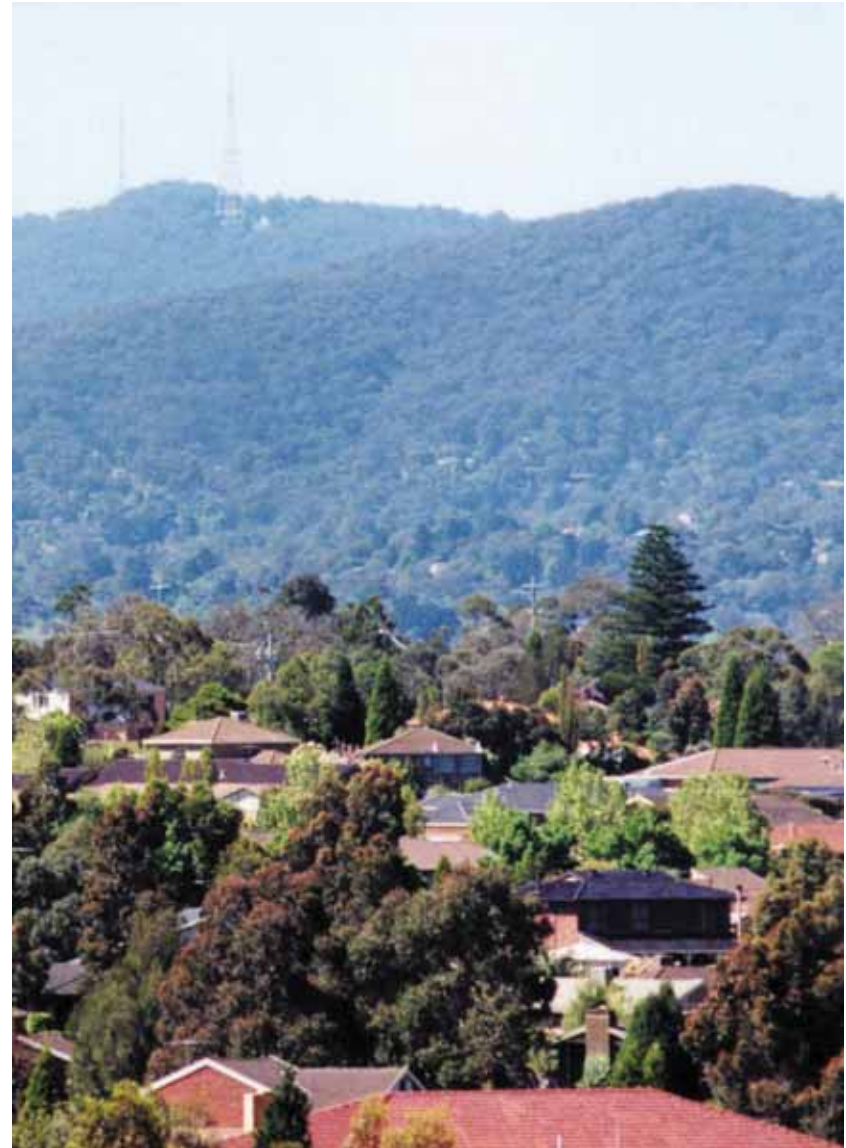
- Following best practice in design, construction and operation of drainage systems to reduce impacts on surface waters and ground-water.
- Requiring the provision of reticulated sewerage.
- Not polluting or increasing rates of storm water run-off.
- Using detention/retarding basins or wetland areas to slow rates of run-off and improve water quality (where possible).
- Requiring the preparation of stormwater management plans for development within and adjoining the Dandenong Creek Valley.

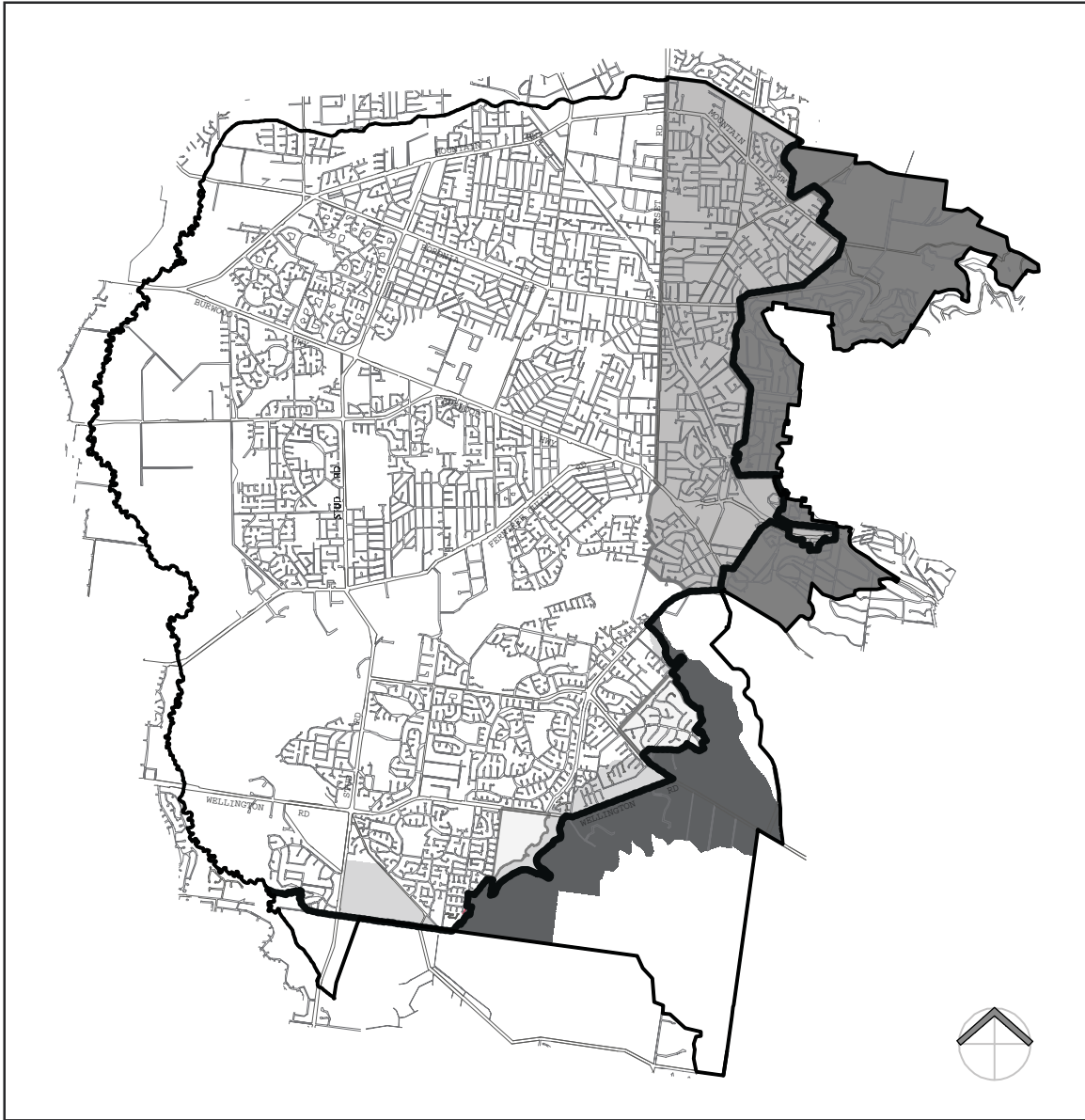
The Edge of the Suburbs

Vision 2020...

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In the Lysterfield area and The Basin, there is a definite distinction between the end of urban development and the beginning of the rural landscape. The foothills continue to appear, when viewed from the west, as treed slopes rising above the suburbs, despite the residential development nestled below the canopy. They are recognised as a scenic backdrop of metropolitan significance.





The Edge of the Suburbs

Legend	
	Lysterfield Hills & Lysterfield Valley Protection Area
	Lysterfield Valley Contributory Area
	Urban / Rural Transition Area
	Urban Edge
	Foothills Backdrop Area
	Foothills Contributory Area

Existing Conditions

Parts of the eastern edge of the suburbs are defined by the Dandenong Ranges National Park and Lysterfield Park. The remaining areas along the eastern part of the City provide a less well defined edge to suburban growth and development.

In The Basin, residential subdivision extends to Liverpool Road. To the east of The Basin, the land can be described as rolling, green hills of open farmland, containing indigenous and typical exotic rural trees, with the close backdrop of the heavily vegetated hills of the Dandenong Ranges National Park. Pressure exists to further develop this area.

In the Lysterfield Valley, incremental subdivision has occurred and pressure continues for lower density subdivisions up towards the ridge overlooking the Monbulk Creek. The Monbulk Creek Valley is the critical point in the Lysterfield area where urban becomes rural. Views within the Valley are of rolling rural landscapes, and when viewed from the north no indication exists of the proximity of the suburbs. The vistas are an important feature of the Lysterfield Valley, that would be destroyed with the appearance of urban housing along the ridge top.

The Lysterfield Hills beyond Wellington Road and the urban edge are a significant landscape. The hills are largely cleared rural land and the visual openness provides a distinct contrast to the built up areas, and a clear indication of the edge of the suburbs. The vistas available to the north and west are highly valued.

The Dandenong Foothills include the forested slopes and pastoral areas of Lysterfield Valley, the rural landscapes of The Basin, and parts of the suburbs of Boronia, Sassafra, Ferntree Gully, Upper Ferntree Gully and Rowville, as well as parts of Lysterfield Lake Park. As a green edge containing the sprawl of the suburbs, the Dandenongs

and their foothills have an iconic significance for all of Melbourne and are essential to the image of Knox as a City in a landscape setting. The foothills contain predominantly remnant, indigenous and native bushland. Development in the area is typically low-density rural housing, with winding, narrow roads tucked among the trees. Between Mountain Highway and Glenfern Road, development extends up the foothills to the boundary of the Dandenong Ranges National Park.

The Foothills can be divided into two sectors, the area between Mountain Highway to Burwood Highway and the area between Burwood Highway and Glenfern Road.

Mountain Highway to Burwood Highway is an established residential area on wooded slopes. Areas to the east of Forest Road have consistent tree cover, as demonstrated by the detail of the satellite photograph. West of Forest Road to Dorset Road the tree cover is still heavy, but with less consistency and with a greater mixture of native species. This can be confirmed by on site investigation.

Burwood Highway to Glenfern Road is an established residential area that includes public park along Ferny Creek. The land is slopes down into the valley and is heavily wooded, although not as heavily along the highway and around the shopping centre.

Key Issues

Suburban development continues to place pressure on subdividing land at the edges of the foothills and onto adjacent rural landscapes. The City's edges have become 'frayed'. On one side of 'the edge', natural areas are subject to incremental degradation and rural land is at risk of being marginalised or treated as wasteland. On the other side, ad hoc subdivisions are poorly integrated with one another and have an equally poor interface with adjoining rural land. Inappropriate subdivision will continue unless a clear policy is developed to distinguish the edge of the suburbs.

The forested slopes and pastoral valleys of the Foothills are sensitive to development. The character of the forested slopes depends on protection and continuing rejuvenation of indigenous vegetation (including tree canopy and understorey), and limiting the visibility of buildings, roads, signs, and lighting. There is also pressure for further development and subdivision of land in the foothills and nearby which is inappropriate given the context of the area. This can only be contained under strict provisos designed to protect the closed canopy indigenous vegetation cover.

The edges of Knox requiring further definition to encourage better planning include the following sections:

The Basin, north of Mountain Highway: A semi-rural area grading into forested foothills.

Glenfern Road to Lysterfield Ridge: The Monbulk Creek Valley is the most highly valued landscape experience of the Lysterfield Valley area. A pastoral rural landscape with bare or very lightly wooded hillsides on both sides.

Lysterfield Ridge to Wellington/Kelletts Road: Recent subdivision in the valley, with an open rural landscape on an exposed ridge. The ridge is prominent in views of the foothills and of the Dandenongs

from the west. Development near the ridge would detract from the pastoral Monbulk Creek Valley to the north. Subdivision has come near to but remains generally lower than the ridge. Development should resolve the interface between residential and rural landscapes.

Wellington/Kelletts Road to Wellington/Napoleon Road: This is the lower slope of the southernmost peak of the foothills, and it is prominent in views from the west. Development extends up the slope to Wellington Road, although the pattern of development alters and density decreases at the 100m contour.

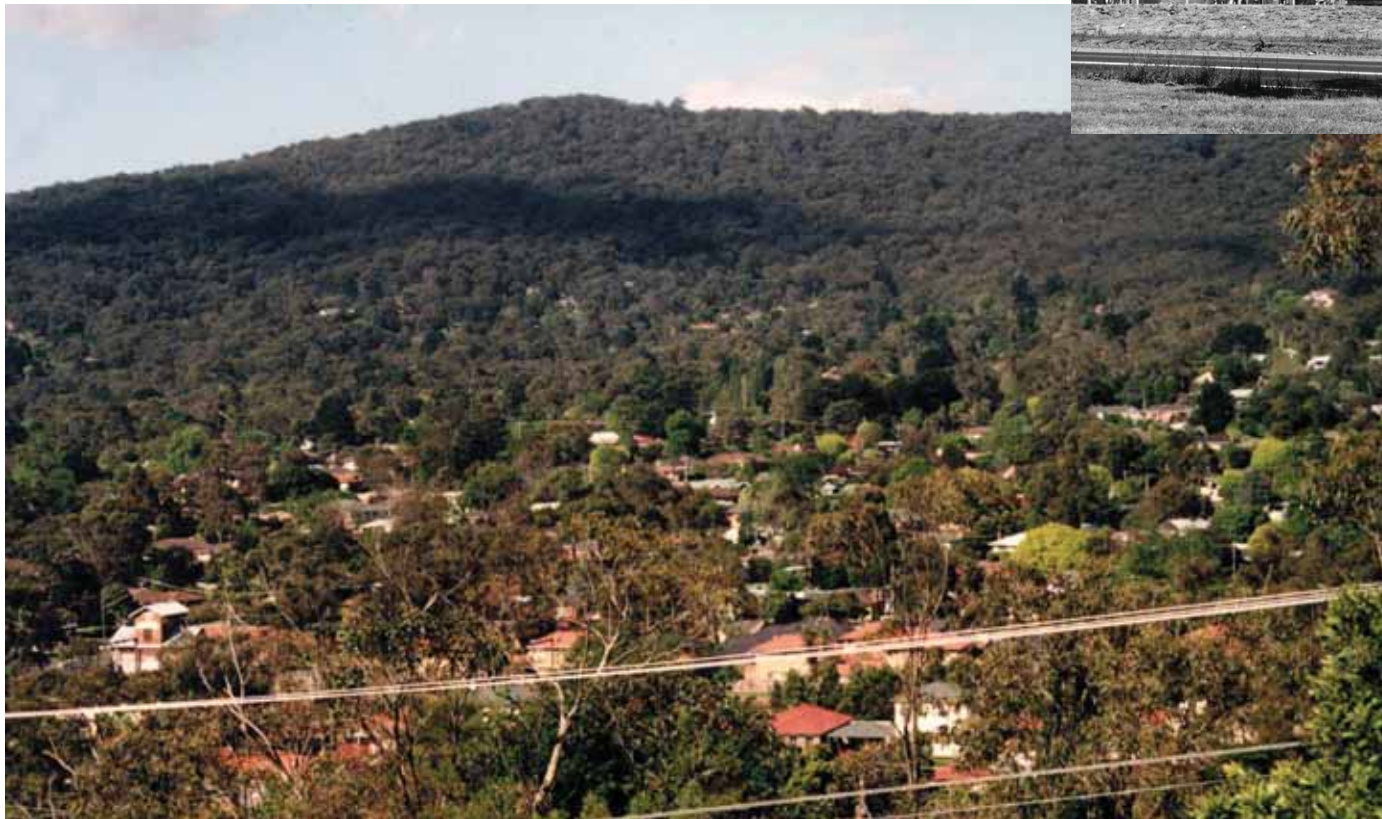
South of Wellington/Napoleon Road: Recent subdivisions are approaching from the west. The Lysterfield Park provides a backdrop to the cleared semi-rural land to the south. Land to the east is undulating rural land that contributes significantly to vistas to the north and the sparsely treed escarpment of the foothills.

Key issues relating to the achievement of the vision for the 'edge of the suburbs' are therefore:

- Protection and enhancement of the vegetated appearance of the foothills when viewed from the surrounding urban area.
- Protection and restoration of the natural bush landscape character of the foothills.
- Protection of The Basin and the Lysterfield Valley and Hills as rural environments.
- Protection of the Monbulk Creek Valley from suburban encroachment.
- Integration of development at the interface to ensure protection of these environments.

These issues are developed in the following pages into objectives, strategies, actions and design guidelines for the edge of the suburbs.

The Edge of the suburbs



South of Wellington Road, development continues to pressure the rural land.

Between Mountain Highway and Burwood Highway, the residential suburbs gradually blend into the wooded slopes of the Dandenong Ranges.

2.1 Objectives

- 2.1.1 To create an attractive and stable interface between urban and non-urban areas in The Basin, and from Glenfern Road to Churchill National Park, that maximises public access to and benefits from parks, bushland and rural spaces, and protects rural environments from intrusions of suburban development.
- 2.1.2 To protect the appearance, when viewed from the surrounding urban area, as treed slopes rising above the suburbs.
- 2.1.3 To protect the quality of the foothills of the Dandenong Ranges as a natural bush environment dominated by indigenous forest vegetation.

2.2 Strategies

- 2.2.1 Establish an urban edge boundary, which is:
 - Determined by landscape qualities, while acknowledging development patterns.
 - Treated as a transitional area, contributory area or a simple line, to suit each segment (the boundary is shown on the Urban Design Framework Map on page 30).
- 2.2.2 Define an urban edge that reflects the significance, on a metropolitan level, of the rural valleys and landscapes along the eastern edge of the City. The areas can be defined as the following:
 - A Foothills Backdrop Area which is beyond the urban edge that reflects the significance of the foothills backdrop on a metropolitan level. The Foothills Backdrop Area is bounded by Forest Road, Mountain Highway and the west boundary of the Dandenong Ranges National Park, and the

area bounded by Burwood Highway and Ferny Creek. (the boundaries are shown on the Urban Design Framework Map on page 30).

- An area to the east of the Foothills Backdrop Area as the Foothills Contributory area, due to its heavily vegetated character and topography, and within this area ensure that development retains and provides sufficient vegetation to reflect the Foothills character. The Foothills Contributory Area is bounded by Dorset Road, Mountain Highway, Forest Road and Burwood Highway.
- 2.2.3 Apply development controls aimed at developing a quality interface across the (sub)urban/rural edge of the municipality along the urban edge boundary.
- 2.2.4 Limit and control development (public and private), east of the boundary and within the Foothills Backdrop Area, and encourage management of landscapes to protect their qualities over the long term.

Principles for defining the boundary

The following principles have been used to produce the proposed boundary of 'The Urban Edge' shown on the Urban Design Framework Map for the Edge of the Suburbs on page 30.

1. Protect the forested slopes and rural landscapes of The Basin and Lysterfield Valley and Hills from suburban encroachment.
2. Treat the area adjacent to the boundary as a transitional area if:
 - Within a particular area, improving the interface between suburban and rural or bush landscapes is of concern.
 - Impacts of development due to factors other than location relative to a boundary are of concern (e.g. visual impacts due to a building's height), and area-specific performance-based

development controls can be defined that will be effective in protecting landscape values.

- Other area-specific controls are called for (e.g Monbulk Vista Protection or Foothills Protection).
3. Consider areas adjacent to the boundary as contributory if:
 - It is largely developed.
 - There are aspects of the development that should be retained or enhanced to reflect or support the suggested guidelines for the adjacent boundary or transition area.
 4. In the Lysterfield area adjacent to the ridge of the Monbulk Creek Valley, use the 100m contour to delineate the boundary of land to remain undeveloped. The 100m contour indicates a height where it is evident the land is rising towards a ridge. The 100m metre contour is to delineate the extent of urban style development to protect the significant landscape qualities of the Monbulk Creek Valley ridge and rural valley to the south towards Wellington Road.

Principles for defining the foothills backdrop area

These principles have been used to produce the proposed boundaries for the Foothills Backdrop Area:

1. Include the forested slopes that overlook suburban Melbourne, and that are visible for long distances across suburban Melbourne.
2. Provide restrictive controls over development and vegetation in the Foothills Backdrop Area.
3. Focus controls on protecting landscape values.

2.3 Actions

- 2.3.1 Incorporate the delineated boundary (shown on the map on page 30) into the Knox Planning Scheme, using policy, zoning or overlay controls as appropriate.
- 2.3.2 Include the defined Foothills Backdrop Area, and the Foothills Contributory Area into the Knox Planning Scheme using appropriate mechanisms.

2.4 Design Guidelines

Urban Edge

- 2.4.1 In general, land to the east or south of the defined Urban Edge should either remain in rural use, and opportunities for development and subdivision limited to those that are consistent with a rural landscape, or development be severely restricted to ensure the identified landscape qualities are preserved.
- 2.4.2 In South Lysterfield, Wellington Road forms a hard edge to the suburbs, where land should remain in rural or semi-rural use with limited development and subdivision opportunities. The urban edge northeast of Wellington Road adjacent to the ridge of the Monbulk Creek Valley, is located along the 100m contour. Land is excluded from the 'urban area' where it is located in the Environmental Rural Zone, is undeveloped and contributes to the rural landscape qualities of the area.
- 2.4.3 In The Basin, the urban edge is defined as the 130m contour on Sugarloaf Hill, following the Residential 1 Zone boundary, the northern boundary of Miller Park, and then to the south east until the 150m contour intersects with Liverpool Road.

- 2.4.4 In the Dandenong Foothills, the urban edge runs between the Foothills Backdrop Area and the Foothills Contributory Area.

Urban/Rural Transition Area

- 2.4.5 Within the Urban/Rural Transition Area apply the following guidelines:
- Street layout should follow the contours.
 - Align roads to provide an edge to the urban area.
 - Use roads to provide public access to reserves, parkland and views.
 - Orient development to bush and rural/pastoral spaces rather than lining these boundaries with back fences.
 - Streets should connect with adjoining development.
 - Allow space on private land for the planting and retention of indigenous trees.
 - Ensure the site coverage of buildings and paved areas allows adequate permeable land for vegetation and stormwater management. Evidence should be included with applications for development or subdivision to demonstrate that the environmental capacity of the land has not been exceeded.
 - Buildings should not exceed 7 metres in height from natural ground level.
 - Land that has slopes greater than 20% or is subject to subsidence should not be built on.
 - Indigenous vegetation should be retained and planted.
 - Provide informal street treatments incorporating indigenous vegetation and rollover kerbing.

- To the east and south of the Transition area, land should remain in rural and semi-rural holdings with limited subdivision and development opportunities.

Lysterfield Valley Contributory Area

- 2.4.6 Within the Lysterfield Valley Contributory Area apply the following guidelines:
- Encourage the retention and planting of trees and other vegetation, preferably indigenous or native.
 - Site coverage of buildings and impervious surfaces should be minimised to allow for sufficient land for vegetation and stormwater management.

Lysterfield Valley and Lysterfield Hills Protection Area

- 2.4.7 Within the Lysterfield Valley and Lysterfield Hills Protection Area apply the following guidelines, in addition to those in the Urban Rural Transition Area:
- Buildings should be individually sited to ensure that roof lines are located below the ridgeline.
 - Buildings, light poles, antennae, any other structures, and lighting should not be visible from any point on Glenfern Road. Screening by vegetation should not be considered in determining visibility.
 - Development should create a positive interface with adjoining open spaces. Where possible, integrate parts of sites as open space with adjoining public open space, or create grazing allotments to be integrated with neighbouring properties. Rezoning this land to public open space or rural land should occur immediately upon approval of subdivision plans.

- No development should occur above the 115m contour.
- The development of the area should be directed to ensure that trees dominate vistas from lower areas of the slopes.
- The height of buildings should be well below the eventual tree canopy.
- Require a detailed landscape plan for all development proposals demonstrating the planting and maintenance of substantial trees that are native or indigenous to the area.

2.4.8 Apply the following guidelines to any existing lots in the Rural Living Zone within the Lysterfield Valley and Lysterfield Hills Protection Area, in addition to those in the Urban Rural Transition Area:

- Buildings should be individually sited to ensure that roof lines are located below the ridgeline.
- Require the use of non-reflective and natural materials and muted colours on external surfaces, including roofs of all buildings but excluding solar panels, to reduce the visual impact of development.
- The height of buildings should be well below the eventual tree canopy.
- Development should complement the landscape qualities of the area and create a positive interface with adjoining spaces, both pastoral and remnant bushland areas.
- Minimise the impact of the development on local views of the Lysterfield Valley, Lysterfield Hills and significant ridgelines.
- Ensure the site coverage of buildings and paved areas allows adequate space for planting and retention of trees.
- Retain and plant native and or indigenous vegetation to screen buildings.

- Require a detailed landscape plan for all development proposals demonstrating the planting and maintenance of substantial trees that are native or indigenous to the area.

Foothills Backdrop Area

2.4.9 Within the Foothills Backdrop Area minimise the visual impact of development:

- Allow no subdivision or increase in ground coverage by buildings in the Foothills Backdrop Area unless it can be demonstrated that it will minimise the visual dominance of development.
- Ensure buildings do not penetrate the tree canopy, and are located so as not to protrude above ridgelines.
- Provide generous planted setbacks from roads.
- Locate buildings at relatively low-lying positions on the site. In forested areas, disperse buildings to allow trees to be planted among them. In open areas, cluster buildings to maintain large open spaces.
- Limit building size and prominence by having high standards of architectural and landscape design that appropriately responds to nearby rural and natural landscapes.
- Require the use of 'natural' building materials and muted colours.
- Minimise the visibility of light poles and other infrastructure and ensure light sources (lamps) are hidden to control glare and light spill.
- Place power and communications cables underground.

2.4.10 Within the Foothills Backdrop Area minimise the environmental impacts of the development:

- Allow no subdivision or increase in ground coverage by buildings in the Foothills Backdrop Area unless it can be demonstrated that it will protect environmental values of the area.
- Ensure that traffic generated will not exceed the capacity of existing local roads.
- Minimise earthworks and avoid using large retaining walls or other structures.
- Avoid any increase of paved areas (roads, driveways, car parks, etc).
- Assess and identify all existing vegetation including understorey.
- Identify and protect habitat for native fauna by the use of wildlife corridors.
- Retain and protect indigenous trees and require 80% of all new vegetation (both canopy trees and understorey) to be indigenous species.
- Remove noxious and environmental weeds and avoid use of invasive exotics.
- Follow best practice in design, construction and operation of drainage systems to reduce impacts on surface and ground waters.
- Require new development to demonstrate effective stormwater management techniques.
- Use rainwater collection and landscape treatments to minimise stormwater run-off and slow rates of run-off and protect water quality

- Require provision of reticulated sewerage.
- Avoid any construction on sites liable to flooding or on land that is subject to land-slip or subsidence.

Foothills Contributory Area

2.4.11 Within the Foothills Contributory Area apply the following guidelines:

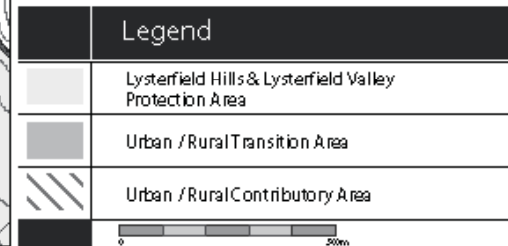
- Retain and reinforce the native vegetation dominated backdrop.
- Encourage the replanting of indigenous plants.
- Maintain the continuity of vegetation and landscape character between dwellings.
- Ensure buildings and extensions do not dominate the landscape and streetscape.
- Minimise the dominance of buildings from the street.
- Minimise excavation for car access, loss of garden space, and dominance of car storage facilities.
- Maintain the continuous flow of the landscape and vegetation, and the bush character of front gardens.

Case Study 1: Lysterfield Urban/Rural Edge

Foothills boundary—Lysterfield Ridge to Kelletts Road



Case Study Location Map



Issues

This area includes a recent subdivision in a sheltered valley with an open rural landscape on the ridge to the south. This ridge separates the subdivision from the Monbulk Creek Valley, and is prominent in views of the foothills from the west. Current zoning allows development higher on the ridge even though the street pattern in the subdivision has not been designed to suit this. Buildings and exotic landscaping too high on the ridge would be visible from within the Monbulk Creek valley and detract from its pastoral qualities, and this is the most important impact to avoid with development in this area. A small number of houses high on the ridge demonstrate the potential negative impacts, but generally the extent of development remains slightly lower than the proposed boundary.

To the south, the land rises up to Wellington Road, the wooded slopes of the Foothill's southern spur and Lysterfield Park. This slope is prominent in views from the west. The subdivision extends to Wellington Road, but the upper levels feature quite large lots. The housing is new and its plantings are now immature, but the lower density will ultimately allow the area to blend with the bushland on slopes above. This green backdrop to the suburbs could be threatened by increasing levels of development through further subdivision, construction of larger houses, and more extensive paving - its protection is the key issue to address in this area.

Lysterfield urban/rural edge



The valley is spotted with residential development that is gradually absorbing the attractive rural landscape.

This part of the landscape has remained undeveloped and is worth protecting.

Concepts

A Lysterfield Valley and Lysterfield Hills protection area should be delineated to ensure the required development principles are adopted to protect the ridgeline from inappropriate development. The urban edge boundary in this area should not extend along the west / south of the Lysterfield Valley and Lysterfield Hills Protection Area. This area should include the area between:

- The undeveloped land below the 100 metre contour and east of the Environmental Rural Zone boundary.
- The 115 metre contour.

Above the 115 metre contour development should not be allowed.

Development on subdivided land below the 100m contour, if subject to planning controls and guidelines relating to the residential neighbourhood character, should not detract from the Foothills' landscape values.

The impacts of development above the 100m contour depend on factors such as the location of buildings relative to high points and saddles in the ridge.

Special controls recommended for the Lysterfield Valley and Lysterfield Hills Protection Area are:

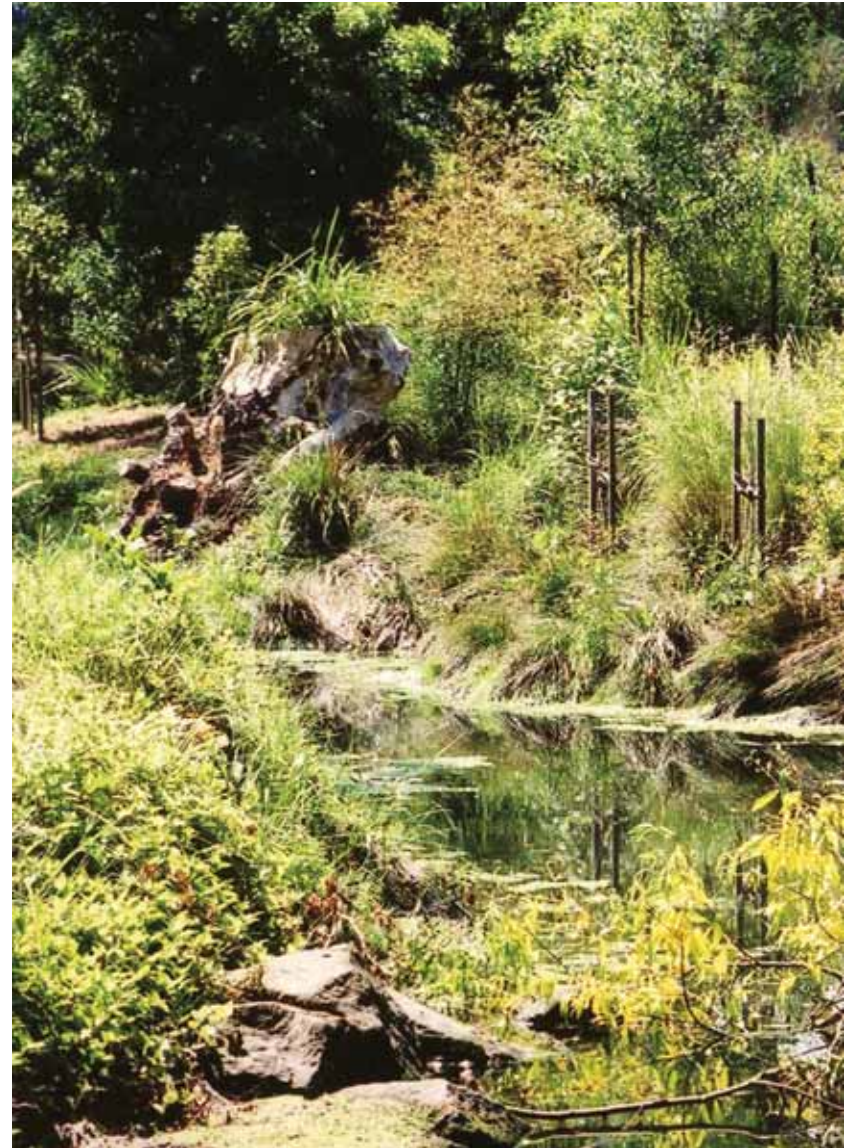
- Buildings should be individually sited so as to ensure that roof lines are located below the ridgeline.
- The development of the area should be directed to ensure that in future, trees dominate vistas from lower areas of the slope.
- Ensure the site coverage of buildings and impervious surfaces is minimised to provide adequate space for the planting and retention of trees and other vegetation, and for stormwater management. In general, a 30% maximum site coverage should apply.
- Buildings should sit well below eventual tree canopy height. In general, buildings should not exceed a maximum height of 7 metres above natural ground level.
- Require a detailed landscape plan for all development proposals demonstrating the planting and maintenance of substantial trees, preferably native or indigenous to the area.
- Buildings, light poles, antennae, any other structures, and lighting should not be visible from any point on Glenfern Road. Screening by vegetation should not be considered in determining visibility.
- Development should create a positive interface with adjoining open spaces. This could entail using parts of sites as open space able to be integrated with adjoining public open space, or creating grazing allotments to be integrated with neighbouring properties. Rezoning as public open space or rural land should occur immediately upon approval of subdivision plans.

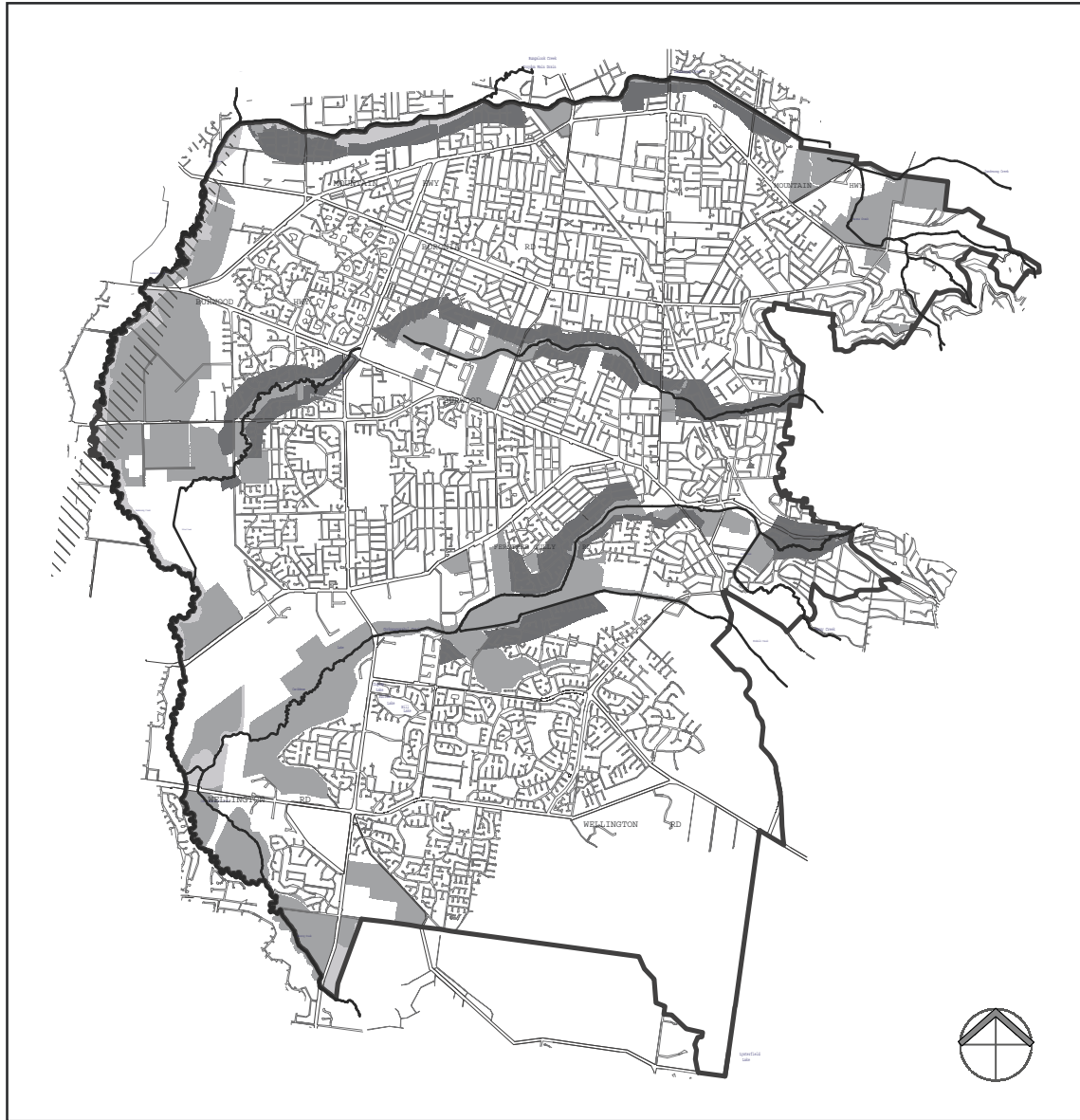
Creek Corridors

Vision 2020...






the creek corridors provide a complete network of natural landscapes, native habitats and public open space within Knox.

Every citizen of Knox regularly uses some part of the creek corridor system, for walking and cycling, enjoyment of the public space, recreation, and for appreciating the natural environment and wildlife.





Creek Corridors

Legend	
	Dandenong Creek Corridor
	Creeks as Public Space
	Creeks as Nature
	Creeks as Address
	

Existing Conditions

Built over an area of gentle hills and ridges, Knox is defined by a series of small creeks, generally running east to west. Most of the higher, well-drained positions are occupied by established neighbourhoods that comprise the majority of urban and suburban Knox. The creek corridors occupy the lower lying land that intersects the suburb.

These creek corridors include drainage easements, floodways, parks and other public reserves. The parks are generally small, and important as local recreational resources. Much of the other land is in a degraded condition. The natural landscape has been spoiled through clearing and drainage works but left, more or less, as wasteland or isolated fragments of earlier rural landscapes.

Key Issues

Despite existing bike paths along the creeks, these areas have poor access. The paths are disjointed where creeks have been put into underground drains. (The Council's waterway activity plans are addressing these issues.)

At present, almost all buildings face away from the creeks. Back fences and service yards line the reserves. There is little surveillance of the area due to limited visibility from houses which make these spaces seem unsafe. In many parts of the system, destinations along the creeks occur at intervals too far apart for normal walking trips.

With some exceptions in the small local parks, which are somewhat degraded, most of the open spaces along the creek corridors are relatively undeveloped. Their prevailing character is as leftover waste spaces, offering limited amenity and few specific facilities to support recreational use.

The standard of landscape development along the creek corridors is now generally very low. They are not in a natural state and have been degraded by engineering for flood control, road crossings, and so on. There has been some recent revegetation using native trees, but the extent of damage in the past is proportionally much larger.

Many of these issues are also relevant to parks that lie outside the defined creek corridors. Key issues to address in creek corridors include:

- Developing networks of walking and cycle paths that are fully integrated with local street systems.
- Creating good public places that provide a range of opportunities for recreation and community interaction.
- Enhancing the natural landscape of Knox.
- Improving interfaces with adjoining development to increase the activity, safety and amenity of the public environment.

These issues are developed in the following pages into objectives, strategies, actions and design guidelines for the creek corridor system, under the following headings:

- Creeks as Paths
- Creeks as Public Space
- Creeks as Nature (ie. water channels)
- Creeks as Address

All four issues need to be considered together when considering any single stretch of creek corridor. They are also relevant to parks and other open spaces. Creeks and parks are (or should be) multi-functional spaces, although the emphasis in any one location may favour one theme over another.

Creeks as paths



People in this street cannot access the nearby creek because it is behind a fence.

Paths along creek corridors should traverse attractive landscapes, have good links to the street system and feel safe.

3.1 Objective

- 3.1.1 To develop networks of walking and cycle paths that are fully integrated with local street systems in order to support sustainable, efficient and healthy modes of transportation as a safe and attractive alternative to travel by car.

3.2 Strategies

- 3.2.1 Continue to use the existing system of space along creeks, that is in public ownership, to develop a system of walking and cycling paths. Focus on improving its connectivity and integration with other parts of the City. The paths should:
- Provide continuous routes for travel on foot and bike with no barriers to access.
 - Avoid completely segregating pedestrian and vehicular travel routes from the heavy traffic of the main roads and highways.
 - Provide frequent connections to adjoining streets that provide a reasonable range of choice between paths.
- 3.2.2 To connect local creek corridors with the broader metropolitan system of waterways and trails to create a more extensive integrated system of pathways, open space and nature corridors.

3.3 Actions

- 3.3.1 Develop a master plan for each creek corridor or parkland area, focussing on development of a network of pathways that is fully integrated with the surrounding local streets.
- 3.3.2 Acquire, lease or license land to make, or to secure, important links ensuring a continuous network of pathways. This needs to address paths along the length of the creeks as well as providing frequent points of access to them.
- 3.3.3 Incorporate the objectives, strategies and design guidelines into the Knox Planning Scheme and other relevant Council strategies and guidelines.

3.4 Design Guidelines

- 3.4.1 Maximise the positive interaction between creeks or parks and local streets by:
- Extending local streets to and along the edges of the creek corridors where space permits.
 - Encouraging the provision of public access from streets to the creek corridor or parkland in new developments abutting the corridors and, wherever possible, additional public open space.
 - Ensuring that street networks in any new subdivision are linked to nearby creek corridors or open space systems at regular intervals. This would particularly apply where large areas flanking the creek corridor are available for development, and may also apply on a more limited basis along narrower reserves. Example sites include the comprehensive development zone along Corhanwarrabul

Creek, the rear of the Knox Central Activity Centre precinct fronting Blind Creek and Lewis Park.

3.4.2 Better integrate creek corridors with transport routes, and integrate paths along the creeks with public transport stops by:

- Linking any new public transport services to the creek corridors.
- Placing stops at points where the creeks intersect with transport routes.

3.4.3 Improve crossings where creeks intersect with main roads ensuring convenience, attractiveness and safety of use (both in relation to traffic safety and personal safety) by:

- Investigating the provision of signalised crossings at ground level.
- Investigating measures to ensure underpasses have generous head clearances and clear sight lines through them, and are well drained and well maintained.

Creeks as public space



When the landscape of creek corridors is not well developed, they fail to attract people.

When the landscape of creek corridors has been well developed, they can provide a focus for a wide variety of recreation activities.

3.5 Objective

- 3.5.1 To provide appropriate and accessible public settings for community social interaction and for a wide range of recreational activities on a local neighbourhood basis.
-

3.6 Strategies

- 3.6.1 Develop and improve the parks and public spaces along the creek corridors (and elsewhere) to accommodate a variety of recreational and social activities for the surrounding neighbourhoods. Their active use as ‘urban’ places should be encouraged. Key aspects of their development should include:
- Varying uses and development along the creeks. In some locations, such as nearby local centres and community facilities, it may be more appropriate to have relatively intensive uses. In other locations use and development may be geared towards more passive recreation.
 - Designing parks with an understanding of recreational needs.
 - Addressing development of spaces and facilities for local use rather than regional facilities that people must drive to. It would support the use of a walking network.

3.7 Actions

- 3.7.1 Prepare detailed masterplans for development of recreational spaces and parkland facilities along the creek corridors, aiming to maximise the value of this space for local communities.
- 3.7.2 Pursue initiatives with community organisations that build a sense of ongoing community involvement in the use of the open spaces, such as:
- Community tree planting days.
 - Community arts projects.
 - Links to school programs.
 - Establishment of Friends groups.
- 3.7.3 Incorporate the objectives, strategies and design guidelines into the Knox Planning Scheme and other relevant Council strategies and guidelines.
-

3.8 Design Guidelines

- 3.8.1 Maximise the level of activity and development that takes place along the creek corridors and next to parkland by:
- Developing a link between facilities in buildings on land adjoining the creek corridors and other open spaces.
 - Minimising impacts on environmental and bio-diversity values.
- 3.8.2 Maximise the level of activity that takes place along the creek corridors by:
- Providing community facilities and services in or near the open spaces at local activity centres.

- Developing key spaces to a relatively high standard to attract and support higher levels of use.
 - Accommodating complementary activities and facilities together.
- 3.8.3 Develop visual and active relationships between facilities in buildings on land adjoining the creek corridors and spaces along the creeks.
- 3.8.4 Ensure activity along creek corridors maintains a high level of amenity and has minimal impact on the environment.
- 3.8.5 Maintain good visibility of park spaces and facilities from walking paths and other spaces where activities occur.

Creeks as nature



Weed infestation of creeks is common, choking watercourses and discouraging native wildlife.

Creek corridors have great potential to become refuges of natural environment, benefiting local people and wildlife.

3.9 Objective

- 3.9.1 To enhance the green and leafy character of Knox, protect and re-create habitats for wildlife and use the visibility of water to enhance the natural cycles of the landscape.
-

3.10 Strategy

- 3.10.1 Restore and enhance the creeks as corridors of native bushland through Knox to complement its setting between the foothills and Dandenong Creek Valley.
-

3.11 Actions

- 3.11.1 Develop detailed policies and design guidelines focussing on storm water management techniques in the creek corridors that respond to environmental and aesthetic objectives that:
- Manage the creeks to allow water to be seen as a feature rather than treating them as engineered and sanitised drains.
 - Utilise detention and retarding basins as a positive feature of the landscape.
 - Utilise vegetation in relation to storm water flow, flooding and moisture conditions. Ensure compliance with the requirements of Melbourne Water.
- 3.11.2 Continue weed control and planting programs on an ongoing basis with local community groups, including removal of exotics and replacement with natives.

- 3.11.3 Incorporate the objectives, strategies and design guidelines into the Knox Planning Scheme and other relevant Council strategies and guidelines.
-

3.12 Design Guidelines

- 3.12.1 Improve quality and consistency of landscape design and development along the creek corridors by:
- Promoting the use of indigenous plants on private land adjoining the creek corridors.
 - Using local materials and indigenous vegetation to support the image of Knox's bushland setting.
 - Protecting and retaining existing remnant vegetation.
 - Setting and maintaining appropriate standards of landscape design, which appropriately respond to the nature of spaces and uses along the creek corridors.
 - Requiring exclusive use of indigenous vegetation in public parks, with plants suited to local soil and site conditions.
 - Encouraging functional, contemporary landscape designs to provide attractive and useful park spaces.
 - Using local materials and indigenous vegetation to support the image of Knox's bushland setting.
 - Protecting and retaining existing remnant vegetation.

Creeks as address



In Eltham, the town library is sited along the edge of a creek corridor reserve, nestled into a bush landscape, and providing an attractive destination for walkers and cyclists.

3.13 Objectives

- 3.13.1 To encourage interaction of public and private realms to support a richer range of experience in public spaces.
- 3.13.2 To use 'passive' surveillance and increased activity to make public spaces seem safe.
- 3.13.3 To improve the amenity of spaces to encourage their use.

3.14 Strategies

- 3.14.1 Improve the interface of development with the creek corridors and parks, and increase the concentration of adjoining development in key locations.
- 3.14.2 Encourage an increased use of the public space, to enhance its role for social and community activities, and to encourage walking and cycling as an alternative means of transport.

3.15 Actions

- 3.15.1 Develop and publish detailed guidelines for incremental improvement of existing development to present a more active and attractive interface to the public space.
- 3.15.2 Prepare a strategy for the development of key sites or local centres related to the creek corridors, where higher densities of development will be encouraged, community facilities located, and public spaces developed to support relatively high levels of use. These should be located at walkable intervals along the creeks, where important public transport routes intersect with the corridors, near local activity centres, and where opportunities arise. Some example sites include:

- Corhanwarrabul Creek and Stamford Park House and proposed Scoresby/Rowville Employment Precinct.
 - Knox City/Knox Civic Centre/Blind Creek precinct.
 - Burwood Highway/Ferntree Gully Recreation Reserve/Ferny Creek area.
- 3.15.3 Use the development of new Council facilities and Council-owned land to encourage desired outcomes in joint venture development schemes.
 - 3.15.4 Incorporate the objectives, strategies and design guidelines into the Knox Planning Scheme and other relevant Council strategies and guidelines.

3.16 Design Guidelines

- 3.16.1 Maximise the potential benefits arising from development along creek corridors or next to parkland by:
 - Ensuring that development adjoining creek corridors and parks present an active and attractive interface with the public space by fronting the corridor and using open style fencing.
 - Exploring development options for parts of public reserves in the widest areas (e.g. along Corhanwarrabul Creek) utilising higher-density residential/mixed use development oriented towards the open space.
 - Redeveloping properties at heads of cul-de-sacs to provide public access through to the creek corridors.
 - Encouraging residential development to overlook open spaces. Use careful differentiation of levels rather than high fences or blank walls to ensure privacy in adjoining development while creating a visual relationship that is close enough to support safety in the parkland.

- Limiting fence heights adjoining the creek corridors.
- Using relatively transparent fencing (e.g. wire) to maintain visibility.
- Opening up and orient ground floor activities in non-residential buildings to spaces along creeks and beside parks.
- Siting new community facilities within local activity centres (see relevant section) especially where they also have a connection to creek corridors.
- Designing new and improve existing public facilities adjoining creeks and parks so they provide active frontages onto the creek corridor.

Case Study 2: Residential interfaces with Creek Corridors

Improving access to, and safety within, creek environments



Residential interfaces with creek corridors



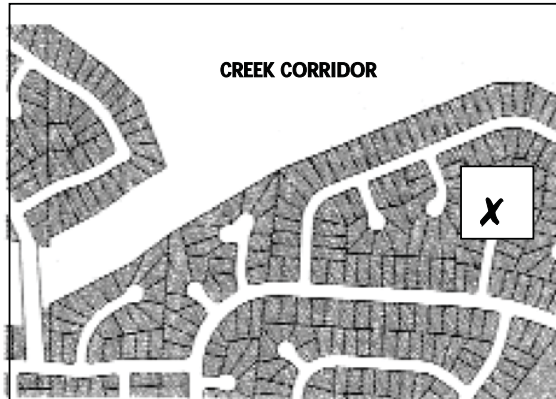
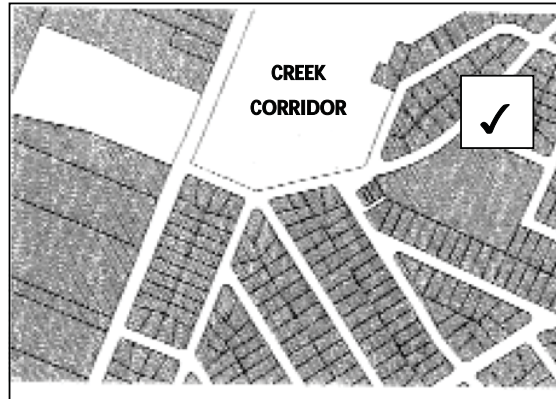
Residential areas in Knox often turn their backs to the creek, reducing the attractiveness of this potentially important open space resource.

Housing looking onto an attractive landscaped environment with water (in this case, Streeton Drive on Lower Plenty Road Yallambie).

Issues

Maximise the accessibility of public space along creeks in residential areas, improve the safety of open spaces and create more attractive frontages onto them.

These pictures are examples of existing subdivision patterns adjoining a creek corridor. The top one provides good accessibility to the open space and a local street at its edge and other streets provide direct access into the neighbourhood. The bottom example is more typical, with houses turning their backs on the open space and cul-de-sacs ending without providing through access, so the only access to the open space is at main roads. Even if walkways between properties were provided at some points, the street pattern would make these much less useable for local residents.



Concept

A mini-subdivision, with construction of a new local street along the creek, connections into the local street network, and a row of house sites addressed to the creek. Minimal provision of private open space would be appropriate given the site's access to parkland and terraces would be an efficient development model. This approach is appropriate where the creek corridor is wide, particularly where an irregular shape creates cut off and relatively unsafe corners of public space. It is not appropriate where the entire corridor is required as a floodway or where a good interface between housing and the open space is already provided.

- A detailed assessment of development potential along the creeks should be made. This should:
- Determine land ownership, leases, easements and access requirements.
- Consult Melbourne Water to determine floodway requirements and associated constraints. Identify areas surplus to drainage and floodway purposes.
- Audit accessibility and connectivity. Establish performance criteria (e.g. links between the creek corridors and local streets at every 100 metres). Identify key locations for improvement.
- Audit personal safety, considering hidden corners, visibility of activities from other areas, etc.
- Audit the quality of the interface between open spaces and adjoining properties, including visibility between buildings and public spaces, the legibility of the public/private threshold, and visual quality.
- Identify vegetation and wildlife habitat to protect.
- Assess existing and likely recreational uses. Assess recreation opportunities offered in nearby spaces.

- Objectives and recommendations of the Knox Bicycle Plan, Amendment C22—The Scoresby/Rowville Employment Precinct, and the Knox 2001/2010 Sustainable City Plan.

Key implementation stages would be:

- Conduct detailed analysis to identify potential development sites.
- Resolve land ownership and appropriate development approaches.
- Prepare indicative concept designs.

Community consultation should occur at each stage.

For sites on public land, Council could commission designs then tender for development interest, or seek a developer and designs at the same time through a tender process that includes design issues among the selection criteria.



A hypothetical example of new development at the edge of a creek corridor, with a new local street and new housing facing onto the open space.

Residential interfaces with creek corridors

How a creek corridor in Knox could look, with attractive housing facing the open space.



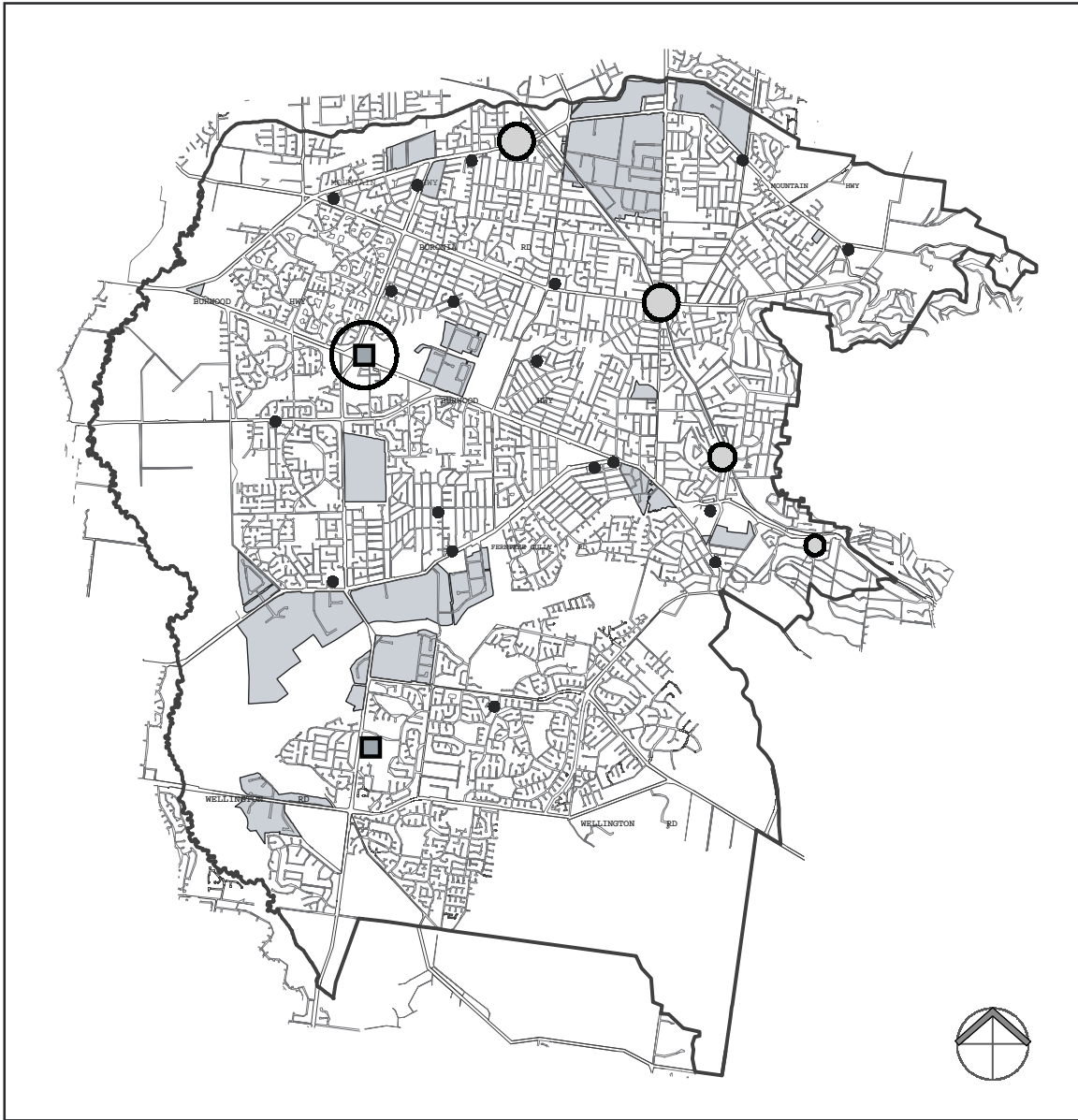
Activity Centres and Working Environments

Vision 2020...

activity centres have been transformed into the neighbourhood focal points of the Knox community.

Many of Knox's activity centres have become thriving, lively focal points for the surrounding community, with safe, convenient and attractive public environments and distinctive local identities. Other local community facilities help facilitate social interaction. Working environments are more diverse and sustainable.





Activity Centres and Working Environments

Legend	
	Railway Station-Based Activity Centre
	Local Neighbourhood Centres
	Industrial Areas or Office Parks
	Mall Style Activity Centres
	Knox Central Activity Centre
	0 1km 2km

Existing Conditions

Many different centres of business, industry, retail and cultural activity provide regional and local focal points within Knox. The original settlements focused on streets no more than a short walk from railway stations and key intersections. The use of cars played an increasing role as the City developed, and the resulting pattern of development with supermarkets, malls, and dispersed commercial strips along the highways now provides equally important areas for shopping and working. The increasing volume and speed of traffic on the main roads has fragmented many of the older centres, and made them less pleasant shopping environments.

The traditional walking environment of shop-lined streets differ to modern big box retailing surrounded by car parks on highway locations. Within both situations, it is important to provide quality, attractive and safe environments that are accessible by a range of transport modes including pedestrian, disability, bicycle, car and public transport access. It is also important to recognise the role of the main roads as conduits for huge volumes of traffic, which sometimes overwhelm their role in providing access to adjoining properties. Throughout Knox, there is a need to develop activity centres in response to the different roles of different types of streets: ranging from limited access highways to pedestrian-priority streets.

The particular character and identity of each activity centre is reinforced and is equally important. For example, protecting the village feel of Ferntree Gully activity centre in the bushy hillside setting or celebrating the distant view of the foothills from Bayswater activity centre.

Car driven based development has created a public realm that offers poor amenity for pedestrians, and resulted in a pattern of development that is difficult to service with public transport. Some areas lack vitality because of the low density of land uses. Generally, there is a

substantial oversupply of retail tenancies. In particular, in the northern parts of Knox where there are many poorly performing and marginal commercial properties.

Commercial strips along main roads and highways are mostly chaotic and ugly. Small shop fronts in the remains of old centres facing onto highways are impossible to appreciate from speeding cars and the proximity of traffic makes an unpleasant environment for shoppers. In the newer commercial strips, crossovers are often confusing and dangerous in high speed traffic, the proliferation of signage adds further confusion, and the most prominent ‘service’ on display is car parking.

In the older industrial areas the appearance and poor legibility of local streets result in a low profile and poor image. Unattractive frontages to main roads detract from the image of surrounding neighbourhoods as well. Newer developments, such as in Scoresby, often feature extravagant landscape settings but offer few alternatives to the car for transport. In both old and new industrial areas the provision for pedestrian access is typically poor. There is a need for better connectivity between industrial precincts and local centres.

Key Issues

Key issues to address in activity centres and working environments include:

- Consolidating more vibrant mixes of land uses in activity centres and developing synergies between transport nodes and activity centres.
- Improving the public realm for people on foot.
- Improving the appearance and functioning of commercial strip frontages to main roads.
- Encouraging industrial development that creates and benefits from quality urban environments.

These issues are developed in the following pages into objectives, strategies, actions and design guidelines for activity centres and working environments, under the following headings:

- Activity Centre Vitality
- Pedestrian Friendly Environments
- Commercial Strips
- Industrial Areas

Activity Centre Vitality



Frontages broken up by car parks, vacant sites and unattractive uses detract from the vibrancy of an activity centre.

A thriving activity centre has a wide variety of uses and activities concentrated into a compact area.

4.1 Objective

- 4.1.1 To develop more compact and lively activity centres that include a greater range of complementary activities as focal points for community life, as viable settings for business, and as focal points for public transport services.

4.2 Strategies

- 4.2.1 Encourage development of more viable mixes of land uses within activity centres by:
- Concentrating retail outlets into key areas.
 - Increasing the density of development close to railway stations.
 - Addressing larger-scale development to main road frontages.
 - Strengthening transitional land uses between activity centres and both residential neighbourhoods and industrial areas.
 - Locating public facilities where they are connected to pedestrian, cycle and public transport routes that link them to their local user base.
 - Developing car park strategies to enable a decrease in the number of car parks necessary at specific centres where there is an oversupply of parking or good public transport provision.
 - Locating public facilities within mixed-use developments, for example a branch library with residential above, or an arts centre above ground floor retail space.

- Designing facilities to provide a strong interface with surrounding development to support the interchange of activities.
- Selling or leasing land with development agreements that include measures for achieving design objectives for activity centres.
- Redeveloping under-utilised car parks for other uses that will enhance the vitality of activity centres, especially higher density housing.
- Redeveloping properties that have poorly orientated frontages (to main roads, local streets, creek corridors, and parks). For example, the Bayswater Community Arts Centre and the Council Depot behind the Civic Centre.

4.3 Actions

- 4.3.1 Relocate and redevelop local Council facilities from isolated sites into more central positions in activity centres.
- 4.3.2 Negotiate with the State Government, VicTrack and Connex Trains to redevelop undercapitalised land near railway stations, and work jointly with Connex to promote activity centres around railway stations and treat them as major gateways into Knox.
- 4.3.3 Redevelop Council-owned properties, either individually or in combination with adjoining properties, to achieve a mix of land uses that improves the vitality of the site. This could include joint venture schemes with private developers or programs developed in conjunction with agencies such as the Urban and Regional Land Corporation.
- 4.3.4 Undertake a review of activity centres in the municipality with a particular focus on rationalising the extent of business zones.

- 4.3.5 Incorporate the objectives, strategies and design guidelines into the Knox Planning Scheme and other relevant Council strategies and guidelines.

4.4 Design Guidelines

4.4.1 Consolidate development in activity centres by:

- Ensuring retail floor space in local centres is in proportion with the market.
- Consolidating retail activities into areas close to railway stations and other transport nodes, especially along streets with potential for improved pedestrian amenity.
- Redeveloping under utilised retail premises on the periphery of activity centres to other uses, including office space on main road frontages, higher density residential on local streets and industrial in industrial zones.
- Encouraging infill development of vacant sites and innovative development of car parks, to create pedestrian interest and active frontages onto local streets around activity centres.
- Developing higher density housing within or in proximity to activity centres to increase the local market linked to the activity centre.
- Encouraging medium to high density housing where appropriate, on poorly utilised land in activity centres.
- Encouraging a full range of commercial, entertainment, leisure, residential, local services and community uses to locate in the larger activity centres to reinforce their role as a community focus.

Pedestrian friendly environments



The public environment around many car park based centres is unattractive for pedestrians.



A safe, convenient and attractive pedestrian environment makes all the difference to the 'feel' of an activity centre.

4.5 Objective

- 4.5.1 To improve activity centres as attractive settings for pedestrians and make shops and services more accessible for local residents and workers.
-

4.6 Strategies

- 4.6.1 Improve the attractiveness of streets and other public spaces in and around activity centres.
- 4.6.2 Enhance walking and bicycle routes between activity centres and surrounding neighbourhoods.
-

4.7 Actions

- 4.7.1 Negotiate with VicRoads to improve pedestrian crossing facilities of main roads, through installation of new pedestrian signals and improved signal phasing.
- 4.7.2 Undertake programs of streetscape works to:
- Plant trees, particularly clean-trunked canopy trees rather than shrubby material, to provide shade, shelter and a sense of pedestrian scale, while maintaining views of shops and providing a more secure environment.
 - Improve public lighting, particularly aiming to provide even distribution of light, to minimise glare.
 - Provide street furniture, especially seating, to support pedestrian activity in streets. Ensure furniture is robust and can be maintained in good condition.
 - Use shared signage to promote the centre and reduce visual clutter.

- 4.7.3 Incorporate the objectives, strategies and design guidelines into the Knox Planning Scheme and other relevant Council strategies and guidelines.
-

4.8 Design Guidelines

- 4.8.1 Improve the safety, efficiency and amenity of pedestrian movement and public spaces by:
- Encouraging safe pedestrian links between car parking areas and the frontages to the shopping centre.
 - Lining pedestrian routes with active uses such as shops and cafes to contribute to their interest and safety.
 - Limiting car park frontages and vehicular crossings along key pedestrian routes.
 - Linking pedestrian and bicycle routes through to activity centres.
 - Ensuring that visibility is maintained between pedestrian spaces and nearby development to enhance safety and interest.
 - Integrating mixed uses within activity centres to improve pedestrian access. Avoid ground level car parks and other barriers to enhance pedestrian activity.
- 4.8.2 Improve activity centre amenity by:
- Placing buildings at the front title boundary in strip shopping centres to ensure continuity of the street facade.
 - Orientating shops and other uses directly to the public footpath rather than turning inwards toward malls or courtyards.

- Providing active frontages onto public spaces at pedestrian level with windows, doors, shop fronts and interesting uses wherever possible.
- Providing weather protection such as awnings along key pedestrian routes.
- Providing quality architecture that contributes to the interest and character of the streetscape.

4.8.3 Improve the safety, efficiency and amenity of pedestrian movement and public spaces by:

- Ensuring convenient, attractive and safe pedestrian routes are provided to train stations from all directions.
- Establishing new rights-of-way in adjoining properties if no convenient route exists (e.g. east of Bayswater Station).
- Improving the quality of pedestrian spaces in three dimensions rather than focussing on decoration.
- Giving priority to widened footpaths, safer crossings, spaces to sit and meet, and shade, rather than to decorative pavements or features.
- Integrating any public art with the layout and scale of the centre.

Commercial strips on main road frontages



Commercial activities lining Knox's main roads take many forms, and they often present an unattractive or 'place-less' image of Knox.

4.9 Objective

- 4.9.1 To improve the amenity and appearance of development fronting onto main roads.
-

4.10 Strategies

- 4.10.1 Encourage the built form and character of development, including landscape treatments, to respond to the width of main roads and highways and traffic volume.
- 4.10.2 Encourage buildings to be orientation in such a way that presents a positive and lively image of urban activity.
-

4.11 Actions

- 4.11.1 Negotiate with VicRoads to adopt and implement design standards for the treatment of the roadway and adjoining public reserves (see Bush Boulevards section).
- 4.11.2 Incorporate the objectives, strategies and design guidelines into the Knox Planning Scheme and other relevant Council strategies and guidelines.
-

4.12 Design Guidelines

- 4.12.1 Ensure efficient and effective long-term management of commercial strip development by:
- Setting buildings and car parking areas back from main roads, with service roads where appropriate.
 - Designing frontage setbacks with simple legible layouts and avoid small-scale plantings or landscape features.

- 4.12.2 Ensure appropriate building front setback distances by:

- Adopting a consistent setback along each road to create a consistent alignment of building facades, footpaths and, along major highways, service roads.
- Determining setbacks in the context of each site and adjoining development, however setbacks will typically average:
 - Bush Boulevards [Category 1 Roads]: 20 metres
 - Principal Avenues [Category 2 Roads]: 7.5 metres

- 4.12.3 Maximise pedestrian efficiency and safety by:

- Providing good quality pedestrian routes through frontage setbacks including access from the street to the building, and, wherever possible, connecting to pedestrian routes and spaces in adjacent properties.
- Minimising the number of driveways and access points onto main roads, using shared driveways and service lanes where possible.

- 4.12.4 Maintain high standards of amenity within each commercial strip by:

- Locating security fencing behind the building line if possible, and use relatively transparent designs (wire mesh or steel pickets) finished in dark colours, that are characteristic to the area to reduce its prominence.
- Designing signage to complement the architecture of the buildings.
- Using medium to large clean-trunked canopy trees rather than small shrubby material to enable clearer views to displays and buildings and to provide a scale of vegetation that is in proportion to the width of the road.

Industrial areas



Yards, fences and parking areas like this should be kept out of view where possible.

It is important for industrial areas to present a positive image to major road frontages.

4.13 Objective

4.13.1 To create a more sustainable industrial employment and economic base in Knox, and to improve the integration of industrial activities with adjoining areas.

4.14 Strategies

- 4.14.1 Encourage development of industrial areas to create campus-like precincts with:
- Perimeters along main road frontages defined by prestige facilities and well-planted setbacks.
 - Compact internal arrangements providing for efficient land use, quality public circulation spaces, and facilitating use of public transport by employees and visitors.
-

4.15 Action

4.15.1 Incorporate the objectives, strategies and design guidelines into the Knox Planning Scheme and other relevant Council strategies and guidelines.

4.16 Design Guidelines

- 4.16.1 Ensure efficient and effective long-term management of private industrial development by:
- Locating complementary businesses in the area.
 - Retaining large lots and by encouraging consolidation of small lots along main roads.

4.16.2

Ensure that buildings have minimal impact on the streetscape and environs by:

- Setting back buildings and car parking areas along frontages to main roads, parklands, residential streets and commuter rail lines, nominally 20 metres minimum from Category 1 Roads, parkland and rail lines, and 7.5 metres from Category 2 Roads (to be qualified in relation to the character of the particular area).
- Minimising setbacks or align buildings with the property boundary along frontages to local streets with industrial uses on both sides, to create a continuous street-wall (to be determined in relation to the character of the particular area).
- Orienting buildings, particularly their entrances, to provide good definition of local streetscapes.
- Designing building frontages to contribute to a framework of legible, pedestrian-friendly streets, particularly on routes to railway stations and other transport nodes.
- Aligning buildings in large industrial complexes to one property, to create street walls along local roads and ensure these streets incorporate space for footpaths, tree planting, etc.
- Planning buildings and facilities compactly within each industrial precinct, so land is used efficiently.
- Minimising decorative open space except along main road frontages (enhance the image of industrial facilities through architectural quality of the buildings instead).

- Planning car parks, loading docks and storage yards to minimise their size and impacts on industrial precincts.
- Providing high quality landscape treatments in setbacks, dominated by vegetation, preferably indigenous species.
- Using large canopy trees for planting in preference to smaller ornamentals to maximise impacts while minimising maintenance requirements.
- Providing high quality architecture (along main roads in particular) to create a positive image of the industrial precinct and adjoining public spaces.
- Hiding unsightly areas and waste bins. Storage yards (sometimes termed ‘display areas’) should be behind buildings, rather than at the front.
- Incorporating signage into the architectural design of the building.

4.16.3 Lessen the visual impact of fencing by:

- Using only low fences, or preferably none, along public frontages. Coat fences a dark neutral colour to reduce their visual impact.
- Confining high fences to visually unobtrusive areas. Minimise their extent by using buildings as part of the enclosure for secured areas.
- Ensuring adequate on-site car parking and vehicle circulation areas
- Ensuring that development along creek corridors presents an attractive inter face with the public space.

Transport Corridors

Vision 2020...

travelling through Knox presents a 'green, leafy' outlook.

Main road and rail reserves contribute to a positive landscape identity for Knox, with attractive tree-lined avenues and bush landscapes.





Transport Corridors

Legend	
	Rush Routes
	Gateway Routes
	Principal Avenues
	Path into the Hills
	Rail Corridor
	Future Route of Scoresby Integrated Transport Corridor

0 1km 2km

Existing Conditions

The City of Knox is crisscrossed by a loose grid of main roads that slice the municipality into separate residential neighbourhoods. The City first developed around the railway stations on the Belgrave line, then spread westward towards Dandenong Creek.

The view from the roads and rail routes through Knox is important in defining the image of the municipality. In many cases this is the only view of the City outsiders will see. Entry or gateway routes are particularly important where the distinctiveness of Knox can be identified. The roads and railway expose Knox's landscape, namely the creek floodplains, the gently rolling country of the middle ground and the foothills to the Dandenong Ranges.

Council has the opportunity through this Framework to achieve the panel recommendations of the Scoresby Transport Corridor Environmental Effects Statement. Some of these recommendations include the development of an integrated public transport network, the preparation of an Environmental Management Plan and establishing an Implementation Consultation Committee to provide input into the detailed design of the Freeway. These recommendations will need to take into account the possible railway corridor from Huntingdale Station to Rowville, and the extension of the Burwood Highway light rail from Vermont South to Stud Road.

Key Issues

Key issues to address in transport corridors include:

- Revealing and expressing the underlying landscape character of the city.
- Linking the landscape of the suburb to the landscape qualities of the hills.

- Expressing a positive, green and leafy image of Knox.
- Making better use of public land resource of transport corridor reserves.
- Facilitating and encouraging transport choice throughout the municipality.

These issues are developed in the following pages into objectives, strategies, actions and design guidelines for transport corridors, under the following headings:

- Bush Boulevard
- Gateway Route
- Principal Avenue
- Path into the Hills
- Rail Corridor
- Scoresby Corridor

The first three themes need to be considered together for the major east-west routes, as they each apply to a different section of the route. Bush Boulevard refers to the treatment of the road corridor through the bulk of the city. Gateway Route refers to the crossing of the Dandenong Creek Valley. Path into the Hills refers to the eastern-most section of the corridor, where it begins to enter the foothills of the ranges.

The strategies for the Bush Boulevard, Gateway Route, Principal Avenue, Path into the Hills, Rail Corridor and Scoresby Corridor are to include the following landscape treatment criterion:

- Relate the landscape of main roads to the topographic and landscape character of the area through which they pass.
- Maintain a consistent planting type within single landscape character areas using techniques such as a single dominant tree theme.

- Emphasise formality of landscape style, openness and visibility where roads pass through activity centres and areas where pedestrian safety is an issue.
- Screen unattractive buildings and developments with planting. The planting style should complement the corridor theme.
- Integrate the siting and size of advertising signs, buildings or other structures with the landscape theme. A consistent building setback is important in achieving a formal avenue effect. Large advertising signs need to be sited carefully to avoid detracting from the landscape theme.
- Protect existing remnant indigenous vegetation. Remnant vegetation provides an important link to the underlying landscape character, and should be consolidated into landscape design proposals.
- Ensure buildings face the road and contribute to (where relevant) a pleasant, safe and convenient pedestrian environment. For example, avoid where possible roads lined by back fences, and inwardly focussed commercial buildings separated from the footpath by car parks.
- Place power lines and other overhead wires underground, or at least bundled, along all main roads. Give priority to locations where wires or other services (e.g. pipes) inhibit the growth of trees.
- Integrate any special local treatments with the overall landscape theme for the corridor. It may be desirable to emphasise the 'nodal' quality of key intersections and roundabouts, or to upgrade the quality of streetscapes at activity centres.
- Reveal the presence of natural features such as creeks and changes in topography. This can be achieved by, for example, opening up (rather than obscuring) views into parks and waterways.

Bush Boulevards



In many locations at present there is a great potential to improve the landscaping of these important features.

Knox's east-west arterial roads, many of which have wide reservations, can be planted as 'Bush-Boulevards' with informal avenues of native trees, linking the City's landscape to the hills.



5.1 Objective

- 5.1.1 To link the landscape corridors of Knox to the landscape of the hills with visually appealing road corridors that reflect the landscape character of the area.

5.2 Strategy

- 5.2.1 Transform the east-west main roads and Stud Road into 'Bush Boulevards', with extensive native planting, as a way of expressing the landscape transition between the edge of the suburbs and the Dandenong foothills.

5.3 Actions

- 5.3.1 Negotiate with VicRoads to implement street work programs to line all Bush Boulevards with large canopy native trees and appropriate under storey vegetation, as elaborated in Case Study 3 - Burwood Highway. The work programs are to:

- Maintain a consistent planting type based on landscape character using such techniques as a single dominant tree theme.
- Establish a dominant native or indigenous tree type, planted with a loose regularity rather than in a formal avenue, accompanied by several species of native or indigenous under storey vegetation.
- Utilise more formal planting arrangement along roads that pass activity centres.
- Protect and enhance existing remnant indigenous vegetation within road reservations.

- Place powerlines and other overhead services underground (or at minimum bundle the cables).
- Utilise clean trunked trees that enable views to be maintained across roads ensuring safety and greater visibility for commercial premises.
- Develop a Memorandum of Understanding regarding the orientation of activities, access and appearance of the roadway edges.
- Agree on standards and support for any Council actions regarding the treatment of the roadway, planting and maintenance.
- Prioritise lengths of road that exhibit poor street planting, limited integration between the public and private realm and unappealing street frontages.
- Use public art sparingly to assist with the orientation or express character of place, and ensure it is of a scale appropriate to a high speed driving environment.
- Establish on-road bicycle lanes in conjunction with VicRoads, to provide safe and direct travel corridors for cyclists.
- Develop shared paths in vegetated road reserves to provide pleasant and direct travel corridors for alternative modes of travel.
- Encourage pedestrian networks adjacent to Bush Boulevards to improve the perceived roadside vitality.
- Consult with Adshel to obtain consistent bus shelters in character with the street.
- Investigate the use of coloured pavement markings, eg. a green line, around bus shelters to improve the roadside amenity for waiting passengers.

- Encourage unique Knox street signage themes.

5.3.2 Incorporate the objectives, strategies and design guidelines into the Knox Planning Scheme and other relevant Council strategies and guidelines.

5.4 Design Guidelines

5.4.1 Emphasise views to the Dandenongs, increase pedestrian safety and encourage more attractive development along the road corridors.

5.4.2 Enrich the appearance of development lining Bush Boulevards by:

- Encouraging redevelopment of residential and other uses adjacent to major roads so that they can be re-oriented to address the roadway frontage. This may require negotiation with VicRoads in some cases, and the installation of service roads.
- Creating a more distinguishable edge for activity centres, with consistent built form, heights and setbacks.
- Avoiding further residential development that backs onto the road. Where this has already occurred, screen unattractive or inappropriately positioned buildings and developments with planting.
- Developing landscaping on private land that complements the Bush Boulevard character, and protect existing remnant indigenous vegetation.

5.4.3 Prevent the intrusion of advertising signs into key view lines and valued creek valleys by:

- Designing front setbacks with simple legible layouts and avoiding small-scale plantings or landscape features.

- Adopting a consistent setback along each road to create a consistent alignment.
- Determining setbacks in the context of each site and adjoining development, however setbacks will typically average 20 metres.
- Minimising the number of driveways and access points onto main roads, using shared driveways where possible.
- Locating security fencing behind the building line if possible, and use relatively transparent designs (wire mesh or steel pickets) finished in dark colours to reduce its prominence.
- Designing signage to complement the architecture of the building.
- Using medium to large clean-trunked canopy trees rather than small shrubby material to enable clearer views to displays and buildings and to provide a scale of vegetation that is in proportion to the width of the road.

Gateway routes



Some roadside treatments alongside these important gateways obscure the presence of the creek valley, with its broad landscape.

The crossing of Dandenong Creek Valley provides a natural gateway into Knox. There is potential to open up views of the creek valley from the road.

5.5 Objective

5.5.1 To enhance the landscape qualities of key entry points to the City across the Dandenong Creek Valley.

5.6 Strategies

5.6.1 Emphasise the landscape quality of the Dandenong Creek Valley as a wide, green pastoral break separating Knox from the continuous eastern suburbs of Melbourne.

5.6.2 Take advantage of the rural views along the floodplain of the Dandenong Creek identifying the remnant grazing and horticultural landscapes that once separated Melbourne from the Dandenong Ranges.

5.7 Actions

5.7.1 Prepare a road corridor master plan that incorporates the full length of the road. The design must:

- Integrate the landscape character of the Dandenong Creek Corridor
- Ensure views into the linear park and waterway are maintained by open planting by providing ‘transparent’ barriers or balustrades to pedestrian bridges.
- Bring associated riverine planting up to the roadway where the road crosses the creek to enhance the presence of these open space systems.
- Encourage the planting of naturalistic groups of tree and shrub plantings and avoid avenue planting to reflect the pastoral landscape that the road passes through.

- Protect existing remnant indigenous vegetation within road reservation.
- Use grass swale drains for drainage to minimise stormwater run-off and to provide water for roadside planting.
- Place powerlines and other overhead services underground (or at minimum bundle the cables).

5.7.2 Prepare an agreement with the State Government on standards and support for any Council actions regarding the treatment of the roadway, planting and maintenance.

5.7.3 Incorporate the objectives, strategies and design guidelines into the Knox Planning Scheme and other relevant Council strategies and guidelines.

5.8 Design Guidelines

5.8.1 Protect and enhance views from the roadway by:

- Protecting the landscape quality and key views of the creek valley from intrusion by signs, buildings or other structures.
- Avoiding inappropriate use of signage including public signs and small scale gateway feature works to private property.
- Screen existing unattractive buildings and developments by planting. (Refer to Bush Boulevard and Dandenong Creek design guidelines for more guidance).

Principal avenues



Underground of powerlines (or at least bundling of cables to allow for tree growth) should be a priority on major routes through Knox.

North-south main roads in Knox generally have narrower reservations, but there is often still sufficient space to plant a row of medium size avenue trees.

5.9 Objective

5.9.1 To improve the landscape quality of main roads.

5.10 Strategies

5.10.1 Improve the avenue planting of Knox's north-south secondary main roads by introducing greater consistency of siting, spacing and species selection of vegetation, and greater continuity of treatment.

5.10.2 Achieve consistency and continuity of tree size, species and spacing by reviewing the physical route characteristics and traffic patterns of complete corridors.

5.10.3 Implement consistent planting to help diminish the dominance of built form and power lines.

8.10.4 Enhance pedestrian and bus passenger safety.

5.11 Actions

5.11.1 Negotiate with VicRoads to develop a road corridor master plan for each Principal Avenue. A desirable outcome for all Principal Avenues will see:

- Decreased dominance of building form and overhead powerlines.
- Creation of unified native planting along routes.
- Greater safety for pedestrians and bus passengers.

5.11.2 Negotiate with VicRoads to achieve positive landscaping techniques along each Principal Avenue by:

- Maintaining a consistent planting type through any single landscape character area using such techniques as a single dominant theme tree (avoid exotic tree species).
- Planting a consistent avenue tree plantings where space is restricted within narrower road reservations.
- Using lower growing species more closely spaced in roadside verges where overhead services are present.
- Using larger species with appropriate pruning where ariel bundled cabling is undertaken.
- Protecting existing remnant indigenous vegetation within road reservation.
- Integrating special design focal planting treatments at key intersections, roundabouts and other traffic management installations with the overall theme for the avenue.
- Placing powerlines and other overhead services underground (or at minimum bundle the cables).

5.11.3 Incorporate the objectives, strategies and design guidelines into the Knox Planning Scheme and other relevant Council strategies and guidelines.

5.12 Design Guidelines

5.12.1 Maximise amenity along each Principal Avenue by:

- Protecting the landscape quality and key views particularly along key creek valleys from intrusion by advertising signs or inappropriately sited buildings.
- Avoiding residential development which backs onto the road in new development areas.

- Designing front setbacks of development with simple legible layouts and avoid small-scale plantings or landscape features.
- Adopting a consistent front setback along each road to create a consistent alignment.
- Determining setbacks in the context of each site and adjoining development, however setbacks will typically average 7.5 metres.
- Minimising the number of driveways and access points onto main roads, using shared driveways where possible.
- Designing signage to complement the architecture of the building.
- Screening existing unattractive buildings and developments by planting. (Refer to sections regarding Activity Centre vitality, Public Environment, Commercial Strips and Industrial Areas for activity centres, highway commercial and industrial uses which abut Principal Avenues.)

Path into the hills



Many of Knox's east-west roads become 'paths into the hills' as they leave the eastern edge of the suburb. Both these views show roads that integrate well with the natural environment.

5.13 Objective

- 5.13.1 To integrate roads into the landscape of the hills and reinforce the distinctiveness of leaving Melbourne and entering the Dandenong Ranges.
-

5.14 Strategies

- 5.14.1 Reinstate the 'Path into the Hills' character of these routes by integrating their alignment, edge treatment and planting with the topography and planting of the hills environment.
- 5.14.2 Achieve a winding road enclosed by a native vegetative canopy by preventing road widening, loss of vegetation, excessive amounts of exotic vegetation, a large number of power lines and inappropriate development adjacent to the road.
-

5.15 Actions

- 5.15.1 Incorporate the design of the 'Path into the Hills' as an extra section of the Principal Avenue or Bush Boulevard road master plans.
- 5.15.2 Adopt standards of street lighting as well as private domain lighting that minimise light spill and glare to maintain a night-time contrast between foothills and suburbs.
- 5.15.3 Incorporate the objectives, strategies and design guidelines into the Knox Planning Scheme and other relevant Council strategies and guidelines.
-

5.16 Design Guidelines

- 5.16.1 Increase amenity of the 'Path into the Hills' by:
- Avoiding dominant signage within the road reserve and within adjacent properties.
 - Encouraging buildings and private landscape adjacent to the road that has a 'Dandenong Ranges character' (i.e. low site coverage, height below tree canopy, heavily planted grounds, non-suburban style).
 - Minimising exotic vegetation within the private domain.
 - Minimising the visibility of development from the roads through siting, access and planting design. (Refer to the Residential Foothills section for residential development which abuts this road typology.)
 - Avoid excessive construction of road edges and retain rural road 'feel'.
- 5.16.2 Utilise appropriate vegetation that matches the foothills landscape character by:
- Using exclusively indigenous vegetation within road reserves.
 - Retaining all existing indigenous vegetation particularly canopy trees.
 - Retaining closed canopy of trees where ever possible.
 - Informal site planting.

Rail Corridor



Many parts of the rail corridor through Knox already have an attractive landscape character, and there is potential to extend these treatments into a continuous bushland habitat.

5.17 Objectives

- 5.17.1 To enhance the use of railway reserves as flora and fauna corridors.
- 5.17.2 To treat railway stations and their environs as major gateways into Knox.

5.18 Strategies

- 5.18.1 Design rail corridors to incorporate landscaping design that reinforces the bushland corridor character.
- 5.18.2 Design the public domain to integrate land owned by the Metropolitan Transport Authority and Knox City Council.
- 5.18.3 Encourage development of a positive bush setting for rail lines and parallel bike paths.
- 5.18.4 Avoid development on adjoining land that produces views from the train dominated by back fences, the rear of buildings, or unattractive building design.
- 5.18.5 Redevelop undercapitalised land near railway stations.
- 5.18.6 Promote activity centres around railway stations and treat them as major gateways into Knox.

5.19 Actions

- 5.19.1 Establish a level of understanding with Connex and VicTrack on the design, development and maintenance of the rail corridor.
- 5.19.2 Establish preventative measures to discourage graffiti at railway stations.

- 5.19.3 Negotiate with the State Government, VicTrack and Connex Trains to redevelop undercapitalised land near railway stations. Provide major transport interchanges with well lit, secure and comfortable waiting areas serviced by real time passenger information.
- 5.19.4 Work jointly with Connex to promote activity centres around railway stations and treat them as major gateways into Knox. A demonstration project at Bayswater should be given priority.
- 5.19.5 Incorporate the objectives, strategies and design guidelines into the Knox Planning Scheme and other relevant Council strategies and guidelines.

5.20 Design Guidelines

- 5.20.1 Improve the amenity and maximise the potential of the entire rail corridor as a valuable public open space area by:
 - Transforming and utilising rail corridors as attractive natural settings that reflect the character of the municipality.
 - Adopting an indigenous planting theme and build on the remaining flora and habitats.
 - Planting indigenous species along the rail corridor including canopy trees and where appropriate understorey planting.
 - Developing complementary tree planting themes with adjoining parks and streets.
 - Using planting to screen out unsightly buildings, rear fences and structures from the train view.

- Promoting the image of each railway station as a focal point through the urban design treatment and integrate with the town centre urban design masterplan.
- Continuing to promote the railway reserve as a walking and bicycle link between parks, activity centres, schools and other bicycle and walking trails.
- Protecting and enhancing the existing remnant stands of indigenous vegetation.
- Maintaining a weed and fire management strategy for the full length of the rail corridor.

Scoresby Corridor



High sound attenuation walls bordering a freeway interrupt the flow of the landscape and cut people off.

Freeways cut into the landscape, below natural ground level, allow for easier pedestrian movement and maintain the flow of topography and vegetation.

5.21 Objectives

- 5.21.1 To ensure that the opportunities associated with the design and construction of the Scoresby Integrated Transport Corridor:
- Add positively to the image of Knox and its landscape character.
 - Maximise positive environmental benefits for the Dandenong Creek Valley.
 - Address a broad range of urban design issues associated with such a major public works project.

5.22 Strategies

- 5.22.1 Design freeway and associated road and public transport works so that they:
- Maximise physical and psychological connections between the metropolitan park and the adjoining living and working environments of Knox.
 - Create advertising and development controls to ensure that development addresses the freeway and parkland environments in a positive manner.
 - Minimise waste of land.
 - Protect adjoining areas from noise.
 - Ensure that any conspicuous structures are designed to high standards and minimise the visual impacts of structures and signage as much as possible.
 - Shape and plant verges in keeping with the intended character of the metropolitan park.

- Control associated development and advertising.
- Maximise the aesthetics, safety and functionality of interchanges around Scoresby Corridor to encourage transport choice.

5.23 Actions

- 5.23.1 Negotiate with VicRoads to ensure the application of the following guidelines in the design and construction of the new Mitcham to Frankston Freeway and associated road is feasible.
- 5.23.2 Incorporate the objectives, strategies and design guidelines into the Knox Planning Scheme and other relevant Council strategies and guidelines.

5.24 Design Guidelines

- 5.24.1 Minimise undesirable patterns of advertising signs and development adjacent to the Mitcham to Frankston Freeway by:
- Minimising the height and visibility of road structures and signs (other than for road safety and direction purposes).
 - Designing commercial and industrial buildings adjoining the east side of the freeway to create a strong visual address towards the freeway, presenting an attractive image of the area and assisting in orientation for drivers.
 - Providing high standards of architecture for buildings visible from the freeway.
 - Ensuring sky signs and billboards are not visible from the freeway.

- Integrating any corporate signage on buildings with the architectural design.

5.24.2 Minimise barrier effects upon pedestrians, cyclists, traffic and the general community by:

- Providing pedestrian and cycle crossings over or under the freeway at relatively frequent intervals, and especially where linear parks along creek corridors cross the freeway and allow for wildlife links.
- Incorporating public transport improvements along the freeway reserve.
- Ensuring that the proposed light rail extension from Vermont South to Knox City, any future light rail extension along other roads in the City of Knox, and the proposed rail extension to Rowville, are developed in a style that respects the character of the surrounding municipality.
- Placing the freeway in cuttings as much as possible in order to minimise the perceived barrier it creates.
- At intersections excavating the freeway below existing roads if possible. If overpasses are required, take particular care in their design to ensure their visual quality supports their role as ‘gateways’ into Knox and contributes to the experience of travelling to the Dandenong Ranges.

5.24.3 Minimise the extent of land impacted by the Mitcham to Frankston Freeway by:

- Minimising the extent of land lost to the Dandenong Valley Park as well as to productive land uses to the east.

- Ensuring that any remnants of properties acquired for the Mitcham to Frankston Freeway but not used in their entirety are useable.
- Annexing remnant sites on the west side of the freeway to the metropolitan park. If necessary, acquire additional adjoining sites to amalgamate with small leftover land fragments.

5.24.4 Maximise positive and minimise negative impacts upon amenity and the environment by:

- Minimising noise impacts on parks and other adjoining land uses.
- Providing well-planted verges, using indigenous vegetation.
- Where fences are required, minimising their height, use dark finishes and screen with vegetation to reduce their visual impact.
- Where possible, combining fences with noise attenuation walls.
- Where appropriate, providing views from the freeway of the landscape and built form through which it passes.

Case Study 3: Burwood Highway

Creating a 'Bush Boulevard'

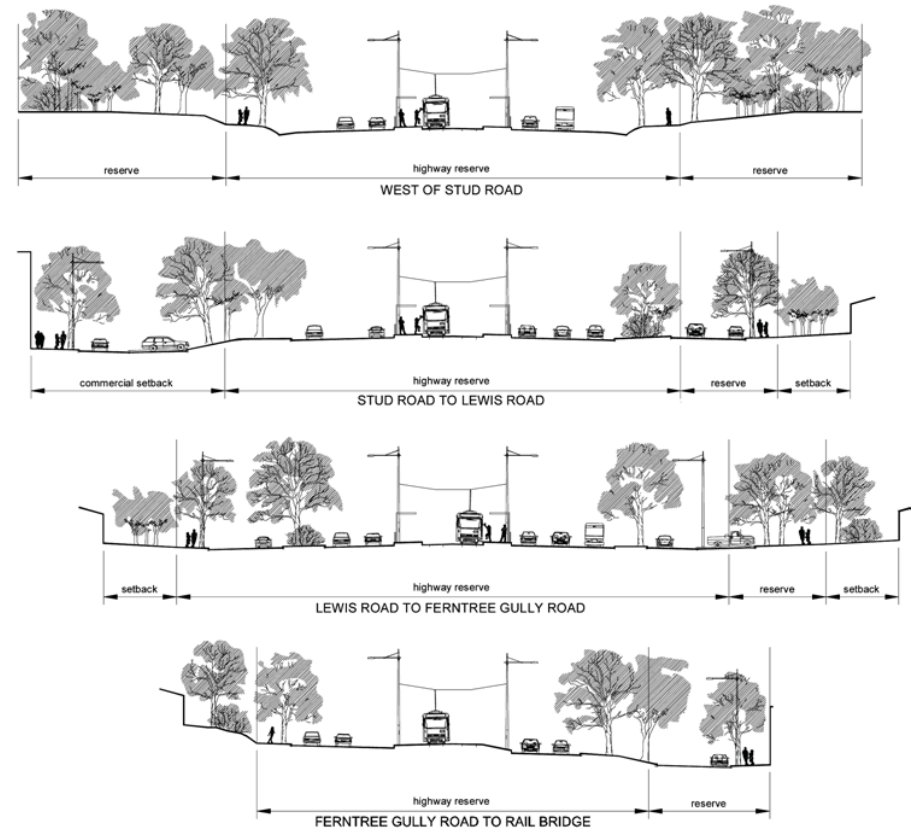


Issues

The width and design of the road reserve, land uses and frontage patterns vary considerably along Burwood Highway. There are four sections of the highway, each with a characteristic width and layout (although conditions vary). The four sections are illustrated, with the proposed tramway and recommended plantings.

Principles for the treatment of Highway include:

- The edge of the road reserve should run in a consistent alignment without sharp dog-legs or sudden variations in width in any one area. Properties should be acquired as necessary to regularise the road's width and alignment, and to allow completion of service roads.
 - Service roads and footpaths, as well as parking, should be provided in setbacks on commercial properties, and should be aligned with those on adjacent properties. Where possible, access points from the highway onto the service roads should be shared between multiple properties.
 - High priority should be given to under-grounding power lines to allow tree planting.
 - Allow for construction of a new tramway.
 - Use locally indigenous species for all planting. Plant extensively and aim for large-scale effects using massed canopy trees rather than small decorative garden beds and similar features.
 - Plant only canopy trees between footpaths and the roadway, and in front of commercial properties, to allow views through. Plant canopy and understorey species in other areas including residential frontages as space allows.
- Minimise signage and advertising to reduce clutter. Develop combined signage at access points to service roads for all shops in activity centres.



A continuous 'Bush Boulevard' treatment along Burwood Highway, with or without the projected tram extension, would enhance its image as the City's premier transport corridor, linking it to the landscape of the Dandenong Hills.



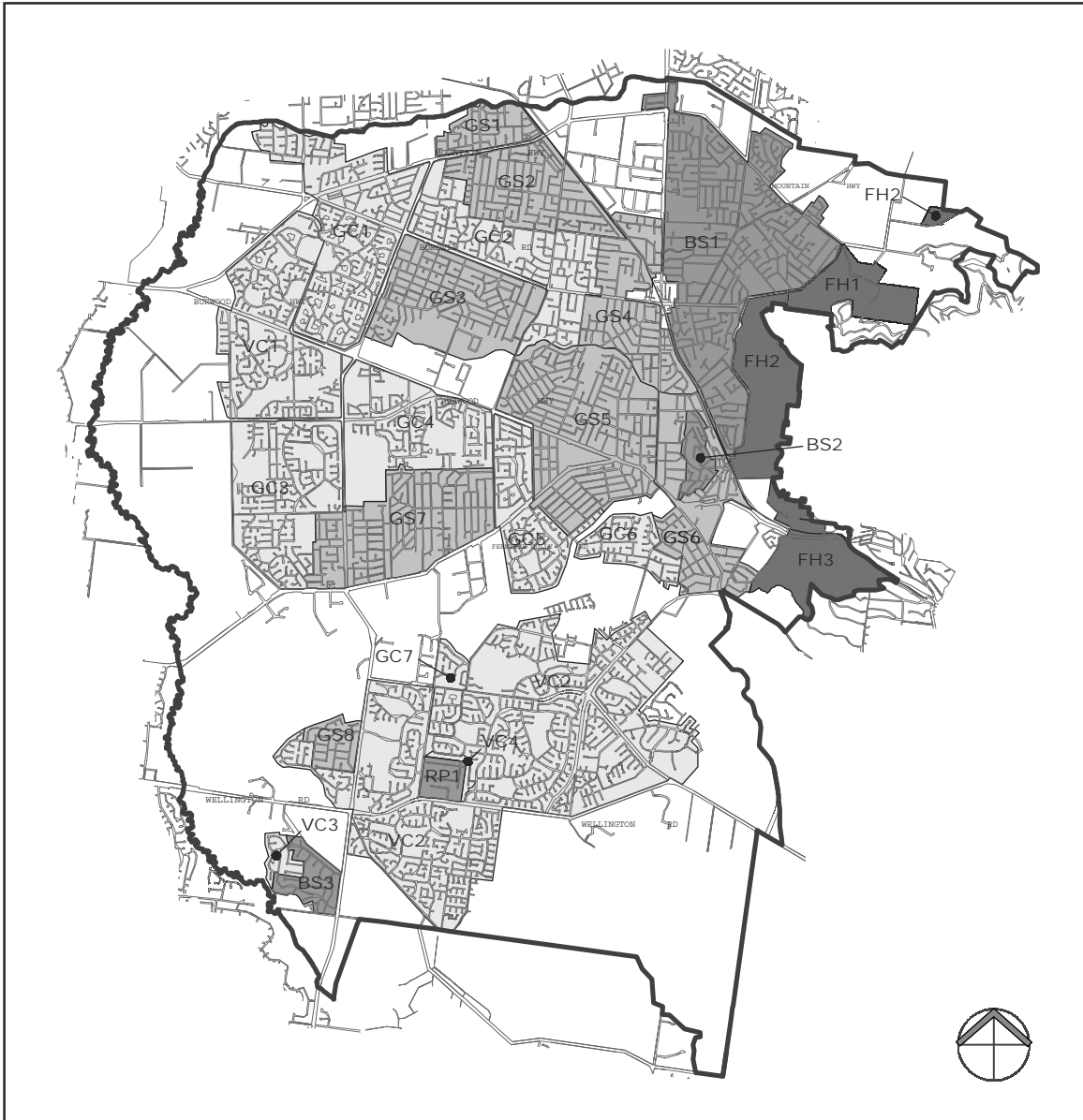
Residential Environments

Vision 2020...

Knox's residential communities each embody a clear identity and character.

The residential suburbs have continued to evolve and change in a way that has strengthened the distinctive characteristics of each neighbourhood.





Residential Environments

Legend	
FH	Foothills Residential
BS RP	Bush Suburban / Rural Parkland
GS	Garden Suburb
GC VC	Garden Court / Villa Court

Existing Conditions

The City of Knox began its development as a series of smaller settlements focussed around each of the railway stations. Post war particularly in the 1970s development accelerated back to meet the outward growth of the eastern suburbs of Melbourne. In the south the Rowville development is a natural progression of Melbourne's south easterly expansion. The character of the urban areas reflects these waves of development and the design fashions of each era.

The residential character ranges from typical foothills style as witnessed in The Basin through to 1970s suburbs with a predominance of detached dwellings, earth coloured materials and bushy gardens. There are also more recent suburbs where the emphasis has been on houses designed in reproduction styles notably Victorian and Edwardian with exotic gardens.

Neighbourhood character has emerged as an important planning tool for improving the quality of residential development. ResCode, the State Government's residential development code, has placed increased emphasis on ensuring development fits into the character of an area.

Key Issues

Neighbourhood Character is an important aspect of the City and needs to be addressed with any new residential developments. Neighbourhood character is also subjective and often important streetscape characteristics are neglected.

Knox Neighbourhood Character Study

The City of Knox Neighbourhood Character Study (1999) identifies six character areas within the City. The objectives, strategies, actions

and guidelines for each of these have been summarised into the following four categories:

- Foothills
- Bush Suburban and Rural Parkland
- Garden Suburb
- Garden Court and Villa Court

The urban design guidelines in the Neighbourhood Character Study relate to issues such as vegetation retention, building height, site coverage, use of materials and availability of land for tree planting. Information with regards to neighbourhood character has been added in this project to encourage development to reflect the public domain, interface with creek corridors, interface with transport corridors and interface with activity centres.

Within the public and private domain it is Councils intention to retain and enhance the existing character. This means that new infill housing should be of a similar scale and form to the existing pattern of development. Likewise the dominant street design and planting will be reinforced and enhanced. Those streets, which have a desired character in the area with valued street trees, will form a model for the character area. Other streets, which do not match this character, will be gradually replanted with the involvement of the residents to develop this as the desired future character.

In areas with newer forms of housing it may be desirable to establish a new character. For example more urban housing could be developed adjacent to some activity centres, particularly those with good public transport access, to reinforce the centre as the urban focus for the local community.

Public Domain Planting

To meet the objective of retaining the green leafy, bushland character of Knox for all four character area types, native or indigenous street tree plantings are required. The guidelines in the Neighbourhood Character Study have a greater emphasis on indigenous planting in the Foothills and Bush Suburban character areas. In certain parts of the older Garden Suburb character area there are established patterns of exotic street trees which should be reinforced where appropriate. The long term effects of new and established trees on infrastructure such as footpaths, road pavements, and drains should also be addressed, as well as the potential for trees to block visibility.

Improve Existing Layouts for Walking

Extensive areas of Knox have been developed with street patterns dominated by cul-de-sacs which often provide poor connectivity for walkers and cyclists. While altering established road layouts is difficult it could be gradually achieved over time. General guidelines are to:

- Link court heads with pedestrian paths when redevelopment occurs in these locations.
- Link footpaths when discontinuity occurs
- Encourage medium density housing where good pedestrian access to activity centres, recreation open space path systems and public transport rich areas.

Foothills residential



In the foothills of the Dandenong Ranges, residential development should nestle into the hills and trees.

6.1 Objective

- 6.1.1 To protect the future desired character of the Foothills residential character precincts by encouraging the continuous flow of bush vegetation across private and public property to create a vegetation dominated streetscape.

6.2 Strategies

- 6.2.1 Within Foothills precincts:
- Maintain the native vegetation dominated vistas and streetscapes, and encourage the replanting of indigenous plants.
 - Ensure buildings and extensions do not dominate the landscape and streetscape.
 - Minimise the visibility of buildings from the street.
 - Minimise excavation for car access, loss of garden space, and dominance of car storage facilities, and
 - Maintain and enhance the continuous flow of the landscape and vegetation, and the bush character of front gardens.

6.3 Actions

- 6.3.1 Incorporate into the Knox Planning Scheme the policies and guidelines contained in the City of Knox Neighbourhood Character Study (1999) which control development in the private domain.

- 6.3.2 Adopt as Council policy public domain guidelines for street tree planting and treatments for roadside, footpaths and nature strips.
- 6.3.3 Amend the Neighbourhood Character design guidelines to take account of the issues surrounding vegetation controls, creek and residential interfaces and transport corridor and residential interfaces.

6.4 Design Guidelines

- 6.4.1 Retain and extend indigenous trees and understorey by:
- Retaining existing indigenous trees and understorey
 - Planting new trees and understorey to match the naturalistic layouts of the original bushland where existing trees are not present.
 - Blending the plantings with those within adjacent bushland gardens.
- 6.4.2 Minimise impacts between creek and residential interfaces by:
- Facing houses onto the creek and provide no fences (including a transparent wire fence).
 - Ensuring that bushland plantings of the garden integrate with the creek-side bush, especially along Blind Creek to continue the strategic connection between the creek trails of Knox and the Dandenong Ranges National Park.
- 6.4.3 Minimise impacts between transport corridors and residential interfaces by relating residential development to the local roads rather than the main road and minimise its visibility from the important tourist routes. (Main roads passing through these character areas provide ‘Paths into the Hills’).

6.4.4 Integrate street trees and planting in reserves into the foothills character by:

- Retaining existing indigenous trees and understorey
- Planting new trees and understorey to match the naturalistic layouts of the original bushland where existing trees are not present.
- Blending the plantings with those within adjacent bushland gardens.

6.4.5 Minimise the impact of roads in residential areas by:

- Retaining the character of informal roadways which often appear edgeless with unsealed edges, bitumen finished kerbs or sometimes roll-over kerbs.
- Introducing kerbs only where they address particular site constraints, ie. drainage, protection of nature strips.
- Ensuring that native vegetation can be retained to the roadway edge.
- Avoiding the clearing of verges for parking and paving.
- Using water permeable paving adjacent to significant trees when constructing roads.

6.4.6 Maximise the efficiency and safety of footpaths and nature strips by meandering paths between trees with varying distances between the roadway, and avoid formal edged treatments.

Bush suburb and rural parkland



In the single Rural Parkland precinct in Rowville, low scale ranch style houses stand in spacious grounds that create a park-like character.

In Bush Suburban precincts, suburban houses stand among a setting of native trees and other plantings.

6.5 Objectives

- 6.5.1 To protect the Bush Suburban residential character precincts by encouraging frequent stands of high canopy indigenous and native vegetation to continue a vegetation dominated backdrop.
- 6.5.2 To protect the Rural Parkland residential character precincts by continuing low scale dwellings set within a park-like landscape with occasional pockets of large native and exotic trees.

6.6 Strategies

- 6.6.1 Within Bush Suburban Precincts:
- Retain and reinforce the native vegetation dominated backdrop
 - Encourage the replanting of indigenous plants
 - Maintain the continuity of vegetation and landscape character between dwellings
 - Ensure buildings and extensions do not dominate the landscape and streetscape
 - Minimise the dominance of buildings from the street
 - Minimise excavation for car access, loss of garden space, and dominance of car storage facilities, and
 - Maintain the continuous flow of the landscape and vegetation, and the bush character of front gardens.
- 6.6.2 Within Rural Parkland Precincts:
- Retain the remnant indigenous and other native and exotic trees and encourage the new planting of large trees

- Maintain the continuity of vegetation and landscape character between and in front of dwellings
- Ensure buildings and extensions do not dominate the streetscape
- Minimise the dominance of buildings from the street, minimise loss of garden space, and dominance of car storage facilities, and
- Maintain the openness of front boundary treatments.

6.7 Actions

- 6.7.1 Incorporate into the Knox Planning Scheme the policies and guidelines contained in the City of Knox Neighbourhood Character Study (1999) which control development in the private domain.
- 6.7.2 Adopt as Council policy public domain guidelines for street tree planting and treatments for roadside, footpaths and nature strips.
- 6.7.3 Prepare a pedestrian plan that identifies major and minor pedestrian routes and crossing points.
- 6.7.4 Amend the Neighbourhood Character Study to take account of the interface issues with transport corridors and activity centres.

6.8 Design Guidelines

- 6.8.1 Contribute to the landscape character of the Bush Boulevards in these character areas by:
- Encouraging some transparency to rear fences where dwellings back onto Bush Boulevards, to assist surveillance of footpaths.

- Encouraging indigenous planting that contributes to the well-treed skyline.

6.8.2 Minimise impacts between activity centres and residential interfaces:

- Ensuring continuity of residential fronted streets that integrate directly with the built form of the activity centre.
- Avoiding surrounding activity centres with a 'sea' of car parking separating the centre from the surrounding residential neighbourhood.
- Providing direct and continuous pedestrian footpaths between the activity centre and the residential neighbourhood.
- Providing a transition in scale of housing forms with the built form of the activity centre.

6.8.3 Strengthen the naturalistic quality of street vegetation by:

- Retaining any remnant indigenous trees and understorey.
- Planting new trees indigenous to the area in informal avenue or clump planting layouts.
- Blending the plantings with those within adjacent bush gardens.

6.8.4 Minimise the impact of roads in residential areas by:

- Retaining the character of informal or curved roadway layouts.
- Using kerbs with minimal visual impact by the continued use of roll over kerbs.
- Introducing less formal and asymmetrical arrangements if street reconstruction is required.

- Maintaining or continue the use of no kerbs in the Rural Parkland Character Area.

6.8.5 Maximise the efficiency and safety of footpaths and nature strips by:

- Meandering footpaths if space permits when reconstructing streets.
- Integrating the nature strip landscape with the bush planting of the private gardens.
- Using indigenous or native ground covers for nature strips.

Garden Suburb



The Garden Suburb areas of Knox retain the valued low scale of building and open streetscapes with pleasant, leafy front garden setbacks.

6.9 Objective

- 6.9.1 To protect the future desired character of the Garden Suburb residential character precincts by encouraging low scale dwellings set within an open landscape with frequent stands of large native and exotic trees.
-

6.10 Strategies

- 6.10.1 Within Garden Suburb residential character precincts:
- Encourage the retention of the native and other trees.
 - Maintain consistency of current front setbacks.
 - Maintain the rhythm of dwelling spacing.
 - Ensure buildings and extensions do not dominate the streetscape.
 - Minimise the dominance of buildings from the street.
 - Minimise loss of front garden space, and dominance of car storage facilities.
 - Maintain the openness of front boundary treatments.
-

6.11 Actions

- 6.11.1 Incorporate into the Knox Planning Scheme the policies and guidelines contained in the City of Knox Neighbourhood Character Study (1999) which control development in the private domain.
- 6.11.2 Adopt as Council policy the following public domain guidelines for street tree planting and treatments for roadside, footpaths and nature strips.

- 6.11.3 Amend the Neighbourhood Character Study to take account of the residential interface issues between creek and transport corridors and activity centres.
-

6.12 Design Guidelines

- 6.12.1 Maximise the positive effects of Garden Suburb precincts that abut creek corridors by:
- Encouraging residential development to overlook the creek corridor open space.
 - Limiting fence heights adjoining creeks or provide transparent forms of fencing or no fencing.
 - Encouraging medium density housing redevelopment which fronts the creek corridor.
 - Encouraging the provision for a future public access path to the creek corridor path, where redevelopments occur on land adjoining the creek corridors. (Refer to 'Development along Creeks' for additional guidance.)
- 6.12.2 Minimise the impact between Garden Suburb precincts and Bush Boulevards by:
- Encouraging the provision for a future public access path to the main road corridor and some surveillance of the main road space, where redevelopments with medium density housing occur on land adjoining main roads.
 - Where dwellings back onto these routes some transparency to rear fences to assist surveillance of footpaths is desirable.
 - Encouraging indigenous planting in backyards that contribute to the well-treed skyline.

6.12.3 Increase connectivity between Garden Suburbs and activity centres by:

- Ensuring continuity of residential fronted streets that integrate directly with the built form of the activity centre.
- Avoiding surrounding activity centres with a ‘sea’ of car parking separating the centre from the surrounding residential neighbourhood.
- Providing direct and continuous pedestrian footpaths between the activity centre and the residential neighbourhood.
- Providing a transition in scale of housing forms with the built form of the activity centre.

6.12.4 Improve the quality and beneficial effects of street planting by:

- Developing a dominant theme for the whole Character Precinct.
- Retaining existing indigenous trees.
- Introducing new street tree plantings. Replanting inconsistent streets with informal avenue planting of indigenous and native tree species.
- Using a single dominant tree species for the whole street.

6.12.5 Improve the amenity of roads and enhance precinct character by:

- Retaining the formal symmetrical arrangement of the street with upstand or roll over kerbs if reconstruction is required.
- Including additional space for avenue tree planting with street reconstruction.

- Including traffic calming and road pavement narrowing where appropriate.
- Retain the traditional arrangement of sealed footpaths on both sides of the street where this is present.

Garden Court/Villa Court



The Villa Court precincts, more recently developed, tend to have larger houses (often two-storey), covering a greater percentage of the site.

The curvilinear streets of the Garden Court precincts, mostly developed in the 1960s, 1970s and 1980s, present an attractive, informal appearance.

6.13 Objectives

- 6.13.1 To protect the future desired character of the Garden Court residential character precincts by continuing the low scale dwellings set within an open landscape.
- 6.13.2 To protect the future desired character of the Villa Court residential character precincts by continuing the grand scale dwellings within an open garden setting.

6.14 Strategies

- 6.14.1 Within Garden Court Precincts:
- Encourage the retention of the remnant indigenous and other tall trees.
 - Maintain consistency of current front setbacks.
 - Maintain the continuity of garden character between dwellings.
 - Ensure buildings and extensions do not dominate the streetscape.
 - Minimise the dominance of buildings from the street.
 - Reflect the predominant building form in the area.
 - Minimise loss of garden space, and dominance of car storage facilities.
 - Maintain the openness of front boundary treatments.
- 6.14.2 Within Villa Court Precincts:
- Enhance the streetscape by the planting of appropriate street trees.
 - Maintain consistency of current front setbacks.

- Ensure buildings reflect the general scale of buildings in the street.
- Minimise loss of garden space, and dominance of car storage facilities.
- Maintain the openness of front boundary treatments.

6.15 Actions

- 6.15.1 Incorporate into the Knox Planning Scheme the policies and guidelines contained in the City of Knox Neighbourhood Character Study (1999) that control development in the private domain.
- 6.15.2 Adopt as Council policy the public domain guidelines for street tree planting and treatments for roadside, footpaths and nature strips.
- 6.15.3 Amend the City of Knox Neighbourhood Character Study (1999) to take account of the interface with creek and transport corridors.

6.16 Design Guidelines

- 6.16.1 Maximise the positive effects of Garden and Villa Courts abutting creek corridors by:
- Encouraging residential development to overlook the creek corridor open space.
 - Limiting fence heights adjoining creeks or provide transparent forms of fencing.
 - Encouraging medium density housing redevelopment which fronts the creek corridor.

- Encouraging provision for a future public access path to the creek corridor path, where redevelopments occur on land adjacent to creek corridors.
- In new development areas that front the Monbulk Creek corridor, prepare comprehensive designs for medium density forms of housing that respect the landscape setting. (Refer to ‘Creeks as Address’ for additional guidance.)

6.16.2 Minimise the effects of the interface between Garden Court/Villa Court Precincts and Bush boulevards by:

- Encouraging redevelopments with medium density housing at court heads that provide for a future public access path to the main road corridor and some surveillance of the main road space.
- Assisting surveillance of footpaths where dwellings back onto transport corridors by providing transparency through rear fences.
- Encouraging indigenous planting in backyards that contribute to the well-treed skyline.
- Fronting development onto the road in new development areas by providing a service frontage road along the Bush Boulevard.

6.16.3 Increase connectivity between Garden Court/Villa Court precincts and activity centres by:

- Ensuring continuity of residential fronted streets that integrate directly with the built form of the activity centre.
- Avoiding surrounding activity centres with a ‘sea’ of car parking separating the centre from the surrounding residential neighbourhood.

- Providing direct and continuous pedestrian footpaths between the activity centre and the residential neighbourhood.
- Providing a transition in scale of housing forms with the built form of the activity centre.

6.16.4 Reinforce the character of the area through street planting by:

- Developing a dominant theme for the character precinct.
- Retaining existing indigenous trees and understorey.
- Using indigenous or native trees in informal avenue or clump planting.
- Using exotic species with restraint for focal or key area planting.
- Using deciduous species where winter sun access may be required.

6.16.5 Maximise the amenity and safety of local streets by:

- Retaining the sealed roadways with roll over kerbs and the informal curvilinear layouts.
- Introducing traffic calming devices to collector roads where the speed of traffic is an issue.
- Narrowing pavement where appropriate.

6.16.6 Design footpaths and nature strips in a characteristic way by:

- Meandering footpaths if space permits when reconstructing streets.
- Integrating the nature strip landscape with the garden planting of the private gardens.

Strategic Approach to Implementation

There is no denying that implementing all the actions contained in the Framework requires a massive commitment of resources over many years. This challenge would be less daunting if Council adopts a strategic approach to implementation.

A well considered and organised strategic approach to implementation is based on the following principles:

- Grasping Opportunities
- Facilitating Partnerships
- A Flexible Framework
- Well Packaged Programs and Priorities

Grasping Opportunities

The essence of good planning is to establish a clear direction, a desired outcome, and then to use all possible means to achieve the outcome over a realistic time period. Millions of dollars are spent, over a period of years, by the multitude of agencies (including the Council) and companies that provide the infrastructure and services in Knox. With a clear plan in place, the Council can use every opportunity to further its implementation whenever a new works project or service is proposed. All this can be achieved without spending any specific funds on implementation of the Urban Design Framework.

Facilitating Partnerships

The Council's role is not to fund every action, but to facilitate implementation of the Framework in partnership with existing and potential stakeholders. Existing stakeholders include statutory

agencies, infrastructure providers, developers who already operate in the area, and the State and Commonwealth governments. Potential stakeholders in the local community include local businesses, service organisations and groups of residents. For example, there must be significant potential for 'plant a tree' days in the creek corridors, and 'sponsor a stretch of road' schemes.

A Flexible Framework

It is important to treat the Framework as sufficiently flexible to allow stakeholders to be invited in to 'own' particular aspects of it. The Framework is presented at a broad enough level to enable this to happen. There are endless possibilities for local people to be able to decide how they would like to apply specific aspects of the vision in their neighbourhood, or for agencies to develop their own plans to interpret in detail the directions established in the framework. An example is the masterplan for the Dandenong Creek Valley metropolitan park. Flexibility also allows the Framework to remain relevant over a long period of time, despite changed circumstances that inevitably arise.

Well Packaged Programs and Priorities

The actions have to be organised into programs and prioritised. The programs need to be self-contained packages, containing specific projects, of a size capable of producing a worthwhile result in a timeframe that has relevance to the participants (e.g. the electoral cycle). Priorities should be determined to achieve a balance between 'backing winners' (projects easy to implement, with an immediate and obvious benefit) and ensuring that gradual progress is made with the difficult, longer term challenges.

Council's Role

The Council has a key role to play in directly implementing some actions, such as initiating a major planning scheme amendment and

reviewing its works programs. But these actions alone will be insufficient to deliver the vision. Council's most important roles will be to communicate the vision, to lead the community, and to facilitate action.

Structure of the Implementation Plan

It is recommended that implementation of the Knox Urban Design Framework be organised into programs based on the six framework components:

- Dandenong Creek Valley
- The Edge of the Suburbs
- Creek Corridors
- Activity Centres and Working Environments
- Transport Corridors
- Residential Environments

These six components provide a simple structure for an implementation strategy, one that relates directly to the achievement of desired outcomes and is readily communicated to stakeholders. The implementation challenge is distinct for each framework component.

Dandenong Creek Valley

The Council needs to work with the State Government and its agencies to establish a common position on the master planning of the Dandenong Valley Park. Integration of this task with the planning of the Scoresby Integrated Transport Corridor is an essential priority. The Scoresby project has the potential to produce both positive and negative impacts on the landscape of the Creek Valley. It will also introduce numerous opportunities to capitalise on the land

consolidation and works associated with the transport aspects of the project.

The Council also needs to initiate its own programs to adopt design guidelines and standards for landscape works in roadways and other public spaces in the valley, and amend the planning scheme to control development on private land in and adjoining the Valley.

Implementation Priorities

- Liaise with Parks Victoria in implementing a development strategy and master plan for the Dandenong Valley metropolitan park.
- Liaise with VicRoads to establish the landscape design principles within which the Scoresby Integrated Transport Corridor is to be planned.

The Edge of the Suburbs

The Council needs to implement the recommendations of the study in relation to the foothills and adjoining suburbs through the planning scheme as a matter of priority.

Implementation Priorities

Prepare a planning scheme amendment to incorporate the recommendations of the study. This will require a revision of the Municipal Strategic Statement (Clause 21) and the Dandenong Foothills Local Planning Policy (Clause 22.01).

Creek Corridors

Implementation in the creek corridors should focus on:

- Fully integrating paths with the surrounding local streets, and with public transport routes and stops, and with improved crossings of main roads.

- Development of recreational spaces and parkland facilities along the creek corridors, aiming to maximise the value of this space for local communities.
- Initiatives with community organisations that build a sense of ongoing community involvement in the use of the open spaces, such as:
 - Community tree planting days.
 - Community arts projects.
 - Links to school programs.
- Providing community facilities and services in or near the open spaces at local activity centres.
- Stormwater management techniques that respond to environmental and aesthetic objectives.
- Weed control and planting programs, including removal of inappropriate exotics species with the replacement of native species.
- Improving quality and consistency of landscape design and development along the creek corridors.
- Developing visual and active relationships between facilities in buildings on land adjoining the creek corridors and spaces along the creeks.
- Developing key sites or local centres related to the creek corridors, where higher densities of development will be encouraged, community facilities located, and public spaces developed to support relatively high levels of use.
- Using the development of new Council facilities and Council-owned land to leverage desired outcomes in joint venture development schemes.

Each of these measures should continue to address and incorporate the objectives of Water Sensitive Urban Design within Knox and those contained in the Knox Bicycle Plan 2001, Melbourne Water's Waterway Activity Plans and stormwater management plans.

Implementation in accordance with these themes requires the Council to organise and program the following:

- Development of guidelines for Council works such as paths, planting and stormwater management.
- Preparation of a planning scheme amendment.
- Gradual preparation of a series of master plans for each creek corridor.
- Review of the development potential of Council and other public agency land holdings alongside the creek corridors.
- Initiation of a community development program aimed at establishing an ongoing community role in the development and maintenance of the creek corridors.

Implementation Priorities

- Development of guidelines for Council works.
- Preparation of a planning scheme amendment.
- Preparation of a masterplan for the Blind Creek corridor, including a review of the development potential of Council and other public agency land holdings alongside the corridor, particularly in the vicinity of the Knox activity centre.
- Initiation of a community development program aimed at establishing an ongoing community role in the development and maintenance of the creek corridors.
- Implementation of the Knox Bicycle Plan.

Activity Centres and Working Environments

The Council has recently adopted a place management approach for activity centres in Knox. Bayswater has been chosen as the pilot project. The place management approach enables the effective coordination of resources and development of the particular character of each area under study. Some of the proposals of this study that can be pursued in the Bayswater pilot are listed below:

- Relocate and redevelop local council facilities from isolated sites into more central positions.
- Negotiate with the State Government, VicTrack and Connex Trains to redevelop undercapitalised land near railway stations.
- Work jointly with Connex to promote activity centres around railway stations and treat them as major gateways into Knox.
- Redevelop Council-owned properties, either individually or in combination with adjoining properties, to achieve more vital land use mixes. This could include joint venture schemes with private developers or programs developed in conjunction with agencies such as the Urban and Regional Land Corporation.
- Locate public facilities where they are connected to pedestrian, cycle and public transport routes that link them to their local user base.
- Consider public facilities within mixed-use developments, for example a branch library with residential above, or an arts centre above ground floor retail space.
- Design facilities to provide a strong interface with surrounding development to support the interchange of activities.
- Sell or lease land with development agreements to improve the activity centres.
- Redevelop under-utilised car parks for other uses that will enhance the vitality of activity centres, especially higher density housing.

- Redevelop properties with important but poorly resolved frontages (to main roads, local streets, creek corridors, and parks) e.g. the Bayswater Community Arts Centre and the Council Depot behind the Civic Centre.

Negotiate with VicRoads to:

- Improve pedestrian crossings on main roads, by installing new pedestrian signals and improved signal phasing.
- Introduce a Bush Boulevard road corridor landscape treatment along Mountain Highway in the Bayswater Activity Centre.

Undertake programs of streetscape works to:

- Plant trees, particularly clean-trunked canopy trees rather than shrubby material, to provide shade, shelter and a sense of pedestrian scale, while maintaining views of shops and providing a more secure environment.
- Improve public lighting, particularly aiming to provide even distribution of light, to minimise glare, and to provide ‘white’ light, which is suited to human perception rather than using yellow high-pressure sodium lamps.
- Provide street furniture, especially seating, to support pedestrian activity in streets. Ensure furniture is robust and can be maintained in good condition.
- Use shared signage to promote the centre and reduce visual clutter.

Improve the safety, efficiency and amenity of public spaces:

- Ensure convenient, attractive and safe pedestrian routes are provided to railway stations from all directions.
- Establish new rights-of-way in adjoining properties if no convenient route exists (e.g. east of Bayswater Station).

- Focus on improving the quality of pedestrian spaces in three dimensions, such as vegetation and the built form, rather than on decoration such as paving and signage.
- Give priority to widened footpaths, safer crossings, spaces to sit and meet, shade etc. rather than to decorative pavements or features.

Knox Central Activity Centre

An urban design framework is currently being prepared for Knox Central Activity Centre which will result in a set of principles about how the centre could be restructured to become a connected whole. It will take sustained effort and expenditure over many years to implement these principles successfully.

State Government Initiatives

The Metropolitan Strategy promotes the concept along the lines of ‘transit cities’, based on the idea of concentrating development around railway stations and other transport hubs. Related to this is the State Government’s Transit Oriented Precinct Development, which has commenced with Frankston, Dandenong and Ringwood in Melbourne’s eastern region. There is also a Connecting Transport Services program, aimed at improving timetable coordination and interchange facilities between different public transport modes, particularly around rail stations. The Council should make every effort to benefit from these programs. Specifically, it could seek inclusion of the Knox activity centre in the State Government’s Transit Oriented Precinct Development project, and of Bayswater in the Connecting Transport Services program.

Industrial Areas

The major implementation mechanism for industrial areas is a planning scheme amendment.

Implementation Priorities

- Undertake, monitor and review a pilot place management approach to urban renewal in the Bayswater Activity Centre.
- Initiate a debate about the community’s long term aspirations for the future of the Knox Central Activity Centre.
- Seek inclusion of the Knox Central activity centre in the State Government’s Transit Oriented Precinct Development project.
- Negotiate with the State Government to include Bayswater in the Connecting Transport Services program.
- Introduce a planning scheme amendment to implement the study’s recommendations on activity centres and working environments.

Transport Corridors

Transport corridors are a challenge to the urban designer. Better landscaping treatment of main roads can have a very substantial effect in improving the image of a place, and walking and cycling can be encouraged through the design of landscape styles and planting themes. However, there are severe constraints on the ability to deliver these improvements. Primarily these arise from the need to avoid compromising the primary transport function of the corridor and from the multiple services that occupy the corridor reservation. It is usually not possible to create a significant landscape effect, such as a regular avenue of canopy trees, simply by planting the trees. Underground services, overhead wires and poles, sight lines, deceleration lanes, safety clearances, visibility of business premises, public transport stops and intersection treatments are just some of the factors that must be tackled. These can make the exercise very costly.

However, these difficulties are not so great that they should lead the Council to abandon any attempt to improve the landscape of the transport corridors. Some limitations must be accepted, others require investment. Over a period of years, gradual ‘opportunistic’ actions by

the Council, acting within the framework of this plan, and acting to influence the works projects of key agencies as they undertake key projects, can gradually achieve the required impact.

Functional Management of Road Corridors

The road network of Knox includes routes with different characteristics resulting from the landform the road crosses, traffic needs and function, attention to planting, presence of remnant indigenous vegetation, the adjoining land uses and type of built form immediately abutting the road.

Long-term landscape objectives need to be integrated with a vision for the future functional management of key roadways through Knox. Ultimately the transport network must be managed in a manner that enhances local access and circulation within the municipality, while recognising the metropolitan, regional and national significance of certain portions of the road network.

The development of landscape treatments for the various transport corridors in Knox, offers the opportunity to steer the future engineering initiatives to improve both the operation of the transport network and satisfy the travel needs of all road users in an equitable manner, compatible with sustainable development principles. For example the design of landscape styles and planting themes has the potential to actively encourage walking and cycling. This can be achieved by allowing appropriate space for the provision of infrastructure such as shared trails. The enhancement of the physical quality, form and character of Knox's streets and open spaces, through sensitive and innovative landscape design, can dramatically improve the experience of the City for pedestrians and cyclists.

It is also important that landscape treatments be designed in a manner that does not limit flexibility in the management of road reservations and allows the realisation of agreed transportation objectives. For instance, the encouragement of public transport services necessitates the provision of appropriate supporting infrastructure, such as bus and

tram stops. These facilities need to satisfy Disability Discrimination Act requirements, as well as be positioned with sufficient space for associated amenities, such as shelters, seating and passenger information. In addition, effective public transport relies on reasonable permeability between the transport corridors and adjacent areas in order to enable adequate flexibility for public transport vehicles to move onto and off the transport corridors to penetrate desired catchments as required. Landscape treatments should therefore be able to accommodate localised treatments that support and enhance public transport movements, such as stopping bays, priority lanes, turning lanes, and pathways to provide pedestrian connectivity to specific facilities or across roadways.

In summary, detailed guidelines should be developed and used to plan cross-sectional and other functional requirements whenever new roads are built or road reconstruction occurs along the key transport corridors. These guidelines should complement the landscape treatment framework and set clear goals for the management of road space. They should incorporate those objectives contained in:

- Clause 21.10 of the Knox Municipal Strategic Statement— Facilitating Effective Transportation and Movement In and Through the Municipality.
- The Knox 2001/2010 Sustainable City Plan.
- The Knox Integrated Transport Plan (draft 2000).

As a minimum, the guidelines should explore:

- Identification of minimum vehicular traffic requirements and resolution of traffic lane widths appropriate for Knox.
- Appropriateness of speed limits.
- Enhancements to the role of public transport.
- Provision of exclusive on-road bicycle lanes and off-road bicycle facilities.

- Appropriate and safe access arrangements from abutting land.
- Pedestrian safety and circulation requirements.

Key players in the implementation of this approach include VicRoads, other infrastructure agencies/companies, adjoining owners and occupiers, public transport operators and users. The planning scheme can be used to control development on either side of a corridor reservation. Standards and support for any Council actions regarding the treatment of the roadway, planting and maintenance will need to be agreed. Road corridor master plans will need to be prepared that incorporate the full length of the road.

Implementation Priorities

- Advocate use of the Burwood Highway tram extension project as a vehicle for establishing a Burwood Highway road corridor masterplan, aimed at expressing the Bush Boulevard, Gateway Route and Path into the Hills design concepts.
- Identify lengths of road that exhibit poor street planting, limited integration between the public and private realm and unappealing street frontages, and develop short term landscape improvement plans in association with VicRoads.
- Liaise with VicRoads to establish the landscape design principles within which the Scoresby Integrated Transport Corridor is to be planned.
- Establish a level of understanding with Connex on the design, development and maintenance of the rail corridor.
- Negotiate with the State Government, VicTrack and Connex Trains to redevelop undercapitalised land around the Bayswater railway station.
- Work jointly with Connex to promote the activity centre around the Bayswater railway station and treat it as a major gateway into Knox.

- Prepare a planning scheme amendment to introduce policies covering the development of land adjoining transport corridors.

Residential Environments

In residential areas there are two main fields of action: introducing a new local neighbourhood character local policy into the Knox Planning Scheme, and modifying Council work practices to ensure works to the street space accord with the preferred character of the area. This includes footpath and kerbing treatments, nature strip and street tree planting design.

Implementation Priorities

- Incorporate in the Knox Planning Scheme the policies and guidelines contained in the City of Knox Neighbourhood Character Study (1999) which control development in the private domain.
- Adopt as Council policy public domain guidelines for street tree planting and treatments for roadside, footpaths and nature strips.

Dandenong Creek Valley

No.*	Action	Timeframe**	Lead Agency	Cost***
1.3.1	Work with the State Government and its agencies to acquire, lease or license land and rationalise existing crown land reserves, so as to extend existing park areas and consolidate the Dandenong Valley Park under a consistent management structure.	ongoing	State Government	low
1.3.2	Liaise with Parks Victoria in implementing a development strategy and master plan for the metropolitan park.	short	Parks Victoria	low
1.3.3	Review zoning in the area to ensure consistency with these objectives for development of a park. Liaise with Monash, Whitehorse and Greater Dandenong councils regarding adjoining development and the proposed planning controls.	short	Councils	low
1.3.6				
1.3.4	Incorporate objectives, strategies and design guidelines for the Dandenong Creek Valley into the Knox Planning Scheme.	short	Council	low
1.3.5	Work with power supply agencies to develop complementary design standards for fencing and other treatments around their infrastructure.	short	power supply agencies	low

* Clause numbers of closely related actions have been combined ** Short 1-3 years, medium 3-5 years, long 5-10+ years

*** Estimated cost range: low \$0-\$50,000 (e.g staff time), medium \$50,000-\$500,000 (e.g works of moderate cost), high \$500,000+ (e.g major works program, multi-million dollar)

The Edge of the Suburbs

No.*	Action	Timeframe**	Lead Agency	Cost***
2.3.1	Incorporate the delineated boundary into the Knox Planning Scheme, using policy, zoning or overlay controls as appropriate. Include the defined Foothills Backdrop Area, and the Foothills Contributor Area into the Knox Planning Scheme using appropriate mechanisms.	short	Council	low
2.3.2				

Creek Corridors

No.*	Action	Timeframe**	Lead Agency	Cost***
3.3.1	Develop a master plan for each creek corridor or parkland area. (Plans for Blind, Ferny, Monbulk and Corhanwarrabul creeks are already complete.)	medium	Melbourne Water	medium
3.7.1				
3.3.2	Acquire, lease or license land to make, or to secure, important links ensuring a continuous network of pathways. This needs to address paths along the length of the creeks as well as providing frequent points of access to them.	ongoing	Council	high

* Clause numbers of closely related actions have been combined

** Short 1-3 years, medium 3-5 years, long 5-10+ years

*** Estimated cost range: low \$0-\$50,000 (e.g staff time), medium \$50,000-\$500,000 (e.g works of moderate cost), high \$500,000+ (e.g major works program, multi-million dollar)

Creek Corridors

No.*	Action	Timeframe**	Lead Agency	Cost***
3.7.2	Pursue initiatives with community organisations that build a sense of ongoing community involvement in the use of the open spaces as part of exiting Council programs, such as: Community tree planting days, Community arts projects, links to school programs and establishment of Friends groups.	ongoing	Council	high
3.11.1	Develop detailed policies and design guidelines focussing on storm water management techniques in the creek corridors that respond to environmental and aesthetic objectives.	short	Council	low
3.11.2	Continue weed control and planting programs on an ongoing basis with local community groups, including removal of exotics and replacement with natives.	ongoing	Council	high
3.3.3	Develop and publish detailed guidelines for incremental improvement of existing development to present a more active and attractive interface to the public space.	short	Council	low
3.7.3				
3.11.3				
3.15.1	Incorporate objectives, strategies and design guidelines into the Knox Planning Scheme.			
3.15.4				

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*** Estimated cost range: low \$0-\$50,000 (e.g staff time), medium \$50,000-\$500,000 (e.g works of moderate cost), high \$500,000+ (e.g major works program, multi-million dollar)

Creek Corridors

No.*	Action	Timeframe**	Lead Agency	Cost***
3.15.2	Prepare a strategy for the development of key sites or local centres related to the creek corridors, where higher densities of development will be encouraged, community facilities located, and public spaces developed to support relatively high levels of use.	short	Council	low
3.15.3	Use the development of new Council facilities and Council-owned land to encourage desired outcomes in joint venture development schemes.	ongoing	Council	low

Activity Centres and Working Environments

No.*	Action	Timeframe**	Lead Agency	Cost***
4.3.2	Negotiate with the State Government, VicTrack and Connex Trains to redevelop undercapitalised land near railway stations, and work jointly with Connex to promote activity centres around railway stations and treat them as major gateways into Knox.	short	Council/VicTrack	low

* Clause numbers of closely related actions have been combined ** Short 1-3 years, medium 3-5 years, long 5-10+ years

*** Estimated cost range: low \$0-\$50,000 (e.g staff time), medium \$50,000-\$500,000 (e.g works of moderate cost), high \$500,000+ (e.g major works program, multi-million dollar)

Activity Centres and Working Environments

No.*	Action	Timeframe**	Lead Agency	Cost***
4.3.1	Redevelop Council-owned properties, either individually or in combination with adjoining properties, to achieve a mix of land use and improve vitality of the site. Possibly include joint venture schemes with private developers or programs developed in conjunction with agencies such as the Urban and Regional Land Corporation. Relocate and redevelop Council facilities from isolated sites into more central positions in activity centres.	ongoing	Council	high
4.3.3				
4.3.4	Undertake a review of activity centres in the municipality with a particular focus on rationalising the extent of business zones.	short-long	Council	high
4.7.1	Negotiate with VicRoads to improve pedestrian crossing facilities of main roads, through installation of new pedestrian signals and improved signal phasing.	short	VicRoads	low
4.7.2	Undertake programs of streetscape works.	ongoing	Council	high
4.11.1	Negotiate with VicRoads to adopt and implement design standards for the treatment of the roadway and adjoining public reserves (see Bush Boulevards section).	short	VicRoads	low

* Clause numbers of closely related actions have been combined ** Short 1-3 years, medium 3-5 years, long 5-10+ years

*** Estimated cost range: low \$0-\$50,000 (e.g staff time), medium \$50,000-\$500,000 (e.g works of moderate cost), high \$500,000+ (e.g major works program, multi-million dollar)

Activity Centres and Working Environments

No.*	Action	Timeframe**	Lead Agency	Cost***
4.3.5	Incorporate the objectives, strategies and design guidelines into the Knox Planning Scheme and other relevant Council strategies and guidelines.	short	Council	low
4.7.3				
4.11.2				
4.15.1				

Transport Corridors

No.	Action	Timeframe*	Lead Agency	Cost**
5.3.1	Negotiate with VicRoads to implement street work programs to line all Bush Boulevards with large canopy native trees and appropriate under storey vegetation, as elaborated in Case Study 3 – Burwood Highway.	short	VicRoads	low
5.7.1	Prepare a road corridor master plan which incorporates the full length of the road for each gateway route, principal avenue and path into the hills.	short	Council	high
5.11.1				
5.15.1				
5.7.2	Prepare an agreement with State Government on standards and support for any Council actions regarding the treatment of the roadway, planting and maintenance.	short	Council	low
5.11.2				

* Clause numbers of closely related actions have been combined

** Short 1-3 years, medium 3-5 years, long 5-10+ years

*** Estimated cost range: low \$0-\$50,000 (e.g staff time), medium \$50,000-\$500,000 (e.g works of moderate cost), high \$500,000+ (e.g major works program, multi-million dollar)

Transport Corridors

No.*	Action	Timeframe**	Lead Agency	Cost***
5.3.1	Negotiate with VicRoads to implement street work programs to line all Bush Boulevards with large canopy native trees and appropriate under storey vegetation, as elaborated in Case Study 3 – Burwood Highway.	short	VicRoads	low
5.15.2	Adopt standards of street lighting as well as private domain lighting that minimise light spill and glare to maintain a night-time contrast between foothills and suburbs.	short	Council/VicRoads	low
5.19.1	Establish a level of understanding with Connex and VicTrack on the design, development and maintenance of the rail corridor.	short-medium	Council/VicTrack/Connex	low
5.19.2	Establish preventative measures to discourage graffiti at railway stations.	ongoing	Council	medium
5.19.3	Negotiate with the State Government, VicTrack and Connex Trains to redevelop undercapitalised land near railway stations.	short	State Government	low
5.19.4	Work jointly with Connex to promote activity centres around railway stations and treat them as major gateways into Knox. A demonstration project at Bayswater should be given priority.	short	Council	medium

* Clause numbers of closely related actions have been combined ** Short 1-3 years, medium 3-5 years, long 5-10+ years

*** Estimated cost range: low \$0-\$50,000 (e.g staff time), medium \$50,000-\$500,000 (e.g works of moderate cost), high \$500,000+ (e.g major works program, multi-million dollar)

Transport Corridors

No.*	Action	Timeframe**	Lead Agency	Cost***
5.3.2	Incorporate the objectives, strategies and design guidelines into the Knox Planning Scheme and other relevant Council strategies and guidelines.	short	Council	low
5.7.3				
5.11.3				
5.15.3				
5.19.5				
5.23.2	Negotiate with VicRoads to ensure the application of urban design guidelines in the design and construction of the new Frankston to Mitcham Freeway and associated road works.	short	VicRoads	low
5.23.1				

Residential Environments

No.*	Action	Timeframe**	Lead Agency	Cost***
6.3.1	Incorporate into the Knox Planning Scheme the policies and guidelines contained in the City of Knox Neighbourhood Character Study (1999) which control development in the private domain.	underway	Council	low
6.7.1				
6.11.1				
6.15.1				

* Clause numbers of closely related actions have been combined

** Short 1-3 years, medium 3-5 years, long 5-10+ years

*** Estimated cost range: low \$0-\$50,000 (e.g staff time), medium \$50,000-\$500,000 (e.g works of moderate cost), high \$500,000+ (e.g major works program, multi-million dollar)

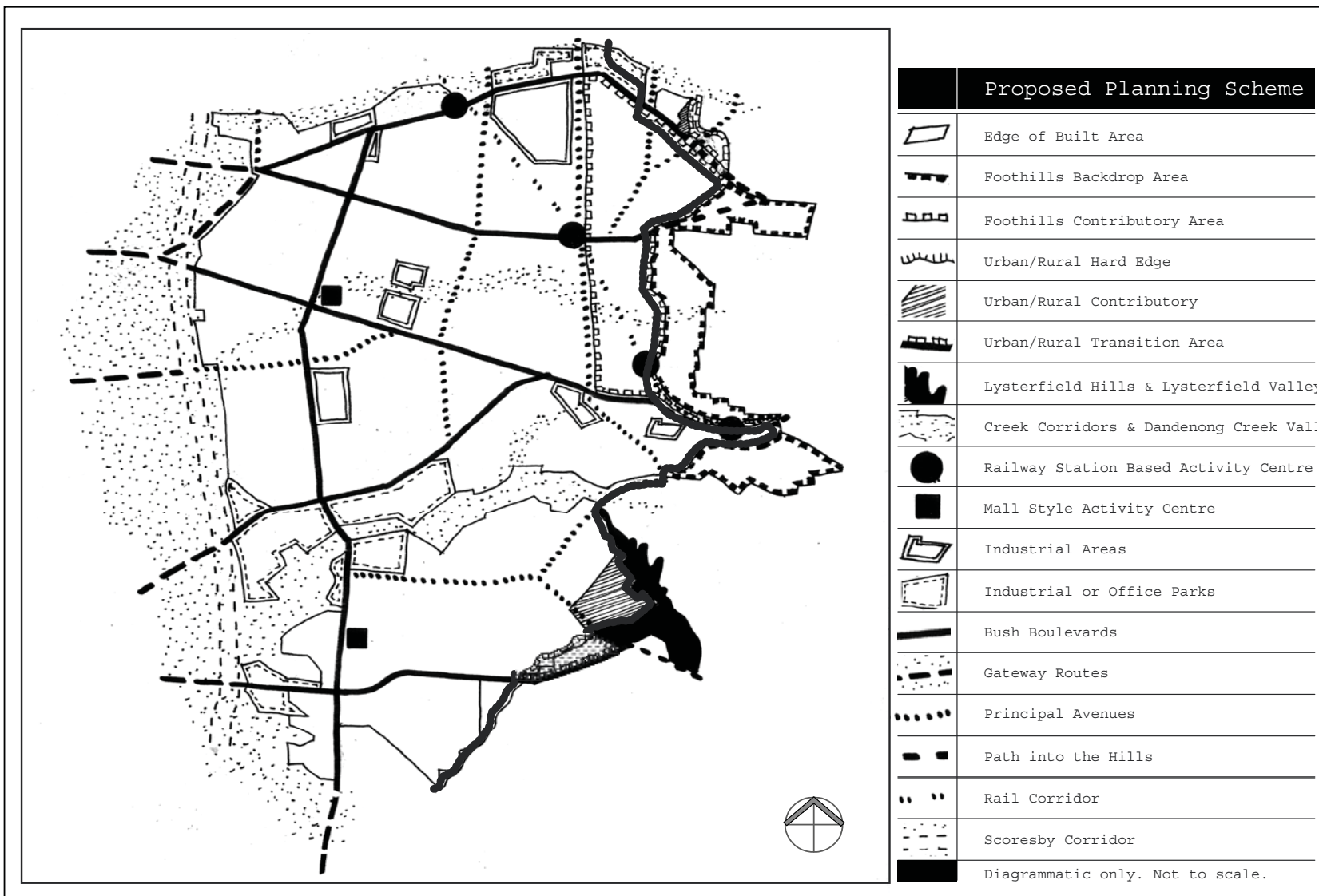
Residential Environments

No.*	Action	Timeframe**	Lead Agency	Cost***
6.3.2	Adopt as Council policy public domain guidelines for street tree planting and treatments for roadside, footpaths and nature strips.	short	Council	low
6.7.2				
6.11.2				
6.15.2				
6.3.3	Amend the Neighbourhood Character design guidelines to take account of the issues surrounding vegetation controls, creek and residential interfaces and transport corridor and residential interfaces.	short	Council	low
6.7.4				
6.11.3				
6.15.3				
6.7.3	Prepare a pedestrian plan, which identifies major and minor pedestrian routes and crossing points.	short	Council	medium

* Clause numbers of closely related actions have been combined ** Short 1-3 years, medium 3-5 years, long 5-10+ years

*** Estimated cost range: low \$0-\$50,000 (e.g staff time), medium \$50,000-\$500,000 (e.g works of moderate cost), high \$500,000+ (e.g major works program, multi-million dollar)

Urban Design Framework Plan



Planning Scheme Amendment

There are several mechanisms available in the Victoria Planning Provisions (VPPs) for statutory implementation of the recommendations of this Strategy through the Knox Planning Scheme. The four primary methods relevant to this exercise are alterations to the Municipal Strategic Statement (MSS), local policy, zoning changes and overlays. Each method is examined separately, and recommendations made about the most appropriate changes to the current planning scheme.

Municipal Strategic Statement

There are principally two options for the implementation of the Urban Design Strategy through the MSS. The first option involves working within the existing structure of the MSS; the second proposes a radical restructure of the MSS to accord more fully with the structure and integrity of the Urban Design Strategy. The implications of both options will be outlined.

Option 1—Existing MSS Structure

The Knox MSS contains many elements that recognise and comment upon the future appearance, character and design within the City. For example, the Strategic Framework Plan of the MSS recognises the strategic importance of the Dandenong foothills, the creeks and surrounding open space areas, road network and activity centres. It also states that the primary component of Knox's identity and image is its vegetation, as contained in this quote from Clause 21.05 'Promoting the identity and image of Knox' in the MSS:

'To retain and enhance valued character elements of Knox, in particular the "green, leafy image" of urban areas and the rural image of non-urban areas, which give the community a sense of identity and make Knox an attractive place to live and do business in.'

The broad conclusions of the Strategy accord with the broad directions in the current MSS in relation to the foothills, urban edge and 'green, leafy' image. It is evident, therefore, that the broad strategic directions of the MSS in relation to urban design do not require complete revision as a result of this Strategy. Nevertheless changes, ranging from a 'fine tuning' to full revision of the wording, to accord with the identified vision and objectives of this Strategy are required. It must be recognised that it is not appropriate for an Urban Design Framework to dictate changes that properly require a revision of strategic land use issues and directions of the MSS. There are however aspects of the Urban Design Framework that inter-relate with land use issues, and these matters require reflection in the strategy also.

Several sections of the MSS have urban design implications that will require revision, in particular Clause 21.05 mentioned above, but also:

- Clause 21.08 Recognising and protecting significant natural features and cultural heritage.
- Clause 21.09 Enhancing the potential for lifestyle and cultural activities in the community.
- Clause 21.10 Facilitating effective transportation and movement in and through the municipality.
- Clause 21.11 Facilitating effective retail networks.

Replace the objective contained in Clause 21.05 'Promoting the identity and image of Knox' with the following objectives drawn from the Knox Urban Design Vision statements:

- To achieve a clear, attractive and stable interface between the urban development of the eastern suburbs and the foothills of the Dandenong Ranges.
- To ensure the wooded slopes of the foothills continue to be dominated by vegetation.

- To recognise the Dandenong Creek Valley and other creek corridors within the municipality as key landscape features.
- To ensure that travel through Knox provides a green, leafy outlook.
- To strengthen the individual identity and character of Knox’s residential communities’.

The strategies that follow from these objectives will also require modification to reflect the objectives from the Framework and Policy Chapter of the Strategy. Several of these objectives are not however relevant to the ‘identity and image’ part of the MSS, and therefore choices must be made about the appropriateness of each. As an example of this point, creeks are identified as key landscape features in the above objectives, and their role in the image and identity of Knox is mainly in maintaining the green and leafy character, not their role as public space, pathways or an address.

The vision statement referring to the recreation function of the Dandenong Creek Valley will appear in the MSS Clause 21.09 that relates to enhancing the potential for lifestyle and cultural activities in the community. The role of the Dandenong Valley in retaining wildlife and native vegetation habitats will appear in Clause 21.08 Recognising and protecting the significant natural features and cultural heritage.

As shown by these examples the vision, objectives and strategies of the Urban Design Strategy need to be dissected and disseminated throughout the MSS in order to maintain the current structure. The Strategy’s cohesiveness and logic as a strategic vision with related objectives and strategies will be significantly reduced, however it is achievable should the Council prefer to retain the current structure.

Option 2—New MSS Structure

This option will provide for the restructuring of the MSS to accord with the structure of the Urban Design Strategy. It would therefore require the Council to restructure the remaining land use, economic and social aspects of the MSS into the new format as part of the general review.

The structure of the MSS would therefore follow that contained within the Urban Design Vision and Framework and Policy chapters of the report, for example:

1. introduction, context etc
2. strategic vision and framework
 - Urban Design Vision and Urban Design Framework Plan
 - Other vision statements and framework plans as appropriate (e.g. Land use framework plan)
3. objectives and strategies
 - Landscape Setting
 - Urban Design Objectives, Strategies and planning scheme
 - Other Objectives, Strategies and implementation such as land use, environmental, economic and social as relevant:
 - Creek Corridors
 - Activity Centres and Working Environments
 - Transport Corridors
 - Residential Environments
 - Other elements may also be required such as:
 - Local Employment
 - Social and Cultural Activities

- Natural and Cultural Heritage

4. monitoring and review

Through this structure the objectives and strategies that are contained in the Framework and Policy chapter of the Strategy will be contained within the MSS. The Urban Design Framework Plan, contained within the MSS, will diagrammatically explain the main elements of the urban design vision. The Urban Design Framework could be a separate map, or if preferred, its main elements could be incorporated into an overall Strategic Framework Plan. The main priority in this decision is clarity. The map defining segments of the Dandenong foothills and Urban Edge should accompany the Landscape Setting section of the MSS.

In both options the Knox Urban Design Framework and Policy report should be included as a reference document.

Local Policy

In translating the detailed recommendations of this strategy into Local Policy the same two options, as presented above for the MSS, apply. To some extent, the existing Local Policies can be kept and altered to accord with the Strategy recommendations. Alternatively a new set of Local Policies could be created that encapsulated the relevant sections of the current Policies. Having regard to the extent of the content in the MSS, an Urban Design Local Policy in Clause 22 of the Knox Planning Scheme, is probably not required in either option, although it is an option to amalgamate all the suggested policies into one large Urban Design policy if desired.

Option 1—Retaining current policies

The following existing policies will require review should they be retained:

- Clause 22.01 Dandenong Foothills.
- Clause 22.02 Industrial and Restricted Retail Sales Area Design.
- Clause 22.04 Knox City/Towerpoint Shopping Centre.
- Clause 22.05 Stud Park Shopping Centre.

Each policy would be altered to reflect the relevant recommendations of the Strategy. Additional policies would also be required to relate to areas not covered by these policies.

Option 2—Restructure of local policies

This option involves largely replacing the existing policies with a new set, only retaining the parts of the existing policies that are not design related. This would result in the following list of policies:

- Urban Edge Policy (replacing parts of the Dandenong Foothills policy).
- Creek Corridors Policy.
- Activity Centre Policy (incorporating relevant parts of the Knox City and Stud Park Shopping Centre policies).
- Industrial Areas Policy (incorporating relevant parts of the Industrial and Restricted Retail Sales Area Design policy).
- Transport Corridors Policy.

Overlay Controls

Additional controls may be necessary to ensure the recommendations of the Knox Urban Design Framework are given maximum effect. These are primarily to protect the special landscape or vegetation qualities of an area.

Dandenong Creek Valley

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
1.4.1	Minimise development on the floodplain by: <ul style="list-style-type: none"> • Eliminating ‘as of right’ development. • Subjecting all development to a review process that considers its design and environmental impacts. • Discouraging subdivision. • Discouraging any net increase in the ground area covered by buildings. 	Once the public acquisition for the freeway is finalised: <ul style="list-style-type: none"> • Investigate the introduction of a Significant Landscape Overlay to require a planning permit for buildings and works and for indigenous vegetation removal.
1.4.2	Minimise visual intrusion of development by: <ul style="list-style-type: none"> • Siting buildings to minimise their visual impact by providing generous planted setbacks from roads and clustering buildings to maintain large open spaces. • Limiting building heights so they will not be visible beyond the immediate locality. • Prohibiting advertising signs in the area between the Scoresby Integrated Transport Corridor and Dandenong Creek. • Avoiding any increase of paved areas (roads, driveways, car parks, etc). • Minimising fencing, and design necessary fences or other barriers to minimise their visual impact. 	<ul style="list-style-type: none"> • Include decision guidelines relating to minimising development, visual intrusion and drainage impacts and vegetation protection.
1.4.3	Minimise the impacts of outdoor lighting by: <ul style="list-style-type: none"> • Minimising the visibility of light poles and other infrastructure and ensure light sources (lamps) are baffled to control glare and light spill. • Placing power and communications cables underground. 	

Dandenong Creek Valley

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
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- | | | |
|-------|---|--|
| 1.4.4 | <p>Protect and enhance vegetation by:</p> <ul style="list-style-type: none"> • Retaining and protect indigenous trees and plant new indigenous vegetation including canopy trees and understorey species. • Removing and avoiding the further introduction of noxious and environmental weeds and avoid use of invasive exotics and non-indigenous native species. • Identifying and protecting habitat for native fauna including wildlife corridors. | |
| 1.4.5 | <p>Ensure minimal impacts from drainage by:</p> <ul style="list-style-type: none"> • Following best practice in design, construction and operation of drainage systems to reduce impacts on surface waters and ground-water. • Requiring the provision of reticulated sewerage. • Not polluting or increasing rates of storm water run-off. • Using detention/retarding basins or wetland areas to slow rates of run-off and improve water quality (where possible). <p>Requiring the preparation of stormwater management plans for development within and adjoining the Dandenong Creek Valley.</p> | |
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The Edge of the Suburbs

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
2.4.1	In general, land to the east or south of the defined Urban Edge should either remain in rural use, and opportunities for development and subdivision limited to those that are consistent with a rural landscape, or development be severely restricted to ensure the identified landscape qualities are preserved.	<p>Urban Edge Policy:</p> <ul style="list-style-type: none"> • Delineates the extent of urban development. • Specifies the policy for development abutting the boundary by category of boundary type (Urban Edge, Transition Area). • Specifies that only rural style development is acceptable past the urban edge. • Delineates the 'Foothills' as the area containing the residential development within the bush environment. • Contains all policy relating to visual and environmental impacts. <p>Reference to the Neighbourhood Character Policy</p>
2.4.2	In South Lysterfield, Wellington Road forms a hard edge to the suburbs, where land should remain in rural or semi-rural use with limited development and subdivision opportunities. The urban edge north/east of Wellington Road adjacent to the ridge of the Monbulk Creek Valley, is located along the 100m contour. Land is excluded from the 'urban area' where it is located in the Environmental Rural Zone, is undeveloped and contributes to the rural landscape qualities of the area.	
2.4.3	In The Basin, the urban edge is defined as the 130m contour on Sugarloaf Hill, following the Residential 1 Zone boundary, the northern boundary of Miller Park, and then to the south east until the 150m contour intersects with Liverpool Road.	
2.4.4	In the Dandenong Foothills, the urban edge runs between the Foothills Backdrop Area and the Foothills Contributory Area.	

The Edge of the Suburbs

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
2.4.5	<p>Within the Urban/Rural Transition Area apply the following guidelines:</p> <ul style="list-style-type: none"> • Street layout should follow the contours. • Align roads to provide an edge to the urban area. • Use roads to provide public access to reserves, parkland and views. • Orient development to bush and rural/pastoral spaces rather than lining these boundaries with back fences. • Streets should connect with adjoining development. • Allow space on private land for the planting and retention of indigenous trees. • Ensure the site coverage of buildings and paved areas allows adequate permeable land for vegetation and stormwater management. Evidence should be included with applications for development or subdivision to demonstrate that the environmental capacity of the land has not been exceeded. • Buildings should not exceed 7 metres in height from natural ground level. • Land that has slopes greater than 20% or is subject to subsidence should not be built on. • Indigenous vegetation should be retained and planted. • Provide informal street treatments incorporating indigenous vegetation and rollover kerbing. • To the east and south of the Transition area, land should remain in rural and semi-rural holdings with limited subdivision and development opportunities. 	<p>Urban Edge Policy</p> <ul style="list-style-type: none"> • Urban/Rural Transition Area

The Edge of the Suburbs

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
2.4.6	<p>Development within the Contributory Area:</p> <ul style="list-style-type: none"> • Encourage the retention and planting of trees and other vegetation, preferably indigenous or native. • Site coverage of buildings and impervious surfaces should be minimised to allow for sufficient land for vegetation and stormwater management. 	<p>Urban Edge Policy</p> <ul style="list-style-type: none"> • Contributory Area
2.4.7	<p>Within the Monbulk Creek Vista Protection Area the following guidelines should apply in addition to those in the Urban Rural Transition Area:</p> <ul style="list-style-type: none"> • Buildings should be individually sited so as to ensure that roof lines are located below the ridgeline. • Buildings, light poles, antennae, any other structures, and lighting should not be visible from any point on Glenfern Road. Screening by vegetation should not be considered in determining visibility. • Development should create a positive interface with adjoining open spaces. This entails using parts of sites as open space to be integrated with adjoining public open space, or creating grazing allotments to be integrated with neighbouring properties. Rezoning this land to public open space or rural land should occur immediately upon approval of subdivision plans. • No development should occur above the 115m contour. • The development of the area be directed to ensure that trees dominate vistas from lower areas of the slopes. • The height of buildings should be well below the eventual tree canopy. • Require a detailed landscape plan for all development proposals demonstrating the planting and maintenance of substantial trees, that are native or indigenous to the area. 	<ul style="list-style-type: none"> • Monbulk Creek Vista Protection Area

The Edge of the Suburbs

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
2.4.8	<p>Within the Foothills Backdrop Area minimise the visual impact of development:</p> <ul style="list-style-type: none"> • Allow no subdivision or increase in ground coverage by buildings in the Foothills Backdrop Area unless it can be demonstrated that it will minimise the visual dominance of development. • Ensure buildings do not penetrate the tree canopy, and are located so as not to protrude above ridgelines. • Provide generous planted setbacks from roads. • Locate buildings at relatively low-lying positions on their site. In forested areas, disperse buildings to allow trees to be planted among them. In open areas, cluster buildings to maintain large open spaces. • Limit building size and prominence by having high standards of architectural and landscape design that appropriately respond to nearby rural and natural landscapes. • Require the use of ‘natural’ building materials and muted colours. • Minimise the visibility of light poles and other infrastructure and ensure light sources (lamps) are hidden to control glare and light spill. • Place power and communications cables underground. 	<p>Urban Edge Policy</p> <ul style="list-style-type: none"> • Foothills Backdrop Area

The Edge of the Suburbs

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
2.4.9	<p>Within the Foothills Backdrop Area minimise the environmental impacts of the development:</p> <ul style="list-style-type: none"> • Allow no subdivision or increase in ground coverage by buildings in the Foothills Backdrop Area unless it can be demonstrated that it will protect environmental values of the area. • Ensure that traffic generated will not exceed the capacity of existing local roads. • Minimise earthworks and avoid using large retaining walls or other structures. • Avoid any increase of paved areas (roads, driveways, car parks, etc). • Assess and identify all existing vegetation including understorey. • Identify and protect habitat for native fauna by the use of wildlife corridors. • Retain and protect indigenous trees and require 80% of all new vegetation (both canopy trees and understorey) to be indigenous species. • Remove noxious and environmental weeds and avoid use of invasive exotics. • Follow best practice in design, construction and operation of drainage systems to reduce impacts on surface and ground waters. • Require new development to demonstrate effective stormwater management techniques. • Use rainwater collection and landscape treatments to minimise stormwater run-off and slow rates of run-off and protect water quality. • Require provision of reticulated sewerage. • Avoid any construction on sites liable to flooding or on land that is subject to land-slip or subsidence. 	<p>Urban Edge Policy</p> <ul style="list-style-type: none"> • Foothills Backdrop Area

The Edge of the Suburbs

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
2.4.10	<p>The following guidelines should apply in the Foothills Contributory Area:</p> <ul style="list-style-type: none">• Retain and reinforce the native vegetation dominated backdrop.• Encourage the replanting of indigenous plants.• Maintain the continuity of vegetation and landscape character between dwellings.• Ensure buildings and extensions do not dominate the landscape and streetscape.• Minimise the dominance of buildings from the street.• Minimise excavation for car access, loss of garden space, and dominance of car storage facilities.• Maintain the continuous flow of the landscape and vegetation, and the bush character of front gardens.	<p>Urban Edge Policy</p> <ul style="list-style-type: none">• Foothills Contributory Area

Creek Corridors

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
3.4.1	<p>Maximise the positive interaction between creeks or parks and local streets by:</p> <ul style="list-style-type: none"> • Extending local streets to and along the edges of the creek corridors where space permits. • Encouraging the provision of public access from streets to the creek corridor or parkland in new developments abutting the corridors and, wherever possible, additional public open space. • Ensuring that street networks in any new subdivision are linked to nearby creek corridors or open space systems at regular intervals. This would particularly apply where large areas flanking the creek corridor are available for development, and may also apply on a more limited basis along narrower reserves. Example sites include the comprehensive development zone along Corhanwarrabul Creek, the rear of the Knox Central Activity Centre precinct fronting Blind Creek and Lewis Park. 	<p>Creek Corridors Policy</p> <ul style="list-style-type: none"> • Apply to properties adjacent to the creek corridors. • Include policy related to subdivision layout.
3.4.2	<p>Better integrate creek corridors with transport routes, and integrate paths along the creeks with public transport stops by:</p> <ul style="list-style-type: none"> • Linking any new public transport services to the creek corridors. • Placing stops at points where the creeks intersect with transport routes. 	<p>Transport Corridors Policy</p>
3.4.3	<p>Improve crossings where creeks intersect with main roads ensuring convenience, attractiveness and safety of use (both in relation to traffic safety and personal safety) by:</p> <ul style="list-style-type: none"> • Investigating the provision of signalised crossings at ground level. • Investigating measures to ensure underpasses have generous head clearances and clear sight lines through them, and are well drained and well maintained. 	<p>Transport Corridors Policy</p>

Creek Corridors

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
3.8.1	<p>Maximise the level of activity and development that takes place along the creek corridors and next to parkland by:</p> <ul style="list-style-type: none"> • Developing a link between facilities in buildings on land adjoining the creek corridors and other open spaces. • Minimising impacts on environmental and bio-diversity values. • Providing community facilities and services in or near the open spaces at local activity centres. • Developing key spaces to a relatively high standard to attract and support higher levels of use. • Accommodating complementary activities and facilities together. 	<p>Creek Corridors Policy</p> <ul style="list-style-type: none"> • Include policy relating to positive activity and development.
3.8.2	<p>Develop visual and active relationships between facilities in buildings on land adjoining the creek corridors and spaces along the creeks.</p>	
3.8.3	<p>Ensure activity along creek corridors maintains a high level of amenity and has minimal impact on the environment.</p>	
3.8.4	<p>Maintain good visibility of park spaces and facilities from walking paths and other spaces where activities occur.</p>	

Creek Corridors

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
3.16.1	<p>Maximise the potential benefits arising from development along creek corridors or next to parkland by:</p> <ul style="list-style-type: none"> • Ensuring that development adjoining creek corridors and parks present an active and attractive interface with the public space by fronting the corridor and using open style fencing. • Exploring development options for parts of public reserves in the widest areas (e.g. along Corhanwarrabul Creek) utilising higher-density residential/mixed use development oriented towards the open space. • Redeveloping properties at heads of cul-de-sacs to provide public access through to the creek corridors. • Encouraging residential development to overlook open spaces. Use careful differentiation of levels rather than high fences or blank walls to ensure privacy in adjoining development while creating a visual relationship that is close enough to support safety in the parkland. • Limiting fence heights adjoining the creek corridors. • Using relatively transparent fencing (e.g. wire) to maintain visibility. • Opening up and orient ground floor activities in non-residential buildings to spaces along creeks and beside parks. • Siting new community facilities within local activity centres (see relevant section) especially where they also have a connection to creek corridors. • Designing new and improve existing public facilities adjoining creeks and parks so they provide active frontages onto the creek corridor. 	<p>Creek Corridors Policy</p> <ul style="list-style-type: none"> • Council operational guidelines.

Activity Centres and Working Environments

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
4.4.1	<p>Consolidate development in activity centres by:</p> <ul style="list-style-type: none"> • Ensuring retail floor space in local centres is in proportion with the market. • Consolidating retail activities into areas close to train stations and other transport nodes, especially along streets with potential for improved pedestrian amenity. • Redeveloping under utilised retail premises on the periphery of activity centres to other uses, including office space on main road frontages, higher density residential on local streets and industrial in industrial zones. • Encouraging infill development of vacant sites and innovative development of car parks, to create pedestrian interest and active frontages onto local streets around activity centres. • Developing higher density housing within or in proximity to activity centres to increase the local market linked to the activity centre. • Encouraging medium density housing, or higher density where appropriate, on poorly utilised land in activity centres. • Encouraging a full range of commercial, entertainment, leisure, residential, local services and community uses to locate in the larger activity centres to reinforce their role as a community focus. 	<p>Activity Centre Policy</p> <ul style="list-style-type: none"> • Apply to all activity centres • Include a policy on vacant sites and active frontages

Activity Centres and Working Environments

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
4.8.1	<p>Improve the safety, efficiency and amenity of pedestrian movement and public spaces by:</p> <ul style="list-style-type: none"> • Encouraging safe pedestrian links between car parking areas and the frontages to the shopping centre. • Lining pedestrian routes with active uses such as shops and cafes to contribute to their interest and safety. • Limiting car park frontages and vehicular crossings along key pedestrian routes. • Linking pedestrian and bicycle routes through to activity centres. • Ensuring that visibility is maintained between pedestrian spaces and nearby development to enhance safety and interest. • Integrating mixed uses within activity centres to improve pedestrian access and avoiding ground lot car parks and other barriers to enhance pedestrian activity. 	<p>Activity Centres Policy</p> <ul style="list-style-type: none"> • Pedestrian Friendly Environments
4.8.2	<p>Improve activity centre amenity by:</p> <ul style="list-style-type: none"> • Placing buildings at the front title boundary in strip shopping centres to ensure continuity of the street facade. • Orientating shops and other uses directly to the public footpath rather than turning inwards toward malls or courtyards. • Providing active frontages onto public spaces at pedestrian level with windows, doors, shop fronts and interesting uses wherever possible. • Providing weather protection such as awnings along key pedestrian routes. • Providing quality architecture that contributes to the interest and character of the streetscape. 	

Activity Centres and Working Environments

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
4.8.3	<p>Improve the safety, efficiency and amenity of pedestrian movement and public spaces to:</p> <ul style="list-style-type: none"> • Ensure convenient, attractive and safe pedestrian routes are provided to train stations from all directions. • Establish new rights-of-way in adjoining properties if no convenient route exists (e.g. east of Bayswater Station). • Improve the quality of pedestrian spaces in three dimensions rather than focussing on decoration. • Give priority to widened footpaths, safer crossings, spaces to sit and meet, and shade, rather than to decorative pavements or features. • Integrate any public art with the layout and scale of the centre. 	<p>Activity Centres Policy</p> <ul style="list-style-type: none"> • Pedestrian Friendly Environments
4.12.1	<p>Ensure efficient and effective long-term management of commercial strip development by:</p> <ul style="list-style-type: none"> • Setting buildings and car parking areas back from main roads, with service roads where appropriate. • Designing frontage setbacks with simple legible layouts and avoid small-scale plantings or landscape features. 	
4.12.2	<p>Ensure appropriate building front setback distances by:</p> <ul style="list-style-type: none"> • Adopting a consistent setback along each road to create a consistent alignment of building facades, footpaths and, along major highways, service roads. • Determining setbacks in the context of each site and adjoining development, however setbacks will typically average: <p>Bush Boulevards [Category 1 Roads]: 20 metres, Principal Avenues [Category 2 Roads]: 7.5 metres.</p>	

Activity Centres and Working Environments

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
4.12.3	<p>Maximise pedestrian efficiency and safety by:</p> <ul style="list-style-type: none"> • Providing good quality pedestrian routes through frontage setbacks including access from the street to the building, and, wherever possible, connecting to pedestrian routes and spaces in adjacent properties. • Minimising the number of driveways and access points onto main roads, using shared driveways and service lanes where possible. 	<p>Activity Centres Policy</p> <ul style="list-style-type: none"> • Apply to commercial strips on main road frontages.
4.12.4	<p>Maintain high standards of amenity within each commercial strip by:</p> <ul style="list-style-type: none"> • Locating security fencing behind the building line if possible, and use relatively transparent designs (wire mesh or steel pickets) finished in dark colours, that are characteristic to the area to reduce its prominence. • Designing signage to complement the architecture of the buildings. • Using medium to large clean-trunked canopy trees rather than small shrubby material to enable clearer views to displays and buildings and to provide a scale of vegetation that is in proportion to the width of the road. 	
4.16.1	<p>Ensure efficient and effective long-term management of private industrial development by:</p> <ul style="list-style-type: none"> • Locating complementary businesses in the area. • Retaining large lots and by encouraging consolidation of small lots along main roads. 	<p>Activity Centres Policy</p> <ul style="list-style-type: none"> • Apply to industrial areas

4.16.2 Ensure that buildings have minimal impact on the streetscape and environs by:

Activity Centres Policy

- Setting back buildings and car parking areas along frontages to main roads, parklands, residential streets and commuter rail lines, nominally 20 metres minimum from Category 1 Roads, parkland and rail lines, and 7.5 metres from Category 2 Roads (to be qualified in relation to the character of the particular area).
 - Minimising setbacks or align buildings with the property boundary along frontages to local streets with industrial uses on both sides, to create a continuous street-wall (to be determined in relation to the character of the particular area). Orienting buildings, particularly their entrances, to provide good definition of local streetscapes.
 - Designing building frontages to contribute to a framework of legible, pedestrian-friendly streets, particularly on routes to railway stations and other transport nodes.
 - Encourage building alignments in large industrial complexes on one property, to create street walls along local roads and ensure these streets incorporate space for footpaths, tree planting, etc.
 - Planning buildings and facilities compactly within each industrial precinct, so land is used efficiently.
 - Minimising decorative open space except along main road frontages (enhance the image of industrial facilities through architectural quality of the buildings instead).
 - Planning car parks, loading docks and storage yards to minimise their size and impacts on the precinct.
 - Providing high quality landscape treatments in setbacks, dominated by vegetation, preferably indigenous species.
 - Using large canopy trees for planting in preference to smaller ornamentals to maximise impacts while minimising maintenance requirements.
 - Providing high quality architecture (along main roads in particular) to create a positive image of the industrial precinct and adjoining public spaces.
 - Hiding unsightly areas and waste bins. Storage yards (sometimes termed 'display areas') should be behind buildings, rather than at the front.
 - Incorporating signage into the architectural design of the building.
- Apply to industrial areas

Activity Centres and Working Environments

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
4.16.3	<p>Lessen the visual impact of fencing by:</p> <ul style="list-style-type: none"> • Using only low fences, or preferably none, along public frontages. Coat fences a dark neutral colour to reduce their visual impact. • Confining high fences to unobtrusive areas and minimise their extent by using buildings as part of the enclosure for secured areas. • Ensuring adequate on-site car parking and vehicle circulation areas. • Ensuring that development along creek corridors presents an attractive interface with the public space. 	<p>Activity Centres Policy</p> <ul style="list-style-type: none"> • Apply to industrial areas

Transport Corridors

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
5.4.1	<p>Emphasise views to the Dandenongs, increase pedestrian safety and encourage more attractive development along the road corridors.</p>	<p>Transport Corridors Policy</p> <ul style="list-style-type: none"> • Apply to Bush Boulevards

Transport Corridors

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
5.4.2	<p>Enrich the appearance of development lining Bush Boulevards by:</p> <ul style="list-style-type: none"> • Encouraging redevelopment of residential and other uses adjacent to major roads so that they can be re-oriented to address the roadway frontage. This may require negotiation with VicRoads in some cases, and the installation of service roads. • Creating a more distinguishable edge for activity centres, with consistent built form, heights and setbacks. • Avoiding further residential development that backs onto the road. Where this has already occurred, screen unattractive or inappropriately positioned buildings and developments with planting. • Developing landscaping on private land that complements the Bush Boulevard character, and protect existing remnant indigenous vegetation. 	<p>Transport Corridors Policy</p> <ul style="list-style-type: none"> • Apply to Bush Boulevards
5.8.1	<p>Protect and enhance views from the roadway by:</p> <ul style="list-style-type: none"> • Protecting the landscape quality and key views of the creek valley from intrusion by signs, buildings or other structures. • Avoiding inappropriate use of signage including public signs and small scale gateway feature works to private property. • Screen existing unattractive buildings and developments by planting. (Refer to Bush Boulevard and Dandenong Creek design guidelines for more guidance.) 	<p>Transport Corridors Policy</p> <ul style="list-style-type: none"> • Apply to Gateway Routes

Transport Corridors

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
5.4.3	<p>Prevent the intrusion of advertising signs into key view lines and valued creek valleys by:</p> <ul style="list-style-type: none">• Designing front setbacks with simple legible layouts and avoid small-scale plantings or landscape features.• Adopting a consistent setback along each road to create a consistent alignment.• Determining setbacks in the context of each site and adjoining development, however setbacks will typically average 20 metres.• Minimising the number of driveways and access points onto main roads, using shared driveways where possible.• Locating security fencing behind the building line if possible, and use relatively transparent designs (wire mesh or steel pickets) finished in dark colours to reduce its prominence.• Designing signage to complement the architecture of the building.• Using medium to large clean-trunked canopy trees rather than small shrubby material to enable clearer views to displays and buildings and to provide a scale of vegetation that is in proportion to the width of the road.	<p>Transport Corridors Policy Apply to Bush Boulevards</p>

Transport Corridors

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
5.12.1	<p>Maximise amenity along each Principal Avenue by:</p> <ul style="list-style-type: none"> • Protecting the landscape quality and key views particularly along key creek valleys from intrusion by advertising signs or inappropriately sited buildings. • Avoiding residential development which backs onto the road in new development areas. • Designing front setbacks of development with simple legible layouts and avoid small-scale plantings or landscape features. • Adopting a consistent front setback along each road to create a consistent alignment. • Determining setbacks in the context of each site and adjoining development, however setbacks will typically average 7.5 metres. • Minimising the number of driveways and access points onto main roads, using shared driveways where possible. • Designing signage to complement the architecture of the building. • Screening existing unattractive buildings and developments by planting. (Refer to sections regarding Activity Centre vitality, Public Environment, Commercial Strips and Industrial Areas for activity centres, highway commercial and industrial uses which abut Principal Avenues.) 	<p>Transport Corridors Policy</p> <ul style="list-style-type: none"> • Apply to Principal Avenues

Transport Corridors

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
5.16.1	<p>Increase amenity of the ‘Path into the Hills’ by:</p> <ul style="list-style-type: none"> • Avoiding dominant signage within the road reserve and within adjacent properties. • Encouraging buildings and private landscape adjacent to the road that has a ‘Dandenong Ranges character’ (i.e. low site coverage, height below tree canopy, heavily planted grounds, non-suburban style). • Minimising exotic vegetation within the private domain. • Minimising the visibility of development from the roads through siting, access and planting design. (Refer to the Residential Foothills section for residential development which abuts this road typology.) 	<p>Transport Corridors Policy</p> <ul style="list-style-type: none"> • Apply to Principal Avenues
5.16.2	<p>Utilise appropriate vegetation that matches the foothills landscape character by:</p> <ul style="list-style-type: none"> • Using exclusively indigenous vegetation within road reserves. • Retaining all existing indigenous vegetation particularly canopy trees. • Retaining closed canopy of trees where ever possible. • Informal site planting. 	

Transport Corridors

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
5.24.1	<p>Minimise undesirable patterns of advertising signs and development adjacent to the Mitcham to Frankston Freeway by:</p> <ul style="list-style-type: none"> • Minimising the height and visibility of road structures and signs, (other than for road safety and direction purposes). • Designing commercial and industrial buildings adjoining the east side of the Freeway to create a strong visual address towards the Freeway, presenting an attractive image of the area and assisting in orientation for drivers. • Providing high standards of architecture for buildings visible from the Freeway. • Ensuring sky signs and billboards are not visible from the Freeway. • Integrating any corporate signage on buildings with the architectural design. 	<p>Transport Corridors Policy</p> <ul style="list-style-type: none"> • Apply to Scoresby Integrated Transport Corridor
5.24.2	<p>Minimise barrier effects upon pedestrians, cyclists, traffic and the general community:</p> <ul style="list-style-type: none"> • Provide pedestrian and cycle crossings over or under the Freeway at relatively frequent intervals, and especially where linear parks along creek corridors cross the Freeway and allow for wildlife links. • Incorporate public transport improvements along the Freeway reserve. • Ensure that the proposed light rail extension from Vermont South to Knox City, any future light rail extension along other roads in the City of Knox, and the proposed rail extension to Rowville, are developed in a style that respects the character of the surrounding municipality. • Place the Freeway in cuttings as much as possible in order to minimise the perceived barrier it creates. • At intersections excavate the Freeway below existing roads if possible. If overpasses are required, take particular care in their design to ensure their visual quality supports their role as ‘gateways’ into Knox and contributes to the experience of travelling to the Dandenong Ranges. 	

Transport Corridors

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
5.24.3	<p>Minimise the extent of land impacted by the Mitcham to Frankston Freeway by:</p> <ul style="list-style-type: none"> • Minimising the extent of land lost to the Dandenong Valley Park as well as to productive land uses to the east. • Ensuring that any remnants of properties acquired for the Freeway but not used in their entirety are useable. • Annexing remnant sites on the west side of the Freeway to the metropolitan park. If necessary, acquire additional adjoining sites to amalgamate with small leftover land fragments. 	<p>Transport Corridors Policy</p> <ul style="list-style-type: none"> • Apply to Scoresby Integrated Transport Corridor
5.24.4	<p>Minimise negative impacts upon amenity and the environment by:</p> <ul style="list-style-type: none"> • Minimising noise impacts on parks and other adjoining land uses. • Providing well-planted verges, using indigenous vegetation. • Where fences are required, minimising their height, use dark finishes and screen with vegetation to reduce their visual impact. • Where possible, combining fences with noise attenuation walls. • Where appropriate, providing views from the Freeway of the landscape and built form through which it passes. 	

Residential Environments

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
6.4.1	Retain and extend indigenous trees and understorey by: <ul style="list-style-type: none"> • Retaining existing indigenous trees and understorey. • Planting new trees and understorey to match the naturalistic layouts of the original bushland where existing trees are not present. • Blending the plantings with those within adjacent bushland gardens. 	Amend the Neighbourhood Character Policy to review vegetation protection controls
6.4.2	Minimise impacts between creek and residential interfaces by: <ul style="list-style-type: none"> • Facing houses onto the creek and provide no fences (including a transparent wire fence). • Ensuring that bushland plantings of the garden integrate with the creek-side bush, especially along Blind Creek to continue the strategic connection between the creek trails of Knox and the Dandenong Ranges National Park. 	Creek Corridors Policy
6.4.3	Minimise impacts between transport corridors and residential interfaces by relating residential development to the local roads rather than the main road and minimise its visibility from the important tourist routes. (Main roads passing through these character areas provide 'Paths into the Hills'.)	Transport Corridors Policy
6.4.4	Integrate street trees and planting in reserves into the foothills character by: <ul style="list-style-type: none"> • Retaining existing indigenous trees and understorey. • Planting new trees and understorey to match the naturalistic layouts of the original bushland where existing trees are not present. • Blending the plantings with those within adjacent bushland gardens. 	Neighbourhood Character Policy

Residential Environments

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
6.4.5	Minimise the impact of roads in residential areas by: <ul style="list-style-type: none"> • Retaining the character of informal roadways which often appear edgeless with unsealed edges, bitumen finished kerbs or sometimes roll-over kerbs. • Introducing kerbs only where they address particular site constraints, ie. drainage, protection of nature strips. • Ensuring that native vegetation can be retained to the roadway edge. • Avoiding the clearing of verges for parking and paving. • Using water permeable paving adjacent to significant trees when constructing roads. 	Transport Corridors Policy
6.4.6	Maximise the efficiency and safety of footpaths and nature strips by meandering paths between trees with varying distances between the roadway, and avoid formal edged treatments.	
6.8.1	Contribute to the landscape character of the Bush Boulevards in these character areas by: <ul style="list-style-type: none"> • Encouraging some transparency to rear fences where dwellings back onto Bush Boulevards, to assist surveillance of footpaths. • Encouraging indigenous planting that contributes to the well-treed skyline. 	Neighbourhood Character Policy
6.8.2	Minimise impacts between activity centres and residential interfaces: <ul style="list-style-type: none"> • Ensuring continuity of residential fronted streets that integrate directly with the built form of the activity centre. • Avoiding surrounding activity centres with a ‘sea’ of car parking separating the centre from the surrounding residential neighbourhood. • Providing direct and continuous pedestrian footpaths between the activity centre and the residential neighbourhood. • Providing a transition in scale of housing forms with the built form of the activity centre. 	Activity Centres Policy

Residential Environments

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
6.8.3	Strengthen the naturalistic quality of street vegetation by: <ul style="list-style-type: none"> • Retaining any remnant indigenous trees and understorey. • Planting new trees indigenous to the area in informal avenue or clump planting layouts. • Blending the plantings with those within adjacent bush gardens. 	Neighbourhood Character Policy
6.8.4	Minimise the impact of roads in residential areas by: <ul style="list-style-type: none"> • Retaining the character of informal or curved roadway layouts. • Using kerbs with minimal visual impact by the continued use of roll over kerbs. • Introducing less formal and asymmetrical arrangements if street reconstruction is required. • Maintaining or continue the use of no kerbs in the Rural Parkland Character Area. 	Transport Corridors Policy
6.8.5	Maximise the efficiency and safety of footpaths and nature strips by: <ul style="list-style-type: none"> • Meandering footpaths if space permits when reconstructing streets. • Integrating the nature strip landscape with the bush planting of the private gardens. • Using indigenous or native ground covers for nature strips. 	Transport Corridors Policy
6.12.1	Maximise the positive effects of Garden Suburb precincts that abut creek corridors by: <ul style="list-style-type: none"> • Encouraging residential development to overlook the creek corridor open space. • Limiting fence heights adjoining creeks or provide transparent forms of fencing or no fencing. • Encouraging medium density housing redevelopment which fronts the creek corridor. • Encouraging the provision for a future public access path to the creek corridor path, where redevelopments occur on land adjoining the creek corridors. (Refer to 'Development along Creeks' for additional guidance.) 	Creek Corridors Policy

Residential Environments

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
6.12.2	<p>Minimise the impact between Garden Suburb precincts and Bush Boulevards by:</p> <ul style="list-style-type: none"> • Encouraging the provision for a future public access path to the main road corridor and some surveillance of the main road space, where redevelopments with medium density housing occur on land adjoining main roads. • Where dwellings back onto these routes some transparency to rear fences to assist surveillance of footpaths is desirable. • Encouraging indigenous planting in backyards that contribute to the well-treed skyline. 	Transport Corridors Policy
6.12.3	<p>Increase connectivity between Garden Suburbs and activity centres by:</p> <ul style="list-style-type: none"> • Ensuring continuity of residential fronted streets that integrate directly with the built form of the activity centre. • Avoiding surrounding activity centres with a ‘sea’ of car parking separating the centre from the surrounding residential neighbourhood. • Providing direct and continuous pedestrian footpaths between the activity centre and the residential neighbourhood. • Providing a transition in scale of housing forms with the built form of the activity centre. 	Activity Centre Policy
6.12.4	<p>Improve the quality and beneficial effects of street planting by:</p> <ul style="list-style-type: none"> • Developing a dominant theme for the whole Character Precinct. • Retaining existing indigenous trees. • Introducing new street tree plantings and replant inconsistent streets with informal avenue planting of indigenous and native tree species. • Using a single dominant tree species for the whole street. 	Transport Corridors Policy

Residential Environments

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
6.12.5	<p>Improve the amenity of roads and enhance precinct character by:</p> <ul style="list-style-type: none"> • Retaining the formal symmetrical arrangement of the street with upstand or roll over kerbs if reconstruction is required. • Including additional space for avenue tree planting with street reconstruction. • Including traffic calming and road pavement narrowing where appropriate. • Retain the traditional arrangement of sealed footpaths on both sides of the street where this is present. 	Transport Corridors Policy
6.16.1	<p>Maximise the positive effects of Garden and Villa Courts abutting creek corridors by:</p> <ul style="list-style-type: none"> • Encouraging residential development to overlook the creek corridor open space. • Limiting fence heights adjoining creeks or provide transparent forms of fencing. • Encouraging medium density housing redevelopment which fronts the creek corridor. • Encouraging provision for a future public access path to the creek corridor path, where redevelopments occur on land adjacent to creek corridors. • In new development areas that front the Monbulk Creek corridor, prepare comprehensive designs for medium density forms of housing that respect the landscape setting. (Refer to 'Creeks as Address' for additional guidance.) 	Creek Corridors Policy

Residential Environments

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
6.16.2	<p>Minimise the effects of the interface between Garden Court/Villa Court Precincts and Bush Boulevards by:</p> <ul style="list-style-type: none"> • Encouraging redevelopments with medium density housing at court heads that provide for a future public access path to the main road corridor and some surveillance of the main road space. • Assisting surveillance of footpaths where dwellings back onto transport corridors by providing transparency through rear fences. • Encouraging indigenous planting in backyards that contribute to the well-treed skyline. • Fronting development onto the road in new development areas by providing a service frontage road along the Bush Boulevard. 	Transport Corridors Policy
6.16.3	<p>Increase connectivity between Garden Court/Villa Court precincts and activity centres by:</p> <ul style="list-style-type: none"> • Ensuring continuity of residential fronted streets that integrate directly with the built form of the activity centre. • Avoiding surrounding activity centres with a ‘sea’ of car parking separating the centre from the surrounding residential neighbourhood. • Providing direct and continuous pedestrian footpaths between the activity centre and the residential neighbourhood. • Providing a transition in scale of housing forms with the built form of the activity centre. 	Activity Centres Policy

Residential Environments

No.	Brief for development of Knox Planning Scheme policies/controls	Proposed Planning Scheme response
6.16.4	Reinforce the character of the area through street planting by: <ul style="list-style-type: none"> • Developing a dominant theme for the character precinct. • Retaining existing indigenous trees and understorey. • Using indigenous or native trees in informal avenue or clump planting. • Using exotic species with restraint for focal or key area planting. • Using deciduous species where winter sun access may be required. 	Neighbourhood Character Policy
6.16.5	Maximise the amenity and safety of local streets by: <ul style="list-style-type: none"> • Retaining the sealed roadways with roll over kerbs and the informal curvilinear layouts. • Introducing traffic calming devices to collector roads where the speed of traffic is an issue. • Narrowing pavement where appropriate. 	Transport Corridors Policy
6.16.6	Design footpaths and nature strips in a characteristic way by: <ul style="list-style-type: none"> • Meandering footpaths if space permits when reconstructing streets. • Integrating the nature strip landscape with the garden planting of the private gardens. 	



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